Ms. Sarah Saucier, P.E.
New York State Department of Environmental Conservation
Division of Environmental Remediation
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Albany, New York 12233-7014

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Environment

Subject:
Alternatives Analysis Letter Report
RG&E Park Street Former MGP Site
Village of Geneseo, Livingston County, New York
NYSDEC Site No. V00731

Date:
July 12, 2016

Contact:
Bruce W. Ahrens

Phone:
585.662.4034

Email:
bruce.ahrens@arcadis.com

Our ref:
B0013138.0004

Dear Ms. Saucier:

On behalf of Rochester Gas and Electric (RG&E), this Alternatives Analysis Letter Report (AA Report) presents and evaluates potential remedial alternatives for the Park Street former manufactured gas plant (MGP) site located in the Village of Geneseo, Livingston County, New York. Based on the NYSDEC's May 10, 2016 letter correspondence to RG&E, and subsequent conversations, the following three remedial alternatives have been developed for the site:

- No Action
- Non-aqueous phase liquid (NAPL) recovery with site monitoring
- Excavation of soil to unrestricted use cleanup objectives

The three alternatives are described in sufficient detail to facilitate the selection of a site remedy.

1.0 REMEDIAL ACTION OBJECTIVES

As presented in the *Site Characterization Report* (Arcadis 2016), remediation of MGP-related source material was completed as an interim remedial measure (IRM) under NYSDEC guidance from September 2002 to January 2003. The IRM included the excavation and off-site disposal of a subsurface tar containment structure, liquid material inside and outside the structure, approximately 800 tons of impacted soil, and approximately 3,200 gallons of water. Most of the area

occupied by the former MGP is currently located either under a paved parking lot or access road, or under buildings. Drinking water is currently, and for the foreseeable future will continue to be, provided by a local municipal water supply. No routes of potential exposure to the public have been identified.

Remedial action objectives (RAOs) for the Park Street site were developed on a media-specific basis. The RAOs developed are presented in the attached Table 1 and are generally consistent with the generic RAOs provided on the NYSDEC website (http://www.dec.ny.gov/regulations/67560.html).

2.0 DESCRIPTION OF ALTERNATIVES

The three site-wide remedial alternatives that have been assembled and developed for addressing remaining MGP-related impacted media are presented below.

2.1 Alternative 1 – No Action

The "No Action" alternative serves as the baseline for comparison of the overall effectiveness of the other remedial alternatives. Under this alternative, no remedial activities would be completed to address any remaining MGP-related impacts. The "No Action" alternative would not include implementation of any remedial activities to address compounds of potential concern (COPCs) (i.e., benzene, toluene, ethylbenzene, and xylene [BTEX] and polycyclic aromatic hydrocarbons [PAHs]) in the soil or groundwater and the site would be allowed to remain in its current condition; no effort would be made to change or monitor current or future site conditions.

2.2 Alternative 2 – NAPL Recovery with Site Monitoring

Alternative 2 consists of expansion of the existing monitoring well network and conducting periodic NAPL monitoring and recovery (where present) and groundwater monitoring to document trends in CPOC concentrations. The monitoring well network would include existing monitoring wells and one new monitoring well (MW-8) to delineate and monitor dissolved BTEX and PAHs. The anticipated location of MW-8 is shown on **Figure 1**; the actual location would be dependent upon accessibility and the presence of utilities. This alternative assumes that long-term NAPL and groundwater monitoring would be conducted. Alternative 2 would also include institutional controls in the form of a Site Management Plan (SMP) and a Deed Restriction.

2.3 Alternative 3 – Soil Removal to Unrestricted Use SCOs

Alternative 3 includes excavating soil containing MGP-related COPCs that exist at the site at concentrations greater than the unrestricted use Soil Cleanup Objectives (SCOs) presented in 6 NYCRR Part 375-6. An estimated 8,400 cubic yards (cy) of soil would be excavated to depths up to 15 to 20 feet bgs (or the top of the competent bedrock) located beneath the parking lot, sidewalk, and access road. The preliminary extent of anticipated soil removal activities is shown on **Figure 2**. Soil within the IRM excavation area is included in the estimated volume because soil with less than 500 mg/kg total PAHs were reportedly used as backfill and may contain individual PAHs at concentrations above unrestricted use SCOs. A pre-design investigation (PDI) would be required to delineate the actual extent of excavation required. Closure of the SUNY Geneseo parking lot, sidewalk, and access road would be required during

remedial activities. Additionally, access to the loading dock at the Brodie Fine Arts Building would be restricted during remedial construction activities.

3.0 COMPARATIVE ANALYSIS OF ALTERNATIVES

A brief comparative analysis of the alternatives using the general guidance of the threshold and balancing criteria provided in *DER-10 Technical Guidance for Site Investigation and Remediation* (DER-10), Section 4.2 is presented below. The comparative analysis identifies the advantages and disadvantages of each alternative relative to each other and with respect to the evaluation criteria.

Alternative 1 would not include any active remediation or monitoring, and subsequently would not present potential short-term impacts to workers, the public, or the environment. Similarly, Alternative 2 would pose minimal short-term risks that would be minimized through the use of proper training, personal protective equipment (PPE), and community air monitoring during well installation activities, as specified in a site-specific Health and Safety Plan (HASP). Relative to Alternatives 1 and 2, Alternative 3 would include excavation (along with dewatering and backfilling) of a large quantity of soil resulting in a significantly higher potential for exposures and causing a significant disruption to the college and surrounding community, including prolonged noise from construction equipment, an increase in local truck traffic on the college campus, and closure of the parking lot and access road.

Alternative 1 would have no carbon footprint, and Alternative 2 would have a minimal carbon footprint. Alternative 3 would have the greatest contribution to greenhouse gasses as a result of equipment operation during excavation, backfilling, and transportation activities, as well as treatment/disposal of excavated material.

As previously mentioned, IRM activities completed in 2002/2003 removed the majority of MGP-related source material causing impacts to groundwater. Given the depth of remaining residuals, and predominance of asphalt and/or concrete cover over the site, exposure to remaining residuals is unlikely. Therefore, the long-term effectiveness of Alternative 2 and Alternative 3 are similar. Alternative 1 is less effective because it would not remove any NAPL that may accumulate in a monitoring well and it does not include any institutional controls to mitigate the potential for exposure to remaining impacted media.

Limited groundwater impacts exist at the site, and geochemical analyses reported during the site characterization suggests that natural attenuation process are occurring. In addition, forensic analyses indicated that a significant portion of the source of groundwater impacts were potentially attributed to historical upgradient gasoline sources (i.e., non MGP). While natural attenuation process would continue during each of the alternatives, Alternative 1 would not remove accumulated NAPL and therefore comparatively would be the least effective at reducing the toxicity, mobility, or volume of residual impacts. Alternative 2 includes NAPL monitoring and recovery (if existing) to further reduce the volume of material that may serve as a source to dissolved phase impacts. Alternative 3 includes excavation of soil containing MGP-related COPCs at concentrations greater than unrestricted use SCOs, thus permanently removing the greatest volume of material that may serve as a source to groundwater impacts. However, remaining impacts are residual in nature, are generally present below the water table and in the bedrock, and the extent of groundwater containing dissolved phase MGP-related impacts above NYSDEC Class GA standards and guidance values is limited.

No remedial activities would be conducted as part of Alternative 1; therefore, Alternative 1 is considered the most implementable. Alternative 2 would be both technically and administratively implementable. From a technical implementability aspect, equipment and personnel qualified to install groundwater monitoring wells and conduct groundwater and NAPL monitoring are readily available. Administratively, institutional controls, if required, would require negotiation with the property owner, but are considered achievable. Although Alternative 3 would be technically feasible, there would be significant implementation challenges. Alternative 3 would require closure of the parking lot and access road, require significant coordination with the college campus schedule and traffic patterns, and require utility relocation. Administratively, this alternative also presents significant challenges and would require significant coordination and cooperation between the NYSDEC, SUNY Geneseo, and RG&E. Additionally, the recently conducted Site Characterization identified that the previous IRM achieved its objective of removing the bulk of source material, with the only remaining source identified in bedrock at depths up to 20 feet below ground surface.

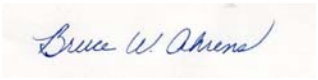
Because no complete exposure pathways to MGP-related residuals have been identified and natural attenuation of dissolved impacts is already occurring, each of the alternatives provides an overall protectiveness of public health and the environment.

4.0 RECOMMENDED REMEDY

The results of the comparative were used as a basis for identifying a preferred remedial alternative. Alternative 2 is the preferred remedy for the site because it represents the best balance of threshold and balancing criterion and is protective of human health and the environment.

Sincerely,

Arcadis of New York, Inc.



Bruce W. Ahrens
Associate Vice President

Copies:
Chris Keipper/RG&E
Keith White/Arcadis

Enclosures:

Tables

1 Remedial Action Objectives

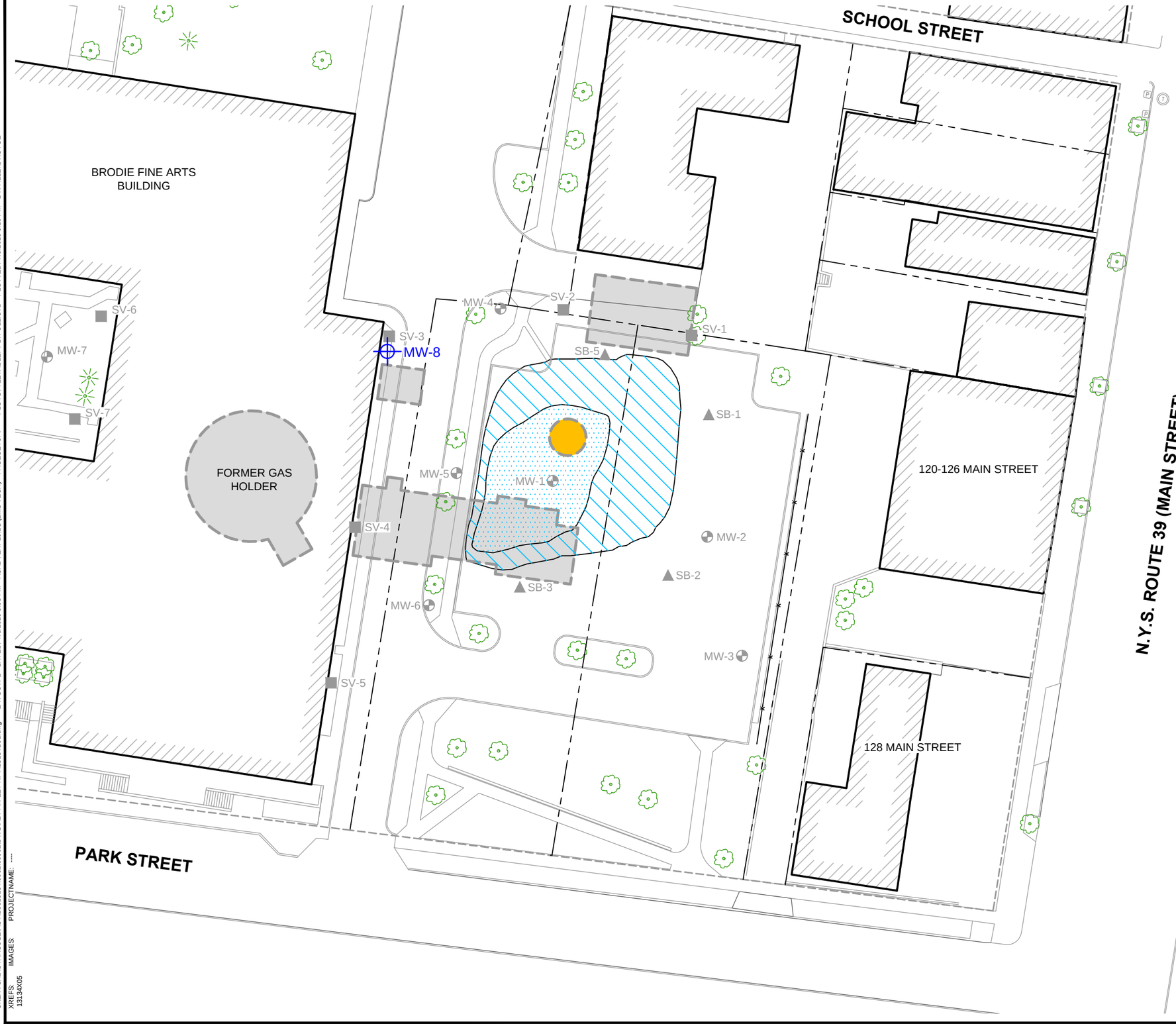
Figures

1 Alternative 2 – NAPL Recovery With Site Monitoring

2 Alternative 3 – Soil Removal to Unrestricted Use SCOs

Table 1. Remedial Action Objectives

RAOs for Soil
1. Prevent, to the extent practicable, ingestion/direct contact with soil containing MGP-related chemicals of potential concern (COPCs) and/or NAPL.
2. Prevent, to the extent practicable, inhalation of, or exposure to, MGP-related COPCs volatilizing from MGP-impacted soil.
3. Prevent, to the extent practicable, migration of MGP-related COCs and/or NAPL that could result in impacts to groundwater.
RAOs for Groundwater
1. Prevent, to the extent practicable, ingestion of groundwater containing MGP-related COCs at concentrations exceeding NYSDEC groundwater quality standards and guidance values.
2. Prevent, to the extent practicable, contact with, or inhalation of volatiles, from groundwater containing MGP-related COCs at concentrations exceeding NYSDEC groundwater quality standards and guidance values.
3. Restore groundwater quality to pre-disposal/pre-release conditions, to the extent practicable.
4. Address, to the extent practicable, the source of groundwater impacts.
RAOs for Soil Vapor
1. Mitigate impacts to public health resulting from soil vapor intrusion of MGP-related impacts into residences or facilities.



LEGEND:

- PROPERTY LINE
- RIGHT–OF–WAY LINE
- BUILDING LINE
- FENCE LINE
- VEGETATION
- FORMER MGP STRUCTURE
- LIMITS OF BEDROCK EXCAVATION
- LIMITS OF OVERBURDEN EXCAVATION
- FORMER STONE/BRICK STRUCTURE CONTAINING COAL TAR
- MW-8 — APPROXIMATE LOCATION OF MW–8
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- SOIL VAPOR SAMPLE LOCATION

NOTES:

1. FORMER LOCATIONS OF GAS WORKS STRUCTURES FROM SANBORN LIBRARY, LLC 1906 MAP. LOCATIONS ARE APPROXIMATE.
2. LIMITS OF THE 2002/2003 OVERBURDEN EXCAVATION, BEDROCK EXCAVATION, AND LOCATIONS OF THE FORMER STRUCTURE CONTAINING COAL TAR FROM REPORT OF ACTIVITIES AT LL–LOT, SUNY GENESEO (2003). LOCATIONS ARE APPROXIMATE.

SOURCE:

1. BASEMAP INFORMATION PROVIDED BY FISHER ASSOCIATES, LLC. DATED JUNE, 2015. FILENAME: GENESEO TOPO.DWG. GEOREFERENCED TO NEW YORK STATE PLANE NAD83 COORDINATE SYSTEM.

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GRAPHIC SCALE

ROCHESTER GAS & ELECTRIC
PARK STREET FORMER MGP SITE
ALTERNATIVES ANALYSIS LETTER REPORT

ALTERNATIVE 2 - NAPL RECOVERY WITH SITE MONITORING

ARCADIS Design & Consultancy for natural and built assets

FIGURE 1

CITY:(CRANBURY-NJ); SYRACUSE, NY DIV/GROUP:ENV/IM-DV DB:JMEYER, R. ALLEN LD:JMEYER PIC:K.WHITE PM:B.AHRENS TM:B.AHRENS LY
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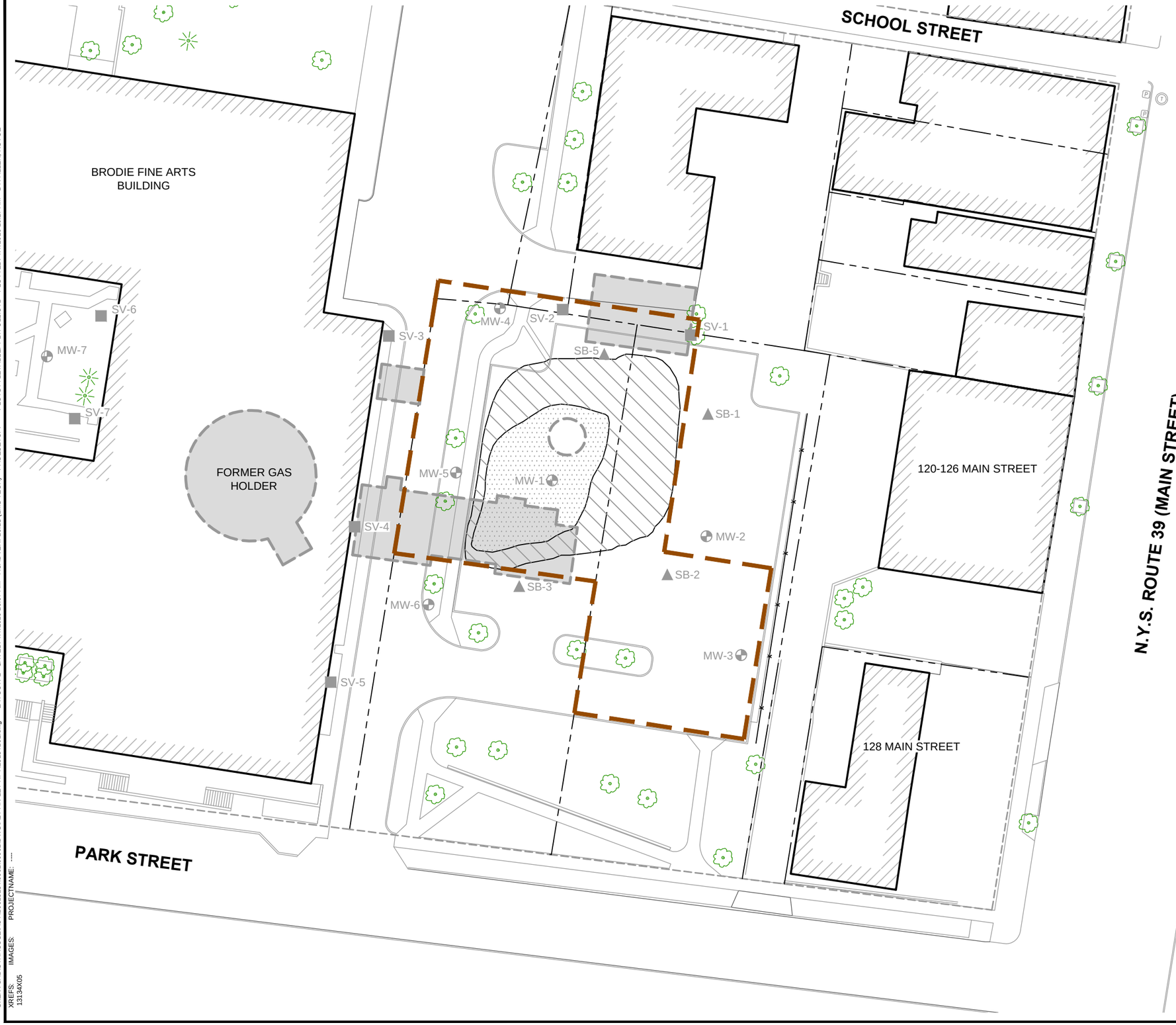

LEGEND:

- PROPERTY LINE
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- FORMER MGP STRUCTURE
- LIMITS OF BEDROCK EXCAVATION
- LIMITS OF OVERBURDEN EXCAVATION
- SOIL BORING LOCATION
- MONITORING WELL LOCATION
- SOIL VAPOR SAMPLE LOCATION
- APPROXIMATE EXCAVATION LIMIT

NOTES:

1. FORMER LOCATIONS OF GAS WORKS STRUCTURES FROM SANBORN LIBRARY, LLC 1906 MAP. LOCATIONS ARE APPROXIMATE.
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0 40' 80'

GRAPHIC SCALE

ROCHESTER GAS & ELECTRIC
PARK STREET FORMER MGP SITE
ALTERNATIVES ANALYSIS LETTER REPORT

ALTERNATIVE 3 - SOIL REMOVAL TO UNRESTRICTED USE SCOs

ARCADIS Design & Consultancy for natural and built assets

FIGURE 2

CITY:(CRANBURY-NJ), SYRACUSE, NY DIV/GROUP-ENVIM-DV DB:JMEYER, R. ALLEN LD:JMEYER PIC:K.WHITE PM:B.AHRENS TM:B.AHRENS LYR:(Opt)ON=*;OFF=*REF*
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