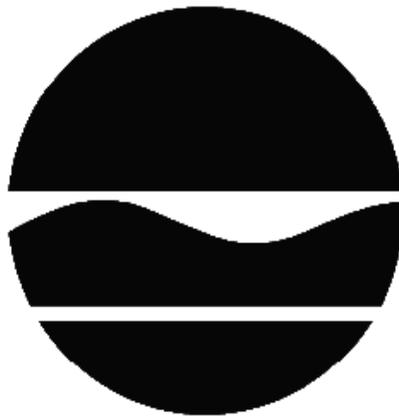


# RECORD OF DECISION

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G.E. Riverview Plant  
State Superfund Project  
Rotterdam, Schenectady County  
Site No. 447005  
March 2013



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

# **DECLARATION STATEMENT - RECORD OF DECISION**

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G.E. Riverview Plant  
State Superfund Project  
Rotterdam, Schenectady County  
Site No. 447005  
March 2013

## **Statement of Purpose and Basis**

This document presents the remedy for the G.E. Riverview Plant 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 G.E. Riverview Plant 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. Remedial Design

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

A site cover currently exists and will be maintained to allow for industrial use of the site. Any site redevelopment will maintain a site cover, which may 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). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). 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).

## 3. In-Situ Chemical Oxidation

In-situ chemical oxidation is a technology used to treat volatile organic compounds in the soil and groundwater. A chemical oxidant will be injected into the subsurface via injection wells or an infiltration gallery. The method of injection and depth of injection is determined by location of the contamination. As the chemical oxidant comes into contact with the contaminant, an oxidation reaction occurs that breaks down the contaminant into relatively benign compounds such as carbon dioxide and water. Several chemical oxidants are commercially available. For the purpose of this remedy, sodium persulfate will be the chemical oxidant evaluated. At this site, the chemical oxidant would be applied through injection wells screened from 60 to 75 feet to target xylene and trimethylbenzenes.

It is estimated that six injection points will be installed and that the chemical oxidant will be injected during approximately two separate events over several months.

Groundwater monitoring will be conducted to assess performance of the treatment during the injection period and for an extended duration after the injections, as determined by the NYSDEC. Current estimates are based on semi-annual monitoring for two years and annual monitoring for three years.

## 4. Institutional Control

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

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- requires compliance with the Department-approved Site Management Plan.

## 5. Site Management Plan

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

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

Institutional Controls: The environmental easement discussed in Paragraph 4 above.

Engineering Controls: The site cover system discussed in Paragraph 2 above.

This plan includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any change of use of buildings on the site, and for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings newly occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item a above; and
- as part of the monitoring program, monitoring up to three groundwater wells which have historically shown the presence of several volatile organics just above standards (including TCE) and are located near the northern boundary of the site to assure continued natural attenuation is occurring.

### **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.

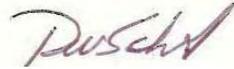
### **Declaration**

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.

March 25, 2013

Date

A handwritten signature in dark ink, appearing to read "R. Schick", is centered above a horizontal line. The signature is written in a cursive style.

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

# **RECORD OF DECISION**

G.E. Riverview Plant  
Rotterdam, Schenectady County  
Site No. 447005  
March 2013

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## **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 repository:

Schenectady County Public Library  
Attn: Schenectady County Public Library-Rotterdam Branch  
1100 North Westcott Road  
Schenectady, NY 12306  
Phone: 518-386-3440

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 former GE Riverview Plant site is a 22-acre manufacturing facility located on the north side of West Campbell Road in the Town of Rotterdam, Schenectady County. The manufacturing facility is owned and operated by Von Roll USA Inc. (VRI).

The original site consisted of three contiguous parcels: the industrial area (approximately 22 acres) and two undeveloped bordering parcels (approximately 30 acres) which were sold in 2004, and subsequently removed from the defined site.

**Site Features:** The industrial area is flat, fenced, and contains several manufacturing buildings. The largest building has paved parking areas on two sides, while the smaller manufacturing building includes a paved loading dock at the south end. Site roadways are also paved. Grassy areas are located in the center of the site and along the northern fence. To the north is a steep embankment (the Bellevue Bluff) and railroad track. Bordering the site to the immediate south is an active sand removal operation and a 1-story commercial office. To the west of the site is an undeveloped, wooded property and to the east is a self-storage business.

**Zoning:** The site is zoned I-2 Heavy Industrial.

**Historic Uses:** The General Electric Company (GE) purchased this property in 1942 and built radar development and testing facilities. The site was used for radar development until 1960 when the Insulating Materials group was moved from the GE Main Plant site to the Riverview Plant. During this time, bulk chemical shipments arrived by rail spur at the site. In 1988, GE sold the plant to Insulating Materials Incorporated (IMI). IMI manufactured electrical insulation products similar to that of the previous GE operation. The facility was sold to VRI in 1995. VRI manufactures solid and liquid insulating materials and tapes that are used in the electrical

industry and continues to operate the facility.

Site Geology and Hydrology: Underlying the site is an 80-foot thick sand deposit, classified as fine to medium with a trace of silt. Silt increases with depth and increased clay content is evident beyond 80 feet and at 95 feet an 11-foot thick clay confining unit was documented. Below the confining unit (approximately 106 feet below ground surface (bgs)) a deeper water-bearing zone is composed of silty sand to a depth of 122 feet. Below this depth, glacial till and shale bedrock are expected, though not confirmed.

The groundwater table is approximately 60-70 feet below ground surface except in the southeast portion of the site, where it is slightly shallower, in the range of 50-55 feet. In the southeast portion of the site, groundwater flow is generally to the north. In the northwest portion of the site, the groundwater flow is to the northeast. Overall, the groundwater flow is toward the bluff on the north side of the site.

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 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:

General Electric

Von Roll USA, Inc

Insulating Materials Inc.

Discussions between NYSDEC and General Electric about this site began in the 1980s. Based on a 1989 Assessment of Environmental Conditions Report, NYSDEC and GE negotiated a scope of work for an additional field investigation. This investigation was implemented in accordance with an Order-on-Consent signed in March 1992. Based on the results of the field

investigation, completion of a full remedial investigation was recommended.

General Electric signed a Consent Order for a full Remedial Investigation/Feasibility Study(RI/FS) in June of 2001. The Order obligates the responsible parties to implement a RI/FS remedial program. After the remedy is selected, the Department will approach the PRPs to implement the selected remedy.

## **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
- soil vapor

#### **6.1.1: Standards, Criteria, and Guidance (SCGs)**

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

To determine whether the contaminants identified in various media are present at levels of concern, the data from the RI were compared to media-specific SCGs. The Department has developed SCGs for groundwater, surface water, sediments, and soil. The NYSDOH has developed SCGs for drinking water and soil vapor intrusion. The tables found in Exhibit A list the applicable SCGs in the footnotes. For a full listing of all SCGs see:

### **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:

1,2,4-TRIMETHYLBENZENE	CUMENE
XYLENE (MIXED)	TRICHLOROETHENE (TCE)
1,3,5-Trimethylbenzene	ETHYLBENZENE
N-PROPYLBENZENE	

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

- groundwater
- soil

### **6.2: Interim Remedial Measures**

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

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

#### IRM-Past Remedial Efforts

Since the mid 1980's, efforts have been underway to remove environmental contamination at the site.

- In 1986, GE removed 212 tons of contaminated soil from the aboveground tank farm area, which was attributed to historic spills that occurred in the 1978-1979 timeframe.
- In 1987, a 10,000-gal underground fuel oil tank and 100 cubic yards (cy) of soil were removed (solid waste management unit or SWMU 8).
- In 1988, another 10,000-gallon underground tank, used to store solvent waste, and 60 cy of contaminated soil were removed (SWMU 19).
- In 1992, the Environmental Protection Agency (EPA) performed a RCRA Facility Assessment (RFA), that identified thirty-five individual areas where releases to the environment could have occurred. Fourteen of these were determined to need no further action.
- In 1995, a contaminant source investigation was conducted on behalf of VRI prior to their acquisition of the property. This investigation included study of the site history and floor drains/drywells, and included test pits, groundwater testing, soil and soil vapor sampling. The

report recommended additional investigation in six areas on-site. These six areas later became the focal point of the 2001 Remedial Investigation (RI).

- In 1996, an aboveground tank farm consisting of six 20,000 gallon tanks was decommissioned, and in the process, historic soil contamination was identified.
- In 1998, two other tanks and associated piping were removed (a previously cleaned underground tank near Bldg RV14 and an aboveground tank, near Bldg RV42).

Based on the extensive number of investigations undertaken at this Site, in 1998 a Summary Report was completed. Fourteen of the remaining 21 SWMUs were classified as "no further action" based on removal actions and investigations that had occurred since 1992. Investigation of the storm sewer system was transferred to the NYSDEC Division of Water. Continued evaluation of a former drywell at the south end of Building 33 and further evaluation of soil and groundwater at five other SWMUs and a new AOC were recommended.

### **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.

Based upon the resources and pathways identified and the toxicity of the contaminants of ecological concern at this site, a Fish and Wildlife Resources Impact Analysis (FWRIA) was deemed not necessary for OU 01.

**Nature and Extent of Contamination:** The RI was performed between September 2001 and January 2002. The RI was focused on five remaining SWMUs and a spill area near Building RV-16. In addition, the groundwater monitoring well network was inspected, existing wells were abandoned or upgraded, and additional groundwater wells were installed. The RI included the collection of surface soil samples, subsurface soil samples and groundwater samples.

Based on comparison to the Part 375 Soil Cleanup Objectives (SCOs), xylene exceeds the unrestricted use and groundwater protection SCOs. Specifically, the VRI-1 soil boring contained xylene at 14 parts per million (ppm) at 55-57' bgs; which is less than the restricted residential SCO for xylene (100 ppm) but higher than the unrestricted use SCO (0.26 ppm) and the groundwater protection SCO (1.6 ppm). Other compounds, including ethylbenzene, toluene and naphthalene, were also identified in this sample interval, but were below the unrestricted SCO values.

Since 2001, groundwater monitoring data has been collected from selected wells at the site, with the latest samples collected in December 2011. The groundwater samples from VRI-1 continue to exceed groundwater standards for xylene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, isopropyl benzene, n-propyl benzene, ethylbenzene and methylene chloride. The three primary contaminants, (xylene, 1,2,4 trimethylbenzene and 1,3,5 trimethylbenzene) are present in the range of 2,500 ppb to 4,900 ppb. Less significantly, groundwater samples along the northern edge of the site showed very low levels of trichloroethene (maximum concentration of 14 ppb),

slightly over the standard of 5 ppb. The RI report, consisting of five separate submittals, was approved in February 2012.

In 2011 a soil vapor investigation was conducted. The results from the soil vapor samples did not identify a potential source of groundwater contamination.

#### **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*.

Since the site is fenced and contamination is located in subsurface soil, contact with contaminated soil or groundwater is unlikely unless people dig below the ground surface. People are not drinking the contaminated groundwater because the area is served by a public water supply that is not affected by this contamination. Volatile organic compounds in the groundwater may move into the soil vapor (air spaces within the soil), which in turn may move into overlying buildings and affect the indoor air quality. This process, which is similar to the movement of radon gas from the subsurface into the indoor air of buildings, is referred to as soil vapor intrusion. The potential exists for inhalation of site contaminants due to soil vapor intrusion for on-site buildings. 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 Environmental Protection**

- Restore ground water aquifer to pre-disposal/pre-release conditions, to the extent practicable.

##### **Soil**

###### **RAOs for Public Health Protection**

- Prevent ingestion/direct contact with contaminated soil.

##### **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 Alternative 3 - In Situ Chemical Oxidation remedy.

The estimated present worth cost to implement the remedy is \$344,000. The cost to construct the remedy is estimated to be \$126,000 and the estimated average annual cost is \$34,800.

The elements of the selected remedy are as follows:

### 1. Remedial Design

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

A site cover currently exists and will be maintained to allow for industrial use of the site. Any site redevelopment will maintain a site cover, which may 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). Where a soil cover is required it will be a minimum of one foot of soil, meeting the SCOs for cover material as set forth in 6 NYCRR Part 375-6.7(d). 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).

## 3. In-Situ Chemical Oxidation

In-situ chemical oxidation is a technology used to treat volatile organic compounds in the soil and groundwater. A chemical oxidant will be injected into the subsurface via injection wells or an infiltration gallery. The method of injection and depth of injection is determined by location of the contamination. As the chemical oxidant comes into contact with the contaminant, an oxidation reaction occurs that breaks down the contaminant into relatively benign compounds such as carbon dioxide and water. Several chemical oxidants are commercially available. For the purpose of this remedy, sodium persulfate will be the chemical oxidant evaluated. At this site, the chemical oxidant would be applied through injection wells screened from 60 to 75 feet to target xylene and trimethylbenzenes.

It is estimated that six injection points will be installed and that the chemical oxidant will be injected during approximately two separate events over several months.

Groundwater monitoring will be conducted to assess performance of the treatment during the injection period and for an extended duration after the injections, as determined by the NYSDEC. Current estimates are based on semi-annual monitoring for two years and annual monitoring for three years.

## 4. Institutional Control

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

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH;
- requires compliance with the Department-approved Site Management Plan.

## 5. Site Management Plan

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

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

Institutional Controls: The environmental easement discussed in Paragraph 4 above.

Engineering Controls: The site cover system discussed in Paragraph 2 above.

This plan includes, but may not be limited to:

- descriptions of the provisions of the environmental easement including any land use, and groundwater use restrictions;
- a provision for evaluation of the potential for soil vapor intrusion for any change of use of buildings on the site, and for any buildings developed on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;
- monitoring for vapor intrusion for any buildings newly occupied or developed on the site, as may be required by the Institutional and Engineering Control Plan discussed in item a above; and
- as part of the monitoring program, monitoring up to three groundwater wells which have historically shown the presence of several volatile organics just above standards (including TCE) and are located near the northern boundary of the site to assure continued natural attenuation is occurring.

## **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 compare the data with the applicable soil cleanup guidance (SCGs) for the site. The contaminants are arranged into volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics (metals and cyanide). For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use. For soil, if applicable, the Restricted Use SCGs identified in Section 6.1.1 are also presented.

The Remedial Investigation was undertaken beginning in 2001. Groundwater contamination was identified in monitoring well VRI-1, which is located just beyond the northwest border of the site. Other groundwater samples indicated contamination just above groundwater standards in wells along the bluff at the eastern edge of the site. As described in the RI report, no definitive sources of groundwater contamination were uncovered. Soil sampling conducted across the site indicated the presence of contaminants, but, with one exception, all contaminants found were below NYS unrestricted soil cleanup objectives.

Since the RI did not identify a definite source, the groundwater contamination may be attributed to historic site operations, including possible releases from an underground solvent storage tank which was removed prior to the start of the RI. Soil, groundwater and soil vapor samples in the immediate vicinity and upgradient of the contaminated monitoring well did not contain similar levels of contaminant.

### **Groundwater**

**Site Geology and Hydrology:** Underlying the site is a 80-foot thick sand deposit, classified as fine to medium with a trace of silt. Silt increases with depth and increased clay content is evident beyond 80 ft and at 95 ft an 11-foot thick clay confining unit was documented. Below the confining unit (approximately 106 ft below ground surface (bgs)) a deeper water-bearing zone is composed of silty sand to a depth of 122 ft. Below this depth, glacial till and shale bedrock are expected, though not confirmed.

The groundwater table is approximately 60-70 ft below ground surface except in the southeast portion of the site, where it is slightly shallower, in the range of 50-55 ft. In the southeast portion of the site, groundwater flow is generally to the north. In the northwest portion of the site, the groundwater flow is to the northeast. Overall, the groundwater flow is toward the bluff on the north side of the site. Site groundwater contours are shown on Figure 3.

Groundwater data collected at the site since 2001 is summarized below. The samples were collected to assess groundwater conditions on-site and in the immediate off-site vicinity. Exceedances of groundwater standards for volatiles are shown on Figure 3a. The primary groundwater contamination is found in a single well just beyond the northwest boundary of the site at well VRI-1. This well contains

xylene, 1,2,4-trimethylbenzene and 1,3,5 trimethylbenzenes which are commonly associated with gasoline. The groundwater contamination at this well during this period has been in the range of 500 to 14,000 parts per billion for these three parameters.

Along the eastern property boundary (the bluff), results indicated low levels of trichloroethene in overburden groundwater, up to a maximum of 14 ppb. The most recent samples, in December 2011, showed trichloroethene at a maximum of 6.0 ppb. Monitoring well VRI-8, located at the upgradient property border, contained trichloroethene at 19 ppb when last sampled in 2002, indicating a possible upgradient, off-site source.

There is one bedrock well (VRI-5) located on the east-northeast property boundary of this site. The initial sampling of the well indicated metals contamination exceeding groundwater standards, but the second round of sampling did not. Based on the differences in the values, it is suspected that the initial results may have been caused by higher turbidity in the first sample. No site-related contamination was identified in the bedrock well.

Table 1  
Groundwater

Detected Constituents	Concentration Range Detected (ppb) <sup>a</sup>	SCG <sup>b</sup> (ppb)	Frequency Exceeding SCG
<b>VOCS</b>			
<b>Benzene</b>	<b>1.1 - 130</b>	<b>1</b>	<b>3 of 101</b>
<b>Ethyl- Benzene</b>	<b>8.4 - 88</b>	<b>5</b>	<b>5 of 101</b>
<b>Toluene</b>	<b>5.2-6.6</b>	<b>5</b>	<b>2 of 101</b>
<b>Xylene</b>	<b>55- 8700</b>	<b>5</b>	<b>12 of 101</b>
<b>isopropyl Benzene</b>	<b>6-820</b>	<b>5</b>	<b>11 of 101</b>
<b>n propyl Benzene</b>	<b>13- 940</b>	<b>5</b>	<b>9 of 101</b>
<b>1,2,4 Trimethyl Benzene</b>	<b>5.9-14000</b>	<b>5</b>	<b>10 of 44</b>
<b>1,3,5 Trimethyl Benzene</b>	<b>11-5400</b>	<b>5</b>	<b>10 of 44</b>
<b>Chloroform</b>	<b>8.3-20</b>	<b>7</b>	<b>2 of 101</b>
<b>Methylene Chloride</b>	<b>9.1-380</b>	<b>5</b>	<b>2 of 101</b>
<b>Trichloroethene</b>	<b>5.7-19</b>	<b>5</b>	<b>6 of 101</b>
<b>SVOCs</b>			
<b>Naphthalene</b>	<b>75-130</b>	<b>10</b>	<b>2 of 71</b>
<b>2,4 dimethyl phenol</b>	<b>3.1</b>	<b>1 (total phenols)</b>	<b>1 of 71</b>
<b>2 methyl phenol</b>	<b>1.3</b>	<b>1 (total phenols)</b>	<b>1 of 71</b>
<b>Inorganics</b>			
<b>Arsenic</b>	<b>54.1</b>	<b>25</b>	<b>1 of 48</b>
<b>Antimony</b>	<b>4.4-4.7</b>	<b>3</b>	<b>2 of 48</b>
<b>Barium</b>	<b>1110</b>	<b>1000</b>	<b>1 of 48</b>
<b>Chromium</b>	<b>99.6 -212</b>	<b>50</b>	<b>4 of 48</b>
<b>Copper</b>	<b>202</b>	<b>200</b>	<b>1 of 48</b>
<b>Iron</b>	<b>302-130000</b>	<b>300</b>	<b>24 of 48</b>
<b>Lead</b>	<b>57.3</b>	<b>25</b>	<b>1 of 48</b>
<b>Manganese</b>	<b>382-5290</b>	<b>300</b>	<b>13 of 48</b>
<b>Magnesium</b>	<b>45600- 114000</b>	<b>35000</b>	<b>2 of 48</b>
<b>Nickel</b>	<b>110</b>	<b>100</b>	<b>1 of 48</b>
<b>Sodium</b>	<b>21900- 587000</b>	<b>20000</b>	<b>29 of 48</b>
<b>Thallium</b>	<b>11</b>	<b>0.5</b>	<b>1 of 48</b>

Pesticides/PCBs			
PCB-1242	2.5	0.09	1 of 24
Dieldrin	0.0051-0.0056	0.004	2 of 24

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).

Sample results from monitoring well GT-1 indicated PCBs at a level of 2.5 ppb. Soil samples taken near this location did not have PCBs identified as a contaminant. Other groundwater results in the area also did not indicate the presence of PCBs. Based on these facts, the GT-1 result is believed to be an artifact of laboratory analysis, and is not addressed by the remedy.

Iron, manganese and sodium were found in both shallow and bedrock groundwater, and in upgradient monitoring wells. This indicates that these represent site background conditions. The other metals identified were primarily found during the initial sampling round in 2001 and were not identified when the wells were resampled in 2002. Since these data were not able to be confirmed, no further investigation of these metals was performed. Therefore, the metal compounds found in groundwater are not considered site-specific contaminants of concern and are not addressed by the remedy.

Based on the findings of the RI, the primary groundwater contaminants are xylene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene associated historic site operations. These site contaminants will drive the remediation of groundwater, and be addressed by the remedy selection process. As noted on Figure 4, the primary groundwater contamination is found just beyond the northern boundary of the site

## Soil

Surface and sub-surface soil samples were collected as part of the RI. A limited number of surface soil samples were collected from a depth of 0-2 inches to assess direct human exposure. Thirty five (35) subsurface soil samples were collected at varying depths (from a minimum of 2' to a maximum of approximately 60') to assess soil contamination impacts to groundwater. During installation of well VRI-1, soil contamination was noted at 55-57' below ground. The soil contamination was identified as xylene, at 14 parts per million (ppm) The unrestricted soil cleanup objective for xylene is 0.26 ppm; the restricted soil cleanup objective based on industrial use of the site is 1,000 ppm. The protection of groundwater SCO is 1.6 ppm.

**Table 2 - Soil**

Detected Constituents	Concentration Range Detected (ppm) <sup>a</sup>	Unrestricted SCG <sup>b</sup> (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG <sup>c,d</sup> (ppm)	Frequency Exceeding Restricted SCG
<b>VOCs</b>					
Xylene	14	0.26	1 of 35	1.6 (GW) 1000 (Industrial)	1 of 35 0 of 35

- 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 Industrial Use, unless otherwise noted.
- d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

Based on the findings of the Remedial Investigation, xylene-contaminated soil is present in one isolated location approximately 55-57' below grade at VRI-1 (see Figure 5). The remedy selected for the contaminated groundwater at this location is expected to address this contamination. The site contaminant identified in soil which is considered to be the primary contaminant of concern, to be addressed by the remedy selection process is xylene.

### **Surface Water**

Hillside seeps were included in the initial scope of work for the RI. On five separate occasions during the 2001 and 2002 sampling events, the hillside was inspected for seeps. None were located. During the supplemental groundwater evaluation in 2009, another attempt to identify hillside seeps was undertaken, and none were identified. Based on analytical results from the groundwater wells along the eastern boundary, additional efforts to pursue collection of samples from seeps were not deemed necessary.

### **Soil Vapor**

The evaluation of the potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by the sampling of soil vapor near buildings containing office space. Since there was no on-site impact, and no off-site structures near or downgradient of the low-level groundwater contamination, there was not a need to perform off-site soil vapor samples to evaluate the human exposure pathway.

Soil vapor samples were used to evaluate the nature and extent of soil vapor contamination. Three distinct areas on-site were sampled. The areas were chosen based on the proximity of groundwater wells that exhibited low levels of chlorinated compounds, and were located around the perimeter of buildings on-site where administrative offices, rather than manufacturing operations, are located. Based on the results of these samples, it was determined that indoor air and sub-slab samples were not required. Figure 6 identifies the areas where soil vapor samples were collected to assess the human exposure pathway.

In addition to the soil vapor samples conducted near buildings, passive soil vapor sampling in a grid pattern was performed to determine whether an unknown source of xylene or trimethyl benzene existed in the west-northwest portion of the site. The analytical results of the passive samplers did not indicate a source area, and the data were used to determine that there does not appear to be a soil source upgradient of VRI-1, a groundwater well that has historically had contamination over groundwater standards. Figure 6 indicates the area that was gridded.

Based on the concentrations detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, no site-related soil vapor contamination of concern was identified during the RI. Therefore, no remedial alternatives need to be evaluated for soil vapor beyond institutional controls.

**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. All alternatives, except No Action, also include maintaining the existing site-wide cover system (buildings, pavement, at least one foot of clean soil in unpaved areas) along with a Site Management Plan and Environmental Easement.

**Alternative 1: 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.

**Alternative 2: Monitored Natural Attenuation**

Alternative 2 will monitor natural attenuation processes in the vicinity of well VRI-1. Natural attenuation occurs by physical and/or biological processes. Physical processes include sorption, dispersion, dilution and volatilization. Biological processes actively breakdown the contaminants through microbial activity where the contaminants act as a source of carbon. The natural processes occur at a very slow rate. Quarterly monitoring for the first year and semi-annual monitoring for a minimum of five years will be performed. A time period of thirty years has been used to estimate the cost of this remedy, assuming quarterly monitoring for one year and semi-annual monitoring for the remaining 29 years.

<i>Present Worth:</i> .....	\$970,300
<i>Capital Cost:</i> .....	\$0
<i>Annual Costs: (Yr 1)</i> .....	\$77,700
<i>Annual Costs: (Yr 2-30)</i> .....	\$38,900

**Alternative 3: In-Situ Chemical Oxidation**

In-situ chemical oxidation is a technology used to treat volatile organic compounds in the soil and groundwater. A chemical oxidant will be injected into the subsurface via injection wells or an infiltration gallery. The method of injection and depth of injection is determined by location of the contamination. As the chemical oxidant comes into contact with the contaminant, an oxidation reaction occurs that breaks down the contaminant into relatively benign compounds such as carbon dioxide and water. Several chemical oxidants are commercially available. For the purpose of this remedy, sodium persulfate will be the chemical oxidant evaluated. At this site, the chemical oxidant will be applied through injection wells screened from 60 to 75 feet to target xylene and trimethylbenzenes.

It is estimated that six deep injection points will be installed around VRI-1 and that the chemical oxidant will be injected during two separate events approximately six months apart. Groundwater monitoring will be conducted to assess performance of the treatment during the injection period and for an extended

duration after the injections, as determined by the NYSDEC, to determine the effectiveness of the injections. Current estimates are based on semi-annual monitoring for two years and annual monitoring for three additional years

<i>Present Worth:</i> .....	\$344,000
<i>Capital Cost:</i> .....	\$126,000
<i>Annual Costs:(Yr 1)</i> .....	\$90,700
<i>Annual Costs:(Yr 2-5 (average))</i> .....	\$20,800

**Alternative 4: In-Situ Enhanced Bioremediation**

Bioremediation utilizes naturally-occurring microbes to clean up harmful chemicals in the environment, such as those found in gasoline and petroleum releases. When microbes completely digest these chemicals under the optimum temperature, nutrients and oxygen, the contaminants are broken down into water and harmless gases such as carbon dioxide. The biodegradation process can be enhanced by the injection of nutrients, microbial cultures, and suitable electron acceptors. In the in-situ condition, the groundwater is mixed underground by pumping nutrients and air into the wells.

This alternative would improve the rate of natural degradation of the VOCs near VRI-1 by delivering oxygen and nutrients to the existing native microbes in the soil near the contaminated well. Three in-situ submerged oxygen curtains will deliver oxygen on a quarterly basis for a period of five years, followed by five years of monitoring.

<i>Present Worth:</i> .....	\$629,600
<i>Capital Cost:</i> .....	\$144,000
<i>Annual Costs:(Yr 1-6)</i> .....	\$59,800
<i>Annual Costs:(Yr 7-10)</i> .....	\$20,100

**Alternative 5: Restoration to Pre-Disposal or Unrestricted Conditions**

This alternative achieves all of the SCGs discussed in Section 6.1.1 and Exhibit A and soil meets the unrestricted soil clean objectives listed in Part 375-6.8(a). This alternative would include excavation of approximately 45 feet of clean soil around VRI-1, removal and disposal of impacted soil in the vicinity of VRI-1 from a depth of approximately 45-60 feet, and treatment of groundwater using the in-situ chemical oxidation described in Alternative 3 to remove any residual contamination.

<i>Present Worth:</i> .....	\$4,727,000
<i>Capital Cost:</i> .....	\$4,509,000
<i>Annual Costs:(Yr 1)</i> .....	\$90,700
<i>Annual Costs:(Yr 2-5 (average))</i> .....	\$20,800

## Exhibit C

### Remedial Alternative Costs

Remedial Alternative	Capital Cost (\$)	Annual Costs (\$)	Total Present Worth (\$)
No Action	0	0	0
Monitored Natural Attenuation Year 1 Years 2-30	0	77,700 38,900	970,300
In Situ Chemical Oxidation Year 1 Years 2-5	126,000	90,700 20,800	344,000
In Situ Enhanced Bioremediation Years 1 -6 Years 7-10	144,000	59,800 20,100	629,600
Return to Pre-Disposal Conditions Year 1 Years 2-5	4,509,000	90,700 20,800	4,727,000

## Exhibit D

### SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 3, In Situ Chemical Oxidation (ISCO) as the remedy for this site. Alternative 3 would achieve the remediation goals for the site by treating contaminated site groundwater, placing an easement limiting use to industrial purposes, and requiring notification for a change in use of the buildings on-site to ensure evaluation of soil vapor intrusion. The elements of this remedy are described in Section 7. The proposed remedy is depicted in Figure 7.

### 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 are 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.

The proposed remedy Alternative 3 will satisfy this criterion by treating the contaminated groundwater to remove the contamination. No ongoing source of this contamination has been identified and groundwater is believed to be contaminated from past site operations, including spills. Alternative 1 (No Action) does not provide any additional protection to public health and the environment and will not be evaluated. Alternative 4 (In-Situ Enhanced Bioremediation) provides a similar degree of treatment of

groundwater, but would take longer to implement (quarterly for five years, rather than twice in one year). Alternative 5 (Return to Pre-Disposal Conditions) will also treat the contaminated groundwater and will remove all soil above the unrestricted soil cleanup objectives. Alternative 2 (Monitored Natural Attenuation) would eventually result in compliance with groundwater standards, but the timeframe is uncertain, and would be expected to take a minimum of ten to fifteen years.

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.

Alternatives 3 and 5 create the conditions necessary to restore groundwater quality to the extent practicable. Alternatives 2 and 4 also comply with this criterion but to a lesser degree or with lower certainty, and over a longer time period. Because Alternatives 2, 3, 4 and 5 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 those alternatives involving treatment of the contaminated groundwater to permanently reduce contamination. Alternatives 3, 4 and 5 will require treatment of the groundwater and monitoring over an extended time period. The one year treatment period for Alternative 3 is shorter, and as a result, the reduction in groundwater contamination will occur sooner. Alternatives 3 and 5 require a five year monitoring period after the treatment. Alternative 4 requires a five year treatment period, and followed by a five year monitoring period. Alternative 5 requires implementing groundwater treatment and monitoring after an extensive soil removal project that would extend the time necessary to implement the groundwater treatment.

Over time, Alternative 2, monitored natural attenuation of VOCs in the groundwater at VRI-1, will also verify long-term effectiveness and permanence. However, it is noted that VOC concentrations at VRI-1 have only declined slightly over the past 10 years. Therefore it is expected that natural attenuation processes will take a considerable length of time to reduce VOC concentrations at VRI-1 to levels close to the Class GA groundwater standards. For Alternatives 1 or 2, no action or monitored natural attenuation would eventually be effective, but over an unacceptably long time period.

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.

There are no identified source areas remaining in place at the site. All Alternatives (2,3,4,5) will reduce the contaminated groundwater to below groundwater standards, though Alternative 3 will achieve that reduction in the shortest amount of time.

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.

Installation of the injection wells for Alternatives 3, 4 and 5 could potentially expose workers to VOCs in the groundwater during drilling activities. However, these potential exposure issues would be mitigated by implementing a health and safety program and environmental controls. Care would also be taken by the workers when handling the materials and equipment. Alternative 4 will require multiple treatments quarterly over a five-year time period. Since Alternative 4 requires treating three wells each quarter, there is a slightly higher exposure potential for workers due to the need to reposition equipment each quarter. Alternative 5 requires extensive excavation prior to installing the groundwater treatment system. The excavation process would create increased noise and traffic disturbance in the area. The time needed to achieve the remediation goals is the shortest for Alternative 3, slightly longer for Alternatives 4 and 5 and much longer for Alternative 2.

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.

Alternative 2 is able to be easily implemented, since it continues sampling groundwater from existing wells. Alternatives 3, 4 and 5 each require construction of injection wells to deliver the treatment substance to the groundwater. Alternative 3 calls for groundwater treatment twice over a one-year period; Alternative 4 calls for treatment four times a year over a five-year period. Alternative 5 includes a prolonged excavation. Alternative 3 is easier and more practical to implement.

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 alternatives vary significantly. Alternative 2, which requires no expenditure for construction, has a lower annual cost, but due to the extended timeframe, the overall costs are higher. The present worth cost of Alternative 4 is higher than Alternative 3 due to the longer treatment period. Alternative 5 is significantly higher than the other alternatives. Alternative 3 has the lowest overall cost, based on a more effective treatment and anticipated shorter post-treatment monitoring requirements.

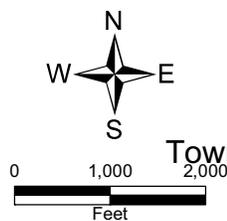
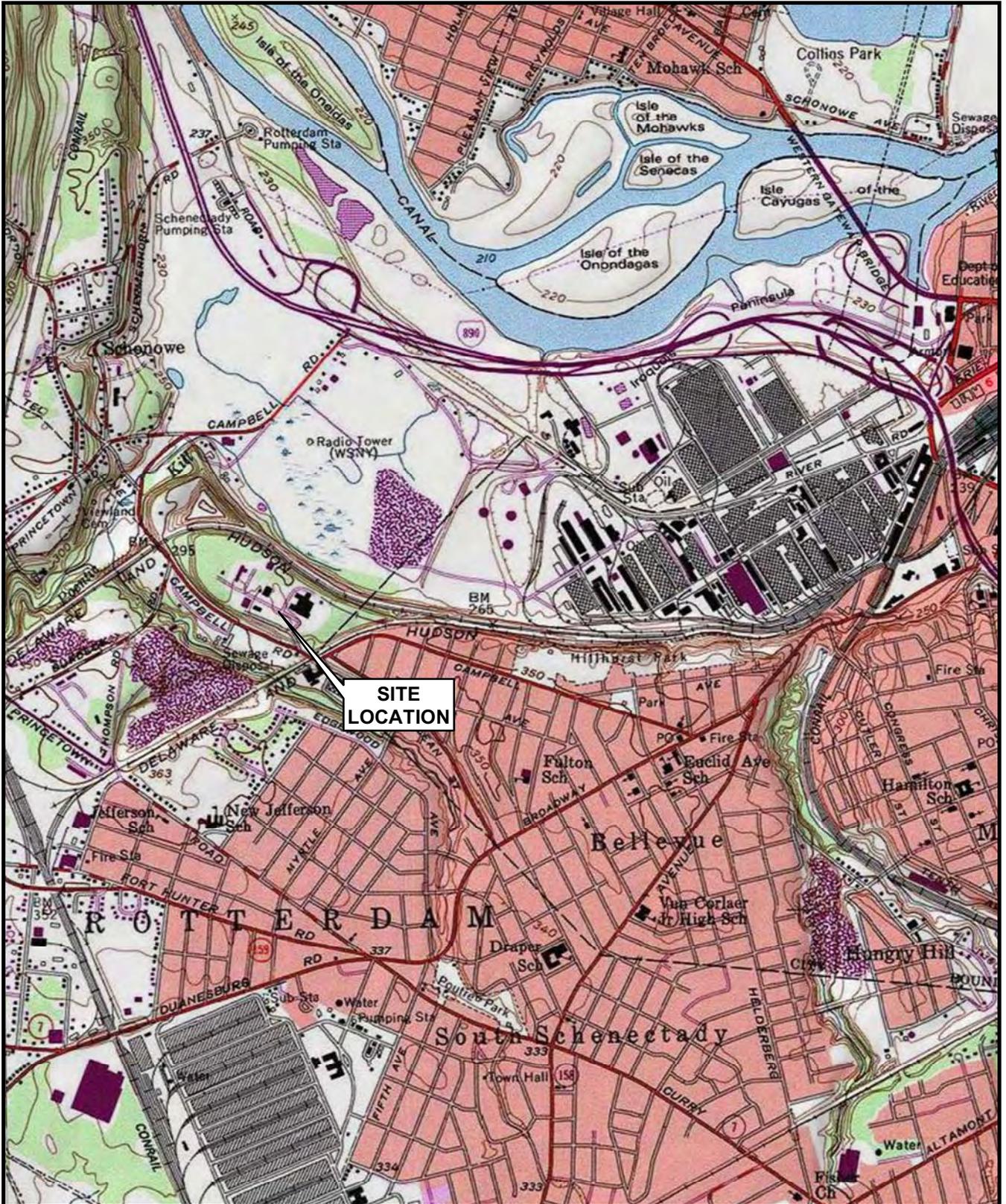
8. Land Use. When cleanup to pre-disposal conditions is determined to be infeasible, the Department may consider the current, intended, and reasonable anticipated future land use of the site and its surroundings in the selection of the soil remedy.

The current and anticipated future use of the site is industrial. Alternatives 2,3,4 will leave an isolated area of soil contamination at a depth of approximately 55-57 feet that is less than the industrial soil cleanup objective, but greater than unrestricted soil cleanup levels. With Alternative 5, this soil would be removed and disposed of off-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.

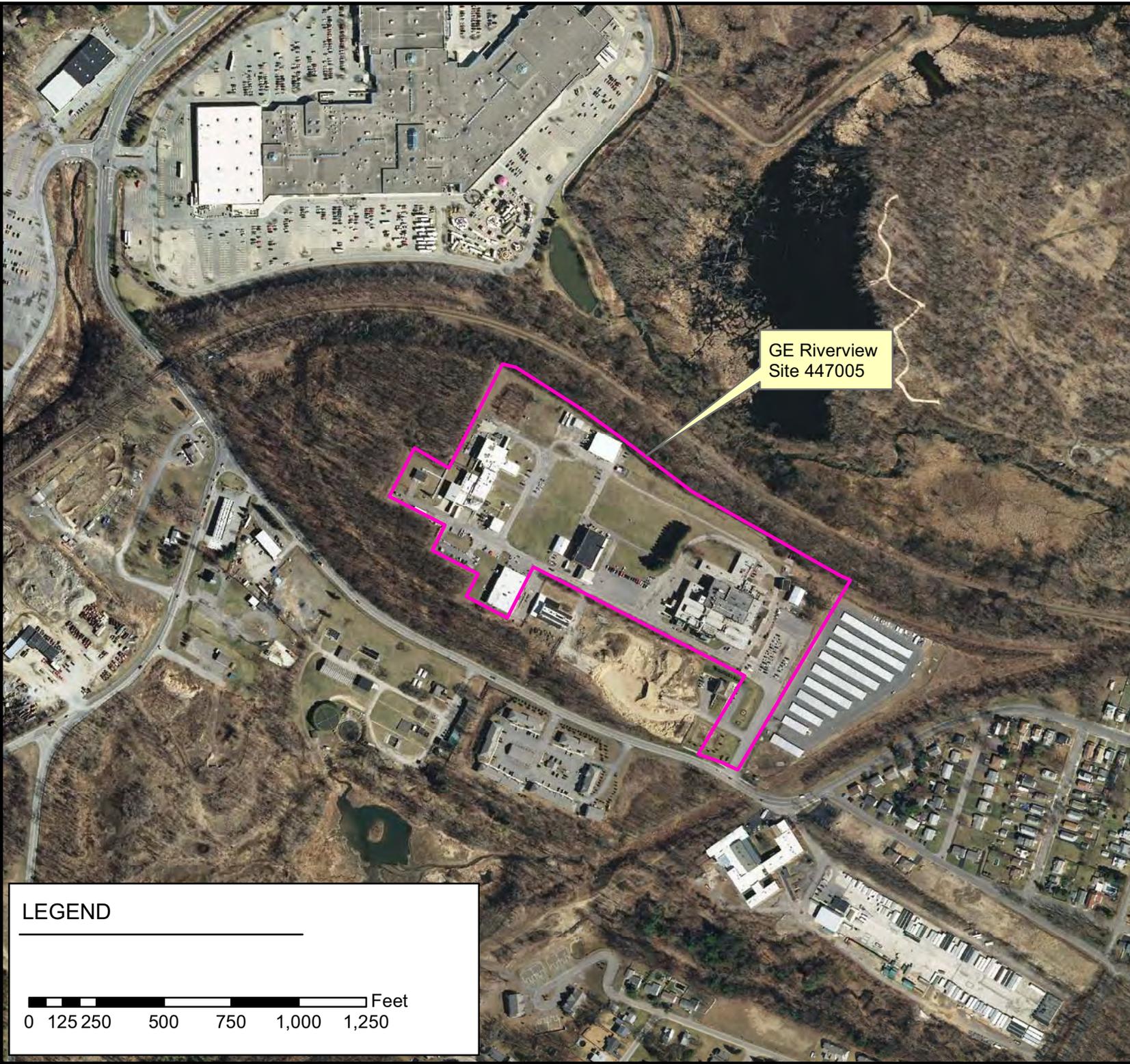
9. Community Acceptance. Concerns of the community regarding the investigation, the evaluation of alternatives, and the PRAP are evaluated. A responsiveness summary will be prepared that describes public comments received and the manner in which the Department will address the concerns raised. If the selected remedy differs significantly from the proposed remedy, notices to the public will be issued describing the differences and reasons for the changes.

Alternative 3 is being proposed because, as described above, it satisfies the threshold criteria and provides the best balance of the balancing criterion.



**Figure 1**  
 Site Location Map  
 GE Riverview Site  
 Town of Rotterdam, Schenectady County  
 Site No. 447005





New York State  
Department of Environmental  
Conservation

Division of  
Environmental Remediation

GE Riverview  
Town of Rotterdam

DEC Site No.: 447005

### FIGURE 2

### Site Location

### Map Details

Created in ArcMap 10.0

Date of Last  
Revision: 11.5.2012

UNAUTHORIZED DUPLICATION  
IS A VIOLATION OF  
APPLICABLE LAWS

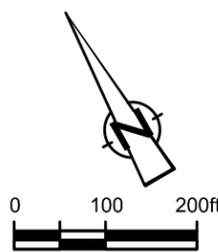
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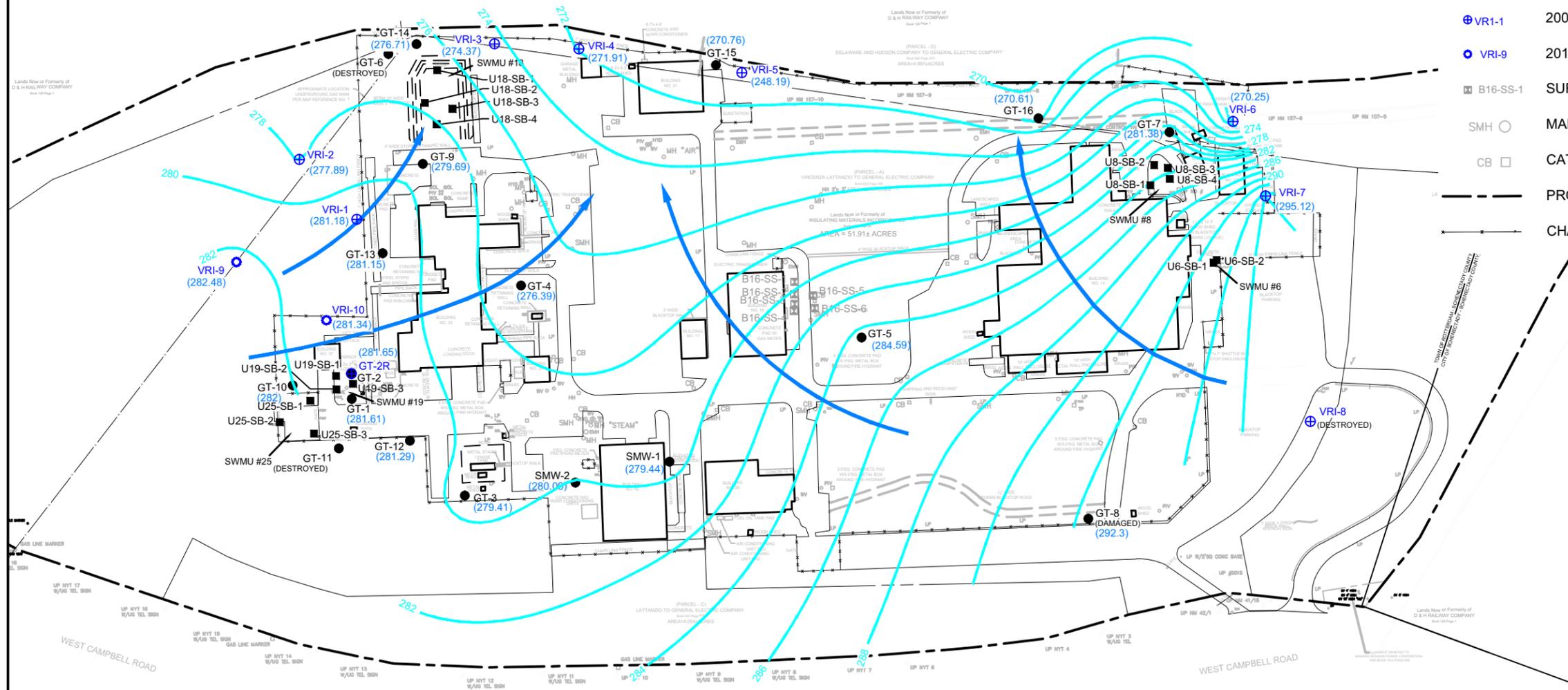
North American Datum 1983  
UTM Zone 18





**LEGEND**

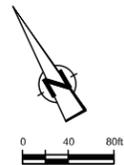
- 274 GROUNDWATER CONTOUR (ft AMSL)  
(DECEMBER 07, 2011)
- (270.61) GROUNDWATER ELEVATION (ft AMSL)  
(DECEMBER 07, 2011)
- \* GROUNDWATER ELEVATION NOT USED  
FOR CONTOURING
- ← GROUNDWATER FLOW DIRECTION
- GT-12 EXISTING GROUND WATER MONITORING WELL
- U8-SB-1 SOIL BORING LOCATION
- ⊕ VR1-1 2001 GROUNDWATER MONITORING WELL
- ⊕ VR1-9 2011 GROUNDWATER MONITORING WELL
- B16-SS-1 SURFACE SOIL SAMPLE LOCATION
- SMH MANHOLE
- CB CATCH BASIN
- - - PROPERTY BOUNDARY LINE
- - - CHAIN LINK FENCE



**Figure 3**

**GROUNDWATER CONTOURS  
(DECEMBER 7, 2011)  
VRI RIVERVIEW FACILITY  
Schenectady, New York**





VRI-3	10/16/01	04/02/02	9/30/09	10/12/11	12/5/11	NYSDEC CRITERIA
VOCs	-	-	15	-	-	5
1,2,4-Trimethylbenzene	-	-	11	-	-	5
1,3,5-Trimethylbenzene	-	-	84	6	6.5	5
Isopropylbenzene	-	-	13	-	-	5
n-Propylbenzene	-	-	-	-	-	5

GT-15	10/18/01	04/04/02	10/01/09	10/11/11	12/6/11	NYSDEC CRITERIA
VOCs	-	-	-	-	-	5
Trichloroethene	-	-	-	-	-	5

GT-16	10/17/01	04/04/02	10/01/09	10/11/11	12/5/11	NYSDEC CRITERIA
VOCs	-	13	14	8.7	6.0	5
Trichloroethene	-	-	-	-	-	5

GT-7	10/18/01	04/04/02	10/02/09	10/11/11	12/5/11	NYSDEC CRITERIA
VOCs	46	-	-	-	-	1
Benzene	82	-	-	-	-	5
Ethylbenzene	5.2	-	-	-	-	5
Toluene	-	-	-	-	-	5
Xylene (Total)	350	-	-	-	-	5

GT-9	10/16/01	04/02/02	10/02/09	12/22/09	12/9/11	NYSDEC CRITERIA
VOCs	-	-	-	-	-	1
Benzene	-	8.4	-	-	-	5
Ethylbenzene	-	96	-	-	-	5
Xylene (Total)	8.2	230	NS	-	-	5
1,3,5-Trimethylbenzene	NS	380J	NS	-	-	5
1,2,4-Trimethylbenzene	NS	69	NS	-	-	5
Isopropylbenzene	NS	62	NS	-	-	5
n-Propylbenzene	NS	-	-	-	-	5

VRI-1	10/18/01	04/02/02	10/05/09	12/22/09	10/12/11	12/7/11	NYSDEC CRITERIA
VOCs	-	-	-	18	-	8.4J	5
Ethylbenzene	-	ND50/380J	-	-	-	9.1J	5
Methylene chloride	670	880J/510J	8,700	3,100	3,700	3,800	5
Xylene (total)	NS	510/370	5,400	1,500	3,200	2,500	5
1,3,5-Trimethylbenzene	NS	1,500/1,100	14,000	3,700	6,200	4,900	5
1,2,4-Trimethylbenzene	NS	85J/39J	820	250	110J	89	5
Isopropylbenzene	NS	110J/940J	870	230	-	53	5
n-Propylbenzene	NS	-	-	-	-	-	5

VRI-9	10/12/11	12/7/11	NYSDEC CRITERIA
VOCs	-	-	-
Chloroform (Trichloromethane)	8.3	-	7

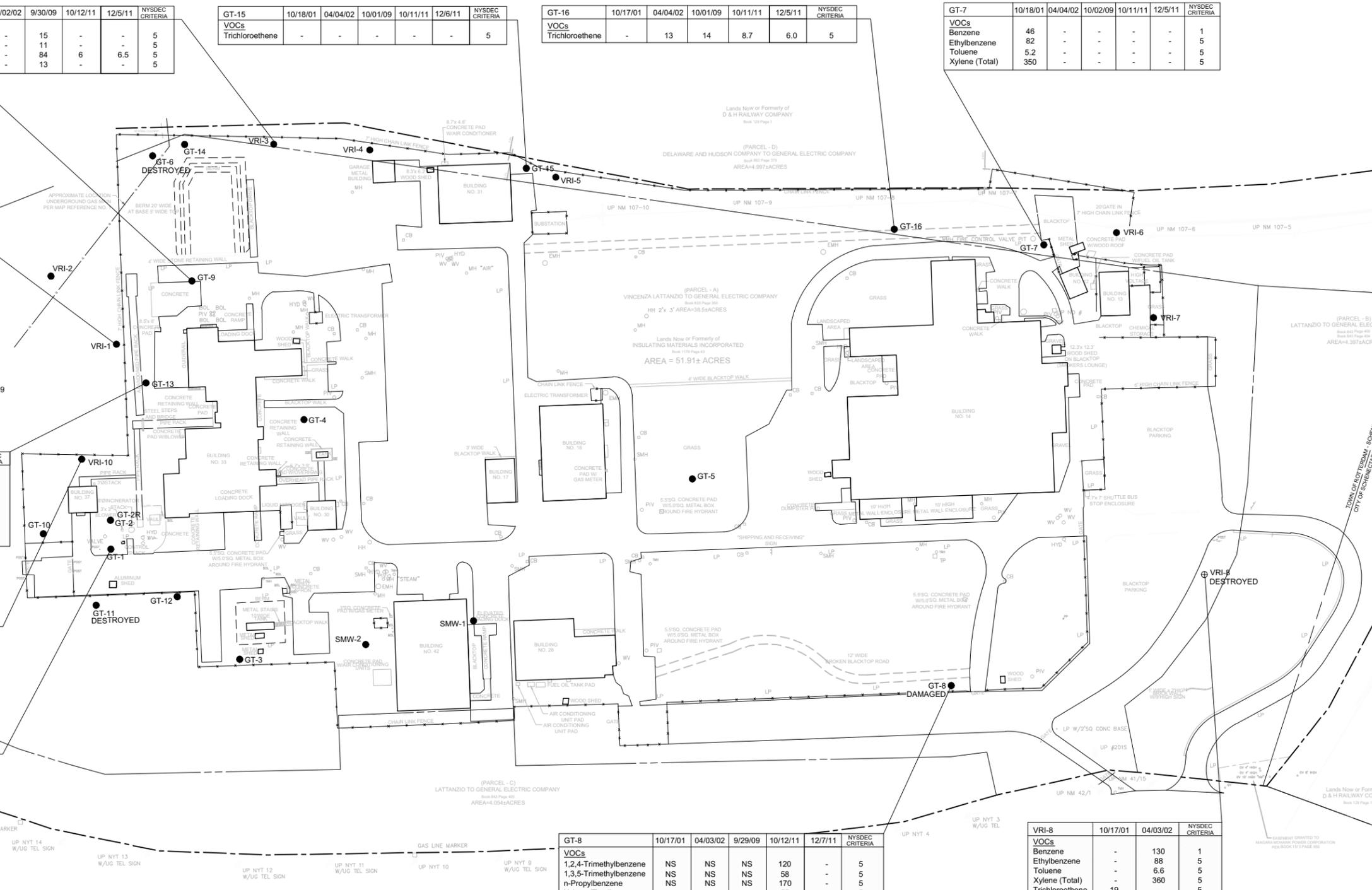
GT-13	10/16/01	04/02/02	10/06/09	10/12/11	12/7/11	NYSDEC CRITERIA
VOCs	1.1	-	-	-	-	1
Benzene	NS	-	-	-	-	5
1,2,3-Trichloropropane	NS	-	5.9	-	-	5
1,2,4-Trimethylbenzene	NS	-	20	-	-	5
1,3,5-Trimethylbenzene	NS	-	-	-	-	5
Xylene (Total)	NS	-	-	-	-	5
Isopropylbenzene	NS	-	-	-	-	5
n-Propylbenzene	NS	-	-	-	-	5

VRI-10	10/13/11	11/15/11	12/6/11	NYSDEC CRITERIA
VOCs	-	-	-	-
Chloroform (Trichloromethane)	20	-	-	7

GT-1	10/17/01	04/03/02	09/30/09	NYSDEC CRITERIA
VOCs	-	-	-	0.6
1,1-Dichloroethane	-	-	-	1
Benzene	-	-	-	5
Ethylbenzene	-	-	-	5
Methylene chloride	-	-	-	5
Toluene	-	-	-	5
Xylene (total)	-	-	-	5

GT-8	10/17/01	04/03/02	9/29/09	10/12/11	12/7/11	NYSDEC CRITERIA
VOCs	NS	NS	NS	120	-	5
1,2,4-Trimethylbenzene	NS	NS	NS	58	-	5
1,3,5-Trimethylbenzene	NS	NS	NS	170	-	5
n-Propylbenzene	-	-	-	55	-	5
Xylene (Total)	-	-	-	-	-	5

VRI-8	10/17/01	04/03/02	NYSDEC CRITERIA
VOCs	-	130	1
Benzene	-	88	5
Ethylbenzene	-	6.6	5
Toluene	-	360	5
Xylene (Total)	-	-	5
Trichloroethene	19	-	5



**FIGURE 3a**

**LEGEND**

- VRI-1 GROUNDWATER MONITORING WELL
- SMH MANHOLE
- CB CATCH BASIN
- - - PROPERTY BOUNDARY LINE
- - - CHAIN LINK FENCE

**ESTIMATED VALUE**

- J ESTIMATED VALUE
- ND NOT DETECTED AT ASSOCIATED CONCENTRATION
- NA NOT ANALYZED
- NS NOT SAMPLED

LOCATION ID	SAMPLE DATE	NYSDEC GROUNDWATER CLASS GR CRITERIA EXCEEDANCES (µg/L)
VRI-8	10/17/01	19
VOCs	-	-
Benzene	-	1
Ethylbenzene	-	5
Toluene	-	5
Xylene (Total)	-	5
Trichloroethene	-	5

PARAMETER - CONCENTRATION (µg/L)  
NO EXCEEDANCE OF CRITERIA/NOT ANALYZED

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST DATE ACCORDINGLY.

No.	Revision	Date	Initial

Approved

VRI-RIVERVIEW FACILITY  
Schenectady, New York

**GROUNDWATER EXCEEDANCES - VOCs**

**CONESTOGA-ROVERS & ASSOCIATES**

Source Reference: \_\_\_\_\_ Date: FEBRUARY 2012

Project Manager: J.K.P.	Reviewed By: J.H.	Designed By: _____	Drawn By: G.R.B.
Scale: AS SHOWN	Project No: 18631-50	Report No: 011	Drawing No: PLAN 3a

GT-9	10/16/01	04/02/02	10/02/09	12/22/09	12/9/11	NYSDEC CRITERIA
Metals						
Antimony	4.4	-	NS	NS	NS	3
Beryllium	-	-	NS	NS	NS	3
Lead	-	-	NS	NS	NS	25
Manganese	-	1,280	NS	NS	NS	300
Iron	-	877	NS	NS	NS	300
Sodium	-	39,400	NS	NS	NS	20,000
VOCs						
Benzene	-	-	-	-	-	1
Ethylbenzene	-	8.4	-	-	-	5
Xylene (Total)	8.2	96	-	-	-	5
1,3,5-Trimethylbenzene	NS	230	NS	-	-	5
1,2,4-Trimethylbenzene	NS	380J	NS	-	-	5
Isopropylbenzene	NS	69	NS	-	-	5
n-Propylbenzene	NS	62	NS	-	-	5
SVOCs						
Dieldrin	0.0056 J	-	-	NS	NS	0.004
Isophrone	-	-	-	NS	NS	50
4-Nitroaniline	-	-	-	NS	NS	5
Phenol	-	-	-	NS	NS	1
2,4-Dimethylphenol	-	3.1 J	-	NS	NS	1

GT-14	10/16/01	04/02/02	10/02/09	NYSDEC CRITERIA
Metals				
Iron	4,710	655	NS	300
Lead	-	-	NS	25
Magnesium	-	-	NS	35,000
Manganese	-	-	NS	300
Phenol	-	-	-	1

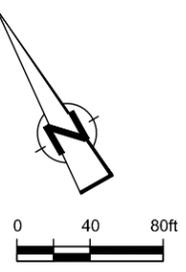
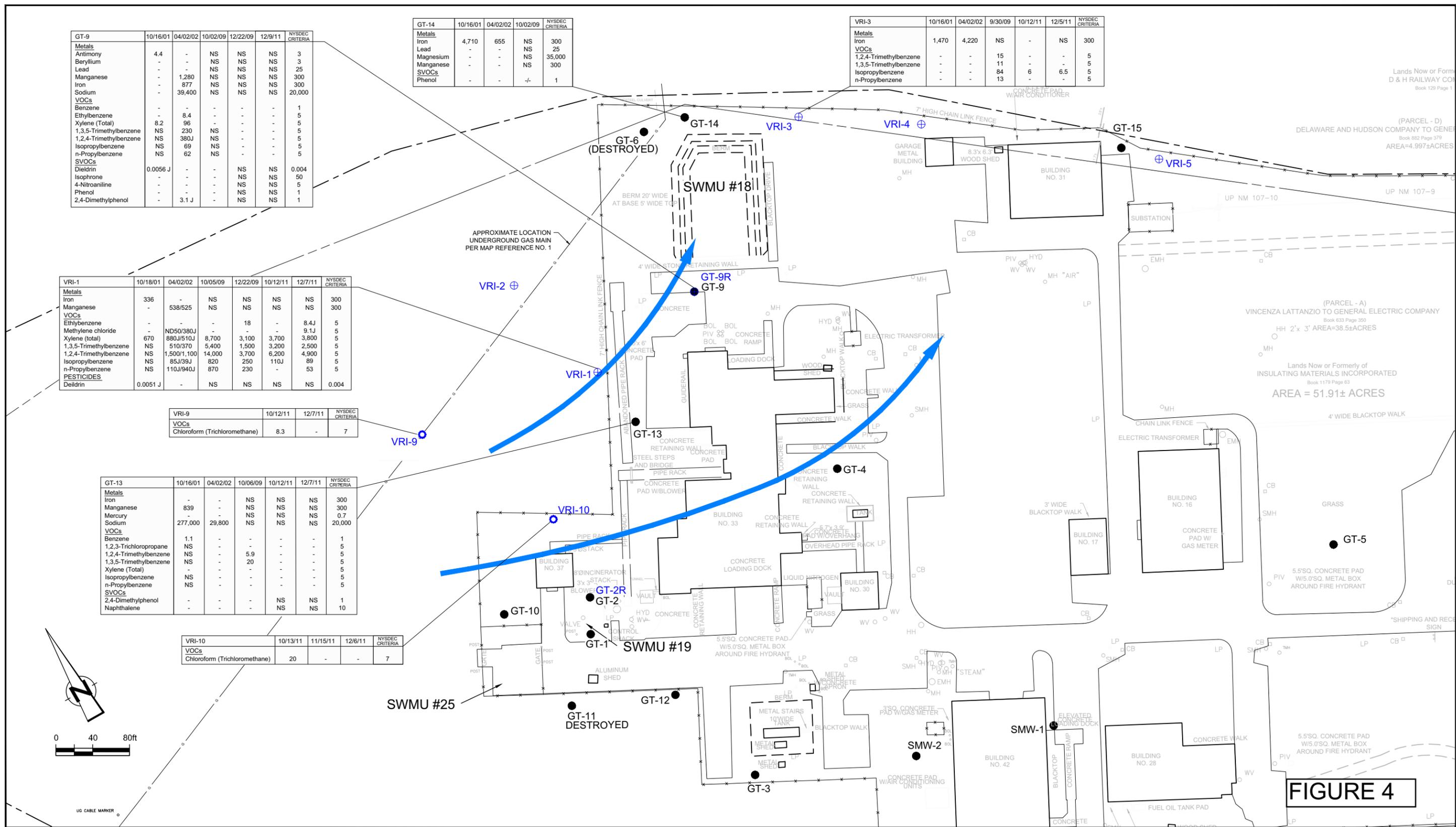
VRI-3	10/16/01	04/02/02	9/30/09	10/12/11	12/5/11	NYSDEC CRITERIA
Metals						
Iron	1,470	4,220	NS	-	NS	300
VOCs						
1,2,4-Trimethylbenzene	-	-	15	-	-	5
1,3,5-Trimethylbenzene	-	-	11	-	-	5
Isopropylbenzene	-	-	84	6	6.5	5
n-Propylbenzene	-	-	13	-	-	5

VRI-1	10/18/01	04/02/02	10/05/09	12/22/09	10/12/11	12/7/11	NYSDEC CRITERIA
Metals							
Iron	336	-	NS	NS	NS	NS	300
Manganese	-	538/525	NS	NS	NS	NS	300
VOCs							
Ethylbenzene	-	-	-	18	-	8.4J	5
Methylene chloride	-	ND50/380J	-	-	-	9.1J	5
Xylene (total)	670	880J/510J	8,700	3,100	3,700	3,800	5
1,3,5-Trimethylbenzene	NS	510/370	5,400	1,500	3,200	2,500	5
1,2,4-Trimethylbenzene	NS	1,500/1,100	14,000	3,700	6,200	4,900	5
Isopropylbenzene	NS	85J/39J	820	250	110J	89	5
n-Propylbenzene	NS	110J/940J	870	230	-	53	5
PESTICIDES							
Dieldrin	0.0051 J	-	NS	NS	NS	NS	0.004

VRI-9	10/12/11	12/7/11	NYSDEC CRITERIA
VOCs			
Chloroform (Trichloromethane)	8.3	-	7

GT-13	10/16/01	04/02/02	10/06/09	10/12/11	12/7/11	NYSDEC CRITERIA
Metals						
Iron	-	-	NS	NS	NS	300
Manganese	839	-	NS	NS	NS	300
Mercury	-	-	NS	NS	NS	0.7
Sodium	277,000	29,800	NS	NS	NS	20,000
VOCs						
Benzene	1.1	-	-	-	-	1
1,2,3-Trichloropropane	NS	-	-	-	-	5
1,2,4-Trimethylbenzene	NS	-	5.9	-	-	5
1,3,5-Trimethylbenzene	NS	-	20	-	-	5
Xylene (Total)	-	-	-	-	-	5
Isopropylbenzene	NS	-	-	-	-	5
n-Propylbenzene	NS	-	-	-	-	5
SVOCs						
2,4-Dimethylphenol	-	-	-	NS	NS	1
Naphthalene	-	-	-	NS	NS	10

VRI-10	10/13/11	11/15/11	12/6/11	NYSDEC CRITERIA
VOCs				
Chloroform (Trichloromethane)	20	-	-	7



**FIGURE 4**

**LEGEND**

- GT-12 EXISTING GROUND WATER MONITORING WELL
- ⊕ VRI-1 2001 GROUNDWATER MONITORING WELL
- ⊕ VRI-9 2011 GROUNDWATER MONITORING WELL
- SMH MANHOLE
- CB CATCH BASIN
- - - PROPERTY BOUNDARY LINE
- - - CHAIN LINK FENCE
- GROUNDWATER FLOW DIRECTION
- J ESTIMATED VALUE
- ND NOT DETECTED AT ASSOCIATED CONCENTRATION
- NA NOT ANALYZED
- NS NOT SAMPLED

LOCATION ID	SAMPLE DATE	NYSDEC GROUNDWATER CLASS GA CRITERIA EXCEEDANCES (µg/L)
VRI-1	10/18/01	Metals Iron 336 Manganese -
		CONCENTRATION (µg/L) NO EXCEEDANCE OF CRITERIA/NOT ANALYZED

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

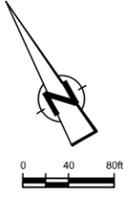
No.	Revision	Date	Initial

Approved

**VRI-RIVERVIEW FACILITY**  
Schenectady, New York

**GROUNDWATER EXCEEDANCES -**  
VRI-1 AREA

<b>CONESTOGA-ROVERS &amp; ASSOCIATES</b>		Date: OCTOBER 2012	
Source Reference:	Project Manager: J.K.P.	Reviewed By: J.H.	Designed By:
	Scale: AS SHOWN	Project No: 18631-50	Report No: 011
			Drawn By: G.R.B.
			Drawing No: PLAN 4



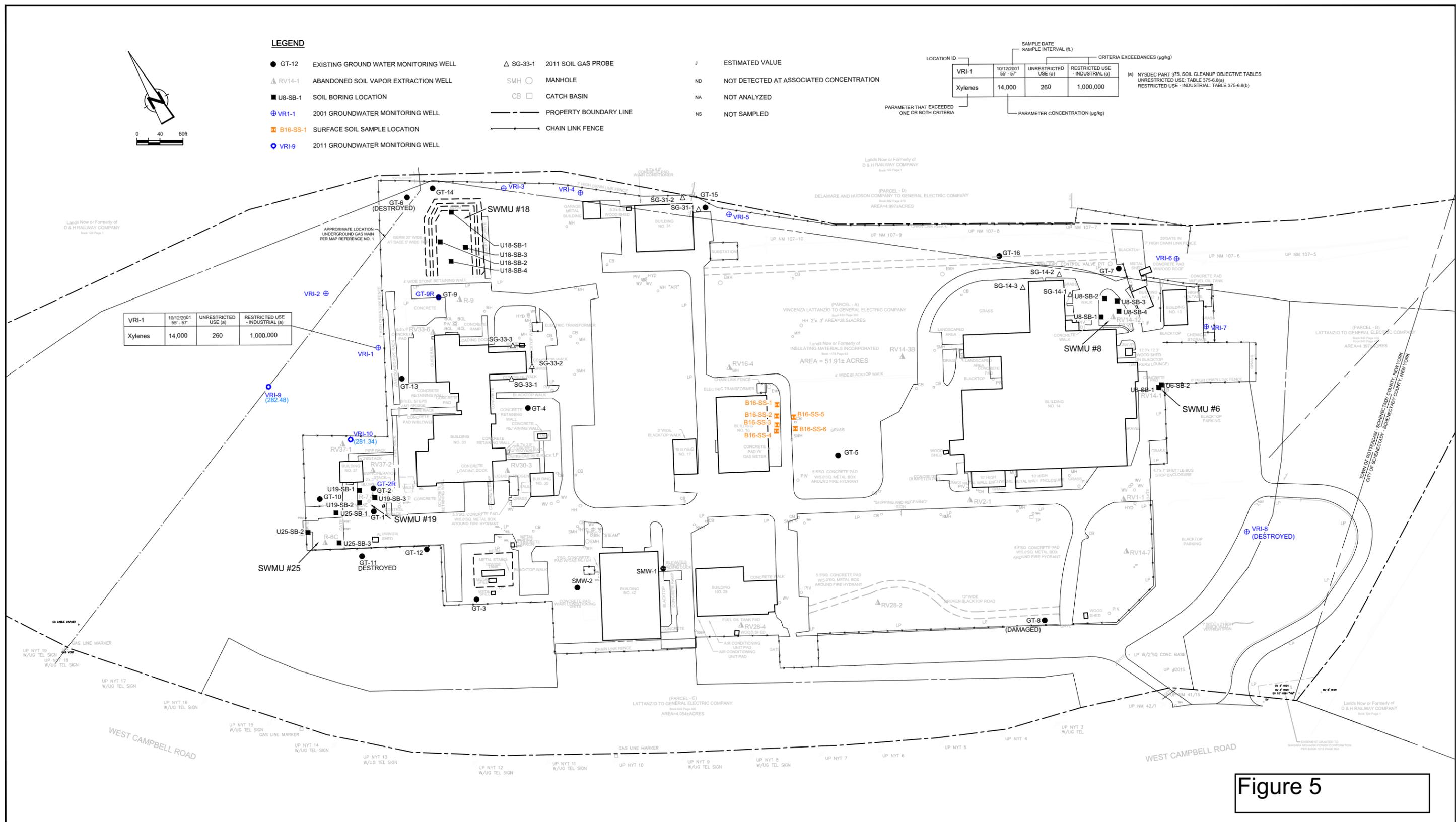
**LEGEND**

- GT-12 EXISTING GROUND WATER MONITORING WELL
- ▲ RV14-1 ABANDONED SOIL VAPOR EXTRACTION WELL
- U8-SB-1 SOIL BORING LOCATION
- ⊕ VR1-1 2001 GROUNDWATER MONITORING WELL
- ⊠ B16-SS-1 SURFACE SOIL SAMPLE LOCATION
- VR1-9 2011 GROUNDWATER MONITORING WELL
- △ SG-33-1 2011 SOIL GAS PROBE
- SMH ○ MANHOLE
- CB □ CATCH BASIN
- — — — — PROPERTY BOUNDARY LINE
- — — — — CHAIN LINK FENCE
- J ESTIMATED VALUE
- ND NOT DETECTED AT ASSOCIATED CONCENTRATION
- NA NOT ANALYZED
- NS NOT SAMPLED

LOCATION ID	SAMPLE DATE		CRITERIA EXCEEDANCES (µg/kg)	
	10/12/2001	55' - 57'	UNRESTRICTED USE (a)	RESTRICTED USE - INDUSTRIAL (a)
VR1-1			260	1,000,000
Xylenes	14,000			

(a) NYSDEC PART 375, SOIL CLEANUP OBJECTIVE TABLES  
UNRESTRICTED USE - TABLE 375-6.8(a)  
RESTRICTED USE - INDUSTRIAL - TABLE 375-6.8(b)

VR1-1	10/12/2001	UNRESTRICTED USE (a)	RESTRICTED USE - INDUSTRIAL (a)
Xylenes	14,000	260	1,000,000



**Figure 5**

SCALE VERIFICATION: THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

No	Revision	Date	Initial

Approved

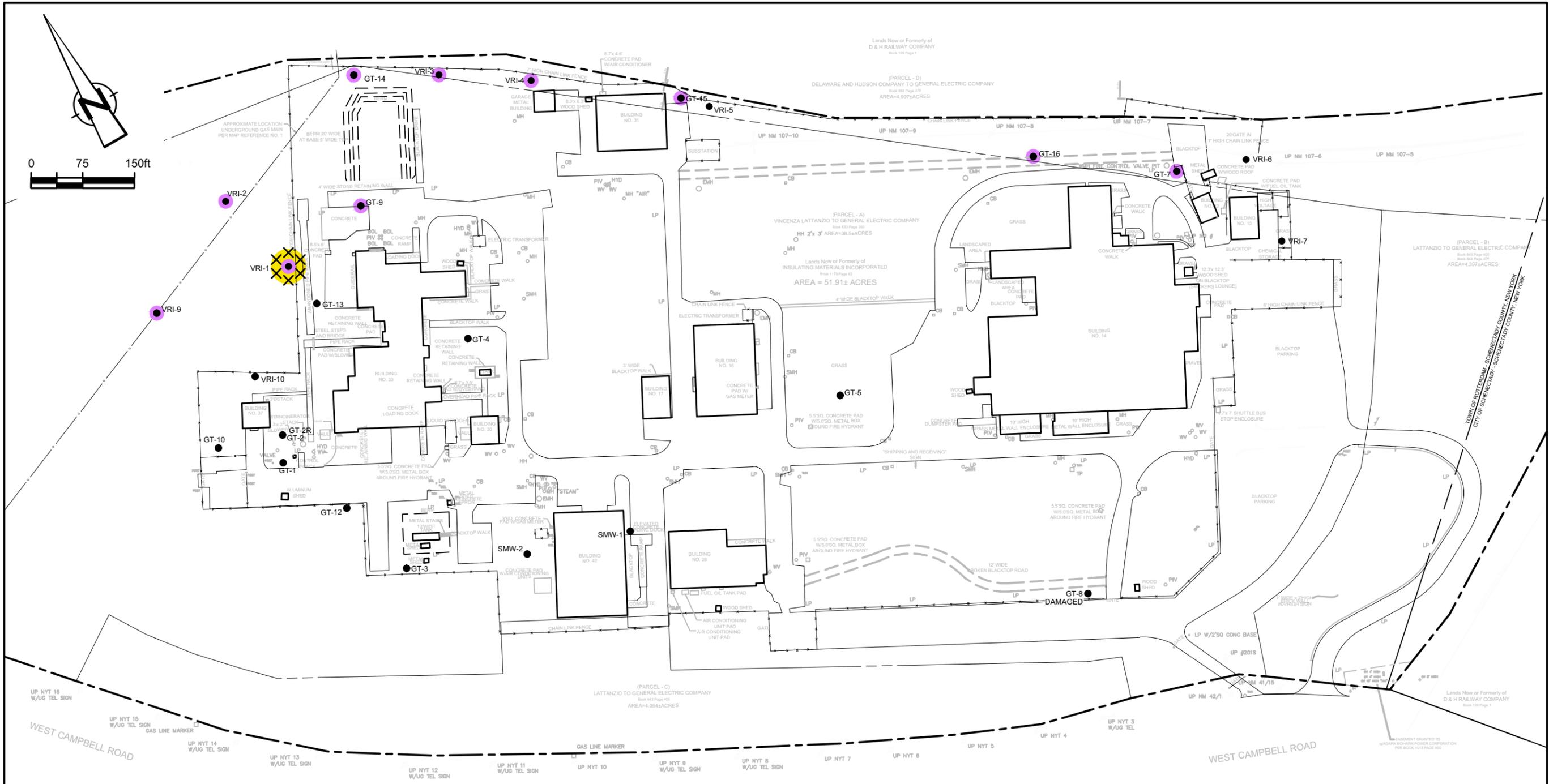
VRI-RIVERVIEW FACILITY  
Schenectady, New York

2001 BOREHOLE AND SURFACE SOIL  
SAMPLING LOCATIONS

**CRA CONESTOGA-ROVERS & ASSOCIATES**

Source Reference:		Date:	
		FEBRUARY 2012	
Project Manager:	Reviewed By:	Designed By:	Drawn By:
J.K.P.	J.H.		G.R.B.
Scale:	Project No:	Report No:	Drawing No:
AS SHOWN	18631-50	011	





**LEGEND**

● VRI-1	GROUNDWATER MONITORING WELL	●	MONITORING WELL TO BE SAMPLED FOR VOCs AND SITE-SPECIFIC VOCs
SMH ○	MANHOLE	●	APPROXIMATE AREA OF IMPACTED GROUNDWATER
CB □	CATCH BASIN	×	PROPOSED ISCO INJECTION WELL
---	PROPERTY BOUNDARY LINE		
— — —	CHAIN LINK FENCE		

**FIGURE 7**

**ALTERNATIVE 3 COMPONENTS  
VRI-RIVERVIEW FACILITY  
Schenectady, New York**



# **APPENDIX A**

## **Responsiveness Summary**

# RESPONSIVENESS SUMMARY

**GE Riverview  
Town of Rotterdam, Schenectady County, New York  
Site No. 447005**

The Proposed Remedial Action Plan (PRAP) for the GE Riverview 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 January 30, 2013. The PRAP outlined the remedial measures proposed for the contaminated soil and groundwater at the GE Riverview 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 February 13, 2013, which included a presentation of the Remedial Investigation/ Feasibility Study (RI/FS) for the GE Riverview 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 1, 2013.

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:

*There were two comments from the attorney for the property owner during the public meeting.*

**COMMENT 1:** What will be the specifics of the cover system called for in the remedy?

**RESPONSE 1:** The cover system as described in the remedy consists of maintaining the upper one foot of existing surficial soil, pavement and buildings. No additional cover system is required.

**COMMENT 2:** Will the site management plan (SMP) require a soils management plan if the owner wants to do an expansion of the plant buildings?

**RESPONSE 2:** The specifics of the site management plan have not been developed, but typically an excavation plan is a component. The expectation is that sampling would be necessary if site development occurs in areas of the plant that were not previously characterized. The intent of the sampling would be to show that soil in these newly developed areas meets the industrial soil clean-up objectives (SCOs) or if not, a plan to manage it such that the surface soil continues to meet industrial SCOs or is otherwise covered by the development.

*General Electric submitted a letter dated March 1, 2013 which included the following comments:*

**COMMENT 3:** PRAP Section 5: The ownership and operational history of the industrial manufacturing site establishes that GE, IMI and VRI all owned and conducted industrial operations on the site. However, only General Electric Company is listed as a Potentially Responsible Party (PRP) in the PRAP. Based on the site history, it is clear that other PRPs include the current owner and the former owner. The PRAP provides no explanation as to why these other companies are not listed as PRPs; and it is particularly important for the Department to identify all of the PRPs given the institutional and engineering control obligations established in the PRAP such as, but not limited to, the filing of an environmental easement, control of site access, the maintenance of institutional controls and any future change of use activities that would require compliance with a Site Management Plan. These IC/EC obligations require actions by the property owner. Absent evidentiary based reasons to eliminate the current and former owner/operators from listing as PRPs, Section V of the PRAP should be revised to list the former and current industrial site owners and these parties should be identified in the Record of Decision (ROD).

**RESPONSE 3 :** The Department has reviewed the ownership and operational history of the Site, and will modify the PRAP to include the current owner and operator, Von Roll USA Inc (“VRI”) and Insulating Materials Incorporated (“IMI”), respectively, to the list of potentially responsible parties (“PRPs”). We are including these entities as current owner and operator, but not for the reason that is stated within your comments. If an entity executes an Order with the Department, the current owner does not have to be on the Order for the necessity of executing an institutional and engineering control. If an owner refuses to execute an environmental easement on their property, there are other available institutional and engineering controls that can be placed on the property without the owner’s consent.

**COMMENT 4:** PRAP Sections 6.4 & 6.5: Soil Vapor: As mentioned in Section 6.3 and page 4 of Exhibit A of the PRAP, a soil vapor investigation was performed in 2011. The results of the evaluation were reported to NYSDEC and New York State Department of Health (NYSDOH) in a November 10, 2011 report from Conestoga Rovers & Associates (CRA) to NYSDEC. The report established that the Soil Vapor Intrusion (SVI) evaluation supported a determination of no further action for the soil and groundwater at the facility to address any potential exposure concern via the SVI pathway. In a December 20, 2011 letter, NYSDEC and NYSDOH agreed with the report and stated “no further sampling is necessary at this site regarding soil vapor”. Consistent with this earlier determination, page 4 of Exhibit A of the PRAP explained that based on the site investigation data, no site related soil vapor contamination of concern was identified and no remedial alternatives for vapor need to be evaluated beyond institutional controls. The PRAP established that, based upon the evaluation of soil vapor potential, there was no on-site impact. [Exhibit A, Page 4]. Based upon the data and the findings in the PRAP, GE suggests that:

(1) the mitigation RAO for “existing soil vapor intrusion” should be removed from the ROD because the data established that there is no existing soil vapor intrusion condition and therefore no mitigation is required; mitigation is not applicable. Reference to mitigation of impacts resulting from existing soil vapor, where there is no existing soil vapor intrusion condition, is misleading and inconsistent with the data;

(2) the mitigation RAOs for the theoretical “potential for soil vapor intrusion” should be modified to clarify and limit the language to address only the potential change of use of the property that, if

undertaken, would involve soil vapor sampling to confirm that soil vapor is not an issue. There is no basis to establish mitigation as an RAO for a speculative future development because of a theoretical vapor intrusion condition that has been assessed and found not to exist on the industrial site.

As written, the soil vapor RAO, insofar as it references mitigation, should be either eliminated or modified to be consistent with the data. There is no vapor intrusion condition on the property that requires mitigation. Therefore, mitigation should not be a component of the remedial action objectives for the site. To the extent that the Department expects a future change of use of the property to non-industrial, vapor intrusion sampling could be a component of a site management plan, but it is not a remedial action objective for the present site condition, it is not necessary to eliminate any significant threat condition on the site, and it is not necessary for the protection of human health or the environment given the present conditions on the property.

**RESPONSE 4:** The Remedial Action Objective (RAO) for public health protection due to soil vapor is to “Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at the site.” This wording is used state-wide when there are existing, or potential, soil vapor intrusion concerns at a site. Volatile organic compounds (VOCs) have been detected in samples from on-site groundwater monitoring wells. Soil vapor samples were also collected and analyzed to evaluate the nature and extent of soil vapor contamination. Based on the concentrations detected, and in comparison with the State’s Soil Vapor Intrusion Guidance (NYSDOH 2006), no site-related soil vapor contamination of concern was identified during the RI. Given the detections in groundwater and that the sub-slab soil vapor beneath all buildings on-site were not tested for the presence of VOCs in the soil vapor due to their industrial use, the potential exists for vapor intrusion to occur in the future should redevelopment or a new use of the buildings be contemplated.

As stated in the PRAP, there is no current impact from soil vapor intrusion at the site. However, if the use of the current on-site buildings changes, or if buildings are newly occupied, the potential for soil vapor intrusion exists and should be evaluated. Based on this, the RAO for soil vapor will remain in the ROD.

**COMMENT 5: PRAP Section 7, Item #2: Site Cover** As Section 6.2 of the PRAP briefly outlines, numerous investigations and remedial actions have been undertaken at the facility in the last 30 years. The Remedial Investigation (RI) conducted at the site took into account all the previous investigations and remedial actions that have been implemented at the industrial facility. As noted in Exhibit A, all soil samples results are below 6NYCRR Part 375 residential standards. The data establishes that soil quality at the industrial site comply with residential, restricted residential, commercial and industrial soil cleanup objectives. Only one soil sample collected at depth of 55’ -57’ feet below ground was found to even exceed the unrestricted soil cleanup level. This sample was found to contain xylene at a concentration of 14 ppm, nearly two orders of magnitude below the industrial cleanup level of 1,000 ppm and much less than the residential cleanup level of 100 ppm. There is no other soil contaminated with any compound in excess of the unrestricted soil cleanup objectives at the site.

As discussed in Section 3 & 4 of the PRAP, the site is zoned heavy industrial and the reasonably

anticipated future use of the property is industrial (Exhibit A, Page 9). The inclusion of a so called “site cover” was not deemed necessary in the Focused Feasibility Study (FFS) for the site because there is no data based reason for the requirement of a site cover. To the extent that a change of use is made of the site in the future, the party seeking the change of use would be responsible for notifying the Department and, based upon the change of use, the Department could require certain actions; however there is no soil condition on this industrial site, given its current and anticipated future industrial use, that requires a site soil cover. Absent data reflecting exceedences of applicable soil cleanup objectives on the surface of the site, the soil cover requirement should be removed as an element of the final ROD remedy.

**RESPONSE 5:** The site cover system requirement was included since not every area on-site was thoroughly sampled. The remedial investigation was targeted toward specific areas where releases may have occurred. Some areas that were not specifically sampled include areas under existing on-site buildings, roadways and sidewalks.

An adequate site cover currently exists and must be maintained to allow for continued industrial use of the site. The maintenance of the site cover system element of the remedy is intended to address changes or development of the existing site layout and the fact that potential future changes to these site features need to consider unknown conditions that may exist. The site cover system requirement remains unchanged in the ROD.

**COMMENT 6:** PRAP Section 7, Item #4: Institutional Control The Institutional Control provisions in the ROD should be modified and clarified to provide that the site owner PRP, or future site owner, are responsible for the implementation of those institutional controls, such as the filing of an environmental easement or the restrictions on the use of groundwater, because a non-owner PRP is not legally permitted to implement such measures on another entity’s property. Similarly, components of an SMP, required by the IC provision, such as site access controls and future change of use related actions, are the obligations of the site owner PRP.

**RESPONSE 6:** The environmental easement runs with the land and will directly reference the Site Management Plan (SMP) which will need to be developed and must be followed by all who occupy the site. The SMP will have periodic certification requirements for ICs and ECs to assure compliance, and the certification requirements will be extended to the owner and remedial party. Also, see response to Comment # 3.

**COMMENT 7:** PRAP Section 7, Item #5: Site Management Plan (SMP) Section 7.5 of the PRAP outlines the requirement for an SMP for the site; including a site cover system and a vapor intrusion (SVI) evaluation provision. As discussed in the preceding comments, the site cover and SVI mitigation provisions should be removed from the PRAP and the ROD. To the extent that an SVI evaluation is required in an SMP, it should be clarified that such an evaluation is required only in the event of a change of use. The monitoring requirement for vapor intrusion “for any buildings occupied” on the site should be eliminated because there is no basis whatsoever for additional soil vapor evaluation to be conducted in the existing buildings.

**RESPONSE 7:** NYSDEC has modified the wording in Section 7, item 5.b, bullet 3 to clarify that this provision applies to any buildings newly (text added) occupied or where there is a change in use. As stated in the PRAP, there is no soil vapor intrusion concern based on current use, but if a building use changes or if a previously unoccupied building were converted for use, soil vapor intrusion will have to be re-evaluated.

**COMMENT 8:** Finally, the site owner PRP must be included in the ROD because certain periodic review reporting requirements and certifications can only be implemented by the site owner PRP.

**RESPONSE 8:** See response to Comment #3.

# **APPENDIX B**

## **Administrative Record**

# Administrative Record

**GE Riverview  
Town of Rotterdam, Schenectady County, New York  
Site No. 447005**

*Proposed Remedial Action Plan for the GE Riverview site*, dated March 2013, prepared by the Department.

Order on Consent, Index No. A4-0363-9802, between the Department and General Electric Company, executed on 6/6/2001.

“Remedial Investigation/Feasibility Study Work Plan”, July 2001, prepared by Conestoga Rovers and Associates

“Remedial Investigation/Feasibility Study Citizen Participation Plan” July 2001, prepared by Conestoga Rovers and Associates

“Remedial Investigation Report”, August 2002, prepared by Conestoga Rovers and Associates

“Supplemental Groundwater Sampling Report”, December 2009, prepared by Conestoga Rovers and Associates

“Groundwater Results-December 2009”, March 2010, prepared by Conestoga Rovers and Associates

“Soil Vapor Intrusion Evaluation Report”, November 2011, prepared by Conestoga Rovers and Associates

“Groundwater Results-December 2011”, January 2012, prepared by Conestoga Rovers and Associates

“Focused Feasibility Study, Von Roll Isola USA, Inc Riverview Facility, Schenectady, New York”, November 2012, prepared by Conestoga Rovers and Associates

Letter dated March 1, 2013 from John Uruskyj, Remedial Project Manager, General Electric Company