RECORD OF DECISION

Bridge Cleaners
State Superfund Project
Long Island City, Queens County
Site No. 241127
March 2022

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

DECLARATION STATEMENT - RECORD OF DECISION

Bridge Cleaners
State Superfund Project
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Site No. 241127
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Statement of Purpose and Basis

This document presents the remedy for the Bridge Cleaners 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 Bridge Cleaners 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

During the course of the investigation certain actions, known as interim remedial measures (IRMs), were undertaken at the above referenced site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRMs, the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment; therefore No Further Action is the selected remedy. The remedy may include continued operation of a remedial system if one was installed during the IRM and the implementation of any prescribed institutional controls/engineering controls (ICs/ECs) that have been identified as being part of the remedy for the site.

The IRMs conducted at the site attained the remediation objectives identified for this site in Section 6.5 for the protection of public health and the environment.

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 27, 2022
Date

Susan Edwards
Susan . Edwards, P.E., Director
Division of Environmental Remediation

RECORD OF DECISION

Bridge Cleaners
Long Island City, Queens County
Site No. 241127
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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 resulted in threats to public health and the environment that were addressed by actions known as interim remedial measures (IRMs), which were undertaken at the site. An IRM is conducted at a site when a source of contamination or exposure pathway can be effectively addressed before completion of the remedial investigation (RI) or feasibility study (FS). The IRMs undertaken at this site are discussed in Section 6.2.

Based on the implementation of the IRM(s), the findings of the investigation of this site indicate that the site no longer poses a threat to human health or the environment. The IRM(s) conducted at the site attained the remediation objectives identified for this site, which are presented in Section 6.5, for the protection of public health and the environment. No Further Action is the remedy selected by this Record of Decision (ROD). A No Further Action remedy may include site management, which will include continued operation of any remedial system installed during the IRM and the implementation of any prescribed controls that have been identified as being part of the remedy for the site. This ROD identifies the IRM(s) conducted and discusses the basis for No Further Action.

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

The Department has issued this document in accordance with the requirements of New York State Environmental Conservation Law and 6 NYCRR Part 375. This document is a summary of the information that can be found in the site-related reports and documents.

SECTION 2: CITIZEN PARTICIPATION

The Department seeks input from the community on all remedies. A public comment period was held, during which the public was encouraged to submit comment on the proposed remedy. All comments on the remedy received during the comment period were considered by the Department in selecting a remedy for the site. Site-related reports and documents were made

available for review by the public at the following document repositories:

Queens Library
Long Island City Branch
37-44 21st Street
Long Island City, NY 11101
Phone: 718 752 3700

Community Board 1 - Queens
45-02 Ditmars Blvd, Suite 1025
Astoria, NY 11105
Phone: 718 626 1021
Email: qn01@cb.nyc.gov

Site specific documents were also made available online through the DECinfo Locator https://www.dec.ny.gov/data/DecDocs/241127/

A public meeting was also conducted. At the meeting, the findings of the remedial investigation (RI) 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.

No comments on the remedy were received at the public meeting or during the comment period.

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 0.173-acre Bridge Cleaners site is located at 39-26 30th Street in Long Island City, an urban area.

Site Features : A 7500 square foot (sf) one-story slab-on-grade building occupies the entire lot. It is used for storage and is infrequently occupied. Adjacent buildings to the north and west appear to contain residential units. To the south and east across 30th Street are recently constructed multi-story residential structures.

Current Zoning and Land Use: The site is zoned M1-3/R7X (Manufacturing and Residential)

under the special Long Island City Mixed Use District. The surrounding area is a mix of residential and commercial uses. The site is currently being used for fabric storage and fabric cutting.

Past use of the Site: The site was occupied by a commercial laundry and dry cleaner until 2011. Records indicate at least 10 years of use as a commercial dry-cleaner. The site was a small quantity generator of solvent wastes under the Resource Conservation and Recovery Action (RCRA) hazardous waste program from 1997-2010. Prior to that, the building was used as a distribution point for electrical components, bottled water and as a courier service.

Operable Units: The site was divided into two operable units (OUs). An operable unit represents a portion of a remedial program for a site that, for technical or administrative reasons, can be addressed separately to investigate, eliminate or mitigate a release, threat of release or exposure pathway resulting from the site contamination.

OU1 is the on-site area, consisting of a 7500 sf lot completely covered by a one-story cement block building.

OU2 is the off-site area. The off-site investigation area includes the sidewalks from 39th Avenue to 40th Road, between 29th Street and 30th Street.

Site Hydrology/Geology: The depth to groundwater beneath and in the vicinity of the site is about 18-22 feet below grade (ftbg). Soils in the area are primarily fine to medium sand with some traces of silt. One boring location indicated a clay layer at 6 to 9 ftbg.

In the larger OU2 investigation area, groundwater ranged from 11 to 30 ftbg, with deeper groundwater closer to 29th Street, and shallower groundwater southeast of 30th Street. In one location, in the southeast corner of the investigation area, a clay layer was noted from 32 to 38 feet below grade. Groundwater flow is generally to the south/southwest.

Operable Unit (OU) Numbers 01 and 02 are the subject of this document.

A site location map is attached as Figure 1 and a site layout is attached as Figure 2.

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) were/was 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:

Bridge Cleaners

Alenat Properties LLC

JARCO Realty Co

Zhong Chaung Properties LLC

The Department and Alenat Properties, LLC, Jarco Realty Co., Inc. and Zhong Chaung Properties LLC (collectively the Responsible Parties) entered into a Consent Order 2-20170509-174 on August 6, 2018. The Order obligates the responsible parties to implement the remedy set forth in the Interim Remedial Measure Design document dated March 2016, including an environmental easement and site management plan, and a Supplemental Interim Remedial Measure.

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
- indoor air
- sub-slab 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 SCG 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 contaminants of concern identified at this site is/are:

For OU: 01

tetrachloroethene (PCE) trichloroethene (TCE)

For OU: 02

tetrachloroethene (PCE) trichloroethene (TCE)

Based on the investigation results, comparison to the SCGs, and the potential public health and environmental exposure routes, certain media and areas of the site required remediation. These media were addressed by the IRM(s) described in Section 6.2. More complete information can be found in the RI Report and the IRM Construction Completion Report.

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. (see Figures 3 through 6)

OU1 - On Site - Air Sparge/Soil Vapor Extraction Interim Remedial Measure

Air Sparge (AS) with Soil Vapor Extraction (SVE)

Air sparging has been implemented to address the soil source material and groundwater plume contaminated by volatile organic compounds (VOCs). VOCs are physically removed from the groundwater and soil below the water table (saturated soil) by injecting air into the subsurface. The injected air rising through the groundwater volatilizes and transfers the VOCs from the groundwater and/or soil into the injected air. The VOCs are carried with the injected air into the vadose zone (the area below the ground surface but above the water table) where a soil vapor extraction (SVE) system designed to remove the injected air was installed. The SVE system applies a vacuum to wells that have been installed into the vadose zone to remove the VOCs along with the air introduced by the sparging process. The air extracted from the SVE wells is treated as necessary prior to being discharged to the atmosphere.

At this site, three air injection wells have been installed to a depth of approximately 35 ftbg, which is 15 feet below the water table. To capture the volatilized contaminants, two SVE wells were installed in the vadose zone at a depth of approximately 18 ftbg. Based on sampling of the system exhaust, and the low flow rate of the system, the air from the SVE wells does not require treatment prior to being discharged to the atmosphere. The system was completed in March 2018. System upgrades were performed in September 2020.

OU2 - Off-Site Vapor Mitigation

Based on the results of the off-site RI investigation, sub-slab and indoor air sampling resulted in a recommendation to mitigate one off-site structure based on the NYSDOH soil vapor intrusion decision matrices. A sub-slab depressurization system was constructed, consisting of two suction points and a vent to the atmosphere. The system was completed in October 2018 and continues to operate.

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 OUs 01 and 02.

OU1: On-Site

Remediation at OU1 has resulted in the site being protective of public health and the environment. Prior to remediation, the primary contaminant of concern was PCE in soil, soil vapor and groundwater. TCE was present in soil vapor only. Residual contamination is being addressed through active treatment. Residual contamination in the soil, groundwater and soil vapor is being managed under an Interim Site Management Plan. The investigation results, prior to implementation of the IRM described in Section 6.2, are discussed below.

During the RI, prior to the IRM, soil and groundwater were analyzed for VOCs, semi-volatile organic compounds (SVOC), Metals, and PCBs/Pesticides. Soil Vapor was analyzed for VOCs. The maximum concentration of PCE in soil at the site was 9.6 parts per million (ppm), compared to the protection of groundwater soil cleanup objective of 1.3 ppm. Five groundwater wells on site contained a maximum concentration of 340 parts per billion (ppb) PCE and 6.9 ppb TCE in groundwater, compared to the AWQS of 5 ppb for both PCE and TCE. Sub-slab soil vapor ranged up to 668,000 micrograms per cubic meter (ug/m3) PCE, 2140 ug/m3 TCE. PCE in indoor air was detected at 270 micrograms per cubic meter (µg/m3) above the NYSDOH air guideline for PCE of 30 µg/m3.

Post IRM groundwater analysis for VOCs indicates VOC concentrations have significantly been reduced and continue to decline. Of the five on-site wells, three remain above the 5 ppb AWQS for PCE. The most recent concentrations are 12 ppb, 29 ppb and 62 ppb in 2021. TCE levels are below 5 ppb. The data is shown on Figure 4.

In November 2018, after construction of the AS/SVE system IRM, soil vapor monitoring was conducted. The concentrations in soil vapor ranged from 69.8 - 1,890 ug/m3 for PCE and 3.1 - 72 ug/m3 for TCE. Preliminary results from sub-slab soil vapor sampling in January 2022 indicate PCE in the range of 23-685 ug/m3 and TCE 3.1 to 8.8 ug/m3. Corresponding indoor air values are 0.26-0.54 ug/m3 PCE and non-detectable for TCE.

OU2: Off-Site

Remediation at OU2 is complete. Prior to remediation, the primary contaminants of concern were PCE and TCE in soil vapor and groundwater, which were suspected of migrating off-site. Soil was not sampled during the off-site work. The off-site investigation occurred during 2016.

Activities at an adjacent, downgradient Brownfield Cleanup Site (C241163 - Former Union Wire) also contributed to reductions in off-site contamination. In late 2016, the Former Union Wire site designed and installed an SVE system. The SVE system was installed to address indoor air issues by removing any source material in soil below the existing building, and it remained in use until September 2019. After September 2019, the building was demolished and excavation

took place in accordance with a NYSDEC-approved excavation workplan. Soil endpoints samples taken to ensure any potential source of VOCs was removed from the adjacent site.

The investigation results, prior to implementation of the IRM described in Section 6.2, are discussed below

During the OU2 RI, prior to the IRM, groundwater and soil vapor were analyzed for VOCs. Groundwater was also analyzed for emerging contaminants, as a screening tool. Of the fifteen wells sample, the maximum concentration was PCE at 369 ppb, and TCE at 272 ppb, in one well (MW-3). The AWQS for both PCE and TCE is 5 ppb. Groundwater samples at MW-3 in late 2019 identified PCE at 7 ppb and TCE at 2 ppb. For emerging contaminants, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 53 and 7 parts per trillion (ppt), respectively. PFOA exceeded the Maximum Contaminant Level (drinking water standard) of 10 ppt in groundwater, while PFOS did not. 1,4 dioxane was detected in one sample at 0.2 ug/l which is below the guidance value of 0.35 ug/l.

Also, during the OU2 RI, prior to the IRM, soil vapor, indoor air and sub-slab soil vapor were analyzed for VOCs. Eleven soil vapor points were sampled in 2016. The highest soil vapor result was 4400 ug/m3 TCE and 2400 ug/m3 PCE. Soil vapor data were used to define the area where property owners were offered sub-slab and indoor air sampling, which occurred in January 2017. Sub-slab and indoor air samples were completed in four (4) off-site structures, and one owner allowed access for indoor air sampling only. In the sub-slab vapor, the TCE concentrations ranged from non-detect (ND) to 440 ug/m3, while PCE ranged from 64 ug/m3 to 9500 ug/m3. In indoor air, TCE was detected at a maximum concentration of 1.4 ug/m3 and PCE was detected a maximum of 7.2 ug/m3. Both of these are below the corresponding NYSDOH Air Guidance Value (AGV) of 2 ug/m3 (TCE) and 30 ug/m3 (PCE). One structure indicated the need for vapor intrusion mitigation, and a sub-slab depressurization system (SSDS) was installed as an IRM. The SSDS is inspected and maintained by NYSDEC. Subsequent to the IRM, an additional structure requested sampling in 2018. Samples were performed in July and December. Based on the result of the sampling, no action was necessary at that structure.

6.4: Summary of Human Exposure Pathways

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

People are not expected to come into contact with contaminated soil since the site is covered with buildings and pavement. People are not drinking site-related contaminants in the groundwater since the area is served by a public water supply not affected by this contamination. Volatile organic compounds in soil vapor (air spaces within the soil) may move into 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 site is vacant so inhalation of site contaminants in indoor air via vapor intrusion is not a current concern. However, the potential exists for inhalation of site contaminants due to soil vapor

intrusion for any future on-site development or occupancy Actions have been taken to address exposures related to soil vapor intrusion where necessary and where access has been granted offsite. Additional investigation/evaluation is needed in the event that access is granted at other offsite structures.

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:

For OU 01:

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.

For OU 02:

Groundwater

RAOs for Public Health Protection

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

RAOs for Environmental Protection

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

Soil 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 SELECTED REMEDY

For OU 01: Remedial Program: No Further Action

Based on the results of the investigations at the site, the IRM that has been performed, and the evaluation presented here, the Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued operation of the AS/SVE system and the implementation of institutional and engineering controls (ICs/ECs) as the proposed remedy for the site. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

The elements of the IRM already completed (see Section 6.2) and the necessary institutional and engineering controls are listed below:

1. Green Remediation

Green remediation principals and techniques will be implemented to the extent feasible in the 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; and
- Additionally, to incorporate green remediation principles and techniques to the extent feasible in the future development at this site, any future on-site buildings will include, at a minimum, a 20-mil vapor barrier/waterproofing membrane on the foundation to improve energy efficiency as an element of construction.

2. Cover System

A site cover currently exists in areas not occupied by buildings 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 or soil where the upper one foot

of exposed surface soil meets the applicable soil cleanup objectives (SCOs) for 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).

3. Institutional Control
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 NYCDOH; and
- require compliance with the Department approved Site Management Plan.

4.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 above.

Engineering Controls: The site cover system discussed in Paragraph 2 and the AS/SVE system discussed as an IRM in Section 6.2.

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 for further investigation and remediation should large scale redevelopment occur, if any of the existing structures are demolished, or if the subsurface is otherwise made accessible. The nature and extent of contamination in areas where access was previously limited or unavailable will be immediately and thoroughly investigated pursuant to a plan approved by the Department. Based on the investigation results and the Department determination of the need for a remedy, a Remedial Action Work Plan (RAWP) will be developed for the final remedy for the site, including removal and/or treatment of any source areas to the extent feasible. Citizen Participation Plan (CPP) activities will continue through this process. Any necessary remediation will be completed prior to, or in association with, redevelopment.

  After removal of the slab, delineation should occur in the following areas: (1) northwest corner of the site where PCE in soil was identified, (2) a circular patch in the floor slightly to the right of the center of the building, and approximately 40 feet from the front

of the building, (3) the front of the building by the south roll-up door, (4) the rear of the building along the southwest corner and (5) the north half of the building from the bathroom to the rear wall. These areas were inaccessible during the RI, and while some borings have occurred as part remedial system construction, soil sampling was not been conducted.

- 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 occupied buildings on the site, including provision for implementing actions recommended to address exposures related to soil vapor intrusion;

- a provision that should a building foundation or building slab be removed in the future, a cover system consistent with that described in Paragraph 2 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.

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 and soil vapor 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 on the site, as may be required by the Institutional and Engineering Control Plan discussed above.

c. an Operation and Maintenance (O&M) Plan to ensure continued operation, maintenance, optimization, monitoring, inspection, and reporting of any mechanical or physical components of the remedy. The plan includes, but is not limited to:
- procedures for operating and maintaining the remedy;
- compliance monitoring of treatment systems to ensure proper O&M as well as providing the data for any necessary permit or permit equivalent reporting;
- maintaining site access controls and Department notification; and
- providing the Department access to the site and O&M records.

For OU 02: Off-site: No Further Action

Based on the results of the investigations at the site, the IRM that has been performed, remedial actions performed at the adjacent Brownfield site, and the evaluation presented here, the

Department is proposing No Further Action as the remedy for the site. This No Further Action remedy includes continued maintenance of the vapor mitigation system installed at the impacted off-site property, and soil vapor intrusion investigation, with a provision for monitoring or mitigation, if requested by an owner, of any off-site buildings within the investigation area that may be impacted by site contamination. The Department believes that this remedy is protective of human health and the environment and satisfies the remediation objectives described in Section 6.5.

Exhibit A
OU-1 On-Site

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 four categories: 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.

Groundwater

Five groundwater wells were installed on-site during the Remedial Investigation (RI) in 2014. Groundwater samples from those wells identified tetrachloroethylene (PCE) in the range of 165 - 340 parts per billion (ppb), and trichloroethylene (TCE) in the range of 2 - 6.9 ppb. Sampling in 2016 identified PCE contamination in these wells at concentrations ranging from 44 - 200 ppb. The SCG for PCE and TCE is 5 ppb. All wells on-site exceeded the SCG for PCE, and certain wells slightly exceeded the SCG for TCE of 5 ppb. PCE is the contaminant of concern that required remediation.

In addition to the volatile organic compounds (VOCs) noted above, one semi-volatile organic compounds (SVOCs), eleven metals, and one pesticide were detected during the initial groundwater sampling at this site. These compounds could be from materials present in fill beneath the building, are not associated with past site operations, and are not contaminants of concern. These compounds are also not an exposure concern, since the groundwater at the site is not being used as a source of drinking water.

Table 1.1 Groundwater
OU-1 On Site

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG (ppb)[b]	Frequency Exceeding SCG
VOCs			
Chloroform	0-4.2	7	0/26
Cis-1,2-Dichloroethylene	0.23-1.1	5	0/26
Ethylbenzene	1.2	5	0/26
Isopropylbenzene (Cumene)	1.6	5	0/26
Tetrachloroethylene (PCE)	0.5-340	5	21/26
Trichloroethylene (TCE)	0.26-14	5	3/26
o-Xylene	3.2	5	0/26
SVOCs			
Bis (2-ethyl hexyl) phthlate	1.1-1.1	5	0/5

Detected Constituents	Concentration Range Detected (ppb)[a]	SCG (ppb)[b]	Frequency Exceeding SCG
METALS			
Arsenic	ND-9.8	25	0/5
Barium	ND-305	1000	0/5
Chromium	ND-74.2	50	3/5
Copper	ND-66.4	200	0/5
Iron	113-39600	300	4/5
Lead	ND-70.5	25	2/5
Magnesium	28500-74800	35000	4/5
Manganese	277-2240	300	4/5
Nickel	ND-69	100	0/5
Sodium	113000-189000	20000	5/5
Zinc	ND-132	2000	0/5
PESTICIDES			
Dieldrin	ND-0.018	0.004	1/3

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).

Groundwater contamination identified during the RI is being addressed by the IRM described in Section 6.2. For comparison, the on-site groundwater sampling data is summarized on Figure (4). The most recent groundwater data from September 2021 identified PCE concentrations of 0.18, 0.29, 12, 29 and 62 ppb in the on-site wells, and a maximum concentration of TCE at 2.8 ppb.

Soil

The site is currently covered with a slab-on-grade building which prevents direct exposure to soil. Seven soil borings were performed in 2014 in two separate sampling events. In the first event, five borings were sampled in 5foot intervals to a depth of 20 feet below grade (ftbg). In the second event, two other borings were installed in the northwest (rear) corner of the building, in an area suspected to be a former boiler room. In the second sampling event, soil samples were collected at depth intervals where a hand-held scanner indicated elevated levels of VOCs, and at the water table interface. Four samples exceeded the unrestricted use soil cleanup objective (SCO), which is the same as the protection of groundwater SCO, for tetrachloroethylene (PCE). Soil results for semi-volatile organics and metals are compared to commercial SCOs. Results are shown in the Table below.

Table 1.2 - Soil
OU1- On-Site

Detected Constituents	Concentration Range Detected (ppm) [a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use Commercial SCG[c] (ppm)	Frequency Exceeding Restricted SCG	Restricted Use Protection of Groundwater SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs							
Tetrachloroethylene (PCE)	0.0012-9.6	1.3	4/25	150	0/25	1.3	4/25

cis 1,2 Dichloroethylene	ND - 0.0011	0.25	0/25	500	0/25	0.25	0/25
trichloroethene (TCE)	ND - 0.0092	0.47	0/25	200	0/25	0.47	0/25
Methylene Chloride	ND - 0.0031	0.05	0/25	500	0/25	0.05	0/25
SVOCs							
Benzo(a) anthracene	ND- 0.0232	1	0/5	5.6	0/5	1	0/5
Benzo(a) pyrene	ND- 0.0225	1	0/5	1	0/5	22	0/5
Benzo(b) fluoranthene	ND- 0.0291	1	0/5	5.6	0/5	1.7	0/5
Benzo(g,h,i) perylene	ND- 0.0186	100	0/5	500	0/5	1000	0/5
Chrysene	ND- 0.0285	1	0/5	56	0/5	1	0/5
Fluoranthene	ND- 0.0545	100	0/5	500	0/5	1000	0/5
Indeno(1,2,3) pyrene	ND- 0.022	0.5	0/5	5.6	0/5	8.2	0/5
Phenanthrene	ND- 0.0254	100	0/5	500	0/5	1000	0/5
Pyrene	ND- 0.0431	100	0/5	500	0/5	1000	0/5
METALS							
Arsenic	ND-3.4	13	0/5	16	0/5	16	0/5
Barium	25.1-49.3	350	0/5	400	0/5	820	0/5
Beryllium	ND-0.4	7.2	0/5	590	0/5	47	0/5
Chromium	12.2-28.9	1	5/5	400	0/5	19	5/5
Copper	10.6-16	50	0/5	270	0/5	1720	0/5
Lead	3-16.4	63	0/5	400	0/5	450	0/5
Manganese	219-378	1600	0/5	10000	0/5	2000	0/5
Mercury	ND-0.091	0.18	0/5	2.8	0/5	0.73	0/5
Nickel	10.8-15.8	30	0/5	310	0/5	130	0/5
Zinc	25-50	109	0/5	10000	0/5	2480	0/5

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

In addition to the volatile organics (VOCs) noted in the table, ten semi-volatile organic compounds (SVOCs) and nine metals were detected during the soil sampling at this site. None of the SVOCs exceeded the unrestricted use SCOs. In the table, only chromium is shown as exceeding the unrestricted SCG. Chromium exists in two forms, trivalent and hexavalent. The chromium analysis did not distinguish between the two forms, so the chromium results was compared to the more conservative hexavalent chromium SCG. The result exceeded the unrestricted use SCO, but it did not exceed the commercial SCO. Trivalent chromium is generally the more common type of chromium found in the environment, and the results did not exceed the unrestricted SCO for trivalent chromium (30 ppm). Chromium is not a contaminant of concern at this site.

Because the building occupies the entire site, no surface soil sampling was conducted at this site.

The PCE soil contamination identified during the RI is being addressed by the IRM described in Section 6.2.

Soil Vapor

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, sub-slab soil vapor under structures, and indoor air inside structures. All these types of samples were collected at various times beginning in 2014, to evaluate whether soil vapor intrusion was occurring.

During the RI, in 2014, seven sub-slab samples and four indoor air samples were collected. PCE and TCE concentrations were elevated in sub-slab and indoor air samples, indicating a need to mitigate the building. The highest value was 668,000 ug/m3 PCE in sub-slab vapor and 270 ug/m3 in indoor air. At that time, the building was being used for storage and was not occupied. In 2016, sub-slab and soil vapor samples were collected as part of the pre-design investigation for the AS/SVE system, and subsequent sampling occurred in 2018 after the AS/SVE system was installed. Sub-slab sampling in 2018 indicated a reduction in sub-slab and soil vapor values, with a maximum value was 1890 ug/m3 PCE.

Based on the concentrations detected, and in comparison with the NYSDOH Soil Vapor Intrusion Guidance, mitigation was recommended for the existing building.

Soil vapor contamination identified during the RI is being addressed through the IRM described in Section 6.2. Additional sampling was performed in January 2022 in accordance with an approved workplan to determine the whether the system must continue to be operated. Preliminary results from sub-slab soil vapor sampling in January 2022 indicate PCE in the range of 23-685 ug/m3 and TCE 3.1 to 8.8 ug/m3. Corresponding indoor air values 0.26-0.54 ug/m3 PCE and non-detectable for TCE.

Exhibit A
OU2 – Off-Site

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 each media and compares the data with the applicable SCGs for the site. The contaminants are arranged into three categories: volatile organic compounds (VOCs) in groundwater and soil vapor, inorganics (metals) and per and polyfluoroalkyl substances (PFAS) in groundwater only. For comparison purposes, the SCGs are provided for each medium that allows for unrestricted use.

Groundwater

During the off-site investigation in 2016, groundwater samples were collected from a total of 15 wells: 11 shallow and 4 deep overburden wells. Two sets of samples were collected. Due to low levels of contamination, not all wells were sampled in the second set. The groundwater samples show that contamination in the shallow groundwater exceeds the SCGs for VOCs in 10 of 11 wells. The contaminants that appear most frequently are PCE and TCE. PCE is site related, and TCE is a degradation product of PCE . The other frequently identified VOC, tert-butyl methyl ether, is indicative of petroleum contamination and is not related to site operations.

In the four deeper wells, the volatile organic compounds PCE and TCE were only detected in one upgradient well, and at concentrations below the SCGs.

Iron and manganese were analyzed to assess the potential for enhanced biodegradation as a remedial action, rather than as contaminants of concern. For emerging contaminants, perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) were reported at concentrations of up to 53 and 7 parts per trillion (ppt), respectively. PFOA exceeded the Maximum Contaminant Level (drinking water standard) of 10 ppt in groundwater; however, the groundwater is not being used as a source of drinking water. The emerging contaminant analysis was performed as a screening tool, and no actions to address emerging contaminants are necessary.

Table 2.1 - Groundwater
OU2 Off-Site

Detected Constituents	Concentration Range Detected (ppb)	SCG (ppb)	Frequency Exceeding SCG
VOC			
Acetone	0-6.7	50	0/29
Benzene	0-0.21	1	0/29
Carbon Disulfide	0-0.76	60	0/29
Chloroform	0-9.10	7	1/29
Cis-1,2-Dichloroethylene	0-12.6	5	1/29

Detected Constituents	Concentration Range Detected (ppb)	SCG (ppb)	Frequency Exceeding SCG
Ethylbenzene	0-15.5	5	1/29
Isopropylbenzene (Cumene)	0-7.30	5	1/29
Tert-Butyl Methyl Ether	0-3,000	10	5/29
Tetrachloroethylene (PCE)	0-369	5	21/29
Toluene	0-0.15	5	0/29
Trans 1,2-Dichloroethylene	0-0.26	5	0/29
Trichloroethylene (TCE)	0-272	5	6/29
Trichlorofluoromethane	0-1.20	5	0/29
Xylenes	0-68.7	5	2/29
Metals			
Iron	0-892	300	1/7
Manganese	27.9-2,150	300	3/7
Per and Polyfluoroalkyl Substances			
	Concentration Range Detected (ppt)	**SCG**	**Frequency Exceeding SCG**
Perfluoropentanoic Acid (PFPeA)	8.4-26	100	0/6
1H,1H, 2H, 2H-Perfluorooctane sulfonic acid	ND-5	100	0/6
Perfluorohexanoic acid (PFHxA)	7.7-29.3	100	0/6
Perfluorooctanoic acid (PFOA)	4.8-53.8	10	5/6
Perfluorohexanesulfonic acid (PFHxS)	1.1-7.1	100	0/6
Perfluorobutanoic Acid	7.3-15.7	100	0/6
Perfluorobutanesulfonic acid (PFBS)	5.34-19	100	0/6
Perfluoroheptanoic acid (PFHpA)	6.4-16.2	100	0/6
Perfluoroheptanesulfonic acid (PFHpS)	ND-0.38	100	0/6
Perfluorononanoic acid (PFNA)	ND-1.2	100	0/6
Perfluorooctanesulfonic acid (PFOS)	ND-7.4	10	0/6

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).

Groundwater contamination identified during the RI is being addressed as a result of the IRM described for OU1. Other remedial actions at the adjacent Former Union Wire Site, as described in Section 6.2, have also reduced groundwater contamination.

Soil

One of the goals of the RI was to determine if VOC contamination from on-site had migrated off-site via the groundwater and/or soil vapor pathways. Soil samples were not obtained during the off-site remedial investigation.

The table below summarizes soil data that was collected off-site during the site characterization investigation in 2012.

Detected Constituents	Concentration Range Detected (ppm) [a]	Unrestricted SCG[b] (ppm)	Frequency Exceeding Unrestricted SCG	Restricted Use Commercial SCG[c] (ppm)	Frequency Exceeding Restricted SCG	Restricted Use Protection of Groundwater SCG[c] (ppm)	Frequency Exceeding Restricted SCG
VOCs Part 375							
1,2,4 Trimethylbenzene	0.000430-120	3.6	1/14	190	0/14	3.6	0/14
1,2 Dichloroethane	0.000700-0.140	0.02	1/14	30	0/14	0.02	1/14
1,3,5 trimethylbenzene	.000320-60	8.4	1/14	190	0/140	8.4	1/14
1,4-Dioxane (P-Dioxane)	0.0310-5.30	0.1	1/14	130	0/14	0.1	1/14
Acetone	0.0130-0.820	0.05	1/14	500	0/14	0.05	1/14
Benzene	0.000380-0.0760	0.06	1/14	44	0/14	0.06	1/14
Ethylbenzene	0.000430-43.0	1	1/14	390	0/14	1	1/14
Methyl Ethyl Ketone (2-Butanone)	0.00940-0.620	0.12	1/14	500	0/14	0.12	1/14
Methylene Chloride	0.00380-3.40	0.05	1/14	500	0/14	0.05	1/14
N-Propylbenzene	0.000380-55.0	3.9	1/14	500	0/14	3.9	1/14
O-Xylene (1,2-Dimethylbenzene)	0.000380-41.0	0.26	1/14	500	0/14	1.6	1/14
Sec-Butylbenzene	0.000540-11.0	11	1/14	500	0/14	11	1/14
Tetrachloroethylene (PCE)	0.000790-3.30	1.3	1/14	150	0/14	1.3	1/14
Vinyl Chloride	0.000590-0.240	0.02	1/14	13	0/14	0.02	1/14

a - ppm: parts per million, which is equivalent to milligrams per kilogram, mg/kg, in soil;
b - SCG: Part 375-6.8(a), Unrestricted Soil Cleanup Objectives.
c - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Public Health for Commercial Use, unless otherwise noted.
d - SCG: Part 375-6.8(b), Restricted Use Soil Cleanup Objectives for the Protection of Groundwater.

As noted in the site characterization report, all of the soil samples that exceeded unrestricted and/or protection of groundwater SCOs were obtained below the water table from one off-site well where a petroleum sheen was found. Actions were not taken to address the petroleum sheen, as it was determined to be unrelated to the site.

Soil Vapor

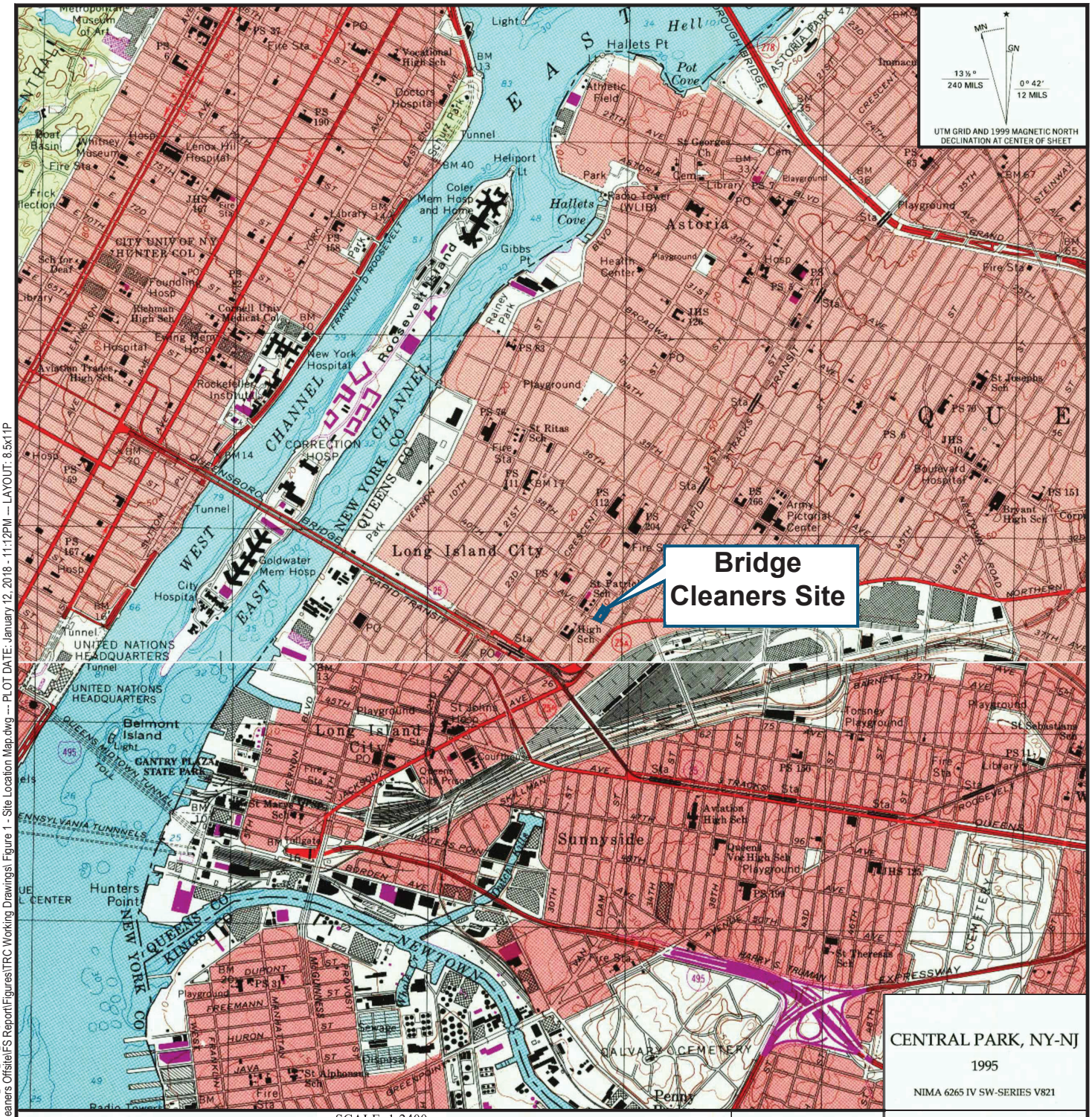
The potential for soil vapor intrusion resulting from the presence of site related soil or groundwater contamination was evaluated by sampling soil vapor from beneath sidewalks. Two rounds of soil vapor sampling were conducted. The initial results were used to determine the scope of the area where sub-slab and indoor air sampling

would be offered to off-site property owners during the heating season. A second set of soil vapor samples confirmed the area, though the actual concentration were lower. The lower concentrations in the second sampling event were attributed to the start-up and continued operation of a soil vapor extraction system at a separate site within the investigation area.

The sub-slab and indoor air sampling occurred in January 2017. Overall, two structures west and south of the site, along 29th Street, required further action. One structure required mitigation based on results for PCE and TCE. One other structure was initially designated as monitor/mitigate, based on PCE concentrations. This second structure was later reclassified by newer NYSDOH soil vapor intrusion guidance (May 2017) to monitor only. As a result, one structure had a mitigation system installed. A second offer of vapor intrusion sampling was made in January 2018, and as a result of this effort, one additional structure was sampled. Based on results of the sampling, no further action was necessary at the additional structure.

Soil vapor contamination identified during the RI has been addressed through the IRM described in Section 6.2.

FIGURES



TRC
1430 Broadway
10th Floor
New York, NY 10018
Phone: 212.221.7822

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FEASIBILITY STUDY REPORT - BRIDGE CLEANERS - OFFSITE
LONG ISLAND CITY, NEW YORK

TITLE:

SITE LOCATION MAP

DRAWN BY:	H. DELGADO
CHECKED BY:	D. WARREN
APPROVED BY:	L. O'HARA
DATE:	JANUARY 2018
PROJ. NO.:	249002.0000.0000
FILE:	Figure 1 - Site Location Map.dwg

FIGURE 1

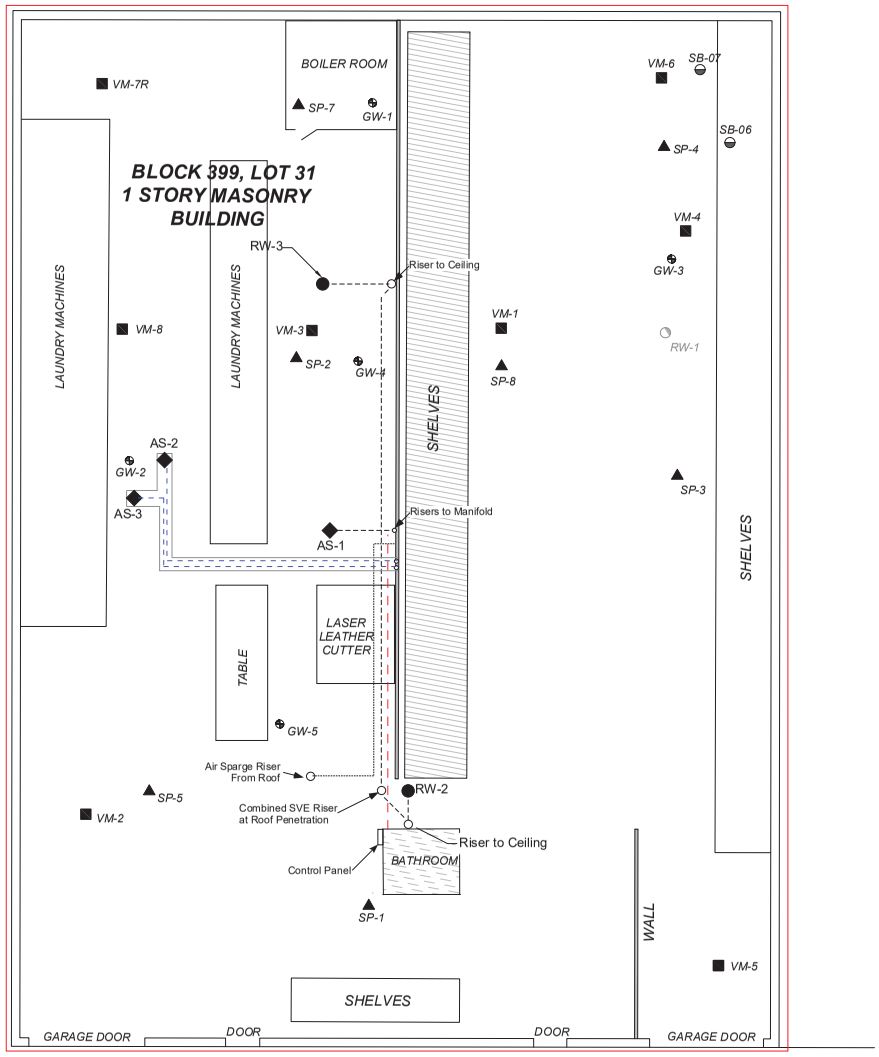
8.5x11 --- ATTACHED IMAGES: NY_Brooklyn_137132_1995_24000; NY_Central Park_137165_1995_24000;
DRAWING NAME: I:\Projects\NYSDEC\Assignments\WA #27 - Bridge Cleaners Offsite\FS Report\Figures\TRC Working Drawings\ Figure 1 - Site Location Map.dwg --- PLOT DATE: January 12, 2018 - 11:12PM --- LAYOUT: 8.5x11P

N
W E
S

0 60 120
Feet

Figure 2
Site Map

Bridge Cleaners Site No. 241127
OU-1 and OU-2
Long Island City, Queens



PVC PIPE

STEEL PIPE

AIR SPARGE WELL

VAPOR EXTRACTION WELL

GROUNDWATER MONITORING WELL/SOIL BORING

SOIL BORING

VACUUM MONITORING POINT

SOIL VAPOR POINT

ABANDONED

TRENCHING AND SUBGRADE PIPING

ELECTRIC RUN ALONG STRUTS ON CEILING TO SOLENOID VALVES

RISER LOCATION

CONCRETE CAP

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.

2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY EECC (SEPTEMBER 2020)

0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

IRM - AS/SVE System

REV	DATE	DESCRIPTION	APP

1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

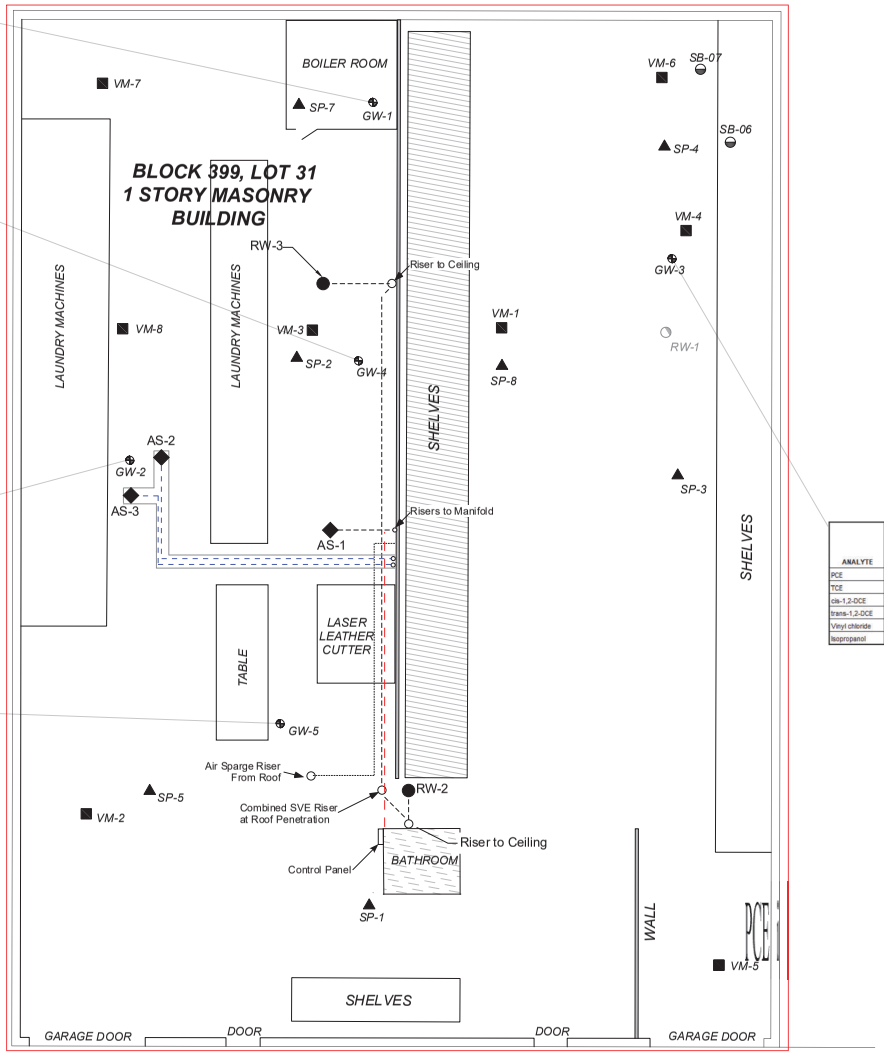
LONG ISLAND CITY NEW YORK

DRN	AN	DATE	8-19-2021
DES	NK	DATE	8-19-2021
CHK	NK	DATE	8-19-2021
SCALE	AS NOTED	PROJECT NO	BRIDGE CLEANERS

FIRST FLOOR PLAN VIEW
AS/SVE SYSTEM LAYOUT

FIGURE

3



ANALYTE	GW-1 (µg/L) TechSolutions 2/8/2014	Integral 09/09/16	Integral 11/18/18	Integral 05/17/19	EECC 06/15/20	EECC 01/25/21	EECC 04/28/21	EECC 09/29/21
PCE	280	140	74	7.8	15	19	9.1	12
TCE	5.4	1.6	1.4	0.34 J	0.65	1.1	0.59	0.83
cis-1,2-DCE	0.34 J	0.43 J	0.30 J	ND	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Isopropanol	--	ND	18 J	170 B	ND	ND	ND	ND

ANALYTE	GW-4 (µg/L) TechSolutions 2/8/2014	Integral 09/09/16	Integral 11/18/18	Integral 05/17/19	EECC 06/15/20	EECC 01/25/21	EECC 04/28/21	EECC 09/29/21
PCE	254	90	71	7	3.2	1.4	ND	0.18J
TCE	2.6	1.5	1.3	0.44 J	0.26 J	ND	ND	ND
cis-1,2-DCE	1.1	0.24 J	0.23 J	ND	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Isopropanol	--	ND	16 J	160 B	ND	ND	ND	ND

ANALYTE	GW-2 (µg/L) TechSolutions 2/8/2014	Integral 09/09/16	Integral 11/18/18	Integral 05/17/19	EECC 06/15/20	EECC 01/25/21	EECC 04/28/21	EECC 09/29/21
PCE	165	200	240	210	300	18	0.4	0.29J
TCE	2.4	14	5.6	4.1	11	ND	ND	ND
cis-1,2-DCE	0.81 J	0.31 J	ND	ND	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Isopropanol	--	13 J	ND	130 BJ	ND	ND	ND	ND

ANALYTE	GW-3 (µg/L) TechSolutions 2/8/2014	Integral 09/09/16	Integral 11/18/18	Integral 05/17/19	EECC 06/15/20	EECC 01/25/21	EECC 04/28/21	EECC 09/29/21
PCE	175	44	NS	10	25	23	23	29
TCE	2	1.2		0.87	1.1	0.87	0.77	0.81
cis-1,2-DCE	0.39 J	0.25 J		0.23 J	ND	ND	ND	ND
trans-1,2-DCE	ND	ND		ND	ND	ND	ND	ND
Vinyl chloride	ND	ND		ND	ND	ND	ND	ND
Isopropanol	--	8.5 J		160 B	ND	ND	ND	ND

ANALYTE	GW-5 (µg/L) TechSolutions 2/8/2014	Integral 09/09/16	Integral 11/18/18	Integral 05/17/19	EECC 06/15/20	EECC 01/25/21	EECC 04/28/21	EECC 09/29/21
PCE	340	95	87	48	50	67	72	62
TCE	6.9	2.8	3.7	1.9	1.0	2	2.5	2.8
cis-1,2-DCE	ND	0.39 J	ND	ND	ND	ND	ND	ND
trans-1,2-DCE	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	ND	ND	ND	ND	ND	ND	ND	ND
Isopropanol	--	ND	21 J	190 B	ND	ND	ND	ND

ANALYTE	MW-5 (µg/L) TechSolutions 2/8/2014	Integral 09/09/16	Integral 11/18/18	Integral 05/17/19	EECC 06/15/20	EECC 01/25/21	EECC 04/28/21	EECC 09/29/21
PCE		22	31	14		5.8	7.4	4.5
TCE		0.59	0.73	0.43 J		0.24	0.19 J	ND
cis-1,2-DCE	NS	ND	0.20 J	ND	NS	ND	ND	ND
trans-1,2-DCE		ND	ND	ND		ND	ND	ND
Vinyl chloride		ND	ND	ND		ND	ND	ND
Isopropanol		ND	ND	200 B		ND	ND	ND

- PVC PIPE
- STEEL PIPE
- AIR SPARGE WELL
- VAPOR EXTRACTION WELL
- GROUNDWATER MONITORING WELL/SOIL BORING
- SOIL BORING
- VACUUM MONITORING POINT
- SOIL VAPOR POINT
- ABANDONED
- TRENCHING AND SUBGRADE PIPING
- ELECTRIC RUN ALONG STRUTS ON CEILING TO SOLENOID VALVES
- RISER LOCATION
- CONCRETE COVER

NOTES:
DCE = Dichloroethene
PCE = Tetrachloroethylene
TCE = Trichloroethylene
B = Analyte detected in the Trip Blank
J = Estimated value
ND = Non-detect
NS = Not Sampled
-- = Not analyzed

IRM - OU1
AS/SVE System
Groundwater Data

0 3 6 12 Feet

THIS SHEET PLOTS FULL SCALE AT 11X17 IN.

SOURCES:

1. BASEMAP: WELL ELEVATION SURVEY, BRIDGE CLEANERS, 39-26 30th STREET, LONG ISLAND CITY, NEW YORK, DONALD R. STEDGE, P.L.S., OCTOBER 30, 2015.
2. AS/SVE SYSTEM LAYOUT AND BUILDING FEATURES BASED ON INTEGRAL ENGINEERING FIGURE (OCTOBER 2018) AND UPDATED BY EECC (SEPTEMBER 2020)

REV	DATE	DESCRIPTION	APP

eecc
1 EMERY AVE, UNIT 2
RANDOLPH, NJ 07869

ZHONG CHUANG PROPERTIES LLC

BRIDGE CLEANERS SITE
39-26 30th ST

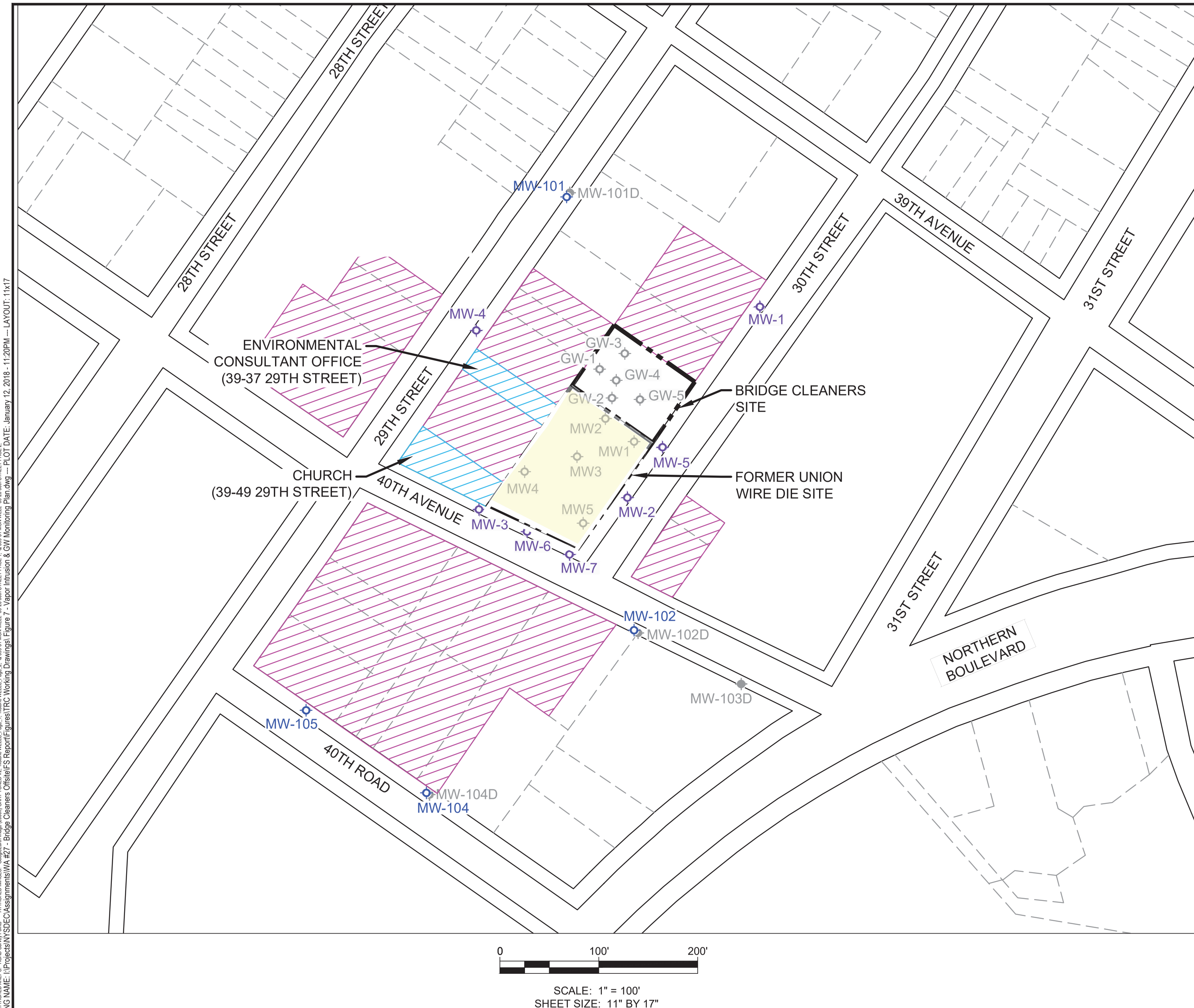
LONG ISLAND CITY NEW YORK

DRN	AN	DATE	1-3-2022
DES	NK	DATE	1-3-2022
CHK	NK	DATE	1-3-2022
SCALE	AS NOTED	PROJECT NO	BRIDGE CLEANERS

GROUNDWATER ANALYTICAL DATA SUMMARY

FIGURE

4



LEGEND (SYMBOLS NOT TO SCALE):

LOT BOUNDARY

MW-X — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (INCLUDED IN GROUNDWATER MONITORING PLAN)

MW-X — MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (NOT INCLUDED IN GROUNDWATER MONITORING PLAN)

MW-XXX — SHALLOW MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (INCLUDED IN GROUNDWATER MONITORING PLAN)

MW-XXXD — DEEP MONITORING WELL LOCATION AND IDENTIFICATION NUMBER (NOT INCLUDED IN GROUNDWATER MONITORING PLAN)

VAPOR INTRUSION EVALUATION RECOMMENDED FOR BUILDING(S) ON THIS PROPERTY

VAPOR INTRUSION MITIGATION RECOMMENDED FOR BUILDING(S) ON THIS PROPERTY

OU 2 - OFF SITE

-

No Further Action with Site Management

-

Proposed Remedy

PROJECT:
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
FEASIBILITY STUDY REPORT - BRIDGE CLEANERS - OFFSITE
LONG ISLAND CITY, NEW YORK

TITLE:
VAPOR INTRUSION AND GROUNDWATER MONITORING PLAN

DRAWN BY:	H. DELGADO
CHECKED BY:	D. WARREN
APPROVED BY:	L. O'HARA
DATE:	JANUARY 2018

FIGURE 5

TRC
1430 Broadway
10th Floor
New York, NY 10018
Phone: 212.221.7822

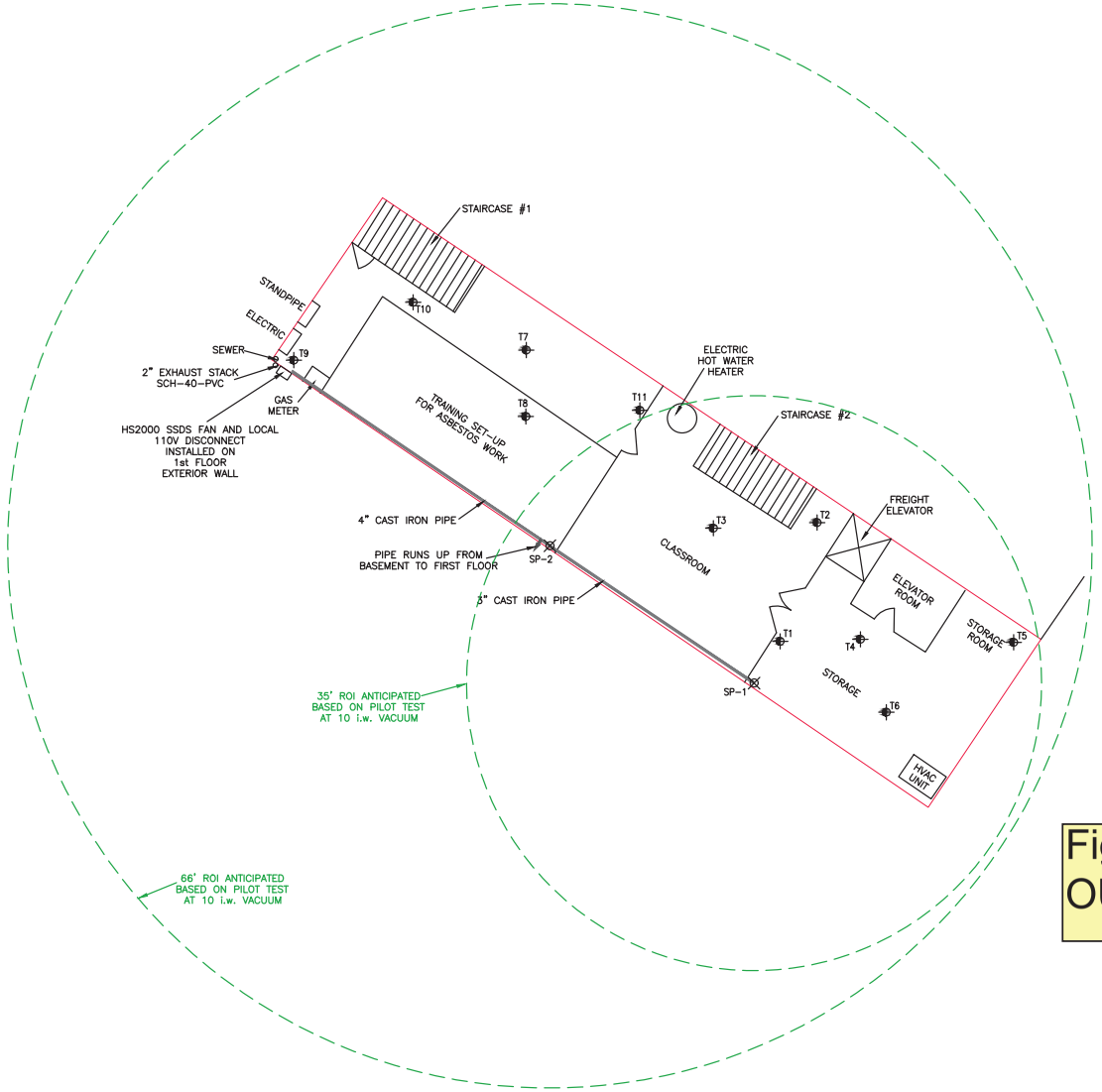
FILE NO.: Figure 7 - Vapor Intrusion & GW Monitoring Plan.dwg

DRAWING NAME: I:\Projects\NYSDEC\Assignments\WA #27 - Bridge Cleaners Offsite\FS Report\Figures\TRC Working Drawings\ Figure 7 - Vapor Intrusion & GW Monitoring Plan.dwg --- PLOT DATE: January 12, 2018 - 11:20PM --- LAYOUT: 11x17

LEGEND

Suction Point

TEST POINT



ACTUAL VACUUM READINGS FROM INSTALLED SUBSLAB DEPRESSURIZATION SYSTEM

Date	Location	Vacuum Reading/Result (i.w.)
10/12/2018	T1	1.352
	T2	0.353
	T3	0.873
	T4	0.637
	T5	0.157
	T6	0.346
	T7	0.246
	T8	0.628
	T9	0.094
	T10	0.105
	T11	0.285

Figure 6
OU2 - SSDS installation

SSDS Vacuum Map

NYSDEC

[redacted]

Long Island City, New York

Drawn W.G.S.
Designed
Approved
Date 1/8/19
Figure 5

Scale In Feet
0 15

Groundwater & Environmental Services, Inc.

M:\Graphics\0500-Long Island\Misc\NYSDEC\Long Island City\Long Island City SM.dwg, Template 39-37 (vacuum), wshea

APPENDIX A

Responsiveness Summary

RESPONSIVENESS SUMMARY

Bridge Cleaners
State Superfund Project
Long Island City, Queens
Site No. 241127

The Proposed Remedial Action Plan (PRAP) for the Bridge Cleaners site was prepared by the New York State Department of Environmental Conservation (the Department) in consultation with the New York State Department of Health (NYSDOH) and was issued to the document repositories on February 17, 2022, and was made available to the public via the DECinfo Locator. The PRAP outlined the remedial measure proposed for the contaminated soil, groundwater and soil vapor at the Bridge Cleaners site.

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

A public meeting was held on March 8, 2022, which included a presentation of the remedial investigation for the Bridge Cleaners 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 19, 2022.

This responsiveness summary responds to all questions and comments raised during the public comment period.

No comments from the public were received during the 30 day comment period.

APPENDIX B

Administrative Record

Administrative Record

Bridge Cleaners
State Superfund Project
Long Island City, Queens
Site No. 241127

1. *Proposed Remedial Action Plan for the Bridge Cleaners site,* dated February 2022, prepared by the Department.

2. *Order on Consent, Index No. 2-20170509-174*, between the Department and Alenat Properties, LLC, Jarco Realty Co., Inc. and Zhong Chaung Properties LLC, executed on August 6, 2018.

3. *Site Characterization Report*, dated May 2012, prepared by Ecology and Environment Engineering P.C.

4. *Remedial Investigation Report, Former Bridge Cleaners Site*, dated June 2014, prepared by Tech Solutions Engineering, P.C.

5. *Data Evaluation Report,* dated July 2015, prepared by Integral Engineering P.C.

6. *Interim Remedial Measure Design Document,* dated May 2016, prepared by Integral Engineering P.C

7. *Remedial Investigation Report, Bridge Cleaners – Off Site*, dated June 2017, prepared by TRC Engineers, Inc.

8. *Sub-Slab Depressurization System Installation Summary Report- Bridge Cleaners -OU2 - Off-Site*, dated January 2019, prepared by Groundwater and Environmental Services Inc (GES)

9. *Supplemental Interim Remedial Measure Work Plan,* dated July 2020, prepared by Environmental Engineering Compliance Control, D.P.C.

10. *Construction Completion Report*, dated August 2021, prepared by Environmental Engineering Compliance Control, D.P.C.

11. *Interim Site Management Plan*, dated November 2021, prepared by Environmental Engineering Compliance Control, D.P.C.