

# Remedial Investigation Work Plan

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**April 16, 2018**

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Version 1: 12/2/2017

**Subject Property:**

The Huguenot Site  
BCP Site No. C360157  
381-393 Huguenot Street  
New Rochelle, NY  
Westchester County Tax Map Designation: Section 2; Block 239; Lot 3, 4, 5 & 7  
NYSDEC BCP Site No. C360157

**Prepared for:**

381-383 Huguenot LLC

New York State Department of Environmental Conservation

**CERTIFICATION**

**Client:** 381-383 Huguenot LLC  
**Project:** Remedial Investigation Work Plan  
**Location:** The Huguenot Site, New Rochelle, New York  
NYSDEC BCP No. C360157

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I, Wenqing Fang, certify that I am currently a NYS registered professional engineer as defined in 6 NYCRR Part 375 and that this Remedial Investigation Work Plan was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER-10, May 2010).



Wenqing Fang, P.E.

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## LIST OF ACRONYMS

<b>Acronym</b>	<b>Definition</b>
AMSL	Above Mean Sea Level
AOC	Area of Concern
AWQS	Ambient Water Quality Standard
BGS	Below ground surface
CAMP	Community Air Monitoring Plan
COC	Contaminant of Concern
CPP	Citizen Participation Plan
CSM	Conceptual Site Model
DER-10	New York State Department of Environmental Conservation Technical Guide 10
GPR	Ground Penetrating Radar
GPS	Global Positioning System
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations and Emergency Response
IRM	Interim Remedial Measure
NAPL	Non-aqueous Phase Liquid
NYS DOH ELAP	New York State Department of Health Environmental Laboratory Accreditation Program
NYS DEC	New York State Department of Environmental Conservation
OSHA	Occupational Safety and Health Administration
PID	Photo Ionization Detector
QA/QC	Quality Assurance and Quality Control
QEP	Qualified Environmental Professional
REC	Recognized Environmental Condition
RIWP	Remedial Investigation Work Plan
SCG	Standards, Criteria or Guidance
SCO	Soil Cleanup Objective
SOW	Scope of Work
USEPA	United State Environmental Protection Agency
USGS	United State Geological Survey

## 1 INTRODUCTION

On November 3, 2017, 381-383 Huguenot LLC (the "Applicant") voluntarily entered into a Brownfield Cleanup Agreement (BCA) as a "Participant" with the New York State Department of Environmental Conservation (NYSDEC) for the property located at 381-393 Huguenot Street, New Rochelle, Westchester County, New York (the "Site" or the "Subject Property"). BCP Site No. C360157.

Cider Environmental (CE), on behalf of the Applicant, has prepared this Remedial Investigation Work Plan (RIWP) for additional investigation of the Site in accordance with the NYSDEC Brownfield Cleanup Program (BCP) requirements.

Unless otherwise noted, the RIWP has been developed in accordance with the following state and local standards, criteria or guidance (SCGs):

- NYSDEC, Division of Environmental Remediation, DER-10 Technical Guidance for Site Investigation and Remediation, dated May 3, 2010
- NYSDEC CP-51 Soil Cleanup Guidance
- 6 NYCRR Part 375 Subpart 375-6, Remedial Program Soil Cleanup Objectives
- NYSDEC, Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Limitations
- NYSDOH, Guidance for Evaluating Soil Vapor Intrusion in the State of New York, October 2006

## 2 SITE DESCRIPTION

### 2.1 Site Conditions

The Site is located at 381-393 Huguenot Street, in an urban area in New Rochelle, New York. The Site is bound to the north by a vacant store (first floor) with residential above; to the south by a three-story residential apartment building and a one-story residential building; to the east by Huguenot Street and beyond by a Gulf labeled gasoline filling station; and to the west by an office building/warehouse.

The Subject Property consists of four (4) irregular shaped parcels totaling approximately 0.39 acres. The property currently maintains two structures. Lot 7 currently maintains an irregular shaped one-story building (with partial basement), with an approximate footprint of 3,400-square feet. This building is currently utilized for office and storage space associated with a U-Haul business, a real-estate firm, and a janitorial supply business. Lot 5 is currently vacant, utilized for vehicle parking. The first floor of the building maintained on Lots 3A and 4 house a church ministry, with the second floors occupied by one residential unit in each. The basement on Lot 4 is occupied by a hydraulic repair business.

The Site is currently utilized for mixed commercial and residential uses. The surrounding parcels are currently utilized for mixed commercial and residential uses. The Site is located within the City of New Rochelle's recently designated Downtown Overlay Zone (DOZ). The DOZ is part of a new zoning plan adopted in 2015 to re-establish the downtown as a center of vibrancy within a mixed-use, transit oriented setting. The characteristics of the Site allow a building of up to six stories, with the provision by the developer of a community benefit.

### 2.2 Site History

The northern portion of the Site (Lots 3A and 4 at 381 and 383 Huguenot Street) has been utilized for dry cleaning services since circa 1931, and for manufacturing since the 1970s to 2010s. The central portion of the Site (385 & 387 Huguenot) has maintained a residential dwelling since circa 1931, and truck and trailer parking since the 1990s. The southern portion of the Site (Lots 5 and 7 at 391 and 393 Huguenot) has maintained a gasoline filling station from 1930s to 1950s, car wash in 1931, and a warehouse from 1970s to 2010s.

### 2.3 Summary of Previous Investigation

The Subject Property (381 Huguenot Street, under the name of Rush Manufacturing) has an open NYSDEC Spill case (9604099). This spill was reported on June 6, 1996 due to soil and groundwater contamination encountered during a site investigation.

In March 2016, CE performed a Phase II ESA at the Subject Property. The Phase II ESA collected subsurface soil/groundwater/soil gas samples to evaluate the potential environmental impacts. The soil samples showed several target VOC/SVOCs at levels above the Unrestricted Use Soil Cleanup Objectives. Elevated PID readings and strong petroleum odors were noted during soil sampling. Strong odor representing degraded petroleum product was noted, exceeding the nuisance criteria of CP-51. The laboratory analysis performed on the soil gas samples detected several gasoline related compounds and chlorinated solvents, including PCE and its daughter products TCE, cis-1,2-DCE and VC. The groundwater samples showed evidence of impact from petroleum products of chlorinated solvent. The maximum fuel oil related SVOCs in groundwater was 13,000 ug/L (GW-2). The maximum gasoline related VOCs in groundwater was 2,020 ug/L (GW-1). TCE was detected in one of the monitoring wells (GW-4) at 6.5 ug/L.

In February 2017, CE performed a Supplemental Subsurface Investigation (SSI) at the Subject Property. The SSI collected samples of the urban fill materials and analyzed for metals and PCBs. The SSI also determined the groundwater flow direction and delineate the extent of groundwater contamination. The SSI detected a 2-foot layer of urban fill material throughout the site. Lead (maximum 4,330 mg/Kg) was detected at levels exceeding the RRSCO (400 mg/Kg) within the urban fill layer at multiple locations. Mercury was detected at a level (1.26 mg/Kg) exceeding the RRSCO (0.81 mg/Kg) at one (1) location (SB-21 [0'-2']). PCB was detected at a level (3,000 ug/Kg) exceeding the RRSCO (1,000 ug/Kg) at one (1) location (SB-2B [5'-7']). The SSI concluded that the existing groundwater contamination originated from the fuel oil application on the Subject Property. Using the AWQS as the cut off, it is likely that the groundwater contamination has migrated beyond Site boundary to the west.

The summary of exceedances of the previous investigation are presented as **Figure 4** through **Figure 6**. The groundwater potentiometric map, based on survey event during the SSI, is presented as **Figure 7**.



### 3 SCOPE OF WORK

#### 3.1 Purpose of RI

The purpose of a Remedial Investigation (RI) is to comprehensively investigate the property to characterize potential contaminants in accordance with the requirements of the BCP. This investigation will be performed in accordance with NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10), dated May 2010. The data collected during the RI will be used to identify potential health risks and to evaluate remedial alternatives for the Site. Specifically, the RI will:

- Delineate the areal and vertical extent of contaminants in all media at or emanating from the site;
- Determine the surface and subsurface characteristics of the site, including topography, geology and hydrogeology, including depth to groundwater;
- Identify the sources of contamination, the migration pathways, and actual or potential receptors of contaminants on or through air, soil, bedrock, sediment, groundwater, surface water, utilities, and structures at a contaminated site, without regard to property boundaries;
- Perform a well survey of the area around the site as part of this RI, to identify potable water supplies that may be impacted by potential off-site migration of contaminants in the groundwater.
- Collect and evaluate all data necessary for a fish and wildlife resource impact analysis (FWRIA) to determine all actual and potential adverse impact to fish and wildlife resources;
- Collect and evaluate all data necessary to evaluate the actual and potential threats to public health and the environment. This would include evaluating all current and future potential public health exposure pathways, as well as potential impacts to biota; and
- Collect the data necessary to evaluate any release to an environmental medium and develop remedial alternative(s) to address the release.

#### 3.2 Previously Identified Issues

Previous investigations of the site identified the following issues of environmental concern:

Lot 3A & 4 (381 & 383 Huguenot Street) has been utilized for cleaning services from 1931 to 1951. The 1931 Sanborn Map depicted a “dry cleaning” service on this lot, in the parking lot area (building since demolished). The laboratory analysis on soil gas samples did detect PCE and its daughter products (TCE, cis-1,2-DCE and VC). In addition, TCE, a potential daughter product of PCE, was detected in groundwater sample GW-4 (6.5 ug/L), collected south of this Lot. This area has also maintained fuel oil USTs. A

remote sensing survey was performed at this area. No abandoned USTs were identified. Elevated PID readings (maximum 346 ppm) and strong petroleum odors were noted during soil sampling. The soil gas samples from this area detected fuel oil related VOCs. The groundwater sample from this area (GW-2) detected elevated levels of petroleum product related SVOCs (>13 ppm in total SVOCs) exceeding the AWQS. PCBs were detected in one soil sample (SB-2B [5'-7']) exceeding the RRSCO. The source and origin of the PCB contamination is unknown. Lead and SVOCs were detected in one shallow soil sample (SB-20 [0'-2']) exceeding the RRSCO.

Lot 5 is utilized for the parking of rental vehicles associated with the U-Haul business. This portion has exposed soil and no pavement. Lead (maximum 4,330 mg/Kg), mercury (maximum 1/26 mg/Kg) and SVOCs were detected in shallow soil samples at multiple locations at levels exceeding the RRSCO.

Lot 7 (393 Huguenot Street) has historically maintained a gasoline filling station and car wash from 1931 to 1951, and has been utilized as a warehouse since the 1990s. A remote sensing survey was performed in this area. No abandoned USTs were identified. Elevated PID readings (>1000 ppm) and strong petroleum odors were noted during soil sampling activities. Lead was detected in one of the soil samples (SB-19 [0'-2']) exceeding the RRSCO. The groundwater samples at this area (GW-5) detected elevated levels of gasoline related VOCs (>0.500 ppm in total VOCs) exceeding the AWQS. TCE was detected in groundwater sample GW-4 (6.5 ug/L) exceeding the AWQS.

### 3.3 Proposed Site Redevelopment

The proposed development project entails demolition of the existing facilities and construction of one (1) 6-story mixed-use building with on-site parking. The proposed building will have sixty (60) rental apartment units, and two commercial/retail units on the ground floor. The building will include the construction of a basement on the northern portion. Excavation will be performed to approximately 11 feet below ground surface along the eastern property line. Vehicle parking spaces will be on the first/ground floor within the footprint of the building, with some below ground using a mechanical parking system. The proposed building will cover a footprint of 10,100 square feet. The basement will cover a footprint of 5,800 square feet. Two (2) drainage structures will cover a combined area of 1,745 square feet with 6 feet in depth. The remainder of the Site will consist of an asphalt-paved parking lot. There will be no landscape areas at the Site. The proposed site redevelopment is included as **Appendix A**.

### 3.4 Selected Cleanup Track

At this time, it is anticipated the Site remediation will pursue a Track 4 Cleanup for the Site. A Track 4 Cleanup will utilize site-specific information and guidance to identify soil cleanup objectives in order to achieve a Restricted Residential use remedy for the property. Institutional and/or engineering controls may be required to prevent exposure to contamination on the site. The decision of whether institutional and/or engineering controls are appropriate will be made by the NYSDEC in consultation with the New York State Department of Health (NYSDOH). For proposed restricted residential use properties, the top two (2) feet of exposed surface soils not covered by components of the development (e.g. pavement, buildings, etc.) must meet the generic soil cleanup requirements for Restricted Residential Soil Cleanup Objectives (RRSCO).

## 4 REMEDIAL INVESTIGATION

A remedial investigation (RI) will be implemented to characterize:

- Subsurface soil quality at the Site;
- Groundwater quality at the Site and the hydraulically down-gradient properties;
- Soil gas and indoor/outdoor air quality at the hydraulically down-gradient properties.

Subsurface soil samples will be collected at the Site. Groundwater samples will be collected at the Site and the hydraulically down-gradient properties. Soil gas and indoor/outdoor air samples will be collected at the hydraulically down-gradient properties.

### 4.1 Geophysical Survey

The geophysical survey will be performed across the entire site (readily accessible areas only) to investigate for the existence of any undocumented underground storage tanks and/or buried utilities.

#### 4.1.1 *Geophysical Survey Procedures*

A GPR system typically consists of a control unit, radar antenna, and display unit. The control unit generates a radar pulse and sends it through a cable to the antenna. The antenna transmits the pulse into the surface. When this energy encounters an interface between two materials of differing dielectric properties, such as reinforcing steel, air, moisture, or the base-course material, a portion of the energy is reflected back to the radar antenna. The received pulse is sent back to the control unit for processing/storage. The display unit (video or chart recorder) presents the data. The reflected energy is received by the transducer, amplified, and recorded. The electromagnetic pulse is repeated at a rapid rate and the resultant stream of radar data produces a continuous record of the subsurface. The radar system creates a linear profile of the materials beneath the antenna pass.

A qualified technician specifies a coordinate system on the planimetric surface of the site to map any subsurface dielectric anomalies detected on the premises. The operator uses knowledge of the subsurface soil composition to calibrate the SIR-2 system to site-specific conditions. Factor settings such as range, gain, number of gain points, and scans per unit, are modified to yield the most accurate data to describe the subsurface conditions.

Upon finding a dielectric anomaly, a more spatially specific coordinate system is designed over the area to determine its size, shape and orientation. The data collected during the survey will be reviewed by the

operator and compared against past experience, technical judgment and prior site knowledge to classify the anomalies.

## 4.2 Soil Testing Program

### 4.2.1 Soil Sampling Procedure

A soil testing program will be implemented to thoroughly characterize and identify potential contaminants of concern in the on-site soils. The proposed sampling program for each area of concern is discussed in the following sections of this RI work plan. Proposed sampling locations are indicated on **Figure 8**, but may be adjusted in the field based on site conditions, accessibility, NYSDEC preferences, or other logistical concerns.

Soil borings will be advanced utilizing either direct push (i.e. Geoprobe®) or hollow stem auger (HSA) drilling methods. A drill rig capable of advancing a borehole using direct-push drilling methods via a Geoprobe® drill rig may be used for the test borings at the Site. Direct-push sampling methods are capable of collecting continuous soil samples at five (5) foot intervals in dedicated 1.5-inch diameter PVC sleeves. Alternatively, the soil borings may be advanced using 3.25-inch I.D. hollow stem augers. Soil sampling with two (2)-foot long split-spoon samplers will be performed to collect continuous soil samples from each borehole. Soil borings will be extended until groundwater or bedrock is encountered to sufficiently characterize the subsurface conditions. The soil borings are anticipated to be advanced to depths of approximately 10 feet below the existing site grade.

At each soil boring location, an experienced geologist or engineer will visually classify the soil layers encountered, scan for volatile and semi-volatile organic vapors using a calibrated photoionization detector (PID), and inspect for any visual and/or olfactory evidence of contamination. Boring logs will be prepared for all soil samples collected describing color, grain size, sorting, cohesiveness, moisture content (groundwater), and the presence or absence of odors, staining, or other signs of contamination. Obvious man-made objects such as brick fragments, metal scrap, or concrete will be clearly identified.

All recovered samples requiring chemical analysis will be placed in the appropriate containers, and the containers will be clearly labeled with all categories or parameters. All samples will be stored in coolers on ice until delivery to the selected analytical laboratory under appropriate chain-of-custody. Copies of chain-of-custody documents will be retained and daily records including blind field duplicates will be recorded in the field logbook.

#### 4.2.2 *Laboratory Analysis for Soil Samples*

Soil samples will be analyzed for the full Target Compound List (TCL) suite plus the 30 highest concentration tentatively identified compounds (TICs) [volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and pesticides/ polychlorinated biphenyls (PCBs)] and Target Analyte List (TAL) suite (Metals, Mercury and Cyanide) by NYSDEC July 2005 Analytical Services Protocol (ASP) methods as follows:

- TCL VOCs + TICs by EPA Method 8260B;
- TCL SVOCs + TICs by EPA Method 8270;
- TCL Pesticides/PCBs by EPA Methods 8081A/8082;
- TAL Metals + Total Cyanide by EPA Methods 6010 and 9012; and
- Total Mercury by EPA Method 7471A.

All samples will be analyzed by methods that can achieve the minimum reporting limits to allow for comparison of the results with background levels and with Part 375 Soil Cleanup Objectives (SCOs).

#### 4.2.3 *Investigation Derived Waste*

All investigation derived waste (IDW) will be managed in accordance with Section 3.3(e) of DER-10. Drill cuttings and/or spoil generated during the RI that appear to be clean (i.e., no visual contamination or presence of contamination-related odors) shall be used to backfill the borehole or test pit from which they were removed. All excess drill cuttings and drill cuttings/spoil that appear to be contaminated shall be containerized for off-site disposal at a properly permitted treatment, storage or disposal facility. Pending the soil sampling results, soil not characterized as a solid or hazardous waste may be placed at the site with NYSDEC review and approval. Cuttings and spoils to be sent off-site for disposal will be done so in a timely manner, and transported by a hauler licensed in accordance with 6 NYCRR Part 364. If the waste is determined to be hazardous, it will be shipped with a manifest in accordance with 6 NYCRR Part 372.

#### 4.2.4 *Proposed Soil Sampling Locations and Depth*

According to NYSDEC DER-10, four (4) borings or test pits are required per acre for fill material, which would result in a total of 2 sample locations for the Site. For DER-10 3.9(b)2, for storage and staging areas over a permeable cover, a minimum of one (1) surface soil sample per 900 square feet is required, which would result in a total of 19 surface sample samples for the Site.

This RI will utilize the soil sampling data from previous Phase II ESA and the Supplemental Subsurface Investigation, a total of ten (10) additional soil borings (identified as SB-31 through SB-40) were proposed.

- Three (3) borings, SB-31, SB-32 and SB-33, will be installed within the proposed cellar area. The bottom elevation of the proposed cellar will be 77 feet AMSL.
- Two (2) borings, SB-34 and SB-35, will be installed within unexcavated area on the central portion of the Site.
- Three (3) borings, SB-36, SB-37 and SB-38, will be installed within the proposed garage and drainage system area. The bottom elevation of the proposed garage and drainage system will be 80 feet AMSL.
- Two (2) borings, SB-39 and SB-40, will be installed on the southwestern portion of the Subject Property, where according to the building plan no covering system will be installed.

The proposed sample locations are indicated on **Figure 8**. Sampling locations may need to be adjusted in the field due to the field conditions.

The soil from each boring will be continuously collected in 5-foot intervals to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination. Soil samples will be collected from the discrete depth interval that displays any visual and/or olfactory evidence of contamination in that particular sample interval as determined by field observations. This is in addition to the 0-2 feet below grade soil sample and the bottom excavation or groundwater interface soil sample. Due to the presence of shallow groundwater, the terminating depth of the soil borings will be approximately 8 feet below grade.

If no evidence of contamination is encountered, soil samples will also be collected from the following intervals for each soil boring:

- 0-2 feet below existing grade for shallow soil
- 0-2 feet below the proposed excavation bottom or groundwater interface, whichever is deeper:
  - For SB-31, 32 and SB-33, sampling elevation will be approximately EL 75-77 feet AMSL.
  - For SB-34 and SB-35, sampling depth will be at groundwater interface, approximately 6-8 feet below grade.
  - For SB-36, SB-37 and SB-38, sampling elevation will be approximately EL 78-80 feet AMSL.
  - For SB-39 and SB-40, sampling elevation will be at groundwater interface, approximately 6-8 feet below grade.

Soil samples will be analyzed for TCL VOCs, SVOCs, pesticides and PCBs, and TAL metals, including total mercury and total cyanide as discussed previously. A summary of proposed samples and analyses is provided in **Table 1**.

### 4.3 Groundwater Sampling Program

For the proposed RI, groundwater monitoring wells will be installed at the Site and the hydraulically down-gradient properties to measuring the groundwater level, determining the groundwater flow direction, and collecting groundwater samples in accordance with Sections 2.1-2.4 and 3.7 of DER-10. The monitoring wells shall be installed and sampled as outlined below.

#### 4.3.1 *Monitoring Well Installation*

During the previous Phase II ESA and SSI, a total of eight (8) 1-inch temporary groundwater monitoring wells were installed and sampled. However, all previously temporary wells have been properly decommissioned after the SSI. For this RI, eight (8) permanent groundwater monitoring wells will be installed. The locations of the existing wells and the proposed wells can be referenced on **Figure 9**.

The monitoring wells will be installed using a standard drilling rig employing hollow-stem augers. The wells will be completed as 2-inch monitoring wells to be used for measuring water levels and collecting groundwater samples. The monitoring wells are expected to extend approximately 15 feet below the existing ground surface.

Since the on-site wells (MW1, MW-2, MW-4 and MW-5) will likely be destroyed during the site construction, these wells will first be installed as 1-inch wells via direct push techniques, following the same installation/sampling procedures. Upon completion of site constructions, these wells will be replaced by 2-inch wells for long term monitoring.

The monitoring well borings will be advanced using 4.25-inch I.D. hollow stem augers (HSA). Soil sampling with split spoon samplers will be performed at each boring location to visually identify the soil layers encountered, to scan for volatile and semi-volatile organic vapors using a calibrated PID, and to inspect for any visual and/or olfactory evidence of contamination.

Soil samples will be collected from the discrete depth interval(s) that displays any visual and/or olfactory evidence of contamination in that particular sample interval as determined by field observations. If none



are identified, a soil sample will be collected at the groundwater interface at each monitoring well location.

The monitoring well will consist of flush-joint Schedule 40 PVC solid riser and machine slotted screen (0.010-inch slot size). The monitoring well screen will be approximately ten (10) feet in length and shall extend across the top of the groundwater table. A sand pack shall be installed from at least one (1) foot beneath the base of the well, around the well screen and extending to two (2) feet above the top of the well screen. A bentonite seal, approximately three (3) feet in thickness, shall be installed immediately above the sand layer. The remainder of the borehole shall be filled with on-site soil fill to the ground surface.

The monitoring wells will be completed at grade as flush-mounted wells located in steel road boxes; and equipped with expandable/lockable watertight caps.

#### *4.3.2 Well Development*

After installation and being allowed to set for three (3) days, the newly installed groundwater monitoring wells will be adequately developed by mechanically surging the water in the well to loosen and remove suspended fines from the well screen and sand pack and purging the groundwater. Measurements of the water volume removed and water quality parameters including temperature, pH, conductivity, and turbidity will be recorded at regular intervals throughout the well development process. Development will continue until water quality measurements stabilize to within 10% of the previous measurement.

The well development water will be containerized and placed into 55-gallon drums that will be temporarily staged on-site until the laboratory analytical results for groundwater are available. In the event that elevated levels of contaminants are encountered in the groundwater, the well development and purge water will be disposed off-site at a properly permitted treatment, storage, or disposal facility that accepts this type of waste. Water to be sent off-site for disposal will be done so in a timely manner, and transported by a hauler licensed in accordance with 6 NYCRR Part 364. If the water is determined to be hazardous, it will be shipped with a manifest in accordance with 6 NYCRR Part 372. If groundwater contamination is not detected, the well development and purge water will be discharged to City of New Rochelle public stormwater system pending NYSDEC review and approval.

#### *4.3.3 Groundwater Sample Collection*

Sampling will not occur for at least three (3) days after development of the newly-installed wells. Prior to sampling any wells, the static groundwater elevation at each well will be measured. Groundwater samples will be collected from each monitoring well using the United States Environmental Protection Agency

(USEPA) Region II Low Stress (Low Flow) Purging and Sampling Procedures (March 1998). If a well produces poorly and there is an insufficient groundwater recharge rate to perform low flow sampling, it will be purged dry and allowed to recover a minimum of 90% of the static water level before sampling. New and dedicated disposable bailers will then be used to collect the groundwater samples.

Field measurements for pH, specific conductivity, dissolved oxygen (DO), temperature, turbidity, flow rate and water level, as well as visual and olfactory field observations, will be monitored and recorded approximately every five (5) minutes for stabilization during well purging. A well is considered stabilized and ready for sample collection when the recorded field parameters have stabilized for three consecutive readings as follows:  $\pm 0.1$  for pH,  $\pm 5\%$  for specific conductivity, and  $\pm 10\%$  for DO and turbidity. Alternately, turbidity may also be considered stable when turbidity measurements fall below 50 NTU or become stable above 50 NTU. However, in the event samples are collected at turbidity levels in excess of 50 NTU, additional samples will be collected and filtered at the laboratory prior to analysis.

Since analysis for per- and polyfluoroalkyl substances (PFAS) are required, all sampling equipment components and sample containers will not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer. Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFC materials. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFC materials will be avoided. All clothing worn by sampling personnel will have been laundered multiple times. The sampler will wear nitrile gloves while filling and sealing the sample bottles. Pre-cleaned sample bottles with closures, coolers, ice, sample labels and a chain of custody form will be provided by the laboratory.

All recovered groundwater samples requiring chemical analysis will be collected in laboratory-prepared sample bottles that are clearly labeled with all categories or parameters. Appropriate QA/QC samples will be collected per sampling event, including one trip blank (accompanying VOC samples only), one matrix spike (MS), one matrix spike duplicate (MSD), one field duplicate and one field equipment blank (if necessary) sample. Subsequent to collection, all groundwater samples will be stored in coolers on ice until delivery to the selected analytical laboratory under appropriate chain-of-custody (COC). Copies of chain-of-custody documents will be retained and daily records including blind field duplicates will be recorded in the field logbook.

#### 4.3.4 Groundwater Sample Laboratory Analysis

A total of eight (8) groundwater samples (and the associated QA/QC samples) will be analyzed for the full TCL suite plus the 30 highest concentration TICs (VOCs, SVOCs, and Pesticides/PCBs) and TAL suite (Metals and Cyanide) by NYSDEC July 2005 ASP methods as shown below:

- TCL VOCs + TICs by EPA Method 8260B
- TCL SVOCs + TICs by EPA Method 8270
- 1,4-Dioxane by EPA Method 8270 SIM (reporting limit <0.28 µg/L)
- TCL Pesticides/PCBs by EPA Methods 8081A/8082
- TAL Metals (incl. Mercury) + Total Cyanide by EPA Methods 6010 and 9012
- TCL PFAS (per- and polyfluoroalkyl substances) by EPA Method 537 (reporting limit <2 ng/L)

All samples will be analyzed by methods that can achieve the minimum reporting limits to allow for comparison of the results with NYSDEC Division of Water Technical and Operation Guidance Series (TOGS) 1.1.1 - Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations.

#### 4.4 Soil Vapor Intrusion Study

This RI will include a soil vapor intrusion study on all hydraulically down-gradient adjoining properties. The proposed sampling locations can be referenced with **Figure 10**. Access for SVI sampling will need to be granted by the property owners.

In accordance with NYSDOH (October 2006) indoor air guidance, a building questionnaire/product inventory will be completed during the indoor air sampling event at each location.

A total of seven (7) sub-slab soil vapor samples will be collected. Soil vapor implants will be set at a depth of approximately 2 feet below slab, and at least two feet above the groundwater interface. The vapor implants will be installed with a hand drill.

A total of eleven (11) indoor air samples will be collected. Specifically, two (2) indoor air samples (on different floors) will be collected from each adjoining residential or mixed used building. One (1) indoor air sample will be collected from each adjoining commercial building.

A total of two (2) outdoor air samples will be collected. One (1) from up-wind area. One (1) from down-wind area.

SVI sampling duration will reflect the exposure scenario being evaluated. Sampling duration will be 24-hours for residential properties and 8-hour for commercial properties.

#### *4.4.1 Soil Vapor Intrusion Sampling Procedures*

Samples will be collected in accordance with the Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (NYSDOH October 2006). Conditions in the field may require adjustment of sampling locations.

Samples will be collected in 6 Litter Summa canisters that have been certified clean by the laboratory and samples will be analyzed by using USEPA Method TO-15. Flow rate for both purging and sampling will not exceed 0.2 L/min. One to three implant volumes shall be purged prior to the collection of any soil-gas samples. A sample log sheet will be maintained summarizing sample identification, date and time of sample collection, sampling depth, identity of samplers, sampling methods and devices, soil vapor purge volumes, volume of the soil vapor extracted, vacuum of canisters before and after the samples are collected, apparent moisture content of the sampling zone, and chain of custody protocols.

As part of the vapor intrusion evaluation, a tracer gas will be used in accordance with NYSDOH protocols to serve as a quality assurance/quality control (QA/QC) device to verify the integrity of the soil vapor probe seal. A container (box, plastic pail, etc.) will serve to keep the tracer gas in contact with the probe during testing. A portable monitoring device will be used to analyze a sample of soil vapor for the tracer gas prior to sampling. If the tracer sample results show a significant presence of the tracer, the probe seals will be adjusted to prevent infiltration. At the conclusion of the sampling round, tracer monitoring will be performed a second time to confirm the integrity of the probe seals.

#### *4.4.2 Air Sample Laboratory Analysis*

Soil gas, indoor air and outdoor air samples will be analyzed via USEPA Test Method TO-15 for target VOCs by NYSDEC July 2005 ASP methods as shown below:

- VOCs by EPA Method TO-15
- Additional helium test for soil gas samples.

#### *4.4.3 Owner/Tenant Notification of Air Sampling Results*

According to ECL 27-2405, property owners or owners' agents (such as landlords) are required to notify all of their tenants and occupants of any test results related to indoor air contamination associated with soil vapor intrusion (SVI).

A letter will be prepared to report validated soil vapor intrusion sampling results to the property owner. The draft result letters will be submitted for NYSDEC/NYSDOH review prior to sharing with property owner.

#### 4.5 Summary of Sampling Program

The sample locations, number of samples, sample method, sample depth and analytical testing program are summarized in **Table 1** through **Table 3**.

#### 4.6 Sample Labeling, Handling, and Shipping

All soil, groundwater and air samples will be identified using a unique sample number suitable to the project and the sampling protocol.

All recovered samples requiring chemical analysis will be placed in the appropriate containers, and the containers will be clearly labeled with all categories or parameters. All samples will be stored in coolers on ice until delivery to the selected analytical laboratory under appropriate chain-of-custody. Copies of chain-of-custody documents will be retained and daily records including blind field duplicates will be recorded in the field logbook. The samples will be either hand-delivered or shipped to the selected analytical laboratory via Federal Express within 48-hours of sample collection.

#### 4.7 Qualitative Human Health Risk Assessment

To evaluate potential exposures to site contaminants, a qualitative human health exposure assessment will be completed consistent with the NYSDOH guidance in Appendix 3B of the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation dated May 2010 (DER-10). This assessment consists of characterizing the exposure setting, a description of the physical environment and the proposed future land use, a description of the potentially exposed human populations, identifying exposure pathways, and evaluating contaminant fate and transport.

## 4.8 Reporting

Once the investigation is complete, a Draft Remedial Investigation (RI) Report and a Draft Remedial Action (RA) Work Plan will be prepared for the referenced site and submitted to the NYSDEC. The RI Report will be consistent with the general requirements for RI reports set forth in Section 3.14 of DER-10. The RI Report will include the following information:

- A description of the existing site conditions;
- A description of the subsurface soil and groundwater conditions;
- A summary of the previous data collected;
- A summary of the fieldwork performed;
- Soil boring, test pit, and monitoring well logs;
- Groundwater sampling field logs;
- SVI inventory and sampling logs on adjacent properties;
- Community Air Monitoring Plan (CAMP) logs;
- A sample location plan;
- Laboratory data summary tables;
- The findings of the investigation;
- A summary table for the Qualitative Human Health Risk Assessment;
- Data Usability Summary Report (DUSR);
- Laboratory analytical results (CD only); and
- Conclusions and recommendations.

The Remedial Action Work Plan (RAWP) will include an evaluation of remedial alternatives for the subject site. The data obtained from previous investigations and from the Remedial Investigation (RI) will be utilized along with the proposed site use to identify and select remedial action alternatives for the subject property.

## 5 QA/QC PROTOCOLS

### 5.1 Laboratory and Data Submittal

All recovered samples requiring chemical analysis shall be placed in laboratory-prepared unpreserved or preserved polyethylene or glass containers, depending on the sample media and analyses. For soil and groundwater samples, sample preservation shall also consist of keeping the samples cool and maintaining a cooler temperature of four (4) degrees Celsius. The maximum sample holding time is dependent on the required analysis.

All samples will be submitted under proper chain-of-custody procedures to a NYSDOH Environmental Laboratory Approval Program (ELAP) certified laboratory for analysis by NYSDEC July 2005 Analytical Services Protocol (ASP) and in accordance with approved U.S. Environmental Protection Agency (USEPA) methodologies.

Procedures for chain of custody, laboratory instrumentation calibration, laboratory analyses, reporting of data, internal quality control, and corrective actions shall be followed as per USEPA SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, and as per the selected laboratory's quality assurance plan.

Where appropriate, duplicate samples, field equipment blanks, cooler temperature blanks, matrix spike, and matrix spike duplicates shall be performed at a rate of 5% and will be used to assess the quality of the data. The laboratory's in-house QA/QC limits will be utilized whenever they are more stringent than those suggested by the EPA methods.

Analytical data will be presented as Category B deliverables packets including Tentatively Identified Compounds (TICs) for VOCs and SVOCs only. All analytical data will be validated and a Data Usability Summary Report (DUSR) prepared.

Modified EPA Method 537 will be utilized for PFAS analysis in groundwater samples to achieve 2 ng/L (ppt) detection limit.

EPA Method 8270 SIM (Selective Ion Monitoring) will be utilized for 1,4-dioxane analysis to achieve 0.28 µg/L detection limit.

## 5.2 Electronic Data Deliverables

All laboratory data collected will be submitted to the NYSDEC in the NYSDEC-approved Electronic Data Deliverable (EDD) format. In addition to analytical data, other sample descriptive data and survey coordinate data will also be incorporated into the EDD.

## 5.3 Data Usability Summary Report

The laboratory data package will be sent to a qualified, independent, data validation specialist for evaluation of the accuracy and precision of the analytical results and for preparation of a Data Usability Summary Report (DUSR). The DUSR will provide a thorough evaluation of the analytical data to determine whether or not the data, as presented, meets the site/project specific criteria for data quality and use. The DUSR will be prepared in accordance with the guidelines in Section 2.2 and Appendix 2B of DER-10.

## 5.4 Field Equipment

All non-dedicated, down-hole soil sampling equipment will be decontaminated prior to sampling and between soil boring/drilling locations in accordance with accepted drilling practices using an Alconox wash followed by a clean water rinse.

Dedicated sampling equipment (i.e. tubing, bailers, etc.) will be used for the groundwater sampling. In the event dedicated sampling equipment is not utilized, all sampling equipment (pump, tubing, monitoring equipment, etc.) will be decontaminated prior to use and between wells using an Alconox wash followed by a deionized (DI) water rinse.

Summa canisters for air samples will be provided as certified clean by the selected laboratory.

Equipment decontamination water will be containerized and temporarily staged on-site pending analysis and disposal off-site at a properly permitted treatment, storage, or disposal facility. Water to be sent off-site for disposal will be done so in a timely manner, and transported by a hauler licensed in accordance with 6 NYCRR Part 364. If the water is determined to be hazardous, it will be shipped with a manifest in accordance with 6 NYCRR Part 372.



Disposable sampling equipment including, spoons, gloves, bags, paper towels, acetate liners, etc. that came in contact with contaminated soil will be double-bagged and disposed of as municipal trash.

Since analysis for per- and polyfluoroalkyl substances (PFAS) are required, all sampling equipment components and sample containers will not come in contact with aluminum foil, low density polyethylene (LDPE), glass or polytetrafluoroethylene (PTFE, Teflon™) materials including sample bottle cap liners with a PTFE layer. Standard two step decontamination using detergent and clean water rinse will be performed for equipment that does come in contact with PFC materials. Clothing that contains PTFE material (including GORE-TEX®) or that have been waterproofed with PFC materials will be avoided. All clothing worn by sampling personnel will have been laundered multiple times. The sampler will wear nitrile gloves while filling and sealing the sample bottles. Pre-cleaned sample bottles with closures, coolers, ice, sample labels and a chain of custody form will be provided by the laboratory.

## 6 PROJECT ORGANIZATION

Cider Environmental has assigned the following individuals to the execution of this RIWP.

Wenqing Fang, PE - Principal

Mr. Fang will be responsible for coordination and supervision of staff engineers and scientists. He will also be responsible for adherence to the work plan, schedule, and budget, and preparation of the Remedial Investigation Report.

James Cressy, OEP – Principal

Mr. Cressy will be responsible for coordination of subcontractors, implementation of the work plan, implementation of the field program, maintaining quality assurance policies that pertain to all aspects of the work, and coordination of the laboratory and the data validator.

## 7 HEALTH AND SAFETY

### 7.1 Health and Safety Plan

An OSHA compliant Health and Safety Plan that meets all OSHA HAZWOPER requirements will be implemented during the site work to protect worker safety. The Site Safety Coordinator will ensure full compliance of the HASP in accordance with applicable health and safety laws and regulations. All field personnel involved in investigation activities will participate in training required under OSHA HAZWOPER 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Emergency telephone numbers will be posted at the site location before any work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics including a highlighted route map to the nearest hospital/emergency room. Meetings will be documented in a log book or specific form. Potential on-site chemicals of concern include VOCs, SVOCs, Pesticides/PCBs, and Metals (specifically lead and mercury at a minimum). Information fact sheets and/or summary tables for each contaminant group are included in the HASP.

The site-specific Specific Health and Safety Plan for the referenced project is provided in **Appendix B** of this Work Plan.

### 7.2 Community Air Monitoring

A site-specific Community Air Monitoring Plan (CAMP) is provided in **Appendix C** of this Work Plan.

### 7.3 Citizen Participation Plan

A site-specific Citizen Participation Plan (CPP) has been prepared and is available for public review in the document repositories established for this site.

## 8 PROJECT SCHEDULE

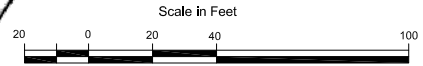
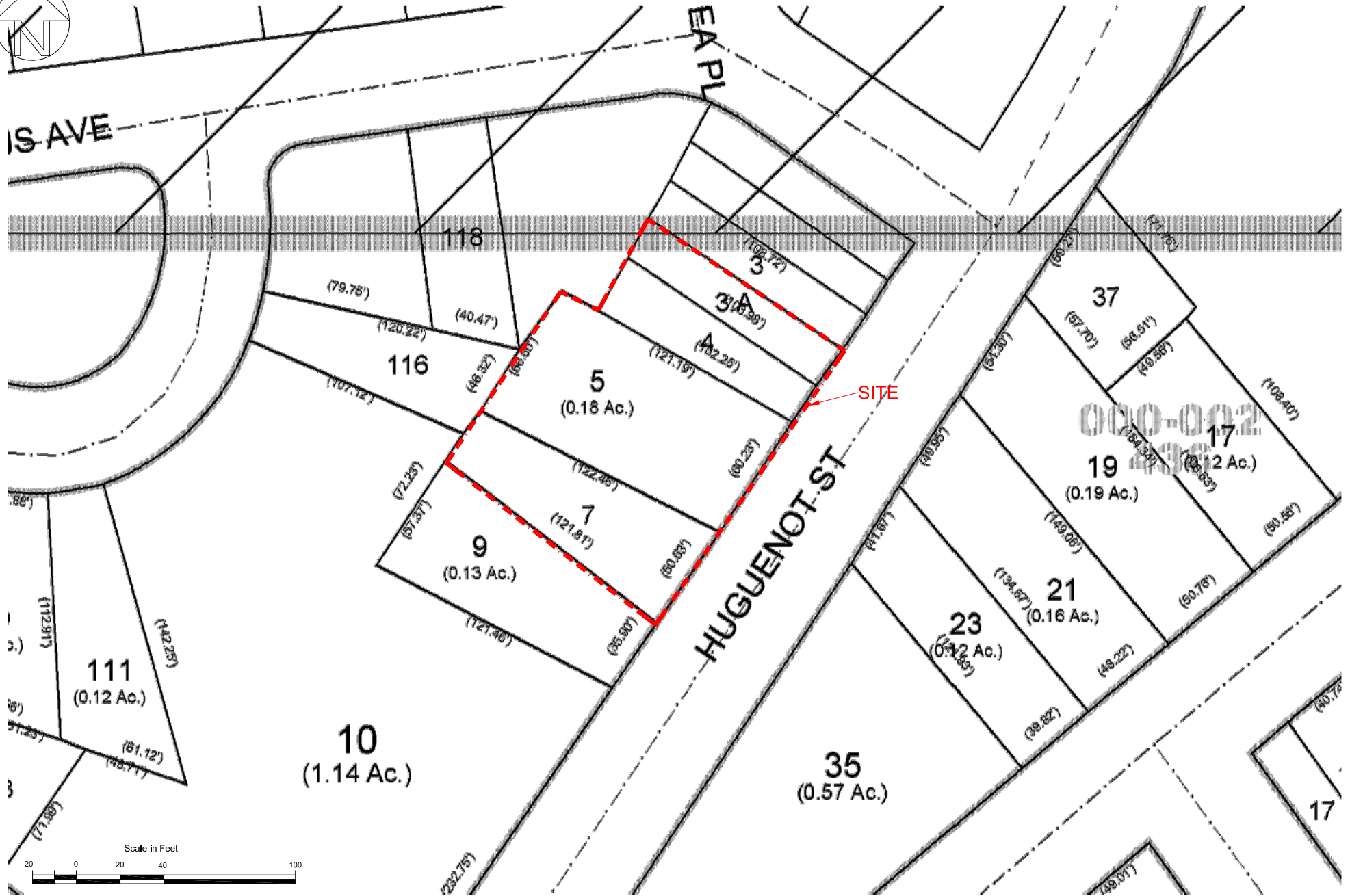
The following schedule is planned for this project. Note that the schedule/duration of the RI will be determined by the NYSDEC and the NYSDOH. CE will work with DEC/DOH to ensure minimal delays.

Milestones	Expected Completion Date
Draft RIWP for DEC / DOH Review and public comments	December 2017
DEC/DOH Approval of Final RIWP	April 2018
Field implementation of RIWP	April 2018
Sample Analysis & Data Delivery with DUSR	May 2018
Draft RIR, EDD preparation, and draft RAWP	June 2018
DEC/DOH review, public comments on draft RIR and RAWP	July 2018
Submit Final RIR and RAWP to NYSDEC	August 2018

## 9 REFERENCES

1. NYSDEC, May 2010, DER-10 Technical Guidance for Site Investigation and Remediation
2. NYSDEC, October 1993, Technical Operational Guidance Series (TOGS) 1.1.1 Ambient Water Quality Standards and Limitations
3. NYSDOH, October 2006, Guidance for Evaluating Soil Vapor Intrusion in the State of New York
4. Cider Environmental, February 2016, Phase I Environmental Site Assessment (ESA)
5. Cider Environmental, March 2016, Phase II ESA
6. Cider Environmental, February 2017, Supplemental Subsurface Investigation

## FIGURES



**WESTCHESTER, NY**  
 CITY OF NEW ROCHELLE  
 Map ID: **0127**

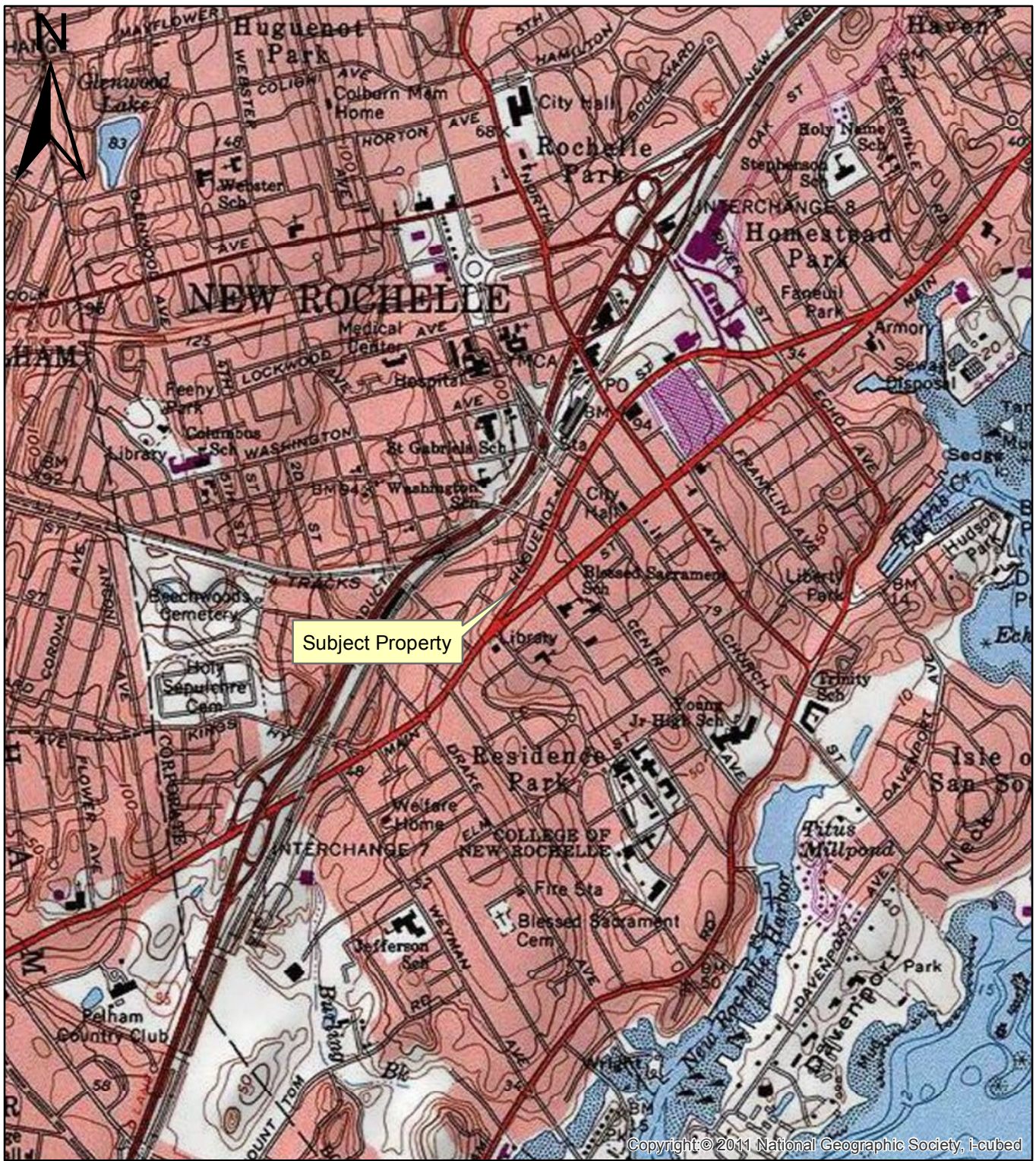
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**Legend:**  
 (In APN, Record Layout, etc.)  
 9999-999-9999-9999-9999-99  
 0127  
 1-19-2017  
 1" = 60'

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TITLE: County Tax Map		PROJECT No. 2015-188	
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY: WF	REVISD BY:	APPROVED BY:	
CHECKED BY: JC	REVISD DATE:	FILE NAME:	
DATE: 1-19-2017	APPROVED BY:	FIGURE No. 01	
SCALE: 1" = 60'	FILE NAME:		

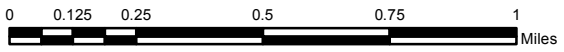
**CIDER ENVIRONMENTAL**  
 Tel: (631) 616-4000 Fax: (631) 988-7972  
 www.CiderEnvironmental.com  
 6288 Jericho Tpke, Suite 12, Commack, NY 11725



Subject Property

USGS 7.5 Minute Quadrangle Topographic Map (2011)

SCALE: 1:24,000



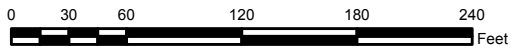
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TITLE	SITE LOCATION MAP		Figure No.
			02
PROJECT	381-393 Huguenot Street New Rochelle, New York		Project No.
			2015-188
	DESIGN	WF	1-18-2016
	CHECK		
	REVIEW		





SCALE: 1:1,200



TITLE		SITE BASE MAP		Figure No.
				03
PROJECT		381-393 Huguenot Street New Rochelle, New York		Project No.
				2015-188
	DESIGN	WF	1-19-2017	
	CHECK			
	REVIEW			



**Note:**

In March 2016, CE performed a Phase II ESA at the Subject Property. The soil samples showed several target VOC/SVOCs at levels above the Unrestricted Use Soil Cleanup Objectives. Elevated PID readings and strong petroleum odors were noted during soil sampling.

In February 2017, CE performed a Supplemental Subsurface Investigation (SSI) at the Subject Property. The SSI detected a 2-foot layer of urban fill material throughout the site. Lead (maximum 4,330 mg/Kg) was detected at levels exceeding the RRSCO (400 mg/Kg) within the urban fill layer at multiple locations. Mercury was detected at level (1.26 mg/Kg) exceeding the RRSCO (0.81 mg/Kg) at one (1) location (SB-21 [0'-2']). PCB was detected at level (3,000 ug/Kg) exceeding the RRSCO (1,000 ug/Kg) at one (1) location (SB-2B [5'-7']).

Parameters	RRSCO	SB-21 0'-2' 02/15/2017
<b>Metals Total</b>		mg/Kg
Lead, Pb	400	4330
Mercury	0.81	1.26

Parameters	Units	UUSCO	RRSCO	SB-1 3/3/2016
<b>VOCs</b>				
n-Propylbenzene	ug/Kg	3900	100,000a	4,100

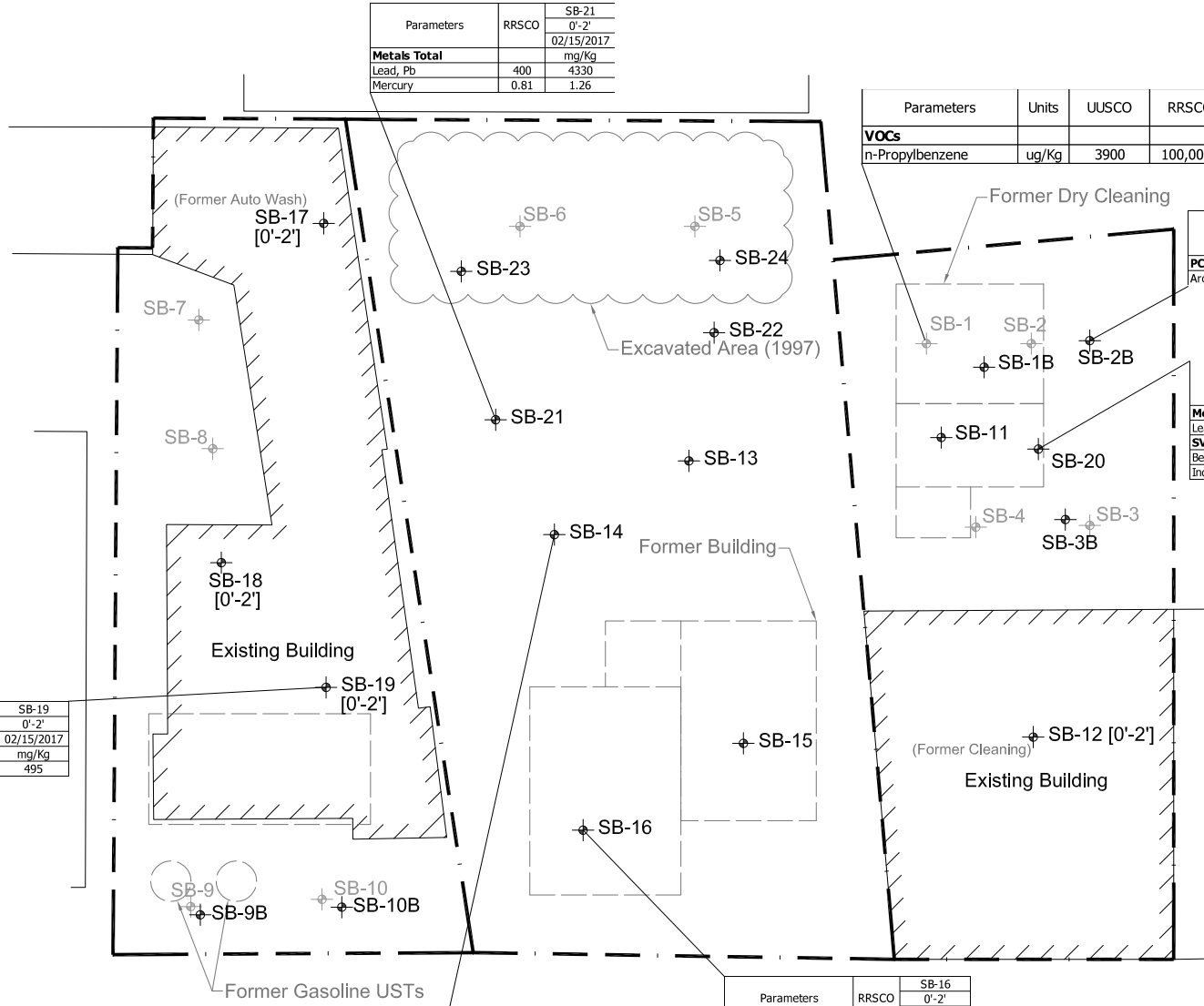
Parameters	RRSCO	SB-2B 5'-7' 02/14/2017
<b>PCBs</b>		ug/Kg
Aroclor 1254	1000	3000

Parameters	RRSCO	SB-20 0'-2' 02/14/2017
<b>Metals Total</b>		mg/Kg
Lead, Pb	400	1820
<b>SVOCs</b>		ug/Kg
Benzo-a-Pyrene	1,000f	1100
Indeno(1,2,3-cd)Pyrene	500f	870

Parameters	RRSCO	SB-19 0'-2' 02/15/2017
<b>Metals Total</b>		mg/Kg
Lead, Pb	400	495

Parameters	RRSCO	SB-16 0'-2' 02/14/2017
<b>Metals Total</b>		mg/Kg
Lead, Pb	400	440
<b>SVOCs</b>		ug/Kg
Benzo-a-Anthracene	1,000f	5800
Benzo-a-Pyrene	1,000f	5800
Benzo-b-Fluoranthene	1,000f	5600
Benzo-k-Fluoranthene	3900	5400
Chrysene	3900	5800
Dibenzo-a,h-Anthracene	330e	720
Indeno(1,2,3-cd)Pyrene	500f	3500

Parameters	RRSCO	SB-14 0'-2' 02/14/2017
<b>Metals Total</b>		mg/Kg
Lead, Pb	400	3210



Huguenot Street

Scale in Feet



**Legend**

- ▲ SSI Groundwater Temporary Well
- Phase II Groundwater Temporary Well
- ⊕ SSI Soil Sampling Point
- ⊕ Phase II Soil Sampling Point
- ⊕ Phase II Soil Gas Sampling Point

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TITLE: Summary of Exceedances- Soil			
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY:	WF	REVISED BY:	
CHECKED BY:	JC	REVISED DATE:	
DATE:	2-23-2017	APPROVED BY:	
SCALE:	1" = 25'	FILE NAME:	
		PROJECT No.	2015-188
		FIGURE No.	04

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Parameters	Units	AWQS	GW-4 3/4/2016
<b>VOCs</b>			
Trichloroethene	ug/L	5	6.3
<b>SVOCs</b>			
Benzo-a-Anthracene	ug/L	0.002	0.1
Benzo-b-Fluoranthene	ug/L	0.002	0.09
Benzo-k-Fluoranthene	ug/L	0.002	0.09
Chrysene	ug/L	0.002	0.1
Indeno(1,2,3-cd)Pyrene	ug/L	0.002	0.05

**Note:**

In March 2016, CE performed a Phase II ESA at the Subject Property. The groundwater samples showed evidence of impact from historic fuel oil and gasoline operations. The maximum fuel oil related SVOCs in groundwater was 13,000 ug/L.

In February 2017, CE performed a Supplemental Subsurface Investigation (SSI) at the Subject Property. The SSI concluded that the existing groundwater contamination originated from the fuel oil application on the Subject Property; and that the extent of the existing groundwater contamination is limited within the Site boundary.

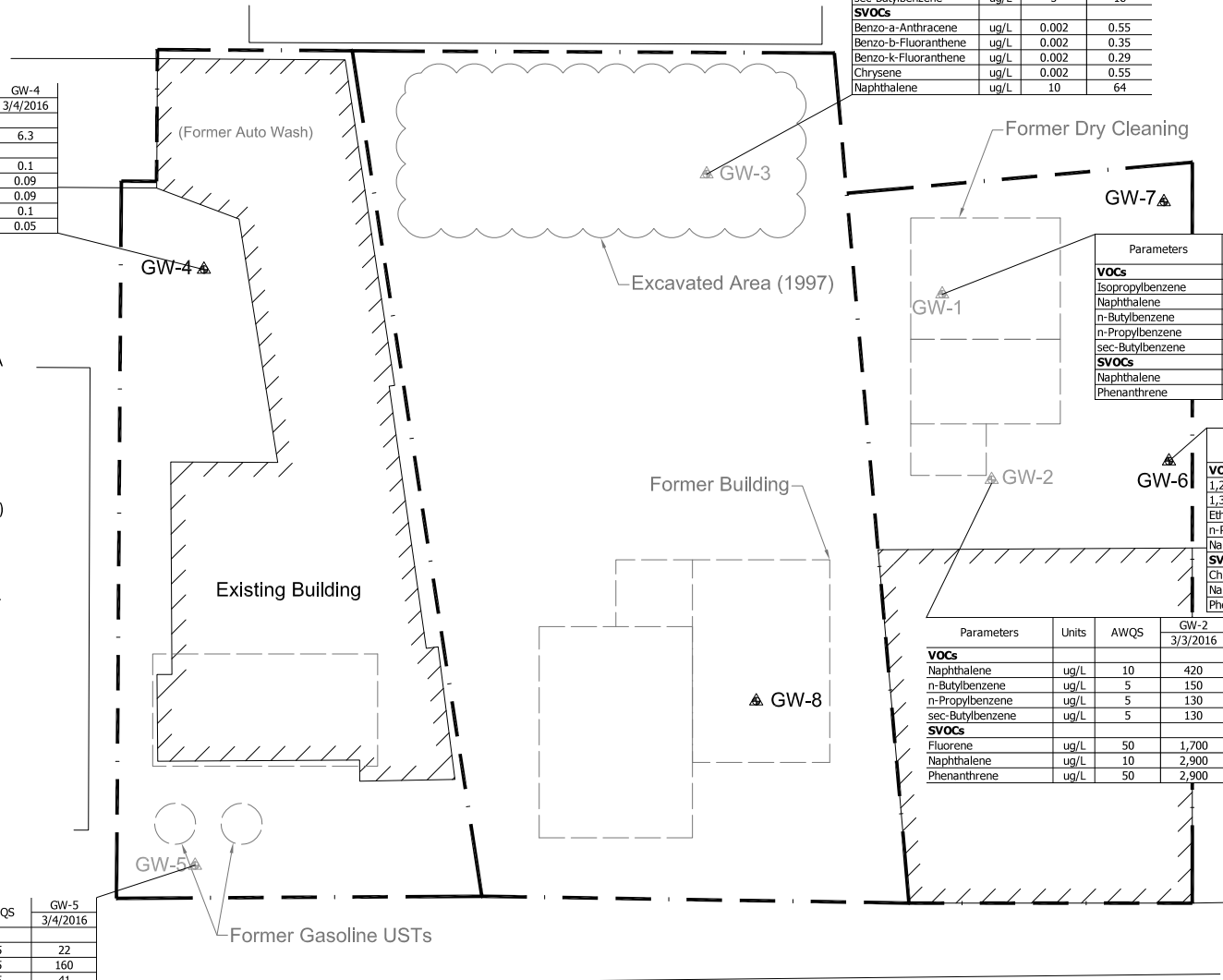
Parameters	Units	AWQS	GW-3 3/3/2016
<b>VOCs</b>			
Isopropylbenzene	ug/L	5	14
Naphthalene	ug/L	10	100
n-Butylbenzene	ug/L	5	16
n-Propylbenzene	ug/L	5	18
sec-Butylbenzene	ug/L	5	18
<b>SVOCs</b>			
Benzo-a-Anthracene	ug/L	0.002	0.55
Benzo-b-Fluoranthene	ug/L	0.002	0.35
Benzo-k-Fluoranthene	ug/L	0.002	0.29
Chrysene	ug/L	0.002	0.55
Naphthalene	ug/L	10	64

Parameters	Units	AWQS	GW-1 3/3/2016
<b>VOCs</b>			
Isopropylbenzene	ug/L	5	190
Naphthalene	ug/L	10	870
n-Butylbenzene	ug/L	5	240
n-Propylbenzene	ug/L	5	400
sec-Butylbenzene	ug/L	5	220
<b>SVOCs</b>			
Naphthalene	ug/L	10	760
Phenanthrene	ug/L	50	340

Parameters	AWQS	GW-6 02/15/2017
<b>VOCs</b>		
1,2,4-Trimethylbenzene	5	20
1,3,5-Trimethylbenzene	5	6
Ethylbenzene	5	5.9
n-Propylbenzene	5	5.9
Naphthalene	10	23
<b>SVOCs</b>		
Chrysene	0.002	0.57
Naphthalene	10	68
Phenanthrene	50	59

Parameters	Units	AWQS	GW-2 3/3/2016
<b>VOCs</b>			
Naphthalene	ug/L	10	420
n-Butylbenzene	ug/L	5	150
n-Propylbenzene	ug/L	5	130
sec-Butylbenzene	ug/L	5	130
<b>SVOCs</b>			
Fluorene	ug/L	50	1,700
Naphthalene	ug/L	10	2,900
Phenanthrene	ug/L	50	2,900

Parameters	Units	AWQS	GW-5 3/4/2016
<b>VOCs</b>			
Ethylbenzene	ug/L	5	22
Isopropylbenzene	ug/L	5	160
n-Butylbenzene	ug/L	5	41
n-Propylbenzene	ug/L	5	170
p-Isopropyltoluene	ug/L	5	48
sec-Butylbenzene	ug/L	5	49
<b>SVOCs</b>			
Chrysene	ug/L	0.002	0.24
Naphthalene	ug/L	10	16



Huguenot Street

Scale in Feet



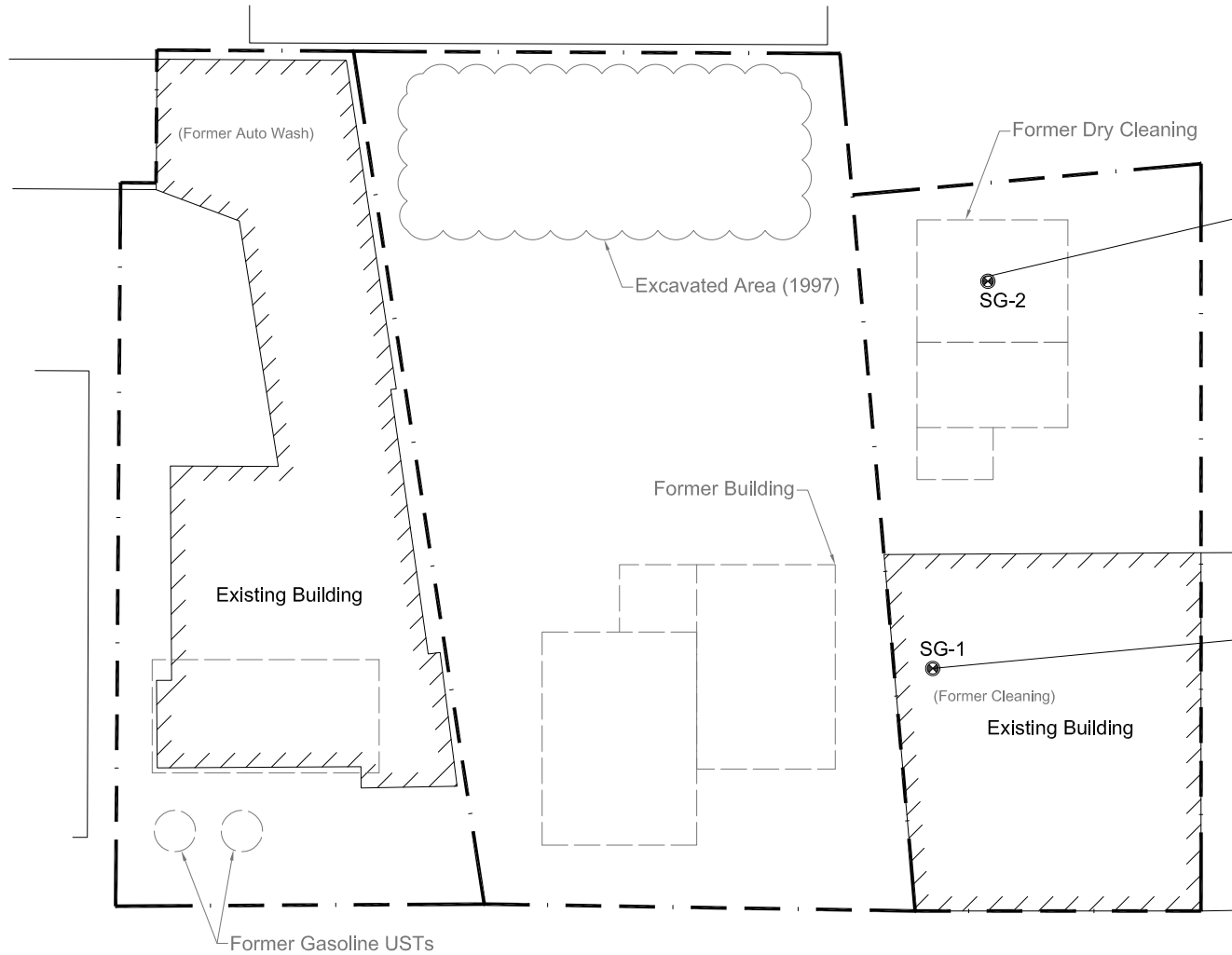
**Legend**

- ▲ SSI Groundwater Temporary Well
- ▲ Phase II Groundwater Temporary Well

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<b>TITLE:</b> Summary of Exceedances- Groundwater			
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DRAWN BY:	WF	REVISED BY:	
CHECKED BY:	JC	REVISED DATE:	
DATE:	2-23-2017	APPROVED BY:	
SCALE:	1" = 25'	FILE NAME:	
PROJECT No. 2015-188		FIGURE No. 05	

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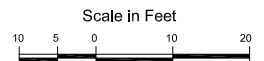


Parameters	DOH Actoin Level	SG-2 3/3/2016
<b>VOCs</b>		
1,2,4-Trichlorobenzene		19.4
1,2,4-Trimethylbenzene		988
1,3,5-Trimethylbenzene		904
4-Ethyltoluene		194
p-Isopropyltoluene		150
Benzene		23.8
Carbon Disulfide		98.3
cis-1,2-Dichloroethene	1000	18.4
Cyclohexane		513
Ethylbenzene		133
Heptane		1,480
Hexane		497
Isopropylbenzene		223
Total Xylenes		397
o-Xylene		181
Propylene		253
Tetrachloroethene	300	4.37
Toluene		35.7
Trichloroethene	20	14.3
Vinyl Chloride	250	74.6

Parameters	DOH Actoin Level	SG-1 3/3/2016
<b>VOCs</b>		
1,2,4-Trimethylbenzene		1.07
Acetone		11.3
Benzene		1.78
Carbon Disulfide		1.39
Carbon Tetrachloride	250	0.28
Chloroform		13.4
Dichlorodifluoromethane		1.73
Ethanol		3.58
Isopropylalcohol		3.34
2-Butanone		1.17
n-Butylbenzene		1.05
Propylene		2.99
Tetrachloroethene	300	1.02
Toluene		1.52
Trichlorofluoromethane		1.44

Note:  
In March 2016, CE performed a Phase II ESA at the Subject Property. The soil gas samples detected several gasoline related compounds and dry cleaning operation related compounds.

Huguenot Street



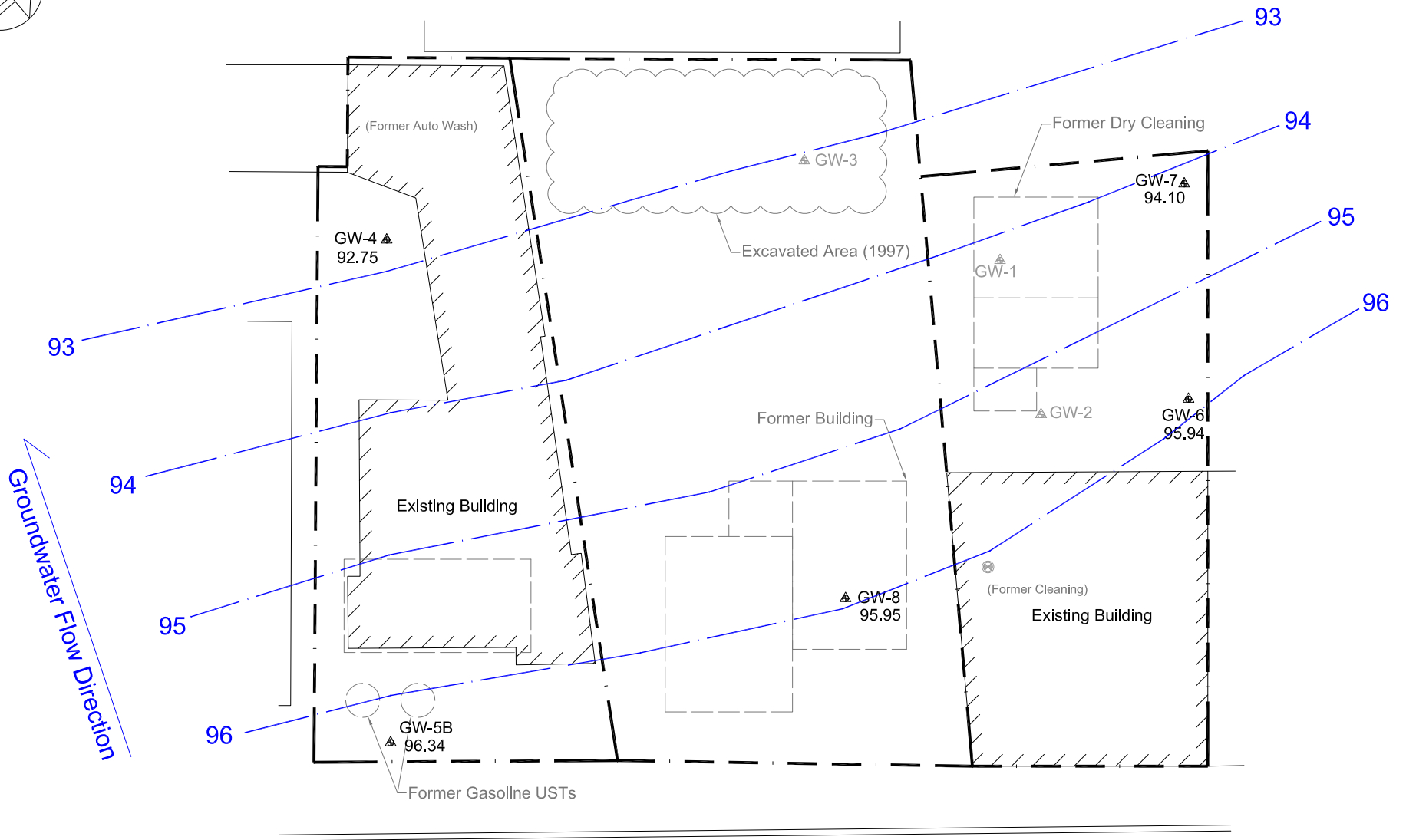
Legend

⊗ Soil Gas Sampling Point

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<b>TITLE:</b> Soil Gas Sampling Results			
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY:	WF	REVISED BY:	
CHECKED BY:	JC	REVISED DATE:	
DATE:	2-23-2017	APPROVED BY:	
SCALE:	1" = 25'	FILE NAME:	
PROJECT No. 2015-188		FIGURE No. 06	

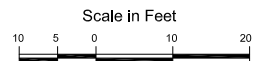




MW ID	Top of Casing (ft)	ROD1 (ft)	ROD2 (ft)	Depth to Water (ft)	GW Elevation (ft)
GW-4	100.00	7.03		7.25	92.75
GW-5B	104.38	2.65	4.38	8.04	96.34
GW-8	104.05	4.71	1.75	8.10	95.95
GW-7	101.64	4.16	4.94	7.54	94.10
GW-6	102.48	4.10		6.54	95.94

- Note:
1. Set arbitrary elevation of 100 feet at top of casing of GW-4
  2. Survey was performed on 2/15/2017 by CE

Huguenot Street



Legend

- ▲ Groundwater Temporary Well
- ▲ Former Groundwater Temporary Well

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TITLE: Groundwater Potentiometric Map			
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY: WF	REVISED BY:	PROJECT No. 2015-188	
CHECKED BY: JC	REVISED DATE:	FIGURE No. 07	
DATE: 2-23-2017	APPROVED BY:		
SCALE: 1" = 25'	FILE NAME:		

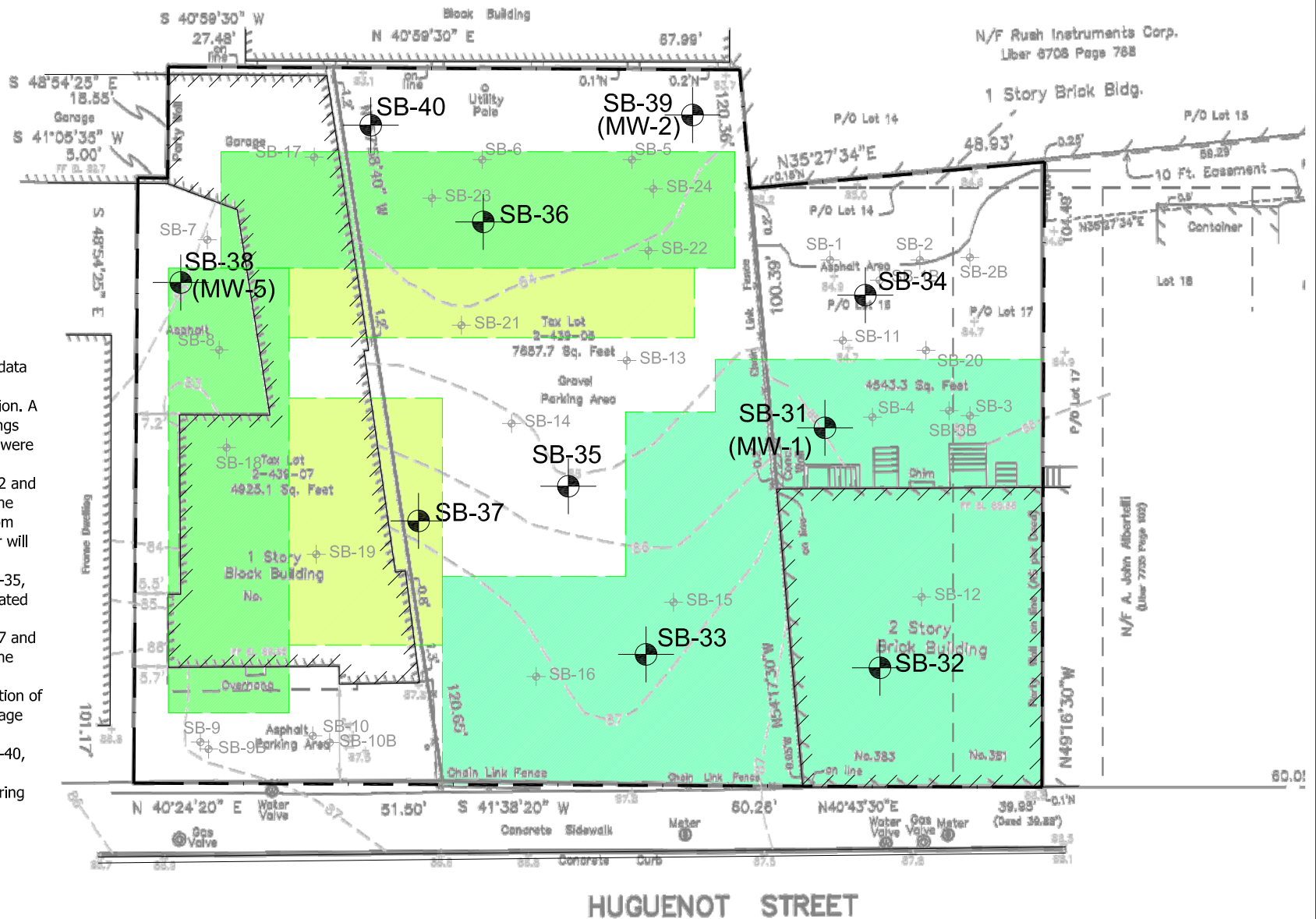




Note:

This RI will utilize the soil sampling data from previous Phase II ESA and the Supplemental Subsurface Investigation. A total of eight (8) additional soil borings (identified as SB-31 through SB-38) were proposed.

- Three (3) borings, SB-31, SB-32 and SB-33, will be installed within the proposed cellar area. The bottom elevation of the proposed cellar will be 77 feet AMSL.
- Two (2) borings, SB-34 and SB-35, will be installed within unexcavated area.
- Three (3) borings, SB-36, SB-37 and SB-38, will be installed within the proposed garage and drainage system area. The bottom elevation of the proposed garage and drainage system will be 80 feet AMSL.
- Two (2) borings, SB-39 and SB-40, will be installed within the unexcavated area with no covering system.






HUGUENOT STREET

Scale in Feet



Legend

-  Proposed Soil Sampling Point for RI
-  Previous Soil Sampling Point
-  Proposed Drainage Structure Area
-  Proposed Parking Garage Area
-  Proposed Cellar Area

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TITLE: Proposed Soil Sampling Plan			
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY: WF	REVISED BY: WF	BCP Site No. C360157	
CHECKED BY: JC	REVISED DATE: 4-15-2016	FIGURE No. 08	
DATE: 11-29-2017	APPROVED BY: JC		
SCALE: 1" = 25'	FILE NAME:		





Columbus Avenue

Columbus Avenue

Groundwater Flow Direction

Pine Street

Huguenot Street

Main Street

Note:

During the previous Phase II ESA and SSI, a total of eight (8) 1-inch temporary groundwater monitoring wells were installed and sampled. However, all previously temporary wells have been properly decommissioned after the SSI. For this RI, eight (8) permanent groundwater monitoring wells will be installed.

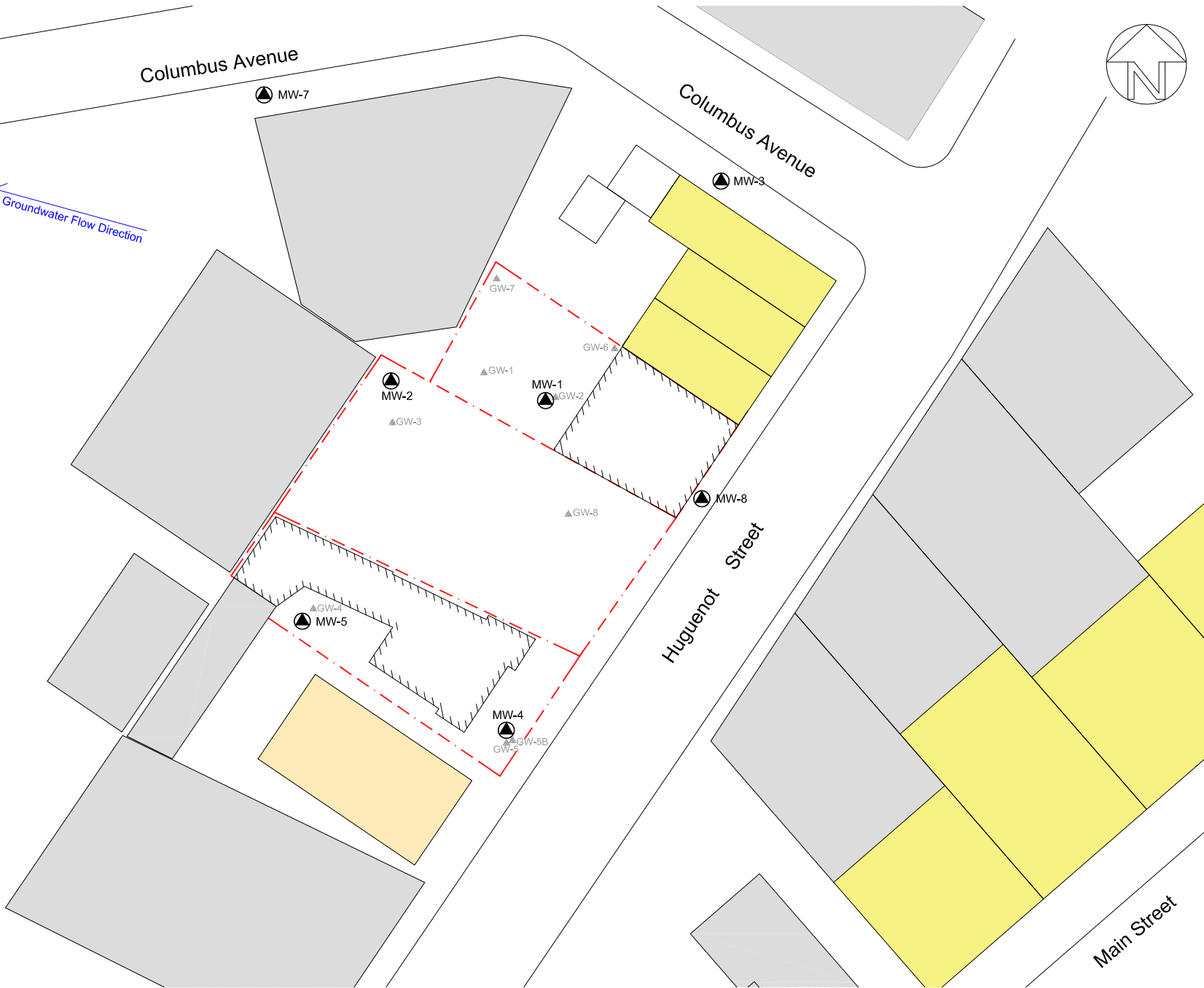
The monitoring wells will be installed using a standard drilling rig employing hollow-stem augers. The wells will be completed as two (2)-inch monitoring wells to be used for measuring water levels and collecting groundwater samples. The monitoring wells are expected to extend approximately 15 feet below the existing ground surface.



Legend

- Proposed Groundwater Monitoring Well
- Former Groundwater Temporary Well

- Site
- Residential
- Mixed Commercial/Residential
- Commercial



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<b>TITLE:</b> Proposed Groundwater Sampling Plan			
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY: WF	REVISED BY: WF	BCP Site No. C360157	
CHECKED BY: JC	REVISED DATE: 4-15-2018	FIGURE No. 9	
DATE: 11-29-2017	APPROVED BY: JC		
SCALE: 1" = 50'	FILE NAME:		





Columbus Avenue

Columbus Avenue

Pine Street

Huguenot Street

Main Street

Note:

A total of seven (7) sub-slab soil vapor samples will be collected. Soil vapor implants will be set at a depth of approximately 2 feet below slab, and at least two feet above the groundwater interface. The vapor implants will be installed with a hand drill.

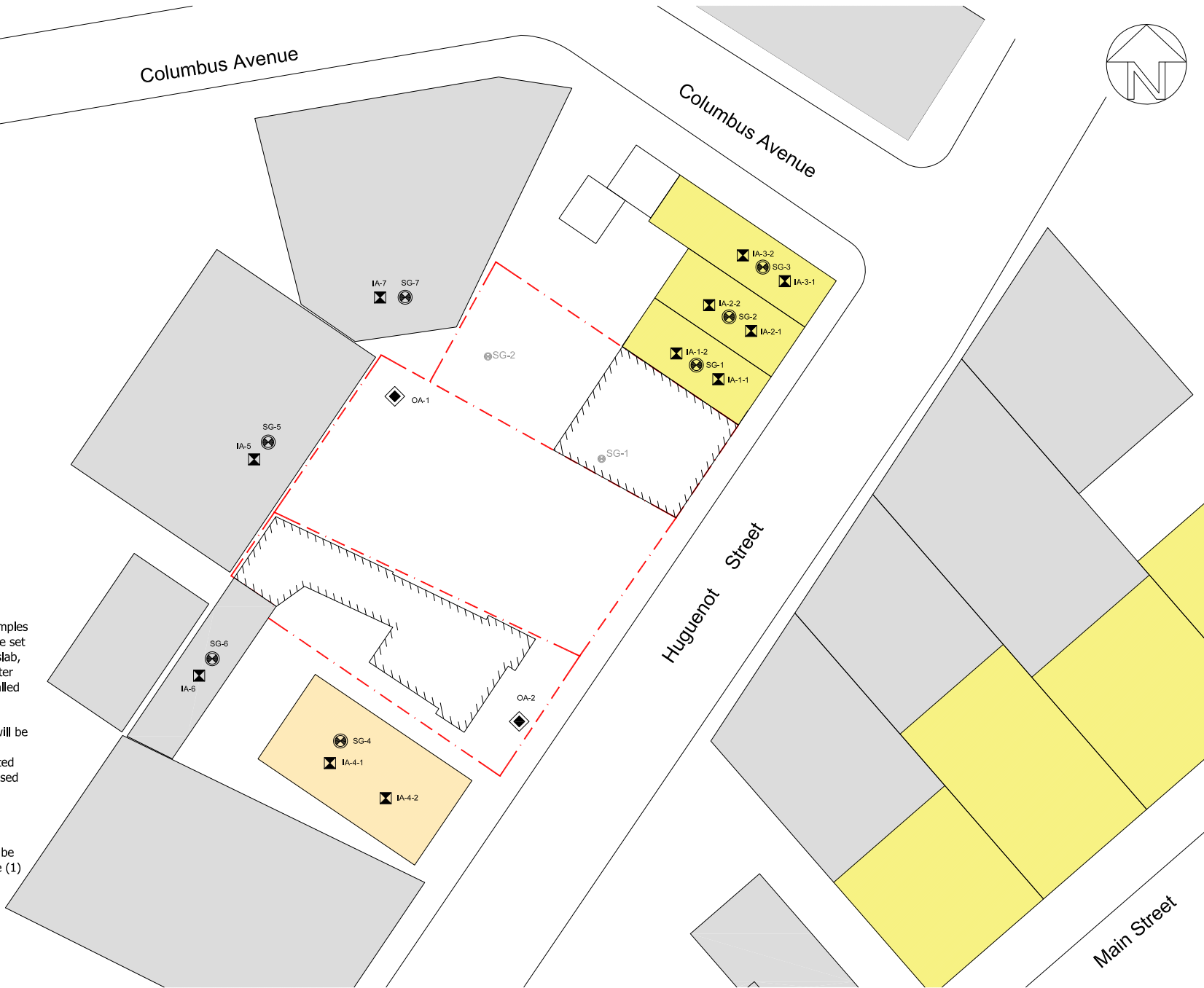
A total of eleven (11) indoor air samples will be collected. Specifically, two (2) indoor air samples (on different floors) will be collected from each adjoining residential or mixed used building. One (1) indoor air sample will be collected from each adjoining commercial building.

A total of two (2) outdoor air samples will be collected. One (1) from up-wind area. One (1) from down-wind area.



Legend

- Proposed Sub-Slab Soil Gas Sampling Location
- Proposed Indoor Air Sampling Location
- Proposed Outdoor Air Sampling Location
- Former Soil Gas Sampling Point
- Site
- Residential
- Mixed Commercial/Residential
- Commercial



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<b>TITLE:</b> Proposed Air Sampling Plan			
381-393 Huguenot Street, New Rochelle, New York			
DRAWN BY:	WF	REVISED BY:	
CHECKED BY:	JC	REVISED DATE:	
DATE:	11-29-2017	APPROVED BY:	
SCALE:	1" = 50'	FILE NAME:	
		BCP Site No.	C360157
		FIGURE No.	10

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## TABLES

**Table 1: Proposed Soil Samples and Analytical Testing Summary**  
The Huguenot Site, New Rochelle, New York  
BCP Site No. C360157

Boring ID	Boring Location	Boring Elevation (Estimated)	Final Excavation Elevation	Sampling Method	Field Analysis	Sample Depth / Elevation
SB-31 (MW-1)	Proposed Cellar	85	EL 77	Direct Push	PID, Visual, Olfactory	0'-2' / EL 83'-85'
						8'-10' / EL 75'-77'
SB-32	Proposed Cellar. Within Existing basement	77	EL 77	Core drill, hand auger	PID, Visual, Olfactory	0'-2' / EL 75'-77'
SB-33	Proposed Cellar	87	EL 77	Direct Push	PID, Visual, Olfactory	0'-2' / EL 85'-87'
						10'-12' / EL-75'-77'
SB-34	Unexcavated Area	85	EL 88	Direct Push	PID, Visual, Olfactory	0'-2' / EL 83'-85'
						Groundwater Interface
SB-35	Unexcavated Area	85	EL 88	Direct Push	PID, Visual, Olfactory	0'-2' / EL 83'-85'
						Groundwater Interface
SB-36	Proposed Garage	84	EL 80	Direct Push	PID, Visual, Olfactory	0'-2' / EL 82'-84'
						4'-6' / EL 78'-80'
SB-37	Proposed Drainage Structure	87	EL 80	Direct Push	PID, Visual, Olfactory	0'-2' / EL 85'-87'
						7'-9' / EL 78'-80'
SB-38 (MW-5)	Proposed Garage	83	EL 80	Direct Push	PID, Visual, Olfactory	0'-2' / EL 81'-83'
						3'-5' / EL 78'-80'
SB-39 (MW-2)	Unexcavated Area (No covering system)	83	EL 86	Direct Push	PID, Visual, Olfactory	0'-2' / EL 81'-83'
						Groundwater Interface
SB-40	Unexcavated Area (No covering system)	83	EL 86	Direct Push	PID, Visual, Olfactory	0'-2' / EL 81'-83'
						Groundwater Interface
MW-3	Groundwater well	N/A	N/A	Direct Push	PID, Visual, Olfactory	Groundwater Interface
MW-4	Groundwater well	N/A	N/A	Direct Push	PID, Visual, Olfactory	Groundwater Interface
MW-6	Groundwater well	N/A	N/A	Direct Push	PID, Visual, Olfactory	Groundwater Interface
MW-7	Groundwater well	N/A	N/A	Direct Push	PID, Visual, Olfactory	Groundwater Interface
MW-8	Groundwater well	N/A	N/A	Direct Push	PID, Visual, Olfactory	Groundwater Interface

QA/QC Samples include:

1 Field Blank, 1 Field Duplicate, and 1 MS/MSD

All samples will be analyzed for

- TCL VOCs + TICs by EPA Method 8260B;
- TCL SVOCs + TICs by EPA Method 8270;
- TCL Pesticides/PCBs by EPA Methods 8081A/8082;
- TAL Metals + Total Cyanide by EPA Methods 6010 and 9012; and
- Total Mercury by EPA Method 7471A.

**Table 2:** Proposed Groundwater Samples and Analytical Testing Summary  
The Huguenot Site, New Rochelle, New York  
BCP Site No. C360157

Well ID	Well Location	Installation Method	Sampling Method	Field Analysis
MW-1	Source area (fuel oil)	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-2	Down-gradient to MW-1	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-3	Cross-gradient (off-site)	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-4	Former Gasoline USTs	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-5	Cross-gradient (on-site)	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-6	Down-gradient (off-site)	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-7	Down-gradient (off-site)	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity
MW-8	Up-gradient	Hollow Stem Auger	Low Flow	PID, Temp, DO, pH, Turbidity, Conductivity

Note:

QA/QC Samples include:

1 Field Blank, 1 Field Duplicate, and 1 MS/MSD

All samples will be analyzed for

- TCL VOCs + TICs by EPA Method 8260B
- TCL SVOCs + TICs by EPA Method 8270
- 1,4-Dioxane by EPA Method 8270 SIM (reporting limit <0.28 µg/L)
- TCL Pesticides/PCBs by EPA Methods 8081A/8082
- TAL Metals (incl. Mercury) + Total Cyanide by EPA Methods 6010 and 9012
- TCL PFAS (per- and polyfluoroalkyl substances) by EPA Method 537 (reporting limit <2 ng/L)

**Table 3: Proposed Air Samples and Analytical Testing Summary**  
The Huguenot Site, New Rochelle, New York  
BCP Site No. C360157

Sample ID	Sampling Location	Sampling Method	Field Analysis
SG-1	Northern adjacent mixed use building, beneath basement slab	Summa canister with 24-hr regulator	PID, helium test
IA-1-1	Northern adjacent mixed use building (basement)	Summa canister with 24-hr regulator	PID
IA-1-2	Northern adjacent mixed use building (1st floor)	Summa canister with 24-hr regulator	PID
SG-2	Northern adjacent mixed use building, beneath basement slab	Summa canister with 24-hr regulator	PID, helium test
IA-2-1	Northern adjacent mixed use building (basement)	Summa canister with 24-hr regulator	PID
IA-2-2	Northern adjacent mixed use building (1st floor)	Summa canister with 24-hr regulator	PID
SG-3	Northern adjacent mixed use building, beneath basement slab	Summa canister with 24-hr regulator	PID, helium test
IA-3-1	Northern adjacent mixed use building (basement)	Summa canister with 24-hr regulator	PID
IA-3-2	Northern adjacent mixed use building (1st floor)	Summa canister with 24-hr regulator	PID
SG-4	Southern adjacent residential building, beneath basement slab	Summa canister with 24-hr regulator	PID, helium test
IA-4-1	Southern adjacent residential building (basement)	Summa canister with 24-hr regulator	PID
IA-4-2	Southern adjacent residential building (1st floor)	Summa canister with 24-hr regulator	PID
SG-5	Western adjacent commercial building, beneath slab	Summa canister with 8-hr regulator	PID, helium test
IA-5	Western adjacent commercial building (1st floor)	Summa canister with 8-hr regulator	PID
SG-6	Western adjacent commercial building, beneath slab	Summa canister with 8-hr regulator	PID, helium test
IA-6	Western adjacent commercial building (1st floor)	Summa canister with 8-hr regulator	PID
SG-7	Western adjacent commercial building, beneath slab	Summa canister with 8-hr regulator	PID, helium test
IA-7	Western adjacent commercial building (1st floor)	Summa canister with 8-hr regulator	PID
OA-1	Outdoor air, western portion of the Site	Summa canister with 24-hr regulator	PID
OA-2	Outdoor air, southern portion of the Site	Summa canister with 24-hr regulator	PID

Note:

All samples will be analyzed for

- VOCs by EPA Method TO-15
- Additional helium test for soil gas samples.

## **APPENDIX A**

Proposed Building Plan



393 HUGUENOT STREET

**PROJECT:**  
**393 HUGUENOT STREET**

MULTI-FAMILY RESIDENTIAL

**ADDRESS:**  
 393 Huguenot Street  
 New Rochelle, NY 10801

**OWNER:**  
 381-383 Huguenot LLC  
 20 Amelia Earhart Lane  
 Rye, NY 10580



**DOBAN ARCHITECTURE**  
**SUSAN DOBAN ARCHITECT, PC**  
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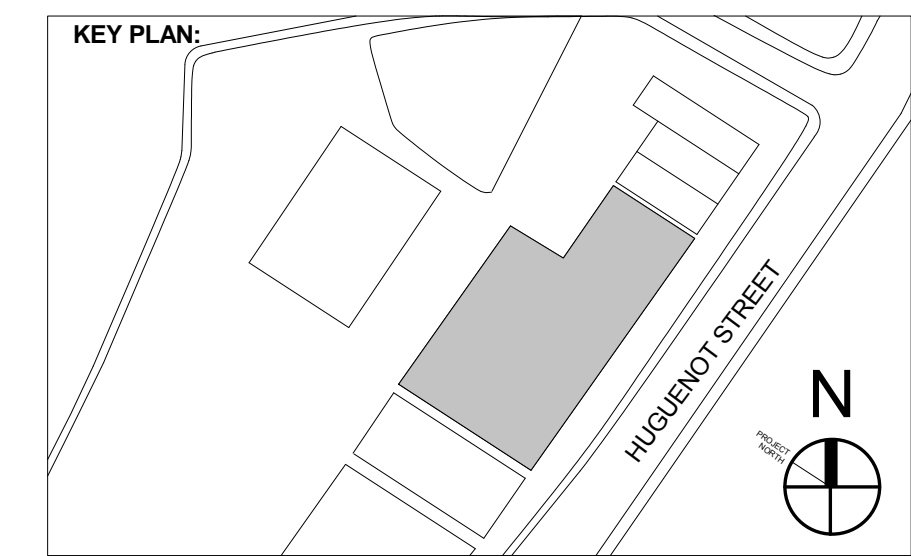
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REV	DATE	NOTES
6	7/7/2017	STATE MODULAR FILING
5	6/23/2017	PRICING SET
4	10/07/2016	SCOPE BUDGET SET
3	7/08/2016	SITEPLAN SUBMISSION 2
2	6/30/2016	SITE PLAN SUBMISSION REVISION
1	6/06/2016	SITE PLAN SUBMISSION



<b>Project Architect/Engineer:</b>	Susan Doban, RA
<b>Drawn By:</b>	Spencer Alexander
<b>Project No:</b>	201607
<b>Scale:</b>	AS NOTED
	Date: 7/7/2016

Drawing Title:  
**COVER PAGE**

	Drawing No: <b>T-000.00</b>
--	--------------------------------

# 393 HUGUENOT STREET

MULTI-FAMILY RESIDENTIAL

ADDRESS:

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OWNER:

381-383 Huguenot LLC  
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Rye, NY 10580



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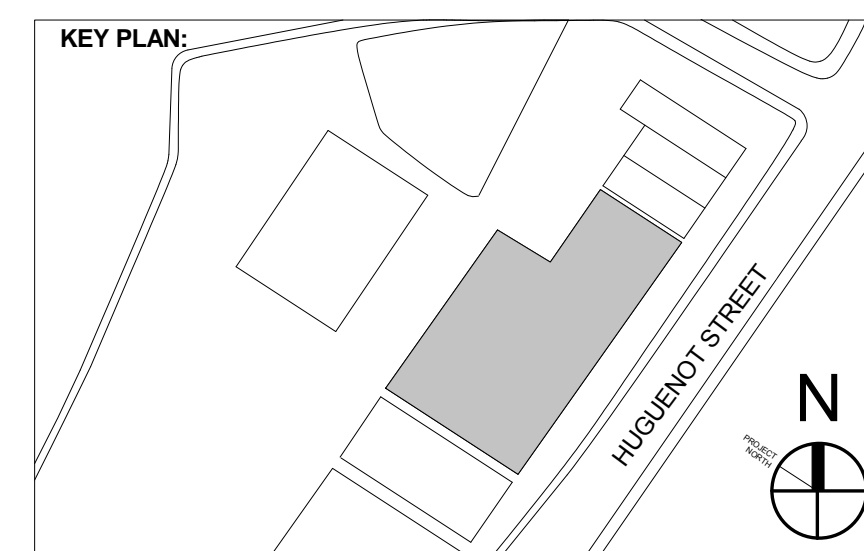
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REV	DATE	NOTES
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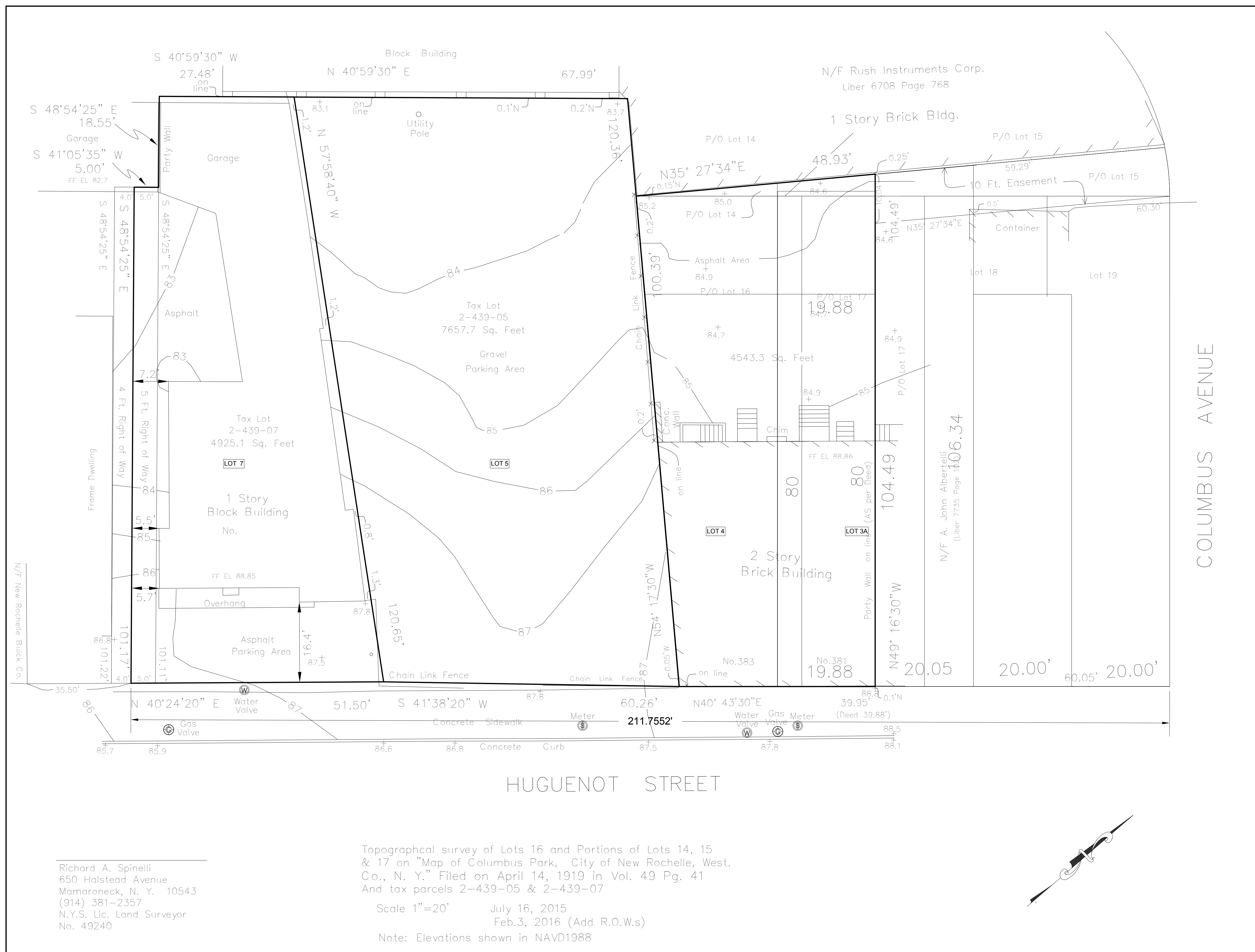


Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No.:	201607
Scale:	1" = 10'-0"
Date:	7/7/2016

Drawing Title:  
**SITE SURVEY**

Drawing No.:

**A-010.00**



PROJECT:

# 393 HUGUENOT STREET

MULTI-FAMILY RESIDENTIAL

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New Rochelle, NY 10801

OWNER:

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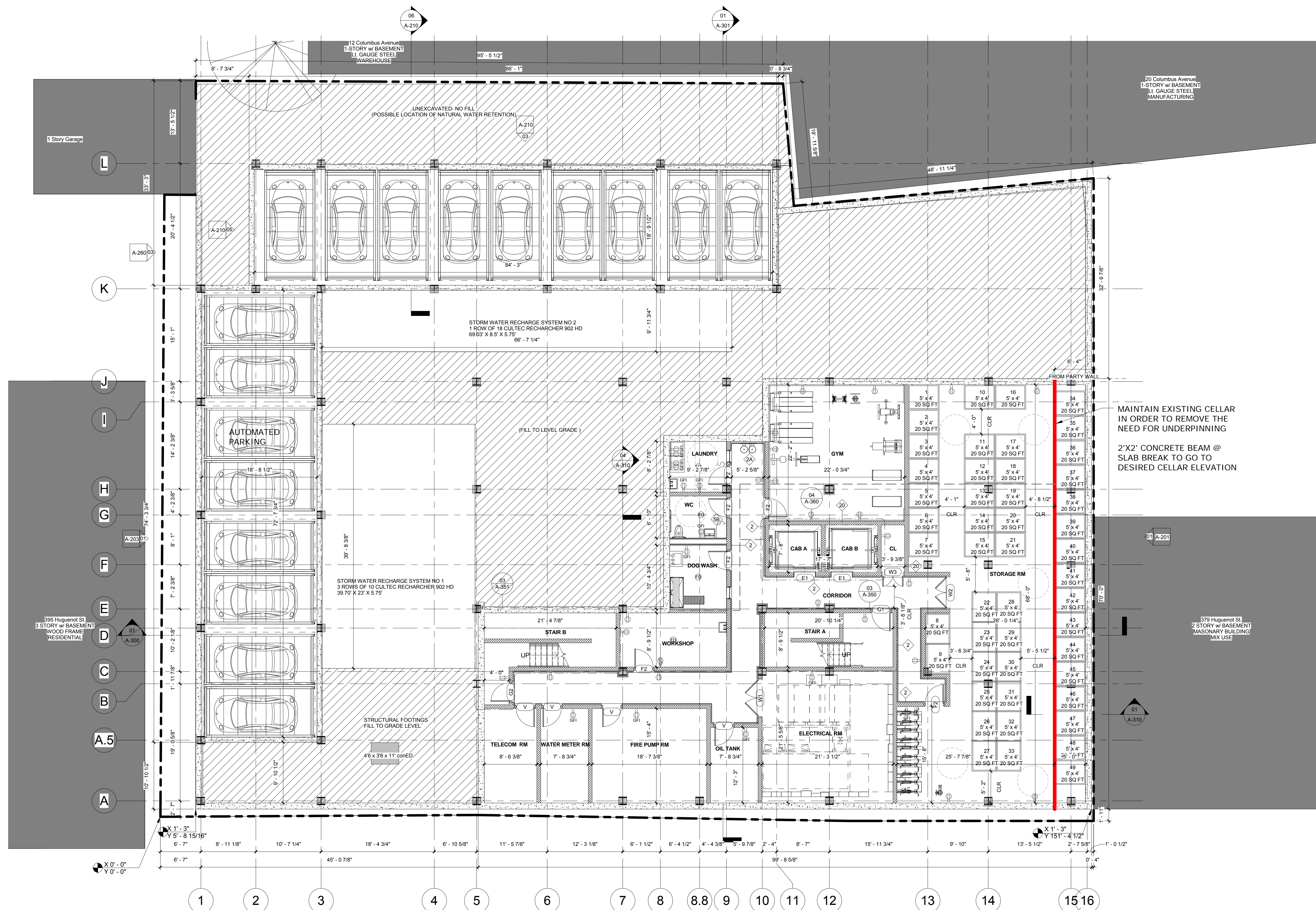
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MODULAR BUILDER:

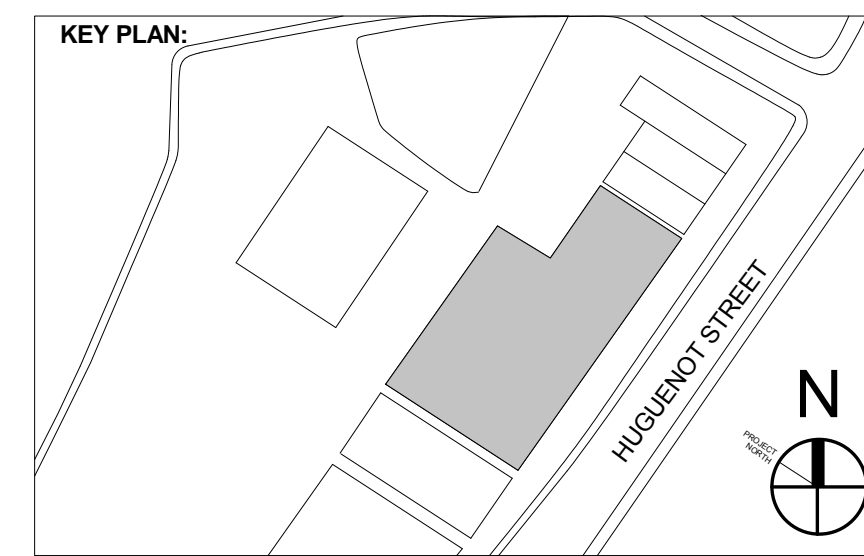
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REV	DATE	NOTES
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4	10/07/2016	SCOPE BUDGET SET
3	7/08/2016	SITE PLAN SUBMISSION 2
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1	6/06/2016	SITE PLAN SUBMISSION



Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No:	201607
Scale:	1/8" = 1'-0"
Date:	7/7/2016

Drawing Title:  
**CELLAR**

Drawing No:  
**A-100.00**

CELLAR 01  
1/8" = 1'-0"



PROJECT:

# 393 HUGUENOT STREET

MULTI-FAMILY RESIDENTIAL

ADDRESS:

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New Rochelle, NY 10801

OWNER:

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7 Skyline Drive, Hawthorne, NY 10532  
Tel: (914) 592-4040 Fax: (914) 592-5046  
www.pdesuits.com

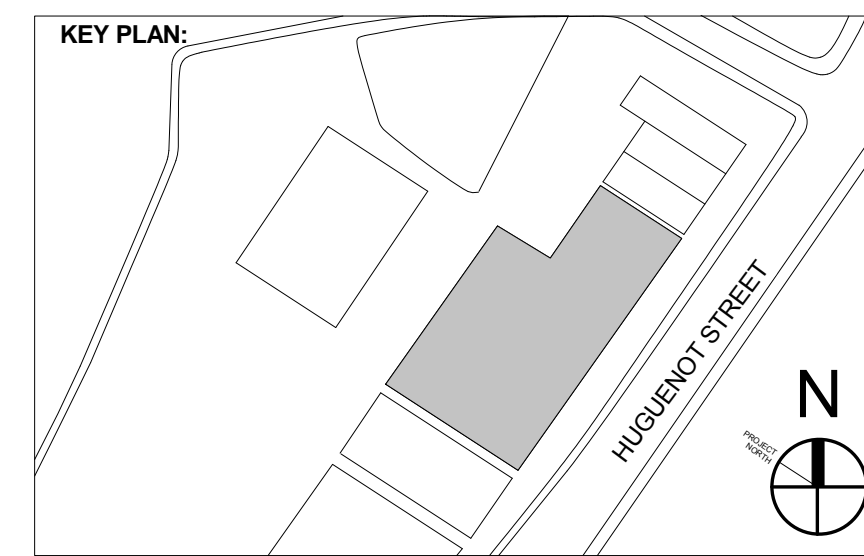
STRUCTURAL:  
**KEYSTONE STRUCTURAL GROUP, LLC**  
711 Davis Street, Scranton, PA 18505  
Phone: (570) 569-2199 Fax: (570) 569-2198  
www.KSEngineers.com

MODULAR BUILDER:  
**SIGNATURE BUILDING SYSTEMS OF PA, LLC**  
1004 Springbrook Ave. Moosic, PA 18507  
Phone: 800-231-8713  
www.sbsmod.com

ENVIRONMENTAL:  
**CIDER ENVIRONMENTAL**  
6268 Jericho Turnpike, Suite 12, Commack, NY 11725  
Phone: (631) 616-4000 Fax: (631) 980-7972  
www.ciderenvironmental.com

1. RETAIN WALL AT BACK OF THE LTO TO ALIGN WITH CORNER OR PROPERTY--> THIS ALLOWS FOR LESS SOE AND LESS FILL
2. HARDING STEEL CAR MATRIX SYSTEM ALLOWS FOR 55-56 SPACES BEANETH THE BUILDING

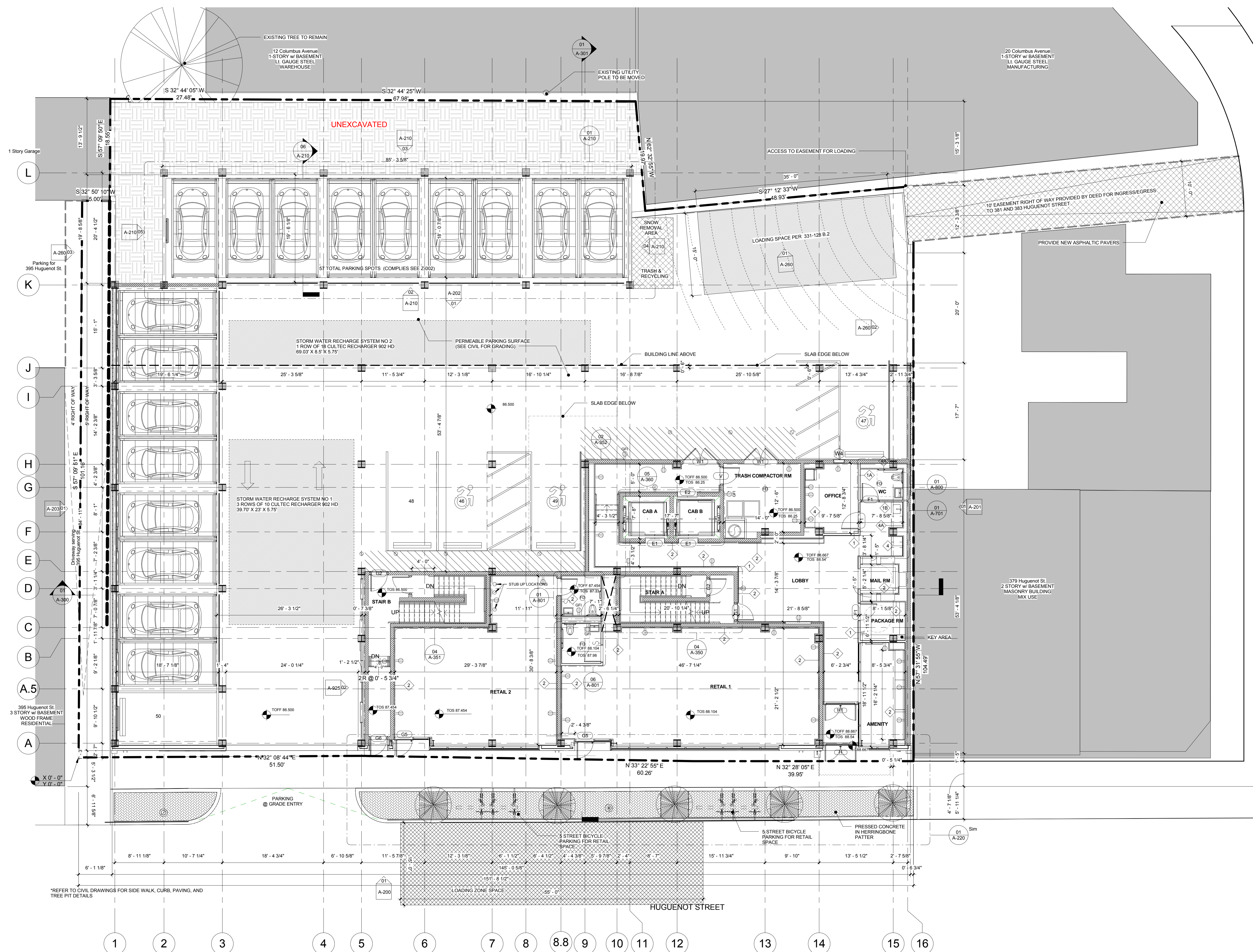
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2	6/30/2016	SITE PLAN SUBMISSION REVISION
1	6/06/2016	SITE PLAN SUBMISSION



Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No:	201607
Scale:	1/8" = 1'-0"
Date:	7/7/2016

Drawing Title:  
**1ST FLOOR**

Drawing No:  
**A-101.00**



1ST FLOOR 01  
1/8" = 1'-0"

PROJECT:

# 393 HUGUENOT STREET

MULTI-FAMILY RESIDENTIAL

ADDRESS:

393 Huguenot Street  
New Rochelle, NY 10801

OWNER:

381-383 Huguenot LLC  
20 Amelia Earhart Lane  
Rye, NY 10580



**DOBAN ARCHITECTURE**  
SUSAN DOBAN ARCHITECT, PC  
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## LIGHT & AIR CALCS - TYPICAL FLOOR (PER IBC 2015 SEC. 1203 - 1205)

NAME	AREA	4% VENTILATION REQUIRED	VENTILATION PROVIDED	8% LIGHT REQUIRED	LIGHT PROVIDED
<b>2A</b>					
STUDIO	273 SF	11 SF	19 SF	22 SF	29 SF
<b>2B</b>					
LIVING / DINING	206 SF	8 SF	19 SF	17 SF	29 SF
MASTER BR.	127 SF	5 SF	19 SF	10 SF	29 SF
<b>2C</b>					
LIVING / DINING	234 SF	9 SF	19 SF	19 SF	19 SF
MASTER BR.	124 SF	5 SF	19 SF	10 SF	29 SF
<b>2D</b>					
STUDIO	247 SF	10 SF	19 SF	20 SF	29 SF
<b>2E</b>					
BEDROOM	96 SF	4 SF	19 SF	8 SF	19 SF
LIVING / DINING	358 SF	14 SF	19 SF	29 SF	29 SF
MASTER BR.	100 SF	4 SF	19 SF	8 SF	29 SF
<b>2F</b>					
LIVING / DINING	345 SF	14 SF	19 SF	28 SF	29 SF
MASTER BR.	132 SF	5 SF	19 SF	11 SF	19 SF
<b>2G</b>					
LIVING / DINING	344 SF	14 SF	38 SF	28 SF	33 SF
MASTER BR.	131 SF	5 SF	19 SF	10 SF	19 SF
<b>2H</b>					
STUDIO	227 SF	9 SF	19 SF	18 SF	29 SF
<b>2J</b>					
STUDIO	246 SF	10 SF	19 SF	20 SF	29 SF
<b>2K</b>					
LIVING / DINING	349 SF	14 SF	19 SF	28 SF	29 SF
MASTER BR.	132 SF	5 SF	19 SF	11 SF	19 SF
<b>2L</b>					
LIVING / DINING	237 SF	9 SF	19 SF	19 SF	19 SF
MASTER BR.	143 SF	6 SF	19 SF	11 SF	29 SF
<b>2M</b>					
LIVING / DINING	252 SF	10 SF	19 SF	20 SF	29 SF
MASTER BR.	146 SF	6 SF	19 SF	12 SF	29 SF
<b>2N</b>					
STUDIO	278 SF	11 SF	19 SF	22 SF	29 SF

### 2ND - 5TH FLOOR UNITS

13 UNITS PER FLOOR

UNIT BREAK DOWN:

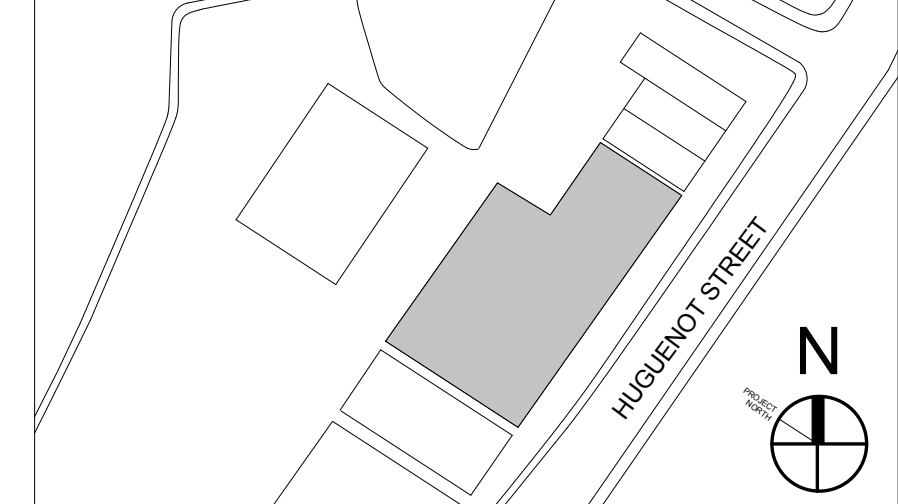
UNIT TYPE	AMOUNT
0BR	5
1BR	5
1BR +	2
2BR	1

TOTAL FLOOR AREA PER FLOOR 10,185 SF

ALL UNITS ARE TYPE B UNITS  
TYPE A UNITS 2K AND 4C

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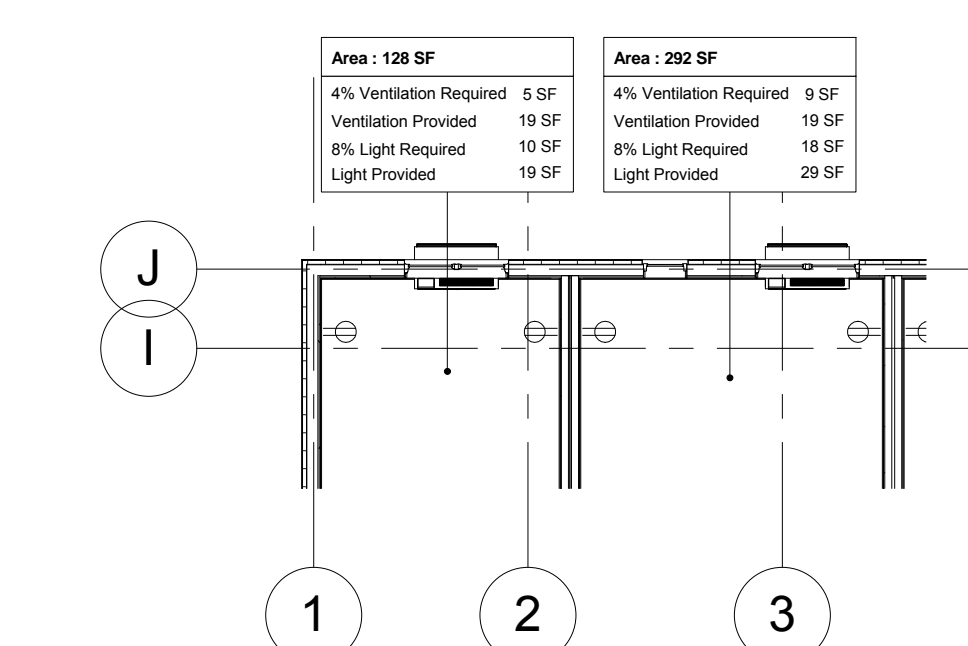
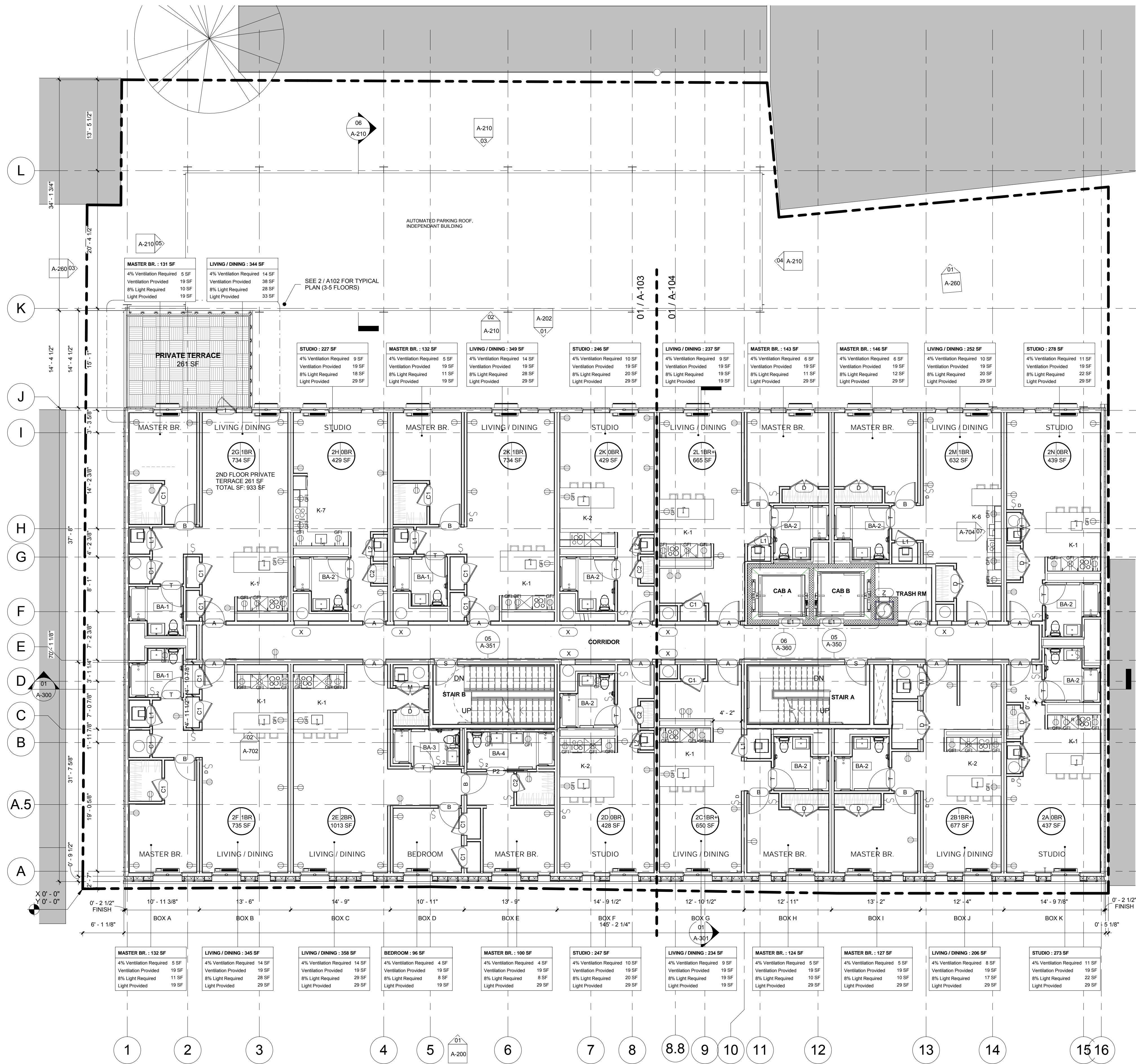
### KEY PLAN:



Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No:	201607
Scale:	As indicated
Date:	7/7/2016

Drawing Title:  
**TYPICAL FLOOR**

Drawing No:  
**A-102.00**



3RD - 5TH FLOOR PARTIAL PLAN  
1/8" = 1'-0" **02**

TYPICAL FLOOR **01**  
1/8" = 1'-0"

PROJECT:

# 393 HUGUENOT STREET

MULTI-FAMILY RESIDENTIAL

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New Rochelle, NY 10801

OWNER:

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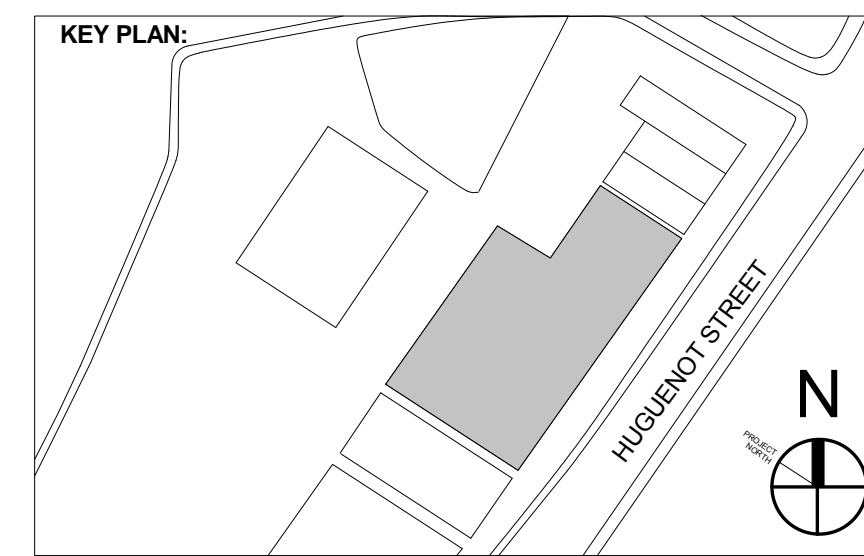
STRUCTURAL:  
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Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No:	201607
Scale:	1/8" = 1'-0"
Date:	7/7/2016

Drawing Title:  
**ROOF PLAN**

Drawing No:  
**A-109.00**

ROOF 01  
1/8" = 1'-0"

PROJECT:

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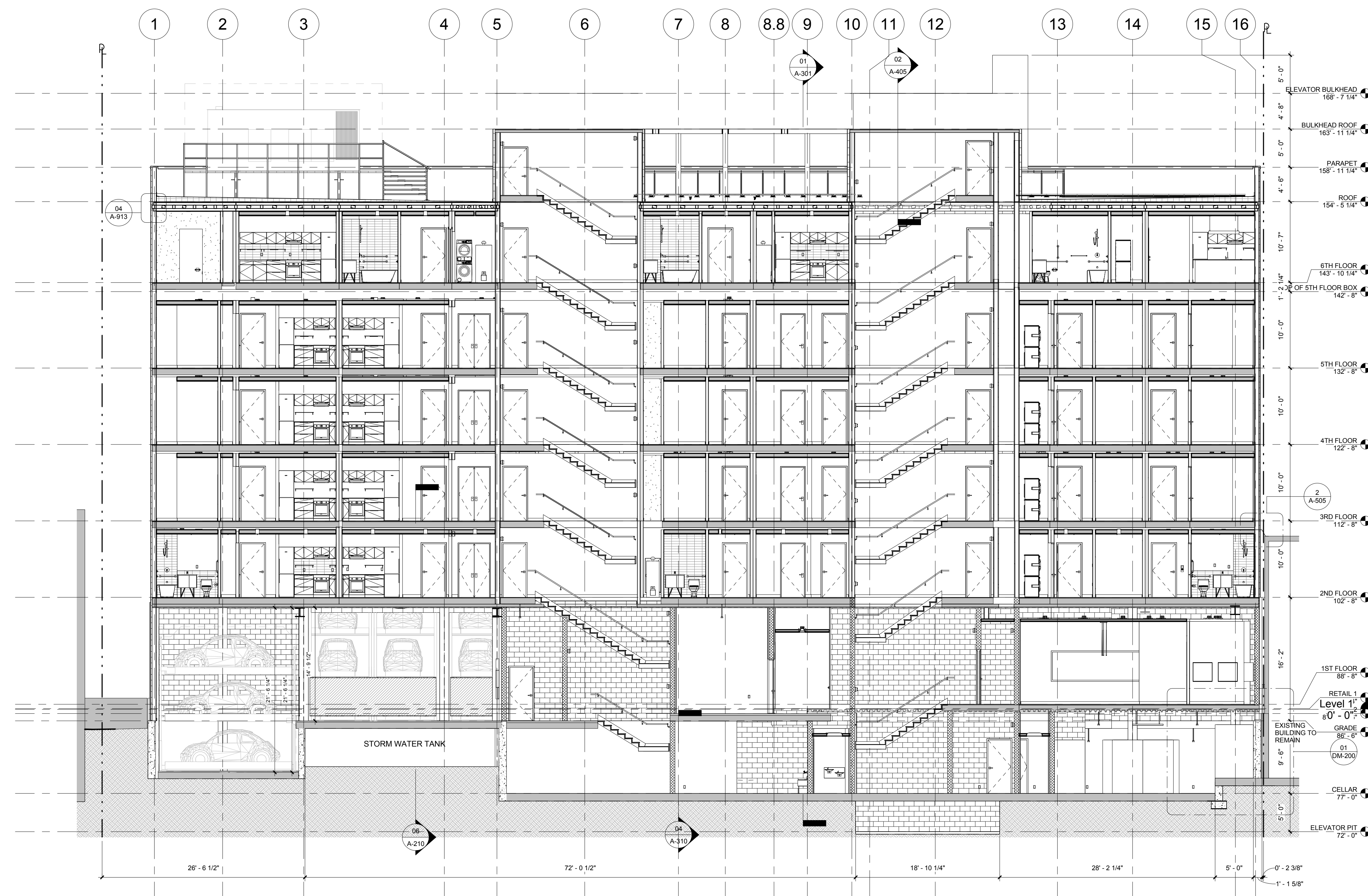
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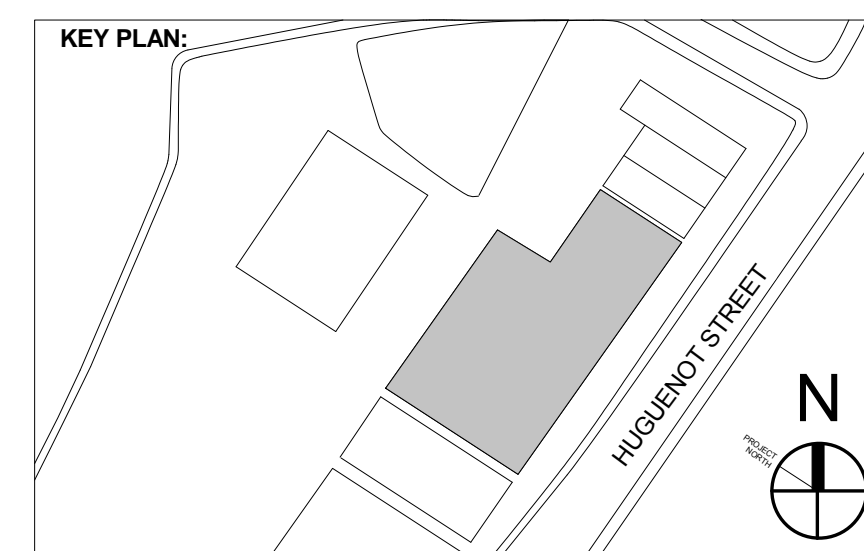
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Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No.:	201607
Scale:	1/8" = 1'-0"
Date:	7/7/2016

Drawing Title:  
**BUILDING SECTION**

Drawing No.:

**A-300.00**

BUILDING SECTION EAST WEST 01  
1/8" = 1'-0"

PROJECT:

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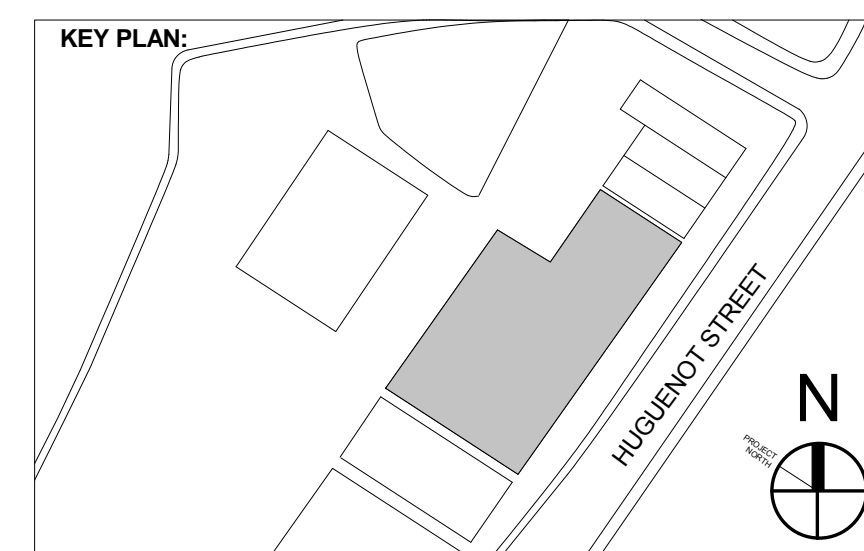
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REV	DATE	NOTES
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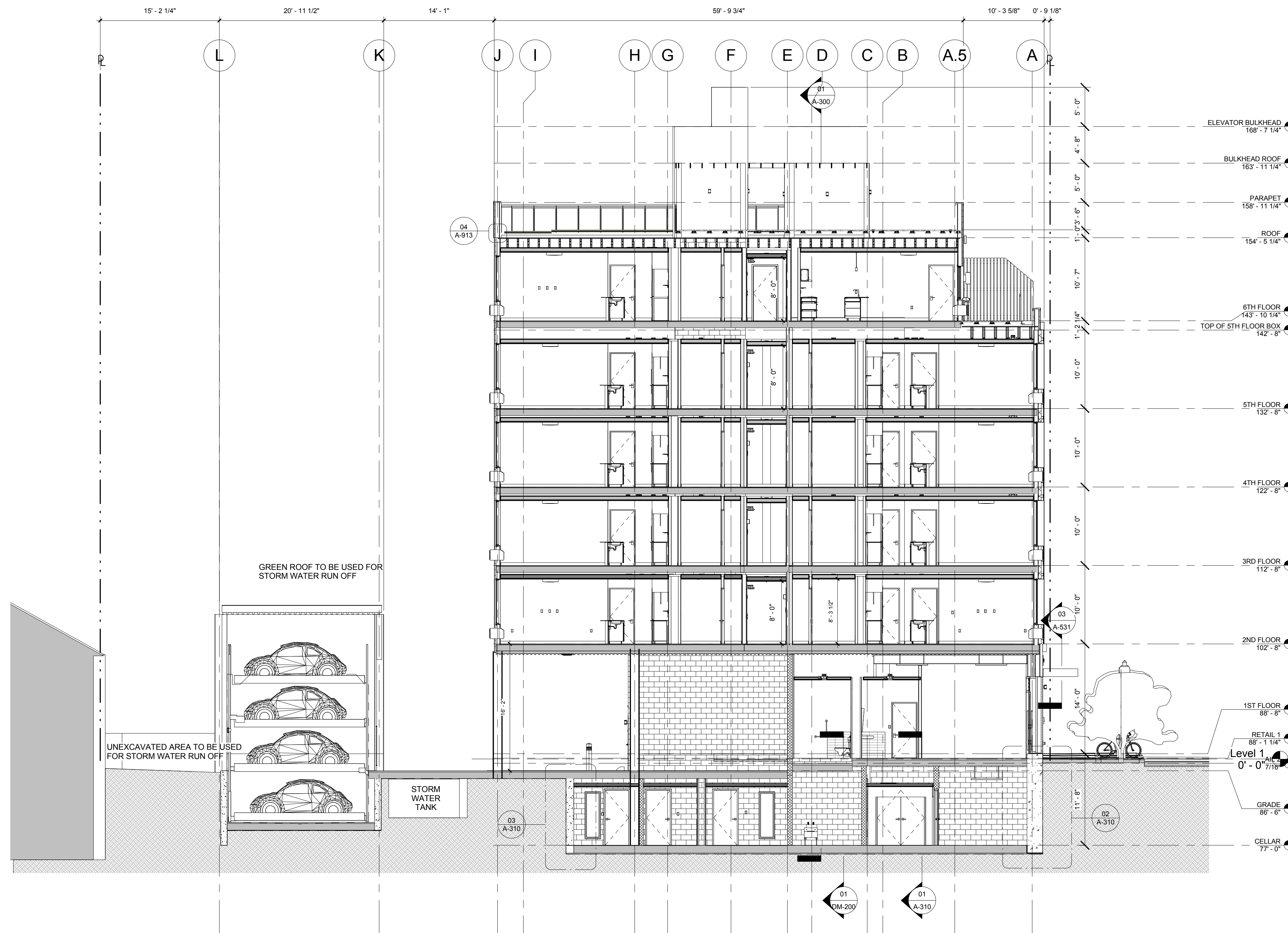
Project Architect/Engineer:	Susan Doban, RA
Drawn By:	Spencer Alexander
Project No:	201607
Scale:	1/8" = 1'-0"
Date:	7/7/2016

Drawing Title:  
**BUILDING SECTION**

Drawing No:



**A-301.00**



BUILDING SECTION NORTH SOUTH  
1/8" = 1'-0" **01**

## **APPENDIX B**

### Health and Safety Plan

# Health and Safety Plan

---

December 2, 2017

**Subject Property:**

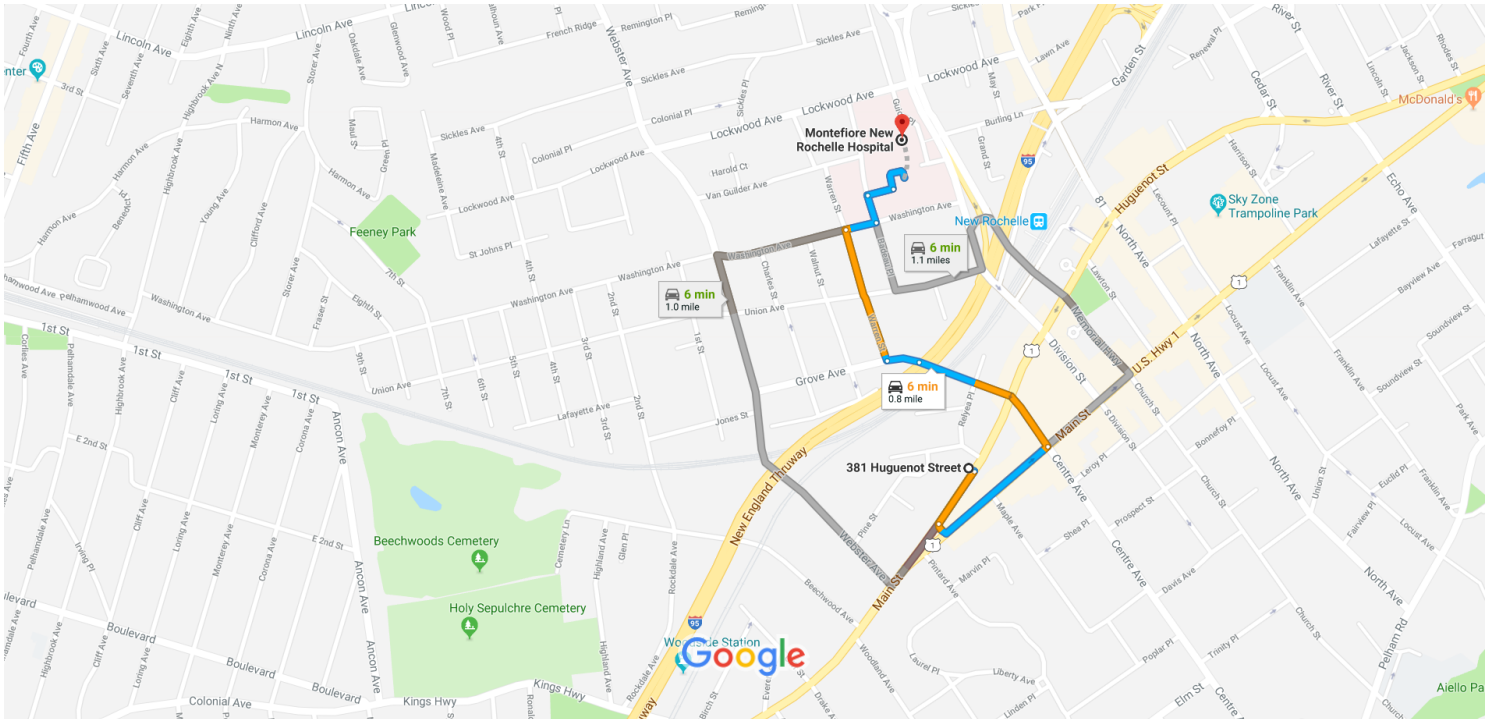
The Huguenot Site  
BCP Site No. C360157  
381-393 Huguenot Street  
New Rochelle, NY  
Westchester County Tax Map Designation: Section 2; Block 239; Lot 3, 4, 5 & 7  
NYSDEC BCP Site No. C360157

**Prepared for:**

381-383 Huguenot LLC  
  
New York State Department of Environmental Conservation



**Montefiore New Rochelle Hospital**  
**16 Guion Place**  
**New Rochelle, NY**  
**Tel: (914) 632-5000**



Map data ©2017 Google 500 ft

**381 Huguenot St**  
New Rochelle, NY 10801

**Take Main St and Centre Ave to Warren St**

- ↑ 1. Head southwest on Huguenot St 3 min (0.5 mi)

---

- ↶ 2. Sharp left onto Main St 427 ft

---

- ↶ 3. Turn left onto Centre Ave 0.2 mi

---

- ↑ 4. Continue onto Grove Ave 0.2 mi

---

- ↑ 5. Continue onto Warren St 220 ft

**Continue on Warren St to your destination**

- ↷ 5. Turn right onto Warren St 2 min (0.3 mi)

---

- ↷ 6. Turn right onto Guion Place 0.2 mi



- 6. Turn right at the 2nd cross street onto Washington Ave 213 ft

---

- ↶ 7. Turn left onto Glover Johnson Pl 194 ft

---

- 8. Turn right 177 ft

---

- ↶ 9. Turn left 230 ft
  - i Destination will be on the left

## Montefiore New Rochelle Hospital

16 Guion Pl, New Rochelle, NY 10802

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.

## HEALTH AND SAFETY PLAN

**Client:** 318-383 Huguenot LLC  
**Project:** Remedial Investigation Work Plan  
**Activities:** Soil, groundwater and air sampling  
**Location:** The Huguenot Site, New Rochelle, New York  
**Chemical Hazards:** Volatile Organic Compounds, Semi-Volatile Organic Compounds, Metals, Pesticides, Polychlorinated Biphenyls  
**Prepared By:** Cider Environmental

**Date:** December 2, 2017

### Client Contact

<u>Title</u>	<u>Name</u>	<u>Telephone</u>
Client Representative	Frank Chechile	(614) 787-2733

### Cider Key Personnel

<u>Title</u>	<u>Name</u>	<u>Telephone</u>
Project Manager:	James Cressy	(631) 365-6118
Site Health & Safety Officer:	Shuangtao Zhang	(631) 456-6336

CIDERN ENVIRONMENTAL DO NOT GUARANTEE THE HEALTH OR SAFETY OF ANY PERSON ENTERING THIS SITE. DUE TO THE NATURE OF THIS SITE AND THE ACTIVITY OCCURRING THEREON, IT IS NOT POSSIBLE TO DISCOVER, EVALUATE, AND PROVIDE PROTECTION FOR ALL POSSIBLE HAZARDS WHICH MAY BE ENCOUNTERED. STRICT ADHERENCE TO THE HEALTH AND SAFETY GUIDELINES SET FORTH HEREIN WILL REDUCE, BUT NOT ELIMINATE, THE POTENTIAL FOR INJURY AT THIS SITE. THE HEALTH AND SAFETY GUIDELINES IN THIS PLAN WERE PREPARED SPECIFICALLY FOR THIS SITE AND SHOULD NOT BE USED ON ANY OTHER SITE WITHOUT PRIOR RESEARCH AND EVALUATION BY A TRAINED HEALTH AND SAFETY SPECIALIST.

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APPENDIX B	OSHA Form 200-Occupational Injuries & Illnesses
APPENDIX C	Air Monitoring and Instrument Calibration Sheet
APPENDIX D	Safety Data Sheet

## 1 Introduction

### 1.1 Purpose

This Health and Safety Plan (HASP) has been developed to comply with the regulations under Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1025. It addresses foreseeable activities associated with the site work activities to be conducted at The Huguenot Site, BCP Site No. C360157, 381-393 Huguenot Street, New Rochelle, New York (herein referred to as the "Site" or "Subject Property". See **Figure 1** for site location).

This HASP establishes personnel protection standards and mandatory safety practices and procedures. Additionally, it assigns responsibilities, establishes standard operating procedures, and provides for contingencies that may arise while operations are being conducted at known or suspected hazardous waste sites.

Cider Environmental (CE) personnel involved with any intrusive investigation which involve the displacement of soil and/or material or groundwater in the identified Area of Concern (AOC) shall comply with the requirements of this HASP. All personnel engaged in onsite activities will read this document carefully and complete the Field Personal Review (**Section 11**). Contractors and subcontractors work in identified AOC will provide their own HASP (equal or more stringent than the CE HASP) and are solely responsible for their own workers Health and Safety and providing a safe working environment in accordance with all applicable federal, state and local requirements. Each Subcontractor will have a designated Site Health and Safety Coordinator who will be responsible for ensuring that the designated procedures are implemented in the field. The level of protection and the procedures specified in this HASP represent the minimum health and safety requirements to be observed by site personnel. Should an employee find himself or herself in a potentially hazardous situation, the employee will immediately discontinue the hazardous procedures(s) and either personally effect appropriate preventative or corrective measures, or immediately notify the Project Manager of the nature of the hazard. In the event of an immediately dangerous or life threatening situation, the employee always has "stop work" authority.

### 1.2 Site Conditions

The Site is located at 381-393 Huguenot Street, in an urban area in New Rochelle, New York. The Site is bound to the north by a vacant store (first floor) with residential above; to the south by a three-story residential apartment building and a one-story residential building; to the east by Huguenot Street and beyond by a Gulf labeled gasoline filling station; and to the west by an office building/warehouse.

The Subject Property consists of four (4) irregular shaped parcels totaling approximately 0.39 acres. The property currently maintains two structures. Lot 7 currently maintains an irregular shaped one-story building (with partial basement), with an approximate footprint of 3,400-square feet. This building is currently utilized for office and storage space associated with a U-Haul business, a real-estate firm, and a janitorial supply business. Lot 5 is currently vacant, utilized for vehicle parking. The first floor of the building maintained on Lots 3A and 4 house a church ministry, with the second floors occupied by one residential unit in each. The basement on Lot 4 is occupied by a hydraulic repair business.

The Site is currently utilized for mixed commercial and residential uses. The surrounding parcels are currently utilized for mixed commercial and residential uses. The Site is located within the City of New Rochelle's recently designated Downtown Overlay Zone (DOZ). The DOZ is part of a new zoning plan adopted in 2015 to re-establish the downtown as a center of vibrancy within a mixed-use, transit oriented setting. The characteristics of the Site allow a building of up to six stories, with the provision by the developer of a community benefit.

### 1.3 Site History

The northern portion of the Site (Lots 3A and 4 at 381 and 383 Huguenot Street) has been utilized for dry cleaning services circa 1931, and for manufacturing since the 1970s to 2010s. The central portion of the Site (385 & 387 Huguenot) has maintained a residential dwelling circa 1931, and as truck and trailer parking since 1990s. The southern portion of the Site (Lots 5 and 7 at 391 and 393 Huguenot) has maintained a gasoline filling station from 1930s to 1950s, car wash in 1931, and as warehouse from 1970s to 2010s.

### 1.4 Summary of Previous Investigation

The Subject Property (381 Huguenot Street, under the name of Rush Manufacturing) has an open NYSDEC Spill case (9604099). This spill was reported on June 6, 1996 due to soil and groundwater contamination encountered during a site investigation.

In March 2016, CE performed a Phase II ESA at the Subject Property. The Phase II ESA collected subsurface soil/groundwater/soil gas samples to evaluate the potential environmental impacts. The soil samples showed several target VOC/SVOCs at levels above the Unrestricted Use Soil Cleanup Objectives. Elevated PID readings and strong petroleum odors were noted during soil sampling. Strong odor representing degraded petroleum product was noted, exceeding the nuisance criteria of CP-51. The laboratory analysis performed on the soil gas samples detected several gasoline related compounds and chlorinated solvents, including PCE and its daughter products TCE, cis-1,2-DCE and VC. The groundwater samples showed evidence of impact from petroleum products of chlorinated solvent. The maximum fuel

oil related SVOCs in groundwater was 13,000 ug/L (GW-2). The maximum gasoline related VOCs in groundwater was 2,020 ug/L (GW-1). TCE was detected in one of the monitoring wells (GW-4) at 6.5 ug/L.

In February 2017, CE performed a Supplemental Subsurface Investigation (SSI) at the Subject Property. The SSI collected samples of the urban fill materials and analyzed for metals and PCBs. The SSI also determined the groundwater flow direction and delineate the extent of groundwater contamination. The SSI detected a 2-foot layer of urban fill material throughout the site. Lead (maximum 4,330 mg/Kg) was detected at levels exceeding the RRSCO (400 mg/Kg) within the urban fill layer at multiple locations. Mercury was detected at level (1.26 mg/Kg) exceeding the RRSCO (0.81 mg/Kg) at one (1) location (SB-21 [0'-2']). PCB was detected at level (3,000 ug/Kg) exceeding the RRSCO (1,000 ug/Kg) at one (1) location (SB-2B [5'-7']). The SSI concluded that the existing groundwater contamination originated from the fuel oil application on the Subject Property. Using the AWQS as the cut off, it is likely that the groundwater contamination has migrated beyond Site boundary to the west.

### 1.5 Scope of Work

A remedial investigation (RI) will be implemented to characterize:

- Subsurface soil quality at the Site;
- Groundwater quality at the Site and the hydraulically down-gradient properties;
- Soil gas and indoor/outdoor air quality at the hydraulically down-gradient properties.

Subsurface soil samples will be collected at the Site. Groundwater samples will be collected at the Site and the hydraulically down-gradient properties. Soil gas and indoor/outdoor air samples will be collected at the hydraulically down-gradient properties.

## 2 Project Team and Responsibilities

### 2.1 Project Manager

The Project Manager will be responsible for implementing the project and obtaining any necessary personnel or resources for the completion of the project. Specific duties will include:

- Coordinating the activities of all construction and Remedial Personnel, to include informing them of the required Personal Protective Equipment (PPE) and insuring their signature acknowledging this HASP;
- Selecting a Site Health and Safety Officer and field personnel for the work to be undertaken on site;
- Ensuring that the tasks assigned are being completed as planned and on schedule;
- Providing authority and resources to ensure that the Site Health and Safety Officer is able to implement and manage safety procedures;
- Preparing reports and recommendations about the project to clients and affected personnel;
- Ensuring that all persons allowed to enter the site are made aware of the potential hazards associated with the substances known or suspected to be on site, and are knowledgeable as to the on-site copy of the specific HASP;
- Ensuring that the Site Health and Safety Officer is aware of all of the provisions of this HASP and is instructing all personnel on site about the safety practices and emergency procedures defined in the plan;
- Serving as liaison with public officials where there is no Public Affairs official designated.

### 2.2 Site Health and Safety Officer

The Site Health and Safety Officer shall be responsible for the implementation of the HASP on site.

Specific duties will include:

- Monitoring the compliance of construction and environmental remediation activities personnel (field personnel) for the routine and proper use of the PPE that has been designated for each task;
- Routinely inspecting PPE and clothing to ensure that it is in good condition and is being stored and maintained properly;
- Stopping work on the site or changing work assignments or procedures if any operation threatens the health and safety of workers or the public;
- Monitoring personnel who enter and exit the site and all controlled access points.
- Reporting any signs of fatigue, work-related stress, or chemical exposures to the Project Manager;
- Dismissing field personnel from the site if their actions or negligence endanger themselves, co-workers, or the public, and reporting the same to the Project Manager;



- Reporting any accidents or violations of the HASP plan to the Project Manager and documenting the same for the project in the records;
- Knowing emergency procedures, evacuation routes, and the telephone numbers of the ambulance, local hospital, poison control center, fire and police departments;
- Ensuring that all project-related personnel have signed the personnel agreement and acknowledgments form contained in this HASP;
- Coordinate upgrading and downgrading PPE as necessary due to changes in exposure levels, monitoring results, weather, and other site conditions;
- Perform air monitoring with approved instruments in accordance with requirements stated in this HASP.

### 3 Hazard Analysis and Control Measures

This section presents an assessment of the general, chemical, physical and biological hazards that may be encountered during the tasks specified under this HASP.

#### 3.1 General Hazard Assessment

A general hazard assessment was conducted for the required field work described in Section 1.3 and the following potential hazards have been identified:

- Inhalation of volatile contaminants;
- Skin and eye contact with contaminants;
- Ingestion of contaminants;
- Inhalation of dusts impacted with semi-volatile, metals and PCB contaminants;
- Physical hazards associated with the use of heavy equipment;
- Excavation hazards;
- Tripping hazards;
- Noise exposure;
- Heat stress (depending on weather conditions);
- Cold exposure (depending on weather conditions);
- Flammable hazards;
- Electrical hazards; and,
- Use of personal protective equipment.

Specific chemical, physical and biological hazards are discussed below. Mitigation and controls will include as needed work procedures, work/rest regiment, dust control measures, personal protective equipment, and respiratory protection as appropriate.

#### 3.2 Chemical Exposure Hazards

The following chemical hazard evaluation is based on the previous environmental investigation of the site. The evaluation has been conducted to identify chemicals/ materials that potentially may be present at the site, and to ensure that work activities, personnel protection, and emergency response are consistent with the specific contaminants that potentially could be encountered.

##### *3.2.1 Chemical Hazard Exposure Routes*

Potential hazards and their exposure routes include:

- Inhalation of organic vapors due to the presence of volatile organic compounds from diesel-powered equipment.

- Inadvertent ingestion of potentially toxic substances via hand to mouth contact or deliberate ingestion of materials inadvertently contaminated with potentially toxic materials. Included in this list are polycyclic aromatic hydrocarbons (PAHs), pesticides and metals.
- Dermal exposure and possible percutaneous (skin) absorption of certain lipophilic (readily absorbed through the skin) PAHs and pesticides.
- Skin and eye contact with contaminants at the site and decontamination activities.

### *3.2.2 Control of Exposure to Chemical Hazards*

To protect potentially exposed personnel the following procedures and protocols will be adopted and used as needed: work procedures will be adhered to, work zones will be established, dust control will be utilized, respirators (if required) and personal protective equipment will be worn, area air monitoring will be conducted during times of disturbance of the impacted fill material. Strict personnel decontamination procedures will be followed.

## 3.3 Physical Hazards

### *3.3.1 Explosion and Fire*

#### 3.3.1.1 Flammable Vapors

The presence of flammable vapors can pose a potential fire and health hazard. Hazard reduction procedures include monitoring the ambient air with an oxygen/LEL meter (combustible gas indicator). If the LEL reading exceeds 20%, all work will stop and employees will leave the site immediately and contact the fire department.

#### 3.3.1.2 High Oxygen Levels

Atmospheres that contain a level of oxygen greater than 23% pose an extreme fire hazard (the usual ambient oxygen level is approximately 20.5%). All personnel encountering atmospheres that contain a level of oxygen greater than 23% must evacuate the site immediately and must notify the Fire Department.

#### 3.3.1.3 Fire Prevention

During equipment operation, periodic vapor concentration measurements should be taken with an explosimeter or combustimeter. If at any time the vapor concentrations exceed 20% of the lower explosive limit (LEL), then the Site Health and Safety Officer should immediately shut down all operations.

Only approved safety cans will be used to transport and store flammable liquids. All gasoline and diesel-driven engines requiring refueling must be shut down and allowed to cool prior to filling.

Smoking is not allowed during any operations within the work area in which petroleum products or solvents in free-floating, dissolved, or vapor forms, or other flammable liquids may be present. No open flame or spark is allowed in any area containing petroleum products or other flammable liquids.

### *3.3.2 Vehicular Traffic*

All employees will be required to wear a fluorescent safety vest at all times while on site. In addition, supplemental traffic safety equipment use can be exercised when warranted by specific task. Supplemental equipment can be items such as cones, flags, barricades, and/or caution tape. Drivers of waste transportation vehicles will only exit vehicles in designated areas within the Support Zone. During this time, drivers will only be allowed to inspect the placement of waste loads and cover their trailers.

### *3.3.3 Noise Hazards*

Hearing protection shall be provided to the employees where sound pressure levels exceed 85 dB. Hearing protection shall be worn where sound pressure levels in areas and/or on equipment exceeds 90 dB. Typical heavy excavation operations have been monitored with a sound level meter and indicate that hearing protection is required for all personnel while engaged in this action.

### *3.3.4 Safe Material Handling*

Skin and eye contact with impacted soil/fill may occur during excavation, handling and decontamination activities. Nitrile gloves and approved safety glasses must be worn to prevent exposure to the associated contaminants. Employees working at or near (within ten feet of) excavation fronts could be required to wear respiratory protection. If necessary, all associated activities will be performed pursuant to 29 C.F.R. § 1910 Parts 1926.134 (a)(2) and 1926.55.

### *3.3.5 Heat Stress Hazards*

Heat stress may occur even in moderate temperature areas and may present any or all of the following:

- Heat Rash. Result of continuous exposure to heat, humid air, and chafing clothes. Heat rash is uncomfortable and decreases the ability to tolerate heat.
- Heat Cramps. Result of the inadequate replacement of body electrolytes lost through perspiration. Signs include severe spasms and pain in the extremities and abdomen.
- Heat Exhaustion. Result of increased stress on the vital organs of the body in the effort to meet the body's cooling demands. Signs include shallow breathing; pale, cool, moist skin; profuse sweating; and dizziness.
- Heat Stroke. Result of overworked cooling system. Heat stroke is the most serious form of heat stress. Body surfaces must be cooled and medical help must be obtained immediately to prevent severe injury and/or death. Signs include red, hot, dry skin, absence of perspiration, nausea, dizziness and confusion, strong, rapid pulse that could lead to coma or death.

### Heat Stress Prevention

- Replace body fluids (water and electrolytes) lost through perspiration. Solutions may include a 0.1% salt and water solution or commercial mixes such as “Gatorade”. Employees must be encouraged to drink more than the amount required in order to satisfy thirst.
- Use cooling devices to aid the natural body ventilation. Cooling occurs through evaporation of perspiration and limited body contact with heat-absorbing protective clothing. Utilize fans and air conditioners to assist in evaporation. Long, cotton underwear is suggested to absorb perspiration and limit any contact with heat-absorbing protective clothing (i.e., coated Tyvek suits).
- Conduct non-emergency response activities in the early morning or evening during very hot weather.
- Provide shelter against heat and direct sunlight to protect personnel. Take breaks in shaded areas.
- Rotate workers utilizing protective clothing during hot weather.
- Establish a work regime that will provide adequate rest periods, with personnel working in shifts.

#### *3.3.6 Cold Exposure Hazards*

Work schedules will be adjusted to provide sufficient rest periods in a heated area for warming up during operations conducted in cold weather. Also, thermal protective clothing such as wind and/or moisture resistant outerwear is recommended to be worn.

If work is performed continuously in the cold at or below -7 °C (20 °F), including wind chill factor, heated warming shelters (tents, cabins, company vehicles, rest rooms, etc.) shall be made available nearby and the worker should be encouraged to use these shelters at regular intervals, the frequency depending on the severity of the environmental exposure. The onset of heavy shivering, frostnip, the feeling of excessive fatigue, drowsiness, irritability, or euphoria, are indications for immediate return to the shelter. When entering the heated shelter, the outer layer of clothing shall be removed and the remainder of the clothing loosened to permit sweat evaporation. A change of dry work clothing shall be provided as necessary to prevent workers from returning to their work with wet clothing.

Dehydration, or the loss of body fluids, occurs in the cold environment and may increase the susceptibility of the worker to cold injury due to a significant change in blood flow to the extremities. Warm sweet drinks and soups should be provided at the work site to provide caloric intake and fluid volume. The intake of coffee should be limited because of a diuretic and circulatory effect.

### 3.4 Biological Hazards

During the course of the project, there is a potential for workers to come into contact with biological hazards such as animals and insects. As the potential for exposure to blood born pathogens during site investigation is anticipated to be low, a Blood Born Pathogen Exposure Plan (BBPEP) is not required

#### 3.4.1 *Animals*

During site operations, animals such as dogs, cats, pigeons, mice, and rats may be encountered. Workers shall use discretion and avoid all contact with animals. Bites and scratches from dogs and cats can be painful and if the animal is rabid, the potential for contracting rabies exists. Contact with rat and mice droppings may lead to contracting hantavirus. Inhalation of dried pigeon droppings may lead to psittacosis. Cryptococcosis and histoplasmosis are also diseases associated with exposure to dried bird droppings but these are less likely to occur in this occupational setting.

#### 3.4.2 *Insects*

Insects, including bees, wasps, hornets, mosquitoes, spiders, and ticks may be present at the site. Some individuals may have a severe allergic reaction to an insect bite or sting that can result in a life threatening condition. In addition, mosquito bites may lead to St. Louis encephalitis or West Nile encephalitis.

## 4 Personnel Training

### 4.1 Pre-assignment and OSHA Training

All Cider personnel that will be in direct contact (that is hand digging, sampling, processing) with the native soil/fill materials must complete an initial 40-hour Hazardous Waste Operations and Emergency Response (HAZWOPER) training course and, where necessary, a current eight hour refresher course (as required annually after initial 40-hour training completion). Personnel that will not be in direct contact with native soil/fill materials are only required to prove they have read and understood the procedures presented in this HASP.

The Site Health and Safety Officer will conduct an on-site training meeting for all personnel and observers that could potentially be exposed to the native soil/fill material during construction activities. Training meetings will be provided routinely for any new project personnel. This program will cover specific health and safety equipment and protocols and potential problems inherent to each project operation. The Site Health and Safety Officer will be present for any activities being performed that will involve the handling of soil/fill during construction activities to provide supervision on exposure reduction. This may include insuring the use of proper PPE and air quality monitoring.

### 4.2 Respirator Requirements

#### 4.2.1 *Respirator Requirements and Fit Testing*

The OSHA respiratory protection standard, 29 CFR 1910.134, under paragraph (f)(2), requires fit testing for all employees using tight fitting respirators including filtering facepiece respirator. The fit test must be performed before the respirator is used and must be repeated at least annually and whenever a different respirator facepiece is used or a change in the employee's physical condition could affect the respirator fit.

The user seal check is a separate requirement under paragraph (g)(1)(iii) and must be performed each time the employee dons the respirator. Employers must adhere to the recommendations of the respirator's manufacturer; different manufacturers recommend different procedures.

#### 4.2.2 *Medical Surveillance*

OSHA requires a medical evaluation to determine whether each employee required to wear a respirator is physically able to wear a respirator and perform the work. This evaluation can be a medical examination or an evaluation of employee responses to the OSHA Respirator Medical Evaluation Questionnaire located in Appendix C of the Respiratory Protection Standard. Either method must be performed by a physician or other licensed healthcare

professional.



## 5 Personal Protective Equipment

### 5.1 Levels of Protection

PPE must protect workers from the specific hazards they are likely to encounter on site. Selection of the appropriate PPE must take into consideration: (1) identification of the hazards or suspected hazards; (2) potential exposure routes; and, (3) the performance of the PPE construction (materials and seams) in providing a barrier to these hazards.

Based on anticipated site conditions and the proposed work activities to be performed at the Site, modified Level D Protection will be used. The upgrading/downgrading of these levels of protection will be based on continuous air monitoring results. The levels of protection are described below.

#### • Level D Protection

- a) Safety glasses w/ sideshields or chemical splash goggles
- b) Safety boots/shoes (toe-protected)
- c) Hard hat
- d) Long sleeve work shirt and work pants
- e) Nitrile gloves
- f) Hearing protection (as needed)
- g) Reflective traffic vest

#### • Level D Protection (Modified)

- a) Safety glasses w/ sideshields or chemical splash goggles
- b) Safety boots/shoes (toe-protected)
- c) Disposable chemical-resistant boot covers
- d) Coveralls (polycoated Tyvek or equivalent to be worn when contact with wet contaminated soil, groundwater, or non-aqueous phase liquids is anticipated)
- e) Hard hat
- f) Long sleeve work shirt and work pants
- g) Nitrile gloves
- h) Hearing protection (as needed)
- i) Reflective traffic vest

#### • Level C Protection

- a) Full face-piece, air-purifying, cartridge\*-equipped, NIOSH-approved respirator [\*combo cartridge P100/OV/CL/HC/SD/CD/HS (escape)]
- b) Inner (latex) and outer (nitrile) chemical-resistant glove

- c) Chemical-resistant safety boots/shoes (toe-protected)
- d) Disposable chemical-resistant boot covers
- e) Hard hat
- f) Long sleeve work shirt and work pants
- g) Coveralls (Tyvek or equivalent, poly-coated Tyvek will be worn when contact, or anticipated contact with wet contaminated soils, groundwater, and/or non-aqueous phase liquids (NAPL) is anticipated )
- h) Hearing protection (as needed)
- i) Reflective traffic vest

## 5.2 Respirator Fit-Test

All Cider personnel and subcontractors performing site work who could be exposed to hazardous substances at the work site are in possession of a full face-piece, air-purifying respirator and have been successfully quantitative fittested within the past year.

## 5.3 Respirator Cartridge Change-Out Schedule

Respiratory protection is required to be worn when certain action levels are reached. A respirator cartridge change-out schedule has been developed in order to comply with 29 CFR 1910.134. The respirator cartridge change-out schedule for this project is as follows:

- Cartridges shall be removed and disposed of at the end of each shift, when cartridges become wet or wearer experiences breakthrough, whichever occurs first.
- If the humidity exceeds 85%, then cartridges shall be removed and disposed of after 4 hours of use.
- Respirators shall not be stored at the end of the shift with contaminated cartridges left on. Cartridges shall not be worn on the second day, no matter how short the time period was the previous day they were used.

## 6 Air Monitoring Program

During site investigation/remediation, the air in work areas will be sampled periodically (on the site and at the property lines) for the presence of contaminants. Levels of organic vapors in the ambient air will be monitored during the fieldwork to ensure that appropriate levels of respiratory protection are employed at all times. Additionally, the testing will be performed to determine if changes to this plan are warranted to protect workers and the environment.

During site work involving disturbance of impacted fill material, real time air monitoring will be conducted for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). A photoionization detector (PID) and/or flame ionization detector (FID) will be used to monitor concentrations of VOCs at personnel breathing-zone height. Dust monitoring will be accomplished with an aerosol monitor. Air monitoring will be the responsibility of the Site Health and Safety Officer or designee. Air monitoring will be conducted approximately every 30 minutes during ground intrusive activities in the AOC on the project site. All manufacturers' instructions for instrumentation and calibration will be available onsite. Subcontractors' air monitoring plans must be equal or more stringent as the Cider plan.

### 6.1 Organic Compounds

Monitoring with a PID, such as a MiniRAE 2000 (11.7v) or equivalent will occur during intrusive work in the AOCs. Colorimetric Indicator Tubes for benzene may be used as backup for the PID, if measurements remain above background monitor every 2 hours. The Field Supervisor will monitor the employee breathing zone at least every 30 minutes, or whenever there is any indication that concentrations may have changed (odors, visible gases, appearance of drill cuttings, etc.) since the last measurement. Instrument action levels for monitored gases are:

<i>Photoionization Detector (PID)</i>	
<b>Concentrations (in ppm)</b>	<b>Level of PPE Required/Action Required</b>
< 15 ppm within AOC zone	Level D
> 15 ppm (initial)	Stop work. Resume work once readings are below 15 ppm.
> 15 ppm and < 30 ppm (steady state condition) within breathing zone	Level C/Initiate Perimeter Monitoring
> 30 ppm (steady state condition) within AOC zone	Stop Work / Suppress Emissions / Evacuate and reevaluate.
>5 ppm above background for the 15-minute average at downwind perimeter.	Stop Work/ Re-evaluate.
>5ppm and <25 ppm downwind perimeter of AOC Zone	Stop Work / Take corrective actions to abate emissions. Resume work if <5 ppm
>25 ppm at perimeter of work area	Stop work.

\*PID readings are taken at personnel breathing zone height using a 10.2V lamp PID or equivalent.

## 6.2 SVOCs, PCBs, Pesticides, and Metals

Based upon the site history, there is a potential for the soils to contain PAHs, PCBs, pesticides and metals. During invasive procedures which have the potential for creating airborne dust, such as excavation of dry soils, a real time airborne dust monitor such as a Mini-Ram should be used to monitor for air particulates. The Site Health and Safety Officer will monitor the employee breathing zone at least every 30 minutes, or whenever there is any indication that concentrations may have changed (appearance of visible dust) since the last measurement. Instrument action levels for dust monitoring are:

<i>Real Time Particulate Detection Meter</i>	
Concentration (mg/m <sup>3</sup> )	Level of PPE Required/Action Required
> 0.100 mg/m <sup>3</sup> above BKD (steady state condition) at perimeter of AOC zone for 15-minutes or visible dust.	Stop Work / Implement dust control / Continue dust monitoring if dust levels are less than 150 mg/m <sup>3</sup>
> 0.150 mg/m <sup>3</sup> above BKD (following dust suppression measures)	Stop Work / implement dust control, continue work once levels are <150 mg/m <sup>3</sup>

\*BKD = Background concentration

## 6.3 Noise Monitoring

As a standard work practice, hearing protection will be worn within the area that exceeds 85 dBA created by any loud machinery as a precaution. Hearing protection is required and should be used in designated areas of the site as indicated by the posted signs. If there is a reasonable possibility that workers may be exposed to an 8-hour time-weighted average exceeding 85 Dba specifically as a result of conducting the required tasks, noise monitoring will be conducted using a sound level meter. Work areas or tasks which pose an exposure risk greater than 85 dBA will require hearing protection.

The New York City Department of Environmental Protection (NYCDEP) has initiated construction noise rules effective 1 July 2007. Contractors employing construction equipment such as vacuum excavators, drill rigs, and jackhammers, are required by the rules to have noise mitigation plans. These plans will be available on site. Noise mitigation measures may include mufflers, etc. Boring activities will occur during daytime hours only to minimize noise disturbance to the community. In addition, no vehicles will idle for more than three minutes when not in use.

## 6.4 Monitoring Equipment Calibration and Maintenance

Instrument calibration shall be documented and included in a dedicated safety and health logbook or on separate calibration pages of the field book. All instruments shall be calibrated before and after each shift. Calibration checks may be used during the day to confirm instrument accuracy. Duplicate readings

may be taken to confirm individual instrument response. All instruments shall be operated in accordance with the manufacturers' specifications. Manufacturers' literature, including an operations manual for each piece of monitoring equipment will be maintained on site by the Site Health and Safety Officer for reference.

#### 6.5 Determination of Background Levels

Background (BKD) levels for VOCs and dust will be established prior to intrusive activities within the AOC at an upwind location. A notation of BKD levels will be referenced in the daily monitoring log. BKD levels are a function of prevailing conditions. BKD levels will be taken in an appropriate upwind location as determined by the Site Health and Safety Officer.

## 7 Work Zone and Decontamination

### 7.1 Work Zone Definition

Work and support areas shall be established based on ambient air data and proposed work sites. They shall be established in order to contain contamination within the smallest areas possible and shall ensure that each employee has the proper PPE for the area or zone in which work is to be performed.

#### 7.1.1 Exclusion Zone

It is within this zone that the excavation or environmental remediation activities such as tank abandonment operations are performed. No one shall enter this zone unless the appropriate PPE is donned. The location of this zone will change as the construction-related excavation activities are performed.

#### 7.1.2 Contaminant Reduction Zone

It is within this zone that the decontamination process is undertaken. Personnel and their equipment must be adequately decontaminated before leaving this zone for the support zone. This zone will be set up between the EZ and the site boundary.

#### 7.1.3 Support Zone

The support zone is considered to be uncontaminated; as such, protective clothing and equipment are not required but should be available for use in emergencies. All equipment and materials are stored and maintained within this zone. Protective clothing is put on within the SZ before entering the EZ or the CRZ. The SZ will be established in a safe environment at least 50 feet away from the EZ.

### 7.2 Decontamination

In general, decontamination involves scrubbing with a detergent water solution followed by clean water rinses. All disposable items shall be disposed of in a dry container. Certain parts of contaminated respirators, such as harness assemblies and leather or cloth components, are difficult to decontaminate. If grossly contaminated, they may have to be discarded. Rubber components can be soaked in detergent and water and scrubbed with a brush. In addition to being contaminated, all respirators, non-disposable protective clothing, and other personal articles must be sanitized or replaced before they can be used again if they become soiled from exhalation, body oils, and perspiration. The manufacturer's instructions should be followed in sanitizing the respirator masks.

The Site Health and Safety Officer will be responsible for the proper maintenance, decontamination, and sanitizing of any respirator equipment that may be used on-site.

The following procedures have been established to provide site personnel with minimum guidelines for proper decontamination. Personnel leaving the point of operations designated as the EZ must follow these minimum procedures. The decontamination process shall take place within the contaminant reduction zone.

#### *7.2.1 Minimum Decontamination Procedure*

Personnel leaving the point of operations should remove or change outer gloves. At a minimum, boots shall be cleaned of all accumulated soil/fill. Outer boots must be properly washed where gross contamination is evident or disposed of. If Tyvek suits are being utilized, they should be removed or changed. Personnel should remove the Tyvek suits so that the inner clothing does not come in contact with any contaminated surfaces. After Tyvek removal, personnel shall remove and discard outer Nitrile gloves. Personnel shall then remove the respirator, where applicable. Respirators shall be disinfected between uses with towelettes or other sanitary methods. Potable water, at a minimum, will be present so that site personnel can thoroughly wash hands and face after leaving the point of operations.

The Site Health and Safety Officer will monitor decontamination procedures to ensure their effectiveness. Modifications of the decontamination procedure may be necessary as determined by the Site Health and Safety Officer's observations.

#### *7.2.2 Hand-Held Equipment Decontamination*

Hand-held equipment includes all monitoring instruments as stated earlier, samples, hand tools, and notebooks. The hand-held equipment is dropped at the first decontamination station to be decontaminated by one of the decontamination team members. These items must be decontaminated or discarded as waste prior to removal from the CRZ. To aid in decontamination, monitoring instruments can be sealed in plastic bags or wrapped in polyethylene. This will also protect the instruments against contaminants. The instruments will be wiped clean using wipes or paper towels if contamination is visually evident. Sampling equipment, hand tools, etc. will be cleaned with non-phosphorous soap to remove any potentially contaminated soil, and rinsed with deionized water. All decontamination fluids will be containerized and stored on-site pending waste characterization sampling and appropriate off-site disposal.

#### *7.2.3 Heavy Equipment Decontamination*

Equipment traversing the site and exiting the site will be subjected to a decontamination protocol. At a minimum the protocol will consist of an inspection of the truck fenders, tires and mud flaps for accumulated soil/fill, and removal of all accumulations using hand tools (brush, broom and scrapers). If deemed necessary by the Site Health and Safety Officer, this inspection will be performed over a thirty by fifteen foot area that has been filled with  $\frac{3}{4}$  inch crushed recycled concrete aggregate to facilitate the

removal of soil/fill accumulations from the tires, and to immobilize soil/fill removed from the truck body. Additionally, all trucks hauling waste will be required to be covered prior to exiting the site.

#### *7.2.4 Emergency Decontamination*

If circumstances dictate that contaminated clothing cannot be readily removed, then remove gross contamination and wrap injured personnel with clean garments/blankets to avoid contaminating other personnel or transporting equipment.

If the injured person can be moved, he/she will be decontaminated by site personnel as described above before emergency responders handle the victim. If the person cannot be moved because of the extent of the injury (a back or neck injury), provisions shall be made to ensure that emergency response personnel will be able to respond to the victim without being exposed to potentially hazardous atmospheric conditions. If the potential for inhalation hazards exist, such as with open excavation, this area will be covered with polyethylene sheeting to eliminate any potential inhalation hazards. All emergency personnel are to be immediately informed of the injured person's condition, potential contaminants, and provided with all pertinent data.



## 8 General Safety and Health Provisions

### 8.1 Safety Practices / Standing Orders

The following are important safety precautions that will be enforced during work activities.

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in any area designated as contaminated.
- Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking, or any other activity.
- Whenever decontamination procedures for outer garments are in effect, the entire body should be thoroughly washed as soon as possible after the protective garments are removed.
- No excessive facial hair that interferes with the effectiveness of a respirator will be permitted on personnel required to wear respiratory protection equipment. The respirator must seal against the face so that the wearer receives air only through the air purifying cartridges attached to the respirator. Fit testing shall be performed prior to respirator use to ensure the wearer obtains a proper seal.
- Contact with potentially contaminated surfaces should be avoided whenever possible. One should not walk through puddles; kneel on the ground; lean, sit, or place equipment on drums, containers, vehicles, or the ground.
- Medicine and alcohol can potentate the effect from exposure to certain compounds. Prescribed drugs and alcoholic beverages should not be consumed by personnel involved in the project.
- Personnel and equipment in the work areas should be minimized, consistent with effective site operations.
- Work areas for various operational activities should be established.
- Procedures for leaving the work area must be planned and implemented prior to going to the site. Work areas and decontamination procedures must be established on the basis of prevailing site conditions.
- Respirators will be issued for the exclusive use of one worker and will be cleaned and disinfected after each use.
- Safety gloves and boots shall be taped to the disposable, chemical-protective suits as necessary.
- All unsafe equipment left unattended will be identified by a "DANGER, DO NOT OPERATE" tag.
- Noise mufflers or earplugs may be required for all site personnel working around heavy equipment. This requirement will be at the discretion of the Site Health and Safety Officer. Disposable, form-fitting plugs are preferred.
- Cartridges for air-purifying respirators in use will be changed daily at a minimum.

## 8.2 Buddy System

Site personnel will employ the buddy system when working under certain circumstances, such as enclosed spacing. Under the buddy system, each site worker is responsible for monitoring the well-being of another worker. No one will work alone when the buddy system is implemented. At no time will fewer than two employees be present at the site if activities are underway.

## 8.3 Site Communications Plan

Mobile telephone and/or two-way radios will be used to communicate between the work parties on the site. The following standard hand signals will be used in case of failure of radio communication:

- Hands on top of head = Need assistance
- Thumbs up = OK, I am alright, I understand
- Thumbs down = No, negative

Personnel in the Contaminated Zone should remain in constant radio communication or within sight of the project team leader. Any failure of radio communication will require the team leader to evaluate whether personnel should leave the zone.

## 9 Emergency Response / Contingency Plan

### 9.1 Pre-Emergency Planning

In order to properly prepare for emergencies, Safety Data Sheets (SDS) will be maintained on-site for the type of contaminants to which workers may be exposed. The SDS for potential chemicals to be encountered at the Site are presented in **Appendix D**.

In the event a suspected or known hazardous substance or substance container is encountered during site activities, a contingency plan will be triggered.

Cider will communicate directly with administrative personnel from the emergency room at the hospital in order to determine whether the hospital has the facilities and personnel needed to treat cases of trauma resulting from any of the contaminants expected to be found on the site. Instructions for finding the hospital will be posted conspicuously in the site office and in each site vehicle.

### 9.2 Emergency Contact Information

In the event of an accident or emergency situation, emergency procedures will be executed. Said procedures can and will be executed by the first person to observe an accident or emergency situation. The Site Health and Safety Officer will be notified about the situation immediately after emergency procedures are implemented.

#### 9.2.1 Emergency Contacts

ORGANIZATION	CONTACT	TELEPHONE
City of New Rochelle Police		911
City of New Rochelle Fire		911
CE Project Manager	James Cressy	631-365-6118
National Response Center		800-424-8802
TSCA Hotline		202-554-1404
RCRA Hotline		800-424-9346
Center for Disease Control	(DAY) (NIGHT)	404-452-4100 404-329-2888
Bureau of Alcohol, Tobacco & Firearms		800-424-9555
National Response Center		800-424-8802
Pesticide Information Service		800-424-9346
Federal Express - Hazardous Material Info		901-922-1666

### 9.3 Contingency Plan

If an unknown substance or substance container is encountered during site activities, the following contingency plan will be triggered.

- The Site Health and Safety Officer, Project Manager and Field Operations Leader will be notified and an Exclusion Zone (the aerial extent of which will be determined by the above safety staff) will be established.
- All staff will be evacuated from the Exclusion Zone.
- Air monitoring will be conducted down-wind of the Exclusion Zone.
- The NYSDEC, as well as any other Government regulatory agency whose need may be prompted by the particular situation, will be notified.
- Upon arrival of the NYSDEC or Government regulatory agency representative(s), site control will transfer to the appropriate Government personnel.

It may be possible that a situation could develop site emergency could necessitate the evacuation of all personnel from the site. If such a situation develops, an audible alarm shall be given for site evacuation (consisting of an air horn). Personnel shall evacuate the site in a calm and controlled fashion and regroup at a predetermined location. The route of evacuation will be dependent on wind direction, severity, type of incident, etc. The site must not be re-entered until back-up help, monitoring equipment, and/or personal protective equipment are on hand and the appropriate regulatory agencies have been notified.

### 9.4 Emergency Medical Treatment Procedures

All injuries, no matter how slight, will be reported to the site safety supervisor immediately. The safety supervisor will complete an accident report for all incidents.

Some injuries, such as severe lacerations or burns, may require immediate treatment. Unless required due to immediate danger, seriously injured persons should not be moved without direction from attending medical personnel.

Only in non-emergency situations will an injured person be transported to the hospital by means other than an ambulance.

**Nearest Hospital with Emergency Room:**

**Montefiore New Rochelle Hospital**

**16 Guion Place**

**New Rochelle, NY**

**Tel: (914) 632-5000**

*(Directions from site to hospital can be found on **Figure 2**, Attached to the front of this plan)*

#### 9.4.1 *Standard Procedures for Injury*

1. Notify the Site Health and Safety Officer, Project Manager, and the proper regulatory agency of all accidents, incidents, and near emergency situations.
2. If the injury is minor, trained personnel should proceed to administer appropriate first aid.
3. Telephone for ambulance/medical assistance if necessary. Whenever possible, notify the receiving hospital of the nature of physical injury or chemical overexposure. If no phone is available, transport the person to the nearest hospital.
4. When transporting an injured person to a hospital, bring this Health and Safety Plan with the attached SDS to assist medical personnel with diagnosis and treatment.

#### 9.4.2 *Chemical Overexposure*

The following are standard procedures to treat chemical exposures. Other, specific procedures detailed on the SDS will be followed, when necessary.

- SKIN AND EYE: Use copious amounts of soap and water from eye-wash kits and portable hand wash stations.
- CONTACT: Wash/rinse affected areas thoroughly, then provide appropriate medical attention. Skin shall also be rinsed for 15 minutes if contact with caustics, acids or hydrogen peroxide occurs. Affected items of clothing shall also be removed from contact with skin.

Providing wash water and soap will be the responsibility of each individual contractor or subcontractor on-site.

## 9.5 Fire Prevention and Protection

In the event of a fire or explosion, procedures will include immediately evacuating the site and notification of the Cider Project Manager. Portable fire extinguishers will be provided at the work zone. The extinguishers located in the various locations should also be identified prior to the start of work. No personnel will fight a fire beyond the stage where it can be put out with a portable extinguisher (incipient stage).

Fires will be prevented by adhering to the following precautions:

- Good housekeeping and storage of materials.
- Storage of flammable liquids and gases away from oxidizers.
- Shutting off engines to refuel.
- Grounding and bonding metal containers during transfer of flammable liquids.
- Use of UL approved flammable storage cans.

- Fire extinguishers rated at least 10 pounds ABC located on all heavy equipment, in all trailers and near all hot work activities.

## 9.6 Significant Vapor Release

Based on the proposed tasks, the potential for a significant vapor is low. However, if a release occurs, the following steps will be taken:

- Move all personnel to an upwind location. All non-essential personnel shall evacuate.
- Upgrade to Level C Respiratory Protection.
- Downwind perimeter locations shall be monitored for volatile organics..
- If the release poses a potential threat to human health or the environment in the community, the Emergency Coordinator shall notify the Cider Project Manager.
- Local emergency response coordinators will be notified.

## 9.7 Adverse Weather Conditions

In the event of adverse weather conditions, the Site Health and Safety Officer will determine if work will continue without potentially risking the safety of all field workers. Some of the items to be considered prior to determining if work should continue are:

- Potential for heat stress and heat-related injuries.
- Potential for cold stress and cold-related injuries.
- Treacherous weather-related working conditions (hail, rain, snow, ice, high winds).
- Limited visibility (fog).
- Potential for electrical storms.
- Earthquakes.
- Other major incidents.

Site activities will be limited to daylight hours, or when suitable artificial light is provided, and acceptable weather conditions prevail. The Site Health and Safety Officer will determine the need to cease field operations or observe daily weather reports and evacuate, if necessary, in case of severe inclement weather conditions.

## 9.8 First Aid

A first aid kit and an emergency eyewash will be available on-site. Field crews, when performing field operations, will carry portable first aid kits that include emergency eye wash stations.

## 10 Recordkeeping

### 10.1 Employer's First Report of Injury

The site safety supervisor for all accidents involving work injury at the site will complete this form (**Appendix A**). Follow-up procedures will include investigation of each accident or near-miss by the safety supervisor to assure that no similar accidents occur in the future.

### 10.2 Injuries and Illnesses Form (OSHA 200)

All occupational injuries and illnesses that are required to be recorded under the Occupational Safety and Health Act will be registered on OSHA Form 200 (see **Appendix B**). The site safety supervisor will record occupational injuries and illnesses within 48 hours of occurrence, as required by statute.





## **APPENDIX C**

### Community Air Monitoring Program

# Community Air Monitoring Program

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December 2, 2017

**Subject Property:**

The Huguenot Site  
BCP Site No. C360157  
381-393 Huguenot Street  
New Rochelle, NY  
Westchester County Tax Map Designation: Section 2; Block 239; Lot 3, 4, 5 & 7  
NYSDEC BCP Site No. C360157

**Prepared for:**

381-383 Huguenot LLC  
  
New York State Department of Environmental Conservation

## Community Air Monitoring Program

**Client:** 318-383 Huguenot LLC  
**Project:** Remedial Investigation  
**Activities:** Soil, groundwater and air sampling  
**Location:** The Huguenot Site, New Rochelle, New York  
**Chemical Hazards:** Volatile Organic Compounds, Semi-Volatile Organic Compounds, Metals, Pesticides, Polychlorinated Biphenyls  
**Prepared By:** Cider Environmental

**Date:** December 2, 2017

### Client Contact

<u>Title</u>	<u>Name</u>	<u>Telephone</u>
Client Representative	Frank Chechile	(614) 787-2733

### Cider Key Personnel

<u>Title</u>	<u>Name</u>	<u>Telephone</u>
Project Manager:	James Cressy	(631) 365-6118
Site Health & Safety Officer:	Shuangtao Zhang	(631) 456-6336

THIS CAMP IS NOT INTENDED FOR USE IN ESTABLISHING ACTION LEVELS FOR WORKER RESPIRATORY PROTECTION. RATHER, ITS INTENT IS TO PROVIDE A MEASURE OF PROTECTION FOR THE DOWNWIND COMMUNITY (I.E., OFF-SITE RECEPTORS INCLUDING RESIDENCES AND BUSINESSES) FROM POTENTIAL AIRBORNE CONTAMINANT RELEASES AS A DIRECT RESULT OF INVESTIGATIVE WORK ACTIVITIES AT THE SITE. THE ACTION LEVELS SPECIFIED HEREIN REQUIRE INCREASED MONITORING, CORRECTIVE ACTIONS TO ABATE EMISSIONS, AND/OR WORK SHUTDOWN. ADDITIONALLY, THIS CAMP WILL HELP TO CONFIRM THAT WORK ACTIVITIES DO NOT SPREAD CONTAMINATION OFF-SITE THROUGH THE AIR.

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## 1 Introduction

### 1.1 Purpose

Cider Environmental (CE) has prepared this Community Air Monitoring Plan (CAMP) for the Huguenot Site , BCP Site No. C360157, located at 381-393 Huguenot Street, New Rochelle, Westchester County, New York. This CAMP is consistent with the New York State Department of Health (NYSDOH) Generic Community Air Monitoring Plan.

This CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses) from potential airborne contaminant releases as a direct result of investigative work activities at the site. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, this CAMP will help to confirm that work activities do not spread contamination off-site through the air.

### 1.2 Surrounding Properties

The Site is located at 381-393 Huguenot Street, in an urban area in New Rochelle, New York. The Site is bound to the north by a vacant store (first floor) with residential above; to the south by a three-story residential apartment building and a one-story residential building; to the east by Huguenot Street and beyond by a Gulf labeled gasoline filling station; and to the west by an office building/warehouse.

### 1.3 Site Conditions

The Subject Property consists of four (4) irregular shaped parcels totaling approximately 0.39 acres. The property currently maintains two structures. Lot 7 currently maintains an irregular shaped one-story building (with partial basement), with an approximate footprint of 3,400-square feet. This building is currently utilized for office and storage space associated with a U-Haul business, a real-estate firm, and a janitorial supply business. Lot 5 is currently vacant, utilized for vehicle parking. The first floor of the building maintained on Lots 3A and 4 house a church ministry, with the second floors occupied by one residential unit in each. The basement on Lot 4 is occupied by a hydraulic repair business.

The Site is currently utilized for mixed commercial and residential uses. The surrounding parcels are currently utilized for mixed commercial and residential uses. The Site is located within the City of New Rochelle's recently designated Downtown Overlay Zone (DOZ). The DOZ is part of a new zoning plan adopted in 2015 to re-establish the downtown as a center of vibrancy within a mixed-use, transit oriented setting. The characteristics of the Site allow a building of up to six stories, with the provision by the developer of a community benefit.

## 1.4 Site History

The northern portion of the Site (Lots 3A and 4 at 381 and 383 Huguenot Street) has been utilized for dry cleaning services circa 1931, and for manufacturing since the 1970s to 2010s. The central portion of the Site (385 & 387 Huguenot) has maintained a residential dwelling circa 1931, and as truck and trailer parking since 1990s. The southern portion of the Site (Lots 5 and 7 at 391 and 393 Huguenot) has maintained a gasoline filling station from 1930s to 1950s, car wash in 1931, and as warehouse from 1970s to 2010s.

## 1.5 Summary of Previous Investigation

The Subject Property (381 Huguenot Street, under the name of Rush Manufacturing) has an open NYSDEC Spill case (9604099). This spill was reported on June 6, 1996 due to soil and groundwater contamination encountered during a site investigation.

In March 2016, CE performed a Phase II ESA at the Subject Property. The Phase II ESA collected subsurface soil/groundwater/soil gas samples to evaluate the potential environmental impacts. The soil samples showed several target VOC/SVOCs at levels above the Unrestricted Use Soil Cleanup Objectives. Elevated PID readings and strong petroleum odors were noted during soil sampling. Strong odor representing degraded petroleum product was noted, exceeding the nuisance criteria of CP-51. The laboratory analysis performed on the soil gas samples detected several gasoline related compounds and chlorinated solvents, including PCE and its daughter products TCE, cis-1,2-DCE and VC. The groundwater samples showed evidence of impact from petroleum products of chlorinated solvent. The maximum fuel oil related SVOCs in groundwater was 13,000 ug/L (GW-2). The maximum gasoline related VOCs in groundwater was 2,020 ug/L (GW-1). TCE was detected in one of the monitoring wells (GW-4) at 6.5 ug/L.

In February 2017, CE performed a Supplemental Subsurface Investigation (SSI) at the Subject Property. The SSI collected samples of the urban fill materials and analyzed for metals and PCBs. The SSI also determined the groundwater flow direction and delineate the extent of groundwater contamination. The SSI detected a 2-foot layer of urban fill material throughout the site. Lead (maximum 4,330 mg/Kg) was detected at levels exceeding the RRSCO (400 mg/Kg) within the urban fill layer at multiple locations. Mercury was detected at level (1.26 mg/Kg) exceeding the RRSCO (0.81 mg/Kg) at one (1) location (SB-21 [0'-2']). PCB was detected at level (3,000 ug/Kg) exceeding the RRSCO (1,000 ug/Kg) at one (1) location (SB-2B [5'-7']). The SSI concluded that the existing groundwater contamination originated from the fuel oil application on the Subject Property. Using the AWQS as the cut off, it is likely that the groundwater contamination has migrated beyond Site boundary to the west.

## 2 Community Air Monitoring Plan

Real-time air monitoring for volatile organic compounds (VOCs) and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed for all ground intrusive activities and during the handling of contaminated or potentially contaminated media. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedences of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the NYSDEC Project Manager and included in the Daily Report.

### 2.1 VOC Monitoring, Response Levels, and Actions

Volatile organic compounds (VOCs) will be monitored at the downwind perimeter of the immediate work area (i.e., the exclusion zone) on a continuous basis during invasive work. Upwind concentrations will be measured at the start of each workday and periodically thereafter to establish background conditions. The monitoring work will be performed using equipment appropriate to measure the types of contaminants known or suspected to be present. The equipment will be calibrated at least daily for the contaminant(s) of concern or for an appropriate surrogate. The equipment will be capable of calculating 15-minute running average concentrations, which will be compared to the levels specified below.

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring

continued. After these steps, work activities will resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shutdown.
- All 15-minute readings must be recorded and be available for NYSDEC personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

## 2.2 Particulate Monitoring, Response Levels, and Actions

Particulate concentrations will be monitored continuously at the upwind and downwind perimeters of the exclusion zone at temporary particulate monitoring stations. The particulate monitoring will be performed using real-time monitoring equipment capable of measuring particulate matter less than 10 micrometers in size (PM-10) and capable of integrating over a period of 15 minutes (or less) for comparison to the airborne particulate action level. The equipment will be equipped with an audible alarm to indicate exceedance of the action level. In addition, fugitive dust migration should be visually assessed during all work activities.

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m<sup>3</sup>) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m<sup>3</sup> above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m<sup>3</sup> above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m<sup>3</sup> of the upwind level and in preventing visible dust migration.
- All readings will be recorded and be available for NYSDEC personnel to review.