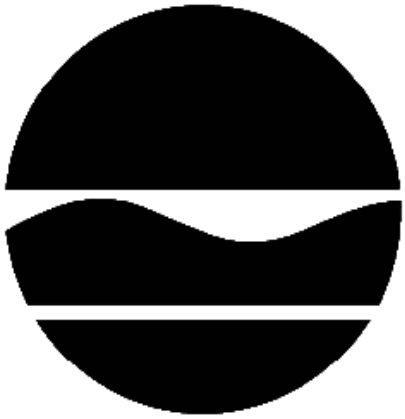
DECISION DOCUMENT

NM - Rensselaer MGP
Voluntary Cleanup Program
Rensselaer, Rensselaer County
Site No. V00488
September 2015



Prepared by
Division of Environmental Remediation
New York State Department of Environmental Conservation

DECLARATION STATEMENT - DECISION DOCUMENT

NM - Rensselaer MGP
Voluntary Cleanup Program
Rensselaer, Rensselaer County
Site No. V00488
September 2015

Statement of Purpose and Basis

This document presents the remedy for the NM - Rensselaer MGP site, a voluntary cleanup site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and applicable guidance.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the NM - Rensselaer MGP site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The selected remedy is referred to as the Source Removal, Cover System and Institutional Controls remedy. The elements of the remedy are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

• Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

• Reducing direct and indirect greenhouse gases and other emissions;

• Increasing energy efficiency and minimizing use of non-renewable energy;

• Conserving and efficiently managing resources and materials;

• Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

• Maximizing habitat value and creating habitat when possible;

• Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

• Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation and/or In Situ Solidification

Excavation and off-site disposal of the structure and contents of the former Manufactured Gas Plant (MGP) holders and the former tar well structure and contents, and contaminated soils on the former MGP property meeting the following criteria:

• visible tar or oil (i.e., tar coated or tar saturated) in material with total PAHs over 500 ppm.

The tar well and former holders will be excavated to depths up to thirteen (13) feet below ground surface (bgs). Approximately 2,300 cubic yards of soil will be removed from the site and disposed off-site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted-residential use will be brought in to complete the backfilling and establish the designed grades at the site.

A pre-design investigation will be conducted in the area immediately north of the northern gas holder and tar well to further evaluate the potential for non-aqueous phase liquid (NAPL) to migrate (i.e., the presence of tar coated or tar saturated material). Based on the results of this investigation, this area will be addressed, if determined necessary, by excavation and off-site disposal and/or in-situ solidification (ISS). ISS is a process that binds the soil particles in place creating a low permeability mass. The soil is mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The treatment zone will extend to the top of till (approximately 20 feet below grade) in areas where NAPL that has the potential to migrate is present. The solidified mass will then be covered with a cover system as described in element 4 to prevent direct exposure to the solidified mass and protect it from freeze-thaw cycles. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

To facilitate implementation of ISS, if determined necessary, the top four feet of soil, plus additional material to account for expansion of the ISS material, will be excavated. Soil will be excavated and either stockpiled for re-use on-site or disposed off-site. Soil which does not exceed SCOs for restricted residential use and the protection of groundwater may be stockpiled to backfill the on-site excavation or to construct the site cover, to the extent that a sufficient volume of off-site soil is available.

For any off-site excavation determined necessary during the PDI, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for residential use and protection of groundwater will be brought in to complete the backfilling of the off-site excavation and establish the designed grades at the off-site properties.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the existing asphalt pavement, structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

A thicker site cover will be required in areas where ISS (if deemed necessary) is performed to protect the solidified soils from freeze-thaw cycles. These areas will be restored to existing grade and the cover will consist of a minimum of four feet of soil meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for residential use. Implementation of this requirement will be subject to a site management plan and an agreement with the off-site property owner(s). A site management plan and an agreement with the off-site property owner(s) will not be required if impacted off-site soil is removed and residential SCOs are met.

4. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);

b. allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

d. requires compliance with the Department approved Site Management Plan.

5. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls:

a. The environmental easement discussed in remedial element #5 above.

b. An agreement with the off-site property owner(s) to implement the remedy and necessary future site management plan on the off-site property.

Engineering Controls: The site cover and solidified soils (if deemed necessary) discussed above

This plan includes, but may not be limited to:

• an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

• descriptions of the provisions of an environmental easement including any land use, and/or groundwater use restrictions;

•a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

• provisions for the management and inspection of the identified engineering controls;

• maintaining site access controls and Department notification; and

• the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

• monitoring of groundwater and NAPL to assess the performance and effectiveness of the remedy;

• a schedule of monitoring and frequency of submittals to the Department; and

•monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

Declaration

The remedy conforms with promulgated standards and criteria that are directly applicable, or that are relevant and appropriate and takes into consideration Department guidance, as appropriate. The remedy is protective of public health and the environment.

September 1, 2015
Date

George Heitzman, Director
Remedial Bureau C

DECISION DOCUMENT

NM - Rensselaer MGP
Rensselaer, Rensselaer County
Site No. V00488
September 2015

SECTION 1: SUMMARY AND PURPOSE

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), has selected a remedy for the above referenced site. The disposal of contaminants at the site has resulted in threats to public health and the environment that would be addressed by the remedy. The disposal or release of contaminants at this site, as more fully described in this document, has contaminated various environmental media. Contaminants include hazardous waste and/or petroleum.

The Voluntary Cleanup Program (VCP) is a voluntary program. The goal of the VCP is to enhance private sector cleanup of brownfields by enabling parties to remediate sites using private rather than public funds and to reduce the development pressures on "greenfields." This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made available for review by the public at the following document repository:

Rensselaer City Library
810 Broadway
Rensselaer, NY 12144
Phone: (518) 462-1193

Receive Site Citizen Participation Information By Email

Please note that the Department's Division of Environmental Remediation (DER) is "going paperless" relative to citizen participation information. The ultimate goal is to distribute citizen participation information about contaminated sites electronically by way of county email listservs. Information will be distributed for all sites that are being investigated and cleaned up in a particular county under the State Superfund Program, Environmental Restoration Program, Brownfield Cleanup Program, Voluntary Cleanup Program, and Resource Conservation and Recovery Act Program. We encourage the public to sign up for one or more county listservs at

http://www.dec.ny.gov/chemical/61092.html

SECTION 3: SITE DESCRIPTION AND HISTORY

Location: The Rensselaer Former Manufactured Gas Plant (MGP) Site is located at 89 Washington Street in the City of Rensselaer, Rensselaer County, NY.

Site Features: This trapezoidal site comprises approximately 0.3 acres in a mixed commercial and residential area. The entire site is covered by asphalt, used as a parking lot, and is generally flat with a slight decline to the southeast. The site is abutted to the northwest by Academy Street, to the southwest by commercial buildings, to the southeast by Washington Street, and to the northeast by Huyck Square and undeveloped land. Huyck Stream is located approximately 200 feet north of the site.

Current Zoning and Land Use: The site is currently used as a parking lot and is located in an area zoned for downtown mixed use (e.g., commercial/residential) and planned development district land use. There are no structures on the site.

Past Use of the Site: Manufactured Gas Plant operations, which caused the site contamination, occurred at the site from approximately 1870 to 1920. Historically a number of MGP structures were present on the site, including two gas holders, a tar well, a retort house, coal shed, purifier and condenser rooms, and a meter room.

Site Geology and Hydrogeology: The overburden, in descending order from the ground surface consists of fill, silt and sand, sand and gravel, and glacial till underlain by bedrock. Bedrock is encountered at a depth ranging from approximately 23 to 28 feet below grade. Groundwater depth across the site ranges from 6 to 8 feet below ground surface. The direction of flow in the vicinity of the site is north-northeast toward Huyck stream.

A site location map is attached as Figure 1.

SECTION 4: LAND USE AND PHYSICAL SETTING

The Department may consider the current, intended, and reasonably anticipated future land use of the site and its surroundings when evaluating a remedy for soil remediation. For this site, at a minimum, alternatives (or an alternative) that restrict(s) the use of the site to restricted-residential use (which allows for commercial use and industrial use) as described in DER-10, Technical Guidance for Site Investigation and Remediation were/was evaluated.

A comparison of the results of the Remedial Investigation (RI) to the appropriate standards, criteria and guidance values (SCGs) for the identified land use and the unrestricted use SCGs for the site contaminants is available in the RI Report.

SECTION 5: ENFORCEMENT STATUS

The voluntary cleanup agreement is with a responsible party. The agreement requires the party to

address on-site and off-site contamination. Accordingly, no enforcement actions are necessary.

The Department and Niagara Mohawk (subsequently acquired by National Grid) entered into a Consent Order D0-0001-0011 on January 25, 2002. The Order obligates the responsible party to implement a full remedial program.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A remedial investigation (RI) serves as the mechanism for collecting data to:

- characterize site conditions;
- determine the nature of the contamination; and
- assess risk to human health and the environment.

The RI is intended to identify the nature (or type) of contamination which may be present at a site and the extent of that contamination in the environment on the site, or leaving the site. The RI reports on data gathered to determine if the soil, groundwater, soil vapor, indoor air, surface water or sediments may have been contaminated. Monitoring wells are installed to assess groundwater and soil borings or test pits are installed to sample soil and/or waste(s) identified. If other natural resources are present, such as surface water bodies or wetlands, the water and sediment may be sampled as well. Based on the presence of contaminants in soil and groundwater, soil vapor will also be sampled for the presence of contamination. Data collected in the RI influence the development of remedial alternatives. The RI Report is available for review in the site document repository and the results are summarized in section 6.3.

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment
- soil vapor

6.1.1: Standards, Criteria, and Guidance (SCGs)

The remedy must conform to promulgated standards and criteria that are directly applicable or that are relevant and appropriate. The selection of a remedy must also take into consideration guidance, as appropriate. Standards, Criteria and Guidance are hereafter called SCGs.

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. For a full listing of all SCGs see: http://www.dec.ny.gov/regulations/61794.html

6.1.2: RI Results

The data have identified contaminants of concern. A "contaminant of concern" is a contaminant that is sufficiently present in frequency and concentration in the environment to require evaluation for remedial action. Not all contaminants identified on the property are contaminants of concern. The nature and extent of contamination and environmental media requiring action are summarized below. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

Benzene	Benzo[k]fluoranthene
Toluene	Indeno(1,2,3-CD)pyrene
Ethylbenzene	Chrysene
Xylenes (mixed)	Dibenz[a,h]anthracene
Acenaphthene	Fluoranthene
Acenapthylene	Fluorene
Anthracene	Naphthalene
Benzo(a)anthracene	Phenanthrene
Benzo(a)pyrene	Pyrene
Benzo(b)fluoranthene	Coal Tar

The contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil

6.2: Interim Remedial Measures

An interim remedial measure (IRM) is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before issuance of the Decision Document.

There were no IRMs performed at this site during the RI.

6.3: Summary of Environmental Assessment

This section summarizes the assessment of existing and potential future environmental impacts presented by the site. Environmental impacts may include existing and potential future exposure pathways to fish and wildlife receptors, wetlands, groundwater resources, and surface water. The RI Report presents a detailed discussion of any existing and potential impacts from the site to fish and wildlife receptors.

Nature and Extent of Contamination: Based upon investigations conducted to date, the primary contaminants of concern at the site include benzene, ethylbenzene, toluene, xylene (BTEX) and polycyclic aromatic hydrocarbons (PAHs) which are impacting the soil and groundwater. No other VOCs, SVOCs, metals or PCBs/pesticides than those identified below were found in soil,

groundwater or sediment at levels exceeding restricted residential soil cleanup objectives (RRSCO), groundwater standards or sediment cleanup criteria.

Soil - Non-aqueous phase liquid (NAPL) in the form of coal tar has been identified at subsurface locations across the site and on some off-site properties to the north and east of the site. BTEX associated with the coal tar are found in the soil with a maximum concentration of 1,721 parts per million (ppm). Total PAHs are present in the soil up to 17,860 ppm. Specific contaminants detected above the applicable soil cleanup objectives (SCOs) on-site include: Acenaphthene up to 430 ppm, acenaphthylene up to 460 ppm, anthracene up to 920 ppm, fluoranthene up to 2,000 ppm, fluorene up to 710 ppm, naphthalene up to 4,600 ppm, phenanthrene up to 3,200, and pyrene up to 1,300 ppm, as compared to their RRSCO of 100 ppm; benzo(a)anthracene up to 660 ppm, benzo(a)pyrene up to 580 ppm, and benzo(b)fluoranthene up to 460 ppm, as compared to their RRSCO of 1 ppm; benzo(k)fluoranthene up to 460 ppm (RRSCO of 3.9 ppm), ideno(1,2,3-cd)pyrene up to 290 ppm (RRSCO of 0.5 ppm), chrysene up to 590 ppm (RRSCO of 3.9 ppm), and dibenz(a,h)anthracene up to 100 ppm (RRSCO of 0.33 ppm).

Specific contaminants detected above residential SCOs (RSCO) off-site include: Benzo(a)anthracene up to 77 ppm, benzo(a)pyrene up to 64 ppm, benzo(b)fluoranthene up to 22 ppm, benzo(k)fluoranthene up to 27 ppm, and chrysene up to 74 ppm, as compared to their RSCO of 1 ppm; fluoranthene up to 130 ppm, naphthalene up to 600 ppm, phenanthrene up to 150 ppm, and pyrene up to 190 ppm, as compared to their RSCO of 100 ppm; dibenz(a,h)anthracene up to 6.3 ppm (RSCO of 0.33 ppm), and indeno(1,2,3-c,d)pyrene up to 21 ppm (RSCO of 0.5 ppm). Off-site contamination was encountered to the north and east of the site at depths greater than 10 feet.

Groundwater - Benzene up to 10,000 ppb (SCG of 1 ppb), toluene up to 64 ppb (SCG of 5 ppb), ethylbenzene up to 2,100 ppb (SCG of 5 ppb) and xylene up to 1,600 ppb (SCG of 5 ppb)(BTEX), PAHs including naphthalene up to 2,500 (SCG of 10 ppb) and total cyanide up to 320 ppb (SCG of 200 ppb) have been detected above standards, criteria, and guidance values (SCGs) in overburden groundwater on- and off-site.

Benzene up to 1,500 ppb (SCG of 1 ppb), toluene up to 3,500 ppb (SCG of 5 ppb), ethylbenzene up to 1,600 ppb (SCG of 5 ppb) and xylene up to 1,900 ppb (SCG of 5 ppb) and PAHs including naphthalene up to 2,200 ppb (SCG of 10 ppb) have been detected above SCGs in bedrock groundwater on- and off-site.

Sediment - No concentrations of BTEX were detected above applicable SCGs in shallow sediment samples collected in the adjacent stream. Relatively low concentrations of PAHs, with total PAH concentrations ranging from 2.8 to 15 ppm, were found in the sediment. However, upstream PAH concentrations are slightly higher than those adjacent to the site, which indicates that these concentrations are associated with an urban setting and are not site-related. Coal tar was not observed in sediment.

Soil Vapor – Soil vapor samples were collected off-site, adjacent to nearby structures, to evaluate whether MGP-related contaminants were present in soil vapor. The results of the soil vapor sampling did not detect MGP-related contaminants off-site. The potential exists for MGP-related contaminants to be present in on-site soil vapor.

6.4: Summary of Human Exposure Pathways

This human exposure assessment identifies ways in which people may be exposed to site-related contaminants. Chemicals can enter the body through three major pathways (breathing, touching or swallowing). This is referred to as *exposure.*

Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. People are not expected to come into contact with the contaminated soil unless they dig below the surface. Volatile organic compounds in the groundwater may move into the soil vapor (air between soil particles), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The site is currently unoccupied and used as a parking lot. However, the potential exists for people to inhale site contaminants in indoor air due to soil vapor intrusion in any future on-site buildings which are developed and occupied. Environmental sampling indicates soil vapor intrusion is not a current concern for off-site buildings.

6.5: Summary of the Remediation Objectives

The objectives for the remedial program have been established through the remedy selection process stated in 6 NYCRR Part 375. The goal for the remedial program is to restore the site to pre-disposal conditions to the extent feasible. At a minimum, the remedy shall eliminate or mitigate all significant threats to public health and the environment presented by the contamination identified at the site through the proper application of scientific and engineering principles.

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.
- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated soil.
- Prevent inhalation of or exposure from contaminants volatilizing from contaminants in soil.

RAO for Environmental Protection

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

water contamination.

Soil Vapor

RAO for Public Health Protection

- Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at a site.

SECTION 7: ELEMENTS OF THE SELECTED REMEDY

The alternatives developed for the site and the evaluation of the remedial criteria are presented in the Alternative Analysis Report. The remedy is selected pursuant to the remedy selection criteria set forth in DER-10, Technical Guidance for Site Investigation and Remediation.

The selected remedy is referred to as the Source Removal, Cover System and Institutional Controls remedy.

The elements of the selected remedy, as shown in Figure 2, are as follows:

1. Remedial Design

A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program. Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

• Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;

• Reducing direct and indirect greenhouse gases and other emissions;

• Increasing energy efficiency and minimizing use of non-renewable energy;

• Conserving and efficiently managing resources and materials;

• Reducing waste, increasing recycling and increasing reuse of materials which would otherwise be considered a waste;

• Maximizing habitat value and creating habitat when possible;

• Fostering green and healthy communities and working landscapes which balance ecological, economic and social goals; and

• Integrating the remedy with the end use where possible and encouraging green and sustainable re-development.

2. Excavation and/or In Situ Solidification

Excavation and off-site disposal of the structure and contents of the former Manufactured Gas Plant (MGP) holders and the former tar well structure and contents, and contaminated soils on the former MGP property meeting the following criteria:

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The tar well and former holders will be excavated to depths up to thirteen (13) feet below ground surface (bgs). Approximately 2,300 cubic yards of soil will be removed from the site and disposed off-site. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted-residential use will be brought in to complete the backfilling and establish the designed grades at the site.

A pre-design investigation will be conducted in the area immediately north of the northern gas holder and tar well to further evaluate the potential for non-aqueous phase liquid (NAPL) to migrate (i.e., the presence of tar coated or tar saturated material). Based on the results of this investigation, this area will be addressed, if determined necessary, by excavation and off-site disposal and/or in-situ solidification (ISS). ISS is a process that binds the soil particles in place creating a low permeability mass. The soil is mixed in place together with solidifying agents (typically Portland cement) or other binding agents using an excavator or augers. The soil and binding agents are mixed to produce a solidified mass resulting in a low permeability monolith. The treatment zone will extend to the top of till (approximately 20 feet below grade) in areas where NAPL that has the potential to migrate is present. The solidified mass will then be covered with a cover system as described in element 4 to prevent direct exposure to the solidified mass and protect it from freeze-thaw cycles. The resulting solid matrix reduces or eliminates mobility of contamination and reduces or eliminates the matrix as a source of groundwater contamination.

To facilitate implementation of ISS, if determined necessary, the top four feet of soil, plus additional material to account for expansion of the ISS material, will be excavated. Soil will be excavated and either stockpiled for re-use on-site or disposed off-site. Soil which does not exceed SCOs for restricted residential use and the protection of groundwater may be stockpiled to backfill the on-site excavation or to construct the site cover, to the extent that a sufficient volume of off-site soil is available.

For any off-site excavation determined necessary during the PDI, clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for residential use and protection of groundwater will be brought in to complete the backfilling of the off-site excavation and establish the designed grades at the off-site properties.

3. Cover System

A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the existing asphalt pavement, structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper two feet of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it will be a minimum of two feet of soil, meeting the SCOs for cover material as set forth

in 6 NYCRR Part 375-6.7(d) for restricted residential use. The soil cover will be placed over a demarcation layer with the upper six inches of the soil of sufficient quality to maintain a vegetation layer. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

A thicker site cover will be required in areas where ISS (if deemed necessary) is performed to protect the solidified soils from freeze-thaw cycles. These areas will be restored to existing grade and the cover will consist of a minimum of four feet of soil meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for residential use. Implementation of this requirement will be subject to a site management plan and an agreement with the off-site property owner(s). An off-site site management plan and an agreement with the off-site property owner(s) will not be required if impacted off-site soil is removed and residential SCOs are met.

4. Institutional Control

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

a. requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3);

b. allows the use and development of the controlled property for restricted residential, commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;

c. restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;

d. requires compliance with the Department approved Site Management Plan.

5. Site Management Plan

A Site Management Plan is required, which includes the following:

a. an Institutional and Engineering Control Plan that identifies all use restrictions and engineering controls for the site and details the steps and media-specific requirements necessary to ensure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls:

a. The environmental easement discussed in remedial element #5 above.

b. An agreement with the off-site property owner(s) to implement the remedy and necessary future site management plan on the off-site property.

Engineering Controls: The site cover and solidified soils (if deemed necessary) discussed above

This plan includes, but may not be limited to:

• an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;

• descriptions of the provisions of an environmental easement including any land use, and/or groundwater use restrictions;

•a provision for evaluation of the potential for soil vapor intrusion for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

• provisions for the management and inspection of the identified engineering controls;

• maintaining site access controls and Department notification; and

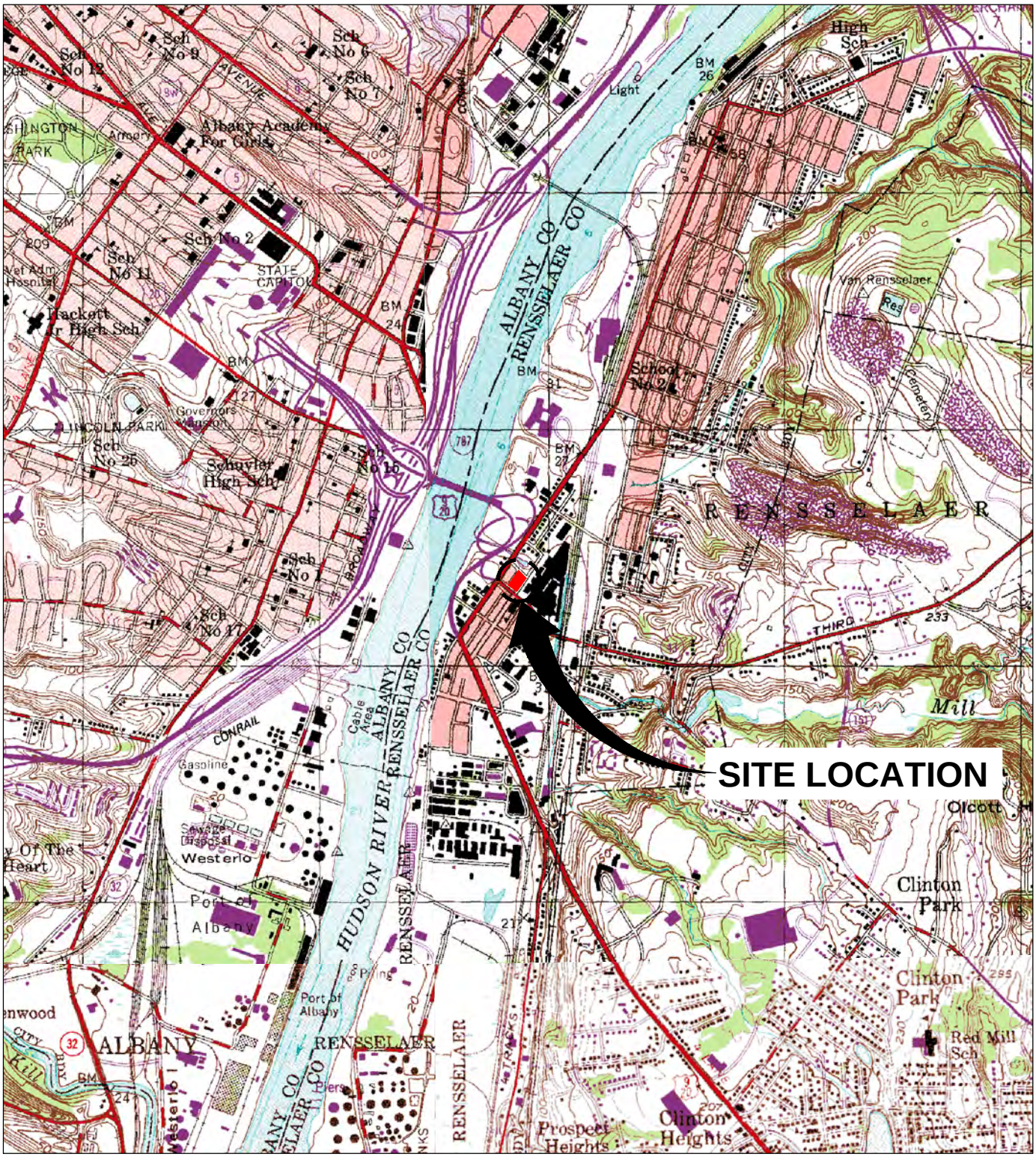
• the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

b. a Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

• monitoring of groundwater and NAPL to assess the performance and effectiveness of the remedy;

• a schedule of monitoring and frequency of submittals to the Department; and

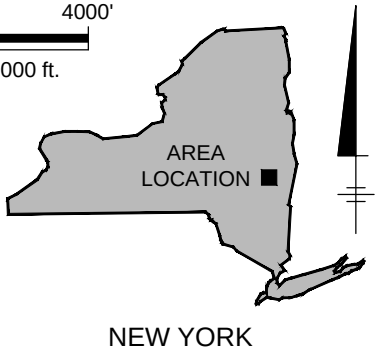
•monitoring for vapor intrusion for any buildings developed on the site, as may be required by the Institutional and Engineering Control Plan discussed above.



REFERENCE: BASE MAP USGS 7.5. MIN. TOPO. QUAD., ALBANY, TROY SOUTH, DELMAR & EAST GREENBUSH, NEW YORK, 1953, PHOTOREVISED 1980.

0 2000' 4000'

Approximate Scale: 1 in. = 2000 ft.



NATIONAL GRID
RENSSELAER NON-OWNED FORMER MGP SITE
RENSSELAER, NEW YORK
DECISION DOCUMENT

SITE LOCATION MAP

ARCADIS

FIGURE
1

CITY: SYRACUSE NY DIV/GROUP: ENVCAD DB: E. KRAHMER LD:(Opt) PIC: T. YOUNG PM/TM: J. GOLUBSKI TR: M. KISER LYR:(Opt)ON=*;OFF=*REF*
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XREFS: IMAGES: PROJECTNAME: ----
NY_Albany.tiff
NY_Delmar.tiff
NY_East Greenbush.tiff
NY_Troy_South.tiff

CITY: SYRACUSE NY DIV/GROUP: EnvCAD DB: K. SARTORI, E. KRAHMER, R. ALLEN LD: PIC: T. YOUNG PM/TM: J. GOLUBSKI TR: M. KISER LYR:(Opt)ON=*;OFF=*REF*
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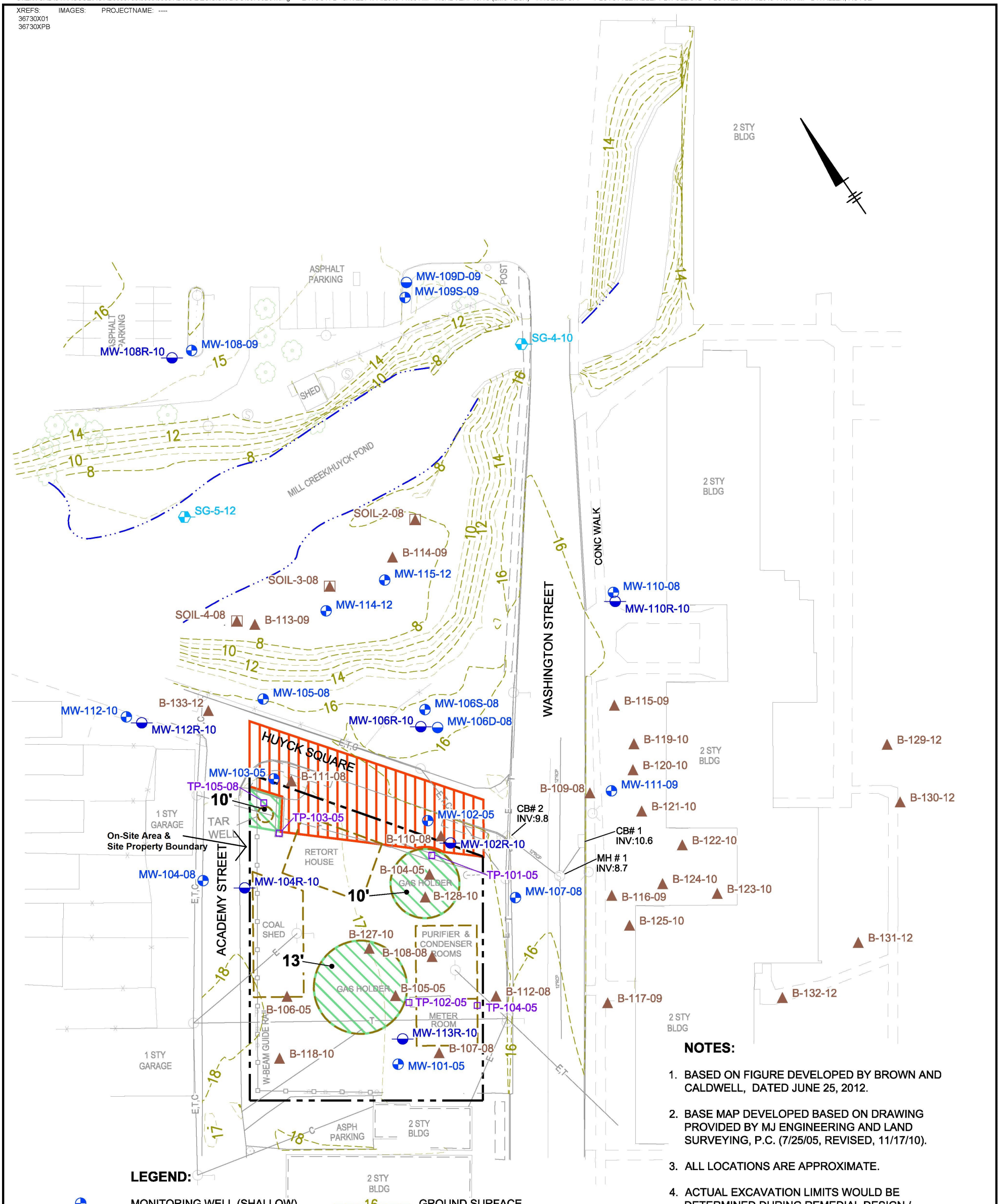
XREFS: IMAGES: PROJECTNAME: ----
36730X01
36730XPB



NOTES:

1. BASED ON FIGURE DEVELOPED BY BROWN AND CALDWELL, DATED JUNE 25, 2012.
2. BASE MAP DEVELOPED BASED ON DRAWING PROVIDED BY MJ ENGINEERING AND LAND SURVEYING, P.C. (7/25/05, REVISED, 11/17/10).
3. ALL LOCATIONS ARE APPROXIMATE.
4. ACTUAL EXCAVATION LIMITS WOULD BE DETERMINED DURING REMEDIAL DESIGN / REMEDIAL ACTION.
5. IN ADDITION TO REMOVAL, ALTERNATIVE 2 INCLUDES INSTITUTIONAL CONTROLS, GROUNDWATER AND NAPL MONITORING, AND PASSIVE NAPL RECOVERY, AS NECESSARY, AND A SITE MANAGEMENT PLAN, (AND AN ISS CONTINGENCY).

0 50' 100'
GRAPHIC SCALE

LEGEND:

- MONITORING WELL (SHALLOW)
- MONITORING WELL (DEEP)
- MONITORING WELL (BEDROCK)
- STAFF GAUGE
- SOIL BORING
- HAND AUGER BORING
- PDI AREA
- APPROXIMATE HORIZONTAL EXCAVATION LIMITS
- 10' EXCAVATION DEPTH
- TEST PIT
- PAVEMENT EDGE
- 16 GROUND SURFACE
- PROPERTY LINE
- FORMER MGP STRUCTURE LOCATION. LOCATIONS ARE APPROXIMATE BASED ON 1909 SANBORN MAP.
- SEWER MANHOLE
- UTILITY POLE
- LIGHT POLE
- HYDRANT
- T OVERHEAD TELEPHONE
- E OVERHEAD ELECTRIC
- C OVERHEAD CABLE
- 12"RCP SEWER LINE

NATIONAL GRID
RENSSELAER NON-OWNED FORMER MGP SITE
RENSSELAER, NEW YORK
DECISION DOCUMENT

ALTERNATIVE 2 - SOURCE AREA REMOVAL

ARCADIS

FIGURE
2