Rockfarmer 37th Avenue
82-13 37th Avenue
Jackson Heights, Queens County, New York 11372
Block 1456, Lots 35 & 41
NYSDEC Site No. C241212

REMEDIAL INVESTIGATION WORK PLAN

OCTOBER 23, 2018

PREPARED FOR:
37th Avenue Owner LLC; Horizon 37th Ave, LLC; and RFC Ketcham 37th Ave, LLC
42-01 235th Street
Douglaston, New York 11363

PREPARED BY:
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PHONE 646.553.3500

PROJECT NO: 48122

October 23, 2018

Mr. John Grathwol
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, New York 12233
Email: john.grathwol@dec.ny.gov

RE: Remedial Investigation Work Plan
Rockfarmer 37th Avenue
82-13 37th Avenue
Jackson Heights, Queens County, New York 11372
Block 1456, Lots 35 & 41
NYSDEC Site No. C241212

Dear Mr. Grathwol:

Vertex Engineering, PC (VERTEX) is pleased to submit this proposed Remedial Investigation Work Plan (RIWP) for the above-referenced property (the site) on behalf of the Volunteer (37th Avenue Owner LLC, Horizon 37th Ave, LLC, and RFC Ketcham 37th Ave, LLC, tenants in common). The site is identified with New York State Department of Environmental Conservation (NYSDEC) Site No. C241212. A Brownfield Cleanup Agreement (BCA) was executed on July 25, 2018.

Please do not hesitate to contact us at your convenience should you have any questions or comments regarding this RIWP.

Sincerely,
Vertex Engineering, PC

Joseph J.C. Dultz
Vice President

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LIST OF ACRONYMS

Acronym	Definition
AAR	Alternative Analysis Report
AWQS	Ambient Water Quality Standards
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
BGS	Below Ground Surface
CLASS GA	Groundwater Effluent Limitations
CP PLAN	Citizens Participation Plan
DER	Division of Environmental Remediation
DNAPL	Dense Non-Aqueous Phase Liquid
DOT	Department of Transportation
DUSR	Data Usability Summary Report
ESA	Environmental Site Assessment
ELAP	Environmental Laboratory Accreditation Program
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
FSI	Focused Site Investigation
GPR	Ground Penetrating Radar
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IDW	Investigation-Derived Waste
LNAPL	Light Non-Aqueous Phase Liquid
NYCDEP	New York City Department of Environmental Protection
NYCDOB	New York City Department of Buildings
NYCDOT	New York City Department of Transportation
NYCRR	New York Codes Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
ORP	Oxidation-Reduction Potential
OSHA	United States Occupational Health and Safety Administration
PFAS	Per-and Polyfluoroalkyl Substances
PCE	Tetrachloroethene

Acronym	Definition
PE	Professional Engineer
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PID	Photo-Ionization Detector
PPE	Personal Protective Equipment
PPM	Parts Per Million
PVC	Poly Vinyl Chloride
QAPP	Quality Assurance Project Plan
QA / QC	Quality Assurance / Quality Control
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
ROI	Radius of Influence
SCOs	Soil Cleanup Objectives
SSDS	Sub-Slab Depressurization System
TOGS	Technical and Operational Guidance Series
UG/L	Micrograms Per Liter
USEPA	United States Environmental Protection Agency
VI	Vapor Intrusion
VOCs	Volatile Organic Compounds

REMEDIAL INVESTIGATION WORK PLAN
Rockfarmer 37th Avenue
82-13 37th Avenue
Jackson Heights, Queens County, New York 11372
Block 1456, Lots 35 & 41
NYSDEC Site No. C241212

1.0 INTRODUCTION

This Remedial Investigation Work Plan (RIWP) has been developed for the Rockfarmer 37th Avenue property located at 82-13 37th Avenue in Jackson Heights, Queens County, New York (the site). The Volunteer (37th Owner LLC; Horizon 37th Ave, LLC; and RFC Ketcham 37th Ave, LLC) is participating in the New York State Brownfield Cleanup Program (BCP) pursuant to a Brownfield Cleanup Agreement (BCA) executed on July 25, 2018. The site is identified with New York State Department of Environmental Conservation (NYSDEC) Site No. C241212.

This RIWP has been prepared in general accordance with NYSDEC Division of Environmental Remediation (DER)-10 / Technical Guidance for Site Investigation and Remediation (May 3, 2010).

1.1 Site Description

The site consists of two contiguous parcels identified as Block 1456, Lots 35 and 41. A Site Location Map is provided as Figure 1. According to the New York City Department of Buildings (NYCDOB), the site is identified with the following addresses: 82-01 to 82-09 37th Avenue, 82-11 to 82-21 37th Avenue, 35-57 to 35-65 82nd Street, and 35-64 83rd Street. The site is located in an urban area with a mix of commercial and residential buildings, located on the north side of 37th Avenue, between 82nd Street and 83rd Street. The approximate site area is 20,000 square feet (0.46 acres), which is divided equally between the two Lots.

The site is improved with an approximately 108,000-square foot (above-grade), nine-story commercial office building, with ground-floor retail (Rite Aid, nail salon, and vacant space) and a two-level parking garage. The site building is improved with a basement, which is occupied by office space, utilities and storage space. The site building is serviced by municipal water (New York City Department of Environmental Protection [NYCDEP]), municipal sanitary and storm sewer (NYCDEP), natural gas (Consolidated Edison), and electric (Consolidated Edison). The building footprint covers the entire site, and is surrounded to the south, east, and west by public sidewalks and roadways and to the north are residential structures.

The site is currently active, and there are no proposed use changes for the site. Based on a review of the New York City Department of City Planning Zoning and Land Use mapping program, the site is zoned C4-3. The C4 (commercial) zoning is described as areas mapped in regional commercial centers, outside of the central business districts. The C4 zone typically includes specialty and department stores, theaters, and other commercial and office uses. The neighboring properties are currently used for a combination of commercial and residential uses.

The site is generally flat. The entirety of the site is covered with impervious surface (building footprint, concrete sidewalks, and brick). Storm water drainage is expected to exit the site via overland flow and enter the municipal storm drains located in the adjoining roadways.

1.2 Surrounding Land Use

The site is located in a highly developed urban area in Jackson Heights, New York. Adjacent properties to the north include residential buildings. Properties to the south, across 37th Avenue, include commercial/retail buildings. Located to the east, across 83rd Street, are ground-floor commercial/residential and residential buildings. Located to the west, across 82nd Street, include commercial and residential buildings.

Based on visual observations during a site reconnaissance and a review of the New York City Oasis mapping program, the following sensitive human receptors (residences and/or schools) were identified in the vicinity of the site:

Sensitive Human Receptors			
Name	**Address**	**Distance/Direction from the Site**	**Gradient in Relation to the Site**
Renaissance Charter School	35-59 81st Street	175 feet West	Up-gradient
St. Joan of Arc Catholic School	3527 82nd Street	315 feet North	Cross-gradient
82nd Street Academics	8110 35th Street	475 feet Northwest	Cross-gradient
Public School Q222	86-15 37th Avenue	935 feet East	Down-gradient
Public School 212	34-25 82nd Street	1,015 feet North	Down-gradient to Cross-gradient
Public School 69	77-02 37th Avenue	1,100 feet West	Up-gradient
Residences	Various	Adjacent North, East, and West	Various

A map depicting the sensitive receptors in the vicinity of the site is provided as Figure 2.

1.3 Historic Use of the Site

According to a Draft *Phase I Environmental Site Assessment* (ESA) prepared by Merritt Environmental Consulting Corp. (Merritt), dated November 13, 2017, and VERTEX's review of Sanborn fire insurance maps, the earliest identified use of the site included stores by at least 1930. The current commercial office building, with ground-floor retail and a parking garage, was constructed in 1993. Review of city directories identified Star Cleaning & Dyeing Co. at 82-05 37th Avenue in 1939 and Columbia Cleaners at 82-13 37th Avenue for the years 1939 to 1970. In addition, Cecil Cleaners was identified at 35-62 83rd Street from 1986 to 1994. No other

historical operations of environmental concern were identified. The locations of the former drycleaner tenant spaces are depicted on Figure 3.

1.4 Site Geology and Hydrogeology

Based upon the findings of a Phase II Focused Site Investigation (FSI) completed by The Vertex Companies, Inc. in December 2017 and February 2018, soils encountered at the site generally consist of sands from approximately 1.0 foot below ground surface (bgs) to the soil boring completion depth of 40.0 feet bgs. Bedrock was not encountered to a depth of 40 feet bgs. Groundwater was encountered at depths ranging from 32.65 to 34.19 feet bgs.

Based on review of local topography and the location of the closest water body in relation to the site, groundwater is assumed to flow to the northeast, towards Flushing Bay (Figure 4). On-site groundwater flow direction will be confirmed during the proposed Remedial Investigation (RI) activities outlined in this report. It is suspected that groundwater flow is likely impacted by the localized urban development, including subsurface utilities and building foundations.

In accordance with New York Codes, Rules and Regulations Title 6 (6 NYCRR) Part 701: Classifications -Surface Waters and Groundwater, groundwater at the site is identified as Class GA (fresh groundwater). There are no known groundwater supply wells on the site, and currently there are no known deed restrictions on the use of groundwater at the site. Groundwater in the vicinity of the site is not utilized for industrial, agriculture, or public supply purposes.

1.5 Wetlands and Floodplain

Review of the U.S. Fish & Wildlife Service, National Wetlands Inventory, Wetlands Mapper program identified no Federally-regulated wetlands on the site. The closest wetland area is located approximately 1.59 miles to the northeast. A wetland map is included as Figure 4. No

State-regulated wetlands were identified on the site or close in proximity to the site, based on a review of the NYSDEC tidal wetlands map.

No surface water bodies were observed on the site or on the adjoining properties. The closest waterbody is Flushing Bay, located approximately 1.59 miles to the northeast.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM), the site is located in Zone X, which is an area of minimal flood hazard.

2.0 PREVIOUS VAPOR INTRUSION, SOIL, AND GROUNDWATER CHARACTERIZATION

The following provides a summary of the site characterization activities completed to date at the site. These activities include sub-slab soil vapor, indoor air, soil, and groundwater sampling performed in December 2017 and February 2018. These investigation activities were documented in the Phase II FSI (VERTEX, March 2018), which was included in the BCP application submitted to the NYSDEC in April 2018.

2.1 Vapor Intrusion Investigation

Vapor intrusion (VI) sampling conducted during the heating season in December 2017 and February 2018 included the collection of 10 sub-slab soil vapor samples (SS-1 through SS-10), 12 indoor air samples (IA-1 through IA-12), and two ambient air samples (AA). All samples were analyzed for the presence of volatile organic compounds (VOCs) by USEPA Method TO-15. Evaluation of the soil vapor analytical data identified concentrations of carbon tetrachloride and tetrachloroethene (PCE) in exceedance of the New York State Department of Health (NYSDOH) matrix sub-slab soil vapor concentration criteria. In addition, indoor air concentrations of carbon tetrachloride and PCE were identified at elevated concentrations at co-located positions with the highest sub-slab vapor samples. These contaminants are likely associated with the former on-site dry-cleaning operations. Evaluation of the soil vapor data compared to the indoor air data using the NYSDOH Vapor/Indoor Air Matrix Guidance (May 2017) identified seven sample locations where the contaminant concentrations are elevated to such levels that mitigation of the VI concern is warranted.

None of the other detected indoor air concentrations were identified in exceedance of the Indoor Air Quality Guidance Values (Table 3.1 in the NYSDOH *Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York* dated October 2006, and updated in September 2013 and August 2015).

A Soil Vapor Results Map is included as Figure 5, and the analytical results are summarized in Table 1. An Indoor Air Results Map is included as Figure 6, and the indoor air results compared to the NYSDOH matrix criteria is presented in Table 2. The indoor air results compared to the NYSDOH air guidance values is presented in Table 3.

2.2 Soil and Groundwater Investigation

The soil and groundwater investigation conducted in February 2018 included the installation of three soil borings (VTW-1 through VTW-3) on the exterior of the site building. Each soil boring was converted to a temporary monitoring well for the collection of a groundwater sample. Soil and groundwater samples were collected and analyzed for VOCs.

Review of the soil analytical results identified no VOCs in exceedance of the most stringent NYSDEC Soil Cleanup Objectives (SCOs).

Review of the groundwater analytical results identified concentrations of PCE at VTW-1 (17 micrograms per liter [ug/L]) and at VTW-3 (90 ug/L) in exceedance of the NYSDEC Ambient Water Quality Standard (AWQS) and NYSDEC Groundwater Effluent Limitations (Class GA) standard of 5 ug/L. No exceedances of the applicable criteria were reported for the sample collected from the up-gradient well (VTW-2).

A Soil Results Map is included as Figure 7, and the soil analytical results are summarized in Table 4. A Groundwater Results Map is included as Figure 8, and the groundwater results are presented in Table 5.

3.0 QUALITY ASSURANCE PROJECT PLAN

A Quality Assurance Project Plan (QAPP) was prepared to guide the implementation of the proposed RI activities. Quality assurance/quality control (QA/QC) procedures will be used to provide performance information with regard to accuracy, precision, sensitivity, representation, completeness, and comparability associated with the sampling and analysis for the RI at the site.

3.1 Project Technical Personnel and Contractors

The table below summarizes the planned principal personnel to participate in the RI activities.

Project Technical Personnel and Contractors			
Name	**Company**	**Responsibility**	**Contact Information**
Timothy Biercz	The Vertex Companies, Inc.	Project Manager	(908) 333-4317
Joseph Dultz	Vertex Engineering, PC	Project Manager / Technical Support	(908) 333-4312
Richard J. Tobia, P.E.	Vertex Engineering, PC	New York-licensed Professional Engineer	(908) 458-9604
Shawn Miller	Aquifer Drilling & Testing	Drilling Services	(516) 616-6026
Rhett Teller	Ground Penetrating Radar Systems Inc.	Geophysical Contractor	(347) 215-4249
Ethan Leighton	Alpha Analytical Inc.	Laboratory Contact	(508) 439-5146

3.2 Sampling Methodology

All sampling will be conducted in accordance with NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010, and Sampling Guidelines and Protocols, dated March 1991.

Soil samples will be collected by VERTEX from discrete, six-inch intervals, from unique borings advanced at the site via a track-mounted direct-push drill rig (e.g., Geoprobe®) and a jack-hammer probe. The direct-push drill rig will advance a five-foot long stainless steel macro-core sampler, while the jack-hammer probe advances two-foot samplers. Per each advancement, a dedicated, disposable polybutyl acetate liner will be used in which the soil samples are held for field assessment. Continuous soil cores will be screened with a photo-ionization detector (PID) and visually and olfactory inspected. Disposable nitrile gloves will be worn during the soil screening process and sampling collection. The soil samples will be collected in dedicated laboratory-provided Encore samplers and laboratory-provided containers.

For the collection of groundwater samples from permanent monitoring wells by VERTEX, the wells will be purged with disposable polyethylene tubing and a stainless-steel submersible pump. Three well volumes will be purged using the volume averaged sampling method. Following purging, a grab groundwater sample will be collected using a polyethylene disposable bailer.

Equipment will be operated in accordance with the manufacturer's specifications, including calibration of all field instruments, which will be performed prior to the initiation of field work and on a schedule indicated by the manufacturer.

Following the soil and groundwater sample collection, the sample containers will be secured, labeled, and placed in a storage/transportation cooler and cooled to acceptable temperatures (e.g., four degrees Celsius) with ice. Samples will then be transported by a field courier to the laboratory following proper chain of custody procedures. The courier will relinquish custody to the log-in sample custodian upon arrival at the laboratory.

3.3 Report Logs

Field logs and borings logs will be completed during the course of RI activities. A field log will be completed on a daily basis, which will describe all field activities including: project number and site address; date and time; weather conditions; on-site personnel and associated affiliations; description of field activities; pertinent sample collection information (sample identification, description of sample, sample location, sample collection time, sampling methodology, name of collector, field screening results, and analysis to be conducted). A boring log will be completed for each soil boring/monitoring well, which will include the following: project number and site address; date and time; drilling company name and drilling method; boring/monitoring well identification, total boring depth and water table depth; and pertinent sample collection information (sample identification, sample depth, interval, recovery amount, color, composition, percent moisture, PID readings, and visual/olfactory observations).

3.4 Laboratory Summary

All samples collected during the RI activities will be submitted under proper chain-of-custody protocols to Alpha Analytical, Inc. (Alpha) in Westborough, Massachusetts (New York Environmental Laboratory Approval Program [ELAP] No. 11148).

3.5 Analytical Method/Quality Assurance

As part of the RI activities, soil and groundwater samples will be collected. The sampling, including matrix, frequency of collection, analytical parameter, analytical method, sample preservation, sample container volume and type, and holding time are provided in the summary tables below.

Based on the historic on-site dry cleaning operations and the identified contaminants of concern,

analysis of all soil and groundwater samples will be conducted for VOCs via United States Environmental Protection Agency (USEPA) Method 8260. To address the NYSDEC's concern with emerging contaminants, initial groundwater samples will also be analyzed for 1,4-dioxane via USEPA Method 8270 selective ion monitoring (SIM) and per-and polyfluoroalkyl substances (PFAS) via USEPA Method 537. Following the review of the initial PFAS results in groundwater, consideration will be made to analyze soil samples for PFAS and/or the continued analysis of additional groundwater samples for PFAS.

Soil Sampling Summary					
Matrix Type	**Analytical Parameter**	**Analytical Method**	**Sample Preservation**	**Sample Container**	**Sample Holding Time**
Soil	VOC	8260	Cool, 4°C	Encore	48 Hours
Soil	1,4-Dioxane	8270	Cool, 4°C	8 oz Glass Jar	14 Days
Soil	PFAS	537 (m)	Cool, 4°C	8 oz Glass Jar	28 Days

Groundwater Sampling Summary					
Matrix Type	**Analytical Parameter**	**Analytical Method**	**Sample Preservation**	**Sample Container**	**Sample Holding Time**
Aqueous	VOC	8260	HCl, Cool, 4°C	40 ml Vials	14 days
Aqueous	1,4-Dioxane	8270	Cool, 4˚C	500 mL Amber Glass	7/40 days
Aqueous	PFAS	537	Trizma, Cool, 4°C	(2) 250 ml Vials	14 Days

If either Light Non-Aqueous Phase Liquid (LNAPL) and/or Dense Non-Aqueous Phase Liquid (DNAPL) are detected, appropriate samples will be collected for characterization and "fingerprint analysis" and required regulatory reporting (i.e. spills hotline) will be performed.

A thorough evaluation of the laboratory data will be completed and a Data Usability Summary Report (DUSR) will be prepared. The primary objective for the evaluation of analytical data will be to determine whether or not the data, as presented, meets the site-specific criteria for data quality and use. The preparation of the DUSR will be prepared by a qualified, independent data validation expert. The DUSR will be prepared in accordance with *Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports* included in NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*.

3.6 Quality Assurance Samples

Field blanks and trip blanks will be submitted to the laboratory to evaluate the quality and performance of the analytical laboratory's analysis and reporting of the soil and groundwater sample results. Field (equipment) blanks will be analyzed to assess any contamination contributed from sampling location conditions, and the transport, handling, and storage of the samples. The trip blank will be analyzed to determine if sample containers may have been contaminated during transportation and storage. In accordance with DER-10, field duplicates, aqueous trip blanks, and field blanks will be collected at a frequency of 1 per 20 samples and will be analyzed for VOCs.

4.0 HEALTH AND SAFETY PLAN

A Health and Safety Plan (HASP) was prepared to guide the conduct of the RI work in the event that petroleum hydrocarbons and/or hazardous substances are encountered during the performance of the field activities. A copy of the HASP is included as Appendix A. The purpose of the HASP is to minimize the likelihood of exposure of VERTEX employees to hazardous concentrations of chemicals encountered during field activities, minimize impacts to the environment, and provide safety guidelines for subcontractors.

Investigative work performed under this RIWP will be in full compliance with applicable health and safety laws and regulations, including site and Occupational Safety & Health Administration (OSHA) worker safety requirements and Hazardous Waste Operations and Emergency Response (HAZWOPER) requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards, and will address potential risks. The parties performing the investigation work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. Field activities will be completed with OSHA level D personal protective equipment (PPE) consisting of hard hats, safety glasses, protective gloves and steel toed boots.

An emergency contact sheet with names and phone numbers for all pertinent project personnel as well as regulatory hotline information is included in the HASP. That document will define the specific project contacts for use in case of emergency.

Health and safety activities will be monitored throughout the RI activities, and the HASP will be subject to change, as necessary, based on new conditions that may be encountered during the field investigation.

5.0 REMEDIAL INVESTIGATION WORK PLAN

The objective of the RI is to further characterize soil and groundwater conditions, including the following: installation of soil borings and the collection of soil samples to evaluate soil quality below the footprint of the site building to locate a potential source area; installation of permanent monitoring wells and the collection of groundwater samples to confirm groundwater flow direction and delineate groundwater impacts; and completion of a sub-slab depressurization system (SSDS) pilot test to evaluate the radius of influence (ROI) that a SSDS suction point can be expected to achieve reliably for the design of a VI mitigation system.

5.1 Citizen Participation

In accordance with BCP requirements, a Citizens Participation Plan (CP Plan) was prepared and submitted to the NYSDEC under separate cover. The CP Plan provided a summary of the BCP and citizen participation activities, site information, project contacts, and the RI process.

5.2 Utility Clearance and Geophysical Evaluation

As part of the subsurface investigation, VERTEX's drilling subcontractor will contact the New York one call system prior to initiating the drilling activities. VERTEX will also retain the services of a geophysics subcontractor to conduct a geophysical survey using ground penetrating radar (GPR) and electromagnetic evaluation to mark-out subsurface utilities, evaluate drains and subsurface piping, and "clear" any proposed soil boring locations prior to drilling. VERTEX will also coordinate with the property owners or site contacts, and/or obtain existing utility plans, if available, in an attempt to confirm that all drilling locations, if warranted, are free of underground utilities.

5.3 Sewer Evaluation

VERTEX will obtain a NYCDEP sewer map of the area to ascertain the approximate locations of the current and former sewer piping and sewer connections associated with the site. VERTEX will also coordinate with the NYCDEP Bureau of Water and Sewer Operations to conduct a dye test at the site. The purpose of the dye test will be to evaluate the discharge location of floor drains observed in the basement.

Furthermore, VERTEX will coordinate with a contractor to perform a sanitary sewer evaluation, to confirm the locations of the sewer connections to the site building and below the site building footprint, the sewer locations beneath the sidewalk around the perimeter of the site building, and the location of the sewers within nearby streets. The inspection will include a video inspection of the sanitary sewer piping within and exiting the site building.

If any breeches are identified in the piping, VERTEX will advance soil borings to confirm if these breeches are potential source areas for the contaminants of concern at the site.

5.4 Soil Boring Installation

This task will involve advancing up to 12 soil borings utilizing limited-access drilling equipment in the southeastern corner of the site building basement, to the maximum depth of 27 feet below the basement slab. In addition, this task will involve advancing an additional 4-6 soil borings utilizing direct push (i.e., Geoprobe®) drilling techniques in the sidewalk along 37th Avenue to the maximum depth of 35 feet bgs. The proposed boring locations are depicted on Figure 9. The location of the soil borings may need to be adjusted in the field, based on the findings of the geophysical evaluation and/or due to site access limitations (i.e. tenant operations, structural obstructions, etc.).

VERTEX will coordinate with our drilling subcontractor to obtain the required New York City Department of Transportation (NYCDOT) permits for sidewalk opening, temporary pedestrian walkway, occupancy of sidewalk, occupancy of street, and repair of the sidewalk to facilitate the soil boring activities. These permits will be obtained for the sidewalks along each street (37th Avenue, 82nd Street, and 83rd Street) where drilling is proposed. In accordance with NYCDOT permits, drilling activities will be conducted between 9 AM and 3 PM, Monday through Friday.

5.4.1 Soil Sampling

Soil samples will be collected continuously and screened in the field for the presence of total volatile organic vapors using a PID calibrated to 100 parts per million (ppm) by volume of isobutylene. The PID readings, soil lithology, and field observations will be documented in the field by VERTEX. Samples will be biased to the interval with the strongest evidence of suspected impacts based on PID readings, odors, staining, etc. In the event no field evidence of hazardous constituents is observed, soil samples will be collected from the first six-inch interval of soil present above the soil/groundwater interface or drilling refusal, as warranted by field observations and conditions.

Soil samples will be collected and analyzed for VOCs via USEPA Method 8260. All soil samples will be grab samples; no composite soil samples are proposed. Following soil sample collection, boreholes will be backfilled with soil cuttings with an upper bentonite plug and capped with concrete patch.

5.5 SSDS Pilot Study

A SSDS is proposed to mitigate potential VI concerns at the site due to the elevated chlorinated VOCs detected in the groundwater, soil gas, and indoor air. As part of the RI, VERTEX will collect measurements of interior site features to produce drawings that are needed for the design of a

SSDS and obtaining the required local permits. A walkthrough of the area and photo-documentation will be performed to determine where above-grade and below-grade piping runs can be safely installed.

Performance of pilot testing will be completed to determine the ROI that a SSDS suction point can be expected to achieve. This data will assist in determining the number and placement of SSDS suction points to ensure proper building coverage and provide flow and vacuum data for the proper design of the SSDS piping and blowers. The ROI can vary based upon the substrate below the concrete floor, soil types, and floor conditions. The site building may contain column and wall footings that will likely interfere with the ROI of the SSDS. The pilot test will require the installation of suction points and associated monitoring points in the concrete floor of the building and measuring the influence of a vacuum induced on the suction points. Pilot testing will include a minimum of three test points and a maximum of five points within the basement area.

5.6 Monitoring Well Installation

This task will involve the installation of five groundwater monitoring wells utilizing hollow-stem auger drilling techniques within the City-owned sidewalks, to the maximum depth of 45 feet below sidewalk grade. The proposed monitoring well locations are depicted on Figure 10. The locations of the soil borings/monitoring wells may need to be adjusted in the field, based on the findings of the geophysical evaluation and/or due to site access limitations (i.e. parked vehicles, equipment, etc.). Three of the well locations will be placed at the previous temporary well locations VTW-1, VTW-2, and VTW-3. Two additional monitoring wells will be located down-gradient (northeast) of VTW-3, across 83rd Street, in the City-owned sidewalk.

Details of the monitoring well completion depths and construction information will be recorded by VERTEX in the field. The monitoring wells will be constructed of 2-inch diameter Schedule 40

slotted (0.010 inch) polyvinyl chloride (PVC) screen and 2-inch diameter PVC riser to grade. The well screen annulus will be filled with sand pack from the base of the screen to 1 to 2 feet above the top of the screen. A bentonite/grout slurry will be installed from the top of the sand pack to ground surface. VERTEX assumes that the monitoring wells will be installed to a depth no greater than 45 feet below grade. The screened interval for the monitoring wells (10 feet) will be installed to intersect the shallow groundwater table and will extend to the completion depth of the well. Surface finishing will consist of a flush-mount traffic-rated manhole with a bolt-on lid set into a concrete pad. Additionally, an expandable locking cap will be fitted to the top of the PVC riser in the well.

The monitoring wells will be developed following installation to improve the hydraulic efficiency, by the removal of the fine-grained material generated during the drilling process. The monitoring wells will be developed following installation. Groundwater will be purged from the monitoring wells using disposable polyethylene tubing and a submersible pump, until turbid-free water is observed.

The monitoring wells are positioned so that groundwater flow direction can be triangulated from the elevation information obtained following the gauging and surveying of the wells. VERTEX will coordinate with a licensed surveyor to obtain the elevation of each monitoring well casing.

5.6.1 Groundwater Sampling

The newly installed monitoring wells will be allowed to stabilize and sampled a minimum of one week following installation and development. The groundwater sampling event will begin with groundwater level measurements from each well using a product/water interface probe. Purging of the wells prior to sampling will be conducted using low-flow purging methodologies with disposable polyethylene tubing and a stainless-steel submersible pump. Field parameters to be measured before and during the sampling will consist of pH, specific conductance, oxidation-

reduction potential (ORP), temperature, dissolved oxygen, and turbidity. The groundwater will be inspected for the presence of any odor and/or surface sheen. Sample collection will be conducted following a three well volume purge.

Groundwater samples will initially be analyzed for VOCs and the emerging contaminants PFAS and 1,4-dioxane. A second groundwater sampling event will be conducted 30 days following the initial sampling event. The monitoring well sampling will be conducted as outlined above.

An additional two rounds of quarterly groundwater sampling will be conducted following the initial characterization events, to obtain sufficient data to document contaminant concentration trends over time. If not detected above the AWQS, the parameters including the emerging contaminants will be removed from the subsequent proposed sampling events.

5.7 Investigation-Derived Waste Management

Investigation-derived waste (IDW) generated during the RI activities would include soil cuttings generated during the soil boring and/or monitoring well installations and purge development water generated during monitoring well development and sampling.

Soil cuttings generated during the installation of the permanent monitoring wells will be placed in sealed and labeled U.S. Department of Transportation (DOT)-approved 55-gallon drums pending off-site disposal at a permitted facility.

Based on the documented groundwater impacts at the site, purge development water will be containerized in DOT-approved 55-gallon drums for off-site disposal at a permitted facility.

During the installation of soil borings, the soil will be disposed at the site, within the borehole that generated them, unless free product or grossly contaminated soil are present in the cuttings.

Contaminated soil cuttings, if encountered, will be placed in sealed and labeled DOT-approved 55-gallon drums pending off-site disposal at a permitted facility. All boreholes which require drill cuttings disposal would ultimately be filled with bentonite chips and hydrated.

Disposable sampling equipment including, spoons, gloves, bags, paper towels, etc. that came in contact with environmental media will be double bagged and disposed as municipal trash in a facility trash dumpster as general refuse.

5.8 Reporting

VERTEX will prepare an Interim Remedial Measures (IRM) Work Plan to document the proposed mitigation measures to address vapor intrusion concerns at the site (SSDS installation). Information obtained during the SSDS pilot study will be used to design an SSDS to impart a negative pressure below the site building slab and vent VOC sub-slab vapors to the exterior of the building. The design of the system, sufficient for permitting and construction purposes, will be prepared and finalized by a New York-licensed professional engineer (PE).

VERTEX will prepare a Remedial Investigation Report (RIR) / Alternative Analysis Report (AAR) in accordance with NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*. The RIR/AAR will present the findings of the RI activities, evaluate remedial alternatives, and provide a recommendation for a remedial strategy to address soil, groundwater, and/or vapor intrusion concerns.

Soil analytical results will be compared to the NYSDEC Part 375-6.8(a) Unrestricted Used Soil Cleanup Objectives and appropriate Part 375-6.8(b) Restricted Soil Cleanup Objectives. Groundwater analytical results will be compared to the NYSDEC Part 703 Groundwater Quality Standards (Class GA) and Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1 AWQS.

A thorough evaluation of the laboratory data will be completed and a DUSR will be prepared by a qualified, independent data validation expert. The DUSR will be prepared in accordance with *Appendix 2B, Guidance for Data Deliverables and the Development of Data Usability Summary Reports* included in NYSDEC *DER-10: Technical Guidance for Site Investigation and Remediation*.

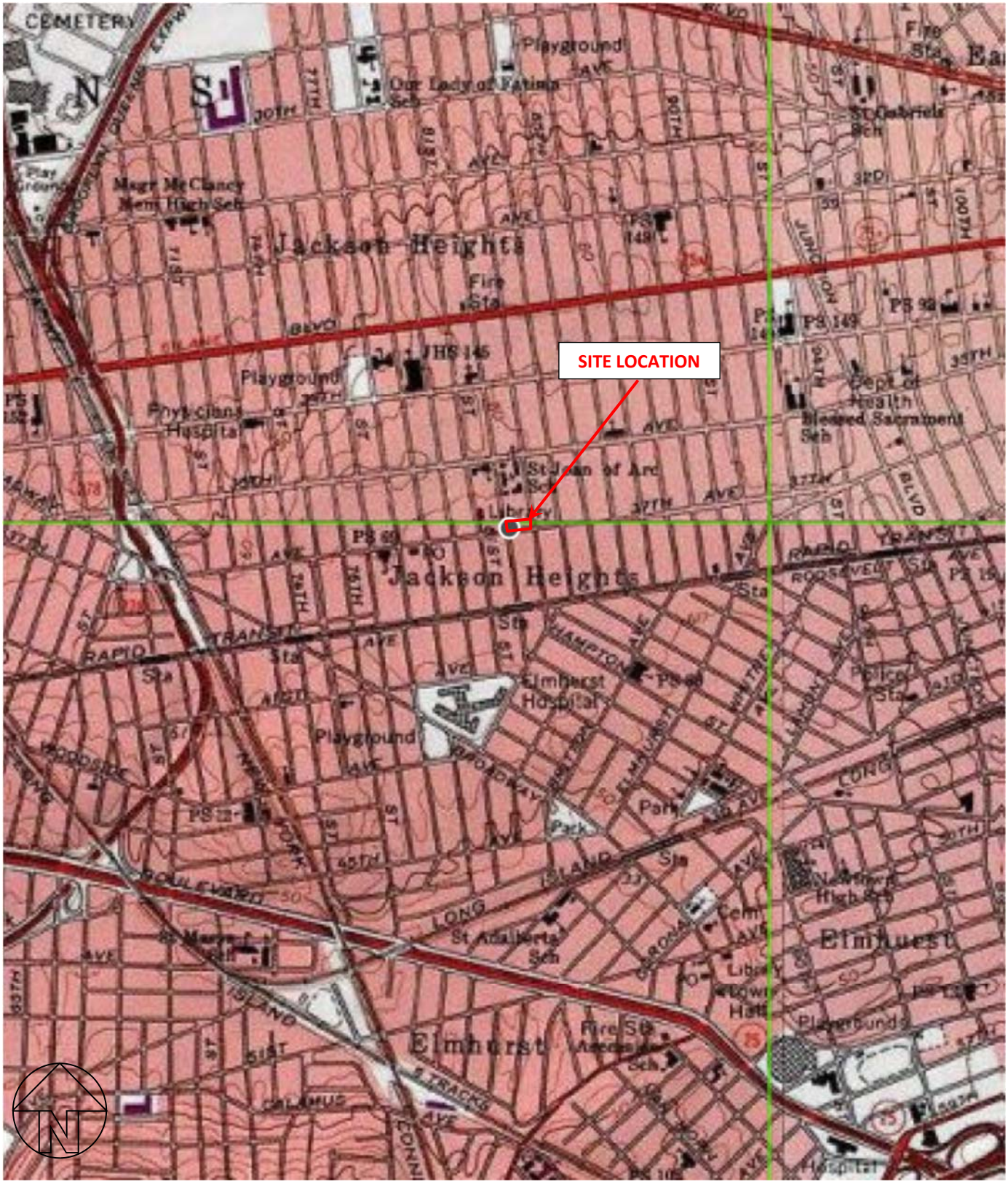
The report will include site location and sample location figures, color photographic documentation, summary of methods, laboratory reports and data summaries, and other pertinent support documentation as required by applicable NYSDEC and NYSDOH regulations.

5.9 Implementation Schedule

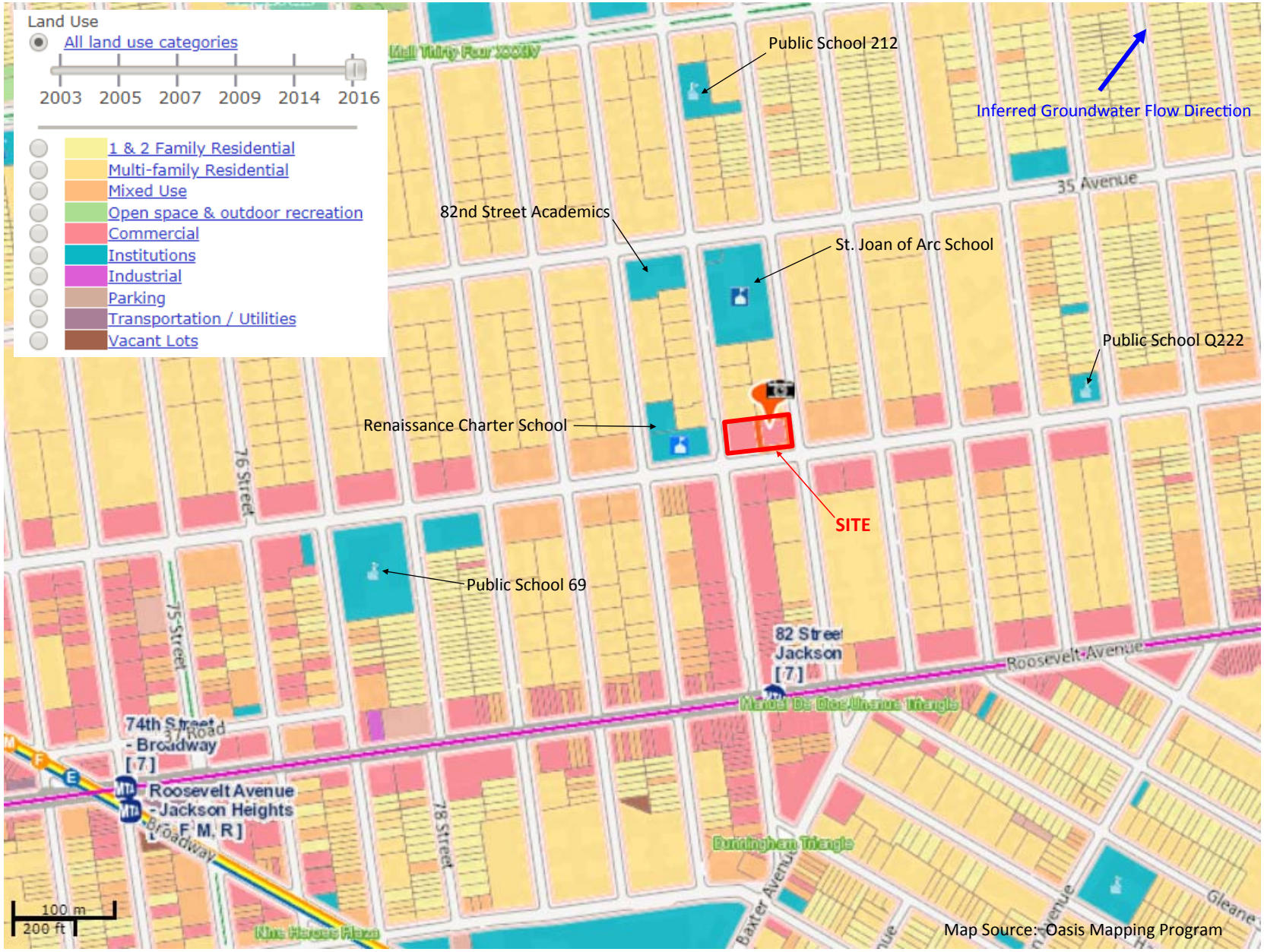
The following is the estimated schedule to implement the RI activities.

Implementation Schedule	
Task	**Estimated Completion Date**
Submit RIWP and CP Plan to NYSDEC	October 25, 2018
Public Comment Period and NYSDEC Review for RIWP	November 30, 2018
Address NYSDEC Comments to RIWP & Submit Response to NYSDEC	December 14, 2018
NYSDEC Approval of RIWP	December 21, 2018
Implement RI Activities	February 5, 2019
Submit IRM Work Plan	March 5, 2019
Submit RIR/AAR	April 19, 2019

FIGURES



Source: USGS, 2013 Brooklyn, NY Quadrangle Contour Interval: 20 feet	**SITE LOCATION MAP** 82-13 37th Avenue Jackson Heights, New York VERTEX Project No. 48122	VERTEX ENGINEERING, PC **FIGURE NO. 1**



LAND USE SUMMARY MAP

82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 2

VERTEX Project Number
48122

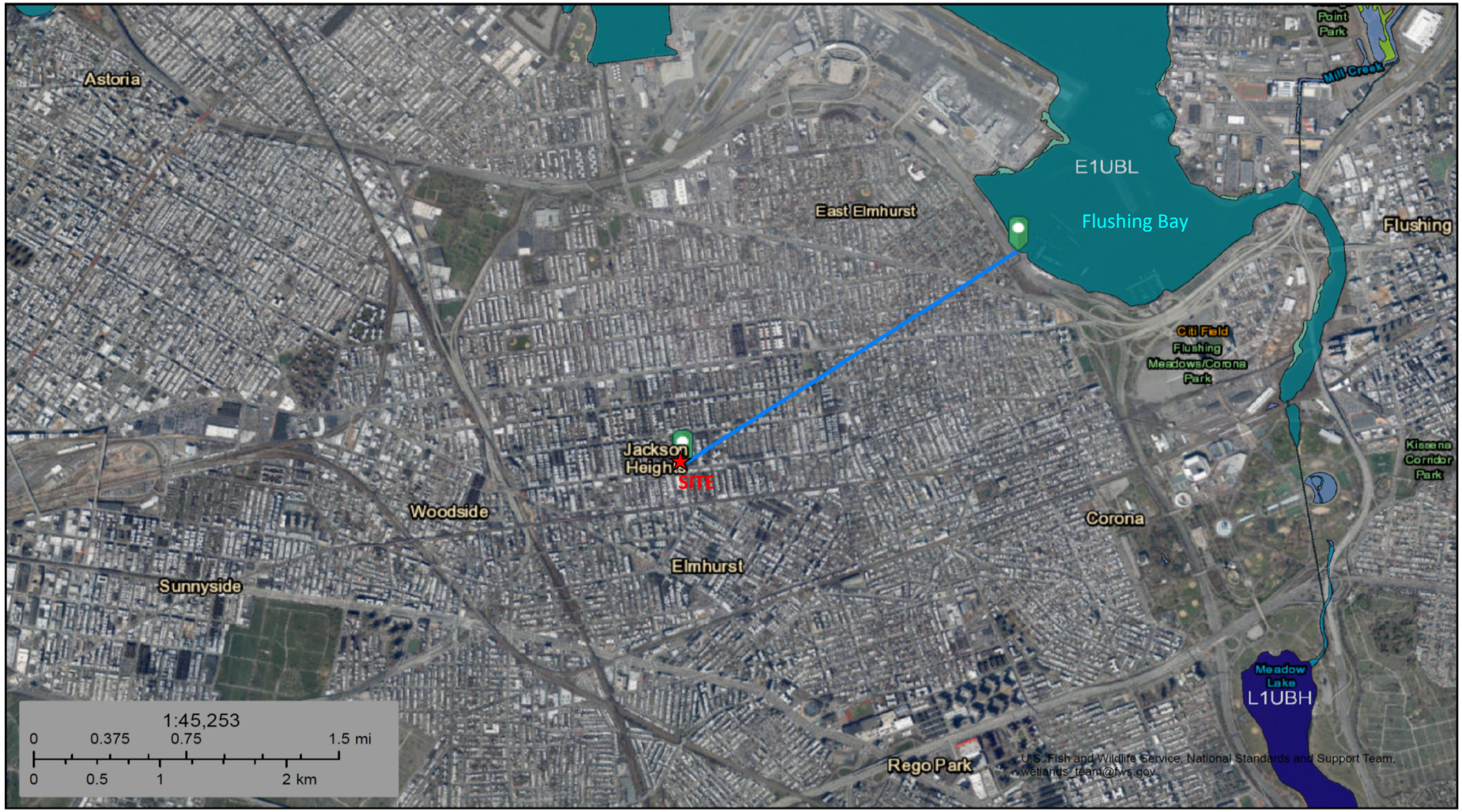
FORMER DRYCLEANER LOCATIONS

82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 3

VERTEX Project Number
48122



October 2, 2018

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

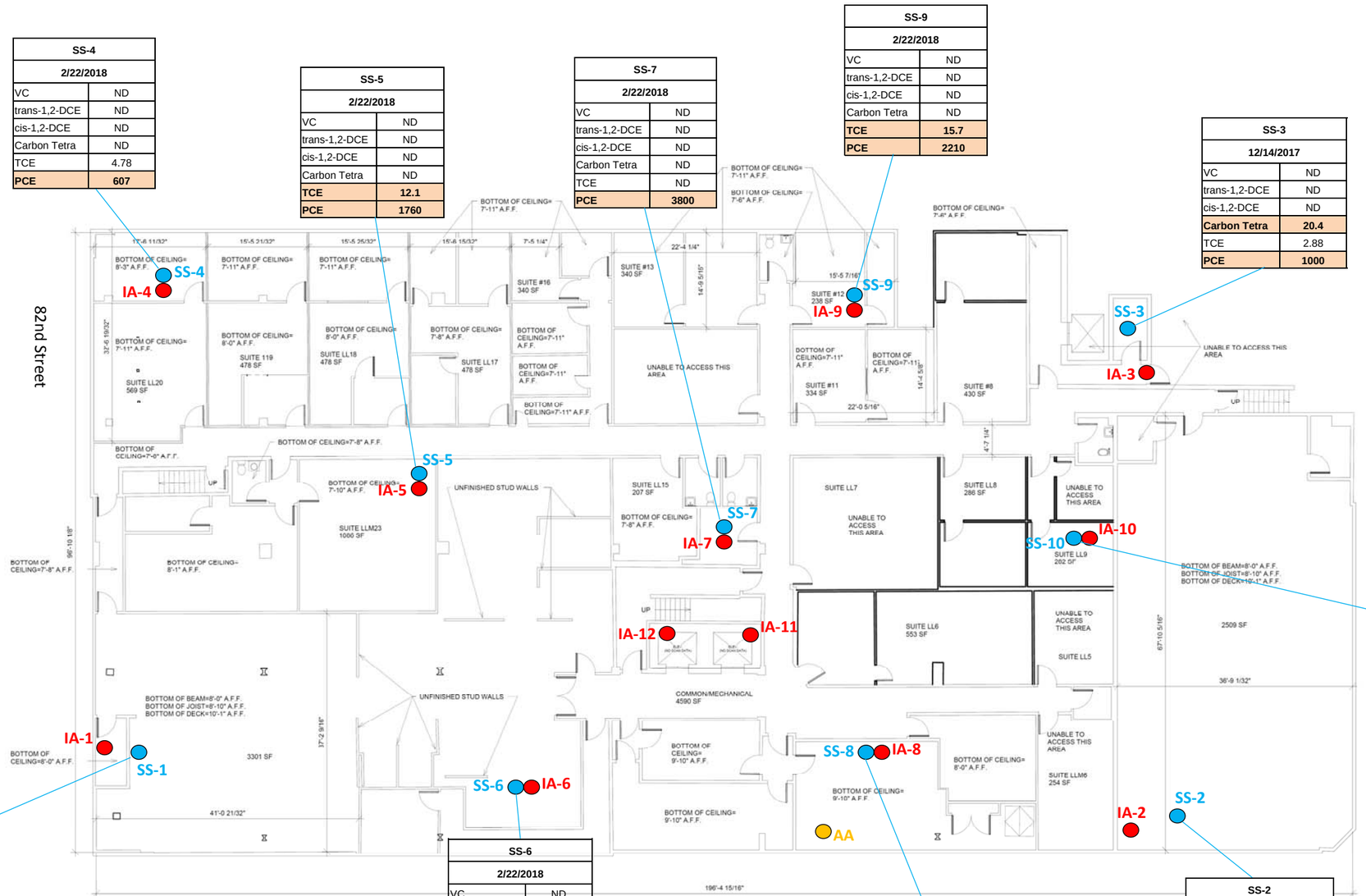
WETLANDS MAP

82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 4

VERTEX Project Number
48122



SS-4	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	4.78
PCE	**607**

SS-5	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	**12.1**
PCE	**1760**

SS-7	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	**3800**

SS-9	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	**15.7**
PCE	**2210**

SS-3	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**20.4**
TCE	2.88
PCE	**1000**

SS-10	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**7.17**
TCE	**15.6**
PCE	**2100**

SS-1	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**15.5**
TCE	**19**
PCE	**2370**

SS-6	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	**1230**

SS-8	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	**24.1**
PCE	**5490**

SS-2	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**767**
TCE	**26.1**
PCE	**10100**

		Criteria (ug/m3)
VC	Vinyl chloride	**6**
trans-1,2-DCE	trans-1,2-Dichloroethene	**NS**
cis-1,2-DCE	cis-1,2-Dichloroethene	**6**
Carbon Tetra	Carbon tetrachloride	**6**
TCE	Trichloroethene	**6**
PCE	Tetrachloroethene	**100**

All concentrations presented in micrograms per cubic meter (ug/m3)
ND = Not detected
Bold & Highlighted = Concentration exceeds criteria

- Indoor Air Sample Location
- Sub-Slab Soil Vapor Sample Location
- Ambient Air Sample Location (3rd floor parking deck)

Map Source: *Existing Basement Floor Plan*, Existing Conditions Surveys Inc., 11/30/2017

SOIL VAPOR RESULTS MAP

82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS COUNTY, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 5

VERTEX Project No. 48122

IA-4	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.56
TCE	0.145
PCE	2.43

IA-5	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.447
TCE	0.107
PCE	3.82

IA-7	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.44
TCE	0.113
PCE	1.82

IA-9	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.556
TCE	0.107
PCE	2.58

IA-3	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.541
TCE	ND
PCE	0.393

4TH FLOOR ELEVATOR LOBBY

IA-12	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.409
TCE	ND
PCE	0.997

IA-10	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.66
TCE	0.15
PCE	5.59

GROUND FLOOR STAIRWELL

IA-11	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.52
TCE	ND
PCE	0.909

IA-1	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.591
TCE	0.113
PCE	10.5

IA-6	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.465
TCE	ND
PCE	4.52

IA-8	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	0.654
TCE	0.183
PCE	6.04

IA-2	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	1.1
TCE	ND
PCE	2.92

AA		AA	
12/14/2017		2/22/2018	
VC	ND	VC	ND
trans-1,2-DCE	ND	trans-1,2-DCE	ND
cis-1,2-DCE	ND	cis-1,2-DCE	ND
Carbon Tetra	0.541	Carbon Tetra	0.359
TCE	ND	TCE	ND
PCE	0.414	PCE	0.387

		Guidance Value (ug/m3)
VC	Vinyl chloride	NS
trans-1,2-DCE	trans-1,2-Dichloroethene	NS
cis-1,2-DCE	cis-1,2-Dichloroethene	NS
Carbon Tetra	Carbon tetrachloride	NS
TCE	Trichloroethene	2
PCE	Tetrachloroethene	30

All concentrations presented in micrograms per cubic meter (ug/m3)
ND = Not detected
Bold & Highlighted = Concentration exceeds criteria

- Indoor Air Sample Location
- Sub-Slab Soil Vapor Sample Location
- Ambient Air Sample Location (3rd floor parking deck)

Map Source: *Existing Basement Floor Plan*, Existing Conditions Surveys Inc., 11/30/2017

INDOOR AIR RESULTS MAP

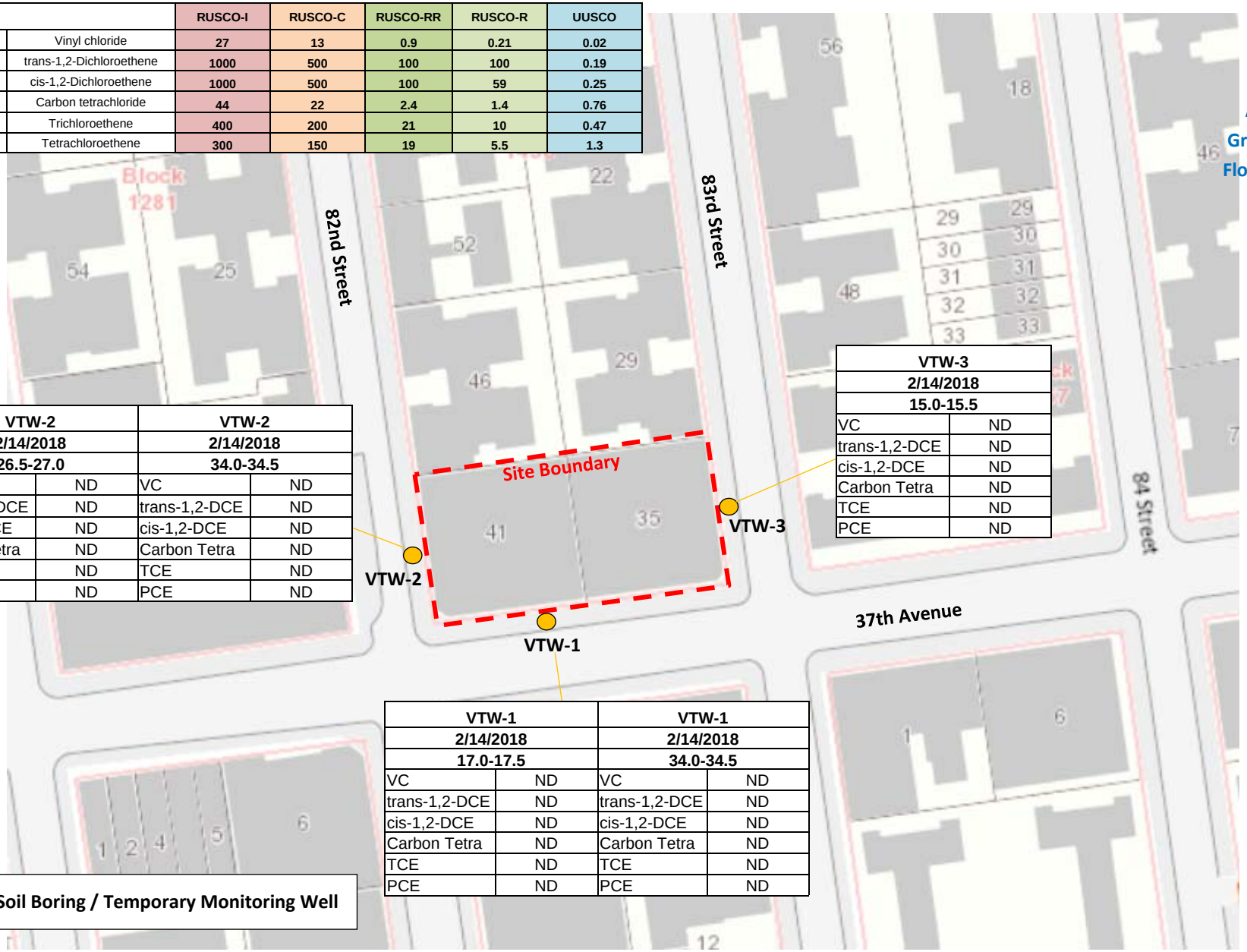
82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS COUNTY, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 6

VERTEX Project No. 48122

		RUSCO-I	RUSCO-C	RUSCO-RR	RUSCO-R	UUSCO
VC	Vinyl chloride	27	13	0.9	0.21	0.02
trans-1,2-DCE	trans-1,2-Dichloroethene	1000	500	100	100	0.19
cis-1,2-DCE	cis-1,2-Dichloroethene	1000	500	100	59	0.25
Carbon Tetra	Carbon tetrachloride	44	22	2.4	1.4	0.76
TCE	Trichloroethene	400	200	21	10	0.47
PCE	Tetrachloroethene	300	150	19	5.5	1.3



VTW-2		VTW-2	
2/14/2018		2/14/2018	
26.5-27.0		34.0-34.5	
VC	ND	VC	ND
trans-1,2-DCE	ND	trans-1,2-DCE	ND
cis-1,2-DCE	ND	cis-1,2-DCE	ND
Carbon Tetra	ND	Carbon Tetra	ND
TCE	ND	TCE	ND
PCE	ND	PCE	ND

VTW-3	
2/14/2018	
15.0-15.5	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	ND

VTW-1		VTW-1	
2/14/2018		2/14/2018	
17.0-17.5		34.0-34.5	
VC	ND	VC	ND
trans-1,2-DCE	ND	trans-1,2-DCE	ND
cis-1,2-DCE	ND	cis-1,2-DCE	ND
Carbon Tetra	ND	Carbon Tetra	ND
TCE	ND	TCE	ND
PCE	ND	PCE	ND

SOIL RESULTS MAP

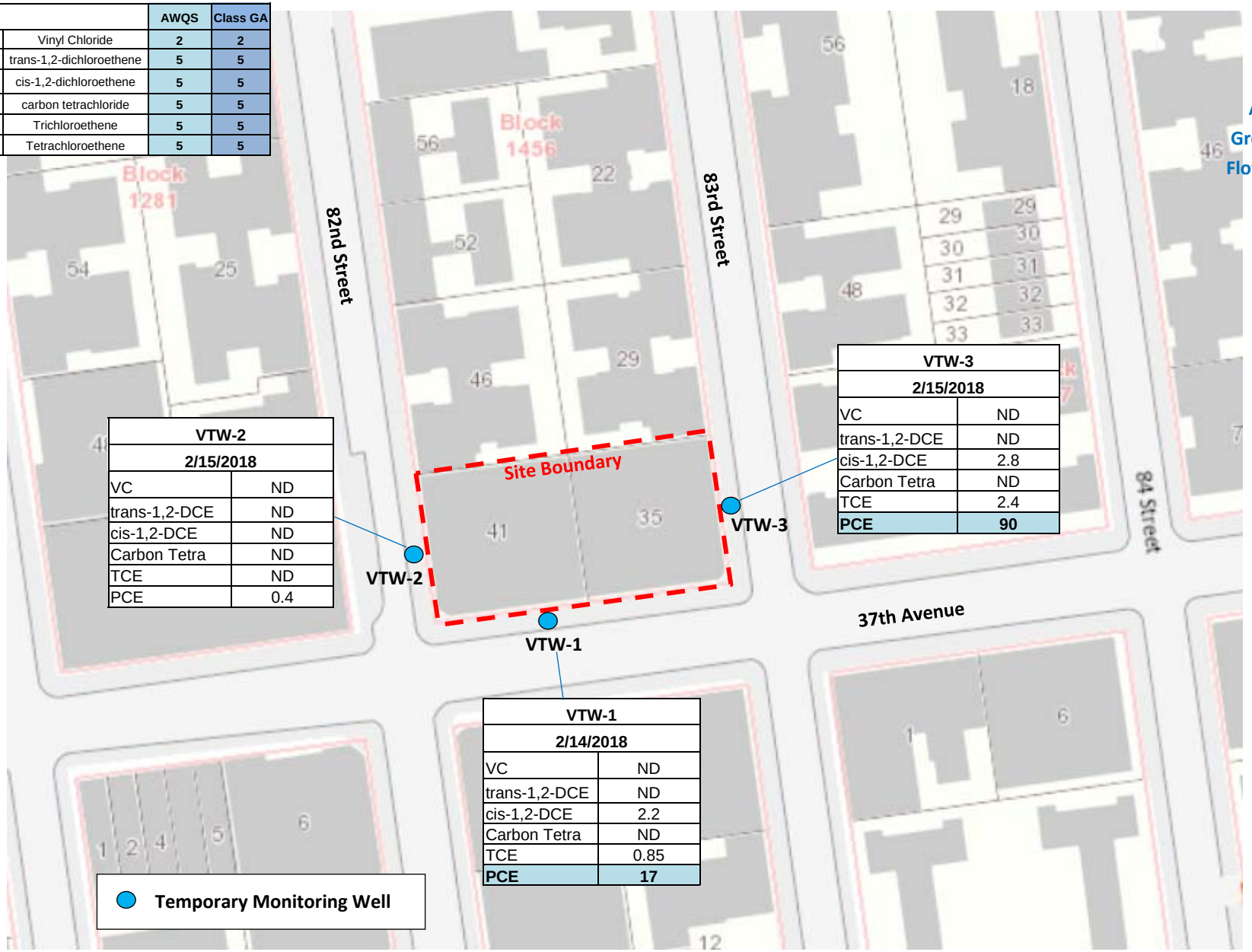
82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 7

VERTEX Project Number
48122

		AWQS	Class GA
VC	Vinyl Chloride	2	2
trans-1,2-DCE	trans-1,2-dichloroethene	5	5
cis-1,2-DCE	cis-1,2-dichloroethene	5	5
Carbon Tetra	carbon tetrachloride	5	5
TCE	Trichloroethene	5	5
PCE	Tetrachloroethene	5	5



VTW-2	
2/15/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.4

VTW-3	
2/15/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	2.8
Carbon Tetra	ND
TCE	2.4
PCE	**90**

VTW-1	
2/14/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	2.2
Carbon Tetra	ND
TCE	0.85
PCE	**17**

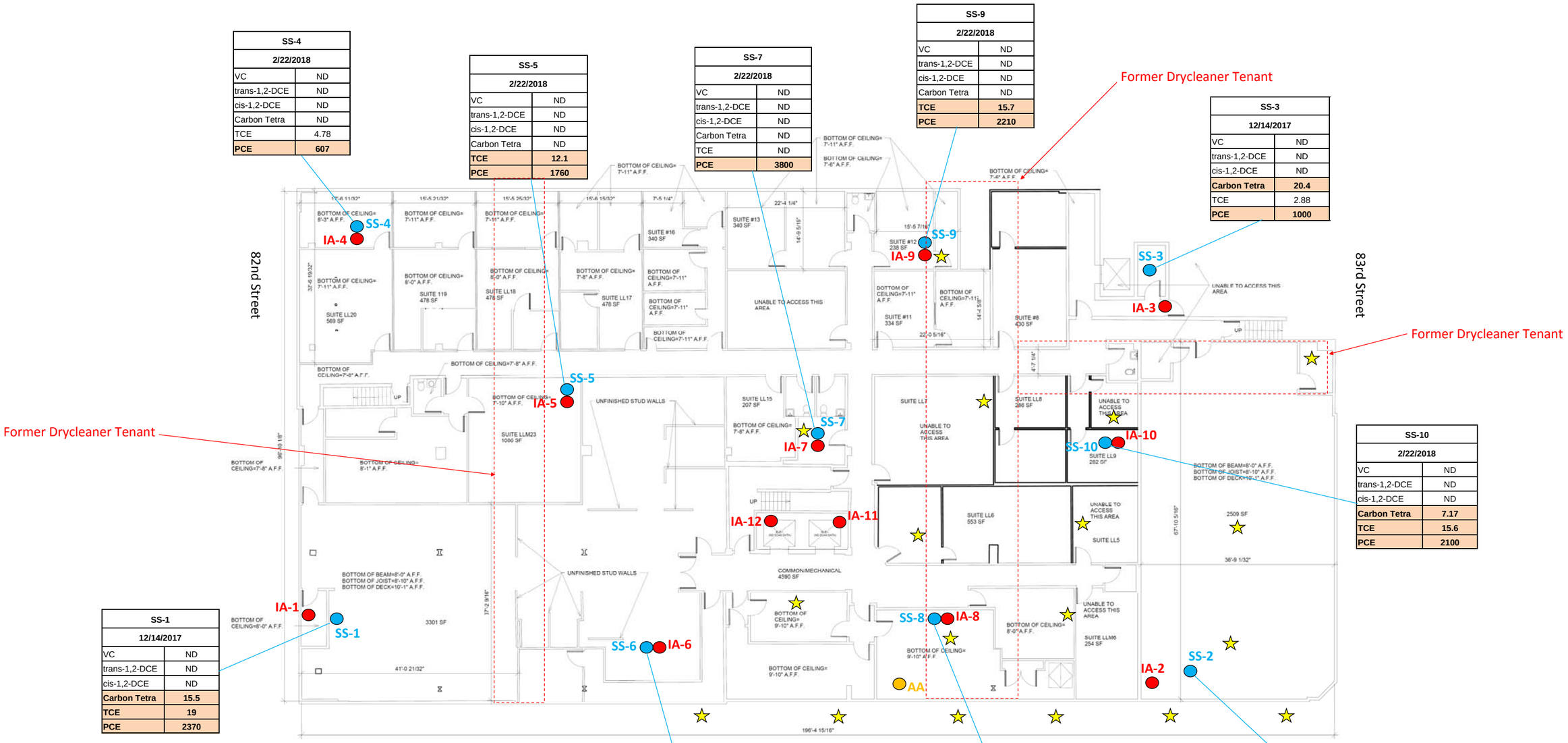
GROUNDWATER RESULTS MAP

82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS COUNTY, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 8

VERTEX Project Number
48122



SS-1	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**15.5**
TCE	**19**
PCE	**2370**

SS-2	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**767**
TCE	**26.1**
PCE	**10100**

SS-3	
12/14/2017	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**20.4**
TCE	2.88
PCE	**1000**

SS-4	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	4.78
PCE	**607**

SS-5	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	**12.1**
PCE	**1760**

SS-6	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	**1230**

SS-7	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	**3800**

SS-8	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	**24.1**
PCE	**5490**

SS-9	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	**15.7**
PCE	**2210**

SS-10	
2/22/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	**7.17**
TCE	**15.6**
PCE	**2100**

		Criteria (ug/m3)
VC	Vinyl chloride	**6**
trans-1,2-DCE	trans-1,2-Dichloroethene	**NS**
cis-1,2-DCE	cis-1,2-Dichloroethene	**6**
Carbon Tetra	Carbon tetrachloride	**6**
TCE	Trichloroethene	**6**
PCE	Tetrachloroethene	**100**

All concentrations presented in micrograms per cubic meter (ug/m3)
ND = Not detected
Bold & Highlighted = Concentration exceeds criteria

- Indoor Air Sample Location
- Sub-Slab Soil Vapor Sample Location
- Ambient Air Sample Location (3rd floor parking deck)
- Proposed Soil Boring Location

Map Source: *Existing Basement Floor Plan*, Existing Conditions Surveys Inc., 11/30/2017

SOIL VAPOR RESULTS AND PROPOSED SOIL BORING LOCATION MAP

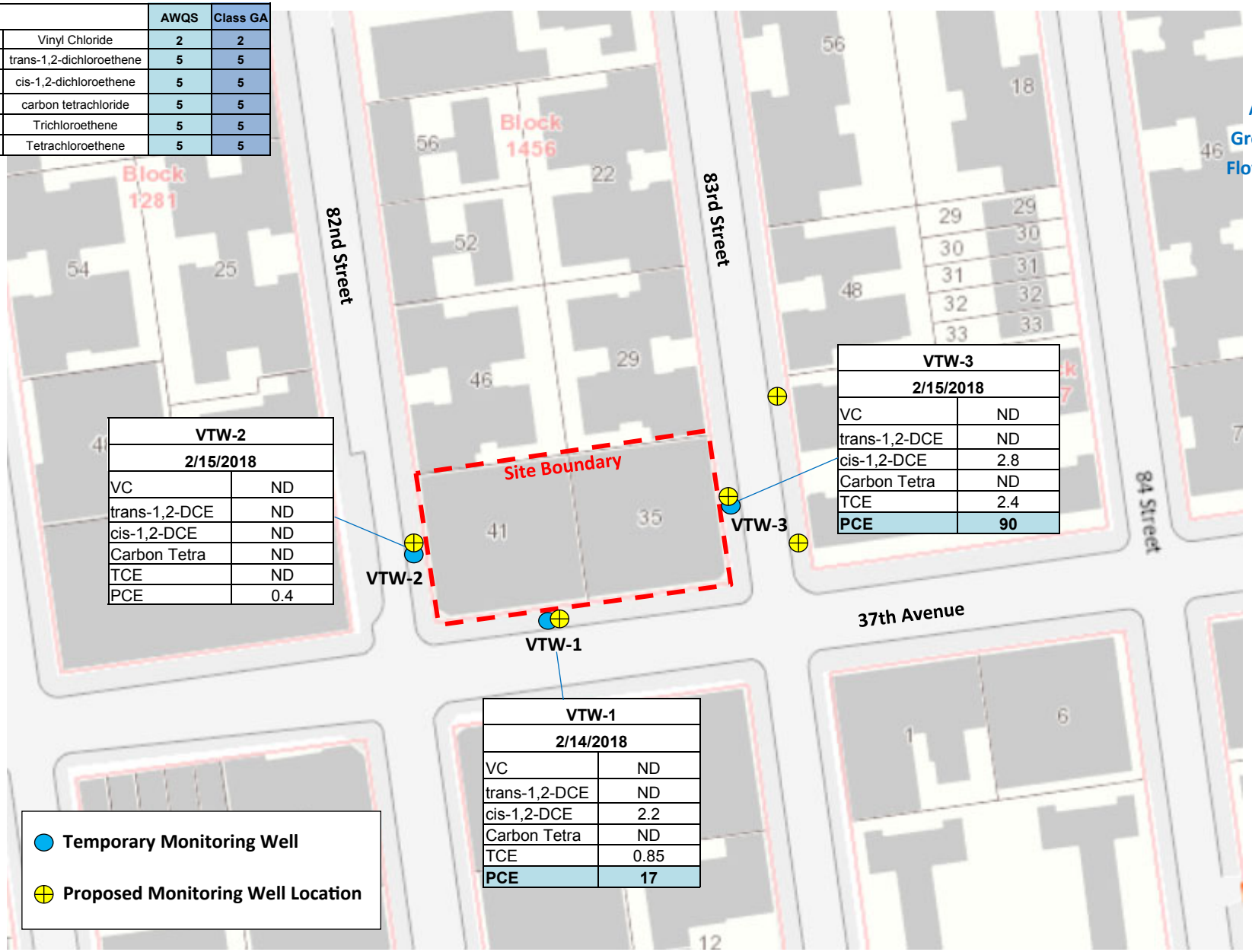
82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS COUNTY, NEW YORK

VERTEX ENGINEERING, PC

FIGURE 9

VERTEX Project No. 48122

		AWQS	Class GA
VC	Vinyl Chloride	2	2
trans-1,2-DCE	trans-1,2-dichloroethene	5	5
cis-1,2-DCE	cis-1,2-dichloroethene	5	5
Carbon Tetra	carbon tetrachloride	5	5
TCE	Trichloroethene	5	5
PCE	Tetrachloroethene	5	5



VTW-2	
2/15/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	ND
Carbon Tetra	ND
TCE	ND
PCE	0.4

VTW-3	
2/15/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	2.8
Carbon Tetra	ND
TCE	2.4
PCE	**90**

VTW-1	
2/14/2018	
VC	ND
trans-1,2-DCE	ND
cis-1,2-DCE	2.2
Carbon Tetra	ND
TCE	0.85
PCE	**17**

GROUNDWATER RESULTS AND PROPOSED WELL LOCATION MAP

82-13 37TH AVENUE
JACKSON HEIGHTS, QUEENS COUNTY, NEW YORK

VERTEX ENGINEERING, PC

FIGURE NO. 10

VERTEX Project No. 48122

TABLES

TABLE 1
SUB-SLAB SOIL VAPOR RESULTS
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:				SS-1			SS-2			SS-3			SS-4		
LAB ID:	Matrix A	Matrix B	Matrix C	L1746238-01			L1746238-02			L1746238-03			L1806491-01		
COLLECTION DATE:				12/14/2017			12/14/2017			12/14/2017			2/22/2018		
SAMPLE MATRIX:				SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3															
Dichlorodifluoromethane	NA	NA	NA	ND		4.94	ND		19.9	2.46		1.24	2.53		0.989
Chloromethane	NA	NA	NA	ND		2.07	ND		8.32	ND		0.516	ND		0.413
Freon-114	NA	NA	NA	ND		6.99	ND		28.2	ND		1.75	ND		1.4
Vinyl chloride	NA	NA	6	ND		2.56	ND		10.3	ND		0.639	ND		0.511
1,3-Butadiene	NA	NA	NA	ND		2.21	ND		8.92	ND		0.553	ND		0.442
Bromomethane	NA	NA	NA	ND		3.88	ND		15.6	ND		0.971	ND		0.777
Chloroethane	NA	NA	NA	ND		2.64	ND		10.6	ND		0.66	ND		0.528
Ethanol	NA	NA	NA	ND		47.1	207		190	40.9		11.8	30.1		9.42
Vinyl bromide	NA	NA	NA	ND		4.37	ND		17.6	ND		1.09	ND		0.874
Acetone	NA	NA	NA	71		11.9	90.3		47.7	68.9		2.97	81.5		2.38
Trichlorofluoromethane	NA	NA	NA	6.07		5.62	ND		22.6	1.44		1.4	2.23		1.12
Isopropanol	NA	NA	NA	15		6.15	50.6		24.8	12.9		1.54	6.12		1.23
1,1-Dichloroethene	6	NA	NA	ND		3.96	ND		16	ND		0.991	ND		0.793
Tertiary butyl Alcohol	NA	NA	NA	ND		7.58	ND		30.6	ND		1.89	ND		1.52
Methylene chloride	NA	100	NA	ND		8.69	ND		35.1	ND		2.17	ND		1.74
3-Chloropropene	NA	NA	NA	ND		3.13	ND		12.6	ND		0.783	ND		0.626
Carbon disulfide	NA	NA	NA	ND		3.11	ND		12.5	ND		0.779	0.8		0.623
Freon-113	NA	NA	NA	ND		7.66	ND		30.9	ND		1.92	ND		1.53
trans-1,2-Dichloroethene	NA	NA	NA	ND		3.96	ND		16	ND		0.991	ND		0.793
1,1-Dichloroethane	NA	NA	NA	ND		4.05	ND		16.3	ND		1.01	ND		0.809
Methyl tert butyl ether	NA	NA	NA	ND		3.61	ND		14.5	ND		0.901	ND		0.721
2-Butanone	NA	NA	NA	ND		7.37	ND		29.8	2.66		1.84	2.7		1.47
cis-1,2-Dichloroethene	6	NA	NA	ND		3.96	ND		16	ND		0.991	ND		0.793
Ethyl Acetate	NA	NA	NA	ND		9.01	ND		36.4	ND		2.25	ND		1.8
Chloroform	NA	NA	NA	21		4.88	245		19.7	31.9		1.22	36.5		0.977
Tetrahydrofuran	NA	NA	NA	ND		7.37	ND		29.8	ND		1.84	ND		1.47
1,2-Dichloroethane	NA	NA	NA	ND		4.05	ND		16.3	ND		1.01	ND		0.809
n-Hexane	NA	NA	NA	ND		3.52	ND		14.2	17.4		0.881	1.11		0.705
1,1,1-Trichloroethane	NA	100	NA	ND		5.46	ND		22	ND		1.36	ND		1.09
Benzene	NA	NA	NA	ND		3.19	ND		12.9	7.28		0.799	ND		0.639
Carbon tetrachlorid	6	NA	NA	**15.5**		6.29	**767**		25.4	**20.4**		1.57	ND		1.26
Cyclohexane	NA	NA	NA	ND		3.44	ND		13.9	6.37		0.861	ND		0.688
1,2-Dichloropropane	NA	NA	NA	ND		4.62	ND		18.6	ND		1.16	ND		0.924
Bromodichloromethane	NA	NA	NA	ND		6.7	ND		27	ND		1.67	2.18		1.34
1,4-Dioxane	NA	NA	NA	ND		3.6	ND		14.5	ND		0.901	ND		0.721
Trichloroethene	6	NA	NA	**19**		5.37	**26.1**		21.7	2.88		1.34	4.78		1.07
2,2,4-Trimethylpentane	NA	NA	NA	ND		4.67	ND		18.8	ND		1.17	ND		0.934
Heptane	NA	NA	NA	ND		4.1	ND		16.5	12.7		1.02	ND		0.82
cis-1,3-Dichloropropene	NA	NA	NA	ND		4.54	ND		18.3	ND		1.13	ND		0.908
4-Methyl-2-pentanone	NA	NA	NA	ND		10.2	ND		41.4	ND		2.56	ND		2.05
trans-1,3-Dichloropropene	NA	NA	NA	ND		4.54	ND		18.3	ND		1.13	ND		0.908
1,1,2-Trichloroethane	NA	NA	NA	ND		5.46	ND		22	ND		1.36	ND		1.09
Toluene	NA	NA	NA	ND		3.77	ND		15.2	16.8		0.942	ND		0.754
2-Hexanone	NA	NA	NA	ND		4.1	ND		16.5	ND		1.02	ND		0.82
Dibromochloromethane	NA	NA	NA	ND		8.52	ND		34.3	ND		2.13	ND		1.7
1,2-Dibromoethane	NA	NA	NA	ND		7.69	ND		31	ND		1.92	ND		1.54
Tetrachloroethene	NA	100	NA	**2370**		6.78	**10100**		27.3	**1000**		3.39	**607**		1.36
Chlorobenzene	NA	NA	NA	ND		4.61	ND		18.6	ND		1.15	ND		0.921
Ethylbenzene	NA	NA	NA	ND		4.34	ND		17.5	2.15		1.09	ND		0.869
p/m-Xylene	NA	NA	NA	ND		8.69	ND		35	20.2		2.17	ND		1.74
Bromoform	NA	NA	NA	ND		10.3	ND		41.7	ND		2.58	ND		2.07
Styrene	NA	NA	NA	ND		4.26	ND		17.2	ND		1.06	ND		0.852
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		6.87	ND		27.7	ND		1.72	ND		1.37
o-Xylene	NA	NA	NA	ND		4.34	ND		17.5	6.12		1.09	ND		0.869
4-Ethyltoluene	NA	NA	NA	ND		4.92	ND		19.8	1.24		1.23	ND		0.983
1,3,5-Trimethylbenzene	NA	NA	NA	ND		4.92	ND		19.8	6		1.23	ND		0.983
1,2,4-Trimethylbenzene	NA	NA	NA	ND		4.92	ND		19.8	16.3		1.23	ND		0.983
Benzyl chloride	NA	NA	NA	ND		5.18	ND		20.9	ND		1.29	ND		1.04
1,3-Dichlorobenzene	NA	NA	NA	ND		6.01	ND		24.2	ND		1.5	ND		1.2
1,4-Dichlorobenzene	NA	NA	NA	ND		6.01	ND		24.2	ND		1.5	ND		1.2
1,2-Dichlorobenzene	NA	NA	NA	ND		6.01	ND		24.2	ND		1.5	ND		1.2
1,2,4-Trichlorobenzene	NA	NA	NA	ND		7.42	ND		29.9	ND		1.86	ND		1.48
Hexachlorobutadiene	NA	NA	NA	ND		10.7	ND		43	ND		2.67	ND		2.13

Notes:

Matrix A - NYDOH Matrix A Sub-Slab Vapor Concentration Criteria (Updated May 2017)
Matrix B - NYDOH Matrix B Sub-Slab Vapor Concentration Criteria (Updated May 2017)
Matrix C - NYDOH Matrix C Sub-Slab Vapor Concentration Criteria (Updated May 2017)
NYDOH - New York Department of Health
ug/m3 - Micrograms per cubic meter
NA - No Standard
ND - Not Detected
RL - Reporting Limit
Compound was ND, but the RL exceeds the soil vapor concentration criteria
Bold Concentration exceeds NYDOH criteria

TABLE 1
SUB-SLAB SOIL VAPOR RESULTS
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	Matrix A	Matrix B	Matrix C	SS-5			SS-6			SS-7		
LAB ID:				L1806491-02			L1806491-03			L1806491-04		
COLLECTION DATE:				2/22/2018			2/22/2018			2/22/2018		
SAMPLE MATRIX:				SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3												
Dichlorodifluoromethane	NA	NA	NA	ND		3.3	2.81		2.47	ND		9.89
Chloromethane	NA	NA	NA	1.8		1.38	ND		1.03	ND		4.13
Freon-114	NA	NA	NA	ND		4.66	ND		3.49	ND		14
Vinyl chloride	NA	NA	6	ND		1.71	ND		1.28	ND		5.11
1,3-Butadiene	NA	NA	NA	15.5		1.48	ND		1.11	ND		4.42
Bromomethane	NA	NA	NA	ND		2.59	ND		1.94	ND		7.77
Chloroethane	NA	NA	NA	ND		1.76	ND		1.32	ND		5.28
Ethanol	NA	NA	NA	192		31.5	37.9		23.6	ND		94.2
Vinyl bromide	NA	NA	NA	ND		2.92	ND		2.19	ND		8.74
Acetone	NA	NA	NA	649		7.91	55.8		5.94	127		23.8
Trichlorofluoromethane	NA	NA	NA	ND		3.75	5.01		2.81	ND		11.2
Isopropanol	NA	NA	NA	41.3		4.1	8.6		3.07	43.5		12.3
1,1-Dichloroethene	6	NA	NA	ND		2.64	ND		1.98	ND		7.93
Tertiary butyl Alcohol	NA	NA	NA	ND		5.06	ND		3.79	ND		15.2
Methylene chloride	NA	100	NA	ND		5.8	ND		4.34	ND		17.4
3-Chloropropene	NA	NA	NA	ND		2.09	ND		1.57	ND		6.26
Carbon disulfide	NA	NA	NA	ND		2.08	ND		1.56	ND		6.23
Freon-113	NA	NA	NA	ND		5.11	ND		3.83	ND		15.3
trans-1,2-Dichloroethene	NA	NA	NA	ND		2.64	ND		1.98	ND		7.93
1,1-Dichloroethane	NA	NA	NA	ND		2.7	ND		2.02	ND		8.09
Methyl tert butyl ether	NA	NA	NA	ND		2.4	ND		1.8	ND		7.21
2-Butanone	NA	NA	NA	36.9		4.93	ND		3.69	ND		14.7
cis-1,2-Dichloroethene	6	NA	NA	ND		2.64	ND		1.98	ND		7.93
Ethyl Acetate	NA	NA	NA	ND		6.02	ND		4.5	ND		18
Chloroform	NA	NA	NA	21.9		3.26	5.08		2.44	18.9		9.77
Tetrahydrofuran	NA	NA	NA	ND		4.93	ND		3.69	ND		14.7
1,2-Dichloroethane	NA	NA	NA	ND		2.7	ND		2.02	ND		8.09
n-Hexane	NA	NA	NA	3.22		2.35	ND		1.76	ND		7.05
1,1,1-Trichloroethane	NA	100	NA	ND		3.64	ND		2.73	ND		10.9
Benzene	NA	NA	NA	57.8		2.13	ND		1.6	ND		6.39
Carbon tetrachlorid	6	NA	NA	ND		4.2	ND		3.15	ND		12.6
Cyclohexane	NA	NA	NA	ND		2.3	ND		1.72	ND		6.88
1,2-Dichloropropane	NA	NA	NA	ND		3.08	ND		2.31	ND		9.24
Bromodichloromethane	NA	NA	NA	ND		4.47	ND		3.35	ND		13.4
1,4-Dioxane	NA	NA	NA	ND		2.4	ND		1.8	ND		7.21
Trichloroethene	6	NA	NA	**12.1**		3.58	ND		2.69	ND		10.7
2,2,4-Trimethylpentane	NA	NA	NA	ND		3.12	ND		2.34	ND		9.34
Heptane	NA	NA	NA	3.02		2.73	ND		2.05	ND		8.2
cis-1,3-Dichloropropene	NA	NA	NA	ND		3.03	ND		2.27	ND		9.08
4-Methyl-2-pentanone	NA	NA	NA	ND		6.84	ND		5.12	ND		20.5
trans-1,3-Dichloropropene	NA	NA	NA	ND		3.03	ND		2.27	ND		9.08
1,1,2-Trichloroethane	NA	NA	NA	ND		3.64	ND		2.73	ND		10.9
Toluene	NA	NA	NA	33		2.51	ND		1.88	ND		7.54
2-Hexanone	NA	NA	NA	4.07		2.73	ND		2.05	ND		8.2
Dibromochloromethane	NA	NA	NA	ND		5.68	ND		4.26	ND		17
1,2-Dibromoethane	NA	NA	NA	ND		5.13	ND		3.84	ND		15.4
Tetrachloroethene	NA	100	NA	**1760**		4.52	**1230**		3.39	**3800**		13.6
Chlorobenzene	NA	NA	NA	ND		3.07	ND		2.3	ND		9.21
Ethylbenzene	NA	NA	NA	6.17		2.9	ND		2.17	ND		8.69
p/m-Xylene	NA	NA	NA	8.77		5.78	ND		4.34	ND		17.4
Bromoform	NA	NA	NA	ND		6.9	ND		5.17	ND		20.7
Styrene	NA	NA	NA	31.3		2.84	ND		2.13	ND		8.52
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		4.58	ND		3.43	ND		13.7
o-Xylene	NA	NA	NA	4.69		2.9	ND		2.17	ND		8.69
4-Ethyltoluene	NA	NA	NA	ND		3.28	ND		2.46	ND		9.83
1,3,5-Trimethylbenzene	NA	NA	NA	ND		3.28	ND		2.46	ND		9.83
1,2,4-Trimethylbenzene	NA	NA	NA	ND		3.28	ND		2.46	ND		9.83
Benzyl chloride	NA	NA	NA	ND		3.45	ND		2.59	ND		10.4
1,3-Dichlorobenzene	NA	NA	NA	ND		4.01	ND		3.01	ND		12
1,4-Dichlorobenzene	NA	NA	NA	ND		4.01	ND		3.01	ND		12
1,2-Dichlorobenzene	NA	NA	NA	ND		4.01	ND		3.01	ND		12
1,2,4-Trichlorobenzene	NA	NA	NA	ND		4.95	ND		3.71	ND		14.8
Hexachlorobutadiene	NA	NA	NA	ND		7.11	ND		5.33	ND		21.3

Notes:
Matrix A - NYDOH Matrix A Sub-Slab Vapor Concentration Criteria (Updated May 2017)
Matrix B - NYDOH Matrix B Sub-Slab Vapor Concentration Criteria (Updated May 2017)
Matrix C - NYDOH Matrix C Sub-Slab Vapor Concentration Criteria (Updated May 2017)
NYDOH - New York Department of Health
ug/m3 - Micrograms per cubic meter
NA - No Standard
ND - Not Detected
RL - Reporting Limit
Compound was ND, but the RL exceeds the soil vapor concentration criteria
Bold Concentration exceeds NYDOH criteria

TABLE 1
SUB-SLAB SOIL VAPOR RESULTS
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	Matrix A	Matrix B	Matrix C	SS-8			SS-9			SS-10		
LAB ID:				L1806491-05			L1806491-06			L1806491-07		
COLLECTION DATE:				2/22/2018			2/22/2018			2/22/2018		
SAMPLE MATRIX:				SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR			SUB-SLAB SOIL VAPOR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3												
Dichlorodifluoromethane	NA	NA	NA	ND		9.89	ND		4.94	ND		4.94
Chloromethane	NA	NA	NA	ND		4.13	ND		2.07	ND		2.07
Freon-114	NA	NA	NA	ND		14	ND		6.99	ND		6.99
Vinyl chloride	NA	NA	6	ND		5.11	ND		2.56	ND		2.56
1,3-Butadiene	NA	NA	NA	ND		4.42	ND		2.21	ND		2.21
Bromomethane	NA	NA	NA	ND		7.77	ND		3.88	ND		3.88
Chloroethane	NA	NA	NA	ND		5.28	ND		2.64	ND		2.64
Ethanol	NA	NA	NA	ND		94.2	95.5		47.1	ND		47.1
Vinyl bromide	NA	NA	NA	ND		8.74	ND		4.37	ND		4.37
Acetone	NA	NA	NA	25.7		23.8	101		11.9	28.7		11.9
Trichlorofluoromethane	NA	NA	NA	ND		11.2	ND		5.62	ND		5.62
Isopropanol	NA	NA	NA	ND		12.3	27.8		6.15	ND		6.15
1,1-Dichloroethene	6	NA	NA	ND		7.93	ND		3.96	ND		3.96
Tertiary butyl Alcohol	NA	NA	NA	ND		15.2	ND		7.58	ND		7.58
Methylene chloride	NA	100	NA	ND		17.4	ND		8.69	ND		8.69
3-Chloropropene	NA	NA	NA	ND		6.26	ND		3.13	ND		3.13
Carbon disulfide	NA	NA	NA	ND		6.23	ND		3.11	ND		3.11
Freon-113	NA	NA	NA	ND		15.3	ND		7.66	ND		7.66
trans-1,2-Dichloroethene	NA	NA	NA	ND		7.93	ND		3.96	ND		3.96
1,1-Dichloroethane	NA	NA	NA	ND		8.09	ND		4.05	ND		4.05
Methyl tert butyl ether	NA	NA	NA	ND		7.21	ND		3.61	ND		3.61
2-Butanone	NA	NA	NA	ND		14.7	ND		7.37	ND		7.37
cis-1,2-Dichloroethene	6	NA	NA	ND		7.93	ND		3.96	ND		3.96
Ethyl Acetate	NA	NA	NA	ND		18	ND		9.01	ND		9.01
Chloroform	NA	NA	NA	36.7		9.77	5.62		4.88	ND		4.88
Tetrahydrofuran	NA	NA	NA	ND		14.7	ND		7.37	ND		7.37
1,2-Dichloroethane	NA	NA	NA	ND		8.09	ND		4.05	ND		4.05
n-Hexane	NA	NA	NA	ND		7.05	ND		3.52	ND		3.52
1,1,1-Trichloroethane	NA	100	NA	ND		10.9	ND		5.46	ND		5.46
Benzene	NA	NA	NA	ND		6.39	ND		3.19	ND		3.19
Carbon tetrachlorid	6	NA	NA	ND		12.6	ND		6.29	**7.17**		6.29
Cyclohexane	NA	NA	NA	ND		6.88	ND		3.44	ND		3.44
1,2-Dichloropropane	NA	NA	NA	ND		9.24	ND		4.62	ND		4.62
Bromodichloromethane	NA	NA	NA	ND		13.4	ND		6.7	ND		6.7
1,4-Dioxane	NA	NA	NA	ND		7.21	ND		3.6	ND		3.6
Trichloroethene	6	NA	NA	**24.1**		10.7	**15.7**		5.37	**15.6**		5.37
2,2,4-Trimethylpentane	NA	NA	NA	ND		9.34	ND		4.67	ND		4.67
Heptane	NA	NA	NA	ND		8.2	ND		4.1	ND		4.1
cis-1,3-Dichloropropene	NA	NA	NA	ND		9.08	ND		4.54	ND		4.54
4-Methyl-2-pentanone	NA	NA	NA	ND		20.5	ND		10.2	ND		10.2
trans-1,3-Dichloropropene	NA	NA	NA	ND		9.08	ND		4.54	ND		4.54
1,1,2-Trichloroethane	NA	NA	NA	ND		10.9	ND		5.46	ND		5.46
Toluene	NA	NA	NA	ND		7.54	ND		3.77	ND		3.77
2-Hexanone	NA	NA	NA	ND		8.2	ND		4.1	ND		4.1
Dibromochloromethane	NA	NA	NA	ND		17	ND		8.52	ND		8.52
1,2-Dibromoethane	NA	NA	NA	ND		15.4	ND		7.69	ND		7.69
Tetrachloroethene	NA	100	NA	**5490**		13.6	**2210**		6.78	**2100**		6.78
Chlorobenzene	NA	NA	NA	ND		9.21	ND		4.61	ND		4.61
Ethylbenzene	NA	NA	NA	ND		8.69	ND		4.34	ND		4.34
p/m-Xylene	NA	NA	NA	ND		17.4	ND		8.69	ND		8.69
Bromoform	NA	NA	NA	ND		20.7	ND		10.3	ND		10.3
Styrene	NA	NA	NA	ND		8.52	ND		4.26	ND		4.26
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		13.7	ND		6.87	ND		6.87
o-Xylene	NA	NA	NA	ND		8.69	ND		4.34	ND		4.34
4-Ethyltoluene	NA	NA	NA	ND		9.83	ND		4.92	ND		4.92
1,3,5-Trimethylbenzene	NA	NA	NA	ND		9.83	ND		4.92	ND		4.92
1,2,4-Trimethylbenzene	NA	NA	NA	ND		9.83	ND		4.92	ND		4.92
Benzyl chloride	NA	NA	NA	ND		10.4	ND		5.18	ND		5.18
1,3-Dichlorobenzene	NA	NA	NA	ND		12	ND		6.01	ND		6.01
1,4-Dichlorobenzene	NA	NA	NA	ND		12	ND		6.01	ND		6.01
1,2-Dichlorobenzene	NA	NA	NA	ND		12	ND		6.01	ND		6.01
1,2,4-Trichlorobenzene	NA	NA	NA	ND		14.8	ND		7.42	ND		7.42
Hexachlorobutadiene	NA	NA	NA	ND		21.3	ND		10.7	ND		10.7

Notes:
Matrix A - NYDOH Matrix A Sub-Slab Vapor Concentration Criteria (Updated May 2017)
Matrix B - NYDOH Matrix B Sub-Slab Vapor Concentration Criteria (Updated May 2017)
Matrix C - NYDOH Matrix C Sub-Slab Vapor Concentration Criteria (Updated May 2017)
NYDOH - New York Department of Health
ug/m3 - Micrograms per cubic meter
NA - No Standard
ND - Not Detected
RL - Reporting Limit
Compound was ND, but the RL exceeds the soil vapor concentration criteria
Bold Concentration exceeds NYDOH criteria

TABLE 2
INDOOR AIR RESULTS - DECISION MATRIX VALUES
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	Matrix A	Matrix B	Matrix C	IA-1			IA-2			IA-3			IA-4		
LAB ID:				L1746238-04			L1746238-05			L1746238-06			L1806491-08		
COLLECTION DATE:				12/14/2017			12/14/2017			12/14/2017			2/22/2018		
SAMPLE MATRIX:				INDOOR AIR			INDOOR AIR			INDOOR AIR			INDOOR AIR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3															
Dichlorodifluoromethane	NA	NA	NA	2.24		0.989	1.62		0.989	1.81		0.989	2.4		0.989
Chloromethane	NA	NA	NA	1.14		0.413	1.39		0.413	0.987		0.413	1.5		0.413
Freon-114	NA	NA	NA	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vinyl chloride	NA	NA	0.2	ND		0.051	ND		0.051	ND		0.051	ND		0.051
1,3-Butadiene	NA	NA	NA	ND		0.442	ND		0.442	ND		0.442	ND		0.442
Bromomethane	NA	NA	NA	ND		0.777	ND		0.777	ND		0.777	ND		0.777
Chloroethane	NA	NA	NA	ND		0.528	ND		0.528	ND		0.528	ND		0.528
Ethanol	NA	NA	NA	626		9.42	271		9.42	23		9.42	2520		47.1
Vinyl bromide	NA	NA	NA	ND		0.874	ND		0.874	ND		0.874	ND		0.874
Acetone	NA	NA	NA	1150		2.38	62.2		2.38	7.98		2.38	1960		11.9
Trichlorofluoromethane	NA	NA	NA	1.51		1.12	1.54		1.12	1.49		1.12	1.47		1.12
Isopropanol	NA	NA	NA	99.3		1.23	32		1.23	11.7		1.23	428		1.23
1,1-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.079	ND		0.079	ND		0.079
Tertiary butyl Alcoho	NA	NA	NA	ND		1.52	ND		1.52	ND		1.52	2.18		1.52
Methylene chloride	NA	3	NA	2.2		1.74	ND		1.74	ND		1.74	ND		1.74
3-Chloropropene	NA	NA	NA	ND		0.626	ND		0.626	ND		0.626	ND		0.626
Carbon disulfide	NA	NA	NA	ND		0.623	ND		0.623	ND		0.623	0.704		0.623
Freon-113	NA	NA	NA	ND		1.53	ND		1.53	ND		1.53	ND		1.53
trans-1,2-Dichloroethene	NA	NA	NA	ND		0.793	ND		0.793	ND		0.793	ND		0.793
1,1-Dichloroethane	NA	NA	NA	ND		0.809	ND		0.809	ND		0.809	ND		0.809
Methyl tert butyl ethe	NA	NA	NA	ND		0.721	ND		0.721	ND		0.721	ND		0.721
2-Butanone	NA	NA	NA	2.04		1.47	ND		1.47	ND		1.47	10		1.47
cis-1,2-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.079	ND		0.079	ND		0.079
Ethyl Acetate	NA	NA	NA	24.5		1.8	5.98		1.8	ND		1.8	120		1.8
Chloroform	NA	NA	NA	2.85		0.977	ND		0.977	ND		0.977	3.13		0.977
Tetrahydrofuran	NA	NA	NA	ND		1.47	ND		1.47	ND		1.47	3.13		1.47
1,2-Dichloroethane	NA	NA	NA	ND		0.809	ND		0.809	ND		0.809	1.22		0.809
n-Hexane	NA	NA	NA	0.913		0.705	ND		0.705	ND		0.705	4.02		0.705
1,1,1-Trichloroethane	NA	3	NA	0.376		0.109	ND		0.109	ND		0.109	1.15		0.109
Benzene	NA	NA	NA	1.34		0.639	1.06		0.639	1.09		0.639	2.33		0.639
Carbon tetrachloride	0.2	NA	NA	**0.591**		0.126	**1.1**		0.126	**0.541**		0.126	**0.56**		0.126
Cyclohexane	NA	NA	NA	ND		0.688	ND		0.688	ND		0.688	1.62		0.688
1,2-Dichloropropane	NA	NA	NA	ND		0.924	ND		0.924	ND		0.924	ND		0.924
Bromodichloromethane	NA	NA	NA	ND		1.34	ND		1.34	ND		1.34	ND		1.34
1,4-Dioxane	NA	NA	NA	ND		0.721	ND		0.721	ND		0.721	ND		0.721
Trichloroethene	0.2	NA	NA	0.113		0.107	ND		0.107	ND		0.107	0.145		0.107
2,2,4-Trimethylpentane	NA	NA	NA	ND		0.934	ND		0.934	ND		0.934	2.38		0.934
Heptane	NA	NA	NA	2.18		0.82	ND		0.82	ND		0.82	6.02		0.82
cis-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		0.908	ND		0.908	ND		0.908
4-Methyl-2-pentanone	NA	NA	NA	ND		2.05	ND		2.05	ND		2.05	ND		2.05
trans-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		0.908	ND		0.908	ND		0.908
1,1,2-Trichloroethane	NA	NA	NA	ND		1.09	ND		1.09	ND		1.09	ND		1.09
Toluene	NA	NA	NA	3.21		0.754	2.44		0.754	2.27		0.754	12.9		0.754
2-Hexanone	NA	NA	NA	ND		0.82	ND		0.82	ND		0.82	ND		0.82
Dibromochloromethane	NA	NA	NA	ND		1.7	ND		1.7	ND		1.7	ND		1.7
1,2-Dibromoethane	NA	NA	NA	ND		1.54	ND		1.54	ND		1.54	ND		1.54
Tetrachloroethene	NA	3	NA	**10.5**		0.136	2.92		0.136	0.393		0.136	2.43		0.136
Chlorobenzene	NA	NA	NA	ND		0.921	ND		0.921	ND		0.921	ND		0.921
Ethylbenzene	NA	NA	NA	ND		0.869	ND		0.869	ND		0.869	1.46		0.869
p/m-Xylene	NA	NA	NA	ND		1.74	ND		1.74	ND		1.74	4.78		1.74
Bromoform	NA	NA	NA	ND		2.07	ND		2.07	ND		2.07	ND		2.07
Styrene	NA	NA	NA	ND		0.852	ND		0.852	ND		0.852	1.27		0.852
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		1.37	ND		1.37	ND		1.37	ND		1.37
o-Xylene	NA	NA	NA	ND		0.869	ND		0.869	ND		0.869	1.8		0.869
4-Ethyltoluene	NA	NA	NA	ND		0.983	ND		0.983	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene	NA	NA	NA	ND		0.983	ND		0.983	ND		0.983	1.18		0.983
1,2,4-Trimethylbenzene	NA	NA	NA	ND		0.983	ND		0.983	ND		0.983	3.56		0.983
Benzyl chloride	NA	NA	NA	ND		1.04	ND		1.04	ND		1.04	ND		1.04
1,3-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,4-Dichlorobenzene	NA	NA	NA	2.07		1.2	ND		1.2	ND		1.2	1.41		1.2
1,2-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene	NA	NA	NA	ND		1.48	ND		1.48	ND		1.48	ND		1.48
Hexachlorobutadiene	NA	NA	NA	ND		2.13	ND		2.13	ND		2.13	ND		2.13

Notes:
Matrix A - NYDOH Matrix A Indoor Air Concentration Criteria, Updated May 201
Matrix B - NYDOH Matrix B Indoor Air Concentration Criteria, Updated May 201
Matrix C - NYDOH Matrix C Indoor Air Concentration Criteria, Updated May 201
ug/m3 - Micrograms per cubic mete
NA - Not Standard
ND - Not Detected
RL - Reporting Limi
Bold Concentration exceeds NYDOH criteria

TABLE 2
INDOOR AIR RESULTS - DECISION MATRIX VALUES
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	Matrix A	Matrix B	Matrix C	IA-5			IA-6			IA-7			IA-8		
LAB ID:				L1806491-09			L1806491-10			L1806491-11			L1806491-12		
COLLECTION DATE:				2/22/2018			2/22/2018			2/22/2018			2/22/2018		
SAMPLE MATRIX:				INDOOR AIR			INDOOR AIR			INDOOR AIR			INDOOR AIR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3															
Dichlorodifluoromethane	NA	NA	NA	2.02		0.989	2.42		1.38	2.45		0.989	2.59		0.989
Chloromethane	NA	NA	NA	1.35		0.413	1.35		0.576	1.27		0.413	1.42		0.413
Freon-114	NA	NA	NA	ND		1.4	ND		1.95	ND		1.4	ND		1.4
Vinyl chloride	NA	NA	0.2	ND		0.051	ND		0.071	ND		0.051	ND		0.051
1,3-Butadiene	NA	NA	NA	0.624		0.442	0.701		0.617	ND		0.442	ND		0.442
Bromomethane	NA	NA	NA	ND		0.777	ND		1.08	ND		0.777	ND		0.777
Chloroethane	NA	NA	NA	ND		0.528	ND		0.736	ND		0.528	ND		0.528
Ethanol	NA	NA	NA	2000		47.1	1430		13.2	2130		47.1	1220		23.6
Vinyl bromide	NA	NA	NA	ND		0.874	ND		1.22	ND		0.874	ND		0.874
Acetone	NA	NA	NA	703		2.38	580		3.33	822		2.38	337		2.38
Trichlorofluoromethane	NA	NA	NA	1.33		1.12	ND		1.57	1.39		1.12	1.5		1.12
Isopropanol	NA	NA	NA	187		1.23	142		1.72	181		1.23	97.8		1.23
1,1-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.111	ND		0.079	ND		0.079
Tertiary butyl Alcoho	NA	NA	NA	2.61		1.52	ND		2.12	2.45		1.52	ND		1.52
Methylene chloride	NA	3	NA	ND		1.74	ND		2.42	2.77		1.74	ND		1.74
3-Chloropropene	NA	NA	NA	ND		0.626	ND		0.873	ND		0.626	ND		0.626
Carbon disulfide	NA	NA	NA	ND		0.623	ND		0.869	ND		0.623	ND		0.623
Freon-113	NA	NA	NA	ND		1.53	ND		2.14	ND		1.53	ND		1.53
trans-1,2-Dichloroethene	NA	NA	NA	ND		0.793	ND		1.11	ND		0.793	ND		0.793
1,1-Dichloroethane	NA	NA	NA	ND		0.809	ND		1.13	ND		0.809	ND		0.809
Methyl tert butyl ethe	NA	NA	NA	ND		0.721	ND		1.01	ND		0.721	ND		0.721
2-Butanone	NA	NA	NA	5.57		1.47	4.36		2.06	5.07		1.47	4.01		1.47
cis-1,2-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.111	ND		0.079	ND		0.079
Ethyl Acetate	NA	NA	NA	38.6		1.8	26.7		2.52	41.8		1.8	17.1		1.8
Chloroform	NA	NA	NA	3.25		0.977	2.53		1.36	1.95		0.977	4.12		0.977
Tetrahydrofuran	NA	NA	NA	2.06		1.47	ND		2.06	ND		1.47	1.52		1.47
1,2-Dichloroethane	NA	NA	NA	ND		0.809	ND		1.13	ND		0.809	ND		0.809
n-Hexane	NA	NA	NA	2.75		0.705	2.17		0.983	2.78		0.705	2.66		0.705
1,1,1-Trichloroethane	NA	3	NA	0.355		0.109	0.29		0.152	0.475		0.109	0.235		0.109
Benzene	NA	NA	NA	2.09		0.639	1.9		0.891	1.65		0.639	1.8		0.639
Carbon tetrachloride	0.2	NA	NA	**0.447**		0.126	**0.465**		0.176	**0.44**		0.126	**0.654**		0.126
Cyclohexane	NA	NA	NA	1.85		0.688	1.37		0.96	1.2		0.688	1.54		0.688
1,2-Dichloropropane	NA	NA	NA	ND		0.924	ND		1.29	ND		0.924	ND		0.924
Bromodichloromethane	NA	NA	NA	ND		1.34	ND		1.87	ND		1.34	ND		1.34
1,4-Dioxane	NA	NA	NA	ND		0.721	ND		1.01	ND		0.721	ND		0.721
Trichloroethene	0.2	NA	NA	0.107		0.107	ND		0.15	0.113		0.107	0.183		0.107
2,2,4-Trimethylpentane	NA	NA	NA	1.36		0.934	ND		1.3	1.5		0.934	1.2		0.934
Heptane	NA	NA	NA	2.14		0.82	1.56		1.14	1.94		0.82	1.79		0.82
cis-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		1.27	ND		0.908	ND		0.908
4-Methyl-2-pentanone	NA	NA	NA	ND		2.05	ND		2.86	ND		2.05	ND		2.05
trans-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		1.27	ND		0.908	ND		0.908
1,1,2-Trichloroethane	NA	NA	NA	ND		1.09	ND		1.52	ND		1.09	ND		1.09
Toluene	NA	NA	NA	9.57		0.754	7.76		1.05	8.71		0.754	8.4		0.754
2-Hexanone	NA	NA	NA	ND		0.82	ND		1.14	ND		0.82	ND		0.82
Dibromochloromethane	NA	NA	NA	ND		1.7	ND		2.38	ND		1.7	ND		1.7
1,2-Dibromoethane	NA	NA	NA	ND		1.54	ND		2.14	ND		1.54	ND		1.54
Tetrachloroethene	NA	3	NA	**3.82**		0.136	**4.52**		0.189	1.82		0.136	**6.04**		0.136
Chlorobenzene	NA	NA	NA	ND		0.921	ND		1.28	ND		0.921	ND		0.921
Ethylbenzene	NA	NA	NA	1.11		0.869	ND		1.21	0.956		0.869	0.964		0.869
p/m-Xylene	NA	NA	NA	3.7		1.74	3.02		2.43	3.23		1.74	3.17		1.74
Bromoform	NA	NA	NA	ND		2.07	ND		2.88	ND		2.07	ND		2.07
Styrene	NA	NA	NA	1.21		0.852	1.19		1.19	ND		0.852	0.992		0.852
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		1.37	ND		1.92	ND		1.37	ND		1.37
o-Xylene	NA	NA	NA	1.4		0.869	ND		1.21	1.16		0.869	1.2		0.869
4-Ethyltoluene	NA	NA	NA	ND		0.983	ND		1.37	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene	NA	NA	NA	ND		0.983	ND		1.37	ND		0.983	ND		0.983
1,2,4-Trimethylbenzene	NA	NA	NA	1.63		0.983	ND		1.37	1.49		0.983	1.31		0.983
Benzyl chloride	NA	NA	NA	ND		1.04	ND		1.44	ND		1.04	ND		1.04
1,3-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.68	ND		1.2	ND		1.2
1,4-Dichlorobenzene	NA	NA	NA	2.63		1.2	ND		1.68	ND		1.2	ND		1.2
1,2-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.68	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene	NA	NA	NA	ND		1.48	ND		2.07	ND		1.48	ND		1.48
Hexachlorobutadiene	NA	NA	NA	ND		2.13	ND		2.98	ND		2.13	ND		2.13

Notes:
Matrix A - NYDOH Matrix A Indoor Air Concentration Criteria, Updated May 201
Matrix B - NYDOH Matrix B Indoor Air Concentration Criteria, Updated May 201
Matrix C - NYDOH Matrix C Indoor Air Concentration Criteria, Updated May 201
ug/m3 - Micrograms per cubic mete
NA - Not Standard
ND - Not Detected
RL - Reporting Limit
Bold Concentration exceeds NYDOH criteria

TABLE 2
INDOOR AIR RESULTS - DECISION MATRIX VALUES
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	Matrix A	Matrix B	Matrix C	IA-9			IA-10			IA-11		
LAB ID:				L1806491-13			L1806491-14			L1806491-15		
COLLECTION DATE:				2/22/2018			2/22/2018			2/22/2018		
SAMPLE MATRIX:				INDOOR AIR			INDOOR AIR			INDOOR AIR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3												
Dichlorodifluoromethane	NA	NA	NA	2.42		0.989	2.5		0.989	2.56		1.24
Chloromethane	NA	NA	NA	1.2		0.413	1.44		0.413	1.19		0.516
Freon-114	NA	NA	NA	ND		1.4	ND		1.4	ND		1.75
Vinyl chloride	NA	NA	0.2	ND		0.051	ND		0.051	ND		0.064
1,3-Butadiene	NA	NA	NA	ND		0.442	ND		0.442	ND		0.553
Bromomethane	NA	NA	NA	ND		0.777	ND		0.777	ND		0.971
Chloroethane	NA	NA	NA	ND		0.528	ND		0.528	ND		0.66
Ethanol	NA	NA	NA	876		9.42	688		9.42	633		11.8
Vinyl bromide	NA	NA	NA	ND		0.874	ND		0.874	ND		1.09
Acetone	NA	NA	NA	201		2.38	208		2.38	292		2.97
Trichlorofluoromethane	NA	NA	NA	1.43		1.12	1.48		1.12	1.45		1.4
Isopropanol	NA	NA	NA	69.6		1.23	61		1.23	62.9		1.54
1,1-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.079	ND		0.099
Tertiary butyl Alcoho	NA	NA	NA	ND		1.52	ND		1.52	ND		1.9
Methylene chloride	NA	3	NA	ND		1.74	ND		1.74	ND		2.17
3-Chloropropene	NA	NA	NA	ND		0.626	ND		0.626	ND		0.783
Carbon disulfide	NA	NA	NA	ND		0.623	ND		0.623	ND		0.779
Freon-113	NA	NA	NA	ND		1.53	ND		1.53	ND		1.92
trans-1,2-Dichloroethene	NA	NA	NA	ND		0.793	ND		0.793	ND		0.991
1,1-Dichloroethane	NA	NA	NA	ND		0.809	ND		0.809	ND		1.01
Methyl tert butyl ethe	NA	NA	NA	ND		0.721	ND		0.721	ND		0.901
2-Butanone	NA	NA	NA	5.96		1.47	5.1		1.47	2.32		1.85
cis-1,2-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.079	ND		0.099
Ethyl Acetate	NA	NA	NA	10.4		1.8	12.6		1.8	13.3		2.26
Chloroform	NA	NA	NA	5.08		0.977	1.4		0.977	ND		1.22
Tetrahydrofuran	NA	NA	NA	ND		1.47	ND		1.47	ND		1.85
1,2-Dichloroethane	NA	NA	NA	ND		0.809	ND		0.809	ND		1.01
n-Hexane	NA	NA	NA	5.67		0.705	3.59		0.705	1.39		0.881
1,1,1-Trichloroethane	NA	3	NA	0.12		0.109	0.169		0.109	0.178		0.136
Benzene	NA	NA	NA	2.83		0.639	2.34		0.639	1.27		0.799
Carbon tetrachloride	0.2	NA	NA	**0.566**		0.126	**0.66**		0.126	**0.52**		0.157
Cyclohexane	NA	NA	NA	1.66		0.688	1.3		0.688	ND		0.861
1,2-Dichloropropane	NA	NA	NA	ND		0.924	ND		0.924	ND		1.16
Bromodichloromethane	NA	NA	NA	ND		1.34	ND		1.34	ND		1.67
1,4-Dioxane	NA	NA	NA	ND		0.721	ND		0.721	ND		0.901
Trichloroethene	0.2	NA	NA	0.107		0.107	0.15		0.107	ND		0.134
2,2,4-Trimethylpentane	NA	NA	NA	1.55		0.934	1.35		0.934	ND		1.17
Heptane	NA	NA	NA	2.04		0.82	1.75		0.82	1.17		1.02
cis-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		0.908	ND		1.13
4-Methyl-2-pentanone	NA	NA	NA	ND		2.05	ND		2.05	ND		2.57
trans-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		0.908	ND		1.13
1,1,2-Trichloroethane	NA	NA	NA	ND		1.09	ND		1.09	ND		1.36
Toluene	NA	NA	NA	10.9		0.754	11		0.754	6.18		0.942
2-Hexanone	NA	NA	NA	ND		0.82	ND		0.82	ND		1.02
Dibromochloromethane	NA	NA	NA	ND		1.7	ND		1.7	ND		2.13
1,2-Dibromoethane	NA	NA	NA	ND		1.54	ND		1.54	ND		1.92
Tetrachloroethene	NA	3	NA	2.58		0.136	**5.59**		0.136	0.909		0.17
Chlorobenzene	NA	NA	NA	ND		0.921	ND		0.921	ND		1.15
Ethylbenzene	NA	NA	NA	1.37		0.869	1.22		0.869	ND		1.09
p/m-Xylene	NA	NA	NA	4.86		1.74	3.84		1.74	ND		2.18
Bromoform	NA	NA	NA	ND		2.07	ND		2.07	ND		2.58
Styrene	NA	NA	NA	ND		0.852	0.932		0.852	ND		1.06
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		1.37	ND		1.37	ND		1.72
o-Xylene	NA	NA	NA	1.63		0.869	1.42		0.869	ND		1.09
4-Ethyltoluene	NA	NA	NA	ND		0.983	ND		0.983	ND		1.23
1,3,5-Trimethylbenzene	NA	NA	NA	ND		0.983	ND		0.983	ND		1.23
1,2,4-Trimethylbenzene	NA	NA	NA	1.95		0.983	1.33		0.983	ND		1.23
Benzyl chloride	NA	NA	NA	ND		1.04	ND		1.04	ND		1.29
1,3-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.5
1,4-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.5
1,2-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.5
1,2,4-Trichlorobenzene	NA	NA	NA	ND		1.48	ND		1.48	ND		1.86
Hexachlorobutadiene	NA	NA	NA	ND		2.13	ND		2.13	ND		2.67

Notes:
Matrix A - NYDOH Matrix A Indoor Air Concentration Criteria, Updated May 201
Matrix B - NYDOH Matrix B Indoor Air Concentration Criteria, Updated May 201
Matrix C - NYDOH Matrix C Indoor Air Concentration Criteria, Updated May 201
ug/m3 - Micrograms per cubic mete
NA - Not Standard
ND - Not Detected
RL - Reporting Limit
Bold Concentration exceeds NYDOH criteria

TABLE 2
INDOOR AIR RESULTS - DECISION MATRIX VALUES
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	Matrix A	Matrix B	Matrix C	IA-12			AA			AA		
LAB ID:				L1806491-16			L1746238-07			L1806491-17		
COLLECTION DATE:				2/22/2018			12/14/2017			2/22/2018		
SAMPLE MATRIX:				INDOOR AIR			AMBIENT AIR			AMBIENT AIR		
ANALYTE	(ug/m3)	(ug/m3)	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3												
Dichlorodifluoromethane	NA	NA	NA	2.5		0.989	1.79		0.989	2.48		0.989
Chloromethane	NA	NA	NA	1.22		0.413	0.973		0.413	1.04		0.413
Freon-114	NA	NA	NA	ND		1.4	ND		1.4	ND		1.4
Vinyl chloride	NA	NA	0.2	ND		0.051	ND		0.051	ND		0.051
1,3-Butadiene	NA	NA	NA	ND		0.442	ND		0.442	ND		0.442
Bromomethane	NA	NA	NA	ND		0.777	ND		0.777	ND		0.777
Chloroethane	NA	NA	NA	ND		0.528	ND		0.528	ND		0.528
Ethanol	NA	NA	NA	848		9.42	ND		9.42	14.6		9.42
Vinyl bromide	NA	NA	NA	ND		0.874	ND		0.874	ND		0.874
Acetone	NA	NA	NA	205		2.38	6.72		2.38	10.2		2.38
Trichlorofluoromethane	NA	NA	NA	1.39		1.12	1.47		1.12	1.37		1.12
Isopropanol	NA	NA	NA	66.1		1.23	1.67		1.23	3.39		1.23
1,1-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.079	ND		0.079
Tertiary butyl Alcoho	NA	NA	NA	ND		1.52	ND		1.52	ND		1.52
Methylene chloride	NA	3	NA	ND		1.74	ND		1.74	1.8		1.74
3-Chloropropene	NA	NA	NA	ND		0.626	ND		0.626	ND		0.626
Carbon disulfide	NA	NA	NA	ND		0.623	ND		0.623	ND		0.623
Freon-113	NA	NA	NA	ND		1.53	ND		1.53	ND		1.53
trans-1,2-Dichloroethene	NA	NA	NA	ND		0.793	ND		0.793	ND		0.793
1,1-Dichloroethane	NA	NA	NA	ND		0.809	ND		0.809	ND		0.809
Methyl tert butyl ethe	NA	NA	NA	ND		0.721	ND		0.721	ND		0.721
2-Butanone	NA	NA	NA	2.64		1.47	ND		1.47	ND		1.47
cis-1,2-Dichloroethene	0.2	NA	NA	ND		0.079	ND		0.079	ND		0.079
Ethyl Acetate	NA	NA	NA	10.2		1.8	ND		1.8	ND		1.8
Chloroform	NA	NA	NA	ND		0.977	ND		0.977	ND		0.977
Tetrahydrofuran	NA	NA	NA	ND		1.47	ND		1.47	ND		1.47
1,2-Dichloroethane	NA	NA	NA	ND		0.809	ND		0.809	ND		0.809
n-Hexane	NA	NA	NA	1.26		0.705	ND		0.705	ND		0.705
1,1,1-Trichloroethane	NA	3	NA	ND		0.109	ND		0.109	ND		0.109
Benzene	NA	NA	NA	1.04		0.639	1.26		0.639	ND		0.639
Carbon tetrachloride	0.2	NA	NA	**0.409**		0.126	**0.541**		0.126	**0.359**		0.126
Cyclohexane	NA	NA	NA	1.85		0.688	ND		0.688	ND		0.688
1,2-Dichloropropane	NA	NA	NA	ND		0.924	ND		0.924	ND		0.924
Bromodichloromethane	NA	NA	NA	ND		1.34	ND		1.34	ND		1.34
1,4-Dioxane	NA	NA	NA	ND		0.721	ND		0.721	ND		0.721
Trichloroethene	0.2	NA	NA	ND		0.107	ND		0.107	ND		0.107
2,2,4-Trimethylpentane	NA	NA	NA	ND		0.934	ND		0.934	ND		0.934
Heptane	NA	NA	NA	1.52		0.82	ND		0.82	ND		0.82
cis-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		0.908	ND		0.908
4-Methyl-2-pentanone	NA	NA	NA	ND		2.05	ND		2.05	ND		2.05
trans-1,3-Dichloropropene	NA	NA	NA	ND		0.908	ND		0.908	ND		0.908
1,1,2-Trichloroethane	NA	NA	NA	ND		1.09	ND		1.09	ND		1.09
Toluene	NA	NA	NA	5.09		0.754	2.46		0.754	1.48		0.754
2-Hexanone	NA	NA	NA	ND		0.82	ND		0.82	ND		0.82
Dibromochloromethane	NA	NA	NA	ND		1.7	ND		1.7	ND		1.7
1,2-Dibromoethane	NA	NA	NA	ND		1.54	ND		1.54	ND		1.54
Tetrachloroethene	NA	3	NA	0.997		0.126	0.414		0.136	0.387		0.136
Chlorobenzene	NA	NA	NA	ND		0.921	ND		0.921	ND		0.921
Ethylbenzene	NA	NA	NA	ND		0.869	ND		0.869	ND		0.869
p/m-Xylene	NA	NA	NA	1.87		1.74	ND		1.74	ND		1.74
Bromoform	NA	NA	NA	ND		2.07	ND		2.07	ND		2.07
Styrene	NA	NA	NA	ND		0.852	ND		0.852	ND		0.852
1,1,2,2-Tetrachloroethane	NA	NA	NA	ND		1.37	ND		1.37	ND		1.37
o-Xylene	NA	NA	NA	ND		0.869	ND		0.869	ND		0.869
4-Ethyltoluene	NA	NA	NA	ND		0.983	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene	NA	NA	NA	ND		0.983	ND		0.983	ND		0.983
1,2,4-Trimethylbenzene	NA	NA	NA	ND		0.983	ND		0.983	ND		0.983
Benzyl chloride	NA	NA	NA	ND		1.04	ND		1.04	ND		1.04
1,3-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.2
1,4-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.2
1,2-Dichlorobenzene	NA	NA	NA	ND		1.2	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene	NA	NA	NA	ND		1.48	ND		1.48	ND		1.48
Hexachlorobutadiene	NA	NA	NA	ND		2.13	ND		2.13	ND		2.13

Notes:
Matrix A - NYDOH Matrix A Indoor Air Concentration Criteria, Updated May 201
Matrix B - NYDOH Matrix B Indoor Air Concentration Criteria, Updated May 201
Matrix C - NYDOH Matrix C Indoor Air Concentration Criteria, Updated May 201
ug/m3 - Micrograms per cubic mete
NA - Not Standard
ND - Not Detected
RL - Reporting Limi
Bold Concentration exceeds NYDOH criteria

TABLE 3
INDOOR AIR RESULTS - AIR GUIDANCE VALUES

82-13 37th Avenue

Jackson Heights, Queens County, New York

SAMPLE ID:	NYSDOH Air Guidance Value	IA-1			IA-2			IA-3			IA-4		
LAB ID:		L1746238-04			L1746238-05			L1746238-06			L1806491-08		
COLLECTION DATE:		12/14/2017			12/14/2017			12/14/2017			2/22/2018		
SAMPLE MATRIX:		INDOOR AIR			INDOOR AIR			INDOOR AIR			INDOOR AIR		
ANALYTE	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS (VOCs) - ug/m3													
Dichlorodifluoromethane	NA	2.24		0.989	1.62		0.989	1.81		0.989	2.4		0.989
Chloromethane	NA	1.14		0.413	1.39		0.413	0.987		0.413	1.5		0.413
Freon-114	NA	ND		1.4	ND		1.4	ND		1.4	ND		1.4
Vinyl chloride	NA	ND		0.051	ND		0.051	ND		0.051	ND		0.051
1,3-Butadiene	NA	ND		0.442	ND		0.442	ND		0.442	ND		0.442
Bromomethane	NA	ND		0.777	ND		0.777	ND		0.777	ND		0.777
Chloroethane	NA	ND		0.528	ND		0.528	ND		0.528	ND		0.528
Ethanol	NA	626		9.42	271		9.42	23		9.42	2520		47.1
Vinyl bromide	NA	ND		0.874	ND		0.874	ND		0.874	ND		0.874
Acetone	NA	1150		2.38	62.2		2.38	7.98		2.38	1960		11.9
Trichlorofluoromethane	NA	1.51		1.12	1.54		1.12	1.49		1.12	1.47		1.12
Isopropanol	NA	99.3		1.23	32		1.23	11.7		1.23	428		1.23
1,1-Dichloroethene	NA	ND		0.079	ND		0.079	ND		0.079	ND		0.079
Tertiary butyl Alcohol	NA	ND		1.52	ND		1.52	ND		1.52	2.18		1.52
Methylene chloride	60	2.2		1.74	ND		1.74	ND		1.74	ND		1.74
3-Chloropropene	NA	ND		0.626	ND		0.626	ND		0.626	ND		0.626
Carbon disulfide	NA	ND		0.623	ND		0.623	ND		0.623	0.704		0.623
Freon-113	NA	ND		1.53	ND		1.53	ND		1.53	ND		1.53
trans-1,2-Dichloroethene	NA	ND		0.793	ND		0.793	ND		0.793	ND		0.793
1,1-Dichloroethane	NA	ND		0.809	ND		0.809	ND		0.809	ND		0.809
Methyl tert butyl ether	NA	ND		0.721	ND		0.721	ND		0.721	ND		0.721
2-Butanone	NA	2.04		1.47	ND		1.47	ND		1.47	10		1.47
cis-1,2-Dichloroethene	NA	ND		0.079	ND		0.079	ND		0.079	ND		0.079
Ethyl Acetate	NA	24.5		1.8	5.98		1.8	ND		1.8	120		1.8
Chloroform	NA	2.85		0.977	ND		0.977	ND		0.977	3.13		0.977
Tetrahydrofuran	NA	ND		1.47	ND		1.47	ND		1.47	3.13		1.47
1,2-Dichloroethane	NA	ND		0.809	ND		0.809	ND		0.809	1.22		0.809
n-Hexane	NA	0.913		0.705	ND		0.705	ND		0.705	4.02		0.705
1,1,1-Trichloroethane	NA	0.376		0.109	ND		0.109	ND		0.109	1.15		0.109
Benzene	NA	1.34		0.639	1.06		0.639	1.09		0.639	2.33		0.639
Carbon tetrachloride	NA	0.591		0.126	1.1		0.126	0.541		0.126	0.56		0.126
Cyclohexane	NA	ND		0.688	ND		0.688	ND		0.688	1.62		0.688
1,2-Dichloropropane	NA	ND		0.924	ND		0.924	ND		0.924	ND		0.924
Bromodichloromethane	NA	ND		1.34	ND		1.34	ND		1.34	ND		1.34
1,4-Dioxane	NA	ND		0.721	ND		0.721	ND		0.721	ND		0.721
Trichloroethene	2	0.113		0.107	ND		0.107	ND		0.107	0.145		0.107
2,2,4-Trimethylpentane	NA	ND		0.934	ND		0.934	ND		0.934	2.38		0.934
Heptane	NA	2.18		0.82	ND		0.82	ND		0.82	6.02		0.82
cis-1,3-Dichloropropene	NA	ND		0.908	ND		0.908	ND		0.908	ND		0.908
4-Methyl-2-pentanone	NA	ND		2.05	ND		2.05	ND		2.05	ND		2.05
trans-1,3-Dichloropropene	NA	ND		0.908	ND		0.908	ND		0.908	ND		0.908
1,1,2-Trichloroethane	NA	ND		1.09	ND		1.09	ND		1.09	ND		1.09
Toluene	NA	3.21		0.754	2.44		0.754	2.27		0.754	12.9		0.754
2-Hexanone	NA	ND		0.82	ND		0.82	ND		0.82	ND		0.82
Dibromochloromethane	NA	ND		1.7	ND		1.7	ND		1.7	ND		1.7
1,2-Dibromoethane	NA	ND		1.54	ND		1.54	ND		1.54	ND		1.54
Tetrachloroethene	30	10.5		0.136	2.92		0.136	0.393		0.136	2.43		0.136
Chlorobenzene	NA	ND		0.921	ND		0.921	ND		0.921	ND		0.921
Ethylbenzene	NA	ND		0.869	ND		0.869	ND		0.869	1.46		0.869
p/m-Xylene	NA	ND		1.74	ND		1.74	ND		1.74	4.78		1.74
Bromoform	NA	ND		2.07	ND		2.07	ND		2.07	ND		2.07
Styrene	NA	ND		0.852	ND		0.852	ND		0.852	1.27		0.852
1,1,2,2-Tetrachloroethane	NA	ND		1.37	ND		1.37	ND		1.37	ND		1.37
o-Xylene	NA	ND		0.869	ND		0.869	ND		0.869	1.8		0.869
4-Ethyltoluene	NA	ND		0.983	ND		0.983	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene	NA	ND		0.983	ND		0.983	ND		0.983	1.18		0.983
1,2,4-Trimethylbenzene	NA	ND		0.983	ND		0.983	ND		0.983	3.56		0.983
Benzyl chloride	NA	ND		1.04	ND		1.04	ND		1.04	ND		1.04
1,3-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,4-Dichlorobenzene	NA	2.07		1.2	ND		1.2	ND		1.2	1.41		1.2
1,2-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene	NA	ND		1.48	ND		1.48	ND		1.48	ND		1.48
Hexachlorobutadiene	NA	ND		2.13	ND		2.13	ND		2.13	ND		2.13

Notes:

NYSDOH Air Guidance Value - Table 3.1 in *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), with PCE value updated September 2013 and TCE value updated August 2015

ug/m3 - Micrograms per cubic meter

NA - Not Guidance Value

ND - Not Detected

RL - Reporting Limit

Bold Concentration exceeds NYDOH air guidance value

TABLE 3
INDOOR AIR RESULTS - AIR GUIDANCE VALUES

82-13 37th Avenue

Jackson Heights, Queens County, New York

SAMPLE ID:	NYSDOH	IA-5			IA-6			IA-7			IA-8		
LAB ID:	Air	L1806491-09			L1806491-10			L1806491-11			L1806491-12		
COLLECTION DATE:	Guidance	2/22/2018			2/22/2018			2/22/2018			2/22/2018		
SAMPLE MATRIX:	Value	INDOOR AIR			INDOOR AIR			INDOOR AIR			INDOOR AIR		
ANALYTE	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS													
Dichlorodifluoromethane	NA	2.02		0.989	2.42		1.38	2.45		0.989	2.59		0.989
Chloromethane	NA	1.35		0.413	1.35		0.576	1.27		0.413	1.42		0.413
Freon-114	NA	ND		1.4	ND		1.95	ND		1.4	ND		1.4
Vinyl chloride	NA	ND		0.051	ND		0.071	ND		0.051	ND		0.051
1,3-Butadiene	NA	0.624		0.442	0.701		0.617	ND		0.442	ND		0.442
Bromomethane	NA	ND		0.777	ND		1.08	ND		0.777	ND		0.777
Chloroethane	NA	ND		0.528	ND		0.736	ND		0.528	ND		0.528
Ethanol	NA	2000		47.1	1430		13.2	2130		47.1	1220		23.6
Vinyl bromide	NA	ND		0.874	ND		1.22	ND		0.874	ND		0.874
Acetone	NA	703		2.38	580		3.33	822		2.38	337		2.38
Trichlorofluoromethane	NA	1.33		1.12	ND		1.57	1.39		1.12	1.5		1.12
Isopropanol	NA	187		1.23	142		1.72	181		1.23	97.8		1.23
1,1-Dichloroethene	NA	ND		0.079	ND		0.111	ND		0.079	ND		0.079
Tertiary butyl Alcohol	NA	2.61		1.52	ND		2.12	2.45		1.52	ND		1.52
Methylene chloride	60	ND		1.74	ND		2.42	2.77		1.74	ND		1.74
3-Chloropropene	NA	ND		0.626	ND		0.873	ND		0.626	ND		0.626
Carbon disulfide	NA	ND		0.623	ND		0.869	ND		0.623	ND		0.623
Freon-113	NA	ND		1.53	ND		2.14	ND		1.53	ND		1.53
trans-1,2-Dichloroethene	NA	ND		0.793	ND		1.11	ND		0.793	ND		0.793
1,1-Dichloroethane	NA	ND		0.809	ND		1.13	ND		0.809	ND		0.809
Methyl tert butyl ether	NA	ND		0.721	ND		1.01	ND		0.721	ND		0.721
2-Butanone	NA	5.57		1.47	4.36		2.06	5.07		1.47	4.01		1.47
cis-1,2-Dichloroethene	NA	ND		0.079	ND		0.111	ND		0.079	ND		0.079
Ethyl Acetate	NA	38.6		1.8	26.7		2.52	41.8		1.8	17.1		1.8
Chloroform	NA	3.25		0.977	2.53		1.36	1.95		0.977	4.12		0.977
Tetrahydrofuran	NA	2.06		1.47	ND		2.06	ND		1.47	1.52		1.47
1,2-Dichloroethane	NA	ND		0.809	ND		1.13	ND		0.809	ND		0.809
n-Hexane	NA	2.75		0.705	2.17		0.983	2.78		0.705	2.66		0.705
1,1,1-Trichloroethane	NA	0.355		0.109	0.29		0.152	0.475		0.109	0.235		0.109
Benzene	NA	2.09		0.639	1.9		0.891	1.65		0.639	1.8		0.639
Carbon tetrachloride	NA	0.447		0.126	0.465		0.176	0.44		0.126	0.654		0.126
Cyclohexane	NA	1.85		0.688	1.37		0.96	1.2		0.688	1.54		0.688
1,2-Dichloropropane	NA	ND		0.924	ND		1.29	ND		0.924	ND		0.924
Bromodichloromethane	NA	ND		1.34	ND		1.87	ND		1.34	ND		1.34
1,4-Dioxane	NA	ND		0.721	ND		1.01	ND		0.721	ND		0.721
Trichloroethene	2	0.107		0.107	ND		0.15	0.113		0.107	0.183		0.107
2,2,4-Trimethylpentane	NA	1.36		0.934	ND		1.3	1.5		0.934	1.2		0.934
Heptane	NA	2.14		0.82	1.56		1.14	1.94		0.82	1.79		0.82
cis-1,3-Dichloropropene	NA	ND		0.908	ND		1.27	ND		0.908	ND		0.908
4-Methyl-2-pentanone	NA	ND		2.05	ND		2.86	ND		2.05	ND		2.05
trans-1,3-Dichloropropene	NA	ND		0.908	ND		1.27	ND		0.908	ND		0.908
1,1,2-Trichloroethane	NA	ND		1.09	ND		1.52	ND		1.09	ND		1.09
Toluene	NA	9.57		0.754	7.76		1.05	8.71		0.754	8.4		0.754
2-Hexanone	NA	ND		0.82	ND		1.14	ND		0.82	ND		0.82
Dibromochloromethane	NA	ND		1.7	ND		2.38	ND		1.7	ND		1.7
1,2-Dibromoethane	NA	ND		1.54	ND		2.14	ND		1.54	ND		1.54
Tetrachloroethene	30	3.82		0.136	4.52		0.189	1.82		0.136	6.04		0.136
Chlorobenzene	NA	ND		0.921	ND		1.28	ND		0.921	ND		0.921
Ethylbenzene	NA	1.11		0.869	ND		1.21	0.956		0.869	0.964		0.869
p/m-Xylene	NA	3.7		1.74	3.02		2.43	3.23		1.74	3.17		1.74
Bromoform	NA	ND		2.07	ND		2.88	ND		2.07	ND		2.07
Styrene	NA	1.21		0.852	1.19		1.19	ND		0.852	0.992		0.852
1,1,2,2-Tetrachloroethane	NA	ND		1.37	ND		1.92	ND		1.37	ND		1.37
o-Xylene	NA	1.4		0.869	ND		1.21	1.16		0.869	1.2		0.869
4-Ethyltoluene	NA	ND		0.983	ND		1.37	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene	NA	ND		0.983	ND		1.37	ND		0.983	ND		0.983
1,2,4-Trimethylbenzene	NA	1.63		0.983	ND		1.37	1.49		0.983	1.31		0.983
Benzyl chloride	NA	ND		1.04	ND		1.44	ND		1.04	ND		1.04
1,3-Dichlorobenzene	NA	ND		1.2	ND		1.68	ND		1.2	ND		1.2
1,4-Dichlorobenzene	NA	2.63		1.2	ND		1.68	ND		1.2	ND		1.2
1,2-Dichlorobenzene	NA	ND		1.2	ND		1.68	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene	NA	ND		1.48	ND		2.07	ND		1.48	ND		1.48
Hexachlorobutadiene	NA	ND		2.13	ND		2.98	ND		2.13	ND		2.13

Notes:

NYSDOH Air Guidance Value - Table 3.1 in *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), with PCE value updated September 2013 and TCE value updated August 2015

ug/m3 - Micrograms per cubic meter

NA - Not Guidance Value

ND - Not Detected

RL - Reporting Limit

Bold Concentration exceeds NYDOH air guidance value

TABLE 3
INDOOR AIR RESULTS - AIR GUIDANCE VALUES

82-13 37th Avenue

Jackson Heights, Queens County, New York

SAMPLE ID:	NYSDOH Air Guidance Value	IA-9			IA-10			IA-11		
LAB ID:		L1806491-13			L1806491-14			L1806491-15		
COLLECTION DATE:		2/22/2018			2/22/2018			2/22/2018		
SAMPLE MATRIX:		INDOOR AIR			INDOOR AIR			INDOOR AIR		
ANALYTE	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS										
Dichlorodifluoromethane	NA	2.42		0.989	2.5		0.989	2.56		1.24
Chloromethane	NA	1.2		0.413	1.44		0.413	1.19		0.516
Freon-114	NA	ND		1.4	ND		1.4	ND		1.75
Vinyl chloride	NA	ND		0.051	ND		0.051	ND		0.064
1,3-Butadiene	NA	ND		0.442	ND		0.442	ND		0.553
Bromomethane	NA	ND		0.777	ND		0.777	ND		0.971
Chloroethane	NA	ND		0.528	ND		0.528	ND		0.66
Ethanol	NA	876		9.42	688		9.42	633		11.8
Vinyl bromide	NA	ND		0.874	ND		0.874	ND		1.09
Acetone	NA	201		2.38	208		2.38	292		2.97
Trichlorofluoromethane	NA	1.43		1.12	1.48		1.12	1.45		1.4
Isopropanol	NA	69.6		1.23	61		1.23	62.9		1.54
1,1-Dichloroethene	NA	ND		0.079	ND		0.079	ND		0.099
Tertiary butyl Alcohol	NA	ND		1.52	ND		1.52	ND		1.9
Methylene chloride	60	ND		1.74	ND		1.74	ND		2.17
3-Chloropropene	NA	ND		0.626	ND		0.626	ND		0.783
Carbon disulfide	NA	ND		0.623	ND		0.623	ND		0.779
Freon-113	NA	ND		1.53	ND		1.53	ND		1.92
trans-1,2-Dichloroethene	NA	ND		0.793	ND		0.793	ND		0.991
1,1-Dichloroethane	NA	ND		0.809	ND		0.809	ND		1.01
Methyl tert butyl ether	NA	ND		0.721	ND		0.721	ND		0.901
2-Butanone	NA	5.96		1.47	5.1		1.47	2.32		1.85
cis-1,2-Dichloroethene	NA	ND		0.079	ND		0.079	ND		0.099
Ethyl Acetate	NA	10.4		1.8	12.6		1.8	13.3		2.26
Chloroform	NA	5.08		0.977	1.4		0.977	ND		1.22
Tetrahydrofuran	NA	ND		1.47	ND		1.47	ND		1.85
1,2-Dichloroethane	NA	ND		0.809	ND		0.809	ND		1.01
n-Hexane	NA	5.67		0.705	3.59		0.705	1.39		0.881
1,1,1-Trichloroethane	NA	0.12		0.109	0.169		0.109	0.178		0.136
Benzene	NA	2.83		0.639	2.34		0.639	1.27		0.799
Carbon tetrachloride	NA	0.566		0.126	0.66		0.126	0.52		0.157
Cyclohexane	NA	1.66		0.688	1.3		0.688	ND		0.861
1,2-Dichloropropane	NA	ND		0.924	ND		0.924	ND		1.16
Bromodichloromethane	NA	ND		1.34	ND		1.34	ND		1.67
1,4-Dioxane	NA	ND		0.721	ND		0.721	ND		0.901
Trichloroethene	2	0.107		0.107	0.15		0.107	ND		0.134
2,2,4-Trimethylpentane	NA	1.55		0.934	1.35		0.934	ND		1.17
Heptane	NA	2.04		0.82	1.75		0.82	1.17		1.02
cis-1,3-Dichloropropene	NA	ND		0.908	ND		0.908	ND		1.13
4-Methyl-2-pentanone	NA	ND		2.05	ND		2.05	ND		2.57
trans-1,3-Dichloropropene	NA	ND		0.908	ND		0.908	ND		1.13
1,1,2-Trichloroethane	NA	ND		1.09	ND		1.09	ND		1.36
Toluene	NA	10.9		0.754	11		0.754	6.18		0.942
2-Hexanone	NA	ND		0.82	ND		0.82	ND		1.02
Dibromochloromethane	NA	ND		1.7	ND		1.7	ND		2.13
1,2-Dibromoethane	NA	ND		1.54	ND		1.54	ND		1.92
Tetrachloroethene	30	2.58		0.136	5.59		0.136	0.909		0.17
Chlorobenzene	NA	ND		0.921	ND		0.921	ND		1.15
Ethylbenzene	NA	1.37		0.869	1.22		0.869	ND		1.09
p/m-Xylene	NA	4.86		1.74	3.84		1.74	ND		2.18
Bromoform	NA	ND		2.07	ND		2.07	ND		2.58
Styrene	NA	ND		0.852	0.932		0.852	ND		1.06
1,1,2,2-Tetrachloroethane	NA	ND		1.37	ND		1.37	ND		1.72
o-Xylene	NA	1.63		0.869	1.42		0.869	ND		1.09
4-Ethyltoluene	NA	ND		0.983	ND		0.983	ND		1.23
1,3,5-Trimethylbenzene	NA	ND		0.983	ND		0.983	ND		1.23
1,2,4-Trimethylbenzene	NA	1.95		0.983	1.33		0.983	ND		1.23
Benzyl chloride	NA	ND		1.04	ND		1.04	ND		1.29
1,3-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.5
1,4-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.5
1,2-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.5
1,2,4-Trichlorobenzene	NA	ND		1.48	ND		1.48	ND		1.86
Hexachlorobutadiene	NA	ND		2.13	ND		2.13	ND		2.67

Notes:

NYSDOH Air Guidance Value - Table 3.1 in *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), with PCE value updated September 2013 and TCE value updated August 2015

ug/m3 - Micrograms per cubic meter

NA - Not Guidance Value

ND - Not Detected

RL - Reporting Limit

Bold Concentration exceeds NYDOH air guidance value

TABLE 3
INDOOR AIR RESULTS - AIR GUIDANCE VALUES

82-13 37th Avenue

Jackson Heights, Queens County, New York

SAMPLE ID:	NYSDOH Air Guidance Value	IA-12			AA			AA		
LAB ID:		L1806491-16			L1746238-07			L1806491-17		
COLLECTION DATE:		2/22/2018			12/14/2017			2/22/2018		
SAMPLE MATRIX:		INDOOR AIR			AMBIENT AIR			AMBIENT AIR		
ANALYTE	(ug/m3)	Conc	Q	RL	Conc	Q	RL	Conc	Q	RL
VOLATILE ORGANIC COMPOUNDS										
Dichlorodifluoromethane	NA	2.5		0.989	1.79		0.989	2.48		0.989
Chloromethane	NA	1.22		0.413	0.973		0.413	1.04		0.413
Freon-114	NA	ND		1.4	ND		1.4	ND		1.4
Vinyl chloride	NA	ND		0.051	ND		0.051	ND		0.051
1,3-Butadiene	NA	ND		0.442	ND		0.442	ND		0.442
Bromomethane	NA	ND		0.777	ND		0.777	ND		0.777
Chloroethane	NA	ND		0.528	ND		0.528	ND		0.528
Ethanol	NA	848		9.42	ND		9.42	14.6		9.42
Vinyl bromide	NA	ND		0.874	ND		0.874	ND		0.874
Acetone	NA	205		2.38	6.72		2.38	10.2		2.38
Trichlorofluoromethane	NA	1.39		1.12	1.47		1.12	1.37		1.12
Isopropanol	NA	66.1		1.23	1.67		1.23	3.39		1.23
1,1-Dichloroethene	NA	ND		0.079	ND		0.079	ND		0.079
Tertiary butyl Alcohol	NA	ND		1.52	ND		1.52	ND		1.52
Methylene chloride	60	ND		1.74	ND		1.74	1.8		1.74
3-Chloropropene	NA	ND		0.626	ND		0.626	ND		0.626
Carbon disulfide	NA	ND		0.623	ND		0.623	ND		0.623
Freon-113	NA	ND		1.53	ND		1.53	ND		1.53
trans-1,2-Dichloroethene	NA	ND		0.793	ND		0.793	ND		0.793
1,1-Dichloroethane	NA	ND		0.809	ND		0.809	ND		0.809
Methyl tert butyl ether	NA	ND		0.721	ND		0.721	ND		0.721
2-Butanone	NA	2.64		1.47	ND		1.47	ND		1.47
cis-1,2-Dichloroethene	NA	ND		0.079	ND		0.079	ND		0.079
Ethyl Acetate	NA	10.2		1.8	ND		1.8	ND		1.8
Chloroform	NA	ND		0.977	ND		0.977	ND		0.977
Tetrahydrofuran	NA	ND		1.47	ND		1.47	ND		1.47
1,2-Dichloroethane	NA	ND		0.809	ND		0.809	ND		0.809
n-Hexane	NA	1.26		0.705	ND		0.705	ND		0.705
1,1,1-Trichloroethane	NA	ND		0.109	ND		0.109	ND		0.109
Benzene	NA	1.04		0.639	1.26		0.639	ND		0.639
Carbon tetrachloride	NA	0.409		0.126	0.541		0.126	0.359		0.126
Cyclohexane	NA	1.85		0.688	ND		0.688	ND		0.688
1,2-Dichloropropane	NA	ND		0.924	ND		0.924	ND		0.924
Bromodichloromethane	NA	ND		1.34	ND		1.34	ND		1.34
1,4-Dioxane	NA	ND		0.721	ND		0.721	ND		0.721
Trichloroethene	2	ND		0.107	ND		0.107	ND		0.107
2,2,4-Trimethylpentane	NA	ND		0.934	ND		0.934	ND		0.934
Heptane	NA	1.52		0.82	ND		0.82	ND		0.82
cis-1,3-Dichloropropene	NA	ND		0.908	ND		0.908	ND		0.908
4-Methyl-2-pentanone	NA	ND		2.05	ND		2.05	ND		2.05
trans-1,3-Dichloropropene	NA	ND		0.908	ND		0.908	ND		0.908
1,1,2-Trichloroethane	NA	ND		1.09	ND		1.09	ND		1.09
Toluene	NA	5.09		0.754	2.46		0.754	1.48		0.754
2-Hexanone	NA	ND		0.82	ND		0.82	ND		0.82
Dibromochloromethane	NA	ND		1.7	ND		1.7	ND		1.7
1,2-Dibromoethane	NA	ND		1.54	ND		1.54	ND		1.54
Tetrachloroethene	30	0.997		0.126	0.414		0.136	0.387		0.136
Chlorobenzene	NA	ND		0.921	ND		0.921	ND		0.921
Ethylbenzene	NA	ND		0.869	ND		0.869	ND		0.869
p/m-Xylene	NA	1.87		1.74	ND		1.74	ND		1.74
Bromoform	NA	ND		2.07	ND		2.07	ND		2.07
Styrene	NA	ND		0.852	ND		0.852	ND		0.852
1,1,2,2-Tetrachloroethane	NA	ND		1.37	ND		1.37	ND		1.37
o-Xylene	NA	ND		0.869	ND		0.869	ND		0.869
4-Ethyltoluene	NA	ND		0.983	ND		0.983	ND		0.983
1,3,5-Trimethylbenzene	NA	ND		0.983	ND		0.983	ND		0.983
1,2,4-Trimethylbenzene	NA	ND		0.983	ND		0.983	ND		0.983
Benzyl chloride	NA	ND		1.04	ND		1.04	ND		1.04
1,3-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.2
1,4-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.2
1,2-Dichlorobenzene	NA	ND		1.2	ND		1.2	ND		1.2
1,2,4-Trichlorobenzene	NA	ND		1.48	ND		1.48	ND		1.48
Hexachlorobutadiene	NA	ND		2.13	ND		2.13	ND		2.13

Notes:

NYSDOH Air Guidance Value - Table 3.1 in *Guidance for Evaluating Soil Vapor Intrusion in the State of New York* (October 2006), with PCE value updated September 2013 and TCE value updated August 2015

ug/m3 - Micrograms per cubic meter

NA - Not Guidance Value

ND - Not Detected

RL - Reporting Limit

Bold Concentration exceeds NYDOH air guidance value

TABLE 4
SOIL RESULTS
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	RUSCO-I	RUSCO-C	RUSCO-RR	RUSCO-R	UUSCO	VTX-01 (17.0-17.5)				VTX-01 (34.0-34.5)				VTX-02 (26.5-27.0)			
LAB ID:						L1805441-01				L1805441-02				L1805441-03			
COLLECTION DATE:						2/14/2018				2/14/2018				2/15/2018			
SAMPLE DEPTH (FEET BGS):						17.0-17.5				34.0-34.5				26.5-27.0			
SAMPLING RATIONALE						Highest PID Reading				Groundwater Interface				Highest PID Reading			
PID READING (PPM)						1,830				0				1,111			
ANALYTE	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
Volatile Organic Compounds (VOCs) - mg/kg																	
Methylene chloride	**1000**	**500**	**100**	**51**	**0.05**	ND		0.0094	0.0016	ND		0.011	0.0019	ND		0.011	0.0018
1,1-Dichloroethane	**480**	**240**	**26**	**19**	**0.27**	ND		0.0014	0.00026	ND		0.0017	0.00031	ND		0.0016	0.0003
Chloroform	**700**	**350**	**49**	**10**	**0.37**	ND		0.0014	0.00035	ND		0.0017	0.00042	ND		0.0016	0.00041
Carbon tetrachloride	**44**	**22**	**2.4**	**1.4**	**0.76**	ND		0.00094	0.00033	ND		0.0011	0.00039	ND		0.0011	0.00038
1,2-Dichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0033	0.00022	ND		0.004	0.00026	ND		0.0038	0.00025
Dibromochloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00017	ND		0.0011	0.0002	ND		0.0011	0.00019
1,1,2-Trichloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0014	0.0003	ND		0.0017	0.00036	ND		0.0016	0.00034
Tetrachloroethene	**300**	**150**	**19**	**5.5**	**1.3**	ND		0.00094	0.00028	ND		0.0011	0.00034	ND		0.0011	0.00033
Chlorobenzene	**1000**	**500**	**100**	**100**	**1.1**	ND		0.00094	0.00033	ND		0.0011	0.0004	ND		0.0011	0.00038
Trichlorofluoromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00039	ND		0.0057	0.00048	ND		0.0055	0.00046
1,2-Dichloroethane	**60**	**30**	**3.1**	**2.3**	**0.02**	ND		0.00094	0.00023	ND		0.0011	0.00028	ND		0.0011	0.00027
1,1,1-Trichloroethane	**1000**	**500**	**100**	**100**	**0.68**	ND		0.00094	0.00033	ND		0.0011	0.0004	ND		0.0011	0.00038
Bromodichloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00029	ND		0.0011	0.00035	ND		0.0011	0.00034
trans-1,3-Dichloropropene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.0002	ND		0.0011	0.00024	ND		0.0011	0.00023
cis-1,3-Dichloropropene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00022	ND		0.0011	0.00026	ND		0.0011	0.00025
1,3-Dichloropropene, Total	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.0002	ND		0.0011	0.00024	ND		0.0011	0.00023
1,1-Dichloropropene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00031	ND		0.0057	0.00037	ND		0.0055	0.00036
Bromoform	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0038	0.00022	ND		0.0046	0.00027	ND		0.0044	0.00026
1,1,2,2-Tetrachloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00028	ND		0.0011	0.00034	ND		0.0011	0.00033
Benzene	**89**	**44**	**4.8**	**2.9**	**0.06**	ND		0.00094	0.00018	ND		0.0011	0.00022	ND		0.0011	0.00021
Toluene	**1000**	**500**	**100**	**100**	**0.7**	ND		0.0014	0.00018	ND		0.0017	0.00022	ND		0.0016	0.00021
Ethylbenzene	**780**	**390**	**41**	**30**	**1**	ND		0.00094	0.00016	ND		0.0011	0.00019	ND		0.0011	0.00019
Chloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00041	ND		0.0057	0.0005	ND		0.0055	0.00048
Bromomethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0019	0.00032	ND		0.0023	0.00039	ND		0.0022	0.00037
Vinyl chloride	**27**	**13**	**0.9**	**0.21**	**0.02**	ND		0.0019	0.0003	ND		0.0023	0.00036	ND		0.0022	0.00034
Chloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0019	0.0003	ND		0.0023	0.00036	ND		0.0022	0.00035
1,1-Dichloroethene	**1000**	**500**	**100**	**100**	**0.33**	ND		0.00094	0.00035	ND		0.0011	0.00042	ND		0.0011	0.00041
trans-1,2-Dichloroethene	**1000**	**500**	**100**	**100**	**0.19**	ND		0.0014	0.00023	ND		0.0017	0.00028	ND		0.0016	0.00026
Trichloroethene	**400**	**200**	**21**	**10**	**0.47**	ND		0.00094	0.00028	ND		0.0011	0.00034	ND		0.0011	0.00033
1,2-Dichlorobenzene	**1000**	**500**	**100**	**100**	**1.1**	ND		0.0047	0.00017	ND		0.0057	0.00021	ND		0.0055	0.0002
1,3-Dichlorobenzene	**560**	**280**	**49**	**17**	**2.4**	ND		0.0047	0.00021	ND		0.0057	0.00025	ND		0.0055	0.00024
1,4-Dichlorobenzene	**250**	**130**	**13**	**9.8**	**1.8**	ND		0.0047	0.00017	ND		0.0057	0.00021	ND		0.0055	0.0002
Methyl tert butyl ether	**1000**	**500**	**100**	**62**	**0.93**	ND		0.0019	0.00014	ND		0.0023	0.00017	ND		0.0022	0.00017
p/m-Xylene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0019	0.00033	ND		0.0023	0.0004	ND		0.0022	0.00038
o-Xylene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0019	0.00032	ND		0.0023	0.00039	ND		0.0022	0.00037
Xylenes, Total	**1000**	**500**	**100**	**100**	**0.26**	ND		0.0019	0.00032	ND		0.0023	0.00039	ND		0.0022	0.00037
cis-1,2-Dichloroethene	**1000**	**500**	**100**	**59**	**0.25**	ND		0.00094	0.00032	ND		0.0011	0.00039	ND		0.0011	0.00038
1,2-Dichloroethene, Total	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00023	ND		0.0011	0.00028	ND		0.0011	0.00026
Dibromomethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00022	ND		0.011	0.00027	ND		0.011	0.00026
Styrene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0019	0.00038	ND		0.0023	0.00046	ND		0.0022	0.00044
Dichlorodifluoromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00047	ND		0.011	0.00057	ND		0.011	0.00055
Acetone	**1000**	**500**	**100**	**100**	**0.05**	ND		0.0094	0.0022	ND		0.011	0.0026	0.0031	J	0.011	0.0025
Carbon disulfide	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.001	ND		0.011	0.0012	ND		0.011	0.0012
2-Butanone	**1000**	**500**	**100**	**100**	**0.12**	ND		0.0094	0.00065	ND		0.011	0.00079	ND		0.011	0.00076
Vinyl acetate	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00014	ND		0.011	0.00017	ND		0.011	0.00017
4-Methyl-2-pentanone	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00023	ND		0.011	0.00028	ND		0.011	0.00027
1,2,3-Trichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00017	ND		0.011	0.0002	ND		0.011	0.00019
2-Hexanone	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00063	ND		0.011	0.00076	ND		0.011	0.00073
Bromochloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00034	ND		0.0057	0.00041	ND		0.0055	0.00039
2,2-Dichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00042	ND		0.0057	0.00051	ND		0.0055	0.00049
1,2-Dibromoethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0038	0.00019	ND		0.0046	0.00023	ND		0.0044	0.00022
1,3-Dichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00017	ND		0.0057	0.00021	ND		0.0055	0.0002
1,1,1,2-Tetrachloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.0003	ND		0.0011	0.00036	ND		0.0011	0.00035
Bromobenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00021	ND		0.0057	0.00025	ND		0.0055	0.00024
n-Butylbenzene	**1000**	**500**	**100**	**100**	**12**	ND		0.00094	0.00022	ND		0.0011	0.00026	ND		0.0011	0.00025
sec-Butylbenzene	**1000**	**500**	**100**	**100**	**11**	ND		0.00094	0.0002	ND		0.0011	0.00025	ND		0.0011	0.00024
tert-Butylbenzene	**1000**	**500**	**100**	**100**	**5.9**	ND		0.0047	0.00023	ND		0.0057	0.00028	ND		0.0055	0.00027
o-Chlorotoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00021	ND		0.0057	0.00025	ND		0.0055	0.00024
p-Chlorotoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00017	ND		0.0057	0.00021	ND		0.0055	0.0002
1,2-Dibromo-3-chloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00037	ND		0.0057	0.00045	ND		0.0055	0.00043
Hexachlorobutadiene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00033	ND		0.0057	0.0004	ND		0.0055	0.00038
Isopropylbenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00018	ND		0.0011	0.00022	ND		0.0011	0.00021
p-Isopropyltoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.00094	0.00019	ND		0.0011	0.00023	ND		0.0011	0.00022
Naphthalene	**1000**	**500**	**100**	**100**	**12**	ND		0.0047	0.00013	ND		0.0057	0.00016	ND		0.0055	0.00015
Acrylonitrile	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0094	0.00048	ND		0.011	0.00059	ND		0.011	0.00056
n-Propylbenzene	**1000**	**500**	**100**	**100**	**3.9**	ND		0.00094	0.0002	ND		0.0011	0.00024	ND		0.0011	0.00024
1,2,3-Trichlorobenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00024	ND		0.0057	0.00029	ND		0.0055	0.00028
1,2,4-Trichlorobenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.0002	ND		0.0057	0.00024	ND		0.0055	0.00024
1,3,5-Trimethylbenzene	**380**	**190**	**52**	**47**	**8.4**	ND		0.0047	0.00015	ND		0.0057	0.00018	ND		0.0055	0.00018
1,2,4-Trimethylbenzene	**380**	**190**	**52**	**47**	**3.6**	ND		0.0047	0.00018	ND		0.0057	0.00021	ND		0.0055	0.0002
1,4-Dioxane	**250**	**130**	**13**	**9.8**	**0.1**	ND		0.038	0.014	ND		0.046	0.016	ND		0.044	0.016
p-Diethylbenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0038	0.0038	ND		0.0046	0.0046	ND		0.0044	0.0044
p-Ethyltoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0038	0.00022	ND		0.0046	0.00027	ND		0.0044	0.00026
1,2,4,5-Tetramethylbenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0038	0.00015	ND		0.0046	0.00018	ND		0.0044	0.00017
Ethyl ether	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00024	ND		0.0057	0.0003	ND		0.0055	0.00028
trans-1,4-Dichloro-2-butene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00037	ND		0.0057	0.00045	ND		0.0055	0.00043
Total VOCs	**NA**	**NA**	**NA**	**NA**	**NA**	-	-	-	-	-	-	-	-	0.0031	-	-	-
Total VOC TICs	**NA**	**NA**	**NA**	**NA**	**NA**	0.00407	J	0	0	0.00312	J	0	0	0.00879	J	0	0
GENERAL CHEMISTRY																	
Solids, Total	**NA**	**NA**	**NA**	**NA**	**NA**	92.8		0.1	NA	97.2		0.1	NA	92.9		0.1	NA

Notes:
ND - Not detected
J - Estimated concentration (detected below laboratory method detection limit)
NA - No NYSDEC Soil Criteria established for this compound.
mg/kg - Milligrams per kilogram
Feet bgs - Feet below ground surface
PPM - Parts per million
RUSCO-I - NYSDEC Restricted Use Soil Cleanup Objective - Industrial
RUSCO-C - NYSDEC Restructed Use Soil Cleanup Objective - Commercial
RUSCO-RR - NYSDEC Restricted Use Soil Cleanup Objective - Restricted Residential
RUSCO-R - NYSDEC Restricted Use Soil Cleanup Objective - Residential
UUSCO - Unrestricted Use Soil Cleanup Objective
Bold & Highlighted = Concentration exceeds NYSDEC SCO

TABLE 4
SOIL RESULTS
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	RUSCO-I	RUSCO-C	RUSCO-RR	RUSCO-R	UUSCO	VTX-02 (34.0-34.5)				VTX-03 (15.0-15.5)			
LAB ID:						L1805441-04				L1805441-05			
COLLECTION DATE:						2/15/2018				2/15/2018			
SAMPLE DEPTH (FEET BGS):						34.0-34.5				15.0-15.5			
SAMPLING RATIONALE						Groundwater Interface				Highest PID Reading			
PID READING (PPM)						209				1,428			
ANALYTE	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**(mg/kg)**	**Conc**	**Q**	**RL**	**MDL**	**Conc**	**Q**	**RL**	**MDL**
Volatile Organic Compounds (VOCs) - mg/kg													
Methylene chloride	**1000**	**500**	**100**	**51**	**0.05**	ND		0.012	0.002	ND		0.01	0.0016
1,1-Dichloroethane	**480**	**240**	**26**	**19**	**0.27**	ND		0.0018	0.00032	ND		0.0015	0.00027
Chloroform	**700**	**350**	**49**	**10**	**0.37**	ND		0.0018	0.00044	ND		0.0015	0.00037
Carbon tetrachloride	**44**	**22**	**2.4**	**1.4**	**0.76**	ND		0.0012	0.00041	ND		0.001	0.00034
1,2-Dichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0041	0.00027	ND		0.0035	0.00023
Dibromochloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00021	ND		0.001	0.00018
1,1,2-Trichloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0018	0.00037	ND		0.0015	0.00031
Tetrachloroethene	**300**	**150**	**19**	**5.5**	**1.3**	ND		0.0012	0.00036	ND		0.001	0.0003
Chlorobenzene	**1000**	**500**	**100**	**100**	**1.1**	ND		0.0012	0.00041	ND		0.001	0.00035
Trichlorofluoromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00049	ND		0.005	0.00042
1,2-Dichloroethane	**60**	**30**	**3.1**	**2.3**	**0.02**	ND		0.0012	0.00029	ND		0.001	0.00025
1,1,1-Trichloroethane	**1000**	**500**	**100**	**100**	**0.68**	ND		0.0012	0.00041	ND		0.001	0.00035
Bromodichloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00036	ND		0.001	0.00031
trans-1,3-Dichloropropene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00024	ND		0.001	0.00021
cis-1,3-Dichloropropene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00027	ND		0.001	0.00023
1,3-Dichloropropene, Total	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00024	ND		0.001	0.00021
1,1-Dichloropropene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00039	ND		0.005	0.00033
Bromoform	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00028	ND		0.004	0.00024
1,1,2,2-Tetrachloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00035	ND		0.001	0.0003
Benzene	**89**	**44**	**4.8**	**2.9**	**0.06**	ND		0.0012	0.00023	ND		0.001	0.00019
Toluene	**1000**	**500**	**100**	**100**	**0.7**	0.00026	J	0.0018	0.00023	ND		0.0015	0.0002
Ethylbenzene	**780**	**390**	**41**	**30**	**1**	ND		0.0012	0.0002	ND		0.001	0.00017
Chloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00052	ND		0.005	0.00044
Bromomethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0024	0.0004	ND		0.002	0.00034
Vinyl chloride	**27**	**13**	**0.9**	**0.21**	**0.02**	ND		0.0024	0.00037	ND		0.002	0.00032
Chloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0024	0.00037	ND		0.002	0.00032
1,1-Dichloroethene	**1000**	**500**	**100**	**100**	**0.33**	ND		0.0012	0.00044	ND		0.001	0.00037
trans-1,2-Dichloroethene	**1000**	**500**	**100**	**100**	**0.19**	ND		0.0018	0.00028	ND		0.0015	0.00024
Trichloroethene	**400**	**200**	**21**	**10**	**0.47**	ND		0.0012	0.00036	ND		0.001	0.0003
1,2-Dichlorobenzene	**1000**	**500**	**100**	**100**	**1.1**	ND		0.0059	0.00022	ND		0.005	0.00018
1,3-Dichlorobenzene	**560**	**280**	**49**	**17**	**2.4**	ND		0.0059	0.00026	ND		0.005	0.00022
1,4-Dichlorobenzene	**250**	**130**	**13**	**9.8**	**1.8**	ND		0.0059	0.00022	ND		0.005	0.00018
Methyl tert butyl ether	**1000**	**500**	**100**	**62**	**0.93**	ND		0.0024	0.00018	ND		0.002	0.00015
p/m-Xylene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0024	0.00041	ND		0.002	0.00035
o-Xylene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0024	0.0004	ND		0.002	0.00034
Xylenes, Total	**1000**	**500**	**100**	**100**	**0.26**	ND		0.0024	0.0004	ND		0.002	0.00034
cis-1,2-Dichloroethene	**1000**	**500**	**100**	**59**	**0.25**	ND		0.0012	0.0004	ND		0.001	0.00034
1,2-Dichloroethene, Total	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00028	ND		0.001	0.00024
Dibromomethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00028	ND		0.01	0.00024
Styrene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0024	0.00047	ND		0.002	0.0004
Dichlorodifluoromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00059	ND		0.01	0.0005
Acetone	**1000**	**500**	**100**	**100**	**0.05**	0.004	J	0.012	0.0027	0.004	J	0.01	0.0023
Carbon disulfide	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.0013	ND		0.01	0.0011
2-Butanone	**1000**	**500**	**100**	**100**	**0.12**	ND		0.012	0.00082	ND		0.01	0.00069
Vinyl acetate	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00018	ND		0.01	0.00015
4-Methyl-2-pentanone	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00029	ND		0.01	0.00024
1,2,3-Trichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00021	ND		0.01	0.00018
2-Hexanone	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00079	ND		0.01	0.00067
Bromochloromethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00042	ND		0.005	0.00036
2,2-Dichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00053	ND		0.005	0.00045
1,2-Dibromoethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00024	ND		0.004	0.0002
1,3-Dichloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00022	ND		0.005	0.00018
1,1,1,2-Tetrachloroethane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00038	ND		0.001	0.00032
Bromobenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00026	ND		0.005	0.00022
n-Butylbenzene	**1000**	**500**	**100**	**100**	**12**	ND		0.0012	0.00027	ND		0.001	0.00023
sec-Butylbenzene	**1000**	**500**	**100**	**100**	**11**	ND		0.0012	0.00026	ND		0.001	0.00022
tert-Butylbenzene	**1000**	**500**	**100**	**100**	**5.9**	ND		0.0059	0.00029	ND		0.005	0.00025
o-Chlorotoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00026	ND		0.005	0.00022
p-Chlorotoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00022	ND		0.005	0.00018
1,2-Dibromo-3-chloropropane	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00047	ND		0.005	0.0004
Hexachlorobutadiene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00041	ND		0.005	0.00035
Isopropylbenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00023	ND		0.001	0.00019
p-Isopropyltoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0012	0.00024	ND		0.001	0.0002
Naphthalene	**1000**	**500**	**100**	**100**	**12**	ND		0.0059	0.00016	ND		0.005	0.00014
Acrylonitrile	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.012	0.00061	ND		0.01	0.00051
n-Propylbenzene	**1000**	**500**	**100**	**100**	**3.9**	ND		0.0012	0.00025	ND		0.001	0.00022
1,2,3-Trichlorobenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.0003	ND		0.005	0.00025
1,2,4-Trichlorobenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00025	ND		0.005	0.00022
1,3,5-Trimethylbenzene	**380**	**190**	**52**	**47**	**8.4**	ND		0.0059	0.00019	ND		0.005	0.00016
1,2,4-Trimethylbenzene	**380**	**190**	**52**	**47**	**3.6**	ND		0.0059	0.00022	ND		0.005	0.00019
1,4-Dioxane	**250**	**130**	**13**	**9.8**	**0.1**	ND		0.047	0.017	ND		0.04	0.014
p-Diethylbenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.0047	ND		0.004	0.004
p-Ethyltoluene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00028	ND		0.004	0.00023
1,2,4,5-Tetramethylbenzene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0047	0.00018	ND		0.004	0.00016
Ethyl ether	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00031	ND		0.005	0.00026
trans-1,4-Dichloro-2-butene	**NA**	**NA**	**NA**	**NA**	**NA**	ND		0.0059	0.00046	ND		0.005	0.00039
Total VOCs	**NA**	**NA**	**NA**	**NA**	**NA**	0.00426	-	-	-	0.004	-	-	-
Total VOC TICs	**NA**	**NA**	**NA**	**NA**	**NA**	0.00317	J	0	0	0.00315	J	0	0
GENERAL CHEMISTRY													
Solids, Total	**NA**	**NA**	**NA**	**NA**	**NA**	94		0.1	NA	90.9		0.1	NA

Notes:
ND - Not detected
J - Estimated concentration (detected below laboratory method detection limit)
NA - No NYSDEC Soil Criteria established for this compound.
mg/kg - Milligrams per kilogram
Feet bgs - Feet below ground surface
PPM - Parts per million
RUSCO-I - NYSDEC Restricted Use Soil Cleanup Objective - Industrial
RUSCO-C - NYSDEC Restructed Use Soil Cleanup Objective - Commercial
RUSCO-RR - NYSDEC Restricted Use Soil Cleanup Objective - Restricted Residential
RUSCO-R - NYSDEC Restricted Use Soil Cleanup Objective - Residential
UUSCO - Unrestricted Use Soil Cleanup Objective
Bold & Highlighted = Concentration exceeds NYSDEC SCO

TABLE 5
GROUNDWATER RESULTS
82-13 37th Avenue
Jackson Heights, Queens County, New York

SAMPLE ID:	AWQS	Class GA	VTW-01				VTW-02				VTW-03			
LAB ID:			L1805440-01				L1805440-02				L1805440-03			
COLLECTION DATE:			2/14/2018				2/15/2018				2/15/2018			
DEPTH TO GROUNDWATER (FEET BGS)			32.65				34.19				32.78			
ANALYTE	(ug/l)	(ug/l)	Conc	Q	RL	MDL	Conc	Q	RL	MDL	Conc	Q	RL	MDL
Volatile Organic Compounds (VOCs) - ug/L														
Methylene chloride	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,1-Dichloroethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Chloroform	7	7	2.4	J	2.5	0.7	ND		2.5	0.7	1.6	J	2.5	0.7
Carbon tetrachloride	5	5	ND		0.5	0.13	ND		0.5	0.13	ND		0.5	0.13
1,2-Dichloropropane	1	1	ND		1	0.14	ND		1	0.14	ND		1	0.14
Dibromochloromethane	50	50	ND		0.5	0.15	ND		0.5	0.15	ND		0.5	0.15
1,1,2-Trichloroethane	1	1	ND		1.5	0.5	ND		1.5	0.5	ND		1.5	0.5
Tetrachloroethene	5	5	**17**		0.5	0.18	0.4	J	0.5	0.18	**90**		0.5	0.18
Chlorobenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Trichlorofluoromethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2-Dichloroethane	0.6	0.6	ND		0.5	0.13	ND		0.5	0.13	ND		0.5	0.13
1,1,1-Trichloroethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Bromodichloromethane	50	50	ND		0.5	0.19	ND		0.5	0.19	ND		0.5	0.19
trans-1,3-Dichloropropene	0.4	0.4	ND		0.5	0.16	ND		0.5	0.16	ND		0.5	0.16
cis-1,3-Dichloropropene	0.4	0.4	ND		0.5	0.14	ND		0.5	0.14	ND		0.5	0.14
1,3-Dichloropropene, Total	NA	NA	ND		0.5	0.14	ND		0.5	0.14	ND		0.5	0.14
1,1-Dichloropropene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Bromoform	50	50	ND		2	0.65	ND		2	0.65	ND		2	0.65
1,1,2,2-Tetrachloroethane	5	5	ND		0.5	0.17	ND		0.5	0.17	ND		0.5	0.17
Benzene	1	1	ND		0.5	0.16	ND		0.5	0.16	ND		0.5	0.16
Toluene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Ethylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Chloromethane	NA	NA	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Bromomethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Vinyl chloride	2	2	ND		1	0.07	ND		1	0.07	ND		1	0.07
Chloroethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,1-Dichloroethene	5	5	ND		0.5	0.17	ND		0.5	0.17	ND		0.5	0.17
trans-1,2-Dichloroethene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Trichloroethene	5	5	0.85		0.5	0.18	ND		0.5	0.18	2.4		0.5	0.18
1,2-Dichlorobenzene	3	3	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,3-Dichlorobenzene	3	3	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,4-Dichlorobenzene	3	3	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Methyl tert butyl ethe	10	10	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
p/m-Xylene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
o-Xylene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Xylenes, Tota	NA	NA	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
cis-1,2-Dichloroethene	5	5	2.2	J	2.5	0.7	ND		2.5	0.7	2.8		2.5	0.7
1,2-Dichloroethene, Total	NA	NA	2.2	J	2.5	0.7	ND		2.5	0.7	2.8		2.5	0.7
Dibromomethane	5	5	ND		5	1	ND		5	1	ND		5	1
1,2,3-Trichloropropane	0.04	0.04	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Acrylonitrile	5	5	ND		5	1.5	ND		5	1.5	ND		5	1.5
Styrene	5	930	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Dichlorodifluoromethane	5	5	ND		5	1	ND		5	1	ND		5	1
Acetone	50	50	ND		5	1.5	ND		5	1.5	ND		5	1.5
Carbon disulfide	60	60	ND		5	1	ND		5	1	ND		5	1
2-Butanone	50	50	ND		5	1.9	ND		5	1.9	ND		5	1.9
Vinyl acetate	NA	NA	ND		5	1	ND		5	1	ND		5	1
4-Methyl-2-pentanone	NA	NA	ND		5	1	ND		5	1	ND		5	1
2-Hexanone	50	50	ND		5	1	ND		5	1	ND		5	1
Bromochloromethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
2,2-Dichloropropane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2-Dibromoethane	0.0006	0.0006	ND		2	0.65	ND		2	0.65	ND		2	0.65
1,3-Dichloropropane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,1,1,2-Tetrachloroethane	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Bromobenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
n-Butylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
sec-Butylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
tert-Butylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
o-Chlorotoluene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
p-Chlorotoluene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2-Dibromo-3-chloropropane	0.04	0.04	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Hexachlorobutadiene	0.5	0.5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Isopropylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
p-Isopropyltoluene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Naphthalene	10	10	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
n-Propylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2,3-Trichlorobenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2,4-Trichlorobenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,3,5-Trimethylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,2,4-Trimethylbenzene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
1,4-Dioxane	NA	NA	ND		250	61	ND		250	61	ND		250	61
p-Diethylbenzene	NA	NA	ND		2	0.7	ND		2	0.7	ND		2	0.7
p-Ethyltoluene	NA	NA	ND		2	0.7	ND		2	0.7	ND		2	0.7
1,2,4,5-Tetramethylbenzene	5	5	ND		2	0.54	ND		2	0.54	ND		2	0.54
Ethyl ether	NA	NA	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
trans-1,4-Dichloro-2-butene	5	5	ND		2.5	0.7	ND		2.5	0.7	ND		2.5	0.7
Total VOCs	NA	NA	24.65	-	-	-	0.4	-	-	-	99.6	-	-	-
Total VOC TICs	NA	NA	1.22	J	0	0	6.67	J	0	0	6.74	J	0	0

Notes:
AWQS - NYSDEC Ambient Water Quality Standard
Class GA - NYSDEC Groundwater Effluent Limitations (Class GA
ug/L - Micrograms per liter
ND - Not detected
NA - No standard
J - Estimated concentration
Bold & Highlighted - Concentrations exceeds NYSDEC standar

APPENDIX A:
HEALTH AND SAFETY PLAN

SITE SPECIFIC

HEALTH AND SAFETY PLAN (HASP)

Vertex Engineering, PC

Rockfarmer 37th Avenue
82-13 37th Avenue
Block 1456, Lots 35 and 41
Jackson Heights, Queens County, New York 11372

Prepared For:

37th Owner LLC; Horizon 37th Ave, LLC; and RFC Ketcham 37th Ave, LLC
42-01 235th Street
Douglaston, New York 11363

Prepared By:

Vertex Engineering, PC
45-18 Court Square, Suite 602
Long Island City, New York 11101
646-553-6717

Vertex Project No: 48122

October 2018

Prepared by: Timothy Biercz **Signature:** _____ **Date:** 12/11/2017

Project Manager: Timothy Biercz **Signature:** _____ **Date:** 12/11/2017

H&S Team Member: Richard Tobia, PE **Signature:** _____ **Date:** 12/11/2017

HASP Limitations and Acknowledgement

This HASP addresses those activities and site procedures to be followed by VERTEX personnel during work performed at this site(s). *This HASP is designed to comply with OSHA standards, such as HAZWOPER, 29 CFR 1910.120, and VERTEX Companies Safety Polices, so compliance with this HASP is required by VERTEX personnel.* The content of this HASP may change or undergo revision based upon additional information made available to VERTEX. Changes proposed must be approved by VERTEX's H&S Team and the Project Manager.

The information in this HASP supplements the health and safety training that each VERTEX employee receives. It is not possible to discover, evaluate, and provide protection for all possible hazards, which may be encountered. This plan is written for the specific-site conditions, purposes, dates, and personnel specified, and must be amended if these conditions change.

Compliance with this HASP is required by persons who enter the site.

This HASP will expire 1 Year after the H&S Team's Signature Date, or if site conditions change. A review and approval by the H&S Team is required to extend the HASP Duration.

VERTEX Colleagues

Name:_____ Signature:_____ Date:_____

Name:_____ Signature:_____ Date:_____

Name:_____ Signature:_____ Date:_____

Name:_____ Signature:_____ Date:_____

Name:_____ Signature:_____ Date:_____

Subcontractors, Owner, and Others

Subcontractors must review this HASP, but must prepare their own site-specific HASP based upon their company health and safety program, and the risks and precautions of their work on the site. The subcontractor HASP will be at a minimum consistent with the provisions of this HASP.

This HASP is not intended to satisfy the requirement for the owner or designated subcontractor to prepare their own site-specific HASPs. This HASP does not relieve the owner, subcontractor, or their designated representatives of their responsibility to comply with all federal, state and local laws, regulations and ordinances governing worker health and safety.

VERTEX expressly disclaims any and all guarantees or warranties, expressed or implied that this plan will meet the specific needs or requirements of any subcontractor or its employees. VERTEX, therefore, cannot and does not assume any liability by the use or reuse of this plan by any client, subcontractor or their employees or agents. Any reliance on this plan or the information herein will be at the sole risk and liability of such party.

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

Name:_____ Employer:_____ Signature:_____ Date:_____

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Attachments

1.0 CONTACT INFORMATION

EMERGENCY PHONE NUMBERS

Ambulance, Police, and Fire	911, in case of emergency.
Poison Control Center	1-800-222-1222
Chemtrec	1-800-424-9300
National Response Center	1-800-424-8802
Utility Clearance (National)	811
Local Fire Department	718-999-2000
Local Police Department	718-794-2300
Water/Sewer Department	718-643-3063
Electrical Company	1-800-752-6633
Gas Company	1-800-752-6633

HOSPITAL INFORMATION

Elmhurst Hospital	718-334-4000 79-01 Broadway Queens, New York 11373

A HOSPITAL MAP AND DIRECTIONS ARE ATTACHED

PERTINENT SITE CONTACT INFORMATION

SITE CONTACT	Ms. Kristen Kenney 37th Owner LLC; Horizon 37th Ave, LLC; and RFC Ketcham 37th Ave, LLC 718-229-4488 x3500 kkenney@rockfarmerproperties.com
PROJECT MANAGER - VERTEX OFFICE	Timothy Biercz VERTEX Branchburg, NJ Office 3322 Route 22 Branchburg, New Jersey 908-333-4317
Health and Safety (HANDS) Phone Number	339-499-4995
H&S Team Member working on this HASP	732-690-3083

2.0 SITE DESCRIPTION AND RELEVANT INFORMATION

Review of city directories identified Star Cleaning & Dyeing Co. at 82-05 37th Avenue in 1939 and Columbia Cleaners at 82-13 37th Avenue for the years 1939 to 1970. In addition, Cecil Cleaners was identified at 35-62 83rd Street from 1986 to 1994. A 1,500-gallon heating oil underground storage tank (UST) was registered for the site address of 82-11 37th Avenue. The UST (Tank No. 001) is identified as "closed-removed" under Permit No. 2-207845.

2.1 Relevant Information

DATES	SITE USE/RELEASE/ACTIVITY
CURRENT USE	Rite Aid, Commercial Offices, and Parking Garage
1986 to 1994	Cecil Cleaners
1939 to 1970	Columbia Cleaners
1939	Star Cleaning & Dyeing Co.
Prior to 1939	Unknown

2.2 Scope of Work and Tasks

The VERTEX scope of work for this project includes the following tasks:

- Site reconnaissance and geophysical survey
- Sewer evaluation
- Borehole advancement using a direct-push drill rig and hand equipment
- Borehole advancement using a hollow-stem auger drill rig
- Installation of permanent monitoring wells
- Collection of soil and groundwater samples
- Sub-slab depressurization system (SSDS) pilot study
- Disposal of investigation-derived waste (IDW)

2.3 Subcontractors Scope of Work

<u>Geophysical Evaluation</u>

- Investigation utilizing Electromagnetic (EM), Utility Location (UL) and/or Ground Penetrating Radar (GPR) technology to clear proposed boring locations and verify locations of current below-grade utilities.

<u>Sewer Evaluation</u>

- Perform a sanitary sewer evaluation, to confirm the locations of the sewer connections to the site building and below the site building footprint, the sewer locations beneath the

sidewalk around the perimeter of the site building, and the location of the sewers within nearby streets. The inspection will include a video inspection of the sanitary sewer piping within and existing the site building.

Borehole and Monitoring Well Installation

- Installation of soil borings and permanent monitoring wells via direct-push and hollow-stem auger drilling methodologies.

Drum Disposal

- Disposal of IDW (soil cuttings and purge water) generated during the installation of permanent monitoring wells, development of wells, and groundwater sampling events.

3.0 JOB SAFETY ANALYSES

The following JSAs will be followed during this project. The JSAs are included in the Attachments Section:

1. Site Reconnaissance and GPR Survey Oversight
2. Drilling Oversight
3. Soil Sampling
4. Groundwater Sampling

3.1 Site Reconnaissance/Site Entrance

The site is the entire property. There are no gates or access limitations to the parking garage portion of the site. Access to the building, along 37th Avenue, is locked outside of typical working hours.

3.2 Ladders

The use of a ladder should be avoided if possible. If it cannot be avoided, careful, well-planned use of the ladder is a requirement.

3.3 Special Risks

No special risks are associated with the site and work being performed.

4.0 WORK ZONES

Work zones in an environmental remediation project typically include three specific areas:

1. The Support Zone
2. The decontamination Zone
3. The exclusion Zone

The zones are shown on the site plan on the cover of this HASP.

The following tables provide general guidelines for the establishment of work zones. The information provided should be adjusted if warranted by field observations and measurements, laboratory analytical results, or at the request of the H&S Team.

ACTIVITY	GENERAL WORK ZONE RADIUS (FEET)	WORK ZONE EVALUATION
Soil/Sediment Sampling	5	The site supervisor may modify the work zone radius based upon field conditions (examples below): Physical barriers or walls that may reduce the work zone to the barrier or wall. High traffic area may increase the work zone to allow for worker safety.
Direct Push (Drilling)	15	The site supervisor may modify this radium based upon the specific equipment being use. Generally, height of equipment plus 5 feet.
Overhead Power Lines	10	Assumes < 50 kV. Additional 4-inches per 50 kV.

5.0 CLEANLINESS AND HYGIENE

5.1 Housekeeping

Proper housekeeping is the foundation for a safe work environment. It prevents incidents and fires, as well as creating a businesslike work area. Materials will be stored in a stable manner so that it will not be subject to falling. Rubbish, scraps and debris will be removed from the work area on a daily basis to job-site dumpster or truck as required. Materials and supplies will not be left in stairways, walkways, near floor openings or at the edge of the building when exterior walls are not built.

5.2 Hygiene Facilities

Hygiene facilities include washing and toilet facilities. The hygiene facilities for this project will be located within the on-site building, in the central portion of the site, and will consist of a permanent restroom.

6.0 AIR MONITORING AND ACTION LEVELS

Air monitoring is required whenever we anticipate exposure to airborne chemicals or dust. The purpose of air monitoring is to keep track of the concentration of the contaminants of concern (COC) and minimize the exposure to VERTEX colleagues, workers and the general public. The following table presents the air monitoring methods, exposure guidelines and action levels.

MONITORING PROTOCOLS AND ACTION LIMITS FOR PETROLEUM VOCs		
RANGE	**PPE**	**ACTION**
Background to 5 ppmv	LEVEL D	Continue air monitoring
Above 5 ppmv	LEVEL D	Pause work and contact the Project Manager and the H&S Team for guidance.

6.1 Exposure Guidelines

Airborne Contaminant Monitoring VERTEX Responses Based on Level D PPE				
Parameter	**Contaminant Measurements**	**VERTEX Response**	**Comments**	**Frequency of Measurement**
VOCs – normal concentration: 0 - 5 ppm Depending on the concentration you may sense an oily odor	< 5 ppm	Continue working	VOCs are group of compounds with various PELs. Benzene and vinyl chloride have low PEL, each is 1 ppm. A PID is usually used to measure VOCs. The lamp selected, usually either 10.6 or 11.7eV must be appropriate for the contaminants of concern. If the work is intended to be completed only in Level D PPE, then work should stop at 5 ppm. A decision would be made at that point about whether to use a Draeger Tube to test for benzene, or to wear a respirator.	VOCs will be continuously logged in the datalogger.
	5 – 10 ppm	**Temporarily stop work and contact the CIH**		
	1-5 mg/m^3	**Temporarily stop work and contact the CIH**		
	> 5 mg/m^3	**Stop work, respiratory protection will be required**		

7.0 DECONTAMINATION

Our goal is always to keep contaminated material where it belongs, either on a project site or in an appropriate waste disposal process. We should avoid taking contaminated materials with us on our clothes or the bottoms of our work boot, into our vehicles or to our homes. This practice applies to staff who may encounter hazardous materials/waste, and it is also reasonable to manage nuisance dirt from sites in a responsible manner.

VERTEX supports proper project planning and execution to minimize risks. This requires:

- Planning before going to the site:
- Responsible actions at the site:
- After you leave the site:

It is critical that decontamination takes place prior to break periods and at the end of the day to reduce the chances of ingesting contaminants, or carrying them off the site.

- Decontamination to be performed:
- Remove PPE and dispose of disposable items.
- Wash hardhats and safety glasses.
- Rinse work boots in a boot wash.

8.0 TRAINING AND MEDICAL SURVEILLANCE

8.1 Training

Colleagues and workers assigned to a VERTEX project must have proper training and experience to enable our project to be performed successfully. At a minimum, completion of the OSHA 10-Hour Construction Safety training session is required for all VERTEX colleagues.

40-Hour HAZWOPER in accordance with OSHA standard, 29 CFR 1910.120 is also required.

8.2 Medical Surveillance

Field staff who are exposed to chemicals will participate in VERTEX's Medical Surveillance Program. Our program is administered by our Human Resources Department. The examination is responsive to many chemicals, but not all chemicals, so prior to a project, the Project Manager should check with Human Resources or the H&S Team, especially if unusual chemicals or elements are involved in the scope of work. VERTEX colleagues can verify the content of their exams by contacting Human Resources. The colleague must successfully pass the physical examination prior to field work on the project.

SAFETY MEETINGS

Safety meetings are vital to set the tone for safe work performance at the beginning of a project and each day. These meetings should be attended by all project participants, that is, VERTEX colleagues, contractors, and client staff if they are on-site. Several types of meetings may take place during a project:

- Kick-off meeting. This meeting begins a project and may take place at the field site or in an office or trailer. The scope of work should be reiterated, along with the hazards and precautions. This meeting is important to setting the tone and expectations for performance.

- Daily tailgate safety meeting. Held at the beginning of each shift, this meeting reiterates the scope of work planned during the shift, the hazards and precautions. Ideally, a different person, including contractor workers, would lead the meeting each day of a project to engage everyone and make each meeting fresh.

- Post project meeting. Although this meeting does not always take place, it is a good idea to wrap up a project and share what went well and what should be improved the next time the project team is together, or share lessons to take to the next project regardless of the team.

- Root cause analysis meeting is held following an incident or near miss to understand the root cause of what went wrong or almost went wrong (near miss) to reduce the chance of recurrence and to share lessons learned. These discussions are an essential part of any people-based safety program.

9.0 EMERGENCY RESPONSE PLAN

Incidents and near misses, no matter how minor, must be reported immediately to the Project Safety Supervisor or VERTEX H&S Team! The Safety Hotline is 339.499.4995. Other information is included in the Contact Information chart at the beginning of this HASP. Directions to the nearest hospital are attached at the end of the HASP so that they can be posted in an accessible location.

9.1 Emergency Incident

The nature of our work makes emergencies on site a continual possibility. Although emergencies are unlikely and occur infrequently, a contingency plan is required to assure timely and appropriate response actions. The contingency plan is reviewed at the tailgate safety meetings.

Discuss client Emergency Response Plans with all project participants so that everyone knows their part and expectations.

Upon Incident, Near Miss, Physical Reaction or Excessive Exposure: Leave area immediately and seek appropriate medical assistance. This may include, but not be limited to, any of the following physiological reactions:

- Dizziness
- Nausea
- Rash
- Asthmatic Reaction
- Abdominal Pain
- Distorted Vision of Hearing
- Excessive Coughing
- Edema or Localized Swelling
- Headaches
- Exposure to High/Cold Temperatures

9.2 Upon Emergency Incident, Take the Following Actions:

1. Size-up the situation based on the available information.

2. Follow the VERTEX Wallet Card guidance: Notify the Supervisor/Site Supervisor, VERTEX H&S Team, Human Resources, Project Manager/Client, Account Manager.

3. Only respond to an emergency if personnel are sufficiently trained and properly equipped.

4. As appropriate, evacuate site personnel and notify emergency response agencies, e.g., fire, police, etc.

5. As necessary, request assistance from outside sources and/or allocate personnel and equipment.

6. Consult the posted emergency phone list and contact key personnel.

7. Prepare an incident/near miss report. Forward incident report to Project Manager/VERTEX H&S Team within 24 hours via the HandS@vertexeng.com email.

9.3 Upon Medical Emergency, Take the Following Actions:

1. Assess the severity of the injury and perform first aid/CPR as necessary to stabilize the injured person. Follow universal precautions to protect against exposure to bloodborne pathogens.

2. Get medical attention for the injured person immediately. Call 911 or consult the Emergency Contacts list which must be posted at the site.

3. Notify a Site Safety Officer or a Field Supervisor immediately. The site Safety Officer will assume charge during a medical emergency.

4. Contact the VERTEX H&S Team next at 339.499.4995.

5. Depending on the type and severity of the injury, transport the injured employee to the nearest hospital emergency room. If the injury is not serious, then transport the injured employee to a nearby medical clinic. Consult the Health and Safety Team for guidance, if necessary.

6. Notify VERTEX Human Resources

7. Prepare an incident report. The Site Safety officer is responsible for its preparation and submittal to the Health and Safety Manager within **24 hours by email at HandS@vertexeng.com**.

ATTACHMENTS

JOB SAFETY ANALYSES

VERTEX The VERTEX Companies Health & Safety - A HANDS on Approach to Safety

Task to Be Performed:	**Drilling Oversight**	**Analyzed By:**	T. Biercz
		Date	1-Oct-18
Project Name & Location:	Rockfarmer 37th Avenue, Jackson Heights, New York		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with drilling oversight include: **1. Vehicular traffic;** **2. Potential to encounter utilities;** **3. Excessive noise;** **4. Drill rig moving and heated mechanisms;** **5. Muscle strains from lifting;** **6. Eye injury from dust and debris;** **7. Inhalation of dust and debris;** **8. Lacerations;** **9. Muscle strain from heavy lifting;** **10. Slip/Trip/Fall hazards due to equipment, debris, and/or slippery surfaces.** **11. Mechanical failure leading to injury or property damage; and,** **12. Pinch points.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe drilling and oversite techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, hearing protection, work gloves, hard hat, and reflective safety vest.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Commuting to and from the work site.	1. Vehicular collision/damage	Wear seatbelts. Drive defensively by: (a) looking down road to determine limiting factors, (b) minimizing/eliminating distractions, and (c) managing speed and a following distance of 1 second for every 10mph of speed. Check vehicle for proper operating systems, such as lights, tires, and mirrors.	
2	Set up necessary traffic and public access controls	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely possible.	

3	Utility Clearance	1. Potential to encounter underground or aboveground utilities while drilling.	Complete utility clearance using State One Call, GPR services, and/or hand augur to 5 feet bgs.	
Step #	**Specific Steps in the Task**	**Hazards and Risks by Step That Must Be Controlled**	**Precautions Actions to Avoid the Risks**	**Responsible Person**
4	General drill rig operation	1. Excessive noise is generated by rig operations.	When the engine is used at high RPMs or soil samples are being collected, use hearing protection.	
	General drill rig operation	2. During drill rig operation, surfaces will become hot and cause burns if touched, and COCs in the soil will more readily vaporize generating airborne contaminates.	Use caution handling equipment and wear proper work gloves. Air monitoring should b e performed in accordance with the HASP to monitor the potential volatilization of COCs.	
		3. Moving parts of the drilling rig can pull you in, causing injury. Pinch points on the rig and auger connections can cause pinching or crushing of body parts.	Stay at least 5 feet away from moving parts of the drill rig. Know where the kill switch is, and have the drillers test it to verify that it is working. Do not wear loose clothing and tie back long hair. Avoid wearing jewelry when drilling. Cone off work area to keep general public away from the drill rig.	
		4. Dust and debris can cause eye injury and soil cuttings and/or water could contain COCs.	Wear safety glasses and stay as far away from actual drilling operation as practicable. Wear appropriate gloves to protect from COCs.	
		5. Drilling equipment laying on the ground (i.e. augurs, split spoons, decon equipment, coolers, etc.) create a tripping hazard. Water from decon buckets generate mud and cause a slipping hazard.	Keep equipment and trash picked up and store away from the primary work area. Wear footwear with ankle support.	

		6. The raised derrick can strike overhead utilities, tree limbs, or other elevated items.	Never move the rig with the derrick up. Ensure there is proper clearance to raise the derrick. Ensure that you are far enough away from overhead power lines.	
Step #	**Specific Steps in the Task**	**Hazards and Risks by Step That Must Be Controlled**	**Precautions Actions to Avoid the Risks**	**Responsible Person**
4	Direct push drilling	1. Cutting sampling sleeves can lead to lacerations.	When possible, let the driller cut the sleeves open, as they have the proper tools. If we cut the sleeves, use a hook blade, change blade regularly, and cut away from the body.	
5	Sample collection and processing	1. Injuries can result from pinch points on sampling equipment and from breakage of sample containers.	Care should be taken when opening sampling equipment. Look at empty containers before picking them up. Use dividers or bubble wrap in cooler so that the containers do not break.	
		2. Lifting heavy coolers can cause muscle strain and/or back injuries.	Use proper lifting techniques and body positions; don't carry more than you can handle and get help moving heavy or awkward objects.	

VERTEX The VERTEX Companies Health & Safety - A HANDS on Approach to Safety

Task to Be Performed:	**Groundwater Sampling**	**Analyzed By:**	T. Biercz
		Date	1-Oct-18
Project Name & Location:	Rockfarmer 37th Avenue, Jackson Heights, New York		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with groundwater sampling include: **1. Vehicular traffic;** **2. Tripping/slipping hazards;** **3. Pinch points;** **4. Lacerations;** **5. Muscle strains from lifting;** **6. Electrical shock; and** **7. Exposure to contaminated vapors and/or water.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe sampling techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, work gloves, hard hat, and reflective safety vest.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Stage at pre-determined sampling location and set up work zone and sampling equipment	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely as possible.	
		2. Sampling equipment, tools, and monitoring well covers can cause tripping hazard.	Keep equipment picked up and monitor any changes to site condition.	
2	Open wells to equilibrate and gauge wells	1. When squatting down, personnel can be difficult to see by vehicular traffic.	Wear Class II traffic vest if wells are located in/near vehicular traffic. Use tall cones and the buddy system if practicable.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
2	Open wells to equilibrate and gauge wells	2. Pinch points on well vaults can pinch or lacerate fingers.	Use correct tools to open well vault/cap. Wear leather gloves when removing well vault lids, and chemical protective gloves when gauging. Wear proper PPE including safety boots, knee pads, and safety glasses.	
		3. Lifting sampling equipment can cause muscle strain.	Unload as close to work area as safely possible; use proper lifting and reaching techniques and body positioning; don't carry more than you can handle and get help moving heavy or awkward objects.	
		4. Pressure can build up inside well causing cap to release under pressure.	Keep head away from well cap when removing. If pressure relief valves are on well, use prior to opening.	
		5. Vapors from open wells.	Conduct air monitoring as wells are opened. When opening wells, be positioned downwind when possible.	
3	Begin purging well and collecting parameter measurements	1. Electrical shock can occur when connecting/disconnecting pump from battery.	Make sure equipment is turned off when connecting/disconnecting. Wear leather gloves. Use GFCIs when using power tools and pumps. Do not use in the rain or run electrical cords through wet areas.	
		2. Purge water can spill or leak from equipment.	Stop purging activities immediately, stop leakage and block any drainage grate with absorbent pads. Call PM to notify them of any reportable spill.	
		3. Water spilling on the ground can cause muddy/slippery conditions.	Be careful when walking around work area and wear proper safety boots.	
		4. Lacerations can occur when cutting materials such as plastic tubing.	When cutting tubing, use tubing cutter. No open fixed blades should ever be used. When possible, wear leather safety gloves.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
3	Begin purging well and collecting parameter measurements	5. Purge water can splash into eyes.	Pour water slowly into buckets/drums to minimize splashing. Wear safety glasses and recommended PPE.	
4	Collect groundwater sample	1. Sample water can splash into eyes.	Minimize splashing potential by wearing safety glasses and appropriate gloves.	
		2. Sample containers could break/leak preservative.	Discard any broken sample containers properly. Wear appropriate eye and hand protection.	
5	Staging of purged well water	1. Muscle strains can occur when moving purge water or drums.	If using buckets, do not fill buckets up to the top. Always keep lid on buckets when travelling or moving them to another location. Only half fill buckets so bucket weight is manageable.	
		2. Spilling or splashing of purge water.	Make sure that purge water is properly contained with a lid to avoid spilling/splashing the purge water. Wear long sleeve shirts while sampling.	

VERTEX The VERTEX Companies Health & Safety - A HANDS on Approach to Safety

Task to Be Performed:	**Site Reconnaissance and GPR Survey Oversight**	**Analyzed By:**	T. Biercz
		Date	1-Oct-18
Project Name & Location:	Rockfarmer 37th Avenue, Jackson Heights, New York		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with site reconnaissance and GPR survey oversight include: **1. Vehicular collision/damage;** **2. Slip, trip, and fall hazards;** **3. Heavy equipment operations;** **4. Scratch, scrape, and impalement hazards;** **5. Muscle strains;** **6. On site traffic;** **7. Lack of communications;** **8. Changing site conditions;** **9. Personal injury from energized equipment;** **10. Exposure to automotive fuel and maintenance chemicals; and,** **11. Use of ladder to reach elevated areas.**	**None** *** Wear appropriate PPE, practice safe site reconnaissance techniques.**
	Personal Protective Equipment at a Glance
	Long pants and steel toed work boots with defined heel, and limited Level D PPE including reflective safety vest. Additional Level D PPE including steel-toe boots, chemical resistant gloves, work gloves, hard hat, and safety glasses when applicable.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Commuting to and from the work site.	1. Vehicular collision/damage	Wear seatbelts. Drive defensively by: (a) looking down road to determine limiting factors, (b)	
2	Set up necessary traffic and public access controls	1. Personnel could be hit by vehicular traffic.	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic. Unload as close to work area as safely possible.	
3	GPR oversight	1. Slips/trips/falls.	Wear footwear with proper ankle support and be vigilant for trip hazards. Be aware that floors may be slippery from lubricants, etc. Walk around these slick areas when possible, otherwise take small steps to maintain balance, especially if you are carrying anything.	

		2. On-site traffic.	Watch for vehicular traffic on site. Obtain visible acknowledgement (e.g., hand signal) from the operator of a vehicle before moving around the vehicle. Maintaining only eye contact with vehicle operators is NOT sufficient.	

VERTEX The VERTEX Companies Health & Safety - A HANDS on Approach to Safety

Task to Be Performed:	**Soil Sampling**	**Analyzed By:**	T. Biercz
		Date	1-Oct-18
Project Name & Location:	Rockfarmer 37th Avenue, Jackson Heights, New York		

Possible Risks at a Glance	**Engineering Controls at a Glance**
Possible risks include associated with soil sampling include: **1. Vehicular traffic;** **2. Potential to encounter utilities;** **3. Excessive noise;** **4. Drill rig moving and heated mechanisms;** **5. Muscle strains from lifting;** **6. Eye injury from dust and debris;** **7. Lacerations;** **8. Hand strains and blisters; and** **9. Slip/Trip/Fall hazards due to equipment, debris, and/or slippery surfaces.**	**None**
	Work Practice Controls at a Glance
	Wear appropriate PPE, practice safe boring and sampling techniques.
	Personal Protective Equipment at a Glance
	Level D PPE including safety glasses, steel-toe boots, chemical resistant gloves, hearing protection, work gloves, hard hat, and reflective safety vest.

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
1	Set up necessary traffic and public access controls	1. Personnel could be hit by vehicular traffic	Set up cones and establish work area. Position vehicle so that field crew is protected from site traffic.	
2	Utility Clearance	1. Potential to encounter underground or aboveground utilities while drilling.	Complete utility clearance using State One Call, GPR services, and/or hand augur to 5 feet bgs.	
3	Installation of boring using drill rig.	1. Excessive noise is generated by rig operations.	When the engine is used at high RPMs or soil samples are being collected, use hearing protection.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
3	Installation of boring using drill rig.	2. During drill rig operation, surfaces will become hot and cause burns if touched, and COCs in the soil will more readily vaporize generating airborne contaminates.	Use caution handling equipment and wear proper work gloves. Air monitoring should b e performed in accordance with the HASP to monitor the potential volatilization of COCs.	
		3. Moving parts of the drilling rig can pull you in, causing injury. Pinch points on the rig and auger connections can cause pinching or crushing of body parts.	Stay at least 5 feet away from moving parts of the drill rig. Know where the kill switch is, and have the drillers test it to verify that it is working. Do not wear loose clothing and tie back long hair. Avoid wearing jewelry when drilling. Cone off work area to keep general public away from the drill rig.	
		4. Dust and debris can cause eye injury and soil cuttings and/or water could contain COCs.	Wear safety glasses and stay as far away from actual drilling operation as practicable. Wear appropriate gloves to protect from COCs.	
		5. Drilling equipment laying on the ground (i.e. augurs, split spoons, decon equipment, coolers, etc.) create a tripping hazard. Water	Keep equipment and trash picked up and store away from the primary work area. Wear footwear with ankle support.	
		6. The raised derrick can strike overhead utilities, tree limbs, or other elevated items.	Never move the rig with the derrick up. Ensure there is proper clearance to raise the derrick. Ensure that you are far enough away from overhead power lines.	
4	Installation of boring using hand auger, sample probe, and/or trowel	1. Muscle strains from pulling/pushing could occur when installing the boring and when removing the auger from the hole.	Stretch out back/arms/shoulders prior to beginning activities. Using a firm grip on the handle, slowly turn the ager and progress downward in 6" increments. Slowly pull the auger from the hole using legs and proper lifting techniques. Ask for assistance if necessary.	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
4	Installation of boring using hand auger, sample probe, and/or trowel	2. Hand strain and blisters could develop from prolonged hand augering.	Select proper gloves for the task (wear padded mechanics glove when turning auger). If hot spots develop on hands, re-adjust gloves or change to better padded gloves.	
		3. Over-exertion could occur when trying to force an auger forward if there is refusal.	If refusal occurs, stop work. Remove auger from the hole and check hole with flashlight. Do not over-exert by using excessive force.	
		4. Fatigue can occur due to strenuous nature of hand augering activities.	Take rest breaks as needed or switch out task with another employee.	
5	Collection of soil sample	1. Contact with impacted soils	Wear chemical protective gloves as outlined in the HASP and wear safety glasses.	
		2. Sharp edges and broken glassware can cause lacerations.	Discard any broken sample containers or glass properly. Do not overtighten containers. Wear cut-resistant gloves when handling sample containers.	
		3. Containerizing and moving soil cuttings can cause muscle strains.	Dispose of leftover soil cuttings in a drum or bucket and dispose properly. Only fill buckets half full due to weight and strength of bucket. Wear leather work gloves and use good lifting techniques when handling buckets.	
6	Decontamination of hand auger, sample probe, and/or trowel	1. Exposure to COCs during equipment decontamination.	Wear chemical protective gloves as outlined in the HASP and wear safety glasses.	
		2. The end of the auger/probe has sharp/pointed edges; lacerations can occur.	Use a brush to scrub off soils. Wear cut-resistant gloves when handling auger. Do not reach into	

Step #	Specific Steps in the Task	Hazards and Risks by Step That Must Be Controlled	Precautions Actions to Avoid the Risks	Responsible Person
7	Fill in sample location	1. Open boreholes are a trip hazard.	Fill in holes with sand or bentonite. Pack down chips as best as possible, adding water as necessary.	
		2. Muscle strain can occur from lifting bags of sand and/or bentonite.	Use proper lifting techniques and body positioning.	

TAILGATE SAFETY MEETING FORMS

THE VERTEX® COMPANIES, INC.

DAILY SAFETY LOG

DATE: _____ SITE LOCATION: _____

WEATHER: _____ PROJECT NUMBER: _____

TOPICS DISCUSSED

- ☐ Expected Activities
- ☐ Health and Safety Emergency Numbers
- ☐ Hospital Location
- ☐ Work Areas (Posted)
- ☐ Standing Orders
- ☐ Confined Space Entry
- ☐ Slip, Trip, Fall
- ☐ Manual Lifting
- ☐ Utility Locations
- ☐ Mechanical Hazards
- ☐ Emergency Communications
- ☐ Electrical Hazards
- ☐ Other_____
- ☐ Chemical Hazards
- ☐ Bonding and Grounding
- ☐ Heavy Equipment
- ☐ Traffic hazards
- ☐ Heat/Cold Stress
- ☐ Noise Hazards
- ☐ Lock-out/Tag-out
- ☐ Excavation Hazards
- ☐ Venting/Inerting
- ☐ Biological Hazards
- ☐ Meeting Place
- ☐ Other_____
- ☐ Other_____

PERSONAL PROTECTIVE EQUIPMENT

- ☐ Energized Systems
- ☐ Eye Protection
- ☐ Hearing Protection
- ☐ Gloves (Specify Type)
- ☐ Respiratory Protection (Specify Type)
- ☐ Engineering Controls (Specify Type)
- ☐ Other _____
- ☐ Other _____
- ☐ Hard Hat
- ☐ Protective Clothing
- ☐ Retrieval System
- ☐ Backup system
- ☐ Lighting
- ☐ Other_____
- ☐ Other_____
- ☐ Other_____

Additional Comments Observations, Deficiencies / Corrective Actions Taken:

_____

_____

_____

MEETING CONDUCTED BY (SSM): _____

Meeting Attended By:

_____ _____

_____ _____

_____ _____

NEAR MISS/INCIDENT REPORT FORMS

THE VERTEX® COMPANIES, INC.

NEAR MISS FORM

This is an official document to be initiated by a VERTEX employee, please answer correctly and with much detail as possible. This report should be forwarded to the OHSM within 24 hours of the near miss.

EMPLOYEE(S) INVOLVED: _____ DATE & TIME OF INCIDENT:

PERSON COMPLETING FORM: _____ DATE: _____

PROJECT NAME / NUMBER: _____ TIME: _____ AM/PM

NEAR MISS LOCATION (ADDRESS): _____

DESCRIBE NEAR MISS: (Defined as an event or situation that could have resulted in an accident, injury, or illness but DID NOT, either by chance of time/distance or through timely intervention). Describe fully, the protocol / procedures being followed including all substances, machinery, equipment (including personnel protective equipment) being used as related to the near miss.

_____

_____

SUBCONTRACTORS OR OTHER COMPANY INVOLVED? NO ☐ IF YES, DESCRIBE

_____

ON A SCALE OF 1 TO 10 HOW SEVERE COULD THE EVENT HAVE BEEN?

Least Severe 1 2 3 4 5 6 7 8 9 10 Most Severe

WHAT IS THE PROBABILITY OF AN INCIDENT IF THIS WERE TO OCCUR AGAIN (HIGH, MEDIUM, LOW)?
(Example: HIGH = task occurs frequently and by numerous individuals; MEDIUM = task occurs on a regular basis by certain individuals; LOW = minor or no injury, no lost dollar)

☐ LOW ☐ MEDIUM ☐ High

WHAT ARE THE SUGGESTED CORRECTIVE ACTIONS? _____

_____

_____

_____

_____

_____

EMPLOYEE _____ _____ _____
Printed Name Signature Date

CHSM _____ _____ _____
Printed Name Signature Date

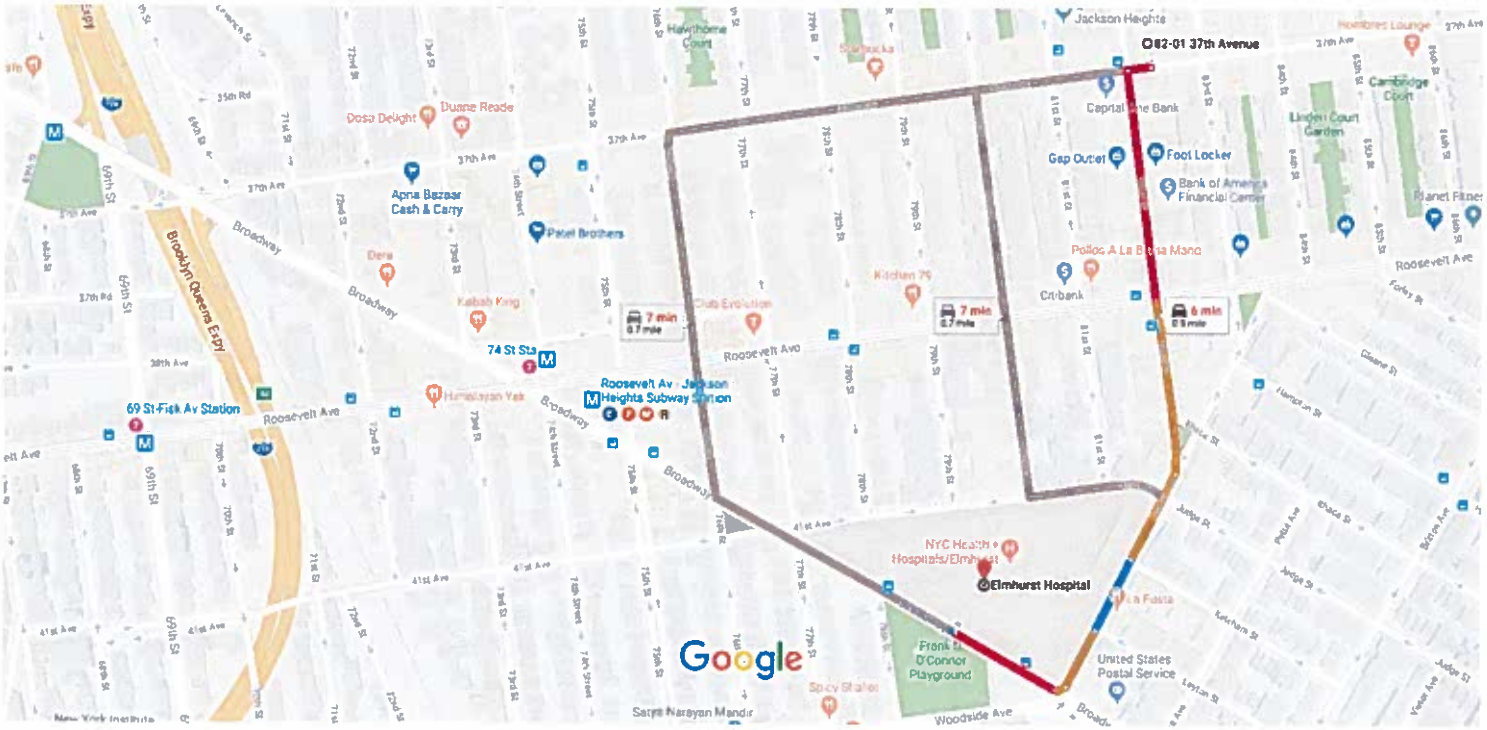
ATTACHMENTS ☐ YES ☐ NO

DIRECTIONS TO THE HOSPITAL

Google Maps

82-01 37th Ave, Flushing, NY 11372 to Elmhurst Hospital, Broadway, Queens, NY

Drive 0.5 mile, 6 min



Map data ©2017 Google 200 ft

82-01 37th Ave

Flushing, NY 11372

1. Head west on 37th Ave toward 82nd St — 79 ft
2. Turn left at the 1st cross street onto 82nd St — 0.3 mi
3. 82nd St turns slightly right and becomes Baxter Ave — 0.2 mi
4. Turn right onto Broadway — 427 ft

   Destination will be on the right

Elmhurst Hospital

79-01 Broadway, Queens, NY 11373

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.