CATSKILL FORMER MANUFACTURED GAS PLANT
Greene County, New York

Site Management Plan

NYSDEC Site Number: C420027
Brownfield Cleanup Agreement Index Number A4-0553-0606

Prepared for:
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2		NYSDEC Approval of a Reduction in Groundwater Sampling from Semi-Annual to Annually	11/18/2021

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LIST OF ACRONYMS

Acronym	Definition
BCP/A	Brownfield Cleanup Program/Agreement
BGS	Below ground surface
BTEX	Benzene, Toluene, Ethyl benzene and Xylenes
CAMP	Community Air Monitoring Program/Plan
CHGE	Central Hudson Gas & Electric Corporation
COC	Contaminant of concern
DD	Decision Document
DER-10	Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation
EC	Engineering Control
FER	Final Engineering Report
HASP	Health and Safety Plan
IC	Institutional Control
MGP	Manufactured Gas Plant
NAPL	Non-aqueous phase liquids
NYCRR	Official Compilation of New York Codes, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
ORC	Oxygen Releasing Compound
OSHA	Occupational Safety and Health Administration
PAH	Polycyclic Aromatic Hydrocarbons
PID	Photoionization detector
PVC	Polyvinyl chloride
QAPP	Quality Assurance Project Plan
QA/QC	Quality assurance/quality control
RAA	Remedial Alternatives Analysis
RAO	Remedial Action Objective
RD	Remedial Design
RI	Remedial Investigation
SCG	Standards, Criteria and Guidance
SCO	Soil Cleanup Objective
SEQRA	State Environmental Quality Review Act
SMP	Site Management Plan
SVOC	Semi-volatile organic compound
USACE	United States Army Corps of Engineers
VOC	Volatile organic compound
mg/kg	Milligrams per kilogram

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µg/L	Micrograms per Liter
µg/m^3	Micrograms per cubic meter

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SITE MANAGEMENT PLAN

1.0 INTRODUCTION AND DESCRIPTION OF REMEDIAL PROGRAM

Kleinfelder, Inc. (Kleinfelder) has prepared this Site Management Plan (SMP) on behalf of Central Hudson Gas & Electric Corporation (CHGE) of Poughkeepsie, New York.

1.1 INTRODUCTION

This document is required as an element of the remedial program at the Catskill Former Manufactured Gas Plant (MGP) (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The Site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index Number A4-0553-0606, Site Number C420027, which was executed on August 8, 2006 and last amended on June 25, 2009.

1.1.1 General

CHGE entered into a BCA with the NYSDEC to remediate an approximately 3.7-acre property located in the Village of Catskill, Greene County, New York. This BCA required the Remedial Party, CHGE, to investigate and remediate contaminated media at the Site. A figure showing the Site location and boundaries is provided in **Figure 1**. The boundaries of the Site are more fully described in the metes and bounds site description that is part of the Environmental Easement (provided in **Appendix A**).

After completion of the remedial work described in the Remedial Design (RD), some contamination was left in the subsurface at this Site, which is hereafter referred to as "remaining contamination." This SMP was prepared to manage contamination at the Site until the Environmental Easements are extinguished in accordance with Environmental Conservation Law (ECL) Article 71, Title 36. All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State.

This SMP was prepared by Kleinfelder, on behalf of CHGE, in accordance with the requirements in NYSDEC Division of Environmental Remediation (DER)-10 Technical Guidance for Site Investigation and Remediation, dated May 2010, and the guidelines provided by

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NYSDEC. This SMP addresses the means for implementing the Institutional Controls (ICs) and Engineering Controls (ECs) that are required by the Environmental Easements for the Site.

1.1.2 Purpose

The Site contains contamination left after completion of the remedial action. The ECs have been incorporated into the site remedy to control exposure to remaining contamination during the use of the Site to ensure protection of public health and the environment. Environmental Easements granted to the NYSDEC, and recorded with the Greene County Clerk, will require compliance with this SMP and all ECs and ICs placed on the Site. The ICs place restrictions on site use, and mandate operation, maintenance, monitoring and reporting measures for all ECs and ICs. This SMP specifies the methods necessary to ensure compliance with all ECs and ICs required by the Environmental Easements for contamination that remains at the Site. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the Environmental Easements and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

This SMP provides a detailed description of all procedures required to manage remaining contamination at the Site after completion of the Remedial Action, including: (1) implementation and management of all Engineering and Institutional Controls; (2) media monitoring; (3) operation and maintenance of all treatment, collection, containment, or recovery systems; (4) performance of periodic inspections, certification of results, and submittal of Periodic Review Reports; and (5) defining criteria for termination of treatment system operations.

To address these needs, this SMP includes three plans: (1) an Engineering and Institutional Control Plan for implementation and management of EC/ICs; (2) a Monitoring Plan for implementation of Site Monitoring; (3) an Operation and Maintenance Plan for implementation of remedial collection, containment, treatment, and recovery systems (including, where appropriate, preparation of an Operation and Maintenance Manual for complex systems).

This plan also includes a description of Periodic Review Reports for the periodic submittal of data, information, recommendations, and certifications to NYSDEC.

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It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the Environmental Easements. Failure to properly implement the SMP is a violation of the Environmental Easements, which is grounds for revocation of the Certificate of Completion (COC);
- Failure to comply with this SMP is also a violation of ECL, 6 New York Codes, Rules and Regulations (NYCRR) Part 375, and the BCA (Index number A4-0553-0606; Site number C420027) for the Site, and thereby subject to applicable penalties.

1.1.3 Revisions

After review by CHGE and any applicable property owner bound by this SMP, revisions to this plan will be proposed in writing to the NYSDEC's project manager. In accordance with the Environmental Easements for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.2 SITE BACKGROUND

The following section describes the location, history, and geology of the Site.

1.2.1 Site Location and Description

The Site is located in the Village of Catskill, County of Greene, New York and is identified as portions of three properties known as Block and Lot 156.78-3-1 (Area A), 156.78-3-3 (Area B), and 156.78-2-40 (Area C) on the Village of Catskill Tax Map #156. The Site is an approximately 3.7-acre area bounded by an office building to the north, a renovated former mill works building adjacent to Factory Street to the south, Water Street to the east, and Catskill Creek to the west (see **Figure 1**). The boundaries of the Site are more fully described in **Appendix A** – Metes and Bounds.

The Site is comprised of four non-contiguous areas: Area A – the original manufactured gas plant (MGP) property; Area B – referred to as the art studio property; Area C – the Greene County employee parking lot; and a portion of the off-site Union Mills property adjacent to Area A (see **Figure 2A**). Remedial activities occurred in Area A and a portion of the off-site Union Mills property, per the Decision Document, dated July 2011.

1.2.2 Site History

The Site is comprised of four separate areas upon which two gas manufacturing facilities operated during two different periods of time. The earlier MGP began operation in 1858 (Areas A and B), utilizing the coal carbonization process to manufacture gas from coal. By 1890, the MGP was under the ownership and operation of Catskill Illuminating and Power Company. In 1905, the Catskill Illuminating and Power Company was purchased by the Upper Hudson Electric and Railroad Company (EA, 1987).

To increase production, Upper Hudson Electric and Railroad Company relocated the gas plant north to the site of the electric light and power station in 1923. In this second gas plant, the coal carbonization process was replaced with carbureted water gas methods. In 1925, the former plant was purchased by the adjoining Catskill Foundry and Machine Company.

In 1926, Upper Hudson Electric and Railroad Company merged with several small utility companies to form Central Hudson Gas and Electric Company, which later became CHGE. In 1932, the second plant was converted from carbureted water gas to a butane air gas operation. The plant operated in this manner until 1958 when a natural gas transmission line was constructed in the area. As a result, the production of butane air gas was discontinued, the plant was disassembled and the property was ultimately sold (EA, 1987). Little is known regarding site history post 1958 and prior to the January 1987 Phase 1 Investigation.

1.2.3 Geologic Conditions

The Site is situated along the eastern bank of the Catskill Creek. The elevation at the Site ranges from sea level to approximately 28 feet above mean sea level. The regional slope of terrain occurs at a gradient of approximately 15 percent to the southwest towards Catskill Creek. Site topography is generally flat or sloping towards the Catskill Creek and is likely underlain by lacustrine clays, deltaic sand, and gravel deposits followed by shale bedrock.

Previous site investigations have identified four principal stratigraphic units beneath and adjacent to the Site. Prior to remedial activities performed at the Site, the stratigraphic units occurring on the Site, from shallowest (most recent) to deepest (oldest) were:

- Fill – fill and remnants of several man-made structures, originating from the Site's industrial history;

- Fluvial Deposits – fine sand likely deposited within Catskill Creek and associated floodplains;
- Lacustrine/Floodplain Deposits – silts and clays deposited in glacial lakes or floodplain deposits; and
- Glacial Deposits – sand, gravel, and till possibly deposited during the most recent glacial recession.

The generalized description of these units is as follows:

- Fill: sand with varying amounts of clay, silt, gravel, cinders, slag, brick, and wood; present across and adjacent to the Site. Fill thickness ranges from approximately 2 to 20 feet.
- Fine Sand: predominately fine sand with little to trace amounts of silt, fine gravel, organic matter, and shell fragments; present continuously across Areas A and C. Fine sand thickness ranges from approximately 4 to 20 feet.
- Silt and Clay: silts and clays present to the east of Area B and along the eastern portion of Area A. Silt and clay unit ranges in thickness of 4 to 12 feet.
- Sand and Gravel/Till: fine sand and unsorted gravel with trace amounts of silt and wood (described as till-like or interbedded with till-like soils); present in Area C and the foundry property and sporadically present in Areas A, B, and the off-site Union Mills property.

Pre-remedial geologic cross sections are depicted on **Figures 2A** through **2F**.

The hydrogeology at the Site appears to be dominated by Catskill Creek, receiving both surface water flow and groundwater discharge. Catskill Creek drains southward toward the Hudson River (located approximately one mile south of the Site) and is tidally influenced. Shallow groundwater on the Site flows westward toward Catskill Creek; however, during high tide conditions, localized groundwater flow likely reverses direction in the overburden soils immediately adjacent to the creek. Depth to groundwater ranges from approximately 8 to 12 feet below grade. Historic groundwater flow direction is depicted on **Figure 3**.

1.3 SUMMARY OF REMEDIAL INVESTIGATION FINDINGS

A Remedial Investigation (RI) was performed to characterize the nature and extent of contamination at the Site. The results of the RI are described in detail in the following reports:

- Arcadis; *Remedial Investigation Report*, dated January 2008;
- Arcadis; *Supplemental Remedial Investigation Report Letter*, dated March 20, 2009; and
- Arcadis; *Revised Remedial Investigation Report*, dated May 2010.

The RI identified impacted soil and groundwater resulting from former onsite MGP operations. The RI primarily focused on benzene, toluene, ethylbenzene, and xylenes (collectively referred to as BTEX), polycyclic aromatic hydrocarbons (PAHs), cyanide, and visible non-aqueous phase liquids (NAPLs) as indicators of potential MGP-related impacts to onsite and offsite soils and groundwater.

The RI did not identify any significant exceedances of the NYSDEC Commercial Use Soil Cleanup Objectives (SCOs) in Areas B and C. In addition, no measureable/recoverable amounts of NAPL were observed in monitoring wells located in Areas B and C.

Below is a summary of site conditions when the RI was performed during 2007 through 2009:

Soil

The RI addressed potential impacts to soil in three separate categories: surface soil; subsurface soil; and sediments within Catskill Creek. Surface soil samples were collected from the top two inches of soil at the Site. Subsurface soils were collected from soil borings advanced via hollow-stemmed auger and direct push drilling methods. Sediment samples were collected using a three-inch diameter Lexan® tube driven into the sediment.

Surface Soils

Contaminant concentrations identified in surface soil samples collected during the RI are summarized on **Figure 4A** and are outlined below:

- PAHs were detected in the ten surface soil samples at total estimated concentrations ranging from 3.8 to 520 milligrams per kilogram (mg/kg). Although the detected PAH concentrations were within typical urban soil ranges, several PAH detections exceeded the NYSDEC Commercial Use SCOs in nine of the ten samples collected. These PAHs

included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenzo(a,h) anthracene, and indeno(1,2,3-c)pyrene.

- Total BTEX concentrations ranged from undetected to 0.021 mg/kg (estimated). The detected concentrations were below the NYSDEC Commercial Use SCOs.
- Cyanide was not detected in the three surface soils collected for cyanide analysis at concentrations above the NYSDEC Commercial or Unrestricted Use SCOs.
- NAPLs were not observed on surface soils.

Subsurface Soils

Contaminant concentrations identified in subsurface soil samples collected during the RI are summarized on **Figure 4B** and are outlined below:

- Total PAHs were detected in the majority of subsurface soil samples collected during the RI at estimated concentrations ranging from 0.020 to 22,000 mg/kg. PAHs exceeding the NYSDEC Commercial Use SCOs were detected in 17 of the 47 samples collected.
- Total BTEX was detected in subsurface soil samples at concentrations ranging from 0.0018 to 840 mg/kg. Xylenes were detected in one soil sample at a concentration of 530 mg/kg, exceeding the NYSDEC Commercial Use SCO. Benzene was detected in one soil sample at a concentration of 66 mg/kg, exceeding the NYSDEC Commercial SCO.
- Cyanide was detected in six of nine samples analyzed at concentrations ranging from 0.18 to 220 mg/kg; one sample, SB-14 (11-12 ft), exceeded the NYSDEC Commercial Use SCO of 27 mg/kg.
- NAPLs, such as coal tar, were observed in subsurface soils in several areas of the site. NAPLs were identified in the shallow, overburden soils in portions of Area A and on a portion of the off-site Union Mills property. NAPLs were also identified in the vicinity of two former gasometers and oil cisterns. The NAPL distribution within the overburden soils suggested that various releases from the former gasometers entered the overburden soil from beneath the holders and then migrated both vertically and horizontally to the south, north, and west within the upper and lower fine sand and gravel layers within the overburden. NAPLs were not observed in Areas B and C. **Figure 4C** depicts locations where NAPLs and sheens were observed during the RI.

Catskill Creek Sediments

Contaminant concentrations identified in sediment samples collected during the RI are summarized on **Figure 4D** and are outlined below:

- Total PAHs were detected in all but three of the 42 sediment samples collected; 27 samples contained PAH concentrations above the total organic carbon (TOC) adjusted criteria for non-polar organics.
- Total BTEX concentrations ranged from undetected to 110 mg/kg. Three of the 42 samples collected contained concentrations of BTEX above the sediment guidance values.
- Of the ten sediment samples analyzed for cyanide, three samples contained cyanide concentrations ranging from 0.19 (estimated) to 1.1 mg/kg. Cyanide was not detected in the remaining seven samples. No sediment guidance values are available for cyanide.
- NAPLs were identified in the sediments located on the eastern perimeter of Catskill Creek.

Site-Related Groundwater

Groundwater samples were collected from seven onsite groundwater monitoring wells in October 2007. Monitoring well MW-1 was located in Area A and monitoring well MW-2 was located just north of Area A. Five monitoring wells (MW-3 through MW-7) were located in Area C. Monitoring wells were not installed in Area B or the off-site Union Mills property. Contaminant concentrations identified in groundwater samples are summarized on **Figure 5** and are outlined below:

BTEX

Total BTEX was detected in three of the seven groundwater samples (samples MW-1, MW-2, and MW-7) at concentrations ranging from 0.28 (estimated) to 9,500 micrograms per Liter (µg/L). No BTEX exceedances of the Class GA Water Quality Guidance Values were detected in sample MW-7.

- Benzene was detected in samples MW-1 and MW-2 at concentrations of 4,100 µg/L and 3.7 µg/L, respectively, which exceeded the Class GA Water Quality Standard of 1 µg/L.
- Ethylbenzene was detected in sample MW-1 at a concentration of 550 µg/L, exceeding the Class GA Quality Water Standard of 5 µg/L.

- Toluene was detected in sample MW-1 at a concentration of 1,700 µg/L, exceeding the Class GA Water Quality Standard of 5 µg/L.
- Xylenes were detected in sample MW-1 at a concentration of 3,100 µg/L, exceeding the Class GA Water Quality Standard of 5 µg/L.

PAHs

Total PAHs were detected in three of the seven groundwater samples (samples MW-1, MW-2, and MW-7). No PAH exceedances of the NYSDEC Class GA Water Quality Guidance Values were detected in samples MW-2 and MW-7.

- 2,4-Dimethylphenol was detected in sample MW-1 at an estimated concentration of 74 µg/L, which exceeds the NYSDEC Class GA Water Quality Guidance Value of 50 µg/L.
- Acenaphthene was detected in sample MW-1 at an estimated concentration of 76 µg/L, exceeding the NYSDEC Class GA Water Quality Standard of 20 µg/L.
- Fluorene was detected in sample MW-1 at an estimated concentration of 64 µg/L which exceeds the Class GA Water Quality Guidance Value to 50 µg/L.
- Naphthalene was detected in sample MW-1 at an estimated concentration of 750 µg/L, exceeding the Class GA Water Quality Value of 10 µg/L.

Cyanide

Cyanide was detected in all seven groundwater samples at concentrations ranging from 6.5 to 259 µg/L. Sample MW-1 exceeded the Class GA Water Quality Standard of 200 µg/L with a cyanide concentration of 259 µg/L.

Analytical results of the groundwater sampled from monitoring well MW-1 indicated that groundwater in the area of the well had been impacted by historic MGP-related activities. Monitoring well MW-1 was located less than 50 feet west of the western-most gasometer in Area A.

Site-Related Soil Vapor Intrusion

Ten soil vapor samples were collected in October 2007 and three sub-slab vapor samples and one indoor air sample were collected in January 2010. Contaminant concentrations of soil vapor, sub-slab vapor, and indoor air samples and locations of samples are provided in **Figure 6**.

Total BTEX concentrations ranged from 3.2 (estimated) to 710 micrograms per cubic meter (µg/m^3) in the ten soil vapor samples analyzed. Total BTEX concentrations ranged from 4.8 (estimated) to 310 µg/m^3. Total BTEX was detected in the indoor air sample collected from the adjoining Union Mills building at an estimated concentration of 6.8 µg/m^3. The New York State Department of Health (NYSDOH) provides vapor intrusion guidance for seven chlorinated volatile organic compounds but does not regulate BTEX compounds.

1.4 SUMMARY OF REMEDIAL ACTIONS

The Site was remediated in accordance with the NYSDEC-approved Decision Document dated July 2011 and modifications to the RD as documented by Request for Field Changes No. 1 through No. 8. The "Track 4: Restricted Use with Site-Specific Soil Cleanup Objectives" remedy was selected for the Site.

The following is a summary of the Remedial Actions performed at the Site:

1. Installation of two secant walls, one along the western perimeter of Area A along Catskill Creek and one along a portion of the western perimeter of Areas A and the off-site Union Mills property. These secant walls provided additional structural integrity for the dredging of impacted sediments and excavation of impacted soils;
2. Excavation of soil/fill where visible tar, NAPL and/or total MGP-related PAHs greater than 500 parts per million (ppm) to an average depth of 16 feet below ground surface in Area A and to 18 feet in the off-site Union Mills property;
3. Post-excavation sampling was performed to confirm that impacted materials exceeding the clean-up standards were removed accordingly;
4. All excavations were backfilled with certified clean materials from an offsite source that met the NYSDEC criteria as defined in 6 NYCRR Part 375-6.8(b). Area A was backfilled with material which met the requirements for commercial use for backfill and cover material as set forth in 6 NYCRR Part 375-6.7(d). The excavated portion of the off-site Union Mills property was backfilled with materials which met the residential requirements for backfill and cover material as set forth in 6 NYCRR Part 375-6.7(d);
5. Oxygen releasing compound (ORC) was introduced into excavated areas during backfilling activities to address any remaining MGP residuals and promote biological activity for the restoration of site groundwater;

6. Construction and maintenance of a soil cover system consisting of a minimum one foot of certified clean fill to meet the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial use to prevent human exposure to known and potential remaining contaminated soil/fill at the Site;
7. Dredging of impacted sediments in Catskill Creek to an approximate depth of 8 feet below the mud line. A turbidity curtain was installed to control suspended sediment generated during dredging activities. Dredged sediments were dewatered prior to offsite disposal;
8. Execution and recording of Environmental Easements to restrict land use and prevent future exposure to any contamination remaining at the Site;
9. Development and implementation of a SMP for long term management of remaining contamination as required by the Environmental Easements, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance, and (4) reporting;
10. The RI did not identify any significant exceedance of the commercial use SCOs as set forth in 6 NYCRR Part 375 in Areas B and C. Additionally, no exceedances of ambient groundwater standards were observed in either area. Currently, Areas B and C are largely covered by buildings, concrete, and/or asphalt which provide appropriate site cover.

Remedial activities were completed at the Site in June 2013 with the exception of live stake planting along the stream bank of Catskill Creek which was completed in October 2013.

1.4.1 Removal of Contaminated Materials from the Site

The selected remedy for the Site included excavating, removing, and disposing of soil containing visible tar, NAPL, and/or total MGP-related PAHs greater than 500 ppm. Areas of excavation are depicted on **Figures 7A and 7B**.

Removal of contaminated materials from the Site occurred only in Area A, the off-site Union Mills property, and in a portion of Catskill Creek. Approximately 3,308 tons of MGP-impacted sediment were dredged from Catskill Creek and was transported to Environmental Soil Management Companies (ESMI) in Fort Edward, New York for treatment and disposal.

In Area A and the off-site Union Mills property, approximately 304 tons of non-hazardous soil and 354 tons of demolition debris was removed from the Site and transported offsite to the Ontario County Landfill for disposal. A total of 14,686 tons of MGP-related material (including soil/slurry from secant pile wall installation and debris) were removed from the Site and transported to ESMI for treatment and disposal.

Several brick and stone structures were encountered in Area A and removed during excavation activities. Two of the structures contained a significant quantity of semi-solid tar and were determined to be two former tar cisterns.

Excavations located in Area A and the off-site Union Mills property were backfilled with certified clean Upland Gravel fill approved for commercial/restricted residential use. The soil backfill material placed in saturated areas of excavations included the addition of 500 pounds of ORC in pellet form to address any remaining MGP residuals and to promote biological activity for acceleration of the process of groundwater restoration. Additional backfill material included No. 2 coarse aggregate. Backfill material used for the dredged area of Catskill Creek included sand, gravel, and river cobbles. Areas of backfill are depicted on **Figures 7A** and **7B**.

A list of the established soil cleanup objectives (SCOs) for the primary contaminants of concern (COCs) and applicable land use for Areas A and the off-site Union Mills property is provided in Table A. Although remedial actions were not performed/required in Areas B and C, the applicable land use for these areas is commercial and industrial uses as the soil samples collected and analyzed from these areas meets the NYSDEC Part 375-6.8(b) Restricted Use – Commercial and Industrial Use SCOs.

Table A. Site Specific Soil Cleanup Objectives for Areas A and the off-site Union Mills property

Contaminant of Concern	Site Specific Soil Cleanup Objective	Applicable Land Use
Total PAHs	500 ppm	Restricted Residential, Commercial and Industrial
NAPL	Excavate impacted soils with visible NAPL	Not Applicable

1.4.2 Site-Related Treatment Systems

500 pounds of Regensis ORC were introduced into the excavated areas during backfilling activities in Area A and the off-site Union Mills property to address any remaining MGP residuals and promote biological activity for natural degradation and restoration of site groundwater.

No additional long-term treatment systems were installed as part of the site remedy.

1.4.3 Remaining Contamination

The various remedial activities implemented resulted in some remaining contamination at the Site. Remnant MGP-impacted material was left in place in the vicinity of the northwestern corner of the off-site Union Mills property. This material (approximately 420 cubic yards) was not excavated due to concerns regarding the structural stability of the western wall of the Union Mills building. NYSDEC determined that this area contained modest contamination and that not pursuing excavation of the material was acceptable. A demarcation barrier comprised of orange construction fencing measuring 27 feet long by 12 feet wide was placed approximately 5 feet below ground surface along the western wall of the Union Mills building to delineate this area.

Two NAPL veins, measuring approximately 0.5 to 1 foot thick, were visually identified within the northern sidewalls of the Area A excavation at an approximate depth of 17 feet. Due to concern about the potential undermining of the north-adjacent Foundry building, excavation of the NAPL veins was not continued. A demarcation barrier was not placed in the areas of the NAPL veins due to depth of the excavation and extent of clean backfill subsequently overlaying the area.

An existing buried timber bulkhead, located approximately 35 feet from the western-most wall of the Union Mills building, was encountered during remedial excavation activities. Due to concerns regarding the structural stability of the Union Mills building, this timber bulkhead was not removed. As a result, approximately 170 cubic yards of soil originally slated for removal between the bulkhead and the west wall of the Union Mills building remain in place at a depth of approximately 7.5 feet below original ground surface. A demarcation barrier was not placed in this area.

Contaminated soils remaining at the Site are depicted on **Figure 8**. **Table 1** and **Figure 8** summarize the results of all soil samples remaining at the site after completion of Remedial

Action that exceed the Track 1 (unrestricted) SCOs. **Figure 8** summarizes the results of all soil samples remaining at the site after completion of Remedial Action that meet the SCOs for unrestricted use of the site.

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2.0 ENGINEERING AND INSTITUTIONAL CONTROL PLAN

The following sections describe the EC/IC control plan established at the Site.

2.1 INTRODUCTION

2.1.1 General

Since remaining contaminated soil and groundwater exist beneath the Site and thus there is potential for soil vapor contamination if any changes to the Site are made, ECs and ICs are required to protect human health and the environment. This Engineering and Institutional Control Plan describes the procedures for the implementation and management of all EC/ICs at the Site. The EC/IC Plan is one component of the SMP and is subject to revision by NYSDEC.

2.1.2 Purpose

This plan provides:

- A description of all EC/ICs on the Site;
- The basic implementation and intended role of each EC/IC;
- A description of the key components of the ICs set forth in the Environmental Easements;
- A description of the features to be evaluated during each required inspection and periodic review;
- A description of plans and procedures to be followed for implementation of EC/ICs, such as the implementation of the Excavation Work Plan (provided in **Appendix B**) for the proper handling of remaining contamination that may be disturbed during maintenance or redevelopment work on the Site; and
- Any other provisions necessary to identify or establish methods for implementing the EC/ICs required by the site remedy, as determined by the NYSDEC.

2.2 ENGINEERING CONTROLS

2.2.1 Engineering Control Systems

The following sections describe the ECs established at the Site. The EC As-Built drawings are provided in **Appendix F**.

2.2.1.1 Soil Cover

Exposure to remaining contamination in soil/fill at the Site is prevented by a soil cover system placed over the Site. This cover system is comprised of a minimum of 12 inches of clean soil, asphalt pavement, concrete-covered sidewalks, and concrete building slabs. Locations and types of cover systems are depicted in **Figure 9**.

The Excavation Work Plan that appears in **Appendix B** outlines the procedures required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and any underlying remaining contamination is disturbed. Procedures for the inspection and maintenance of this cover are provided in the Monitoring Plan included in Section 4 of this SMP.

Procedures for operating and maintaining the soil cover system are documented in the Operation and Maintenance Plan (Section 4 of this SMP). Procedures for monitoring the system are included in the Monitoring Plan (Section 3 of this SMP). The Monitoring Plan also addresses severe condition inspections in the event that a severe condition, which may affect controls at the Site, occurs.

2.2.2 Criteria for Completion of Remediation/Termination of Remedial Systems

Generally, remedial processes are considered completed when effectiveness monitoring indicates that the remedy has achieved the remedial action objectives identified by the Decision Document. The framework for determining when remedial processes are complete is provided in Section 6.6 of NYSDEC DER-10.

2.2.2.1 Composite Cover System

The composite cover system is a permanent control and the quality and integrity of this system will be inspected at defined, regular intervals in perpetuity.

2.2.2.2 Monitored Natural Attenuation

Groundwater monitoring activities to assess natural attenuation will continue, as determined by the NYSDEC, until remaining groundwater concentrations are found to be consistently below NYSDEC standards or have become asymptotic at an acceptable level over an extended period. Monitoring will continue until permission to discontinue is granted in writing by the NYSDEC. If groundwater contaminant levels become asymptotic at a level that is not

acceptable to the NYSDEC, additional source removal, treatment and/or control measures will be evaluated.

2.3 INSTITUTIONAL CONTROLS

A series of ICs is required by the Decision Document to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of Areas A to restricted residential, commercial, and/or industrial uses and Areas B and C to commercial and/or industrial uses only. Adherence to these ICs on the site is required by the Environmental Easements and will be implemented under this SMP. These ICs are:

- Compliance with the Environmental Easements and this SMP by the Grantor and the Grantor's successors and assigns;
- All Engineering Controls must be operated and maintained as specified in this SMP;
- All Engineering Controls on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP;
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP; and
- Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in this SMP.

The ICs identified in the Environmental Easements may not be discontinued without an amendment to or extinguishment of the Environmental Easement. The site has a series of ICs in the form of site restrictions. Adherence to these ICs is required by the Environmental Easements. Site restrictions that apply to the Controlled Property are:

- Area A may only be used for restricted residential, commercial, and/or industrial uses and Areas B and C may only be used as commercial and/or industrial uses provided that the long-term Engineering and Institutional Controls included in this SMP are employed;
- Area A may not be used for a higher level of use, such as unrestricted use or residential, without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;

- Areas B and C may not be used for a higher level of use, such as unrestricted, residential, or restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC;
- All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with this SMP;
- The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use;
- The potential for vapor intrusion must be evaluated for any buildings developed in the area noted on **Figure 10**, and any potential impacts that are identified must be monitored or mitigated;
- Vegetable gardens and farming on the property are prohibited; and
- The site owners or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

2.3.1 Excavation Work Plan

Area A and the off-site Union Mills property have been remediated for restricted residential, commercial and industrial use. Areas B and C may only be used for commercial and/or industrial uses. Any future intrusive work that will penetrate the soil cover or cap, or encounter or disturb the remaining contamination, including any modifications or repairs to the existing cover system will be performed in compliance with the Excavation Work Plan (EWP) that is attached as **Appendix B** to this SMP. Any work conducted pursuant to the EWP must also be conducted in accordance with the procedures defined in a Health and Safety Plan (HASP) and Community Air Monitoring Plan (CAMP) prepared for the Site. Prior to any associated work, a HASP and CAMP will be prepared and approved by all appropriate agencies. Based on future changes to State and Federal health and safety requirements, and specific methods employed by future contractors, the HASP and CAMP will be updated and re-submitted with the

notification provided in Section B-1 of the EWP. Any intrusive construction work will be performed in compliance with the EWP, HASP, and CAMP, and will be included in the periodic inspection and certification reports submitted under the Site Management Reporting Plan (See Section 5).

The site owners and associated parties preparing the remedial documents submitted to the State, and parties performing this work, are completely responsible for the safe performance of all intrusive work, the structural integrity of excavations, proper disposal of excavation de-water, control of runoff from open excavations into remaining contamination, and for structures that may be affected by excavations (such as building foundations and bridge footings). The site owners will ensure that site development activities will not interfere with, or otherwise impair or compromise, the engineering controls described in this SMP.

2.3.2 Soil Vapor Intrusion Evaluation

Prior to the construction of any enclosed structures located over areas that contain remaining contamination and the potential for soil vapor intrusion (SVI) has been identified (in Areas A, B, C and the off-site Union Mills property; see **Figure 10**), an SVI evaluation will be performed to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. Alternatively, an SVI mitigation system may be installed as an element of the building foundation without first conducting an investigation. This mitigation system will include a vapor barrier and passive sub-slab depressurization system that is capable of being converted to an active system.

Prior to conducting an SVI investigation or installing a mitigation system, a work plan will be developed and submitted to the NYSDEC and NYSDOH for approval. This work plan will be developed in accordance with the most recent NYSDOH “Guidance for Evaluating Vapor Intrusion in the State of New York”. Measures to be employed to mitigate potential vapor intrusion will be evaluated, selected, designed, installed, and maintained based on the SVI evaluation, the NYSDOH guidance, and construction details of the proposed structure.

Preliminary (unvalidated) SVI sampling data will be forwarded to the NYSDEC and NYSDOH for initial review and interpretation. Upon validation, the final data will be transmitted to the agencies, along with a recommendation for follow-up action, such as mitigation. Validated SVI data will be transmitted to the property owner within 30 days of validation. If any indoor air test

results exceed NYSDOH guidelines, relevant NYSDOH fact sheets will be provided to all tenants and occupants of the property within 15 days of receipt of validated data. SVI sampling results, evaluations, and follow-up actions will also be summarized in the next Periodic Review Report.

2.4 INSPECTIONS AND NOTIFICATIONS

2.4.1 Inspections

Inspections of all remedial components installed at the Site will be conducted at the frequency specified in the SMP Monitoring Plan Schedule. A comprehensive site-wide inspection will be conducted annually, regardless of the frequency of the Periodic Review Report. The inspections will determine and document the following:

- Whether Engineering Controls continue to perform as designed;
- If these controls continue to be protective of human health and the environment;
- Compliance with requirements of this SMP and the Environmental Easement;
- Achievement of remedial performance criteria;
- Sampling and analysis of appropriate media during monitoring events;
- If site records are complete and up to date; and
- Changes, or needed changes, to the remedial or monitoring system.

Inspections will be conducted in accordance with the procedures set forth in the Monitoring Plan of this SMP (Section 3). The reporting requirements are outlined in the Periodic Review Reporting section of this plan (Section 5).

If an emergency, such as a natural disaster or an unforeseen failure of any of the ECs occurs, an inspection of the site will be conducted within 5 days of the event to verify the effectiveness of the EC/ICs implemented at the site by a qualified environmental professional as determined by NYSDEC.

2.4.2 Notifications

Notifications will be submitted by the property owners to the RP and the NYSDEC as needed for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the BCA, 6NYCRR Part 375, and/or ECL;

- 7-day advance notice of any proposed ground-intrusive activities pursuant to the Excavation Work Plan;
- Notice within 48-hours of any damage or defect to the foundation, structures or engineering control that reduces or has the potential to reduce the effectiveness of an Engineering Control and likewise any action to be taken to mitigate the damage or defect;
- Verbal notice by noon of the following day of any emergency, such as a fire, flood, or earthquake that reduces or has the potential to reduce the effectiveness of Engineering Controls in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public; and/or
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action shall be submitted to the NYSDEC within 45 days and shall describe and document actions taken to restore the effectiveness of the ECs.

Any change in the ownership of the site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser has been provided with a copy of the BCA, and all approved work plans and reports, including this SMP; and
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing.

2.5 CONTINGENCY PLAN

Emergencies may include injury to personnel, fire or explosion, environmental release, serious weather conditions, or unforeseen failure of the EC that result or may potentially result in MGP-related release to the environment.

Amendments to this Contingency Plan may be made periodically to reflect changes in site conditions, site information, emergency contacts, etc. NYSDEC must approve any proposed amendments to the Contingency Plan prior to their inclusion in the plan.

2.5.1 Emergency Telephone Numbers

In the event of any environmentally related situation or unplanned occurrence requiring assistance the Owners or Owners' representative(s) should contact the appropriate party from the contact list below. For emergencies, appropriate emergency response personnel should be contacted. Prompt contact should also be made to CHGE. These emergency contact lists must be maintained in an easily accessible location at the Site.

Table B: Emergency Contact Numbers

Medical, Fire, and Police:	911
One Call Center:	(800) 272-4480 (3 day notice required for utility markout)
Poison Control Center:	(800) 222-1222
Pollution Toxic Chemical Oil Spills:	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

Table C: Other Contact Numbers

Mark McLean Central Hudson Senior Director Environmental Affairs	845-486-5461
Jesse Gallo Central Hudson Environmental Coordinator	845-486-5641

* Note: Contact numbers subject to change and should be updated as necessary

2.5.2 Map and Directions to Nearest Health Facility

Site Location: 121 Water Street, Catskill, NY

Nearest Hospital Name: Columbia Memorial Hospital

Hospital Location: 71 Prospect Avenue, Hudson, NY 12534

Hospital Telephone: (518) 828-7601

Directions to the Hospital:

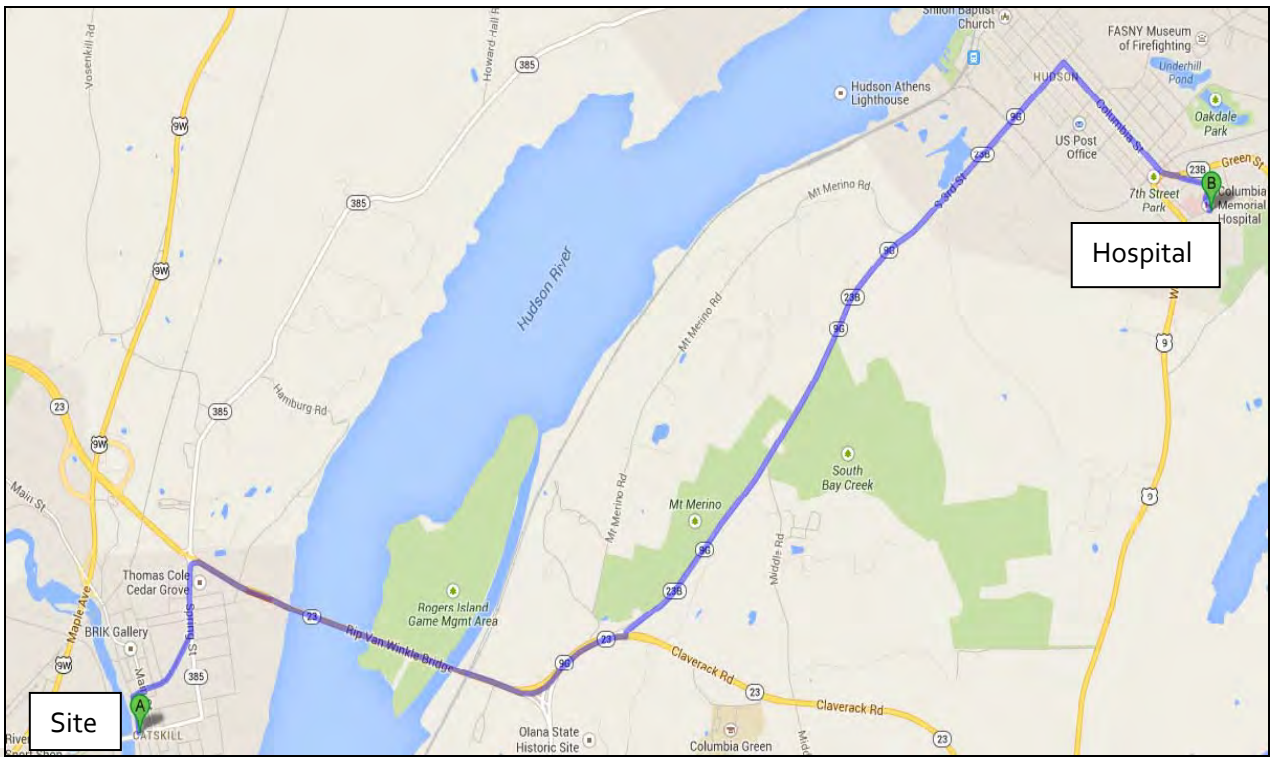
1. Head NORTH on Water Street towards Factory Street
2. Make RIGHT onto Canal Street/Thompson Street.
3. Make slight LEFT onto Spring Street.
4. Make RIGHT onto NY Route 23 East.
5. Make RIGHT onto Columbia Street.
6. Make RIGHT to stay on Columbia Street.

7. Make RIGHT onto Prospect Avenue. Hospital on right side of street.

Total Distance: 6.5 miles

Total Estimated Time: 13 minutes

Map Showing Route from the Site to the Hospital (also provided in Figure 11):



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2.5.3 Response Procedures

As appropriate, the fire department and other emergency response group will be notified immediately by telephone of the emergency. The emergency telephone number list is found at the beginning of this Contingency Plan (Table B). The list will be also posted prominently at the Site and made readily available to all personnel at all times.

If releases at the Site are observed by the property owners, operators, and/or contractors, these releases must be reported to CHGE immediately. If, during excavation activities, evidence of suspected contamination (discoloration or staining) is detected, excavation in the area should be halted. CHGE must be notified immediately. The affected area will be cordoned off and no further work will be performed at that location until the appropriate contaminated materials contingency response is implemented.

Any chemical or petroleum release of five gallons or more should be immediately reported to NYSDEC's Spill Hotline. A qualified spill response contractor should be contacted immediately to contain and remediate, if necessary, the release.

In the event of an emergency warranting evacuation of the Site, all parties should evacuate the premises in a safe and efficient manner to the muster point located on the northeastern corner of Area C along Water Street.

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3.0 SITE MONITORING PLAN

The following sections outline the site monitoring plan.

3.1 INTRODUCTION

3.1.1 General

The Monitoring Plan describes the measures for evaluating the performance and effectiveness of the remedy to reduce or mitigate contamination at the Site, the soil cover system, and all affected site media identified below. Monitoring of other Engineering Controls is described in Chapter 4, Operation, Monitoring and Maintenance Plan. This Monitoring Plan may only be revised with the approval of NYSDEC.

3.1.2 Purpose and Schedule

This Monitoring Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (e.g., groundwater, indoor air, soil vapor, soils);
- Assessing compliance with applicable NYSDEC standards, criteria and guidance, particularly ambient groundwater standards and Part 375 SCOs for soil;
- Assessing achievement of the remedial performance criteria;
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring Plan provides information on:

- Sampling locations, protocol, and frequency;
- Information on all designed monitoring systems (e.g., well logs);
- Analytical sampling program requirements;
- Reporting requirements;
- Quality Assurance/Quality Control (QA/QC) requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures; and
- Annual inspection and periodic certification.

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Annual monitoring of the performance of the remedy and overall reduction in contamination on-site will be conducted for the first five years. The frequency thereafter will be determined by NYSDEC. Trends in contaminant levels in air, soil, and/or groundwater in the affected areas, will be evaluated to determine if the remedy continues to be effective in achieving remedial goals. Monitoring programs are summarized in Table 3 and outlined in detail in Sections 3.2 and 3.3 below.

Table D: Monitoring/Inspection Schedule

Monitoring Program	Frequency*	Matrix	Analysis
Site Cover Inspection	Annual, or after flooding or storm event	No samples collected	Visual Inspection
Site-wide Inspection	Annual, or after flooding or storm event	No samples collected	Visual and Onsite Recordkeeping Inspection
Groundwater Monitoring	Annual	Groundwater	VOCs (EPA Method 8260C) and SVOCs (EPA Method 8270D)

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC and NYSDOH.

3.2 COVER SYSTEM MONITORING

The site cover inspection will include a visual inspection of the complete cover performed on an annual basis by CHGE in accordance with Section 3.1.2. A complete list of components to be checked is provided in the Site Cover Inspection Log presented in **Appendix C**. Cracking, erosion, or other signed of wear will be repaired as per the Operations and Maintenance Place in Section 4.0.

Unscheduled inspections may be performed when a suspected failure of the site cover has been reported or an emergency occurs that is deemed likely to affect the site cover. Inspection frequency is subject to change by NYSDEC.

3.3 MEDIA MONITORING PROGRAM

3.3.1 Groundwater Monitoring

Groundwater monitoring will be performed on an annual basis by CHGE to assess the performance of the remedy. Monitoring well locations are depicted on **Figure 12**. The network of monitoring wells has been installed to monitor groundwater conditions at the site. The network of onsite wells has been designed based on the following criteria:

Monitoring wells were constructed of four-inch diameter schedule 40 polyvinyl chloride (PVC) pipe. Monitoring wells were set at final depths of 19 to 21 feet below ground surface. Each well was constructed of 15 feet of slotted 0.020-inch PVC with an additional three to five feet of solid PVC riser. During well installation, groundwater was encountered at approximately eight to nine feet below ground surface. Soil types encountered (based on auger cuttings) during monitoring well installation consisted of sand, silt, gravel, and trace amounts of clay and organic matter. Monitoring well construction logs are included in **Appendix D**.

All three groundwater monitoring wells (MW-1, MW-2, and MW-3) are to be sampled for VOCs via USEPA Method 8260D and SVOCs via USEPA Method 8270C. Two groundwater sampling events (August and November 2013) have been conducted following completion of remedial activities. A summary of baseline post-remediation groundwater quality (as sampled in August 2013) is provided on **Figure 13.**

Analytical data indicated no exceedances of the Class GA Groundwater Quality Standards and Guidance Levels with one exception. Benzene was detected in the groundwater sample collected from monitoring well MW-2 during the November 2013 sampling event at an estimated concentration of 2 µg/L; this detection exceeds the Class GA standard of 1 µg/L.

To monitor the effectiveness of MNA, groundwater monitoring will include the monitoring of groundwater plume characteristics, horizontal and vertical contaminant migration, and related controlling processes, in accordance with the USEPA's guidance for monitored natural attenuation (MNA), *Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites* (November 1997).

The sampling frequency may be modified with approval from the NYSDEC. The SMP will be modified to reflect changes in sampling plans approved by NYSDEC. Deliverables for the groundwater monitoring program are specified below.

3.3.1.1 Sampling Protocol

All sampling and analyses will be performed in accordance with the requirements of the Quality Assurance Project Plan (QAPP) prepared for the Site. The QAPP is provided as **Appendix E**. Low flow sampling techniques will be used, as described in USEPA's Groundwater Sampling Guidelines for Superfund and RCRA Project Managers (EPA 542-S-02-001, May 2002). Groundwater samples will be collected for the following analytical parameters: VOCs by USEPA Method 8260C and SVOCs by USEPA Method 8270D. All monitoring well sampling activities will be recorded in a field book and a groundwater-sampling log (sample presented in **Appendix E)**. Other observations (e.g., well integrity, etc.) will be noted on the well sampling log. The well sampling log will serve as the inspection form for the groundwater monitoring well network.

3.3.1.2 Monitoring Well Repairs, Replacement and Decommissioning

If biofouling or silt accumulation occurs in the on-site and/or off-site monitoring wells, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced (as per the Monitoring Plan), if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance.

The NYSDEC will be notified prior to any repair or decommissioning of monitoring wells for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent periodic report. Well decommissioning without replacement will be done only with the prior approval of NYSDEC. Well abandonment will be performed in accordance with NYSDEC's "Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by the NYSDEC.

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3.4 SITE-WIDE INSPECTION

Site-wide inspections will be performed on a regular schedule at a minimum of once a year and will be conducted by CHGE. Site-wide inspections will also be performed after all severe weather conditions that may affect ECs or monitoring devices. During these inspections, an inspection form will be completed (**Appendix C**). The form will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage;
- An evaluation of the condition and continued effectiveness of ECs;
- General site conditions at the time of the inspection;
- The site management activities being conducted including, where appropriate, confirmation sampling and a health and safety inspection;
- Compliance with permits and schedules included in the Operation and Maintenance Plan; and
- Confirm that site records are up to date.

3.5 MONITORING QUALITY ASSURANCE/QUALITY CONTROL

All sampling and analyses will be performed in accordance with the requirements of the QAPP prepared for the site (**Appendix E**). Main Components of the QAPP include:

- QA/QC Objectives for Data Measurement;
- Sampling Program:
    - Sample containers will be properly washed, decontaminated, and appropriate preservative will be added (if applicable) prior to their use by the analytical laboratory. Containers with preservative will be tagged as such.
    - Sample holding times will be in accordance with the NYSDEC ASP requirements.
    - Field QC samples (e.g., trip blanks, coded field duplicates, and matrix spike/matrix spike duplicates) will be collected as necessary.
- Sample Tracking and Custody;
- Calibration Procedures:
    - All field analytical equipment will be calibrated immediately prior to each day's use. Calibration procedures will conform to manufacturer's standard instructions.
    - The laboratory will follow all calibration procedures and schedules as specified in USEPA SW-846 and subsequent updates that apply to the instruments used for the analytical methods.

- Analytical Procedures;
- Preparation of a Data Usability Summary Report (DUSR), which will present the results of data validation, including a summary assessment of laboratory data packages, sample preservation and chain of custody procedures, and a summary assessment of precision, accuracy, representativeness, comparability, and completeness for each analytical method.
- Internal QC and Checks;
- QA Performance and System Audits;
- Preventative Maintenance Procedures and Schedules; and
- Corrective Action Measures.

3.6 MONITORING REPORTING REQUIREMENTS

Forms and any other information generated during regular monitoring events and inspections will be kept on file at CHGE Headquarters located at 284 South Avenue, Poughkeepsie, New York. CHGE will perform monitoring events and inspections and prepare the Periodic Review Report. All forms, and other relevant reporting formats used during the monitoring/inspection events, will be (1) subject to approval by NYSDEC and (2) submitted at the time of the Periodic Review Report, as specified in the Reporting Plan of this SMP.

All monitoring results will be reported to NYSDEC on a periodic basis in the Periodic Review Report. A letter report will also be prepared, if required by NYSDEC, subsequent to each sampling event. The report will include, at a minimum:

- Date of event;
- Personnel conducting sampling;
- Description of the activities performed;
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (o be submitted electronically in the NYSDEC-identified format);

- Any observations, conclusions, or recommendations; and
- A determination as to whether groundwater conditions have changed since the last reporting event.
- Data will be reported in hard copy or digital format as determined by NYSDEC. A summary of the monitoring program deliverables are summarized in Table 5 below:

Table E: Schedule of Monitoring/Inspection Reports

Task	Reporting Frequency*
Site Cover Inspection	Annually
Site-Wide Inspection	Annually
Groundwater Monitoring	Annually

* The frequency of events will be conducted as specified until otherwise approved by NYSDEC

4.0 OPERATION AND MAINTENANCE PLAN

The following sections describe the operation and maintenance plan to be performed at the Site.

4.1 INTRODUCTION

The site remedy does not rely on any mechanical systems, such as sub-slab depressurization systems or air sparge/ soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance of such components are not included in this SMP.

4.2 ENGINEERING CONTROL SYSTEM OPERATION AND MAINTENANCE

4.2.1 Site Cover Maintenance

A visual inspection of the site cover will be performed by a qualified environmental professional on an annual basis as outlined in Section 3.2. An example Site Cover Inspection Log is included in **Appendix C**. Inspection logs and records of any repairs made to the site cover will be included in the Site Management Report.

4.2.2 Monitoring Schedule

As previously discussed, the site cover system will be inspected on an annual basis. If repairs to the site cover are necessary, CHGE will be notified immediately.

Inspection frequency is subject to change with the approval of the NYSDEC. Unscheduled inspections and/or sampling may take place when a suspected failure of the site cover system has been reported or an emergency occurs that is deemed likely to affect the operation of the system. Monitoring deliverables for the site cover system are specified later in this SMP.

4.3 MAINTENANCE AND PERFORMANCE MONITORING REPORTING REQUIREMENTS

Maintenance reports and any other information generated during regular operations at the Site will be kept on-file at CHGE Headquarters located at 284 South Avenue, Poughkeepsie, New York. All reports, forms, and other relevant information generated will be available upon request to the NYSDEC and submitted as part of the Periodic Review Report, as specified in the Section 5 of this SMP.

4.4.1 Routine Maintenance Reports

Checklists or forms (see **Appendix C**) will be completed during each routine maintenance event. Checklists/forms will include, but not be limited to the following information:

- Date;
- Name, company, and position of person(s) conducting maintenance activities;
- Maintenance activities conducted;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

4.4.2 Non-Routine Maintenance Reports

During each non-routine maintenance event, a form will be completed which will include, but not be limited to, the following information:

- Date;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Other repairs or adjustments made to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and,
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

5.0 INSPECTIONS, REPORTING AND CERTIFICATIONS

The following sections describe the necessary inspections, reporting requirements, and certifications for the Site.

5.1 SITE INSPECTIONS

5.1.1 Inspection Frequency

All inspections will be conducted at the frequency specified in the schedules provided in Section 3 Monitoring Plan and Section 4 Operation and Maintenance Plan of this SMP. At a minimum, a site-wide inspection will be conducted annually. Inspections of remedial components will also be conducted when a breakdown of any treatment system component has occurred or whenever a severe condition has taken place, such as an erosion or flooding event that may affect the ECs.

5.1.2 Inspection Forms, Sampling Data, and Maintenance Reports

All inspections and monitoring events will be recorded on the appropriate forms for their respective system which are contained in **Appendix C** (site cover) and **Appendix E** (groundwater monitoring). Additionally, a general site-wide inspection form will be completed during the site-wide inspection (see **Appendix C**). These forms are subject to NYSDEC revision.

All applicable inspection forms and other records, including all media sampling data and system maintenance reports, generated for the site during the reporting period will be provided in electronic format in the Periodic Review Report.

5.1.3 Evaluation of Records and Reporting

The results of the inspection and site monitoring data will be evaluated as part of the EC/IC certification to confirm that the:

- EC/ICs are in place, are performing properly, and remain effective;
- The Monitoring Plan is being implemented;
- Operation and maintenance activities are being conducted properly; and, based on the above items,
- The site remedy continues to be protective of public health and the environment and is performing as designed in the RD and FER.

5.2 CERTIFICATION OF ENGINEERING AND INSTITUTIONAL CONTROLS

After the last inspection of the reporting period, a qualified environmental professional or Professional Engineer licensed to practice in New York State will prepare the following certification:

For each institutional or engineering control identified for the Site, I certify that all of the following statements are true:

- The inspection of the Site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under my direction;
- The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;
- Nothing has occurred that would impair the ability of the control to protect the public health and environment;
- Nothing has occurred that would constitute a violation or failure to comply with any site management plan for this control;
- Access to the Site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;
- If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;
- Use of the Site is compliant with the environmental easement;
- The engineering control systems are performing as designed and are effective;
- To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program and generally accepted engineering practices; and
- The information presented in this report is accurate and complete.
- I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class “A” misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner’s Designated Site Representative] [I have been authorized and designated by all site owners to sign this certification] for the Site.

The signed certification will be included in the Periodic Review Report described below. Responsibilities of the owners and/or remedial parties are provided in **Appendix G**.

5.3 PERIODIC REVIEW REPORT

A Periodic Review Report will be prepared by CHGE and submitted to the Department every year, beginning fifteen months after the Certificate of Completion is issued. In the event that the Site is subdivided into separate parcels with different ownership, a single Periodic Review Report will be prepared that addresses the Site described in **Appendix A** (Metes and Bounds). The report will be prepared in accordance with NYSDEC DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ECs/ICs required by the remedy for the site;
- Results of the required annual site inspections and severe condition inspections, if applicable;
- All applicable inspection forms and other records generated for the Site during the reporting period in electronic format;
- A summary of any discharge monitoring data and/or information generated during the reporting period with comments and conclusions;
- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends;
- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted electronically in a NYSDEC-approved format;
- A site evaluation, which includes the following:
    - The compliance of the remedy with the requirements of the site-specific Decision Document;
    - The operation and the effectiveness of all treatment units, etc., including identification of any needed repairs or modifications;

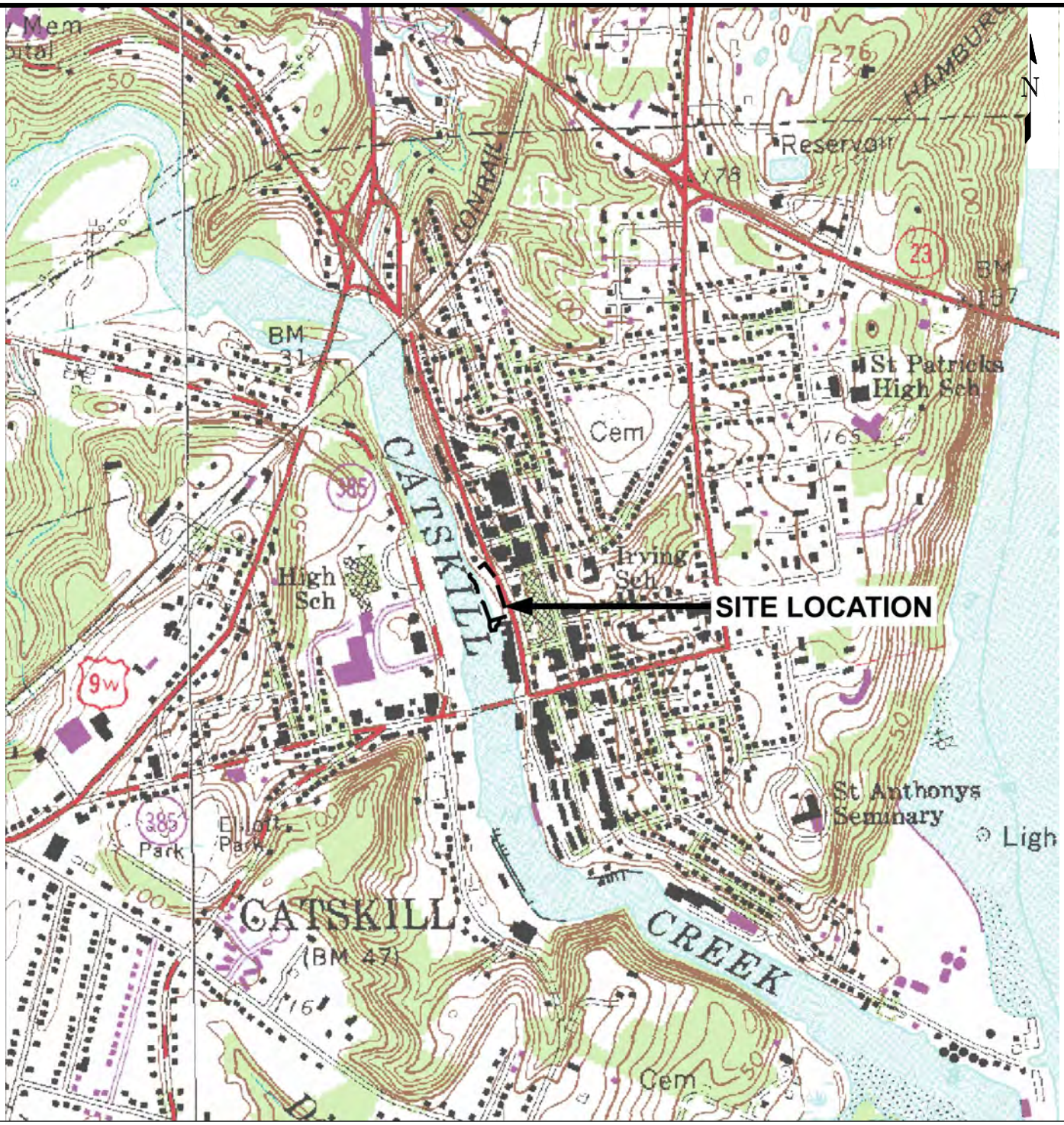
- Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring Plan for the media being monitored;
- Recommendations regarding any necessary changes to the remedy and/or Monitoring Plan; and
- The overall performance and effectiveness of the remedy.

The Periodic Review Report will be submitted, in hard-copy format, to the NYSDEC Central Office and Regional Office in which the Site is located, and in electronic format to NYSDEC Central Office, Regional Office and the NYSDOH Bureau of Environmental Exposure Investigation.

5.4 CORRECTIVE MEASURES PLAN

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional or engineering control, a corrective measures plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the corrective measures plan until it is approved by the NYSDEC.

FIGURES



1000 500 0 1000

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ARCADIS.

NOTES:

1. USGS 7.5 MIN. QUADS ENTITLED CEMENTON AND HUDSON SOUTH WERE PROVIDED BY THE NEW YORK STATE GIS CLEARINGHOUSE.

AREA ENLARGEMENT

CAD FILE: C:\Users\agekas\Documents__ALL CADD-DOCUMENTS__CAD-WORK IN PROGRESS\EAST COAST PROJECTS\137977_CHGE_Catskill SMP Figures\ LAYOUT: PLOTTED: 18 Jun 2014, 11:09am, agekas

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PROJECT NO.	137977
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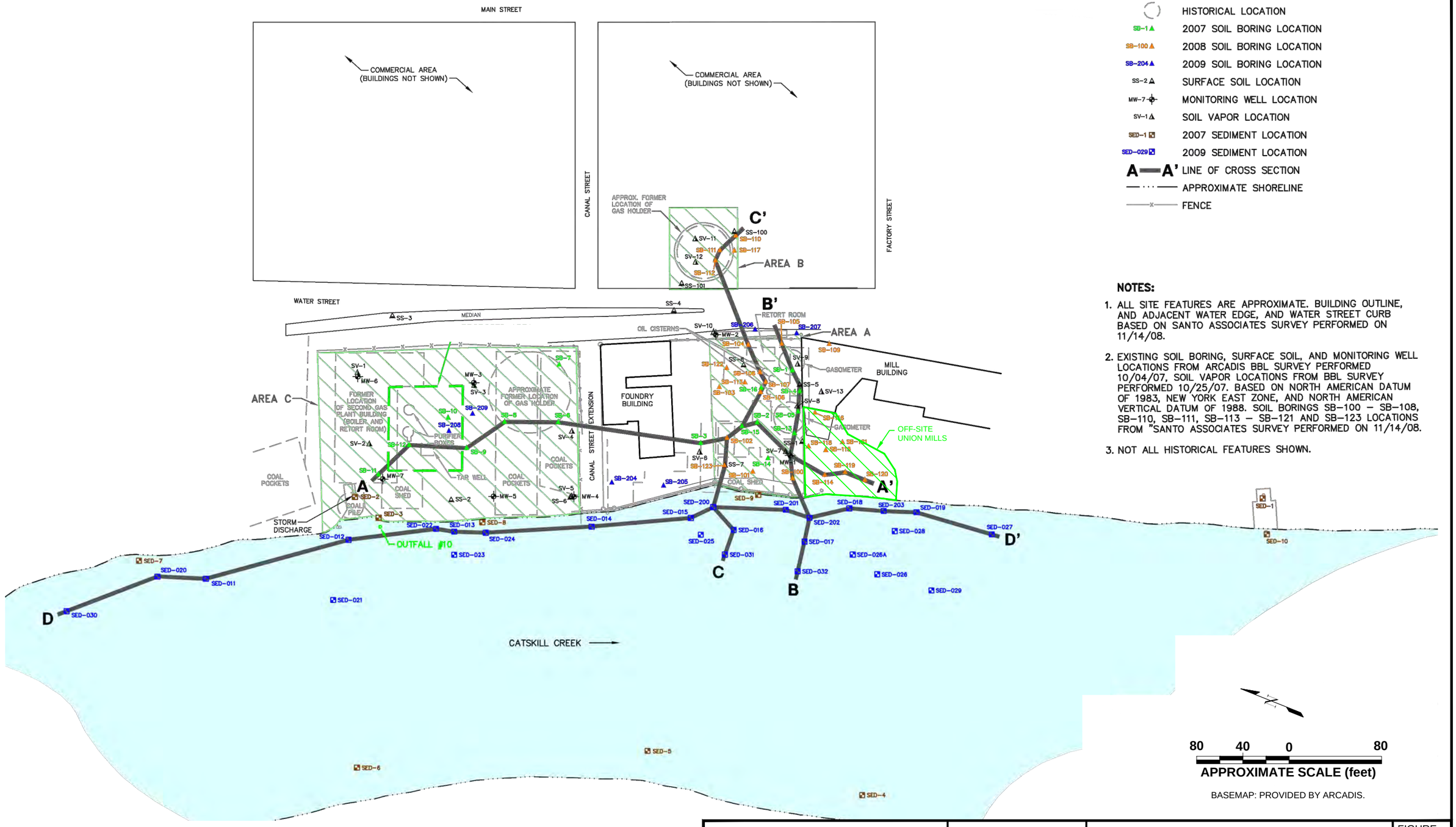
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG R-1.dwg

SITE LOCATION MAP

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
1



LEGEND:

- HISTORICAL LOCATION
- SB-1 2007 SOIL BORING LOCATION
- SB-100 2008 SOIL BORING LOCATION
- SB-204 2009 SOIL BORING LOCATION
- SS-2 SURFACE SOIL LOCATION
- MW-7 MONITORING WELL LOCATION
- SV-1 SOIL VAPOR LOCATION
- SED-1 2007 SEDIMENT LOCATION
- SED-029 2009 SEDIMENT LOCATION
- A — A' LINE OF CROSS SECTION
- APPROXIMATE SHORELINE
- FENCE

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE. BUILDING OUTLINE, AND ADJACENT WATER EDGE, AND WATER STREET CURB BASED ON SANTO ASSOCIATES SURVEY PERFORMED ON 11/14/08.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07. SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988. SOIL BORINGS SB-100 – SB-108, SB-110, SB-111, SB-113 – SB-121 AND SB-123 LOCATIONS FROM "SANTO ASSOCIATES SURVEY PERFORMED ON 11/14/08.
3. NOT ALL HISTORICAL FEATURES SHOWN.

80 40 0 80

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ARCADIS.

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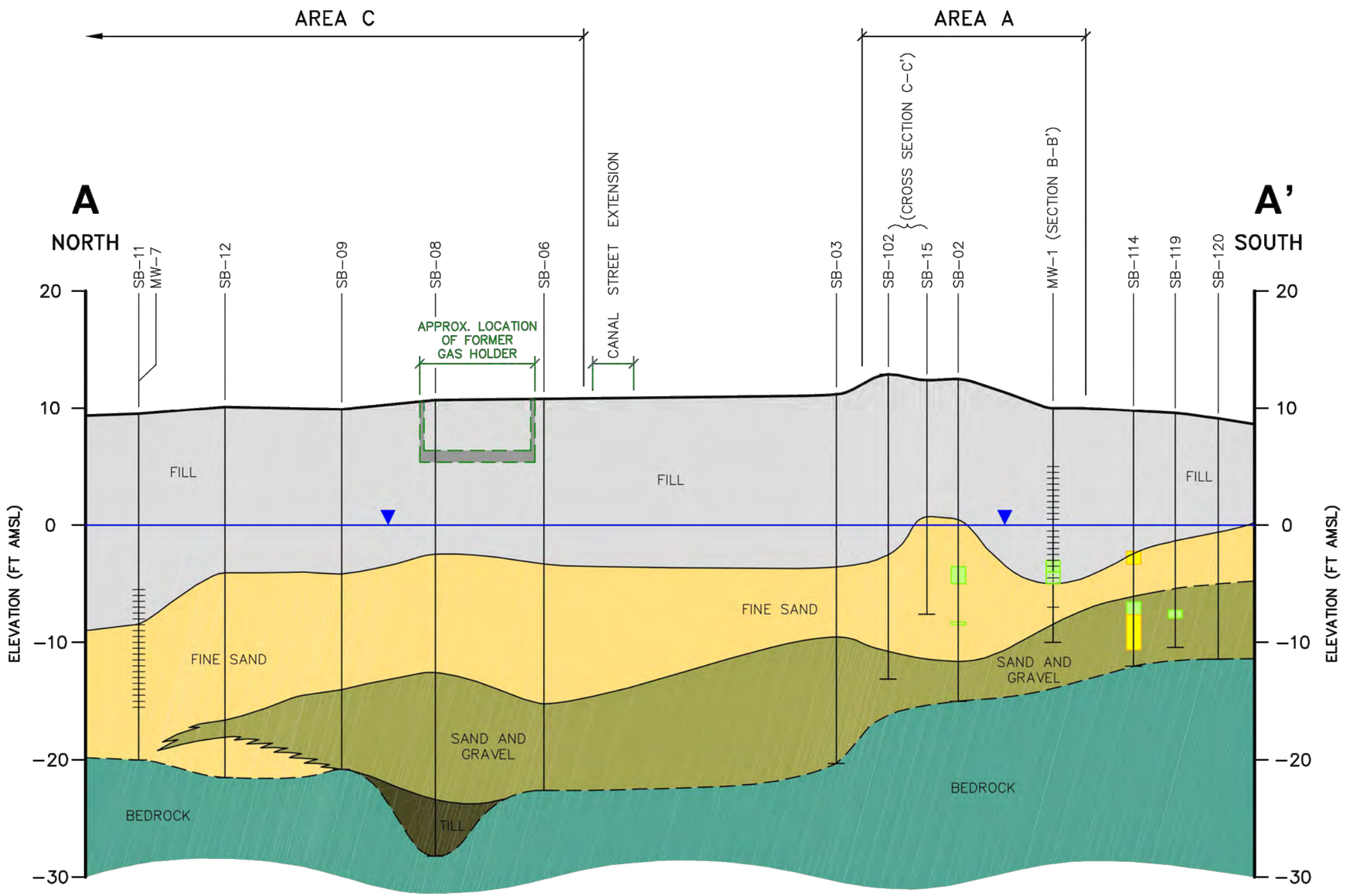
PRE-REMEDIAL CROSS SECTION LOCATION MAP

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE 2A



LEGEND:

- WELL OR BORING ID (SB-11)
- GROUND SURFACE
- GROUNDWATER
- LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
- SCREEN
- BOTTOM OF BORING
- NAPL
- LITTLE TO TRACE NAPL
- SHEEN
- FILL
- FINE SAND
- SAND AND GRAVEL
- TILL
- BEDROCK

NOTE:

1. ELEVATIONS BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.

VERTICAL EXAGGERATION = 5X

0 10' 20'

VERTICAL SCALE

0 50' 100'

HORIZONTAL SCALE

BASEMAP: PROVIDED BY ARCADIS.

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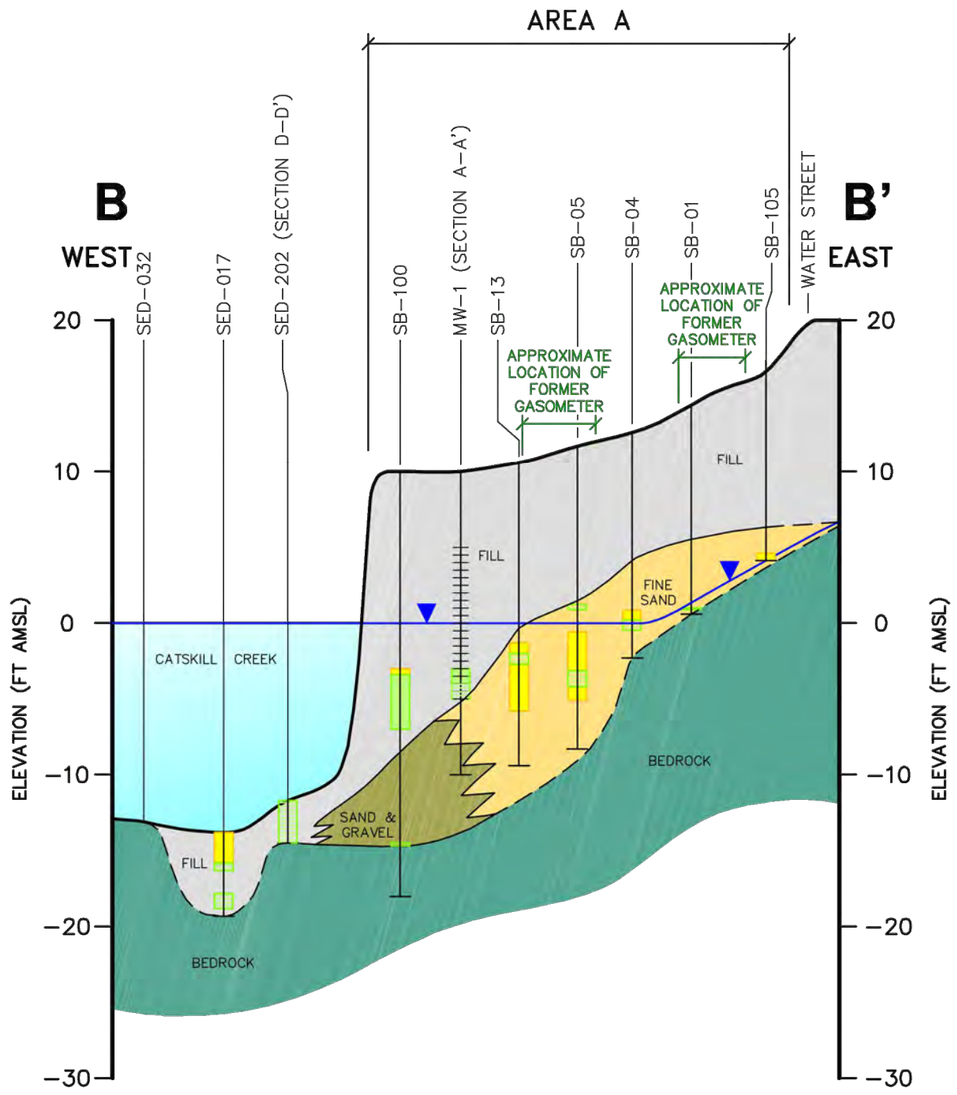
CROSS SECTION A-A'

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
2B



LEGEND:

- WELL OR BORING ID (SB-13)
- GROUND SURFACE
- GROUNDWATER
- LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
- SCREEN
- BOTTOM OF BORING
- NAPL
- LITTLE TO TRACE NAPL
- SHEEN
- FILL
- FINE SAND
- SAND AND GRAVEL
- BEDROCK

NOTE:

1. ELEVATIONS BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.

VERTICAL EXAGGERATION = 5X

0 10' 20'

VERTICAL SCALE

0 50' 100'

HORIZONTAL SCALE

BASEMAP: PROVIDED BY ARCADIS.

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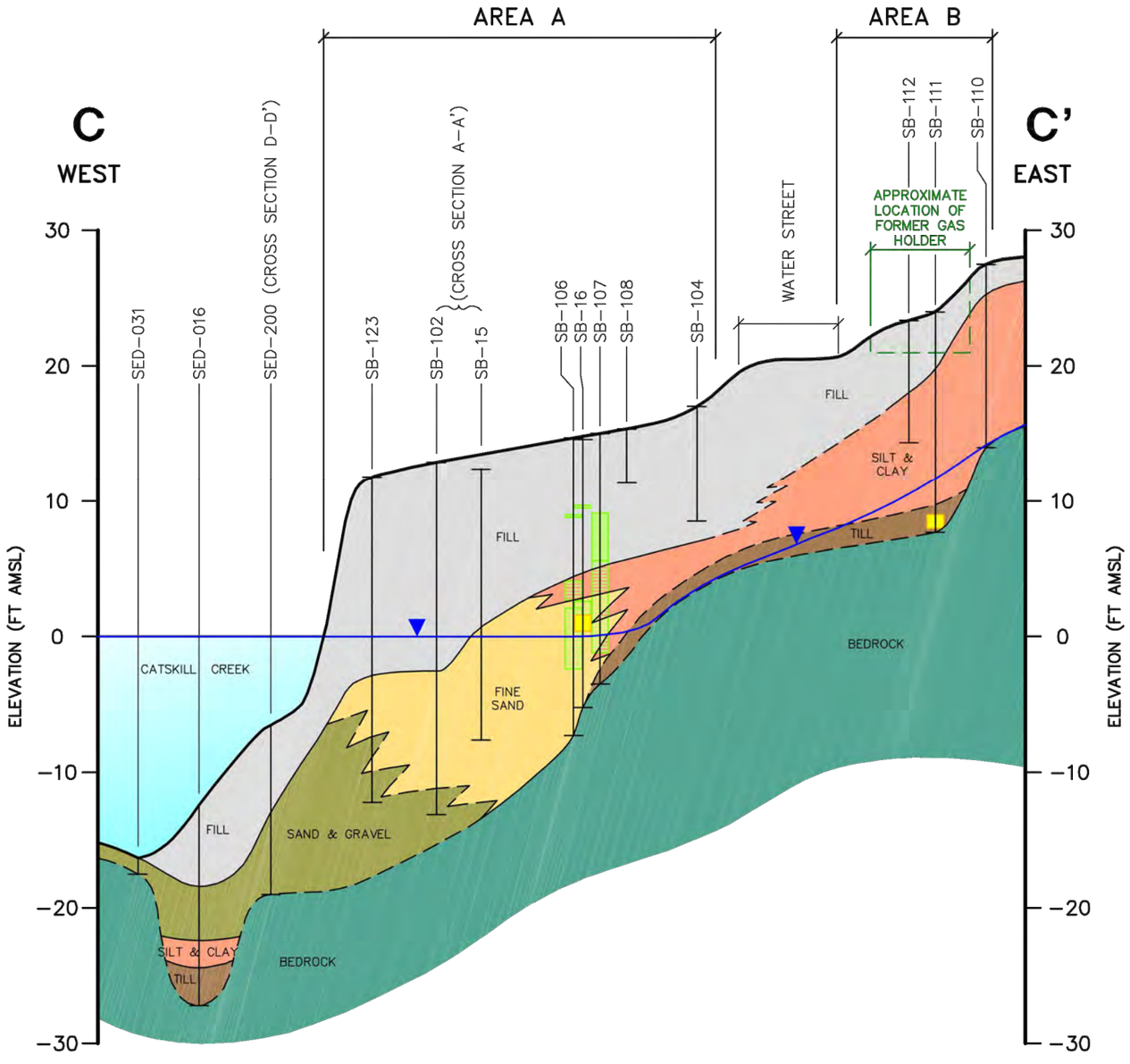
FILE NAME:	FIG 2A-2F.dwg

CROSS SECTION B-B'

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
2C

ATTACHED IMAGES:
ATTACHED XREFS: XRef: Eng-B_11x17_L_StyleA
NEWBURGH, NY CAD FILE: C:\Users\agekas\Documents\CHGE_Catskill SMP Figures\ LAYOUT: FIGURE 2C
PLOTTED: 29 Jan 2014, 1:12pm, AGekas



LEGEND:

- WELL OR BORING ID (SB-123)
- GROUND SURFACE
- GROUNDWATER
- LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
- SCREEN
- BOTTOM OF BORING
- NAPL
- LITTLE TO TRACE NAPL
- SHEEN
- FILL
- FINE SAND
- SILT AND CLAY
- SAND AND GRAVEL
- TILL
- BEDROCK

NOTE:

1. ELEVATIONS BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.

VERTICAL EXAGGERATION = 5X

0 10' 20'

VERTICAL SCALE

0 50' 100'

HORIZONTAL SCALE

BASEMAP: PROVIDED BY ARCADIS.

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PROJECT NO.	137977
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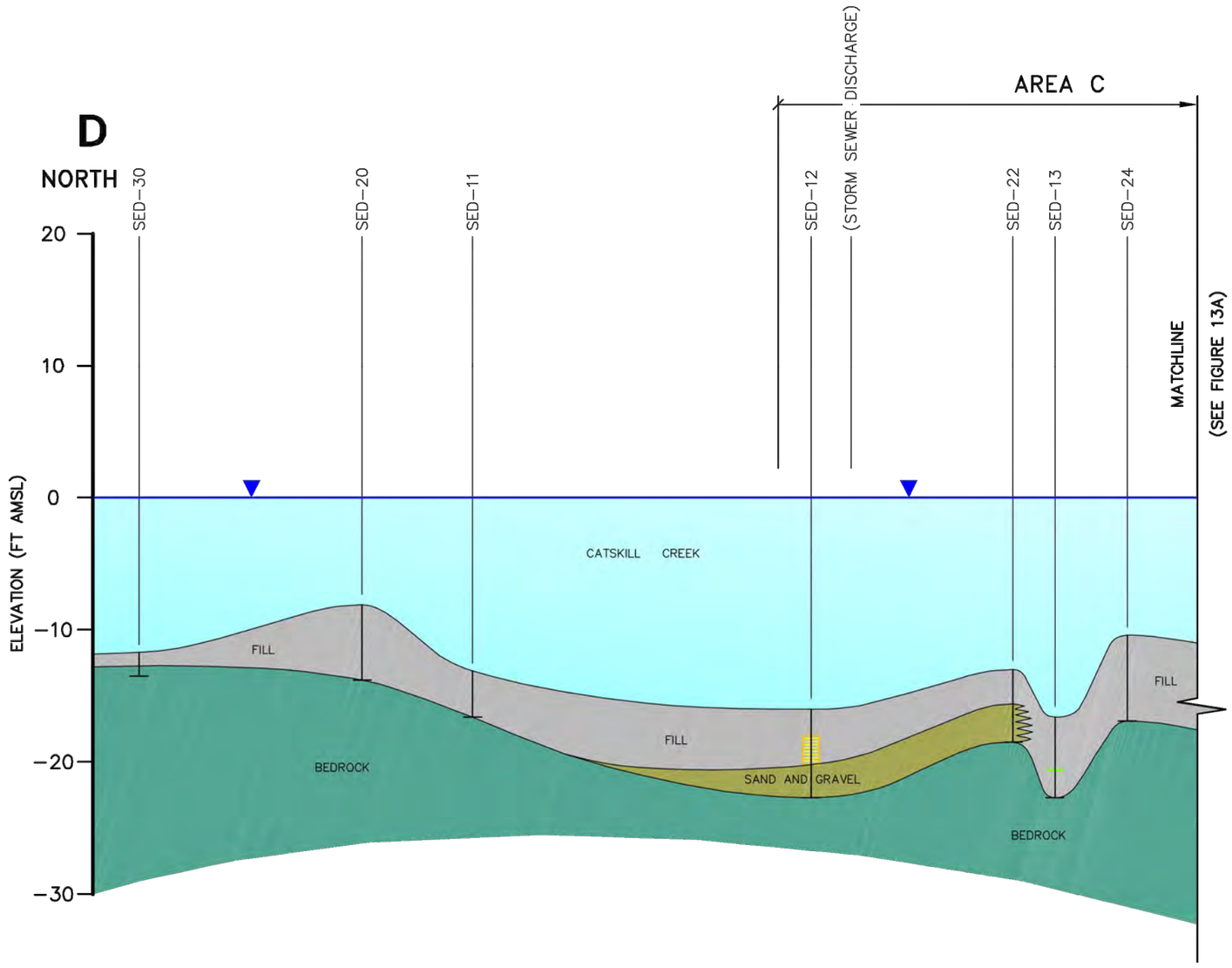
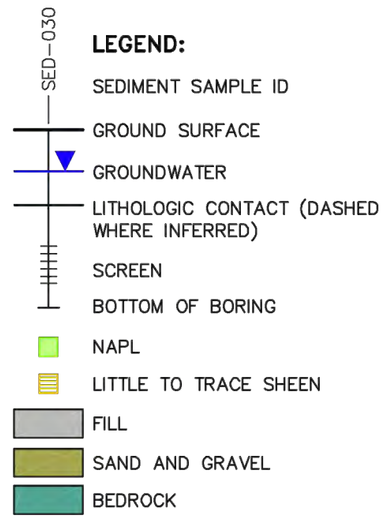
FILE NAME:	FIG 2A-2F.dwg

CROSS SECTION C-C'

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
2D





NOTE:

1. ELEVATIONS BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.

VERTICAL EXAGGERATION = 5X

0 10' 20'

VERTICAL SCALE

0 50' 100'

HORIZONTAL SCALE

BASEMAP: PROVIDED BY ARCADIS.

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PROJECT NO.	137977
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DRAWN BY:	AG
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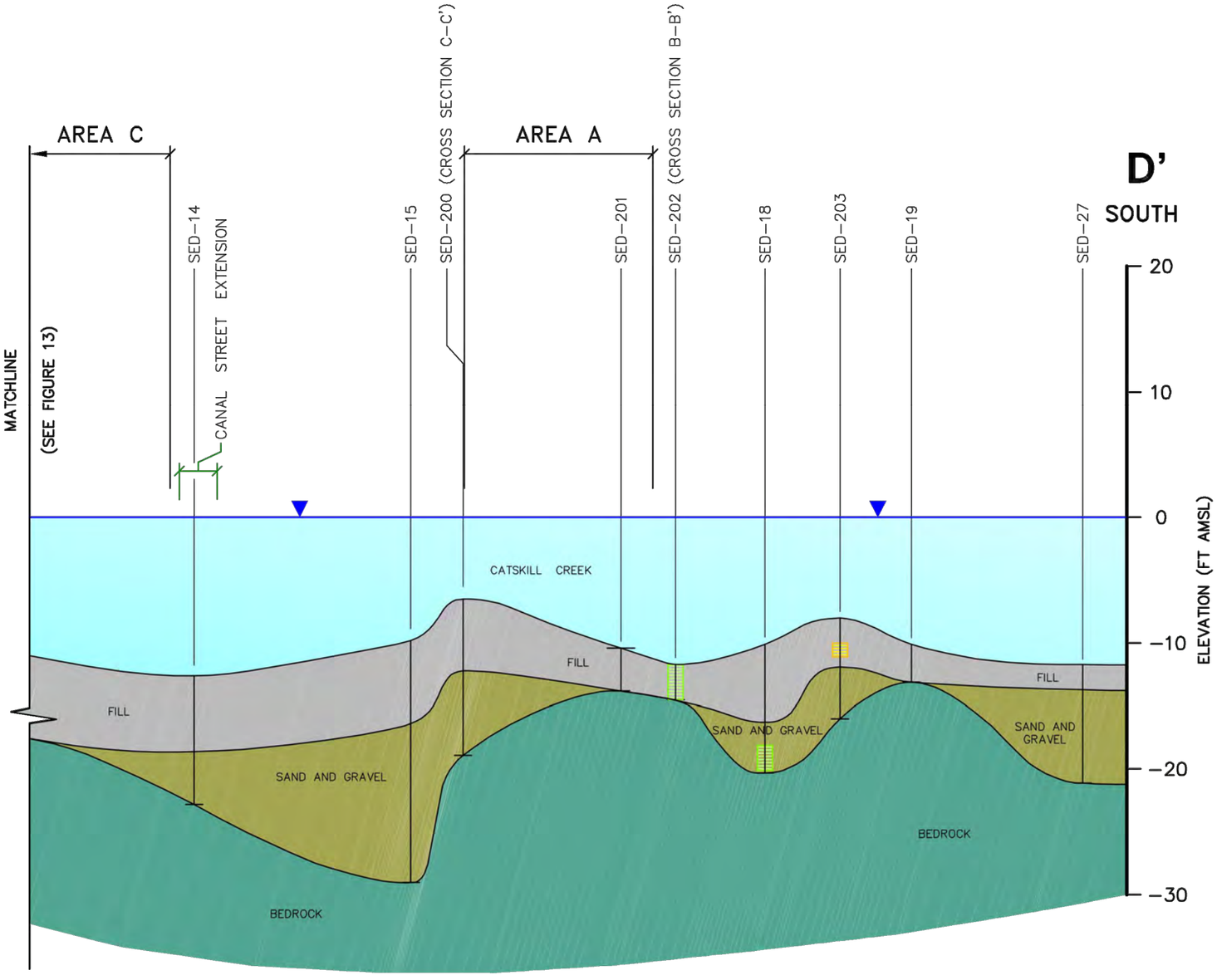
FILE NAME:	FIG 2A-2F.dwg

CROSS SECTION D-D'
(NORTH)

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
2 E



LEGEND:

- SED-030 — SEDIMENT SAMPLE ID
- GROUND SURFACE
- GROUNDWATER
- LITHOLOGIC CONTACT (DASHED WHERE INFERRED)
- SCREEN
- BOTTOM OF BORING
- NAPL
- LITTLE TO TRACE NAPL
- SHEEN
- LITTLE TO TRACE SHEEN
- FILL
- SAND AND GRAVEL
- BEDROCK

NOTE:

1. ELEVATIONS BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.

VERTICAL EXAGGERATION = 5X

0 10' 20'
VERTICAL SCALE

0 50' 100'
HORIZONTAL SCALE

BASEMAP: PROVIDED BY ARCADIS.

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PROJECT NO.	137977
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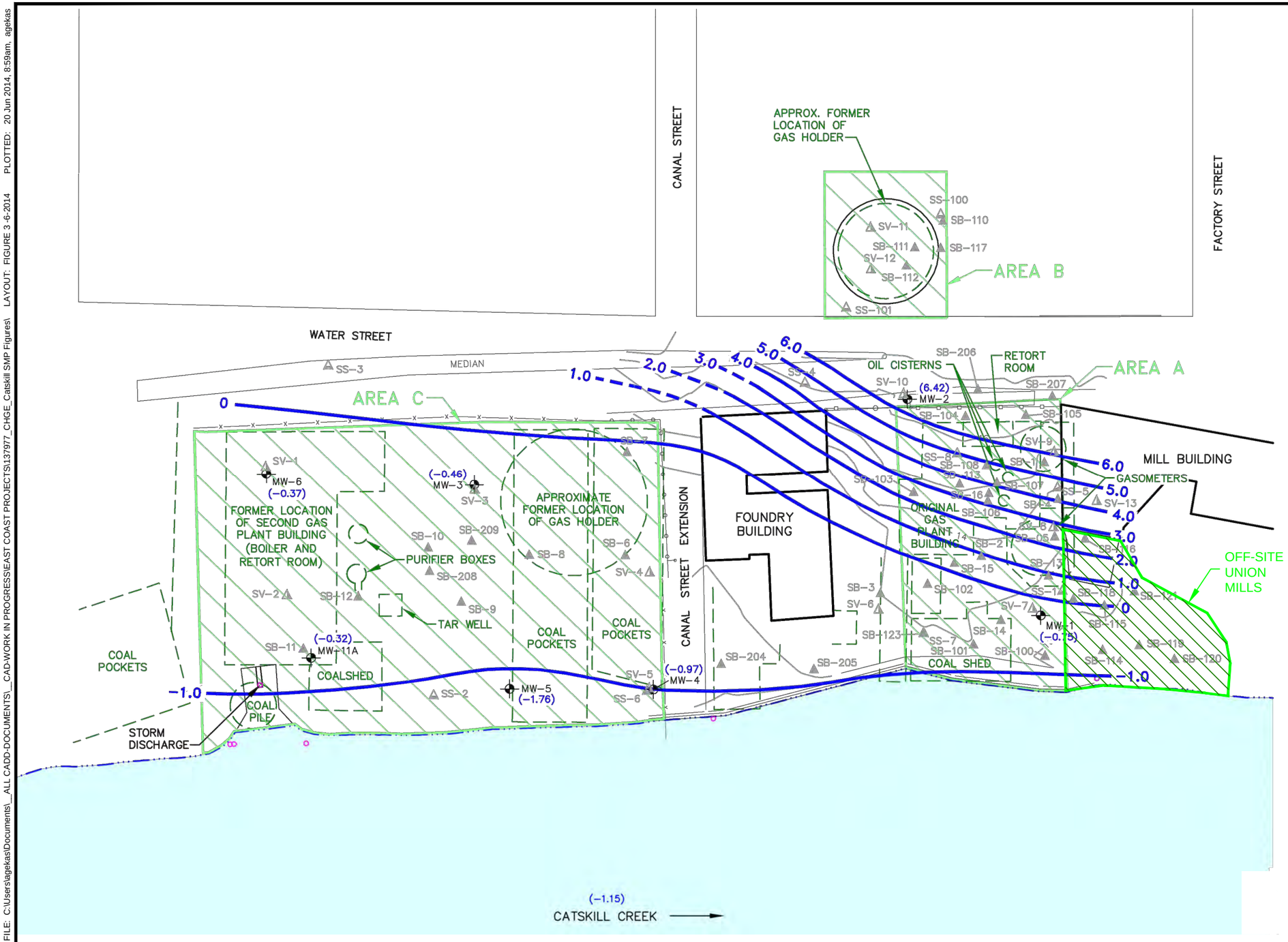
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG 2A-2F.dwg

CROSS SECTION D-D'
(SOUTH)

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
2F



LEGEND:

- HISTORICAL LOCATION
- SB–1 — 2007 SOIL BORING LOCATION
- SB–100 — 2008 SOIL BORING LOCATION
- SB–204 — 2009 SOIL BORING LOCATION
- SS–02 — SURFACE SOIL LOCATION
- MW–7 — MONITORING WELL LOCATION
- SV–01 — SOIL VAPOR LOCATION (2007)
- SV–1 — SUB–SLAB SOIL VAPOR LOCATION (2010)
- APPROXIMATE SHORELINE
- FENCE
- (–1.76) — GROUNDWATER ELEVATION
- –1.0 — GROUNDWATER ELEVATION CONTOUR

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.
3. NOT ALL HISTORICAL FEATURES SHOWN.
4. WELL MW–7 AND SAMPLES ASSOCIATED WITH THE WELL AND SOIL BORING WERE ORIGINALLY IDENTIFIED IN THE FIELD AS MW–11A. THE ID OF THE SOIL BORING AND WELL WERE LATER CHANGED TO MW–7 FOR CONSISTENCY PURPOSES.

50 25 0 50

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ARCADIS.

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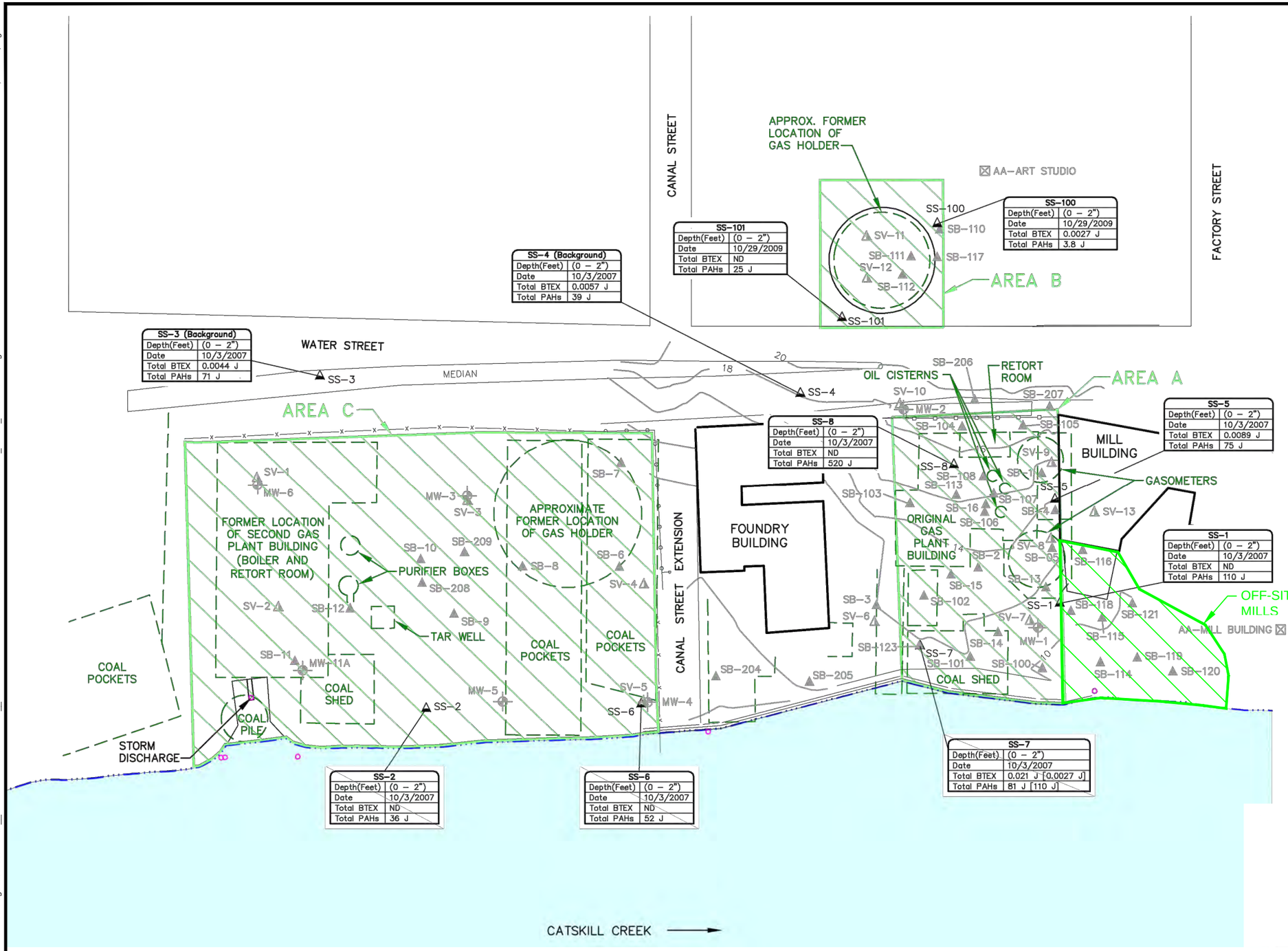
FILE NAME:	FIG 3-5-6.dwg

WATER TABLE ELEVATION CONTOURS DECEMBER 13, 2007

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
3



LEGEND:

- HISTORICAL LOCATION
- SB–1 2007 SOIL BORING LOCATION
- SB–100 2008 SOIL BORING LOCATION
- SB–204 2009 SOIL BORING LOCATION
- SS–02 SURFACE SOIL LOCATION
- MW–7 MONITORING WELL
- SV–01 SOIL VAPOR LOCATION (2007)
- SV–1 SUB–SLAB SOIL VAPOR LOCATION (2010)
- AMBIENT AIR SAMPLING LOCATION
- APPROXIMATE SHORELINE
- FENCE
- [0.0027] FIELD DUPLICATE ANALYTICAL RESULTS
- J ESTIMATED VALUE
- ND NON DETECT

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.
3. NOT ALL HISTORICAL FEATURES SHOWN.

50 25 0 50

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ARCADIS.

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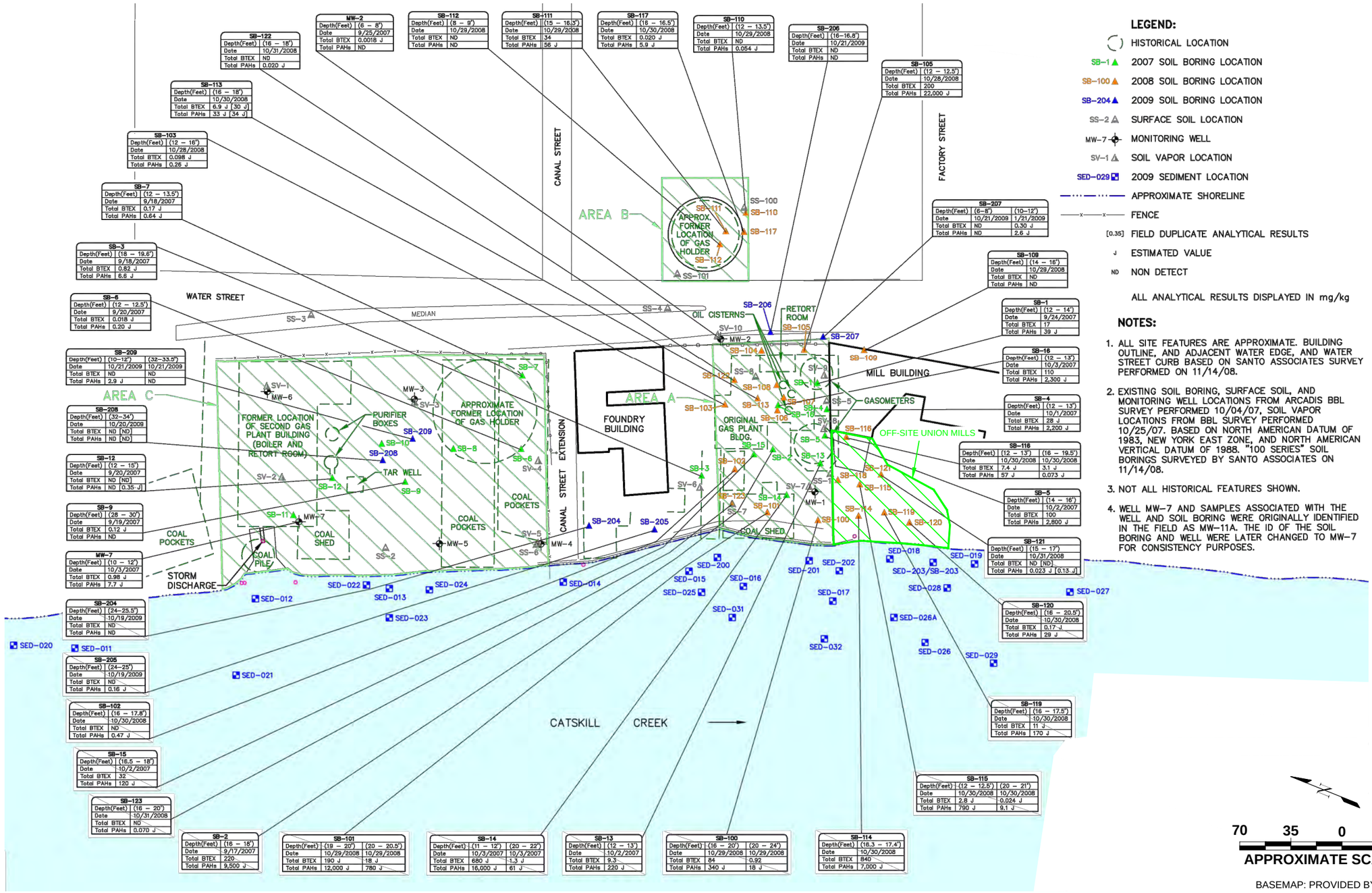
FILE NAME:	FIG 4A-4D.dwg

REMEDIAL INVESTIGATION
SURFACE SOIL CONTAMINANT SUMMARY

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
4A



LEGEND:

- HISTORICAL LOCATION
- SB–1 2007 SOIL BORING LOCATION
- SB–100 2008 SOIL BORING LOCATION
- SB–204 2009 SOIL BORING LOCATION
- SS–2 SURFACE SOIL LOCATION
- MW–7 MONITORING WELL
- SV–1 SOIL VAPOR LOCATION
- SED–029 2009 SEDIMENT LOCATION
- APPROXIMATE SHORELINE
- FENCE
- [0.35] FIELD DUPLICATE ANALYTICAL RESULTS
- J ESTIMATED VALUE
- ND NON DETECT

ALL ANALYTICAL RESULTS DISPLAYED IN mg/kg

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE. BUILDING OUTLINE, AND ADJACENT WATER EDGE, AND WATER STREET CURB BASED ON SANTO ASSOCIATES SURVEY PERFORMED ON 11/14/08.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988. "100 SERIES" SOIL BORINGS SURVEYED BY SANTO ASSOCIATES ON 11/14/08.
3. NOT ALL HISTORICAL FEATURES SHOWN.
4. WELL MW–7 AND SAMPLES ASSOCIATED WITH THE WELL AND SOIL BORING WERE ORIGINALLY IDENTIFIED IN THE FIELD AS MW–11A. THE ID OF THE SOIL BORING AND WELL WERE LATER CHANGED TO MW–7 FOR CONSISTENCY PURPOSES.

BASEMAP: PROVIDED BY ARCADIS.

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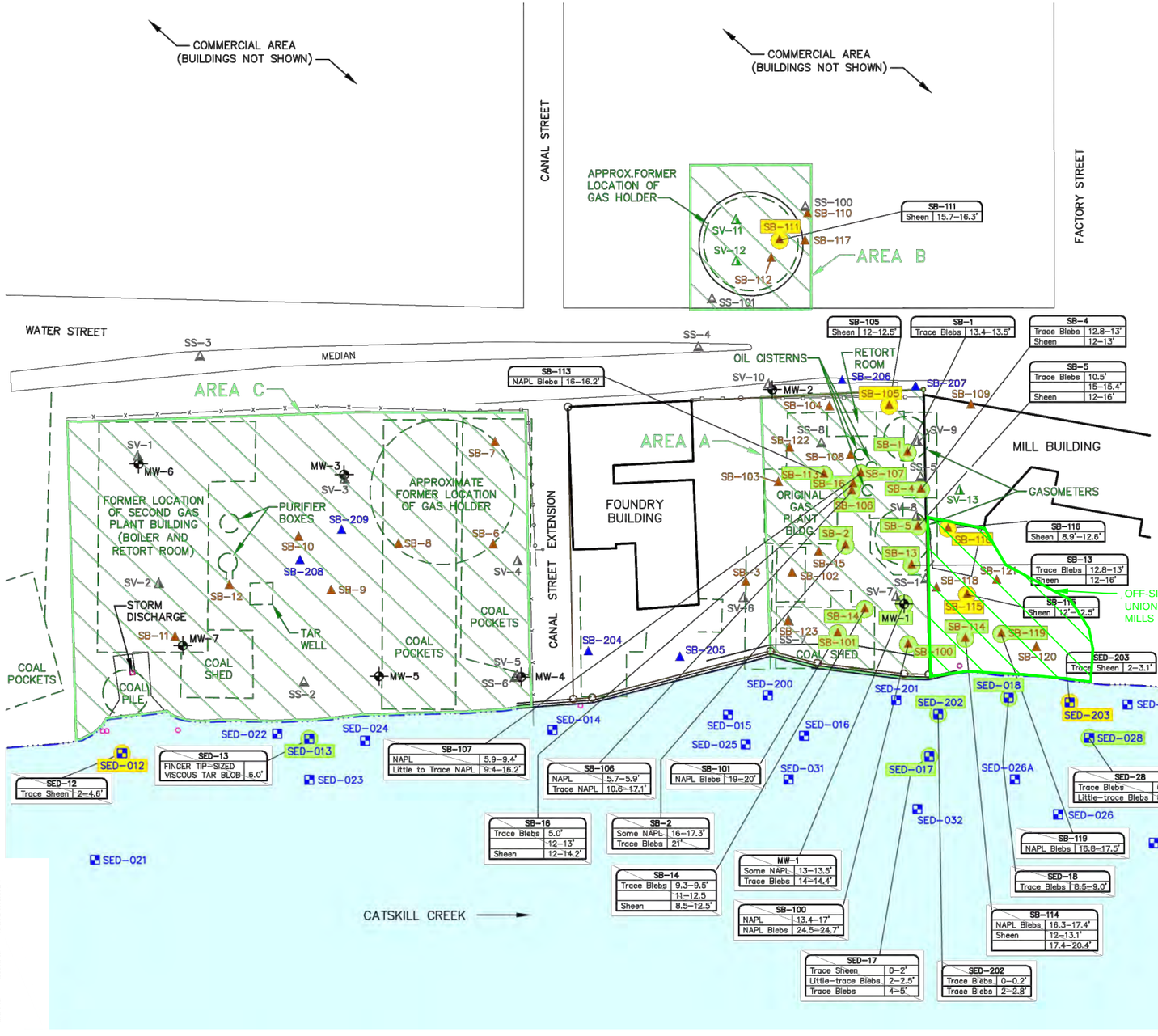
FILE NAME:	FIG 4A-4D.dwg

REMEDIAL INVESTIGATION
SUBSURFACE CONTAMINANT SUMMARY

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
4B

ATTACHED IMAGES:
ATTACHED XREFS: XRef: Eng-B_11x17_L_StyleA
NEWBURGH, NY CAD FILE: C:\Users\agekas\Documents__ALL CADD-DOCUMENTS__CAD-WORK IN PROGRESS\EAST COAST PROJECTS\137977_CHGE_Catskill SMP Figures\ LAYOUT: FIGURE 4B PLOTTED: 20 Jun 2014, 9:05am, agekas



LEGEND:

- HISTORICAL LOCATION
- SB–1 SOIL BORING LOCATION
- SB–204 2009 SOIL BORING LOCATION
- SS–2 SURFACE SOIL LOCATION
- MW–7 MONITORING WELL
- SV–1 SOIL VAPOR LOCATION
- SED–029 2009 SEDIMENT LOCATION
- SV–1 SUB–SLAB SOIL VAPOR LOCATION (2010)
- APPROXIMATE SHORELINE
- FENCE
- NAPL
- SHEEN

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE. BUILDING OUTLINE, AND ADJACENT WATER EDGE, AND WATER STREET CURB BASED ON SANTO ASSOCIATES SURVEY PERFORMED ON 11/14/08.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988. "100 SERIES" SOIL BORINGS SURVEYED BY SANTO ASSOCIATES ON 11/14/08.
3. NOT ALL HISTORICAL FEATURES SHOWN.
4. AT LOCATIONS WHERE NAPL AND SHEEENS WERE OBSERVED, ONLY NAPL SYMBOL DESIGNATION IS SHOWN.

BASEMAP: PROVIDED BY ARCADIS.

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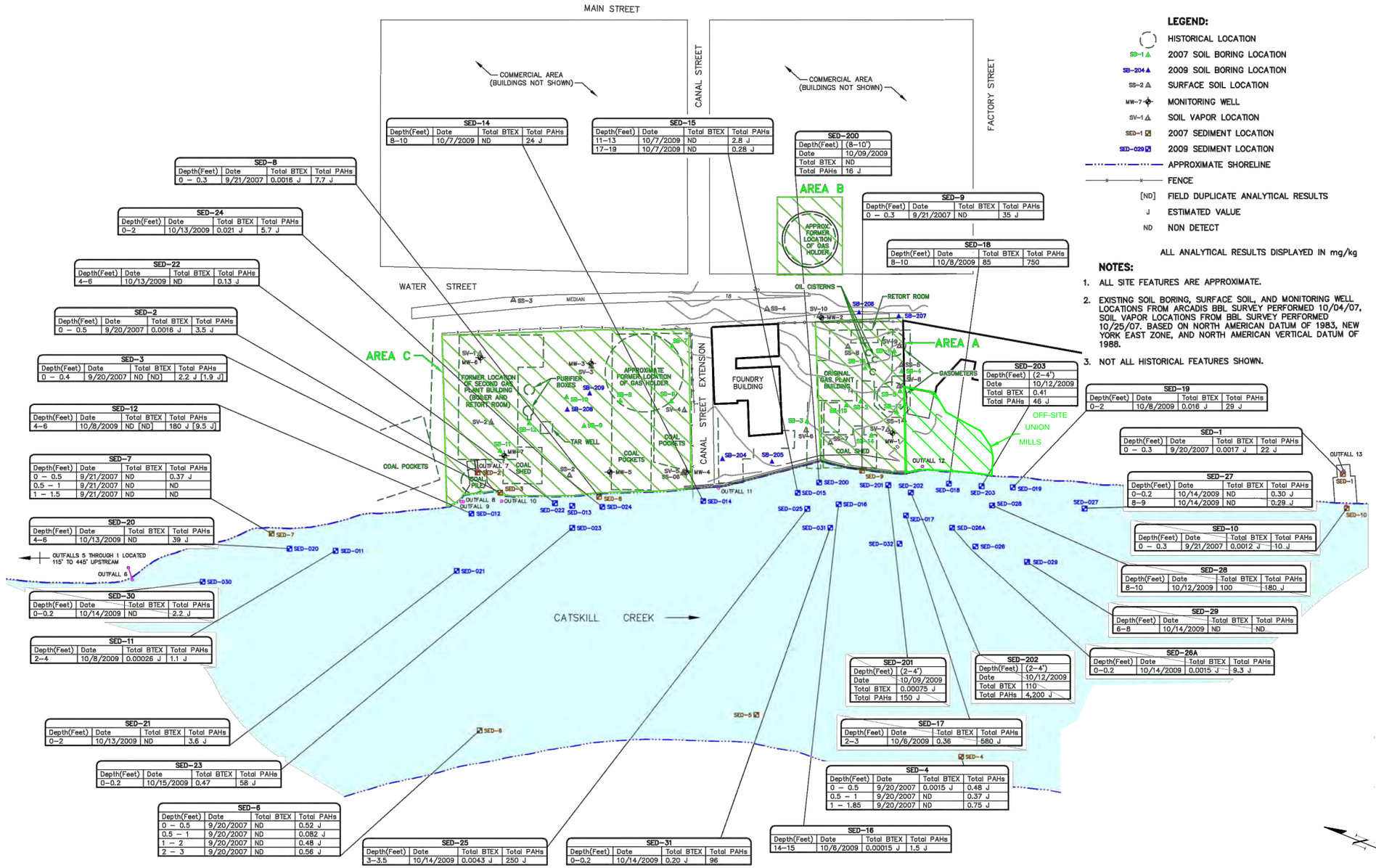
FILE NAME:	FIG 4A-4D.dwg

OBSERVATION OF NAPL AND SHEENS

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
4C

ATTACHED IMAGES:
ATTACHED XREFS: XRef: Eng-B_11x17_L_StyleA
NEWBURGH, NY CAD FILE: C:\Users\tagekas\Documents__ALL CADD-DOCUMENTS__CAD-WORK IN PROGRESS\EAST COAST PROJECTS\137977_CHGE_Catskill SMP Figures\ LAYOUT: FIGURE 4C PLOTTED: 20 Jun 2014, 9:06am, agekas



SED-14

Depth(Feet)	Date	Total BTEX	Total PAHs
8–10	10/7/2009	ND	24 J

SED-15

Depth(Feet)	Date	Total BTEX	Total PAHs
11–13	10/7/2009	ND	2.8 J
17–19	10/7/2009	ND	0.28 J

SED-200

Depth(Feet)	(8–10')
Date	10/09/2009
Total BTEX	ND
Total PAHs	16 J

SED-8

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.3	9/21/2007	0.0016 J	7.7 J

SED-9

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.3	9/21/2007	ND	35 J

SED-24

Depth(Feet)	Date	Total BTEX	Total PAHs
0–2	10/13/2009	0.021 J	5.7 J

SED-18

Depth(Feet)	Date	Total BTEX	Total PAHs
8–10	10/8/2009	85	750

SED-22

Depth(Feet)	Date	Total BTEX	Total PAHs
4–6	10/13/2009	ND	0.13 J

SED-2

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.5	9/20/2007	0.0016 J	3.5 J

SED-3

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.4	9/20/2007	ND [ND]	2.2 J [1.9 J]

SED-12

Depth(Feet)	Date	Total BTEX	Total PAHs
4–6	10/8/2009	ND [ND]	180 J [9.5 J]

SED-7

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.5	9/21/2007	ND	0.37 J
0.5 – 1	9/21/2007	ND	ND
1 – 1.5	9/21/2007	ND	ND

SED-20

Depth(Feet)	Date	Total BTEX	Total PAHs
4–6	10/13/2009	ND	39 J

SED-30

Depth(Feet)	Date	Total BTEX	Total PAHs
0–0.2	10/14/2009	ND	2.2 J

SED-11

Depth(Feet)	Date	Total BTEX	Total PAHs
2–4	10/8/2009	0.00026 J	1.1 J

SED-21

Depth(Feet)	Date	Total BTEX	Total PAHs
0–2	10/13/2009	ND	3.6 J

SED-23

Depth(Feet)	Date	Total BTEX	Total PAHs
0–0.2	10/15/2009	0.47	58 J

SED-6

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.5	9/20/2007	ND	0.52 J
0.5 – 1	9/20/2007	ND	0.082 J
1 – 2	9/20/2007	ND	0.48 J
2 – 3	9/20/2007	ND	0.56 J

SED-25

Depth(Feet)	Date	Total BTEX	Total PAHs
3–3.5	10/14/2009	0.0043 J	250 J

SED-31

Depth(Feet)	Date	Total BTEX	Total PAHs
0–0.2	10/14/2009	0.20 J	96

SED-201

Depth(Feet)	(2–4')
Date	10/09/2009
Total BTEX	0.00075 J
Total PAHs	150 J

SED-202

Depth(Feet)	(2–4')
Date	10/12/2009
Total BTEX	110
Total PAHs	4,200 J

SED-17

Depth(Feet)	Date	Total BTEX	Total PAHs
2–3	10/6/2009	0.36	580 J

SED-4

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.5	9/20/2007	0.0015 J	0.48 J
0.5 – 1	9/20/2007	ND	0.37 J
1 – 1.85	9/20/2007	ND	0.75 J

SED-16

Depth(Feet)	Date	Total BTEX	Total PAHs
14–15	10/6/2009	0.00015 J	1.5 J

SED-203

Depth(Feet)	(2–4')
Date	10/12/2009
Total BTEX	0.41
Total PAHs	46 J

SED-19

Depth(Feet)	Date	Total BTEX	Total PAHs
0–2	10/8/2009	0.016 J	29 J

SED-1

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.3	9/20/2007	0.0017 J	22 J

SED-27

Depth(Feet)	Date	Total BTEX	Total PAHs
0–0.2	10/14/2009	ND	0.30 J
8–9	10/14/2009	ND	0.29 J

SED-10

Depth(Feet)	Date	Total BTEX	Total PAHs
0 – 0.3	9/21/2007	0.0012 J	10 J

SED-28

Depth(Feet)	Date	Total BTEX	Total PAHs
8–10	10/12/2009	100	180 J

SED-29

Depth(Feet)	Date	Total BTEX	Total PAHs
6–8	10/14/2009	ND	ND

SED-26A

Depth(Feet)	Date	Total BTEX	Total PAHs
0–0.2	10/14/2009	0.0015 J	9.3 J

LEGEND:

- HISTORICAL LOCATION
- SB-1 2007 SOIL BORING LOCATION
- SB-204 2009 SOIL BORING LOCATION
- SS-2 SURFACE SOIL LOCATION
- MW-7 MONITORING WELL
- SV-1 SOIL VAPOR LOCATION
- SED-1 2007 SEDIMENT LOCATION
- SED-029 2009 SEDIMENT LOCATION
- APPROXIMATE SHORELINE
- FENCE
- [ND] FIELD DUPLICATE ANALYTICAL RESULTS
- J ESTIMATED VALUE
- ND NON DETECT

ALL ANALYTICAL RESULTS DISPLAYED IN mg/kg

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.
3. NOT ALL HISTORICAL FEATURES SHOWN.

100 50 0 100

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ARCADIS.

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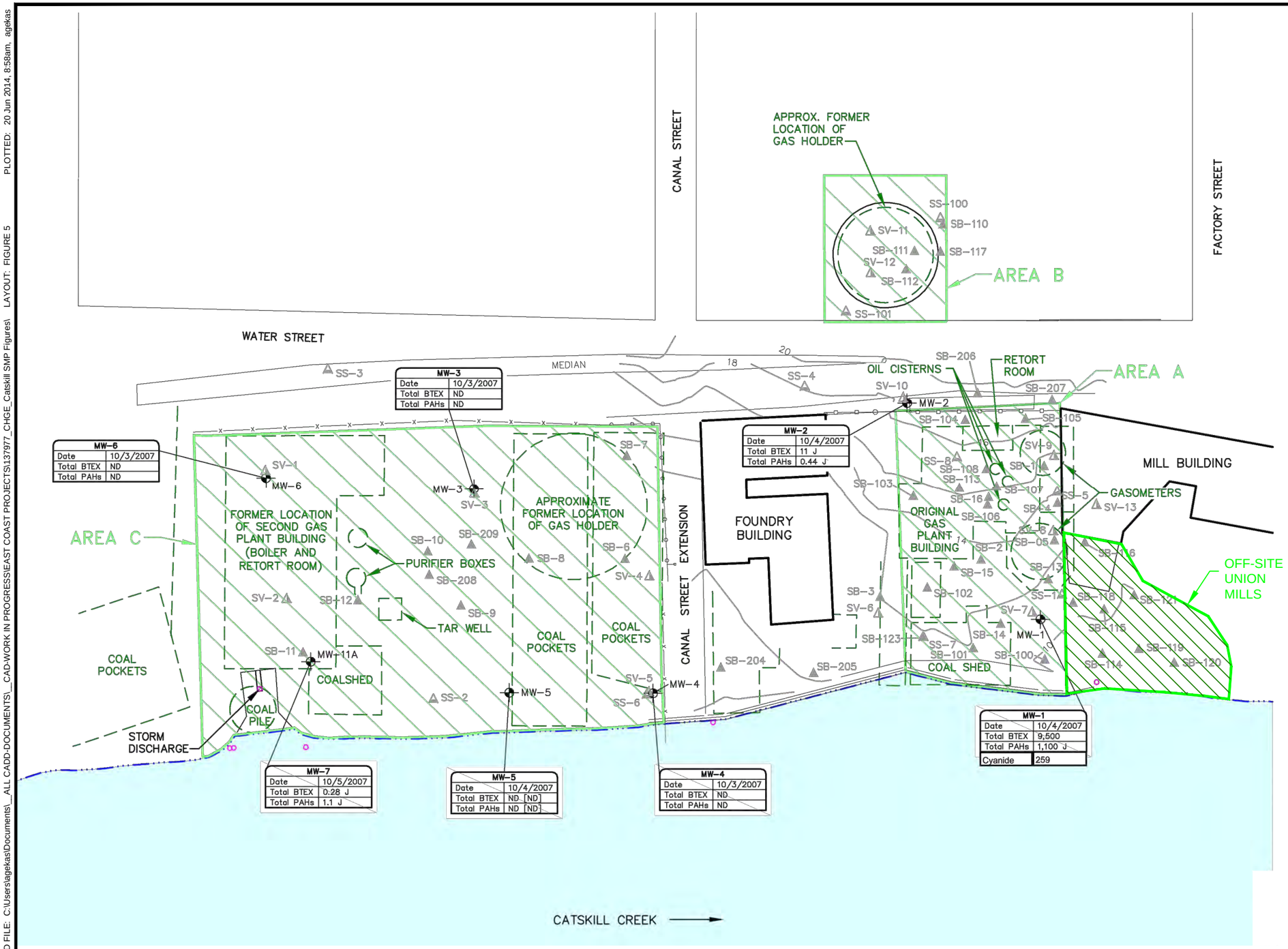
PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG 4A-4D.dwg

REMEDIAL INVESTIGATION
SEDIMENT CONTAMINANT SUMMARY

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
4D



LEGEND:

- HISTORICAL LOCATION
- SB–1 2007 SOIL BORING LOCATION
- SB–100 2008 SOIL BORING LOCATION
- SB–204 2009 SOIL BORING LOCATION
- SS–02 SURFACE SOIL LOCATION
- MW–7 MONITORING WELL LOCATION
- SV–01 SOIL VAPOR LOCATION (2007)
- SV–1 SUB–SLAB SOIL VAPOR LOCATION (2010)
- APPROXIMATE SHORELINE
- FENCE
- [ND] FIELD DUPLICATE ANALYTICAL RESULTS
- J ESTIMATED VALUE
- ND NON DETECT

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.
3. NOT ALL HISTORICAL FEATURES SHOWN.
4. WELL MW–7 AND SAMPLES ASSOCIATED WITH THE WELL AND SOIL BORING WERE ORIGINALLY IDENTIFIED IN THE FIELD AS MW–11A. THE ID OF THE SOIL BORING AND WELL WERE LATER CHANGED TO MW–7 FOR CONSISTENCY PURPOSES.

50 25 0 50

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ARCADIS.

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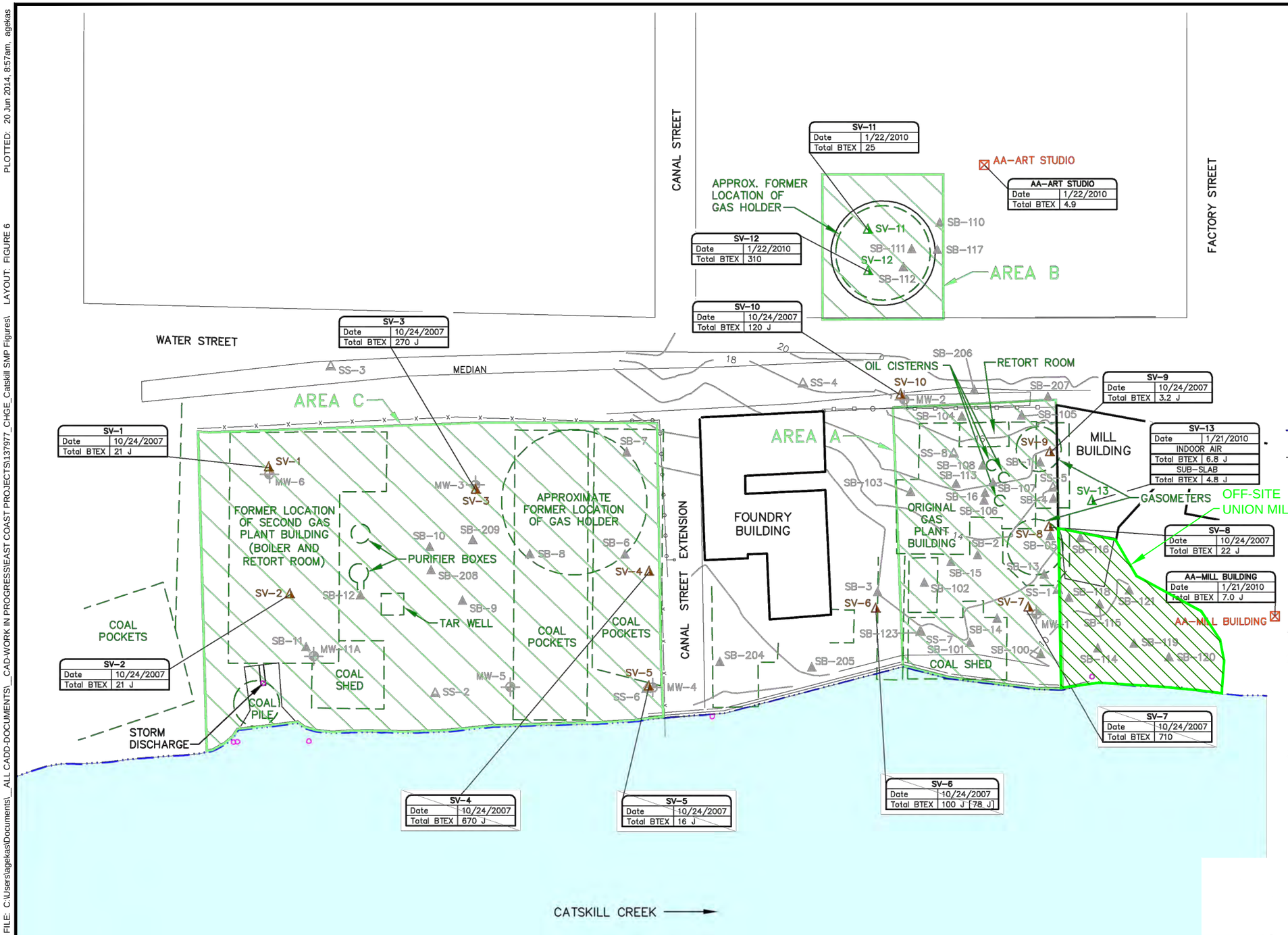
PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG 3-5-6.dwg

REMEDIAL INVESTIGATION GROUNDWATER CONTAMINANT CONCENTRATIONS

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
5



LEGEND:

- HISTORICAL LOCATION
- SB-1 — 2007 SOIL BORING LOCATION
- SB-100 — 2008 SOIL BORING LOCATION
- SB-204 — 2009 SOIL BORING LOCATION
- SS-02 — SURFACE SOIL LOCATION
- MW-7 — MONITORING WELL
- SV-01 — SOIL VAPOR LOCATION (2007)
- SV-1 — SUB-SLAB SOIL VAPOR LOCATION (2010)
- AMBIENT AIR SAMPLING LOCATION
- APPROXIMATE SHORELINE
- FENCE
- [0.78 J] — FIELD DUPLICATE ANALYTICAL RESULTS
- J — ESTIMATED VALUE

ALL ANALYTICAL RESULTS DISPLAYED IN ug/m³

NOTES:

1. ALL SITE FEATURES ARE APPROXIMATE.
2. EXISTING SOIL BORING, SURFACE SOIL, AND MONITORING WELL LOCATIONS FROM ARCADIS BBL SURVEY PERFORMED 10/04/07, SOIL VAPOR LOCATIONS FROM BBL SURVEY PERFORMED 10/25/07. BASED ON NORTH AMERICAN DATUM OF 1983, NEW YORK EAST ZONE, AND NORTH AMERICAN VERTICAL DATUM OF 1988.
3. NOT ALL HISTORICAL FEATURES SHOWN.

50 25 0 50

APPROXIMATE SCALE (feet)

P: PROVIDED BY ARCADIS.

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PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
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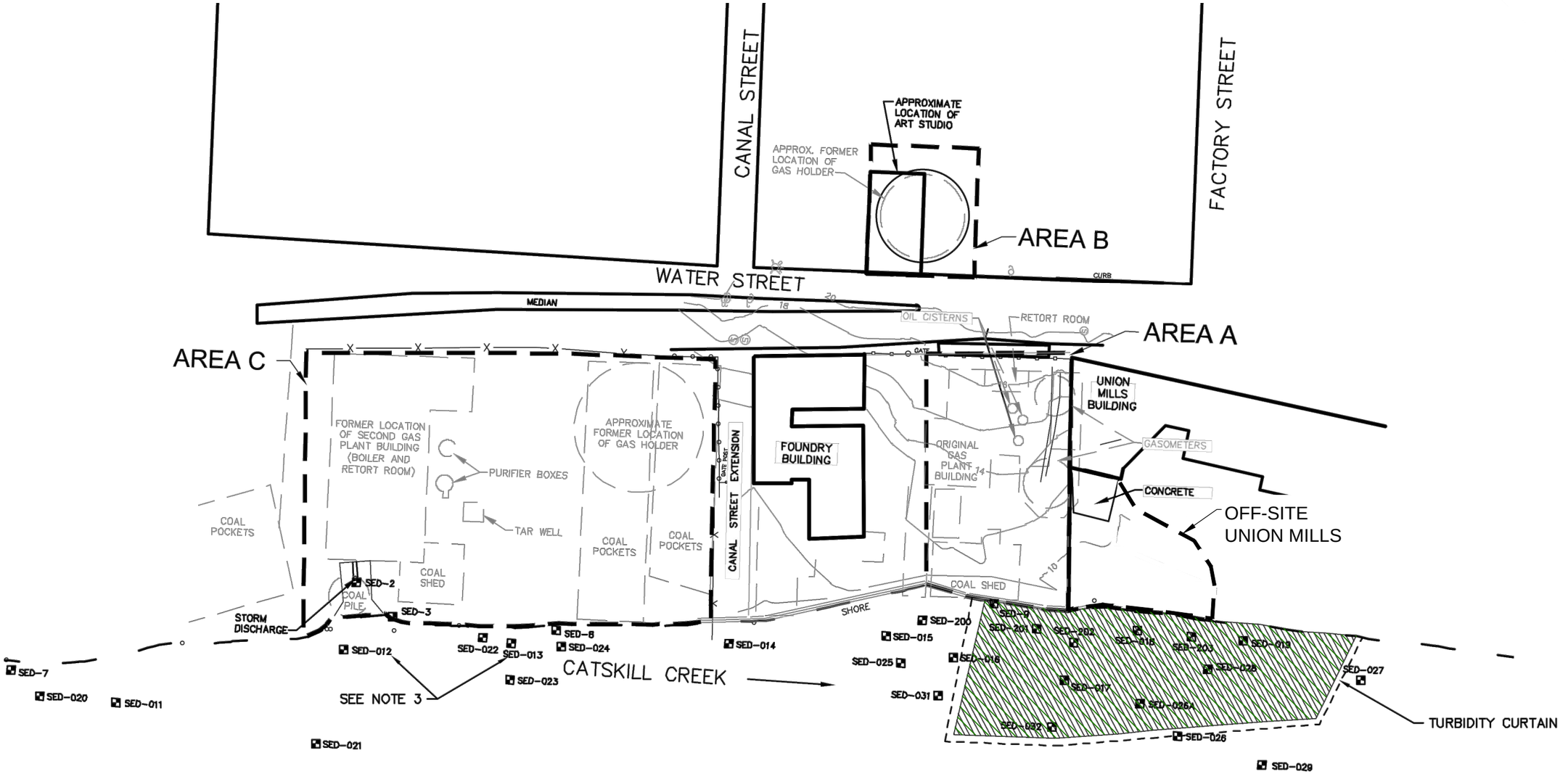
FILE NAME:	FIG 3-5-6.dwg

SOIL VAPOR, SUB-SLAB VAPOR, AND INDOOR AIR CONTAMINANT CONCENTRATIONS

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
6



Legend

- HISTORICAL LOCATION
- AREA OF DREDGING
- TURBIDITY CURTAIN
- SED-8 SEDIMENT SAMPLE LOCATION (2007)
- SED-014 SEDIMENT SAMPLE LOCATION (2009)
- APPROXIMATE SHORELINE
- FENCE
- AREAS OF CONCERN
- AREA OF REMEDIAL EXCAVATION (DREDGED)

NOTES
1. ALL SITE FEATURES ARE APPROXIMATE.
2. NOT ALL HISTORICAL FEATURES SHOWN.
3. SHEEN WAS OBSERVED IN SAMPLE SED-012 AND LNAPL WAS OBSERVED IN SAMPLE SED-013.
4. THE BOUNDARIES OF AREA A, B, C, AND D ARE SHOWN AS DEFINED IN THE BROWNFIELD CLEAN-UP AGREEMENT A4-0553-0606.
5. BASEMAP TAKEN FROM DRAWINGS PROVIDED IN THE ARCADIS MAY 2010 REMEDIAL INVESTIGATION REPORT FOR THE CATSKILL FORMER MANUFACTURED GAS PLANT.

60 30 0 60
APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
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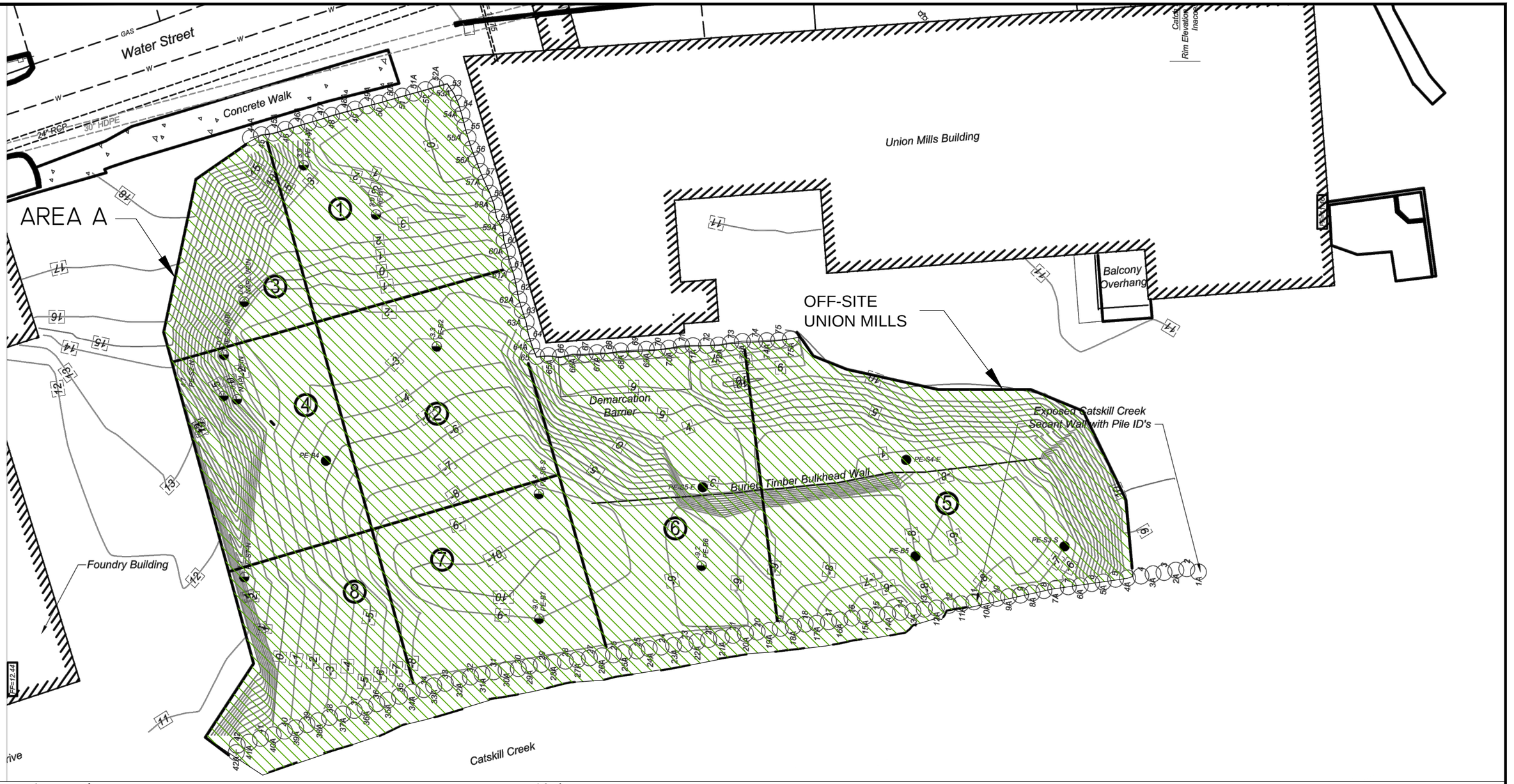
FILE NAME:	FIG 7A-7B.dwg

EXTENT OF REMEDIAL EXCAVATION

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
7A



Legend

- *Contour Line (indicates depth to which clean backfill meeting restricted requirements was placed).*
- *Secant Pile Wall Location*
- *Surveyed Post-Excavation Sample Location Identification and El.*
- *Approximate Post-Excavation Sample Location*
- *Edge of Water at Mean High Water (MHW) Elevation 4.0 feet*
- *Extent of Remedial Excavation in Area A and Area D*

Notes

1. *Elevation and contours referenced project vertical datum is NGVD 1929.*
2. *As-built upland excavation locations per survey performed by Thew Associates Land Surveyors.*

⑧ *Excavation Area Designation*

20 10 0 20

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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PROJECT NO.	137977
DRAWN:	JUNE 2014
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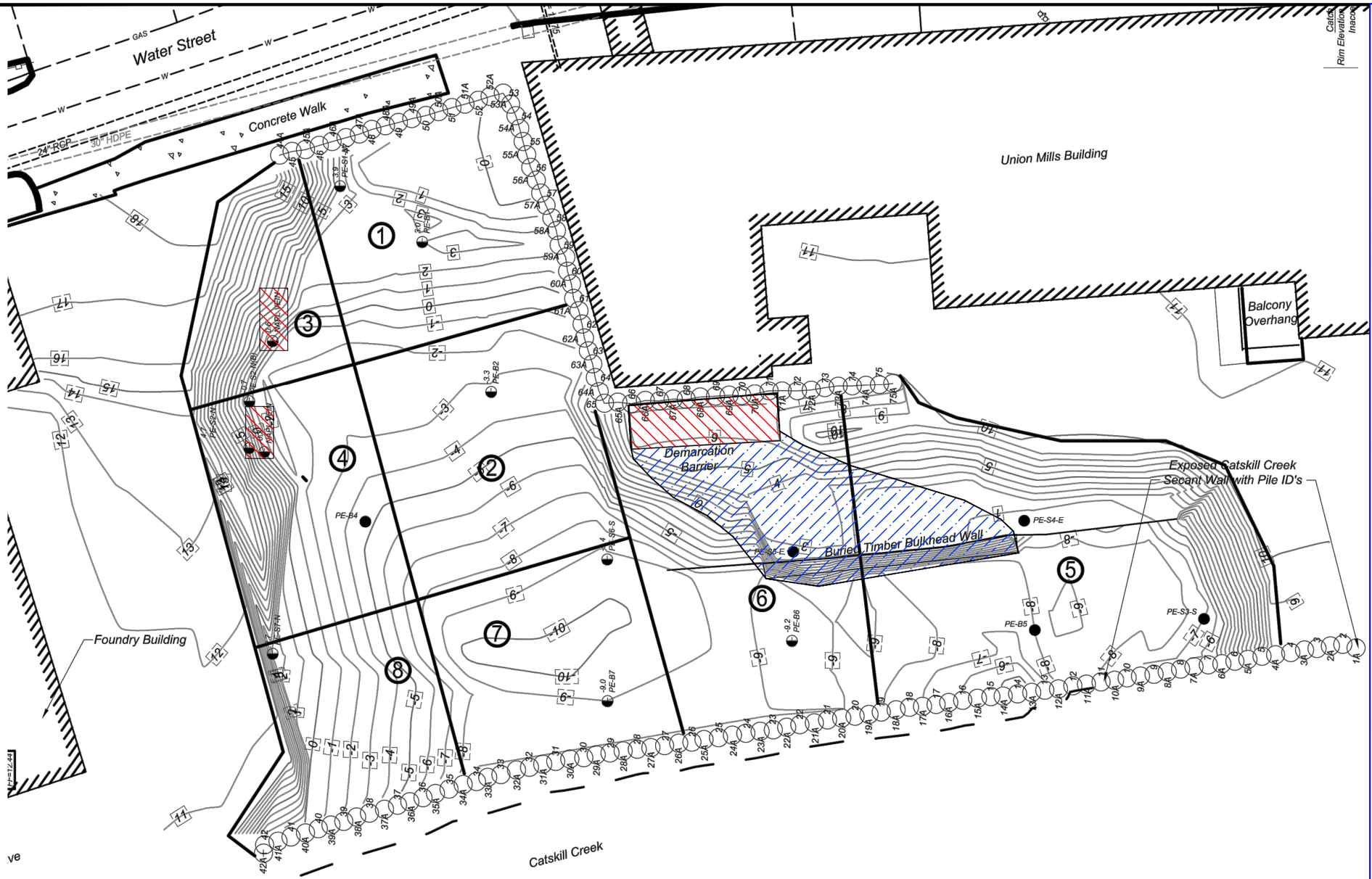
FILE NAME:	FIG 7B.dwg

EXTENT OF REMEDIAL EXCAVATION AND BACKFILL

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
7 B



Post-Excavation Soil Sample Data Summary: NYSDEC Part 375 Unrestricted SCO Exceedances

PE-S1-N: Benzene-1.09; Toluene-1.89; m,p-Xylene-2.66; o-Xylene-0.606

PE-B1: Benzene-1.7; Naphthalene-84.4; Toluene-3.49; m,p-Xylene-7.83; o-Xylene-1.99

PE-S2-N: Benzene-0.17; Ethylbenzene-1.4; Naphthalene-29.5; 1,2,4-Trimethylbenzene-5.68; m,p-Xylene-2.87; o-Xylene-1.2; Benzo(a)anthracene-5.59; Benzo(a)pyrene-3.35; Benzo(b)fluoranthene-2.44; Benzo(k)fluoranthene-3.13; Chrysene-4.12; Ideno (1,2,3-cd)pyrene-1.57; Naphthalene-65.1; Phenanthrene-31.1

PE-S2-N(B): No SCO exceedances

PE-B4: Benzene-4.1; Ethylbenzene-1.97; m,p-Xylene-3.44; o-Xylene-1.32

PE-B2: Benzene-3.32; Ethylbenzene-1.37; Naphthalene-99.4; Toluene-2.65; 1,2,4-Trimethylbenzene-4.86; m,p-Xylene-8.6; o-Xylene-4.79

PE-S6-S: Benzene-0.188; Naphthalene-13.9; m,p-Xylene-1.63; o-Xylene-0.496

PE-S7-N: Benzene-1.43

PE-B7: Benzene-0.121; m,p-Xylene-1.03; o-Xylene-0.311

PE-S5-E: No SCO exceedances

PE-B6: Benzene-0.133; Benzo(a)anthracene-1.62; Benzo(a)pyrene-1.2; Benzo(k)fluoranthene-0.998; Chrysene-1.25; Indeno(1,2,3-cd)pyrene-0.581

PE-S4-E: No SCO exceedances

PE-B5: Indeno(1,2,3-cd)pyrene-0.553

PE-S3-S: Acetone-0.146

Legend

- *Contour Line (indicates depth to which clean backfill meeting restricted requirements was placed).*
- *Secant Pile Wall Location*
- *Surveyed Post-Excavation Sample Location Identification and El.*
- *Approximate Post-Excavation Sample Location*
- *Edge of Water at Mean High Water (MHW) Elevation 4.0 feet*
- *Known Contamination*
- *Potential Contamination (where excavation did not meet planned depth of 18 feet below grade)*
- *Excavation Area Designation*

Notes

1. *Elevation and contours referenced project vertical datum is NGVD 1929.*
2. *As-built upland excavation locations per survey performed by Thew Associates Land Surveyors.*

20 10 0 20

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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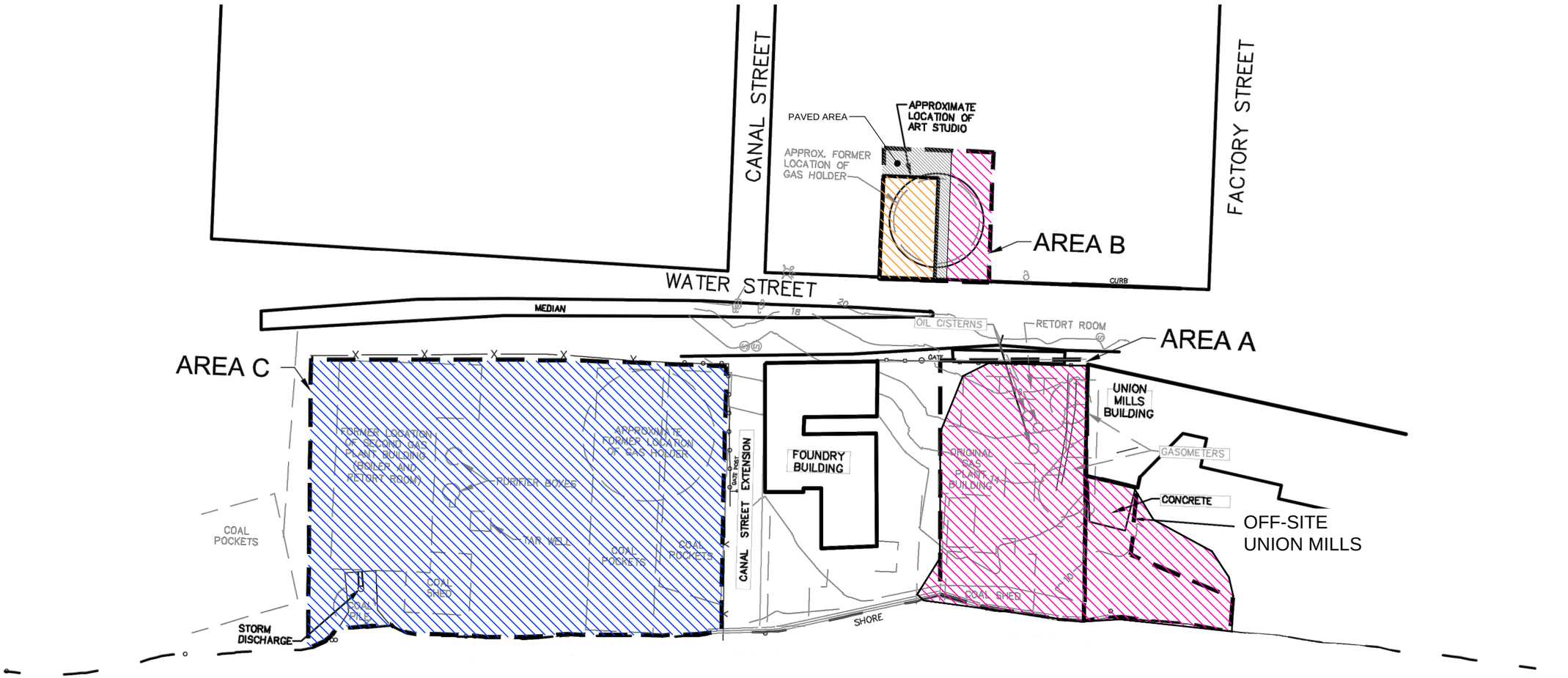
PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG R1-8.dwg

LOCATIONS OF KNOWN AND POTENTIAL REMAINING CONTAMINATION

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE 8



Legend

- HISTORICAL LOCATION
- ASPHALT
- CONCRETE SLAB
- GRAVEL
- APPROXIMATE SHORELINE
- FENCE
- AREAS OF CONCERN

NOTES

1. ALL SITE FEATURES ARE APPROXIMATE.
2. NOT ALL HISTORICAL FEATURES SHOWN.
3. THE BOUNDARIES OF AREA A, B, C, AND D ARE SHOWN AS DEFINED IN THE BROWNFIELD CLEAN-UP AGREEMENT A4-0553-0606.
4. BASEMAP TAKEN FROM DRAWINGS PROVIDED IN THE ARCADIS MAY 2010 REMEDIAL INVESTIGATION REPORT FOR THE CATSKILL FORMER MANUFACTURED GAS PLANT.

60 30 0 60

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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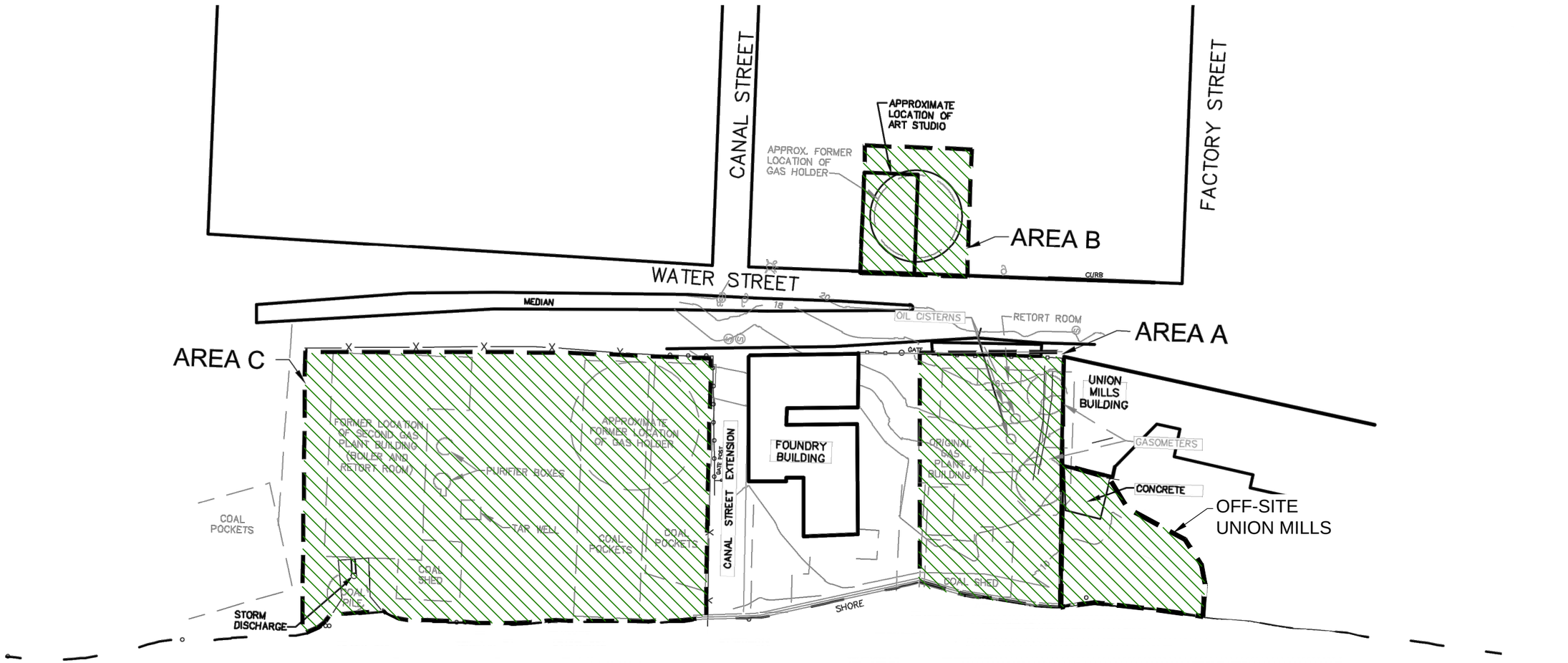
PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG R1-9.dwg

TYPE AND LOCATION OF SITE COVER

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE 9

ATTACHED IMAGES:
ATTACHED XREFS:
NEWBURGH, NY CAD FILE: C:\Users\agekas\Documents_ALL CADD-DOCUMENTS_CAD-WORK IN PROGRESS\EAST COAST PROJECTS\137977_CHGE_Catskill SMP Figures\ LAYOUT: FIGURE10 PLOTTED: 19 Jun 2014, 9:21am, agekas



Legend

HISTORICAL LOCATION

AREAS OF POTENTIAL VAPOR INTRUSION

APPROXIMATE SHORELINE

FENCE

AREAS OF CONCERN

NOTES
1. ALL SITE FEATURES ARE APPROXIMATE.
2. NOT ALL HISTORICAL FEATURES SHOWN.
3. THE BOUNDARIES OF AREA A, B, C, AND D ARE SHOWN AS DEFINED IN THE BROWNFIELD CLEAN-UP AGREEMENT A4-0553-0606.
4. BASEMAP TAKEN FROM DRAWINGS PROVIDED IN THE ARCADIS MAY 2010 REMEDIAL INVESTIGATION REPORT FOR THE CATSKILL FORMER MANUFACTURED GAS PLANT.

60 30 0 60

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG R-10.dwg

AREAS OF SOIL VAPOR INTRUSION CONCERN

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
10

NEWBURGH, NY CAD FILE: C:\Users\agekas\Documents__ALL CADD-DOCUMENTS__CAD-WORK IN PROGRESS\EAST COAST PROJECTS\137977_CHGE_Catskill SMP Figures\ LAYOUT: FIG 11 PLOTTED: 18 Jun 2014, 8:59am, agekas

BASE MAP: GOOGLE EARTH PRO 2014.

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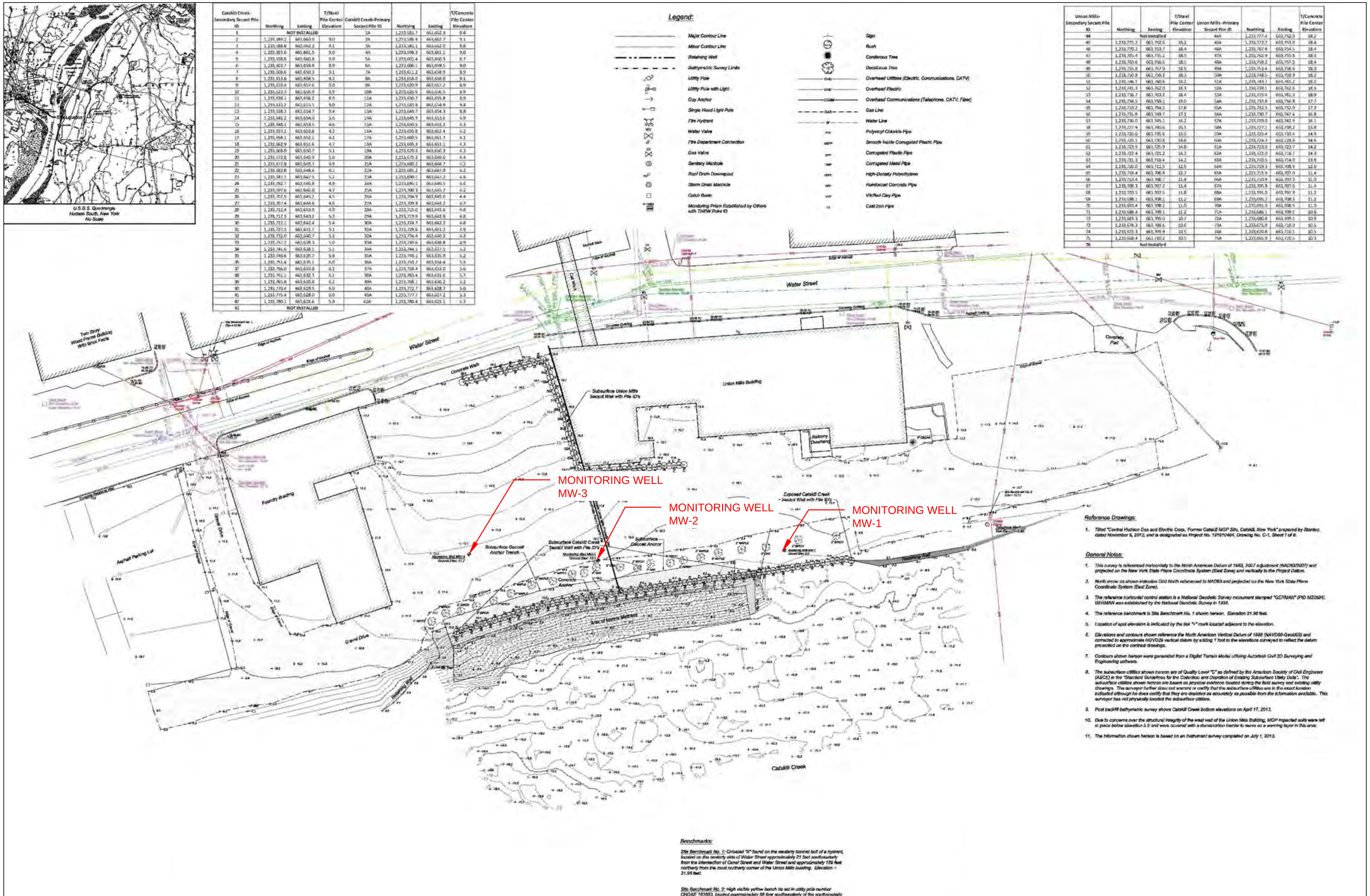
PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG R-11.dwg

HOSPITAL ROUTE MAP

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
11



50 25 0 50

APPROXIMATE SCALE (feet)

BASEMAP: THE ASSOCIATES
LAND SURVEYORS.

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PROJECT NO.	137977
DRAWN:	JUN 2014
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CHECKED BY:	EB
FILE NAME:	
FIG 11.dwg	

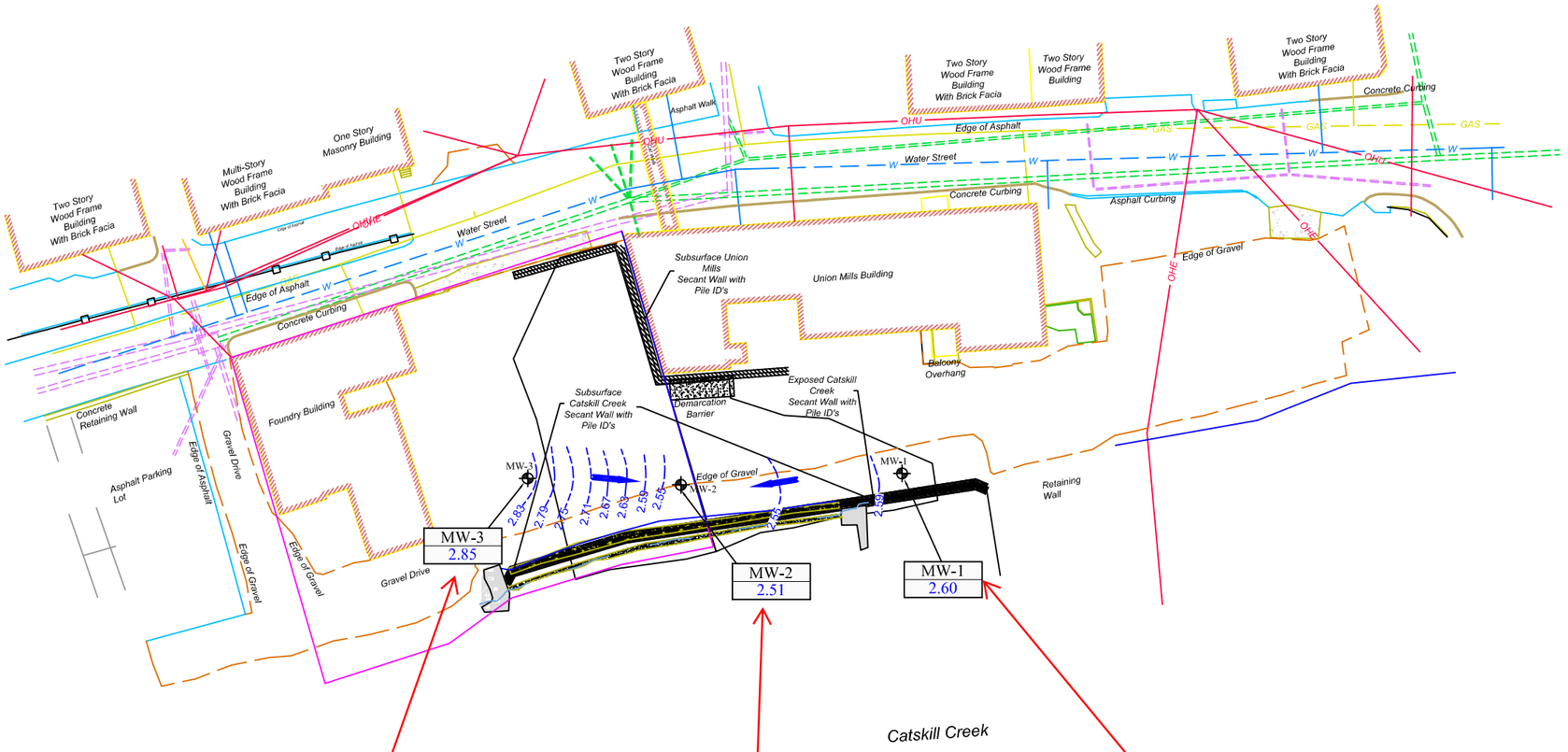
GROUNDWATER MONITORING
WELL NETWORK

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE

12

PLOTTED: 30 Jan 2014, 12:40pm, AGekas LAYOUT: FIGURE11
ATTACHED IMAGES: Images: Fig 11_Monitoring Well LocationsSmall.jpg
ATTACHED XREFS: XRef: Eng-B_11X17_L_StyleA
NEWBURGH, NY CAD FILE: C:\Users\agekas\Documents\CHGE_Catskill SMP Figures\



LEGEND

- Monitoring Well Location
- Retaining Wall
- Bush
- Coniferous Tree
- Deciduous Tree
- OHU — Overhead Utilities (Electric, Communications, CATV)
- OHE — Overhead Electric
- Sewer Line
- GAS — Gas Line
- W — Water Line
- Storm Line

MW-1 / 2.60 — MONITORING WELL IDENTIFICATION / WATER-TABLE ELEVATION (ft)

GROUNDWATER FLOW DIRECTION

WATER-TABLE CONTOUR (0.04 FOOT INTERVAL) (DASHED WHERE INFERRED)

ft — FEET RELATIVE TO A COMMON DATUM

MW-3 Sample Data Summary
Contaminants of Concern:
All Non-detect

MW-2 Sample Data Summary
Fluoranthene: 0.1 J ug/L
Fluorene: 0.1 J ug/L
Naphthalene: 0.6 ug/L
Phenanthrene: 0.2 J ug/L
Pyrene: 0.1 J ug/L
All Other Contaminants of Concern: Non-detect

MW-1 Sample Data Summary
Contaminants of Concern:
All Non-detect

1 30 60 120
APPROXIMATE SCALE (feet)

NOTES:
1. KLEINFELDER COLLECTED GROUNDWATER SAMPLES ON AUGUST 26, 2013.
2. All data reported in micrograms per Liter (ug/L). "J" qualifier indicates an estimated value.

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PROJECT NO.	134329
DRAWN:	06/18/2014
DRAWN BY:	JR/AG
CHECKED BY:	EC/EB
FILE NAME:	

BASELINE POST REMEDIATION GROUNDWATER QUALITY SUMMARY

FORMER CATSKILL MGP SITE
125 WATER STREET
CATSKILL, NEW YORK

FIGURE
13

BOHEMIA, NY

TABLES

Table 1
Soil Analytical Results
Volatile Organic Compounds and Semivolatile Organic Compounds
CHGE Former Catskill MGP
Catskill, New York

Sample ID	NYSDEC Part 375	NYSDEC Part 375	PE-S1-N	PE-S2-N	PE-B1	PE-S2-N(B)	PE-B2	PE-B4	PE-B5	PE-S3-S	PE-S4-E	PE-S5-E	PE-B6	PE-S6-S	PE-B7	PE-S7-N
Sampling Date	**Unrestricted Use**	**Commercial Use**	4/4/2013	4/4/2013	4/8/2013	4/8/2013	4/9/2013	4/12/2013	4/24/2013	4/25/2013	4/30/2013	4/30/2013	4/30/2013	5/6/2013	5/7/2013	5/7/2013
Sample Depth; Location	**SCOs**	**SCOs**	15 ft; Side Slope	16 ft; Side Slope	16 ft; Bottom	10 ft; Side Slope	18 ft; Bottom	23 ft; Bottom	15 ft; Bottom	17 ft; Side Slope	7.5 ft; Side Slope	7.5 ft; Side Slope	18 ft; Bottom	23 ft; Side Slope	19 ft; Bottom	18 ft; Side Slope
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Volatile Organic Compounds																
Acetone	0.05	500	BRL	BRL	BRL	0.0464	BRL	BRL	BRL	**0.146**	BRL	BRL	BRL	BRL	BRL	BRL
Benzene	0.06	44	**1.09**	**0.17**	**1.7**	BRL	**3.32**	**4.1**	BRL	BRL	BRL	BRL	**0.133**	**0.188**	**0.121**	**1.43**
n-Butylbenzene	12	500	BRL	0.133	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.965	0.129	0.106	BRL
Carbon tetrachloride	0.76	22	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chlorobenzene	1.1	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Chloroform	0.37	350	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,2-Dichlorobenzene	1.1	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,3-Dichlorobenzene	2.4	280	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,4-Dichlorobenzene	1.8	130	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,1-Dichloroethane	0.27	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,2-Dichloroethane	0.02	30	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,1-Dichloroethene	0.33	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
cis-1,2-Dichloroethene	0.25	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
trans-1,2-Dichloroethene	0.19	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Ethylbenzene	1	390	0.24	**1.4**	0.839	BRL	**1.37**	**1.97**	BRL	BRL	BRL	BRL	0.342	0.278	0.245	0.11
Isopropylbenzene	No Standard	No Standard	BRL	0.443	BRL	BRL	BRL	0.115	BRL	BRL	BRL	BRL	0.169	BRL	BRL	BRL
4-Isopropyltoluene	No Standard	No Standard	BRL	0.319	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.0764	0.123	0.0946	BRL
Methyl tert-butyl ether	0.93	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Methylene chloride	0.05	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Naphthalene	12	500	7.76	**29.5**	**84.4**	BRL	**99.4**	4.82	1.31	1.31	0.0068	0.0047	1.12	**13.9**	11.6	0.184
n-Propylbenzene	3.9	500	BRL	0.134	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.108	0.0831	BRL
Styrene	No Standard	No Standard	81.5	BRL	BRL	BRL	1.62	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Tetrachloroethene	1.3	150	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Toluene	0.7	500	**1.89**	BRL	**3.49**	BRL	**2.65**	BRL	BRL	BRL	BRL	BRL	BRL	0.645	0.171	BRL
1,1,1-Trichloroethane	0.68	500	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Trichloroethene	0.47	200	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
1,2,4-Trimethylbenzene	3.6	190	0.632	**5.68**	3.13	BRL	**4.86**	0.962	0.114	0.114	BRL	BRL	0.335	0.672	0.539	0.0958
1,3,5-Trimethylbenzene	8.4	190	0.212	2.32	1.65	BRL	1.69	0.31	BRL	BRL	BRL	BRL	0.243	0.335	0.27	BRL
Vinyl chloride	0.02	13	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
m,p-Xylene	0.26	500	**2.66**	**2.87**	**7.83**	BRL	**8.6**	**3.44**	BRL	BRL	BRL	BRL	BRL	**1.63**	**1.03**	BRL
o-Xylene	0.26	500	**0.606**	**1.2**	**1.99**	BRL	**4.79**	**1.32**	BRL	BRL	BRL	BRL	BRL	**0.496**	**0.311**	BRL
1,4-Dioxane	0.1	130	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL	BRL
Semivolatile Organic Compounds																
Acenapththene	20	500	BRL	9.69	BRL	BRL	BRL	BRL	0.654	0.175	BRL	BRL	2.94	BRL	BRL	0.314
Acenaphthylene	100	500	BRL	1.99	0.557	BRL	BRL	BRL	BRL	BRL	BRL	BRL	0.549	BRL	BRL	0.141
Anthracene	100	500	BRL	8.78	0.598	BRL	BRL	BRL	0.558	0.496	BRL	BRL	2.42	BRL	BRL	0.542
Benzo(a)anthracene	1	5.6	BRL	**5.59**	0.432	BRL	BRL	BRL	0.862	0.962	BRL	BRL	**1.62**	BRL	BRL	0.939
Benzo(a)pyrene	1	1	BRL	**3.35**	0.266	0.0472	BRL	BRL	0.868	0.763	BRL	BRL	**1.2**	BRL	BRL	0.803
Benzo(b)fluoranthene	1	5.6	BRL	**2.44**	0.231	BRL	BRL	BRL	0.601	0.667	BRL	BRL	0.895	BRL	BRL	0.483
Benzo(g,h,i)perylene	100	500	BRL	1.06	BRL	BRL	BRL	BRL	0.416	0.237	BRL	BRL	0.414	BRL	BRL	0.303
Benzo(k)fluoranthene	0.8	56	BRL	**3.13**	BRL	BRL	BRL	BRL	0.715	0.687	BRL	BRL	**0.998**	BRL	BRL	0.753
Chrysene	1	56	BRL	**4.12**	0.325	BRL	BRL	BRL	0.753	0.871	BRL	BRL	**1.25**	BRL	BRL	0.831
Dibenz(a,h)anthracene	0.33	0.56	BRL	BRL	BRL	BRL	BRL	BRL	0.0601	0.0794	BRL	BRL	BRL	BRL	BRL	0.133
Fluoranthene	100	500	BRL	13.9	0.924	BRL	0.147	BRL	1.74	2.34	BRL	BRL	3.7	BRL	BRL	0.941
Fluorene	30	500	BRL	10.9	0.915	BRL	BRL	BRL	0.519	0.234	BRL	BRL	2.93	BRL	BRL	0.425
Indeno(1,2,3-cd)pyrene	0.5	5.6	BRL	**1.57**	BRL	BRL	BRL	BRL	**0.553**	0.293	BRL	BRL	**0.581**	BRL	BRL	0.362
1-Methylnaphthalene	No Standard	No Standard	0.25	12.8	0.886	BRL	0.195	BRL	0.136	BRL	BRL	BRL	1.98	BRL	BRL	0.292
2-Methylnaphthalene	No Standard	No Standard	0.307	20.8	1.68	BRL	0.243	BRL	0.118	BRL	BRL	BRL	2.81	BRL	BRL	0.39
Naphthalene	12	500	6.82	**65.1**	10.7	0.123	5.72	4.79	0.268	0.0794	BRL	BRL	7.36	0.174	0.0869	1.51
Phenanthrene	100	500	0.316	**31.1**	2.02	BRL	0.252	BRL	1.79	1.84	BRL	BRL	7.6	0.0911	0.0591	1.19
Pyrene	100	500	BRL	9.23	0.646	BRL	0.114	BRL	1.38	2.05	BRL	BRL	2.67	BRL	BRL	1.07
Total PAHs	No Standard	No Standard	7.693	205.55	20.18	0.1702	6.671	4.79	11.9911	11.7738	BRL	BRL	41.917	0.2651	0.146	11.422

Notes:
BRL = Below Reporting Limit
Bold & Highlighted = Indicates exceedance of Part 375 Unrestricted Use SCO
Bold & Highlighted = Indicates exceedance of Part 375 Commercial Use SCO

APPENDIX A

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 9th day of December, 2014 between Owner(s) Hudson River Development Corp., having an office at 64 Fyke Road, P.O Box 174, Village of Catskill, County of Greene, State of New York 12414 (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 125 Water Street in the Village of Catskill, County of Greene and State of New York, known and designated on the tax map of the County Clerk of Greene as tax map parcel numbers: Section 156.78 Block 3 Lot 1, being the same as that property conveyed to Grantor by deed dated July 21, 2008 and recorded in the Greene County Clerk's Office in Instrument No. 2008-00004523, Deed Liber 1291 Page 95. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately .085 +/- acres, and is hereinafter more fully described in the Land Title Survey dated November 13, 2014 prepared by Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation

established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: A4-0553-0606, as modified TBD, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Restricted Residential as described in 6 NYCRR Part 375-1.8(g)(2)(ii), Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv) .

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Greene County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held

by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee

interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C420027
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway

Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Hudson River Development Corp:

By: Michael Ferro

Print Name: Michael Ferro

Title: Pres Date: 12/1/14

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Greene)

On the 1 day of Dec, in the year 2019, before me, the undersigned, personally appeared Michael Lewis, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

RALPH C. LEWIS, JR.
Notary Public, State of New York
Qualified in Greene County
My Commission Expires July 31, 2021

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 9th day of December, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

ALL that plot, piece or parcel of land situate and being in the Village of Catskill, Town of Catskill, County of Greene, State of New York bounded and described as follows:

BEGINNING at a point on the westerly side of Water Street at the southeasterly corner of lands now or formerly of Hudson River Development Corp. as described in Deed liber 1291 at page 95, said point being the southeasterly corner of the herein described easement and the northeasterly corner of the lands now or formerly of Quinoa Holding Co., LLC as described in Deed liber 1412 at page 58; thence along the division line between said lands now or formerly of Hudson River Development Corp. and said lands now or formerly of Quinoa Holding Co., LLC, S 73°54'20" W 62.88 feet to the southwesterly corner of the herein described easement; thence along the division line between said lands now or formerly of Hudson River Development Corp. and the lands of the People of the State of New York, N 06°05'55" W 75.91 feet to the northwesterly corner of the herein described easement; thence through said lands now or formerly of Hudson River Development Corp., N 56°24'41" E 2.19 feet, N 87°30'26" E 12.47 feet and S 76°47'06" E 38.86 feet to a point on the westerly side of Water Street; thence along the westerly side of Water Street, S 17°49'14" E 53.49 feet to the point or place of BEGINNING.

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 9th day of December, 2014 between Owner(s) Kirwan Enterprises, LLC, having an office at 369 Main Street, Village of Catskill, County of Greene, State of New York 12414 (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 126 Water Street in the Village of Catskill, County of Greene and State of New York, known and designated on the tax map of the County Clerk of Greene as tax map parcel numbers: Section 156.78 Block 3 Lot 3, being the same as that property conveyed to Grantor by deed dated May 10, 2011 and recorded in the Greene County Clerk's Office in Instrument No. 334095, Book 1371 Page 146. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately .065 acres +/- acres, and is hereinafter more fully described in the Land Title Survey dated April 22, 2014 prepared by Chazen Engineering, Land Surveying & Landscape Architecture Co., D.P.C., which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation

established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: A4-0553-0606,as modified TBD, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv) .

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Greene County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held

by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee

interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C420027
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway

Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

Kirwan Enterprises, LLC:

By: _____

Print Name: Stephen Kirwan

Title: Owner Date: 10/17/14

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Greene)

On the 17th day of October, in the year 2014, before me, the undersigned, personally appeared Stephen Kinnan, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

KATHRYN M. BAGLEY
Notary Public, State of New York
No. 01BA6049235
Qualified in Greene County
Commission Expires October 10, 2018

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 9th day of December, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

ALL that plot, piece or parcel of land situate and being in the Village of Catskill, Town of Catskill, County of Greene, State of New York bounded and described as follows:

BEGINNING at a point on the easterly side of Water Street, said point being the southwesterly corner of the herein described easement and said point being located S 16°30'22" E 57.47 feet and S 15°50'29" E 56.52 feet from the intersection of the easterly side of Water Street and the southerly side of Canal Street; thence along the easterly side of Water Street, N 15°50'29" W 56.52 feet to a point; thence along the division line between the herein described easement and the lands now or formerly of Phillip John Maisano as described in Liber 1185 of Deeds at Page 343, N 73°33'22" E 50.00 feet to a point; thence along the division line between the herein described easement and said lands now or formerly of Maisano and also along the lands now or formerly of Kirwan Enterprises, LLC as described in Liber 1371 of Deeds at Page 146, S 15°50'39" E 56.74 feet and S 73°48'59" W 50.00 feet to the point or place of BEGINNING.

ENVIRONMENTAL EASEMENT GRANTED PURSUANT TO ARTICLE 71, TITLE 36 OF THE NEW YORK STATE ENVIRONMENTAL CONSERVATION LAW

THIS INDENTURE made this 9th day of December, 2014 between Owner(s) County of Greene, having an office at 411 Main Street,Village of Catskill, County of Greene, State of New York (the "Grantor"), and The People of the State of New York (the "Grantee."), acting through their Commissioner of the Department of Environmental Conservation (the "Commissioner", or "NYSDEC" or "Department" as the context requires) with its headquarters located at 625 Broadway, Albany, New York 12233,

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to encourage the remediation of abandoned and likely contaminated properties ("sites") that threaten the health and vitality of the communities they burden while at the same time ensuring the protection of public health and the environment; and

WHEREAS, the Legislature of the State of New York has declared that it is in the public interest to establish within the Department a statutory environmental remediation program that includes the use of Environmental Easements as an enforceable means of ensuring the performance of operation, maintenance, and/or monitoring requirements and the restriction of future uses of the land, when an environmental remediation project leaves residual contamination at levels that have been determined to be safe for a specific use, but not all uses, or which includes engineered structures that must be maintained or protected against damage to perform properly and be effective, or which requires groundwater use or soil management restrictions; and

WHEREAS, the Legislature of the State of New York has declared that Environmental Easement shall mean an interest in real property, created under and subject to the provisions of Article 71, Title 36 of the New York State Environmental Conservation Law ("ECL") which contains a use restriction and/or a prohibition on the use of land in a manner inconsistent with engineering controls which are intended to ensure the long term effectiveness of a site remedial program or eliminate potential exposure pathways to hazardous waste or petroleum; and

WHEREAS, Grantor, is the owner of real property located at the address of 145 Water Street in the Village of Catskill, County of Greene and State of New York, known and designated on the tax map of the County Clerk of Greene as tax map parcel numbers: Section 156.78 Block 2 Lot 40, being the same as that property conveyed to Grantor by deed dated August 2, 2002 and recorded in the Greene County Clerk's Office in Liber and Page 1044 - 282. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately .728 +/- acres, and is hereinafter more fully described in the Land Title Survey dated February 27, 2014 prepared by Chazen Engineering, Land Surveying & Landscape Artchitecture Co., D.P.C.,, which will be attached to the Site Management Plan. The Controlled Property description is set forth in and attached hereto as Schedule A; and

WHEREAS, the Department accepts this Environmental Easement in order to ensure the protection of public health and the environment and to achieve the requirements for remediation

established for the Controlled Property until such time as this Environmental Easement is extinguished pursuant to ECL Article 71, Title 36; and

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Brownfield Cleanup Agreement Index Number: A4-0553-0606, as modified TBD, Grantor conveys to Grantee a permanent Environmental Easement pursuant to ECL Article 71, Title 36 in, on, over, under, and upon the Controlled Property as more fully described herein ("Environmental Easement")

1. Purposes. Grantor and Grantee acknowledge that the Purposes of this Environmental Easement are: to convey to Grantee real property rights and interests that will run with the land in perpetuity in order to provide an effective and enforceable means of encouraging the reuse and redevelopment of this Controlled Property at a level that has been determined to be safe for a specific use while ensuring the performance of operation, maintenance, and/or monitoring requirements; and to ensure the restriction of future uses of the land that are inconsistent with the above-stated purpose.

2. Institutional and Engineering Controls. The controls and requirements listed in the Department approved Site Management Plan ("SMP") including any and all Department approved amendments to the SMP are incorporated into and made part of this Environmental Easement. These controls and requirements apply to the use of the Controlled Property, run with the land, are binding on the Grantor and the Grantor's successors and assigns, and are enforceable in law or equity against any owner of the Controlled Property, any lessees and any person using the Controlled Property.

A. (1) The Controlled Property may be used for:

Commercial as described in 6 NYCRR Part 375-1.8(g)(2)(iii) and Industrial as described in 6 NYCRR Part 375-1.8(g)(2)(iv) .

(2) All Engineering Controls must be operated and maintained as specified in the Site Management Plan (SMP);

(3) All Engineering Controls must be inspected at a frequency and in a manner defined in the SMP;

(4) The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Greene County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department;

(5) Groundwater and other environmental or public health monitoring must be performed as defined in the SMP;

(6) Data and information pertinent to Site Management of the Controlled Property must be reported at the frequency and in a manner defined in the SMP;

(7) All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP;

(8) Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP;

(9) Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical components of the remedy shall be performed as defined in the SMP;

(10) Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by this Environmental Easement.

B. The Controlled Property shall not be used for Residential or Restricted Residential purposes as defined in 6NYCRR 375-1.8(g)(2)(i) and (ii), and the above-stated engineering controls may not be discontinued without an amendment or extinguishment of this Environmental Easement.

C. The SMP describes obligations that the Grantor assumes on behalf of Grantor, its successors and assigns. The Grantor's assumption of the obligations contained in the SMP which may include sampling, monitoring, and/or operating a treatment system, and providing certified reports to the NYSDEC, is and remains a fundamental element of the Department's determination that the Controlled Property is safe for a specific use, but not all uses. The SMP may be modified in accordance with the Department's statutory and regulatory authority. The Grantor and all successors and assigns, assume the burden of complying with the SMP and obtaining an up-to-date version of the SMP from:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway
Albany, New York 12233
Phone: (518) 402-9553

D. Grantor must provide all persons who acquire any interest in the Controlled Property a true and complete copy of the SMP that the Department approves for the Controlled Property and all Department-approved amendments to that SMP.

E. Grantor covenants and agrees that until such time as the Environmental Easement is extinguished in accordance with the requirements of ECL Article 71, Title 36 of the ECL, the property deed and all subsequent instruments of conveyance relating to the Controlled Property shall state in at least fifteen-point bold-faced type:

This property is subject to an Environmental Easement held

by the New York State Department of Environmental Conservation pursuant to Title 36 of Article 71 of the Environmental Conservation Law.

F. Grantor covenants and agrees that this Environmental Easement shall be incorporated in full or by reference in any leases, licenses, or other instruments granting a right to use the Controlled Property.

G. Grantor covenants and agrees that it shall, at such time as NYSDEC may require, submit to NYSDEC a written statement by an expert the NYSDEC may find acceptable certifying under penalty of perjury, in such form and manner as the Department may require, that:

(1) the inspection of the site to confirm the effectiveness of the institutional and engineering controls required by the remedial program was performed under the direction of the individual set forth at 6 NYCRR Part 375-1.8(h)(3).

(2) the institutional controls and/or engineering controls employed at such site:

(i) are in-place;

(ii) are unchanged from the previous certification, or that any identified changes to the controls employed were approved by the NYSDEC and that all controls are in the Department-approved format; and

(iii) that nothing has occurred that would impair the ability of such control to protect the public health and environment;

(3) the owner will continue to allow access to such real property to evaluate the continued maintenance of such controls;

(4) nothing has occurred that would constitute a violation or failure to comply with any site management plan for such controls;

(5 the report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

(6) to the best of his/her knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and

(7) the information presented is accurate and complete.

3. Right to Enter and Inspect. Grantee, its agents, employees, or other representatives of the State may enter and inspect the Controlled Property in a reasonable manner and at reasonable times to assure compliance with the above-stated restrictions.

4. Reserved Grantor's Rights. Grantor reserves for itself, its assigns, representatives, and successors in interest with respect to the Property, all rights as fee owner of the Property, including:

A. Use of the Controlled Property for all purposes not inconsistent with, or limited by the terms of this Environmental Easement;

B. The right to give, sell, assign, or otherwise transfer part or all of the underlying fee

interest to the Controlled Property, subject and subordinate to this Environmental Easement;

5. Enforcement

A. This Environmental Easement is enforceable in law or equity in perpetuity by Grantor, Grantee, or any affected local government, as defined in ECL Section 71-3603, against the owner of the Property, any lessees, and any person using the land. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel, or waiver. It is not a defense in any action to enforce this Environmental Easement that: it is not appurtenant to an interest in real property; it is not of a character that has been recognized traditionally at common law; it imposes a negative burden; it imposes affirmative obligations upon the owner of any interest in the burdened property; the benefit does not touch or concern real property; there is no privity of estate or of contract; or it imposes an unreasonable restraint on alienation.

B. If any person violates this Environmental Easement, the Grantee may revoke the Certificate of Completion with respect to the Controlled Property.

C. Grantee shall notify Grantor of a breach or suspected breach of any of the terms of this Environmental Easement. Such notice shall set forth how Grantor can cure such breach or suspected breach and give Grantor a reasonable amount of time from the date of receipt of notice in which to cure. At the expiration of such period of time to cure, or any extensions granted by Grantee, the Grantee shall notify Grantor of any failure to adequately cure the breach or suspected breach, and Grantee may take any other appropriate action reasonably necessary to remedy any breach of this Environmental Easement, including the commencement of any proceedings in accordance with applicable law.

D. The failure of Grantee to enforce any of the terms contained herein shall not be deemed a waiver of any such term nor bar any enforcement rights.

6. Notice. Whenever notice to the Grantee (other than the annual certification) or approval from the Grantee is required, the Party providing such notice or seeking such approval shall identify the Controlled Property by referencing the following information:

County, NYSDEC Site Number, NYSDEC Brownfield Cleanup Agreement, State Assistance Contract or Order Number, and the County tax map number or the Liber and Page or computerized system identification number.

Parties shall address correspondence to:

Site Number: C420027
Office of General Counsel
NYSDEC
625 Broadway
Albany New York 12233-5500

With a copy to:

Site Control Section
Division of Environmental Remediation
NYSDEC
625 Broadway

Albany, NY 12233

All notices and correspondence shall be delivered by hand, by registered mail or by Certified mail and return receipt requested. The Parties may provide for other means of receiving and communicating notices and responses to requests for approval.

7. Recordation. Grantor shall record this instrument, within thirty (30) days of execution of this instrument by the Commissioner or her/his authorized representative in the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

8. Amendment. Any amendment to this Environmental Easement may only be executed by the Commissioner of the New York State Department of Environmental Conservation or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

9. Extinguishment. This Environmental Easement may be extinguished only by a release by the Commissioner of the New York State Department of Environmental Conservation, or the Commissioner's Designee, and filed with the office of the recording officer for the county or counties where the Property is situated in the manner prescribed by Article 9 of the Real Property Law.

10. Joint Obligation. If there are two or more parties identified as Grantor herein, the obligations imposed by this instrument upon them shall be joint and several.

IN WITNESS WHEREOF, Grantor has caused this instrument to be signed in its name.

County of Greene:

By: _____

Print Name: Kevin Lewis

Title: Acting Chairman Date: 9/17/14

APPROVED AS TO FORM

SEP 10 2014

CAROL D. STEVENS
GREENE COUNTY ATTORNEY

Grantor's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF Greene)

On the 17th day of September, in the year 2019, before me, the undersigned, personally appeared Kevin Lewis, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Notary Public - State of New York

TRACY C. SPITZ
Notary Public, State Of New York
No. 01SP6056797
Qualified In Greene County
Commission Expires 04/02/2021

APPROVED AS TO FORM

SEP 10 2019

CAROL D. STEVENS
GREENE COUNTY ATTORNEY

THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting By and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: _____
Robert W. Schick, Director
Division of Environmental Remediation

Grantee's Acknowledgment

STATE OF NEW YORK)
) ss:
COUNTY OF ALBANY)

On the 9th day of December, in the year 2014, before me, the undersigned, personally appeared Robert W. Schick, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/ executed the same in his/her/ capacity as Designee of the Commissioner of the State of New York Department of Environmental Conservation, and that by his/her/ signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed the instrument.

_____
Notary Public - State of New York

David J. Chiusano
Notary Public, State of New York
No. 01CH5032146
Qualified in Schenectady County
Commission Expires August 22, 2018

SCHEDULE "A" PROPERTY DESCRIPTION

ALL that plot, piece or parcel of land situate and being in the Village of Catskill, Town of Catskill, County of Greene, State of New York bounded and described as follows:

BEGINNING at a point at the intersection of the westerly side of Water Street with the northerly side of Canal Street, said point being the southeasterly corner of the herein described easement; thence along the northerly side of Canal Street, S 73°55'06" W 145.01 feet to a point on the easterly side of the Catskill Creek; thence along the easterly side of the Catskill creek, N 16°41'34" W 101.95 feet, N 20°51'34" W 112.25 feet, N 71°00'26" E 2.19 feet to a point; thence through the lands now or formerly of the County of Greene, N 71°00'22" E 147.80 feet to a point on the westerly side of Water Street; thence along the westerly side of Water Street, S 17°32'34" E 221.50 feet to the point or place of BEGINNING.

APPENDIX B

APPENDIX B – EXCAVATION WORK PLAN

B-1 NOTIFICATION

At least 15 days prior to the start of any activity that is anticipated to encounter residual contamination, the site owner or their representative will notify the Department. Currently, this notification will be made to:

Mr. Richard Dana
Engineering Geologist
New York State Department of Environmental Conservation - Division of Environmental Remediation
Remedial Bureau C, 11th Floor
625 Broadway
Albany, New York 12233-7014
Phone: (518) 402-9662
Fax: (518) 402-9679

This notification will include:

- A detailed description of the work to be performed, including the location and aerial extent, plans for site re-grading, intrusive elements or utilities to be installed below the soil cover, estimated volumes of contaminated soil to be excavated and any work that may impact an engineering control;
- A summary of environmental conditions anticipated in the work areas, including the nature and concentration levels of contaminants of concern, potential presence of grossly contaminated media, and plans for any pre-construction sampling;
- A schedule for the work, detailing the start and completion of all intrusive work;
- A summary of the applicable components of this Excavation Work Plan (EWP);
- A statement that the work will be performed in compliance with this EWP and 29 Code of Federal Regulations (CFR) 1910.120;
- A copy of the contractor's health and safety plan (HASP), in electronic format.
- Identification of disposal facilities for potential waste streams; and
- Identification of sources of any anticipated backfill, along with all required chemical testing results.

B-2 SOIL SCREENING METHODS

Visual, olfactory, and instrument-based soil screening will be performed by a qualified environmental professional during all remedial and development excavations into known or potentially contaminated material (remaining contamination). Soil screening will be performed regardless of when the invasive work is done and will include all excavation and invasive work performed during development, such as excavations for foundations and utility work, after issuance of the Certificate of Completion (COC).

Soils will be segregated based on previous environmental data and screening results into material that requires off-site disposal, material that requires testing, material that can be returned to the subsurface, and material that can be used as cover soil.

B-3 STOCKPILE METHODS

Soil stockpiles will be continuously encircled with a berm and/or silt fence. Hay bales will be used as needed near catch basins, surface waters and other discharge points. Stockpiles will be kept covered at all times with appropriately anchored tarps. Stockpiles will be routinely inspected and damaged tarp covers will be promptly replaced.

Stockpiles will be inspected at a minimum once each week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by New York State Department of Environmental Conservation (NYSDEC).

B-4 MATERIALS EXCAVATION AND LOAD OUT

A qualified environmental professional or person under their supervision will oversee all invasive work and the excavation and load-out of all excavated material.

The owner of the property and its contractors are solely responsible for safe execution of all invasive and other work performed under this EWP.

The presence of utilities and easements on the site will be investigated by the qualified environmental professional. It will be determined whether a risk or impediment to the planned work under this Site Management Plan (SMP) is posed by utilities or easements on the site.

Loaded vehicles leaving the site will be appropriately lined, tarped, securely covered, manifested, and placarded in accordance with appropriate Federal, State, local, and New York

State Department of Transportation (NYSDOT) requirements (and all other applicable transportation requirements).

A truck wash will be operated on-site. The qualified environmental professional will be responsible for ensuring that all outbound trucks will be washed at the truck wash before leaving the site until the activities performed under this section are complete.

Locations where vehicles enter or exit the site shall be inspected daily for evidence of off-site soil tracking.

The qualified environmental professional will be responsible for ensuring that all egress points for truck and equipment transport from the site are clean of dirt and other materials derived from the site during intrusive excavation activities. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to site-derived materials.

B-5 MATERIALS TRANSPORT OFF-SITE

All transport of materials will be performed by licensed haulers in accordance with appropriate local, State, and Federal regulations, including 6 New York Codes, Rules and Regulations (NYCRR) Part 364. Haulers will be appropriately licensed and trucks properly placarded.

Material transported by trucks exiting the site will be secured with tight-fitting covers. Loose-fitting canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid, truck liners will be used.

All trucks will be washed prior to leaving the site. Truck wash waters will be collected and disposed of off-site in an appropriate manner.

All trucks loaded with site materials will exit the vicinity of the site using only approved truck routes. The most appropriate route takes into account: (a) limiting transport through residential areas and past sensitive sites; (b) use of city mapped truck routes; (c) prohibiting off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport; [(g) community input [where necessary]]

Trucks will be prohibited from stopping and idling in the neighborhood outside the project site.

Egress points for truck and equipment transport from the site will be kept clean of dirt and other materials during site remediation and development.

KLEINFELDER 1279 Route 300, 2nd Floor, Newburgh, NY 12550 **p |** 845.567.6530 **f |** 845.567.6542

Queuing of trucks will be performed on-site in order to minimize off-site disturbance. Off-site queuing will be prohibited.

B-6 MATERIALS DISPOSAL OFF-SITE

All soil/fill/solid waste excavated and removed from the site will be treated as contaminated and regulated material and will be transported and disposed in accordance with all local, State (including 6NYCRR Part 360) and Federal regulations. If disposal of soil/fill from this site is proposed for unregulated off-site disposal (i.e. clean soil removed for development purposes), a formal request with an associated plan will be made to the NYSDEC. Unregulated off-site management of materials from this site will not occur without formal NYSDEC approval.

Off-site disposal locations for excavated soils will be identified in the pre-excavation notification. This will include estimated quantities and a breakdown by class of disposal facility if appropriate, i.e. hazardous waste disposal facility, solid waste landfill, petroleum treatment facility, C/D recycling facility, etc. Actual disposal quantities and associated documentation will be reported to the NYSDEC in the Periodic Review Report. This documentation will include: waste profiles, test results, facility acceptance letters, manifests, bills of lading and facility receipts.

Non-hazardous historic fill and contaminated soils taken off-site will be handled, at minimum, as a Municipal Solid Waste per 6 NYCRR Part 360-1.2. Material that does not meet Track 1 unrestricted Soil Cleanup Objectives (SCOs) is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360-16 Registration Facility).

B-7 MATERIALS REUSE ON-SITE

Material excavated from areas of previously placed backfill is documented to meet NYSDEC soil criteria for restricted residential use on the adjoining Union Mills building property and for commercial use in Area A. Therefore, previously placed backfill material may be reused onsite as subsurface fill beneath the restored site cover without additional sampling, provided that no evidence of contamination is noted. **Figure 1A** depicts the approximate areas of backfill material onsite. Soils excavated from areas of known residual contamination will not be reused onsite (see **Figure 1B**). Any excavation spoils containing residual contamination will be stockpiled separately and will be disposed of offsite.

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Materials excavated from Areas B and C that are proposed for reuse onsite will be sampled in accordance with a NYSDEC-approved sampling plan. Analytical results must meet NYSDEC Commercial Use SCOs for Area A and Restricted Residential Use for the Union Mills property, as identified in 6 NYCRR Part 375-06.8(b), prior to reuse. If analytical results exceed Restricted Residential Use/Commercial Use SCOs, the material will not be reused onsite, but will be disposed of offsite. Locations and sizes of stockpiled material proposed for reuse will be determined based on the location and extent of excavation and activities on the Site at that time. Material will be stockpiled onsite in accordance with standard erosion and sediment control measures.

The qualified environmental professional will ensure that procedures defined for materials reuse in this SMP are followed and that unacceptable material does not remain on-site. Contaminated on-site material, including historic fill and contaminated soil, that is acceptable for re-use on-site will be placed below the demarcation layer or impervious surface, and will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

Any demolition material proposed for reuse on-site will be sampled for asbestos and the results will be reported to the NYSDEC for acceptance. Concrete crushing or processing on-site will not be performed without prior NYSDEC approval. Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the site will not be reused on-site.

B-8 FLUIDS MANAGEMENT

All liquids to be removed from the site, including excavation dewatering and groundwater monitoring well purge and development waters, will be handled, transported and disposed in accordance with applicable local, State, and Federal regulations. Dewatering, purge and development fluids will not be recharged back to the land surface or subsurface of the site, but will be managed off-site.

Discharge of water generated during large-scale construction activities to surface waters (i.e. a local pond, stream or river) will be performed under a State Pollutant Discharge Elimination System (SPDES) permit.

B-9 COVER SYSTEM RESTORATION

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After the completion of soil removal and any other invasive activities the cover system will be restored in a manner that complies with the Decision Document. The demarcation layer, consisting of orange snow fencing material or equivalent material will be replaced to provide a visual reference to the top of the 'Remaining Contamination Zone', the zone that requires adherence to special conditions for disturbance of remaining contaminated soils defined in this SMP. If the type of cover system changes from that which exists prior to the excavation (i.e., a soil cover is replaced by asphalt), this will constitute a modification of the cover element of the remedy and the upper surface of the 'Remaining Contamination Zone'. A figure showing the modified surface will be included in the subsequent Periodic Review Report and in any updates to the SMP.

B-10 BACKFILL FROM OFF-SITE SOURCES

Imported soils will be considered appropriate for use as onsite backfill or site cover material only if the material complies with applicable Federal, State, and local requirements and is approved by the qualified environmental professional. Imported soils must meet the backfill and site cover soil quality standards as established in 6 NYCRR 375-6.7 (d) or equivalent. Imported material will be stockpiled onsite prior to backfilling activities (if necessary) in accordance with standard erosion and sediment control practices.

All materials proposed for import onto the site will be approved by the qualified environmental professional and will be in compliance with provisions in this SMP prior to receipt at the site.

Material from industrial sites, spill sites, or other environmental remediation sites or potentially contaminated sites will not be imported to the site.

All imported soils will meet the backfill and cover soil quality standards established in 6NYCRR 375-6.7(d). Soils that meet 'exempt' fill requirements under 6 NYCRR Part 360, but do not meet backfill or cover soil objectives for this site, will not be imported onto the site without prior approval by NYSDEC. Solid waste will not be imported onto the site.

Trucks entering the site with imported soils will be securely covered with tight fitting covers. Imported soils will be stockpiled separately from excavated materials and covered to prevent dust releases.

B-11 STORMWATER POLLUTION PREVENTION

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Silt fencing or hay bales will be installed around the entire perimeter of the construction area. Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook and maintained at the site and available for inspection by NYSDEC. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. All undercutting or erosion of the silt fence toe anchor shall be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering. Erosion and sediment control measures identified in the SMP shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving waters

B-12 CONTINGENCY PLAN

If releases at the Site are observed by the property owner, operators, and/or contractors, these releases must be reported to CHGE immediately. If, during excavation activities, evidence of suspected contamination (discoloration or staining) is detected, excavation in the area should be halted and CHGE must be notified immediately. The affected area will be cordoned off and no further work will be performed at that location until the appropriate contaminated materials contingency response is implemented.

Any chemical or petroleum release of five gallons or more should be immediately reported to NYSDEC's Spill Hotline (1-800-457-7362). A qualified spill response contractor should be contacted immediately to contain and remediate, if necessary, the release.

If underground tanks or other previously unidentified contaminant sources are found during post-remedial subsurface excavations or development related construction, excavation activities will be suspended until sufficient equipment is mobilized to address the condition. CHGE and NYSDEC should be notified immediately. Fluids encountered in tanks or containers should be removed by the appropriate means (pump, vacuum truck, etc.) and containerized for offsite disposal.

Sampling will be performed on product, sediment and surrounding soils, etc. as necessary to determine the nature of the material and proper disposal method. Chemical analysis will be performed for a full list of analytes (TAL metals; TCL volatiles and semi-volatiles, TCL pesticides and PCBs), unless the site history and previous sampling results provide a sufficient justification

to limit the list of analytes. In this case, a reduced list of analytes will be proposed to the NYSDEC for approval prior to sampling.

Identification of unknown or unexpected contaminated media identified by screening during invasive site work will be promptly communicated by phone to NYSDEC's Project Manager. Reportable quantities of petroleum product will also be reported to the NYSDEC spills hotline. These findings will be also included in the periodic reports prepared pursuant to Section 5 of the SMP.

B-13 COMMUNITY AIR MONITORING PLAN

A Community Air Monitoring Plan (CAMP) will be prepared by a qualified environmental professional and will be approved by all appropriate regulatory agencies prior to soil disturbance activities onsite. The CAMP will establish action levels intended to protect the health of community residents who have the potential to be exposed to onsite contamination as a result of fugitive discharge of dusts, vapors, and/or nuisance odors. In addition, the CAMP will be protective of the health and safety of site workers involved with all soil disturbance activities.

The work-zone CAMP will be implemented by employing appropriate monitoring instruments such as a photoionization detector (PID) and particulate meter to monitor volatile organic compounds (VOCs) and dust particulates during disturbance of soil beneath areas of previously placed backfill. Monitoring for VOCs and dust particulates will be conducted at the start of each workday where potentially contaminated soil is disturbed and continue throughout the work day. Background readings and any readings that trigger response actions will be recorded in the project logbook, which will be onsite for NYSDEC or NYSDOH review.

The locations of community air sampling stations will be dictated by location and type of onsite development activities and will be based on generally prevailing wind conditions. These locations will be adjusted on a daily or more frequent basis based on actual wind directions to provide an upwind and at least two downwind monitoring stations. Sensitive receptors, such as schools, day care facilities, or residential areas, should be identified prior to the start of work. Fixed monitoring stations should be located at the perimeter closest to these sensitive receptors, regardless of wind direction. Exceedances of action levels listed in the CAMP will be reported to NYSDEC and NYSDOH Project Managers.

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B-14 ODOR CONTROL PLAN

An odor control plan should be developed to control emissions of nuisance odors off-site. All necessary means will be employed to prevent on- and off-site nuisances. At a minimum, these measures will include: (a) limiting the area of open excavations and size of soil stockpiles; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; (e) use of chemical odorants in spray or misting systems; and, (f) use of staff to monitor odors in surrounding neighborhoods.

If nuisance odors are identified at the site boundary, or if odor complaints are received, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. NYSDEC and NYSDOH will be notified of all odor events and of any other complaints about the project. Implementation of all odor controls, including the halt of work, is the responsibility of the property owner's Remediation Engineer, and any measures that are implemented will be discussed in the Periodic Review Report.

If nuisance odors develop during intrusive work that cannot be corrected, or where the control of nuisance odors cannot otherwise be achieved due to on-site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering the excavation and handling areas in a temporary containment structure equipped with appropriate air venting/filtering systems.

B-15 DUST CONTROL PLAN

A dust suppression plan that addresses dust management during invasive on-site work will include, at a minimum, the items listed below:

- Dust suppression will be achieved through the use of a dedicated on-site water truck for road wetting. The truck will be equipped with a water cannon capable of spraying water directly onto off-road areas including excavations and stockpiles.
- Clearing and grubbing of larger sites will be done in stages to limit the area of exposed, unvegetated soils vulnerable to dust production.
- Gravel will be used on roadways to provide a clean and dust-free road surface.

- On-site roads will be limited in total area to minimize the area required for water truck sprinkling.

B-16 OTHER NUISANCES

A plan for rodent control will be developed and utilized by the contractor, if necessary, prior to future site development. A plan will be developed and utilized by the contractor for future site development to ensure compliance with local noise control ordinances.

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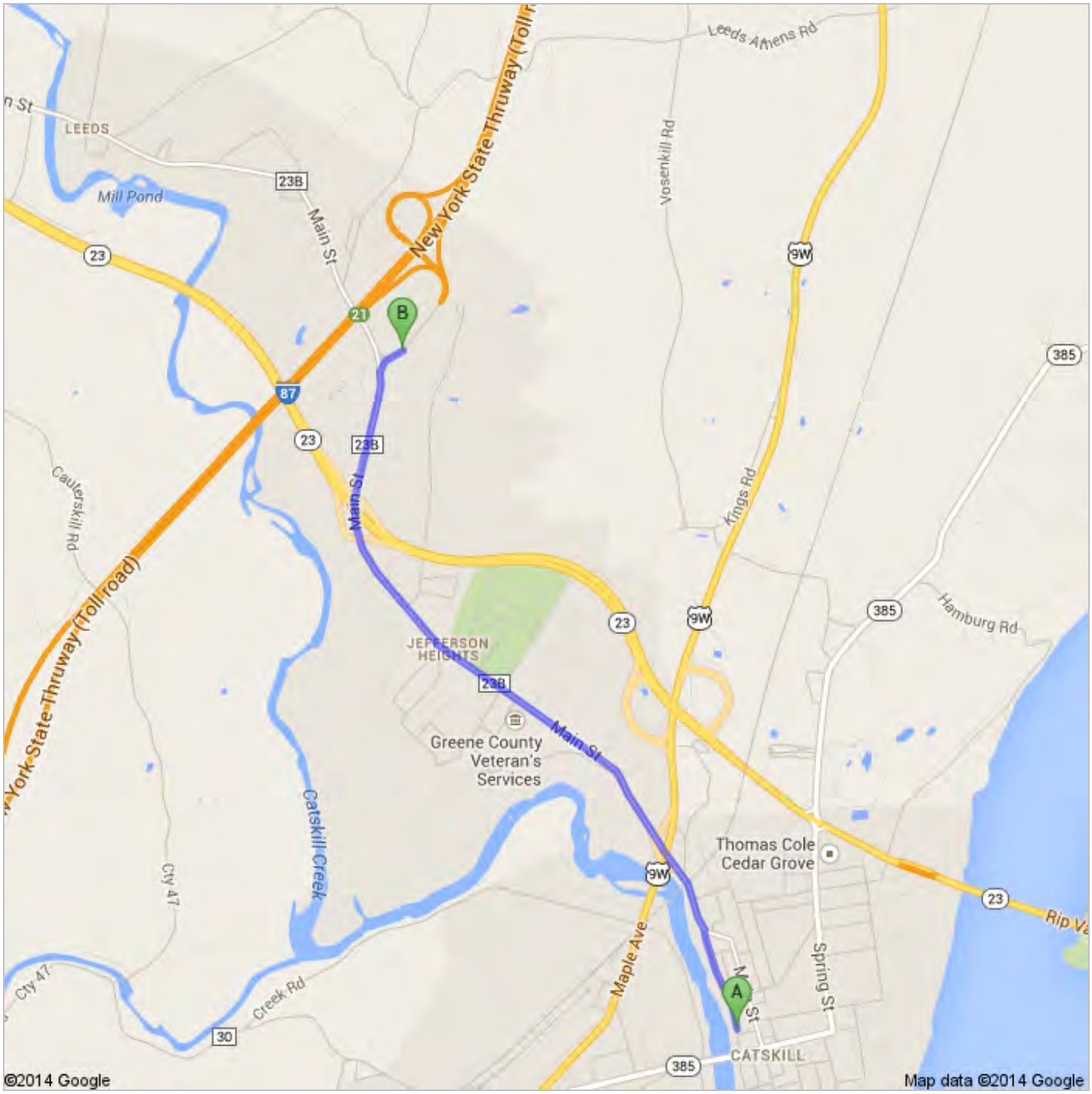
Google

Directions to Unknown road
2.4 mi – about 5 mins



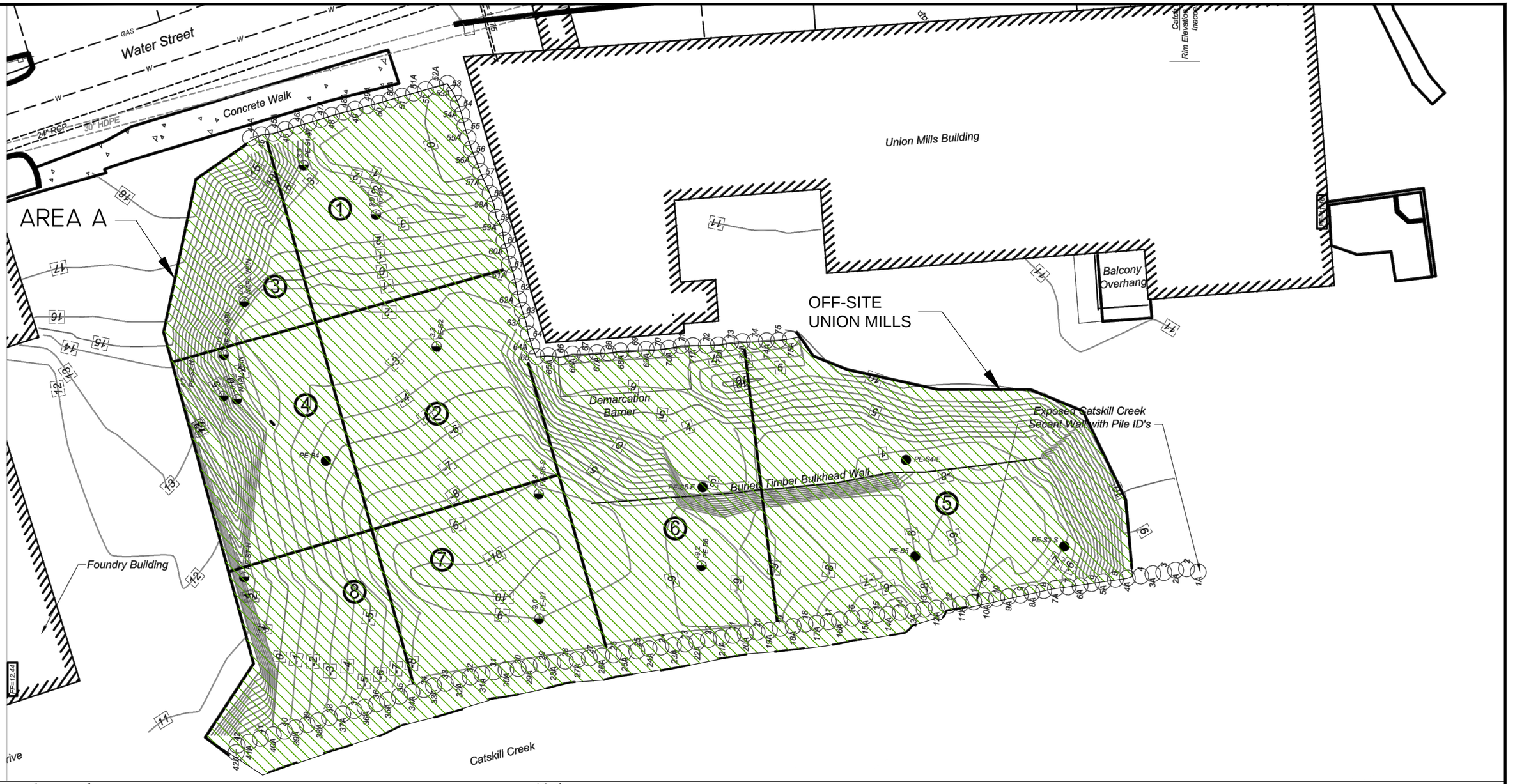
Water St

1.	Head north on Water St toward Canal St About 51 secs	go 0.3 mi total 0.3 mi
2.	Slight left onto Main St About 4 mins	go 2.0 mi total 2.3 mi
3.	Slight right Toll road	go 486 ft total 2.4 mi

Unknown road

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

Directions weren't right? Please find your route on maps.google.com and click "Report a problem" at the bottom left.



Legend

- *Contour Line (indicates depth to which clean backfill meeting restricted requirements was placed).*
- *Secant Pile Wall Location*
- *Surveyed Post-Excavation Sample Location Identification and El.*
- *Approximate Post-Excavation Sample Location*
- *Edge of Water at Mean High Water (MHW) Elevation 4.0 feet*
- *Extent of Remedial Excavation*

Notes

1. *Elevation and contours referenced project vertical datum is NGVD 1929.*
2. *As-built upland excavation locations per survey performed by Thew Associates Land Surveyors.*

(8) *Excavation Area Designation*

20 10 0 20

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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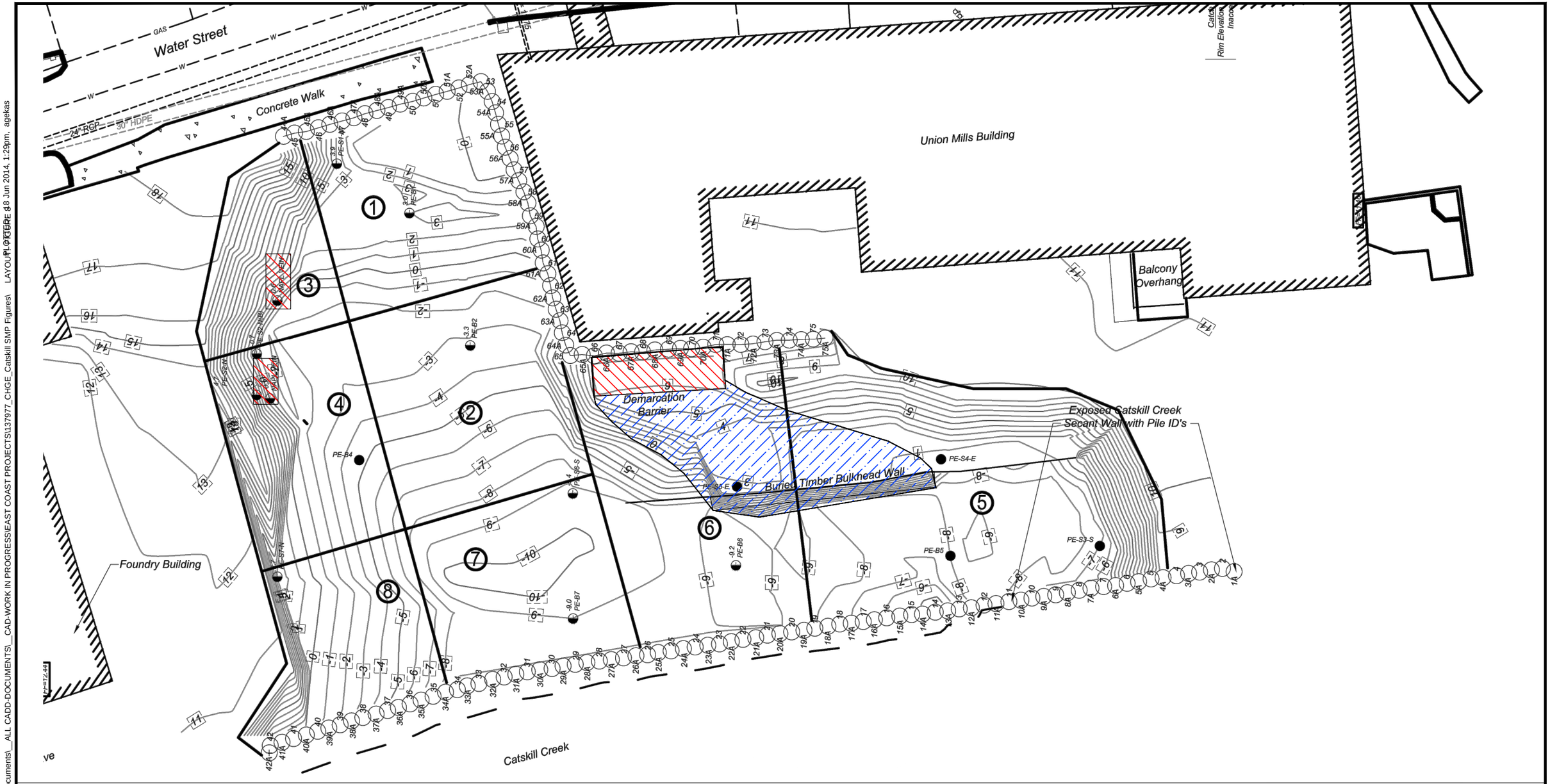
www.kleinfelder.com

PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG 1A.dwg

EXTENT OF REMEDIAL EXCAVATION

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
1A



Legend

- Contour Line (indicates depth to which clean backfill meeting restricted requirements was placed).
- Secant Pile Wall Location
- Surveyed Post-Excavation Sample Location Identification and El.
- Approximate Post-Excavation Sample Location
- Edge of Water at Mean High Water (MHW) Elevation 4.0 feet
- Known Contamination
- Potential Contamination (where excavation did not meet planned depth of 18 feet below grade)

Notes

1. Elevation and contours referenced project vertical datum is NGVD 1929.
2. As-built upland excavation locations per survey performed by Thew Associates Land Surveyors.

⑧ Excavation Area Designation

20 10 0 20

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY STANTEC.

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PROJECT NO.	137
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	FIG R1-8.dwg

LOCATIONS OF KNOWN AND POTENTIAL REMAINING CONTAMINATION

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
1B

NEWBURGH, NY

APPENDIX C

Site-Wide Inspection Form

Central Hudson Gas & Electric Corp.
Catskill Former MGP Site
Water Street, Catskill, New York

In accordance with the site-specific 2014 Site Management Plan, site-wide inspections are to be performed annually, or after flooding or storm event. Copies of this inspection form will be included in the Periodic Review Review and in other correspondence to NYSDEC and NYSDOH.

Date:	**Inspection Performed By:**
Weather:	**Inspector Title:**
	Company:
Date of Most Recent Precipitation Event and Total Precipitation Amount:	

Engineering Controls
Site Cover: *Is the site cover intact? Document any breaches in the site cover below. Include site sketch.* *Document corrective actions recommended/taken:*
Monitoring Wells: *Are all groundwater monitoring wells in the monitoring well network intact? Document any loss of integrity, signs of vandalism, etc.* *Document corrective actions recommended/taken:*
Institutional Controls
Site Management Plan: *Is a copy of the Site Management Plan onsite?*
Environmental Easement: *Is the Environmental Easement still in place? Is a copy of the Environmental Easement onsite?*

Site Cover Inspection Form

Central Hudson Gas & Electric Corp.
Catskill MGP Site
Water Street, Catskill, New York

In accordance with the site-specific 2014 Site Management Plan, inspections of the site cover are to be performed annually, or after flooding or storm event. Copies of this inspection form will be included in the Periodic Review Review and in other correspondence to NYSDEC and NYSDOH.

Date:	**Inspection Performed By:**
Weather:	**Inspector Title:**
	Company:
Date of Most Recent Precipitation Event and Total Precipitation Amount:	

Site Cover
Is the site cover intact? Document any breaches in the site cover below. Include site sketch.
Document corrective actions recommended:
Document corrective actions taken: Corrective actions performed by _____ on _____.
General Comments

APPENDIX D

REMEDIATION • ENVIRONMENTAL • DRILLING

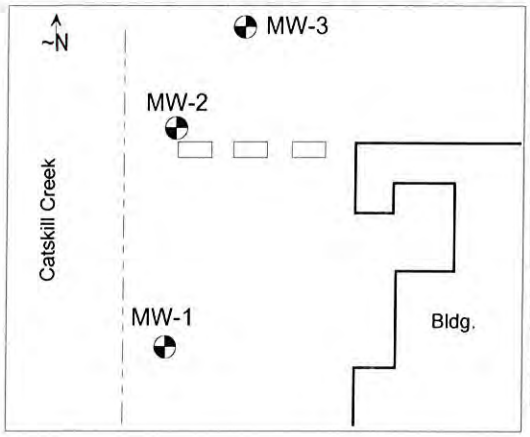
Aztech Technologies, Inc.
Woman Owned Business

5 McCrea Hill Road
Ballston Spa, NY 12020
518.885.5383
www.aztechtech.com

DRILLING LOG

Well/ Boring No. MW-1

Client: DA Collins Environmental Services
Address: Water St., Catskill, NY
Phone No.: (518)664-9855
Location: CHGE/Catskill
Date Drilled: July 8, 2013
Logged by: B. Toran
Drilling Contractor: Aztech
Driller: T. Zabel
Drilling Method: HSA
Total Depth of Hole: 19'
Diameter 6.25" ID
Screen: Dia.: 4" Length: 15' Slot Size: 0.020"
Casing: Dia.: 4" Length: 3' Type: sch 40 PVC
Sand Pack: #1 Bentonite Seal: Benseal Protective Casing: flush



Depth (ft.)	Well Construction	Notes (blows, etc.)	Sample (S) Recovery (R) PID (ppm)	Description/ Soil Classification
0	flush roadbox; cement; bentonite; riser; #1 sand; 0.020" slow screen; #1 sand			Dark brown, moist, m-f SAND and SILT, trace Clay
				Dark brown, moist SAND, some Silt, little Cobbles?
5				Brown, moist SAND, little Silt
		??		Wet at ~8'
10				
15				Brown, wet, fine SAND and SILT
	#1 sand			TD = 19'
20				
25				Soil description are from auger cuttings. Depth discrete soil samples were not collected.

REMEDIATION • ENVIRONMENTAL • DRILLING

Aztech Technologies, Inc.
Woman Owned Business
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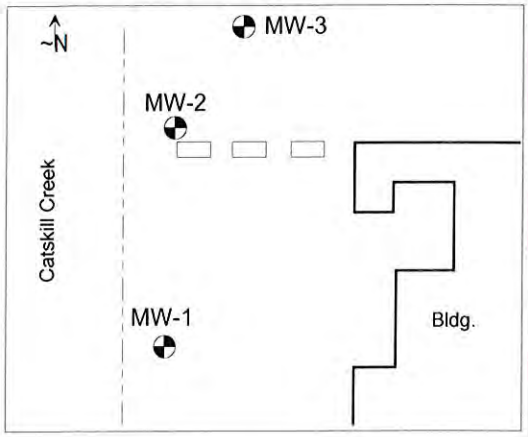
Ballston Spa, NY 12020
518.885.5383
www.aztechtech.com

DRILLING LOG

Well/ Boring No. MW-2

Client: DA Collins Environmental Services
Address: Water St., Catskill, NY
Phone No.: (518)664-9855
Location: CHGE/Catskill
Date Drilled: July 8, 2013
Logged by: B. Toran
Drilling Contractor: Aztech
Driller: T. Zabel
Drilling Method: HSA
Total Depth of Hole: 21'
Diameter 6.25" ID
Screen: Dia.: 4" Length: 15' Slot Size: 0.020"
Casing: Dia.: 4" Length: 5' Type: sch 40 PVC
Sand Pack: #1 Bentonite Seal: Benseal Protective Casing: flush



Depth (ft.)	Well Construction	Notes (blows, etc.)	Sample (S) Recovery (R) PID (ppm)	Description/ Soil Classification
0	flush roadbox; cement; backfill; bentonite; riser; #1 sand; 0.020" slow screen; #1 sand			Gray, moist, med-fine angular GRAVEL, little Sand and Silt (crushed stone)
				Brown, moist, SAND, some Silt, little fine Gravel
				Brown, moist, med - fine GRAVEL and SAND, little Silt
5				Brown, moist SAND, some med-fine Gravel, little Silt
		??		Wet at ~9'
10				
15				Brown, wet, fine SAND and SILT
				TD = 21'
20				
25				Soil description are from auger cuttings. Depth discrete soil samples were not collected.

REMEDIATION • ENVIRONMENTAL • DRILLING

Aztech Technologies, Inc.
Woman Owned Business

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Ballston Spa, NY 12020
518.885.5383
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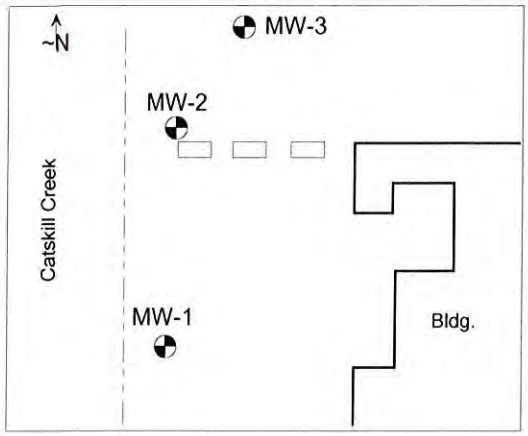
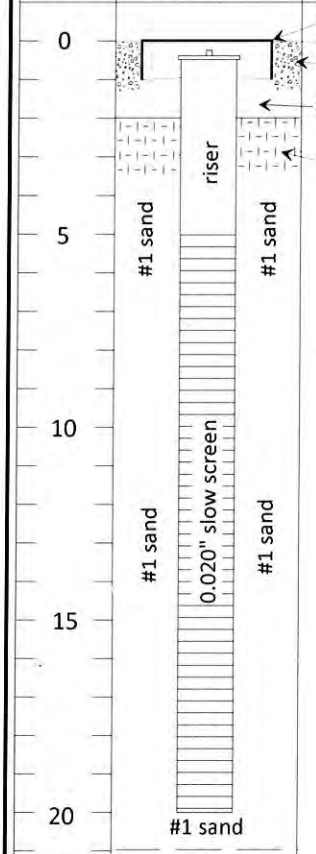
DRILLING LOG

Well/ Boring No. MW-3

Client: DA Collins Environmental Services
Address: Water St., Catskill, NY
Phone No.: (518)664-9855
Location: CHGE/Catskill
Date Drilled: July 8, 2013
Logged by: B. Toran
Drilling Contractor: Aztech
Driller: T. Zabel
Drilling Method: HSA
Total Depth of Hole: 21'
Diameter 6.25" ID
Screen: Dia.: 4" Length: 15' Slot Size: 0.020"
Casing: Dia.: 4" Length: 5' Type: sch 40 PVC
Sand Pack: #1 Bentonite Seal: Benseal Protective Casing: flush





Depth (ft.)	Well Construction	Notes (blows, etc.)	Sample (S) Recovery (R) PID (ppm)	Description/ Soil Classification
0				Gray, moist, med-fine angular GRAVEL, little Sand and Silt (crushed stone)
				Brown, moist, SAND, some fine Gravel and Silt
5				Dark brown- black, moist SAND and SILT, trace Clay
				- Cobbles? borehole widening
				Wet at ~9'
10				Black, wet SAND and SILT, some Clay and organic matter
15				Brown, wet, fine SAND and SILT, trace Clay
				TD = 21'
20				
25				Soil description are from auger cuttings. Depth discrete soil samples were not collected.

Well Development

Well I.D.	Start Time	Color	Odor	Gal.	NTU	End Time
WELL 1	900	BROWN	LITE	60	45	945
WELL 2	910	BROWN	LITE	80	49	1015
WELL 3	1030	BROWN	NO	80	20	1200

Site: CATSKILL

Technician: TIM ZABEL

Date: 7-9-13

APPENDIX E

Catskill Former Manufactured Gas Plant

GREENE COUNTY, NEW YORK

Field Sampling & Quality Assurance Project Plan

NYSDEC Site Number: C420027

Prepared for:
Central Hudson Gas & Electric Corporation
284 South Avenue
Poughkeepsie, New York

Prepared by:
Kleinfelder, Inc.
1279 Route 300, 2nd Floor
Newburgh, New York 12550
(845) 567-6530

Revisions to Final Quality Assurance Program Plan:

Revision #	Submitted Date	Summary of Revision	DEC Approval Date

---

DECEMBER 2014

TABLE OF CONTENTS

FIELD SAMPLING & QUALITY ASSURANCE PROJECT PLAN

1.0 INTRODUCTION

This Field Sampling and Quality Assurance Project Plan (QAPP) was prepared as an element of the remedial program at the Catskill Former Manufactured Gas Plant (hereinafter referred to as the "Site") under the New York State (NYS) Brownfield Cleanup Program (BCP) administered by New York State Department of Environmental Conservation (NYSDEC). The site was remediated in accordance with Brownfield Cleanup Agreement (BCA) Index# A4-0553-0606, Site # C420027, which was executed on August 8, 2006 and last amended on June 25, 2009.

After completion of remedial work described in the 2013 Final Engineering Report (FER) some residual contamination was left in the subsurface on Area A. A Site Management Plan (SMP) was prepared to manage residual contamination at the Site in perpetuity or until extinguishment of the Environmental Easement in accordance with 6 NYCRR Part 375.

2.0 PROJECT TEAM

The project team will be drawn from Central Hudson Gas & Electric Corporation (CHGE) and their qualified contractors. If non-aqueous phase liquids (NAPLs) or soil and/or groundwater showing evidence of suspected contamination (such as discoloration, staining, or odors) is encountered during excavation activities, the area will be treated as a contaminated work area. All personal who enter the contaminated work area while intrusive activities are being performed will have completed a 40-hour training course that meets Occupational Safety and Health Administration (OSHA) requirements of 29 Code of Federal Regulations (CFR) Part 1910, Occupational Safety and Health Standards with up-to-date 8-hour refresher training. Health and safety procedures will be addressed under an approved site-specific Health and Safety Plan (HASP).

The Project Director/Manager will be responsible for the general oversight of all aspects of the project, including scheduling, budgeting, data management and decision-making regarding the field program. The Project Director/Manager will communicate regularly with all members of the project team, NYSDEC, New York State Department of Health (NYSDOH), and other involved parties. Responsibilities of this role also include directing and coordination of all elements of the SMP.

KLEINFELDER 1279 Route 300, 2nd Floor, Newburgh, NY 12550 **p |** 845.567.6530 **f |** 845.567.6542

The Project Engineer will be responsible for confirming all invasive work performed during development of the Site is performed in accordance with the methodologies defined in the SMP. The Project Engineer will confirm that all imported soils from offsite, including source approval and sampling, has been performed in a manner that is consistent with the methodology defined in the SMP.

The Field Team Leader will be responsible for supervising the sampling and health and safety activities in the field and will ensure adherence to the SMP, including the Excavation Work Plan (EWP) and the HASP. The Field Team Leader will report to the Project Director/Manager on a regular basis while conducting site-specific field work and will document any deviations from the work plan. The Field Team Leader will be qualified to perform soil screening activities (e.g., be able to detect NAPLs or chemical odors and/or staining and be proficient in the use of monitoring equipment) and to make the distinction between potentially contaminated and non-contaminated soil based on observations make during soil screening activities. The Field Team Leader will brief all workers in intrusive work areas to make them aware of the potential hazards they may encounter.

The Project Quality Assurance/Quality Control (QA/QC) Officer will be responsible for adherence to this QAPP. He/She will review procedures with all personnel prior to commencing any fieldwork and will conduct periodic Site visits to assess implementation of the procedures. The QA/QC Officer will also be responsible for having a Data Usability Summary Report (DUSR) prepared for analytical results, if necessary.

All laboratory analyses will be performed by a laboratory that is Environmental Laboratory Approval Program (ELAP)-certified by NYSDOH to perform testing meeting the criteria specified in the NYSDEC's Analytical Services Protocol (ASP). The laboratory will operate a QA/QC program that consists of proper laboratory practices (including the required chain-of-custody), an internal quality control program, and external quality control audits by New York State.

3.0 STANDARD OPERATING PROCEDURES

The following sections describe the standard operating procedures (SOPs) for the activities outlined in the SMP. During these operations, safety monitoring will be performed as described in the site-specific HASP.

3.1 Monitoring Well Installation

Three groundwater monitoring wells are currently located on the Site. Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance. This section outlines the protocol of installation of monitoring wells, should replacement or additional wells be necessary.

The monitoring wells will be installed within hollow-stem auger soil borings; soil samples will be collected during drilling for characterization. The depth of the wells will be based on existing groundwater elevation data and observations made during drilling. Once reaching the desired depth, monitoring wells will be installed in the borings using two-inch diameter polyvinyl chloride (PVC) well materials according to the following procedure:

- Measure the depth to water in the augers using an oil/water interface probe.
- Place PVC riser with a ten-foot length of PVC 0.10-slotted screen at the bottom of the borehole. In determining the amount of screen that will be located beneath the water table, the elevation of the seasonal water table will be considered. The well screen will be situated to provide sufficient water in the well for sampling at all time and to limit sample collection close to the base of the well.
- Install No. 1 sand filter pack around the well screen to a depth of one to two feet above the top of the screen.
- Install a bentonite seal to a depth of one to two feet above the filter pack.
- If adequate depth remains, backfill the remainder of the annular space using a bentonite-cement grout.
- Complete the well with a locking cap.
- Decontaminate the augers between each well installation as described in Section 3.5.
- Document well installation data (location, depth, construction details, water level measurements, etc.) in the field logbook or on field data sheets.

3.2 Monitoring Well Development

Following well installation, new wells will be developed according to the following procedure:

- Measure the depth of water and total well depth using an oil/water interface probe. Use these measurements to calculate the length of the water column. Calculate the volume of water in the well using a 0.163 gallon per foot of water column as the conversation factor for a two-inch well.

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- The well will be developed using a submersible pump and discharge the water to 55-gallon drums designated for well development water.
- Continue developing the well until three well volumes have been purged from the well.
- Document the volume of water removed and any other observations made during well development in the field logbook or on field data sheets.
- Decontaminate the equipment prior to and following development at each well location as described in Section 3.5.

All soil cuttings, well development water, decontamination, and purge water will be containerized in 55-gallon drums and handled in accordance with all federal, state, and local regulations.

3.3 Monitoring Well Decommissioning

Well decommissioning, for the purpose of replacement, should be reported to NYSDEC prior to performance. Monitoring wells that are decommissioned because they have been rendered unusable will be reinstalled in the nearest available location, unless otherwise approved by NYSDEC and NYSDOH. Well abandonment will be performed in accordance with NYSDEC's Groundwater Monitoring Well Decommissioning Procedures.

3.4 Groundwater Sampling Procedures

Groundwater Sampling Procedures will be collected using low-flow purging and sampling methods based on the procedures described in the United States Environmental Protection Agency's (USEPA's) Groundwater Sampling Guidelines for Superfund and Resource Conservation and Recovery Act (RCRA) Project Managers (USEPA 542-S-02-001). Sampling will be conducted according to the following procedure:

- Prepare the sampling area by placing plastic sheeting over the well with a hole cut in the sheeting to provide access to the well.
- Remove the locking cap and measure the vapor concentrations in the well head with a photoionization detector (PID).
- Measure the total well depth, depth to water, and check for the presence of NAPLs using an oil/water interface probe. Groundwater samples will not be collected from wells containing measurable NAPL.

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- Use the water level and two well depth measurements to calculate the length of the mid-point of the water column within the screened interval.
- Connect dedicated tubing to a submersible bladder pump and lower the pump such that the intake of the pump is set at the mid-point of the water column within the screened interval of the well. Connect the discharge end of the tubing to the flow-through cell of a Horiba U-52 multi-parameter meter or equivalent. Connect tubing to the output of the cell and place the discharge end of the tubing in a bucket.
- Activate the pump at a flow rate of approximately 100 milliliters per minute.
- Measure the depth to water within the well. Water level measurements should not decrease by more than 0.3 feet as compared to the initial static reading. The well purging rate should be adjusted so as to produce a laminar flow and so as to not produce excessive turbulence in the well.
- During purging, collect periodic samples and analyze for water quality indicators (e.g., turbidity, pH, temperature, dissolved oxygen, oxidation-reduction potential, and specific conductivity) with measurements collected approximately every five minutes.
- Continue purging the well until water quality indicators have stabilized to the extent practicable. The criteria for stabilization will be three successive readings for the following parameters and criteria:

Parameter	Stabilization Criteria
pH	+/- 0.1 pH units
Specific Conductance	+/- 3% milliSiemens per centimeter (mS/cm)
Oxidation-reduction Potential	+/- 10 milliVolts (mV)
Turbidity	+/- 10% nephelometric turbidity units (NTU)
Dissolved Oxygen	+/- 0.3 milligrams per Liter (mg/L)

- If water quality parameters do not stabilize within two hours, purging may be discontinued. Efforts to stabilize the water quality for the well must be recorded in the field book, and samples may then be collected as described below.
- After purging, disconnect the tubing to the inlet of the flow-through cell. Collect groundwater samples directly from the discharge end of the tubing into the required labeled sample containers and placed in a cooler with ice. Samples should be collected first for volatile organic compounds (VOCs), and then semivolatile organic compounds (SVOCs).

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- Collect one final field sample and analyze for water quality parameters in the field.
- Once sampling is complete, remove the pump and tubing from the well. Dispose of all dedicated, disposable materials appropriately.
- Decontaminate the pump, oil/water interface probe, and flow-through cell as described in Section 3.5.
- Record all measurements (depth to water, depth to NAPL, water quality parameters, calculations, and other observations) in the project logbook or field data sheet (Attachment B).

Where appropriate, trip blanks, field blanks, field duplicates, and matrix spike/matrix spike duplicates (MS/MSD) samples will be collected, as described in Section 4.3.

Chains of Custody forms will include project name, names of sampling personnel, sample number, date and time of collection, sample matrix, signatures of individuals involved in the sample transfer, and the dates and times of transfers. All samples will be analyzed using the most recent NYSDEC ASP by a laboratory certified through the NYSDOH ELAP. Analytical data will be submitted in complete ASP Category B data packages.

3.5 Decontamination of Equipment

All sampling equipment will be either dedicated or decontaminated between sampling locations. The decontamination procedure for sampling equipment will be as follows:

- Scrub using tap water/Alconox™ mixture and bristle brush;
- Rinse with tap water;
- Scrub again with tap water/Alconox™ mixture and bristle brush;
- Rinse with tap water;
- Rinse with distilled water; and
- Air-dry equipment, if possible.

3.6 Field Instrumentation

Field personnel will be trained in the proper operation of all field instruments as the start of the field program. Instruction manuals for the equipment will be on file at the Site for referencing proper operation, maintenance, and calibration procedures. The equipment will be calibrated according to manufacturer specifications at the start of each day of field work, if applicable. If an

instrument fails calibrations, the project manager or QA/QC officer will be contacted immediately to obtain a replacement instrument. A calibrations log will be maintained to record the date of each calibrated, any failure to calibrate, and corrective actions taken. The PID will be calibrated each day using 100 parts per million (ppm) isobutylene standard span gas.

4.0 STANDARD OPERATING PROCEDURES

4.1 Laboratory Methods

An ELAP-certified laboratory will be used for all chemical analyses in accordance with NYSDEC Division of Environmental Remediation (DER)-10. Category B deliverables and Contract Laboratory Protocol ELAP Certification will be required for confirmatory (post-remediation) samples and groundwater samples. Category A deliverables will be required for all other analyses. The basic laboratory methods, sample container type, and preservation, and applicable holding times are outlined below.

Laboratory Analytical Methods for Analysis Groups

Analysis Group	Matrix	Parameter	USEPA Method	Sample Containers	Preservative	Holding Times
Groundwater Analysis Parameters	Aqueous	VOCs	8260C	(3) 40 milliLiter VOA Vial	HCl, 4° C	14 days
		SVOCs	8270D	(2) 1 Liter Amber Glass	4° C	7 days
Potential Soil Analysis Parameters	Solid	SVOCs	8270D	8 ounce Clear Glass	4° C	14 days

Other analyses that may be required by a disposal facility will be in accordance with the appropriate USEPA method using parameter-specific sample containers, preservation, and holding times.

4.2 Sample Handling

This section provides protocols for sample identification, sample labeling and shipping, and sample custody. Sampling procedures, sample identification and characterization, and sample observations (e.g., evidence of contamination, PID readings, soil classification) will be recorded in the field log book.

4.2.1 Sample Identification

All samples will be consistently identified in all field documentation, chain-of-custody documents and laboratory reports using an alpha-numeric code. Groundwater samples will be identified by the monitoring well number. Waste characterization samples collected from 55-gallon drums will be identified by the drum number (e.g., Drum 1 or Drum 2) followed by a sample type designation (LQ for liquid and SD for solid).

Matrix spike/matrix spike duplicate (MS/MSD) samples will be designated with "MS/MSD". Field duplicate samples will be labeled with a dummy sample location to ensure that they are submitted as blind samples to the laboratory. The dummy identification will consist of the sample type followed by a letter. Trip blanks and field blanks will be identified with a "TB" and "FB", respectively.

Examples of the sampling identification scheme are identified below:

Example of Sample Nomenclature

Sample Description	Sample Designation
Groundwater sample collected from monitoring well MW-1	MW-1
Duplicate sample collected from monitoring well MW-1	MW-1A
MS/MSD duplicate sample from monitoring well MW-1	MW-1 MS/MSD
Liquid Waste Characterization sample collected from drum number 7	DRUM 7 - LQ

4.2.2 Sample Labeling and Shipping

Samples to be analyzed in a laboratory will be placed in the required laboratory-supplied sample containers. All sample containers will be provided with labels containing the following information: project identification; sample identification; date and time of collection; analyses to be performed; and sampler's initials.

Once the samples are collected and labeled, they will be placed in coolers with ice and stored in a cool area away from direct sunlight to await shipment to the laboratory. At the start and end of each workday, field personnel will add ice to sample coolers as needed. Samples will be shipped to the laboratory at the end of each work day.

The samples will be prepared for shipment by placing each sample in a plastic bag, then wrapping each container in bubble wrap to prevent breakage, adding freezer packs and/or fresh ice in sealable plastic bags and the chain-of-custody form. Samples will be shipped overnight (e.g., via Federal Express) or transported by a laboratory courier. All coolers shipped to the laboratory will be sealed with mailing tape and a custody seal to ensure that coolers remain sealed during delivery.

4.2.3 Sample Custody

Field personnel will be responsible for maintaining the sample coolers in a secured location until they are picked up and/or sent to the laboratory. The record of possession of samples from the time they are obtained in the field to the time they are delivered to the laboratory or shipped offsite will be documented on the chain-of-custody (COC) forms. The COC forms will contain the following information: project name; names of sampling personnel; sample number; date and time of collection and matrix; signatures of individuals involved in sample transfer; and dates and times of transfers. Laboratory personnel will note condition of the custody seal and sample containers at sample check-in. A sample COC form is attached in Appendix A.

4.3 Quality Control Sampling

In addition to the laboratory analysis of samples collected at the Site, additional analyses will be included for quality control measures, as required by the Category B or Category A sampling techniques. These samples may include equipment blanks, trip blanks, MS/MSD, and blind duplicate samples. Equipment blanks, MS/MSD, and duplicate samples will be analyzed for the same parameter set for which the samples will be analyzed. If the requested parameters include VOCs, a trip blank will be analyzed for VOCs only. Quality control sampling in accordance with the disposal facility requirements will be performed when collecting samples for disposal characterization.

5.0 DATA REVIEW

As part of the laboratory deliverables, data validation will be performed in accordance with the ASP Category B guidelines. Since ASP Category B deliverables will be provided by the laboratory, a DUSR for data validation will not be prepared.

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ATTACHMENT A
Sample Chain of Custody

TestAmerica Edison

Chain of Custody Record

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Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TestAmerica Laboratories, Inc.

Client Contact	**Project Manager:**	**Site Contact:**	**Date:**	COC No:
Company:	**Tel/Fax:**	**Lab Contact:**	**Carrier:**	_____ of _____ COCs
Address:	**Analysis Turnaround Time**			Sampler:
City/State/Zip:	☐ CALENDAR DAYS ☐ WORKING DAYS			**For Lab Use Only:**
Phone:	TAT if different from Below _____			Walk-in Client:
FAX:	☐ 2 weeks			Lab Sampling:
Project Name:	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)																Sample Specific Notes:

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other _____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

INSTRUCTIONS

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

1) Choose the correct TestAmerica Facility from the pull down list by clicking on cell A1

2) Fill in the appropriate information for your location and phone number

3) Sampler - Fill in name.

4) Provide information on the Regulatory Program to differentiate between Drinking Water & Compliance samples.

5) Choose a default TAT or enter a different one if appropriate

6) Please indicate whether the TAT is Working or Calendar Days

7) In the veritical columns enter the Method/Analysis being requested

8) Fill out the Sample Information -- each line represents one sample

9) Sample Date/Time is required on all samples

10) In the "# of Containers" field enter the total number of bottles for each sample

11) Check Y or N if the sample was filtered in the field (Filtered Sample).

12) Note 'C' for a Composite sample; or 'G' for a Grab Sample.

13) The Sample name should be the one you wish to see in the final report

14) In the cell where the Sample Information intersects the method information please enter the number of containers submitted for the method. Alternatively simply "x" this field

15) In the last row of the eCOC please choose the code for the right preservative used

16) Note any Possible Hazards.

17) Use the Special Instructions field to add any special instructions to the lab

18) If samples are sent across the country, consider indicating the Time Zone where samples were collected

19) TestAmerica Terms and Conditions apply for the analysis performed on the submitted samples unless otherwise agreed upon between TestAmerica and Company

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from TestAmerica Laboratories, Inc., a Delaware corporation (referred to as "TestAmerica"), TestAmerica shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation or Price Schedule, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of TestAmerica's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by TestAmerica in writing.

1. ORDERS AND RECEIPT OF SAMPLES

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to TestAmerica in writing or by telephone subsequently confirmed in writing, or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient specification to enable TestAmerica to carry out the Client's requirements. In particular, samples must be accompanied by: a) adequate instruction on type of analysis requested, and b) complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.2 The Client shall provide one week's advance notice of the sample delivery schedule, or any changes to the schedule, whenever possible. Upon timely delivery of samples, TestAmerica will use its best efforts to meet mutually agreed turnaround times. All turnaround times will be calculated from the point in time when TestAmerica has determined that it can proceed with defined work following receipt, inspection of samples, and resolution of any discrepancies in Chain-of-Custody forms and project guidance regarding work to be done (Sample Delivery Acceptance). In the event of any changes in the sample delivery schedule by the Client, prior to Sample Delivery Acceptance, TestAmerica reserves the right to modify its turnaround time commitment, to change the date upon which TestAmerica will accept samples, or refuse Sample Delivery Acceptance for the affected samples.

1.3 TestAmerica reserves the right, exercisable at any time, to refuse or revoke Sample Delivery Acceptance for any sample which in the sole judgment of TestAmerica: a) is of unsuitable volume; b) may pose a risk or become unsuitable for handling, transport, or processing for any health, safety, environmental or other reason, whether or not due to the presence in the sample of any hazardous substance and whether or not such presence has been disclosed to TestAmerica by the Client; or c) holding times cannot be met, due to passage of more than 48 hours from the time of sampling or 1/2 the holding time for the requested test, whichever is less.

1.4 Prior to Sample Delivery Acceptance, the entire risk of loss or damage to samples remains with the Client, except where TestAmerica provides courier services. In no event will TestAmerica have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from TestAmerica's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to TestAmerica's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

2. PAYMENT TERMS

2.1 Services performed by TestAmerica will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Quoted prices do not include sales tax. Applicable sales tax will be added to invoices where required by law. Where requested services on a group of samples received and logged in together at the laboratory total less than $200, there will be a minimum transaction charge of $200 for the sample group, or as shown on any related quote from TestAmerica. An Environmental Management Fee of 5% of the invoice value will also be applied, at TestAmerica's discretion.

2.2 Invoices may be submitted to Client upon completion of any sample delivery group. Billing corrections must be requested within 30 days of invoice date. Payment in advance is required for all Clients except those whose credit has been established with TestAmerica. For Clients with approved credit, payment terms are net 30 days from the date of invoice by TestAmerica. All overdue payments are subject to an additional interest and service charge of one and one half percent (1.5%) (or the maximum rate permissible by law, whichever is lesser) per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party, that acknowledges and accepts payment responsibility.

2.3 TestAmerica may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. TestAmerica reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by TestAmerica after Sample Delivery Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. TestAmerica will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification, or acceleration in the performance of the work may be initiated by the Client after sample delivery acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. TestAmerica's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. TestAmerica will be compensated consistent with Section 2 of these Terms and Conditions. TestAmerica will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, TestAmerica will use analytical methodologies which are in substantial conformity with published test methods. TestAmerica has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, TestAmerica reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of TestAmerica, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or TestAmerica's Laboratory Quality Manuals. Client may request that TestAmerica perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, TestAmerica will proceed with analyses under its standard Quality Manuals then in effect, and TestAmerica will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 TestAmerica shall start preparation and/or analysis within holding times provided that Sample Delivery Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Where resolution of inconsistencies leading to Sample Delivery Acceptance does not occur within this period, TestAmerica will use its best efforts to meet holding times and will proceed with the work provided that, in TestAmerica's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with TestAmerica's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 TestAmerica warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to TestAmerica prior to Sample Delivery Acceptance. TestAmerica will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by TestAmerica in connection with any services performed by TestAmerica or any Results generated from such services, and TestAmerica gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of TestAmerica is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by TestAmerica, will be limited to repeating any services performed, contingent on the Client's providing, at the request of TestAmerica and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, TestAmerica's liability for resampling costs will be limited to actual cost or one hundred and fifty dollars ($150) per sample, whichever is less.

4.6 TestAmerica's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after TestAmerica's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall TestAmerica be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall TestAmerica have any responsibility or liability to the Client for any failure or delay in performance by TestAmerica which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of TestAmerica. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond TestAmerica's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to TestAmerica or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by TestAmerica of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by TestAmerica for performance of work will be retained by TestAmerica, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by TestAmerica shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay TestAmerica for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by TestAmerica be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold TestAmerica's right to independently defend its data.
5.4 TestAmerica reserves the right to perform the services at any laboratory in the TestAmerica network, unless the Client has specified a particular location for the work. In addition, TestAmerica reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in TestAmerica's sole judgment, it is reasonably necessary, appropriate or advisable to do so. TestAmerica will in no way be liable for any subcontracted services (outside the TestAmerica network) except for work performed at laboratories which have been audited and approved by TestAmerica.
5.5 TestAmerica shall dispose of the Client's samples 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable federal, state or local requirements. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at his own expense. TestAmerica reserves the right to return to the Client any sample or unused portion of a sample that is not within TestAmerica's permitted capability or the capabilities of TestAmerica's designated waste disposal vendor(s). ALL DIOXIN, MIXED WASTE, AND RADIOACTIVE SAMPLES WILL BE RETURNED TO THE CLIENT, unless prior arrangements for disposal are made.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, TestAmerica agrees to retain all records for five (5) years.
5.7 In the event that TestAmerica is required to respond to legal process related to services for Client, Client agrees to reimburse TestAmerica for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.
6. INSURANCE
6.1 TestAmerica shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over TestAmerica's employees who are engaged in the performance of the work. TestAmerica shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $1,000,000 per occurrence/ $2,000,000aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate).
7. AUDIT
7.1 Upon prior notice to TestAmerica, the Client may audit and inspect TestAmerica's records and accounts covering reimbursable costs related to work done for the Client, for a period of two (2) years after completion of the work. The purpose of any such audit shall be only for verification of such costs, and TestAmerica shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.
8. MISCELLANEOUS PROVISIONS
8.1 These Terms and Conditions, together with any additions or revisions which may be agreed to in writing by TestAmerica, embody the whole agreement of the parties and provide the only remedies available. There are no promises, terms, conditions, understandings, obligations or agreements other than those contained herein, and these Terms and Conditions shall supersede all previous communications, representations, or agreements, either verbal or written, between the Client and TestAmerica. These Terms and Conditions, and any transactions or agreements to which they apply, shall be governed both as to interpretation and performance by the laws of the state where TestAmerica's services are performed.
8.2 The invalidity or unenforceability, in whole or in part of any provision, term or condition hereof shall not affect in any way the validity or enforceability of the remainder to these Terms and Conditions, the intent of the parties being that the provisions be severable. The section headings of these Terms and Conditions are intended solely for convenient reference and shall not define, limit or affect in any way these Terms and Conditions or their interpretations. No waiver by either party of any provision, term or condition hereof or of any obligation of the other party hereunder shall constitute a waiver of any subsequent breach or other obligation.
8.3 The obligations, liabilities, and remedies of the parties, as provided herein, are exclusive and in lieu of any others available at law or in equity. Indemnifications, releases from liability and limitations of liability shall apply, notwithstanding the fault, negligence or strict liability of the party to be indemnified, released, or whose liability is limited, except to the extent of sole negligence or willful misconduct.

Name	Address 1	Address 2	City	State	Zip	Phone	Fax
CHOOSE A LOCATION	USE DROP DOWN MENU	TO PICK YOUR	LABORATORY / Service Center				
TestAmerica Albany	25 Kraft Avenue		Albany	NY	12205	518.438.8140	518.438.8150
TestAmerica Anchorage	2000 W. International Airport Road	Suite A10	Anchorage	AK	99502	907.563.9200	907.563.9210
TestAmerica Atlanta	6500 McDonough Drive	Suite C-10	Norcross	GA	30093	678.966.9991	
TestAmerica Austin	14050 Summit Drive	Suite A-100	Austin	TX	78728	512.310.5208	512.244.0160
TestAmerica Baltimore	7526 Connelley Drive	Suite F	Hanover	MD	21076	410.766.2516	
TestAmerica Baton Rouge	6113 Benefit Drive		Baton Rouge	LA	70809	225.755.8200	
TestAmerica Beaumont	4400 Lawndale Ave.		Groves	TX	77619	409.540.5302	
TestAmerica Boston	240 Bear Hill Road	Suite 104	Waltham	MA	02451	781.466.6900	
TestAmerica Buffalo	10 Hazelwood Drive		Amherst	NY	14228	716.691.2600	716.691.7991
TestAmerica Burlington	30 Community Drive	Suite 11	South Burlington	VT	05403	802.660.1990	802.660.1919
TestAmerica Canton	4101 Shuffel Street, N. W.		North Canton	OH	44720	330.497.9396	330.497.0772
TestAmerica Cedar Falls	704 Enterprise Drive		Cedar Falls	IA	50613	319.277.2401	319.277.2425
TestAmerica Charleston	1436-A North Point Ln		Mt. Pleasant	SC	29464	843.849.6550	
TestAmerica Charlotte	2838-B Queen City Drive		Charlotte	NC	28280	704.392.1164	
TestAmerica Chicago	2417 Bond Street		University Park	IL	60484	708.534.5200	708.534.5363
TestAmerica Cincinnati	11416 Reading Road		Cincinnati	OH	45241	513.733.5700	
TestAmerica Corpus Christi	1733 N. Padre Island Drive		Corpus Christi	TX	78408	361.289.2673	361.289.2471
TestAmerica Costa Mesa	3585 Cadillac Ave.	Suite A	Costa Mesa	CA	92626	714.258.8610	714.258.0921
TestAmerica Dallas/Ft. Worth	3226 Commander Drive		Carrollton	TX	75006	817.821.8660	
TestAmerica Davenport	Harborview Bldg., 736 Federal St.	Suite 2202	Davenport	IA	52803	563.323.7944	
TestAmerica Dayton	4738 Gateway Circle		Dayton	OH	45440	937.294.6856	
TestAmerica Denver	4955 Yarrow Street		Arvada	CO	80002	303.736.0100	
TestAmerica Edison	777 New Durham Road		Edison	NJ	08817	732.549.3900	
TestAmerica Elmhurst	655 W. Grand Avenue	Suite 205	Elmhurst	IL	60126	630.758.0262	
TestAmerica Ft. Lauderdale	6301 NW 5th Way	Suite 2850	Ft. Lauderdale	FL	33309	954.809.5580	
TestAmerica Honolulu	99-193 Aiea Heights Drive	Suite 121	Aiea	HI	96701	808.486.5227	
TestAmerica Houston	6310 Rothway Street		Houston	TX	77040	713.690.4444	713.690.5646
TestAmerica Indianapolis	Stutz Business Center	212 W. 10th Street, Ste. A-205	Indianapolis	IN	46202	317.264.9686	
TestAmerica Irvine	17461 Derian Ave	Suite 100	Irvine	CA	92614	949.261.1022	
TestAmerica Jacksonville	8933 Western Way	Suite 1	Jacksonville	FL	32256	904.519.9551	
TestAmerica Kansas City	601 NW 39th St.		Blue Springs	MO	64015	816.868.0480	
TestAmerica King of Prussia	1008 W. Ninth Ave		King of Prussia	PA	19406	610.337.9992	610.337.9939
TestAmerica Knoxville	5815 Middlebrook Pike		Knoxville	TN	37921	865.291.3000	
TestAmerica Las Vegas	6000 S. Eastern Avenue	Suite 5E	Las Vegas	NV	89119	702.429.1264	
TestAmerica Michigan	10448 Citation Drive	Suite 200	Brighton	MI	48116	810.229.2763	
TestAmerica Minneapolis	7600 W. 27th Street	Unit # 236	St. Louis Park	MN	55426	952.922.2777	
TestAmerica Mobile	900 Lakeside Drive		Mobile	AL	36693	251.666.6633	251.666.6696
TestAmerica Nashville	2960 Foster Creighton Drive		Nashville	TN	37204	615.726.0177	
TestAmerica New York City	47-32 32nd Place	Suite 1141	Long Island	NY	11101	347.507.0579	
TestAmerica Orlando	8010 Sunport Drive	Suite 116	Orlando	FL	32809	407.851.2560	
TestAmerica Pensacola	3355 McLemore Drive		Pensacola	FL	32514	850.474.1001	
TestAmerica Phoenix	4625 E. Cotton Center Blvd.	Suite 189	Phoenix	AZ	85040	602.437.3340	
TestAmerica Pittsburgh	301 Alpha Drive	RIDC Park	Pittsburgh	PA	15238	412.963.7058	412.963.2468
TestAmerica Pleasanton	1220 Quarry Lane		Pleasanton	CA	94566	925.484.1919	
TestAmerica Portland	9405 SW Nimbus Avenue		Beaverton	OR	97008	503.906.9200	
TestAmerica Richland	2800 George Washington Way		Richland	WA	99354	509.375.3131	
TestAmerica Sacramento	880 Riverside Parkway		West Sacramento	CA	95605	916.373.5600	
TestAmerica San Antonio	3817 Parkdale		San Antonio	TX	78229	210.344.9751	
TestAmerica Savannah	5102 LaRoche Avenue		Savannah	GA	31404	912.354.7858	
TestAmerica Seattle	5755 8th Street East		Tacoma	WA	98424	253.922.2310	
TestAmerica Shelton	128 Long Hill Cross Road		Shelton	CT	06484	203.929.8140	

TestAmerica South Jersey	3000 Lincoln Drive East	Suite A	Marlton	NJ	08053	856.334.1030	
TestAmerica Spokane	11922 E. 1st Ave.		Spokane	WA	99206	509.924.9200	
TestAmerica St. Louis	13715 Rider Trail North		Earth City	MO	63045	314.298.8566	
TestAmerica Syracuse	118 Boss Road		Syracuse	NY	13211	315.431.0171	
TestAmerica Tallahassee	2846 Industrial Plaza Drive		Tallahassee	FL	32301	850.878.3994	
TestAmerica Tampa	6712 Benjamin Road	Suite 100	Tampa	FL	33634	813.885.7427	
TestAmerica Tucson	1870 W. Prince Road	Suite 59	Tuscon	AZ	85705	520.807.3801	
TestAmerica Valparaiso	2400 Cumberland Drive		Valparaiso	IN	46383	219.464.2389	291.462.2953
TestAmerica Virginia Beach	5135 Cleveland St.		Virginia Beach	VA	23462	757.671.1291	
TestAmerica Westfield	53 Southampton Road		Westfield	MA	01085	413.572.4000	

ATTACHMENT B
Sample Groundwater Monitoring Field Log

KLEINFELDER **Low Flow Sampling Data Sheet**

Client Name _____ Site ID # _____ Date _____

Site Name _____ Project # _____ Page _____ of _____

Site Address _____ Weather _____ Analyst Name _____

	Monitor Well #	Well Permit #	Pump Intake Depth (feet below TOC)	Depth to Water before pump install (feet below TOC)	Screened / Open Interval	PID / FID Back Ground	PID / FID Beneath Outer Cap	PID / FID Beneath Inner Cap	Time
Well Data									

		Time Begin	Time End	Volume Purge (gallons) [estimated]	Purge Rate (per minute)	Well Depth (feet)	Well Diameter (inches)	Notes
Purge Summary								

Every 3 hours a pH check must be taken with the 7.0 Buffer. Record Results Below.

ph Check	Hour	ph	Time Taken	If pH check not within calibration range of 6.8 - 7.2 meter must be recalibrated. For recalibration of meter refer to the SOP.				
	3rd							
	6th							
	9th			Recalibration Needed?	Yes		No	

_____ _____

Lab Manager Signature **Date**

KLF Lab Sample Log-In # _____ ***(note this number must be included in report to client)***

KLEINFELDER **Low Flow Sampling Data Sheet**

Client Name _____ Site ID # _____ Date _____

Site Name _____ Project # _____ Page _____ of _____

Site Address _____ Weather _____ Analyst Name _____

Before Purging

Well ID	Depth to Water Column (feet)	pH (ph Units)	Specific Cond (mS/cm)	Temp (Degrees C)	DO (mg/L)	Turbidity (NTU)	Redox Potential (mv)

Sampling and Analysis of ph, Specific Conductance, Temperature, D.O., Turbidity, and Redox Potential occurs simultaneously.

During Purging

	Depth to Water Column (feet) ± 0.3	pH (ph Units) ± 0.1	Specific Cond (mS/cm) ± 3%	Temp (Degrees C) ± 3%	DO (mg/L) ± 10%	Turbidity (NTU) ± 10%	Redox Potential (mv) ± 10 mv	Time Begin	Time End

At Sampling

Well ID	Depth to Water Column (feet) ± 0.3	pH (ph Units) ± 0.1	Specific Cond (mS/cm) ± 3%	Temp (Degrees C) ± 3%	DO (mg/L) ± 10%	Turbidity (NTU) ± 10%	Redox Potential (mv) ± 10 mv	Time Sampled
DMW-____							Required Duplicate Sample	

Kleinfelder East, Inc.
NJ Certified Laboratory Daily / Field Calibration Form

Date:
Technician:
NJ Certified Instrument Pine ID#:

pH Calibration
Time:
pH 4 Post Calibration Reading:
pH 10 Post Calibration Reading:

Immediate pH Mid-range Check
Time:
pH 7 Solution Reading:
Post pH 7 Calibration Reading (If Necessary):

3-hour Mid-range Checks
Time:
pH 7 Solution Reading:
Post pH 7 Calibration Reading (If Necessary):

Time:
pH 7 Solution Reading:
Post pH 7 Calibration Reading (If Necessary):

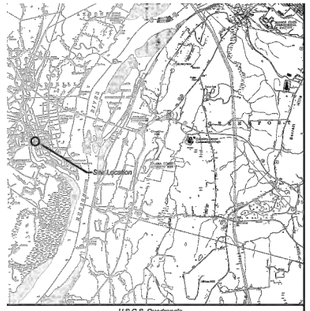
Time:
pH 7 Solution Reading:
Post pH 7 Calibration Reading (If Necessary):

Sp. Cond. Check
Time:
1.413 Solution Reading:
Zero Calibration Reading (If Necessary):
Post 1.413 Span Calibration Reading (If Necessary):

Turbidity Check
Time:
100 NTU Solution Reading:
Zero Calibration Reading (If Necessary):
Post 100 NTU Span Calibration Reading (If Necessary):

% DO Sat Check
Time:
Reading:
Post-Calibration Reading (If Necessary):

APPENDIX F



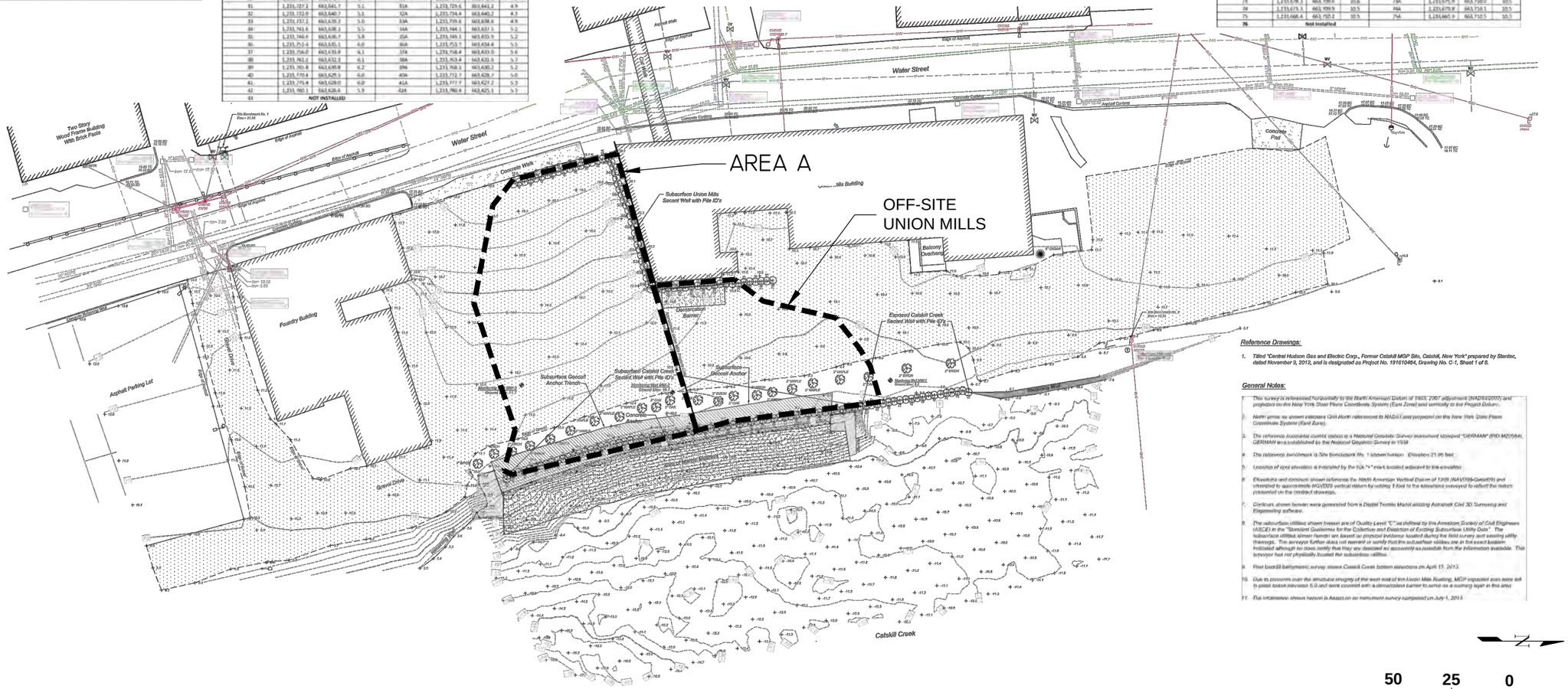
U.S.G.S. Ouwdrangle
Hudson South, New York
No Scale

Catskill Creek-Secondary Secant Pile ID	Northing	Easting	T/Steel Pile Center Elevation	Catskill Creek-Primary Secant Pile ID	Northing	Easting	T/Concrete Pile Center Elevation
1	NOT INSTALLED			1A	1,233,181.7	663,662.3	8.8
2	1,233,184.1	663,663.0	9.0	2A	1,233,186.4	663,662.7	9.1
3	1,233,188.8	663,662.2	9.1	3A	1,233,191.1	663,662.0	9.0
4	1,233,193.6	663,661.5	9.0	4A	1,233,196.1	663,661.1	9.0
5	1,233,198.8	663,660.8	9.0	5A	1,233,201.4	663,660.3	8.7
6	1,231,603.7	663,699.9	8.9	6A	1,233,606.1	663,699.5	9.0
7	1,231,608.6	663,699.3	9.1	7A	1,233,611.2	663,698.9	8.9
8	1,231,613.6	663,698.5	9.2	8A	1,233,616.0	663,698.2	9.1
9	1,233,618.4	663,697.9	9.0	9A	1,233,620.9	663,697.7	8.9
10	1,233,623.3	663,756.9	8.9	10A	1,233,625.6	663,696.5	8.9
11	1,233,628.1	663,696.2	8.9	11A	1,233,630.7	663,695.9	8.9
12	1,233,631.2	663,655.5	9.0	12A	1,233,635.8	663,654.9	9.6
13	1,231,638.3	663,654.7	9.4	13A	1,233,640.7	663,654.3	9.8
14	1,231,643.2	663,654.0	5.6	14A	1,233,645.9	663,653.6	4.9
15	1,231,648.1	663,653.5	4.6	15A	1,233,650.5	663,653.1	4.3
16	1,233,653.1	663,652.9	4.2	16A	1,233,655.8	663,652.4	4.2
17	1,233,658.1	663,652.1	4.1	17A	1,233,660.5	663,651.7	4.1
18	1,233,662.9	663,651.6	4.7	18A	1,233,665.3	663,651.2	4.3
19	1,233,668.0	663,650.7	5.1	19A	1,233,670.3	663,650.3	4.3
20	1,233,672.8	663,649.9	5.0	20A	1,233,675.2	663,649.6	4.4
21	1,233,677.8	663,649.3	4.9	21A	1,233,680.2	663,648.7	4.2
22	1,233,682.9	663,648.4	4.5	22A	1,233,685.2	663,647.9	4.2
23	1,233,687.7	663,647.5	5.2	23A	1,233,690.1	663,687.2	4.8
24	1,233,692.2	663,646.8	4.9	24A	1,233,695.1	663,646.5	4.4
25	1,233,697.6	663,646.0	4.7	25A	1,233,700.1	663,645.7	4.2
26	1,233,702.5	663,645.2	4.5	26A	1,233,704.9	663,645.0	4.4
27	1,233,707.4	663,644.6	4.6	27A	1,233,709.9	663,644.2	4.7
28	1,233,712.4	663,643.9	4.9	28A	1,233,715.0	663,643.6	4.8
29	1,233,717.3	663,643.2	5.3	29A	1,233,719.9	663,642.9	4.8
30	1,233,722.3	663,642.4	5.4	30A	1,233,724.7	663,642.2	4.8
31	1,233,727.2	663,641.7	5.1	31A	1,233,729.6	663,641.2	4.9
32	1,233,732.0	663,640.7	5.1	32A	1,233,734.4	663,640.2	4.3
33	1,231,737.1	663,639.3	5.0	33A	1,233,739.6	663,638.4	4.9
34	1,233,741.6	663,638.1	5.5	34A	1,233,744.1	663,637.5	5.2
35	1,233,746.0	663,636.7	5.8	35A	1,233,749.1	663,635.9	5.2
36	1,233,751.4	663,635.1	6.0	36A	1,233,753.7	663,634.4	5.5
37	1,233,756.0	663,633.8	6.1	37A	1,233,758.4	663,633.5	5.6
38	1,233,761.2	663,632.3	6.1	38A	1,233,763.4	663,631.6	5.2
39	1,233,765.8	663,630.9	6.2	39A	1,233,768.1	663,630.2	5.2
40	1,233,770.6	663,629.5	6.0	40A	1,233,772.7	663,628.7	5.0
41	1,233,775.4	663,628.0	6.0	41A	1,233,777.7	663,627.2	5.3
42	1,233,780.1	663,626.6	5.9	42A	1,233,780.4	663,625.1	5.3
43	NOT INSTALLED						

Legend:

- Major Contour Line
- Minor Contour Line
- Retaining Wall
- Bathymetric Survey Limits
- Utility Pole
- Utility Pole with Light
- Guy Anchor
- Single Head Light Pole
- Fire Hydrant
- Water Valve
- Fire Department Connection
- Gas Valve
- Sanitary Manhole
- Roof Drain Downspout
- Storm Drain Manhole
- Catch Basin
- Monitoring Prism Established by Others with THEIW Point ID
- Sign
- Bush
- Coniferous Tree
- Deciduous Tree
- OHU — Overhead Utilities (Electric, Communications, CATV)
- OHE — Overhead Electric
- OCMN — Overhead Communications (Telephone, CATV, Fiber)
- GAS — Gas Line
- W — Water Line
- PVC — Polyvinyl Chloride Pipe
- SCFP — Smooth Inside Corrugated Plastic Pipe
- CFP — Corrugated Plastic Pipe
- CMP — Corrugated Metal Pipe
- HDPE — High-Density Polyethylene
- RCP — Reinforced Concrete Pipe
- VCP — Vitrified Clay Pipe
- CI — Cast Iron Pipe

Union Mills-Secondary Secant Pile ID	Northing	Easting	T/Steel Pile Center Elevation	Union Mills -Primary Secant Pile ID	Northing	Easting	T/Concrete Pile Center Elevation
44	Not Installed			44A	1,233,777.4	663,752.0	18.2
45	1,233,775.2	663,752.6	18.2	45A	1,233,772.7	663,753.0	18.4
46	1,233,770.2	663,753.7	18.4	46A	1,233,767.9	663,754.5	18.4
47	1,233,765.4	663,755.1	18.5	47A	1,233,762.9	663,755.8	18.3
48	1,233,762.6	663,756.0	18.5	48A	1,233,758.2	663,757.3	18.4
49	1,233,760.8	663,752.0	18.5	49A	1,233,753.4	663,758.6	18.6
50	1,233,760.8	663,749.2	18.3	50A	1,233,748.5	663,759.9	18.2
51	1,233,746.1	663,760.6	18.2	51A	1,233,743.7	663,761.2	18.2
52	1,233,741.3	663,762.0	18.3	52A	1,233,739.1	663,762.6	18.3
53	1,233,730.7	663,763.2	18.4	53A	1,233,735.4	663,763.7	18.6
54	1,233,734.5	663,759.1	19.0	54A	1,233,733.8	663,756.8	17.7
55	1,233,733.2	663,754.5	17.8	55A	1,233,732.5	663,752.0	17.3
56	1,233,731.8	663,749.7	17.1	56A	1,233,730.7	663,747.4	16.8
57	1,233,730.0	663,745.1	16.2	57A	1,233,729.0	663,742.9	16.1
58	1,233,727.9	663,740.6	16.1	58A	1,233,727.1	663,738.2	15.9
59	1,233,726.6	663,735.9	15.5	59A	1,233,725.4	663,733.4	14.9
60	1,233,725.1	663,730.8	14.6	60A	1,233,724.3	663,728.0	14.6
61	1,233,723.9	663,725.9	14.8	61A	1,233,723.0	663,723.7	14.2
62	1,233,722.4	663,721.2	14.3	62A	1,233,722.0	663,718.7	14.3
63	1,233,721.3	663,716.4	14.2	63A	1,233,720.5	663,714.0	13.9
64	1,233,720.0	663,711.5	12.9	64A	1,233,719.3	663,708.9	12.6
65	1,233,719.4	663,706.8	12.2	65A	1,233,715.9	663,707.0	11.4
66	1,233,713.4	663,706.7	11.4	66A	1,233,710.9	663,707.1	11.0
67	1,233,708.1	663,707.2	11.4	67A	1,233,705.9	663,707.6	11.4
68	1,233,703.5	663,707.5	11.8	68A	1,233,700.0	663,707.9	11.2
69	1,233,698.1	663,708.1	11.2	69A	1,233,695.7	663,708.1	11.2
70	1,233,693.4	663,708.2	11.0	70A	1,233,691.0	663,708.5	11.0
71	1,233,688.4	663,709.1	11.2	71A	1,233,686.1	663,709.1	10.6
72	1,233,683.3	663,709.0	10.7	72A	1,233,680.8	663,709.2	10.9
73	1,233,678.3	663,709.1	10.6	73A	1,233,675.9	663,710.0	10.5
74	1,233,673.3	663,709.5	10.5	74A	1,233,670.8	663,710.1	10.5
75	1,233,668.4	663,710.2	10.5	75A	1,233,665.9	663,710.5	10.3
76	Not Installed						



Reference Drawings:

1. *Titled "Central Hudson Gas and Electric Corp., Former Catskill MGP Site, Catskill, New York" prepared by Stantec, dated November 9, 2012, and is designated as Project No. 191610464, Drawing No. C-1, Sheet 1 of 8.*

General Notes:

1. *This survey is referenced horizontally to the North American Datum of 1983, 2007 adjustment (NAD83(2007)) and projected on the New York State Plane Coordinate System (East Zone) and vertically to the Project Datum.*
2. *North arrow as shown indicates Grid North referenced to NAD83 and projected on the New York State Plane Coordinate System (East Zone).*
3. *The reference horizontal control station is a National Geodetic Survey monument stamped "GERMAN" (PID MZ0564). GERMAN was established by the National Geodetic Survey in 1938.*
4. *The reference benchmark is Site Benchmark No. 1 shown hereon. Elevation 21.96 feet.*
5. *Location of land elevation is indicated by the TBM "+" mark located adjacent to this elevation.*
6. *Elevations and contours shown reference the North American Vertical Datum of 1988 (NAVD88-Geoid09) and converted to approximate NGVD29 vertical datum by adding 1 foot to the elevations surveyed to reflect the datum conversion on the created drawings.*
7. *Contours shown hereon were generated from a Digital Terrain Model utilizing Autodesk Civil 3D Surveying and Engineering software.*
8. *The subsurface utilities shown hereon are of Quality Level "C" as defined by the American Society of Civil Engineers (ASCE) in the "Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data". The subsurface utilities shown hereon are based on physical evidence located during the field survey and existing utility drawings. The surveyor further does not warrant or certify that the subsurface utilities are in the exact location indicated although he does certify that they are depicted as accurately as possible from the information available. This surveyor has not physically located the subsurface utilities.*
9. *Post Isaac bathymetric survey shows Catskill Creek bottom elevations on April 17, 2013.*
10. *Due to concerns over the structural integrity of the east end of the Union Mills Building, MGP impacted soils were left in place below elevation 6.0 and were covered with a demarcation barrier to serve as a marking layer in this area.*
11. *The subsurface stone haunch is based on no monument survey completed on July 1, 2013.*

50 25 0 50

APPROXIMATE SCALE (feet)

BASEMAP: PROVIDED BY ASSOCIATES LAND SURVEYORS.

KLEINFELDER
Bright People. Right Solutions.
www.kleinfelder.com

PROJECT NO.	137977
DRAWN:	JUNE 2014
DRAWN BY:	AG
CHECKED BY:	EB
FILE NAME:	AppndxB-FIG R-1.dwg

ENGINEERING CONTROL
AS-BUILT DRAWINGS

CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
FORMER CATSKILL MGP SITE
CATSKILL, NEW YORK

FIGURE
1

APPENDIX G

APPENDIX G

RESPONSIBILITIES of
OWNERS and REMEDIAL PARTY

Responsibilities

The responsibilities for implementing the Site Management Plan ("SMP") for the Catskill Former Manufactured Gas Plant site (the "site"), number C420027, are divided between the site owners and a Remedial Party, as defined below. The owners are currently listed as:

- Hudson River Development Corporation (owner of Area A);
- Kirwan Enterprises, LLC (owner of Area B);
- County of Greene (owner of Area C); and

These aforementioned property owners are collectively referred to as the "owners".

Solely for the purposes of this document and based upon the facts related to a particular site and the remedial program being carried out, the term Remedial Party ("RP") refers to any of the following: certificate of completion holder, volunteer, applicant, responsible party, and, in the event the New York State Department of Environmental Conservation ("NYSDEC") is carrying out remediation or site management, the NYSDEC and/or an agent acting on its behalf. The RP is: Central Hudson Gas & Electric Corporation, 284 South Avenue, Poughkeepsie, New York.

Nothing on this page shall supersede the provisions of an Environmental Easement, Consent Order, Consent Decree, agreement, or other legally binding document that affects rights and obligations relating to the site.

Site Owner's Responsibilities:

1) The owners shall follow the provisions of the SMP as they relate to future construction and excavation at the site.

2) In accordance with a periodic time frame determined by the NYSDEC, the owners shall periodically certify, in writing, that all Institutional Controls set forth in an Environmental Easement remain in place and continue to be complied with. The owners shall provide a written certification to the RP, upon the RP's request, in order to allow the RP to include the certification in the site's Periodic Review Report ("PRR") certification to the NYSDEC.

KLEINFELDER 1279 Route 300, 2nd Floor, Newburgh, NY 12550 **p |** 845.567.6530 **f |** 845.567.6542

3) In the event the site is delisted, the owners remain bound by the Environmental Easement and shall submit, upon request by the NYSDEC, a written certification that the Environmental Easement is still in place and has been complied with.

4) The owners shall grant access to the site to the RP and the NYSDEC and its agents for the purposes of performing activities required under the SMP and assuring compliance with the SMP.

5) The owners are responsible for assuring the security of the remedial components located on its property to the best of its ability. In the event that damage to the remedial components or vandalism is evident, the owners shall notify the site's RP and NYSDEC in accordance with the timeframes indicated in Section 2.4.2 – Notifications of the SMP.

6) In the event some action or inaction by the owner(s) adversely impacts the site, the owner(s) must (i) notify the site's RP and the NYSDEC in accordance with the time frame indicated in Section 2.4.2 - Notifications of the SMP and (ii) coordinate the performance of necessary corrective actions with the RP.

7) The owners must notify the RP and the NYSDEC of any change in ownership of the site property (identifying the tax map numbers in any correspondence) and provide contact information for the new owner(s) of the site properties. 6 New York Codes, Rules and Regulations ("NYCRR") Part 375 1.11(d) and 375 1-9 (f) contains notification requirements applicable to any construction or activity changes and changes in ownership. Among the notification requirements is the following: Sixty days prior written notification must be made to the NYSDEC. Notification is to be submitted to the NYSDEC Division of Environmental Remediation's Site Control Section. Notification requirements for a change in use are detailed in Section 2.4 of the SMP. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

8) In accordance with the tenant notification law, within 15 days of receipt, the owner(s) must supply a copy of any vapor intrusion data, that is produced with respect to structures and that exceeds New York State Department of Health ("NYSDOH") or Occupational Safety and Health Administration ("OSHA") guidelines on the site, whether produced by the NYSDEC,

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RP, or owner(s), to the tenants on the property. The owner(s) must otherwise comply with the tenant and occupant notification provisions of Environmental Conservation Law Article 27, Title 24.

Remedial Party Responsibilities

1) The RP must follow the SMP provisions regarding any construction and/or excavation it undertakes at the site.

2) The RP shall report to the NYSDEC all activities required for remediation, operation, maintenance, monitoring, and reporting. Such reporting includes, but is not limited to, periodic review reports and certifications, electronic data deliverables, corrective action work plans and reports, and updated SMPs.

3) Before accessing the site property to undertake a specific activity, the RP shall provide the owners advance notification that shall include an explanation of the work expected to be completed. The RP shall provide to (i) the owners, upon the owners' request, (ii) the NYSDEC, and (iii) other entities, if required by the SMP, a copy of any data generated during the site visit and/or any final report produced.

4) If the NYSDEC determines that an update of the SMP is necessary, the RP shall update the SMP and obtain final approval from the NYSDEC. Within 5 business days after NYSDEC approval, the RP shall submit a copy of the approved SMP to the owner(s).

5) The RP shall notify the NYSDEC and the owners of any changes in RP ownership and/or control and of any changes in the party/entity responsible for the operation, maintenance, and monitoring of and reporting with respect to any remedial system (Engineering Controls). The RP shall provide contact information for the new party/entity. Such activity constitutes a Change of Use pursuant to 375-1.11(d) and requires 60-days prior notice to the NYSDEC. A 60-Day Advance Notification Form and Instructions are found at http://www.dec.ny.gov/chemical/76250.html.

6) The RP shall notify the NYSDEC of any damage to or modification of the systems as required under Section 2.4.2 - Notifications of the SMP.

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7) Prior to a change in use that impacts the remedial system or requirements and/or responsibilities for implementing the SMP, the RP shall submit to the NYSDEC for approval an amended SMP.

8) Any change in use, change in ownership, change in site classification (*e.g.*, delisting), reduction or expansion of remediation, and other significant changes related to the site may result in a change in responsibilities and, therefore, necessitate an update to the SMP and/or updated legal documents. The RP shall contact the NYSDEC to discuss the need to update such documents.

Change in RP ownership and/or control and/or site ownership does not affect the RP's obligations with respect to the site unless a legally binding document executed by the NYSDEC releases the RP of its obligations.

Future site owners and RPs and their successors and assigns are required to carry out the activities set forth above.

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