2020 PERIODIC REVIEW REPORT

FORMER A.C. DUTTON LUMBER YARD
DUTCHESS COUNTY, NEW YORK

NYSDEC Site # C314081

REPORTING PERIOD (April 1, 2020 – April 1, 2021)

prepared for:

THE O'NEILL GROUP – DUTTON, LLC
24 Hudson Street
Hackensack, New Jersey 07601

prepared by:

SESI CONSULTING ENGINEERS D.P.C.
12A Maple Avenue
Pine Brook, NJ 07058

June 2021

Project No.: 9039

PERIODIC REVIEW REPORT
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LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
AST	Aboveground Storage Tank
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	Below ground surface
CAMP	Community Air Monitoring Plan
C&D	Construction & Demolition Materials
COC	Contaminant of Concern
COPEC	Constituents of Potential Ecological Concern
CY	Cubic yard
DER	Division of Environmental Remediation
DER-10	NYSDEC Technical Guidance for Site Investigation & Remediation
DUSR	Data Usability Summary Report
ECs	Engineering Controls
ECL	Environmental Conservation Law
ESA	Environmental Site Assessment
FER	Final Engineering Report
FWRIA	Fish and Wildlife Resources Impact Analysis
gpm	Gallons per minute
HHEA	Human Health Exposure Assessment
ICs	Institutional Controls
MW	Monitoring Well
NYSDEC	New York State Department of Environmental Conservation
PCB	Polychlorinated Biphenyls
PID	Photoionization Detector

Acronym	Definition
ppm	Parts per million
QAPP	Quality Assurance Project Plan
RA	Remedial Action
RASR	Remedial Action Selection Report
RAWP	Remedial Action Work Plan
RCRA	Resource Conservation and Recovery Act
RDD	Remedial Design Document
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
SCG	Standards, Criteria, and Guidance
SCO	Soil Cleanup Objectives
SESI	SESI Consulting Engineers, PC
SMP	Site Management Plan
SSDS	Sub-Slab Depressurization System
SVOCs	Semi-Volatile Organic Compounds
S&W	S&W Redevelopment of North America, LLC.
TAGM	Technical and Administrative Guidance Memorandum
TAL	Target Analyte List
TOGS	Technical and Operations Guidance Series
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds

1.0 INTRODUCTION

1.1 SUMMARY

This is the Periodic Review Report (PRR) for the period April 1, 2020 to April 2021. The PRR is required as an element of the remedial program at the Former AC Dutton Lumber Yard (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 # 1066-05-05, Site #C314081, which was executed on July 6, 2005 and last amended on February 4, 2011. The Site area is 11.8 acres. Engineering Controls (ECs) have been constructed on the Site to prevent exposure to the remaining residual contamination during Site use. An Environmental Easement granted to the NYSDEC, and recorded with the Dutchess County Clerk, requires compliance with the Site Management Plan (SMP) dated December 2014 and all ECs and Institutional Controls (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. A Site Location Map is provided in Figure 1.1 of the SMP. All SMP figures are included in **Appendix A** of this report.

This PRR reports the required inspection and monitoring activities that were conducted during the current reporting period. The inspection and monitoring were conducted to ensure compliance with all ECs and ICs required by the Environmental Easement and as stated in the SMP as approved by NYSDEC.

1.2 EFFECTIVENESS OF REMEDIAL PROGRAM

Residual contamination remains on the Site, which has been managed according to the requirements of the SMP to keep the Site safe for commercial and restricted residential uses.

The composite cover system on the site remains intact. The cover system has been and will continue to be effective in preventing public exposure to the residual contamination. During this period, the construction on the proposed building has continued. The building foundations were constructed and during this work, the demarcation layer was

breached and replaced with the concrete hard surface within the footprint of the building foundation.

The annual sampling of the monitoring well network to determine the effectiveness of the natural degradation of the residual contaminants of concern was conducted on March 2, 2021. The monitoring well network consists of the following:

- Monitoring well PR-MW-2
- Monitoring well PR-MW-3
- Monitoring well PR-MW-4

Monitoring well PR-MW-2 was dry and could not be sampled. Monitoring well PR-MW-3 was covered under a geotechnical surcharge pile during this reporting period and was inaccessible for decommissioning. This well will be decommissioned during the next reporting period.

Arsenic was detected in monitoring well PR-MW-4 at a concentration of 63.73 ug/L, exceeding the NYSDEC effluent TOGS of 50 ug/L. A summary of the analytical data for the March 2, 2021 sampling event is provided in **Table 1.1 in Appendix B**.

The monitoring plan, as required in the SMP is effective and protective of human health and the environment.

1.3 COMPLIANCE

SESI completed a site inspection on March 2, 2020 to verify the integrity of the ECs in accordance with the Inspection Checklist provided in **Appendix C**.

The groundwater monitoring well PR-MW-4 was sampled once in the current reporting period on March 2, 2021 and analyzed for metals in accordance with the monitoring program in the SMP.

1.4 RECOMMENDATIONS

SESI has verified that the ECs and ICs developed for the site are in compliance with the SMP. Based on the current and historic groundwater results, SESI recommends continuing the monitoring of groundwater for metals on an annual basis for only monitoring well PR-MW2 and PR-MW-4 for the next reporting periods. Finally, SESI recommends continuing the yearly monitoring of the cover system.

2.0 SITE OVERVIEW

2.1 SITE LOCATION AND DESCRIPTION

The Site is located in the City and Town of Poughkeepsie, County of Dutchess, New York and comprises two lots (City of Poughkeepsie Tax ID: 6062-59-766443 and Town of Poughkeepsie Tax ID: 6062-02-763508) on the City and Town of Poughkeepsie Tax Maps. The site is an approximately 11.8-acre area bounded by Hudson River Rowing Association Dock (owned by Vassar College) to the north, a former natural gas regulation station (owned by Central Hudson Gas & Electric) to the south, North Water Street to the east, and a 2.45-acre parcel along the Hudson River Bank owned by the State of New York to the west.

2.2 SITE HISTORY

The Site was utilized for industrial use from the mid-19th century to 1995. Before 1913, uses of the Site included an iron works and a glass works at the southern portion of the property. Several kilns were associated with the glass works, and kiln ash and slag were reportedly used as fill material on the Site. The on-site pressure treatment of lumber using chromated copper arsenate (CCA) reportedly began in 1966 by the A.C. Dutton Lumber Corporation and continued until 1995, when on-site operations ceased. During lumber processing activities, raw lumber was brought to the Site by truck, boat, and rail. Lumber was processed in the on-site pressure treatment plants and then dried and stored outside. Complete Site history can be found in the following documents:

- Phase I Investigation Report, dated November 1987, prepared by EnviroPlan Associates, Inc.
- Phase I Environmental Site Assessment, dated August 8, 2002, prepared by Ecosystems Strategies, Inc.
- Summary Report of Sub-structure Investigations, dated October 3, 2002, prepared by Ecosystems Strategies, Inc.; and
- Summary Report of Supplemental Subsurface Investigation, dated November 25, 2002, prepared by Ecosystems Strategies Inc.

2.2.1 REMEDIAL INVESTIGATION (RI) CONDUCTED AT THE SITE

Soil

The areas surrounding the two pre-existing pressure treatment buildings were the most highly impacted by metals contamination. Investigations showed impacts to deposit/soil in the interior collection drains of one of the pressure treatment buildings as high as 138,000 parts per million (ppm) of arsenic. Chromium and copper were detected in that same location at 98,600 ppm and 8,290 ppm, respectively. That was the maximum concentration of chromium detected at the Site. The highest concentration of copper detected at the Site was 30,700 ppm.

Surface soil - The entire Site is impacted by arsenic, likely the result of the storage of treated lumber in exposed areas. Concentrations of arsenic in surface soil identified during the RI ranged from non-detect to 811 ppm.

Subsurface soil- Subsurface soil was impacted by arsenic across the Site. Concentrations tended to decrease with increasing depth, and most impacts were limited to 1 foot below the ground surface with areas of deeper impacts to 3 feet. The soils in the vicinity of the chemical storage tanks in the pressure treatment buildings were impacted by arsenic and chromium to greater depths (8 feet or more). There were four areas of petroleum impacted soils. Soil samples from these areas showed very limited impacts by volatile organic compounds or semi-volatile organic compounds.

Site-Related Groundwater

Limited impacts to groundwater by metals were identified during the RI. Impacts were limited to isolated locations near the pressure treatment buildings. Contaminants associated with petroleum products (i.e. volatile organic compounds and semi-volatile organic compounds) were not detected during the RI in groundwater samples collected from the vicinity of the petroleum impacted areas.

Site-Related Soil Vapor Intrusion

There was no soil vapor intrusion investigation conducted on Site due to the low levels of volatile organic compounds detected in the soil and groundwater.

Underground Storage Tanks

Four areas of known or suspected petroleum impacted soil have been documented on-site at the locations of known or suspected underground storage tanks (USTs). Limited associated groundwater contamination has also been documented. Petroleum impacted soils have been document at the following locations: south and southwest of the northern former pressure treatment plant building; under and around the large office building; immediately northeast of the southern former pressure treatment plant building; and southwest of the former garage/automotive repair building at the southern end of the Site.

2.2.2 DESCRIPTION OF REMEDIAL ACTIONS

The Site was remediated in accordance with the NYSDEC-approved Remedial Design Work Plan (RDWP) dated May 2011, an Addendum to the approved RDWP, dated November 7, 2011, and a minor modification to the RDWP dated December 4, 2012.

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

1. Excavation of asphalt/soil/fill/concrete exceeding the Site-specific guidance level of 300 mg/kg (ppm) for arsenic and restricted residential SCOs for other COCs. The guidance level for arsenic was modified by the NYSDEC during remediation and included the stipulation that a four-foot barrier layer of clean fill be installed.
2. Removal of all CBS tanks, their contents, and associated CCS impacted debris;
3. Scarification of the floor of the Southern Pressure Plant Building to a depth of ½“ or until there was no visual evidence of staining;
4. Removal of five (5) petroleum bulk storage (PBS) tanks from the Site;
5. Demolition of on-site structures;
6. Construction and maintenance of a soil cover system to prevent human exposure to remaining contaminated soil/fill. Soil/fill remaining at the Site will consist of 2

feet of clean soil, a demarcation layer and 4-6 feet of fill with slight PAH exceedance of the restricted residential SCO approved by the DEC. The cover will also include a minimum of 6-inch newly installed paving system or concrete during the Site development into restricted-residential/commercial use.

7. The Site was dynamically compacted and any proposed buildings will be surcharged for settlement. This combined compaction will minimized the disturbance of the Site soils and allowed for a shallower building foundation installation.

8. Groundwater monitoring; 4 groundwater monitoring wells (MW) were installed on-site after the completion of the remediation. The MWs were sampled semi-annually for the first year. Additional subsequent sampling was approved for a reduction to an annual sampling frequency.

9. Execution and recording of an Environmental Easement to restrict land use and prevent future exposure to any contamination remaining at the Site.

10. Development and implementation of a Site Management Plan for long-term management of remaining contamination as required by the Environmental Easement, which includes plans for: (1) Institutional and Engineering Controls, (2) monitoring, (3) operation and maintenance and (4) reporting.

2.2.3 REMOVAL OF CONTAMINATED MATERIALS FROM THE SITE

As part of Remedial Action, various contaminated materials were removed and disposed off-site. The materials removed from the Site and their quantities are listed in Table 2.1 below.

Table 2.1: Summary of Materials Removed for Off-site Disposal

Material Removed	Volume of material Removed	Disposal Location	Disposal Period/Date
Non-Haz w astew ater from STP secondary containment area	21,625-gallons	Paradise Heating Oil	10/10/11 through 10/11/2011
Hazardous CBS tank residue from tanks in NTP and STP	2,900-gallons	Pro-Teck	10/13/2011
Non-Haz CBS/PBS tank residues from NTP and STP	1088-gallons diesel/fuel oil	AB Oil Services	10/19/2011
	100-gallons non-haz liquid		10/21/2011
	2,390 non-haz liquid		10/22/2011
Scarification w aste from STP	(39) 55-gallon drums scarification w aste.	Model City	10/8/2012
	(1) 55-gallon drum debris		
CCA contaminated a soil and concrete from NTP and STP (FO35 hazardous w aste direct landfill disposal)	792.77 tons	Envirow aste of Ohio, Inc.	11/27/2012 through 1/9/2013
CCA contaminated soil and concrete and CCA contaminated debris (STP only)	97.61 tons	Model city	10/8/2012
Hazardous FO35 liquid w aste from sumps in NTP	(4) 55-gallon drums	Pro-Teck	5/2/2013
Cans of oil based paints found in on- site	(1) 55-gallon drum	Pro-Teck	5/2/2013

Notes:

STP- Southern Pressure Treatment Plant

NTP- Northern Pressure Treatment Plan

2.2.4 ON-SITE AND OFF-SITE TREATMENT SYSTEMS

No long-term treatment systems were required to be installed as part of the Site remedy.

2.2.5 DESCRIPTION OF RESIDUAL CONTAMINATION

- The excavation for metal contaminated soils was conducted to the site-specific levels for arsenic, chromium and copper as specified in the SMP.
- A soil cap that ranges in thickness from 4 to 10 feet covers the entire Site. The installed soil cap forms a capping system to cover the impacted soils and also elevated the Site grades to above the flooding elevation. The cap consists of 2-feet of clean soil that meets the restricted residential SCOs over a demarcation layer. The balance of the soils underneath the demarcation layer consists of soils that meet the restricted residential with few exceedances in the poly-aromatic hydrocarbons (PAHs) allowed and approved by the NYDEC.

Figures 1.7, 1.7B and 1.7C from the SMP represent the contaminated soils remaining at the Site after completion of Remedial Action that exceed the Track 1 (unrestricted) SCOs.

2.2.6 MANAGEMENT OF RESIDUAL CONTAMINATION THROUGH ENGINEERING AND INSTITUTIONAL CONTROLS IN THE ENVIRONMENTAL EASEMENT

The SMP lists the ECs and ICs required by the NYSDEC to manage the residual contamination present at this Site to protect public health and the environment in the future and keep the Site safe for reuse. The primary Engineering Controls at the Site are: (1) a composite cover system composed, from top to bottom, of a minimum of 24 inches of clean soil, a demarcation layer and 2-6 feet of soils that meet the restricted residential SCO with few PAH exceedances allowed and approved by the NYSDEC since the material is under the demarcation layer; and (2) monitoring of groundwater. The Applicant and Applicant's successors or assigns must manage the controls and monitoring in full compliance with the terms of the remedial program.

3.0 REMEDY PERFORMANCE, EFFECTIVENESS, PROTECTIVENESS

The goal of the SMP is to manage the residual contamination at the Site through implementation of ICs and ECs. At present, SESI is conducting monitoring/inspection of the ICs and ECs on the Site in accordance with the SMP dated December 2014.

The overall Site remedy was designed to ensure that residual soil contamination that remains on-site in fill materials below the two-foot clean soil cap does not significantly exceed the more stringent of the applicable NYSDEC restricted residential SCO.

In order to monitor the effectiveness of the contaminant removal and the Site natural attenuation, an onsite monitoring well network is sampled on an annual basis. **Table 1.1 in Appendix B** provides a tabular summary of the groundwater monitoring results of the March 2, 2021 sampling event. Arsenic was detected monitoring well (PR-MW4) at a concentration of 63.73 ug/L, exceeding the TOGS effluent standard of 50 ug/L. The monitoring well locations are depicted in Figure 1.3 of the SMP. The laboratory analytical data packages are provided in **Appendix B**. **Table 3.**1 Below presents the historic data of arsenic.

Table 3.1: Historic Data for Arsenic in Groundwater

Sample ID	Effluent Limitation Class GA	6/23/2015	1/26/2016	10/14/2016	11/21/2017	3/15/2019	3/27/2020	3/2/2021
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
PR-MW1	50	16	16	6.6	5.6	NA	NA	NA
PR-MW2	50	27	130	176	302	200	NA	NA
PR-MW3	50	2.3	9.9	2.3	2.9	NA	NA	NA
PR-MW4	50	8.9	80	23.9	32.5	31.4	85.59	63.73

Notes:

Ug/L = Micrograms per Liter

NA = Not Analyzed

4.0 IC/EC PLAN COMPLIANCE

4.1 IC/EC REQUIREMENTS AND COMPLIANCE

Institutional Controls

The Institutional Controls (ICs) in-place at the Site consist of (1) implementing, maintaining, and monitoring Engineering Control systems; (2) preventing future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limiting the use and development of the Site to restricted residential, which will also permit commercial and industrial uses.

The land-use restriction remains in place and is effective to prohibit the use of the Site for anything other than restricted residential. It also prohibits vegetable gardens and farming on the Site.

The Monitoring Plan is intended as a means to observe the long-term effectiveness of the Engineering Controls at the Site. If at any time, the results of the monitoring plan indicate that the Site remedy is no longer effective or protective of human health, then ICs will be adjusted and/or added based on the monitoring data.

The SMP is intended to provide guidance for any and all intrusive activities on the Site, including building construction/expansion, utility line repair/construction and any new construction activities that will cause a disturbance of the soil beneath the demarcation layer. The Site Management Plan remains in-place and is effective.

Engineering Controls

The Engineering Controls (ECs) in-place at the Site consist of (1) a Site cover system and (2) a monitoring well network.

The Site cover system consists of a minimum 24 inches of clean soil, a demarcation layer and 2-6 feet of soils that meet the restricted residential SCO with few PAH exceedances allowed and approved by the NYSDEC since the material is under the demarcation layer. The objective of this is to prevent the public from being exposed to

the residual contamination present beneath the soil cover. The Site cover system remains in-place and is effective.

An onsite monitoring well network is in-place. The monitoring wells are sampled annually to determine the effectiveness of the natural attenuation/degradation. The monitoring wells are all currently in-place and effective for their purpose. However, during this sampling period well PR-MW2 was dry and could not be sampled.

4.2 IC/EC CERTIFICATION

The NYSDEC Institutional and Engineering Controls Certification Form has been completed and is included in **Appendix D**.

5.0 MONITORING PLAN COMPLIANCE

Table 5.1: Monitoring Program Frequency

Monitoring Program	Frequency*	Matrix	Analysis
Cover System	Annually	Soil	Visual
Groundwater	Annually for the current Reporting Period	Water	Metals

Monitoring Completed During Current Reporting Period

Inspection of Composite Cover System was conducted on March 2, 2021. Monitoring well PR-MW-4 was sampled on March 2, 2021. As previously discussed, monitoring well PR-MW-2 was dry and could not be sampled. Access to PR-MW-3 was not possible due to the geotechnical surcharge soils and could not be decommissioned.

Comparison with Remedial Objectives

The remedial objectives for the composite cover system are being met. The cover system continues to be protective of human health and the environment for the intended restricted residential use of the property.

The composite cover system was observed to include the foundations of the building during the visual inspection that was conducted on March 2, 2021. The building construction will continue for the next 12-18 months. Once the building and the surrounding areas are completed, the SMP will be updated to reflect the new cover system components and as-built. The composite cover system inspection form is included with the Site Inspection Forms denoted as **Appendix C**.

During the annual monitoring well sampling event conducted on March 2, 2021, one monitoring well (PR-MW4) resulted in the detection of arsenic at a concentration of 63.73 ug/L, exceeding the NYSDEC TOGS effluent for groundwater of 50 ug/L. A

summary of the analytical data for the March 2, 2021 sampling event is provided in **Table 1 in Appendix B**.

Monitoring Deficiencies

All aspects of the monitoring plan were in accordance with NYDEC applicable regulations.

Conclusions and Recommendations

All aspects of the remedial program appear to be meeting the site remedy design goal.

We recommend the following for the next reporting period:

- Groundwater Monitoring: monitoring of groundwater for metals on an annual basis for only monitoring well PR-MW2 and PR-MW-4 for the next reporting periods.
- Cover system: continue the annual visual inspection of the cover system.

6.0 OPERATION AND MAINTENANCE PLAN COMPLIANCE

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 is not applicable.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Compliance with the SMP

All aspects of the SMP, including IC/EC and monitoring, have met the requirements. The O&M is not required at this time for the site.

There are no new exposure pathways resulting in an unacceptable risk.

Performance and Effectiveness of the Remedy

The composite cover system has changed due to the addition of the proposed building footings. The SMP will be updated with the new cover system elements and as-built drawings once the building construction has been completed. The cover system has been and will continue to be effective in preventing public exposure to the residual contamination left on Site beneath the cover system.

The sampling of the monitoring well network is determining the effectiveness of the Site's ability to naturally degrade the contaminants of concern in groundwater.

The proposed periodic monitoring plan for the cover system and groundwater is effective and protective of the previously approved overall site remedy.

Future PRR Submittals

We do not recommend any changes to the frequency of the PRR submittal at this time because ICs and ECs remain in-place and are effective. The next PRR will be submitted in May 2022.

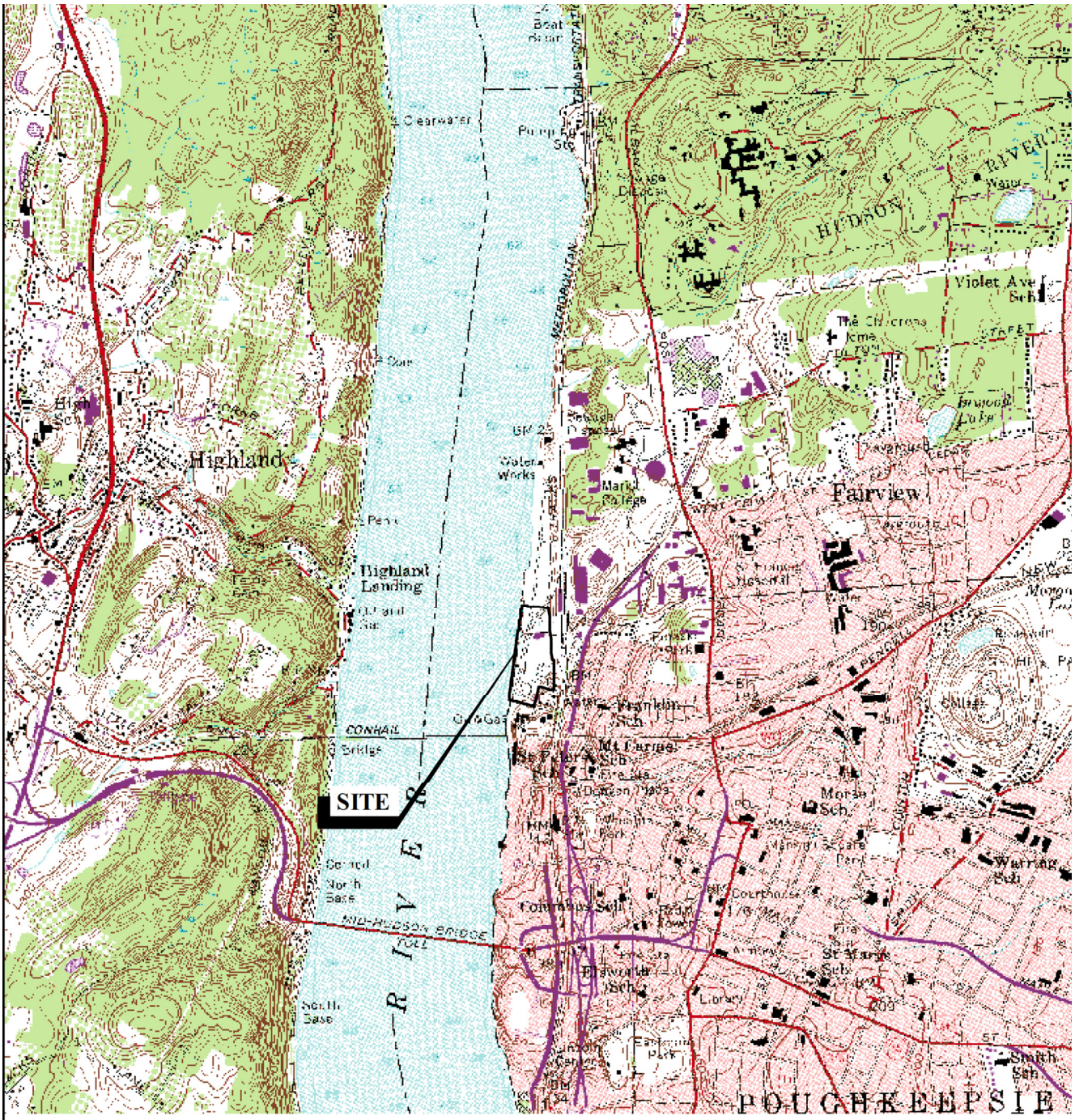
Recommendations

We recommend the following for the next reporting period:

- Groundwater Monitoring: monitoring of groundwater for metals on an annual basis for only monitoring well PR-MW2 and PR-MW-4 for the next reporting periods.
- Cover system: continue the annual visual inspection of the cover system.

Appendix A:

Site Management Plan (SMP) Figures



MAP REFERENCE
THIS MAP WAS PREPARED FROM THE FOLLOWING 7.5 MINUTE USGS MAP:
Poughkeepsie, 1957 Photorevised 1982.

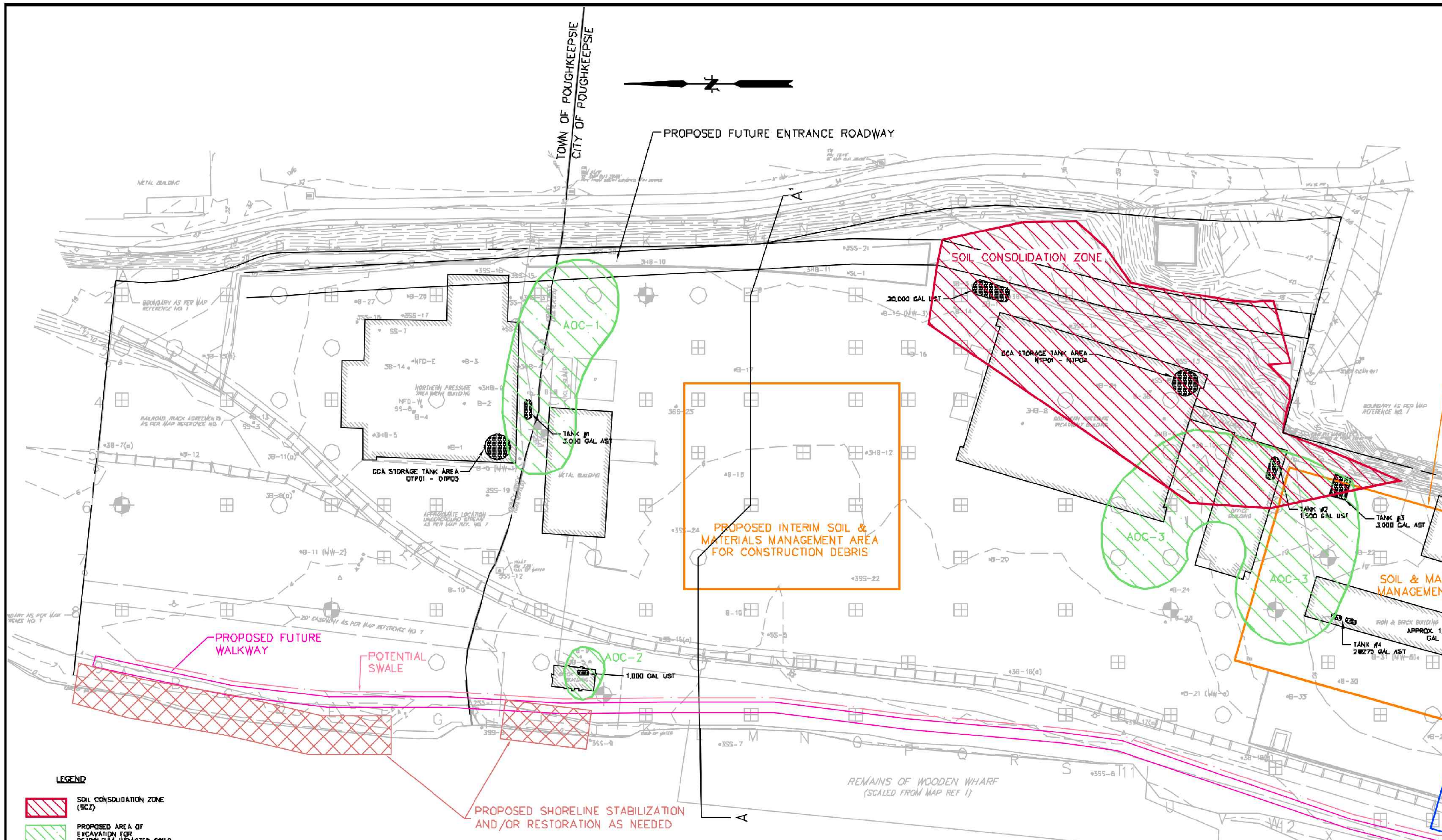
FIGURE 1.1

PROPERTY LOCATION MAP
FORMER A.C. DUTTON LUMBER YARD
1 DUTCHESS AVENUE AND 2 HOFFMAN STREET
POUGHKEEPSIE, NEW YORK

SITE PLAN

SESI
CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

DRAWN BY: YY
CHECKED BY: FD
SCALE: N.T.S.
DATE: 12/17/14
JOB NO.: 8604



NOTES:

1. THIS IS A GENERIC SOIL REMEDIAL ACTION PLAN. A FUTURE SITE PLAN WAS NOT AVAILABLE AT THE TIME THIS PLAN WAS PREPARED.

2. DETAILS PROPOSED IN THIS SOIL REMEDIAL ACTION PLAN ASSUME THAT ALL BUILDINGS INCLUDING ASSOCIATED SUMPS, TRENCHES, CONCRETE FLOORS, HAVE BEEN REMOVED AS PART OF AN INTERIM REMEDIAL MEASURE.

3. PROPOSED DECONTAMINATION ZONE WILL INCLUDE A DECON PAD FOR TRUCKS EXITING THE SITE AND WASHWATER COLLECTION EQUIPMENT AND TANK. TANK WILL BE SIZED APPROPRIATELY TO COLLECTED RUNOFF FROM THE SOIL/MATERIALS MANAGEMENT ZONE.

4. THE PROPOSED SOIL CAP OF AT LEAST TWO (2) FEET OF CLEAN SOIL WILL COVER THE EXTENTS OF THE SITE.

LEGEND

- SOIL BORING LOCATION
- TEST PIT LOCATION
- MONITORING WELL LOCATION
- SEDIMENT SAMPLE LOCATION

LEGEND

- SOIL CONSOLIDATION ZONE (SCZ)
- PROPOSED AREA OF EXCAVATION FOR PETROLEUM-IMPACTED SOILS
- SOIL MANAGEMENT ZONE (SMZ)
- DECONTAMINATION ZONE
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR

MAP REFERENCES

1. EXISTING CONDITIONS SHOWN ON THIS PLAN WERE PROVIDED BY GILBERT VANGUILDER (ACDUTTON.DWG) DATED 1/14/2005.

2. MAP REFERENCE 1. IS A MAP ENTITLED "SURVEY MAP LANDS OF A.C. DUTTON LUMBER CORP. TO BE CONVEYED TO SCENIC HUDSON INC.", PREPARED BY CHAZEN ENGINEERING AND LAND SURVEYING CO., P.C. DATED AUGUST 20, 2003.

3. HISTORIC SAMPLING LOCATIONS SHOWN ARE BASED ON A PLAN ENTITLED "ARSENIC >30mg/Kg AND/OR CHROMIUM >50 SOILS mg/Kg A.C. DUTTON PROPERTY 2 HOFFMAN STREET CITY AND TOWN OF POUGHKEEPSIE DUTCHESS COUNTY, NEW YORK" DATED NOVEMBER 2002 BY ECOSYSTEM STRATEGIES, INC.

MAP NOTES

1. HORIZONTAL COORDINATES ARE RELATIVE TO THE NEW YORK STATE PLANE COORDINATE SYSTEM BASED ON THE NORTH AMERICAN DATUM OF 1983(CORS96)(EPOCH 2002). COORDINATES HAVE BEEN MODIFIED BY AN AVERAGE SITE SCALE FACTOR OF 0.99993069797. A NORTHING SHIFT OF -100000.0 AND AN EASTING SHIFT OF -600000.0 WAS APPLIED AFTER THE SCALE FACTOR WAS APPLIED.

2. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.

3. ALL COORDINATE UNITS ARE U.S. SURVEY FEET.

No.	DATE	DESCRIPTION	BY
1.			
REVISIONS			

PROJ. MANAGER:
CHIEF DESIGNER:
REVIEWED BY: DATE

SCALE: HORZ: 1" = 100' VERT:
DATUM: HORZ: VERT:
0 50 100 GRAPHIC SCALE

WWW.FandO.COM
FUSS & O'NEILL
Disciplines to Deliver
80 WASHINGTON ST SUITE 301 POUGHKEEPSIE, NY 12601 845.452.6801

THE O'NEILL GROUP - DUTTON, LLC
PROPOSED SOIL REMEDIAL ACTION PLAN
FORMER A.C. DUTTON LUMBER FACILITY
2 HOFFMAN STREET
POUGHKEEPSIE NEW YORK

PROJ. No.: 20040764A1N
DATE: SEPTEMBER 2007

FIG. 5

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL

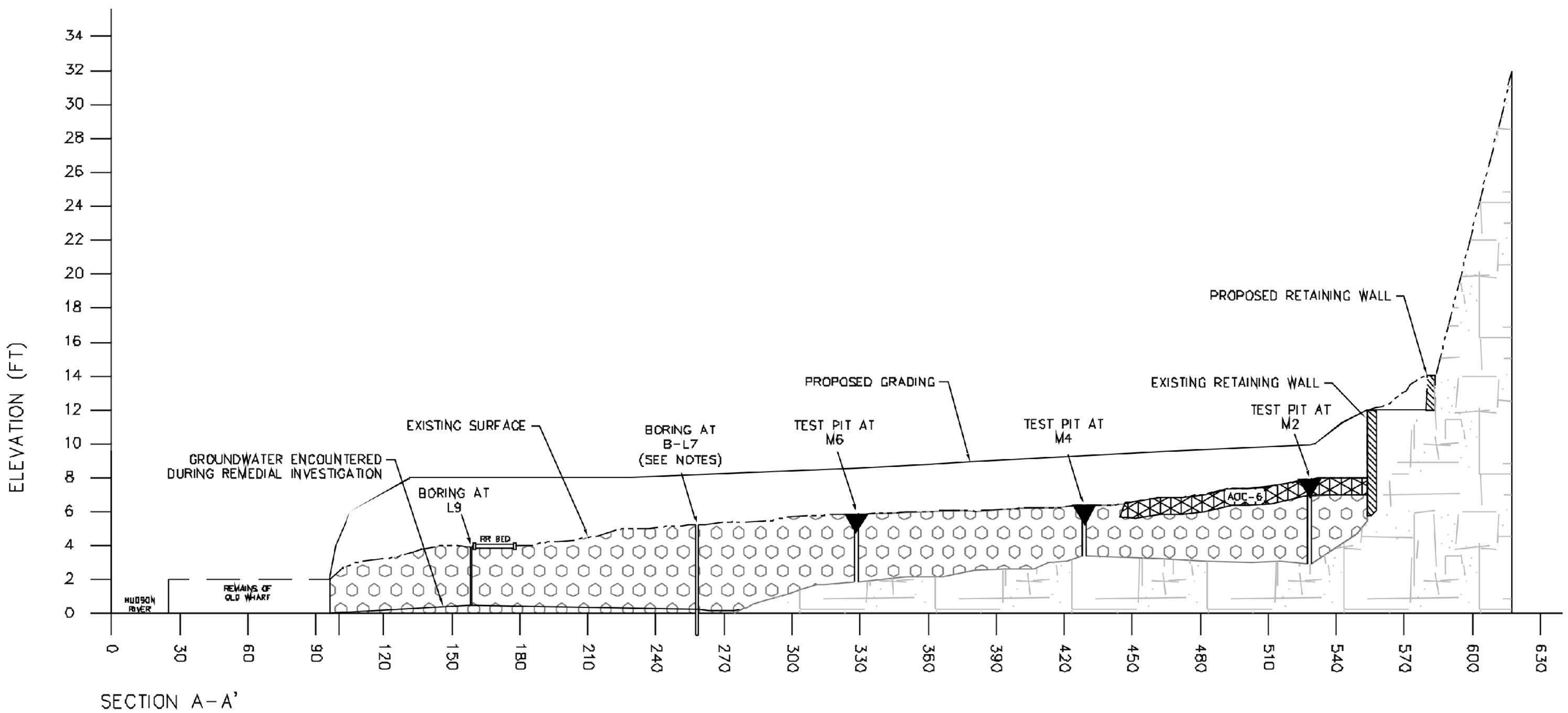
SESI
CONSULTING ENGINEERS, PC
12A MAPLE AVE., PINE BROOK, N.J. 07058 PH: 973-808-9050

project: THE O'NEILL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: SITE GEOLOGICAL SECTIONS

job no: 8604
drawing no:

FIG. 1.2A



LEGEND

- EXISTING SURFACE
- PROPOSED SURFACE
- APPROXIMATED ENTRANCE ROADWAY AND RAMPS INTO SITE
- ZONE OF METALS CONCENTRATIONS EXCEEDING ACTION LEVELS
- FILL MATERIAL
- BEDROCK

NOTES

1. FILL MATERIAL GENERALLY CONSISTS OF FINE TO MEDIUM SAND, GRAVEL, SOLIDIFIED KILN ASH, CRUSHED BRICK, AND CRUSHED SHALE/BLAST ROCK.

2. SUBSURFACE CONDITIONS ARE ESTIMATED BASED ON TEST PIT AND BORING DATA COLLECTED FROM THE LOCATIONS SHOWN, AS WELL AS LOCATIONS IN THE VICINITY OF THIS CROSS SECTION.

3. BORING B-L9 EXTENDS 1.5 FEET BELOW THE 0 FOOT ELEVATION (RIVER ELEVATION).

4. PROPOSED CONDITIONS (RAMP, ROAD, & RETAINING WALL) ARE APPROXIMATED. NO APPROVED SITE PLAN IS AVAILABLE FROM THE DEVELOPER FOR PLANNING PURPOSES. THIS SOIL RAP WAS DESIGNED IN GENERIC TERMS SO THAT IT MAY BE EASILY ADAPTABLE TO AN APPROVED SITE PLAN IN THE FUTURE.

No.	DATE	DESCRIPTION	BY
1.			
REVISIONS			

PROJ. MANAGER:
CHIEF DESIGNER:
REVIEWED BY: DATE

TO MY KNOWLEDGE AND BELIEF, THESE MAPS ARE SUBSTANTIALLY CORRECT AS NOTED HEREON.

LAWRENCE R. GEISSLER, JR. — 12327 LICENSE No.

SCALE: HORZ: NTS VERT:
DATUM: HORZ: VERT:
0 NTS GRAPHIC SCALE

FUSS & O'NEILL
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80 WASHINGTON ST SUITE 301 POUGHKEEPSIE, NY 12601 845.452.6801

THE O'NEILL GROUP - DUTTON, LLC
CROSS SECTION A-A'
FORMER A.C. DUTTON LUMBER FACILITY
2 HOFFMAN STREET
POUGHKEEPSIE NEW YORK

PROJ. No.: 20040764A2N
DATE: SEPTEMBER 2007

FIG. 9A

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

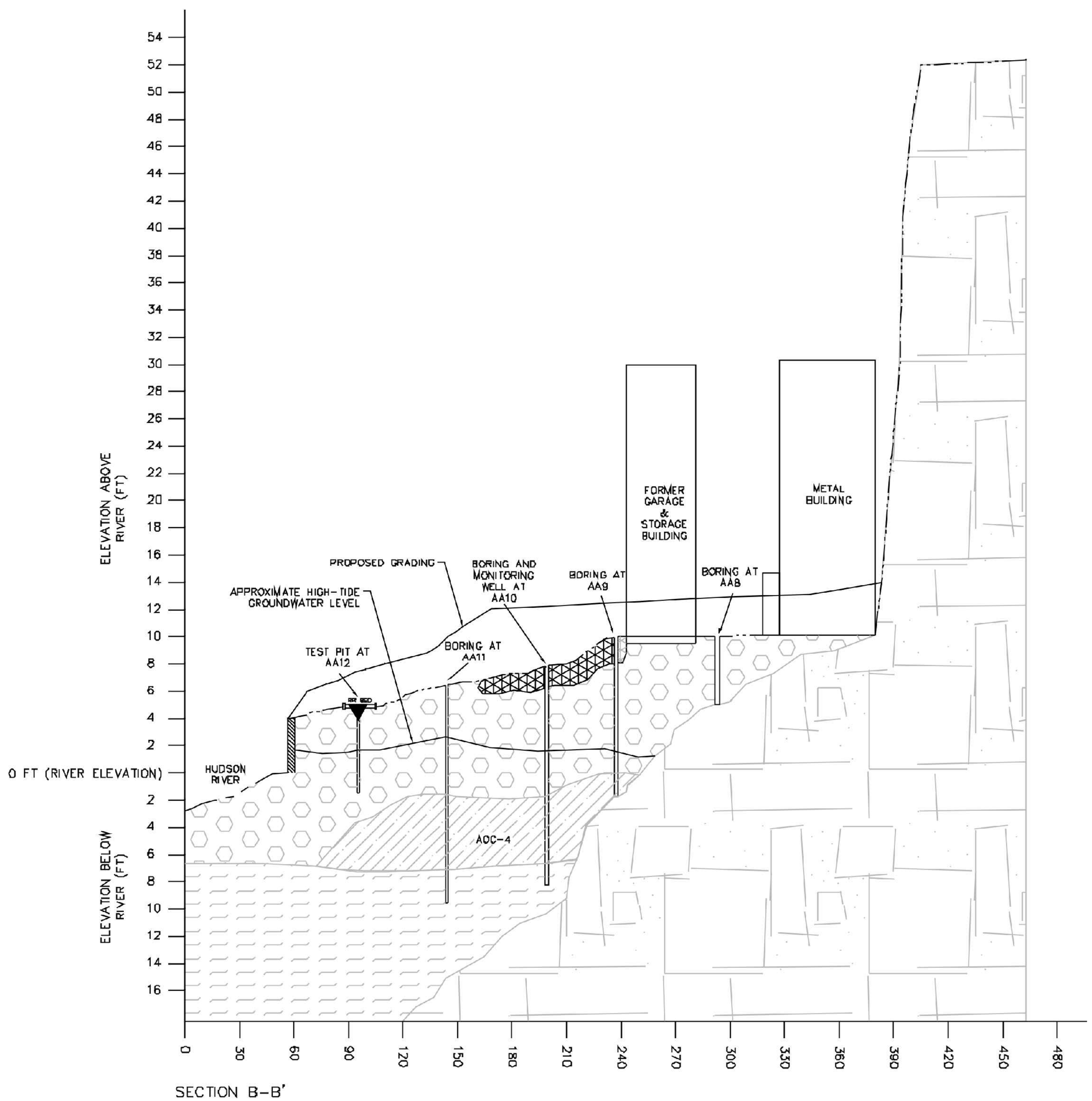
SESI CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE, PINE BROOK, N.J. 07058 PH: 973-808-9050

project: THE O'NEILL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: SITE GEOLOGICAL SECTIONS

job no: 8604
drawing no:

FIG. 1.2B



LEGEND

EXISTING SURFACE

PROPOSED SURFACE

APPROXIMATE PETROLEUM-IMPACTED AREA OF CONCERN

ZONE OF METALS CONCENTRATIONS EXCEEDING ACTION LEVELS

FILL MATERIAL

NATIVE MATERIAL

BEDROCK

NOTES

1. FILL MATERIAL GENERALLY CONSISTS OF FINE TO MEDIUM SAND, GRAVEL, SOLIDIFIED KILN ASH, CRUSHED BRICK, AND CRUSHED SHALE/BLAST ROCK.

2. NATIVE MATERIAL GENERALLY CONSISTS OF TIGHTLY PACKED LIGHT BROWN FINE SAND AND SILT.

3. SUBSURFACE CONDITIONS ARE ESTIMATED BASED ON TEST PIT AND BORING DATA.

No.	DATE	DESCRIPTION	BY
1.			

REVISIONS

PROJ. MANAGER:
CHIEF DESIGNER:
REVIEWED BY: DATE

TO MY KNOWLEDGE AND BELIEF, THESE MAPS ARE SUBSTANTIALLY CORRECT AS NOTED HEREON.

LAWRENCE R. GEISSLER, JR. — LICENSE No. 12327

SCALE: HORZ: NTS VERT:
DATUM: HORZ: VERT:
0 NTS GRAPHIC SCALE

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80 WASHINGTON ST SUITE 301 POUGHKEEPSIE, NY 12601 845.452.8801

THE O'NEILL GROUP - DUTTON, LLC
CROSS SECTION B-B'
SOIL REMEDIAL ACTION PLAN
2 HOFFMAN STREET
POUGHKEEPSIE NEW YORK

PROJ. No.: 20040764.A2N
DATE: SEPTEMBER 2007

FIG. 9B

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL

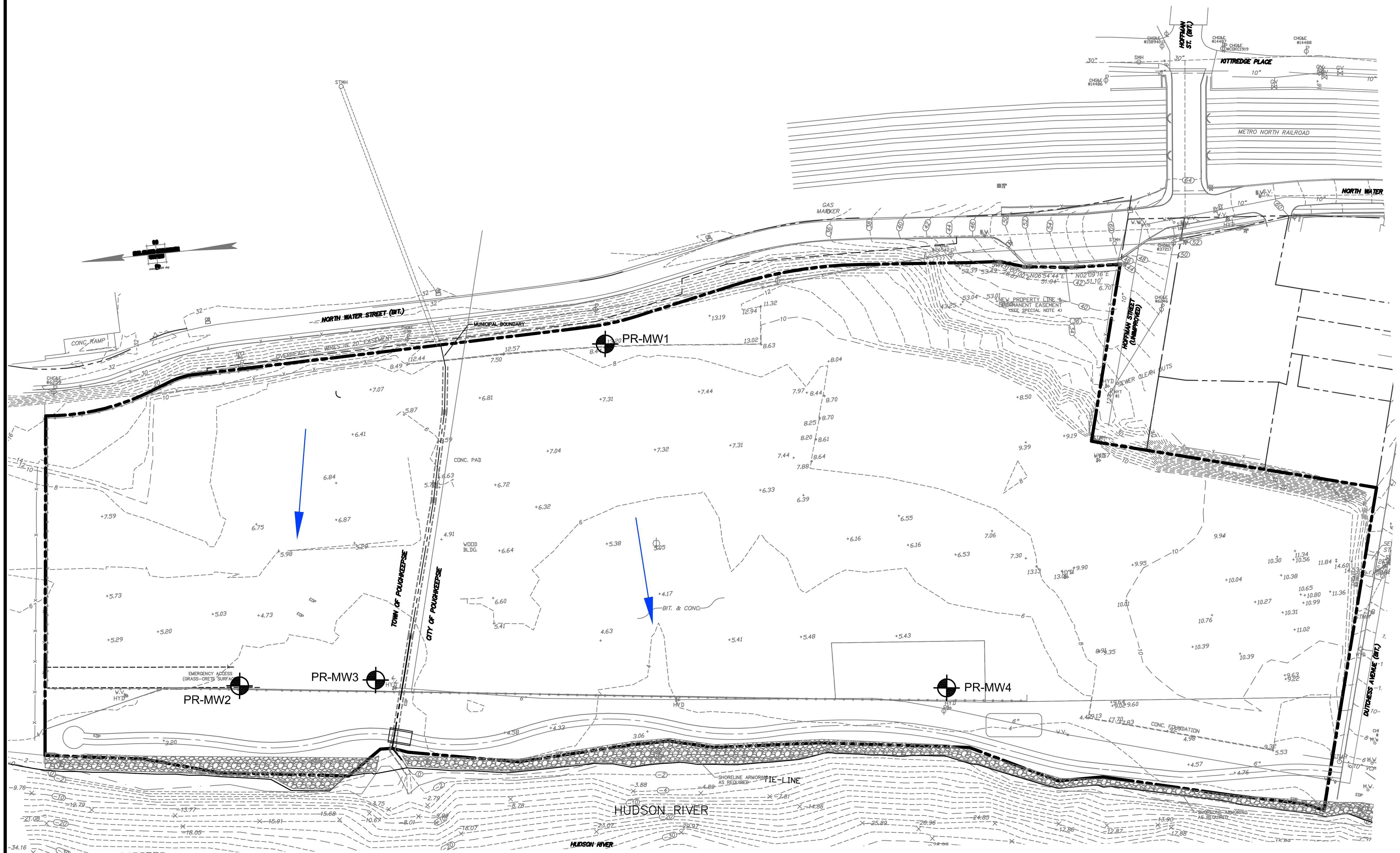
SESI CONSULTING ENGINEERS, PC
12A MAPLE AVE, PINE BROOK, N.J. 07058 PH: 973-808-9050

project: THE O'NEILL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: SITE GEOLOGICAL SECTIONS

job no: 8604
drawing no:

FIG. 1.2C



LEGEND

APPROX. LOCATION & NO. OF POST REMEDIATION MONITORING WELL (PR-MW1)

GROUNDWATER FLOW

REFERENCE
1. SITE INFORMATION ARE TAKEN FROM "CONCEPT PLAN FOR THE O'NELL GROUP" PREPARED BY MASER CONSULTING P.A. DATED3/20/13.

N:\ACAD\8604\8604 FIG 1.3 GW FLOW.dwg, 12/16/2014 8:51:00 AM

SESI CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

FUAD DAHAN, P.E.
PROFESSIONAL ENGINEER
N.Y. LIC. NO. 090531

drawn by: YY
checked by: FD
scale: N.T.S.
date: 9/15/14

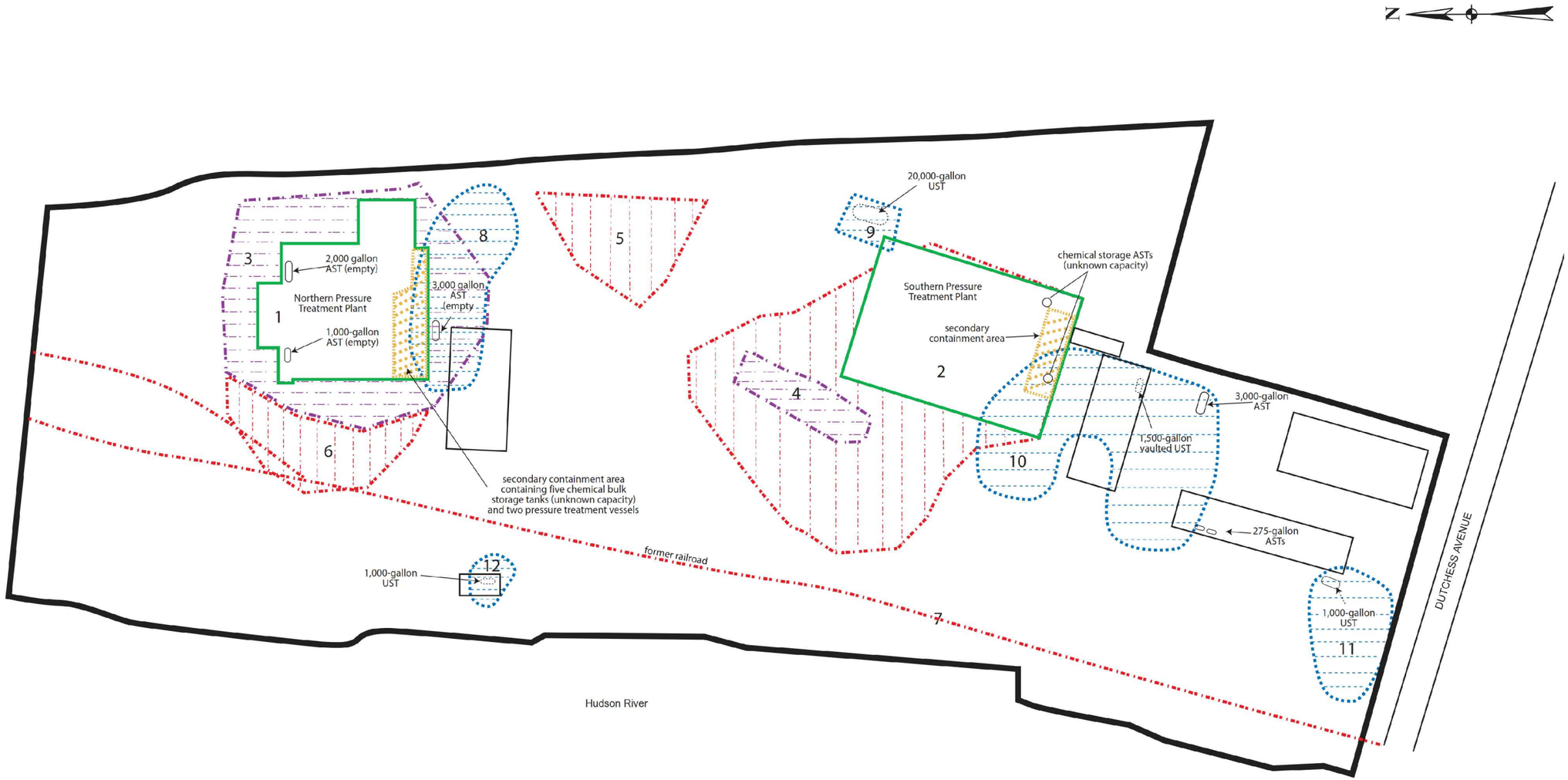
project: THE O'NELL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: GROUNDWATER FLOW (2014 DATA)

job no. 8604

drawing no.

FIG 1.3



Notes:

Map based on Fuss and O'Neill proposed "Remedial Action Map" (July 2006)

Legend:

- property outline
- pressure treatment plant buildings
- existing buildings
- area of petroleum impacts
- area of arsenic contamination above 32 mg/Kg (0-1')
- area of arsenic contamination above 32 mg/Kg (0-3')

1 = area #

Figure 2 - Proposed Remediation Map - Excavation/Treatment (Partial Source Removal/Treatment - Arsenic Remediated to SBL of 32 mg/kg)

Former A.C. Dutton Facility
1 Dutchess Avenue and 2 Hoffman Street
Poughkeepsie, New York

ESI File: OP08022.41

September 2008 | Appendix B

Ecosystems Strategies, Inc.

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

SESI CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

project: THE O'NELL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: 2008 INVESTIGATION RESULTS

job no: 8604
drawing no:

FIG. 1.4

Ecosystems Strategies, Inc.

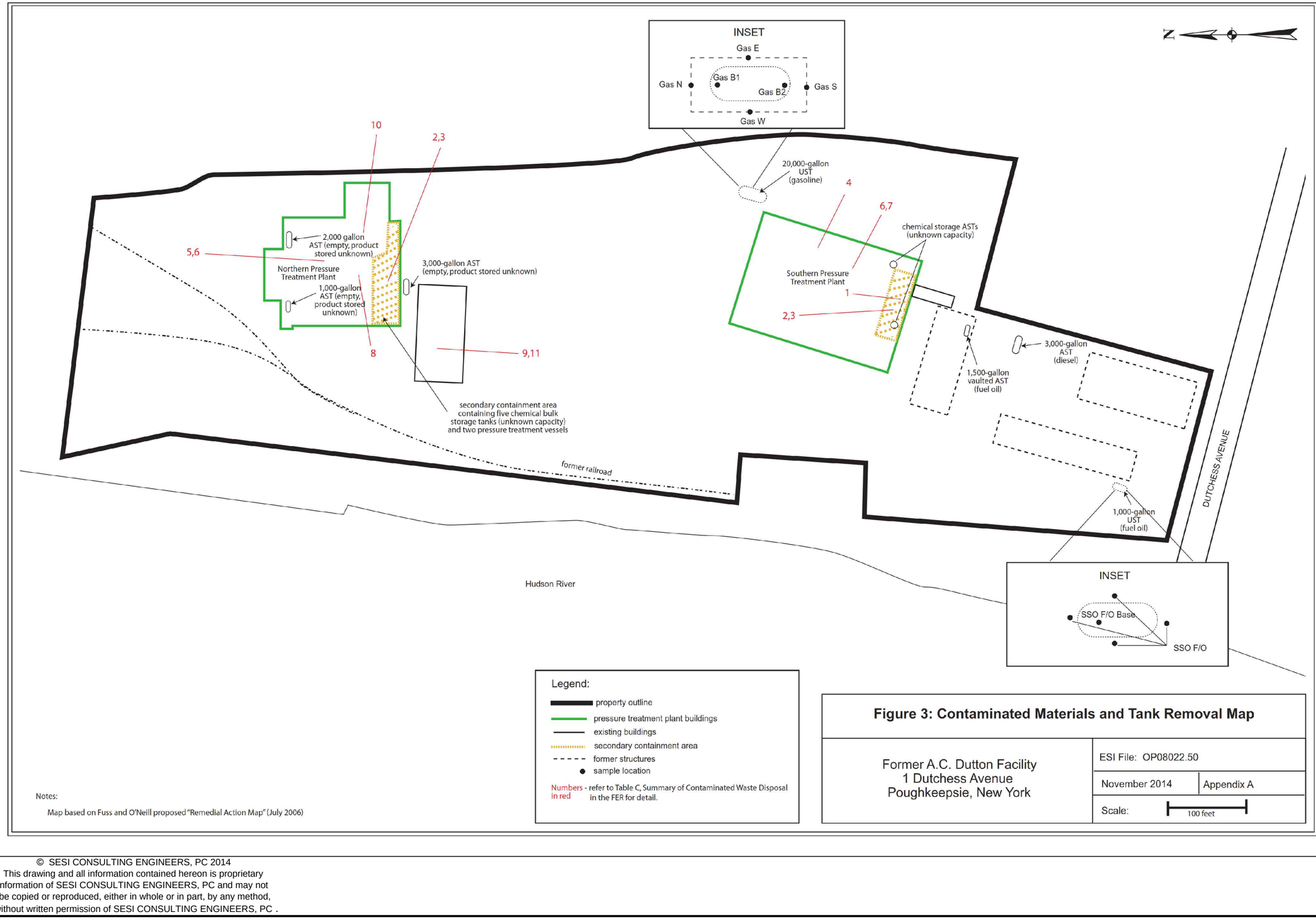


Figure 3: Contaminated Materials and Tank Removal Map

Former A.C. Dutton Facility
1 Dutchess Avenue
Poughkeepsie, New York

ESI File: OP08022.50

November 2014 | Appendix A

Scale: 100 feet

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

SESI CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

project: THE O'NELL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: UST LOCATIONS

job no: 8604
drawing no:

FIG. 1.5

Ecosystems Strategies, Inc.

Area of sub-asphalt floor comprised of soil and/or aggregate

Areas of concrete slab encountered subsequent to removal of asphalt floor

Areas of concrete flloor visible at surface prior to removal of asphalt floor

concrete proposed to remain

Contrete vault (possible truck scale/UST)

Excavation to 5'below underside of former floor level

Excavation to 3'below underside of former floor level

Excavation to 2'below underside of former floor level

Excavation to 1'below underside of former floor level

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 7 - Excavation Depths at NTP as of 11/13/2012
Northern Treatment Plant
former A.C. Dutton Property
1 Dutchess Avenue
Poughkeepsie, New York

Legend:
- building outline
- floor drain
- sample location red = arsenic - blue = chromium (all results in mg/kg)
- concrete core sample and subslab soil sample location (10/25/12)

ESI File: OP08022.50
October 2014
Scale: 20'
Appendix A

FIG. 1.6

job no: 8604
drawing no:

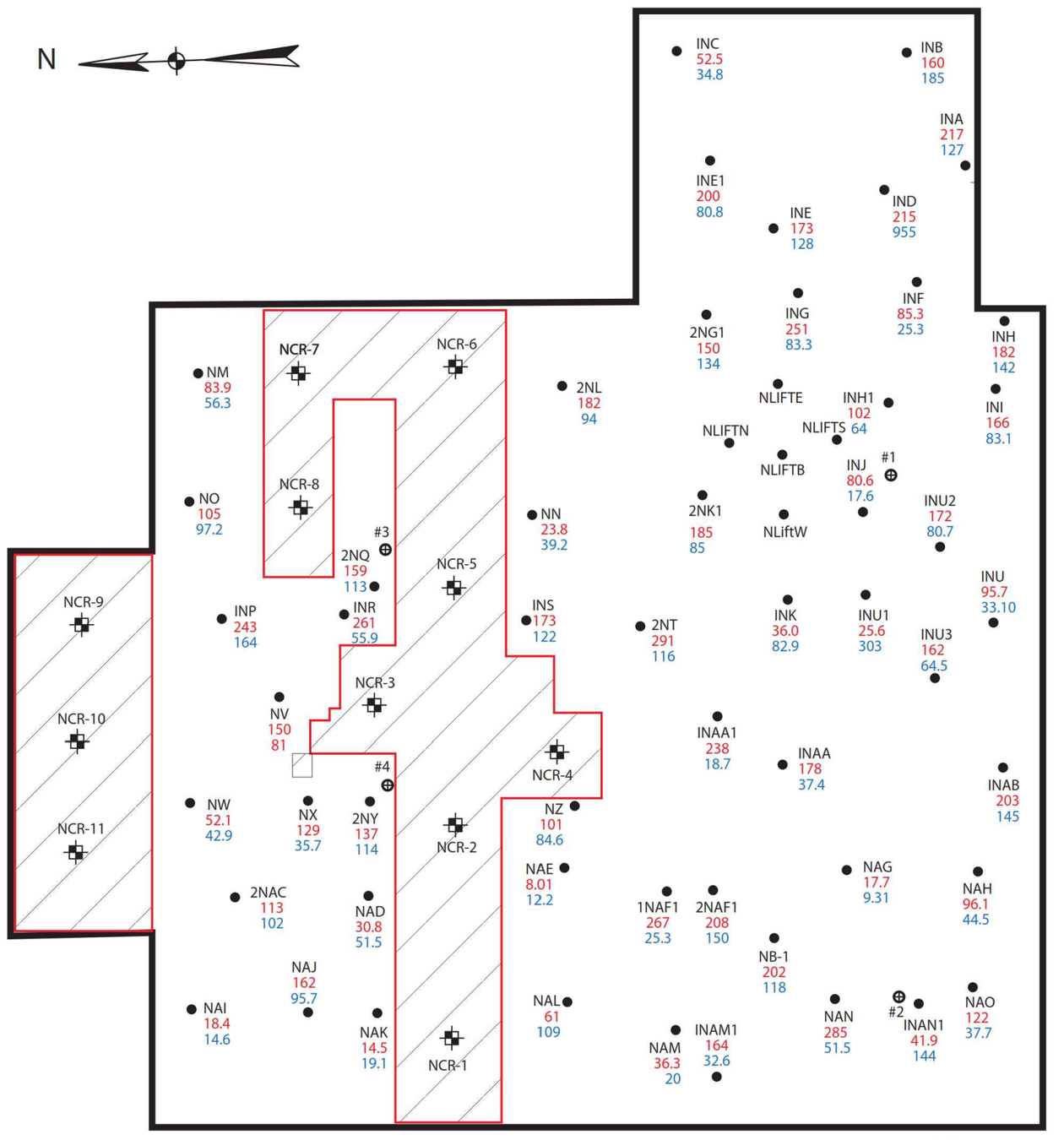
project: THE O'NELL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: EXCAVATION LOCATIONS & DEPTHS

SESI CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

Ecosystems Strategies, Inc.



All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 4: Northern Pressure Treatment Plant Remediation Endpoint Sampling Map

Former A.C. Dutton Property
1 Dutchess Avenue
Poughkeepsie, New York

Legend:
- building outline
- floor drain
- sample location red = arsenic - blue = chromium (all results in mg/kg)
- concrete core sample and subslab soil sample location (10/25/12)

ESI File: OP08022.50
October 2014
Scale: 20'
Appendix A

FIG. 1.7A

job no:
drawing no: 8604

project: THE O'NELL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: POST EXCAVATION SAMPLES & RESULTS

SESI CONSULTING ENGINEERS, PC
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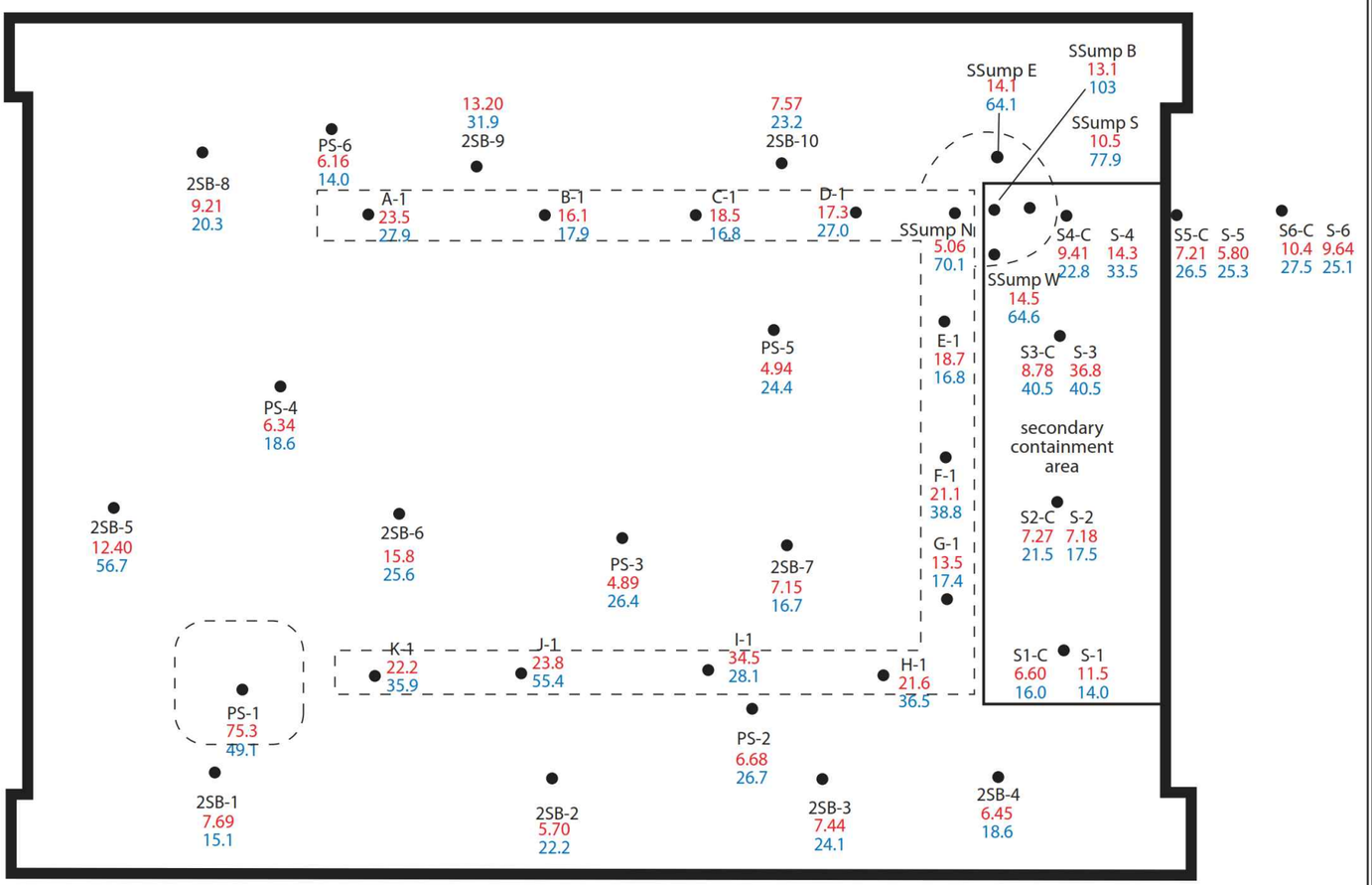
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14

Ecosystems Strategies, Inc.

N

STATE OF NEW YORK
PHILIP A. BELL
LICENSED PROFESSIONAL ENGINEER
081943



2SB = subslab soil sample 9/24/2012
PS = post scarification concrete sample 9/04/2012
B and B-# = post excavation end point soil sample 10/11/2012 and 10/17/2012
S#-C = secondary containment concrete sample 11/19/2012
S-# secondary containment subconcrete soil sample 11/19/2012
SSump# = sump endpoint sample 11/19/2012

40 feet

All feature locations are approximate. This map is intended as a schematic to be used in conjunction with the associated report, and it should not be relied upon as a survey for planning or other activities.

Figure 5: Southern Treatment Plant Post Remediation End Point Sampling Map

Former A.C. Dutton Property
1 Dutchess Avenue and 2 Hoffman Street
Poughkeepsie, New York

Legend:
- building outline
- excavation area
- sample location red = arsenic - blue = chromium (all results in mg/kg)

ESI File: OP08022.50
October 2014
Scale: 1" = 40'
Appendix A

FIG. 1.7B

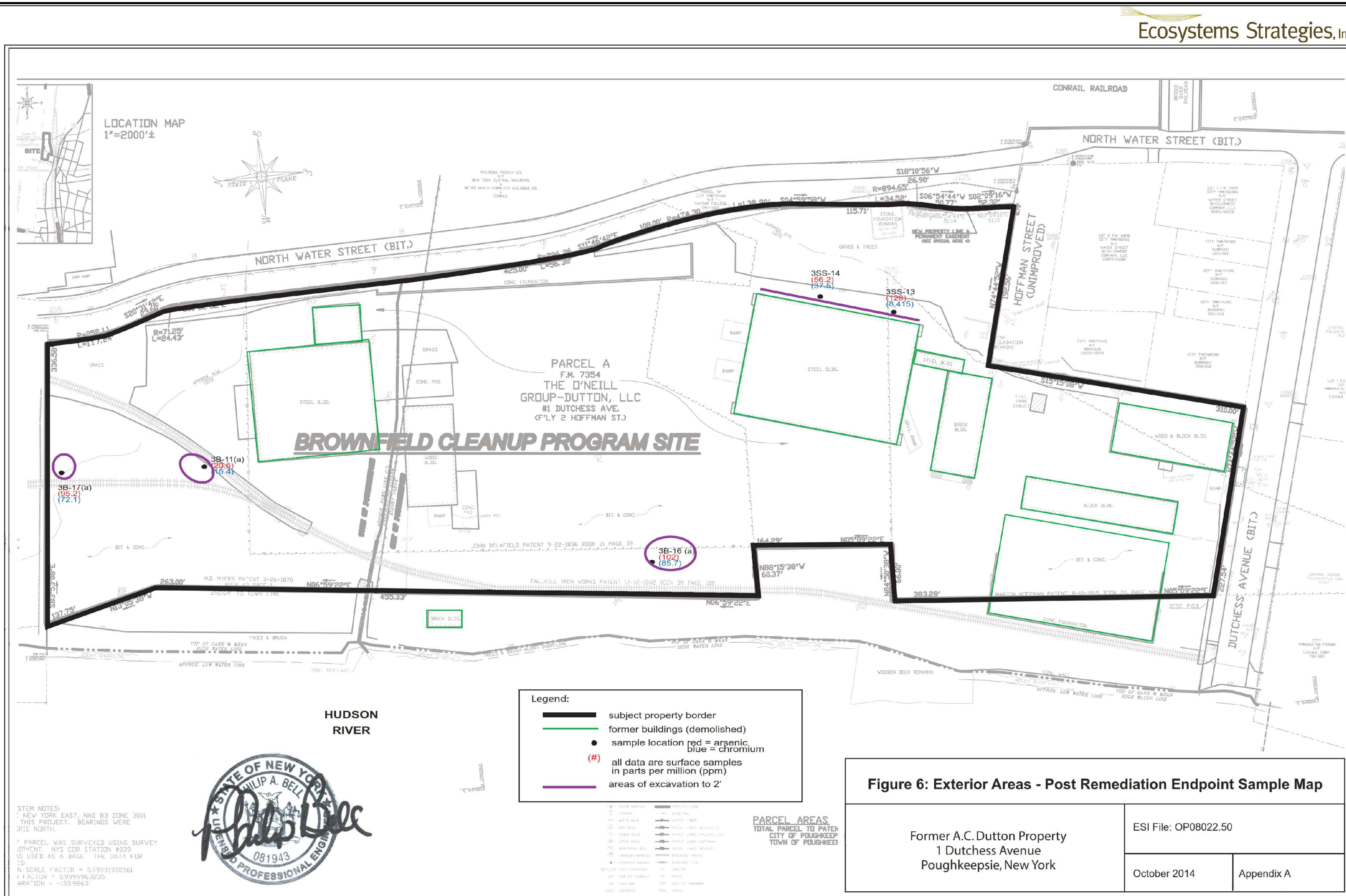
job no:
drawing no: 8604

project: THE O'NELL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: POST EXCAVATION SAMPLES & RESULTS

SESI CONSULTING ENGINEERS, PC
SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL
12A MAPLE AVE. PINE BROOK, N.J. 07058 PH: 973-808-9050

dwg by: LH
chk by: FD
scale: NTS
date: 12/16/14


Ecosystems Strategies, Inc.
LOCATION MAP
1"=2000'±
CONRAIL RAILROAD
NORTH WATER STREET (BIT.)
HOFFMAN STREET (UNIMPROVED)
DUTCHESS AVENUE (BIT.)
PARCEL A
F.M. 7354
THE O'NEILL GROUP–DUTTON, LLC
#1 DUTCHESS AVE.
(F'LY 2 HOFFMAN ST.)
BROWNFIELD CLEANUP PROGRAM SITE
3SS-14
(56.2)
(37.5)
3SS-13
(128)
(8,415)
3B-11(a)
(20.6)
(10.4)
3B-17(a)
(95.2)
(72.1)
3B-16 (a)
(102)
(85.7)
STEEL BLDG.
BRICK BLDG.
WOOD & BLOCK BLDG.
BLOCK BLDG.
HUDSON
RIVER
Legend:
subject property border
former buildings (demolished)
sample location red = arsenic, blue = chromium
(#) all data are surface samples in parts per million (ppm)
areas of excavation to 2'
PARCEL AREAS
Figure 6: Exterior Areas - Post Remediation Endpoint Sample Map
Former A.C. Dutton Property
1 Dutchess Avenue
Poughkeepsie, New York
ESI File: OP08022.50
October 2014
Appendix A
PHILIP A. BELL
081943
LICENSED PROFESSIONAL ENGINEER

dwg by:	LH
chk by:	FD
scale:	NTS
date:	12/16/14

SOILS / FOUNDATIONS
SITE DESIGN
ENVIRONMENTAL

SESI
CONSULTING ENGINEERS, PC

12A MAPLE AVE., PINE BROOK, N.J. 07058 PH: 973-808-9050

project: THE O'NEILL GROUP - DUTTON LLC
CITY/TOWN OF POUGHKEEPSIE
DUTCHESS COUNTY, NY

drawing title: POST EXCAVATION
SAMPLES & RESULTS

job no: 8604
drawing no:

FIG. 1.7C

Appendix B:

Laboratory Analytical Reports

Table 1 - Summary of Groundwater Analytical Data
Former AC Dutton Lumber Yard - NYSDEC 314081

LOCATION				PR-MW4	
SAMPLING DATE				3/2/2021	
LAB SAMPLE ID				L2110184-01	
SAMPLE TYPE				WATER	
SAMPLE DEPTH (ft.)					
	CasNum	NY-TOGS-GA	Units	Results	Qual
Total Metals					
Aluminum, Total	7429-90-5	2000	ug/l	64.8	
Antimony, Total	7440-36-0	6	ug/l	4	U
Arsenic, Total	7440-38-2	50	ug/l	66.73	
Barium, Total	7440-39-3	2000	ug/l	28.48	
Beryllium, Total	7440-41-7	3	ug/l	0.5	U
Cadmium, Total	7440-43-9	10	ug/l	0.2	U
Calcium, Total	7440-70-2		ug/l	70800	
Chromium, Total	7440-47-3	100	ug/l	0.34	J
Cobalt, Total	7440-48-4		ug/l	0.5	U
Copper, Total	7440-50-8	1000	ug/l	0.85	J
Iron, Total	7439-89-6	600	ug/l	316	
Lead, Total	7439-92-1	50	ug/l	1	U
Magnesium, Total	7439-95-4	35000	ug/l	13900	
Manganese, Total	7439-96-5	600	ug/l	179.4	
Mercury, Total	7439-97-6	1.4	ug/l	0.2	U
Nickel, Total	7440-02-0	200	ug/l	2	U
Potassium, Total	7440-09-7		ug/l	4260	
Selenium, Total	7782-49-2	20	ug/l	5	U
Silver, Total	7440-22-4	100	ug/l	0.4	U
Sodium, Total	7440-23-5		ug/l	35800	
Thallium, Total	7440-28-0	0.5	ug/l	0.5	U
Vanadium, Total	7440-62-2		ug/l	5	U
Zinc, Total	7440-66-6	5000	ug/l	10	U

Qualifier Key

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

I - The lower value for the two columns has been reported due to obvious interference.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

RE - Analytical results are from sample re-extraction.

R - Analytical results are from sample re-analysis.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

U - Not detected at the reported detection limit for the sample.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

S - Analytical results are from modified screening analysis.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

New York TOGS 111 Groundwater Effluent Limitations criteria reflects all addendum to criteria through June 2004.

Sample Exceeds Standards

ANALYTICAL REPORT

Lab Number:	L2110184
Client:	Soils Engineering Services, Inc. 12A Maple Avenue Pine Brook, NJ 07058
ATTN:	Steven Gustems
Phone:	(973) 808-9050
Project Name:	AC DUTTON
Project Number:	9039
Report Date:	03/08/21

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
Report Date: 03/08/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2110184-01	PR-MW4	WATER	POUGHKEEPSIE, NY	03/02/21 11:15	03/02/21

Project Name:	AC DUTTON	**Lab Number:**	L2110184
Project Number:	9039	**Report Date:**	03/08/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
Report Date: 03/08/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Sample Receipt

The project number was specified by the client.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative

Date: 03/08/21

METALS

Project Name: AC DUTTON
Project Number: 9039
Lab Number: L2110184
Report Date: 03/08/21

SAMPLE RESULTS

Lab ID: L2110184-01
Client ID: PR-MW4
Sample Location: POUGHKEEPSIE, NY
Date Collected: 03/02/21 11:15
Date Received: 03/02/21
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Aluminum, Total	0.0648		mg/l	0.0100	0.00327	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Arsenic, Total	0.06673		mg/l	0.00050	0.00016	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Barium, Total	0.02848		mg/l	0.00050	0.00017	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Calcium, Total	70.8		mg/l	0.100	0.0394	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Chromium, Total	0.00034	J	mg/l	0.00100	0.00017	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Cobalt, Total	ND		mg/l	0.00050	0.00016	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Copper, Total	0.00085	J	mg/l	0.00100	0.00038	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Iron, Total	0.316		mg/l	0.0500	0.0191	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Magnesium, Total	13.9		mg/l	0.0700	0.0242	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Manganese, Total	0.1794		mg/l	0.00100	0.00044	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Mercury, Total	ND		mg/l	0.00020	0.00009	1	03/04/21 11:50	03/06/21 20:39	EPA 7470A	1,7470A	NB
Nickel, Total	ND		mg/l	0.00200	0.00055	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Potassium, Total	4.26		mg/l	0.100	0.0309	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Selenium, Total	ND		mg/l	0.00500	0.00173	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Sodium, Total	35.8		mg/l	0.100	0.0293	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Thallium, Total	ND		mg/l	0.00050	0.00014	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/04/21 11:13	03/04/21 15:25	EPA 3005A	1,6020B	AM

Project Name: AC DUTTON
Project Number: 9039
Lab Number: L2110184
Report Date: 03/08/21

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1470343-1										
Aluminum, Total	ND		mg/l	0.0100	0.00327	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Antimony, Total	ND		mg/l	0.00400	0.00042	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Arsenic, Total	ND		mg/l	0.00050	0.00016	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Barium, Total	ND		mg/l	0.00050	0.00017	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Beryllium, Total	ND		mg/l	0.00050	0.00010	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Cadmium, Total	ND		mg/l	0.00020	0.00005	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Calcium, Total	ND		mg/l	0.100	0.0394	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Chromium, Total	ND		mg/l	0.00100	0.00017	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Cobalt, Total	ND		mg/l	0.00050	0.00016	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Copper, Total	ND		mg/l	0.00100	0.00038	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Iron, Total	ND		mg/l	0.0500	0.0191	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Lead, Total	ND		mg/l	0.00100	0.00034	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Magnesium, Total	ND		mg/l	0.0700	0.0242	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Manganese, Total	ND		mg/l	0.00100	0.00044	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Nickel, Total	ND		mg/l	0.00200	0.00055	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Potassium, Total	ND		mg/l	0.100	0.0309	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Selenium, Total	ND		mg/l	0.00500	0.00173	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Silver, Total	ND		mg/l	0.00040	0.00016	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Sodium, Total	ND		mg/l	0.100	0.0293	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Thallium, Total	ND		mg/l	0.00050	0.00014	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Vanadium, Total	ND		mg/l	0.00500	0.00157	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM
Zinc, Total	ND		mg/l	0.01000	0.00341	1	03/04/21 11:13	03/04/21 14:39	1,6020B	AM

Prep Information

Digestion Method: EPA 3005A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01 Batch: WG1470345-1										
Mercury, Total	ND		mg/l	0.00020	0.00009	1	03/04/21 11:50	03/06/21 20:23	1,7470A	NB

Project Name: AC DUTTON
Project Number: 9039

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Method Blank Analysis
Batch Quality Control

Prep Information

Digestion Method: EPA 7470A

Lab Control Sample Analysis

Batch Quality Control

Project Name: AC DUTTON

Project Number: 9039

Lab Number: L2110184

Report Date: 03/08/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1470343-2								
Aluminum, Total	104		-		80-120	-		
Antimony, Total	86		-		80-120	-		
Arsenic, Total	100		-		80-120	-		
Barium, Total	100		-		80-120	-		
Beryllium, Total	107		-		80-120	-		
Cadmium, Total	107		-		80-120	-		
Calcium, Total	102		-		80-120	-		
Chromium, Total	103		-		80-120	-		
Cobalt, Total	102		-		80-120	-		
Copper, Total	104		-		80-120	-		
Iron, Total	102		-		80-120	-		
Lead, Total	102		-		80-120	-		
Magnesium, Total	105		-		80-120	-		
Manganese, Total	100		-		80-120	-		
Nickel, Total	98		-		80-120	-		
Potassium, Total	103		-		80-120	-		
Selenium, Total	100		-		80-120	-		
Silver, Total	103		-		80-120	-		
Sodium, Total	107		-		80-120	-		
Thallium, Total	98		-		80-120	-		
Vanadium, Total	100		-		80-120	-		

Lab Control Sample Analysis

Batch Quality Control

Project Name: AC DUTTON

Project Number: 9039

Lab Number: L2110184

Report Date: 03/08/21

Parameter	LCS %Recovery	LCSD %Recovery	%Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1470343-2					
Zinc, Total	112	-	80-120	-	
Total Metals - Mansfield Lab Associated sample(s): 01 Batch: WG1470345-2					
Mercury, Total	92	-	80-120	-	

Matrix Spike Analysis
Batch Quality Control

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
Report Date: 03/08/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1470343-3 QC Sample: L2110237-29 Client ID: MS Sample												
Aluminum, Total	ND	2	2.00	100		-	-		75-125	-		20
Antimony, Total	ND	0.5	0.3391	**68**	Q	-	-		75-125	-		20
Arsenic, Total	ND	0.12	0.1132	94		-	-		75-125	-		20
Barium, Total	ND	2	1.935	97		-	-		75-125	-		20
Beryllium, Total	ND	0.05	0.05124	102		-	-		75-125	-		20
Cadmium, Total	ND	0.051	0.05311	104		-	-		75-125	-		20
Calcium, Total	ND	10	10.7	107		-	-		75-125	-		20
Chromium, Total	ND	0.2	0.1975	99		-	-		75-125	-		20
Cobalt, Total	ND	0.5	0.4898	98		-	-		75-125	-		20
Copper, Total	ND	0.25	0.2490	100		-	-		75-125	-		20
Iron, Total	ND	1	1.01	101		-	-		75-125	-		20
Lead, Total	ND	0.51	0.5177	102		-	-		75-125	-		20
Magnesium, Total	ND	10	10.3	103		-	-		75-125	-		20
Manganese, Total	ND	0.5	0.4735	95		-	-		75-125	-		20
Nickel, Total	ND	0.5	0.4741	95		-	-		75-125	-		20
Potassium, Total	ND	10	9.96	100		-	-		75-125	-		20
Selenium, Total	ND	0.12	0.120	100		-	-		75-125	-		20
Silver, Total	ND	0.05	0.04915	98		-	-		75-125	-		20
Sodium, Total	ND	10	10.1	101		-	-		75-125	-		20
Thallium, Total	ND	0.12	0.1123	94		-	-		75-125	-		20
Vanadium, Total	ND	0.5	0.4815	96		-	-		75-125	-		20

Matrix Spike Analysis
Batch Quality Control

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
Report Date: 03/08/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Found	MSD %Recovery	Recovery Limits	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1470343-3 QC Sample: L2110237-29 Client ID: MS Sample									
Zinc, Total	0.00423J	0.5	0.5658	113	-	-	75-125	-	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1470345-3 QC Sample: L2110237-29 Client ID: MS Sample									
Mercury, Total	ND	0.005	0.00462	92	-	-	75-125	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
Report Date: 03/08/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1470343-4 QC Sample: L2110237-29 Client ID: DUP Sample						
Aluminum, Total	ND	ND	mg/l	NC		20
Antimony, Total	ND	ND	mg/l	NC		20
Arsenic, Total	ND	ND	mg/l	NC		20
Barium, Total	ND	ND	mg/l	NC		20
Beryllium, Total	ND	ND	mg/l	NC		20
Cadmium, Total	ND	ND	mg/l	NC		20
Calcium, Total	ND	ND	mg/l	NC		20
Chromium, Total	ND	ND	mg/l	NC		20
Cobalt, Total	ND	ND	mg/l	NC		20
Copper, Total	ND	ND	mg/l	NC		20
Iron, Total	ND	ND	mg/l	NC		20
Lead, Total	ND	ND	mg/l	NC		20
Magnesium, Total	ND	ND	mg/l	NC		20
Manganese, Total	ND	ND	mg/l	NC		20
Nickel, Total	ND	ND	mg/l	NC		20
Potassium, Total	ND	ND	mg/l	NC		20
Selenium, Total	ND	ND	mg/l	NC		20
Silver, Total	ND	ND	mg/l	NC		20
Sodium, Total	ND	ND	mg/l	NC		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
Report Date: 03/08/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1470343-4 QC Sample: L2110237-29 Client ID: DUP Sample					
Thallium, Total	ND	ND	mg/l	NC	20
Vanadium, Total	ND	ND	mg/l	NC	20
Zinc, Total	0.00423J	0.00421J	mg/l	NC	20
Total Metals - Mansfield Lab Associated sample(s): 01 QC Batch ID: WG1470345-4 QC Sample: L2110237-29 Client ID: DUP Sample					
Mercury, Total	ND	ND	mg/l	NC	20

Project Name: AC DUTTON
Project Number: 9039

Lab Number: L2110184
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Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2110184-01A	Plastic 250ml HNO3 preserved	A	<2	<2	5.0	Y	Absent		BA-6020T(180),SE-6020T(180),TL-6020T(180),FE-6020T(180),NI-6020T(180),CR-6020T(180),K-6020T(180),CA-6020T(180),CU-6020T(180),NA-6020T(180),ZN-6020T(180),PB-6020T(180),BE-6020T(180),MN-6020T(180),SB-6020T(180),AS-6020T(180),V-6020T(180),AL-6020T(180),CD-6020T(180),MG-6020T(180),AG-6020T(180),HG-T(28),CO-6020T(180)

*Values in parentheses indicate holding time in days

Project Name:	AC DUTTON	**Lab Number:**	L2110184
Project Number:	9039	**Report Date:**	03/08/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: DU Report with 'J' Qualifiers

Project Name:	AC DUTTON	**Lab Number:**	L2110184
Project Number:	9039	**Report Date:**	03/08/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	AC DUTTON	**Lab Number:**	L2110184
Project Number:	9039	**Report Date:**	03/08/21

Data Qualifiers

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Report Format: DU Report with 'J' Qualifiers

Project Name:	AC DUTTON	**Lab Number:**	L2110184
Project Number:	9039	**Report Date:**	03/08/21

REFERENCES

1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

NEW YORK CHAIN OF CUSTODY

ALPHA ANALYTICAL

Westborough, MA 01581
8 Walkup Dr.
TEL: 508-898-9220
FAX: 508-898-9193

Mansfield, MA 02048
320 Forbes Blvd
TEL: 508-822-9300
FAX: 508-822-3288

Service Centers
Mahwah, NJ 07430: 35 Whitney Rd, Suite 5
Albany, NY 12205: 14 Walker Way
Tonawanda, NY 14150: 275 Cooper Ave, Suite 105

Page 1 of 1

Date Rec'd in Lab: 3/2/21

ALPHA Job #: L2101814

Client Information
Client: SESI Consulting Engineering
Address: 12 A Maple Ave
Pine Brook, NJ
Phone: 973 808 9050
Fax:
Email: ssg@sesi.org

Project Information
Project Name: AC Action
Project Location: Poughkeepsie, NY
Project #: 9039D PH1
(Use Project name as Project #)
Project Manager: Steve Gustems
ALPHAQuote #:

Turn-Around Time
Standard ☐ Due Date:
Rush (only if pre approved) ☐ # of Days:

Deliverables
☐ ASP-A ☑ ASP-B
☐ EQuIS (1 File) ☑ EQuIS (4 File)
☐ Other

Billing Information
☐ Same as Client Info
PO #

Regulatory Requirement
☐ NY TOGS ☐ NY Part 375
☐ AWQ Standards ☐ NY CP-51
☐ NY Restricted Use ☐ Other
☐ NY Unrestricted Use
☐ NYC Sewer Discharge

Disposal Site Information
Please identify below location of applicable disposal facilities.
Disposal Facility:
☐ NJ ☐ NY
☐ Other:

These samples have been previously analyzed by Alpha ☐

Other project specific requirements/comments:

Please specify Metals or TAL.

ANALYSIS

Sample Filtration
☐ Done
☐ Lab to do
Preservation
☐ Lab to do
(Please Specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	TAL Metals	Sample Specific Comments	Total Bottle
101814-01	FR-MW4	3/2/21	1115	GW	MZ	X		

Preservative Code:
A = None
B = HCl
C = HNO_3
D = H_2SO_4
E = NaOH
F = MeOH
G = $NaHSO_4$
H = $Na_2S_2O_3$
K/E = Zn Ac/NaOH
O = Other

Container Code
P = Plastic
A = Amber Glass
V = Vial
G = Glass
B = Bacteria Cup
C = Cube
O = Other
E = Encore
D = BOD Bottle

Westboro: Certification No: MA935
Mansfield: Certification No: MA015

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
	3/2/21 1415	Rob Vogel/QAL	3/2/21 1415
Rob Vogel/QAL	3/2/21 1745		3/2/21 2045
	3/2/21 2355		3/2/21 2355

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. BY EXECUTING THIS COC, THE CLIENT HAS READ AND AGREES TO BE BOUND BY ALPHA'S TERMS & CONDITIONS. (See reverse side.)

Form No: 01-25 HC (rev. 30-Sept-2013)

Appendix C:

Site Inspection Forms

INSPECTION CHECKLIST

FORMER AC DUTTON
POUGHKEEPSIE , NEW YORK
NYSDEC BCP No. C314081

SESI CONSULTING ENGINEERS **Inspection Date: 3.02.2021**

COMPOSITE COVER SYSTEM

- Is the integrity of the cover system in tact? Yes _X_ No ___
- Do the maintenance records indicate any invasive subsurface work has been completed after the last inspection? Yes __ No _X_
- Has any soil been removed or imported from the Site since the last inspection? Yes __ No __X_
- If soil has been disposed off-Site or imported, has this been completed in accordance with the NYSDEC approved Soil Management Plan for the Site? Yes __ No ___
- If subsurface invasive work was undertaken, has the demarcation geotextile and the "clean soil cover" been restored? Yes ___ No ___
- Did a Professional Engineer or a qualified environmental professional (approved by the NYSDEC) oversee the above work? Yes _X_ No ___
- Was NYSDEC notified of disturbances to the "Clean Soil Cover" ? Yes __ No ___
- List of all reported disturbances since last inspection:

NONE

MONITORING WELL NETWORK

- Are all the on-Site monitoring wells accessible for annual compliance sampling (i.e., they are not covered by soil, dumpsters, etc.)? Yes ___ No _X__
- Is the integrity of the flush-mount/stickup manhole covers And associated concrete pads intact? Yes __ No _X_
- Are the monitoring wells locked and the locks functioning? Yes ___ No _X_

Appendix D:

NYSDEC IC & EC Certification Form

Enclosure 2
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Periodic Review Report Notice
Institutional and Engineering Controls Certification Form

Site Details **Box 1**

Site No. C314081

Site Name Former A.C. Dutton Lumber Yard

Site Address: 1 Dutchess Avenue Zip Code: 12601
City/Town: Poughkeepsie
County: Dutchess
Site Acreage: 11.840

Reporting Period: April 01, 2020 to April 01, 2021

	YES	NO
1. Is the information above correct?	X	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	X
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	X	☐

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Restricted-Residential, Commercial, and Industrial	X	☐
7. Are all ICs in place and functioning as designed?	X	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative Date

	Box 2A	
	YES	NO
8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?	☐	X
If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.		
9. Are the assumptions in the Qualitative Exposure Assessment still valid? (The Qualitative Exposure Assessment must be certified every five years)	X	☐
If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.		

SITE NO. C314081 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
6062-02-763508	The O'Neill Group-Dutton, LLC	Site Management Plan Ground Water Use Restriction Landuse Restriction Soil Management Plan Monitoring Plan IC/EC Plan

The 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);

The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Dutchess 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;

Groundwater monitoring must be performed as defined in the SMP;

The potential for vapor intrusion must be evaluated for any buildings developed on the site, and any potential impacts that are identified must be monitored or mitigated;

All future activities on the property that will disturb remaining contaminated material must be conducted in addordance with the SMP;

6062-59-766443	The O'Neill Group-Dutton, LLC	Site Management Plan Soil Management Plan Monitoring Plan IC/EC Plan Ground Water Use Restriction Landuse Restriction

The 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);

The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Dutchess 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;

Groundwater monitoring must be performed as defined in the SMP;

The potential for vapor intrusion must be evaluated for any buildings developed on the site, and any potential impacts that are identified must be monitored or mitigated;

All future activities on the property that will disturb remaining contaminated material must be conducted in addordance with the SMP;

Box 4

Description of Engineering Controls

Parcel	Engineering Control
6062-02-763508	Cover System

Exposure to remaining contamination at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 24 inches of clean soil. Asphalt pavement, concrete-covered sidewalks, and concrete building slabs and two-feet of clean soil in landscaped areas will be part of the covers system when the site is developed.

6062-59-766443	Cover System

Parcel	Engineering Control
Exposure to remaining contamination at the site is prevented by a soil cover system placed over the site. This cover system is comprised of a minimum of 24 inches of clean soil. Asphalt pavement, concrete-covered sidewalks, and concrete building slabs and two-feet of clean soil in landscaped areas will be part of the covers system when the site is developed.	

Box 5

Periodic Review Report (PRR) Certification Statements

1. I certify by checking "YES" below that:

   a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the Engineering Control certification;

   b) 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 is accurate and compete.

YES	NO
X	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) 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;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☐	☐
X	

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. C314081

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 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 FIN O'NEILL at 241 HUDSON ST HACKENSACK NJ 07601
print name print business address

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

6-18-21
Date

EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 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 Fuad Dahan (print name) at SESI Consulting Engineers (print business address),

am certifying as a Qualified Environmental Professional for the Owner (Owner or Remedial Party)

Signature of Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	06/18/2021 Date