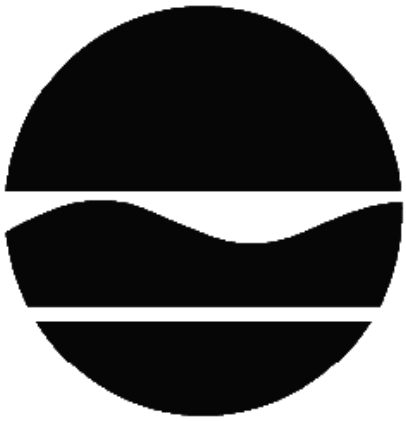
RECORD OF DECISION

NYSEG - Penn Yan Jackson St. MGP
Penn Yan, Yates County
Site No. 862008
March 2011



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

DECLARATION STATEMENT - RECORD OF DECISION

NYSEG - Penn Yan Jackson St. MGP
Penn Yan, Yates County
Site No. 862008
March 2011

Statement of Purpose and Basis

This document presents the remedy for the NYSEG - Penn Yan Jackson St. MGP 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 Jackson 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 site cover consisting of two storage buildings and thick, well-maintained turf currently exists and will be maintained to allow for the current use of the site. If the site is redeveloped in the future, an equivalent cover system will be established which will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). In areas where such a soil cover is required, it will consist of a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial 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).

2. Imposition of an institutional control in the form of an environmental easement that will: (a) requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3); (b) allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; (c) restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH; (d) prohibits agriculture

or vegetable gardens on the controlled property; and (e) requires compliance with the Department approved Site Management Plan.

3. 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 above.

Engineering Controls: Maintain existing site cover.

This plan would 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 for any 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 effectiveness of the remedy. The plan will include, but may not be limited to: (i) monitoring of groundwater to assess the performance and effectiveness of the remedy; (ii) a schedule of monitoring and frequency of submittals to the Department; and (iii) monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item a.iii. above.

4. NYSEG or any subsequent property owner will provide a periodic certification of institutional and engineering controls for the site, prepared and submitted by a professional engineer or such other expert, acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place, and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

New York State Department of Health Acceptance

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.

MAR 31 2011

Date

Dale A. Desnoyers, Director
Division of Environmental Remediation

RECORD OF DECISION

NYSEG - Penn Yan Jackson St. MGP
Penn Yan, Yates County
Site No. 862008
March 2011

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 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: SITE DESCRIPTION AND HISTORY

Location: The site encompasses approximately 0.7 acres on Linden Street (formerly known as Jackson Street) near the northern edge of the downtown business district in the Village of Penn Yan, Yates County.

Site Features: Most of the site is nearly flat, with a steep embankment dropping down to Jacobs Brook along the eastern property line. The site is covered by a thick layer of grass and populated with mature trees.

Current Zoning/Use(s): Land use transitions from residential to commercial in a southerly direction. The Yates County Correctional Facility adjoins the site to the south. Properties north, east, and west of the site are residential.

The property is currently zoned as “General Residential (R-2)” which is established for single, two-family and multi-family residential development. However, the actual use of the site by its current owner, New York State Electric and Gas (NYSEG), is nonconforming. A shed on the site is currently used for tool and equipment storage. NYSEG has indicated to NYSDEC that they will apply to have the property rezoned to reflect its actual usage.

Historical Use(s): The site was utilized as a manufactured gas plant (MGP) from 1860 to approximately 1903. Following the cessation of MGP operations at the site, the buildings which housed the MGP were demolished by 1909. The property subsequently was converted to residential use. NYSEG purchased the property, consisting of three separate parcels between 1936 and 1994. In 1994 NYSEG razed the dwelling, and currently only a privately owned garage and a NYSEG storage building occupy the site. NYSEG conducted a Task 1 Site Screening Investigation in 1991 and a Task 2 Site Investigation in 1993. During the Task 2 Investigation a small area containing purifier waste was observed and removed by hand. Subsequent soil sampling in that area showed no remaining contamination.

Site Geology and Hydrogeology: Below the grass cover, a layer of unsaturated fill material consisting of silt, sand, gravel, demolition debris, ash and cinder-like material covers most of the site. It appears that these materials were placed as the site was developed into residential property during the early 1900s. Consequently, the contaminants associated with the operation of the former gas plant on the site are not found in the fill materials.

Native soil below the fill is a dense, compacted glacial till of low to moderate permeability. Overall, the bulk composition of the till material consists of a fine-grained matrix with stones of varying sizes; however, portions of the till are less dense, and occasionally include coarse sand-size material. The wide range of values is reflective of the heterogeneity of till composition. The water table is found in the native soils, approximately 9 to 13 feet below the ground surface. As a result, the majority of fill material is unsaturated. Groundwater flows through till in an eastward direction toward Jacobs Brook and discharges into the brook. Surface water in Jacobs Brook flows south for approximately 1/2 mile to the confluence with the Keuka Lake Outlet.

A site location map is attached as Figure 1.

SECTION 3: 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 commercial use (which allows for industrial use) as described in Part 375-1.8(g) is/are being evaluated in addition to an alternative which would allow for unrestricted use of the site.

A comparison of the results of the investigation 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 4: 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 Consent Order on March 30, 1994 to investigate and, where necessary, remediate a group of 33 former manufactured gas plant sites statewide. The Jackson Street site is one of the sites included in the consent order. The Order obligates NYSEG to implement a full remedial program.

SECTION 5: SITE CONTAMINATION

5.1: 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.

5.1.1: 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

5.1.2: RI Information

The analytical data collected on this site includes data for:

- air
- groundwater
- surface water
- soil
- sediment
- indoor air

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:

benzene	toluene
benzo(a)pyrene	lead
benzo(b)fluoranthene	sodium
benzo[k]fluoranthene	manganese
chrysene	arsenic
coal tar	copper
dibenz[a,h]anthracene	mercury
xylene (mixed)	zinc
naphthalene	nickel
indeno(1,2,3-cd)pyrene	ethylbenzene
iron	cyanides(soluble cyanide salts)

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

- groundwater
- soil

5.2: 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.

5.3: 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 is not affected by this contamination. The site is covered with grass

but is not fenced, therefore, persons who enter the site could contact contaminants in the soil by digging or otherwise disturbing the soil. 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 there are no occupied buildings on the site, the inhalation of site-related contaminants due to soil vapor intrusion does not represent a current concern. Furthermore, environmental sampling indicates soil vapor intrusion is not a concern for off-site buildings.

5.4: 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 FWRIA and the environmental sampling results suggest constituent concentrations detected in site media pose a low risk to fish and wildlife. No adverse impacts to ecological resources were identified at the site. Burrowing animals could be exposed to constituents in shallow soil; however, constituent concentrations in shallow soil are not substantially elevated above guidance values.

Based on the findings of the RI, the past disposal of hazardous waste 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 VOCs and SVOCs.

All of the groundwater contaminants detected at the site are subject to decay by ordinary soil bacteria. Dissolved oxygen concentrations are sufficiently high to support the growth of these bacteria, and it appears that the degradation process is taking place.

No off-site migration of contaminated groundwater has been identified, and no such migration is likely to occur. Groundwater from the site discharges to Jacobs Brook on the eastern site boundary. No MGP related contaminants have been detected in the brook. Groundwater is not used for water supply in the area of the site.

Two compounds were detected in Jacobs Brook sediments at levels above the sediment criteria and above the background range of individual PAH compounds at one location in Jacobs Brook downstream from the site. This sediment sample location is adjacent to a storm sewer outfall. The compounds detected in this sample do not appear to be related to the MGP site.

SECTION 6: SUMMARY OF THE EVALUATION OF ALTERNATIVES

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 Exhibit B. 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 C. 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 D.

6.1: Evaluation of Remedial 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.

2. Compliance with New York State Standards, Criteria, and Guidance (SCGs). Compliance with SCGs addresses whether a remedy will 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.

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.

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.

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.

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.

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.

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 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 will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

6.2: Elements of the Remedy

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

The estimated present worth cost to implement the remedy is $402,000. The cost to construct the remedy is estimated to be $84,000 and the estimated average annual cost is $10,600.

The elements of the selected remedy are as follows:

1. A site cover consisting of two storage buildings and thick, well-maintained turf currently exists and will be maintained to allow for the current use of the site. If the site is redeveloped in the future, an equivalent cover system will be established which will consist either of the structures such as buildings, pavement, sidewalks comprising the site development or a soil

cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs). In areas where such a soil cover is required, it will consist of a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d) for commercial 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).

2. Imposition of an institutional control in the form of an environmental easement that will: (a) requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8(h)(3); (b) allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws; (c) restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the Department, NYSDOH or County DOH; (d) prohibits agriculture or vegetable gardens on the controlled property; and (e) requires compliance with the Department approved Site Management Plan.

3. 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 above.

Engineering Controls: Maintain existing site cover.

This plan would 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 for any 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 effectiveness of the remedy. The plan will include, but may not be limited to: (i) monitoring of groundwater to assess the performance and effectiveness of the remedy; (ii) a schedule of monitoring and frequency of submittals to the Department; and (iii) monitoring for vapor intrusion for any buildings occupied or developed on the site, as may be required pursuant to item a.iii. above.

4. NYSEG or any subsequent property owner will provide a periodic certification of institutional and engineering controls for the site, prepared and submitted by a professional engineer or such other expert, acceptable to the Department, until the Department notifies the property owner in writing that this certification is no longer needed. This submittal will: (a) contain certification that the institutional controls and engineering controls put in place are still in place, and are either unchanged from the previous certification or are compliant with Department-approved modifications; (b) allow the Department access to the site; and (c) state that nothing has occurred that would impair the ability of the control to protect public health or the environment, or constitute a violation or failure to comply with the site management plan unless otherwise approved by the Department.

Exhibit A

Waste/Source Areas

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). Investigations conducted at the site identified constituents of potential concern (COPCs) namely BTEX and PAHs in subsurface soil and groundwater above regulatory criteria. These constituents are typical of MGP sites. Waste/Source Areas in the form of coal tar saturated soil and /or non aqueous phase liquid (NAPL) were not detected at the site.

Groundwater

Bedrock was not encountered in the Remedial Investigation and all the monitoring wells were completed in overburden soils. Groundwater samples collected from each of the 8 monitoring wells were analyzed for TCL VOCs, TCL SVOCs, TAL metals and total cyanide. Analytical results for groundwater samples are summarized on Figure 4. VOCs associated with petroleum hydrocarbon compounds were detected above applicable groundwater standards in samples collected from monitoring wells MW-1 (upgradient edge of site), MW-3A (cross gradient to site), and well pair MW-4S (screened in shallow overburden soils) and MW-4D (screened in deeper overburden soils).

Figure 4 identifies sample locations where benzene and SVOCs were detected above groundwater standards. PAHs were detected above groundwater standards in three samples: MW-5 and MW-4S, MW-4D. The MW-4S and MW-4D well pair is located adjacent to two former structures labeled “Refuse Wells” on the former MGP site plans. The function of these “Refuse Wells” is not known. Consistent with VOC results, the highest concentrations were detected in sample MW-4S; seven individual PAH compounds were detected above groundwater standards. Naphthalene was the only PAH detected at a concentration above the groundwater standard in MW-4D. The concentration in MW-4D was approximately 100 times lower than the concentration detected in the shallow well. Four individual PAH compounds were detected in MW-5 at concentrations marginally above standards.

The majority of samples contained iron, manganese, and sodium at concentrations above groundwater standards. The samples are unfiltered and the analysis is sensitive to suspended solids in the sample. These metals at the detected concentrations are common in unfiltered groundwater samples collected from glacial soils and since they are naturally occurring in the groundwater will not be reported in the table.

Total cyanide was detected marginally above groundwater standards in samples analyzed from wells MW-1 and MW-4S. The highest concentrations were detected at well MW-4S located downgradient from the former Refuse Wells and MGP buildings. The groundwater impacts were substantially less in the deeper well at that location (MW-4D) indicating groundwater impacts near the Brook are limited primarily to the upper 20 to 30 feet of the saturated zone.

The presence of benzene in MW-1 (upgradient) and MW-3A (cross-gradient) suggests the presence of an off-site source of that compound that may be contributing in part to the benzene concentrations detected in on-site wells.

Dissolved oxygen concentrations are sufficiently high to indicate biodegradation of aromatic hydrocarbon compounds in groundwater is likely occurring. Groundwater is not used for water supply in the area of the

site, and off-site migration of groundwater is not expected to occur. Surface water adjacent to the site contains no detected

concentrations of VOCs or SVOCs, indicating no surface water impact by groundwater COCs. Figure 4 shows the groundwater contour map and the direction of groundwater flow. Table #1 shows the exceedances of groundwater SCGs. Based on the findings of the RI, the past disposal of hazardous waste 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 VOCs and SVOCs.
See section 6.4 for a further discussion of groundwater impacts.

Table # 1 Groundwater

	Constituents of Concern	Concentration Range Detected (ppb)[a]	SCG (ppb)b	Frequency Exceeding SCG
VOCs	Benzene	ND[c] - 960	1	4 of 8
	Toluene	ND - 88	5	1 of 8
	Total Xylenes	ND - 720	5	2 of 8
SVOCs	Benzo(a)anthracene	0.3 - 0.8	0.002	2 of 8
	Benzo(b)fluoranthene	ND - 0.7	0.002	2 of 8
	Benzo(k)fluoranthene	ND - 0.2	0.002	1 of 8
	Benzo(a)pyrene	ND - 0.8	0.002	1 of 8
	Chrysene	ND - 0.4	0.002	2 of 8
	Indeno(1,2,3-cd)pyrene	ND - 0.5	0.002	2 of 8
	Naphthalene	ND - 3200	10	2 of 8
Inorganic Compounds	Cyanide, Total	ND - 276	200	2 of 8

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).
c- ND: not detected

Surface Soil

Surface soil samples were collected from a depth of 0-2 inches to assess direct human exposure. Surface soil sampling locations and results are shown on Figures 5 and 6. Surface soil samples collected during the RI were analyzed for TCL SVOCs, TAL metals and total cyanide. With the exception of DSS10, analyses of each surface soil sample detected two or more individual PAH compounds at concentrations above unrestricted use SCOs. Comparison to commercial use SCOs indicates only benzo(a)pyrene and benzo(a)anthracene were present in some samples at concentrations above this SCO. The highest total PAH compound concentration in a discrete soil sample was detected at DSS2 (73.6 mg/kg), which was collected from a location near the southern site boundary, within 10 feet of the asphalt paved parking lot for the Yates County Correctional Facility. The spatial distribution of SVOCs shows no relation to MGP operations. Figure 6 identifies sample locations where PAHs were detected above unrestricted use SCOs.

Lead and mercury were detected above unrestricted use SCOs in each of the 11 surface soil samples. Zinc was detected above the unrestricted use SCO in all samples except DSS3. Copper and arsenic were also

detected above unrestricted use SCOs in one or more samples. However, with the exception of arsenic atDSS2, none of the samples contained metals at concentrations above the commercial use SCOs. The highest metals concentrations were detected in sample DSS2. The spatial distribution of metals shows no relation to MGP operations. Figure 5 identifies sample locations where metals were detected above unrestricted use SCOs. Total cyanide was not detected above Unrestricted Use SCOs in any surface soil samples.

Supplemental surface soil samples were collected from six locations for TCL SVOCs and TAL metals including total cyanide which represent background soil locations. Constituent concentrations detected in the on-site surface soil samples are similar to those in the background surface soil samples. Table # 2 shows the exceedances of surface soil SCGs. The levels of contaminants detected are not indicative of site-related contamination and, based on an assessment of background soil quality, on-site conditions are consistent with background conditions. Therefore, as no site-related surface soil contamination was identified, no remedial alternatives, other than maintaining the existing grass cover ,need to be evaluated for surface soil.

Table # 2 Surface Soil

Constituents of Concern	Concentration Range Detected (ppm)[a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Commercial SCG[c] (ppm)	Frequency Exceeding Restricted SCG
On-Site Surface Soil					
SVOCs					
Benzo(a)anthracene	0.56 - 7.5	1	12 of 15	5.6	1 of 15
Benzo(b)fluoranthene	0.89 - 13	1	12 of 15	5.6	0 of 15
Benzo(k)fluoranthene	ND[d] - 1.8	0.8	5 of 15	56	0 of 15
Benzo(a)pyrene	0.58 - 8.2	1	12 of 15	1	12 of 15
Chrysene	0.53 - 6.9	1	11 of 15	56	0 of 15
Dibenzo(a,h)anthracene	ND - 1.9	0.33	11 of 15	0.56	0 of 15
Indeno(1,2,3-cd)pyrene	0.38 - 5.6	0.5	14 of 15	5.6	0 of 15
Inorganics					
Arsenic	3.2 - 21.2	13	2 of 11	16	1 of 11
Copper	14.5 - 59.5	50	2 of 11	270	0 of 11
Lead	138 - 780	63	11 of 11	1,000	0 of 11
Mercury	0.193 - 0.959	0.18	11 of 11	2.8	0 of 11
Zinc	80.4 - 419	109	10 of 11	10,000	0 of 11
Background Surface Soil					
SVOCs					
Benzo(a)anthracene	0.71 - 2.4	1	1 of 3	5.6	0 of 3

Benzo(b)fluoranthene	0.9 - 3	1	2 of 3	5.6	0 of 3
Benzo(k)fluoranthene	0.33 - 1.3	0.8	1 of 3	56	0 of 3
Benzo(a)pyrene	0.77 - 2.8	1	2 of 3	1	2 of 3
Chrysene	0.81 - 2.6	1	1 of 3	56	0 of 3
Dibenzo(a,h)anthracene	0.16 - 0.62	0.33	1 of 3	0.56	1 of 3
Indeno(1,2,3-cd)pyrene	0.52 - 5.6	0.5	3 of 3	5.6	1 of 3
Inorganics					
Lead	76.4 - 263	63	3 of 3	1,000	0 of 3
Mercury	0.114 - 0.264	0.18	2 of 3	2.8	0 of 3
Nickel	17.6 - 49.2	30	1 of 3	310	0 of 3
Zinc	72.4 - 275	109	2 of 3	10,000	0 of 3

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 Commercial Soil Cleanup Objectives.
d- ND: not detected

Subsurface Soil

Subsurface soil sampling locations and results are shown on Figures 7 and 8. Subsurface soil samples collected from borings and test pits during the RI were analyzed for MGP constituents of concern (BTEX, PAH compounds, and total cyanide). Visible coal tar was not observed in any of the subsurface soil samples. Possible MGP impacts (heavy staining and sheen) were observed at one boring location at a depth of 15 feet. Chemical impacts in soil were primarily BTEX and, to a lesser degree, PAH compounds in the area of the gas holder foundation and former MGP buildings and structures. Individual VOCs exceeded their respective unrestricted use SCOs at several locations; none of the soil samples exceeded the commercial use SCOs. Similarly, while individual PAHs exceeded their respective unrestricted use SCOs at five on-site boring locations, the SCG of 500 mg/kg for PAHs was not exceeded at any on-site or off-site location samples taken during the RI, and the number of individual PAHs present above commercial use SCOs was limited to five compounds.

Soil samples collected from off-site locations (MW-2 {9.2 – 10.8 feet}, MW-3A {24 – 26 feet} and MW-5 {18 – 22 feet}) were not elevated with respect to Unrestricted Use SCOs. Figure 8 identifies sample locations where PAHs were detected above unrestricted use SCOs. Detections of BTEX above Unrestricted Use SCOs are shown on Figure 7.

Total cyanide was not detected above Unrestricted Use SCOs in any of the subsurface soil samples. Table # 3 shows the exceedances of subsurface soil SCGs. Based on the findings of the Remedial Investigation, the past disposal of hazardous waste has resulted in the contamination of subsurface 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 VOCs and SVOCs.

Table # 3 Subsurface Soil					
Constituents of Concern	**Concentration Range Detected (ppm)[a]**	**Unrestricted Use SCG[b] (ppm)**	**Frequency Exceeding Unrestricted SCG**	**Commercial Use SCG[c]**	**Frequency Exceeding Restricted SCG**
VOCs					
Benzene	ND[d] - 22	0.06	11 of 27	44	0 of 27
Ethylbenzene	ND - 2.6	1	2 of 27	390	0 of 27
Total Xylenes	ND - 5.8	0.26	5 of 27	500	0 of 27
SVOCs					
Benzo(a)anthracene	ND - 9.4	1	7 of 31	5.6	4 of 31
Benzo(b)fluoranthene	ND - 18	1	8 of 31	5.6	4 of 31
Benzo(a)pyrene	ND - 12	1	8 of 31	1	8 of 31
Chrysene	ND - 9.2	1	8 of 31	56	0 of 31
Dibenz(a,h)anthracene	0.11 - 2.5	0.33	1 of 31	.56	1of 31
Indeno(1,2,3-cd)pyrene	ND - 7.5	0.5	8 of 31	5.6	1of 31
Naphthalene	ND - 19	12	2 of 31	500	0 of 31

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 Commercial Use, unless otherwise noted.
d- ND: not detected

Surface Water

Surface water samples were collected upstream, directly across from the site and downstream from the site and analyzed for TCL VOCs, TCL SVOCs, TAL metals and total cyanide. VOCs, SVOCs, and total cyanide were not detected in surface water samples. Detected metals concentrations were similar in each of the four samples analyzed, indicating these are naturally occurring or not site related in this surface water. Iron concentrations were detected above surface water criteria in each of the four samples. No site-related surface water contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for surface water.

Sediments

Sediment samples were collected adjacent to, as well as upstream and downstream from the site in Jacobs Brook. Eight samples collected upstream of the site representing background conditions were analyzed for PAHs and TAL metals. One sediment samples collected immediately upstream from the site, two from adjacent to the site and one downstream from the site were analyzed for TCL VOCs, TCL SVOCs, TAL metals and total cyanide.

Several individual PAH compounds were detected in background sediment samples and some at concentrations above sediment criteria. The range of total PAH concentrations was 0.44 to 30.0 mg/kg. The NYSDEC sediment criterion for the lowest effect level for total PAHs is 4 mg/kg. Nickel was the only metal detected in background samples above sediment criteria. Background sediment sample results indicate point source discharges from numerous storm sewer discharge outfall pipe affect sediment quality in Jacobs Brook. VOCs were not detected in any of the sediment samples. SVOCs, metals, and total

cyanide were not detected above sediment criteria in the two samples collected from sediment adjacent to the site. Two compounds were detected in Jacobs Brook sediments at levels above the sediment criteria and above the background range of individual PAH compounds at the downstream location . This downstream location is adjacent to a storm sewer outfall that receives drainage from an asphalt paved parking area. The compounds detected in this sample do not appear to be related to the MGP site.

The detected concentrations in samples collected adjacent to and downstream from the site were within the range of PAHs detected in the upstream samples (background). The majority of sediment samples are dominated by concentrations of pyrene, benzo(b)fluoranthene, chrysene, and fluoranthene and are fairly diverse with respect to the relative concentrations. MGP impacts in soils exhibit a more consistent pattern and are generally dominated by concentrations of naphthalene, phenanthrene, anthracene, and fluoranthene. The comparison of sediment sample
PAH fingerprints and PAH fingerprints of MPG impacted soil show no discernable influence on the PAH chemistry of downstream sediment samples from on-site PAHs. No site-related sediment contamination of concern was identified during the RI/FS. Therefore, no remedial alternatives need to be evaluated for sediment.

Table # 5 Sediments

	Constituentsof Concern	ConcentrationRange Detected (ppm)[a]	SCG (ppm)[b]	FrequencyExceeding SCG
Sediments				
SVOCs	Benzo(b)fluoranthene	0.35 - 4.6	1.3	1 of 3
	Benzo(k)fluoranthene	0.11 - 4.9	1.3	1 of 3
	Benzo(a)pyrene	0.22 - 2.6	1.3	1 of 3
	Chrysene	0.2 - 2.7	1.3	1 of 3
	Dibenzo(a,h)anthracene	0.044 - 0.49	0.0634	1 of 3
	Total PAHs	1.97 - 34.72	4	1 of 3
	Copper	7.1 - 23.4	16	1 of 3
	Nickel	6.8 - 17.7	16	1 of 3
SVOCs	Benzo(b)fluoranthene	0.11 - 5	1.3	1 of 8
SVOCs Inorganic Compounds Inorganic Compounds	Benzo(a)pyrene	0.059 - 2.5	1.3	1 of 8
	Chrysene	0.57 - 3.1	1.3	1 of 8
	Dibenzo(a,h)anthracene	0.014 - 0.66	0.0634	7 of 8
	Total PAHs	0.441 - 30.6	4	5 of 8
	Copper	13.3 - 25.3	16	4 of 8
	Lead	11.7 - 34.7	31	1 of 8
	Manganese	286 - 386	460	2 of 8
	Nickel	6.8 - 17.7	16	1 of 8
	Zinc	53.8 - 139	120	1 of 8

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."

Soil Vapor Intrusion

Due to the presence of MGP- related contamination in the soil and groundwater, there is a potential for on-site soil vapor contamination. There is also a potential for people to come into contact with this contamination due to soil vapor intrusion if the use of the on-site buildings change or if new buildings are constructed on-site. Therefore the remedy selection process will address the potential for on-site soil vapor intrusion.

The evaluation of the potential for off-site soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of indoor air and crawl space air in the adjacent Linden St. residence and one outdoor ambient air sample. No sub-slab soil vapor samples were collected because the crawl space and cellar have dirt floors. Based on the concentration detected, , no site-related indoor air or crawl space air contamination of concern was identified during the RI. Therefore, no additional off-site sampling is necessary.

Exhibit B

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 objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil

RAOs for Public Health Protection

- Prevent ingestion/direct contact with contaminated 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.

Exhibit C

Description of Remedial Alternatives

Soil Remedial Alternatives

Soil Alternative 1: No Action

Under the no action alternative, no remedial activities would be conducted at the site. There is no cost associated with the no action soil alternative.

Soil Alternative 2: Institutional Controls and Site Management

Contamination at the site is currently isolated from contact with human and ecological receptors. The goal of Alternative 2 is to maintain this isolation through institutional controls. The current site cover, consisting of two storage buildings and thick, well-maintained turf will be maintained to allow the current use of the site to continue. A groundwater use restriction will be imposed to prohibit the use of groundwater on the site without proper treatment. Use of the site for agriculture or vegetable gardens would be prohibited. Restrictions on the handling and disposal of soils generated by any future excavation work will be established, along with requirements to re-establish an acceptable soil cover.

The institutional control (in the form of an environmental easement) will preclude site development for unrestricted residential use. If the site is redeveloped for some other use in the future, an equivalent cover system will be established so as to maintain the isolation of site contaminants from human or ecological contact.

A site management plan (SMP) will be prepared to detail the steps and requirements necessary to assure the easement remains in place and effective. NYSEG or any subsequent property owner will provide a periodic certification that the environmental easement remains in force, and that the existing site cover either remains in place, or has been replaced in accordance with NYSDEC-approved modifications.

Present Worth:..... *$138,000*
Capital Cost:..... *$42,000*
Annual Costs:..... *$96,000*

Soil Alternative 3: Restoration to Pre-Disposal or Unrestricted Conditions

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and meets the unrestricted soil cleanup objectives listed in Part 375-6.8(a). This alternative includes the excavation and removal of soil containing COCs above Part 375 Unrestricted Use SCOs. Under this alternative, all of the historic fill material (estimated to include the upper 6 to 15 feet of soil/fill, including the entire bank of Jacobs Brook) as well as deeper soils containing COCs at concentrations above Part 375 Unrestricted Use SCOs would be removed. Excavating deep soils along site boundaries would necessitate sheet pile installation around portions of the Site perimeter. Erosion control, development of a Storm Water Pollution Prevention Plan (SWPP), and other regulatory requirements (e.g., community air monitoring plan) would be necessary as part of the detailed design of this alternative.

This alternative entails excavation of approximately 10,000 cubic yards (cy) of soil for off-site disposal. Actual excavation limits would be determined by completion of a pre-design sampling investigation. The remedy will not rely on institutional or engineering controls to prevent future exposure. There is no Site Management, no restrictions, and no periodic review. This remedy will have no annual cost, only the capital cost.

Capital Cost:..... $4,485,000

Groundwater Remedial Alternatives

Groundwater Alternative 1: No Action

Under this alternative, no active remedial activities would be conducted. There is no cost associated with the no action groundwater alternative.

Groundwater Alternative 2: Institutional Controls and Site Management

An institutional control in the form of an environmental easement will be established for the parcel to preclude site development for residential use and a groundwater use prohibition. This remedy will have no annual cost, only the capital cost.

Capital Cost:..... $30,000

Groundwater Alternative 3: Groundwater Monitoring With Site Management

Groundwater alternative 3 relies on naturally occurring chemical, biological, and/or physical processes to degrade MGP related COCs in groundwater. These processes would continue to reduce the toxicity, mobility, and mass of dissolved phase MGP constituents in groundwater. A groundwater monitoring program would be developed for the site to monitor on-site and off-site groundwater quality. The monitoring program would assess groundwater flow direction and monitor concentrations of COCs in groundwater. No new monitoring wells are required under this alternative. Institutional controls as described above for Alternative GW-2 would also be included in Alternative GW-3.

Present Worth:..... $264,000
Capital Cost:..... $42,000
Annual Costs:..... $222,000

Exhibit D

Remedial Alternative Costs

Remedial Alternative	Capital Cost ($)	Annual Costs ($)	Total Present Worth ($)
Subsurface Soil Alternatives			
S-1:Soil No Action	0	0	0
S-2: Soil IC and Site Management	42,000	96,000	138,000
S-3: Restoration to pre-disposal conditions	4,485,000	0	0
Groundwater Alternatives			
GW-1: No Action	0	0	0
GW-2: IC and Site Management	30,000	0	0
GW-3: Groundwater Monitoring with Site Management	42,000	222,000	264,000

Note: Annual Costs include OM&M costs estimated over 30 years and presented on a present worth basis.

Exhibit E

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Soil Remediation Alternative S-2 and Groundwater Remediation Alternative GW-3, as the remedy for this site. The elements of this remedy are described in Section 7.2

Basis for Selection

The proposed remedy is based on the results of the RI and the evaluation of alternatives.

Soil Alternative S-2 (ICs and Site Management) combined with Groundwater Alternative GW-3 (Groundwater Monitoring with Site Management) are being proposed because, as described below, they satisfy the threshold criteria and provides the best balance of the balancing criteria described in Section 7.1. This remedy would achieve the remediation goals for the site by the implementation of a Site Management Plan that would: restrict groundwater usage, maintain the existing site cover, provide procedures for handling residual contaminated soils and groundwater that may result from excavation at the site and evaluate the potential for soil vapor intrusion should any building be developed at the site, including the provision to implement actions (e.g. mitigation or monitoring) recommended to address exposures related to soil vapor intrusion. A groundwater monitoring program would be implemented to monitor on-site and off-site groundwater quality. An environmental easement would be established for the property to preclude site development for any residential use.

Soil

Three soil remediation alternatives were described in Exhibit C:

- S-1 No Action
- S-2 Institutional Controls and Site Management
- S-3 Restoration to Pre-Disposal or Unrestricted Conditions

These alternatives are compared below.

Overall Protection of Human Health and the Environment: Alternative S-1 is inadequate with respect to long term protection of human health and the environment. With proper maintenance as would be required by the environmental easement and associated SMP, Alternative S-2 would be protective of human health and the environment.

With respect to overall protection of human health and the environment, the only potentially substantive benefit associated with Alternative S-3 over Alternative S-2 is the potential for acceleration of the remediation of groundwater as a result of removal of COCs from the saturated zone. The RI showed that COCs present in soils at the site have not likely resulted in off-site impacts to groundwater. Therefore, it is unlikely these soils represent a continuing source of potential off-site groundwater impacts.

Compliance with SCGs: All soil alternatives evaluated generally comply with applicable location specific and action specific SCGs listed in Tables 2B and 2C. Alternatives S-1and S-2 would not meet chemical-specific SCGs until natural attenuation processes had reduced concentrations of COCs to the identified

levels, which would occur over time. Chemical-specific SCGs pertaining to waste characterization would be met for all soils to be disposed off-site. Alternative S-3 would comply with chemical specific SCGs by removing all historic fill and deeper soil.

Long-Term Effectiveness: As discussed in Section 6.2, Alternative S-1 cannot be considered to be effective over the long term. The long term effectiveness of Alternative S-2 could be achieved through use of institutional controls and the SMP. The ICs and SMP would control any subsurface construction work performed at the site in that it would specify safety measures to prevent worker exposure and procedures for proper soil handling/disposal and excavation. Alternative S-3 is effective in eliminating exposure to COCs

Reduction of Toxicity, Mobility, or Volume: Alternatives S-3 would reduce the volume of historic fill and MGP impacts at the site through removal and off-site disposal at a permitted facility. However, if an off-site source is contributing to on-site concentrations of benzene, removal of the historic fill and MGP impacts would reduce only part of the source volume. Alternatives S-1 and S-2 would not immediately reduce toxicity, mobility or volume of contamination except as results from the ongoing natural attenuation processes at the site.

Short-Term Effectiveness: Alternatives S-1 and S-2 would both be effective over the short term since the existing grass and sod cover prevents exposure to site soils and these alternatives do not involve any construction activities.

Alternative S-3 presents short-term concerns associated with the uncovering and handling of impacted soils. It would also involve a high degree of community disruption including closing Linden Street to pedestrian traffic and temporary closing of Linden Street to vehicular traffic to accommodate the truck traffic required to implement the alternative. Alternative S-3 would also require management of up to 1,600 trucks (for removal of site soil and replacement with off-site soil) on a site that would be nearly entirely excavated. Short term nuisance issues associated with traffic, off-site staging of trucks, vibration (during sheet pile installation), noise and odors would be unavoidable and would last approximately three months. The short-term impacts associated with S-3 would result in significant community disruption.

Implementability: Truck staging and traffic associated with Alternative S-3 also represents a concern with respect to safety, associated with this large an increase in truck traffic in an area unaccustomed to such traffic are considerable and not entirely avoidable.

Groundwater

Three groundwater remediation alternatives were evaluated in Exhibit C:

- Alternative GW-1 – No Further Action
- Alternative GW-2 – Institutional Controls and Site Management
- Alternative GW-3 – Groundwater Monitoring with Site Management

Overall Protection of Human Health and the Environment: In the absence of institutional controls to restrict groundwater use and minimize on-site exposures should excavations below the water table be performed in the future, GW-1 would not be protective of human health and the environment. GW-2 provides a mechanism to protect human health and the environment from exposure to impacted

groundwater. Institutional controls would prevent on-site groundwater use and minimize any exposure during future excavation activities that occur below the water table. Alternative GW-3, in addition to having institutional controls, would provide for long-term groundwater monitoring to confirm reduction of COCs in on-site and off-site groundwater.

Compliance with SCGs: Natural attenuation processes would continue to prevent off-site exceedance of SCGs under all three alternatives. In addition, for all three alternatives the natural attenuation processes may eventually attain chemical specific SCGs at the site. Alternative GW-3 would provide long-term monitoring to track progress toward attaining SCGs at the site.

Long-Term Effectiveness: Lacking institutional controls, GW-1 would not prevent future exposure to COCs in on-site groundwater. Alternative GW-2 provides institutional controls to prevent exposure to COCs in on-site groundwater. Alternative GW-3 provides institutional controls to prevent exposure to COCs in on-site groundwater and also provides long- term monitoring to confirm reduction of COCs in on-site and off-site groundwater.

Reduction of Toxicity, Mobility, or Volume: All three alternatives would reduce toxicity, mobility or volume of contamination as a result of the ongoing natural attenuation processes at the site.

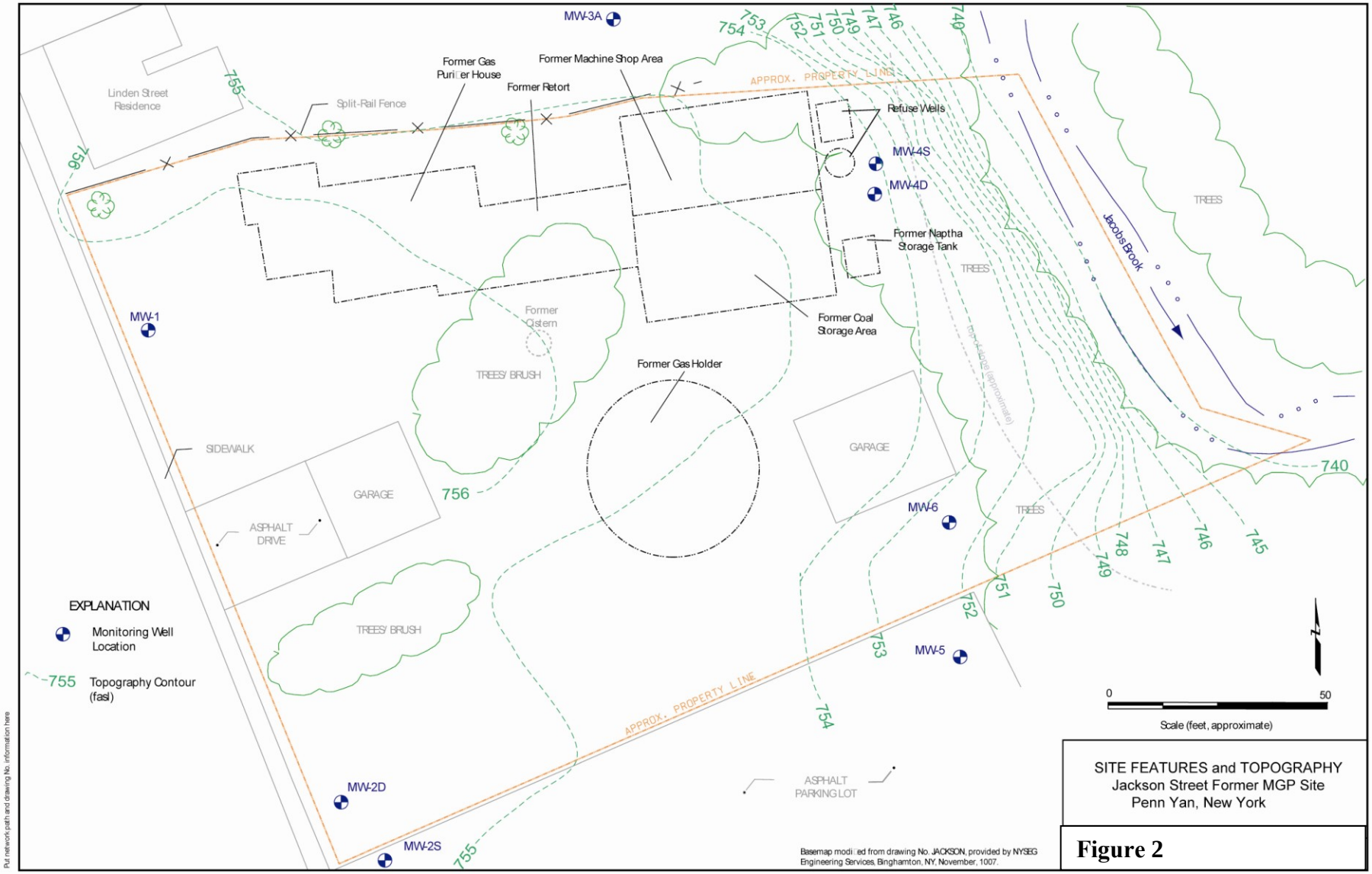
Short-Term Effectiveness: Since impacted groundwater has not migrated off-site and is not used on-site or by local residents and commercial businesses (municipal water is used by nearby residents and businesses), over the short term all three alternatives may be considered protective of the public and the environment.

Implementability: There are no significant implementability concerns with any of the three groundwater remediation alternatives.

N

AERIAL PHOTOGRAPH
Jackson Street Former MGP Site
Penn Yan, New York

Figure 1 Site Location


MW-3A
Former Gas Purifier House
Former Machine Shop Area
Former Retort
APPROX. PROPERTY LINE
Linden Street Residence
Split-Rail Fence
Refuse Wells
MW-4S
MW-4D
Former Naptha Storage Tank
Jacobs Brook
TREES
Former Coal Storage Area
MW-1
Former Cistern
TREES/ BRUSH
Former Gas Holder
SIDEWALK
GARAGE
ASPHALT DRIVE
MW-6
MW-5
MW-2D
MW-2S
ASPHALT PARKING LOT
EXPLANATION
Monitoring Well Location
755 Topography Contour (fasl)
0
50
Scale (feet, approximate)
N
SITE FEATURES and TOPOGRAPHY
Jackson Street Former MGP Site
Penn Yan, New York
Figure 2
Basemap modified from drawing No. JACKSON, provided by NYSEG Engineering Services, Binghamton, NY, November, 1007.
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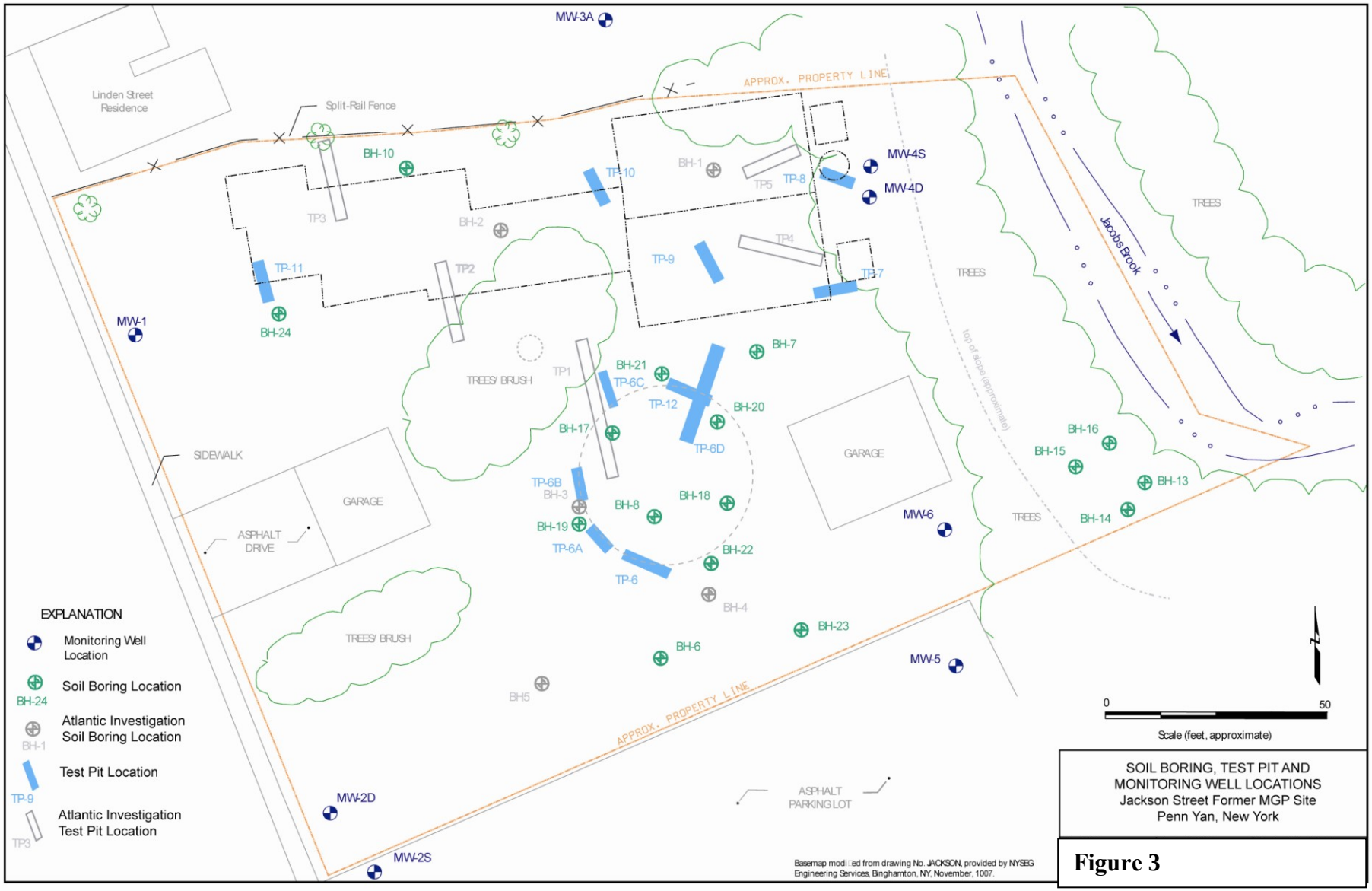
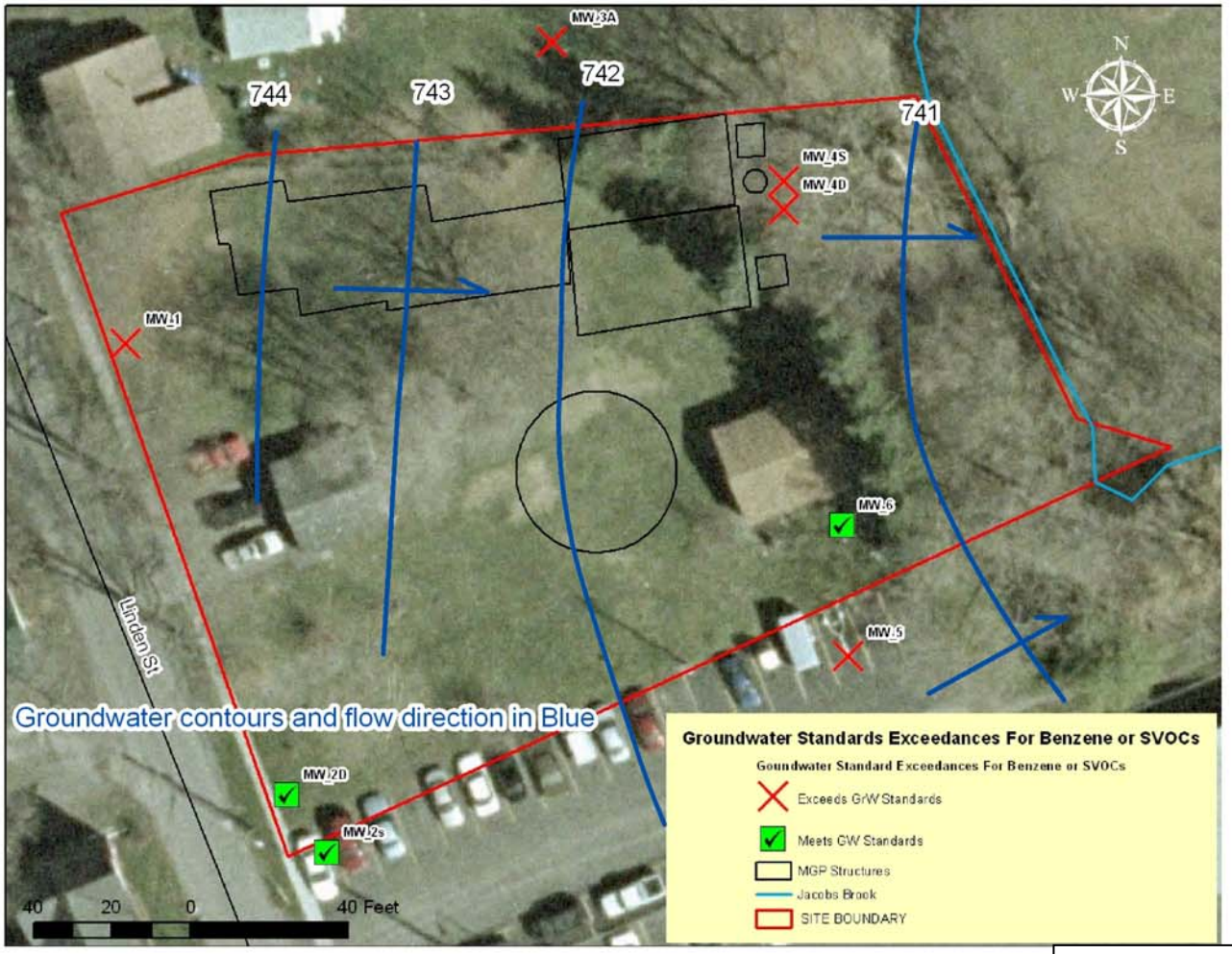


SOIL BORING, TEST PIT AND MONITORING WELL LOCATIONS
Jackson Street Former MGP Site
Penn Yan, New York

Figure 3


MW_3A
744
743
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741
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MW_4S
MW_4D
MW_1
MW_6
MW_5
Linden St
Groundwater contours and flow direction in Blue
MW_2D
MW_2s
40
20
0
40 Feet
Groundwater Standards Exceedances For Benzene or SVOCs
Goundwater Standard Exceedances For Benzene or SVOCs
Exceeds GrW Standards
Meets GW Standards
MGP Structures
Jacobs Brook
SITE BOUNDARY

Figure 4

Figure 5
Penn Yan MGP Site

Figure 6
Penn Yan MGP Site

Figure 7
Penn Yan MGP Site

Figure 8
Penn Yan MGP Site

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

NYSEG - Penn Yan Jackson St. MGP
Penn Yan, Yates County, New York
Site No. 862008

The Proposed Remedial Action Plan (PRAP) for the Penn Yan Jackson 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 February 22, 2011. The PRAP outlined the remedial measure proposed for the contaminated soil and groundwater at the Penn Yan Jackson 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 March 3, 2011 which included a presentation of the remedial investigation feasibility study (RI/FS) for the Penn Yan Jackson St. MGP site 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 March 25, 2011.

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:

COMMENT 1: How do you explain that many of the test results exceeded residential standards closer to the road? Is this typical groundwater migration?

RESPONSE 1: The results closer to the road were in surface soil, and are not related to the movement of groundwater. These are soils which were emplaced after the MGP ceased operations, and we have determined that these exceedances are not related to the Jackson Street MGP. Noteworthy is that runoff from paved parking lots may contains metals and PAHs.

COMMENT 2: My concern is about the materials and accumulation of potential hazards over time, from the 1860s -1900s. What risks are there to contaminant exposure?

RESPONSE 2: Where any elevated levels of subsurface soil contamination occur it is a minimum of 8 feet below ground surface so there is no risk of being exposed to the contamination unless excavation occurs. The remedy includes a site management plan to control the excavation, handling, and disposal of soils if excavation should occur in order to prevent future exposure. In the case of groundwater, the area is served by the public water supply and groundwater is not used for drinking water. The remedy includes a groundwater use restriction to prevent use of any untreated groundwater at the site. In the event of excavation or other redevelopment, the site management plan identifies controls related to the handling of groundwater that may seep into any excavation. With regard to surface soil, the remedy prevents exposure to contaminants in surface soil by maintaining the turf cover. It is difficult to speak to past exposure issues since we cannot evaluate who and what

has been exposed in the past. Based on the proposed remedial actions, there will be no existing exposure pathways, therefore, no public health risk.

COMMENT 3: Other than natural flow of groundwater, is there a chance of contamination on the other side of the Linden Street?

RESPONSE 3: There is no MGP-related contamination exposed on the ground surface, so transport of surface contaminants is not an issue. In the subsurface, any contamination would move in the same direction as groundwater flow, away from Linden Street.

COMMENT 4: If groundwater flows to Jacob's Brook, how come you didn't find it there?

RESPONSE 4: Groundwater discharges to Jacob's Brook as it leaves the site. The volume of groundwater that discharges to the brook is very small compared to the volume of water in the brook, and any contaminants which are discharged, based on their characteristics can be readily digested by common bacteria in the water. As a result, the contamination is either diluted and/or quickly broken down, to the point that it can't be detected by laboratory analysis.

COMMENT 5: Wasn't there some sediment testing in the brook that did find above acceptable levels? Where was that found?

RESPONSE 5: Yes, there were locations where analytical results for sediments exceeded sediment screening levels, but the results do not appear to be related to the MGP site. Many of these locations were upstream from the site and are not believed to be caused by the site. The one location downstream that exceeded sediment standards lies right at the mouth of a storm water outfall That exceedance is most likely related to the runoff from parking lots as discussed in Response 1.

COMMENT 6: When you say "elevated levels" or "slightly elevated levels", what do those levels mean?

RESPONSE 6: These levels are concentrations expressed either as parts per million or parts per billion. The term(s) speaks to exceedances to the soil cleanup objectives (SCOs) established by NYSDEC and/or NYSDOH. These levels are set very conservatively, so samples which exceed these levels do not necessarily indicate the existence of significant contamination or that removal is necessary.

COMMENT 7: Is this property not suitable for residential use?

RESPONSE 7: No. The property use will be restricted to commercial and industrial uses, subject to local zoning laws. Commercial use does provide for passive recreational use (e.g., green space), but not active recreational use such as a playing field (e.g., lacrosse).

COMMENT 8: Twenty eight years ago they put in about 10-15 feet of fill. Was the fill placed there after the gas plant? How deep did you go? Why did you stop there?

RESPONSE 8: We understand that fill was spread across the entire site after the MGP was removed. The soil borings ranged from approximately 20 feet to over 40 feet in depth, deep enough to reach through the fill into a level where any MGP contamination could remain and into the clean native soils beneath.

COMMENT 9: I saw $84,000 and $318,000 for ongoing monitoring. Would you clarify the number of years to monitor and what is the annual cost?

RESPONSE 9: The estimated present worth cost for the remedy is approximately $402,000. This includes, for estimating purposes, 30 years of monitoring at roughly $10,000 per year.

COMMENT 10: It's not that 30 years will do it, it's just the standard?

RESPONSE 10: Correct. We use a 30-year period as an accounting tool, so that we can compare remedies that require upfront costs now against remedies that may require smaller expenditures for long time periods. The present worth figures in the PRAP represent the amount of money that would have to be put away now in order to pay all the expenses over the next 30 years. It does not imply that monitoring would necessarily last for, or be discontinued after, 30 years.

COMMENT 11: Groundwater changes due to the time of year and year to year. When the fill was brought in, could this contribute to groundwater changes?

RESPONSE 11: It is unlikely that the placement of fill above the water table significantly affected groundwater flow. Although groundwater fluctuates seasonally, these fluctuations are relatively minor. Further, we monitor during different seasons to ensure that seasonal variations are taken into account.

COMMENT 12: Using an analogy to radon, is there a similar test like radon for folks to use to see if there is any vapor intrusion in their homes? Is basement living more of a health risk? Was there sub-surface testing done off-site?

RESPONSE 12: There are laboratories, some of which may have test kits that may be used by residents themselves that do this work for private individuals. New York State doesn't recommend specific laboratories. To evaluate whether there are concerns regarding exposures related to soil vapor intrusion, we sampled the indoor air (basement) and crawlspace air of an off-site building close to the site and associated contamination. The results of the testing indicate that there are no concerns regarding exposures to site-related contaminants in this building due to soil vapor intrusion. These air results, in conjunction with the results of groundwater and soil sampling, indicate that there is no need for additional sampling off-site.

COMMENT 13: Did monitoring wells test the soil? What was the finding of that soil?

RESPONSE 13: Yes. Soil samples were collected from the soil borings in which the monitoring wells were installed. The soil testing showed that some of the soil within the footprint of the plant exceeds applicable soil cleanup objectives (SCOs). But this soil is located at depth, beneath the fill materials that were brought in after the MGP had been demolished. Also see Response 8.

COMMENT 14: So the soil should not be used for anything?

RESPONSE 14: The soil should not be used unless it is tested (and possibly treated) to be sure it meets the appropriate SCOs.

COMMENT 15: Will NYSEG maintain ownership?

RESPONSE 15: This is beyond the scope of this technical document.

COMMENT 16: Your proposal is forever, to do maintenance, monitor, etc.?

RESPONSE 16: Monitoring will be conducted as long as necessary. The environmental easement and the other elements of the remedy will also stay with the property unless conditions should allow it to be extinguished by the DEC Commissioner.

COMMENT 17: It is the same as asbestos, its contained it should not pose any risks?

RESPONSE 17: If the turf cover is maintained, soil is undisturbed and the groundwater is not used, there should be no risk of exposure.

COMMENT 18: Why have you chosen not to fence it?

RESPONSE 18: A fence is not necessary. Also see Response 17.

COMMENT 19: But children dig. Isn't it dangerous for kids to hang out on? Does NYSEG know how many kids have played there for the past 5-30 years? The community feels there is a potential for exposure.

RESPONSE 19: The grass cover on the site is intact and we have seen no evidence of digging on the site. NYSEG does not know how many people have been trespassing on the site over the past 30 years. The remedy addresses exposure.

COMMENT 20: How often does NYSEG have to inspect the property?

RESPONSE 20: As part of the remedy a Site Management Plan (SMP) will be developed. The SMP will establish a schedule for monitoring and inspection. NYSEG is required to submit periodic reports by a professional engineer or other such expert to certify that the institutional and engineering controls for the site are in place. The frequency of this report will change over time.

COMMENT 21: Basically, according to the environmental easement, it could only be used as a parking lot?

RESPONSE 21: No. See Response 7.

COMMENT 22: Will there be taxes on that property?

RESPONSE 22: This is outside the scope of this technical document.

COMMENT 23: For example, if the property were a lacrosse field, would a player be exposed? Why wouldn't it be suitable, especially if there is fill material?

RESPONSE 23: See Response 7. This use (lacrosse) would not be permitted at the site.

COMMENT 24: Did you do air quality testing in the structure on site?

RESPONSE 24: No, because the structure isn't occupied. The Site Management Plan includes the provision to evaluate the potential for soil vapor intrusion should the on-site buildings become occupied or should any buildings be developed on the site, including provisions for actions necessary to address any identified exposures. Also see Response 12 relative to testing in an adjacent building.

COMMENT 25: Could you break down the exposure in three different ways - previous, current and future exposure?

RESPONSE 25: We cannot address previous exposures due to lack of knowledge. Currently, there is no exposure because there is a good turf cover over surface soil, groundwater is not used and the contaminated soil is deeper than eight feet. The remedy prevents future exposure by maintaining the cover, restricting groundwater use and by controlling any disturbance of the site through the site management plan and the soil management plan. The remedy requires periodic certification to confirm that the elements just described remain in place.

COMMENT 26: Talk about remedial action over village pipes from the plant. What knowledge and concern is there for the community? Are there vapors coming out of those pipes?

RESPONSE 26: The gas that was piped from the plant had been purified. Essentially it was similar to the natural gas that is piped into homes today. The remedial investigation showed that there was no piping remaining on the site. If any piping remains in the village now, after the plant has been out of service for more than 100 years, it is highly unlikely that there is any gas from the plant in them, although it is possible for some of this piping to still be in use at some point in the gas distribution system.

COMMENT 27: If a home originally had MGP intake, what does that mean? What risk is it there?

RESPONSE 27: See Response 26.

COMMENT 28: Is it common for those pipes to collect tar?

RESPONSE 28: No, because the gas in the pipes had been cooled and purified.

COMMENT 29: So, as a homeowner, if I found a strange pipe, should I worry about it?

RESPONSE 29: If the pipe had originally been used to pipe gas from the Jackson Street MGP, there should be no concern related to the MGP site, because the gas had been purified.

APPENDIX B

Administrative Record

Administrative Record

NYSEG - Penn Yan Jackson St. MGP
Penn Yan, Yates County, New York
Site No. 862008

Proposed Remedial Action Plan for the Penn Yan Jackson St. MGP site, dated February 2011, prepared by the Department.

Order on Consent, Index No. DO-0002-9309, between the Department and NYSEG, executed on March 30, 1994.

"Jackson Street Manufactured Gas Plant Site Task 1 Screening Report, Penn Yan New York", May 1991 (prepared by: Atlantic Environmental Services, Inc.).

"Jackson Street Manufactured Gas Plant Site Task 2 Site Investigation Report, Penn Yan New York", June 1993 (prepared by: Atlantic Environmental Services, Inc.).

"Final Remedial Investigation Report - Jackson Street Former Manufactured Gas Plant (MGP) Site Penn Yan, New York" March, 2009 (prepared by: AMEC Geomatrix, Inc.).

Transmittal of Supplementary Surface Soil Sampling Results" August, 2009 (prepared by: AMEC Geomatrix, Inc.).

"Feasibility Study Report - Jackson Street Former Manufactured Gas Plant (MGP) Site Penn Yan, New York" July, 2010 (prepared by: AMEC Geomatrix, Inc.).