

PROPOSED REMEDIAL ACTION PLAN

Former Elite Vogue Dry Cleaners
State Superfund Project
Rochester, Monroe County
Site No. 828164
February 2019



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

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SECTION 1: SUMMARY AND PURPOSE OF THE PROPOSED PLAN

The New York State Department of Environmental Conservation (the Department), in consultation with the New York State Department of Health (NYSDOH), is proposing 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 proposed by this Proposed Remedial Action Plan (PRAP). The disposal of hazardous wastes at this site, as more fully described in Section 6 of this document, has contaminated various environmental media. The proposed remedy is intended to attain the remedial action objectives identified for this site for the protection of public health and the environment. This PRAP identifies the preferred remedy, summarizes the other alternatives considered, and discusses the reasons for the preferred 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 Title 6 of the Official Compilation of Codes, Rules and Regulations of the State of New York; (6 NYCRR) Part 375. This document is a summary of the information that can be found in the site-related reports and documents in the document repository identified below.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all PRAPs. This is an opportunity for public participation in the remedy selection process. The public is encouraged to review the reports and documents, which are available at the following repository:

Monroe County Library System
Monroe Branch Library
809 Monroe Avenue
Rochester, NY 14607
Phone: (585) 428-8202

A public comment period has been set from:

02/13/2019 to 03/13/2019

A public meeting is scheduled for the following date:

03/06/2019

Public meeting location:

Rochester City Hall, 30 Church Street, Room 208A

At the meeting, the findings of the remedial investigation (RI) and the feasibility study (FS) will be presented along with a summary of the proposed remedy. After the presentation, a question-and-answer period will be held, during which verbal or written comments may be submitted on the PRAP.

Written comments may also be sent to:

Matt Dunham
NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233
matthew.dunham@dec.ny.gov

The Department may modify the proposed remedy or select another of the alternatives presented in this PRAP based on new information or public comments. Therefore, the public is encouraged to review and comment on the proposed remedy identified herein. Comments will be summarized and addressed in the responsiveness summary section of the Record of Decision (ROD). The ROD is the Department's final selection of the remedy for this site.

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 Elite Vogue Dry Cleaners site is located at 527-533 East Main Street on a 0.126-acre parcel. The site is located in the downtown area of the City of Rochester, Monroe County.

Site Features: The entire site is covered by a single-story, multi-use commercial building. The building is subdivided into several units including a mini-mart and a diner/luncheonette. It is bordered to the north by East Main Street, to the east by a paved parking lot, to the west by a commercial building and to the south by Haags Alley. An apartment building, with first floor parking, is located on the opposite side of Haags Alley.

Current Zoning/Use(s): The site is currently a multi-occupant small structure and is zoned Center City District (CCD). The CCD is intended to foster a vibrant, safe, twenty-four-hour Center City by encouraging residential development while retaining and further developing a broad range of commercial, office, institutional, public, cultural and entertainment uses and activities.

Past Use(s) of the Site: The site was occupied by a dry cleaner from 1936 through 2003.

Site Geology and Hydrogeology: Groundwater flow is generally to the east. Groundwater was encountered at an average depth of approximately 10 feet below ground surface. Soils consist of fill material, silty sand, with lesser amounts of gravel and clay. Bedrock was encountered at 12 feet below ground surface.

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 commercial use (which allows for industrial use) as described in Part 375-1.8(g) are/is 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 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:

Elite Vogue, Inc

Elite Service Launderers & Dry Cleaners, Inc.

The PRPs for the site declined to implement a remedial program when requested by the Department. After the remedy is selected, the PRPs will again be contacted to assume responsibility for the remedial program. If an agreement cannot be reached with the PRPs, the Department will evaluate the site for further action under the State Superfund. The PRPs are subject to legal actions by the state for recovery of all response costs the state has incurred.

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: <http://www.dec.ny.gov/regulations/61794.html>

6.1.2: RI Results

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

trichloroethene (TCE)
tetrachloroethene (PCE)
1,2,4-trimethylbenzene

cis-1,2-dichloroethene
vinyl chloride

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

- groundwater
- soil
- soil vapor

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 - Tank Removal

A focused IRM was completed in 2014 to identify whether underground storage tanks (UST)s existed within the site building. Inside the building three USTs were discovered. The USTs were subsequently excavated and removed. Before the UST pit was backfilled a passive soil vapor extraction (SVE) system was installed. The passive system is vented to the roof with a wind-driven impeller. At the completion of the IRM a Construction Completion Report (CCR), dated February 2014, was prepared.

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.

Based upon investigations conducted to date, the primary contaminants of concern include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride (VC) and 1,2,4-trimethylbenzene.

Soil - The maximum concentration of 1,2,4-trimethylbenzene found on-site (160 parts per million, or ppm) exceeds the soil cleanup objective (SCO) for unrestricted use (3.6 ppm), but not for commercial use (190 ppm). The maximum concentration of 1,2,4-trimethylbenzene found off-site, adjacent to the site (230 ppm) exceeds the SCOs for unrestricted use (3.6 ppm), and for commercial use (190 ppm). The maximum concentration of cis-1,2-DCE found on-site (16 ppm) exceeds the SCO for unrestricted use (0.25 ppm), but not for commercial use (500 ppm). Concentrations of PCE found at the bottom of tank pit in Area 1 (1,400 ppm) exceeds the SCOs for unrestricted use (1.3 ppm) and for commercial use (150 ppm). PCE and cis-1,2-DCE soil contamination does not extend off-site.

Groundwater:

Overburden: PCE and its associated degradation products are found in overburden groundwater extending less than 150 feet to the east. PCE was detected at a maximum concentration of 19 parts per billion (ppb), exceeding groundwater standards of 5 ppb. TCE was detected at a maximum concentration of 22 ppb exceeding the groundwater standard of 5 ppb. Cis-1,2-DCE was detected at a maximum concentration of 9,300 ppb, exceeding the groundwater standard of 5 ppb. Vinyl Chloride was detected at a maximum concentration of 90 ppb, exceeding the groundwater standard of 2 ppb. 1,2,4-trimethylbenzene was also detected in the overburden groundwater extending less than 100 feet to the east. Concentrations of 1,2,4-trimethylbenzene found in overburden groundwater exceed the groundwater standard (5 ppb), with a maximum concentration of 23,000 ppb.

Bedrock: PCE and its associated degradation products were found in one bedrock well located adjacent to the former Elite Vogue building. PCE was detected at a concentration of 14 ppb, exceeding the groundwater standard of 5 ppb. TCE was detected at a concentration of 74 ppb, exceeding the groundwater standard of 5 ppb. Cis-1,2-DCE was detected at a concentration of 14,000 ppb, exceeding the groundwater standard of 5 ppb. Vinyl chloride was detected at a maximum concentration of 900 ppb, exceeding the groundwater standard of 2 ppb. 1,2,4-trimethylbenzene was not detected in the bedrock groundwater.

Soil Vapor – One sub-slab vapor sample was collected from the passive soil vapor extraction system installed as part of the tank removal IRM. This sample showed that sub-slab soil vapor beneath the on-site building slab contained chlorinated solvents and their breakdown products, including PCE (470 micrograms per cubic meter, or $\mu\text{g}/\text{m}^3$), TCE (1,000 $\mu\text{g}/\text{m}^3$), cis-1,2-dichloroethene (2700 $\mu\text{g}/\text{m}^3$) and vinyl chloride (18 $\mu\text{g}/\text{m}^3$). No concurrent indoor air sample was collected at this time because the sample was collected outside of the recognized heating

season. However, based on the elevated levels of VOCs detected in the sub-slab vapor samples, actions to mitigate the building are recommended. Soil vapor samples taken off-site as part of the investigation of the adjacent 15 Richmond Street site identify VOCs in the off-site soil vapor such as PCE (71.1 µg/m³), TCE (42.7 µg/m³), cis-1,2 DCE (23,600 µg/m³) and vinyl chloride (6,640 µg/m³) believed to be from the Elite Vogue Dry Cleaners site. In 2017 the Department sent letters to the owners of the four adjacent residences, requesting access to conduct soil vapor intrusion sampling, however none of the property owners responded. In 2018 the Department placed hang tags on the doors of seven residential building which include the four adjacent residences previously contacted, to offer soil vapor intrusion sampling for those buildings; to date no responses have been received.

6.4: Summary of Human Exposure Pathways

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

People who dig below the ground surface may come into contact with contaminants in subsurface soil. Contaminated groundwater at the site is not used for drinking or other purposes and the site is served by a public water supply that obtains water from a different source not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) 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. Actions are needed both on and off-site to address the potential for people to come into contact with site related contaminants due to soil vapor intrusion.

6.5: Summary of the Remediation Objectives

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

The remedial action objectives for this site are:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

- Remove the source of ground or surface water contamination.

Soil

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil Vapor

RAOs for Public Health Protection

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

SECTION 7: SUMMARY OF THE PROPOSED 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 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 proposed remedy is set forth at Exhibit D.

The proposed remedy is referred to as the SVE/In-situ chemical oxidation remedy.

The estimated present worth cost to implement the remedy is \$710,000. The cost to construct the remedy is estimated to be \$375,000 and the estimated average annual cost is \$37,000

The elements of the proposed remedy are as follows:

1. A remedial design program will be implemented to provide the details necessary for the construction, operation, optimization, maintenance, and monitoring of the remedial program.

Green remediation principles and techniques will be implemented to the extent feasible in the design, implementation, and site management of the remedy as per DER-31. The major green remediation components are as follows;

- considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- reducing direct and indirect greenhouse 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. A soil vapor extraction (SVE) system will be installed to remove volatile organic compounds (VOCs) from beneath the building slab. VOCs will be physically removed from the soil by applying a vacuum to well(s) that has been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well(s). The air extracted from the SVE well(s) is then treated, as necessary, prior to being discharged to the atmosphere. The number and depth of well(s) will be determined during the remedial design.

3. In-situ chemical oxidation (ISCO) will be implemented to treat contaminants in groundwater in both overburden and bedrock. A chemical oxidant will be injected into the subsurface to destroy the contaminants at the site. The method and depth of injection will be determined during the remedial design.

4. Vapor Mitigation

Any on-site building will be required to have a sub-slab depressurization, or other acceptable measures, to mitigate the migration of vapors into the building from soil and/or groundwater. It is anticipated that the SVE system discussed in remedial element two will serve to mitigate vapor intrusion until such time that its operation is discontinued.

5. A site cover currently exists and will be maintained to allow for commercial use of the site. Any site redevelopment will maintain the existing site cover. The site cover may include paved surface parking areas, sidewalks, building foundations, building slabs or soil where the upper one foot of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for residential commercial use. Any fill material brought to the site will meet the requirements for the identified site use as set forth in 6NYCRR part 375-6.7(d).

6. Any off-site buildings impacted by contaminants emanating from the site will be offered a sub-slab depressurization system, or other acceptable measure, to address exposures related to soil vapor intrusion.

7. Imposition of an institutional control in the form of an environmental easement for the controlled property which will:

- require 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);
- allow the use and development of the controlled property for commercial use as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restrict the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH; and
- require compliance with the Department approved Site Management Plan.

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

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 above.

Engineering Controls: The SVE system and site cover discussed above.

This plan includes, but may not be limited to:

- an Excavation Plan which details the provisions for management of future excavations in areas of remaining contamination;
- a provision that calls for additional effort to obtain access to occupied off-site buildings (including those previously contacted) to conduct soil vapor intrusion investigations, including provisions for implementing actions, as dictated by sampling results, recommended to address exposures related to soil vapor intrusion;
- descriptions of the provisions of the environmental easement including any land use and groundwater;
- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described above will be placed in any areas where the upper one foot of exposed surface soil exceeds the applicable soil cleanup objectives (SCOs);
- provisions for the management and inspection of the identified engineering controls;
- maintaining site access controls and Department notification; and
- the steps necessary for the periodic reviews and certification of the institutional and/or engineering controls.

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

- monitoring of groundwater, soil vapor and soil vapor intrusion to assess the performance and effectiveness of the remedy;
- a schedule of monitoring and frequency of submittals to the Department;

An Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, inspection, and reporting of any mechanical or physical components of the soil vapor extraction system. The plan includes, but is not limited to:

- procedures for operating and maintaining the system(s);
- compliance inspection of the system(s) to ensure proper O&M as well as providing the data for any necessary reporting;
- maintaining site access controls and Department notification;
- providing the Department access to the site and O&M records; and
- monitoring to determine if soil vapor intrusion is impacting the indoor air on and off-site buildings as may be required by the Institutional and Engineering Control Plan as discussed above.

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 for which contamination was identified, a table summarizes the findings of the investigation. The tables present the range of contamination found at the site in the media and compares the data with the applicable SCGs for the site. The contaminants are arranged into 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 4 and Section 6.1.1 are also presented.

Waste/Source Areas

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

Wastes are defined in 6 NYCRR Part 375-1.2(aw) and include solid, industrial and/or hazardous wastes. Source areas are defined in 6 NYCRR Part 375(au). Source areas are areas of concern at a site where substantial quantities of contaminants are found which can migrate and release significant levels of contaminants to another environmental medium.

As a result of the historic use of the site, dry cleaning chemicals were either spilled to the ground surface or to floor drains, where they flowed/leaked into the soil at the site. The historic source area is located beneath the on-site building. In 2014, as part of an IRM, a passive soil vapor extraction (SVE) system was installed as part of a limited source treatment. The passive system is vented to the roof with a wind-driven impeller. While some mass removal was achieved, a source area under the building remains.

Certain waste/source areas identified at the site were addressed by the IRM(s) described in Section 6.2. The remaining waste/source area(s) identified during the RI will be addressed in the remedy selection process.

Groundwater

Groundwater samples were collected from overburden and bedrock monitoring wells. The samples were collected to assess groundwater conditions on and off-site. The results indicate that contamination in shallow groundwater at the site exceeds the SCGs for volatile organic compounds. Contaminant levels in off-site bedrock groundwater does not exceed the guidance values for volatile organic compounds.

Table #1 – Groundwater

Detected Constituents	Concentration Range Detected (ppb) ^a	SCG ^b (ppb)	Frequency Exceeding SCG
VOCs			
Tetrachloroethene (PCE)	0 – 19	5	4/31
Trichloroethene (TCE)	0 – 74	5	3/31
cis-1,2-Dichloroethene	0 – 14,000	5	7/31
Vinyl Chloride	0 – 900	2	6/31
1,2,4-trimethylbenzene	0 – 23,000	5	3/31

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).

Based on the findings of the RI, the past disposal of hazardous waste has resulted in the contamination of groundwater. The site contaminants identified in groundwater which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are, tetrachloroethene (PCE) and its associated degradation products.

Soil

Soil samples were collected at the site during the RI, from on-site and off-site locations to further delineate the historic source area and to evaluate the progress of the IRMs. Soil samples were collected in the vicinity of the historic source area, beneath the former on-site building for analytical analysis primarily for VOCs.

The RI soil sampling results were compared to the applicable Soil Cleanup Objectives (SCOs) for unrestricted use and restricted use/protection of groundwater, as discussed in Section 3, and indicate that the primary contaminants of concern on-site are VOCs that contribute to the potential for, soil vapor intrusion into buildings at the site. Based on the comparison of the soil sampling results to the restricted use SCOs, the protection of groundwater SCOs were selected for the evaluation of the data.

The soil VOC results reveal that a VOC contaminant source still exists on the site. The VOC contamination exceeding the unrestricted and protection of groundwater SCOs was determined to extend from the historic source area beneath the concrete slab of the former Elite Vogue building.

Table #2 - Soil

Detected Constituents	Concentration Range Detected (ppm) ^a	Unrestricted SCG ^b (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use SCG ^c (ppm)	Frequency Exceeding Restricted SCG
VOCs					
Tetrachloroethene (PCE)	0 - 1400	1.3	1/31	1.3	1/31
Trichloroethene (TCE)	0 - 23	0.47	1/31	0.47	1/31
cis-1,2-Dichloroethene	0 - 16	0.25	1/31	0.25	1/31
1,2,4-Trimethylbenzene	0 - 250	3.6	5/31	3.6	5/31

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 Groundwater.

Based on the findings of the Remedial Investigation, the past disposal of hazardous waste has resulted in the contamination of soil. The site contaminants identified in soil which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are 1,2,4-trimethylbenzene, tetrachloroethene (PCE) and its associated degradation products.

Soil Vapor

Given the concentrations of VOCs found in sub-slab vapor samples collected beneath the site building slab, including PCE (470 µg/m³), TCE (1,000 µg/m³), cis-1,2-dichloroethene (2700 µg/m³) and vinyl chloride (18 µg/m³) a soil vapor intrusion evaluation was initiated at nearby off-site properties. After an extensive outreach program, no off-site property owners have agreed to have their properties sampled to evaluate the potential for vapors entering into their property.

Based on the findings of the Remedial Investigation, the disposal of hazardous waste has resulted in the contamination of soil vapor. The site contaminants identified in sub-slab vapor which are considered to be the primary contaminants of concern, to be addressed by the remedy selection process are tetrachloroethene (PCE) and its associated degradation products.

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.

Alternative 1: No Further Action

The No Further Action Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2. This alternative leaves the site in its present condition and does not provide any additional protection of the environment.

Alternative 2: No Further Action with Site Management

The No Further Action with Site Management Alternative recognizes the remediation of the site completed by the IRM(s) described in Section 6.2 and Site Management and Institutional Controls and Engineering Controls are necessary to confirm the effectiveness of the IRM. This alternative maintains engineering controls which were part of the IRM and includes institutional controls, in the form of and environmental easement and site management plan, necessary to protect public health and the environment from contamination remaining at the site after the IRMs.

Present Worth:	\$270,000
Capital Cost:	\$29,000
Annual Costs:	\$36,000

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 soil meets the unrestricted soil clean objectives listed in Part 375-6.8 (a). This alternative will involve the removal of the on-site building slab and shoring of the on-site building. The excavation and off-site disposal of all waste and soil contamination above the unrestricted soil cleanup objectives. Clean fill meeting the requirements of 6 NYCRR Part 375-6.7(d) will be brought in to replace the excavated soil and the on-site building slab replaced. 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:	\$3,000,000
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Alternative 4: Soil Vapor Extraction (SVE) with In-Situ Chemical Oxidation (ISCO)

This alternative would include, soil vapor extraction (SVE) will be implemented to remove volatile organic compounds (VOCs) from beneath the building slab. VOCs will be physically removed from the soil by applying a vacuum to a well(s) that has been installed into the vadose zone (the area below the ground but above the water table). The vacuum draws air through the soil matrix which carries the VOCs from the soil to the SVE well(s). The air extracted from the SVE well(s) is then treated as necessary prior to being discharged to the atmosphere. The number and depth of well(s) will be determined during the remedial design.

In-situ chemical oxidation (ISCO) will be implemented to treat contaminants in groundwater in both overburden and bedrock. A chemical oxidant will be injected into the subsurface to destroy the contaminants. The method and depth of injection will be determined during the remedial design.

<i>Present Worth:</i>	<i>\$710,000</i>
<i>Capital Cost:</i>	<i>\$375,000</i>
<i>Annual Costs:</i>	<i>\$37,000</i>

Exhibit C**Remedial Alternative Costs**

Remedial Alternative	Capital Cost (\$)	Annual Costs (\$)	Total Present Worth (\$)
No Action	\$0	\$0	\$0
No Further Action with Site Management	\$29,000	\$36,000	\$270,000
Restoration to Pre-Disposal or Unrestricted Conditions	\$3,000,000	\$0	\$3,000,000
Soil Vapor Extraction (SVE) with In-Situ Chemical Oxidation (ISCO)	\$375,000	\$37,000	\$710,000

Exhibit D

SUMMARY OF THE PROPOSED REMEDY

The Department is proposing Alternative 4, Soil Vapor Extraction (SVE) with In-Situ Chemical Oxidation (ISCO) as the remedy for this site. Alternative 4 would achieve the remediation goals for the site by drawing air through the soil matrix which carries the VOCs from the soil to the SVE well. The air extracted from the SVE well is then treated, as necessary, prior to being discharged to the atmosphere. In-situ chemical oxidation (ISCO) will be implemented to treat contaminants in groundwater. The elements of this remedy are described in Section 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 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.

The proposed remedy Alternative 4 would satisfy this criterion by drawing air through the soil matrix which carries the VOCs from the soil to the SVE well. The air extracted from the SVE well is then treated, as necessary, prior to being discharged to the atmosphere. In-situ chemical oxidation (ISCO) will be implemented to treat contaminants in groundwater. Alternative 4 addresses the source of the groundwater contamination, which is the most significant threat to public health and the environment. Alternative 1 (No Action) does not provide any protection to public health and the environment and will not be evaluated further. Alternative 3, by removing all soil contaminated above the unrestricted soil cleanup objective, meets the threshold criteria. Alternatives 2 and 4 rely on a restriction of groundwater use at the site to protect human health. The potential for soil vapor intrusion will be significantly reduced by Alternatives 3 and 4. The potential for soil vapor intrusion will remain high under Alternative 2.

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 4 comply with SCGs to the extent practicable. They address source areas of contamination and comply with the restricted use soil cleanup objectives. They also create the conditions necessary to restore groundwater quality to the extent practicable. Alternative 2, also complies with this criterion but to a lesser degree or with lower certainty. Because Alternatives 2, 3, and 4 satisfy the threshold criteria, the remaining criteria are particularly important in selecting a final remedy for the site. It is expected that Alternative 3 will achieve groundwater SCGs in less than 5 years, while groundwater contamination above SCGs will remain on-site under Alternatives 2 and 4 for many years.

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 excavation of the contaminated overburden soils (Alternative 3). Alternative 3 results in removal of almost all of the chemical contamination at the site and removes the need for property use restrictions and long-term monitoring. Alternative 4 would treat the contaminated soil on-site, but it also requires an environmental easement and long-term monitoring. For Alternative 2, site management remains effective, but it will require a longer period of monitoring and maintenance.

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.

Alternative 2 would control potential exposures with institutional controls only, but will not reduce the toxicity, mobility or volume of contaminants remaining. Alternative 3, excavation and off-site disposal, reduces the toxicity, mobility and volume of on-site waste by transferring the material to an approved off-site location. However, depending on the disposal facility, the volume of the material would not be reduced. Alternative 4 requires drawing air through the soil matrix which carries the VOCs from the soil to the SVE well. Only Alternative 4 would permanently reduce the toxicity, mobility and volume of contaminants by use of chemical treatment.

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.

Alternatives 2 through 4 all have short-term impacts which could easily be controlled, however, Alternative 2 would have the smallest impact. The time needed to achieve the remediation goals is the shortest for Alternative 3 and longer for Alternative 4. Alternative 2 takes the longest to achieve the remediation goals.

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.

Alternatives 2 and 4 are favorable in that they are readily implementable. Alternative 3 is also implementable, but the volume of soil excavated under this alternative would necessitate increased truck traffic on local roads for several months.

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

The costs of the alternatives vary significantly. Alternative 2 has a low cost, but the contaminated soil would not be addressed other than by institutional controls. With its large volume of soil to be handled, Alternative 3 (excavation and off-site disposal) would have the highest present worth cost. Soil Vapor Extraction (SVE) with In-Situ Chemical Oxidation (ISCO) (Alternative 4) would be much less expensive than Alternative 3, yet it would provide equal protection of the groundwater resource.

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.

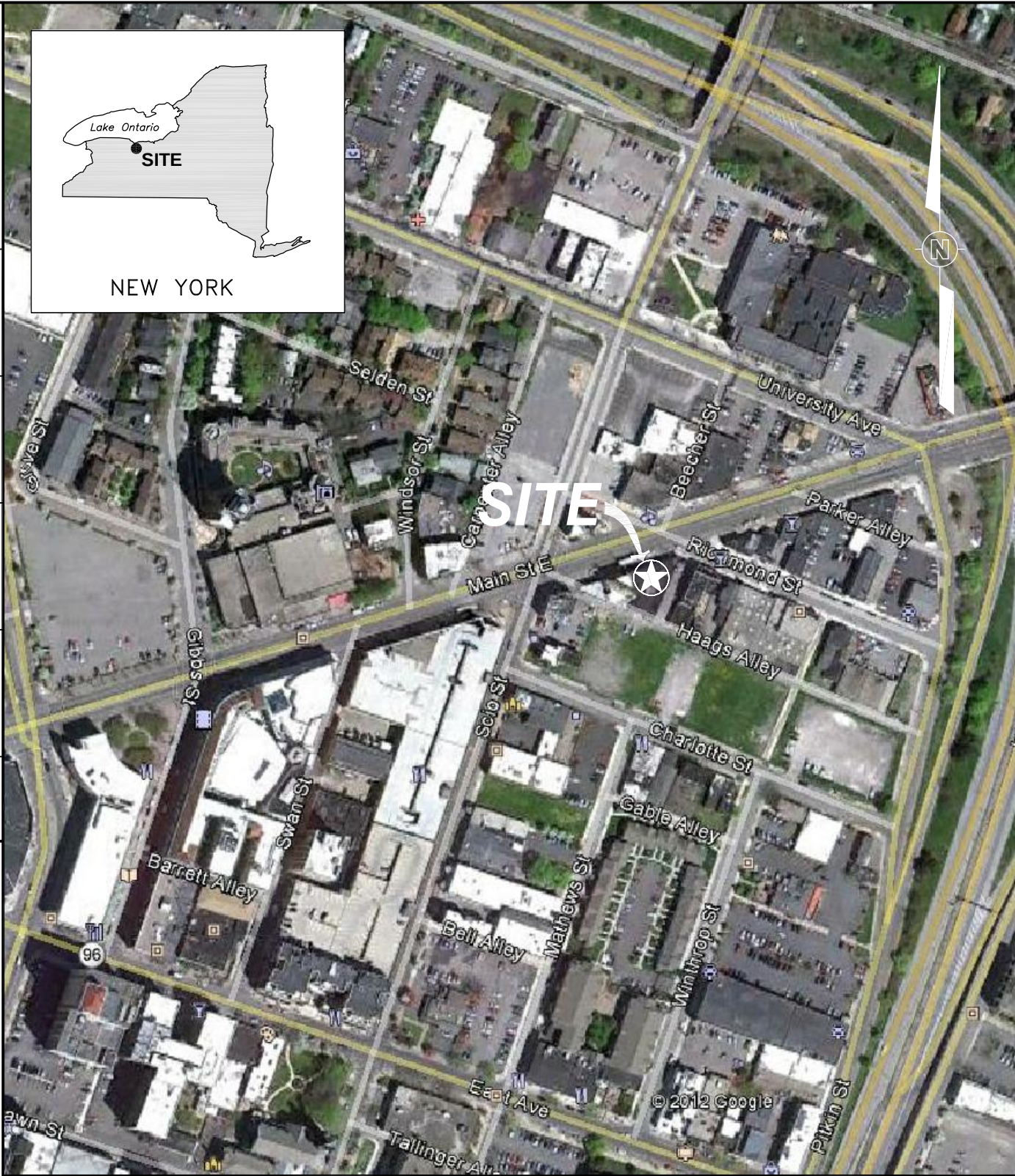
Since the anticipated use of the site is commercial, Alternatives 2 and 4 would be less desirable because at least some contaminated soil would remain on the property whereas Alternative 3 would remove the contaminated soil permanently, resulting in no restrictions on the property. However, the remaining contamination under Alternative 4 would be controllable with implementation of a Site Management Plan.

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

DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
7/25/12	N. Robertson	A. Smith	N. Robertson		134685-25A1



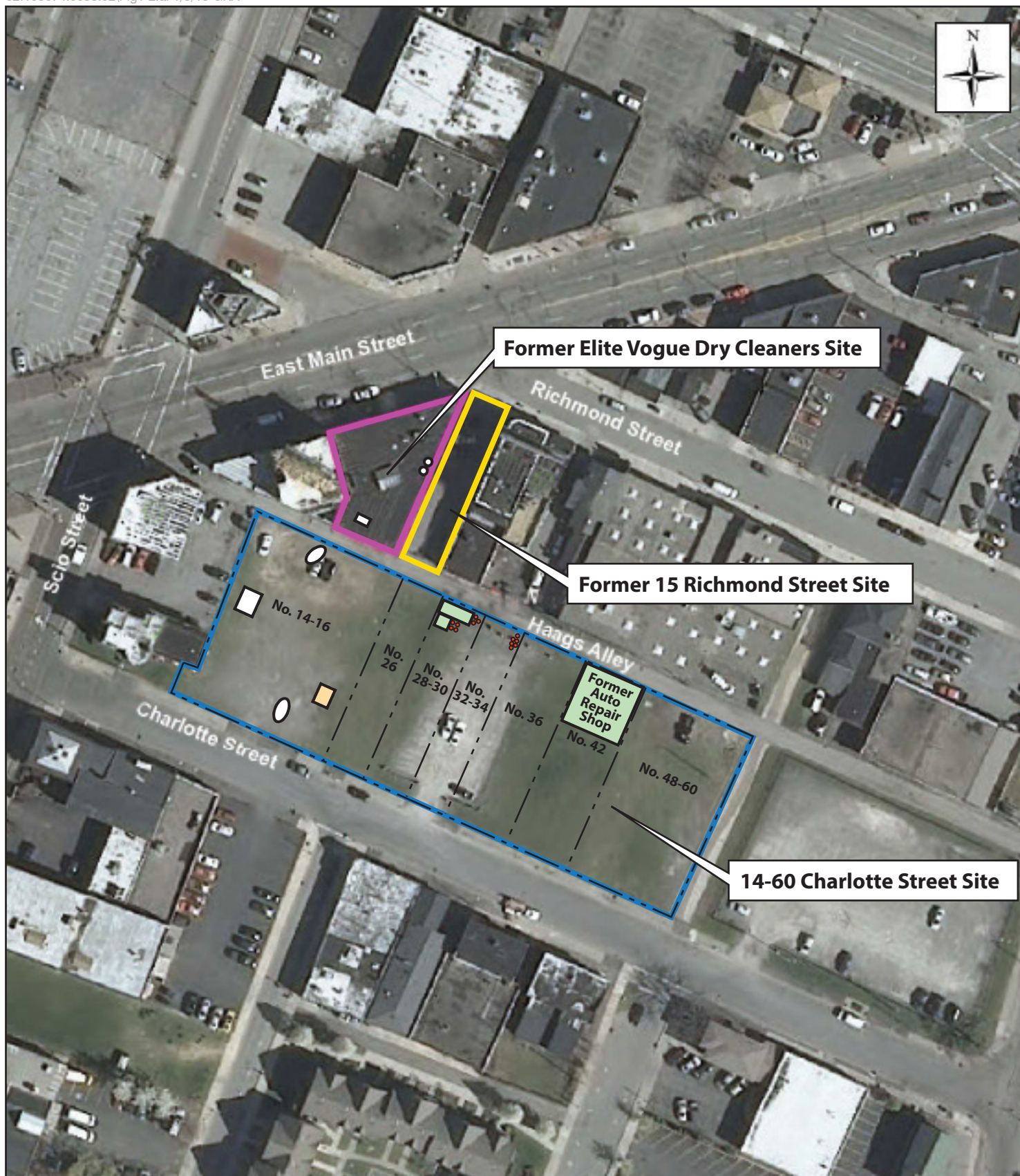
NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION

FIGURE 1

SITE LOCATION MAP
FORMER ELITE VOGUE DRY CLEANERS
527-533 EAST MAIN STREET
ROCHESTER, NEW YORK

REFERENCE:
MAP FROM www.google.com

NOT TO SCALE

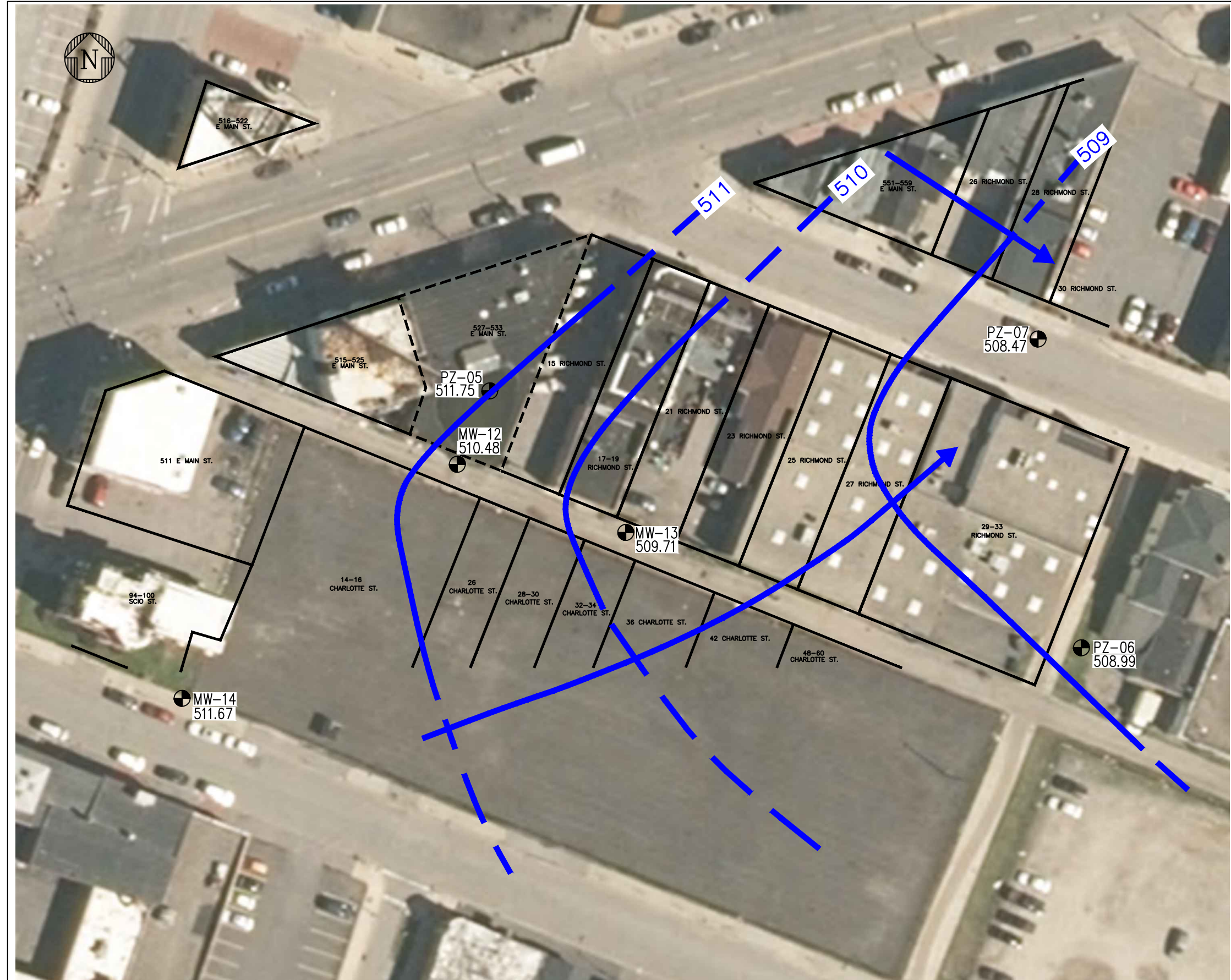
**KEY**

-  Former In-ground Hydraulic Lift Location
-  Former Underground Storage Tank Locations
-  Former Metal Shed Locations
-  Former 55 Gallon Drum Locations



Former Elite Vogue Dry Cleaners Site
Rochester, New York

Figure 2
Site Plan



LEGEND

MW-13	MONITORING WELL LOCATION
—	APPROXIMATE PARCEL BOUNDARY
- - -	APPROXIMATE SITE BOUNDARY
509	GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
→	GROUNDWATER FLOW DIRECTION
508.47	GROUNDWATER ELEVATION

NOTES

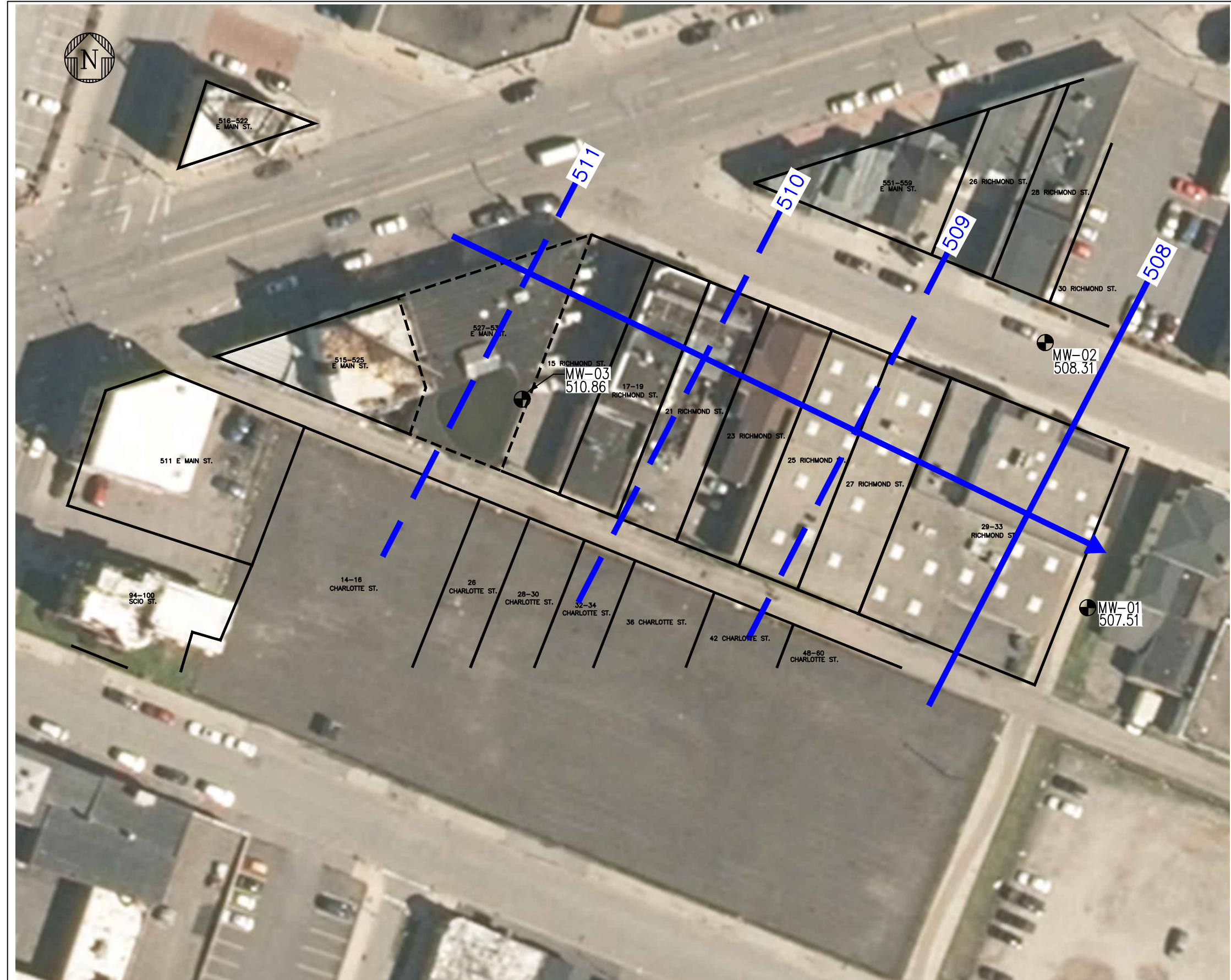
1. AERIAL PHOTOGRAPHY FROM NEW YORK STATE GIS CLEARINGHOUSE - 2015.
2. GROUNDWATER ELEVATION MEASUREMENTS WERE COLLECTED BETWEEN MARCH 30 AND APRIL 6, 2016.

ELITE SITE PLAN

SCALE: 1" = 50'-0"

SCALE IN FEET





LEGEND

MW-02	MONITORING WELL LOCATION
—	APPROXIMATE PARCEL BOUNDARY
- - -	APPROXIMATE SITE BOUNDARY
508	GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
→	GROUNDWATER FLOW DIRECTION
507.51	GROUNDWATER ELEVATION

NOTES

1. AERIAL PHOTOGRAPHY FROM NEW YORK STATE GIS CLEARINGHOUSE – 2015.
2. GROUNDWATER ELEVATION MEASUREMENTS WERE COLLECTED BETWEEN MARCH 30 AND APRIL 6, 2016.

ELITE SITE PLAN

SCALE: 1" = 50'-0"

SCALE IN FEET





FIGURE 5

OVERBURDEN GROUNDWATER POSITIVE SAMPLE RESULTS
FORMER ELITE VOGUE DRY CLEANERS SITE
ROCHESTER, NEW YORK



LEGEND

- MONITORING WELL LOCATION
- SOIL BORING LOCATION
- APPROXIMATE PARCEL BOUNDARY
- APPROXIMATE SITE BOUNDARY
- PZ
- MW
- SP
- BORINGS ABANDONED DUE TO UNDERGROUND UTILITY

NOTES

- AERIAL PHOTOGRAPHY FROM NEW YORK STATE GIS CLEARINGHOUSE – 2015.
- GROUNDWATER RESULTS IN MICROGRAMS PER LITER (µg/L).
- BOLD VALUES DENOTE POSITIVE HITS.
- SHADED VALUES EXCEED THE NYSDEC TOGS #1.1.1: AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES AND GROUNDWATER EFFLUENT LIMITATIONS, 1998 (WITH UPDATES), CLASS GA GROUNDWATER STANDARDS AND GUIDANCE VALUES.

ELITE SITE PLAN

SCALE: 1" = 50'-0"



FIGURE 6

BEDROCK GROUNDWATER POSITIVE SAMPLE RESULTS
FORMER ELITE VOGUE DRY CLEANERS SITE
ROCHESTER, NEW YORK

Sample Name			Fuel Oil UST West Wall 3.5	Fuel Oil UST South Wall 3.5	Fuel Oil UST East Wall 3.5	Fuel Oil UST North Wall 3.5	Fuel Oil UST Bottom 5
Sample Date			10/1/2013	10/1/2013	10/1/2013	10/1/2013	10/1/2013
CONSTITUENT (mg/kg)	RSCO - Unrestricted	RSCO - Restricted Commercial	Primary	Primary	Primary	Dilution Factor: 2x	Primary
2-Methylnaphthalene	NVG	NVG	0.042 J	0.39 U	0.059 J	0.1 J	2.9
Acenaphthene	20	500 ^b	0.39 U	0.072 J	0.38 U	0.74 U	0.65
Acenaphthylene	100 ^{af}	500 ^b	0.39 U	0.39 U	0.38 U	2.1	0.42 U
Anthracene	100 ^{af}	500 ^b	0.39 U	0.17 J	0.091 J	0.98	0.42 U
Benzo(a)anthracene	1 ^{cf}	5.6	0.13 J	0.5	0.38 J	7.1	0.42 U
Benzo(a)pyrene	1 ^{cf}	1 ^f	0.12 J	0.42	0.35 J	6.1	0.42 U
Benzo(b)fluoranthene	1 ^{cf}	5.6	0.12 J	0.48	0.37 J	5.3	0.42 U
Benzo(g,h,i)perylene	100 ^f	500 ^b	0.085 J	0.29 J	0.25 J	4	0.42 U
Benzo(k)fluoranthene	0.8 ^{cf}	56	0.13 J	0.34 J	0.33 J	5.1	0.42 U
Benzyl Alcohol	NVG	NVG	0.21 BJ	0.16 BJ	0.12 BJ	0.73 U	0.42 U
Carbazole	NVG	NVG	0.39 U	0.086 J	0.38 U	0.74 U	0.42 U
Chrysene	1 ^{cf}	56	0.13 J	0.49	0.39	6.1	0.16 J
Dibenz(a,h)anthracene	0.33 ^{bf}	0.56	0.39 U	0.12 J	0.38 U	1.6	0.42 U
Fluoranthene	100 ^{af}	500 ^b	0.25 J	1.2	0.66	8.7	0.43
Fluorene	30	500 ^b	0.39 U	0.061 J	0.38 U	0.14 J	1
Indeno(1,2,3-cd)pyrene	0.5 ^{cf}	5.6	0.075 J	0.25 J	0.22 J	3.7	0.42 U
Naphthalene	12 ^f	500 ^b	0.39 U	0.39 U	0.38 U	0.18 J	0.42 U
Phenanthrene	NVG	NVG	0.2 J	0.89	0.38 J	1	3.4
Pyrene	0.33 ^{bf}	500 ^b	0.22 J	0.92	0.61	9.7	1.6

Sample Name			Fuel Oil UST West Wall 3.5	Fuel Oil UST South Wall 3.5	Fuel Oil UST East Wall 3.5	Fuel Oil UST North Wall 3.5	Fuel Oil UST Bottom 5
Sample Date			10/1/2013	10/1/2013	10/1/2013	10/1/2013	10/1/2013
CONSTITUENT (mg/kg)	RSCO - Unrestricted	RSCO - Restricted Commercial	Primary	Primary	Primary	Primary	Primary
1,2,4-Trimethylbenzene	3.6 ^f	190	0.006 U	0.0059 U	0.00077 J	0.0018 J	0.0063 U
1,3,5-Trimethylbenzene	8.4 ^f	190	0.006 U	0.001 J	0.0056 J	0.028	0.012
p-Isopropyltoluene (Cymene)	NVG	NVG	0.006 U	0.0059 U	0.0025 J	0.011	0.0067
Naphthalene	12 ^f	500 ^b	0.006 U	0.0014 J	0.0022 J	0.0072	0.0031 J
Tetrachloroethene (PCE)	1.3	150	0.0044 J	0.012	0.003 J	0.0045 J	0.003 J
Trichloroethene (TCE)	0.47	200	0.006 U	0.0012 J	0.0057 U	0.0056 U	0.0063 U
n-Butylbenzene	12 ^f	NVG	0.006 U	0.0059 U	0.0057 U	0.0014 J	0.0063 U
n-Propylbenzene	3.9 ^f	500 ^b	0.006 U	0.0059 U	0.0057 U	0.0011 J	0.0063 U
o-Xylene	NVG	NVG	0.006 U	0.0059 U	0.0057 U	0.00078 J	0.0063 U
sec-Butylbenzene	11 ^f	500 ^b	0.006 U	0.0059 U	0.0013 J	0.0033 J	0.0026 J

LEGEND:

FORMER ELITE VOGUE DRY CLEANER

Sample Name			Stodard UST Bottom 7
Sample Date			10/1/2013
CONSTITUENT (mg/kg)	RSCO - Unrestricted	RSCO - Restricted Commercial	Dilution: 5x
Bis(2-Ethylhexyl)phthalate	NVG	NVG	12
Naphthalene	12 ^f	500 ^b	7.6 J
Sample Name			Stodard UST Bottom 7
Sample Date			10/1/2013
CONSTITUENT (mg/kg)	RSCO - Unrestricted	RSCO - Restricted Commercial	Dilution: 150x
1,2,4-Trimethylbenzene	3.6	190	250
1,3,5-Trimethylbenzene	8.4 ^f	190	170
p-Isopropyltoluene (Cymene)	NVG	NVG	45
Naphthalene	12 ^f	500 ^b	6.3 J
Tetrachloroethene (PCE)	1.3	150	1400
Trichloroethene (TCE)	0.47	200	23
n-Butylbenzene	12 ^f	NVG	11 J
n-Propylbenzene	3.9 ^f	500 ^b	6.3 J
o-Xylene	NVG	NVG	22
sec-Butylbenzene	11 ^f	500 ^b	28

SVE-1
FORMER STODDARD
USTs
FORMER STODDARD UST
EXCAVATION

FORMER FUEL OIL UST
FORMER FUEL OIL UST EXCAVATION



NOTE: EXCAVATION LIMITS ARE
APPROXIMATE



NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION
PROJECT NO. 134685-25

FIGURE 7
EXCAVATION SAMPLE LOCATION AND RESULTS

FORMER ELITE VOGUE DRY CLEANERS
527 - 533 EAST MAIN STREET
ROCHESTER, NEW YORK