NYSEG

Periodic Review Report

Court Street Former Manufactured Gas Plant Site
Binghamton, New York
NYSDEC Site No.: 7-04-031

October 2024

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Prepared By:
Arcadis of New York, Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse, NY 13202
United States
Phone: 315 446 9120
Fax: 315 449 0017

Prepared For:
NYSEG
18 Link Drive
Binghamton, New York 13904

Our Ref:
30226870

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Acronyms and Abbreviations

Arcadis	Arcadis of New York, Inc.
BTEX	benzene, toluene, ethylbenzene, and xylenes
COCs	constituents of concern
DNAPL	dense non-aqueous phase liquid
EC	Engineering Controls
FER	Final Engineering Report
HDPE	high-density polyethylene
IC	Institutional Controls
IC/ECs	Institutional and Engineering Controls
mg/kg	milligrams per kilogram
MGP	Manufactured Gas Plant
NAPL	non-aqueous phase liquid
NYSDEC	New York State Department of Environmental Conservation
NYSEG	New York State Electric & Gas Corporation
OU	Operable Unit
PAHs	polycyclic aromatic hydrocarbons
PRR	Periodic Review Report
QA/QC	Quality Assurance/Quality Control
RAOs	Remedial Action Objectives
RI	Remedial Investigation
ROD	Record of Decision
SMP	Site Management Plan
SVI	Soil Vapor Intrusion
SVOCs	semi-volatile organic compounds
USEPA	United States Environmental Protection Agency
VOCs	volatile organic compounds

Executive Summary

Arcadis of New York, Inc. (Arcadis) has prepared this Periodic Review Report (PRR) on behalf of the New York State Electric & Gas Corporation (NYSEG) to document that institutional and engineering controls (IC/ECs) established for the Court Street Former Manufactured Gas Plant (MGP) Site in Binghamton, New York (the site) remain in place and continue to be effective. This PRR summarizes operation, maintenance, and monitoring activities completed during the reporting period from May 15, 2023 to September 15, 2024. Subsequent PRRs will be submitted annually unless the frequency is modified by the New York State Department of Environmental Conservation (NYSDEC).

Post-construction monitoring activities performed during the reporting period covered by this PRR were completed on May 30 and November 20, 2023, and May 28 and June 20, 2024 and included site inspection, sheen and riverbank monitoring, non-aqueous phase liquid (NAPL) gauging, and groundwater measurement.

NAPL gauging results were generally consistent with those from previous years. NAPL did not occur in a measurable thickness (i.e., a “recoverable amount”) at any monitoring location. Trace amounts of DNAPL (as blebs on the interface probe) were observed on the bottom 0.3’ of the probe at RW-6. This condition was first observed in 2023 and suggests a small amount of DNAPL has entered the barrier wall at this location. To date, no recoverable amounts of NAPL have accumulated in any of the gauged wells since gauging began in 2020.

Field personnel conducted water-level measurements during this gauging event. Depth-to-water measurements were taken from surveyed marks on the top of the inner well casings and converted to elevations. Groundwater elevation data were used to develop water table and sand-and-gravel unit potentiometric surface maps for the monitoring event are included as Figures 3 and 4, respectively.

The first post-remediation groundwater sampling event was conducted from November 23 and 24, 2020. Groundwater sampling results are presented in the 2020 Post-Construction Monitoring Report (Arcadis 2021). In accordance with the SMP, the next groundwater sampling event will occur in 2025 (i.e., Post-Construction Year 5) with results presented in the 2025 PRR.

Site cover areas were inspected and found to be intact and functioning. No signs of intrusive sitework were observed within the limits of the site cover system.

Data collected and observations made during the reporting period demonstrate that the various remedial components are performing as designed. Currently, no further actions are recommended relating to the IC/ECs.

Consistent with the monitoring and reporting requirements presented in the Site Management Plan (SMP) the following monitoring activities are tentatively scheduled to be completed in June 2025:

- Site cover inspection
- Sheen monitoring and transloading area riverbank stability monitoring
- NAPL gauging and groundwater measurement
- Groundwater sampling

1 Introduction

Arcadis of New York, Inc. (Arcadis) has prepared this Periodic Review Report (PRR) on behalf of the New York State Electric & Gas Corporation (NYSEG) to document that institutional and engineering controls (IC/ECs) established for the Court Street Former Manufactured Gas Plant (MGP) Site in Binghamton, New York (the Site) remain in place and continue to be effective. This PRR has been prepared in accordance with the New York State Department of Environmental Conservation (NYSDEC) Technical Guidance for Site Investigation and Remediation (DER-10; NYSDEC 2010) and the NYSDEC-approved Site Management Plan (SMP) (GEI 2023a).

The certificate of completion for the site was issued to NYSEG on May 15, 2023. Accordingly, this PRR summarizes monitoring and operation, and maintenance activities completed during the reporting period from May 15, 2023 to September 15, 2024. Subsequent PRRs will be submitted to the NYSDEC annually unless the frequency is modified by the NYSDEC.

Certification that IC/ECs remain in place and effective and that no changes have occurred at the site during this reporting period that would impair the IC/ECs ability to protect public health and the environment is included herein.

1.1 Site Location and Description

The Operable Unit (OU)-1 portion of the Site is owned by NYSEG and is in an industrial section of the City of Binghamton, in Broome County, New York. OU-1 occupies lots identified as 271-291 and 293 Court Street. The 293 Court Street property was formerly used as a natural gas service center by Columbia Gas Transmission Corporation.

OU-1 is bordered to the north by a major Norfolk Southern rail line and yard, an asphalt works plant, and a scrap yard; to the south by Court Street, which runs parallel to the Susquehanna River (separated by a flood wall); to the east by the 295 Court Street property, which contains a warehouse owned by 295 Court Street Associates, LLC; and to the west by Brandywine Avenue. Two buildings are present on OU-1: a small gas regulator station and a building used for storage. The remainder of OU-1 consists of a gravel lot used by NYSEG for equipment/material storage and parking.

OU-2 includes river sediments within the Susquehanna River and is located immediately south from and downgradient of OU-1. OU-2 is bordered to the north by Court Street (separated by a flood wall) and to the west by the Tompkins Street Bridge.

The Susquehanna River in the area adjacent to the Site is a Class A water body (NYSDEC 2024). The best usages of Class A waters are as a source of water supply for drinking and culinary or food processing purposes, for primary and secondary contact recreation, and for fishing. Class A waters are suitable for fish, shellfish, and wildlife propagation and survival. Immediately downstream of OU-2, the river is crossed by the Tompkins Street Bridge (which is a continuation of Brandywine Avenue).

The site is underlain by (in descending order) fill material, a silt and clay unit, a sand and gravel unit, dense, fine-grained till, and shale bedrock.

1.2 Nature and Extent of Site Impacts

Surface soil, subsurface soil, groundwater, surface water, and sediment were evaluated during remedial investigation (RI) activities conducted from 1993 to 2001. Site data indicated that soil, groundwater, and/or sediment contain elevated levels of benzene, toluene, ethylbenzene, and xylenes (BTEX), a subset of volatile organic compounds (VOCs); a more general class of organic compounds called polycyclic aromatic hydrocarbons (PAHs); and several inorganic compounds.

The primary MGP-related byproduct responsible for impacts at the site is coal tar, which is a dense non-aqueous phase liquid (DNAPL). DNAPLs are heavier than water and tend to sink below the water table if released in sufficient quantities. Coal tar contains many organic compounds, which have toxic properties and are regulated by the NYSDEC. Chief among these compounds are BTEX and PAHs. These two groups of compounds, in addition to non-aqueous phase liquids (NAPLs), are used to characterize the nature and extent of site-related impacts.

A detailed site characterization is presented in the RI Report (BBL 2002). A summary of environmental impacts, by media type, is presented below.

1.2.1 OU-1

1.2.1.1 NAPL Distribution and Characterization

Coal tar DNAPL in subsurface soil is responsible for most environmental impacts on-site. DNAPL was generally observed near former MGP structures (No. 2 and No. 3 gas holders, tar separating well, and former MGP pipes containing DNAPL). However, based on its nature, DNAPL has migrated from source areas (above the water table) downward (below the water table), through fractures and bedding planes in the silt and clay unit, and into the sand and gravel unit. The till is a confining and has prevented DNAPL from migrating downward to the bedrock. Additionally, DNAPL has spread laterally in the direction of groundwater flow (i.e., generally southward). The majority of the DNAPL identified in OU-1 is located below the water table. Based on the heterogeneous nature of the site geology, DNAPL is distributed irregularly throughout OU-1.

Additionally, petroleum NAPL was observed east and northeast of the NYSEG property, although none has accumulated in any wells. The petroleum NAPL is located approximately 15 to 22 feet bgs, below the silt and clay near the top of the sand and gravel. As indicated in the Final RI Report, petroleum impacts likely originate north of the former MGP, where a scrap yard and oil refinery were previously located.

1.2.1.2 Groundwater Quality

The extent of groundwater containing MGP-related impacts strongly correlates to the distribution of visually impacted material. VOCs, semi-volatile organic compounds (SVOCs), and cyanide were detected at concentrations greater than NYSDEC's Division of Water, TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (NYSDEC, 2004) Class GA standards and guidance values. Analytical results for groundwater samples collected from OU-1 (in 1997 as part of the Remedial Investigation) generally indicate the following:

- VOCs and SVOCs were detected in shallow groundwater at numerous locations throughout the NYSEG property. Additionally, VOCs and SVOCs were detected at elevated concentrations south of the NYSEG

property (i.e., below Court Street) near the 66-inch storm sewer and near where several pipes penetrated the flood wall (to the southeast) (i.e., areas identified as potential historic NAPL migration pathways).

- Groundwater within the sand and gravel unit in OU-1 (i.e., on the NYSEG property and below Court Street) contains BTEX and PAH compounds at concentrations greater than NYSDEC Class GA standards and guidance values.
- Groundwater samples collected from both shallow and deep wells in OU-1 (as well as upgradient and downgradient wells) contain at least one inorganic compound at concentrations greater that NYSDEC Class GA standards and guidance values.
- Groundwater within the bedrock unit does not contain MGP-related constituents.

Additionally, as discussed in the Final RI Report, chlorinated hydrocarbons (i.e., 1,1,1-trichloroethane and 1,1-dichloroethane) were detected in groundwater samples collected from monitoring wells screened within the sand and gravel unit at concentrations greater that NYSDEC Class GA standards and guidance values. The chlorinated hydrocarbons were also detected in groundwater samples collected from deep monitoring wells at both upgradient and downgradient locations, indicating that their source is located upgradient of the site.

1.2.1.3 Surface Soil Quality

During the time of the Remedial Investigation, a majority of OU-1 was covered with paved surfaces and imported gravel. Surface soil samples were generally collected within the upper most six inches of soil. However, a number of samples were also collected from 0 to 2 feet below grade to characterize surface and near-surface soil conditions. Analytical results indicate that surface and near-surface soil samples did not contain BTEX compounds or PAHs at concentrations greater than guidance values. Note that because the Remedial Investigation was completed in 2002, analytical results for soil samples were compared to NYSDEC's Technical and Administrative Guidance Memorandum (TAGM) HWR-94-4046 (TAGM 4046) (NYSDEC 1994), which has since been rescinded.

Since collection of these surface soil samples, most of the site was covered with gravel or paved, which is referred to as the "existing cover system" herein.

1.2.1.4 Subsurface Soil Quality

Soil containing visual impacts is assumed to contain MGP-related constituents of concern (COCs) (i.e., BTEX and PAHs) at concentrations above applicable criteria. Site-specific screening values of 10 milligrams per kilogram (mg/kg) total BTEX and 500 mg/kg total PAHs have been established to aid in the delineation of soil containing MGP-related impacts. These site-specific criteria have routinely been used at other former MGP sites to evaluate the extent of soil containing MGP-related impacts.

The areal extent of subsurface soil above the water table that contains elevated concentrations of total BTEX and total PAHs is located in the northern portion of OU-1 in areas associated with several oil tanks (Nos.1, 2, and 6), former No 2. gas holder, and the retorts.

Below the water table, the extent of subsurface soil containing elevated concentrations of total BTEX and total PAHs strongly correlates to the NAPL distribution observed in OU-1, with the greatest concentrations of total BTEX and total PAHs generally located near the former gas holders, tar separating well, and oil tanks. Additionally, soil samples collected from the 295 Court Street property and upgradient of OU-1, contained elevated concentrations of VOCs and SVOCs (as well as NAPL) associated with petroleum-related impacts.

1.2.2 OU-2

1.2.2.1 Surface Water Quality

Based on various site investigations, there is no evidence of impacts to surface water quality attributable to the site.

1.2.2.2 Sediment Quality

PAHs were identified within 40 feet of the riverbank closest to the site that were attributed to several sources in addition to the site. Site-related PAHs were generally restricted to the 66-inch storm sewer area and the 24-inch outfall near the riverbed surface.

1.3 Overview of Remedial Activities

IRMs were completed at OU-1 from 2000 to 2011 and the OU-2 IRM was completed from 2018 to 2019. Site remedy-related activities are documented in the May 2023 IRM Final Engineering Report (FER) (GEI 2023b).

1.3.1 OU-1 Record of Decision

The selected site remedy for OU-1 was presented in the NYSDEC's March 2013 Record of Decision (ROD) (NYSDEC 2013). The primary remedial action objectives (RAOs) for OU-1, as set forth in the ROD, were to prevent to the extent practicable:

- Ingestion of groundwater with contaminant levels exceeding drinking water standards
- Contact with, or inhalation of volatiles, from contaminated groundwater
- Discharge of contaminants to surface water
- Ingestion/direct contact with contaminated soil
- Inhalation of contaminants volatilizing from contamination in soil
- Migration of contaminants that would result in groundwater or surface water contamination

And to restore to the extent practicable:

- The groundwater aquifer to pre-disposal/pre-release conditions

NYSEG implemented a series of NYSDEC-approved IRMs at OU-1 from 2000 to 2011. The NYSDEC selected these IRMs as major components of the remedy. Elements of the remedy include:

- Removal of the No. 3 gas holder, tar well and piping (2000-2001)
- Removal of the No. 2 gas holder (2004-2005)
- Cleaning and Re-lining of the 66-inch storm sewer (2003)
- Constructing a subsurface barrier wall to prevent off-site migration of NAPL and recover NAPL to the extent practicable (2006)
- 66-inch Storm Sewer Replacement (2011)

Additional remedial activities included:

- Imposition of an institutional control in the form of an environmental easement for the controlled property
- Retainment of the current site cover to allow for commercial and industrial use of the site
- SMP

1.3.2 OU-2 Decision Document

The selected remedy for OU-2 was presented in the NYSDEC's Decision Document (NYSDEC 2021). The primary RAOs for OU-2, as set forth in the Decision Document, were to prevent to the extent practicable:

- Direct contact with contaminated sediments
- Surface water contamination which may result in fish advisories
- Releases of contaminant(s) from sediment that would result in surface water levels in excess of ambient water quality criteria
- Impacts to biota from ingestion/direct contact with sediments

And to restore to the extent practicable:

- Sediments to pre-release/background conditions

NYSEG implemented a NYSDEC-approved IRM at OU-2 from September 2018 to November 2019. Based on the results of the investigations at the Site and the completed IRM, the NYSDEC selected No Further Action with Monitoring as the remedy for OU-2. This remedy is protective of human health and the environment and satisfies the above RAOs. Elements of the remedy include:

- Removal and off-site disposal of impacted sediments
- Green Remediation
- SMP

2 Remedy Performance, Effectiveness, and Protectiveness

As detailed in the 2023 FER, remedial activities at the site achieved the following remedial objectives:

- Removal of the No. 2 gas holder
- Removal of the No. 3 gas holder, tar well and piping
- Construction of subsurface barrier wall to prevent off-site migration of NAPL and NAPL recovery to the extent practicable
- Replacement of the 66-inch storm sewer
- Removal and off-site disposal of impacted sediments
- Installing NAPL monitoring/recovery wells
- Retaining the existing site cover to allow for commercial and industrial use of the site.
- Executing an environmental easement to restrict land use and prevent development.
- Implementing an SMP for long-term management of remaining impacts which includes plans for; (1) ICs/ECs, (2) monitoring, (3) operation and maintenance, and (4) reporting

The extent of remaining site media containing MGP-related impacts is detailed in the FER. Because impacted soil and groundwater remains beneath the site after completion of the remedial action, ICs/ECs described in Section 3 are required to protect human health and the environment. Long-term management of the ICs/ECs will be performed in accordance with the NYSDEC-approved SMP (GEI 2023a). Monitoring activities for the current period are detailed in Section 4.2.

3 IC/EC Plan Compliance

This section provides an overview of the Institutional Controls (ICs) and Engineering Controls (ECs) that have been implemented and installed at the site as part of the remedial actions for the site. This section also summarizes the compliance status of the ICs and ECs with respect to requirements set forth in the SMP.

3.1 Institutional Controls

The 2013 ROD requires a series of ICs for the site to: (1) implement, maintain, and monitor Engineering Control systems; (2) prevent future exposure to remaining impacts; and (3) limit site use and development. Adherence to these ICs on the site is required by the environmental easement and will be implemented under the 2023 SMP. ICs below may not be discontinued without an amendment to or extinguishment of the environmental easement. These ICs are:

- The NYSEG-owned portion of OU-1 may be used for commercial and industrial use, subject to local zoning laws.
- All ECs must be operated and maintained as specified in the SMP.
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Broome County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public monitoring must be performed as defined in the SMP.
- Data and information pertinent to site management must be reported at the frequency and in a manner defined in the SMP.
- All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP.
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP.
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in this SMP.
- 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 the environmental easement.
- The potential for vapor intrusion must be evaluated for any new buildings developed on the site, and potential impacts that area identified must be monitored or mitigated.
- Vegetable gardens and farming on the site are prohibited.
- An evaluation will be performed to determine the need for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.
- Implementing an institutional control in the form of an environmental easement for the controlled property that:

- Requires the site owner to complete and submit to the NYSDEC, a periodic IC/EC certification in accordance with 6 NYCRR Part 375-1.8 (h)(3).
- Limits the use and development of the controlled property for commercial and industrial use, recognizing that land use is subject to local zoning laws.
- Restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDEC, New York State Department of Health, or Broome County Department of Health.
- Prohibits agriculture or vegetable gardens on the controlled property.
- Requires compliance with the SMP.

3.2 Engineering Controls

In accordance with the ROD, exposure to remaining site impacts at OU-1 is prevented by a pre-existing cover system placed over the site. The cover system consists of materials of various thicknesses, including clean soil, asphalt pavement, concrete-covered sidewalks, and concrete building slabs. There are no applicable demarcation layers. Cover system inspection and maintenance procedures are provided in Section 4 of the SMP. The Excavation Work Plan (Appendix D of the SMP) outlines the procedures required to be implemented for future site intrusive activities and/or disturbance of underlying remaining impacts (including to contaminated material).

Additionally, a passive NAPL barrier wall was constructed to mitigate potential migration of NAPL beyond the downgradient edge of NYSEG's property and to recover NAPL, to the extent practicable, using NAPL recovery wells. The NAPL barrier wall consists of a gravel-filled collection trench, jet-grouted low-permeability walls, DNAPL collection system, and LNAPL collection system.

NAPL monitoring wells are shown on Figure 2. Monitoring and inspection activities at the site have been completed in accordance with the SMP.

3.3 IC/EC Monitoring and Compliance

Pursuant to the 2023 SMP, monitoring is required to confirm that the ICs and ECs at the site remain in place and remain effective. Site inspections will be performed in accordance with the SMP or NYSDEC-approved revised reporting schedule and will include visual inspection of the cover system for evidence of erosion, perturbation, and/or ground intrusive activities.

During inspections, an inspection form is completed that will compile sufficient information to assess the following:

- Compliance with all ICs, including site usage
- An evaluation of the condition and continued effectiveness of the cover system
- General site conditions at the time of the inspection
- Monitoring activities being conducted
- Compliance with record-keeping requirements (i.e., confirm that site records are up to date)

The most recent monitoring/site inspection activities were completed on November 20, 2023 and are detailed below in Section 4.2.

3.4 IC/EC Certifications

The completed IC/EC certification form required by NYSDEC is provided in Attachment 1. In accordance with NYSDEC requirements, the certification form has been stamped and signed by Mr. Mark Gravelding, a licensed New York State Professional Engineer from Arcadis, as a designated representative of NYSEG.

4 Monitoring Plan Compliance

This section summarizes post-remedial monitoring activities that have been completed or are currently ongoing to evaluate the performance and effectiveness of the remedial actions implemented at the site. This section also outlines the activities that were implemented during the monitoring period and proposed monitoring approach modifications (if any) based on the monitoring results.

4.1 Monitoring Program

Monitoring activities that have been completed or are currently ongoing in connection with the site include:

- Conducting an annual site-wide inspection to assess continued EC effectiveness and confirm SMP and environmental easement compliance
- Conducting periodic visual monitoring of the river surface water for presence of MGP-related sheens and the transloading area riverbank for evidence of erosion
- Conducting annual gauging to assess the presence/absence of NAPL and measure depth to groundwater
- Collecting and analyzing samples to assess groundwater quality
- Conducting a soil vapor intrusion evaluation

Results of monitoring activities completed through November 2023 are presented in their respective Post-Construction Monitoring Reports, previously submitted to the NYSDEC. A summary of previous and current monitoring activities is provided below.

4.1.1 Site Wide Inspection (OU-1)

A site-wide inspection is performed annually in accordance with the SMP and in conjunction with the monitoring activities described below. In general, site-wide inspections assess and document the following:

- Compliance with all ICs, including site usage
- Evaluation of the condition and continued effectiveness of ECs
- General site conditions at the time of inspection
- Site management activities being conducted

4.1.2 Sheen and Riverbank Monitoring in River (OU-2)

Sheen monitoring of the river surface water was performed on a quarterly basis for the first two years of monitoring (i.e., from 2021 to 2022). Semi-annual sheen monitoring was performed in 2023 and 2024. Annual sheen monitoring will be performed from 2025 to 2030. In general, sheen monitoring assesses and documents the MGP-related sheen observations, due to the minor/residually impacted sediment that potentially remains within OU-2 in the excavation buffer zones. Sheen monitoring is conducted from a fixed location at the northeast corner of the Tompkins Street Bridge in accordance with the SMP.

Additionally, riverbank monitoring is conducted at the former transloading area (Figure 1) in an area where erosion was previously observed in May 2022 and detailed in the 2022 Restoration Monitoring Report (Arcadis

2022). Riverbank monitoring is conducted to inspect the riverbank for evidence of further erosion, settlement or soil instability and is conducted concurrently with sheen monitoring activities.

4.1.3 NAPL Gauging and Groundwater Measurement (OU-1)

NAPL gauging is conducted to identify wells where NAPL accumulates, facilitate NAPL accumulation rate estimation, and develop a removal schedule. NAPL gauging is conducted annually in conjunction with groundwater level gauging in accordance with the SMP. The monitoring well network including NAPL monitoring wells are shown on Figure 2.

4.1.4 Groundwater Sampling (OU-1)

Based on historical groundwater data, the extent of impacted groundwater is stable. Groundwater samples are collected once every five years from each well included in the monitoring well network (as identified in the SMP), to assess the performance and effectiveness of the remedy. Groundwater samples are collected using low-flow groundwater purging and sampling techniques. Field personnel also collect and submit one set of quality assurance/quality control (QA/QC) samples, including a field duplicate, matrix spike, and matrix spike duplicate for laboratory analysis. Groundwater samples are submitted for analysis of:

- BTEX using United States Environmental Protection Agency (USEPA) SW-846 Method 8260
- PAHs using USEPA SW-846 Method 8270
- Total cyanide using USEPA SW-846 method 9012B

Groundwater monitoring well locations are shown on Figure 2.

4.1.5 Soil Vapor Intrusion Sampling (OU-1)

A soil vapor intrusion (SVI) evaluation will be performed prior to the construction of any enclosed structures located over areas that contain remaining impacts to determine whether any mitigation measures are necessary to eliminate potential exposure to vapors in the proposed structure. If the building foundation is constructed with an SVI mitigation system, the SVI evaluation is not necessary prior to construction.

Prior to conducting an SVI evaluation or installing a mitigation system, a work plan will be developed for approval by NYSDEC and NYSDOH.

4.2 Monitoring Activities for Current Period

Post-construction monitoring and sampling activities performed during the reporting period covered by this PRR were completed on May 30 and November 20, 2023, and May 28 and June 20, 2024 in accordance with the NYSDEC-approved SMP. These monitoring activities are detailed in the subsections below and included:

- Annual site-wide Inspection
- Semi-annual Sheen and Riverbank Monitoring
- Annual NAPL gauging and groundwater elevation measurements at 12 upgradient, side-gradient, and sentinel monitoring wells and 23 NAPL recovery wells
- Soil vapor intrusion evaluation

Note, post-construction monitoring activities began in 2020 and are documented in the respective Post-Construction Monitoring Reports (Arcadis 2021, 2022a, 2022b, 2024).

4.2.1 Site Wide Inspection (OU-1)

A site-wide inspection was conducted by Arcadis on November 20, 2023 and June 20, 2024 to evaluate site usage, the condition and continued effectiveness of the existing cover system, general site conditions, that site management activities are being conducted, and that site records are up to date, in accordance with the SMP.

No changes have occurred at the site during this reporting period that would impair the IC/ECs. IC/ECs remain in place and continue to be effective for protecting public health and the environment. No signs of intrusive sitework were observed within the limits of the site cover system. Site management activities will continue and are tentatively scheduled for June 2025. The November 2023 and June 2024 site inspection forms are included as Attachment 2.

4.2.2 Sheen and Riverbank Monitoring (OU-2)

Visual sheen and riverbank monitoring were conducted by Arcadis on May 30 and November 20, 2023, and May 28, 2024. Sheen monitoring was conducted from the fixed location at the northeast corner of the Tompkins Street Bridge and riverbank monitoring was conducted at the former transloading area (Figure 1), in accordance with the SMP. Photos documenting conditions at the start and end of each sheen monitoring event and photos of riverbank conditions are included in the Sheen Monitoring and Riverbank Inspection Photo Logs (Attachment 3).

No sheens were observed during the 2023 or 2024 semi-annual sheen monitoring events, suggesting the remedy is performing as designed. During riverbank inspections, no evidence of further erosion, settlement or soil instability was observed within the restored bank area. Specifically, the area where erosion was previously observed did not appear changed since the prior inspection, that is, no evidence of continued erosion or instability was observed. The next semi-annual sheen/riverbank monitoring event is scheduled for November 2024. In accordance with the SMP, sheen/riverbank monitoring will be conducted annually in 2025. Monitoring results will be included in the next annual PRR due by Oct. 15, 2025.

4.2.3 NAPL Gauging and Groundwater Measurement (OU-1)

Field personnel used an oil-water interface probe and/or weighted tape, as necessary, to measure and confirm water levels, gauge accumulated NAPL and measure the depth to bottom at each monitoring well, recovery well, and piezometer.

2024 NAPL gauging results for NAPL barrier wall recovery wells (RW-1 through RW-22) and NAPL monitoring wells (NMW-1 and NMW-2) are presented in Table 1. Gauging results for the remaining upgradient, side gradient, and sentinel wells are presented in Table 2. For reference, previous gauging results from November 2022, November 2023 are included in both Table 1 and Table 2.

NAPL gauging results were generally consistent with those from previous years. NAPL did not occur in a measurable thickness (i.e., a “recoverable amount”) at any monitoring location. Trace amounts of DNAPL (as blebs on the interface probe) were observed on the bottom 0.3’ of the probe at RW-6. This condition was first observed in 2023 and suggests a small amount of DNAPL has entered the barrier wall at this location. The NAPL barrier wall was installed to prevent mobile NAPL, if any, from leaving the site by acting as a “capillary break” to

intercept migrating NAPL and cause it to either fall to the bottom of the barrier (DNAPL) or float on the water table in the wall (LNAPL), reducing NAPL saturations and allowing for such accumulated NAPL to be collected for proper disposal. To date, no recoverable amounts of NAPL have accumulated in any of the gauged wells since post-IRM gauging began in 2020.

The NAPL gauging results indicate that no significant movement of NAPL into the barrier wall is occurring and that the wall is performing as designed.

In conjunction with NAPL gauging, field personnel conducted synoptic water-level measurements. Depth-to-water measurements were taken from surveyed marks on the top of the inner well casings and converted to elevations. Groundwater elevation data are summarized in Tables 1 and 2. Water table and sand-and-gravel unit potentiometric surface maps for the June 2024 monitoring event are included as Figures 3 and 4, respectively. For comparison, water table and sand and gravel unit potentiometric surface maps from the 2002 RI are included as Attachment 4.

When comparing the 2002 and 2024 maps, the following should be considered:

- The 2002 maps were drawn using a greater number of data points; many of the previous monitoring wells and piezometers were removed during and following remedial construction activities.
- The 2002 water table map represents water table elevations prior to installing the NAPL barrier wall. The NAPL barrier wall is comprised of a permeable gravel-filled trench keyed into low-permeability till, with several short segments composed of low-permeability jet-grout panels. A high-density polyethylene (HDPE) curtain lines the downgradient side of the gravel-filled portions of the barrier, extending below the water table. The grout panels and HDPE curtain serve as barriers to groundwater flow. Accordingly, the gravel-filled trench, grout panels, and HDPE curtain alter local groundwater flow patterns.

Therefore, both historical flow patterns and inferred groundwater flow effects (i.e., caused by the NAPL barrier wall) were considered when preparing Figures 3 and 4.

The June 2024 configuration of the water table (Figure 3) is similar to that mapped in 2002. Groundwater is mounded atop the underlying silt-and-clay unit near the center of the site. This groundwater moves radially away from the mound and either 1) spills off the eastern and western edges of the silt-and-clay unit or 2) enters the gravel panels of the NAPL barrier wall, where groundwater moves downward beneath the HDPE curtain and into the underlying sand-and-gravel unit. Downgradient of the NAPL barrier wall and beneath Court Street, shallow groundwater generally moves south toward the flood wall and downward beneath the flood wall, eventually discharging into the Susquehanna River.

The June 2024 configuration of the sand-and-gravel unit potentiometric surface (Figure 4) is also similar to that mapped in 2002. The relatively high-permeability of the sand-and-gravel unit results in a surface that slopes gently southward toward the river. Flow in the sand-and-gravel unit is primarily horizontal; except near the river where groundwater moves upward, discharging into the Susquehanna River.

The collected water level data show no significant changes in flow patterns, indicating the NAPL barrier is performing as intended.

4.2.4 Groundwater Sampling (OU-1)

No groundwater sampling was conducted during the current monitoring period. Arcadis conducted the first post-remediation groundwater sampling event on November 23 and 24, 2020. Groundwater sampling activities and

results are presented in the 2020 Post-Construction Monitoring Report (Arcadis 2021). In summary, groundwater sample analytical results form 2020 indicate that COCs are not detected in groundwater at “off-site” locations and that COC concentrations are decreasing in shallow groundwater in the central portion of the site since completion of the remedy.

In accordance with the SMP, the next groundwater sampling event will occur in 2025 (i.e., Post-Construction Year 5) with results presented in the 2025 PRR.

4.2.5 Soil Vapor Intrusion (OU-1)

No enclosed structures were planned or constructed over areas that contain remaining impacts. Therefore, an SVI evaluation is not required and was not performed during the monitoring period.

5 Operation and Maintenance Plan Compliance

The site remedies for OU-1 and OU-2 do not rely on any mechanical systems, such as groundwater treatment systems, sub-slab depressurization systems, or air sparge/soil vapor extraction systems to protect public health and the environment. Therefore, the operation and maintenance requirements for any mechanical systems are not relevant to this PRR.

6 Conclusions and Recommendations

Based on the results of the monitoring activities performed during the reporting period as described herein:

- There is no evidence that NAPL is migrating on-site or off-site. Recoverable amounts of NAPL have not accumulated in the NAPL barrier wall in the 18 years since the wall was installed (i.e., in 2006), and NAPL has not accumulated in any off-site wells that are monitored.
- Post-remediation groundwater flow directions are generally consistent with pre-remediation conditions; except near the NAPL barrier wall, where shallow groundwater in the fill and silt-and-clay unit generally enters the gravel-filled portions of the trench and moves downward into the sand-and-gravel unit, as anticipated/ designed. Consistent with pre-remediation conditions, groundwater in the sand-and-gravel unit moves southward and discharges into the Susquehanna River. Shallow groundwater downgradient of the NAPL barrier wall also discharges to the Susquehanna River.
- The site cover system is intact with no evidence of intrusive activities.
- No sheens were observed on the Susquehanna River at OU-2 IRM Areas.
- The condition of the restored riverbank area appeared stable, and the area of minor erosion documented during the May 2022 inspection appeared unchanged.

Data collected and observations made during the reporting period demonstrate that the various remedial components are performing as designed. Currently, no further actions are recommended relating to the existing IC/ECs.

Consistent with the monitoring and reporting requirements presented in the SMP the following monitoring activities will be completed in 2025:

- Site cover inspection and NAPL monitoring
- Sheen monitoring and transloading area riverbank stability monitoring
- Groundwater sampling

7 References

Arcadis. 2021. 2020 Post Construction Monitoring Report. Binghamton Court Street Former Manufactured Gas Plant Site. Prepared on behalf of NYSEG. March 5.

Arcadis. 2022a. 2021 Post Construction Monitoring Report. Binghamton Court Street Former Manufactured Gas Plant Site. Prepared on behalf of NYSEG. January 19.

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BBL. 2002. Final Remedial Investigation Report. Court Street Site, Binghamton, New York. Prepared on behalf of NYSEG. December.

GEI. 2023a. Site Management Plan. Binghamton Court Street, Former Manufactured Gas Plant Site, OU-1, OU-2, Broome County, Binghamton, New York. Prepared on behalf of NYSEG. May.

GEI. 2023b. Interim Remedial Measure Final Engineering Report for Binghamton Court Street Former Manufactured Gas Plant Site. Prepared on behalf of NYSEC. May.

NYSDEC. 2004. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (TOGS 1.1.1), Reissued June 1998 and addended April 2000 and June 2004.

NYSDEC. 2010. DER-10, Technical Guidance for Site Investigation and Remediation. New York State Department of Environmental Conservation. May.

NYSDEC. 2013. Record of Decision. NYSEG – Binghamton Court St. MGP, Operable Unit Number 01: Former MGP Area, Binghamton, Broome County. March.

NYSDEC. 2021. Decision Document. NYSEG – Binghamton Court St. MGP, Operable Unit Number 02: Susquehanna River Sediment, Manufactured Gas Plant Project, Binghamton, Broome County. June.

NYSDEC. 2024. Water Quality Standards and Classifications. 6 NYCRR Chapter X. Part 930. Website accessed August 12, 2024. http://www.dec.ny.gov/regs/2485.html.

Tables

Table 1
NAPL Recovery Well Gauging and Groundwater Elevation Summary
Periodic Review Report
NYSEG - Binghamton Former MGP Site
Binghamton, New York

Well ID	Top of Casing (ft AMSL)	11/3/2022					11/20/2023					6/20/2024				
		DTW (ft-TIC)	DTB (ft-TIC)	Groundwater Elevation (ft AMSL)	NAPL Thickness (ft)	Comments/ Observations	DTW (ft-TIC)	DTB (ft-TIC)	Groundwater Elevation (ft AMSL)	NAPL Thickness (ft)	Comments/ Observations	DTW (ft-TIC)	DTB (ft-TIC)	Groundwater Elevation (ft AMSL)	NAPL Thickness (ft)	Comments/ Observations
Barrier Wall Recovery Wells																
RW-1	841.76	10.66	51.05	831.10	--		10.03	51.62	831.73	--		10.56	51.39	831.20	--	
RW-2	841.97	10.94	51.95	831.03	--		10.35	51.77	831.62	--		10.89	51.58	831.08	--	
RW-3	842.01	10.94	15.80	831.07	--		10.36	15.93	831.65	--		10.88	15.89	831.13	--	
RW-4	842.99	11.94	15.48	831.05	--	Soft bottom	11.36	15.88	831.63	--		11.90	15.82	831.09	--	
RW-5	842.97	12.35	48.55	830.62	--		11.32	48.56	831.65	--		11.85	48.51	831.12	--	
RW-6	843.57	12.33	48.55	831.24	TR	Trace NAPL staining and blebs on probe	11.79	48.48	831.78	0.3'	Blebs on bottom 0.3' of tape	12.20	48.37	831.37	0.3'	Blebs
RW-7	843.58	12.35	17.68	831.23	--		11.82	18.12	831.76	--		12.21	18.04	831.37	--	
RW-8	843.49	12.24	17.08	831.25	--		11.75	18.10	831.74	--		12.13	17.98	831.36	--	
RW-9	843.53	12.28	52.06	831.25	--		11.89	52.91	831.64	--		12.17	52.87	831.36	--	
RW-10	843.08	11.82	15.71	831.26	--		11.33	16.35	831.75	--		11.71	16.30	831.37	--	
RW-11	843.92	12.65	40.04	831.27	--	Soft bottom	13.18	41.06	830.74	--		12.57	39.70	831.35	--	Soft bottom
RW-12	844.78	13.47	47.92	831.31	--		13.09	47.90	831.69	--		13.35	47.86	831.43	--	
RW-13	844.78	13.46	18.29	831.32	--		13.11	18.60	831.67	--		13.36	18.47	831.42	--	
RW-14	845.80	14.50	17.00	831.30	--		14.13	17.08	831.67	--		14.39	17.09	831.41	--	
RW-15	845.77	14.45	48.92	831.32	--		14.17	48.87	831.60	--		14.35	48.82	831.42	--	
RW-16	848.38	17.10	49.89	831.28	--		16.71	49.65	831.67	--		16.93	49.57	831.45	--	
RW-17	848.34	17.04	24.35	831.30	--		16.67	24.48	831.67	--		16.91	24.44	831.43	--	
RW-18	845.85	14.51	41.90	831.34	--		14.13	41.96	831.72	--		14.37	41.86	831.48	--	
RW-19	845.87	14.48	19.09	831.39	--		14.16	19.22	831.71	--		14.38	19.18	831.49	--	
RW-20	841.76	10.63	13.03	831.13	--		10.07	15.15	831.69	--		10.53	15.09	831.23	--	
RW-21	841.99	10.83	15.75	831.16	--		10.33	15.77	831.66	--		10.67	15.77	831.32	--	
RW-22	841.97	10.78	51.81	831.19	--		10.14	52.27	831.83	--		10.58	51.60	831.39	--	
NAPL Recovery Wells																
NMW-1[2]	849.94	18.63	40.65	831.31	--	Soft bottom	18.23	41.01	831.71	--		18.54	40.75	831.40	--	
NMW-2	846.12	15.02	43.28	831.10	--		14.63	43.45	831.49	--		14.93	43.34	831.19	--	

Acronyms and Abbreviations:

AMSL = Feet Above Mean Sea Level
DTB = depth to bottom
DTW = depth to water
ft = feet
NAPL = non-aqueous phase liquid
TIC = Top of Inner Casing
TR = trace
-- = NAPL not present

Notes:

1. Elevations referenced to the NAVD 88 Datum.
2. Not included as part of the monitoring well network.

Table 2
Upgradient, Side-Gradient, and Sentinel Well Gauging and Groundwater Elevation Summary
Periodic Review Report
NYSEG - Binghamton Former MGP Site
Binghamton, New York

Well ID	Ground Surface Elevation (ft AMSL)	Measuring Point Elevation (ft AMSL)[2]	11/3/2022				11/20/2023				6/20/2024			
			DTW (ft-TIC)	DTB (ft-TIC)	Groundwater Elevation (ft AMSL)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	Groundwater Elevation (ft AMSL)	NAPL Thickness (ft)	DTW (ft-TIC)	DTB (ft-TIC)	Groundwater Elevation (ft AMSL)	NAPL Thickness (ft)
Upgradient and Side-Gradient Wells														
PZ93-1	844.70	848.00	10.12	12.15	837.88	--	10.10	12.03	837.90	--	11.22	12.25	836.78	--
MW93-06D	844.20	845.98	14.38	67.02	831.60	--	14.03	67.25	831.95	--	14.24	67.23	831.74	--
MW93-05D	844.90	847.16	15.53	59.15	831.63	--	15.08	59.15	832.08	--	15.41	59.11	831.75	--
MW97-14D	845.90	844.88	13.17	37.58	831.71	--	12.52	38.01	832.36	--	12.85	37.70	832.03	--
MW97-14S	845.90	844.87	13.16	18.87	831.71	--	12.60	18.99	832.27	--	12.95	18.84	831.92	--
MW01-17D	861.50	860.79	29.22	58.65	831.57	--	28.87	58.92	831.92	--	29.05	58.90	831.74	--
MW01-17S	861.70	860.86	29.52	29.92	831.34	--	29.18	36.64	831.68	--	29.36	36.59	831.50	--
Sentinel Wells														
MW97-07S	849.33	848.97	17.91	25.75	831.06	--	17.59	25.83	831.38	--	17.89	25.82	831.08	--
MW-01-03-R	--	846.56	14.76	NM	831.80	--	14.16	111.08	832.40	--	14.46	111.05	832.10	--
PZ03-01D	848.10	847.61	16.30	46.65	831.31	--	16.00	46.69	831.61	--	16.21	46.67	831.40	--
PZ03-09A	851.19	850.86	19.92	22.33	830.94	--	19.51	22.25	831.35	--	19.90	12.68	830.96	--
PZ03-09D	851.19	850.81	19.62	46.86	831.19	--	19.25	47.57	831.56	--	19.62	47.51	831.19	--
Surface Water Elevation														
MP-1 (Tompkins St. Bridge)	--	858.19	27.38	--	830.81	--	28.92	--	829.27	--	27.51	--	830.68	--

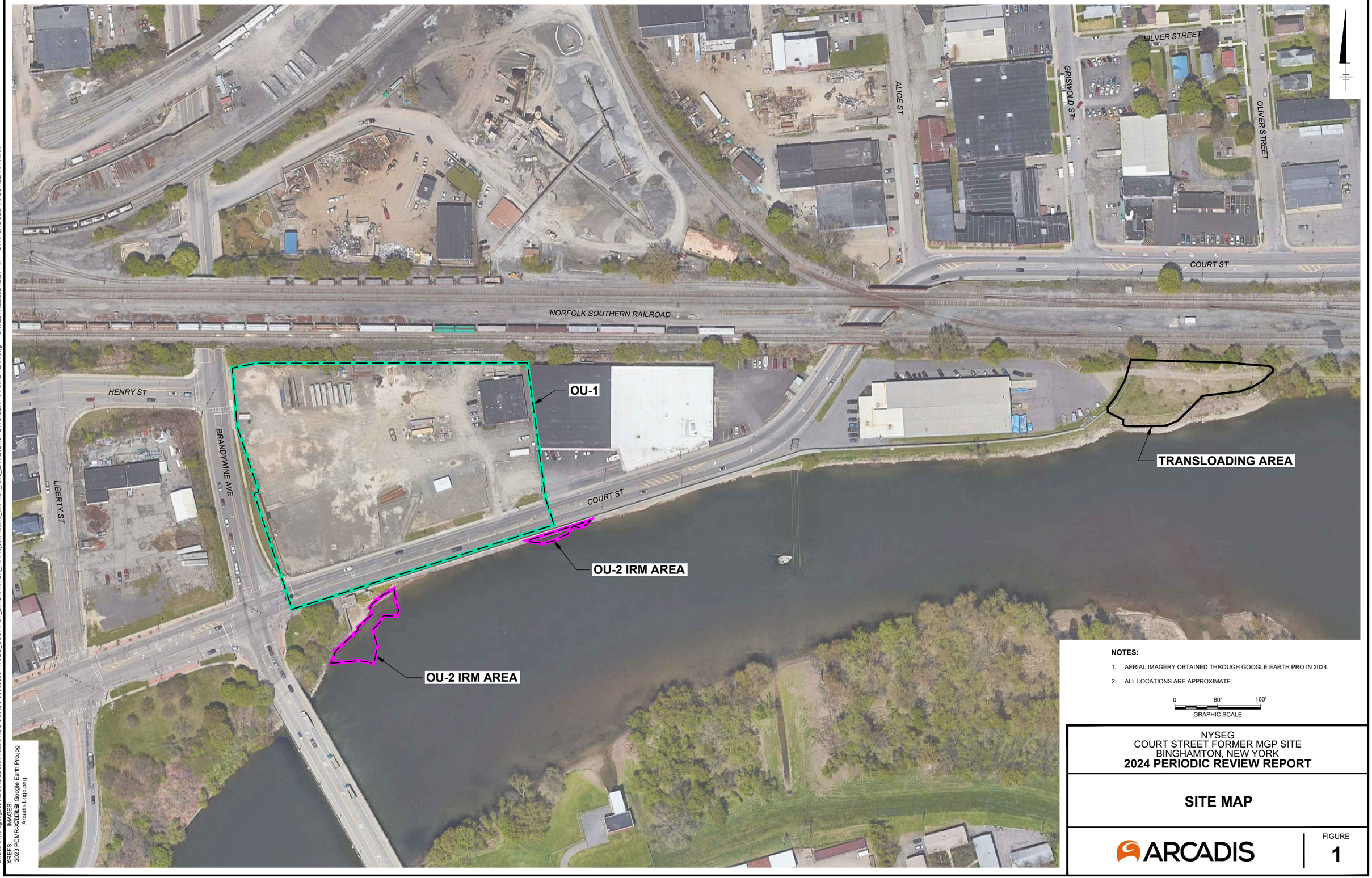
Acronyms and Abbreviations:

AMSL = Feet Above Mean Sea Level
DTB = depth to bottom
DTW = depth to water
ft = feet
NAPL = non-aqueous phase liquid
TIC = Top of Inner Casing
NA = not accessible
NM = not measured
St. = street

Notes:

1. NAPL gauging and water level data collected by Arcadis on the dates indicated.
2. All elevations referenced to feet above mean sea level, North American Vertical Datum of 1988. Monitoring Well network was resurveyed in 2021.

Figures



NOTES:

1. AERIAL IMAGERY OBTAINED THROUGH GOOGLE EARTH PRO IN 2024.
2. ALL LOCATIONS ARE APPROXIMATE.

0 80' 160'
GRAPHIC SCALE

NYSEG
COURT STREET FORMER MGP SITE
BINGHAMTON, NEW YORK
2024 PERIODIC REVIEW REPORT

SITE MAP

ARCADIS

FIGURE
1

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IMAGES:
2023 PCMR-XCUT1.tif Google Earth Pro.jpg
Arcadis Logo.png

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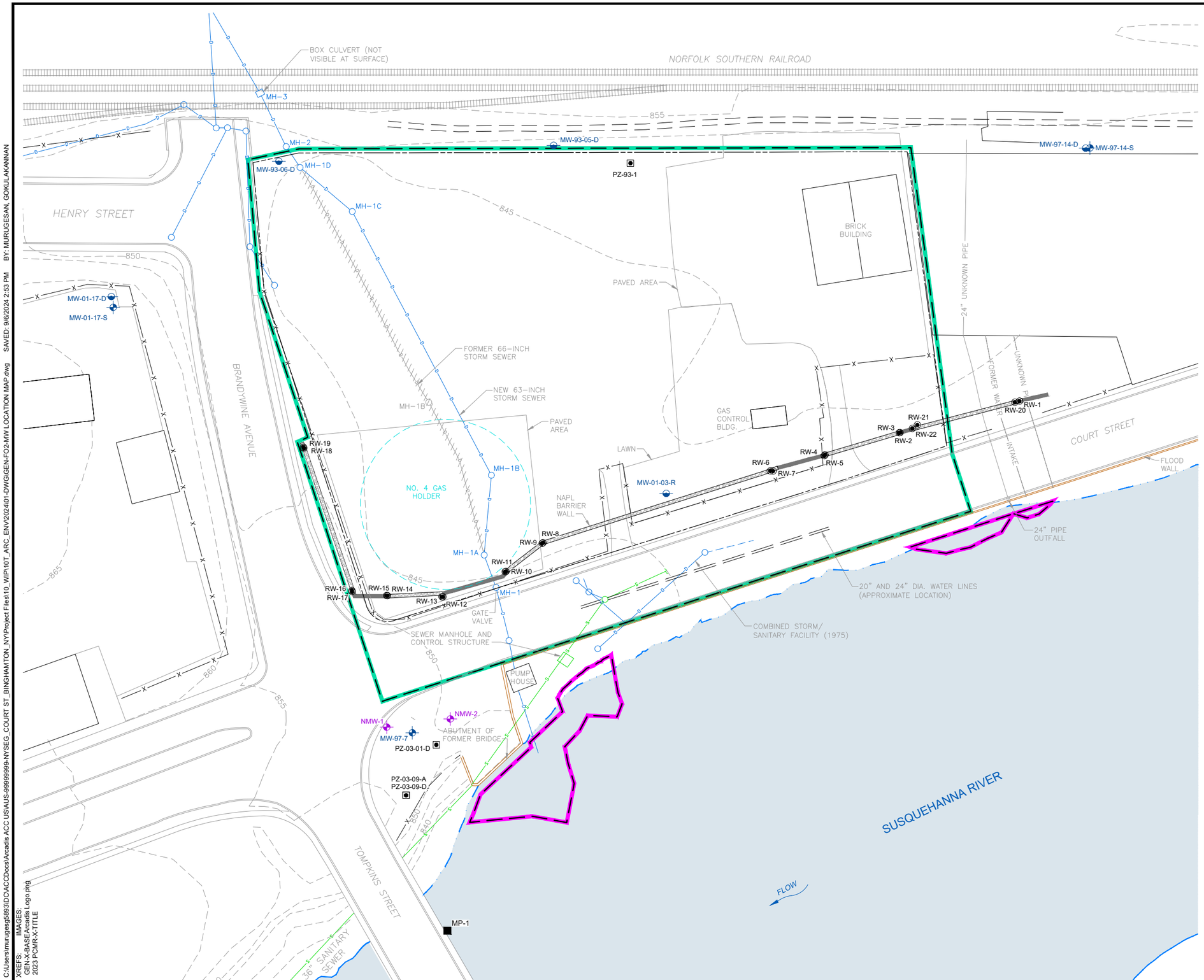

LEGEND:

- NYSEG PROPERTY LINES AND ENVIRONMENTAL EASEMENT LIMITS
- OPERATIONAL UNIT 1 (OU-1) BOUNDARY AND INSTITUTIONAL CONTROL LIMITS
- OU-2 IRM AREA BOUNDARY (SEE NOTE 6)
- 840 GROUND SURFACE ELEVATION (FT AMSL)
- FENCE
- RAILROAD TRACK
- FLOOD WALL
- SANITARY SEWER LINE
- STORM SEWER LINE
- ABANDONED STORM SEWER LINE
- HISTORIC FEATURE
- NAPL BARRIER WALL
- JET GROUT PANEL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- NAPL MONITORING WELL
- PIEZOMETER
- RECOVERY WELL
- RIVER STAFF GAUGE

NOTES:

1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
2. GROUND SURFACE CONTOURS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303; FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
3. BASEMAP REFERENCE DATUMS:
   HORIZONTAL: NORTH AMERICAN VERTICAL DATUM OF 1983 (NAD83), NEW YORK STATE PLANE CENTRAL ZONE 3102.
   VERTICAL: NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).
4. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES, PREPARED BY VERNON 0. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.
5. ALL LOCATIONS ARE APPROXIMATE. SITE PLAN DEPICTS BOTH HISTORICAL AND CURRENT SITE FEATURES, INCLUDING MONITORING WELLS.
6. OU-2 CONSISTS OF SEDIMENTS IMPACTED BY THE SITE WHICH WERE REMEDIATED IN 2018/2019.

0 40' 80'
GRAPHIC SCALE

NYSEG
COURT STREET FORMER MGP SITE
BINGHAMTON, NEW YORK
2024 PERIODIC REVIEW REPORT

MONITORING WELL LOCATIONS

ARCADIS

FIGURE
2

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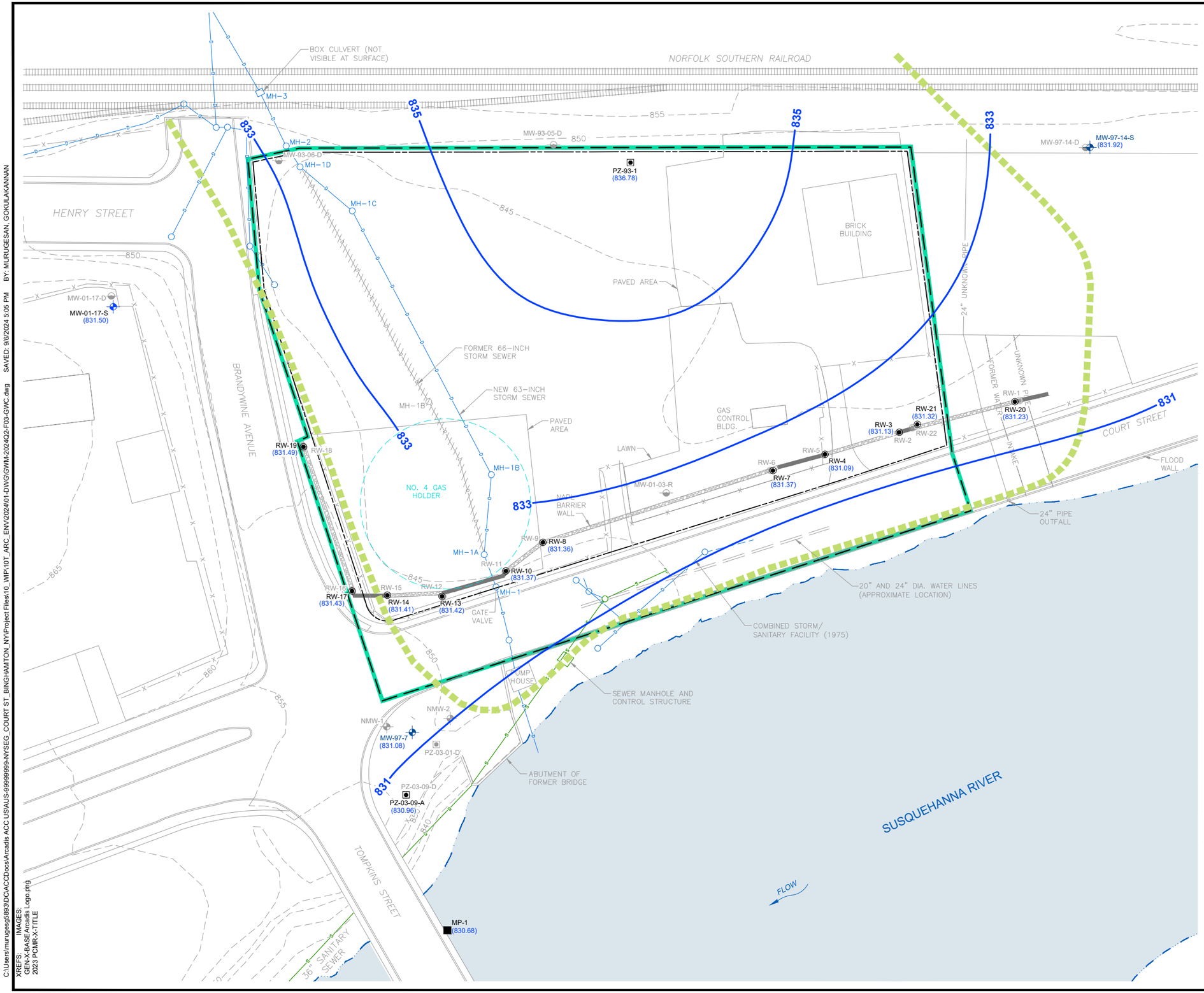
GEN-X-BASEArcadis Logo.png
2023 PCMR-X-TITLE



LEGEND:

- NYSEG PROPERTY LINES AND ENVIRONMENTAL EASEMENT LIMITS
- OPERABLE UNIT BOUNDARY AND INSTITUTIONAL CONTROL LIMITS
- 840 GROUND SURFACE ELEVATION (FT AMSL)
- FENCE
- RAILROAD TRACK
- FLOOD WALL
- SANITARY SEWER LINE
- STORM SEWER LINE
- ABANDONED STORM SEWER LINE
- HISTORIC FEATURE
- EDGE OF SILT
- NAPL BARRIER WALL
- JET GROUT PANEL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- NAPL MONITORING WELL
- PIEZOMETER
- RECOVERY WELL
- RIVER STAFF GAUGE
- 833 WATER TABLE CONTOUR (SEE NOTE 6)
- (836.78) GROUNDWATER ELEVATION (SEE NOTE 6)

NOTES:

1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
2. GROUND SURFACE CONTOURS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303; FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
3. GROUND SURFACE AND BASEMAP REFERENCE DATUMS:VERTICAL: NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) HORIZONTAL: NORTH AMERICAN DATUM OF 1983 (NAD83), NEW YORK STATE PLANE, CENTRAL ZONE 3102
4. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES, PREPARED BY VERNON 0. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.
5. ALL LOCATIONS ARE APPROXIMATE. SITE PLAN DEPICTS BOTH HISTORICAL AND CURRENT SITE FEATURES, INCLUDING MONITORING WELLS.
6. GROUNDWATER ELEVATIONS REFERENCED TO MEAN SEA LEVEL USING NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

0 40' 80'
GRAPHIC SCALE

NYSEG
COURT STREET FORMER MGP SITE
BINGHAMTON, NEW YORK
2024 PERIODIC REVIEW REPORT

WATER TABLE MAP - JUNE 20, 2024

ARCADIS

FIGURE 3

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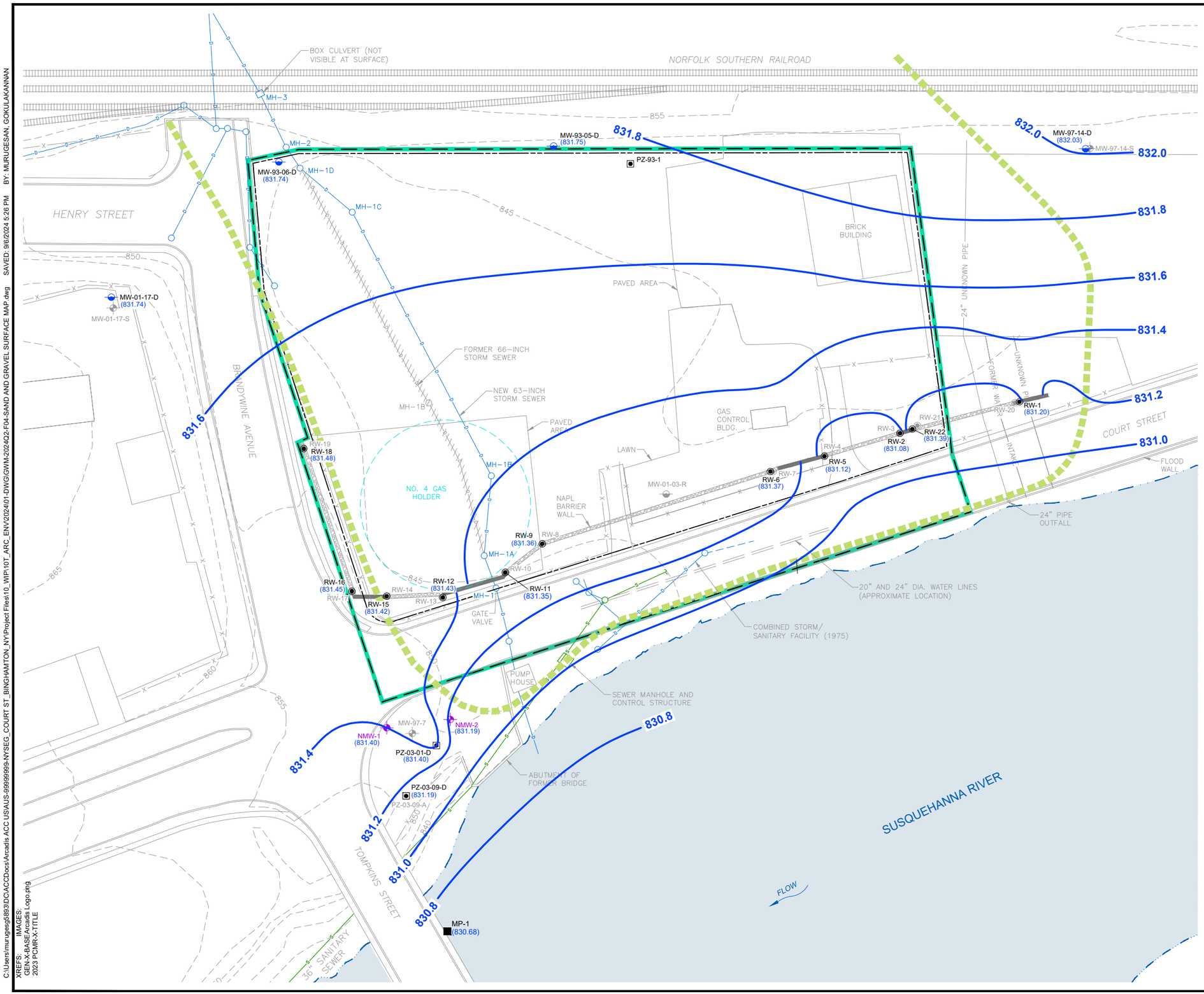

LEGEND:

- NYSEG PROPERTY LINES AND ENVIRONMENTAL EASEMENT LIMITS
- OPERABLE UNIT BOUNDARY AND INSTITUTIONAL CONTROL LIMITS
- 840 GROUND SURFACE ELEVATION (FT AMSL)
- FENCE
- RAILROAD TRACK
- FLOOD WALL
- SANITARY SEWER LINE
- STORM SEWER LINE
- ABANDONED STORM SEWER LINE
- HISTORIC FEATURE
- EDGE OF SILT
- NAPL BARRIER WALL
- JET GROUT PANEL
- SHALLOW MONITORING WELL
- DEEP MONITORING WELL
- NAPL MONITORING WELL
- PIEZOMETER
- RECOVERY WELL
- RIVER STAFF GAUGE
- 831.2 POTENTIOMETRIC CONTOUR (DASHED WHERE INFERRED) (SEE NOTE 6)
- (832.03) GROUNDWATER ELEVATION (SEE NOTE 6)

NOTES:

1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
2. GROUND SURFACE CONTOURS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303; FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
3. GROUND SURFACE AND BASEMAP REFERENCE DATUMS:VERTICAL: NATIONAL GEODETIC VERTICAL DATUM (NGVD) OF 1929 HORIZONTAL: NORTH AMERICAN DATUM (NAD) OF 1983, NEW YORK STATE PLANE, CENTRAL ZONE 3102.
4. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES, PREPARED BY VERNON 0. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.
5. ALL LOCATIONS ARE APPROXIMATE. SITE PLAN DEPICTS BOTH HISTORICAL AND CURRENT SITE FEATURES, INCLUDING MONITORING WELLS.
6. GROUNDWATER ELEVATIONS REFERENCED TO MEAN SEA LEVEL USING NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88).

0 40' 80'
GRAPHIC SCALE

NYSEG
COURT STREET FORMER MGP SITE
BINGHAMTON, NEW YORK
2024 PERIODIC REVIEW REPORT

SAND AND GRAVEL POTENTIOMETRIC SURFACE MAP - JUNE 20, 2024

ARCADIS

FIGURE
4

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XREFS: IMAGES:
GEN-X-BASE Arcadis Logo.png
2023 PCMR-X-TITLE

NORFOLK SOUTHERN RAILROAD

NORFOLK SOUTHERN RAILROAD

ACCESS ROAD (APPROXIMATE)

FLOOD WALL

EDGE OF CONCRETE STRUCTURE/WALL (EL. 844.2 +/-)

TOPSOIL AND TREES

850

849

848

847

846

845

844

840

CONCRETE GROIN (SEE NOTE 3)

CONCRETE GROIN (SEE NOTE 3)

CONCRETE GROIN (SEE NOTE 3)

APPROXIMATE LOCATION OF OBSERVED RIVERBANK EROSION AREA

SUSQUEHANNA RIVER

FLOW

NOTES:

1. MEAN HIGH WATER LEVEL DELINEATED IN THE FIELD BY ARCADIS IN OCTOBER 2017, IN ACCORDANCE WITH RGL 05-05.
2. TREE LOCATIONS ARE APPROXIMATE.
3. CONCRETE GROINS NOT ENCOUNTERED IN THE FIELD AND ARE SHOWN PER NYSDEC'S REQUEST. LOCATIONS ARE APPROXIMATE BASED ON DRAWING FROM SOUTHERN NEW YORK FLOOD CONTROL PROJECT, BINGHAMTON NY SECTION NO. 3, PLAN AND PROFILE, FILE NO. 6406-44, ISSUED 10/22/1940, REVISED 8/1/41.
4. HORIZONTAL DATUM (US SURVEY FEET): NORTH AMERICAN DATUM OF 1983 (NAD83), NEW YORK STATE PLANE COORDINATE SYSTEM, NEW YORK CENTRAL ZONE, FIPSZONE 3102.

LEGEND:

- PARCEL BOUNDARY
- NYSDEC EASEMENT PARCEL
- TRANSLOADING AREA BOUNDARY
- 850 TOPOGRAPHIC CONTOURS
- 850 RESTORATION CONTOURS
- RAILROAD TRACK
- FLOOD WALL
- MEAN HIGH WATER LEVEL (SEE NOTE 1)
- HERBACEOUS GROUND COVER (WILDLIFE AND GRASS SEED MIX)
- HERBACEOUS GROUND COVER (FLOOD WALL SEED MIX)
- NYSDEC RESEEDED AREA
- SILVER MAPLES
- RED MAPLES
- RIPRAP

0 20' 40'

GRAPHIC SCALE

NYSEG
COURT STREET FORMER MGP SITE
BINGHAMTON, NEW YORK
2024 PERIODIC REVIEW REPORT

TRANSLOADING AREA

ARCADIS

FIGURE
5

C:\Users\murugesg5893\DC\ACCDocs\Arcadis ACC US\AUS-99999999-NYSEG_COURT ST_BINGHAMTON_NY\Project Files\10_WIP\10T_ARC_ENV\202401-DWG\GWM-2024Q2-F05-TRANSLOADING AREA.dwg SAVED: 7/22/2024 3:48 PM BY: MURUGESAN, GOKULAKANNAN

XREFS: IMAGES:
Design-X-BASE Arcadis Logo.png
Design-X-SP
Design-X-PARCEL
Design-X-CONTOURS
2023 PCMR-X-TITLE

Attachment 1

PRR Certification Form

Enclosure 1

Certification Instructions

I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

II. Certification of Institutional Controls/ Engineering Controls (IC/ECs)(Boxes 3, 4, and 5)

1.1.1. Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

2. In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

3. If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

III. IC/EC Certification by Signature (Box 6 and Box 7**):**

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

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

Site Details **Box 1**

Site No. 704031

Site Name NYSEG - Binghamton Court St. MGP

Site Address: 271-293 Court Street Zip Code: 13901
City/Town: Binghamton
County: Broome
Site Acreage: 4.300

Reporting Period: May 15, 2023 to September 15, 2024

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

Box 2

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

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

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

_____ _____
Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 704031 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
	New York State Electric and Gas	
		Ground Water Use Restriction
		Ground Water Use Restriction
		Soil Management Plan
		Soil Management Plan
		Landuse Restriction
		Landuse Restriction
		Monitoring Plan
		Monitoring Plan
		Site Management Plan
		Site Management Plan
		IC/EC Plan
		IC/EC Plan

A series of Institutional Controls (ICs) is required by the ROD to: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination; and (3) limit the use and development of the Site to commercial and industrial use only. Adherence to these ICs on the Site is required by the Environmental Easement and will be implemented under the Site Management Plan (SMP). ICs identified in the Environmental Easement may not be discontinued without an amendment to or extinguishment of the Environmental Easement. These ICs are:

- The NYSEG-owned portion of OU-1 may be used for commercial and industrial use, subject to local zoning laws.
- All ECs must be operated and maintained as specified in the SMP.
- All ECs must be inspected at a frequency and in a manner defined in the SMP.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the Broome County Department of Health to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP.
- Data and information pertinent to Site management must be reported at the frequency and in a manner as defined in the SMP.
- All future activities that will disturb remaining contaminated material must be conducted in accordance with the SMP.
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in the SMP.
- Operation, maintenance, monitoring, inspection, and reporting of any mechanical or physical component of the remedy shall be performed as defined in the SMP.
- 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 the Environmental Easement.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted in the SMP, and any potential impacts that are identified must be monitored or mitigated.
- Vegetable gardens and farming on the Site are prohibited.
- An evaluation shall be performed to determine the need for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
	Cover System
	Cover System
	Subsurface Barriers
	Subsurface Barriers

(1) Soil Cover - Exposure to remaining MGP impacted materials in soil at the Site is prevented by a soil cover system placed over a designated area. This cover system is comprised of a minimum of 12 inches of clean soil, paved areas, concrete-covered sidewalks, and concrete building slabs.
(2) Passive NAPL Barrier Wall- a passive NAPL barrier wall was constructed to mitigate potential migration of NAPL beyond the downgradient edge of NYSEG's property and recover NAPL, to the extent practicable. The major components of the NAPL barrier consist of a Gravel-filled collection trench, Jet-grouted low-permeability walls, DNAPL collection system, and LNAPL collection system.
(3) Storm Sewer - A subsurface, NAPL-tight storm sewer that prevents infiltration of potentially impacted groundwater and NAPL into the City of Binghamton storm sewer (and subsequently to the Susquehanna River). Major components include a 63-inch external diameter non-structural HDPE pipe and four new HDPE manholes.

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

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

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

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

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

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

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

YES	NO
☒	☐

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

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

_____ _____

Signature of Owner, Remedial Party or Designated Representative Date

IC CERTIFICATIONS
SITE NO. 704031

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Levia Terrell (print name) at PO Box 5524, Binghamton, New York 13902 (print business address),

am certifying as Owner (Owner or Remedial Party)

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

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

10/09/2023
Date

EC CERTIFICATIONS

Box 7

Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Mark O. Gravelding (print name) at Arcadis of New York, Inc.
110 West Fayette St., Suite 300
Syracuse, NY 13202 (print business address),

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

Signature of the Qualified Environmental Professional, for the Owner or Remedial Party, Rendering Certification	Stamp (Required for PE)	Date
		10-11-2024

Attachment 2

Site Inspection Form

Binghamton (Court Street) Former MGP Site
Binghamton, Broome County, New York
Site-Wide Inspection Form

Date: 11/20/23
Personnel: T. Platt J. Kline
Time of Arrival: 0900
Time of Departure: ~~0944~~ 1700

Weather Conditions: Sunny 30°F
Temperature: 30°F
Wind Speed: —
Wind Direction (from): —

Inspection Checklist	Yes	No	Comments
Cover System			
Intrusive Activities Being Performed?			
- Trenching?		✓	
- Excavation?		✓	
- Tunneling?		✓	
- Saw cutting?		✓	
Signs of Previous Intrusive Activities Performed?			
- New drainage feature?		✓	
- Evidence of a new underground utility?		✓	
- New grass/vegetation/asphalt?	✓		grass seed + hay spread by NMW-2 area
- Other (e.g., cracking, potholes, depressions)		✓	
Monitoring Well Condition			
Groundwater monitoring needs to be performed this year?	✓		gauged all wells 11/20/23
Covers secure?	✓		
Casing in need of repair?		✓	
Concrete surface seal intact?	✓		
Settling in area around well?		✓	
Well obstructed?		✓	
Ponded water above well?		✓	
Well screen silted in?		✓	
Well in need of redevelopment?	✓		a couple had amounts of sed in them see integrity Logs

General Comments/Suggested Action Items:

Binghamton (Court Street) Former MGP Site
Binghamton, Broome County, New York
Site-Wide Inspection Form

Date: 6/20/24
Personnel: T. Platt, D. Cornell Jr.
Time of Arrival: 0800
Time of Departure: 1200

Weather Conditions: Sunny 90°F
Temperature: 90°F
Wind Speed: —
Wind Direction (from): —

Inspection Checklist	Yes	No	Comments
Cover System			
Intrusive Activities Being Performed?			
- Trenching?		✓	
- Excavation?		✓	
- Tunneling?		✓	
- Saw cutting?		✓	
Signs of Previous Intrusive Activities Performed?			
- New drainage feature?		✓	
- Evidence of a new underground utility?		✓	
- New grass/vegetation/asphalt?		✓	
- Other (e.g., cracking, potholes, depressions)		✓	
Monitoring Well Condition			
Groundwater monitoring needs to be performed this year?		✓	
Covers secure?	✓		all secure except RW-20
Casing in need of repair?		✓	
Concrete surface seal intact?	✓		
Settling in area around well?		✓	
Well obstructed?		✓	
Ponded water above well?		✓	
Well screen silted in?		✓	
Well in need of redevelopment?		✓	

General Comments/Suggested Action Items:
Tapped stripped holes and replaced some bolts

Attachment 3

Sheen and Riverbank Monitoring Photograph Log

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 1

Description: OU-2 Remedial Area 1, facing upstream, taken from former Tompkins Street Bridge abutment

Location: Binghamton Court Street OU-2

Date: 5/30/2023

Time: 09:15

Photograph: 2

Description: OU-2 Remedial Area 1, facing upstream, taken from former Tompkins Street Bridge abutment

Location: Binghamton Court Street OU-2

Date: 5/30/2023

Time: 09:45

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 3

Description: OU-2 Remedial Area 1, facing upstream, taken from former Tompkins Street Bridge abutment

Location: Binghamton Court Street OU-2

Date: 11/20/2023

Time: 14:56

Photograph: 4

Description: OU-2 Remedial Area 1, facing upstream, taken from former Tompkins Street Bridge abutment

Location: Binghamton Court Street OU-2

Date: 11/20/2023

Time: 15:44

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 5

Description:
OU-2 Remedial Area 1, facing upstream, taken from Tompkins Street Bridge

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Time: 10:00

Photograph: 6

Description:
OU-2 Remedial Area 1, facing upstream, taken from Tompkins Street Bridge

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Time: 10:30

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 7

Description: Former Transloading Area.

Location: Binghamton Court Street OU-2

Date: 5/30/2023

Time: 10:10

Photograph: 8

Description: Former Transloading Area

Location: Binghamton Court Street OU-2

Date: 5/30/2023

Time: 10:13

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 9

Description: Former Transloading Area, facing downstream.

Location: Binghamton Court Street OU-2

Date: 11/20/2023

Time: 16:49

Photograph: 10

Description: Transloading Area restored riverbank, downstream end facing upstream.

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 11

Description: Transloading Area restored riverbank, downstream end.

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Photograph: 12

Description: Transloading Area restored riverbank, downstream end.

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 13

Description:
Transloading Area restored riverbank, top of bank.

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Photograph: 14

Description:
Transloading Area restored riverbank, upstream end.

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Photograph Log

NYSEG
Binghamton Court St. Former MGP Site Operable Unit No. 2
Sheen Monitoring and Riverbank Inspection

Photograph: 15

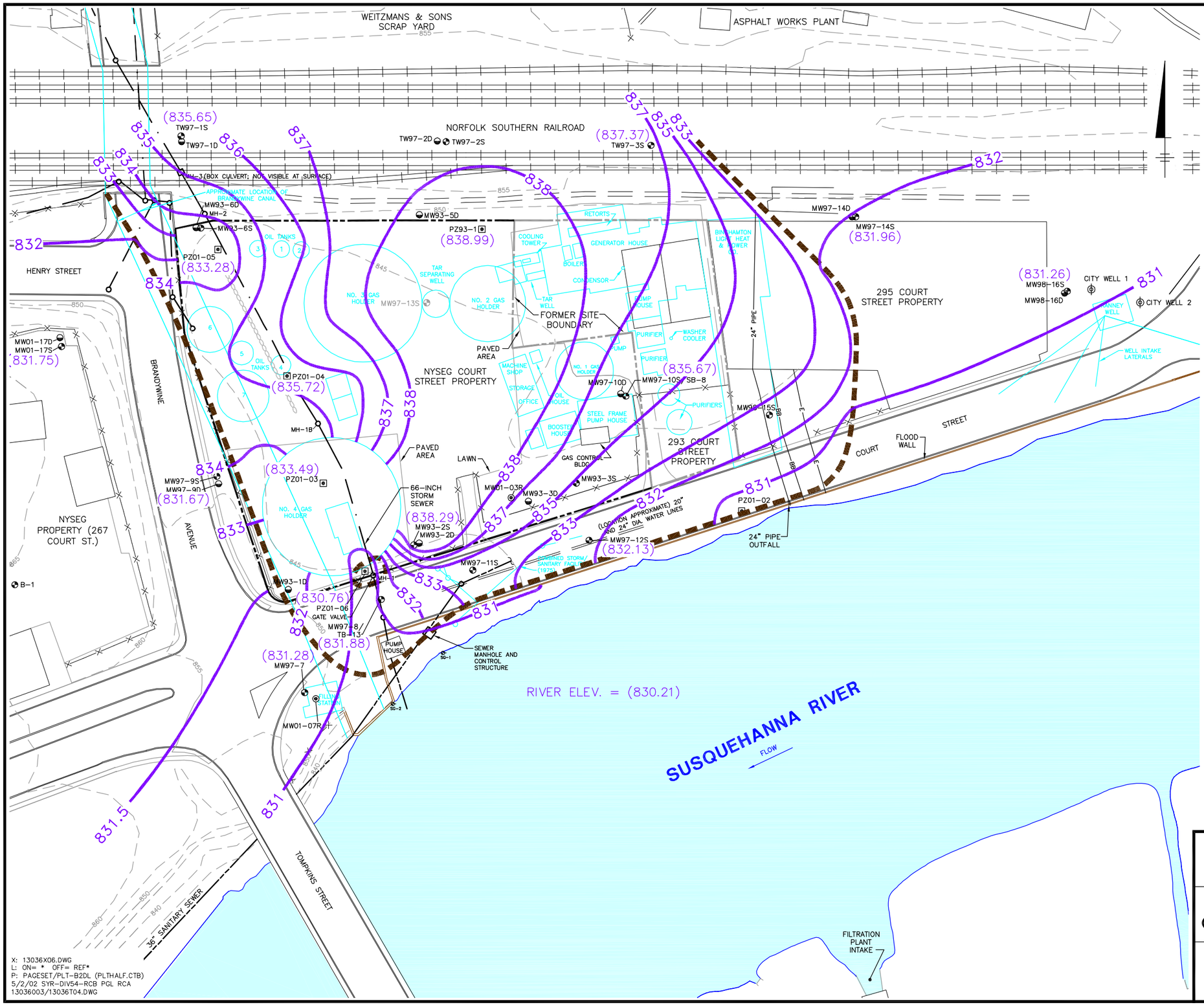
Description:
Transloading Area restored riverbank, upstream end.

Location: Binghamton Court Street OU-2

Date: 5/28/2024

Attachment 4

Select RI Figures



LEGEND

- FLOOD WALL
- RAILROAD TRACK
- FENCE
- SITE PROPERTY LINES (APPROXIMATE)
- SEWER LINE (APPROXIMATE)
- 840 GROUND SURFACE ELEVATION CONTOUR (FT. AMSL)
- HISTORICAL FEATURE
- BURIED CONCRETE WALL
- MONITORING WELL (SHALLOW)
- MONITORING WELL (DEEP)
- MONITORING WELL (BEDROCK)
- PIEZOMETER
- CITY MONITORING WELL
- STAFF GAUGE
- DECOMMISSIONED MONITORING WELL
- (831.26) WATER TABLE ELEVATION (FT. AMSL)
- 832 WATER TABLE ELEVATION CONTOUR (FT. AMSL) DASHED WHERE INFERRED
- EDGE OF SILT

NOTES:

1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
2. SURFACE ELEVATIONS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
3. ALL ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL USING NATIONAL GEODETIC VERTICAL DATUM OF 1929, HORIZONTAL DATUM: NAD 83 NEW YORK STATE CENTRAL 3102.
4. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES. PREPARED BY VERNON O. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.
5. ALL SURFACE SOIL SAMPLING, SOIL BORING, TEST BORING, MONITORING WELL, CITY WELL, AND TEMPORARY MONITORING WELL LOCATIONS SURVEYED BY HAWK ENGINEERING, P.C., BINGHAMTON, N.Y.

0 100' 200'

GRAPHIC SCALE

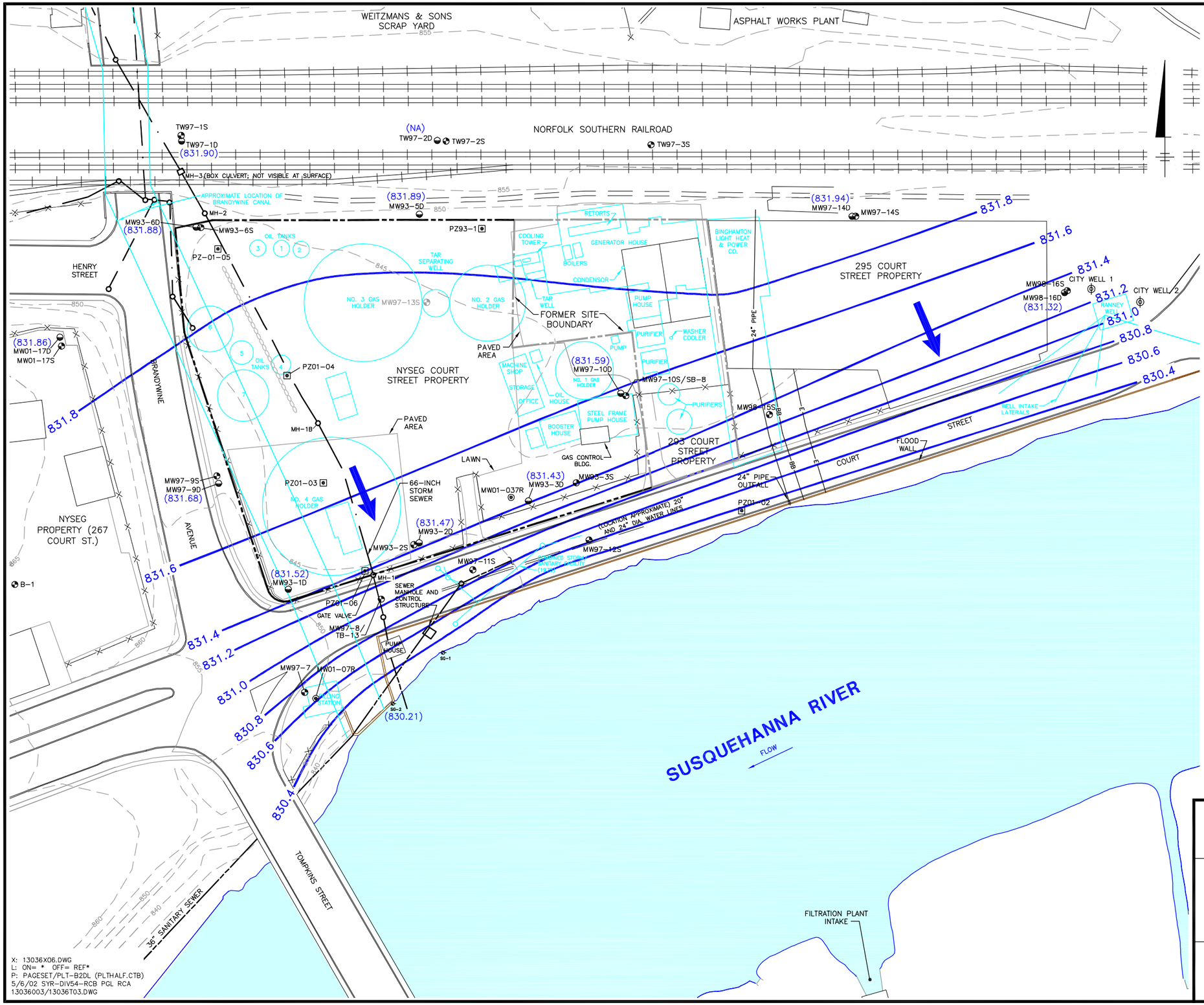
X: 13036X06.DWG
L: ON= * OFF= REF*
P: PAGESET/PLT-B2DL (PLTHALF.CTB)
5/2/02 SYR-DIV54-RCB PGL RCA
13036003/13036T04.DWG

NEW YORK STATE ELECTRIC & GAS CORP.
BINGHAMTON, NEW YORK
COURT STREET SITE
PHASE II SRI

WATER TABLE ELEVATION CONTOUR MAP - OCTOBER 2, 2001

BLASLAND, BOUCK & LEE, INC.
engineers & scientists

FIGURE 11



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L: ON= * OFF= REF*
P: PAGESET/PLT-B2DL (PLTHALF.CTB)
5/6/02 SYR-DIV54-RCB PGL RCA
13036003/13036T03.DWG

LEGEND

- FLOOD WALL
- RAILROAD TRACK
- FENCE
- SITE PROPERTY LINES (APPROXIMATE)
- SEWER LINE (APPROXIMATE)
- 840 GROUND SURFACE ELEVATION CONTOUR (FT. AMSL)
- HISTORICAL FEATURE
- BURIED CONCRETE WALL
- MONITORING WELL (SHALLOW)
- MONITORING WELL (DEEP)
- MONITORING WELL (BEDROCK)
- PIEZOMETER
- CITY MONITORING WELL
- STAFF GAUGE
- DECOMMISSIONED MONITORING WELL
- (831.68) DEEP GROUNDWATER POTENTIOMETRIC ELEVATION IN FEET ABOVE MEAN SEA LEVEL (NA = NOT AVAILABLE)
- 831.8 DEEP GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR (FT. AMSL)
- GROUNDWATER FLOW DIRECTION

NOTES:

1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
2. SURFACE ELEVATIONS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
3. ALL ELEVATIONS ARE REFERENCED TO MEAN SEA LEVEL USING NATIONAL GEODETIC VERTICAL DATUM OF 1929, HORIZONTAL DATUM: NAD 83 NEW YORK STATE CENTRAL 3102.
4. ALL INVESTIGATION LOCATIONS SURVEYED BY HAWK ENGINEERING, P.C. BINGHAMTON, N.Y. EXCEPT THE FOLLOWING SEDIMENT PROBING AND SAMPLING LOCATIONS:
   - LOCATIONS WITH AN "SS" OR "SF" PREFIX;
   - LOCATIONS WITH A "-2" SUFFIX; AND
   - SEDIMENT SAMPLING LOCATIONS SED-1 AND SED-2.
5. ONLY WELLS INTERPRETED TO BE SCREENED IN THE SAND AND GRAVEL UNITS WERE USED FOR THESE CONTOURS.
6. CONTOUR INTERVAL = 0.2 FEET.
7. STORM SEWER LOCATION DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, ENTITLED: PRELIMINARY REPORT, COMPREHENSIVE STORM DRAINAGE, EXISTING FACILITIES. PREPARED BY VERNON O. SHUMAKER, CONSULTING ENGINEER, VESTAL, NEW YORK, DATE NOT PROVIDED.

0 100' 200'

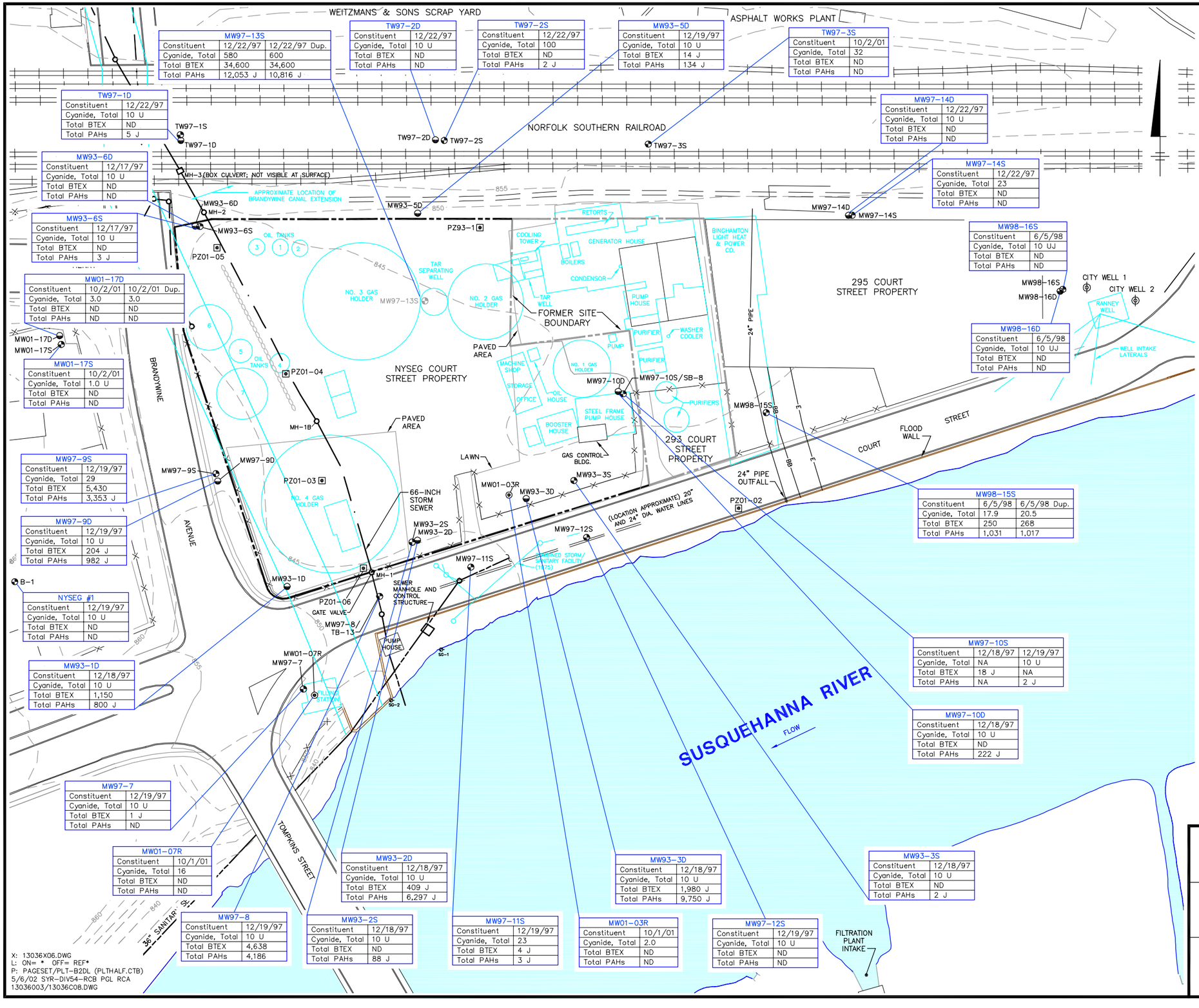
GRAPHIC SCALE

NEW YORK STATE ELECTRIC & GAS CORP.
BINGHAMTON, NEW YORK
COURT STREET SITE
PHASE II SRI

SAND AND GRAVEL UNIT GROUNDWATER POTENTIOMETRIC ELEVATION CONTOUR MAP - OCTOBER 1, 2001

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 12



LEGEND

- FLOOD WALL
- RAILROAD TRACK
- FENCE
- SITE PROPERTY LINES (APPROXIMATE)
- SEWER LINE (APPROXIMATE)
- 840 GROUND SURFACE ELEVATION CONTOUR (FT. AMSL)
- HISTORICAL FEATURE
- BURIED CONCRETE WALL
- MONITORING WELL (SHALLOW)
- MONITORING WELL (DEEP)
- MONITORING WELL (BEDROCK)
- PIEZOMETER
- CITY MONITORING WELL
- STAFF GAUGE
- DECOMMISSIONED MONITORING WELL

MW93-3S	
Constituent	12/18/97
Cyanide, Total	10 U
Total BTEX	ND
Total PAHs	2 J

- SAMPLE ID
- SAMPLE DATE
- TOTAL CYANIDE
- BENZENE, TOLUENE, ETHYLBENZENE, AND XYLENE
- TOTAL POLYNUCLEAR AROMATIC HYDROCARBONS

RESULTS ARE IN MICROGRAMS PER LITER (ug/L) EQUIVALENT TO PARTS PER BILLION (ppb)

- U CYANIDE CONCENTRATION WAS NOT DETECTED ABOVE THE INDICATED INSTRUMENT DETECTION LIMIT
- ND CONCENTRATIONS WERE NOT DETECTED ABOVE THE INSTRUMENT DETECTION LIMIT
- J ESTIMATED VALUE
- Dup. DUPLICATE SAMPLE

NOTES:

1. BASE MAP PROVIDED BY NYSEG (JUNE 12, 1997).
2. SURFACE ELEVATIONS DIGITIZED FROM CITY OF BINGHAMTON MAP, SHEET 303, FLOWN DECEMBER 2, 1973 AND MAPPED APRIL 1, 1974.
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4. ALL INVESTIGATION LOCATIONS SURVEYED BY HAWK ENGINEERING, P.C. BINGHAMTON, N.Y. EXCEPT THE FOLLOWING SEDIMENT PROBING AND SAMPLING LOCATIONS:
   - LOCATIONS WITH AN "SS" OR "SF" PREFIX;
   - LOCATIONS WITH A "-2" SUFFIX; AND
   - SEDIMENT SAMPLING LOCATIONS SED-1 AND SED-2.

0 100' 200'

GRAPHIC SCALE

X: 13036X06.DWG
L: ON= * OFF= REF*
P: PAGESET/PLT-B2DL (PLTHALF.CTB)
5/6/02 SYR-DIV54-RCB PGL RCA
13036003/13036C08.DWG

NEW YORK STATE ELECTRIC & GAS CORP.
BINGHAMTON, NEW YORK
COURT STREET SITE
PHASE II SRI

SUMMARY OF GROUNDWATER ANALYTICAL DATA

BBL BLASLAND, BOUCK & LEE, INC. engineers & scientists

FIGURE 13

Arcadis of New York, Inc.
One Lincoln Center, 110 West Fayette Street, Suite 300
Syracuse, NY 13202
United States
Phone: 315 446 9120
Fax: 315 449 0017
www.arcadis.com