

From: Anne.Burnham@parsons.com
To: [Spellman, John \(DEC\); tlbazicek@nyseg.com](mailto:Spellman, John (DEC); tlbazicek@nyseg.com)
Cc: Amy.Ruta@parsons.com; ray.dhollander@parsons.com
Subject: RE: Clark Street Draft FER, Auburn MGP, site 706008
Date: Tuesday, November 15, 2022 4:18:08 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)

ATTENTION: This email came from an external source. Do not open attachments or click on links from unknown senders or unexpected emails.

John-

At the link below you will find a certified version of the Clark FER. The document has had the discrepancy revised as well as the certification/seal by the engineer added.

 [Clark FER November 2022](#)

Please let us know if you have any access issues or have any questions.

Thank you,
Anne

Anne L. Burnham
Senior Scientist
anne.burnham@parsons.com - Mobile +1 315.546.5318
PARSONS - Envision More
www.parsons.com | [LinkedIn](#) | [Twitter](#) | [Facebook](#)



From: Spellman, John (DEC) <john.spellman@dec.ny.gov>
Sent: Friday, November 4, 2022 9:22 AM
To: Burnham, Anne [US-US] <Anne.Burnham@parsons.com>; tlbazicek@nyseg.com
Cc: Ruta, Amy [US-US] <Amy.Ruta@parsons.com>; D'Hollander, Ray [US-US] <ray.dhollander@parsons.com>
Subject: [EXTERNAL] RE: Clark Street Draft FER, Auburn MGP, site 706008

The report can be stamped.

Same Happy Friday wishes to you,

From: Anne.Burnham@parsons.com <Anne.Burnham@parsons.com>
Sent: Friday, November 4, 2022 9:17 AM
To: Spellman, John (DEC) <john.spellman@dec.ny.gov>; tlbazicek@nyseg.com
Cc: Amy.Ruta@parsons.com; ray.dhollander@parsons.com
Subject: RE: Clark Street Draft FER, Auburn MGP, site 706008

**FINAL ENGINEERING REPORT
CLARK STREET
FORMER MANUFACTURED GAS PLANT SITE
AUBURN, NEW YORK**

NYSDEC SITE NUMBER: 7-06-008

Prepared For:



PO Box 5524
Binghamton, NY 13902-5224

Prepared By:



301 Plainfield Road, Suite 350
Syracuse, New York 13212

NOVEMBER 2022

CERTIFICATIONS

I, RAYMOND D'HOLLANDER, certify that I am currently a NYS registered professional engineer, I had primary direct responsibility for the implementation of the subject construction program, and I certify that the Remedial Work Plan was implemented and that all construction activities were completed in substantial conformance with the DER-approved Remedial Work Plan.

The data submitted to DER demonstrates that the remediation requirements set forth in the Remedial Work Plan and all applicable statutes and regulations have been or will be achieved in accordance with the time frames, if any, established in the work plan.

All use restrictions, institutional controls, engineering controls and/or any operation and maintenance requirements applicable to the Site are contained in an environmental easement created and recorded pursuant to ECL 71-3605 and that any affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded.

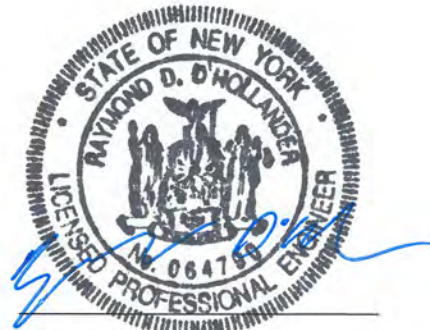
A Site Management Plan has been submitted for the continual and proper operation, maintenance, and monitoring of any engineering controls employed at the Site including the proper maintenance of any remaining monitoring wells, and that such plan has been approved by DER.

064790

NYS Professional Engineer #

11/14/22

Date



Signature

TABLE OF CONTENTS

LIST OF ACRONYMS	v
1.0 BACKGROUND AND SITE DESCRIPTION	1
2.0 SUMMARY OF THE SITE REMEDY	1
2.1 Remedial Action Objectives	1
2.1.1 Groundwater RAOs.....	1
2.1.2 Soil RAOs	1
2.1.3 Sediment RAOs	2
2.1.4 Soil Vapor RAOs	2
2.2 Description of Selected Remedy	2
2.2.1 Component 1: Excavation of PAH-containing Soils.....	2
2.2.2 Component 2: Disposal of Excavated Soil.....	3
2.2.3 Component 3: Site Restoration.....	3
2.2.4 Component 4: NAPL Collection Wells	3
2.2.5 Component 5: Sediment Management	3
2.2.6 Component 6: Site Management Plan	3
2.2.7 Component 7: Environmental Easement	4
2.2.8 Component 8: Certifications	4
3.0 PHASING OF REMEDIAL CONSTRUCTION.....	4
3.1 Phase 1 Upland Remediation to Support Utility Relocation.....	4
3.2 Phase 2 Utility Relocation	5
3.3 Phase 3 Remediation of Remaining Upland Portion	5
3.4 Phase 4 Sediment Remediation / Final Site Restoration	5
4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED	5
4.1 Governing Documents.....	5
4.1.1 Site Specific Health & Safety Plan (HASP).....	5
4.1.2 Construction Quality Assurance Plan (CQAP)	5
4.1.2.1 Regulator: NYSDEC	6
4.1.2.2 Owner: NYSEG	6
4.1.2.3 Remediation Contractor: Severson Environmental Services (SES)	6
4.1.2.3.1 Project Manager	6
4.1.2.3.2 Superintendent.....	6

4.1.2.3.3 Site Health and Safety Officer.....	6
4.1.2.3.4 Quality Control Manager.....	7
4.1.2.4 Remediation Engineer: Parsons.....	7
4.1.3 Waste Management Plan	7
4.1.4 Stormwater Pollution Prevention Plan (SWPPP)	7
4.1.5 Community Air Monitoring Plan (CAMP)	8
4.1.6 Contractors' Site Operations Plans.....	8
4.1.7 Citizen Participation Plan	8
4.2 Remedial Program Elements	8
4.2.1 Contractors and Consultants	8
4.2.2 Site Preparation	9
4.2.3 General Site Controls.....	10
4.2.3.1 Site Security.....	10
4.2.3.2 Jobsite Record Keeping	10
4.2.3.3 Erosion and Sedimentation Controls	10
4.2.3.4 Equipment Decontamination and Residual Waste Management.....	10
4.2.3.5 Stockpile Methods	10
4.2.3.6 Decontamination.....	10
4.2.4 Nuisance Controls.....	10
4.2.5 CAMP Results.....	11
4.2.6 Turbidity Results	11
4.2.7 Reporting.....	12
4.3 In Situ Stabilization Wall Performance Criteria.....	12
4.4 Contaminated Materials Removal.....	13
4.4.1 MGP Impacted Material.....	14
4.4.1.1 Characterization of Excavated Materials	14
4.4.1.2 Disposal of Excavated Materials	14
4.4.2 On-Site Reuse	15
4.5 Imported Backfill	15
4.6 Site Restoration	16
4.7 Contamination Remaining at the Site	16
4.7.1 Soil Contamination Remaining.....	16
4.7.1.1 In-situ Soil	16
4.7.1.2 Reuse Material	16

4.7.1.3 ISS Material	17
4.7.2 Sediment Contamination Remaining.....	17
4.7.3 Bedrock Contamination Remaining.....	17
4.7.4 Groundwater Contamination Remaining.....	18
4.7.4.1 Historic Groundwater Sampling Results	18
4.7.4.2 2021 Groundwater Sampling Results	19
4.7.4.3 Decommissioned and Remaining Monitoring Wells	19
4.7.5 Soil Vapor	20
4.8 Engineering Controls	20
4.8.1 Soil Cover System	20
4.8.2 NAPL Collection System.....	21
4.8.3 Groundwater Monitoring.....	21
4.9 Institutional Controls	21
4.10 Deviations from the Remedial Action Work Plan	21
5.0 REFERENCES	23

LIST OF TABLES

TABLE 1 REMAINING SOIL SAMPLE EXCEEDANCES – PHASE 3 REUSE SOILS

TABLE 2 GROUNDWATER ANALYTICAL RESULTS - 2021

LIST OF FIGURES

FIGURE 1 SITE LOCATION MAP

FIGURE 2 SITE LAYOUT

FIGURE 3 CITY OF AUBURN TAX MAP

FIGURE 4 REMAINING MGP-RELATED IMPACTS IN SOIL

FIGURE 5 REMAINING MGP-RELATED IMPACTS IN SOIL – REUSE SOIL/ISS LIMITS AND HORIZONTAL PROFILE

FIGURE 6 REMAINING MGP-RELATED IMPACTS IN SEDIMENT

FIGURE 7 REMAINING MGP-RELATED IMPACTS IN BEDROCK

FIGURE 8 GROUNDWATER ANALYTICAL RESULTS - 2021

LIST OF APPENDICES

APPENDIX A	ENVIRONMENTAL EASEMENT
APPENDIX B	ELECTRONIC COPY OF FINAL ENGINEERING REPORT
APPENDIX C	FINAL (100%) REMEDIAL DESIGN (ARCADIS 2014)
APPENDIX D	PHASE I-IV CONSTRUCTION COMPLETION REPORT (PARSONS 2019)
APPENDIX E	NAPL COLLECTION WELL INSTALLATION PLAN AND GROUNDWATER MONITORING PLAN
APPENDIX F	GROUNDWATER MONITORING WELL AND NAPL COLLECTION WELL LOGS

LIST OF ACRONYMS

ACRONYM	Definition	ACRONYM	Definition
bgs	below ground surface	OSHA	Occupational Safety and Health Administration
BTEX	benzene, toluene, ethylbenzene, and xylene	PAH	polycyclic aromatic hydrocarbon
CAMP	Community Air Monitoring Plan	PDI	Pre-Design Investigation
CCR	Construction Completion Report	PID	photoionization detector
CQAP	Construction Quality Assurance Plan	psi	per square inch
ESMI-NY	Environmental Soil Management of New York A Clean Earth Company	QA/QC	quality assurance/quality control
FER	Final Engineering Report	QAPP	Quality Assurance Project Plan
HASP	Health and Safety Plan	RAO	remedial action objectives
ISS	<i>In situ</i> solidification/stabilization	RD	Remedial Design
ug/L	micrograms per liter	RI	Remedial Investigation
mg/kg	milligrams per kilogram	ROD	Record of Decision
MGP	manufactured gas plant	SCG	standards, criteria, and guidance
ng/L	nanograms per liter	SCO	soil cleanup objectives
NAPL	non-aqueous phase liquid	SEQR	State Environmental Quality Review
NYSDEC	New York State Department of Environmental Conservation	SES	Sevenson Environmental Services, Inc.
NYSDOH	New York State Department of Health	SMI	Seneca Meadows, Inc.
NYSDOT	New York State Department of Transportation	SMP	Site Management Plan
NYSEG	New York State Electric and Gas Corporation	SPDES	State Pollution Discharge Elimination System
ORP	oxidation-reduction potential	SRI	Supplemental Remedial Investigation
		UCS	unconfined compressive strength
		VOC	volatile organic compound

FINAL ENGINEERING REPORT

1.0 BACKGROUND AND SITE DESCRIPTION

New York State Electric and Gas Corporation (NYSEG) entered into an Order on Consent with the New York State Department of Environmental Conservation (NYSDEC) in March 1994, to investigate and, where necessary, remediate 33 former Manufactured Gas Plant (MGP) sites in New York state. One of these sites, the Clark Street Former MGP Site (Site) is an approximately 1.6-acre property located in Auburn, New York (see **Figure 1**). The property was remediated to commercial use criteria (also permitting industrial use), consistent with its current zoning designation.

The Site is bounded by the Owasco Outlet to the east and north, a Finger Lakes Railway railroad right-of-way and U.S. Route 20 to the south, and a vehicle maintenance shop to the west (see **Figure 2**). The Site is located in Cayuga County, New York and is identified as a portion of Block 2 and Lot 37 on the City of Auburn Tax Map # 115.50 (see **Figure 3**). The boundaries of the Site are fully described in **Appendix A** Environmental Easement Area.

An electronic copy of this Final Engineering Report (FER) with all supporting documentation is included as **Appendix B**.

2.0 SUMMARY OF THE SITE REMEDY

2.1 Remedial Action Objectives

Based on the results of the Remedial Investigation (RI), the following remedial action objectives (RAOs) were identified for this Site.

2.1.1 Groundwater RAOs

RAOs for Public Health Protection:

- Prevent ingestion of groundwater with contaminant levels exceeding drinking water standards.
- Prevent contact with contaminated groundwater.
- Prevent inhalation of contaminants from groundwater.

RAOs for Environmental Protection:

- Restore the groundwater aquifer to meet ambient groundwater quality criteria to the extent practicable.
- Prevent discharge of contaminated groundwater to surface water.

2.1.2 Soil RAOs

RAOs for Public Health Protection:

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of contaminants from the soil.

RAOs for Environmental Protection:

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

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

2.1.3 Sediment RAOs

RAOs for Public Health Protection:

- Prevent direct contact with contaminated sediments.

RAOs for Environmental Protection:

- Prevent release(s) of MGP-related contaminant(s) from sediments that would result in surface water levels in excess of ambient water quality criteria.
- Prevent impacts to biota due to ingestion/direct contact with MGP-related sediments causing toxicity and impacts from bioaccumulation through the aquatic food chain.
- Restore, to the extent practicable, MGP-impacted sediments to Site background conditions.

2.1.4 Soil Vapor RAOs

RAOs for Public Health Protection:

- Mitigate impacts to public health resulting from the potential for soil vapor intrusion into future buildings on-site.

2.2 Description of Selected Remedy

The Site was remediated in accordance with the remedy selected by the NYSDEC in the Record of Decision (ROD) dated March 2009.

The factors considered during the selection of the remedy are those listed in 6NYCRR 375-1.8. Eight components of the selected remedy are summarized in the NYSDEC approved Final (100%) Remedial Design Report (RD) (Arcadis 2014); these eight components are described in subsections 2.2.1 through 2.2.8.

Components 1 through 3 and 5 have been completed and are documented in the Construction Completion Report (CCR) (Parsons 2019) that was approved by NYSDEC on August 6, 2019 (NYSDEC 2019). The execution of these construction components is described in subsequent sections of this FER.

Component 4 describes non-aqueous phase liquid (NAPL) well collection and installation with monitoring and operation conducted in accordance with the Site Management Plan (SMP).

The SMP (Component 6) has been prepared and was approved by NYSDEC on August 3, 2021.

The environmental easement required in Component 7 is provided in **Appendix A** of this FER. Component 8 describes periodic certifications that will be prepared pursuant to the requirements in this FER and the SMP.

2.2.1 Component 1: Excavation of PAH-containing Soils

Component 1 addressed excavation of soil that contained polycyclic aromatic hydrocarbons (PAH) concentrations greater than 500 milligrams per kilogram (mg/kg) or soil that contained visual tar or NAPL to the top of bedrock. The existing electrical substation structures were removed from the Site to facilitate soil excavation. Soil that exhibited odors, staining or sheens only were not considered for removal as visual tar or NAPL. However, soils that exhibited odors, staining or sheens were removed where they contained total PAHs at concentrations greater than 500 mg/kg. Excavated soil that did not contain visual indications of tar or NAPL and contained PAHs at concentrations less than 500 mg/kg was potentially suitable for on-site reuse as backfill below a demarcation layer (described in the following paragraph).

2.2.2 Component 2: Disposal of Excavated Soil

Excavated soil that was not able to be reused as fill material was treated and/or disposed off-site. Following excavation and placement of fill material that was originally excavated from the Site, but prior to placement of imported backfill, a fabric demarcation layer was placed to mark the limits of soil removal. Imported soil for backfill, including soil returned to the Site following appropriate treatment, satisfied the commercial use soil cleanup objectives (SCOs) presented in Appendix 5 of DER-10, Allowable Constituent Levels for Imported Fill or Soil (NYSDEC 2010).

2.2.3 Component 3: Site Restoration

The entire Site was covered with a minimum of 1 foot of backfill material that satisfied the commercial use SCOs presented in Appendix 5 of DER-10 (NYSDEC 2010). Crushed stone was utilized, as needed, to provide Site access. An ecological buffer zone was constructed along the southern edge of the Owasco Outlet. The ecological buffer zone was approximately 25 feet wide as measured laterally from the high-water level. The top 2 feet of soil in this zone consisted of soils that met the ecological resources SCOs presented in Appendix 5 of DER-10 and was vegetated.

2.2.4 Component 4: NAPL Collection Wells

NAPL collection wells were installed following the completion of remedial construction activities. The wells were designed and strategically placed with the goal of maximizing the recovery of NAPL from the bedrock.

2.2.5 Component 5: Sediment Management

Sediments which contained visible tar, produced a tar-related sheen when agitated in water, or which contained Site-related PAH compounds at concentrations greater than upstream background levels were removed. Based on the results of the Sediment Pre-Design Investigation (PDI), a site-specific PAH background concentration of 62 mg/kg was established for Owasco Outlet sediment adjacent to and downstream of the Site. Removed sediment was disposed off-site. Following sediment excavation, the streambed was restored to 6NYCRR Part 608 requirements. Where the stream bank was disturbed, it was also restored to 6NYCRR Part 608 requirements (NYSDEC 2018).

2.2.6 Component 6: Site Management Plan

Development of an SMP included the following institutional and engineering controls:

- a) Management of the final cover system to restrict excavation below the soil cover's demarcation layer, pavement, or buildings; excavated soil will be tested, properly handled to protect health and safety of workers and the nearby community, and properly managed in a manner acceptable to NYSDEC.
- b) Continued evaluation of the potential for vapor intrusion for any buildings developed on the Site, including provision for mitigation of any impacts identified.
- c) Monitoring of groundwater.
- d) Identification of any use restrictions on the Site.
- e) Fencing or other means to control Site access.

2.2.7 Component 7: Environmental Easement

Imposition of institutional controls in the form of an environmental easement that requires:

- Limiting the future property use/development for commercial or industrial purposes.
- Compliance with a NYSDEC-approved SMP.
- Prohibiting the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the New York State Department of Health (NYSDOH).
- NYSEG to complete and submit to NYSDEC a periodic certification of institutional and engineering controls.

2.2.8 Component 8: Certifications

NYSEG will provide a periodic certification of institutional and engineering controls, which will be prepared and submitted by a professional engineer or such other expert acceptable to NYSDEC, until NYSDEC notifies NYSEG in writing that this certification is no longer needed. This submittal will:

- Contain certification that the institutional controls and engineering controls put in place are still in place and are either unchanged from the previous certification or are compliant with NYSDEC approved modifications.
- Allow NYSDEC access to the Site.
- State that nothing has occurred that will impair the ability of the control to protect public health or the environment nor constitute a violation or failure to comply with the SMP unless otherwise approved by NYSDEC.

3.0 PHASING OF REMEDIAL CONSTRUCTION

The remedy for this Site was performed as a single project, and no interim remedial measures, operable units or separate construction contracts were performed. However, to facilitate the removal, relocation, and installation of aboveground electric utilities at the Site, upland remedial construction activities were completed in multiple phases (i.e., mobilizations) as described below. Sediment removal activities were completed following completion of the upland work.

The phased construction sequence was shown on the Design Drawings and generally consisted of four phases as described in the Final (100%) RD Report (Arcadis 2014):

- Phase 1 – Upland Remediation to Support Utility Relocation
- Phase 2 – Utility Relocation
- Phase 3 – Remediation of Remaining Upland Portion
- Phase 4 – Sediment Remediation and Final Site Restoration

3.1 Phase 1 Upland Remediation to Support Utility Relocation

Phase 1 construction activities consisted of excavation at the west end of the Site. In support of the upland excavation activities, an *in situ* stabilization (ISS) wall was installed to provide excavation sidewall stability and minimize groundwater and surface water infiltration into the excavation areas. Select portions of the ISS wall were removed during upland excavation and backfilling activities as required by the RD.

Soil and former MGP structures (e.g., holder #3, brick walls) were removed to the depth of bedrock. Excavation activities during Phase 1 facilitated the installation of a new utility pole in the western portion of the Site during Phase 2 of construction and provided a clean location to construct the temporary water treatment plant that supported the Phase 3 excavation activities. Phase 1 took place from June 2015 to January 2016.

3.2 Phase 2 Utility Relocation

Phase 2 construction activities consisted of the relocation of subsurface gas lines and the removal of the electrical substation, yard light relocation, and the installation of new overhead utilities to facilitate excavation of the remaining soil removal area. All work during Phase 2 was conducted by NYSEG. Phase 2 took place from October 2015 to January 2016.

3.3 Phase 3 Remediation of Remaining Upland Portion

Phase 3 construction activities consisted of the excavation of the remaining upland soil removal area. In support of the upland excavation activities, an ISS wall was installed to provide excavation sidewall stability and minimize groundwater and surface water infiltration into the excavation areas. Select portions of the soil stabilization wall were removed during upland excavation and backfilling activities as required by the design. Phase 3 took place from January 2016 to June 2016.

3.4 Phase 4 Sediment Remediation / Final Site Restoration

Phase 4 construction activities consisted of the sediment removal activities. The Site was used for equipment and material staging during sediment removal activities. Following sediment removal, final Site restoration activities were completed. Phase 4 took place from June 2018 to December 2018.

4.0 DESCRIPTION OF REMEDIAL ACTIONS PERFORMED

Remedial activities completed at the Site were conducted in accordance with the NYSDEC-approved RD for the Site (Arcadis, 2014) which is included as Appendix C. All deviations from the RD are noted below.

4.1 Governing Documents

The Final (100%) RD Report (Arcadis, 2014) presented the plans and specifications required to complete the Clark Street remedial action and restoration. Field design changes and submittals required by the RD are included as Appendices to the CCR. The CCR is included as **Appendix D** to this FER. The Quality Assurance Project Plan (QAPP) and Construction Quality Assurance Plan (CQAP) were included as appendices to the RD Report.

4.1.1 Site Specific Health & Safety Plan (HASP)

All remedial work performed under this remedial action was in full compliance with governmental requirements, including Site and worker safety requirements enforced by the Occupational Safety and Health Administration (OSHA) under their mandate from the federal Occupational Safety and Health Act of 1970.

The Site Safety and Health Plan (SES 2015) was complied with for remedial and invasive work performed at the Site.

4.1.2 Construction Quality Assurance Plan (CQAP)

The CQAP structured performance of the remedial action tasks through designed and documented quality assurance/quality control (QA/QC) methodologies applied in the field and in the lab. The CQAP provided a detailed description of the observation and testing activities that were used to monitor construction quality and confirm that remedial construction was in conformance with the remediation objectives and specifications.

The CQAP also outlined the project organization. The functions and responsibilities of the various team members involved in the remedial action are described below.

4.1.2.1 Regulator: NYSDEC

The NYSDEC was the lead regulatory agency for the Site, and Mr. John Spellman was the NYSDEC Project Manager. Eric Knapp provided NYSDEC's construction oversight on a regular basis at the Site. The NYSDEC reviewed plans, drawings, analytical reports, schedules, and Field Change Forms.

4.1.2.2 Owner: NYSEG

NYSEG was responsible for the design and implementation of the Clark Street remedial action. Mr. Tracy Blazicek is the NYSEG project manager and was the primary NYSEG contact during implementation of the remedial action. He reviewed and provided input on project approaches and deliverables during the remedial action.

4.1.2.3 Remediation Contractor: Severson Environmental Services (SES)

SES was the prime contractor for implementation of the remedial action and managed the schedule and execution. The responsibilities of key SES personnel are described below.

4.1.2.3.1 Project Manager

Mr. Gary Rose was the SES Project Manager responsible for the overall execution of the remedial action and for meeting the project objectives. The Project Manager was accountable to the NYSEG project manager Mr. Tracy Blazicek. Mr. Rose was responsible for managing subcontractors, maintaining the project schedule, managing the project budget, and ensuring the technical adequacy of the work performed. He was also the primary point-of-contact for NYSEG on technical, schedule, and contractual issues.

4.1.2.3.2 Superintendent

The Superintendents for the project were Mr. Daniel Kraatz and Mr. Tony Certo. Mr. Kraatz and Mr. Certo were responsible for implementing on-site construction activities and directing on-site construction personnel, including subcontractors.

Mr. Kraatz supervised the following activities:

- Subcontractor scope of work
- ISS wall installation
- Excavation and restoration activities
- Water treatment
- Materials management

Mr. Certo supervised the following activities:

- Subcontractor Scope of Work
- Site Maintenance
- Materials Management

4.1.2.3.3 Site Health and Safety Officer

The Site Health and Safety officers for this project were Mr. Dominic Massaro (Phase 1 and 3) and Mr. Anthony Laurendi (Phase 4). Mr. Massaro and Mr. Laurendi reviewed and implemented the HASP. Both officers conducted periodic health and safety audits of the project, which included a review of personnel training records to verify that personnel had been trained in accordance with the Site Safety and Health Plan. Both officers also

coordinated with Site personnel and project management so that safe and compliant Site work practices were implemented.

4.1.2.3.4 Quality Control Manager

The Quality Control Manager for this project was Mr. Dominic Massaro (Phase 1 and 3) and Mr. Anthony Laurendi (Phase 4). Mr. Massaro and Mr. Laurendi submitted documentation to the design/certifying engineer as required in the contract documents and maintained construction quality standards.

4.1.2.4 Remediation Engineer: Parsons

Parsons was the remediation engineer for the Clark Street remedial action. Parsons reviewed and provided comments on SES's submittals, provided fulltime on-site oversight of the remedial action, documented remedial activities, reviewed, and signed waste manifests and bills of lading on behalf of NYSEG for shipments of waste materials, coordinated and documented project meetings, and implemented the Community Air Monitoring Plan (CAMP).

Key Parsons Site personnel included:

- Mr. Shane Blauvelt PE - Parsons Project Manager and Resident Engineer (Phases 1 through 3)
- Mr. Ray DHollander PE - Parsons Resident Engineer (Phase 4) and Certifying Engineer
- Mr. Paul Roth - Project Manager
- Ms. Heather Philip - Parsons Project Manager (Phase 4)
- Mr. Ronald Prohaska - On-site Construction Manager
- Mr. Dorian Kessler - CAMP Technician

4.1.3 Waste Management Plan

The Waste Management Plan was included as Appendix H of the RD approved by the NYSDEC (Arcadis 2014). The Waste Management Plan described the characterization, handling, treatment, and disposal requirements for various waste materials generated at the Site in accordance with all applicable federal, state, and local laws and regulations. The Waste Management Plan included both on-site management requirements for waste streams generated during remedial construction activities and waste loading and off-site transportation requirements.

Arcadis was responsible for conducting pre-remediation in situ waste characterization sampling and for preparing waste profiles. NYSEG was responsible for contracting with a laboratory for analysis of waste samples, acting as the generator of materials produced during remedial activities for off-site treatment and disposal, contracting with waste haulers and disposal vendors, and providing bills of lading/manifests for off-site shipment of wastes. Parsons was responsible for collecting any additional waste characterization samples and assisting NYSEG with preparation of additional waste profiles, coordinating with waste haulers and disposal vendors contracted by NYSEG, and reviewing and signing waste manifests/bills of lading for waste shipments. The soil and waste characterization are documented in Appendix H of the CCR (included as **Appendix D** to this FER).

4.1.4 Stormwater Pollution Prevention Plan (SWPPP)

The erosion and sediment controls for remedial construction activities were performed in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control and/or the site-specific Stormwater Pollution Prevention Plan included as Appendix I of the 100% RD Report approved by NYSDEC (Arcadis 2014). Stormwater management practices were established that met the applicable substantive requirements of the NYSDEC State Pollution Discharge Elimination System (SPDES) permit equivalent obtained in support of remedial construction activities.

4.1.5 Community Air Monitoring Plan (CAMP)

A CAMP was developed for the Clark Street remedial action and was included as Appendix E of the RD approved by the NYSDEC (Arcadis 2014). The CAMP was implemented to protect the downwind community from potential airborne contaminant releases directly resulting from remedial activities. The downwind community included off-site receptors such as residences and businesses and on-site workers not directly involved with the subject work activities. Air monitoring for volatile organic compounds (VOCs) and particulates took place at one upwind and two downwind locations near the perimeter of the Site. Meteorological monitoring was also conducted as part of the CAMP to document site conditions and help assess wind direction and speed.

Action levels and corresponding response measures were identified in the CAMP for VOCs and particulates. CAMP results and response actions are provided in the CCR (included as **Appendix D** to this FER).

4.1.6 Contractors' Site Operations Plans

The Remediation Engineer reviewed plans and submittals for this remedial project and confirmed that they complied with the RD. Remedial documents requested by NYSDEC were submitted in a timely manner. The submittal log, submittals, and permits are provided in the CCR (included as **Appendix D** to this FER).

4.1.7 Citizen Participation Plan

The Citizen Participation Plan was included as Appendix G of the RD approved by the NYSDEC (Arcadis 2014). The Citizen Participation Plan documented the project-specific outreach activities and resources organized for the remedial program.

4.2 Remedial Program Elements

4.2.1 Contractors and Consultants

The following companies were subcontractors to SES:

Company	Location	Products or Services Provided
Vitale & Robinson	Auburn, New York	Roll-off box services for construction debris; disposal of concrete for recycling; site aggregates and fill materials
Hanson	Rochester, New York	Fill materials
William Scottsman	Cherry Hill, New Jersey	Office trailers
NOCO	Lackawanna, New York	Fuel for equipment
Thew Associates	Utica, New York	Licensed land surveyors
Riccelli Enterprises, Inc.	Syracuse, New York	Disposal and transportation of nonhazardous waste solids
Precision Scale and Balance	Lancaster, New York	Silo scale calibration
Quikrete	Lackawanna, New York	Supplier of lime kiln dust
Lafarge	Buffalo, New York	Supplier of Portland cement
Nothnagle Drilling	Scottsville, New York	Inclinometer installation
Rain for Rent	Avon, New York	Water treatment equipment including weir and frac tank
Atlantic Testing Laboratories	Canton, New York	Geotechnical testing services; nuclear gauge density testing
Xylem Godwin	Batavia, New York	Bypass pumping system and pipe

Company	Location	Products or Services Provided
Cardinal	Syracuse, New York	Planted trees after remediation
Knapp Electric	Auburn, New York	Installed electrical for the bypass system
ESMI of New York (ESMI-NY)	Fort Edward, New York	Transportation and disposal of waste

Parsons' subcontractors included:

Company	Location	Products or Services Provided
Chemtech		Analytical supplies and services
ALS		Analytical services
Sterling		Analytical services
Summit		Analytical services
Paradigm Environmental		Analytical services
Pine Environmental		Supplied CAMP and turbidity equipment
Eco-Rental Solutions		Supplied CAMP equipment

NYSEG subcontractors included:

- ESMI-NY- Provided transportation and treatment of waste
- Clean Harbors- Provided transportation of excavated pipes and tanks

4.2.2 Site Preparation

A pre-construction meeting was held with NYSDEC, NYSEG, Parsons, and SES June 11, 2015, and Site mobilization activities were initiated June 19, 2015. In accordance with Specification 01046 (Control of Work), prior to any intrusive work, all on-site underground utilities were marked with the coordination of Dig Safely New York and a private utility locator by June 18, 2015. NYSEG marked out existing gas lines from the gas regulator building located on the southeast portion of the Site. The existing gas lines, regulator building, and substation were deactivated and removed by NYSEG during Phase 2 of the remedial action.

Temporary sedimentation and erosion controls such as silt fencing, straw bales, and turbidity curtains were installed in accordance with Specification 01110 (Environmental Protection Procedures). Temporary 6-foot-tall chain-linked fencing was installed at the perimeter of the Site, as appropriate, and a NYSDEC-approved project sign was erected at the project entrance and remained in place during all phases of the remedial action.

Clearing and grubbing was conducted accordance with Specifications 01110 and 02209 (Clearing). Site access was improved with installation of new Type F crusher run aggregate. General Site grading was performed for the staging of trailers and constructing water treatment containment pads. Two field office trailers were established for use by SES, Parsons, and the NYSDEC. Coordination with NYSEG and Verizon Customer Service was provided to secure electrical, phone, and internet service for the Site field office trailers. Portable sanitary services were provided and maintained with weekly servicing.

A temporary water treatment system was constructed in accordance with the approved Technical Execution Plan.

Documentation of agency approvals, permits, and permit equivalents required by the RD is included in Appendices C and E of the CCR. Other non-agency permits relating to the remediation project are provided in Appendix E of the CCR. The CCR is included as **Appendix D** to this FER.

All State Environmental Quality Review (SEQR) requirements and all substantive compliance requirements for attainment of applicable natural resource or other permits were achieved during this remedial action.

4.2.3 General Site Controls

The following Site control activities were completed:

- Site security
- Jobsite record-keeping
- Erosion and sedimentation controls
- Equipment decontamination and residual waste management
- Stockpile methods
- Decontamination

4.2.3.1 Site Security

SES and its subcontractors coordinated the locking of Site trailers and the Site access gate when personnel were not on-site.

4.2.3.2 Jobsite Record Keeping

SES maintained records of personnel present at the Site on the trailer sign-in sheet.

4.2.3.3 Erosion and Sedimentation Controls

Parsons inspected the erosion and sediment control features weekly and coordinated repairs with SES when needed.

4.2.3.4 Equipment Decontamination and Residual Waste Management

Contaminated equipment was cleaned with Biosolve applied by pressure washer. Biosolve washing stations were maintained for personal equipment decontamination during egress from the Construction Contamination Zone.

4.2.3.5 Stockpile Methods

In the event of over saturation of excavated materials, stockpiling was used for gravity dewatering. Stockpiles were confined to the staging area within limits of the excavation area. Contaminated soils that were to be treated off-site were stockpiled and covered in RusFoam OC and polyethylene sheeting to control dust and odors with the permission of the NYSDEC and NYSEG. Excavated debris not suitable for off-site thermal treatment was segregated from other excavated materials, downsized, and stockpiled on-site.

4.2.3.6 Decontamination

SES decontaminated (as necessary) personnel and equipment that contacted excavated materials. Construction vehicles leaving the Site were decontaminated (as necessary) by SES to prevent the tracking of soil off-site. SES conducted decontamination activities within the constructed decontamination area in accordance with Specification 01112 (Decontamination Procedures).

4.2.4 Nuisance Controls

SES was responsible for maintenance and cleaning of office trailers, disposal of trash at least twice a week, and regular disposal of sanitary waste.

Dust control was implemented by SES through regular use of water to either weigh down particulates in the air or wet the ground as a preventative measure; this was accomplished with the use of a water hose, power washer, and/or a water truck. A water truck was used to keep all nearby roads clear of any tracking from truck traffic.

To mitigate congestion, only four tractor-trailers were allowed to queue near the Site; remaining trucks were stationed at a local parking lot. For odor control, Biosolve was applied during intrusive work and equipment cleanup; a coating of RusFoam OC was applied over any exposed contaminated surface. No complaints were reported throughout Phases 1 through 4.

4.2.5 CAMP Results

Parsons monitored air quality using a MiniRae-3000 photo-ionization detector (PID) for volatile organics and DusTrak-II particulate monitor for dust at the Site continuously during active Site activities unless wet weather precluded operation of the equipment. Exceedances of action levels and response actions that occurred after mobilization are tabulated below:

ACTION LEVEL EXCEEDANCES AND RESPONSE ACTIONS, PHASES 1, 3 AND 4.

Phases 1 and 3	
Portland cement transfer hose malfunction caused high dust levels at downwind monitor. SES sprayed water into air as engineering control during mixing.	7/23/15
Use of pressure washer spray as engineering control caused false exceedances at downwind monitor station.	7/27/15 7/29/15 7/30/15 8/05/15
Use of pressure washer spray for Biosolve application caused false exceedances at downwind monitor station.	8/19/15 8/20/15
Dry dust kicked up by trucks exceeded nearby downwind monitor station. Gravel road was thoroughly wetted afterwards.	8/31/15 9/08/15 9/09/15 9/15/15 4/18/16
Exceedance reading caused by excavator bucket scraping across bedrock in the immediate vicinity of the upwind monitor. Action was taken to correct exceedance.	4/14/16
Phase 4	
VOC exceedance caused by high humidity. Upwind PID leveled out and returned to accurate air monitoring	8/30/18 8/31/18 9/17/18
VOC exceedance caused by PID malfunction, was corrected after recalibration. No excavation activities occurred on-site.	9/11/18

PID results were below exceedance action levels throughout Phases 1 and 3. There were no dust exceedances detected during Phase 4.

Copies of field data sheets relating to the CAMP are provided in electronic format in Appendix I of the CCR (included as **Appendix D** to this FER).

4.2.6 Turbidity Results

In accordance with technical specification 13603 (River Bypass System) and the Contingency Plan, downstream and upstream turbidity monitoring stations using Global Water WQ770 turbidity meters were established during Phase 4 temporary dam and bypass operations. The specifications called for a minimum of two turbidity samples per day at each location. However, NYSEG provided more frequent monitoring by installing automated equipment that monitored turbidity readings every minute and then averaged the readings over 15-minute intervals.

The temporary dam and bypass system eliminated surface water flow through the Phase 4 removal area except when the dam was overtopped during high creek flows to enable excavation to be performed “in the dry”. Excavation operations were ceased prior to the dam overtopping so removals did not occur during these overtopping events.

There was construction by others on the North Division Street bridge between the downstream end of the removal area and the location of the downstream turbidity monitor, which was situated below the bypass piping discharge. SES and NYSEG had no control over the bridge demolition and construction operations; various random elevated turbidity events were observed during that bridge work.

The turbidity data is presented graphically in Appendix K of the CCR (included as **Appendix D** to this FER) with a table discussing turbidity spikes that occurred during the work.

4.2.7 Reporting

Parsons prepared daily field reports that contained daily hours worked, description of Parsons and SES Site activities, and a short-term schedule (See Appendix F of the CCR, included as **Appendix D** to this FER). These reports were prepared by Mr. Ron Prohaska, Parsons on-site construction manager.

SES prepared daily construction reports that included hours worked, work performed on-site, planned activities, safety remarks, as well as photos highlighting the main activities of the day (See **Appendix F** of the CCR). These reports were prepared by the Site Health and Safety Officers, Mr. Dominic Massaro for Phases 1 through 3 and Mr. Anthony Laurendi for Phase 4.

The digital photo log documenting the Site work is included in Appendix G of the CCR, included as **Appendix D** to this FER. This photo log shows the progression of the major work elements throughout construction.

4.3 In Situ Stabilization Wall Performance Criteria

In support of the Phase 1 and Phase 3 upland excavation activities, a hydraulic barrier (i.e., ISS wall) was installed to provide excavation sidewall stability and to minimize groundwater and surface water infiltration into the excavation areas. ISS was performed to the horizontal and vertical extents that were defined in the RD. ISS was implemented by creating a slurry of water and Portland cement and mixing into the ground using a standard bucket-equipped excavator. Batch plant equipment included one lightening Sharpe Mix Batch Plant, one Moyno L-14 Pump (Grout Delivery), one Horizontal (Low-Profile) weight belt Silo, one 200 kw Generator, and one 185 cfm Compressor.

The Phase 1 and 3 ISS treatment areas have the following properties:

- **Reagent:** 1.3:1 Portland cement to water
- **Max Depth:** Approximately 14 feet below ground surface (bgs)
- **Target Permeability:** 1×10^{-6} centimeters per second or less after 28 days curing tested in accordance with ASTM D5084
- **Target Strength:** Solidified material with an unconfined compressive strength (UCS) 50 to 100 pounds per square inch (psi) after 28 days curing and tested in accordance with ASTM D1633/D2166

The Phase 1 ISS walls were installed to include approximately 446 linear feet and extended vertically up to 14.2 feet bgs over an area of 3,445 square feet horizontally (1,307 cubic yards). The Phase 3 ISS walls were installed to include approximately 541 linear feet and extended vertically up to 14.3 feet bgs over an area of 3,544 square feet horizontally (1,380 cubic yards).

4.4 Contaminated Materials Removal

The SCO's were to excavate the soil and to manage it according to the following criteria:

- If excavated soil had no visible tar or NAPL and PAH concentration of less than 500 mg/kg, then the soil may be used as on-site backfill.
- If excavated soil had PAH concentration above 500 mg/kg, then it was disposed of and treated off-site.

The excavations for Phase 1 were completed within an ISS-walled cell that was constructed between July 8 and August 6, 2015. During Phase 1 no excavated soil was reused as backfill due to space constraints on-site for backfill storage. Excavated soil that was marked as suitable for backfill was sent off-site to SMI. A total of 1181.97 tons of suitable backfill material was sent to SMI. All backfilling used imported materials. A demarcation layer was not placed due to the absence of reused backfill. All excavated contaminated soil was sent to ESMI-NY for treatment and disposal. A total of 8201.94 tons of contaminated soil was sent to ESMI-NY. As-built drawings showing the ISS wall locations, excavation geometries, and backfill geometries are provided in Appendix A of the CCR (included as **Appendix D** to this FER).

Following the completion of Phase 1 excavations, select portions of the ISS wall were removed to minimize the potential for groundwater mounding within the wall. ISS wall removal areas are shown on Design Drawing 19 (Appendix A) of the RD. Removed sections of the wall varied from 4 to 17 feet in width and to the approximate elevations shown in the RD (i.e., 3.5 feet above the top of bedrock). Approximately 191 cubic yards of the Phase 1 ISS wall were removed and managed consistent with excavated soil (i.e., transported off-site for disposal as a non-hazardous waste).

Inclinometer testing was conducted during Phase 1 of remediation in July and August of 2015. The most severe change in profile occurred between July 24 and July 27, 2015. However, this was likely due to instrument error since no visual observations were made to confirm this profile change. All other inclinometer readings were generally in compliance with the project specifications. The compiled tests are provided in Appendix L of the CCR (included as **Appendix D** to this FER).

Gas lines within soil removal limits were deactivated by NYSEG during Phase 2 and excavated by SES during Phase 3. Coal-tar-asbestos wrapped gas line pipes were cut and removed in less than 10-foot sections, wrapped in plastic, and staged on-site for disposal. As part of Phase 3 the existing gas regulation building was demolished to allow removal of contaminated material underneath.

The excavations for Phase 3 were done within an ISS-walled cell that was constructed between January 14 and January 29, 2016. During Phase 3 a portion of excavated soil was used as backfill and a demarcation geotextile was placed over the re-use soil. A total of 3,673.08 tons of non-hazardous soil that was excavated and not suitable for use as backfill was sent off-site to SMI. A total of 19691.67 tons of contaminated soil was sent to ESMI-NY for treatment. As-built drawings showing the ISS wall locations, excavation geometries, and backfill geometries are provided in Appendix A of the CCR (included as **Appendix D** to this FER).

Following the completion of Phase 3 excavations, select portions of the ISS wall were removed to minimize the potential for groundwater mounding within the wall. ISS wall removal areas are shown on Design Drawing 19 (Appendix A) of the RD. Removed sections of the wall varied from 4 to 17 feet in width and to the approximate elevations shown in the RD (i.e., 3.5 feet above the top of bedrock). Approximately 360 cubic yards of the Phase 3 ISS wall were removed and managed consistent with excavated soil (i.e., transported off-site for disposal as a non-hazardous waste).

Inclinometer testing was conducted during Phase 3 of remediation in April and May of 2016. The most severe change in profile occurred on April 16, 2016. However, this was likely due to instrument error since no visual observations were made to confirm this profile change. All other inclinometer readings were generally in

compliance with the project specifications. The compiled tests are provided in Appendix L of the CCR (included as **Appendix D** to this FER).

The Phase 4 sediment removal plan was altered in a Field Change Form to include additional areas for excavation found in Appendix C of the CCR. During Phase 4, a negligible amount of material was re-used as backfill and nearly all material excavated in the Owasco Outlet and banks was sent to either SMI or ESMI-NY. Non-hazardous soil that was excavated and not suitable for use as backfill was sent off-site to SMI and totaled 11059.15 tons. Impacted material deemed acceptable by ESMI-NY totaled 20479.70 tons. As-built drawings showing the excavation and backfill geometries are provided in Appendix A of the CCR (included as **Appendix D** to this FER).

Groundwater and stormwater from the Site were collected from excavation areas or from the sump of a dewatering pad. During Phase 1, groundwater was treated on-site via a temporary water treatment system and discharged to Owasco Outlet under a SPDES permit equivalent (Appendix E of the CCR). For Phases 3 and 4, groundwater was treated on-site via temporary treatment system but discharged to sanitary sewer at maintenance hole MH-J2 with the permission of the City of Auburn (Appendix E of the CCR).

4.4.1 MGP Impacted Material

The type of material removed was generally classified as MGP-contaminated material. On-site locations for materials removed are shown in the as-built drawings in Appendix A of the CCR as discussed above. This section describes the characterization and disposal of the excavated materials.

4.4.1.1 Characterization of Excavated Materials

Once excavated, the materials were segregated by visual criteria and sampled at the frequency required by the disposal facilities by compositing individual grab samples taken from around the pile. Phase 3 sampling removals consisted of in situ pre-characterization with soil borings. Once the NYSEG substation was removed from the excavation area, the contractor used a drill rig to complete in situ sampling/characterization. A full report regarding the soil borings can be found in Appendix H of the CCR. The samples were analyzed, if analytical results were above SMI permit criteria (provided in Appendix H of the CCR), the material was slated to be sent to ESMI-NY provided it met the ESMI-NY permit criteria; however, no materials sampled at the Site exceeded ESMI-NY limits.

4.4.1.2 Disposal of Excavated Materials

Soil, sediment, debris, NAPL, and miscellaneous MGP-impacted wastes generated during the remedial activities were handled and disposed/treated off-site in accordance with applicable federal, state, and local regulations, as well as the RD Specifications 02415 (Impacted Material Handling), 02416 (Sediment Removal and Handling Procedures), and the Waste Management Plan. Excavation boundaries were surveyed based on the design drawings for the upland excavations. Similarly, sediment excavations were surveyed based on the design drawings as modified in the field design change in Appendix C of the CCR (included as **Appendix D** to this FER).

Impacted material was sent to ESMI-NY in Fort Edward, New York. ESMI-NY was contracted to NYSEG; associated haulers were subcontracted to ESMI-NY. Haulers of impacted materials and their license and truck numbers can be found in Table 1 of the CCR. A summary of the amount of impacted material disposed of is presented below.

SES subcontracted Riccelli Enterprises to haul non-hazardous waste material to Seneca Meadows Landfill, operated by Seneca Meadows, Inc. (SMI) in Waterloo, New York. Riccelli license and truck numbers can be found in Table 2 of the CCR. A summary of the amount of nonhazardous waste material disposed of is presented below.

SUMMARY OF WASTE MATERIAL DISPOSAL BY PHASE

Type	Handler	Phase	Date From	Date To	Volume (tons)
Impacted material	ESMI-NY	1	2015-08-17	2015-09-11	8,201.94
		3	2016-03-30	2016-05-20	19,691.67
		4	2018-07-20	2018-10-22	20,479.70
Nonhazardous material	Riccelli	1	2015-07-31	2015-09-09	1,181.97
		3	2016-04-26	2016-06-02	3,673.08
		4	2018-08-23	2018-10-05	11,059.15

Waste disposal manifests can be found in Appendix H of the CCR.

Manifests and bills of lading are included in electronic format in Appendix H of the CCR.

ESMI-NY and SMI waste disposal quantities can be found in Tables 5 and 6 of the CCR.

4.4.2 On-Site Reuse

Per the contract documents, SES was responsible for segregating contaminated soil from brick, concrete, metal, and other debris that would not be suitable for off-site thermal treatment. Material unsuitable as backfill (i.e., brick, concrete, metal) was disposed of as outlined in previous sections. Material suitable for reuse (i.e., boulders, cobble) was segregated on-site and reused as backfill where appropriate. Both suitable and unsuitable material was downsized before being reused as backfill or transported off-site as waste, respectively.

Soils that were free of visual impacts were segregated and sampled at the frequency required by disposal facilities. Segregated soils were stockpiled and covered with poly sheeting pending sample results. Soils with total PAHs at concentrations less than 500 mg/kg were reused on-site as general fill at depths greater than 2 feet below final grade (with NYSDEC approval). Significant quantities of reuse material were placed in Phase 3 as discussed previously. Soils that did not meet these criteria were disposed of as outlined in previous sections.

A geotextile demarcation layer was placed over reuse backfill material in accordance with Specification 02270 (Geotextile Fabric) in Phase 3 prior to placement of clean backfill over the reuse material. Photos of the geotextile demarcation layer are provided in the Photo Log (Appendix G of the CCR).

4.5 Imported Backfill

The upland excavations of Phases 1 and 3 were backfilled with compacted common soil fill. The soil fill testing is provided in Appendices D and J of the CCR (included as **Appendix D** to this FER). The soil fill was surfaced with Type F run-of-crusher stone. The channel excavations of Phase 4 were backfilled with channel backfill run-of-crusher New York State Department of Transportation (NYSDOT) Type 2 crushed stone. The Type F and channel backfill specifications in the contract documents have overlapping gradation requirements, so these materials were generally the same material from the same sources. The channel backfill in Phase 4 was surfaced with channel restoration stone. Since the crushed stone materials were obtained from NYSDOT-approved sources, only gradation testing was required per the contract documents and is provided in Appendix D of the CCR. The common fill and channel backfill were imported from Vitale & Robinson Companies, 3486 Franklin Street Road, Auburn, New York, 13021.

The channel banks were surfaced with topsoil. The topsoil testing is provided in Appendices D and J of the CCR. The topsoil was imported from Syracuse Sand & Gravel, 1902 County Route 57, Fulton, New York, 13069.

The imported fill quantities are tabulated by type and phase in Table 7 of the CCR. Soil and topsoil analytical testing results are summarized in Tables 3 and 4 of CCR.

4.6 Site Restoration

The upland excavation and backfill areas of Phases 1 and 3 were restored with Type F run-of-crusher stone at the surface. The topsoil on the channel banks was seeded and planted with trees and shrubs per the contract documents. The channel excavation and backfill surface was restored using the channel restoration stone to the original grades as shown in the as-built drawings in Appendix A of the CCR.

4.7 Contamination Remaining at the Site

The remedial action consisted of excavation and offsite disposal/treatment of soil in areas where the soil contained visible tar or NAPL and/or total PAHs at concentrations greater than the remediation criteria set forth in the 2009 ROD of 500 mg/kg. Impacted sediment (i.e., sediments containing visible tar, producing an MGP-related sheen when agitated in water, or containing site-related PAH compounds that exceed upstream background levels [62 mg/kg]) within the Owasco Outlet was excavated and disposed of offsite as set forth in the 2009 ROD. Since the remedial action did not involve complete removal of impacted material, residual impacted material remains as outlined in the following sections.

Since contaminated soil, bedrock, and groundwater remain after completion of the remedial action, institutional and engineering controls are required to protect human health and the environment; these controls are described in later in this report. Long-term management of institutional and engineering controls as well as residual contamination, will be performed under the SMP approved by the NYSDEC.

4.7.1 Soil Contamination Remaining

4.7.1.1 In-situ Soil

One area exists in soil outside of the Site excavation extents where contamination remains as presented on **Figure 4**. At soil sample location TB-09, a black coal tar residue was observed from 2 to 3 feet bgs and a black coal residue staining was observed from 3 to 9 feet bgs.

4.7.1.2 Reuse Material

Limited quantities of MGP-impacted materials were reused as backfill on the Site in the upland areas, as permitted in the approved RD, and a geotextile demarcation layer was placed over these materials. These reuse soils contain constituents that exceed allowable levels of the Part 375-6 Unrestricted Use SCOs for imported fill but are below the ROD Cleanup Criteria.

An approximate 9,598-square-foot area located within the Phase 3 remedial construction was backfilled with reuse material (1,961 cubic yards). The reuse soil does not achieve each allowable constituent level for imported fill in accordance with section 5.4 of DER-10 (NYSDEC 2010); however, total PAH concentrations are significantly below the site cleanup criteria set forth in the 2009 ROD of 500 mg/kg (NYSDEC 2009) and range from 5 to 271 mg/kg. In addition, these soils do not contain visible NAPL and are free of sheens and odors. NYSDEC approval was obtained for use of this material, and a geotextile demarcation layer has been placed above this layer. A minimum of 12 inches of backfill material that meets Part 375-6 SCOs – Commercial Use requirements (NYSDEC 2006) was placed above the demarcation layer. **Figure 5** shows the extents of the reuse material placement and horizontal profiles delineating the location of the reuse material, geotextile demarcation layer, and clean backfill in the subsurface. Waste characterization samples were collected prior to remediation and

used to delineate reuse material as outlined in Attachment 7 of the RD, which is included as Appendix C of this document. Select VOCs and PAHS were detected in the reuse soil in exceedance of the Unrestricted Use SCOs. Refer to **Table 1** for individual constituents and concentrations.

4.7.1.3 ISS Material

An ISS wall was constructed adjacent to Site excavation areas with the primary purpose of providing excavation support. ISS of MGP-impacted materials effectively immobilizes constituents of concern by greatly reducing the permeability of the media in which the impacted materials are located. Although the contaminants remain in place after treatment, the exposure pathway is considered to be eliminated with the inclusion of a cover system.

The remaining ISS area at the Site covers approximately 6,989 square feet (2,136 cubic yards). A minimum of 2 feet of imported backfill that meets Part 375-6 SCOs – Commercial Use requirements (NYSDEC 2006) was placed above the ISS. **Figure 5** presents the ISS extents and horizontal profiles delineating the ISS areas and clean backfill in the subsurface.

Critical infrastructure located within the Site was removed in conjunction with Phase 2 of the remedy and does not require future management.

The SMP addresses the provisions for management of future redevelopment within the Site boundaries. To address residual contaminated soils that may be excavated during future redevelopment, the SMP requires soil characterization, and where applicable, disposal or reuse in accordance with NYSDEC regulations.

4.7.2 Sediment Contamination Remaining

Sediment removal conducted during Phase 4 of the remedial activities was completed in the dry, occurred to the surface of bedrock, and progressed from upstream to downstream. In accordance with the ROD, all sediment containing visible tar, producing an MGP-related sheen when agitated in water, or containing Site-related PAH compounds that exceeded upstream background levels (62 mg/kg) was removed from the Owasco Outlet.

Figure 6 presents an overview of analytical/visual sample results for sediment for the ROD criteria that remain after the Phase 4 sediment removal. As **Figure 6** summarizes, only one sample location (T-12-C) remains where PAH compounds exceed background levels of 62 mg/kg (150 mg/kg) and produces a sheen; no locations remain where sediment contains visible tar. However, during the Supplemental Remedial Investigation (SRI), environmental forensic analysis was completed on sediment samples to assess sources of PAH contamination; during this analysis, PAH compounds at sample location T-12-C were determined to show characteristics indicative of multiple PAH sources unrelated to the MGP. Further, sediment removal limits as dictated by the RD were expanded to include visual removal of sediment at the Site that produced a sheen. These expanded removal limits were located in the central portion of the Owasco Outlet (i.e., SED-03, T-03-C, T-03-A, T-04-C, and T-04-B) as indicated on **Figure 6**.

Thus, no contamination remains at the Site in sediment that is attributable to the MGP (i.e., sediment containing visible tar, producing an MGP-related sheen when agitated in water, or containing Site-related PAH compounds that exceeded upstream background levels).

4.7.3 Bedrock Contamination Remaining

RI and PDI borings and wells indicate that there may be coal tar remaining in bedrock fissures and fractures below the overburden materials at the Site and downgradient of the Site. Visible coal tar NAPL was observed at variable depths during bedrock coring on fractures or in drilling return water (MW-02B, MW-03B, MW-04B, MW-04D, MW-05B, MW-06B, MW-07B, MW-09D, MW-11D, and MW-12D). NAPL was observed to accumulate in two monitoring wells (MW-06B and MW-09D) at recoverable quantities and in four wells (MW-05B, MW-04, MW-04B,

MW-04D) at unrecoverable quantities. **Figure 7** summarizes the locations and depth interval of qualitative observations of tar in bedrock monitoring wells.

Ten NAPL collection wells were installed and will be monitored at the Site; NAPL will be collected if present. NAPL collection well locations are presented on **Figures 2 and 7**. NAPL will be collected in accordance with the NAPL Collection Well Installation Plan and Groundwater Monitoring Memorandum included as **Appendix E** and outlined below in Section 4.8, Engineering Controls.

4.7.4 Groundwater Contamination Remaining

During the RI, the extent of groundwater contamination at the Site and adjacent properties was determined by collecting groundwater samples for analytical testing during two separate sampling events – in December 2004 and in November 2005/March 2006. Tables and figures contained within Attachment A of the RD, which is included as **Appendix C** of this document, summarize the results of historic samples of groundwater that exceed the NYSDEC standards, criteria, and guidance (SCGs) as referenced below in Section 4.7.4.1.

As outlined in Section 4.7.4.2, below, six overburden groundwater monitoring wells (MW-01B, MW-08D, MW-09D, MW-10D, MW-PAR-01, and MW-PAR-02) were sampled on September 30, 2021 in accordance with annual groundwater monitoring requirements under the SMP. Groundwater samples were collected and submitted for laboratory analysis of Site-specific contaminants of concern (i.e., BTEX, PAHs). In addition, at the request of the NYSDEC, samples were collected for analysis of emergent contaminants (per- and polyfluoroalkyl substances [PFAS] and 1,4-dioxane). A summary of the distribution of compounds in overburden monitoring wells sampled during the 2021 event is included in **Table 2** and presented on **Figure 8**.

4.7.4.1 Historic Groundwater Sampling Results

Overburden monitoring wells sampled during the December 2004 event (MW-01 through MW-06) were located on-site or immediately adjacent to the Site (MW-01). For a summary of the distribution of compounds in individual monitoring wells see Attachment A of the RD, Table 4-5 and Figures 4-4 and 4-11. BTEX, SVOCs (including PAHs), metals (iron, manganese, and/or sodium) and/or cyanide were detected at concentrations exceeding SCGs.

A summary of the distribution of compounds in overburden monitoring wells sampled during the November 2005/March 2006 event (MW-01 through MW-06 and MW-08S through MW-11S) is included in Attachment A of the RD, Table 4-7 and Figures 4-15 and 4-12. BTEX, SVOCs, and metals were detected above SCGs in several on-site overburden groundwater samples. The highest concentrations of detected compounds were in MW-06 located in the northern area of the Site.

Additionally, groundwater samples were collected from discrete bedrock zones during SRI monitoring well installation. Packer test groundwater sample results are included in Attachment A of the RD, Table 4-9 and Figures 4-6, 4-7, 4-13, and 4-14.

BTEX and PAHs were either not detected or were detected below SCGs in all of the packer samples collected from less than 50 feet in bedrock monitoring wells with the exception of two low-level benzene exceedances. In general, concentrations of BTEX and PAHs were observed to decrease with depth.

BTEX compounds were detected at concentrations exceeding SCGs in 11 of the 18 packer samples collected from greater than 50 feet bgs. Fifteen different PAHs were detected at concentrations exceeding their SCGs in the packer samples collected from greater than 50 feet bgs. The highest concentrations of BTEX and PAHs were detected at the Site and along the north shore of the Owasco Outlet near the Site. Finally, groundwater sampling during the SRI included two rounds collected from shallow bedrock monitoring wells conducted in December 2004 and in February/March 2006 and one round collected from deep bedrock monitoring wells in February/March 2006.

A summary of the distribution of compounds in shallow bedrock monitoring wells sampled during the December 2004 event (MW-01B through MW-06B) is included in Attachment A of the RD, Table 4-11 and Figure 4-15. BTEX, SVOCs (including PAHs), and metals (iron, magnesium, manganese, and/or sodium) were detected above SCGs in several on-site overburden groundwater samples. The highest concentrations of detected compounds were detected in the on-site wells located near former MGP structures.

The shallow bedrock was sampled for a second time in February/March 2006. A summary of the distribution of compounds in bedrock monitoring wells sampled during this event is included in Attachment A of the RD, Table 4-13 and Figures 4-9 and 4-16. BTEX and SVOCs (including PAHs) were detected in shallow bedrock groundwater samples at concentrations exceeding SCGs in all wells except two upgradient wells. The highest concentrations of detected compounds in shallow bedrock groundwater were detected in on-site wells located near former MGP structures.

The deep bedrock was sampled in February/March 2006. A summary of the distribution of compounds sampled during this event is included in Attachment A of the RD, Table 4-15 and Figures 4-10 and 4-17. The highest concentrations of detected compounds in the deep bedrock groundwater were detected near the north shore of the Owasco Outlet.

4.7.4.2 2021 Groundwater Sampling Results

Six overburden groundwater monitoring wells (MW-01B, MW-08D, MW-09D, MW-10D, MW-PAR-01, and MW-PAR-02) were sampled on September 30, 2021 in accordance with annual groundwater monitoring requirements under the SMP. Groundwater samples were collected and submitted for laboratory analysis of Site-specific contaminants of concern (i.e., BTEX, PAHs). In addition, at the request of the NYSDEC, samples were collected for analysis of emergent contaminants (PFAS and 1,4-dioxane).

A summary of the distribution of compounds in overburden monitoring wells sampled during the 2021 event is included in **Table 2** and presented on **Figure 8**. BTEX and PAH concentrations were compared to NYSDEC Class GA Ambient Water Quality Standards (AWQS), which are listed in the Division of Water Technical and Operational Guidance Series (1.1.1). PFAS and 1,4-dioxane concentrations were compared to the New York State Maximum Contaminant Levels (NYS MCLs) listed in the Subpart 5-1 of New York State Sanitary Code, (10 CRR-NY 5-1). Both AWQS and NYS MCLs are referred to collectively as “criteria” in the following paragraphs.

Groundwater analytical results for target VOCs exceeded criteria in MW-08D, MW-09D, MW-10D, MW-PAR-01, and MW-PAR-02. The highest detection for a single analyte was 2,600 micrograms per liter (ug/L) of ethylbenzene in MW-10D.

The concentrations of BTEX were summed for each of the groundwater samples collected. Concentrations of BTEX ranged from 2 ug/L in MW-01B to 4,100 ug/L in MW-10D.

Groundwater analytical results for target PAHs exceeded criteria in MW-08D, MW-09D, MW-10D, MW-PAR-01, and MW-PAR-02. The highest detection for a single analyte was 12,000 ug/L of naphthalene in MW-10D.

PFOS and PFOA were not detected above criteria in any of the groundwater samples. PFAS detection values ranged from non-detect to 7.4 nanograms per liter (ng/L; perfluorobutanesulfonic acid [PFBS]), which was observed in MW-PAR-02.

1,4-dioxane was not detected above the laboratory detection limits in any of the groundwater samples collected.

4.7.4.3 Decommissioned and Remaining Monitoring Wells

Bedrock and deep monitoring wells (MW-02B, MW-02D, MW-03B, MW-05B, and MW-07B) located within or adjacent to the soil removal area were decommissioned in 2014. Overburden monitoring wells (MW-02, MW-03, MW-04, MW-05, and MW-06) and bedrock and deep monitoring wells (MW-04B, MW-04D, and MW-06B) located within or adjacent to the soil removal area were decommissioned prior to remedial construction activities.

Following the monitoring well decommissioning, 13 bedrock and deep wells (MW-01B, MW-01D, MW-08D, MW-09D, MW-10D, MW-11D, MW-12D, MW-13B, MW-14D, MW-15D, MW-16D, MW-17D, and MW-18D) and five overburden wells (MW-01, MW-08S, MW-09S, MW-10S, and MW-11S) remain at the Site. Two additional overburden monitoring wells (MW-PAR-01 and MW-PAR-02) were installed at the Site on April 9 and 29, 2021. Decommissioned monitoring well locations are presented on **Figure 2**; remaining monitoring well locations are presented on **Figure 8**. Monitoring well logs for remaining and recently installed monitoring wells are included in **Appendix F**.

4.7.5 Soil Vapor

Six soil vapor samples were collected in the off-site residential area north of the Owasco Outlet, along with an ambient air sample for comparison. A wide variety of compounds were detected, including BTEX compounds, and other fuel-related hydrocarbons and chlorinated hydrocarbons, which are not related to the Site. Concentrations of certain volatile compounds were highest near the monitoring well MW-09 cluster (see **Figure 8**).

Indoor and sub-slab air data were analyzed from two houses. Concentrations of VOCs were detected at levels that are consistent with levels commonly found in homes that are heated with fuel oil. Based on an evaluation of these results, as well as with the results of environmental sampling in the area, the NYSDEC and NYSDOH determined that no actions were necessary to address exposures to Site-related contaminants due to soil vapor intrusion. No volatile compounds exceeded NYSDOH guidance values. Therefore, soil vapors generated from MGP-related impacts are not expected to impact indoor air quality at the residences sampled.

Any buildings developed at the Site require evaluation for the potential for vapor intrusion and mitigation of any identified impacts.

4.8 Engineering Controls

Since remaining contaminated soil and groundwater exist, engineering controls are required to protect human health and the environment. The Site's engineering controls are described in the following subsections.

4.8.1 Soil Cover System

Exposure to remaining contamination in bedrock and soil 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 imported backfill. The as-built drawings in Appendix A of the CCR (included as **Appendix D** to this FER) present the thickness of the soil cover. Where impacted soils remain on-site, a demarcation geotextile layer was placed between these materials and the clean soil cover. A combination of clean imported fills and topsoil was placed to the design finished grade. These fills are discussed in Section 4.4 above and meet the analytical requirements as discussed in Section 4.4.

An Excavation Work Plan, which outlines the procedures required in the event the cover system and/or underlying residual contamination are disturbed, is provided in Appendix F of the SMP.

Procedures required to be implemented in the event the cover system is breached, penetrated, or temporarily removed are included in the Excavation Work Plan of the SMP. Any work conducted pursuant to the Excavation Work Plan must be completed in accordance with the procedures defined in the HASP and CAMP included in the SMP.

4.8.2 NAPL Collection System

Periodic NAPL monitoring will be conducted to facilitate passive recovery of NAPL in bedrock in accordance with the NAPL Collection Well Installation Plan and Groundwater Monitoring Memorandum included as **Appendix E** of this FER.

NAPL collection well locations were selected based on the results of the multi-year NAPL monitoring program conducted by Arcadis from 2010 through 2015 (Arcadis, 2012 and 2015) and are expected to optimize NAPL collection at the Site. Ten bedrock NAPL collection wells (RW-01 through RW-10) were installed around the perimeter of the upland portion of the Site from March 29, 2021, through April 26, 2021, as shown on **Figures 2 and 7**. Collection wells were installed to depths of approximately 24 to 73 feet in areas where NAPL has historically been observed. NAPL collection well logs are included in **Appendix F**.

Quarterly collection is recommended at the Site for two years. Following two years of NAPL collection, the frequency of monitoring will be evaluated in conjunction with NYSDEC to increase, decrease, or remain the same depending on the amount of NAPL being collected.

4.8.3 Groundwater Monitoring

Six overburden groundwater monitoring wells (MW-01B, MW-08D, MW-09D, MW-10D, MW-PAR-01, and MW-PAR-02) will be utilized for annual groundwater monitoring on the Site. The overburden monitoring well network will be sampled annually in accordance with the SMP. A memorandum containing the Groundwater Monitoring Plan is included as **Appendix E**. Monitoring well locations are presented on **Figures 2 and 8** and monitoring well logs are included in **Appendix F**.

4.9 Institutional Controls

The Site remedy requires that an environmental easement be placed on the property to:

- Limit the use and development of the property to commercial use, which will also permit industrial use.
- Ensure compliance with the approved SMP.
- Restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by NYSDOH.
- Require NYSEG or the property owner to complete and submit to the NYSDEC a periodic certification of institutional and engineering controls.

The environmental easement for the Site was executed by the NYSDEC on August 18, 2020 and filed with the Cayuga County Clerk on September 3, 2020. The receipt number for this filing is 2020242965, deed number 2020-197719. A copy of the easement and proof of filing is provided in **Appendix A** of this FER.

4.10 Deviations from the Remedial Action Work Plan

The temporary groundwater treatment system was modified, as necessary. The original plan and specifications of the temporary groundwater treatment system can be found in the Remedial Action Work Plan Appendix A Design Drawing 23 and Appendix B Specification 13602. Modifications during the remedial action included additional cartridge filters and a resin filter for aluminum treatment. The changes proved effective in reducing presence of metals.

Near the end of Phase 1, it was determined that the acceptable cyanide maximum daily discharge concentration limits outlined in the SPDES permit equivalent had been exceeded. However, the water was not discharged into the Owasco Outlet until all parameters outlined in the SPDES permit were met. A cyanide treatment procedure

was developed which included the addition of sodium hydroxide followed by sodium hypochlorite to achieve an oxidation-reduction potential (ORP) greater than 500 millivolts. NYSDEC was informed of this alteration. The cyanide levels were reduced to acceptable ranges. Subsequently, beginning in Phase 3, the treated water was discharged to the City of Auburn Water Pollution Control Plant under a Sewer Discharge permit instead of discharging directly to surface water through the SPDES permit equivalent. The SPDES analytical monitoring of the effluent water is reported in Appendix J-3 of the CCR (included as **Appendix D** of this FER).

An additional change addressed office trailer placement at the Site. The original design Drawing 6 shows office trailers located in tandem by the Site access gate. During mobilization it was determined that office trailers would be better placed along the southwest perimeter of the work Site. This alteration allowed easier access to excavation pits during remediation. Due to the differences in trailer placement from Phase 1, the stabilization pad was placed further north, approximately where the utility substation previously existed.

The erosion controls in RD Drawing 6 were modified slightly to match actual Site conditions. In the original plan the silt fence, straw bales, and security fence ran from the west corner of the Site through the middle of a slope and past work trailers to the southeast fencing. However, a boundary placed across the middle of a slope would be hazardous to install and maintain. Additionally, silt fencing running along the southwest perimeter of Site was not required since erosion was not likely to occur in that direction. Adjustments included installation of silt fencing along bottom of the slope and placement of straw bales and security fencing along the ridge of slope. Finally, the silt fence was not installed along the southwestern length of the Site (approximately between MW-02 and MW-01B). These actions were approved by the NYSDEC. The actions prevented any movement of sediment from the slope and silt fences were able to be easily maintained and inspected.

Wall segment A, included in RD Drawing 7, was to be incorporated into the western corner ISS wall. During excavation and grout mixing, there was a significant amount of groundwater seepage into the excavation pit, which ultimately impacted permeability and strength of wall segment A. An additional wall was constructed adjacent to wall segment A on the interior side to provide added stability and to reduce seepage. The additional wall was approved by NYSEG and NYSDEC. This action reduced the wall permeability and groundwater flow into the excavation.

No other deviations occurred for the Phase 3 portion of the remedial action.

A supplemental investigation was enacted in late 2017 Phase 4 to affirm the delineation of the excavations in the Owasco Outlet. Additional test pits were dug and sampled for analysis. Based on the resulting Clark Street Supplemental Investigation Report, the NYSDEC requested an additional bank area and sediment removal area be added to the scope of work for Phase 4 (Appendix C of the CCR). Sediment removal area 14 added approximately 4,919 cubic yards of sediment removal with additional bank removal of 269 cubic yards of material.

The dam design was altered (Appendix C of the CCR) with the bypass pipes running buried through the upland section and continuing along the southern bank when placed in the Owasco Outlet. The water treatment plant was established above the buried bypass pipe to improve Site space usage.

Parsons and SES were informed by the City of Auburn that the North Division Street Bridge, immediately west of the Owasco Outlet excavation boundary, was to be demolished and rebuilt; for this reason, excavation was started at Area 13 of the channel excavations after the Owasco Outlet was bypassed. Excavations then progressed from upstream to downstream.

5.0 REFERENCES

- Arcadis. 2012. *Monthly NAPL Monitoring Program – Annual Report, NYSEG Clark Street Former MGP Site*. January 25, 2012.
- Arcadis. 2014. *Final (100%) Remedial Design Report. Clark Street Former MGP Site. Auburn, New York, NYSDEC Site # 7-06-008*. Prepared for New York State Electric Gas Corp by Arcadis, August 2014.
- ARCADIS. 2015. *NYSEG Clark Street Former MGP Site. Semi-Annual NAPLS Monitoring*. July 2015.
- NYSDEC. 2006. *6 NYCRR Part 375 Environmental Remediation Programs*. December 2006.
- NYSDEC. 2009. *Record of Decision. NYSEG Former MGP Site. Auburn, Cayuga County, New York. Site Number 7-06-008*. NYSDEC, March 2009.
- NYSDEC. 2010. *DER-10/ Technical Guidance for Site Investigation and Remediation*. NYSDEC. May 2010.
- NYSDEC. 2018. *6 NYCRR Part 608 Environmental Remediation Programs*. 2018.
- NYSDEC. 2019. Letter to NYSEG from NYSDEC Re: Auburn Clark St. Former MGP Site, Auburn, Cayuga Co., Site 706008, Revised Construction Completion Report, August 6, 2019.
- Parsons. 2019. *Final Phase I-IV Construction Completion Report Clark Street Former MGP Site, Auburn, New York, NYSDEC Site Number 7-06-008*. Prepared for New York State Electric Gas Corp by Parsons, July 2019.
- SES. 2015. *Site Safety and Health Plan. Former McMaster and Clark Street Manufactured Gas Plant Sites. Auburn, New York*. Prepared for New York State Electric Gas Corp. by Severson Environmental Services, Inc. May 2015.

TABLES

Table 1
Final Engineering Report
Auburn Clark Street Former Manufactured Gas Plant
Remaining Soil Sample Exceedances -
Phase 3 Reuse Soils

Auburn Clark Street Site Phase 3 Reuse Data		6 NYCRR Part 375 Unrestricted Use SCOs 12/14/2006(1)	6 NYCRR Part 375 Restricted Commercial Use SCOs 12/14/2006(1)	Location ID: Sample ID: Lab Sample Id:	SB-P3WC-01 SB-P3WC-01(0-4)-20151123 G4583-01	SB-P3WC-02 SB-P3WC-02(0-4)-20151123 G4583-02	SB-P3WC-03 SB-P3WC-03(0-8)-20151123 G4583-03
				Depth: Source: SDG: Matrix: Sampled:	0 - 4 ft CTECH G4583 SO 11/23/2015 10:20	0 - 4 ft CTECH G4583 SO 11/23/2015 11:50	0 - 8 ft CTECH G4583 SO 11/23/2015 13:20
CAS NO.	COMPOUND			UNITS:			
VOLATILES							
71-55-6	1,1,1-TRICHLOROETHANE	0.68	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
75-34-3	1,1-DICHLOROETHANE	0.27	240	mg/kg	0.0006 U	0.0571 U	0.00057 U
75-35-4	1,1-DICHLOROETHENE	0.33	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
95-50-1	1,2-DICHLOROBENZENE	1.1	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
107-06-2	1,2-DICHLOROETHANE	0.02	30	mg/kg	0.0006 U	0.0571 U	0.00057 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.25	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
156-60-5	TRANS-1,2-DICHLOROETHENE	0.19	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
541-73-1	1,3-DICHLOROBENZENE	2.4	280	mg/kg	0.00044 U	0.0422 U	0.00042 U
106-46-7	1,4-DICHLOROBENZENE	1.8	130	mg/kg	0.00049 U	0.0468 U	0.00047 U
123-91-1	1,4-DIOXANE (P-DIOXANE)	0.1	130	mg/kg	0.12 U	11.4 U	0.11 U
67-64-1	ACETONE	0.05	500	mg/kg	0.0097 J	0.29 U	0.0069 J
71-43-2	BENZENE	0.06	44	mg/kg	0.00045 U	0.0434 U	0.00044 U
104-51-8	N-BUTYLBENZENE	12	500	mg/kg	0.00055 U	0.0525 U	0.00053 U
56-23-5	CARBON TETRACHLORIDE	0.76	22	mg/kg	0.0006 U	0.0571 U	0.00057 U
108-90-7	CHLOROBENZENE	1.1	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
67-66-3	CHLOROFORM	0.37	350	mg/kg	0.0006 U	0.0571 U	0.00057 U
100-41-4	ETHYLBENZENE	1	390	mg/kg	0.0021 J	3	0.00057 U
78-93-3	METHYL ETHYL KETONE	0.12	500	mg/kg	0.0037 U	0.36 U	0.0036 U
1634-04-4	TERT-BUTYL METHYL ETHER	0.93	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
75-09-2	METHYLENE CHLORIDE	0.05	500	mg/kg	0.0172 U	0.0571 U	0.0139 U
103-65-1	N-PROPYLBENZENE	3.9	500	mg/kg	0.00043 U	0.21 J	0.00041 U
135-98-8	SEC-BUTYLBENZENE	11	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
98-06-6	T-BUTYLBENZENE	5.9	500	mg/kg	0.0006 U	0.0571 U	0.00057 U
127-18-4	TETRACHLOROETHYLENE(PCE)	1.3	150	mg/kg	0.0006 U	0.0571 U	0.00057 U
108-88-3	TOLUENE	0.7	500	mg/kg	0.003 J	0.15 J	0.00057 U
79-01-6	TRICHLOROETHYLENE (TCE)	0.47	200	mg/kg	0.0006 U	0.0571 U	0.00057 U
95-63-6	1,2,4-TRIMETHYLBENZENE	3.6	190	mg/kg	0.0006 U	2.5	0.0027 J
75-01-4	VINYL CHLORIDE	0.02	13	mg/kg	0.0006 U	0.0571 U	0.00057 U
1330-20-7	TOTAL XYLENES	0.26	500	mg/kg	0.0031	3.3	0.0014 U
TOTAL VOLATILES					0.171	22.366	0.151
SEMIVOLATILES							
132-64-9	DIBENZOFURAN	7	350	mg/kg	0.0922 U	2.5	0.63 J
118-74-1	HEXACHLOROBENZENE	0.33	6	mg/kg	0.0964 U	0.093 U	0.0927 U
95-48-7	2-METHYLPHENOL (O-CRESOL)	0.33	500	mg/kg	0.13 U	0.12 U	0.12 U
65794-96-9	3+4-Methylphenols	0.33	500	mg/kg	0.12 U	0.12 U	0.12 U
87-86-5	PENTACHLOROPHENOL	0.8	6.7	mg/kg	0.16 U	0.16 U	0.16 U
108-95-2	PHENOL	0.33	500	mg/kg	0.0546 U	0.0526 U	0.0525 U
PAHs							
83-32-9	ACENAPHTHENE	20	500	mg/kg	1.2 J	13.4	2.1 J
208-96-8	ACENAPHTHYLENE	100	500	mg/kg	3.7	4.7	0.72 J
120-12-7	ANTHRACENE	100	500	mg/kg	2.6	10.3	2.9
56-55-3	BENZO(A)ANTHRACENE	1	5.6	mg/kg	10.1	8	9.7
50-32-8	BENZO(A)PYRENE	1	1	mg/kg	16.4	6.5	9
205-99-2	BENZO(B)FLUORANTHENE	1	5.6	mg/kg	15.1	6.2	11.6
191-24-2	BENZO(G,H,I)PERYLENE	100	500	mg/kg	15.3	4.3	7.1
207-08-9	BENZO(K)FLUORANTHENE	0.8	56	mg/kg	4	1.5 J	3.2
218-01-9	CHRYSENE	1	56	mg/kg	10.8	7.1	10.4
53-70-3	DIBENZ(A,H)ANTHRACENE	0.33	0.56	mg/kg	3	0.86 J	1.7 J
206-44-0	FLUORANTHENE	100	500	mg/kg	13.9	15.3	20.5 D
86-73-7	FLUORENE	30	500	mg/kg	0.94 J	9.8	1.2 J
193-39-5	INDENO(1,2,3-C,D)PYRENE	0.5	5.6	mg/kg	14	4.3	7.8
91-20-3	NAPHTHALENE	12	500	mg/kg	1.4 J	111.8 D	1.4 J
85-01-8	PHENANTHRENE	100	500	mg/kg	10.6	42.2 D	13.1
129-00-0	PYRENE	100	500	mg/kg	23.9 D	23.9 D	19 D
TOTAL PAHs			500 (*)	mg/kg	147	271	122
TOTAL SEMIVOLATILES				mg/kg	148	274	123
PCBs							
12674-11-2	PCB-1016 (AROCOR 1016)			mg/kg	0.0237 U	0.0225 U	0.0225 U
11104-28-2	PCB-1221 (AROCOR 1221)			mg/kg	0.0237 U	0.0225 U	0.0225 U
11141-16-5	PCB-1232 (AROCOR 1232)			mg/kg	0.0237 U	0.0225 U	0.0225 U
53469-21-9	PCB-1242 (AROCOR 1242)			mg/kg	0.0237 U	0.0225 U	0.0225 U
12672-29-6	PCB-1248 (AROCOR 1248)			mg/kg	0.0237 U	0.0225 U	0.0225 U
11097-69-1	PCB-1254 (AROCOR 1254)			mg/kg	0.0106 U	0.0101 U	0.0101 U
11096-82-5	PCB-1260 (AROCOR 1260)			mg/kg	0.0237 U	0.0225 U	0.0225 U
37324-23-5	PCB-1262 (AROCOR 1262)			mg/kg	0.0237 U	0.0225 U	0.0225 U
11100-14-4	PCB-1268 (AROCOR 1268)			mg/kg	0.0237 U	0.0225 U	0.0225 U
TOTAL PCBs		0.1	1		0.0237 U	0.0225 U	0.0225 U

Notes:

(1) NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs (December 2006)

(2) "-" indicates compound was not analyzed for.

(3) U indicates the compound was analyzed for but not detected at or above the MDL.

The associated numerical value is the sample reporting limit.

(4) J indicates an estimated concentration.

(5) D indicates the sample was diluted.

Exceeds the 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives.

Exceeds the 6 NYCRR Part 375 Restricted Soil Cleanup Objectives for Commercial Use.

Table 1
Final Engineering Report
Auburn Clark Street Former Manufactured Gas Plant
Remaining Soil Sample Exceedances -
Phase 3 Reuse Soils

Auburn Clark Street Site Phase 3 Reuse Data		6 NYCRR Part 375 Unrestricted Use SCOs 12/14/2006(1)	6 NYCRR Part 375 Restricted Commercial Use SCOs 12/14/2006(1)	Location ID: Sample ID: Lab Sample Id:	SB-P3WC-04 SB-P3WC-04(0-6)-20151123 G4583-04	SB-P3WC-05 SB-P3WC-05(0-6)-20151123 G4583-05	SB-P3WC-06 SB-P3WC-06(0-5)-20151123 G4583-06
				Depth: Source: SDG: Matrix: Sampled:	0 - 6 ft CTECH G4583 SO 11/23/2015 14:30	0 - 6 ft CTECH G4583 SO 11/23/2015 15:20	0 - 5 ft CTECH G4583 SO 11/23/2015 16:10
CAS NO.	COMPOUND			UNITS:			
VOLATILES							
71-55-6	1,1,1-TRICHLOROETHANE	0.68	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
75-34-3	1,1-DICHLOROETHANE	0.27	240	mg/kg	0.00059 U	0.00059 U	0.00063 U
75-35-4	1,1-DICHLOROETHENE	0.33	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
95-50-1	1,2-DICHLOROBENZENE	1.1	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
107-06-2	1,2-DICHLOROETHANE	0.02	30	mg/kg	0.00059 U	0.00059 U	0.00063 U
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.25	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
156-60-5	TRANS-1,2-DICHLOROETHENE	0.19	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
541-73-1	1,3-DICHLOROBENZENE	2.4	280	mg/kg	0.00043 U	0.00044 U	0.00047 U
106-46-7	1,4-DICHLOROBENZENE	1.8	130	mg/kg	0.00048 U	0.00048 U	0.00052 U
123-91-1	1,4-DIOXANE (P-DIOXANE)	0.1	130	mg/kg	0.12 U	0.12 U	0.13 U
67-64-1	ACETONE	0.05	500	mg/kg	0.0119 J	0.0179 J	0.0689
71-43-2	BENZENE	0.06	44	mg/kg	0.00045 U	0.00045 U	0.0048 J
104-51-8	N-BUTYLBENZENE	12	500	mg/kg	0.00054 U	0.00054 U	0.00058 U
56-23-5	CARBON TETRACHLORIDE	0.76	22	mg/kg	0.00059 U	0.00059 U	0.00063 U
108-90-7	CHLOROBENZENE	1.1	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
67-66-3	CHLOROFORM	0.37	350	mg/kg	0.00059 U	0.00059 U	0.00063 U
100-41-4	ETHYLBENZENE	1	390	mg/kg	0.00059 U	0.0021 J	0.0612
78-93-3	METHYL ETHYL KETONE	0.12	500	mg/kg	0.0037 U	0.0037 U	0.0039 U
1634-04-4	TERT-BUTYL METHYL ETHER	0.93	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
75-09-2	METHYLENE CHLORIDE	0.05	500	mg/kg	0.0174	0.0636	0.0265
103-65-1	N-PROPYLBENZENE	3.9	500	mg/kg	0.00042 U	0.00043 U	0.0079
135-98-8	SEC-BUTYLBENZENE	11	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
98-06-6	T-BUTYLBENZENE	5.9	500	mg/kg	0.00059 U	0.00059 U	0.00063 U
127-18-4	TETRACHLOROETHYLENE(PCE)	1.3	150	mg/kg	0.00059 U	0.00059 U	0.00063 U
108-88-3	TOLUENE	0.7	500	mg/kg	0.00059 U	0.00059 U	0.0063
79-01-6	TRICHLOROETHYLENE (TCE)	0.47	200	mg/kg	0.00059 U	0.00059 U	0.00063 U
95-63-6	1,2,4-TRIMETHYLBENZENE	3.6	190	mg/kg	0.0027 J	0.0029 J	0.18
75-01-4	VINYL CHLORIDE	0.02	13	mg/kg	0.00059 U	0.00059 U	0.00063 U
1330-20-7	TOTAL XYLENES	0.26	500	mg/kg	0.00144 U	0.0045	0.0883
TOTAL VOLATILES					0.17	0.227	0.589
SEMIVOLATILES							
132-64-9	DIBENZOFURAN	7	350	mg/kg	0.0903 U	0.0152 U	0.0164 U
118-74-1	HEXACHLOROBENZENE	0.33	6	mg/kg	0.0945 U	0.0159 U	0.0171 U
95-48-7	2-METHYLPHENOL (O-CRESOL)	0.33	500	mg/kg	0.13 U	0.0212 U	0.0228 U
65794-96-9	3+4-Methylphenols	0.33	500	mg/kg	0.12 U	0.0203 U	0.0218 U
87-86-5	PENTACHLOROPHENOL	0.8	6.7	mg/kg	0.16 U	0.0267 U	0.0287 U
108-95-2	PHENOL	0.33	500	mg/kg	0.0535 U	0.009 U	0.0097 U
PAHs							
83-32-9	ACENAPHTHENE	20	500	mg/kg	0.53 J	0.011 U	0.99
208-96-8	ACENAPHTHYLENE	100	500	mg/kg	0.0583 U	0.0098 U	0.0933 J
120-12-7	ANTHRACENE	100	500	mg/kg	0.0472 U	0.091 J	0.44
56-55-3	BENZO(A)ANTHRACENE	1	5.6	mg/kg	1.6 J	0.43	0.31 J
50-32-8	BENZO(A)PYRENE	1	1	mg/kg	1.5 J	0.35 J	0.23 J
205-99-2	BENZO(B)FLUORANTHENE	1	5.6	mg/kg	2 J	0.45	0.2 J
191-24-2	BENZO(G,H,I)PERYLENE	100	500	mg/kg	0.97 J	0.26 J	0.14 J
207-08-9	BENZO(K)FLUORANTHENE	0.8	56	mg/kg	0.52 J	0.14 J	0.0198 U
218-01-9	CHRYSENE	1	56	mg/kg	1.4 J	0.4	0.25 J
53-70-3	DIBENZ(A,H)ANTHRACENE	0.33	0.56	mg/kg	0.0667 U	0.0112 U	0.0121 U
206-44-0	FLUORANTHENE	100	500	mg/kg	2.5	0.64	0.62
86-73-7	FLUORENE	30	500	mg/kg	0.0875 U	0.0148 U	0.46
193-39-5	INDENO(1,2,3-C,D)PYRENE	0.5	5.6	mg/kg	1 J	0.29 J	0.0954 J
91-20-3	NAPHTHALENE	12	500	mg/kg	0.6 J	0.17 J	4.8 D
85-01-8	PHENANTHRENE	100	500	mg/kg	1.8 J	0.35 J	1.6
129-00-0	PYRENE	100	500	mg/kg	3.5	0.84	0.9
TOTAL PAHs			500 (*)	mg/kg	19	5	11
TOTAL SEMIVOLATILES				mg/kg	19	5	11
PCBs							
12674-11-2	PCB-1016 (AROCOR 1016)			mg/kg	0.0234 U	0.0039 U	0.0042 U
11104-28-2	PCB-1221 (AROCOR 1221)			mg/kg	0.0234 U	0.0039 U	0.0042 U
11141-16-5	PCB-1232 (AROCOR 1232)			mg/kg	0.0234 U	0.0039 U	0.0042 U
53469-21-9	PCB-1242 (AROCOR 1242)			mg/kg	0.0234 U	0.0039 U	0.0042 U
12672-29-6	PCB-1248 (AROCOR 1248)			mg/kg	0.0234 U	0.0039 U	0.0042 U
11097-69-1	PCB-1254 (AROCOR 1254)			mg/kg	0.0105 U	0.0017 U	0.0019 U
11096-82-5	PCB-1260 (AROCOR 1260)			mg/kg	0.0234 U	0.0039 U	0.0042 U
37324-23-5	PCB-1262 (AROCOR 1262)			mg/kg	0.0234 U	0.0039 U	0.0042 U
11100-14-4	PCB-1268 (AROCOR 1268)			mg/kg	0.0234 U	0.0039 U	0.0042 U
TOTAL PCBs		0.1	1		0.0234 U	0.0039 U	0.0042 U

Notes:

(1) NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs (December 2006)

(2) "-" indicates compound was not analyzed for.

(3) U indicates the compound was analyzed for but not detected at or above the MDL.

The associated numerical value is the sample reporting limit.

(4) J indicates an estimated concentration.

(5) D indicates the sample was diluted.

Exceeds the 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives.

Exceeds the 6 NYCRR Part 375 Restricted Soil Cleanup Objectives for Commercial Use.

Table 1
Final Engineering Report
Auburn Clark Street Former Manufactured Gas Plant
Remaining Soil Sample Exceedances -
Phase 3 Reuse Soils

Auburn Clark Street Site Phase 3 Reuse Data		6 NYCRR Part 375 Unrestricted Use SCOs 12/14/2006(1)	6 NYCRR Part 375 Restricted Commercial Use SCOs 12/14/2006(1)	Location ID: Sample ID: Lab Sample ID:	SB-P3WC-07 SB-P3WC-07(0-8)-20151124 G4583-07	SB-P3WC-13 SB-P3WC-13(0-8)-20151124 G4585-02	SB-P3WC-14 SB-P3WC-14(0-8)-20151124 G4585-03		
				Depth: Source: SDG: Matrix: Sampled:	0 - 8 ft CTECH G4583 SO 11/24/2015 8:00	0 - 8 ft CTECH G4585 SO 11/24/2015 11:20	0 - 8 ft CTECH G4585 SO 11/24/2015 12:50		
CAS NO. COMPOUND				UNITS:					
VOLATILES									
71-55-6	1,1,1-TRICHLOROETHANE	0.68	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
75-34-3	1,1-DICHLOROETHANE	0.27	240	mg/kg	0.00059 U	0.00058 U	0.00057 U		
75-35-4	1,1-DICHLOROETHENE	0.33	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
95-50-1	1,2-DICHLOROBENZENE	1.1	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
107-06-2	1,2-DICHLOROETHANE	0.02	30	mg/kg	0.00059 U	0.00058 U	0.00057 U		
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.25	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
156-60-5	TRANS-1,2-DICHLOROETHENE	0.19	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
541-73-1	1,3-DICHLOROBENZENE	2.4	280	mg/kg	0.00043 U	0.00043 U	0.00042 U		
106-46-7	1,4-DICHLOROBENZENE	1.8	130	mg/kg	0.00048 U	0.00048 U	0.00047 U		
123-91-1	1,4-DIOXANE (P-DIOXANE)	0.1	130	mg/kg	0.12 U	0.12 U	0.11 U		
67-64-1	ACETONE	0.05	500	mg/kg	0.01 J	0.0099 J	0.039		
71-43-2	BENZENE	0.06	44	mg/kg	0.00045 U	0.00044 U	0.00043 U		
104-51-8	N-BUTYLBENZENE	12	500	mg/kg	0.00054 U	0.00054 U	0.00052 U		
56-23-5	CARBON TETRACHLORIDE	0.76	22	mg/kg	0.00059 U	0.00058 U	0.00057 U		
108-90-7	CHLOROBENZENE	1.1	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
67-66-3	CHLOROFORM	0.37	350	mg/kg	0.00059 U	0.00058 U	0.00057 U		
100-41-4	ETHYLBENZENE	1	390	mg/kg	0.00059 U	0.00058 U	0.00057 U		
78-93-3	METHYL ETHYL KETONE	0.12	500	mg/kg	0.0037 U	0.0036 U	0.0035 U		
1634-04-4	TERT-BUTYL METHYL ETHER	0.93	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
75-09-2	METHYLENE CHLORIDE	0.05	500	mg/kg	0.00059 U	0.0146	0.013		
103-65-1	N-PROPYLBENZENE	3.9	500	mg/kg	0.00042 U	0.00042 U	0.00041 U		
135-98-8	SEC-BUTYLBENZENE	11	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
98-06-6	T-BUTYLBENZENE	5.9	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
127-18-4	TETRACHLOROETHYLENE(PCE)	1.3	150	mg/kg	0.00059 U	0.00058 U	0.00057 U		
108-88-3	TOLUENE	0.7	500	mg/kg	0.00059 U	0.00058 U	0.00057 U		
79-01-6	TRICHLOROETHYLENE (TCE)	0.47	200	mg/kg	0.00059 U	0.00058 U	0.00057 U		
95-63-6	1,2,4-TRIMETHYLBENZENE	3.6	190	mg/kg	0.00059 U	0.00058 U	0.00057 U		
75-01-4	VINYL CHLORIDE	0.02	13	mg/kg	0.00059 U	0.00058 U	0.00057 U		
1330-20-7	TOTAL XYLENES	0.26	500	mg/kg	0.00144 U	0.00142 U	0.00139 U		
TOTAL VOLATILES					0.149	0.163	0.18		
SEMIVOLATILES									
132-64-9	DIBENZOFURAN	7	350	mg/kg	0.0152 U	0.0151 U	0.0147 U		
118-74-1	HEXACHLOROBENZENE	0.33	6	mg/kg	0.0159 U	0.0158 U	0.0154 U		
95-48-7	2-METHYLPHENOL (O-CRESOL)	0.33	500	mg/kg	0.0211 U	0.021 U	0.0204 U		
65794-96-9	3+4-Methylphenols	0.33	500	mg/kg	0.0202 U	0.0201 U	0.0195 U		
87-86-5	PENTACHLOROPHENOL	0.8	6.7	mg/kg	0.0266 U	0.0265 U	0.0257 U		
108-95-2	PHENOL	0.33	500	mg/kg	0.009 U	0.009 U	0.0087 U		
PAHs									
83-32-9	ACENAPHTHENE	20	500	mg/kg	0.011 U	0.12 J	0.0106 U		
208-96-8	ACENAPHTHYLENE	100	500	mg/kg	0.21 J	0.33 J	0.17 J		
120-12-7	ANTHRACENE	100	500	mg/kg	0.15 J	0.31 J	0.16 J		
56-55-3	BENZO(A)ANTHRACENE	1	5.6	mg/kg	1.3	2.2	1.7		
50-32-8	BENZO(A)PYRENE	1	1	mg/kg	0.94	1.7	1.6		
205-99-2	BENZO(B)FLUORANTHENE	1	5.6	mg/kg	1.9	2.4	2.3		
191-24-2	BENZO(G,H,I)PERYLENE	100	500	mg/kg	1.2	2.1	2.1		
207-08-9	BENZO(K)FLUORANTHENE	0.8	56	mg/kg	0.48	0.9	0.95		
218-01-9	CHRYSENE	1	56	mg/kg	1.4	2.1	1.8		
53-70-3	DIBENZ(A,H)ANTHRACENE	0.33	0.56	mg/kg	0.27 J	0.42	0.51		
206-44-0	FLUORANTHENE	100	500	mg/kg	1	3.4 D	2.3		
86-73-7	FLUORENE	30	500	mg/kg	0.0147 U	0.13 J	0.0142 U		
193-39-5	INDENO(1,2,3-C,D)PYRENE	0.5	5.6	mg/kg	1.2	1.8	2		
91-20-3	NAPHTHALENE	12	500	mg/kg	0.11 J	0.16 J	0.013 U		
85-01-8	PHENANTHRENE	100	500	mg/kg	0.62	2.1	0.85		
129-00-0	PYRENE	100	500	mg/kg	1.9	4.4 D	2.3 D		
TOTAL PAHs			500 (*)	mg/kg	13	25	19		
TOTAL SEMIVOLATILES				mg/kg	13	25	19		
PCBs									
12674-11-2	PCB-1016 (AROCOR 1016)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
11104-28-2	PCB-1221 (AROCOR 1221)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
11141-16-5	PCB-1232 (AROCOR 1232)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
53469-21-9	PCB-1242 (AROCOR 1242)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
12672-29-6	PCB-1248 (AROCOR 1248)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
11097-69-1	PCB-1254 (AROCOR 1254)			mg/kg	0.0017 U	0.0017 U	0.0017 U		
11096-82-5	PCB-1260 (AROCOR 1260)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
37324-23-5	PCB-1262 (AROCOR 1262)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
11100-14-4	PCB-1268 (AROCOR 1268)			mg/kg	0.0039 U	0.0039 U	0.0038 U		
TOTAL PCBs		0.1	1		0.0039 U	0.0039 U	0.0038 U		

Notes:

(1) NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs (December 2006)

(2) "-" indicates compound was not analyzed for.

(3) U indicates the compound was analyzed for but not detected at or above the MDL.

The associated numerical value is the sample reporting limit.

(4) J indicates an estimated concentration.

(5) D indicates the sample was diluted.

Exceeds the 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives.

Exceeds the 6 NYCRR Part 375 Restricted Soil Cleanup Objectives for Commercial Use.

Table 1
Final Engineering Report
Auburn Clark Street Former Manufactured Gas Plant
Remaining Soil Sample Exceedances -
Phase 3 Reuse Soils

Auburn Clark Street Site Phase 3 Reuse Data		6 NYCRR Part 375 Unrestricted Use SCOs 12/14/2006(1)	6 NYCRR Part 375 Restricted Commercial Use SCOs 12/14/2006(1)	Location ID: Sample ID: Lab Sample Id:	SB-P3WC-14 DUP3-112415-20151124 G4585-04	SB-P3WC-15 SB-P3WC-15(0-8)-20151124 G4585-05	SB-P3WC-18 SB-P3WC-18(0-4)-20151124 G4585-07		
				Depth: Source: SDG: Matrix: Sampled:	0 - 8 ft CTECH G4585 SO 11/24/2015 0:00	0 - 8 ft CTECH G4585 SO 11/24/2015 13:20	0 - 4 ft CTECH G4585 SO 11/24/2015 14:30		
CAS NO. COMPOUND				UNITS:					
VOLATILES									
71-55-6	1,1,1-TRICHLOROETHANE	0.68	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
75-34-3	1,1-DICHLOROETHANE	0.27	240	mg/kg	0.00055 U	0.00059 U	0.00056 U		
75-35-4	1,1-DICHLOROETHENE	0.33	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
95-50-1	1,2-DICHLOROBENZENE	1.1	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
107-06-2	1,2-DICHLOROETHANE	0.02	30	mg/kg	0.00055 U	0.00059 U	0.00056 U		
156-59-2	CIS-1,2-DICHLOROETHYLENE	0.25	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
156-60-5	TRANS-1,2-DICHLOROETHENE	0.19	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
541-73-1	1,3-DICHLOROBENZENE	2.4	280	mg/kg	0.00041 U	0.00043 U	0.00042 U		
106-46-7	1,4-DICHLOROBENZENE	1.8	130	mg/kg	0.00045 U	0.00048 U	0.00046 U		
123-91-1	1,4-DIOXANE (P-DIOXANE)	0.1	130	mg/kg	0.11 U	0.12 U	0.11 U		
67-64-1	ACETONE	0.05	500	mg/kg	0.0211 J	0.0518	0.22		
71-43-2	BENZENE	0.06	44	mg/kg	0.00042 U	0.0143	0.00043 U		
104-51-8	N-BUTYLBENZENE	12	500	mg/kg	0.00051 U	0.00054 U	0.0014 J		
56-23-5	CARBON TETRACHLORIDE	0.76	22	mg/kg	0.00055 U	0.00059 U	0.00056 U		
108-90-7	CHLOROBENZENE	1.1	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
67-66-3	CHLOROFORM	0.37	350	mg/kg	0.00055 U	0.00059 U	0.00056 U		
100-41-4	ETHYLBENZENE	1	390	mg/kg	0.00055 U	0.0955	0.0024 J		
78-93-3	METHYL ETHYL KETONE	0.12	500	mg/kg	0.0034 U	0.0037 U	0.0035 U		
1634-04-4	TERT-BUTYL METHYL ETHER	0.93	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
75-09-2	METHYLENE CHLORIDE	0.05	500	mg/kg	0.0116	0.00059 U	0.00056 U		
103-65-1	N-PROPYLBENZENE	3.9	500	mg/kg	0.0004 U	0.0107	0.00041 U		
135-98-8	SEC-BUTYLBENZENE	11	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
98-06-6	T-BUTYLBENZENE	5.9	500	mg/kg	0.00055 U	0.00059 U	0.00056 U		
127-18-4	TETRACHLOROETHYLENE(PCE)	1.3	150	mg/kg	0.00055 U	0.00059 U	0.00056 U		
108-88-3	TOLUENE	0.7	500	mg/kg	0.00055 U	0.0106	0.00056 U		
79-01-6	TRICHLOROETHYLENE (TCE)	0.47	200	mg/kg	0.00055 U	0.00059 U	0.00056 U		
95-63-6	1,2,4-TRIMETHYLBENZENE	3.6	190	mg/kg	0.00055 U	0.18 E	0.0088		
75-01-4	VINYL CHLORIDE	0.02	13	mg/kg	0.00055 U	0.00059 U	0.00056 U		
1330-20-7	TOTAL XYLENES	0.26	500	mg/kg	0.00135 U	0.1112	0.0016		
TOTAL VOLATILES					0.16	0.609	0.36		
SEMIVOLATILES									
132-64-9	DIBENZOFURAN	7	350	mg/kg	0.0143 U	1.3 J	0.0868 U		
118-74-1	HEXACHLOROBENZENE	0.33	6	mg/kg	0.0149 U	0.0956 U	0.0909 U		
95-48-7	2-METHYLPHENOL (O-CRESOL)	0.33	500	mg/kg	0.0199 U	0.13 U	0.12 U		
65794-96-9	3+4-Methylphenols	0.33	500	mg/kg	0.019 U	0.12 U	0.12 U		
87-86-5	PENTACHLOROPHENOL	0.8	6.7	mg/kg	0.025 U	0.16 U	0.15 U		
108-95-2	PHENOL	0.33	500	mg/kg	0.0084 U	0.0541 U	0.0514 U		
PAHs									
83-32-9	ACENAPHTHENE	20	500	mg/kg	0.0103 U	16.7	0.0628 U		
208-96-8	ACENAPHTHYLENE	100	500	mg/kg	0.0092 U	3.7	1.9 J		
120-12-7	ANTHRACENE	100	500	mg/kg	0.0746 J	10.7	0.57 J		
56-55-3	BENZO(A)ANTHRACENE	1	5.6	mg/kg	0.64	10.6	1.3 J		
50-32-8	BENZO(A)PYRENE	1	1	mg/kg	0.68	11.3	2.5		
205-99-2	BENZO(B)FLUORANTHENE	1	5.6	mg/kg	1.1	9.4	2.6		
191-24-2	BENZO(G,H,I)PERYLENE	100	500	mg/kg	0.87	7.1	2.7		
207-08-9	BENZO(K)FLUORANTHENE	0.8	56	mg/kg	0.4	2.2 J	0.83 J		
218-01-9	CHRYSENE	1	56	mg/kg	0.76	8.5	1.2 J		
53-70-3	DIBENZ(A,H)ANTHRACENE	0.33	0.56	mg/kg	0.18 J	1.3 J	0.64 J		
206-44-0	FLUORANTHENE	100	500	mg/kg	1	21.5 D	1.5 J		
86-73-7	FLUORENE	30	500	mg/kg	0.0138 U	11.1	0.78 J		
193-39-5	INDENO(1,2,3-C,D)PYRENE	0.5	5.6	mg/kg	0.7	5.5	2 J		
91-20-3	NAPHTHALENE	12	500	mg/kg	0.0126 U	40.2 D	7.6		
85-01-8	PHENANTHRENE	100	500	mg/kg	0.41	44.8 D	2.8		
129-00-0	PYRENE	100	500	mg/kg	1.2	29 D	2.8		
TOTAL PAHs			500 (*)	mg/kg	8	234	32		
TOTAL SEMIVOLATILES				mg/kg	8	236	33		
PCBs									
12674-11-2	PCB-1016 (AROCOR 1016)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
11104-28-2	PCB-1221 (AROCOR 1221)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
11141-16-5	PCB-1232 (AROCOR 1232)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
53469-21-9	PCB-1242 (AROCOR 1242)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
12672-29-6	PCB-1248 (AROCOR 1248)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
11097-69-1	PCB-1254 (AROCOR 1254)			mg/kg	0.0016 U	0.0017 U	0.0017 U		
11096-82-5	PCB-1260 (AROCOR 1260)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
37324-23-5	PCB-1262 (AROCOR 1262)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
11100-14-4	PCB-1268 (AROCOR 1268)			mg/kg	0.0037 U	0.0039 U	0.0037 U		
TOTAL PCBs		0.1	1		0.0037 U	0.0039 U	0.0037 U		

Notes:

(1) NYSDEC 6 NYCRR Part 375 Environmental Remediation Programs (December 2006)

(2) "-" indicates compound was not analyzed for.

(3) U indicates the compound was analyzed for but not detected at or above the MDL.

The associated numerical value is the sample reporting limit.

(4) J indicates an estimated concentration.

(5) D indicates the sample was diluted.

Exceeds the 6 NYCRR Part 375 Unrestricted Soil Cleanup Objectives.

Exceeds the 6 NYCRR Part 375 Restricted Soil Cleanup Objectives for Commercial Use.

Table 2
Final Engineering Report
Auburn Clark Street Former Manufactured Gas Plant
Groundwater Analytical Results -2021

Auburn Clark Street Site Groundwater Analytical Results - 2021				Location ID Sample ID Matrix ⁽³⁾ Lab Sample ID Sample Date Sample Type Code ⁽⁴⁾		MW-01B MW-01B-0930201 WG 480-190358-6 9/30/2021 N		MW-08D MW-08D-09302021 WG 480-190358-4 9/30/2021 N		MW-09D MW-09D-09302021 WG 480-190358-3 9/30/2021 N		MW-10D MW-10D-0930201 WG 480-190358-7 9/30/2021 N		MW-PAR-01 MW-PAR-01-09302021 WG 480-190358-1 9/30/2021 N		MW-PAR-01 BD-09302021 WG 480-190358-2 9/30/2021 FD		MW-PAR-02 MW-PAR-02-09302021 WG 480-190358-5 9/30/2021 N	
Analytical Method	Chemical Name	CAS	Unit	NYSDEC Class GA ¹	New York State MCL ²														
Volatile Organics (BTEX)																			
SW8260C	Benzene	71-43-2	ug/L	1	-	1	U	320		130		700		29		30		170	
SW8260C	Benzene, Toluene, Ethylbenzene, And Xylenes	BTEX	ug/L	-	-	2	U	1400		3700		4100		33		35		690	
SW8260C	Ethylbenzene	100-41-4	ug/L	5	-	1	U	800		1800		2600		2.9		3		440	
SW8260C	m,p-Xylene	179601-23-1	ug/L	-	-	2	U	71		1200		200		2	U	0.69	J	20	
SW8260C	O-Xylene (1,2-Dimethylbenzene)	95-47-6	ug/L	-	-	1	U	190		520		580		0.85	J	0.92	J	59	
SW8260C	Toluene	108-88-3	ug/L	5	-	1	U	12		28		20	J	1	U	1	U	10	U
SW8260C	Xylenes	1330-20-7	ug/L	5	-	2	U	260		1700		780		0.85	J	1.6	J	79	
Semivolatile Organics (PAHs)																			
SW8270D	Acenaphthene	83-32-9	ug/L	20	-	5	U	170	J	480	J	260	J	250		260		380	
SW8270D	Acenaphthylene	208-96-8	ug/L	-	-	5	U	1.7	J	7.8	J	2.5	J	4.8	J	5.1		4.5	J
SW8270D	Anthracene	120-12-7	ug/L	50	-	5	U	3.5	J	23	J	7.4		5.6		5.9		11	
SW8270D	Benzo(A)Anthracene	56-55-3	ug/L	0.002	-	5	U	5	U	6.9	J	5	U	5	U	5	U	5	U
SW8270D	Benzo(A)Pyrene	50-32-8	ug/L	0	-	5	U	5	U	6.2	J	5	U	5	U	5	U	5	U
SW8270D	Benzo(B)Fluoranthene	205-99-2	ug/L	0.002	-	5	U	5	U	4.6	J	5	U	5	U	5	U	5	U
SW8270D	Benzo(G,H,I)Perylene	191-24-2	ug/L	-	-	5	U	5	U	3.3	J	5	U	5	U	5	U	5	U
SW8270D	Benzo(K)Fluoranthene	207-08-9	ug/L	0.002	-	5	U	5	U	25	U	5	U	5	U	5	U	5	U
SW8270D	Chrysene	218-01-9	ug/L	0.002	-	5	U	5	U	5	J	5	U	5	U	5	U	5	U
SW8270D	Dibenz(A,H)Anthracene	53-70-3	ug/L	-	-	5	U	5	U	25	U	5	U	5	U	5	U	5	U
SW8270D	Fluoranthene	206-44-0	ug/L	50	-	5	U	1.7	J	26		2.9	J	8		8.3		6.8	
SW8270D	Fluorene	86-73-7	ug/L	50	-	5	U	33		89		52		67		69		74	J
SW8270D	Indeno(1,2,3-C,D)Pyrene	193-39-5	ug/L	0.002	-	5	U	5	U	2.4	J	5	U	5	U	5	U	5	U
SW8270D	Naphthalene	91-20-3	ug/L	10	-	5	U	3800		12000		8300		3.1	J	4.3	J	670	
SW8270D	Phenanthrene	85-01-8	ug/L	50	-	5	U	36		140		57		73		73		110	J
SW8270D	Pyrene	129-00-0	ug/L	-	-	5	U	2.1	J	34		3.8	J	11		11		7.7	
Per- and Polyfluoroalkyl Substances (PFAS)																			
E537(M)	2-(N-methyl perfluorooctanesulfonamido) acetic acid	2355-31-9	ng/l	-	-	4.4	U	4.4	U	4.5	U	4.5	U	4.6	U	4.4	U	4.6	U
E537(M)	N-ethyl perfluorooctanesulfonamidoacetic acid	2991-50-6	ng/l	-	-	4.4	U	4.4	U	4.5	U	4.5	U	4.6	U	4.4	U	4.6	U
E537(M)	Perfluorobutanesulfonic acid (PFBS)	375-73-5	ng/l	-	-	0.37	J	1.7	U	0.84	J	0.54	J	1.6	J	1.6	J	1.4	J
E537(M)	Perfluorobutanoic Acid	375-22-4	ng/l	-	-	1.2	J	1.3	J	2.8	J	3.6	J	5.7		4.1	J	7.4	
E537(M)	Perfluorodecane Sulfonic Acid	335-77-3	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluorodecanoic acid (PFDA)	335-76-2	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluorododecanoic acid (PFDoA)	307-55-1	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluoroheptane Sulfonate (PFHPS)	375-92-8	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluoroheptanoic acid (PFHpA)	375-85-9	ng/l	-	-	1.8	U	0.23	J	0.79	J	0.67	J	1.6	J	0.72	J	0.97	J
E537(M)	Perfluorohexanesulfonic acid (PFHxS)	355-46-4	ng/l	-	-	1.8	U	0.44	J	0.81	J	0.63	J	0.7	J	0.6	J	0.72	J
E537(M)	Perfluorohexanoic acid (PFHxA)	307-24-4	ng/l	-	-	1.8	U	0.56	J	1.2	J	1.2	J	2		0.92	J	1.9	
E537(M)	Perfluorononanoic acid (PFNA)	375-95-1	ng/l	-	-	1.8	U	1.7	U	0.29	J	0.26	J	0.59	J	1.8	U	0.31	J
E537(M)	Perfluorooctane Sulfonamide (FOSA)	754-91-6	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluorooctanesulfonic acid (PFOS)	1763-23-1	ng/l	-	10	1.8	U	1.7	U	1.9		1.8	U	2.1		2.2		1.8	
E537(M)	Perfluorooctanoic acid (PFOA)	335-67-1	ng/l	-	10	1.8	U	0.52	J	1.5	J	1.3	J	3.4		2		2.4	
E537(M)	Perfluoropentanoic Acid (PFPeA)	2706-90-3	ng/l	-	-	1.8	U	0.47	J	0.84	J	0.59	J	1.6	J	0.67	J	1.2	J
E537(M)	Perfluorotetradecanoic acid (PFTA)	376-06-7	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluorotridecanoic Acid (PFTriA)	72629-94-8	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Perfluoroundecanoic Acid (PFUnA)	2058-94-8	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Sodium 1H,1H,2H,2H-Perfluorodecane Sulfonate (8:2)	39108-34-4	ng/l	-	-	1.8	U	1.7	U	1.8	U	1.8	U	1.8	U	1.8	U	1.8	U
E537(M)	Sodium 1H,1H,2H,2H-Perfluorooctane Sulfonate (6:2)	27619-97-2	ng/l	-	-	4.4	U	4.4	U	4.5	U	3.4	J	4.6	U	4.4	U	3.9	J
1,4-Dioxane																			
SW8270DSIM	1,4-Dioxane (P-Dioxane)	123-91-1	ug/L	-	1	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U

Notes:

¹ New York State Department of Environmental Conservation, 6NYCRR Part 703 and Technical and Operational Guidance Series (1.1.1) Class GA Standards and Guidance Values. Revised 1998

² New York State Department of Health, State Sanitary Code (SSC) 10NYCRR Part 5 maximum contaminant levels for PFOA, PFOS, and 1,4 Dioxane

Gray highlighting = Exceeds NYSDEC Class GA Standards and Guidance Values

Blue Highlighting = Exceeds NYS MCL

NA = Not analyzed, NC = no criteria exists

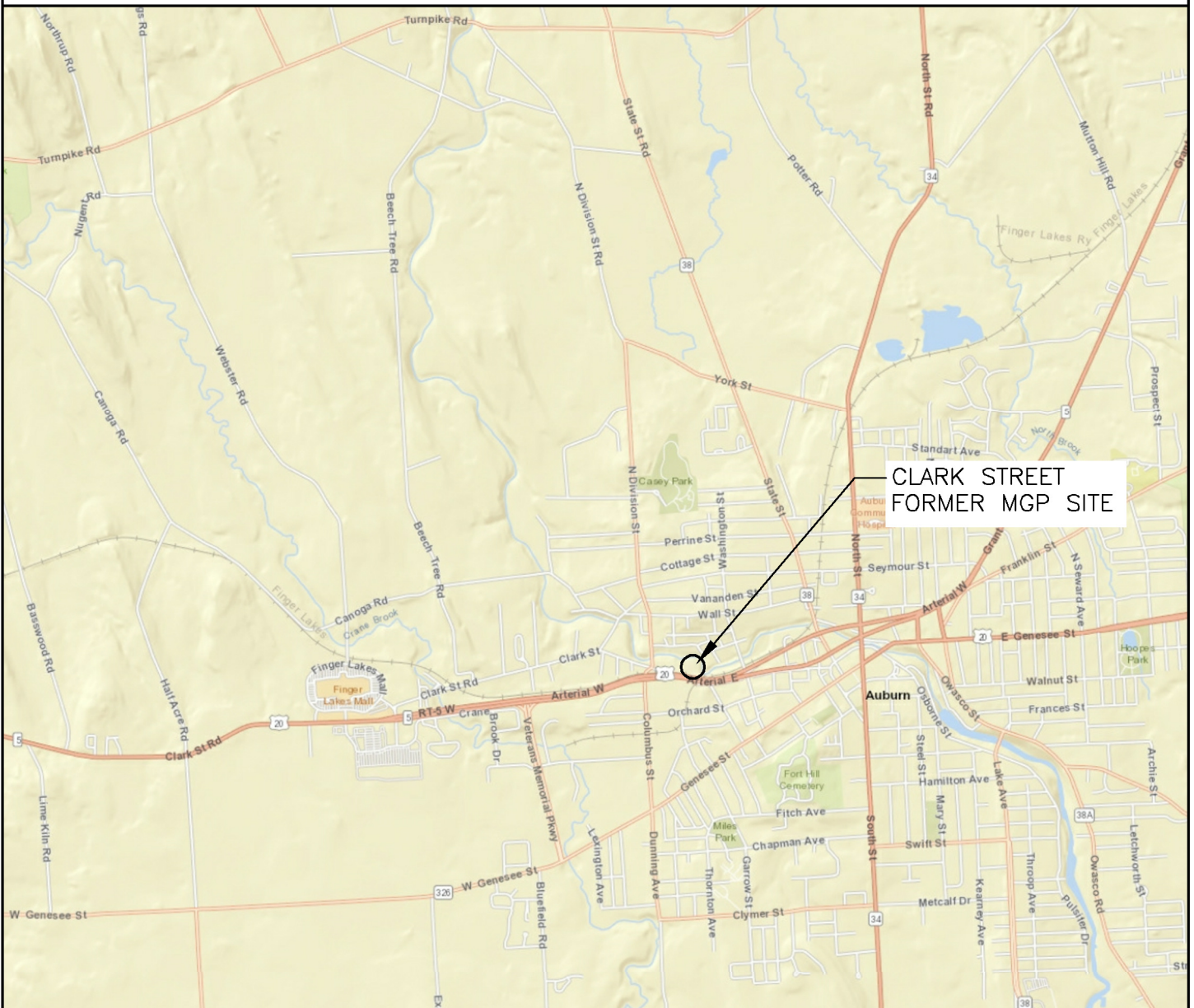
Qualifiers: B = Compound was found in the blank and sample, BJ = Compound was found in the blank and sample at the estimated value, J = Estimated value, J- = Estimated biased low, J+ = Estimated biased high,

Matrix ID: WO = Water Quality Control Matrix, WG = Groundwater, WS = Surface Water

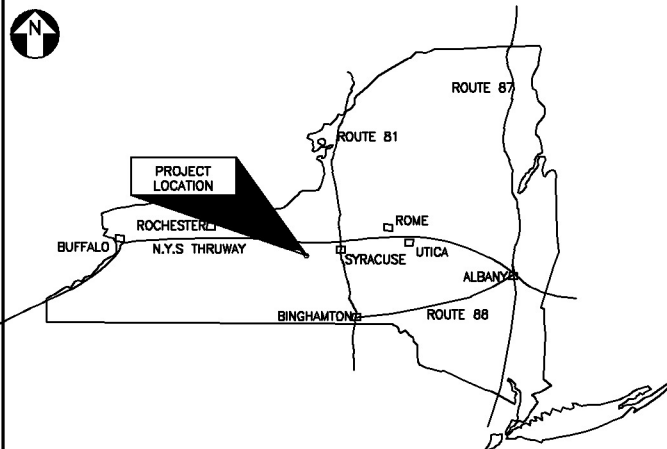
Sample Type Code: N = Normal Environmental Sample, FD = Field Duplicate, EB = Equipment Blank, FB = Field Blank, TB = Trip Blank

Results validated.

FIGURES



NOT TO SCALE



THE STATE OF NEW YORK
NOT TO SCALE

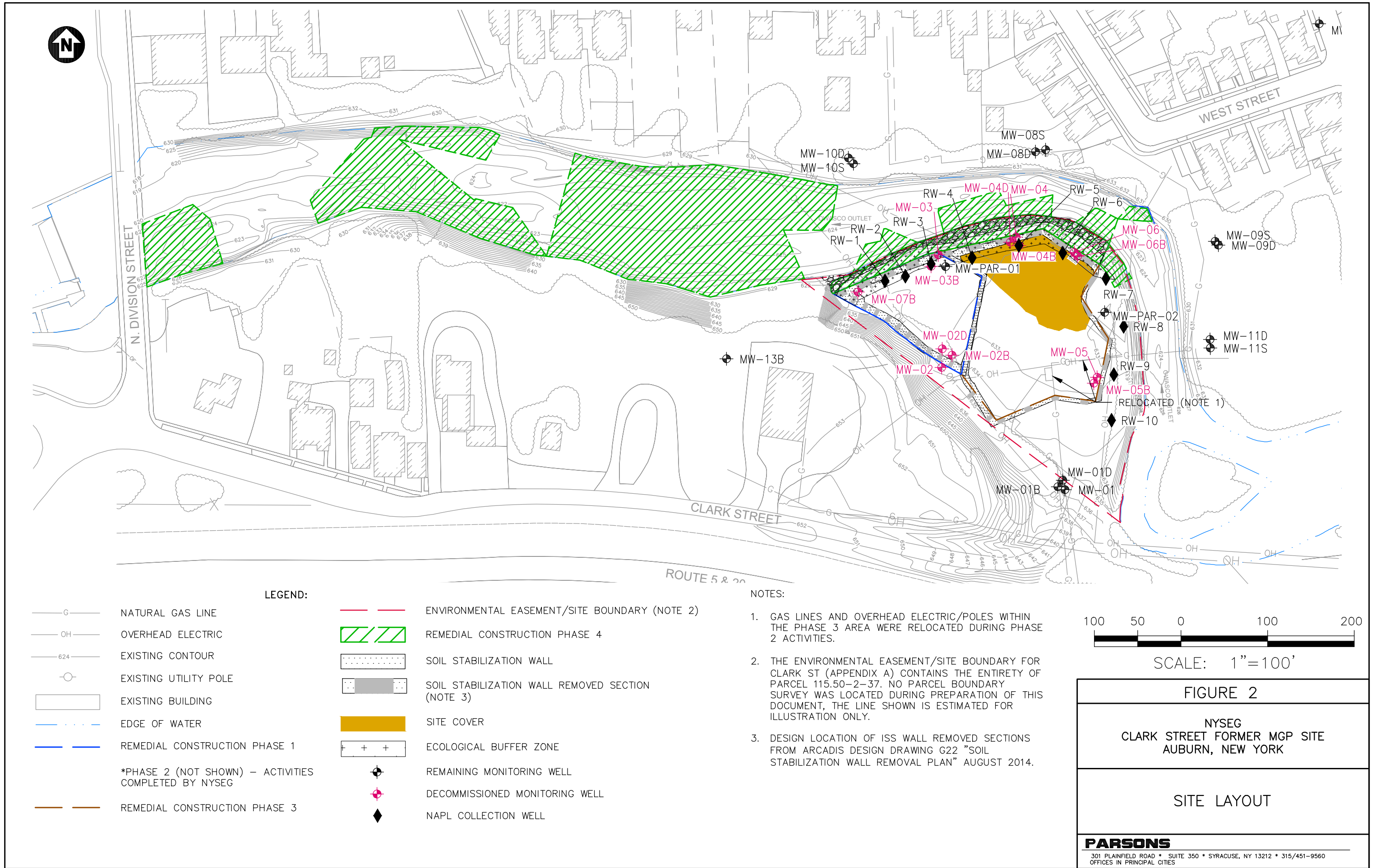
FIGURE 1

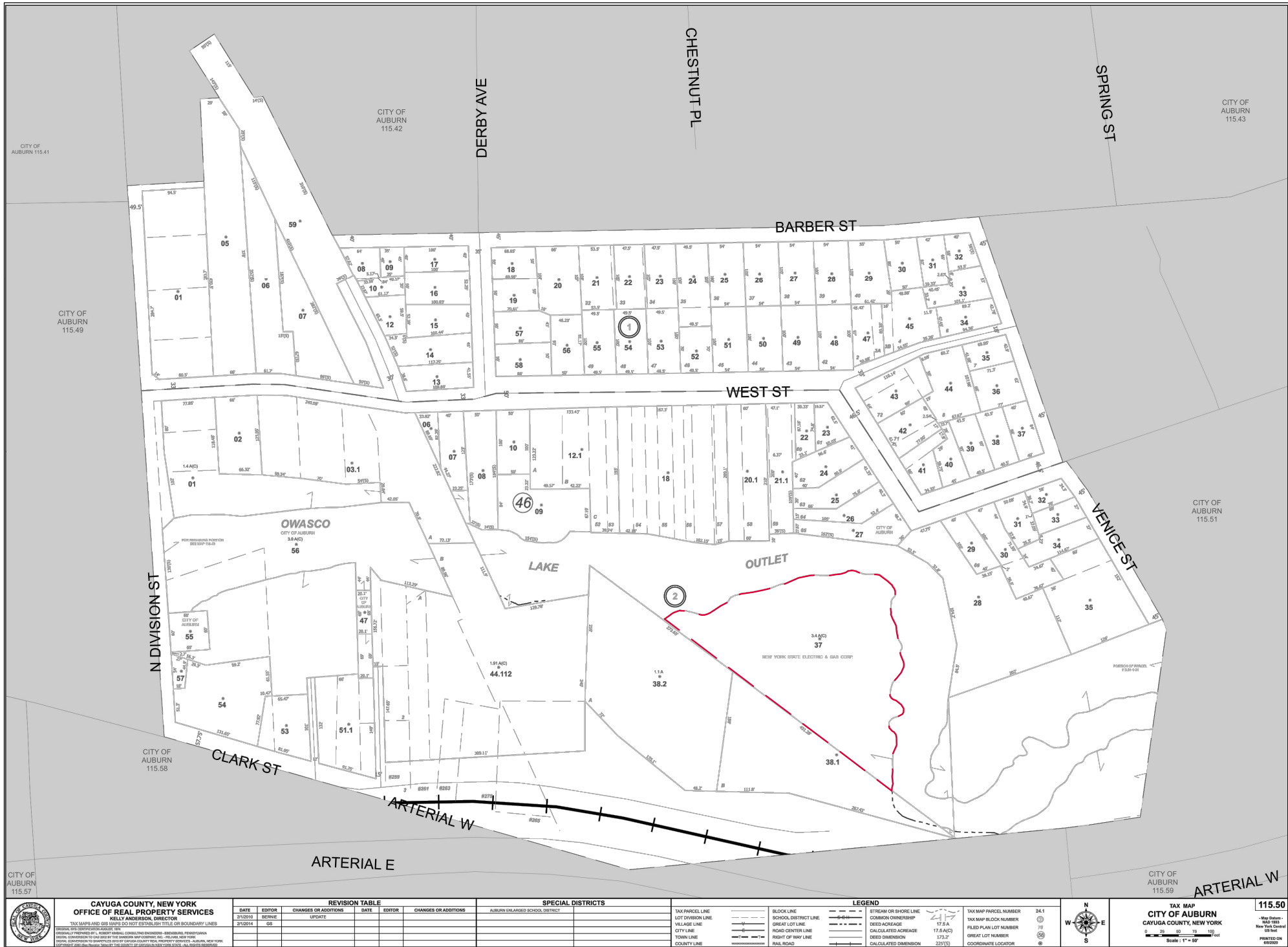
NYSEG
CLARK STREET FORMER MGP SITE
AUBURN, NEW YORK

SITE LOCATION MAP

PARSONS

301 PLAINFIELD ROAD, SUITE 350, SYRACUSE, NY 13212 • 315-451-9560





LEGEND:

— ENVIRONMENTAL EASEMENT/SITE
BOUNDARY (FIGURE 2, NOTE 2)

NOTES:

1. TAX MAP OBTAINED FROM THE
CAYUGA COUNTY, NEW YORK OFFICE
OF REAL PROPERTY SERVICES ONLINE
DATABASE MAP NUMBER 115.050.

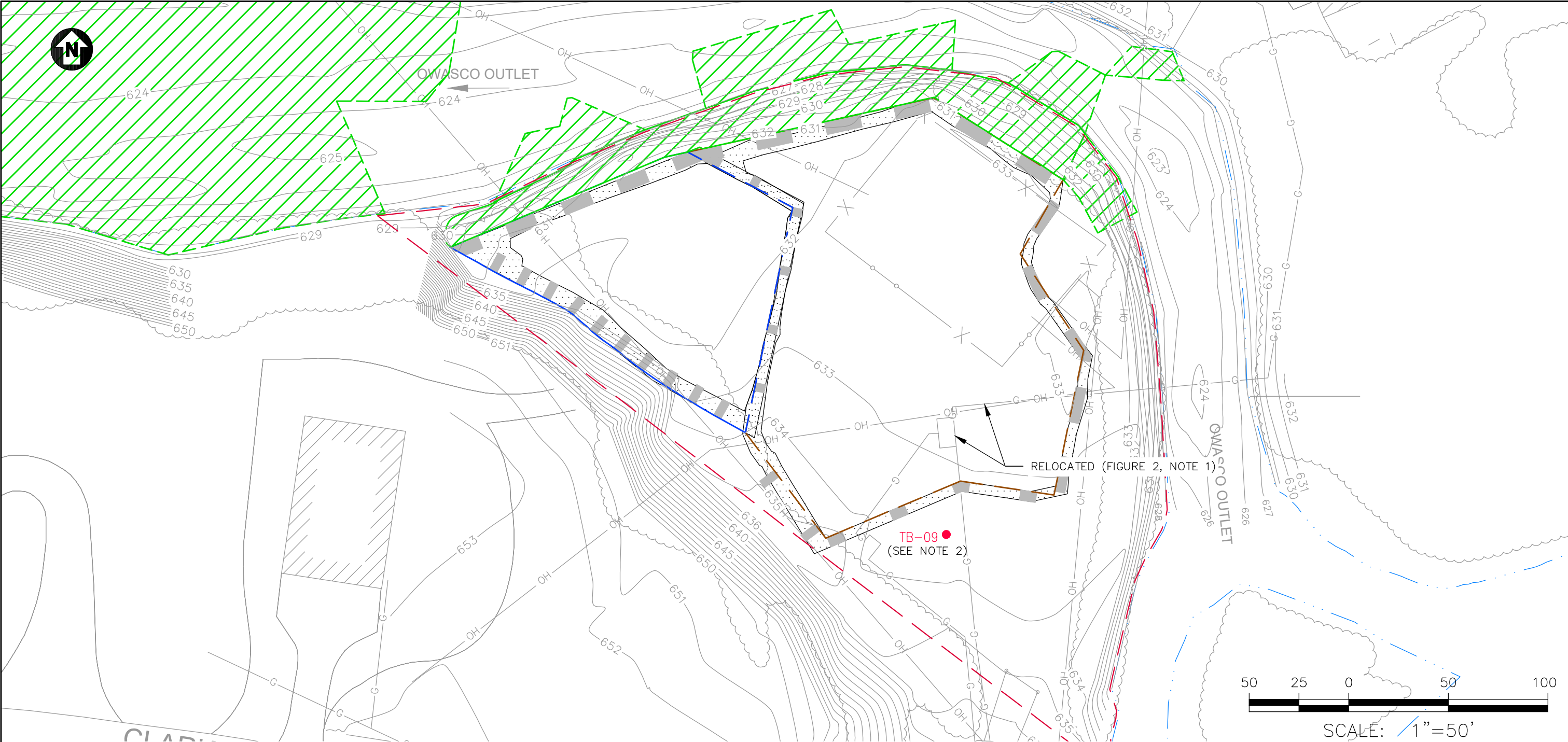
FIGURE 3

NYSEG
CLARK STREET FORMER MGP SITE
AUBURN, NEW YORK

CITY OF AUBURN
TAX MAP

PARSONS

301 PLAINFIELD ROAD * SUITE 350 * SYRACUSE, NY 13212 * 315/451-9560
OFFICES IN PRINCIPAL CITIES



●

SOIL SAMPLE LOCATION (NOTE 2)

—

REMEDIAL CONSTRUCTION PHASE 1

—

REMEDIAL CONSTRUCTION PHASE 3

REMEDIAL CONSTRUCTION PHASE 4

—

ENVIRONMENTAL EASEMENT/SITE BOUNDARY (FIGURE 2, NOTE 2)

— · — · —

EDGE OF WATER

SOIL STABILIZATION WALL

SOIL STABILIZATION WALL REMOVED SECTION (FIGURE 2, NOTE 3)

NOTES:

1. DATA OBTAINED FROM FIGURE 2 OF THE "RECORD OF DECISION NYSEG CLARK STREET – AUBURN MGP SITE AUBURN, CAYUGA COUNTY, NEW YORK SITE NUMBER 7-06-008. DATED MARCH 2009.
2. A BLACK COAL TAR RESIDUE WAS OBSERVED FROM 2 TO 3 FEET BELOW GROUND SURFACE AND A BLACK COAL RESIDUE STAINING WAS OBSERVED FROM 3 TO 9 FEET BELOW GROUND SURFACE AT LOCATION TB-09.

FIGURE 4

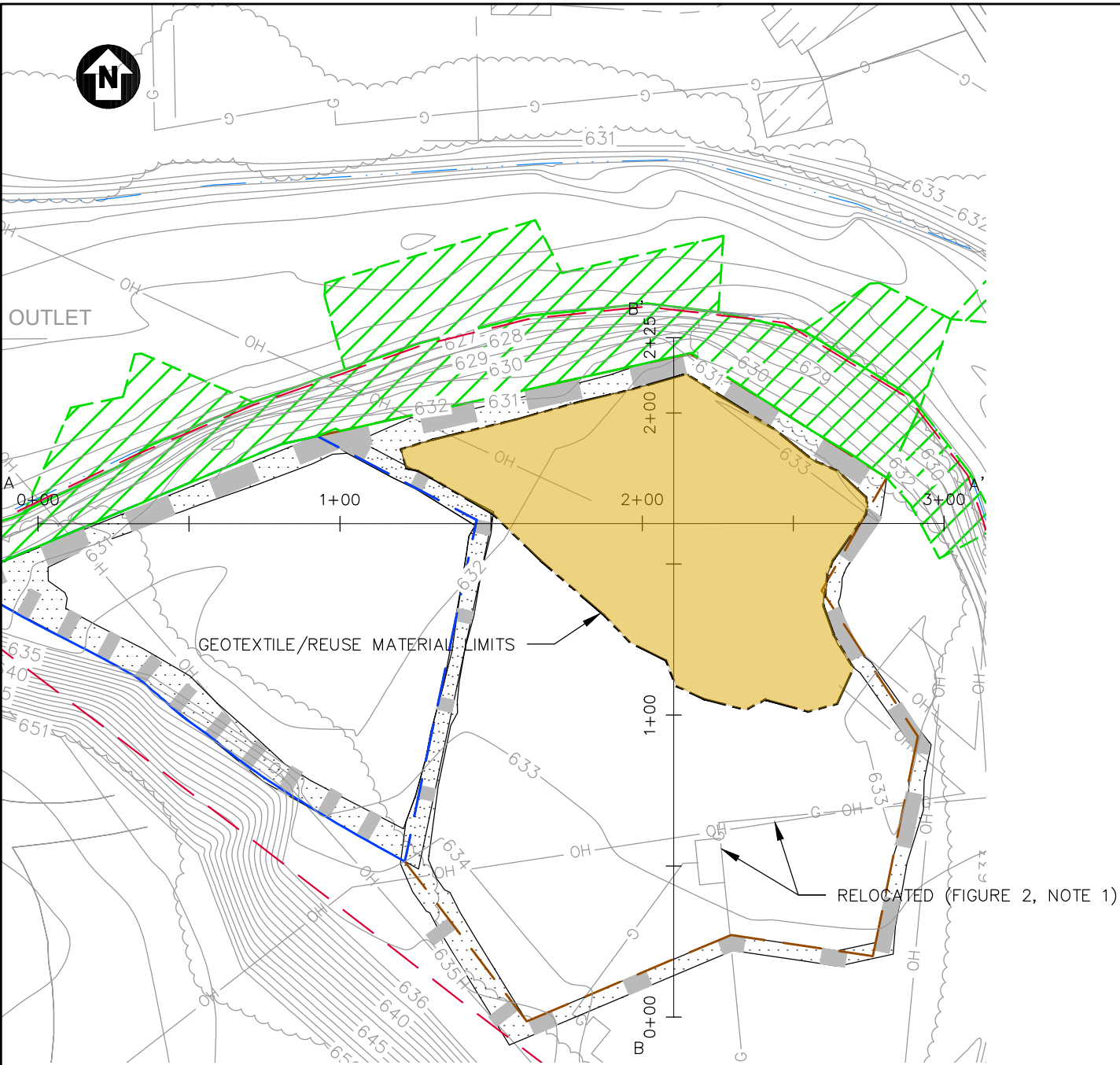
NYSEG
CLARK STREET FORMER MGP SITE
AUBURN, NEW YORK

REMAINING MGP-RELATED
IMPACTS IN SOIL

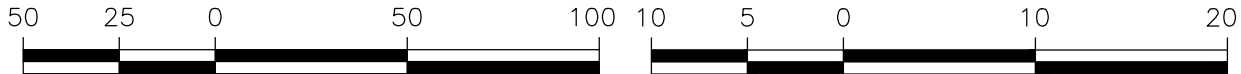
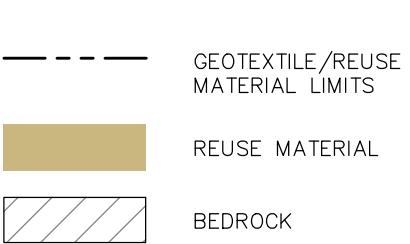
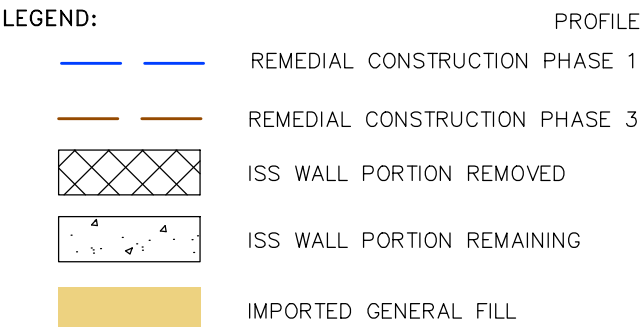
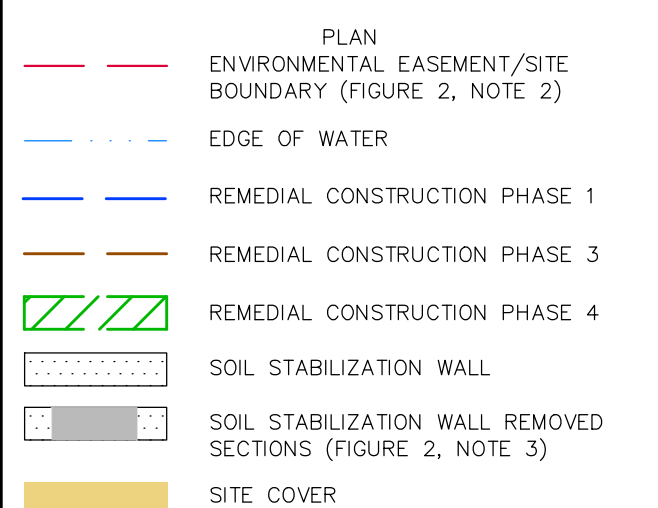
PARSONS

301 PLAINFIELD ROAD • SUITE 350 • SYRACUSE, NY 13212 • 315/451-9560
OFFICES IN PRINCIPAL CITIES

FILE NAME: P:\IBERDROLA_AVANGRID\449523 AUBURN CLARK STREET 2018\07 CAD ASBUILT SURVEYS\CAD\FER\FER FIGURE 4 IMPACTS IN SOIL.DWG
PLOT DATE: 6/22/2021 2:14 PM PLOTTED BY: NASSIMOS, JEFFREY



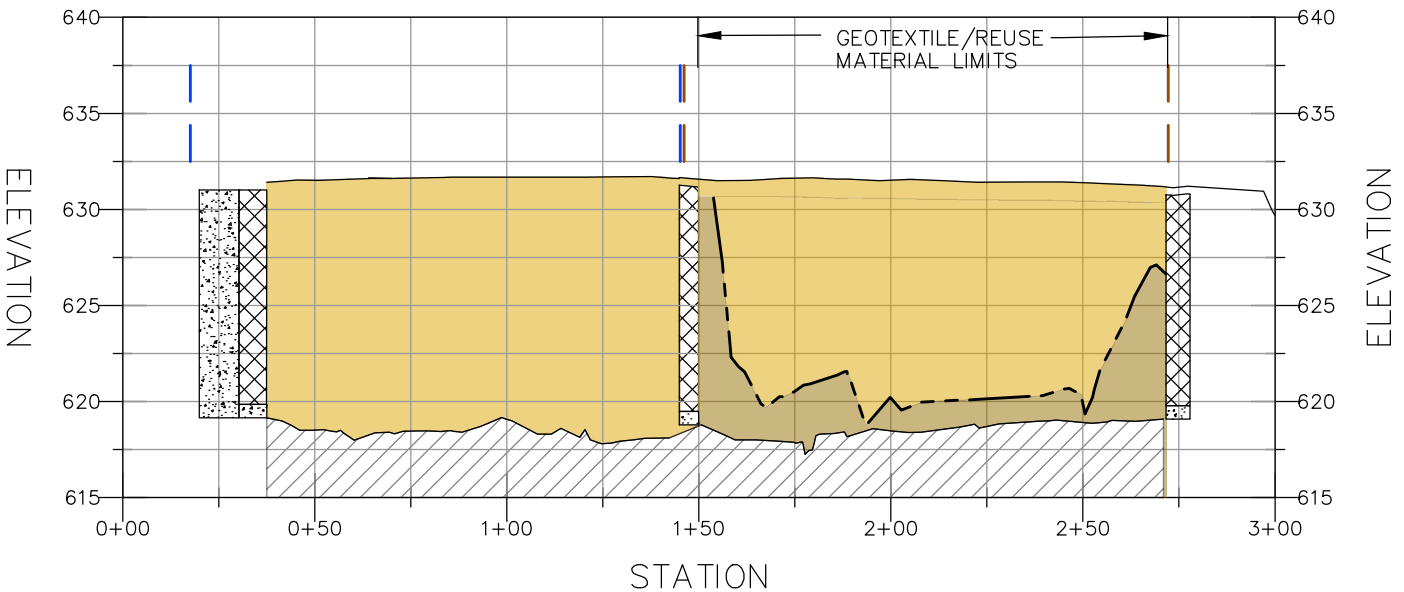
ISS LIMITS PLAN
1" = 50'-0"



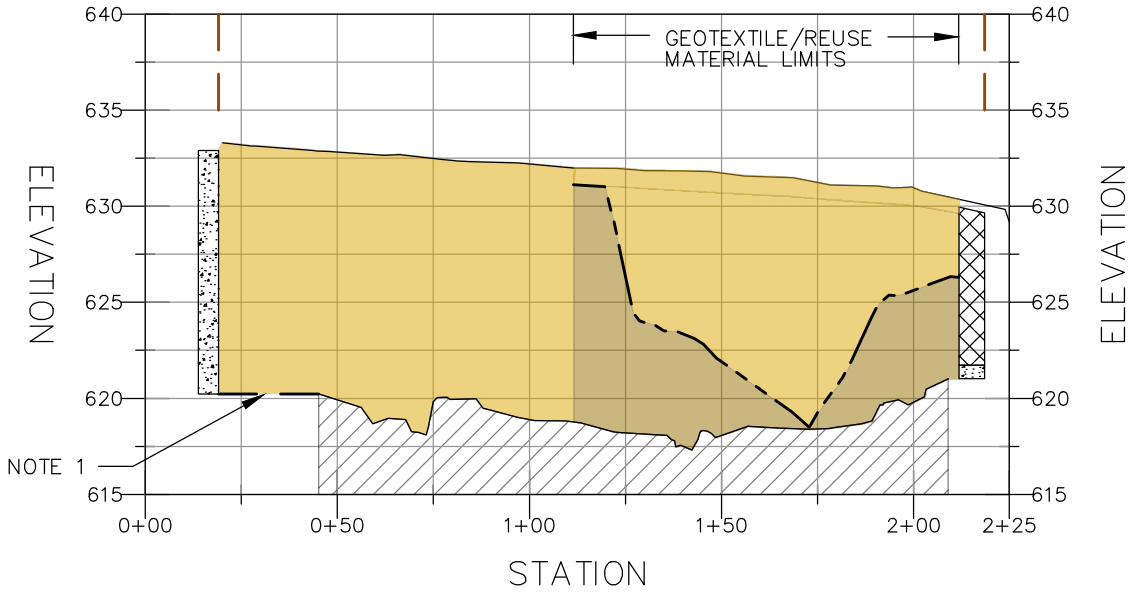
PLAN AND PROFILE: 1"=50'
HORIZONTAL SCALE

PROFILE VERTICAL SCALE: 1"=10'

PROFILE ALIGNMENT — A—A'



PROFILE ALIGNMENT — B—B'



ISS LIMITS PROFILE
1" = 50'-0" HORIZONTAL
1" = 10'-0" VERTICAL 5X EXAGGERATION

NOTES:

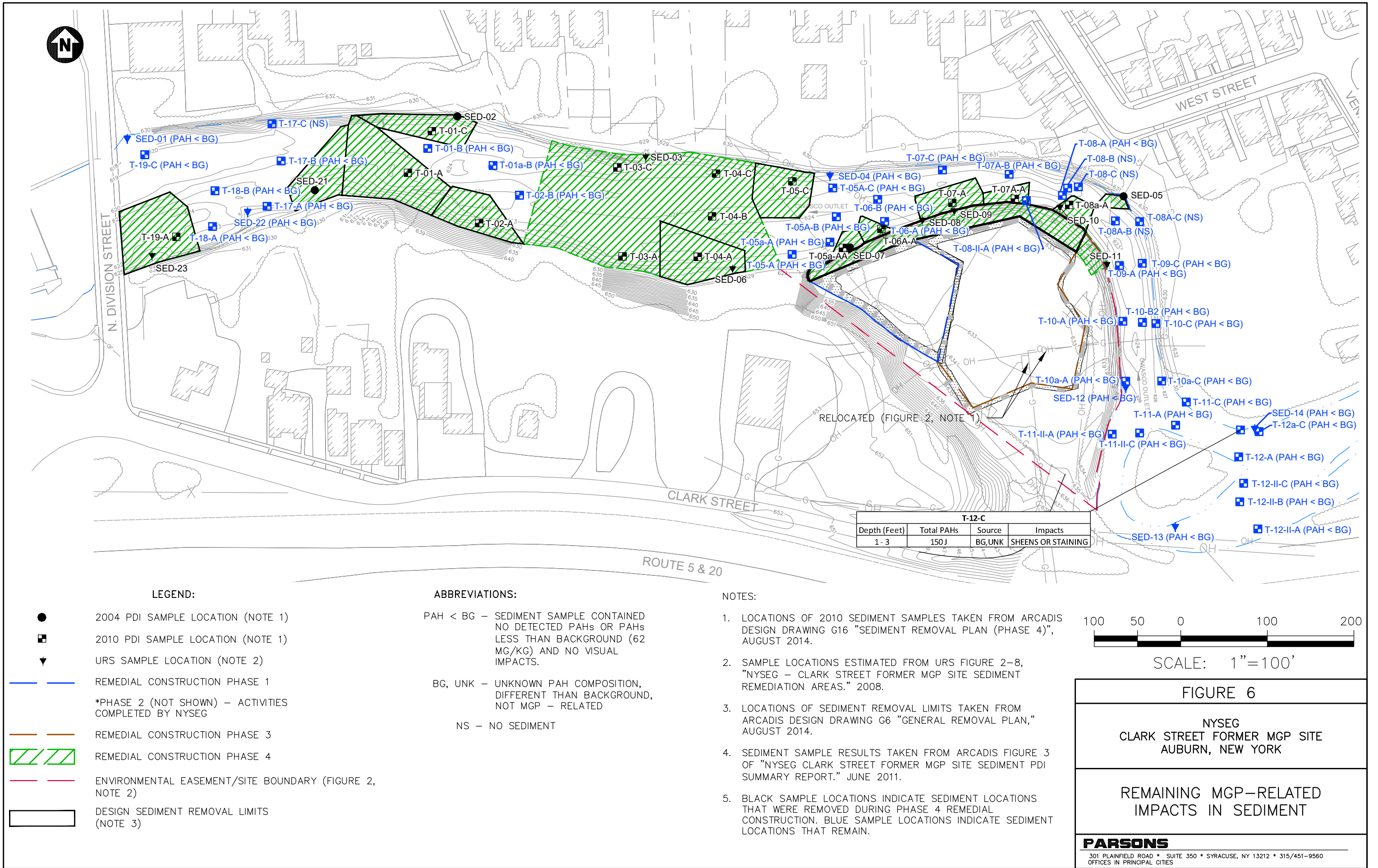
1. BEDROCK SURFACE FROM STATION 0+19 TO 0+45 ON PROFILE ALIGNMENT B—B' IS APPROXIMATED TO FACILITATE PLACEMENT OF IMPORTED GENERAL FILL FOR ILLUSTRATION.

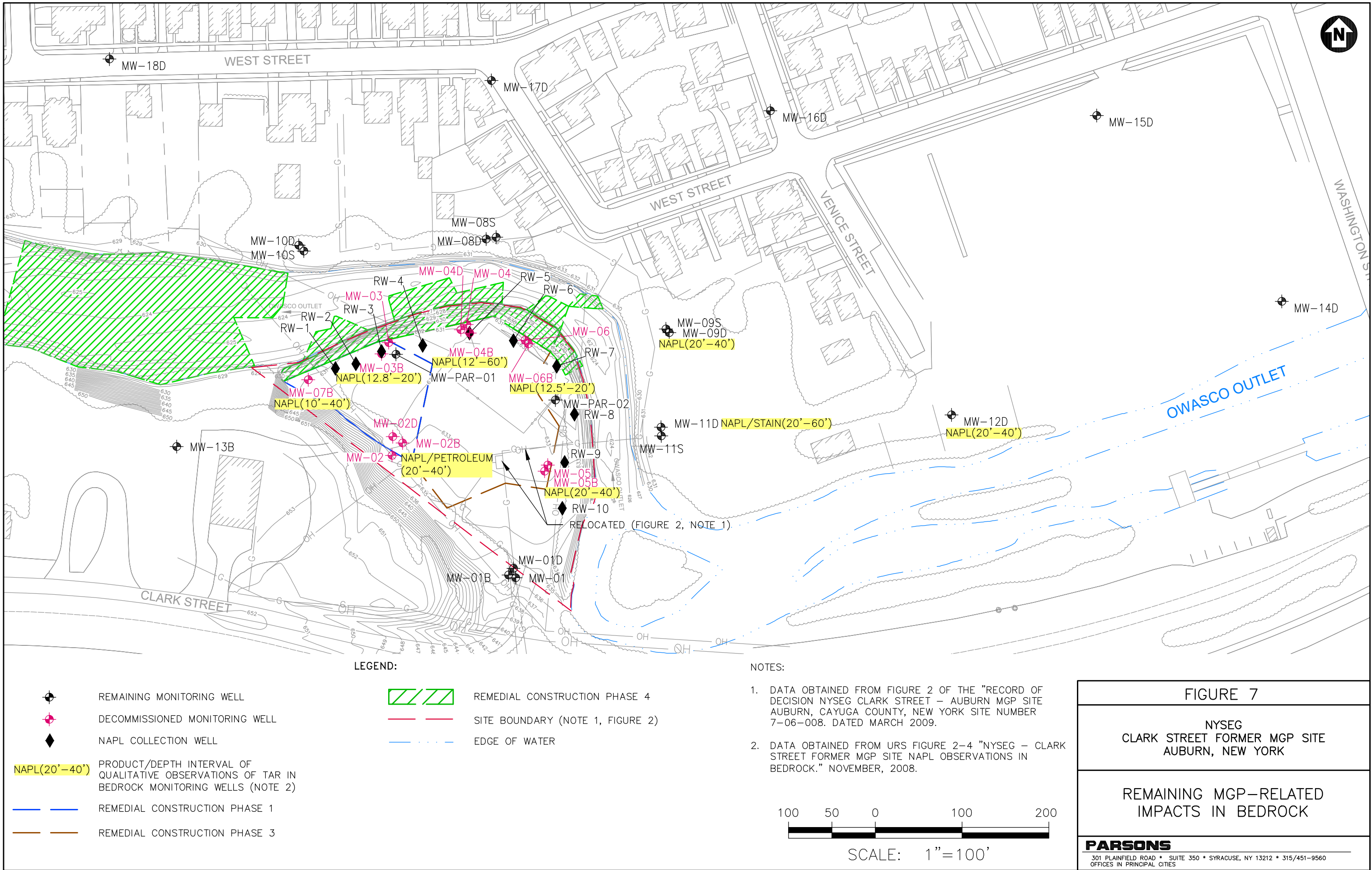
FIGURE 5

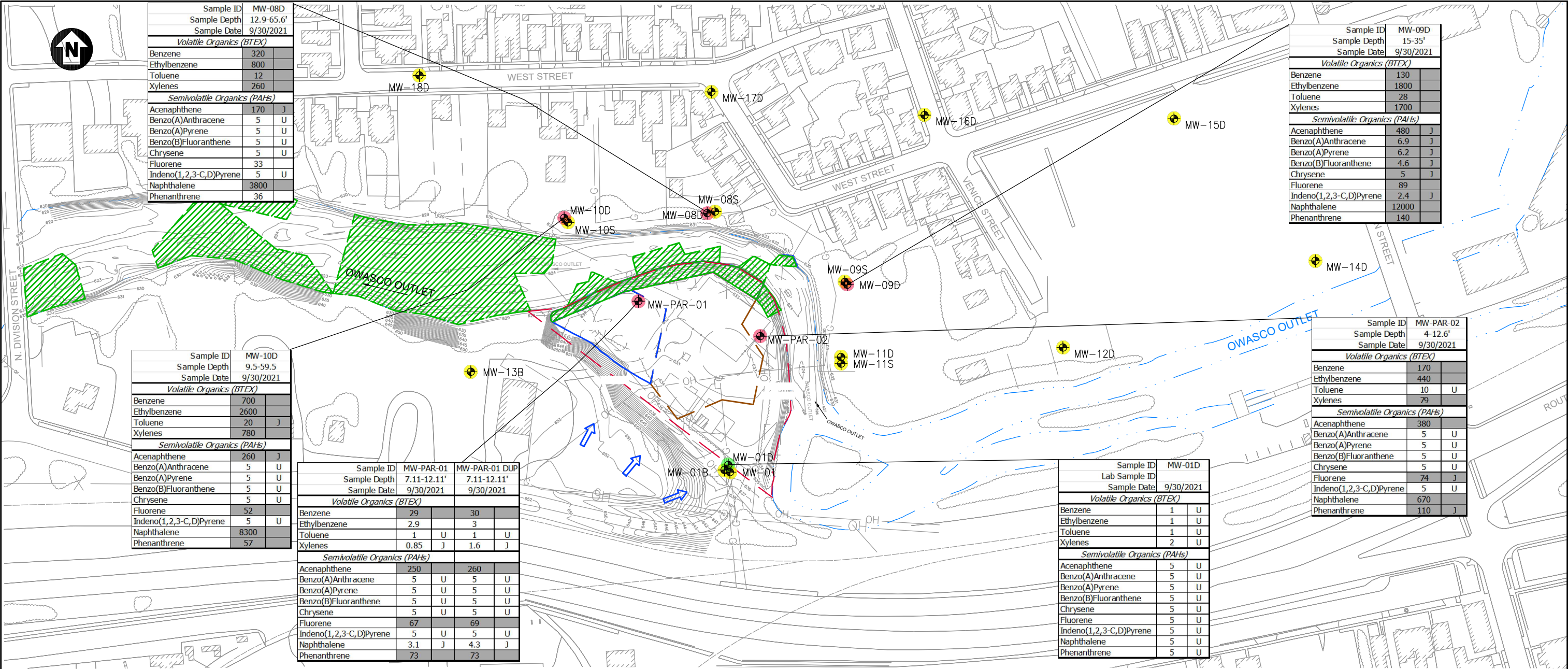
NYSEG
CLARK STREET FORMER MGP SITE
AUBURN, NEW YORK

REMAINING MGP—RELATED
IMPACTS IN SOIL — REUSE
SOIL/ISS LIMITS AND HORIZONTAL
PROFILE

PARSONS
301 PLAINFIELD ROAD * SUITE 350 * SYRACUSE, NY 13212 * 315/451-9560
OFFICES IN PRINCIPAL CITIES







LEGEND:

- EDGE OF WATER
ENVIRONMENTAL EASEMENT/SITE BOUNDARY (FIGURE 2, NOTE 2)
REMEDIAL CONSTRUCTION PHASE 1
*PHASE 2 (NOT SHOWN) – ACTIVITIES COMPLETED BY NYSEG
REMEDIAL CONSTRUCTION PHASE 3
REMEDIAL CONSTRUCTION PHASE 4
REMAINING MONITORING WELL
- NO COMPOUNDS DETECTED (NOTE 1)
AT LEAST ONE COMPOUND EXCEEDS NYSDEC CLASS GA STANDARDS AND GUIDANCE VALUES FOR VOC'S AND/OR SVOC'S (NOTE 1)
WELL NOT SAMPLED (NOTE 1)
GENERAL DIRECTION OF GROUNDWATER FLOW (NOTE 2)

NOTES:

1. MONITORING WELLS MW-01B, MW-08D, MW-09D, MW-10D, MW-PAR-01 AND MW-PAR-02 WERE SAMPLED ON 9/30/2021.
2. GROUNDWATER FLOW DIRECTION APPROXIMATED USING TECHNICAL MEMORANDUM "GROUNDWATER FLOW MODEL DEVELOPMENT AND REMEDIAL EVALUATION NYSEG – CLARK STREET FORMER MANUFACTURED GAS PLANT SITE, AUBURN, NEW YORK", PREPARED BY ARCADIS AS AN ATTACHMENT TO THE FINAL (100%) DESIGN REPORT DATED AUGUST 2014.

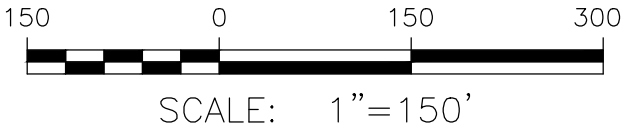


FIGURE 8

NYSEG
CLARK STREET FORMER MGP SITE
AUBURN, NEW YORK

GROUNDWATER ANALYTICAL
RESULTS – 2021

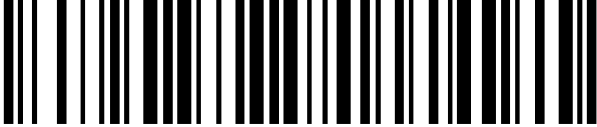
PARSONS

301 PLAINFIELD ROAD * SUITE 350 * SYRACUSE, NY 13212 * 315/451-9560
OFFICES IN PRINCIPAL CITIES

APPENDIX A ENVIRONMENTAL EASEMENT

CAYUGA COUNTY – STATE OF NEW YORK
SUSAN M. DWYER, COUNTY CLERK
160 GENESEE ST 1ST FLOOR, AUBURN, NEW YORK 13021

COUNTY CLERK'S RECORDING PAGE
THIS PAGE IS PART OF THE DOCUMENT – DO NOT DETACH



BOOK/PAGE: 3918 / 91
INSTRUMENT #: 2020-197719

Receipt#: 2020242965
Clerk: JB
Rec Date: 09/03/2020 02:21:48 PM
Doc Grp: RP
Descrip: EASEMENT
Num Pgs: 10
Rec'd Frm: STEWART TITLE INSURANCE COMPANY
- UPSTATE

Party1: NEW YORK STATE ELECTRIC & GAS
CORPORATION
Party2: NEW YORK STATE PEOPLE OF
Town: AUBURN

Recording:

Cover Page	0.00
Recording Fee	0.00
Cultural Ed	0.00
Records Management - Coun	0.00
Records Management - Stat	0.00
Cross References	0.00
TP584	0.00

Sub Total: 0.00

Transfer Tax
Transfer Tax - State 0.00

Sub Total: 0.00

Total: 0.00

**** NOTICE: THIS IS NOT A BILL ****

***** Transfer Tax *****
Transfer Tax #: 246
Exempt
Consideration: 0.00

Total: 0.00

Record and Return To:

ELECTRONICALLY RECORDED BY CSC INCEO

WARNING***

*** Information may be amended during the verification process, and may not be reflected on this cover page.

THIS PAGE CONSTITUTES THE CLERK'S
ENDORSEMENT, REQUIRED BY SECTION 316-a (5)
& 319 OF THE REAL PROPERTY LAW OF THE
STATE OF NEW YORK.

Susan M. Dwyer
Cayuga County Clerk

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

THIS INDENTURE made this 10th day of August, 2020, between Owner, New York State Electric & Gas Corporation, having an office at 89 East Avenue, Rochester, County of Monroe, 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 211 Clark Street, in the City of Auburn, County of Cayuga and State of New York, known and designated on the tax map of the County Clerk of Cayuga as tax map parcel numbers: Section 115.50 Block 02 Lot 37, being the same as that property conveyed to Grantor by deed dated October 9, 1905 and recorded in the Cayuga County Clerk's Office in Liber and Page 36/328. The property subject to this Environmental Easement (the "Controlled Property") comprises approximately 1.6 +/- acres, and is hereinafter more fully described in the Land Title Survey dated June 10, 2016 prepared by Paul J. Olszewski, P.L.S., 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

Recorded in
Bavday Damon LLP
2000 First Street
100 West Street
Rochester NY 14604

NOW THEREFORE, in consideration of the mutual covenants contained herein and the terms and conditions of Order on Consent Index Number: DO-0002-9309, 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 Cayuga 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: 706008
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.

11. Consistency with the SMP. To the extent there is any conflict or inconsistency between the terms of this Environmental Easement and the SMP, regarding matters specifically addressed by the SMP, the terms of the SMP will control.

Remainder of Page Intentionally Left Blank

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

New York State Electric & Gas Corporation:

By: Timothy Altier

Print Name: Timothy Altier

Title: Manager Date: 7/27/20

Grantor's Acknowledgment

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

On the 27 day of July, in the year 2020, before me, the undersigned, personally appeared Timothy Altier 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.

[Signature]
Notary Public - State of New York

Amanda S Deegan
Notary Public State of NY
No. 01DE6315681
Qualified in Orleans County
Commission Expires 12/01/22

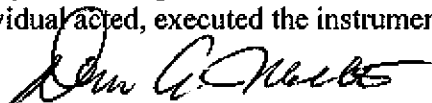
THIS ENVIRONMENTAL EASEMENT IS HEREBY ACCEPTED BY THE PEOPLE OF THE STATE OF NEW YORK, Acting by and Through the Department of Environmental Conservation as Designee of the Commissioner,

By: 
Michael J. Ryan, Director
Division of Environmental Remediation

Grantee's Acknowledgment

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

On the 18th day of August, in the year 2020, before me, the undersigned, personally appeared Michael J. Ryan, 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

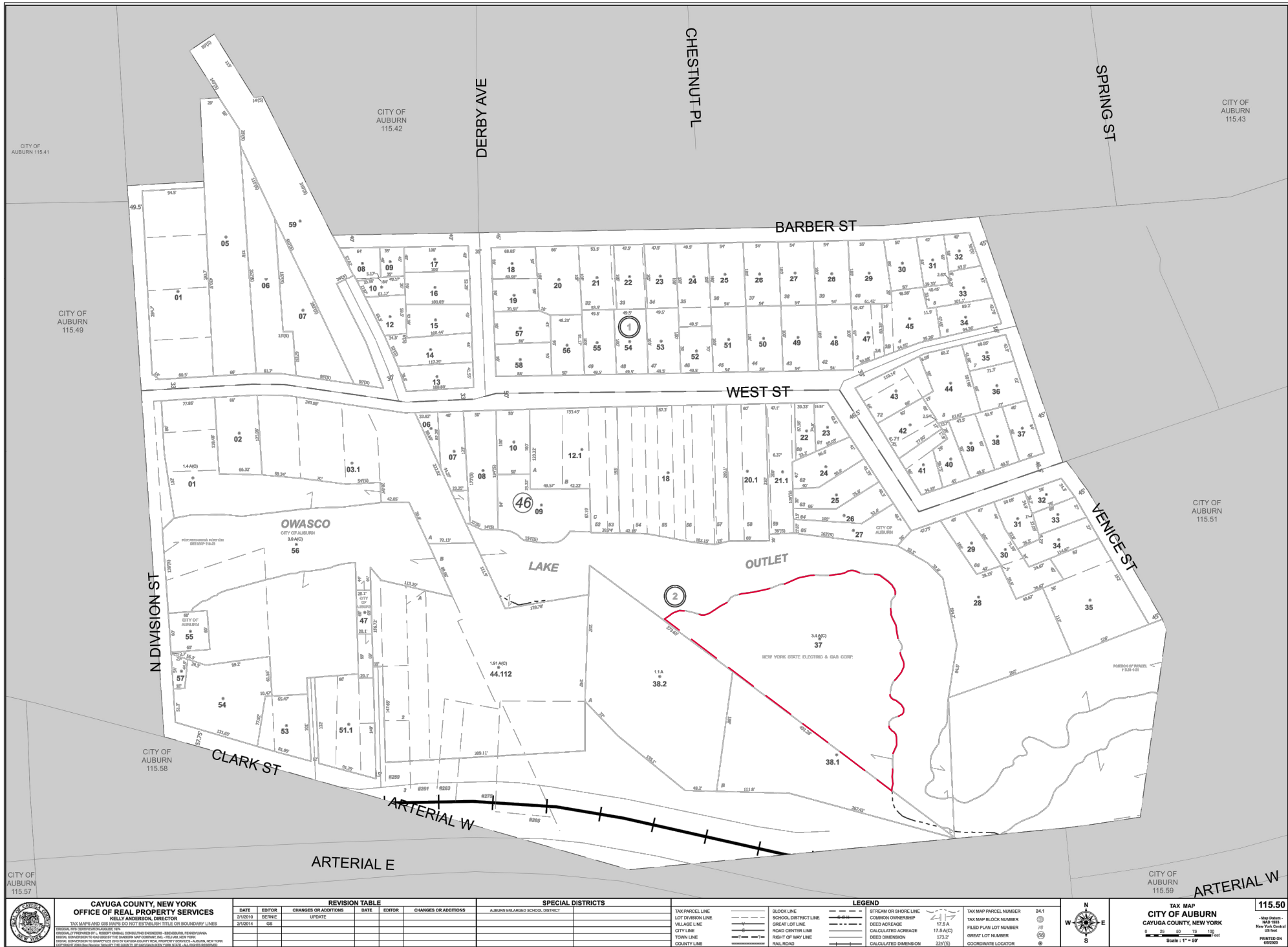
Drew A. Wellette
Notary Public, State of New York
Qualified in Schenectady Co.
No. 01WE6089074
Commission Expires 03/17/ 2023

SCHEDULE "A" PROPERTY DESCRIPTION

NEW YORK STATE ELECTRIC AND GAS
CLARK STREET, AUBURN SITE
TAX MAP NO. 115.50-02-37

ALL THAT TRACT OR PARCEL OF LAND SITUATE IN THE CITY OF AUBURN, COUNTY OF CAYUGA AND STATE OF NEW YORK BOUNDED AND DESCRIBED AS FOLLOWS: BEGINNING AT A POINT ON THE NORTHEASTERLY CORNER OF PARCEL A, OF A MAP SHOWING THE DIVISIONS OWNED BY ROBERT A. AND LORATTA M. SACKEL, MAP FILED IN THE CAYUGA COUNTY CLERKS OFFICE ON 03-22-1994 AS MAP NUMBER 94-50; THENCE N53°06'35"W, ALONG SAID NORTHERLY LINE OF SAID LOT A, FOR A DISTANCE OF 132.5 FEET TO A POINT ON THE SOUTHERLY BANK OF OWASCO LAKE OUTLET; THENCE EASTERLY AND SOUTHERLY ALONG SAID BANK, FOR A DISTANCE OF 692 FEET TO A POINT ON THE NORTHERLY LINE OF PARCEL B MAP NUMBER 94-50; THENCE N53°06'35"W ALONG SAID NORTHERLY BOUNDARY OF PARCEL B, FOR A DISTANCE OF 307.5 FEET TO A AND PLACE OF BEGINNING, CONTAINING 1.6 PLUS OR MINUS ACRES OF LAND.

SUBJECT TO ALL COVENANTS, EASEMENTS AND RESTRICTIONS OF RECORD.



LEGEND:

— ENVIRONMENTAL EASEMENT (NOTE 2)

NOTES:

1. TAX MAP OBTAINED FROM THE CAYUGA COUNTY, NEW YORK OFFICE OF REAL PROPERTY SERVICES ONLINE DATABASE MAP NUMBER 115.050.
2. THE ENVIRONMENTAL EASEMENT FOR CLARK ST. (APPENDIX A) CONTAINS THE ENTIRETY OF PARCEL 115.50-2-37. THE LINE SHOWN IS FOR ILLUSTRATION ONLY.

FIGURE A1

NYSEG
CLARK STREET FORMER MGP SITE
AUBURN, NEW YORK

ENVIRONMENTAL EASEMENT

PARSONS

301 PLAINFIELD ROAD * SUITE 350 * SYRACUSE, NY 13212 * 315/451-9560
OFFICES IN PRINCIPAL CITIES

APPENDIX B ELECTRONIC COPY OF FINAL ENGINEERING REPORT
