

DECISION DOCUMENT

RGE - Brockport MGP Site
Voluntary Cleanup Program
Brockport, Monroe County
Site No. V00301
March 2014



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

DECLARATION STATEMENT - DECISION DOCUMENT

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Voluntary Cleanup Program
Brockport, Monroe County
Site No. V00301
March 2014

Statement of Purpose and Basis

This document presents the remedy for the RGE - Brockport MGP Site 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 RGE - Brockport MGP Site site and the public's input to the proposed remedy presented by the Department.

Description of Selected Remedy

The elements of the remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 to be considered are as described below and will be incorporated with thought given to the environmental impacts of treatment technologies and remedy stewardship over the long term:

- Reducing direct and indirect greenhouse gas 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 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.

A. RGE-Brockport MGP Property:

2. Excavation of grossly contaminated soil, as defined in 6NYCRR Part 375-1.2(u),

including soils containing SVOCs exceeding 500 ppm and soils that create a nuisance condition, as defined in Commissioner Policy CP-51 Section G. Approximately 6,500 cubic yards of soil will be removed. Clean fill meeting the requirements of 6NYCRR Part 375-6.7(d) for restricted residential SCOs will be brought in to replace the excavated soil and establish the designed grades at the site.

3. Removal of all MGP structures and associated piping encountered in the excavation zones.

4. In-situ enhanced biodegradation will be employed to treat contaminants in groundwater in the excavated area. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface. The method and depth of application will be determined during the remedial design.

5. A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the 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. Also a visual demarcation barrier will be installed at the vertical limits of the excavation areas along the sloped sidewalls that abut the residential property areas and the NYSCC property. 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) and DER-10 Appendix 5.

6. Imposition of an institutional control in the form of a Deed Restriction for the site that:

- 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);
- allows the use and development of the controlled property for restricted residential use, commercial, and industrial use as defined by Part 375-1.8(g), although 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 NYSDOH or Monroe County DOH; and
- requires compliance with the Department approved Site Management Plan.

7. 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 requirements necessary to ensure the

following institutional and/or engineering controls remain in place and effective:

Institutional Controls: Deed Restriction listed in paragraph 6 above.

Engineering Controls: The site cover system discussed in paragraph 5 above.

This plan includes, but may not be limited to:

- i). An Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination, including impacted off-site areas;
- ii). Descriptions of the provisions of the deed restriction including any land use, and groundwater use restrictions;
- iii). A provision for evaluation of the potential for soil vapor intrusion for any future buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- iv). Provisions for the management and inspection of the identified engineering controls;
- v). Maintaining site access controls and Department notification; and
- vi). 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:

- i). Monitoring of on-site groundwater to assess the performance and effectiveness of the remedy;
- ii). A schedule of monitoring and frequency of submittals to the Department;
- iii). Monitoring for vapor intrusion for any future buildings occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item (7a) above;

B. Residential Properties (108 and 118 Erie Street):

8. All soils on the residential properties which exceed residential SCOs, as defined by 6 NYCRR Part 375-6.8, will be excavated and transported off-site for disposal. Approximately 700 cubic yards of soil will be removed from both of the properties. The excavation at 108 Erie Street will range up to approximately nine feet and on 118 Erie Street ranging from three to eleven feet. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for residential SCOs will be brought in to replace the excavated soil and establish the designed grades at the site.

9. In-situ enhanced biodegradation will be employed to treat contaminants in groundwater in the excavated area. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface. The method and depth of application will be determined during the remedial design.

C. NYS Barge Canal

10. Soils on the New York State Barge Canal property, which exceed restricted residential SCOs, as defined by 6 NYCRR Part 375-6.8, or which exceed 500 ppm of SVOCs, will be excavated to an approximate depth of 4 feet and transported off-site for disposal. Approximately 270 cubic yards of soil will be removed. Excavation depths are currently estimated to be four feet but deeper excavation, if required, will be evaluated against the need to protect the structural integrity of the barge canal wall. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted residential SCOs will be brought in to replace the excavated soil and establish the designed grades at the site. A visual demarcation barrier will be installed at the vertical limits of the excavation areas and along sloped sidewalls between the RGE property and the Canal property.

11. In-situ enhanced biodegradation will be employed to treat contaminants in groundwater in the excavated area. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface. The method and depth of application will be determined during the remedial design.

12. Removal of an estimated one to two cubic yards of tar material from the three identified seeps that emanated through the canal retaining wall joints onto the canal bed.

13. The Site Management Plan discussed in item 7 above will describe the technical and administrative requirements for managing the MGP impacts, if any, that may remain on the Canal property and Barge Canal, and will identify the party/ies responsible for each task. In addition to the requirements identified in item 7 above, the plan will describe monitoring of the canal wall in the areas of previously-identified seeps and the actions necessary to address them.

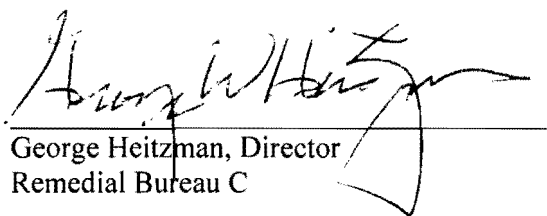
Declaration

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.

Date

March 11, 2014

George Heitzman, Director
Remedial Bureau C



DECISION DOCUMENT

RGE - Brockport MGP Site
Brockport, Monroe County
Site No. V00301
March 2014

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 repositories:

Brockport-Seymour Library
161 East Avenue
Brockport, NY 14420
Phone: 585-637-1050

Drake Memorial Library
SUNY Brockport
350 New Campus Drive
Brockport, NY 14420
Phone: 585-395-2760

Brockport Village Hall
49 State Street
Brockport, NY 14420
Phone: 585-637-5300

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 RGE - Brockport MGP Site comprises approximately 0.70 acres located on the corner of Erie Street and Perry Street in the Village of Brockport, Monroe County, New York. The MGP occupied lands now owned by Rochester Gas and Electric Corporation (RGE), known as RGE Property No. 1170, and the adjacent land owned by the New York State Canal Corporation (NYSCC) to the north.

Site Features: The property is currently used as a natural gas regulator station. The site generally slopes from north to south, away from the southern canal retaining wall, towards Erie Street. The parcel is mostly grass-covered, with the exception of a gravel access road across the parcel. There is a gravel pad on the eastern side of the site behind 108 Erie Street, and a gas regulator enclosure. The RGE property is currently fenced to control site access. To the north of the site is the New York State (NYS) Barge Canal. The NYSCC owns a small strip of property, including a grass-covered pathway along the south side of the canal waterway. The canal is typically filled from May to October, and drained to a low level from November through April.

Current Zoning/Uses: The site is located within a residential zoning district, however the site has been historically used for gas distribution for the Brockport area. Adjacent to the site to the west and southwest along Erie Street are two residential properties. There is another residential property adjacent to the site to the southeast along Erie Street. In addition, there are residential properties to the south of the site across Erie Street. There are commercial properties and one residence to the east across Perry Street. The site is currently in use as a regulator and metering station from which natural gas is distributed throughout the Village of Brockport.

Historical Use: The site was a small coal gas manufacturing plant that operated from approximately 1859 until the early 1900s. A former Manufactured Gas Plant (MGP) was operated by the Brockport Gas Light Company. RGE purchased the property in 1932. The former MGP distributed its town gas to the residents of the village through a network of pipes originating from the site.

Site Geology: The site has two unconsolidated stratigraphic units. The upper layer consists of historic fill material at or near the ground surface. A silty sand unit is present beneath the fill. A sandstone bedrock unit underlies the silty sand and was encountered between 15 and 30 feet below ground surface (bgs) in the study area.

Site Hydrogeology: The historic fill materials and overburden sand comprise a water-bearing unit. The NYS Barge Canal located on the NYSCC property adjacent to the site, has an influence on the hydrogeology. Groundwater flows generally to the south-southwest when the canal is full and to the west-southwest when the water in the canal has been lowered during the canal non-operational months (November through April). Groundwater beneath the site is generally 2.5 feet bgs when the canal is full and 14 feet bgs when the canal is empty.

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 contamination and off-site contamination which had migrated from on-site sources. Accordingly, no enforcement actions are necessary.

The Department and RGE entered into a Voluntary Cleanup Agreement Index No. B8-0565-99-10 on December 3, 2001.

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:

- air
- groundwater
- soil
- sediment
- soil vapor
- indoor air

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:

Coal Tar
benzene, toluene, ethylbenzene and
xylenes (BTEX)

Polycyclic Aromatic Hydrocarbons (PAHs),
Total

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.

The following IRM(s) has/have been completed at this site based on conditions observed during the RI.

IRM at 128 Erie Street

An IRM was conducted at 128 Erie Street from April 24, 2006 to May 3, 2006. Impacted soil was removed from the backyard area of the property that appeared to have received surface water runoff from a coal storage area located adjacent to the site. A total of 109 tons of surface soil were removed and properly disposed of off-site as non-hazardous soil. The remedial program included the excavation and removal of at least 6 inches of soil from the designated IRM area, backfilling with imported clean fill and placement of sod to restore the IRM excavation area.

IRM at 108 Erie Street

An IRM was conducted at 108 Erie Street from June 18, 2007 to July 2, 2007. Impacted soil was removed from two areas of the property. The area to the north of the residence and barn is topographically and hydraulically downgradient of the RGE property and may have received runoff from this area. The land to the west of the residence is down-gradient and cross-gradient to the RGE property and may have also received runoff from the RGE property. Soil ranging in depth from two to seven feet in the designated areas of the property was excavated. A total of 817 tons of soil were removed and properly disposed of off-site as non-hazardous soil. The areas were backfilled with imported clean fill and a new sod lawn and new landscaped areas were established in the IRM excavation area.

IRM to relocate Natural Gas Facilities at the RGE-Brockport MGP Property.

An IRM was conducted at the site from March 30, 2011 to April 27, 2011. Impacted soil was removed in an area of the site where a natural gas pipeline and regulator station replacement was constructed by RGE. Soil ranging in depth from four feet to more than six feet in the designated area of the property was excavated. A total of 919 tons of soil were removed and properly disposed off-site as non-hazardous soil. The area was backfilled with imported soils as the gas pipeline replacement was conducted and a 12 inch temporary gravel cover was installed. Also a gravel access road was replaced in the IRM excavation area. The cleanup achieved the Soil Cleanup Objectives (SCOs) for restricted residential use.

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 of Contamination: The Remedial Investigation (RI) identified impacts that included MGP-impacted material, non-aqueous phase liquid (NAPL) and sheens in the subsurface soils. Contaminants of concern (COCs) at the site include volatile organic compounds (VOCs), primarily benzene, toluene, ethylbenzene and xylenes (BTEX), and semi-volatile organic compounds (SVOCs), primarily polycyclic aromatic hydrocarbons (PAHs).

Extent of Contamination: The RI identified the presence of MGP contaminants in the upper 16 feet of the soil column, including the presence of a thick, semi-solid coal tar, as well as soils containing PAHs and VOCs, including BTEX. Limited amounts of coal tar are present in the foundation of Gas Holder A, the MGP Building, and Purifier B. The coal tar is discontinuous and has a non-flowable, taffy-like consistency. The coal tar in soil was found at depths of 10 feet or less. Subsurface soil samples were collected from the site and from each of the three adjoining residential properties to the west, southwest and southeast. Occasional lenses of hardened coal tar mixed with historical fill are present. The residential property at 108 Erie Street was partially addressed by the IRM at the boundaries of the RGE site, while the residential property at 128 Erie Street was fully remediated by RGE with an IRM in May 2006.

Surface soil samples were collected at the site, at three residential properties to the southwest, west and southeast, and at background locations in the Village of Brockport. PAHs and metals were the principal COCs detected in the surface soil samples. VOCs and polychlorinated biphenyls (PCBs) were not detected in the surface soil samples. Cyanide compounds were detected, but at concentrations below the Residential Use SCOs in Part 375-6.8(b).

Groundwater impacted with concentrations of VOCs and PAHs above the Department's SCGs is present beneath the site in the location of the former MGP building and purifier building areas, beneath the southern portion of the site, beneath the eastern portion of the residential property at 118 Erie Street, and beneath a portion of Erie Street south of the site between 108 and 118 Erie Streets. The extent of groundwater with concentrations of VOCs and PAHs that exceed SCGs generally corresponds to the observed extent of the impacted soil and coal tar observed on and off-site. There were no soil vapor or indoor air impacts at the site or adjacent residential properties.

PAHs were not detected in any of the off-site groundwater samples. Monitoring wells downgradient of the impacted groundwater plume were not impacted. Light non-aqueous phase liquid (LNAPL), dense non-aqueous phase liquid (DNAPL), and hydrocarbon-like sheens were not observed at any of the groundwater monitoring wells installed during the investigation.

Special Resources Impacted/Threatened: The NYS Barge Canal waterway is on the NYSCC property north of the site and the canal path. Impacted soil was identified below a portion of the canal path adjacent to the canal wall, along with three small taffy-like tar seeps located in the joints at the base of the canal wall sediment. The NYS Barge Canal is an environmental resource with some ecological receptors.

Soil vapor sampling was performed outside the foundation walls of four structures located off-site. In addition, indoor air sampling was performed at one of the off-site structures. Based on the results of the soil vapor intrusion (SVI) sampling performed at the off-site properties, no actions were needed to address exposure. SVI Sampling has not been conducted on-site because there are no occupied structures that would have the potential for SVI impacts as well as the current use of the site is a gas regulator station.

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*.

People are not drinking site-related contaminants in drinking water since the area is served by a public water supply not affected by this contamination. The site is fenced, which restricts public access; however, persons who enter the site may come into contact with contaminants in the soil by walking on the dirt, digging on or below the ground surface, and otherwise disturbing the soil. Limited soil contamination also exists off-site and persons may come into contact with contaminants in the soil by digging on or below the ground surface, and otherwise disturbing the soil. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), 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. Because there are no structures and given the current use of the site, contact with contaminants due to soil vapor intrusion doesn't represent a current concern. Sampling indicates soil vapor intrusion is not a 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.

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.

RAOs for Environmental Protection

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

Soil Vapor

RAOs 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. 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 Soil Excavation remedy.

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

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, 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 to be considered are as described below and will be incorporated with thought given to the environmental impacts of treatment technologies and remedy stewardship over the long term:

- Reducing direct and indirect greenhouse gas and other emissions;
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- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling, and increasing reuse of materials which would otherwise be considered 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.

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3. Removal of all MGP structures and associated piping encountered in the excavation zones.

4. In-situ enhanced biodegradation will be employed to treat contaminants in groundwater in the excavated area. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface. The method and depth of application will be determined during the remedial design.

5. A site cover will be required to allow for restricted residential use of the site. The cover will consist either of the 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. Also a visual demarcation barrier will be installed at the vertical limits of the excavation areas along the sloped sidewalls that abut the residential property areas and the NYSCC property. 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) and DER-10 Appendix 5.

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- ii). Descriptions of the provisions of the deed restriction including any land use, and groundwater use restrictions;
- iii). A provision for evaluation of the potential for soil vapor intrusion for any future buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
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b). A Monitoring Plan to assess the performance and effectiveness of the remedy. The plan includes, but may not be limited to:

- i). Monitoring of on-site groundwater to assess the performance and effectiveness of the remedy;
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10. Soils on the New York State Barge Canal property, which exceed restricted residential SCOs, as defined by 6 NYCRR Part 375-6.8, or which exceed 500 ppm of SVOCs, will be excavated to an approximate depth of 4 feet and transported off-site for disposal. Approximately 270 cubic yards of soil will be removed. Excavation depths are currently estimated to be four feet but deeper excavation, if required, will be evaluated against the need to protect the structural integrity of the barge canal wall. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted residential SCOs will be brought in to replace the excavated soil and establish the designed grades at the site. A visual demarcation barrier will be installed at the vertical limits of the excavation areas and along sloped sidewalls between the RGE property and the Canal property.

11. In-situ enhanced biodegradation will be employed to treat contaminants in groundwater in the excavated area. The biological breakdown of contaminants through aerobic respiration will be enhanced by the placement of an oxygen release compound (ORC), or similar material into the subsurface. The method and depth of application will be determined during the remedial design.

12. Removal of an estimated one to two cubic yards of tar material from the three identified seeps that emanated through the canal retaining wall joints onto the canal bed.

13. The Site Management Plan discussed in item 7 above will describe the technical and administrative requirements for managing the MGP impacts, if any, that may remain on the Canal property and Barge Canal, and will identify the party/ies responsible for each task. In addition to the requirements identified in item 7 above, the plan will describe monitoring of the canal wall in the areas of previously-identified seeps and the actions necessary to address them.

Figure 1

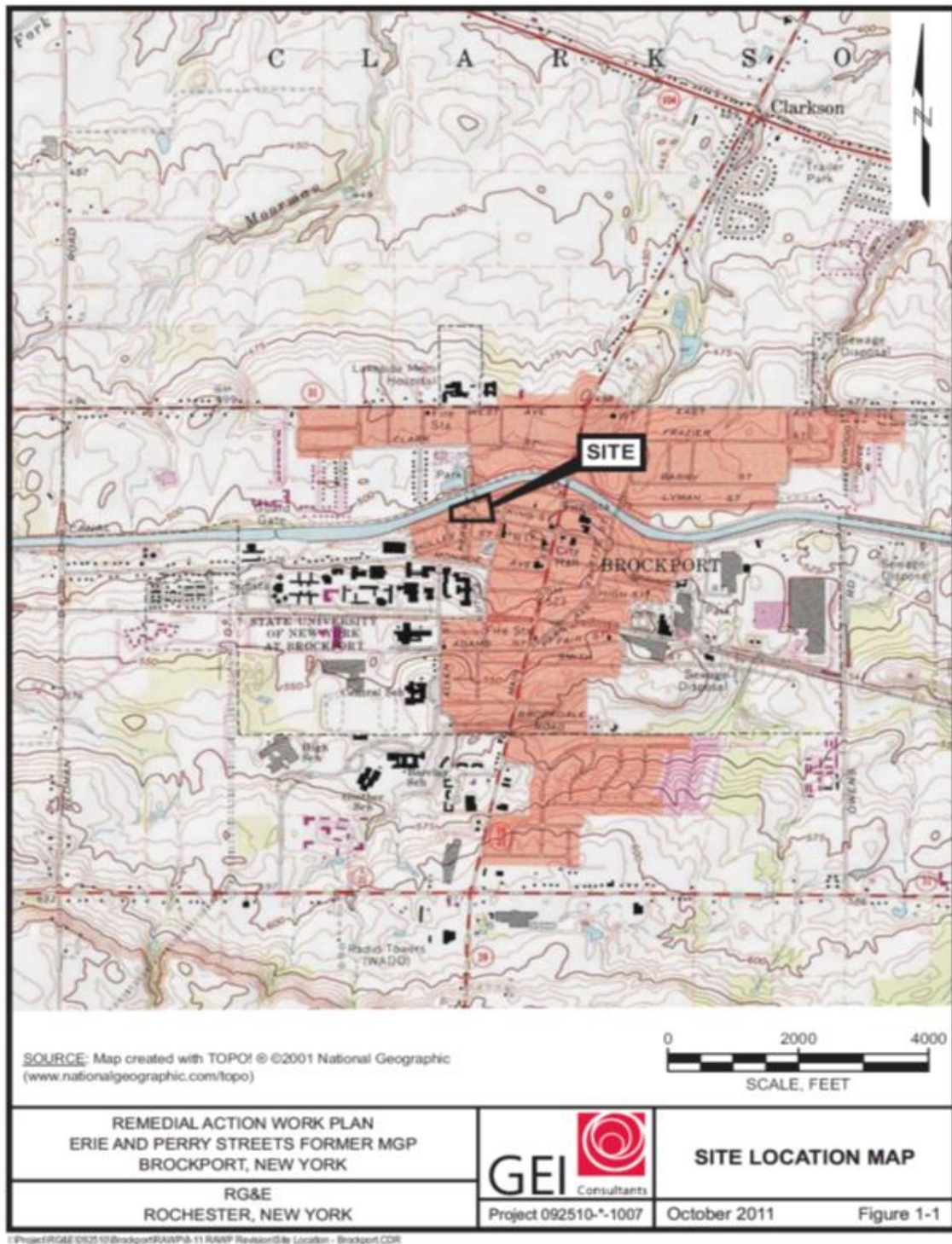


Figure 2- Selected Remedy

