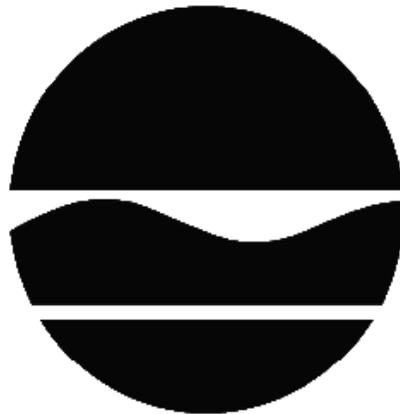


RECORD OF DECISION

NYSEG - Penn Yan Water St. MGP
Penn Yan, Yates County
Site No. 862009
December 2012



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

DECLARATION STATEMENT - RECORD OF DECISION

NYSEG - Penn Yan Water St. MGP
Penn Yan, Yates County
Site No. 862009
December 2012

Statement of Purpose and Basis

This document presents the remedy for the NYSEG - Penn Yan Water St. MGP site, a Class 2 inactive hazardous waste disposal site. The remedial program was chosen in accordance with the New York State Environmental Conservation Law and Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York (6 NYCRR) Part 375, and is not inconsistent with the National Oil and Hazardous Substances Pollution Contingency Plan of March 8, 1990 (40CFR300), as amended.

This decision is based on the Administrative Record of the New York State Department of Environmental Conservation (the Department) for the NYSEG - Penn Yan Water St. MGP site and the public's input to the proposed remedy presented by the Department. A listing of the documents included as a part of the Administrative Record is included in Appendix B of the ROD.

Description of Selected Remedy

The elements of the selected 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 principals 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 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 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. On-site excavation of the following:

- exposed surface soil exceeding restricted-residential SCOs (as defined by 6 NYCRR Part 375-6.8) to a depth sufficient to allow placement of a two-foot soil cover;
- sub-surface soil (greater than 2 feet bgs) which exceed 500 mg/kg of total SVOCs;
- sub-surface soil (greater than 2 feet bgs) which exceed 10 mg/kg of total VOCs; and
- soils which are visually impacted with NAPL and/or NAPL sheens (including hardened tar).

Also, former MGP structures, debris, piping, and major obstructions which remain in the subsurface will be removed to the extent practicable. The gasworks building will remain in place. It is anticipated that the maximum excavation depth will be approximately 12 feet, resulting in removal of approximately 3,340 cubic yards of soil and debris. Excavated soils will be transported off-site for disposal at an appropriately permitted facility. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted-residential use will be brought in to replace the excavated soil and establish the designed grades at the site.

3. A site cover will be required to allow for restricted-residential use of the site. Site 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 restricted-residential use 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.

4. Sediment which contains visible NAPL, sheen, or which produce a visible sheen when agitated in-situ will be removed and transported to a permitted off-site facility for treatment and disposal. Sediment in the Keuka Lake Outlet which contains total polycyclic aromatic hydrocarbons (PAH) compounds at levels above the site-specific background concentration of 43 mg/kg tPAH17 will be removed to a maximum of 2 feet below sediment surface (bss), and will also be properly disposed off site. The approximate extent of sediment removal is estimated to be 1.5 acres.

5. Following removal of contaminated sediments, the excavation area will be restored to its original grade. To the extent possible, restoration will be with material similar to the existing substrate. A restoration plan will be developed during design and will meet the substantive requirements of Article 15 and 6 NYCRR Part 608.

6. Material handling on-site (dewatering and/or blending operations) will be performed under a temporary fabric structure, as necessary, to control vapor, odor and dust emissions. Odor suppression materials such as foam will be available on site at all times. Excavated soils will either be directly loaded into transport trucks, if waste characterization has been performed, or staged on-site for waste characterization prior to transportation off site. A Community Air Monitoring Plan (CAMP) will be implemented which will include real-time monitoring for

volatile organic compounds and particulates (i.e., dust) at the downwind perimeter of each designated work area.

7. 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) will allow the use and development of the controlled property for restricted-residential, commercial or industrial use 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 Department or NYSDOH; and
- d) will require compliance with the Department approved Site Management Plan.

8. 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 assure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.

Engineering Controls: The site cover discussed in Paragraph 3 above.

A copy of the Site Management Plan will be provided to the appropriate property owners. This plan will include, but may not be limited to:

- i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- ii. descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- iii. a provision for evaluation of the potential for soil vapor intrusion should the on-site buildings become occupied or should any buildings be developed on the site and to implement actions recommended (e.g., mitigation or monitoring) 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 groundwater to assess the performance and effectiveness of the remedy;

- ii. monitoring of sediment COCs to assess the effectiveness of the remedy;
- iii. a pre-remedy baseline measurement and post remedy monitoring of the biotic community as a measure of remedy effectiveness;
- iv. restoration success monitoring; and
- v. a schedule of monitoring and frequency of submittals to the Department.

New York State Department of Health Acceptance

The New York State Department of Health (NYSDOH) concurs that the remedy for this site is protective of human health.

Declaration

The selected remedy is protective of human health and the environment, complies with State and Federal requirements that are legally applicable or relevant and appropriate to the remedial action to the extent practicable, and is cost effective. This remedy utilizes permanent solutions and alternative treatment or resource recovery technologies, to the maximum extent practicable, and satisfies the preference for remedies that reduce toxicity, mobility, or volume as a principal element.

December 7, 2012



Date

Robert W. Schick, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

NYSEG - Penn Yan Water St. MGP
Penn Yan, Yates County
Site No. 862009
December 2012

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 hazardous wastes 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 hazardous wastes at this site, as more fully described in this document, has contaminated various environmental media. The remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This Record of Decision (ROD) identifies the selected remedy, summarizes the other alternatives considered, and discusses the reasons for selecting the remedy.

The New York State Inactive Hazardous Waste Disposal Site Remedial Program (also known as the State Superfund Program) is an enforcement program, the mission of which is to identify and characterize suspected inactive hazardous waste disposal sites and to investigate and remediate those sites found to pose a significant threat to public health and environment.

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. 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:

Penn Yan Public Library
214 Main Street
Penn Yan, NY 14527
Phone: (315) 536-6114

NYSDEC, Region 8
6274 East Avon Lima Rd.
Avon, NY 14414
Phone: (585) 226-5326

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) were presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period was held, during which verbal or written comments were accepted on the proposed remedy.

Comments on the remedy received during the comment period are summarized and addressed in the responsiveness summary section of the ROD.

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 site is located between Water Street and the Keuka Lake Outlet in the Village of Penn Yan, Town of Milo, Yates County, New York. The site is a parcel of land located on Water Street, near the corner of Liberty Street.

Site Features: The 0.815 acre site is composed of two contiguous parcels of land. The larger parcel (Section/Block/Lot #46.17-2-68), with an area of 0.805 acres, includes a currently vacant masonry "gas house" building which was formerly used for gas manufacturing operations. This building has been designated as a historic structure by the New York State Office of Parks, Recreation, and Historic Preservation. The concrete floor slab from a former warehouse/garage is present to the west of the gas house building. The remaining areas of the parcel consist of driveways and parking area, a mowed, grass-covered area in the middle of the site, and a brush-covered riparian strip of land along Keuka Lake Outlet.

The smaller parcel (Section/Block/Lot #46.17-2-74) is located adjacent to Water Street, to the northeast of the former MGP process area. This parcel covers a total land area of approximately 0.01 acres. A small building is currently present on the parcel.

Current Zoning/Uses: Both parcels are zoned Waterfront Development and Conservation (WDC) District, which permits commercial and residential uses. The site contains the original gas house (unoccupied) and a small building which is used by NYSEG as a gas regulating

station; but is otherwise empty.

Historic Uses: A Manufactured Gas Plant (MGP) was constructed on the site in 1899 and operated until 1931. During this period, gas was manufactured using a coal gasification process by the Penn Yan Light Company. A gas holder and some accessory buildings were demolished sometime following the cessation of the gas manufacturing activities in 1931.

After gas manufacturing ceased, the gas house was redeveloped into a malt house and wood storage facility. At some point, a warehouse structure was erected and attached to the west side of the building. The building and warehouse were used for a wine distribution center and later as an auto sales and repair business. The warehouse was demolished in 2004, but its concrete floor was left in place. The concrete floor was recently covered with soil to deter recreational use of this area.

Site Geology and Hydrogeology: Three soil units have been identified in the subsurface beneath the site. From the ground surface downward, these are a man-made fill unit, a silt unit, and a sand unit. The fill layer is found across the site and generally ranges from 4 feet thick (around the MGP building) to 13 feet thick (adjacent to Water St.) The thickness of the fill unit adjacent to the Keuka Lake Outlet is approximately 8 feet.

Beneath the fill is a silt unit that ranges in thickness between 10-20 feet. This silt unit appears to act as a potential aquitard beneath the site, limiting downward movement of groundwater and contaminants from the site. A sand unit of unknown thickness is present below the silt. The depth to bedrock is not known; however it is likely greater than 300 feet bgs in the area of the site.

The Keuka Lake Outlet has an organic silt sediment unit approximately 4 feet thick. Beneath the silt is a clay unit of unknown thickness.

The groundwater table is present between 3 and 15 feet below ground surface (bgs) at the site. Groundwater flows from the northwest to the southeast across the site towards the Keuka Lake Outlet.

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, 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 Part 375-1.8(g) were/was evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the 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 included in the Tables for the media being evaluated in Exhibit A.

SECTION 5: ENFORCEMENT STATUS

Potentially Responsible Parties (PRPs) are those who may be legally liable for contamination at a site. This may include past or present owners and operators, waste generators, and haulers.

The PRPs for the site, documented to date, include:

NYSEG

The Department and NYSEG entered into a multi-site Consent Order (index number DO-0002-9309) on March 30, 1994, which obligates NYSEG to implement a full remedial program for 33 former MGP sites across the State, including the Penn Yan, Water Street site.

SECTION 6: SITE CONTAMINATION

6.1: Summary of the Remedial Investigation

A Remedial Investigation (RI) has been conducted. The purpose of the RI was to define the nature and extent of any contamination resulting from previous activities at the site. The field activities and findings of the investigation are described in the RI Report.

The following general activities are conducted during an RI:

- Research of historical information,
- Geophysical survey to determine the lateral extent of wastes,
- Test pits, soil borings, and monitoring well installations,
- Sampling of waste, surface and subsurface soils, groundwater, and soil vapor,
- Sampling of surface water and sediment,
- Ecological and Human Health Exposure Assessments.

The analytical data collected on this site includes data for:

- groundwater
- soil
- sediment

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. The tables found in Exhibit A list the applicable SCGs in the footnotes. 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 hazardous waste 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 in Exhibit A. Additionally, the RI Report contains a full discussion of the data. The contaminant(s) of concern identified at this site is/are:

COAL TAR	XYLENE (MIXED)
BENZENE	Polycyclic Aromatic Hydrocarbons (PAHs),
TOLUENE	Total
ETHYLBENZENE	

As illustrated in Exhibit A, the contaminant(s) of concern exceed the applicable SCGs for:

- groundwater
- soil
- sediment

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 Record of Decision.

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 Fish and Wildlife Resources Impact Analysis (FWRIA) for OU 01, which is included in the RI report, presents a detailed discussion of the existing and potential impacts from the site to fish and wildlife receptors.

The primary contaminant of concern at this site is coal tar (a condensate from the gas manufacturing process). Coal tar contains benzene, toluene, ethylbenzene, and xylene (BTEX) and polycyclic aromatic hydrocarbons (PAHs). Some soils at the site exceed the unrestricted Soil Cleanup Objectives (SCOs) for BTEX and/or PAHs. A limited amount of coal tar is present within the fill on the site. Significant quantities of coal tar were identified in and around a large below-grade tar tank located adjacent to the bank of the Keuka Lake Outlet. This tank and associated contamination were removed and disposed off-site by NYSEG in 1991.

Coal tar has migrated off-site and is observed primarily within the top 1-2 feet of sediment. Sediments with elevated PAH concentrations have been identified in an approximately 1.5 acre area in the Keuka Lake Outlet between the site and the Keuka Lake Outlet dam. The presence of PAHs at the concentrations detected does pose some level of risk for ecological receptors in the outlet.

Groundwater impacts are limited to a small area of the site. Soil vapor was not sampled because the building on-site is vacant.

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 coming into contact with the contaminated groundwater because the area is served by a public water supply that obtains its water from a different source. The site is not fenced and 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. People may come into contact with contaminants present in the shallow creek sediments while entering or exiting the creek during recreational activities. 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. Because the site is vacant, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. However, the potential exists for the inhalation of site contaminants for any future on-site development. Furthermore, environmental 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.
- Prevent the discharge of contaminants to surface water.
- 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.

Sediment

RAOs for Public Health Protection

- Prevent direct contact with contaminated sediments.

RAOs for Environmental Protection

- Prevent impacts to biota from ingestion/direct contact with sediments causing toxicity or impacts from bioaccumulation through the marine or aquatic food chain.
- Restore sediments to pre-release/background conditions to the extent feasible.

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: SUMMARY OF THE SELECTED REMEDY

To be selected the remedy must be protective of human health and the environment, be cost-effective, comply with other statutory requirements, and utilize permanent solutions, alternative technologies or resource recovery technologies to the maximum extent practicable. The remedy must also attain the remedial action objectives identified for the site, which are presented in Section 6.5. Potential remedial alternatives for the Site were identified, screened and evaluated in the feasibility study (FS) report.

A summary of the remedial alternatives that were considered for this site is presented in Exhibit B. Cost information is presented in the form of present worth, which represents the amount of money invested in the current year that would be sufficient to cover all present and future costs associated with the alternative. This enables the costs of remedial alternatives to be compared on

a common basis. As a convention, a time frame of 30 years is used to evaluate present worth costs for alternatives with an indefinite duration. This does not imply that operation, maintenance, or monitoring would cease after 30 years if remediation goals are not achieved. A summary of the Remedial Alternatives Costs is included as Exhibit C.

The basis for the Department's remedy is set forth at Exhibit D.

The selected remedy is referred to as the Excavation and Dredging with Off-site Disposal remedy.

The estimated present worth cost to implement the remedy is \$7,149,000. The cost to construct the remedy is estimated to be \$6,838,000 and the estimated average annual cost is \$10,000.

The elements of the selected 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 principals 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 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 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. On-site excavation of the following:

- exposed surface soil exceeding restricted-residential SCOs (as defined by 6 NYCRR Part 375-6.8) to a depth sufficient to allow placement of a two-foot soil cover;
- sub-surface soil (greater than 2 feet bgs) which exceed 500 mg/kg of total SVOCs;
- sub-surface soil (greater than 2 feet bgs) which exceed 10 mg/kg of total VOCs; and
- soils which are visually impacted with NAPL and/or NAPL sheens (including hardened tar).

Also, former MGP structures, debris, piping, and major obstructions which remain in the subsurface will be removed to the extent practicable. The gasworks building will remain in place. It is anticipated that the maximum excavation depth will be approximately 12 feet, resulting in

removal of approximately 3,340 cubic yards of soil and debris. Excavated soils will be transported off-site for disposal at an appropriately permitted facility. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) for restricted-residential use will be brought in to replace the excavated soil and establish the designed grades at the site.

3. A site cover will be required to allow for restricted-residential use of the site. Site 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 restricted-residential use 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.

4. Sediment which contains visible NAPL, sheen, or which produce a visible sheen when agitated in-situ will be removed and transported to a permitted off-site facility for treatment and disposal. Sediment in the Keuka Lake Outlet which contains total polycyclic aromatic hydrocarbons (PAH) compounds at levels above the site-specific background concentration of 43 mg/kg tPAH17 will be removed to a maximum of 2 feet below sediment surface (bss), and will also be properly disposed off site. The approximate extent of sediment removal is estimated to be 1.5 acres.

5. Following removal of contaminated sediments, the excavation area will be restored to its original grade. To the extent possible, restoration will be with material similar to the existing substrate. A restoration plan will be developed during design and will meet the substantive requirements of Article 15 and 6 NYCRR Part 608.

6. Material handling on-site (dewatering and/or blending operations) will be performed under a temporary fabric structure, as necessary, to control vapor, odor and dust emissions. Odor suppression materials such as foam will be available on site at all times. Excavated soils will either be directly loaded into transport trucks, if waste characterization has been performed, or staged on-site for waste characterization prior to transportation off site. A Community Air Monitoring Plan (CAMP) will be implemented which will include real-time monitoring for volatile organic compounds and particulates (i.e., dust) at the downwind perimeter of each designated work area.

7. 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) will allow the use and development of the controlled property for restricted-residential, commercial or industrial use 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 Department or NYSDOH; and
- d) will require compliance with the Department approved Site Management Plan.

8. 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 assure the following institutional and/or engineering controls remain in place and effective:

Institutional Controls: The Environmental Easement discussed in Paragraph 7 above.

Engineering Controls: The site cover discussed in Paragraph 3 above.

A copy of the Site Management Plan will be provided to the appropriate property owners. This plan will include, but may not be limited to:

- i. an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- ii. descriptions of the provisions of the environmental easement including any land use and groundwater use restrictions;
- iii. a provision for evaluation of the potential for soil vapor intrusion should the on-site buildings become occupied or should any buildings be developed on the site and to implement actions recommended (e.g., mitigation or monitoring) 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 groundwater to assess the performance and effectiveness of the remedy;
- ii. monitoring of sediment COCs to assess the effectiveness of the remedy;
- iii. a pre-remedy baseline measurement and post remedy monitoring of the biotic community as a measure of remedy effectiveness;
- iv. restoration success monitoring; and
- v. a schedule of monitoring and frequency of submittals to the Department.

Exhibit A

Nature and Extent of Contamination

This section describes the findings of the Remedial Investigation for all environmental media that were evaluated. As described in Section 6.1, samples were collected from various environmental media to characterize the nature and extent of contamination.

For each medium, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into two categories: volatile organic compounds (VOCs) and semi-volatile organic compounds (SVOCs). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

Waste/Source Areas

As described in the RI report, waste/source materials were identified at the site and are impacting groundwater, soil, and sediment.

Wastes are defined in 6 NYCRR Part 375-1.2 (aw) and include solid, industrial and/or hazardous wastes. Source Areas are defined in 6 NYCRR Part 375 (au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium. Wastes and source areas were identified at the site and include liquid coal tar and hardened tar. Liquid coal tar was observed in both upland sub-surface soils as well as in the sediment of the adjacent Keuka Lake Outlet (outlet.) Some NAPL was observed in subsurface piping related to the former MGP structures. Limited areas of hardened tar were observed at the ground surface on site.

As noted in Figure 2, on the upland portion of the site coal tar is primarily located in the subsurface near the former gas holder and the former Tar Tank B. In the outlet, coal tar is located in the sediments directly adjacent to the site.

Coal tar does not readily dissolve in water and is thus referred to as non-aqueous phase liquid or NAPL. The term NAPL and coal tar are used interchangeably in this document. Although most coal tars are slightly denser than water, the difference in density is slight. Consequently, they can either float or sink when in contact with water. Coal tar which contains the VOCs benzene, toluene, ethylbenzene and xylene (BTEX) and the SVOCs polycyclic aromatic hydrocarbons (PAHs) migrated from the former MGP site through preferential pathways in the subsurface, into the sediments of the outlet.

Between the years of 1991-1992, former Tar Tank A was drained of NAPL, and former Tar Tank B was removed along with some contaminated soils.

The waste/source areas identified will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from eleven overburden groundwater monitoring wells. The samples were collected to assess shallow groundwater conditions on and off-site. The results indicate MGP site-related, dissolved-phase groundwater impacts are limited to the area around the tank pit for former Tar Tank B. A well installed between the tank pit and the outlet was the only site well to have compounds in concentrations greater than the SCGs for VOCs and SVOCs. The highest concentrations detected were only slightly greater than the groundwater standards.

Table 1 - Groundwater

Detected Constituents	Concentration Range	Detected	SCG ^b (ppb)	Frequency Exceeding SCG
VOCs				
BENZENE	0-7.9		1	2/12
SVOCs				
NAPHTHALENE	0-13		10	2/12
BENZO(B)FLUORANTHENE	0-0		0.002	0/12
FLUORANTHENE	0-0.7		50	0/12

a - ppb: parts per billion, which is equivalent to micrograms per liter, ug/L, in water.

b- SCG: Standard Criteria or Guidance - Ambient Water Quality Standards and Guidance Values (TOGs 1.1.1), 6 NYCRR Part 703, Surface water and Groundwater Quality Standards, and Part 5 of the New York State Sanitary Code (10 NYCRR Part 5).

The primary groundwater contaminants are PAHs and BTEX compounds. Significant groundwater contamination is limited to the area around the former Tar Tank B.

Based on the findings of the RI, the presence of coal tar has resulted in the contamination of groundwater. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of groundwater to be addressed by the remedy selection process are: PAHs and BTEX compounds.

Soil

Surface and subsurface soil samples were collected at the site during the RI. Surface soil samples were collected from a depth of 0-2 inches to assess direct human exposure. Subsurface soil samples were collected from a depth of 2-30 feet to assess soil contamination impacts to groundwater. The results indicate that some soils at the site exceed the unrestricted SCO for volatile and semi-volatile organics. One soil sample collected in native soil contained arsenic in concentrations greater than restricted-residential use SCOs. The source of the arsenic is unknown but impacts do not appear to be widespread at the site.

Table 2 - Soil

Detected Constituents	Concentration Range Detected (ppm) ^a	Unrestricted SCG ^b (ppm)	Frequency Exceeding Unrestricted SCG	Restricted-Residential Use SCG ^c (ppm)	Frequency Exceeding Restricted SCG
VOCs					
BENZENE	0-2	0.06	2/40	4.8	0/40
ETHYLBENZENE	0-22	1	2/40	41	0/40
TOLUENE	0-4	0.7	2/40	100	0/40
SVOCs					
BENZO(A)ANTHRACENE	0-15	1	8/44	1	8/44
BENZO(A)PYRENE	0-22	1	9/44	1	9/44
BENZO(B)FLUORANTHENE	0-29	1	9/44	1	9/44
BENZO(K)FLUORANTHENE	0-10	0.8	5/44	3.9	3/44
CHRYSENE	0-14	1	8/44	3.9	3/44
DIBENZ(A,H)ANTHRACENE	0-6	0.33	4/44	0.33	4/44
INDENO(1,2,3-C,D)PYRENE	0-22	0.5	9/44	0.5	9/44
NAPHTHALENE	0-44	12	1/44	100	0/44
Inorganics					
ARSENIC	1.7-36.2	13	1/44	16	1/44

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;

b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.

c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Restricted-Residential Use, unless otherwise noted.

The primary soil contaminants are PAHs and BTEX, which are associated with the coal tar by-product from the operation of the former MGP. As illustrated on Figures 2 and 3 the primary soil contamination is associated with the former MGP structures including the gas holders and tar tanks. Surface soil contamination above restricted-residential use SCOs was limited to PAH compounds.

Based on the findings of the Remedial Investigation, the presence of coal tar has resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are: PAHs and BTEX compounds.

Sediment

Sediment samples were collected during the RI from locations upstream, adjacent and downstream of the site along the Keuka Lake outlet. The samples were collected to assess the potential for impacts to outlet sediment from the site. The results indicate that the MGP site has contaminated sediments adjacent to the site and downstream from the site with PAH compounds. Visible droplets of MGP tar were noted in some samples. Contaminant levels decline rapidly outside the area of visible tar contamination.

Not all of the PAH compounds detected in the sediment samples are related to the MGP site. The concentrations of PAHs obtained in upstream locations were considered in determining site background. Total PAH 17 concentration (tPAH17) is calculated by adding the concentrations of the 16 PAHs on USEPA's Priority Pollutant List and the concentration of 2-methylnaphthalene. Sixteen (16) shallow sediment samples from upstream locations not affected by the MGP site (with statistical outliers removed), were used to calculate a 90th percentile background tPAH17 concentration. The calculated 90th percentile for the site-specific background data was 43 ppm tPAH17. The presence of tPAH17 at elevated levels in upstream samples, which are not

affected by the MGP, appears to result from the discharge of storm sewers in the downtown portion of Penn Yan, immediately upstream from the MGP site. PAH compounds are commonly found at low levels in street runoff.

Figure 4 presents the limits of sediment impacted by past MGP operations.

Table 3 - Sediment

Detected Constituents	Concentration Range Detected (ppm) ^a	SCG ^b (ppm)	Frequency Exceeding SCG	Site Derived Value ^c (ppm)	Frequency Exceeding Site Derived Value
SVOCs					
tPAH17	ND - 3900	4	47/62	43	24/62

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in sediment;

b - SCG: The Department's "Technical Guidance for Screening Contaminated Sediments."

c – Site Derived Value: background sediment tPAH17 concentration calculated using the upstream sediment data collected during the Remedial Investigation

The primary sediment contaminants are PAHs associated with coal tar from the site. The primary sediment contamination is found adjacent to the site and continues downstream to the Keuka Lake outlet control system. In general, the results of the PAH analyses for the deeper samples confirm the results of the visual characterization which indicated that significantly elevated concentrations of MGP-related constituents do not appear to be present at depths greater than 5 feet below the sediment surface in the area near the site, and that the MGP-impacted zone becomes shallower moving away from this area. The results of the deeper coring provide additional information indicating that the impacts are shallow and are likely due to overflow spills from the site, not from deeper migration from the site to the outlet through the subsurface soils. Sediments with elevated PAH concentrations have been identified in an approximately 1.5 acre area in the Keuka Lake outlet between the site and the Keuka Lake outlet dam.

Based on the findings of the Remedial Investigation, the presence of coal tar has resulted in the contamination of sediment. The site contaminants that are considered to be the primary contaminants of concern which will drive the remediation of sediment to be addressed by the remedy selection process are: PAHs.

Exhibit B

Description of Remedial Alternatives

The following alternatives were considered based on the remedial action objectives (see Section 6.5) to address the contaminated media identified at the site as described in Exhibit A.

Upland (On-site) Remediation Alternatives

Alternative U1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative would leave the site in its present condition and would not provide any additional protection to public health and the environment.

Present Worth: \$0
Capital Cost: \$0
Annual Costs: \$0

Alternative U2: Site Management

The Site Management Alternative would require only institutional controls for the site. This alternative includes institutional controls, in the form of an environmental easement and a site management plan, necessary to protect public health and the environment from any contamination identified at the site.

Present Worth: \$ 27,000
Capital Cost: \$0
Annual Costs: \$ 900

Alternative U3: Restoration to Pre-Disposal / Unrestricted Conditions; Excavation of Surface Soil and Sub-surface Soil which exceeds Unrestricted Use SCOs, and Removal of Sub-Surface Piping

This alternative would achieve all of the SCGs discussed in Section 6.1.1 and Exhibit A and meets the unrestricted soil cleanup objectives (SCOs) listed in Part 375-6.8 (a). This alternative would include: excavation and off-site disposal of all source material and surface and sub-surface soil contamination above the unrestricted soil cleanup objectives. The total quantity of soil to be excavated and sent off-site for treatment or disposal is estimated to be 4,940 cubic yards (CY). The existing concrete pad, gas holder, and associated structures including piping would be removed and disposed of off-site. The gasworks building would remain in place. Excavation of all contaminated material should result in immediate restoration of groundwater in that area. When excavation is complete, excavation areas would be backfilled to original grade using clean imported fill. Vegetated areas would receive a six inch layer of topsoil.

This alternative removes all contamination above unrestricted SCOs therefore no institutional controls would be necessary and no annual cost would be incurred.

Capital Cost: \$2,990,000

Alternative U4: Site Cover, Removal of Sub-Surface Piping, and Groundwater Monitoring

This alternative would include removal of sub-surface piping which contains NAPL and excavation limited to exposed surface soil exceeding restricted-residential SCOs to a depth sufficient to allow placement of a two-foot soil cover. The total quantity of soil to be excavated and sent off-site for treatment or disposal is estimated to be 1,010 CY (this assumes a one-foot cut).

A site cover would be required to allow for restricted residential use of the site. The cover would 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 would exceed the applicable soil cleanup objectives (SCOs). Where the soil cover is required it would 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 would 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 would meet the requirements for the identified site use as set forth in 6 NYCRR Part 375-6.7(d).

Institutional controls, in the form of an environmental easement and a site management plan (SMP) would be implemented to protect public health and the environment from any contamination identified at the site. Groundwater monitoring would be conducted as required in the SMP.

<i>Present Worth:</i>	\$ 688,000
<i>Capital Cost:</i>	\$ 523,000
<i>Annual Costs:</i>	\$ 6,000

Alternative U5: Excavation of Surface Soil and Sub-Surface Soil, Removal of Sub-Surface Piping, and Groundwater Monitoring

This alternative includes excavation of visually impacted sub-surface soils and sub-surface soils which exceed 500 mg/kg of total SVOCs or 10 mg/kg of total VOCs. This alternative also includes excavation limited to exposed surface soil exceeding restricted-residential SCOs to a depth sufficient to allow placement of a two-foot soil cover. The total quantity of soil to be excavated and sent off-site for treatment or disposal is estimated to be 4,340 CY. The existing concrete pad, gas holder, and associated structures including all subsurface piping will be removed and disposed of off-site. The gasworks building will remain in place. When excavation is complete, excavation areas will be backfilled using clean imported fill.

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. 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).

Institutional controls, in the form of an environmental easement and a site management plan (SMP) will be implemented to protect public health and the environment from any contamination identified at the site, by limiting the site to a restricted-residential use. Groundwater monitoring will be conducted as required in the SMP.

<i>Present Worth:</i>	\$ 2,574,000
<i>Capital Cost:</i>	\$ 2,409,000
<i>Annual Costs:</i>	\$ 6,000

Sediment (Keuka Lake Outlet) Remediation Alternatives

Alternative S1: No Action

The No Action Alternative is evaluated as a procedural requirement and as a basis for comparison. This alternative leaves the site in its present condition and does not provide any additional protection to public health and the environment.

<i>Present Worth:</i>	\$0
<i>Capital Cost:</i>	\$0
<i>Annual Costs:</i>	\$0

Alternative S2: Site Management

The Site Management Alternative would require only institutional controls for the site. This alternative includes institutional controls, including a site management plan (SMP), necessary to protect public health and the environment from any contamination identified in the sediment. This SMP would describe the following:

- (a) known locations of NAPL and elevated PAHs within the sediments of the outlet;
- (b) protocols for sediment monitoring;
- (c) protocols (including health and safety requirements) for conducting intrusive (i.e., subsurface) activities within the impacted area and managing potentially impacted material encountered during these activities; and
- (d) restrictions on intrusive activities to mitigate potential exposures to impacted sediments.

Because NAPL containing and toxic sediments would remain in the outlet, this alternative would also include establishment of institutional controls. Institutional controls would be in the form of governmental, enforcement, or permit controls, and/or informational devices. For example, potential institutional controls could include, but not necessarily be limited to, designating “no anchor” zones in the impacted area. Annual reports would be submitted to the NYSDEC to document that institutional controls are maintained and remain effective.

<i>Present Worth:</i>	\$ 27,000
<i>Capital Cost:</i>	\$0
<i>Annual Costs:</i>	\$ 900

Alternative S3: Restoration to Pre-Disposal or Unrestricted Conditions; Full Excavation/Dredging of Impacted Sediment and Placement of Backfill

This alternative would achieve all of the SCGs discussed in Section 6.1.1 and Exhibit A. This alternative would include removal and off-site disposal of all source material and contaminated sediment located between the site and the Keuka Lake outlet control structure with concentrations of contaminants of concern (COCs) above the site-specific background concentration of 43 mg/kg.

Removal of sediments would be conducted using either conventional earth moving equipment or by mechanical or hydraulic dredging. Methods for sediment removal would be determined during design. A temporary watertight sheet-pile cofferdam would be required to permit excavation as deep as the low permeability clay layer. Dewatering and construction water treatment systems would be required to maintain dry conditions during excavation and backfill. The total quantity of sediment to be removed and sent off-site for treatment or disposal is estimated to be 6,690 cubic yards (CY).

The dredged areas would be backfilled to restore original bathymetry. The restoration of the shoreline and riverbed would meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

This alternative removes all contamination above unrestricted SCOs therefore no institutional controls would be necessary and no annual cost would be incurred.

Capital Cost:..... \$ 5,532,000

Alternative S4: Excavation/Dredging of Impacted Shallow Sediment and Visually Impacted Sediment, Placement of Backfill and Monitoring

This alternative includes removal and off-site disposal of all source material and the top two-feet of sediment where PAHs are above site-specific background concentrations. In areas where visual impacts extend deeper than two feet below the sediment surface, only the sediments which are visibly impacted will be removed. No impacts have been found in the clay layer underlying the site, so it appears to serve as a confining layer and will serve as a natural limit of excavation.

The total quantity of sediment to be removed and sent off-site for treatment or disposal is estimated to be 4,500 CY. As with Alternative S4, methods of sediment removal will be considered during design. A temporary watertight sheet-pile cofferdam will be required to permit excavation as deep as the low permeability clay layer. Dewatering and construction water treatment systems will be required to maintain dry conditions during excavation and backfill.

The dredged areas will be backfilled to restore original bathymetry. The restoration of the shoreline and riverbed will meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Once site construction is complete a SMP will be developed which will require implementation of sediment monitoring and reporting.

Present Worth:..... \$ 4,985,000

Capital Cost:..... \$ 4,840,000

Annual Costs:..... \$ 5,000

Alternative S5: Excavation/Dredging of Impacted Surface Sediment and Subaqueous Capping

This alternative would include: removal and off-site disposal of surface sediment above site-specific background concentrations; capping of impacted sediment; and reactive capping of visibly impacted sediments. Final excavation depth would be based on the final cap design to maintain current bathymetry.

As with Alternative S3 and S4, methods of sediment removal would be considered during design. A temporary watertight sheet-pile cofferdam would be required to permit excavation and accurate cap placement. Dewatering and construction water treatment systems would be required to maintain dry conditions during excavation and backfill. The total quantity of sediment to be removed and sent off-site for treatment or disposal is estimated to be 2,540 CY.

When excavation is complete a subaqueous cap would be installed on excavated areas. In areas where visual impacts remain, a combined cap incorporating a reactive cap and a sand cap would be installed. A reactive cap incorporates reactive or adsorptive materials such as (e.g., activated carbon, organoclay) to provide treatment of contaminants. The restoration of the shoreline and riverbed would meet the substantive requirements of 6 NYCRR Part 608 Use and Protection of Waters.

Once site construction is complete a SMP would be developed which would require implementation of sediment monitoring and reporting.

<i>Present Worth:</i>	\$ 3,765,000
<i>Capital Cost:</i>	\$ 3,600,000
<i>Annual Costs:</i>	\$ 6,000

Exhibit C
Remedial Alternative Costs

Remedial Alternative	Capital Cost (\$)	Annual Costs (\$)	Total Present Worth (\$)
<u>Upland (on-site) Alternatives</u>			
U1 - No Action	0	0	0
U2 - Site Management	0	\$ 900	\$ 27,000
U3 - Restoration to Pre-Disposal / Unrestricted Conditions; Excavation of Surface Soil and Sub-surface Soil which exceeds Unrestricted Use SCOs, and Removal of Sub-Surface Piping	\$2,990,000	0	\$2,990,000
U4 - Excavation of Surface Soil, Removal of Sub-Surface Piping, Soil Cover and Groundwater Monitoring	\$523,000	\$6,000	\$ 688,000
U5 - Excavation of Surface Soil and Sub-Surface Soil, Removal of Sub-Surface Piping, and Groundwater Monitoring	\$2,409,000	\$6,000	\$2,574,000
<u>Sediment (outlet) Alternatives</u>			
S1 - No Action	0	0	0
S2 - Site Management	0	\$ 900	\$ 27,000
S3 - Restoration to Pre-Disposal or Unrestricted Conditions; Full Excavation/Dredging of Impacted Sediment and Placement of Backfill	\$5,532,000	0	\$5,532,000
S4 - Excavation/Dredging of Impacted Shallow Sediment and Visually Impacted Sediment, Placement of Backfill and Monitoring	\$4,840,000	\$ 5,000	\$4,985,000
S5 - Excavation/Dredging of Impacted Surface Sediment and Subaqueous Capping	\$3,600,000	\$ 6,000	\$3,765,000
<u>Proposed Remedy – Alternatives</u>			
U5&S4 Excavation & Dredging with Off-site Disposal	\$6,838,000	\$ 10,000	\$7,149,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing a combination of Alternatives U5 “Excavation of Surface Soil and Sub-surface Soil, Removal of Sub-surface Piping, and Groundwater Monitoring” and Alternative S4 “Excavation/Dredging of Impacted Shallow Sediment and Visually Impacted Sediment, Placement of Backfill and Monitoring.” as the remedy for this site. Alternatives U5 and S4 will achieve the remediation goals for the site by removing source material on-site and in the Keuka Lake outlet as well as removing surface soils exceeding restricted-residential SCOs and shallow sediments above site-specific background criteria. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 4.

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives. The criteria to which potential remedial alternatives are compared are defined in 6 NYCRR Part 375. A detailed discussion of the evaluation criteria and comparative analysis is included in the FS report.

The first two evaluation criteria are termed "threshold criteria" and must be satisfied in order for an alternative to be considered for selection.

1. Protection of Human Health and the Environment. This criterion is an overall evaluation of each alternative's ability to protect public health and the environment.

Alternatives U1 and S1 (No Action) do not provide any additional protection to public health and the environment and will not be evaluated further. Alternative U2 and S2 would provide a level of protection to public health through implementation of institutional controls, but would provide no additional protection to the environment. Alternatives U3 and S3 by removing all soil and sediments contaminated above the “unrestricted” soil cleanup objectives, meets the threshold criteria. Alternatives U4 and S5 would also comply with this criterion but to a lesser degree as some residual contamination would remain.

The selected remedy Alternative U5 will satisfy this criterion by removing impacted surface soils and sub-surface soils containing source material. Removing surface soils will eliminate the potential for exposure to public. Removal of source material along with institutional controls will further limit exposure to include utility and construction workers. Alternative U5 addresses the source of the groundwater contamination as well. By removing these materials, additional impacts to groundwater will cease.

Alternative S4 would satisfy this criterion by removing impacted sediments in the biologically active zone as well as sediments containing source material at depth.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy would meet environmental laws, regulations, and other standards and criteria. In addition, this criterion includes the consideration of guidance which the Department has determined to be applicable on a case-specific basis.

On-site Alternatives U3 and U5 would comply with SCGs. They address source areas of contamination and comply with the restricted use soil cleanup objectives at the surface through construction of a cover system. They also create the conditions necessary to restore groundwater quality to the extent practicable.

Outlet Alternatives, S3 and S4 also comply with SCGs to the extent practicable. Alternatives U2, U4, S2, and S5 comply with this criterion but to a lesser degree or with lower certainty. Because Alternatives U2, U3, U4 and U5, as well as S2, S3, S4, and S5 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site.

The next six "primary balancing criteria" are used to compare the positive and negative aspects of each of the remedial strategies.

3. Long-term Effectiveness and Permanence. This criterion evaluates the long-term effectiveness of the remedial alternatives after implementation. If wastes or treated residuals remain on-site after the selected remedy has been implemented, the following items are evaluated: 1) the magnitude of the remaining risks, 2) the adequacy of the engineering and/or institutional controls intended to limit the risk, and 3) the reliability of these controls.

Long-term effectiveness is best accomplished by removal of the contaminated soils/sediments and source materials. Alternatives U3 and U5 call for the removal and off-site management of the majority of the impacted upland materials. Those impacts that remain would not pose a significant exposure. The small amount of contamination which would remain in groundwater would result in minimal exposure and should be quickly reduced by natural attenuation. Alternative U4 calls for a less extensive removal of impacted surface soils and NAPL containing structures; those impacts that remain in subsurface soil would be addressed by institutional controls. An environmental easement would be required to ensure that these measures continue to be effective. Alternative U2 would manage potential exposure to impacted materials exclusively through institutional controls. However, because all impacted materials would remain in place in Alternative U2, the contamination at the surface would continue to be accessible to human and environmental receptors and the potential for exposure is higher. Institutional controls would not adequately protect trespassers from exposure to contaminated surface soil

Sediment Alternatives S3 and S4 call for removal and off-site management of the great majority of the impacted materials in the outlet. The small amount of contaminants of concern (COC) which would remain in the sediment would be covered with clean backfill materials and would thus result in minimal exposure. Alternative S5 calls for the removal and off-site management of impacted shallow sediments and the installation of an engineered sediment cap; the impacts that remain in the deeper sediments would be addressed by institutional controls. Similarly, Alternative S2 would manage potential exposure to impacted materials solely through institutional controls. The long term effectiveness of this is questionable. All impacted materials would remain in place in Alternative S2, so the COCs would continue to be accessible to human and environmental receptors and the risk of exposure is higher. Institutional controls would do little to adequately protect the public or ecological receptors from exposure to COCs in shallow sediments.

4. Reduction of Toxicity, Mobility or Volume. Preference is given to alternatives that permanently and significantly reduce the toxicity, mobility or volume of the wastes at the site.

Alternatives which remove contaminated materials offer the highest degree of mobility, toxicity, and volume reduction. Upland Alternatives U3 and U5 would significantly reduce the volume of impacted material on-site. The total amount of soils to be excavated and sent off-site for Alternative U3 and U5 is approximately 8,150

tons and 5,510 tons, respectively. For the overall remedy to be fully protective, the on-site alternative must prevent re-contamination of the sediments in the outlet. Both Alternative U3 and Alternative U5 remove the sources of any additional NAPL impacts to the outlet, as well as preventing groundwater contamination which could migrate toward the outlet. Alternative U2 would control potential exposures with institutional controls only and would not reduce the toxicity, mobility or volume of contaminants remaining. Alternative U4, by removing only surface soils and the gas holder piping, would meet the criteria to a lesser extent than Alternatives U3 and U5. Alternative U4 leaves source material in place and would do little to prevent groundwater contamination.

Sediment Alternatives S3 and S4 would significantly reduce the volume of impacted sediment and waste material in the outlet. The total amount of sediments to be removed and sent off-site for Alternative S3 and S4 is approximately 11,040 tons and 8,160 tons, respectively. Both Alternative S3 and Alternative S5 remove NAPL source areas in the outlet as well and sediment with COCs above site-specific background concentrations. Alternative S2 would control potential exposures with institutional controls only and would not reduce the toxicity, mobility or volume of contaminants remaining. Alternative S5, by removing only surface sediments and then capping over any additional impacts, would meet the criteria to a lesser extent than Alternatives S3 and S5. Alternative S5 leaves source material in place.

5. Short-term Impacts and Effectiveness. The potential short-term adverse impacts of the remedial action upon the community, the workers, and the environment during the construction and/or implementation are evaluated. The length of time needed to achieve the remedial objectives is also estimated and compared against the other alternatives.

On-site Alternatives U3, U4, and U5 all have short-term impacts involving the excavation, handling, and transportation of soils. These impacts could easily be controlled. However, because soil excavation would be much less extensive for Alternative U4, it would have the smallest impact of the three. In addition, Alternative U4 would result in a lesser amount of material to be disposed off-site which is in line with the Department's Green Remediation Policy (DER-31) concept of reducing waste when feasible. Alternative U2 would have no short-term impacts because it involves primarily administrative actions. The time needed to achieve the remediation goals is the shortest for Alternative U2 and longest for Alternative U3.

All of the alternatives which include excavation and handling of impacted material (Upland Alternatives U3, U4, and U5 as well as Sediment Alternatives S3, S4, and S5) have the potential to cause nuisance odors. Odor management during excavation and/or dredging would be a critical element for successful implementation of the excavation, due to the proximity to nearby residents and businesses. Odors can be managed through the use of odor control sprays and foams or by modifying work procedures.

Sediment Alternatives S3, S4, and S5 all have short-term impacts to wildlife receptors due to disruption of the streambed and short term impacts to surrounding residents due to the excavation, handling, and transportation of sediments. The impacts to wildlife in the outlet would be temporary, with the new, cleaner riverbed likely to be recolonized quickly by bottom-dwelling organisms. Maximizing habitat value and creating habitat are also green remediation concepts encouraged by the Department's DER-31. There would be some temporary loss of use of the parkland across the outlet during the construction activities.

6. Implementability. The technical and administrative feasibility of implementing each alternative are evaluated. Technical feasibility includes the difficulties associated with the construction of the remedy and the ability to monitor its effectiveness. For administrative feasibility, the availability of the necessary personnel and materials is evaluated along with potential difficulties in obtaining specific operating approvals, access for

construction, institutional controls, and so forth.

Upland Alternative U2 is readily implementable as it requires only implementation of institutional controls. All upland Alternatives, with the exception of Alternative U3; Restoration to Unrestricted conditions, would require institutional controls. Institutional controls are easily implementable, but would require coordination with NYSEG and the NYSDEC to file an environmental easement on the site.

Alternatives U3 and U5 would require excavation below the water table that would require dewatering, a temporary water treatment plant and discharge technology during construction. These technologies are routinely implemented and can be easily implemented at this site.

Alternatives U3 and U5 would require some portions of the excavation to be shored to protect adjacent structures, roadways, and/or utilities and to provide protection from the Keuka Lake outlet. A pre-design investigation will be necessary to further investigation potential obstructions. To protect the MGP building during excavation, the specific type of shoring used near the building would be determined during the design phase. Because of these complexities, it may be necessary to reevaluate the achievable limits of excavation during the design and construction processes.

Of the excavation alternatives, Alternative U4 is the most easily implementable as it would likely not require temporary water treatment, water discharge technology, or shoring for excavation. Alternatives U3 and U5 would take more effort, but are both fully implementable.

Sediment Alternative S2 is readily implementable as it requires only implementation of institutional controls. All sediment alternatives, with the exception of Alternative S3; Restoration to Unrestricted conditions, would require institutional controls. Institutional controls, which would include a site management plan, may be in the form of governmental, enforcement, permit controls, and/or informational devices; and are easily implementable.

Alternatives S3 and S4 include sediment excavation/dredging which would present engineering and coordination challenges to be overcome. Excavation work in the outlet should take place during the low flow months of the year (July – October,) if practical. During installation of cofferdams turbidity control measures would be needed in open water to prevent significant impacts downstream. A pre-design investigation would be required to determine geotechnical design parameter.

Coordination with adjacent property owners for access to their land would be necessary for cofferdam layout and configuration. Coordination with the Village of Penn Yan would be necessary, as access and construction of an access road through the village park would be necessary for completion of the excavation activities on the southern shore of the outlet.

Sediment removal would require a number of local, state, and federal permits, which would require significant lead time to obtain. Permitting for the sediment work is expected to take approximately 6-12 months.

7. Cost-Effectiveness. Capital costs and annual operation, maintenance, and monitoring costs are estimated for each alternative and compared on a present worth basis. Although cost-effectiveness is the last balancing criterion evaluated, where two or more alternatives have met the requirements of the other criteria, it can be used as the basis for the final decision.

The costs of the upland alternatives vary significantly. The least expensive upland alternative is Alternative U2 because it has no capital cost associated with it and relies only on institutional controls. With the large volume of soils to be handled, Alternatives U3 and U5 have the highest present worth of the on-site alternatives. Alternative U3 would only marginally increase in protectiveness over Alternative U5, but would result in over a half-million dollars (approximately 20%) more in cost.

The costs of the sediment alternative also vary significantly. The least expensive sediment alternative is Alternative S2 because it has no capital cost associated with it and relies only on institutional controls. Sediment Alternatives S3, S4, and S5 all have significantly higher present worth than Alternative S2; with Alternative S3 being the highest. Alternative S4 is considered more cost effective than Alternative S3 because the additional costs associated with Alternative S3 are not matched by a comparable increase in effectiveness. Although Alternative S5 has a lower present worth it removes very little material relative to Alternative S4 and S5.

8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The site property is zoned "Waterfront Development and Conservation (WDC)". This designation allows for both commercial and residential uses. The site is currently used for commercial purposes and it is anticipated that it would continue to be used as such as long as NYSEG owns the property. However, due to the WDC zoning and the possible future uses of the site under the waterfront revitalization plan, a cleanup goal which allows for restricted-residential use is appropriate. On-site Alternatives U3, U4, and U5 would allow use of the site for restricted-residential and commercial purposes. Alternatives U4 would be less desirable because at least some contaminated soil would remain on the property, whereas Alternatives U3 and U5 would remove or treat contaminated soil permanently. Alternative U5 would have a less restrictive environmental easement than U4. Alternative U2 would have the strictest environmental easement. Restrictions on the site use would not be necessary with Alternative U3.

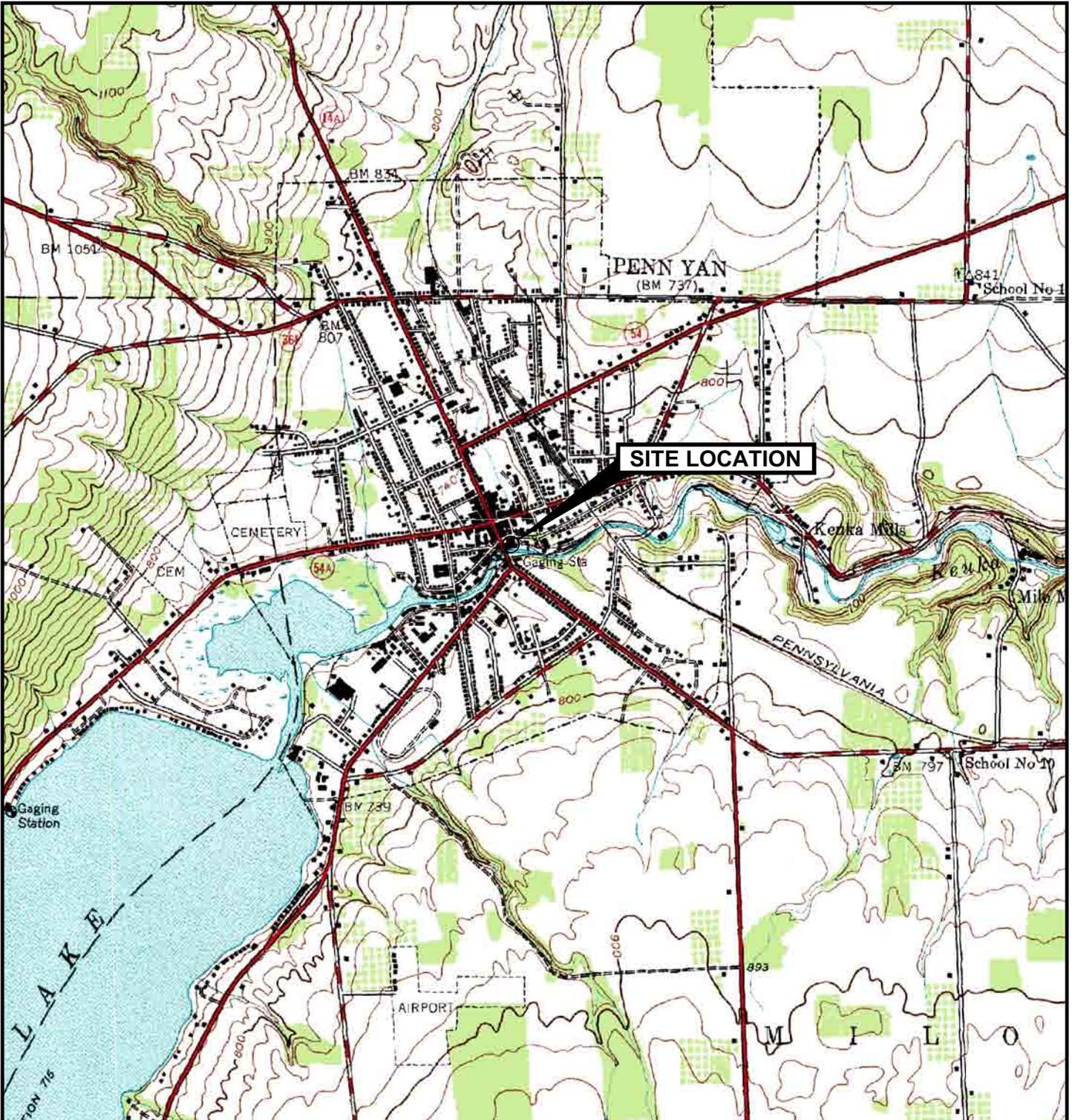
Sediment Alternatives S3-S5 would allow future use consistent with the current use of the outlet, as well as the contemplated future use of the site.

The final criterion, Community Acceptance, is considered a "modifying criterion" and is taken into account after evaluating those above. It is evaluated after public comments on the Proposed Remedial Action Plan have been received.

9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary has been prepared that describes public comments received and the manner in which the Department will address the concerns raised.

Alternatives U5 and S4 have been selected because, as described above, they satisfy the threshold criteria and provide the best balance of the balancing criterion.

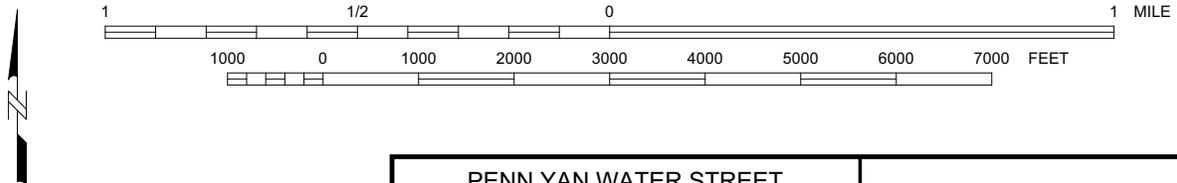
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UNITED STATES GEOLOGIC SURVEY
PENN YAN QUADRANGLE
NEW YORK
7.5 MINUTE SERIES (TOPOGRAPHY)

PENN YAN, NY.
1983
PHOTOREVISED 1995

SCALE 1:24000

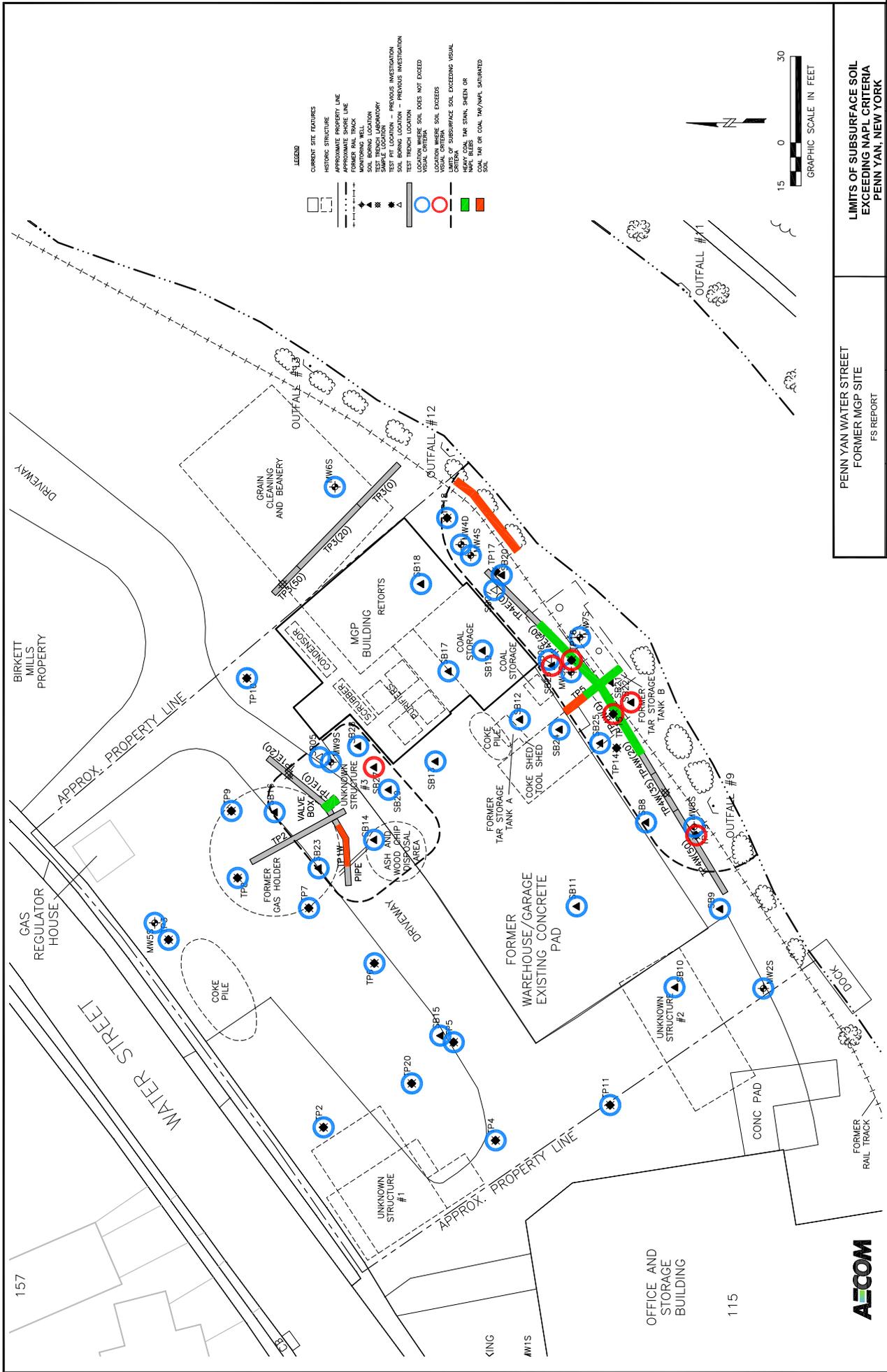


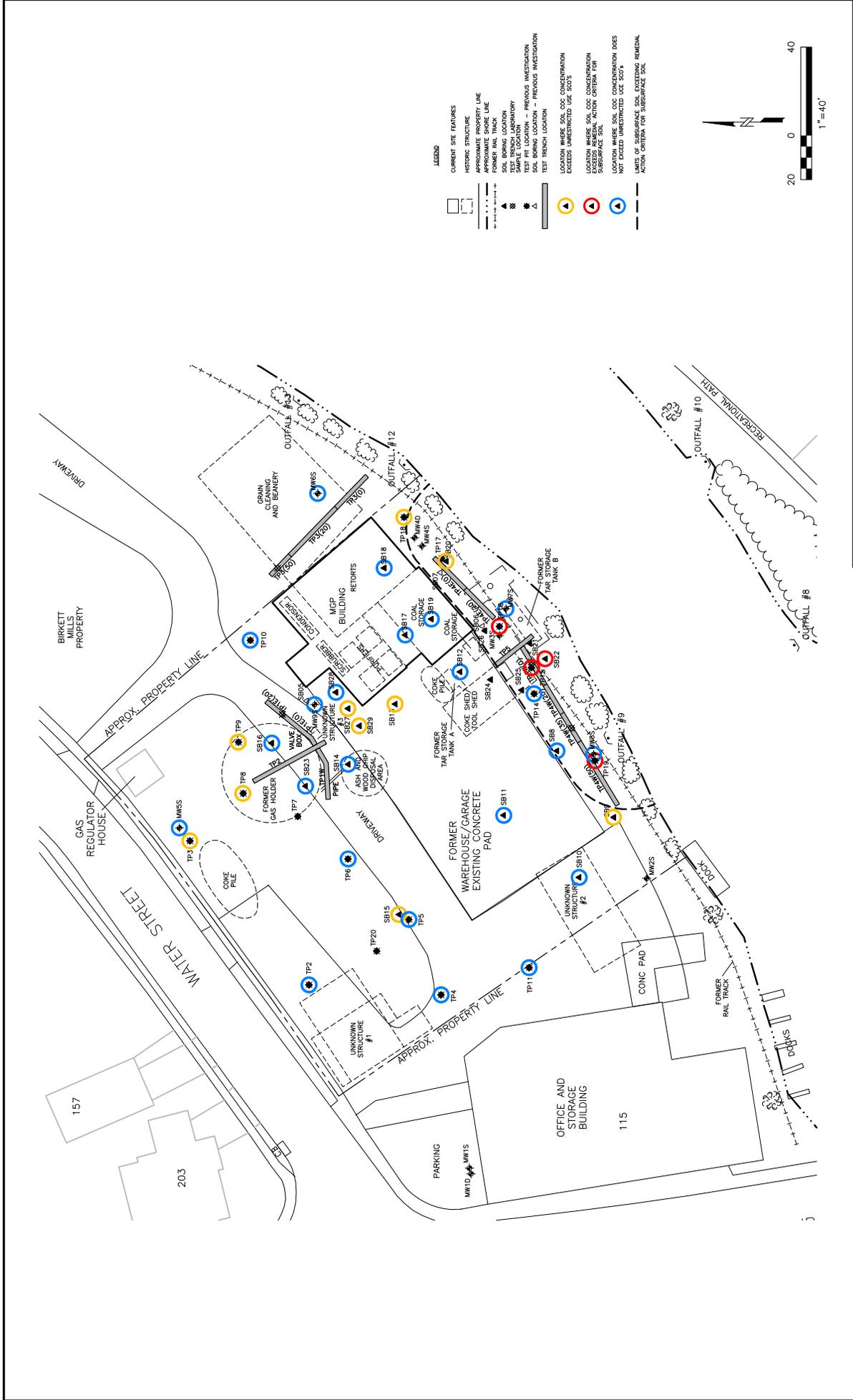
PENN YAN WATER STREET
FORMER MGP SITE

SITE LOCATION MAP

Figure 1

DATE: 05/14/10 DRWN: KPB





PENN YAN WATER STREET FORMER MGP SITE FS REPORT

LIMITS OF SUBSURFACE SOIL EXCEEDING REMEDIAL ACTION CRITERIA PENN YAN, NEW YORK

Figure 3

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

**NYSEG - Penn Yan Water St. MGP
Penn Yan, Yates County, New York
Site No. 862009**

The Proposed Remedial Action Plan (PRAP) for the Penn Yan Water St. MGP site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on August 28, 2012. The PRAP outlined the remedial measure proposed for the contaminated soil, sediment, and groundwater at the Penn Yan Water St. MGP site.

The release of the PRAP was announced by sending a notice to the public contact list, informing the public of the opportunity to comment on the proposed remedy.

A public meeting was held on September 10, 2012, which included a presentation of the remedial investigation and feasibility study (RI/FS) as well as a discussion of the proposed remedy. The meeting provided an opportunity for citizens to discuss their concerns, ask questions and comment on the proposed remedy. These comments have become part of the Administrative Record for this site. The public comment period for the PRAP ended on September 27, 2012.

This responsiveness summary responds to all questions and comments raised during the public comment period. The following are the comments received, with the Department's responses:

The following comments were received during the September 10, 2012 public meeting:

COMMENT 1: Does contamination end at the property line or is that just where you stopped sampling? Did you do more than a visual inspection on the other properties?

RESPONSE 1: Test pits, a soil boring, and a monitoring well were installed on the neighboring Birkett Mills property as part of the remedial investigation. No visible MGP-related impacts were observed in the test pits or soil borings. The soil samples and groundwater sample collected were non-detect (ND) for all contaminants of concern (COCs). Based on this information, it was concluded that MGP-related subsurface impacts end well before the property line. However, the hardened tar material seen on the surface along the shoreline may extend onto the Birkett Mills property. This will be assessed more fully during the pre-design investigation and addressed if identified.

COMMENT 2: We are going to be developing that property [Birkett Mills] between now and when you do your work. That southeast corner is our stormwater detention pond. If we find something there, should we be concerned about responsibility? We plan to remove the tree, make it pedestrian friendly. We plan to start this fall.

RESPONSE 2: There is no reason why development cannot go forward on the Birkett Mills property. The Department and NYSEG should be kept aware of plans to assure activities are coordinated, to the extent necessary.

COMMENT 3: What is the nature of the subaqueous cap?

RESPONSE 3: The alternative which included a subaqueous cap was only evaluated but not selected. The selected remedy does not include a subaqueous cap.

COMMENT 4: There are multi-municipal control gates in Keuka Lake Outlet. What precautions will be taken to avoid problems related to the water level control gates? The municipal gates have been upgraded. One section of the gates is very old, challenging to replace, but a deep concern. Contact Brent Bodine, Director of Public Works in Penn Yan.

RESPONSE 4: The Department will coordinate with the Keuka Lake Outlet Compact (KLOC), as well as DEC flood protection staff or other appropriate entities with regard to the Keuka Lake Outlet flood protection project.

COMMENT 5: I realize that groundwater contamination is not a big concern. How will you control contamination that could get into the stream and move downstream?

RESPONSE 5: To permit excavation of the impacted materials, the flow through the outlet will be diverted away from the excavation area. The exact nature of the water diversion structures will be determined during the remedial design. During installation of the diversion structures or any action likely to disturb contaminated sediments, sediment control measures (e.g., turbidity curtains) will be used to control migration of sediment downstream.

COMMENT 6: My concern is the designation of commercial vs. residential. I'd like to recommend allowing restricted-residential development in the future. Penn Yan has been dormant in downtown development. Our company is now doing development. We only get one shot at it. Once you chose it you chose it. I presume if we've waited for close to 20 years, then we'd have to get back in line with all the other sites.

RESPONSE 6: In response to this comment, the Department with the Department of Health conducted a further review of the data to evaluate allowable uses of this property under the current zoning designation of "Waterfront and Conservation District" as well as consulting with various local stakeholders relative to land use planning for this area. This review yielded that residential use could be permitted in this district. Consequently, the remedy has been revised to cite restricted-residential use clean-up criteria, as described in Part 375-1.8(g). Restricted-residential use is the land use category intended for apartments, condominiums, co-operative or other multi-family/common property control residential development. It also allows for active recreational uses (e.g., picnic areas, playgrounds) as well as commercial use and industrial use, although land use is subject to local zoning laws. The selected alternative thus allows for restricted residential use consistent with surrounding properties and with local zoning regulations.

While NYSEG owns the property, they will control its use in the future, however, restrictions on the future use of the plant site property have been established to be the least restrictive allowable for the site.

COMMENT 7: The site has settled. For example the door is halfway underground. If you were to remove one foot, you'd still have to excavate.

RESPONSE 7: Comment noted.

COMMENT 8: The fact sheet says you want to get started next year. Does that include all the time needed to get the permits? Some cleanups can take an entire construction season. How long will this one take?

RESPONSE 8: The design process, which will include obtaining all required permits, is estimated to take 8-12 months. Construction is estimated to take 4-6 months.

COMMENT 9: Have you ruled out contamination within the building? What about asbestos? How much in disrepair is that building?

RESPONSE 9: The gas house building is vacant and not currently habitable. Soil borings were installed in the subsurface under the building, and no MGP-related contamination was found. No further information regarding asbestos or the structural condition of the building was needed as part of the remedial investigation to assess the environmental conditions at the site. The continued stability of the building and any interior cleanup to allow reuse will be the responsibility of the site owner.

COMMENT 10: If there are residences in Birkett Mills, how noisy will it be? How inconvenient? The building is expected to be occupied by next year.

RESPONSE 10: Disruptions to the public and to nearby residences will be minimized to the extent practicable. However, the removal and off-site transportation of soils will require the use of heavy equipment, comparable to any ordinary construction site.

COMMENT 11: There is one concern over sheetpiling. The two white roofed buildings have timber frames. They are a structurally sound, but have low strength, the soils beneath the building. Please take this into consideration during the design phase.

RESPONSE 11: This will be taken into consideration during the design phase. The condition of sensitive structures can be documented pre- and post-construction, and monitored as determined appropriate during construction.

COMMENT 12: Will the sediment cleanup be impacted by winter weather?

RESPONSE 12: Construction efforts are always weather dependent to a certain degree. Work during the colder months of the year will help to minimize the potential for odors. Recreational use of the Keuka outlet will also be lower during the winter so there will be less disruption for recreational users. The work will be phased to minimize the impact of adverse weather, and minimize the duration of construction.

New York State Gas & Electric (NYSEG) submitted a letter dated September 27, 2012, which included the following comments:

COMMENT 13: Sections 7.2 and 7.3 describe the criteria for excavation of soil and aquatic sediments. The actual limits of excavation for soil and sediments will be refined on the basis of data obtained in a predesign investigation (PDI). Accordingly, NYSEG requests that this provision be documented in the Record of Decision (ROD).

RESPONSE 13: Section 7 of the ROD states that “a remedial design program will be implemented to provide the details necessary for the construction.” The Department agrees that a pre-design investigation will be used to help determine limits of excavation.

COMMENT 14: Section 7.2 of the PRAP identifies soil cleanup objectives (SCOs) for commercial use as the applied SCOs for soil in accordance with the current local property zoning. NYSEG believes that the commercial SCOs are appropriate for future land use. Third party interests have expressed the idea that the SCOs should be changed to restricted residential on speculation that the NYSEG owned parcel may someday be redeveloped for residential use or that the zoning of the parcel may change at some point in the future. In any case, NYSEG believes that cleaning up to commercial SCOs will not preclude future restricted residential use of the site. The principal difference between commercial and restricted residential requirements relates to the type of cover placed on the site. If the site is sold and redeveloped in the future, the future developer can install a site cover system of an additional foot of soil or other suitable material so that restricted residential property use can be allowed. This very same arrangement has been approved by NYSDEC at the RG&E Front Street Site. NYSEG contends that our MGP program budget should not be used to advance speculative site redevelopment projects.

RESPONSE 14: Existing regulations (see citation below) require the use of the “restricted residential” standards in this case, since it was determined that current zoning would allow this use.

NYCRR Part 375 -1.8(g), “Where the use of the site proposed for a remedial program does not conform with applicable zoning laws or maps or the reasonably anticipated future use of the site as determined by the Department, the Department shall not approve a remedy based on such non-conforming use (e.g., the Department cannot approve a cleanup to commercial uses for a property with residential zoning), unless it:

(i) is based on a cleanup level that would require a less restrictive use of the site than would be allowed based upon current zoning laws or maps (e.g., the Department may approve a cleanup to residential levels for a property which is zoned for commercial use); or

(ii) can be shown to the Department's satisfaction that zoning changes are or will be sought, in which event the Department will conditionally approve the remedy but will not issue a certificate of completion until such use is consistent with existing zoning laws or maps.”

Steve Griffin, CEO, Finger Lakes EDC, sent an email dated August 30, 2012, which included the following comment:

COMMENT 16: Is the plan to demolish and remove the actual building that sits on the property along with the sediment removal?

RESPONSE 16: The remedy does not require demolition of the gas works building. Language has been added to the ROD to clarify this.

Cliff Orr, Village of Penn Yan Planning Board, sent an email dated September 12, 2012, which included the following comment:

COMMENT 17: Because residential is a permitted use in our Waterfront District, we would, naturally, like to see the site remediated to these standards if at all practical.

RESPONSE 17: See Response No. 6.

Chris Iverson, Chrisantha, Inc., sent an email dated September 11, 2012, which included the following comment:

COMMENT 18: We strongly encourage you to go to the “restricted residential” cleanup standards, rather than “commercial standard”, as discussed last night.

RESPONSE 18: See Response No. 6.

APPENDIX B

Administrative Record

Administrative Record

**NYSEG - Penn Yan Water St. MGP
Penn Yan, Yates County, New York
Site No. 862009**

1. Proposed Remedial Action Plan for the Penn Yan Water St. MGP site, dated September 2012 prepared by the Department.
2. Order on Consent, Index No. DO-0002-9309, between the Department and NYSEG executed on March 30, 1994.
3. Investigation Report for the Penn Yan Gas Light Company Location, Penn Yan, New York. November 26, 1991, prepared by SLC Consultants/Constructors, Inc.
4. Summary Report, New York State Electric & Gas, Penn Yan, New York. March 1992, prepared by SLC Consultants/Constructors, Inc.
5. Task 3 Report. Supplemental Investigation of a Former Manufactured Gas Plant Site. Water Street, Penn Yan, New York, June 1994, prepared by Geraghty & Miller.
6. Remedial Investigation Report, Penn Yan Water Street MGP Site, Penn Yan, New York, NYSDEC Site No.: 8-62-009, Index # D0-000-9309, November 20, 2008, prepared by AECOM.
7. "Feasibility Study Report, Former Manufactured Gas Plant Site, Village of Penn Yan, Yates County, New York, NYSDEC Site No: # 8-62-009", June 2010, prepared by AECOM.
8. "Feasibility Study Addendum, Former Manufactured Gas Plant Site, Village of Penn Yan, Yates County, New York, NYSDEC Site No: # 8-62-009", March 2012, prepared by AECOM.