Former Levco Metals Finishing Property
Astoria, New York

Site Management Plan

Prepared for

Kaufman Astoria Studios
Astoria, New York

June 2018

D&B Engineers and Architects, P.C.

SITE MANAGEMENT PLAN

FORMER LEVCO METALS FINISHING PROPERTY

34-11 36th STREET

QUEENS COUNTY

LONG ISLAND CITY, NEW YORK

NYSDEC VCA NO. V00600-2

Prepared for:

KAUFMAN ASTORIA STUDIOS

34-12 36th STREET

ASTORIA, NEW YORK

Prepared by:

D&B ENGINEERS AND ARCHITECTS, P.C.

330 CROSSWAYS PARK DRIVE

WOODBURY, NEW YORK

(516) 364-9890

Revisions to Final Approved Site Management Plan:

Revision No.	Date Submitted	Summary of Revision	NYSDEC Approval Date

JUNE 2018

CERTIFICATIONS

I, Brian M. Veith, P.E., certify that I am currently a New York State Registered Professional Engineer as defined in 6 NYCRR Part 375 and that this Site Management 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).

071687	6/25/2018	Brian Veith
NYS Professional Engineer #	Date	Signature

SITE MANAGEMENT PLAN

FORMER LEVCO METALS FINISHING PROPERTY
34-11 36th STREET
QUEENS COUNTY
LONG ISLAND CITY, NEW YORK

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LIST OF ACRONYMS

AS	Air Sparging	PCBs	Polychlorinated Biphenyls
ASP	Analytical Services Protocol	PID	Photoionization Detector
CAMP	Community Air Monitoring Plan	PRR	Periodic Review Report
CFR	Code of Federal Regulation	QAPP	Quality Assurance Project Plan
COC	Certificate of Completion	RAO	Remedial Action Objective
CP	Commissioner Policy	RAWP	Remedial Action Work Plan
BTEX	Benzene, Toluene, Ethyl Benzene and Xylenes	RCRA	Resource Conservation and Recovery Act
D&B	D&B Engineers and Architects, P.C.	ROD	Record of Decision
DER	Division of Environmental Remediation	SCG	Standards, Criteria and Guidelines
DRO	Diesel Range Organics	SCO	Soil Cleanup Objective
EC	Engineering Control	SMP	Site Management Plan
ECL	Environmental Conservation Law	SVE	Soil Vapor Extraction
EPH	Extractable Petroleum Hydrocarbons	SVOC	Semivolatile Organic Compound
EWP	Excavation Work Plan	TAL	Target Analyte List
FDNY	New York City Fire Department	TCA	1,1,1-Trichloroethane
FSP	Field Sampling Plan	TCE	Trichloroethene
GRO	Gasoline Range Organics	TCL	Target Compound List
HASP	Health and Safety Plan	TCLP	Toxicity Characteristic Leaching Procedure
HDPE	High Density Polyethylene	TOGS	Technical and Operational Guidance Series
IC	Institutional Control	TOX	Total Organic Halides
IRM	Interim Remedial Measure	USEPA	United States Environmental Protection Agency
KAS	Kaufman Astoria Studios	VOC	Volatile Organic Compound
LWJV	Levco Woodwork Joint Venture	VCA	Voluntary Cleanup Agreement
NRC	National Response Center	VCP	Voluntary Cleanup Program
NYCDOH	New York City Department of Health		
NYPD	New York City Policy Department		
NYS	New York State		
NYSDEC	New York State Department of Environmental Conservation		
NYSDOH	New York State Department of Health		
NYCRR	New York Codes, Rules and Regulations		
O&M	Operation and Maintenance		

ES EXECUTIVE SUMMARY

The following provides a brief summary of the controls implemented for the Site, as well as the inspections, monitoring, maintenance and reporting activities required by this Site Management Plan:

Site Identification:	VCP Site No. V00600-2 Former Levco Metals Finishing Property 34-11 36th Street Long Island City, New York
Institutional Controls:	
1. The property may be used for commercial use. 2. Compliance with the deed restriction and this SMP by the Grantor and the Grantor's successors and assigns. 3. The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the appropriate city agency to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department. 4. Groundwater and other environmental or public health monitoring must be performed as defined in this SMP. 5. Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP. 6. All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP. 7. Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP. 8. Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the deed restriction. 9. The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on the Survey Maps provided in ***Appendix A***, and any potential impacts that are identified must be monitored or mitigated. 10. Vegetable gardens and farming on the site are prohibited.	

Site Identification: VCP Site No. V00600-2
Former Levco Metals Finishing Property
34-11 36th Street
Long Island City, New York

Institutional Controls (Continued):	
11. The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.	
Monitoring:	Frequency
Existing Groundwater Monitoring Wells MW-331(S) and MW-341(S), Proposed Newly Installed Well MW-01	Annually, for a minimum of two years.
Reporting:	Frequency
Soil Vapor Intrusion Evaluation Report	After complete installation of gas vapor barrier and construction of the building, but before occupancy.
Post-Remediation Groundwater Monitoring Report	Annually, following the monitoring schedule.
Periodic Review Report	16 months after SMP approval, then every three years

Further descriptions of the above requirements are provided in detail in the latter sections of this Site Management Plan.

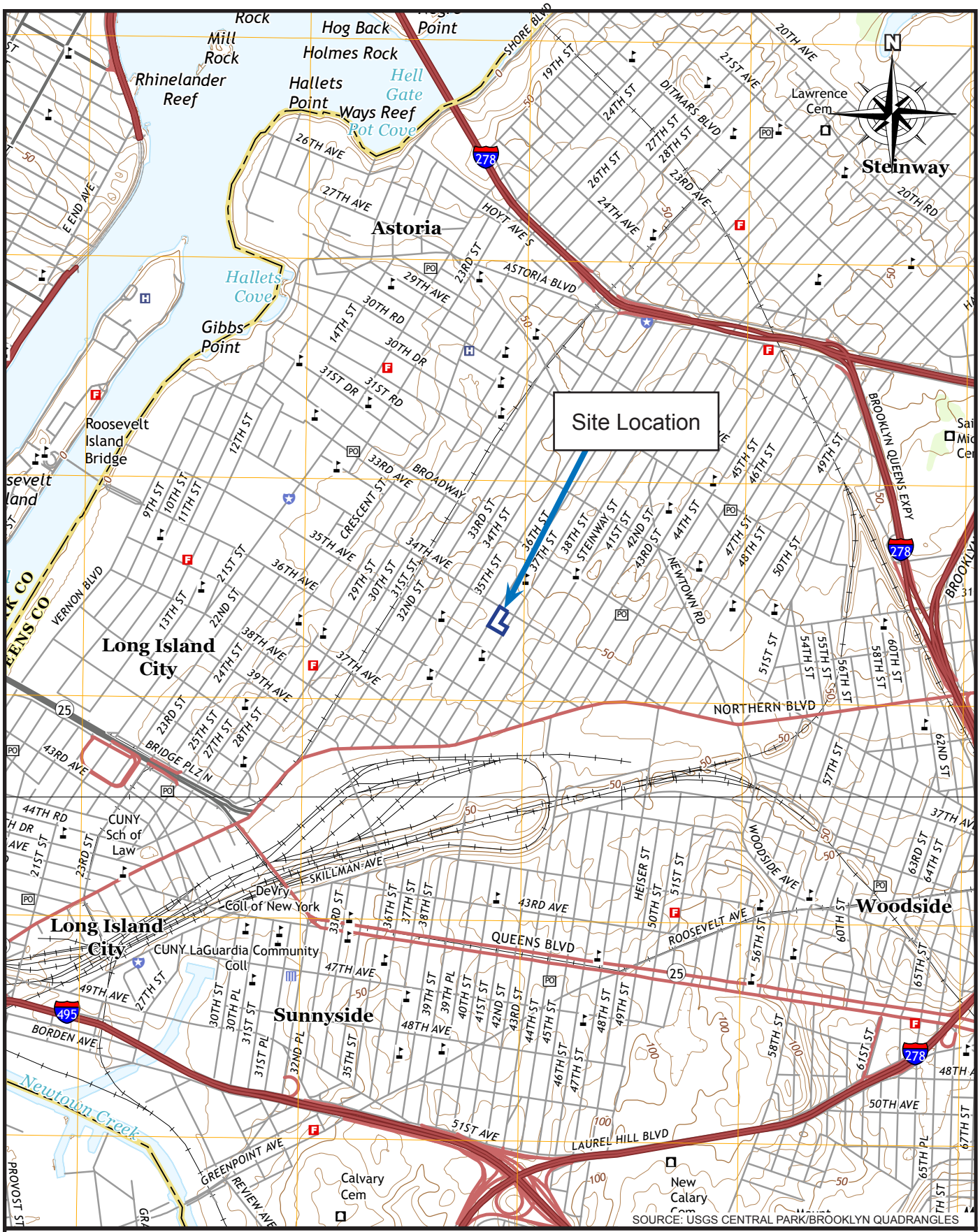
1.0 INTRODUCTION

1.1 General

This Site Management Plan (SMP) is required as an element of the remedial program for the former Levco Metals Finishing Property (hereinafter referred to as the "Site"). The Site is currently in the New York State (NYS) Voluntary Cleanup Program (VCP), Site No. V00600-2, which is administered by the New York State Department of Environmental Conservation (NYSDEC). Levco Woodwork Joint Venture (LWJV) entered into a Voluntary Cleanup Agreement (VCA) in July 2002 to remediate the Site. The Site address is listed in the VCA as 34-11 36th Street, Long Island City, Queens County, New York. A Site Location Map is provided as ***Figure 1-1***. The property will be used for film and television production sound stages and related support space (known as Stages O&N) with an address of 34-02 34th Avenue (also known as 36-11 36th Street). The Site has been remediated in accordance with the July 2010 Remedial Action Work Plan (RAWP) and the March 2017, revised September 2017 Pre-Construction Soil Characterization Report and Excavation Plan.

A figure showing the boundaries of the Site is provided as ***Figure 1-2***. The boundaries of the Site are more fully described in the metes and bounds site description that is part of the deed restriction provided in ***Appendix A***.

After completion of the remedial work, some contamination was left at this Site, which is hereafter referred to as "remaining contamination". Institutional Controls (ICs) have been incorporated into the Site remedy to control exposure to remaining contamination to ensure protection of public health and the environment. A deed restriction granted to the NYSDEC, and recorded with the Queens County Clerk, requires compliance with this SMP and all ICs and Engineering Controls (ECs) placed on the Site.



FORMER LEVCO METALS FINISHING SITE
ASTORIA, NEW YORK

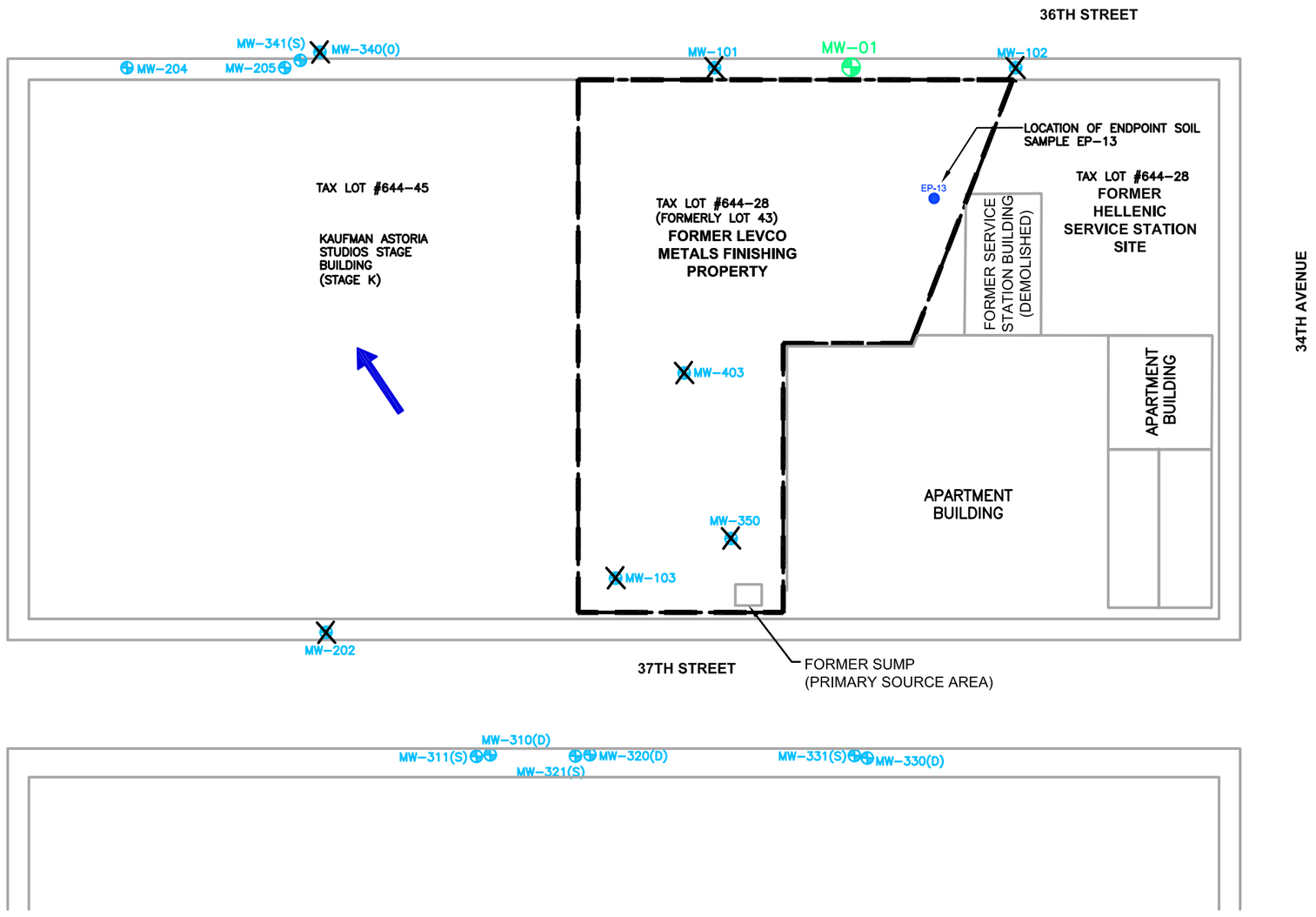
0 1,800
SCALE IN FEET

D&B ENGINEERS AND ARCHITECTS, P.C.

SITE LOCATION MAP

FIGURE 1-1

KAUFMAN ASTORIA STUDIOS



LEGEND:

- BOUNDARY OF SITE
- MW-01 — PROPOSED LOCATION OF SITE MANAGEMENT WELL DOWNGRADIENT OF ENDPOINT SOIL SAMPLE EP-13.
- MW-204 — MONITORING WELL LOCATION AND DESIGNATION (AS OF OCTOBER 2017)
  - (D) – DEEP MONITORING WELL
  - (S) – SHALLOW MONITORING WELL
- MW-101 — MONITORING WELL REMOVED OR ABANDONED
- ESTIMATED DIRECTION OF GROUNDWATER FLOW

SCALE: 1' = 50'

FORMER LEVCO METALS FINISHING PROPERTY

D&B ENGINEERS AND ARCHITECTS, P.C.

SITE PLAN WITH MONITORING WELL LOCATIONS

FIGURE 1-2

This SMP was prepared to manage remaining contamination at the Site until the deed restriction is extinguished in accordance with ECL Article 71, Title 36. This plan has been approved by the NYSDEC, and compliance with this plan is required by the grantor of the deed restriction and the grantor's successors and assigns. This SMP may only be revised with the approval of the NYSDEC.

It is important to note that:

- This SMP details the site-specific implementation procedures that are required by the deed restriction. Failure to properly implement the SMP is a violation of the deed restriction, which is grounds for revocation of the Certificate of Completion (COC);

- Failure to comply with this SMP is also a violation of Environmental Conservation Law, 6NYCRR Part 375 and the VCA for the Site (Site No. V00600-2 and Index # W2-0939-02-10), and thereby subject to applicable penalties.

All reports associated with the Site can be viewed by contacting the NYSDEC or its successor agency managing environmental issues in New York State. A list of contacts for persons involved with the Site is provided in ***Appendix B*** of this SMP.

This SMP was prepared by D&B Engineers and Architects, P.C. (D&B), on behalf of Kaufman Astoria Studios (KAS), in accordance with the requirements of the NYSDEC's DER-10 "Technical Guidance for Site Investigation and Remediation," dated May 2010 and the guidelines provided by the NYSDEC. This SMP addresses the means for implementing the selected remedial ICs/ECs that are required by the deed restriction for the Site.

1.2 Revisions

Revisions to this SMP will be proposed in writing to the NYSDEC's project manager. Revisions will be necessary upon, but not limited to, the following occurring: a change in media monitoring requirements, upgrades to or shut-down of a remedial system, post-remedial removal of contaminated sediment or soil, or other significant change to the site conditions. In accordance with the deed restriction for the Site, the NYSDEC will provide a notice of any approved changes to the SMP, and append these notices to the SMP that is retained in its files.

1.3 Notifications

Notifications will be submitted by the property owner to the NYSDEC, as needed, in accordance with NYSDEC's DER – 10 for the following reasons:

- 60-day advance notice of any proposed changes in site use that are required under the terms of the VCA, 6NYCRR Part 375 and/or Environmental Conservation Law.
- 7-day advance notice of any field activity associated with the remedial program.
- 15-day advance notice of any proposed ground-intrusive activity.
- Notice within 48-hours of any damage or defect to the foundation or structures that reduces or has the potential to reduce the effectiveness of the gas vapor barrier, and likewise, any action to be taken to mitigate the damage or defect.
- Verbal notice by noon of the following day of any emergency, such as a fire; flood; or earthquake that reduces or has the potential to reduce the effectiveness of controls in place at the Site, with written confirmation within 7 days that includes a summary of actions taken, or to be taken, and the potential impact to the environment and the public.
- Follow-up status reports on actions taken to respond to any emergency event requiring ongoing responsive action submitted to the NYSDEC within 45 days describing and documenting actions taken to restore the effectiveness of the controls.

Any change in the ownership of the Site or the responsibility for implementing this SMP will include the following notifications:

- At least 60 days prior to the change, the NYSDEC will be notified in writing of the proposed change. This will include a certification that the prospective purchaser/Remedial Party has been provided with a copy of the VCA and all approved work plans and reports, including this SMP.
- Within 15 days after the transfer of all or part of the Site, the new owner's name, contact representative, and contact information will be confirmed in writing to the NYSDEC.

Table 1-1, provided below, includes contact information for the above notification. The information on this table will be updated as necessary to provide accurate contact information. A full listing of site-related contact information is provided in ***Appendix B***.

Table 1-1
Notifications*

Name	Contact Information
Sondra Martinkat - NYSDEC Project Manager	(718) 482-4891 sondra.martinkat@dec.ny.gov
Jane O'Connell - NYSDEC Regional HW Engineer	(718) 482-4599 jane.oconnell@dec.ny.gov
NYSDEC Site Control	derweb@dec.ny.gov

* Note: Notifications are subject to change and will be updated as necessary.

2.0 SUMMARY OF PREVIOUS INVESTIGATIONS AND REMEDIAL ACTIONS

2.1 Site Location and Description

The Site is located in a highly urbanized area of Long Island City, Queens County, New York (See ***Figure 1-1***) and is identified as Block 644, Part of Lot 28 (formerly Lot 43) on the Queens County Tax Map (See ***Figure 1-2***). The "L" shaped parcel is approximately 22,000 square feet (0.5-acre) in area with an address listed in the VCA as 34-11 36th Street. The Site will be developed into film and television production sound stages and related support space (known as Stages O&N), along with one level of below-grade parking. The address for Stages O&N is 34-02 34th Avenue (also known as 36-11 36th Street).

The Site is bounded by the former Hellenic Service Station Site (Hellenic Site) on the remaining (and original) portion of Lot 28 (which will also be developed into Stages O&N) followed by 34th Avenue to the north; a KAS stage building (Stage K) to the south; 37th Street, storage garages and residential homes to the east; and 36th Street to the west. A Site Plan is provided as ***Figure 1-2***. The boundaries of the Site are more fully described in the metes and bounds survey accompanying the deed restriction for the Site, provided in ***Appendix A***. The owner of the Site parcel at the time of issuance of this SMP is Astoria ON Stage, LLC, with an address at 34-12 36th Street, Astoria, New York.

Note that the boundaries of the Site described in ***Appendix A*** were formerly identified as Block 644, Lot 43, but were combined with the adjacent lot to the north (Lot 28), the former Hellenic Service Station Site. This SMP focuses on the portion of Lot 28 which is included in the VCA agreement (i.e. the former Levco Property). Excavation of the Hellenic Site was completed concurrently with the Levco Property as part of the development of Stages O&N.

2.2 Physical Setting

2.2.1 Land Use

The Site is being developed into film and production sound stages and related support space, with below-grade parking. The Site is zoned for manufacturing and is currently under development to be utilized for television and film production. Site occupants following completion of development will include KAS, a television and film production company.

The properties adjoining the Site and in the neighborhood surrounding the Site primarily includes commercial and residential properties. The Site is bordered to the north by a former gasoline service station which is located on the corner of 34th Avenue and 36th Street (former Hellenic Service Station), owned by Astoria ON Stage, LLC, which will also be developed into sound stages as part of the development of the Site. Additional KAS facilities are located to the south of the Site, and to the west of the Site on the opposite side of 36th Street. A mixture of commercial businesses and apartment buildings is located to the east on the opposite side of 37th Street. In addition, storage garages and residential homes are located directly east of the Site. However, the Site and the eastern adjoining property are separated by a 6-foot high concrete retaining wall with the adjoining properties being approximately 4 to 6 feet lower in elevation than the Site.

2.2.2 Site Geology/Hydrogeology

This section presents a summary of geologic and hydrogeologic data presented in previously completed investigation reports for the Site, as well as findings of the Pre-Construction Soil Characterization Investigation completed by D&B in November 2015. Note that the data was compiled prior to the remediation of the Site when the top 15 feet of soil from the Site was removed for development.

The Site is located at an elevation of approximately 34 to 36 feet above mean sea level based on the Queens Borough datum, and is generally flat with little to no topography. Based on

soil borings installed in December 2016 in an effort to identify the depth to bedrock throughout the Site, bedrock ranges in depth from approximately 51 feet below grade in the southern end of the Site to approximately 68.5 feet in the northern portion of the Site.

Based on groundwater measurements collected in November 1994 during a subsurface investigation completed by Geraghty & Miller (G&M) as well as groundwater measurements collected by D&B from on-site wells from 2012 through 2017, depth to water in the vicinity of the Site ranged from approximately 14 to 17 feet below ground surface. Based on the groundwater elevation measurements collected by D&B, groundwater flow at the Site is consistent with regional flow, which is in a southwest direction.

Based on G&M's subsurface investigation completed in 1994, the stratigraphy of the Site is composed of six general sedimentary units, including from surface and increasing with depth: fine to coarse sand and gravel, sandy silt, hardpan, clay, silty clayey sand and till. Based on the soil borings completed during D&B's Pre-Construction Site Characterization, subsurface soil at the Site generally consists of light brown to dark brown and gray fine to coarse sand and silt, with varying amounts of fine gravel. In addition, layers of clay are present at varying depths within the completed soil borings; however, a distinct clay layer was observed in the majority of the completed geotechnical soil borings at depths ranging from approximately 10 feet to 25 feet below grade, consistent with G&M's findings.

It should be noted that varying amounts of concrete and brick fragments were observed within the uppermost 10 feet of several soil borings completed at the Site during the Pre-Construction Soil Characterization Investigation. Furthermore, cinders and ash were identified in soil boring B-1 at a depth of approximately 2 feet below grade. Such anthropogenic material is commonly encountered in historic fill and urbanized soil that is commonly found throughout most of New York City. It is likely that all historic fill was removed with the uppermost 15 feet of soil as part of the development of the Site.

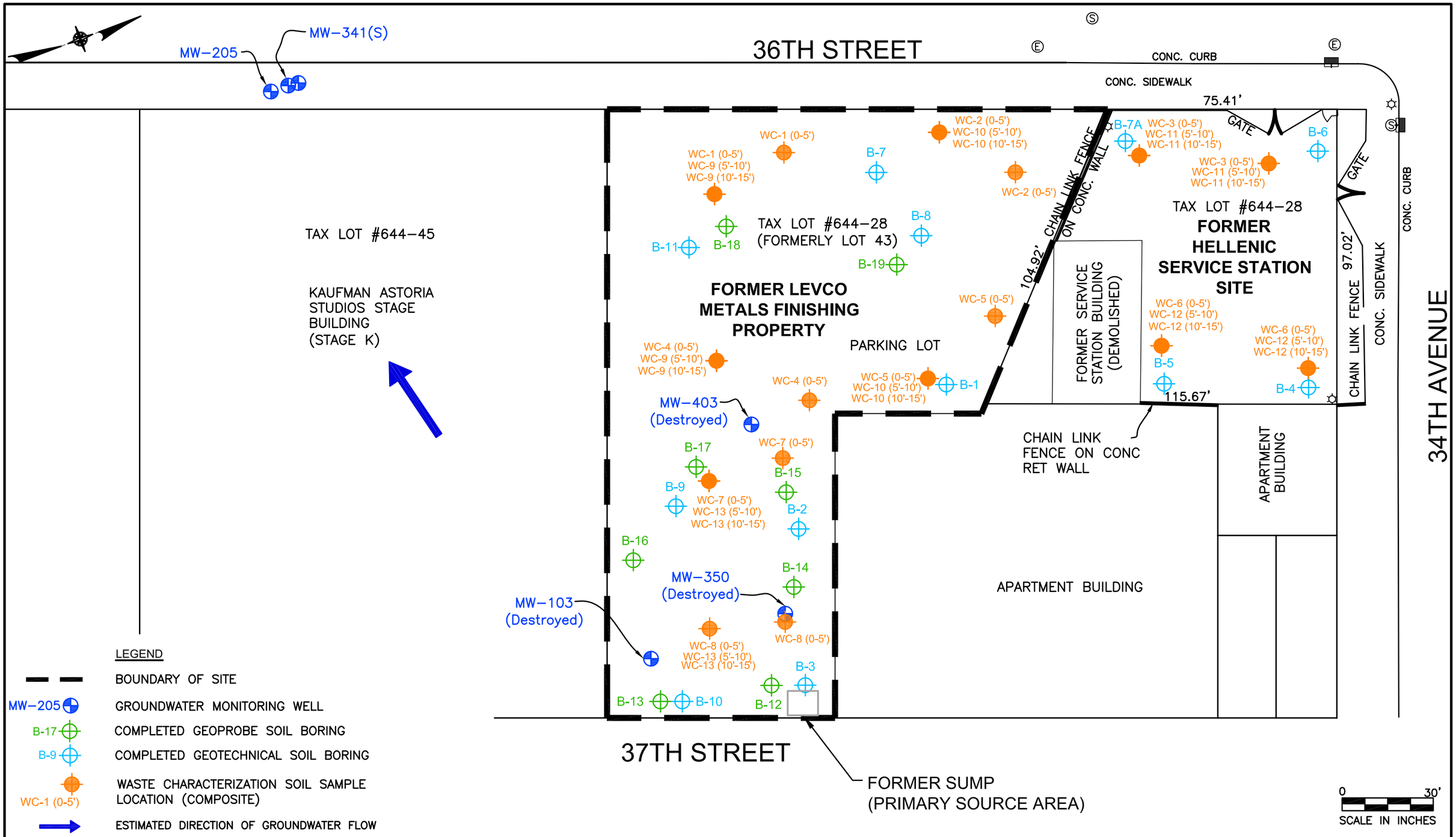
2.3 Site Investigation and Remedial History

The following narrative provides a remedial history timeline and a brief summary of the available project records to document key investigative and remedial milestones for the Site. Full titles for each of the reports referenced below are provided in Section 7.0 - References. All pertinent Site features and sample locations collected as part of previous site investigations are depicted on ***Figure 2-1***.

The Site has been used for industrial purposes since the early 1900's. The Levco Metals Finishing Facility operated from approximately 1960 to 1990 in a 21,900-square foot on-site building. The operators of the Site conducted metal stripping, etching and plating processes until 1990. In April 1991, the Site building was decommissioned and was later demolished in 2000. Shortly after building demolition, the Site was completely paved and converted to a parking lot for KAS. The Site remained as a parking lot until remedial excavation and development began in March 2017.

In January of 1987, a subsurface investigation was conducted that included the installation and sampling of three monitoring wells. Groundwater samples collected from these wells indicated concentrations of VOCs that exceeded United States Environmental Protection Agency (USEPA) drinking water standards. The primary VOCs detected in site groundwater included 1,1,1-trichloroethane (TCA) and trichloroethene (TCE). Efforts to delineate groundwater impacts included subsequent investigations completed through 1990. Note that the Site was formally listed by the NYSDEC on the New York State Registry of Inactive Hazardous Waste Sites (Site ID# 2-41-009) as a Class 2 Site in 1989.

Voluntary site cleanup efforts were implemented by the owner from March 4 through April 9, 1991 and were completed under the supervision of the NYSDEC. The program included the removal and off-site disposal of hazardous materials, as well as decontamination of the facility. All interior equipment and machinery associated with the process operation was



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FORMER LEVCO METALS FINISHING PROPERTY

PREVIOUSLY COMPLETED SAMPLE LOCATION MAP

SCALE:1"=30'-0"

FIGURE 2-1

F:\3908\dwg\3908 - Site Plan and Prev Samp.dwg, 6/22/2018 3:10:33 PM, Adobe PDF

removed and disposed off-site. The building structure was thoroughly power washed and a new concrete slab floor was placed in the former stripping and etching area. Hazardous and nonhazardous waste was transported for treatment and disposal to a permitted off-site facility (Certified Engineering & Testing Company, Inc., 1991).

As described by Certified Testing & Engineering in its final summary report dated May 1991, the following quantities of hazardous waste were manifested and removed during the decontamination process:

- "36,288 gallons of hazardous waste liquid"
- "38 drums (55-gallon capacity) of lab-packed hazardous waste liquids (a total of 1,518 gallons)"
- "163 drums (55-gallon capacity) of lab-packed and non-lab-packed hazardous waste solids, including wood chips, wood and debris"

In addition, between 200 and 250 cubic yards of nonhazardous refuse were removed from the site. A total of 109 steel tanks, with a total capacity of 30,000 gallons, were removed from the property. Approximately 560 cubic yards of scrap metal, including tin ductwork and other metal debris, were removed (Geraghty & Miller, Inc., 1995).

In April 1992, a Phase II investigation was undertaken by the owner in order to delineate the extent of VOCs present in the groundwater and to determine any potential threats to the public and/or the environment. A total of thirteen soil borings were advanced, nine of which were converted to monitoring wells. Analytical results indicated that VOC concentrations were highest near the former sump, located in the southeast corner of the former Levco building. A groundwater plume containing VOCs was detected, extending from the former sump downgradient to the southwest. Chromium and lead were detected in site soil at concentrations exceeding their regulatory standards.

Between September and November of 1993, an Interim Remedial Measure (IRM) was voluntarily implemented by the owner to remove contaminated soil from the sump area.

Material was removed from within the sump including the walls and bottom of the structure. End point samples were collected following IRM activities which indicated that elevated VOC concentrations persisted in the soil. It was concluded that the clay layers in the vicinity of the sump were impeding vertical contaminant migration in the unsaturated zone. Following remediation efforts, the site was reclassified by the NYSDEC from a Class 2a to a Class 2 inactive hazardous waste site.

A second IRM was initiated by the owner in August 1994, and additional excavation activities began in October 1994. Approximately 14 cubic yards of VOC-contaminated soil was removed from the former sump. Post-excavation samples revealed that VOCs were sufficiently remediated, but chromium and cadmium were present at concentrations above NYSDEC soil cleanup objectives. In November 1994, the sump was backfilled with clean fill and sump piping was sealed.

Following the October 1994 excavation, a supplemental site investigation was conducted by G&M to assess residual contamination that may remain in the sump area. The soil samples were analyzed for toxicity characteristic leaching procedure (TCLP) VOCs and metals such as cadmium, chromium, lead and selenium. VOC and metals were detected in soil exceeding regulatory standards in the vicinity of the sump; however, contaminant concentrations were found to decrease rapidly away from the sump area. It was concluded by G&M that the most significant VOC contamination was remediated as part of the IRM and that any remaining contamination in the soil above and below the water table would not adversely affect the public health and the environment, as there were no receptors. Groundwater monitoring continued to assess the natural attenuation of VOCs in the water table.

An investigation conducted in April 1995 determined that groundwater quality had improved after completing the IRM and natural attenuation had also reduced the VOC concentrations in off-site wells. Additional groundwater monitoring in December 1995 confirmed that no other contamination sources were present at the site and that VOC concentrations were decreasing.

On May 15, 1996, based on remedial activities completed between 1992 and 1995, the NYSDEC delisted the Site from the Registry of Inactive Hazardous Waste Disposal Sites and issued a Record of Decision (ROD). The remedy selected in the ROD was monitored natural attenuation of VOCs in groundwater to verify that VOC concentrations in groundwater were decreasing.

The results of an 18-month groundwater sampling program indicated that VOC concentrations were decreasing in concentration at a majority of the monitoring wells when compared with groundwater samples collected in 1997. On January 24, 2002, based on the review of the data, the NYSDEC requested that the site owner perform additional remedial activities at the site in order to reduce VOC concentrations in groundwater. While decreases in groundwater VOC concentrations were observed between 1997 and 2002, the NYSDEC believed natural attenuation was not occurring at an acceptable rate.

In response to the above request, LWJV entered into a VCA with the NYSDEC in July of 2002 to address the residual VOC contamination in groundwater. Accordingly, an air sparging/soil vapor extraction (AS/SVE) system was installed to actively remediate VOCs present in on-site groundwater and soil. As part of this effort, twelve groundwater samples were collected from existing monitoring wells and newly installed pilot test wells and five soil samples were collected from soil borings that were drilled to install pilot test wells. In addition, ten soil vapor samples were collected from several points along the perimeter of the site.

Based on the pilot test investigation data, the SVE System was expanded along the western perimeter of the site with the addition of two SVE wells. On March 21, 2005, the AS/SVE System began operating. The completed AS/SVE System consisted of seven soil vapor extraction wells and five air sparging wells.

Ongoing AS/SVE System monitoring indicated VOCs were effectively being removed from the groundwater, soil and soil vapor beneath the site; however, some difficulties were encountered involving the operation and maintenance of the system. Based on available records,

the system underwent intermittent periods of downtime but was in operation until approximately August 2007.

In January of 2006, soil vapor samples were collected from the site. Results indicated that petroleum related compounds were present in soil vapor samples, which are associated with off-site sources.

Based on discussions in November 2008 among D&B and representatives of the NYSDEC and the New York State Department of Health (NYSDOH), the NYSDEC agreed that the final site remediation could be completed and integrated with site redevelopment. Under contract with KAS, D&B developed a RAWP for the former Levco Metals Finishing Site in early 2009. The NYSDEC approved the RAWP in July 2009 with the understanding that redevelopment of the Site would not be completed until a development plan was in place for the property.

On February 17, 2010, the NYSDEC informed D&B of its plans to conduct an off-site soil vapor study at the Site. KAS requested that the Department allow D&B to prepare a detailed scope of work and conduct the soil vapor study, which was subsequently approved by NYSDEC. D&B completed a soil vapor study in March 2010 which consisted of the collection of two indoor air samples (IA-01 and IA-02) from the basement area of the Stage K Building, one ambient air sample (AA-01) from outside the northern side of the Stage K Building on the border between the Stage K Building property and the Site, as well as the installation and sampling of five soil vapor points (SV-01 through SV-05) off-site in the sidewalk areas of 36th and 37th Streets. All indoor air, ambient air and soil vapor samples were analyzed for VOCs by USEPA Method TO-15.

The data generated as part of the soil vapor study indicates that the VOCs related to manufacturing operations at the Site are not present in the basement of the Stage K Building. In addition, the concentrations of Site related VOCs are decreasing with time. Based on this decreasing trend and the fact that the basement foundation was constructed with a waterproof barrier, the infiltration of these VOCs into the basement is not expected to occur in the future.

Therefore, no further action with regard to soil vapor and indoor air investigations was recommended for the Site.

In early April 2010, representatives of Levco Associates, LLP, its legal counsel, Periconi LLC, and D&B met with the NYSDEC and the NYSDOH to discuss the Department's comments on the draft RAWP referenced above. During this meeting, it was agreed that D&B would submit a revised RAWP to the NYSDEC/NYSDOH in the near future for review and approval and it was agreed that the final remediation of the former Levco property would be integrated with the redevelopment of that property and the adjacent parcel (the former Hellenic Service Station), which is currently owned by Astoria ON Stage, LLC.

KAS notified D&B that a development plan was in place for the Site in September 2015. However, the details of the actual structure of the building and all details of its use still needed to be fully refined. D&B notified the NYSDEC of this fact and informed the Department that we would be proceeding with the Pre-Construction Soil Characterization sampling program in accordance with the NYSDEC-approved RAWP. In May 2016, KAS informed D&B that the development plan was to develop the Site and adjoining parcel (formerly the Hellenic Service Station Site) into two production stages and related supporting infrastructure and a below-grade garage (Stages O&N).

In accordance with the RAWP, a Pre-Construction Soil Characterization sampling program was completed between November 4 and 13, 2015 to obtain soil characterization needed to determine the ultimate transportation and disposal method for all soil to be excavated as part of site redevelopment. A total of 19 soil borings were completed at the Site and adjoining former Hellenic Service Station Site, which included eleven soil borings (B-1 through B-11) installed for geotechnical purposes and eight soil borings (B-12 through B-19) installed for environmental investigation purposes. A total of 57 soil samples were collected from the 19 soil borings for laboratory analysis of VOCs, semivolatile organic compounds (SVOCs) and Resource Conservation and Recovery Act (RCRA) Metals, with select samples analyzed for the following waste characterization parameters: RCRA characteristics including ignitability, reactivity, corrosivity and toxicity, toxicity characteristic leaching procedure (TCLP) metals,

TCLP organics, total sulfur, total polychlorinated biphenyls (PCBs) and pH. The pre-construction investigation is documented in the March 2017 Pre-Construction Soil Characterization Investigation and Excavation Plan, revised September 2017.

Evidence of contamination (PID readings and odors) was limited to 5 of the 8 completed environmental soil borings (B-12 through B-16), with a maximum PID reading of 8.0 ppm detected at soil boring locations B-13 (approximately 5 to 6 feet below grade) and B-16 (approximately 5 to 10 feet below grade). In addition, slight solvent-like odors were detected in 4 of the 8 soil borings (B-13 through B-16), at depths ranging from 1 to 6 feet below grade, generally corresponding to the elevated PID readings. Soil borings B-12 through B-16 are located in the immediate vicinity of, and downgradient of the former sump area located in the southeastern corner of the Site.

VOCs were not detected at concentrations above their Commercial Use Soil Cleanup Objectives (SCOs), which were the selected Standards, Criteria and Guidance (SCGs) based on the current and future use of the Site. However, at the request of the NYSDEC, all soil VOC analytical data was also compared to the Part 375 Protection of Groundwater SCOs. In general, the highest VOC concentrations were detected in soil borings B-3, B-12 and B-15 at depths ranging from 5 to 17 feet below grade, located in the southeastern portion of the Site in the immediate vicinity and downgradient of the former sump area. The VOCs exhibiting the highest concentrations in these borings included trichloroethene (TCE), detected in soil borings B-3 and B-12 and benzene, toluene, ethyl benzene and xylene (BTEX) and other related compounds, detected in soil boring location B-15. TCE was also detected in soil samples B-3 (15 to 17 feet) and B-3 (20 to 22 feet) above the protection of groundwater SCO at concentrations of 1,900 and 740 ug/kg, respectively. In addition, the following samples exhibited one or more VOCs exceeding the protection of groundwater SCO:

- B-12 (5 to 7 feet). TCE at 1,700 ug/kg.
- B-15 (5 to 7 feet). TCE at 710 ug/kg and xylenes at 2,100 ug/kg.

In addition, several SVOCs were detected in the collected soil samples. However, all of these SVOCs were detected at concentrations below their Commercial Use SCOs, with the exception of benzo(a)pyrene, detected at a concentration of 1,200 ug/kg in soil sample B-11 (6 to 10 feet), slightly exceeding its Commercial Use SCO of 1,000 ug/kg. Soil boring B-11 is located in the western portion of the Site.

Several metals were detected in the collected soil samples, but at concentrations below their Commercial Use SCOs, with the exception of cadmium detected at concentrations of 30.5 mg/kg and 9.8 mg/kg in soil samples B-10 (15 to 17 feet) and B-12 (10 to 15 feet), respectively, exceeding the Commercial Use SCO of 9.3 mg/kg. In general, the most significant metal concentrations were detected in soil borings B-8, B-12 and B-14. Soil borings B-12 and B-14 are located in the eastern portion of the Site, downgradient of the former sump area, and soil boring B-8 is located in the western portion of the Site.

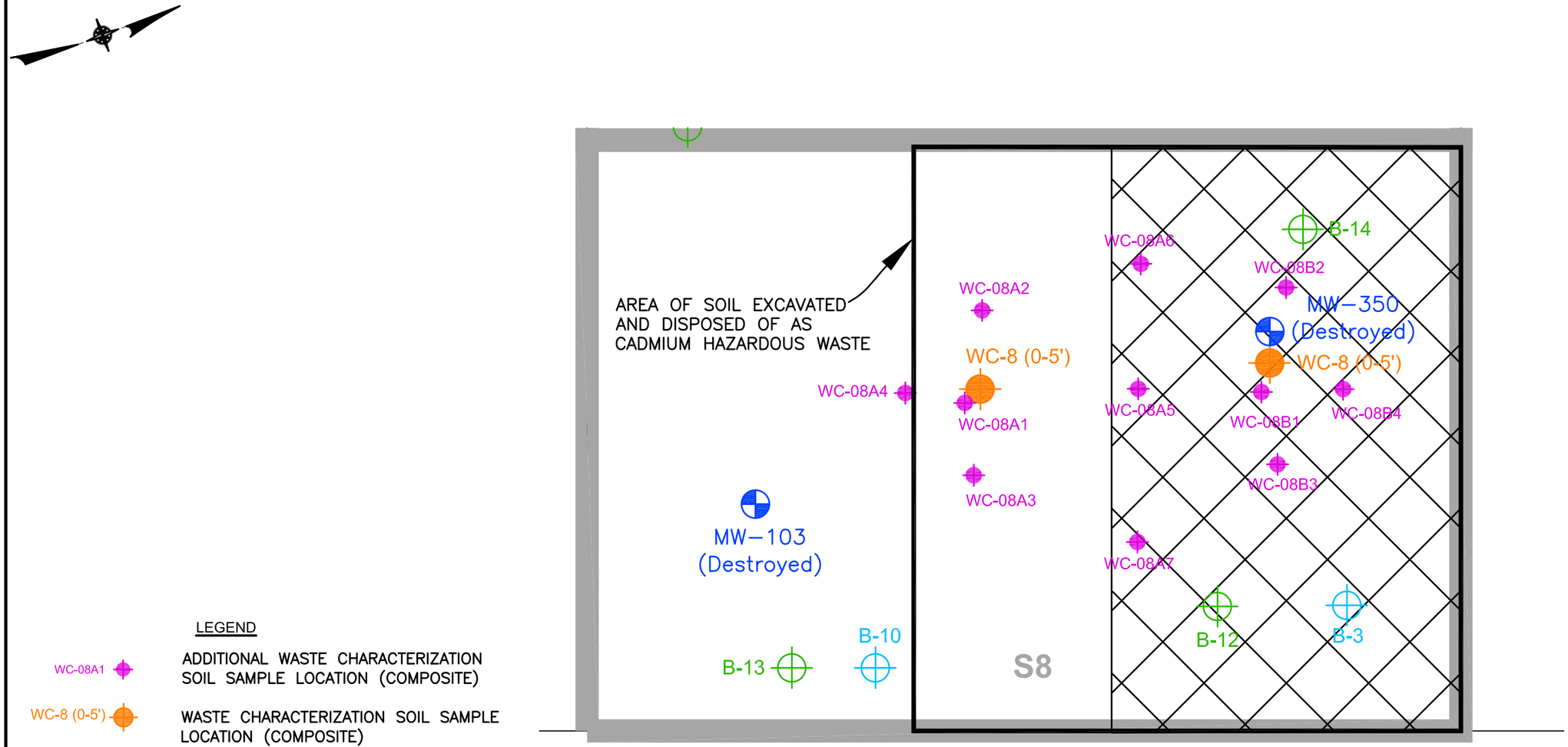
At the request of disposal facilities, additional pre-construction soil characterization data was collected on December 9, 2016 for waste characterization purposes, as documented in the December 23, 2016 Soil Characterization Letter Report. A total of 16 soil borings were completed at the Site and adjoining Hellenic Service Station Site at depths ranging from 5 to 15 feet below grade, with composite soil samples collected for analysis of VOCs, SVOCs, TCLP metals, target analyte list (TAL) metals, hexavalent chromium, RCRA characteristics, total cyanide, PCBs, pesticides, total organic halides (TOX), extractable petroleum hydrocarbons (EPH), TPH gasoline range organics (GRO) and diesel range organics (DRO) and/or paint filter. Completed soil characterization boring locations are provided on ***Figure 2-1***. Based on the results of this sampling program, limited exceedances of the Commercial Use SCOs were detected, including one or more PAHs in soil samples WC-1 (0 to 5 feet), WC-2 (0 to 5 feet), WC-6 (0 to 5 feet) and WC-10 (10 to 15 feet), cadmium in soil sample WC-8 (0 to 5 feet) and copper in soil samples WC-8 (0 to 5 feet) and WC-10 (10 to 15 feet).

Based on their review of the VOC data, the NYSDEC concurred with D&B that the Site soil did not have to be treated as a hazardous waste under the NYSDEC's Contained-In Policy. However, TCLP cadmium was detected at a concentration of 2.93 mg/l in soil sample WC-8 (0

to 5 feet), exceeding the RCRA Maximum Concentration of Contaminants for Toxicity Characteristic level of 1.0 mg/l, collected from the eastern portion of the Site. Note that 11 additional soil borings were completed in the vicinity of soil boring WC-8 and a total of 25 soil samples were collected for total and TCLP cadmium analysis in order to delineate the area of hazardous cadmium contamination. The defined area of hazardous cadmium soil was properly disposed during remedial excavation activities. The completed additional delineation soil boring locations are depicted on ***Figure 2-2***, and documented in the March 1, 2017 Cadmium Investigation Letter Report.

A pre-remediation groundwater sampling event was completed on March 7, 2017 in order to establish baseline or pre-remediation conditions with regard to VOC contamination in groundwater. A total of seven groundwater samples were collected from existing groundwater monitoring wells MW-331(S), MW-103, MW-350, MW-403, MW-341(S), MW-204 and MW-311(S) for analysis of VOCs. Consistent with previous sample rounds, VOC concentrations were observed to be highest in the monitoring well located immediately downgradient of the former sump area, MW-350. Several VOCs including 1,1,1-Trichloroethane, cis-1,2-dichloroethylene and TCE were detected above their GA Standard of 5 ug/l in monitoring well MW-350 at concentrations of 16, 17 and 200 ug/l, respectively. In addition, TCE was detected at concentrations exceeding its Class GA Standard in monitoring wells MW-103, MW-341 (S) and MW-403, at concentrations of 30 ug/l, 18 ug/l and 27 ug/l, respectively. VOCs were not detected at concentrations exceeding their respective Class GA Standards in off-site downgradient monitoring well MW-204 and upgradient monitoring wells MW-311(S) and MW-331(S). Groundwater monitoring well locations are depicted on ***Figure 2-1***.

Based on the data associated with the March 2017 sampling event, VOC concentrations in groundwater have increased in the immediate vicinity of the former sump area of the Levco property since the previous October 2016 sampling event, but are considerably lower in concentration when compared to pre-remediation conditions prior to 2005. In addition, overall VOC concentration trends remain generally decreasing.



LEGEND

WC-08A1	ADDITIONAL WASTE CHARACTERIZATION SOIL SAMPLE LOCATION (COMPOSITE)
WC-8 (0-5')	WASTE CHARACTERIZATION SOIL SAMPLE LOCATION (COMPOSITE)
MW-103	GROUNDWATER MONITORING WELL
B-12	COMPLETED GEOTECHNICAL SOIL BORING
B-3	COMPLETED GEOPROBE SOIL BORING
S8	SOIL MANAGEMENT UNIT
	APPROXIMATE AREA OF CADMIUM EXCEEDING TCLP OF 1 MG/L

NOTE

MAP DEPICTS SOIL MANAGEMENT UNIT S8, AS SHOWN ON FIGURE 2-3, EXCAVATION PLAN SHOWING GRID CELLS.

0 10'
SCALE IN INCHES

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ADDITIONAL DELINEATION SOIL BORING LOCATION MAP

SCALE:1"=10'

FIGURE 2-2

F:\3908\dwg\3908 - SMP Fig 2-2 WChar Sample Loc Map.dwg, 11/10/2017 10:23:39 AM, Adobe PDF.pc3

As described in the Final Engineering Report (FER), remedial excavation for the construction of the new site building was completed throughout the Site and the adjacent former Hellenic Service Station Site between March 2017 and May 2018. Excavation was generally completed to a depth of 15 feet below ground surface, with the exception of the following:

- A 10-foot by 10-foot area located in eastern portion of the Site and in the vicinity of the former sump was excavated to a depth of 17 feet below grade due to a concentration of TCE (1,900 ug/kg) detected in soil sample B-3 (15 to 17 feet) above the Protection of Groundwater SCO, collected as part of the Pre-Construction Soil Characterization Investigation.

- A 9-foot wide zone of soil was left in place along the south side of the Site adjacent to an off-site building for structural reasons.

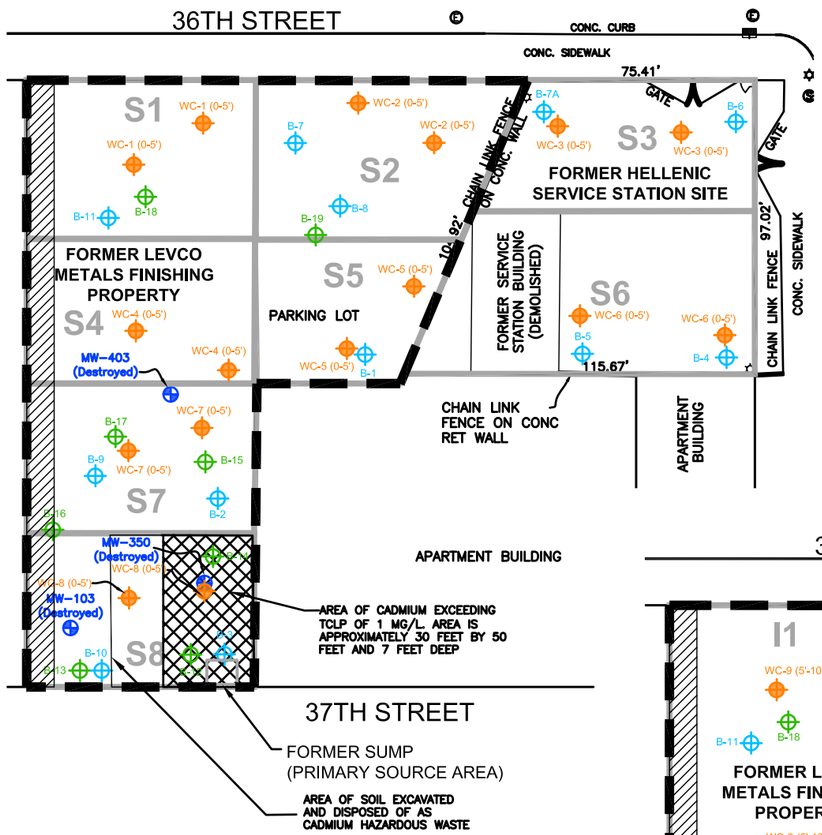
- A 10-foot by 10-foot area centered on endpoint soil sample EP-32 was excavated to a depth of 17 feet below grade due to a concentration of TCE (660 ug/kg) detected in EP-32 above the Protection of Groundwater SCO.

In order to facilitate the sequence of the excavation activities, the Site was divided into 12 grid cells, each being 5 feet in thickness, in order to classify soil for shipment and disposal purposes. An excavation plan showing the grid cells and previously completed sample locations is provided as ***Figure 2-3***. The identified TCE "hot-spots" are depicted on ***Figure 2-3***, in the southeastern corner of the Site, as well as the location of the assumed source area, the former sump. The TCE "hot-spots" were disposed to a lined landfill in accordance with the NYSDEC's Contained-In Policy. In addition, ***Figure 2-3*** also depicts the area of cadmium-impacted soil associated with soil sample WC-8 (0 to 5 feet) which was disposed of as hazardous waste.

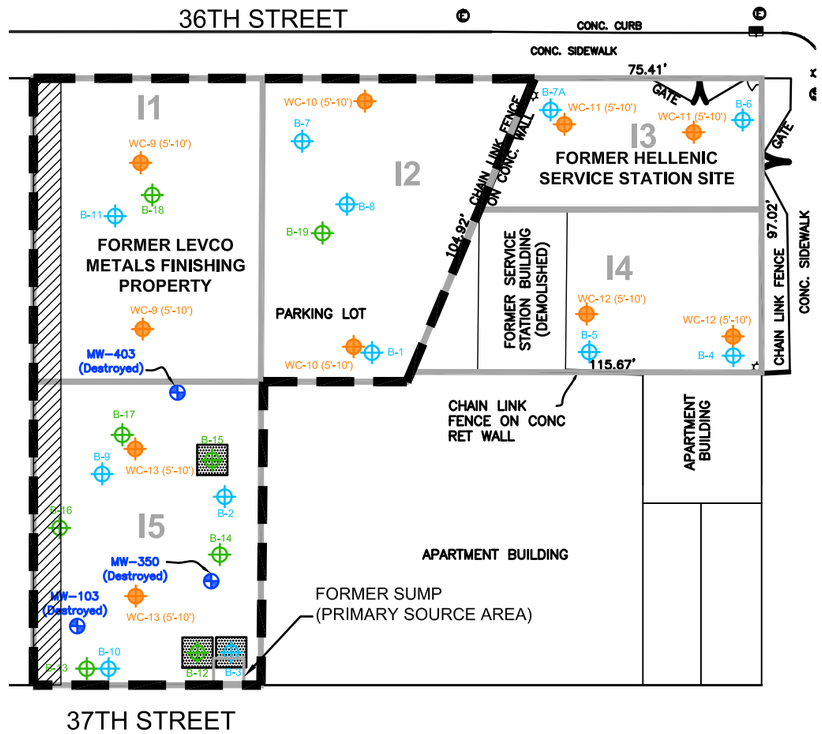
2.3.1 Summary of Remedial Actions

As previously discussed, completed investigation activities at the Site identified several areas of contamination. To address the identified contamination, and as detailed in the previous subsection, several remedial actions have been completed at Site. In summary, these remedial actions have included the following:

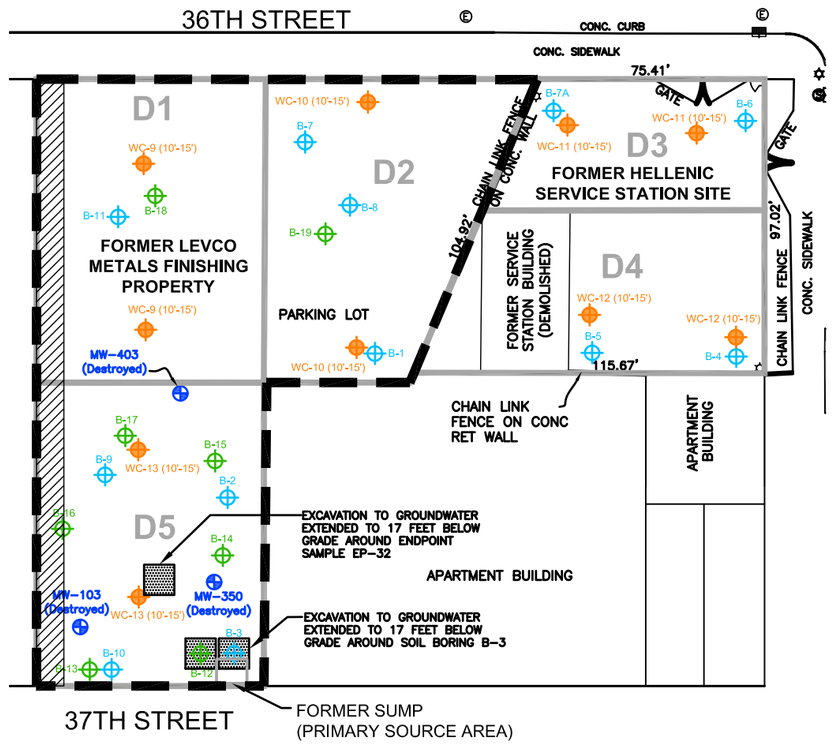
SHALLOW ZONE



INTERMEDIATE ZONE



DEEP ZONE



LEGEND

- BOUNDARY OF SITE
- WC-1 (0-5') — WASTE CHARACTERIZATION SOIL SAMPLE LOCATION (COMPOSITE)
- MW-205 — GROUNDWATER MONITORING WELL
- B-17 — COMPLETED GEOTECHNICAL SOIL BORING
- B-9 — COMPLETED GEOPROBE SOIL BORING
- S1 — SOIL MANAGEMENT UNIT
- 10' BY 10' AREAS AROUND SELECT BORING/SAMPLE LOCATIONS DISPOSED IN ACCORDANCE WITH NOVEMBER 3, 2016 AND FEBRUARY 23, 2018 CONTAINED IN LETTER DUE TO TCE CONCENTRATIONS
- APPROXIMATE 9-FOOT WIDTH OF SOIL REMAINING IN PLACE EXCEPT FOR APPROXIMATE 2-FEET OF SOIL REMOVED FROM SHALLOW GRIDS.

0 50'
SCALE IN INCHES

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SCALE:1"=50'-0"

EXCAVATION PLAN SHOWING GRID CELLS

FIGURE 2-3

- Removal and off-site disposal of hazardous materials and decontamination of the facility in March and April 1991, which consisted of:
    - The removal and disposal of all interior equipment and machinery associated with the process operation.
    - Power-washing of the building structure and installation of a new concrete slab floor in the former stripping and etching area.
    - Hazardous and nonhazardous waste was transported for treatment and disposal to a permitted off-site facility.
- An Interim Remedial Measure (IRM) implemented between September and November of 1993, to remove contaminated soil from the sump area.
- A second IRM completed between August and October 1994 consisting of excavation of 14 cubic yards of VOC contaminated soil from the former sump. In November 1994, the sump was backfilled with clean fill and sump piping was sealed.
- Demolition of the former Levco building in 2000 and redevelopment of the Site as employee parking lot for KAS.
- Installation and operation of an air sparging/soil vapor extraction (AS/SVE) system to actively remediate VOCs present in on-site groundwater and soil, which operated between March 2005 until approximately August 2007.
- Excavation of soil/fill exceeding the Commercial Use SCOs and Protection of Groundwater SCOs to depth of 15 feet below ground surface throughout the entirety of the Site and adjacent former Hellenic Service Station site, as part of the redevelopment of the Site. The removal of an additional two feet of soil to groundwater (from approximately 15 to 17 feet below ground surface) in a 10-foot by 10-foot area centered around both soil boring B-3 (collected as part of the Pre-Construction Soil Characterization sampling) and endpoint soil sample EP-32 (collected upon completion of remedial excavation activities) based on TCE concentrations above the Protection of Groundwater SCO. Soil excavation activities were completed between March 2017 and May 2018.
- Construction and maintenance of a cover system consisting of the foundation of the new Site building to prevent human exposure to remaining contaminated soil/fill at the Site.
- Installation of a gas vapor barrier below the foundation of the new Site building.

The remedial actions discussed above have successfully addressed the vast majority of soil and groundwater contamination at the Site. Soil excavation activities completed at the Site

addressed the removal of the majority of contaminated soil and the AS/SVE system was successful in reducing VOC concentrations in groundwater at the Site, thus, preventing off-site migration of contaminated groundwater.

2.4 Remedial Action Objectives

The Remedial Action Objectives (RAOs) for the Site as listed in the July 2010 RAWP are as follows:

- Prevent migration of site-related contaminants that would result in groundwater contamination and inhalation of contaminants volatilizing from the soil through the removal of contaminated soil above site SCGs.
- Protect on-site workers and the surrounding community from exposure to site-related contaminants during the implementation of the remedy.
- Establish general guidelines for the proper management and disposal of soil, water and other waste that would be generated as part of the implementation of the remedy.
- Establish general guidelines associated with the operation and maintenance of the proposed building to be constructed in order to reduce the potential for future exposure of building occupants and the community to site-related contaminants.

2.5 Remaining Contamination

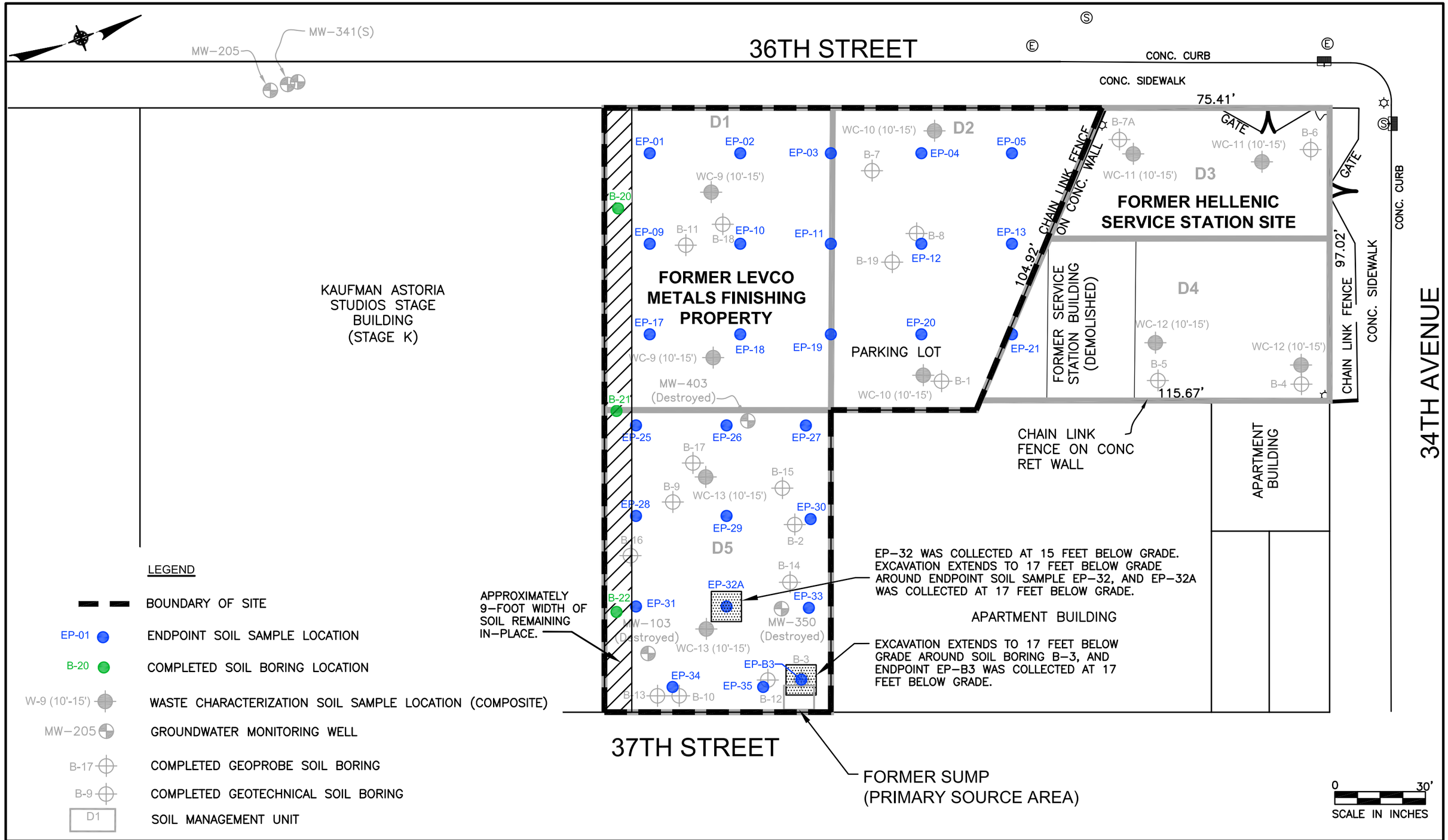
The following discussion summarizes the remaining contamination identified at the Site based on the endpoint soil samples collected following the remedial actions discussed above, as well as the most recent pre-remedial investigation activities conducted at the Site.

Upon reaching the final excavation depths, endpoint soil samples were collected from the base of the excavation in accordance with the July 2010 RAWP and March 2017, revised September 2017 Pre-Construction Soil Characterization Report and Excavation Plan, as well as subsequent RAWP modifications, as detailed in the June 2018 FER. Note that support of excavation and foundation walls encompassed the entire property boundary and therefore, no side wall soil samples were collected.

Endpoint soil samples were collected in accordance with the NYSDEC DER-10 Technical Guidance for Site Investigation and Remediation at a density of approximately one for every 900 square feet of area. A total of 28 endpoint samples were collected for laboratory analysis of Target Compound List (TCL) VOCs by USEPA Methods 8260 and 5035, and TAL metals by USEPA Method 6010 in order to determine the characteristics of the remaining soil. In addition, as per NYSDEC request, 3 soil borings (B-20, B-21 and B-22) were completed in a 9-foot wide strip of soil left in place along the south side of the Site for documentation purposes. The completed endpoint and soil boring sample locations are depicted on ***Figure 2-4***. Tabulated analytical results for the endpoint and soil boring soil samples are provided in ***Appendix C***. TCL VOCs were compared to the Protection of Groundwater SCOs for chlorinated VOCs and the Part 375 Commercial Use SCOs, and TAL metals were compared to the Commercial Use SCOs. In addition, although not a cleanup objective for this Site, Unrestricted Use SCO exceedances are provided on the data summary tables in ***Appendix C*** and within this section of the SMP for documentation purposes.

Soil excavation and removal has been completed and site redevelopment activities are ongoing, consisting of the construction of a new Stage building (Stages O&N) for film and television production with a footprint that covers the entirety of the Site and adjoining former Hellenic Service Station Site. The new building will feature a below-grade parking garage with active ventilation. Although not yet fully installed as of the issuance of this SMP, a vapor barrier will be installed immediately below the building foundation to prevent potential vapor intrusion into the Site building from any remaining VOCs at the Site. Detailed drawings of the redevelopment, which includes the footprint of the on-site building and corresponding extent of the vapor barrier installed at the Site is provided in ***Appendix D***.

As discussed in Section 2.3, the most significant contamination at the Site was identified within the uppermost 15 feet of soil; therefore, the vast majority of soil contamination was addressed through the completion of the remedial excavation activities. In addition, the removal of this soil is anticipated to result in a decrease in contaminant concentrations in groundwater, as



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FORMER LEVCO METALS FINISHING PROPERTY

ENDPOINT SOIL SAMPLE LOCATION MAP

SCALE:1"=30'-0"

FIGURE 2-4

F:\3908\dwg\3908 - Fig 2-2 SWP EP Samp Loc Map.dwg, 6/22/2018 3:21:50 PM, Adobe PDF.pc3

the soil contamination was considered a potential source of groundwater contamination. However, based on the results of endpoint soil samples, documentation soil borings, and soil samples collected as part of D&B's November 2015 Pre-Construction Soil Characterization Site Investigation, several soil samples collected from on-site soil beyond the limits of the completed excavation exhibited contaminants at concentrations exceeding the Part 375 Unrestricted Use and Commercial Use SCOs, as well as Protection of Groundwater SCOs for chlorinated VOCs. In addition, groundwater samples collected as part of the pre-construction groundwater sampling program exhibited contaminants at concentrations exceeding their respective Class GA Standards. As such, this material is identified as "remaining contamination" at the Site and will be addressed by the ICs to be implemented at the Site as part of this SMP.

The following discussion summarizes the areas "remaining contamination" at the Site for both soil and groundwater.

Soil

As previously discussed, soil samples collected at depths greater than 15 feet below ground surface as part of the Pre-Construction Soil Characterization Investigation exhibited contaminants at concentrations exceeding their respective Unrestricted Use SCOs and Commercial Use SCOs, as well as Protection of Groundwater SCOs for chlorinated VOCs. As excavation activities were completed to a minimum depth of 15 feet below grade (with the exception of the 9-foot wide strip of soil along the south side of the Site), all contaminants identified within the uppermost 15 feet of soil at the Site were removed from the Site.

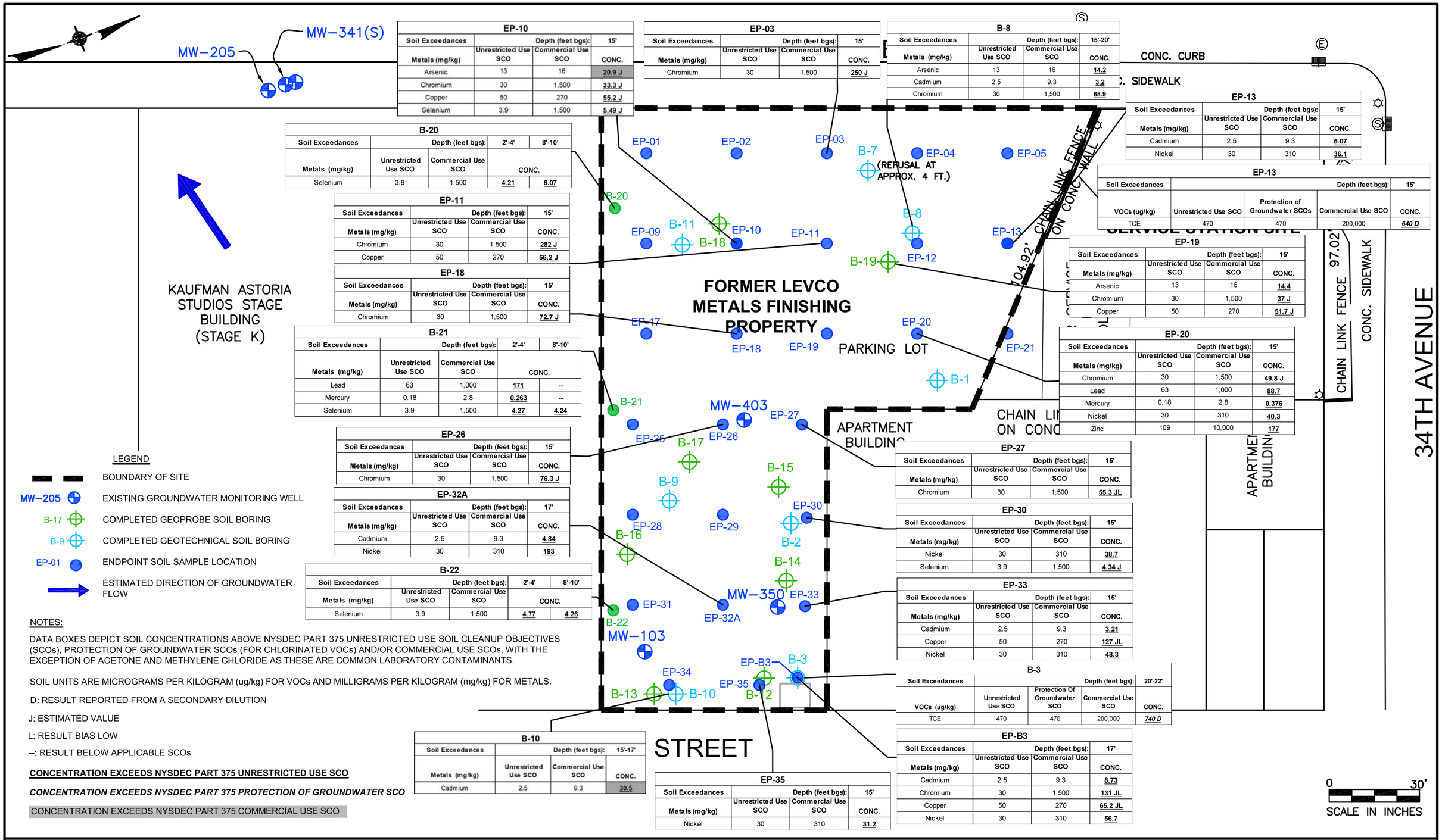
It should be noted that 10-foot by 10-foot areas located in the eastern portion of the Site and in the vicinity of the former sump were excavated an additional 2 feet to a depth of 17 feet below ground surface due to concentrations of TCE detected above the Protection of Groundwater SCOs, including at soil sample B-3 (15 to 17 feet) collected as part of the Pre-Construction Soil Characterization Investigation and endpoint soil sample EP-32. Following the additional excavation at B-3 and EP-32, additional endpoint soil samples EP-B3 and EP-32A, respectively, were collected for documentation purposes, as per NYSDEC request. No

exceedances of Commercial Use SCOs, or Protection of Groundwater SCOs for chlorinated VOCs were observed. As such, this material was successfully removed as part of the remedial activities completed at the Site, and therefore, is excluded from the discussion below.

Soil sample locations and a summary of soil samples and contaminants exceeding their respective Unrestricted Use SCOs and Commercial Use SCOs, as well as Protection of Groundwater SCOs for chlorinated VOCs, are depicted on ***Figure 2-5***. In addition, ***Table 2-1*** provided below summarizes the soil samples and VOCs identified at concentrations exceeding the Unrestricted Use SCOs, Commercial Use SCOs and Protection of Groundwater SCOs for chlorinated VOCs. ***Table 2-2*** provided below summarizes the soil samples and metals identified at concentrations exceeding the Unrestricted Use SCOs and Commercial Use SCOs.

As shown on ***Figure 2-5, Table 2-1*** and ***Table 2-2***, limited soil contamination remains at the Site at a depth of 15 feet or greater below ground surface. This remaining contamination is limited to VOCs and metals and is primarily located in the vicinity of and downgradient of the former sump area. All VOC concentrations identified at concentrations exceeding the Unrestricted Use SCOs and Protection of Groundwater SCOs do not exceed the Commercial Use SCOs, which are the more appropriate SCGs based on current and future land uses at the Site. In addition, most of the exceeding concentrations are for acetone and methylene chloride which are common laboratory contaminants and may not be Site-related. Therefore, acetone and methylene chloride are not listed in ***Table 2-1*** and ***Figure 2-5***. Note that based on available data, including the endpoint soil samples, there is no remaining contamination above the Protection of Groundwater SCOs for trans-1,2-dichloroethene, cis-1,2-dichloroethene and 1,1,1-trichloroethane. With the exception of arsenic and cadmium each at one location, all of the above-listed metals were also detected at concentrations below their respective Commercial Use SCOs.

It should be noted that, although endpoint soil sample EP-10 exhibited arsenic at a concentration exceeding the Commercial Use SCO and endpoint soil sample EP-13 exhibited TCE at a concentration exceeding the Protection of Groundwater SCO, additional



EP-10			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Arsenic	13	16	20.9 J
Chromium	30	1,500	33.3 J
Copper	50	270	55.2 J
Selenium	3.9	1,500	5.49 J

EP-03			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Chromium	30	1,500	250 J

B-8			
Soil Exceedances	Depth (feet bgs):		15'-20'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Arsenic	13	16	14.2
Cadmium	2.5	9.3	3.2
Chromium	30	1,500	68.9

EP-13			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Cadmium	2.5	9.3	5.07
Nickel	30	310	36.1

EP-13				
Soil Exceedances	Depth (feet bgs):			15'
VOCs (ug/kg)	Unrestricted Use SCO	Protection of Groundwater SCOs	Commercial Use SCO	CONC.
TCE	470	470	200,000	*640 D*

B-20				
Soil Exceedances	Depth (feet bgs):		2'-4'	8'-10'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.	
Selenium	3.9	1,500	4.21	6.07

EP-11			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Chromium	30	1,500	282 J
Copper	50	270	56.2 J

EP-18			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Chromium	30	1,500	72.7 J

EP-19			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Arsenic	13	16	14.4
Chromium	30	1,500	37 J
Copper	50	270	51.7 J

B-21				
Soil Exceedances	Depth (feet bgs):		2'-4'	8'-10'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.	
Lead	63	1,000	171	--
Mercury	0.18	2.8	0.263	--
Selenium	3.9	1,500	4.27	4.24

EP-20			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Chromium	30	1,500	49.8 J
Lead	63	1,000	88.7
Mercury	0.18	2.8	0.376
Nickel	30	310	40.3
Zinc	109	10,000	177

EP-26			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Chromium	30	1,500	76.3 J

EP-27			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Chromium	30	1,500	55.3 JL

EP-32A			
Soil Exceedances	Depth (feet bgs):		17'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Cadmium	2.5	9.3	4.84
Nickel	30	310	193

EP-30			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Nickel	30	310	38.7
Selenium	3.9	1,500	4.34 J

EP-33			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Cadmium	2.5	9.3	3.21
Copper	50	270	127 JL
Nickel	30	310	48.3

B-22				
Soil Exceedances	Depth (feet bgs):		2'-4'	8'-10'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.	
Selenium	3.9	1,500	4.77	4.26

B-3				
Soil Exceedances	Depth (feet bgs):			20'-22'
VOCs (ug/kg)	Unrestricted Use SCO	Protection Of Groundwater SCO	Commercial Use SCO	CONC.
TCE	470	470	200,000	*740 D*

B-10			
Soil Exceedances	Depth (feet bgs):		15'-17'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Cadmium	2.5	9.3	30.5

EP-35			
Soil Exceedances	Depth (feet bgs):		15'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Nickel	30	310	31.2

EP-B3			
Soil Exceedances	Depth (feet bgs):		17'
Metals (mg/kg)	Unrestricted Use SCO	Commercial Use SCO	CONC.
Cadmium	2.5	9.3	8.73
Chromium	30	1,500	131 JL
Copper	50	270	65.2 JL
Nickel	30	310	56.7

LEGEND

- BOUNDARY OF SITE
- MW-205 — EXISTING GROUNDWATER MONITORING WELL
- B-17 — COMPLETED GEOPROBE SOIL BORING
- B-9 — COMPLETED GEOTECHNICAL SOIL BORING
- EP-01 — ENDPOINT SOIL SAMPLE LOCATION
- ESTIMATED DIRECTION OF GROUNDWATER FLOW

NOTES:

DATA BOXES DEPICT SOIL CONCENTRATIONS ABOVE NYSDEC PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCOs), PROTECTION OF GROUNDWATER SCOs (FOR CHLORINATED VOCs) AND/OR COMMERCIAL USE SCOs, WITH THE EXCEPTION OF ACETONE AND METHYLENE CHLORIDE AS THESE ARE COMMON LABORATORY CONTAMINANTS.

SOIL UNITS ARE MICROGRAMS PER KILOGRAM (ug/kg) FOR VOCs AND MILLIGRAMS PER KILOGRAM (mg/kg) FOR METALS.

D: RESULT REPORTED FROM A SECONDARY DILUTION

J: ESTIMATED VALUE

L: RESULT BIAS LOW

--: RESULT BELOW APPLICABLE SCOs

CONCENTRATION EXCEEDS NYSDEC PART 375 UNRESTRICTED USE SCO

CONCENTRATION EXCEEDS NYSDEC PART 375 PROTECTION OF GROUNDWATER SCO

CONCENTRATION EXCEEDS NYSDEC PART 375 COMMERCIAL USE SCO

0 30'

SCALE IN INCHES

D&B ENGINEERS AND ARCHITECTS, P.C.

FORMER LEVCO METALS FINISHING PROPERTY

SCALE:1"=30'-0"

REMAINING CONTAMINATION - SUMMARY OF SOIL EXCEEDANCES

FIGURE 2-5

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Table 2-1

Summary of VOC Exceedances Remaining in Soil

Sample	Date	Constituent	Concentration (ug/kg)	Unrestricted Use SCO (ug/kg)	Protection of GW SCO (ug/kg)	Commercial Use SCO (ug/kg)
B-03 (20-22)	11/5/2015	Trichloroethene	***740 D***	470	470	200,000
EP-13	4/3/2018	Trichloroethene	***640 D***	470	470	200,000

Notes:

ug/kg: Micrograms per kilogram

D: Reported from a secondary dilution

Exceeds Unrestricted Use SCO

Exceeds Protection of GW SCO

Table 2-2
Summary of Metals Exceedances Remaining in Soil

Sample	Date	Constituent	Concentration (mg/kg)	Unrestricted Use SCO (mg/kg)	Commercial Use SCO (mg/kg)
B-08 (15-20)	11/11/2015	Arsenic	**14.2**	13	16
		Cadmium	**3.2**	2.5	9.3
		Chromium	**68.9**	30	1,500
B-10 (15-17)	11/11/2015	Cadmium	**30.5**	2.5	9.3
B-20 (2-4)	2/7/2018	Selenium	**4.21**	3.9	1,500
B-20 (8-10)	2/7/2018	Selenium	**6.07**	3.9	1,500
B-21 (2-4)	2/7/2018	Lead	**171**	63	1,000
		Mercury	**0.263**	0.18	2.8
		Selenium	**4.27**	3.9	1,500
B-21 (8-10)	2/7/2018	Selenium	**4.24**	3.9	1,500
B-22 (2-4)	2/7/2018	Selenium	**4.77**	3.9	1,500
B-22 (8-10)	2/7/2018	Selenium	**4.26**	3.9	1,500
EP-B3	2/6/2018	Cadmium	**8.73**	2.5	9.3
		Chromium	**131 JL**	30	1,500
		Copper	**65.2 JL**	50	270
		Nickel	**56.7**	30	310
EP-03	4/3/2018	Chromium	**250 J**	30	1,500
EP-10	12/18/2017	Arsenic	**20.9 J**	13	16
		Chromium	**33.3 J**	30	1,500
		Copper	**55.2 J**	50	270
		Selenium	**5.49 J**	3.9	1,500
EP-11	4/3/2018	Chromium	**282 J**	30	1,500
		Copper	**56.2 J**	50	270
EP-13	4/3/2018	Cadmium	**5.07**	2.5	9.3
		Nickel	**36.1**	30	310
EP-18	12/18/2017	Chromium	**72.7 J**	30	1,500
EP-19	4/3/2018	Arsenic	**14.4**	13	16
		Chromium	**37 J**	30	1,500
		Copper	**51.7**	50	270
EP-20	4/3/2018	Chromium	**49.8 J**	30	1,500
		Lead	**88.7**	63	1,000
		Mercury	**0.376**	0.18	2.8
		Nickel	**40.3**	30	310
		Zinc	**177**	109	10,000
EP-26	12/18/2017	Chromium	**76.3 J**	30	1,500
EP-27	2/5/2018	Chromium	**55.3 JL**	30	1,500
EP-30	2/5/2018	Nickel	**38.7**	30	310
		Selenium	**4.34 J**	3.9	1,500
EP-32A	3/12/2018	Cadmium	**4.84**	2.5	9.3
		Nickel	**193**	30	310
EP-33	2/5/2018	Cadmium	**3.21**	2.5	9.3
		Copper	**127 JL**	50	270
		Nickel	**48.3**	30	310
EP-35	2/6/2018	Nickel	**31.2**	30	310

Notes:
mg/kg: Milligrams per kilogram
J: Estimated Value
L: Bias Low
Exceeds Unrestricted Use SCO
Exceeds Commercial Use SCO

excavation in these areas was not feasible due to ongoing construction activities. Therefore, the NYSDEC did not require additional excavation in these areas. This contamination will remain in place below the new on-site building at a depth of 15 feet below ground surface.

Groundwater

The following discussion focuses on the most recent groundwater sampling event completed as part of the pre-construction groundwater sampling event. Pre-construction groundwater sampling was conducted in March 2017 at seven existing groundwater monitoring wells (MW-331(S), MW-103, MW-350, MW-403, MW-341(S), MW-204 and MW-311(S)) in order to establish baseline or pre-remediation conditions with regard to VOC concentrations in groundwater. All monitoring well locations are depicted on ***Figure 1-2***.

As shown on ***Table 2-3*** below, VOCs were either not detected or were detected at concentrations below their respective Class GA Standards in the collected groundwater samples, with the exception of the following:

Table 2-3
Summary of VOC Exceedances Remaining in Groundwater

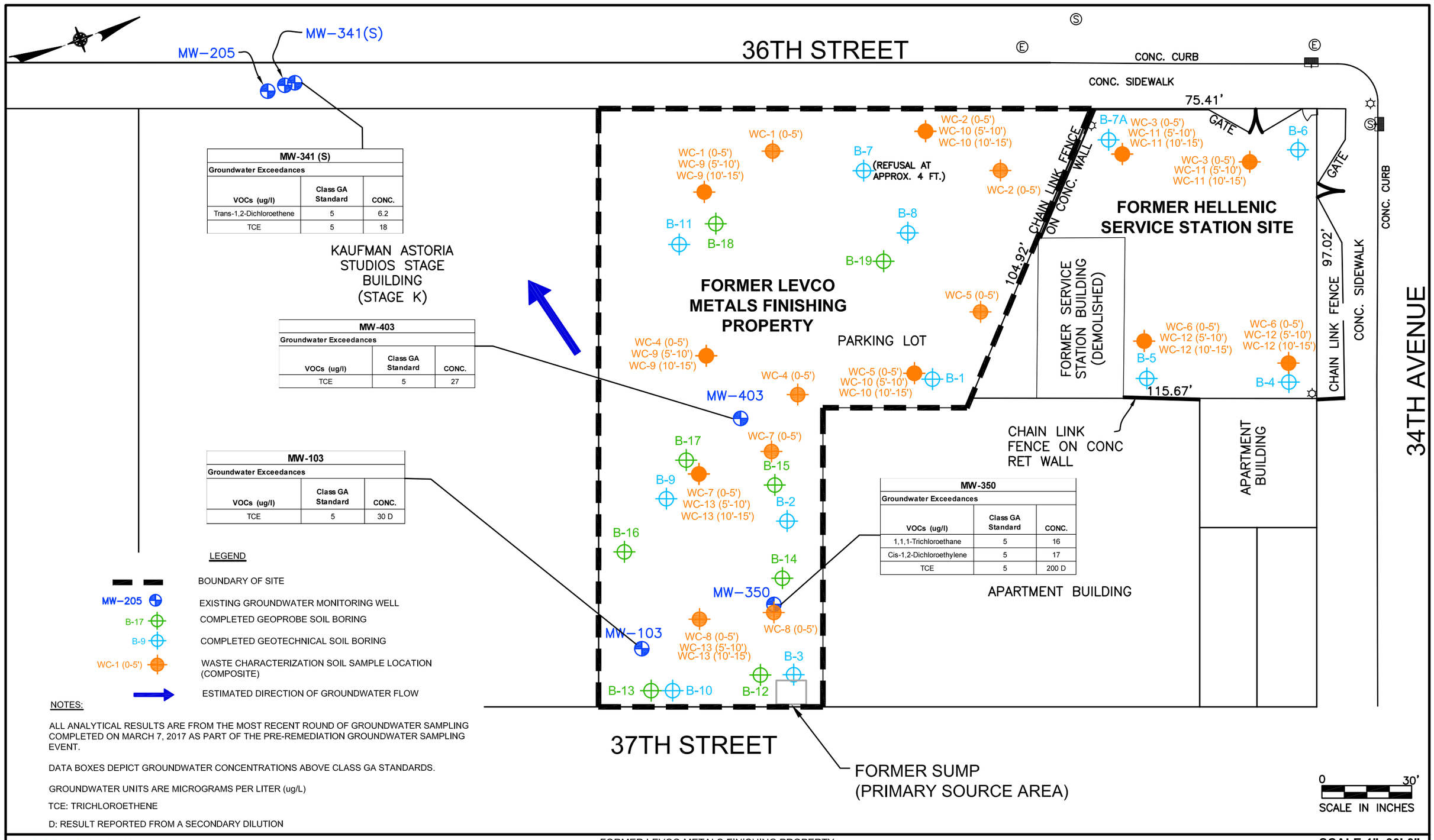
Sample	Date	Constituent	Concentration (ug/l)	Class GA Standard (ug/l)
MW-103	3/7/2017	Trichloroethene	30 D	5
MW-341 (S)	3/7/2017	Trans-1,2-Dichloroethene	6.2	5
		Trichloroethene	18	5
MW-350	3/7/2017	1,1,1-Trichloroethane	16	5
		Cis-1,2-Dichloroethylene	17	5
		Trichloroethene	200 D	5
MW-403	3/7/2017	Trichloroethene	27	5

Notes:
ug/l: Micrograms per liter
D: Reported from a secondary dilution

A figure depicting groundwater sample locations and VOC exceedances of the Class GA Standards in the collected groundwater samples is provided as ***Figure 2-6.***

Consistent with previous rounds of groundwater sampling, the highest VOC concentrations and greatest number of exceedances were detected in monitoring well MW-350, which is located immediately downgradient of the former sump area.

Based on the pre-construction groundwater sampling event, analytical results from previous investigations and routine groundwater sampling, limited residual VOC contamination remains in groundwater at the Site, which is primarily located in the vicinity of and downgradient of the former sump area. As discussed in Section 4.2, post-construction groundwater monitoring activities will be undertaken following the completion of remedial activities at the Site to evaluate changes in groundwater contaminant concentrations.



MW-205

MW-341(S)

MW-341 (S)		
Groundwater Exceedances		
VOCs (ug/l)	Class GA Standard	CONC.
Trans-1,2-Dichloroethene	5	6.2
TCE	5	18

KAUFMAN ASTORIA STUDIOS STAGE BUILDING (STAGE K)

MW-403		
Groundwater Exceedances		
VOCs (ug/l)	Class GA Standard	CONC.
TCE	5	27

MW-103		
Groundwater Exceedances		
VOCs (ug/l)	Class GA Standard	CONC.
TCE	5	30 D

MW-350		
Groundwater Exceedances		
VOCs (ug/l)	Class GA Standard	CONC.
1,1,1-Trichloroethane	5	16
Cis-1,2-Dichloroethylene	5	17
TCE	5	200 D

LEGEND

- BOUNDARY OF SITE
- MW-205 — EXISTING GROUNDWATER MONITORING WELL
- B-17 — COMPLETED GEOPROBE SOIL BORING
- B-9 — COMPLETED GEOTECHNICAL SOIL BORING
- WC-1 (0-5') — WASTE CHARACTERIZATION SOIL SAMPLE LOCATION (COMPOSITE)
- ESTIMATED DIRECTION OF GROUNDWATER FLOW

NOTES:

ALL ANALYTICAL RESULTS ARE FROM THE MOST RECENT ROUND OF GROUNDWATER SAMPLING COMPLETED ON MARCH 7, 2017 AS PART OF THE PRE-REMEDIATION GROUNDWATER SAMPLING EVENT.

DATA BOXES DEPICT GROUNDWATER CONCENTRATIONS ABOVE CLASS GA STANDARDS.

GROUNDWATER UNITS ARE MICROGRAMS PER LITER (ug/L)

TCE: TRICHLOROETHENE

D: RESULT REPORTED FROM A SECONDARY DILUTION

FORMER LEVCO METALS FINISHING PROPERTY

SCALE:1"=30'-0"

D&B ENGINEERS AND ARCHITECTS, P.C.

REMAINING CONTAMINATION - SUMMARY OF GROUNDWATER EXCEEDANCES

FIGURE 2-6

3.0 INSTITUTIONAL AND ENGINEERING CONTROL PLAN

3.1 General

Since remaining contaminated soil and groundwater exists at the Site, Institutional Controls (ICs) and/or Engineering Controls (ECs) are required to protect human health and the environment. This IC/EC Plan describes the procedures for the implementation and management of all ICs/ECs at the Site. The IC/EC Plan is one component of the SMP and is subject to revision by the NYSDEC.

This SMP provides:

- A description of all IC/ECs for the Site;
- The basic implementation and intended role of each IC/EC;
- A description of the key components of the ICs set forth in the deed restriction;
- A description of the controls to be evaluated during each required inspection and/or periodic review;
- A description of plans and procedures to be followed for implementation of IC/ECs; and
- Any other provisions necessary to identify or establish methods for implementing the IC/ECs, as determined by the NYSDEC.

3.2 Institutional Controls

A series of ICs is required by the RAWP to: (1) implement, maintain and monitor Engineering Control systems (if any); (2) prevent future exposure to remaining contamination; and, (3) limit the use and development of the Site to commercial uses only. Adherence to these ICs on the Site is required by the deed restriction and will be implemented under this SMP. ICs identified in the deed restriction may not be discontinued without an amendment to or extinguishment of the deed restriction. The IC boundaries correspond to the limits of the Site, as

sshown on Survey Maps provided in ***Appendix A***. Compliance with the deed restriction and this SMP is required for by the Grantor and the Grantor's successors and assigns.

These ICs are:

- The property may be used for commercial use.
- Compliance with the deed restriction and this SMP by the Grantor and the Grantor's successors and assigns.
- The use of groundwater underlying the property is prohibited without necessary water quality treatment as determined by the NYSDOH or the appropriate city agency to render it safe for use as drinking water or for industrial purposes, and the user must first notify and obtain written approval to do so from the Department.
- Groundwater and other environmental or public health monitoring must be performed as defined in this SMP.
- Data and information pertinent to site management must be reported at the frequency and in a manner as defined in this SMP.
- All future activities that will disturb remaining contaminated material must be conducted in accordance with this SMP.
- Monitoring to assess the performance and effectiveness of the remedy must be performed as defined in this SMP.
- Access to the site must be provided to agents, employees or other representatives of the State of New York with reasonable prior notice to the property owner to assure compliance with the restrictions identified by the deed restriction.
- The potential for vapor intrusion must be evaluated for any buildings developed in the area within the IC boundaries noted on the Survey Maps provided in ***Appendix A***, and any potential impacts that are identified must be monitored or mitigated; and
- Vegetable gardens and farming on the site are prohibited.
- The Site owner or remedial party will submit to NYSDEC a written statement that certifies, under penalty of perjury, that: (1) controls employed at the Controlled Property are unchanged from the previous certification or that any changes to the controls were approved by the NYSDEC; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. NYSDEC retains the right to access such Controlled Property at any time in order to evaluate the continued maintenance of any and all controls. This certification shall be submitted annually, or an alternate period

of time that NYSDEC may allow and will be made by an expert that the NYSDEC finds acceptable.

3.3 Engineering Controls

There are no engineering controls for the Site.

4.0 MONITORING AND SAMPLING PLAN

4.1 General

This Monitoring and Sampling Plan describes the measures for evaluating the performance and effectiveness of the remedy. This Monitoring and Sampling Plan may only be revised with the approval of the NYSDEC. Details regarding the sampling procedures, data quality usability objectives, analytical methods, etc. for all samples collected as part of site management for the Site are included in the Quality Assurance Plan (QAP) provided in ***Appendix E.***

This Monitoring and Sampling Plan describes the methods to be used for:

- Sampling and analysis of all appropriate media (groundwater);
- Assessing compliance with applicable NYSDEC SCGs, particularly groundwater standards; and
- Evaluating site information periodically to confirm that the remedy continues to be effective in protecting public health and the environment; and
- Preparing the necessary reports for the various monitoring activities.

To adequately address these issues, this Monitoring and Sampling Plan provides information regarding:

- Sampling locations, protocol and frequency;
- Information on groundwater monitoring systems;
- Analytical sampling program requirements;
- Inspection and maintenance requirements for monitoring wells;
- Monitoring well decommissioning procedures;
- Reporting requirements; and

- Annual inspection and periodic certification.

Reporting requirements are provided in Section 6.0 of this SMP.

4.2 Post-Remediation Monitoring and Sampling

Starting approximately 3 months after remediation is complete, groundwater monitoring will be performed on an annual basis for a minimum of two years to evaluate changes in groundwater contaminant concentrations and to ascertain the level of any natural attenuation which may occur after completing the remediation. Subsequent sampling requirements will be determined in consultation with the NYSDEC and NYSDOH. Any modification to the frequency or sampling requirements will require approval from the NYSDEC. NYSDEC may require the inspection of the groundwater monitoring wells after a severe weather condition to assess for any damage or wear.

As part of the groundwater monitoring program, one upgradient and two downgradient monitoring wells will be sampled and analyzed for constituents of concern. All on-site wells were abandoned as part of the remedial construction. The wells selected to be sampled are consistent with off-site wells sampled during the pre-remediation sampling program, including upgradient well MW-331(S) and downgradient well MW-341(S). In addition, a new well (MW-01) will be installed on the sidewalk of 36th Street, downgradient from endpoint sample EP-13. These three wells are/will be shallow, water-table wells. Depth to water is approximately 17 feet below grade. Groundwater monitoring well locations are depicted on the Site Plan provided as ***Figure 1-2***. A monitoring well construction log for the new well MW-01 will be incorporated into the SMP following installation. Existing monitoring wells MW-331(S) and MW-341(S) were installed approximately 25 years ago (reportedly April 1992 as per February 1995 Interim Remedial Measure and Supplemental Site Investigation Report prepared by Geraghty & Miller, Inc.), and monitoring well construction logs associated with these wells are not available. However, based on a G&M well construction summary and D&B's experience conducting groundwater sampling, well construction is as follows:

Monitoring Well ID	Well Location	Measuring Point Elevation (feet msl)	Well Diameter (inches)	Total Depth (feet below grade)	Screen Interval (feet below grade)	Elevation of Screen Interval (feet msl)
MW-331(S)	Upgradient	38.31	2	24.5	14.5-24.5	24-14
MW-341(S)	Downgradient	38.71	2	26.4	16.4-26.4	22.66-12.6

Notes:
feet msl: Feet relative to mean sea level

The new groundwater monitoring well MW-01 will be constructed by hollow stem auger or equivalent drilling method with 15 feet of 2-inch diameter (I.D.) Schedule 40 PVC riser and 10 feet of 0.010-inch slotted well screen intersecting the water table from approximately 15 to 25 feet below grade, for a total depth of 25 feet below grade. A No. 1 well gravel pack will be placed around the well screen. A bentonite seal will be placed above the sand pack and the remainder of the borehole will be grouted to grade. A protective casing with a flush-mount locking cover will be installed.

Following installation, the new well will be developed by surging and evacuating groundwater using submersible pumps and dedicated tubing. Development will be completed up to 2 hours or until the turbidity of the well is below 50 nephelometric turbidity units (NTUs). A minimum of 5 well volumes will be purged. Water will not be removed from newly installed wells until at least 24 hours after well completion to allow the grout and concrete surface seals to cure.

The procedures described below will be adhered to in support of the sampling and analysis associated with the groundwater monitoring program. Detailed sample collection, quality assurance and control procedures, and requirements are provided in a Quality Assurance Plan and a Field Activities Plan (FSP) for the Site, in ***Appendix E*** and ***Appendix F***, respectively.

Groundwater samples will be collected from the three monitoring wells using low-flow sampling methods. The groundwater samples obtained will be analyzed for TCL VOCs via USEPA Method 8260, in accordance with the NYSDEC Analytical Services Protocol (ASP). Each new analysis will be compared to the previous analyses to evaluate significant changes in

concentrations. The groundwater sample results will be provided to NYSDEC as part of annual reports, as appropriate. Note that at NYSDEC request during the first sampling round only, the groundwater sample collected from downgradient well MW-341(S) will also be analyzed for emerging contaminants 1,4-dioxane and full TAL per- and polyfluoroalkyl substances (PFAS) via USEPA Methods 8270 SIM and 537 Modified, respectively.

The need for new groundwater monitoring wells will be assessed after each sampling round. Should the installation of additional groundwater monitoring wells be necessary, the locations of the proposed groundwater monitoring wells will be incorporated into a revised SMP, which will be submitted to NYSDEC for review and approval.

If biofouling or silt accumulation occurs in the monitoring wells selected for sampling, the wells will be physically agitated/surged and redeveloped. Additionally, monitoring wells will be properly decommissioned and replaced, if an event renders the wells unusable.

Repairs and/or replacement of wells in the monitoring well network will be performed based on assessments of structural integrity and overall performance. The NYSDEC will be notified prior to any repair or decommissioning of any monitoring well for the purpose of replacement, and the repair or decommissioning and replacement process will be documented in the subsequent Periodic Review Report. Well decommissioning without replacement will be done only with the prior approval of the NYSDEC. Well abandonment will be performed in accordance with NYSDEC's guidance entitled "CP-43: Groundwater Monitoring Well Decommissioning Procedures." Monitoring wells that are decommissioned because they have been rendered unusable will be replaced in kind in the nearest available location, unless otherwise approved by the NYSDEC.

Associated deliverables for the Post-Remediation Groundwater Monitoring Program are specified in Section 6.0 - Reporting Requirements.

4.2.1 Monitoring and Sampling Protocol

All sampling activities will be recorded in a field book and associated sampling log. Other observations (e.g., groundwater monitoring well integrity, etc.) will be noted on the sampling log. The sampling log will serve as the inspection form for the monitoring network. Additional detail regarding monitoring and sampling protocols are provided in the site-specific Field Activities Plan provided as ***Appendix F*** of this document.

5.0 OPERATION AND MAINTENANCE PLAN

5.1 General

The Site remedy does not rely on any mechanical systems; therefore, an O&M Plan is not included in this SMP.

6.0 REPORTING REQUIREMENTS

6.1 Site Management Reports

All applicable inspection forms and other records, including media sampling data and system maintenance reports, generated for the Site during the reporting period will be provided in electronic format to the NYSDEC in accordance with the requirements of ***Table 6-1*** provided below and summarized in the Periodic Review Report.

Table 6-1: Schedule of Interim Monitoring/Inspection Reports

Task/Report	Reporting Frequency*
Soil Vapor Intrusion Evaluation Report	After complete installation of gas vapor barrier and construction of the building, but before occupancy.
Post-Remediation Groundwater Monitoring Report	Annually, following monitoring schedule, or as otherwise determined by the Department
Periodic Review Report	16 months after the SMP is approved, then triennially, or as otherwise determined by the Department

* The frequency of events will be conducted as specified until otherwise approved by the NYSDEC.

As discussed in Section 2.5 of this SMP, the gas vapor barrier for the new Site building is not yet fully installed as of the issuance of this SMP. A soil vapor intrusion evaluation report for the new Site building will be submitted to the Department after completion of the gas vapor barrier and construction of the building, but prior to occupancy of the building. The report will evaluate the potential for soil vapor intrusion for any occupied buildings on the Site, including provision for implementing any actions that may be recommended to address exposures. The report will include documentation of the vapor barrier installation, including as-builts and other statements to support the evaluation.

All interim monitoring/inspections reports will include, at a minimum:

- Date of event or reporting period;

- Name, company, and position of person(s) conducting monitoring/inspection activities;
- Description of the activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet);
- Type of samples collected (e.g., sub-slab vapor, indoor air, outdoor air, etc.);
- Copies of all field forms completed (e.g., well sampling logs, chain-of-custody documentation, etc.);
- Sampling results in comparison to appropriate standards/criteria;
- A figure illustrating sample type and sampling locations;
- Copies of all laboratory data sheets and the required laboratory data deliverables required for all points sampled (to be submitted electronically in the NYSDEC-identified format);
- Any observations, conclusions, or recommendations; and
- A determination as to whether contaminant conditions have changed since the last reporting event.

Routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting maintenance activities;
- Description of maintenance activities performed;
- Any modifications to the system;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents noted (included either on the checklist/form or on an attached sheet); and,
- Other documentation such as copies of invoices for maintenance work, receipts for replacement equipment, etc., (attached to the checklist/form).

Non-routine maintenance event reporting forms will include, at a minimum:

- Date of event;
- Name, company, and position of person(s) conducting non-routine maintenance/repair activities;
- Description of non-routine activities performed;
- Where appropriate, color photographs or sketches showing the approximate location of any problems or incidents (included either on the form or on an attached sheet); and
- Other documentation such as copies of invoices for repair work, receipts for replacement equipment, etc. (attached to the checklist/form).

Data will be reported in digital format as determined by the NYSDEC. Currently, data is to be supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link http://www.dec.ny.gov/chemical/62440.html.

6.2 Periodic Review Report

A Periodic Review Report will be submitted to the Department every three years, beginning sixteen months after the COC is issued and approved. After submittal of the initial Periodic Review Report (PRR), the next PRR shall be submitted triennially to the Department or at another frequency as may be required by the Department. In the event that the Site is subdivided into separate parcels with different ownership, a single PRR will be prepared that addresses the Site described in ***Appendix A*** - deed restriction. The report will be prepared in accordance with NYSDEC's DER-10 and submitted within 30 days of the end of each certification period. Media sampling results will also be incorporated into the Periodic Review Report. The report will include:

- Identification, assessment and certification of all ICs/ECs required by the remedy for the Site.

- Certification that the use of the Site has not changed, or documentation of the new Site use and evaluation of the suitability of the use with regard to the deed restriction, completed remedy and ICs/ECs in place.

- Results of the required severe condition inspections, if applicable.

- All applicable inspection forms and other records generated for the Site during the reporting period in the NYSDEC-approved electronic format, if not previously submitted.

- Data summary tables and graphical representations of contaminants of concern by media (groundwater, soil vapor, etc.), which include a listing of all compounds analyzed, along with the applicable standards, with all exceedances highlighted. These will include a presentation of past data as part of an evaluation of contaminant concentration trends.

- Results of all analyses, copies of all laboratory data sheets, and the required laboratory data deliverables for all samples collected during the reporting period will be submitted in digital format as determined by the NYSDEC. Currently, data is supplied electronically and submitted to the NYSDEC EQuIS™ database in accordance with the requirements found at this link: http://www.dec.ny.gov/chemical/62440.html.

- A site evaluation, which includes the following:

  – The compliance of the remedy with the requirements of the RAWP;

  – Any new conclusions or observations regarding site contamination based on inspections or data generated by the Monitoring and Sampling Plan for the media being monitored.

  – Recommendations regarding any necessary changes to the remedy and/or Monitoring and Sampling Plan.

  – Trends in contaminant levels in the affected media will be evaluated to determine if the remedy continues to be effective in achieving remedial goals as specified by the Decision Document.

  – The overall performance and effectiveness of the remedy; and

  – Comments, conclusions and recommendations based on data evaluation.

6.3 Certification of Engineering and Institutional Controls

Following the last inspection of the reporting period, a qualified environmental professional will prepare, and include in the Periodic Review Report, the following certification as per the requirements of NYSDEC DER-10:

"For each institutional or engineering control identified for the site, I certify that all of the following statements are true:

- *The inspection of the site to confirm the effectiveness of the institutional and/or engineering controls required by the remedial program was performed under my direction;*
- *The institutional control and/or engineering control employed at this Site is unchanged from the date the control was put in place, or last approved by the Department;*
- *Nothing has occurred that would impair the ability of the control to protect the public health and environment;*
- *Nothing has occurred that would constitute a violation or failure to comply with any Site Management Plan for this control;*
- *Access to the site will continue to be provided to the Department to evaluate the remedy, including access to evaluate the continued maintenance of this control;*
- *If a financial assurance mechanism is required under the oversight document for the site, the mechanism remains valid and sufficient for the intended purpose under the document;*
- *Use of the Site is compliant with the deed restriction.*
- *The engineering control systems, if any, are performing as designed and are effective.*
- *To the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program; and*
- *The information presented in this report is accurate and complete.*

I certify that all information and statements in this certification form are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law. I, [name], of [business address], am certifying as [Owner or Owner's Designated Site Representative] for the site. "

The signed certification will be included in the Periodic Review Report described below.

The Periodic Review Report will be submitted, in electronic format, to the NYSDEC Central Office, Regional Office in which the site is located and the NYSDOH Bureau of Environmental Exposure Investigation. The Periodic Review Report may need to be submitted in hard-copy format, as requested by the NYSDEC project manager.

6.4 Corrective Measures Work Plan

If any component of the remedy is found to have failed, or if the periodic certification cannot be provided due to the failure of an institutional control, a Corrective Measures Work Plan will be submitted to the NYSDEC for approval. This plan will explain the failure and provide the details and schedule for performing work necessary to correct the failure. Unless an emergency condition exists, no work will be performed pursuant to the Corrective Measures Work Plan until it is approved by the NYSDEC.

7.0 REFERENCES

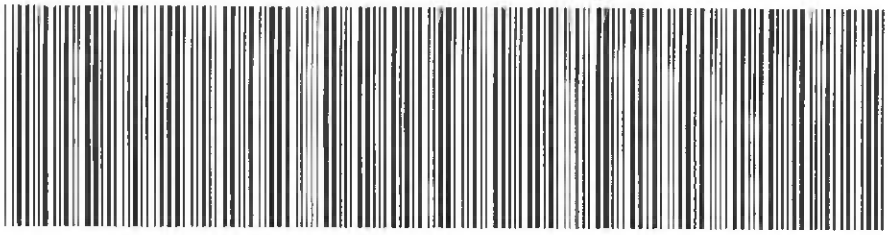
- D&B Engineers and Architects, P.C., Remedial Action Work Plan. July 2010.
- D&B Engineers and Architects, P.C., Pre-Construction Soil Characterization Report and Excavation Plan, March 2017, Revised September 2017
- D&B Engineers and Architects, P.C., Soil Characterization Letter-Report, December 23, 2016
- D&B Engineers and Architects, P.C., Cadmium Investigation Letter-Report, March 1, 2017
- D&B Engineers and Architects, P.C., Pre-Remediation Groundwater Sampling Event Letter-Report, May 5, 2017
- D&B Engineers and Architects, P.C., Off-Site Soil Vapor Study, July 2010
- Gannett Fleming Engineers and Architects, P.C., Remedial Action Plan, March 2003
- Geraghty & Miller, Inc., Interim Remedial Measure and Supplemental Site Investigation Report, February 15, 1995
- 6NYCRR Part 375, Environmental Remediation Programs. December 14, 2006.
- NYSDEC DER-10 – "Technical Guidance for Site Investigation and Remediation".
- NYSDEC, 1998. Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1. June 1998 (April 2000 addendum).

APPENDIX A

DEED RESTRICTION AND SURVEY MAPS

NYC DEPARTMENT OF FINANCE
OFFICE OF THE CITY REGISTER

This page is part of the instrument. The City Register will rely on the information provided by you on this page for purposes of indexing this instrument. The information on this page will control for indexing purposes in the event of any conflict with the rest of the document.



2017102300421001001E06FB

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 7**

Document ID: 2017102300421001 Document Date: 06-15-2017 Preparation Date: 10-25-2017
Document Type: SUNDRY MISCELLANEOUS
Document Page Count: 6

PRESENTER:

TO BE PICKED UP BY COMMONWEALTH
COMMONWEALTH LAND TITLE INSURANCE CO.
685 THIRD AVENUE, 20TH FLOOR
NEW YORK, NY 10017
212-949-0100
NY160526

RETURN TO:

TO BE PICKED UP BY COMMONWEALTH
COMMONWEALTH LAND TITLE INSURANCE CO.
685 THIRD AVENUE, 20TH FLOOR
NEW YORK, NY 10017
212-949-0100
NY160526

PROPERTY DATA

Borough	Block	Lot	Unit	Address
QUEENS	644	28	Entire Lot	36-06 34TH AVENUE

Property Type: COMMERCIAL REAL ESTATE

Borough	Block	Lot	Unit	Address
QUEENS	644	43	Entire Lot	34-20 37TH STREET

Property Type: COMMERCIAL REAL ESTATE

CROSS REFERENCE DATA

CRFN: 2017000103238

PARTIES

PARTY 1:
ASTORIA ON STAGE, LLC
34-12 36TH STREET
ASTORIA, NY 11106

FEES AND TAXES

Mortgage :		
Mortgage Amount:	$	0.00
Taxable Mortgage Amount:	$	0.00
Exemption:		
TAXES: County (Basic):	$	0.00
City (Additional):	$	0.00
Spec (Additional):	$	0.00
TASF:	$	0.00
MTA:	$	0.00
NYCTA:	$	0.00
Additional MRT:	$	0.00
TOTAL:	$	0.00
Recording Fee:	$	70.00
Affidavit Fee:	$	0.00

Filing Fee: $ 0.00

NYC Real Property Transfer Tax: $ 0.00

NYS Real Estate Transfer Tax: $ 0.00

RECORDED OR FILED IN THE OFFICE OF THE CITY REGISTER OF THE CITY OF NEW YORK

Recorded/Filed 10-26-2017 15:13
City Register File No.(CRFN): **2017000395873**

City Register Official Signature

DECLARATION of COVENANTS and RESTRICTIONS

THIS COVENANT is made the 15th day of June, 2017, by Astoria ON Stage, LLC, a limited liability company organized and existing under the laws of the State of Delaware, and having an office for the transaction of business at 34-12 36th Street, Astoria, New York 11106.

WHEREAS, Former Levco Metals Finishing Property is the subject of a Voluntary Cleanup Agreement executed by Levco Woodwork Joint Venture as part of the New York State Department of Environmental Conservation's (the "Department's") Voluntary Cleanup Program, namely that parcel of real property located on 34-11 36th Street in the Town of Astoria, County of Queens, State of New York, which is part of lands conveyed by George S. Kaufman, as nominee for Astoria ON Stage, LLC, successor by merger to Levco Associates L.P. to Astoria ON Stage, LLC by deed dated February 28, 2017 and recorded in the Queens County Clerk's Office in Instrument No. 2017000103238, and being more particularly described in Appendix "A," attached to this declaration and made a part hereof, and hereinafter referred to as "the Property"; and

WHEREAS, the Department approved a remedy to eliminate or mitigate all significant threats to the environment presented by the contamination disposed at the Property and such remedy requires that the Property be subject to restrictive covenants.

NOW, THEREFORE, Astoria ON Stage, LLC, for itself and its successors and/or assigns, covenants that:

First, the Property subject to this Declaration of Covenants and Restrictions is as shown on a map attached to this declaration as Appendix "B" and made a part hereof.

Second, unless prior written approval by the Department or, if the Department shall no longer exist, any New York State agency or agencies subsequently created to protect the environment of the State and the health of the State's citizens, hereinafter referred to as "the Relevant Agency," is first obtained, where contamination remains at the Property subject to the provisions of the Site Management Plan ("SMP"), there shall be no construction, use or occupancy of the Property that results in the disturbance or excavation of the Property which threatens the integrity of the engineering controls or which results in unacceptable human exposure to contaminated soils.

Third, the owner of the Property shall not disturb, remove, or otherwise interfere with the installation, use, operation, and maintenance of engineering controls required for the Remedy, which are described in the SMP, unless in each instance the owner first obtains a written waiver of such prohibition from the Department or Relevant Agency.

Fourth, the owner of the Property shall prohibit the Property from ever being used for purposes other than for Commercial or Industrial use without the express written waiver of such prohibition by the Department or Relevant Agency.

Fifth, the owner of the Property shall prohibit the use of the groundwater underlying the Property without treatment rendering it safe for drinking water or industrial purposes, as appropriate, unless the user first obtains permission to do so from the Department or Relevant Agency.

Sixth, the owner of the Property shall provide a periodic certification, prepared and submitted by a professional engineer or environmental professional acceptable to the Department or Relevant Agency, which will certify that the institutional and engineering controls put in place are unchanged from the previous certification, comply with the SMP, and have not been impaired.

Seventh, the owner of the Property shall continue in full force and effect any institutional and engineering controls required for the Remedy and maintain such controls, unless the owner first obtains permission to discontinue such controls from the Department or Relevant Agency, in compliance with the approved SMP, which is incorporated and made enforceable hereto, subject to modifications as approved by the Department or Relevant Agency.

Eighth, this Declaration is and shall be deemed a covenant that shall run with the land and shall be binding upon all future owners of the Property, and shall provide that the owner and its successors and assigns consent to enforcement by the Department or Relevant Agency of the prohibitions and restrictions that the Voluntary Cleanup Agreement requires to be recorded, and hereby covenant not to contest the authority of the Department or Relevant Agency to seek enforcement.

Ninth, any deed of conveyance of the Property, or any portion thereof, shall recite, unless the Department or Relevant Agency has consented to the termination of such covenants and restrictions, that said conveyance is subject to this Declaration of Covenants and Restrictions.

IN WITNESS WHEREOF, the undersigned has executed this instrument the day written below.

Astoria ON Stage, LLC

By: _____

Print Name: Hal G. Rosenbluth, Authoirzed Signatory

Title: Auth. Sgt. Date: 6/11/12

STATE OF NEW YORK)

) s.s.:

COUNTY OF QUEENS)

On the 15th day of June, in the year 2017, before me, the undersigned, personally appeared HAL G. Rosenbluth, personally known to me or proved to me on the basis of satisfactory evidence to be the individual(s) whose name is (are) subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their capacity(ies), and that by his/her/their signature(s) on the instrument, the individual(s), or the person upon behalf of which the individual(s) acted, executed the instrument.

Maria Kapsis

Notary Public State of New York

MARIA KAPSIS
Notary Public, State of New York
No. 01KA6279741
Qualified in Queens County
Commission Expires April 16, 2017

APPENDIX "A"

ALL that certain plot, piece or parcel of land, situate, lying and being in the Borough and County of Queens, City and State of New York, bounded and described as follows:

BEGINNING at a point on the easterly side of 36th Street distant 340.31 feet northerly from the corner formed by the intersection of the northerly side of 35th Avenue with the easterly side of 36th Street;

RUNNING THENCE easterly at right angles to 36th Street, 200.21 feet to the westerly side of 37th Street;

THENCE northerly along the westerly side of 37th Street, 75.05 feet;

THENCE westerly at right angles to 37th Street, 100.105 feet to the center line of the block;

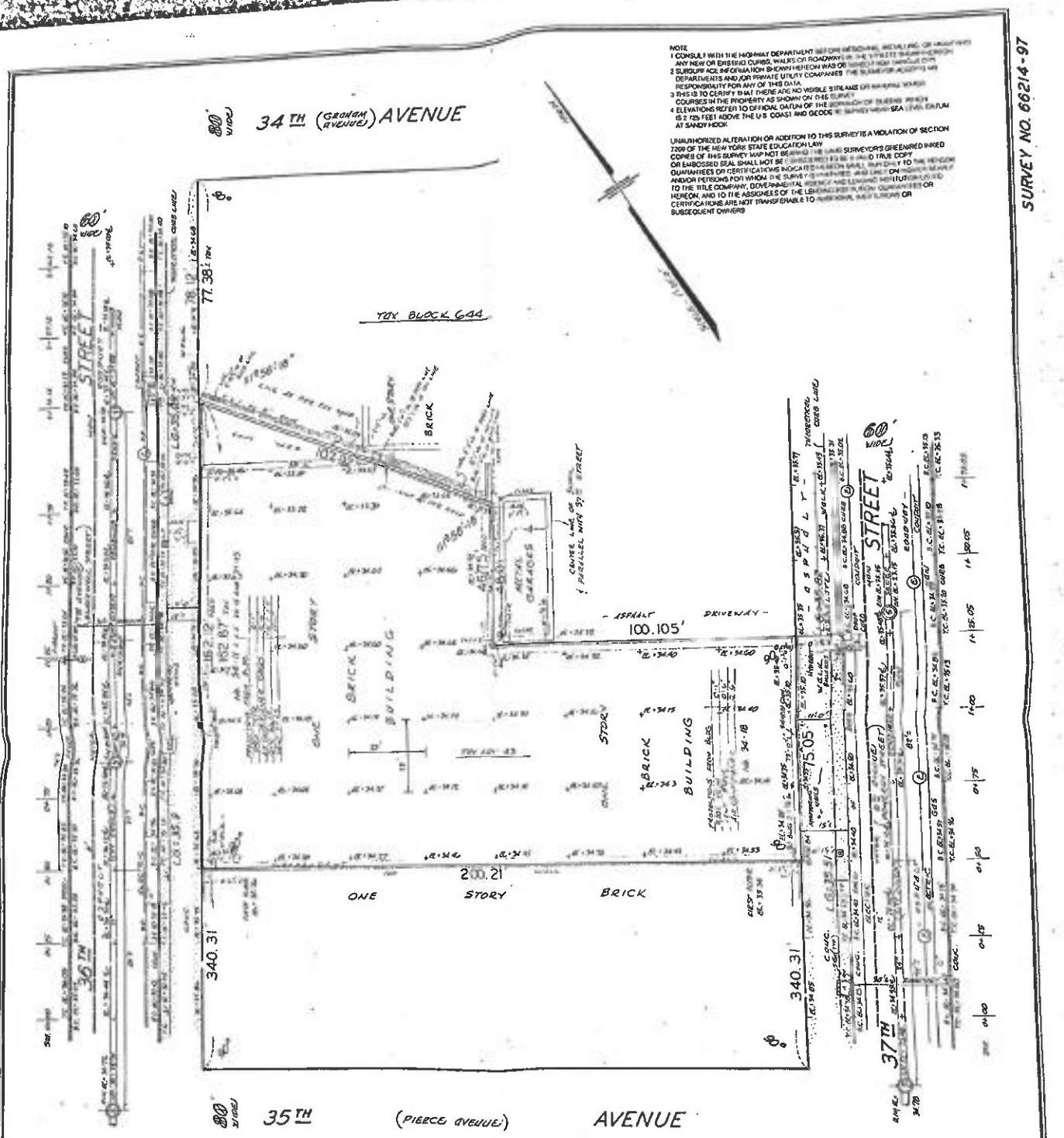
THENCE northerly along the center line of the block and parallel with 37th Street, 46.75 feet;

THENCE northwesterly along a line forming an interior angle of 111 degrees 56 minutes 16 seconds with the last mentioned course, 107.92 feet to the easterly side of 36th Street;

THENCE southerly along the easterly side of 36th Street, 162.12 feet to the point or place of BEGINNING.

APPENDIX "B"

See attached.



Map of Property

situate at

Long Island City

First Ward

Borough Of Queens

City of New York

Robert A. Haynes

Professional Land & City Surveyor

1418 West Jericho Turnpike

Huntington, N.Y. 11743

219 Syosset-Woodbury Road

Syosset, N.Y. 11791

Phone 718-631-7595/516-692-8728 Fax 516-692-8759

Scale: 1"=20'-0" Surveyed: February 11, 1997

SURVEY NO. 66214-97

SURVEY NO. 66214-97

APPENDIX B

SITE-RELATED CONTACT INFORMATION

APPENDIX B
LIST OF SITE CONTACTS

Name	Phone/Email Address
Levco Associates, LLP, Site Owner	(718) 706-5390, tracy@kaufmanastoria.com
Kaufman Astoria Studios, Remedial Party	(718) 706-5390, tracy@kaufmanastoria.com
D&B Engineers and Architects, P.C. Thomas P. Fox, Qualified Environmental Professional	(516) 364-9890, Extension 3068 tfox@db-eng.com
Sondra Martinkat NYSDEC DER Project Manager	(718) 482-4891 sondra.martinkat@dec.ny.gov
Jane O'Connell NYSDEC Region 2 HWRE	(718) 482-4599 jane.oconnell@dec.ny.gov
NYSDEC Site Control	derweb@dec.ny.gov
James Periconi, Remedial Party Attorney	(212) 213-5500, JPericoni@periconi.com
Police Department (NYPD 114th Precinct)	911 or (718) 626-9311
Fire Department (FDNY Ladders 116 and 117)	911 or (718) 999-2000
Ambulance	911
Mount Sinai Hospital Queens	(718) 932-1000 (General Information)
	(718) 267-4285 (Emergency Room)
One Call Center (Dig Safely New York)	(800) 962-7962 or 811
National Response Center Desk	(800) 424-8802
Poison Control Center	(800) 222-1222
National Response Center (NRC) for Oil/Chemical Spills	(800) 424-8802
NYSDEC Spills Hotline	(800) 457-7362

APPENDIX C

ENDPOINT DATA TABLES

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-B3	EP-01	EP-02	EP-03	EP-04
				Sampling Date	2/6/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
VOLATILE COMPOUNDS									
1,1,1-Trichloroethane	680	680	500,000		2 J	6.7 U	5.6 U	5.4 U	5.8 UJ
1,1,2,2-Tetrachloroethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 UJ	5.8 UJ
1,1,2-Trichloroethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,1,2-Trichlorotrifluoroethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,1-Dichloroethane	270	270	240,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,1-Dichloroethene	330	330	500,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,2,3-Trichlorobenzene	--	--	--		5.1 U	6.7 U	5.6 U	5.4 UJ	5.8 UJ
1,2,4-Trichlorobenzene	--	--	--		5.1 U	6.7 U	5.6 U	5.4 UJ	5.8 UJ
1,2-Dibromo-3-Chloropropane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 UJ	5.8 UJ
1,2-Dibromoethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,2-Dichlorobenzene	1,100	--	500,000		1 J	6.7 U	5.6 U	5.4 UJ	5.8 UJ
1,2-Dichloroethane	20	--	30,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,2-Dichloropropane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
1,3-Dichlorobenzene	2,400	--	280,000		5.1 U	6.7 U	5.6 U	5.4 UJ	5.8 UJ
1,4-Dichlorobenzene	1,800	--	130,000		5.1 U	6.7 U	5.6 U	5.4 UJ	5.8 UJ
2-Butanone	120	--	500,000		25.5 U	33.5 U	28.1 U	27 U	28.8 UJ
2-Hexanone	--	--	--		25.5 UJ	33.5 U	14.7 J	27 U	28.8 UJ
4-Methyl-2-Pentanone	--	--	--		25.5 UJ	33.5 U	3.9 J	27 U	28.8 UJ
Acetone	50	--	500,000		25.5 U	9.8 J	19 J	27 U	28.8 UJ
Benzene	60	--	44,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Bromochloromethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Bromodichloromethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Bromoform	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Bromomethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Carbon Disulfide	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Carbon Tetrachloride	760	--	22,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Chlorobenzene	1,100	--	500,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Chloroethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Chloroform	370	--	350,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Chloromethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ

See next page for Footnotes/Qualifiers

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-B3	EP-01	EP-02	EP-03	EP-04
				Sampling Date	2/6/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
COMPOUNDS CONTINUED									
cis-1,2-Dichloroethene	250	250	500,000		5.10 J	6.7 U	5.6 U	5.4 U	5.8 UJ
cis-1,3-Dichloropropene	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Cyclohexane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Dibromochloromethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Dichlorodifluoromethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Ethyl Benzene	1,000	--	390,000		5.1 U	6.7 U	5.6 U	5.4 U	2.9 JH
Isopropylbenzene	--	--	--		5.1 U	6.7 U	5.6 U	5.4 UJ	8.2 JH
m/p-Xylenes	260	--	500,000		10.2 U	13.4 U	11.3 U	10.8 U	5.2 JH
Methyl Acetate	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Methyl tert-butyl Ether	930	--	500,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Methylcyclohexane	--	--	--		5.1 U	6.7 U	5.6 U	1.1 J	5.8 UJ
Methylene Chloride	50	--	500,000		5.1 U	2.5 J	5.6 U	***110***	***110 JH***
o-Xylene	260	--	500,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Styrene	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	3 JH
Tetrachloroethene	1,300	1,300	150,000		5.5	6.7 U	5.6 U	5.4 U	5.8 UJ
Toluene	700	--	500,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
trans-1,2-Dichloroethene	190	190	500,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
t-1,3-Dichloropropene	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Trichloroethene	470	470	200,000		55.9	6.7 U	1.2 J	1.6 J	5.8 UJ
Trichlorofluoromethane	--	--	--		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ
Vinyl Chloride	20	--	13,000		5.1 U	6.7 U	5.6 U	5.4 U	5.8 UJ

Footnotes/Qualifiers:

--: Not analyzed or no standard
U: Analyzed for but not detected
J: Estimated value or detection limit
D: Detected at secondary dilution
UB: Non-detect based on blank results
H: Bias high
ug/kg: Micrograms per kilogram

Exceeds Protection of Groundwater SCO

Exceeds Unrestricted Use SCO

Tables only indicate exceedances of Protection of Groundwater SCOs for targeted chlorinated VOCs

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-05	EP-09	EP-10	EP-11	EP-12
				Sampling Date	4/3/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
1,1,1-Trichloroethane	680	680	500,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,1,2,2-Tetrachloroethane	--	--	--	6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
1,1,2-Trichloroethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,1,2-Trichlorotrifluoroethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,1-Dichloroethane	270	270	240,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,1-Dichloroethene	330	330	500,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,2,3-Trichlorobenzene	--	--	--	6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
1,2,4-Trichlorobenzene	--	--	--	6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
1,2-Dibromo-3-Chloropropane	--	--	--	6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
1,2-Dibromoethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,2-Dichlorobenzene	1,100	--	500,000	6.8 UJ	5.8 U	6.8 U	4.2 JH	6.3 UJ
1,2-Dichloroethane	20	--	30,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,2-Dichloropropane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
1,3-Dichlorobenzene	2,400	--	280,000	6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
1,4-Dichlorobenzene	1,800	--	130,000	6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
2-Butanone	120	--	500,000	33.8 U	28.9 U	33.9 U	36.4 U	31.7 U
2-Hexanone	--	--	--	33.8 U	28.9 U	33.9 U	36.4 U	31.7 U
4-Methyl-2-Pentanone	--	--	--	33.8 U	28.9 U	33.9 U	36.4 U	31.7 U
Acetone	50	--	500,000	33.8	8.7 J	33.9 U	36.4 U	31.7 U
Benzene	60	--	44,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Bromochloromethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Bromodichloromethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Bromoform	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Bromomethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Carbon Disulfide	--	--	--	2.1 J	5.8 U	6.8 U	7.3 U	6.3 U
Carbon Tetrachloride	760	--	22,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Chlorobenzene	1,100	--	500,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Chloroethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Chloroform	370	--	350,000	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Chloromethane	--	--	--	6.8 U	5.8 U	6.8 U	7.3 U	6.3 U

See next page for Footnotes/Qualifiers

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-05	EP-09	EP-10	EP-11	EP-12
				Sampling Date	4/3/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
COMPOUNDS CONTINUED									
cis-1,2-Dichloroethene	250	250	500,000		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
cis-1,3-Dichloropropene	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Cyclohexane	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Dibromochloromethane	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Dichlorodifluoromethane	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Ethyl Benzene	1,000	--	390,000		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Isopropylbenzene	--	--	--		6.8 UJ	5.8 U	6.8 U	7.3 UJ	6.3 UJ
m/p-Xylenes	260	--	500,000		13.5 U	11.6 U	13.6 U	14.5 U	12.7 U
Methyl Acetate	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Methyl tert-butyl Ether	930	--	500,000		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Methylcyclohexane	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Methylene Chloride	50	--	500,000		***110***	4.6 J	6.8 UJ	***200***	***140***
o-Xylene	260	--	500,000		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Styrene	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Tetrachloroethene	1,300	1,300	150,000		6.8 U	5.8 U	2.2 J	7.3 U	6.3 U
Toluene	700	--	500,000		6.8 U	5.8 U	6.8 U	12.6	4.8 J
trans-1,2-Dichloroethene	190	190	500,000		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
t-1,3-Dichloropropene	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Trichloroethene	470	470	200,000		6.8 U	5.8 U	8.2	35.7	4.3 J
Trichlorofluoromethane	--	--	--		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U
Vinyl Chloride	20	--	13,000		6.8 U	5.8 U	6.8 U	7.3 U	6.3 U

Footnotes/Qualifiers:

--: Not analyzed or no standard
U: Analyzed for but not detected
J: Estimated value or detection limit
D: Detected at secondary dilution
UB: Non-detect based on blank results
H: Bias high
ug/kg: Micrograms per kilogram

Exceeds Protection of Groundwater SCO

Exceeds Unrestricted Use SCO

Tables only indicate exceedances of Protection of Groundwater SCOs for targeted chlorinated VOCs

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-13	EP-17	EP-18	EP-19	EP-20
				Sampling Date	4/3/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
VOLATILE COMPOUNDS									
1,1,1-Trichloroethane	680	680	500,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,1,2,2-Tetrachloroethane	--	--	--		6.4 UJ	5.7 U	6.3 U	7.6 UJ	6.8 UJ
1,1,2-Trichloroethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,1,2-Trichlorotrifluoroethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,1-Dichloroethane	270	270	240,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,1-Dichloroethene	330	330	500,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,2,3-Trichlorobenzene	--	--	--		6.4 UJ	5.7 U	6.3 U	7.6 UJ	6.8 UJ
1,2,4-Trichlorobenzene	--	--	--		6.4 UJ	5.7 U	6.3 U	7.6 UJ	6.8 UJ
1,2-Dibromo-3-Chloropropane	--	--	--		6.4 UJ	5.7 U	6.3 U	7.6 UJ	6.8 UJ
1,2-Dibromoethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,2-Dichlorobenzene	1,100	--	500,000		6.4 UJ	5.7 U	6.3 U	46.3 JH	410 D
1,2-Dichloroethane	20	--	30,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,2-Dichloropropane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
1,3-Dichlorobenzene	2,400	--	280,000		6.4 UJ	5.7 U	6.3 U	7.6 UJ	6.8 UJ
1,4-Dichlorobenzene	1,800	--	130,000		6.4 UJ	5.7 U	6.3 U	12.9 JH	9.6 JH
2-Butanone	120	--	500,000		32 U	28.4 U	31.6 U	38.2 U	33.9 UJ
2-Hexanone	--	--	--		32 U	28.4 U	31.6 U	38.2 U	33.9 UJ
4-Methyl-2-Pentanone	--	--	--		32 U	28.4 U	31.6 U	38.2 U	33.9 UJ
Acetone	50	--	500,000		49.3	7.1 J	31.6 U	38.2 U	33.9 UJ
Benzene	60	--	44,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Bromochloromethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Bromodichloromethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Bromoform	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Bromomethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Carbon Disulfide	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Carbon Tetrachloride	760	--	22,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Chlorobenzene	1,100	--	500,000		6.4 U	5.7 U	6.3 U	7.6 U	1.8 JH
Chloroethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Chloroform	370	--	350,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Chloromethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ

See next page for Footnotes/Qualifiers

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-13	EP-17	EP-18	EP-19	EP-20
				Sampling Date	4/3/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
COMPOUNDS CONTINUED									
cis-1,2-Dichloroethene	250	250	500,000		30	5.7 U	6.3 U	7.6 U	59 JH
cis-1,3-Dichloropropene	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Cyclohexane	--	--	--		6.4 U	5.7 U	6.3 U	1.5 J	6.8 UJ
Dibromochloromethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Dichlorodifluoromethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Ethyl Benzene	1,000	--	390,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Isopropylbenzene	--	--	--		6.4 UJ	5.7 U	6.3 U	7.6 UJ	6.8 UJ
m/p-Xylenes	260	--	500,000		12.8 U	11.4 U	12.6 U	15.3 U	13.5 UJ
Methyl Acetate	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Methyl tert-butyl Ether	930	--	500,000		6.4 U	5.7 U	6.3 U	2.2 J	6.8 UJ
Methylcyclohexane	--	--	--		8.9	5.7 U	6.3 U	7.6 U	6.8 UJ
Methylene Chloride	50	--	500,000		***95.8***	3.6 J	6.3 U	***180***	350 UD
o-Xylene	260	--	500,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Styrene	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Tetrachloroethene	1,300	1,300	150,000		6.4 U	5.7 U	2.2 J	7.6 U	6.8 UJ
Toluene	700	--	500,000		410 D	5.7 U	6.3 U	16.8	6.8 UJ
trans-1,2-Dichloroethene	190	190	500,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
t-1,3-Dichloropropene	--	--	--		5.6 J	5.7 U	6.3 U	7.6 U	5.1 JH
Trichloroethene	470	470	200,000		***640 D***	5.7 U	4.5 J	88.9	51.9 JH
Trichlorofluoromethane	--	--	--		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ
Vinyl Chloride	20	--	13,000		6.4 U	5.7 U	6.3 U	7.6 U	6.8 UJ

Footnotes/Qualifiers:

--: Not analyzed or no standard
U: Analyzed for but not detected
J: Estimated value or detection limit
D: Detected at secondary dilution
UB: Non-detect based on blank results
H: Bias high
ug/kg: Micrograms per kilogram

Exceeds Protection of Groundwater SCO

Exceeds Unrestricted Use SCO

Tables only indicate exceedances of Protection of Groundwater SCOs for targeted chlorinated VOCs

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-21	EP-25	EP-26	EP-27	EP-28
				Sampling Date	4/3/2018	2/5/2018	12/18/2017	2/5/2018	2/5/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
VOLATILE COMPOUNDS									
1,1,1-Trichloroethane	680	680	500,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,1,2,2-Tetrachloroethane	--	--	--	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
1,1,2-Trichloroethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,1,2-Trichlorotrifluoroethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,1-Dichloroethane	270	270	240,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,1-Dichloroethene	330	330	500,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,2,3-Trichlorobenzene	--	--	--	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
1,2,4-Trichlorobenzene	--	--	--	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
1,2-Dibromo-3-Chloropropane	--	--	--	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
1,2-Dibromoethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,2-Dichlorobenzene	1,100	--	500,000	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
1,2-Dichloroethane	20	--	30,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,2-Dichloropropane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
1,3-Dichlorobenzene	2,400	--	280,000	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
1,4-Dichlorobenzene	1,800	--	130,000	5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
2-Butanone	120	--	500,000	25.4 J	29.6 U	33.1 U	32.4 U	33.4 U
2-Hexanone	--	--	--	28.8 U	29.6 UJ	33.1 U	32.4 UJ	33.4 UJ
4-Methyl-2-Pentanone	--	--	--	28.8 U	29.6 UJ	33.1 U	32.4 UJ	33.4 UJ
Acetone	50	--	500,000	***94.4***	9.1 UB	33.1 U	32.4 U	20.8 UB
Benzene	60	--	44,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Bromochloromethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Bromodichloromethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Bromoform	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Bromomethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Carbon Disulfide	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Carbon Tetrachloride	760	--	22,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Chlorobenzene	1,100	--	500,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Chloroethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Chloroform	370	--	350,000	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Chloromethane	--	--	--	5.8 U	5.9 U	6.6 U	6.5 U	6.7 U

See next page for Footnotes/Qualifiers

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-21	EP-25	EP-26	EP-27	EP-28
				Sampling Date	4/3/2018	2/5/2018	12/18/2017	2/5/2018	2/5/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
COMPOUNDS CONTINUED									
cis-1,2-Dichloroethene	250	250	500,000		7.2	5.9 U	6.6 U	6.5 U	6.7 U
cis-1,3-Dichloropropene	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Cyclohexane	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Dibromochloromethane	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Dichlorodifluoromethane	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Ethyl Benzene	1,000	--	390,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Isopropylbenzene	--	--	--		5.8 UJ	5.9 UJ	6.6 U	6.5 U	6.7 U
m/p-Xylenes	260	--	500,000		11.5 U	11.8 U	13.3 U	13 U	13.3 U
Methyl Acetate	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Methyl tert-butyl Ether	930	--	500,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Methylcyclohexane	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Methylene Chloride	50	--	500,000		***80***	5.9 U	2.4 J	6.5 U	4.8 J
o-Xylene	260	--	500,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Styrene	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Tetrachloroethene	1,300	1,300	150,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Toluene	700	--	500,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
trans-1,2-Dichloroethene	190	190	500,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
t-1,3-Dichloropropene	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Trichloroethene	470	470	200,000		2.5 J	5.9 U	11.1	4.9 J	6.7 U
Trichlorofluoromethane	--	--	--		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U
Vinyl Chloride	20	--	13,000		5.8 U	5.9 U	6.6 U	6.5 U	6.7 U

Footnotes/Qualifiers:

--: Not analyzed or no standard
U: Analyzed for but not detected
J: Estimated value or detection limit
D: Detected at secondary dilution
UB: Non-detect based on blank results
H: Bias high
ug/kg: Micrograms per kilogram

Exceeds Protection of Groundwater SCO

Exceeds Unrestricted Use SCO

Tables only indicate exceedances of Protection of Groundwater SCOs for targeted chlorinated VOCs

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-29	EP-30	EP-31	EP-32	EP-32A
				Sampling Date	12/18/2017	2/5/2018	2/5/2018	12/18/2017	3/12/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
VOLATILE COMPOUNDS									
1,1,1-Trichloroethane	680	680	500,000		6.2 U	6.1 U	5.3 U	13.9	6.7 JH
1,1,2,2-Tetrachloroethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,1,2-Trichloroethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,1,2-Trichlorotrifluoroethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,1-Dichloroethane	270	270	240,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,1-Dichloroethene	330	330	500,000		6.2 U	6.1 U	5.3 U	2 J	4.4 U
1,2,3-Trichlorobenzene	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,2,4-Trichlorobenzene	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,2-Dibromo-3-Chloropropane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,2-Dibromoethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,2-Dichlorobenzene	1,100	--	500,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,2-Dichloroethane	20	--	30,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,2-Dichloropropane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,3-Dichlorobenzene	2,400	--	280,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
1,4-Dichlorobenzene	1,800	--	130,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
2-Butanone	120	--	500,000		31.1 U	30.3 U	26.3 U	26.8 U	22.2 U
2-Hexanone	--	--	--		31.1 U	30.3 UJ	26.3 UJ	26.8 U	22.2 U
4-Methyl-2-Pentanone	--	--	--		31.1 U	30.3 UJ	26.3 UJ	26.8 U	22.2 U
Acetone	50	--	500,000		31.1 U	7.8 UB	7 UB	26.8 U	22.2 U
Benzene	60	--	44,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Bromochloromethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Bromodichloromethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Bromoform	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Bromomethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Carbon Disulfide	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Carbon Tetrachloride	760	--	22,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Chlorobenzene	1,100	--	500,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Chloroethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Chloroform	370	--	350,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Chloromethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U

See next page for Footnotes/Qualifiers

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-29	EP-30	EP-31	EP-32	EP-32A
				Sampling Date	12/18/2017	2/5/2018	2/5/2018	12/18/2017	3/12/2018
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
COMPOUNDS CONTINUED									
cis-1,2-Dichloroethene	250	250	500,000		6.2 U	6.1 U	5.3 U	2 J	4.4 U
cis-1,3-Dichloropropene	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Cyclohexane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Dibromochloromethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Dichlorodifluoromethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Ethyl Benzene	1,000	--	390,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Isopropylbenzene	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
m/p-Xylenes	260	--	500,000		12.5 U	12.1 U	10.5 U	10.7 U	8.9 U
Methyl Acetate	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Methyl tert-butyl Ether	930	--	500,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Methylcyclohexane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Methylene Chloride	50	--	500,000		2.9 J	3.3 J	2.8 J	4.4 J	4.4 U
o-Xylene	260	--	500,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Styrene	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Tetrachloroethene	1,300	1,300	150,000		6.2 U	6.1 U	5.3 U	5.5	3.3 J
Toluene	700	--	500,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
trans-1,2-Dichloroethene	190	190	500,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
t-1,3-Dichloropropene	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Trichloroethene	470	470	200,000		19.4	11.7	5.7	***660 D***	92
Trichlorofluoromethane	--	--	--		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U
Vinyl Chloride	20	--	13,000		6.2 U	6.1 U	5.3 U	5.4 U	4.4 U

Footnotes/Qualifiers:

--: Not analyzed or no standard
U: Analyzed for but not detected
J: Estimated value or detection limit
D: Detected at secondary dilution
UB: Non-detect based on blank results
H: Bias high
ug/kg: Micrograms per kilogram

Exceeds Protection of Groundwater SCO

Exceeds Unrestricted Use SCO

Tables only indicate exceedances of Protection of Groundwater SCOs for targeted chlorinated VOCs

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

				Sample ID	EP-33	EP-34	EP-35
				Sampling Date	2/5/2018	2/5/2018	2/6/2018
				Units	ug/kg	ug/kg	ug/kg
VOLATILE COMPOUNDS	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg				
1,1,1-Trichloroethane	680	680	500,000		1.8 J	5.8 U	5.4 U
1,1,2,2-Tetrachloroethane	--	--	--		5.5 U	5.8 U	5.4 U
1,1,2-Trichloroethane	--	--	--		5.5 U	5.8 U	5.4 U
1,1,2-Trichlorotrifluoroethane	--	--	--		5.5 U	5.8 U	5.4 U
1,1-Dichloroethane	270	270	240,000		5.5 U	5.8 U	5.4 U
1,1-Dichloroethene	330	330	500,000		5.5 U	5.8 U	5.4 U
1,2,3-Trichlorobenzene	--	--	--		5.5 U	5.8 U	5.4 U
1,2,4-Trichlorobenzene	--	--	--		5.5 U	5.8 U	5.4 U
1,2-Dibromo-3-Chloropropane	--	--	--		5.5 U	5.8 U	5.4 U
1,2-Dibromoethane	--	--	--		5.5 U	5.8 U	5.4 U
1,2-Dichlorobenzene	1,100	--	500,000		5.5 U	5.8 U	5.4 U
1,2-Dichloroethane	20	--	30,000		5.5 U	5.8 U	5.4 U
1,2-Dichloropropane	--	--	--		5.5 U	5.8 U	5.4 U
1,3-Dichlorobenzene	2,400	--	280,000		5.5 U	5.8 U	5.4 U
1,4-Dichlorobenzene	1,800	--	130,000		5.5 U	5.8 U	5.4 U
2-Butanone	120	--	500,000		27.6 U	29.1 U	27.2 U
2-Hexanone	--	--	--		27.6 UJ	29.1 UJ	27.2 UJ
4-Methyl-2-Pentanone	--	--	--		27.6 UJ	29.1 UJ	27.2 UJ
Acetone	50	--	500,000		11.3 UB	7.9 UB	6.7 UB
Benzene	60	--	44,000		5.5 U	5.8 U	5.4 U
Bromochloromethane	--	--	--		5.5 U	5.8 U	5.4 U
Bromodichloromethane	--	--	--		5.5 U	5.8 U	5.4 U
Bromoform	--	--	--		5.5 U	5.8 U	5.4 U
Bromomethane	--	--	--		5.5 U	5.8 U	5.4 U
Carbon Disulfide	--	--	--		5.5 U	5.8 U	5.4 U
Carbon Tetrachloride	760	--	22,000		5.5 U	5.8 U	5.4 U
Chlorobenzene	1,100	--	500,000		5.5 U	5.8 U	5.4 U
Chloroethane	--	--	--		5.5 U	5.8 U	5.4 U
Chloroform	370	--	350,000		5.5 U	5.8 U	5.4 U
Chloromethane	--	--	--		5.5 U	5.8 U	5.4 U

See next page for Footnotes/Qualifiers

Table C-1
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Volatile Organic Compounds

	Sample ID	EP-33	EP-34	EP-35
	Sampling Date	2/5/2018	2/5/2018	2/6/2018
	Units	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg	
COMPOUNDS CONTINUED				
cis-1,2-Dichloroethene	250	250	500,000	8	5.8 U	4.7 J
cis-1,3-Dichloropropene	--	--	--	5.5 U	5.8 U	5.4 U
Cyclohexane	--	--	--	5.5 U	5.8 U	5.4 U
Dibromochloromethane	--	--	--	5.5 U	5.8 U	5.4 U
Dichlorodifluoromethane	--	--	--	5.5 U	5.8 U	5.4 U
Ethyl Benzene	1,000	--	390,000	5.5 U	5.8 U	5.4 U
Isopropylbenzene	--	--	--	5.5 U	5.8 U	5.4 U
m/p-Xylenes	260	--	500,000	11 U	11.6 U	10.9 U
Methyl Acetate	--	--	--	5.5 U	5.8 U	5.4 U
Methyl tert-butyl Ether	930	--	500,000	5.5 U	5.8 U	5.4 U
Methylcyclohexane	--	--	--	5.5 U	5.8 U	5.4 U
Methylene Chloride	50	--	500,000	5.5 U	5.8 U	3 J
o-Xylene	260	--	500,000	5.5 U	5.8 U	5.4 U
Styrene	--	--	--	5.5 U	5.8 U	5.4 U
Tetrachloroethene	1,300	1,300	150,000	3.5 J	5.8 U	4.8 J
Toluene	700	--	500,000	5.5 U	5.8 U	5.4 U
trans-1,2-Dichloroethene	190	190	500,000	5.5 U	5.8 U	5.4 U
t-1,3-Dichloropropene	--	--	--	5.5 U	5.8 U	5.4 U
Trichloroethene	470	470	200,000	71.9	13.1	58.3
Trichlorofluoromethane	--	--	--	5.5 U	5.8 U	5.4 U
Vinyl Chloride	20	--	13,000	5.5 U	5.8 U	5.4 U

Footnotes/Qualifiers:
--: Not analyzed or no standard
U: Analyzed for but not detected
J: Estimated value or detection limit
D: Detected at secondary dilution
UB: Non-detect based on blank results
H: Bias high
ug/kg: Micrograms per kilogram
Exceeds Protection of Groundwater SCO
Exceeds Unrestricted Use SCO
Tables only indicate exceedances of Protection of Groundwater SCOs for targeted chlorinated VOCs

Table C-2
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Metals

	Sample ID	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) mg/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) mg/kg	EP-B3	EP-01	EP-02	EP-03	EP-04	EP-05	EP-09
	Sampling Date			2/6/2018	2/16/2018	12/18/2017	4/3/2018	4/3/2018	4/3/2018	2/16/2018
	Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals										
Aluminum		--	--	4,240	4,310 J	5,560 J	6,830	6,770	6,190	2,950 J
Antimony		--	--	2.48 U	2.5 U	2.56 UJ	2.49 U	2.6 U	2.78 U	2.43 U
Arsenic		13	16	4.36	1.08	2.79	3.85	1.54	8.77	1.76
Barium		350	400	20.2 J	16.8 J	28 J	45.9	64.7	32.4	12.1 J
Beryllium		7.2	590	0.097 J	0.185 J	0.155 J	0.33	0.363	0.417	0.129 J
Cadmium		2.5	9.3	***8.73***	0.16 J	0.288 J	0.705	0.09 J	0.33 U	0.098 J
Calcium		--	--	1170 J	746	1,540 J	6,790 J	4,790 J	5,300 J	589
Chromium		30	1,500	***131 JL***	7.3 J	13.3 J	***250 J***	15 J	15.2 J	5.27 J
Cobalt		--	--	3.11	3.64	4.09	5.89	2.58	8.87	2.2
Copper		50	270	***65.2 JL***	12.1 J	11 J	36.3 J	14.4 J	14 J	5.59 J
Iron		--	--	7,410	6,140	8,250	10,300	4,880	18,400	4,770
Lead		63	1,000	5.79 J	3.92	19.9	38.5	10.4	11.2	2.68
Magnesium		--	--	1,990 J	1,870 J	2,170 J	2,390 J	896 J	4,300 J	1,420 J
Manganese		1,600	10,000	48.2 J	41.7 J	76.4 J	140 J	72.1 J	167 J	30.6 J
Mercury		0.18	2.8	0.063	0.016 U	0.054	0.094	0.053	0.012 J	0.015 U
Nickel		30	310	***56.7***	10.2	11.4	24.2	9.2	21.4	6.24
Potassium		--	--	626 JL	553	575	636	728	909	377
Selenium		3.9	1,500	2.2 J	0.464 J	1.79	0.875 J	0.716 J	1.17	0.424 J
Silver		2	1,500	0.497 UJ	0.501 U	0.512 U	0.5 U	0.52 U	0.56 U	0.486 U
Sodium		--	--	75 JL	55.5 J	53.6 UB	104	112	57.7 J	32.4 J
Thallium		--	--	1.99 U	2 U	2.05 U	1.99 U	2.08 U	0.634 J	1.94 U
Vanadium		--	--	12.8 JL	8.62	14.8	15.8	11	18.5	6.72
Zinc		109	10,000	54.1	32.9 J	31.8 J	58.1	31.1	48.3	17.7 J

Footnotes/Qualifiers:

--: Not analyzed or no standard
mg/kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value or detection limit
UB: Non-detect based on blank results
L: Bias low

Exceeds Commercial Use SCOs
Exceeds Unrestricted Use SCO

D&B ENGINEERS AND ARCHITECTS, P.C.

Table C-2
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Metals

	Sample ID	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) mg/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) mg/kg	EP-10	EP-11	EP-12	EP-13	EP-17	EP-18	EP-19
	Sampling Date			12/18/2017	4/3/2018	4/3/2018	4/3/2018	2/16/2018	12/18/2017	4/3/2018
	Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals										
Aluminum		--	--	8,730 J	10,400	5,090	6,250	5,880 J	8,620 J	10,200
Antimony		--	--	2.96 UJ	3.03 U	2.72 U	2.64 U	2.46 U	2.83 UJ	2.89 U
Arsenic		13	16	***20.9 J***	10.6	2.85	11.6	4.82	10.9	***14.4***
Barium		350	400	29.2 J	31.7	27.5	23.4	18.2 J	29.6 J	28.4
Beryllium		7.2	590	0.228 J	0.32 J	0.296 J	0.33	0.203 J	0.129 J	0.518
Cadmium		2.5	9.3	0.432	0.428	0.33 U	***5.07***	0.297	0.293 J	0.512
Calcium		--	--	977 J	1,460 J	2,320 J	2,210 J	1170	881 J	1,090 J
Chromium		30	1,500	***33.3 J***	***282 J***	11.7 J	18.5 J	12 J	***72.7 J***	***37 J***
Cobalt		--	--	5.28	3.45	9	9.16	2.3	3.79	5.22
Copper		50	270	***55.2 J***	***56.2 J***	9.21 J	44.8 J	21 J	37.9 J	***51.7 J***
Iron		--	--	21,300 J	11,700	10,700	16,200	7,880	11,100	16,000
Lead		63	1,000	13.6 J	9.53	7.18	5.62	4.57	9.09	8.35
Magnesium		--	--	2,280 J	1,180 J	2,370 J	2,230 J	1,700 J	1,990 J	1,470 J
Manganese		1,600	10,000	70.6 J	40.2 J	104 J	92.2 J	36.2 J	57 J	49.3 J
Mercury		0.18	2.8	0.019 U	0.016 J	0.008 J	0.017	0.015 U	0.009 J	0.022
Nickel		30	310	11.4	7.77	29.6	***36.1***	6.18	8.77	9.66
Potassium		--	--	763	678	621	476	577	732	543
Selenium		3.9	1,500	***5.49 J***	1.53	0.96 J	1.01 J	1.04	3.49	1.53
Silver		2	1,500	0.593 U	0.61 U	0.54 U	0.53 U	0.493 U	0.566 U	0.58 U
Sodium		--	--	70.9 UB	63.9 J	48.2 J	52.1 J	41 J	51.5 UB	61.4 J
Thallium		--	--	2.37 U	2.42 U	2.17 U	0.607 J	1.97 U	2.27 U	0.491 J
Vanadium		--	--	31.9 J	12.9	14.3	19.6	15.9	19.9	21.8
Zinc		109	10,000	41.4 J	20.3	44.4	53.5	19.5 J	25.1 J	28.3

Footnotes/Qualifiers:

--: Not analyzed or no standard
mg/kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value or detection limit
UB: Non-detect based on blank results
L: Bias low

Exceeds Commercial Use SCOs
Exceeds Unrestricted Use SCO

D&B Engineers and Architects, P.C.

Table C-2
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Metals

		Sample ID	EP-20	EP-21	EP-25	EP-26	EP-27	EP-28	EP-29
		Sampling Date	4/3/2018	4/3/2018	2/5/2018	12/18/2017	2/5/2018	2/5/2018	12/18/2017
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) mg/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) mg/kg							
Metals									
Aluminum	--	--	8,210	4,720	8,420	9,570 J	10,200	8,510	6,770 J
Antimony	--	--	2.76 U	2.53 U	2.66 U	2.72 UJ	2.79 U	2.61 U	2.94 UJ
Arsenic	13	16	3.35	7.1	6.02	3.41	2.2	1.78	5.11
Barium	350	400	69.1	20.3	20.4 J	58 J	73.1 J	64.4 J	23.3 J
Beryllium	7.2	590	0.449	0.36	0.272 J	0.23 J	0.257 J	0.315	0.219 J
Cadmium	2.5	9.3	1.11	0.3 U	0.299 J	0.435	0.164 J	0.122 J	0.572
Calcium	--	--	3,040 J	3,810 J	1,420 J	690 J	828 J	2,640 J	1,350 J
Chromium	30	1,500	***49.8 J***	9.67 J	16.3 JL	***76.3 J***	***55.3 JL***	14 JL	20.3 J
Cobalt	--	--	6.35	7.32	2.62	1.25 J	1.11 J	1.92	5.82
Copper	50	270	39 J	8.27 J	25.5 JL	31.8 J	37.4 JL	8.82 JL	32.3 J
Iron	--	--	12,400	18,900	9,350	9,230	8,750	6,080	11,500
Lead	63	1,000	***88.7***	7.05	7.24 J	11.1	22.6 J	14.6 J	9.76
Magnesium	--	--	1,540 J	3,380 J	1,530 J	446 J	438 J	1,090 J	2,580 J
Manganese	1,600	10,000	155 J	300 J	44.1 J	14.2 J	21.4 J	39.7 J	79.5 J
Mercury	0.18	2.8	***0.376***	0.007 J	0.012 J	0.021	0.029	0.047	0.018 U
Nickel	30	310	***40.3***	15.3	6.97	3.4	4.86	5.36	14.7
Potassium	--	--	526	534	552 JL	519	461 JL	422 JL	813
Selenium	3.9	1,500	1.34	0.993 J	2.99 J	2.28	3.11 J	1.55 J	3.07
Silver	2	1,500	0.55 U	0.51 U	0.532 U	0.545 U	0.558 UJ	0.522 UJ	0.588 U
Sodium	--	--	78 J	43.5 J	49.5 JL	32.7 UB	49.3 JL	46.5 JL	47.2 UB
Thallium	--	--	2.21 U	0.522 J	2.13 U	2.18 U	2.23 U	2.09 U	2.35 U
Vanadium	--	--	18.1	15	17.3 JL	13.1	10.9 JL	12 JL	16.4
Zinc	109	10,000	***177***	38.2	21.6	20.4 J	26.6	42.3	38.5 J

Footnotes/Qualifiers:

--: Not analyzed or no standard
mg/kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value or detection limit
UB: Non-detect based on blank results
L: Bias low

Exceeds Commercial Use SCOs
Exceeds Unrestricted Use SCO

D&B ENGINEERS AND ARCHITECTS, P.C.

Table C-2
Former Levco Metals Finishing Site
Astoria, New York
Summary of Endpoint Soil Sample Analytical Results
Metals

		Sample ID	EP-30	EP-31	EP-32	EP-32A	EP-33	EP-34	EP-35
		Sampling Date	2/5/2018	2/5/2018	12/18/2017	3/12/2018	2/5/2018	2/5/2018	2/6/2018
		Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) mg/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) mg/kg							
Metals									
Aluminum	--	--	5,920	4,360	6,120 J	3,950 J	5,990	2,780	4,300
Antimony	--	--	2.65 U	2.49 U	2.59 UJ	2.09 U	2.65 U	2.51 U	2.72 U
Arsenic	13	16	11.8	1.51	5.46	3.35	5.04	0.806 J	2.1
Barium	350	400	24.1 J	24.5 J	30.4 J	18.3	23.2 J	8.41 J	13.5 J
Beryllium	7.2	590	0.17 J	0.148 J	0.115 J	0.203 J	0.138 J	0.104 J	0.177 J
Cadmium	2.5	9.3	1.38	0.175 J	***22.3***	***4.84***	***3.21***	0.385	1.8
Calcium	--	--	1,690 J	998 J	1,590 J	1,120 J	2,440 J	624 J	855 J
Chromium	30	1,500	13.3 JL	10.6 JL	***202*** **J**	9.32	12.5 JL	6.41 JL	22 JL
Cobalt	--	--	6.07	4.75	3.8	6.14	3.89	2.88	5.28
Copper	50	270	18.1 JL	7.85 JL	47.1 J	11.5 J	***127*** **JL**	4.13 JL	7.65 JL
Iron	--	--	13,300	5,950	9,270	9,010	10,700	4,370	5,700
Lead	63	1,000	12.9 J	5.26 J	14.8	6.52	9.07 J	3.39 J	4.76 J
Magnesium	--	--	2,490 J	1,820 J	2,300 J	1,830 J	2,540 J	1,360 J	1,820 J
Manganese	1,600	10,000	86.3 J	47.8 J	63 J	48.8 J	61.9 J	30.8 J	42.9 J
Mercury	0.18	2.8	0.058	0.022	0.045	0.009 J	0.008 J	0.015 U	0.017
Nickel	30	310	***38.7***	12.7	***204***	***193***	***48.3***	8.45	***31.2***
Potassium	--	--	721 JL	493 JL	896	635	889 JL	362 JL	460 JL
Selenium	3.9	1,500	***4.34*** **J**	1.33 J	2.36	0.84 UJ	2.74 J	1.01 J	1.18 J
Silver	2	1,500	0.53 UJ	0.499 UJ	0.518 U	0.71	0.53 UJ	0.502 UJ	0.545 UJ
Sodium	--	--	84.3 JL	44.8 JL	77.8 UB	92.5	90.8 JL	61.8 JL	71.3 JL
Thallium	--	--	2.12 U	2 U	2.07 U	0.267 J	2.12 U	2.01 U	2.18 U
Vanadium	--	--	19 JL	9.81 JL	17.1	11.8	44.3 JL	6.52 JL	9.39 JL
Zinc	109	10,000	63.1	40.2	57.2 J	48.8	39.2	16.4	28.7

Footnotes/Qualifiers:

--: Not analyzed or no standard
mg/kg: Milligrams per kilogram
U: Analyzed for but not detected
J: Estimated value or detection limit
UB: Non-detect based on blank results
L: Bias low

Exceeds Commercial Use SCOs
Exceeds Unrestricted Use SCO

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Table C-3
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Volatile Organic Compounds

			Sample ID	B-20	B-20	B-20	B-21	B-21
			Sampling Date	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018
			Start Depth (feet)	2	8	14	2	8
			End Depth (feet)	4	10	16	4	10
			Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg					
VOLATILE COMPOUNDS								
1,1,1-Trichloroethane	680	680	500,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,1,2,2-Tetrachloroethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
1,1,2-Trichloroethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,1,2-Trichlorotrifluoroethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,1-Dichloroethane	270	270	240,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,1-Dichloroethene	330	330	500,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,2,3-Trichlorobenzene	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
1,2,4-Trichlorobenzene	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
1,2-Dibromo-3-Chloropropane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,2-Dibromoethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,2-Dichlorobenzene	1,100	--	500,000	4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
1,2-Dichloroethane	20	--	30,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,2-Dichloropropane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
1,3-Dichlorobenzene	2,400	--	280,000	4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
1,4-Dichlorobenzene	1,800	--	130,000	4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
2-Butanone	120	--	500,000	24.5 U	28.8 U	43.9 U	30 U	25.6 U
2-Hexanone	--	--	--	24.5 U	28.8 U	43.9 U	30 U	25.6 U
4-Methyl-2-Pentanone	--	--	--	24.5 U	28.8 U	43.9 U	30 U	25.6 U
Acetone	50	--	500,000	24.5 U	28.8 U	43.9 U	30 U	25.6 U
Benzene	60	--	44,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Bromochloromethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Bromodichloromethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Bromoform	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Bromomethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Carbon Disulfide	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Carbon Tetrachloride	760	--	22,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Chlorobenzene	1,100	--	500,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Chloroethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Chloroform	370	--	350,000	4.9 U	5.8 U	8.8 U	6 U	5.1 U
Chloromethane	--	--	--	4.9 U	5.8 U	8.8 U	6 U	5.1 U

See next page for Footnotes/Qualifiers

Table C-3
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Volatile Organic Compounds

				Sample ID	B-20	B-20	B-20	B-21	B-21
				Sampling Date	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018
				Start Depth (feet)	2	8	14	2	8
				End Depth (feet)	4	10	16	4	10
				Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg						
cis-1,2-Dichloroethene	250	250	500,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
cis-1,3-Dichloropropene	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Cyclohexane	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Dibromochloromethane	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Dichlorodifluoromethane	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Ethyl Benzene	1,000	--	390,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Isopropylbenzene	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 UJ
m/p-Xylenes	260	--	500,000		9.8 U	11.5 U	17.5 U	12 U	10.2 U
Methyl Acetate	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Methyl tert-butyl Ether	930	--	500,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Methylcyclohexane	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Methylene Chloride	50	--	500,000		1.6 J	5.8 U	8.8 U	6 U	5.1 U
o-Xylene	260	--	500,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Styrene	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Tetrachloroethene	1,300	1,300	150,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Toluene	700	--	500,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
trans-1,2-Dichloroethene	190	190	500,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U
t-1,3-Dichloropropene	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Trichloroethene	470	470	200,000		4.9 U	5.8 U	8.8 U	6 U	3.1 J
Trichlorofluoromethane	--	--	--		4.9 U	5.8 U	8.8 U	6 U	5.1 U
Vinyl Chloride	20	--	13,000		4.9 U	5.8 U	8.8 U	6 U	5.1 U

Footnotes/Qualifiers:

ug/kg: Micrograms per kilograms
--: No standard
U: Analyzed for but not detecte
J: Estimated value or detection limit
Tables only indicate exceedances of Protection of Groundwater SCOs fc
targeted chlorinated VOCs

Table C-3
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Volatile Organic Compounds

			Sample ID	B-21	B-22	B-22	B-22
			Sampling Date	2/7/2018	2/7/2018	2/7/2018	2/7/2018
			Start Depth (feet)	14	2	8	14
			End Depth (feet)	16	4	10	16
			Units	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg				
VOLATILE COMPOUNDS							
1,1,1-Trichloroethane	680	680	500,000	5.2 U	5.2 U	4.7 U	5.1 U
1,1,2,2-Tetrachloroethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,1,2-Trichloroethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,1,2-Trichlorotrifluoroethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,1-Dichloroethane	270	270	240,000	5.2 U	5.2 U	4.7 U	5.1 U
1,1-Dichloroethene	330	330	500,000	5.2 U	5.2 U	4.7 U	5.1 U
1,2,3-Trichlorobenzene	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,2,4-Trichlorobenzene	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,2-Dibromo-3-Chloropropane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,2-Dibromoethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,2-Dichlorobenzene	1,100	--	500,000	5.2 U	5.2 U	4.7 U	5.1 U
1,2-Dichloroethane	20	--	30,000	5.2 U	5.2 U	4.7 U	5.1 U
1,2-Dichloropropane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
1,3-Dichlorobenzene	2,400	--	280,000	5.2 U	5.2 U	4.7 U	5.1 U
1,4-Dichlorobenzene	1,800	--	130,000	5.2 U	5.2 U	4.7 U	5.1 U
2-Butanone	120	--	500,000	25.9 U	26.1 U	23.7 U	25.4 U
2-Hexanone	--	--	--	25.9 U	26.1 U	23.7 U	25.4 U
4-Methyl-2-Pentanone	--	--	--	25.9 U	26.1 U	23.7 U	25.4 U
Acetone	50	--	500,000	25.9 U	26.1 U	23.7 U	25.4 U
Benzene	60	--	44,000	5.2 U	5.2 U	4.7 U	5.1 U
Bromochloromethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Bromodichloromethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Bromoform	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Bromomethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Carbon Disulfide	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Carbon Tetrachloride	760	--	22,000	5.2 U	5.2 U	4.7 U	5.1 U
Chlorobenzene	1,100	--	500,000	5.2 U	5.2 U	4.7 U	5.1 U
Chloroethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Chloroform	370	--	350,000	5.2 U	5.2 U	4.7 U	5.1 U
Chloromethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U

See next page for Footnotes/Qualifiers

Table C-3
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Volatile Organic Compounds

			Sample ID	B-21	B-22	B-22	B-22
			Sampling Date	2/7/2018	2/7/2018	2/7/2018	2/7/2018
			Start Depth (feet)	14	2	8	14
			End Depth (feet)	16	4	10	16
			Units	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Protection of Groundwater Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg				
cis-1,2-Dichloroethene	250	250	500,000	5.2 U	5.2 U	4.7 U	5.1 U
cis-1,3-Dichloropropene	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Cyclohexane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Dibromochloromethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Dichlorodifluoromethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Ethyl Benzene	1,000	--	390,000	5.2 U	5.2 U	4.7 U	5.1 U
Isopropylbenzene	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
m/p-Xylenes	260	--	500,000	10.4 U	10.4 U	9.5 U	10.2 U
Methyl Acetate	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Methyl tert-butyl Ether	930	--	500,000	5.2 U	5.2 U	4.7 U	5.1 U
Methylcyclohexane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Methylene Chloride	50	--	500,000	5.2 U	5.2 U	4.7 U	5.1 U
o-Xylene	260	--	500,000	5.2 U	5.2 U	4.7 U	5.1 U
Styrene	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Tetrachloroethene	1,300	1,300	150,000	5.2 U	5.2 U	4.7 U	5.1 U
Toluene	700	--	500,000	5.2 U	5.2 U	4.7 U	5.1 U
trans-1,2-Dichloroethene	190	190	500,000	5.2 U	5.2 U	4.7 U	5.1 U
t-1,3-Dichloropropene	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Trichloroethene	470	470	200,000	5.2 U	5.2 U	0.95 J	5.1 U
Trichlorofluoromethane	--	--	--	5.2 U	5.2 U	4.7 U	5.1 U
Vinyl Chloride	20	--	13,000	5.2 U	5.2 U	4.7 U	5.1 U

Footnotes/Qualifiers:

ug/kg: Micrograms per kilograms
--: No standard
U: Analyzed for but not detecte
J: Estimated value or detection limit
Tables only indicate exceedances of Protection of Groundwater SCOs fc
targeted chlorinated VOCs

Table C-4
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Semivolatile Organic Compounds

			Sample ID	B-20	B-20	B-20	B-21	B-21	B-21	B-22	B-22	B-22
			Sampling Date	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018
			Start Depth	2	8	14	2	8	14	2	8	14
			End Depth	4	10	16	4	10	16	4	10	16
			Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg										
SEMIVOLATILE COMPOUNDS												
1,1-Biphenyl	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
1,2,4,5-Tetrachlorobenzene	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
1,4-Dioxane	100	130,000	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,2'-Oxybis(1-chloropropane)	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,3,4,6-Tetrachlorophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,4,5-Trichlorophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,4,6-Trichlorophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,4-Dichlorophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,4-Dimethylphenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,4-Dinitrophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,4-Dinitrotoluene	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2,6-Dinitrotoluene	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2-Chloronaphthalene	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2-Chlorophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2-Methylnaphthalene	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2-Methylphenol	330	500,000	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2-Nitroaniline	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
2-Nitrophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
3,3-Dichlorobenzidine	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
3+4-Methylphenols	330	500,000	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
3-Nitroaniline	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4,6-Dinitro-2-methylphenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4-Bromophenyl-phenylether	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4-Chloro-3-methylphenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4-Chloroaniline	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4-Chlorophenyl-phenylether	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4-Nitroaniline	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
4-Nitrophenol	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Acenaphthene	20,000	500,000	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Acenaphthylene	100,000	500,000	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Acetophenone	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Anthracene	100,000	500,000	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Atrazine	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Azobenzene	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Benzaldehyde	--	--	370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U

See next page for Footnotes/Qualifiers

Table C-4
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Semivolatile Organic Compounds

			Sample ID	B-20	B-20	B-20	B-21	B-21	B-21	B-22	B-22	B-22
			Sampling Date	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018
			Start Depth	2	8	14	2	8	14	2	8	14
			End Depth	4	10	16	4	10	16	4	10	16
			Units	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) ug/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) ug/kg										
Benzidine	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Benzo(a)anthracene	1,000	5,600		370 U	380 U	410 U	180 J	380 U	400 U	360 U	370 U	400 U
Benzo(a)pyrene	1,000	1,000		370 U	380 U	410 U	140 J	380 U	400 U	360 U	370 U	400 U
Benzo(b)fluoranthene	1,000	5,600		370 U	380 U	410 U	190 J	380 U	400 U	360 U	370 U	400 U
Benzo(g,h,i)perylene	100,000	500,000		370 U	380 U	410 U	78.9 J	380 U	400 U	360 U	370 U	400 U
Benzo(k)fluoranthene	800	56,000		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Benzyl alcohol	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Bis(2-chloroethoxy)methane	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Bis(2-chloroethyl)ether	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Bis(2-Ethylhexyl)phthalate	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Butylbenzylphthalate	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Caprolactam	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Carbazole	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Chrysene	1,000	56,000		370 U	380 U	410 U	170 J	380 U	400 U	360 U	370 U	400 U
Dibenzo(a,h)anthracene	330	560		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Dibenzofuran	330	350,000		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Diethylphthalate	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Dimethylphthalate	--	--		270 J	240 J	140 J	190 J	290 J	270 J	210 J	260 J	210 J
Di-n-butylphthalate	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Di-n-octyl phthalate	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Fluoranthene	100,000	500,000		370 U	92.7 J	410 U	330 J	380 U	400 U	88.9 J	370 U	400 U
Fluorene	30,000	500,000		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Hexachlorobenzene	330	6,000		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Hexachlorobutadiene	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Hexachlorocyclopentadiene	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Hexachloroethane	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Indeno(1,2,3-cd)pyrene	500	5,600		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Isophorone	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Naphthalene	12,000	500,000		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Nitrobenzene	--	69,000		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
N-Nitrosodimethylamine	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
n-Nitroso-di-n-propylamine	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
N-Nitrosodiphenylamine	--	--		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Pentachlorophenol	800	6,700		370 U	380 U	410 U	390 U	380 U	400 U	360 U	370 U	400 U
Phenanthrene	100,000	500,000		370 U	380 U	410 U	310 J	380 U	400 U	360 U	370 U	400 U
Phenol	330	500,000		100 J	84.4 J	88.3 J	91.8 J	110 J	110 J	100 J	110 J	110 J
Pyrene	100,000	500,000		370 U	76.4 J	410 U	320 J	380 U	400 U	84.1 J	370 U	400 U

Footnotes/Qualifiers:

ug/kg: Micrograms per kilogram

--: No standard

U: Analyzed for but not detected

J: Estimated value

Table C-5
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Metals

	Sample ID	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) mg/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) mg/kg	B-20	B-20	B-20	B-21	B-21	B-21	B-22
	Sampling Date			2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018	2/7/2018
	Start Depth (feet)			2	8	14	2	8	14	2
	End Depth (feet)			4	10	16	4	10	16	4
	Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Metals										
Aluminum		--	--	6,350	9,300	3,930	8,500	6,270	5,300	7,610
Antimony		--	--	2.4 U	2.36 U	2.62 U	0.581 J	2.41 U	2.56 U	2.29 U
Arsenic		13	16	2.06	4.3	1.5	4.35	3.05	8.97	2.58
Barium		350	400	29.6	53.5	23.8	65.2	34.2	27.3	36.4
Beryllium		7.2	590	0.243 J	0.418	0.14 J	0.339	0.244 J	0.16 J	0.292
Cadmium		2.5	9.3	0.224 J	0.453	0.191 J	2.08	0.278 J	0.631	0.317
Calcium		--	--	891 J	1170 J	832 J	9,080 J	2,400 J	10,500 J	1,170 J
Chromium		30	1,500	10.8 J	12.3 J	7.73 J	15 J	10 J	12.1 J	12.6 J
Cobalt		--	--	5.19	6.86	3.47	5.95	5.68	3.96	6.17
Copper		50	270	13.9 J	15.7 J	6.61 J	25.8 J	13.1 J	21.7 J	17.3 J
Iron		--	--	11,100	16,300	6,220	14,100	11,700	8,820	13,100
Lead		63	1,000	17.6	60.8	5.05	***171***	16.2	12.9	24.9
Magnesium		--	--	2,130 J	1,940 J	1,900 J	2,470 J	2,300 J	2,380 J	2,600 J
Manganese		1,600	10,000	210 J	363 J	41.3 J	293 J	242 J	77.1 J	289 J
Mercury		0.18	2.8	0.045	0.141	0.016 U	***0.263***	0.015	0.155	0.05
Nickel		30	310	9.89	11.9	8.29	15.4	11.5	11.8	12.9
Potassium		--	--	520	412	551	790	627	554	648
Selenium		3.9	1,500	***4.21***	***6.07***	2.42	***4.27***	***4.24***	2.43	***4.77***
Silver		2	1,500	0.48 U	0.172 J	0.524 U	0.509 U	0.482 U	0.513 U	0.458 U
Sodium		--	--	38.4 J	69.1 J	36 J	67.6 J	37.2 J	45.3 J	53.4 J
Thallium		--	--	0.677 J	0.64 J	0.461 J	0.743 J	0.623 J	0.677 J	0.686 J
Vanadium		--	--	14.9 J	17.9 J	10.4 J	18.3 J	17.1 J	17.6 J	18.5 J
Zinc		109	10,000	32.8	55.4	24.1	91.4	28	33.7	34.9

Footnotes/Qualifiers:

mg/kg: Milligrams per kilogram

--: No standard

U: Analyzed for but not detected

J: Estimated value

Exceeds Unrestricted Use SCO

Table C-5
Former Levco Metals Finishing Site
Astoria, New York
Summary of Subsurface Soil Sample Results
Metals

	Sample ID	NYCRR 6 Part 375 Unrestricted Use Soil Cleanup Objectives (SCOs) mg/kg	NYCRR 6 Part 375 Commercial Use Soil Cleanup Objectives (SCOs) mg/kg	B-22	B-22
	Sampling Date			2/7/2018	2/7/2018
	Start Depth (feet)			8	14
	End Depth (feet)			10	16
	Units			mg/kg	mg/kg
Metals					
Aluminum		--	--	7,060	4,040
Antimony		--	--	2.37 U	2.57 U
Arsenic		13	16	3.37	5.98
Barium		350	400	38.1	16.9
Beryllium		7.2	590	0.274 J	0.122 J
Cadmium		2.5	9.3	0.335	0.575
Calcium		--	--	2,860 J	796 J
Chromium		30	1,500	9.86 J	12 J
Cobalt		--	--	5.49	3.4
Copper		50	270	13.2 J	9.03 J
Iron		--	--	12,200	6,890
Lead		63	1,000	50.9	8.13
Magnesium		--	--	2,930 J	1,590 J
Manganese		1,600	10,000	258 J	50 J
Mercury		0.18	2.8	0.061	0.016 U
Nickel		30	310	9.87	8.92
Potassium		--	--	553	435
Selenium		3.9	1,500	***4.26***	3.06
Silver		2	1,500	0.474 U	0.514 U
Sodium		--	--	58.6 J	32.2 J
Thallium		--	--	0.627 J	0.441 J
Vanadium		--	--	16.3 J	16.9 J
Zinc		109	10,000	36.9	25.3

Footnotes/Qualifiers:

mg/kg: Milligrams per kilogram
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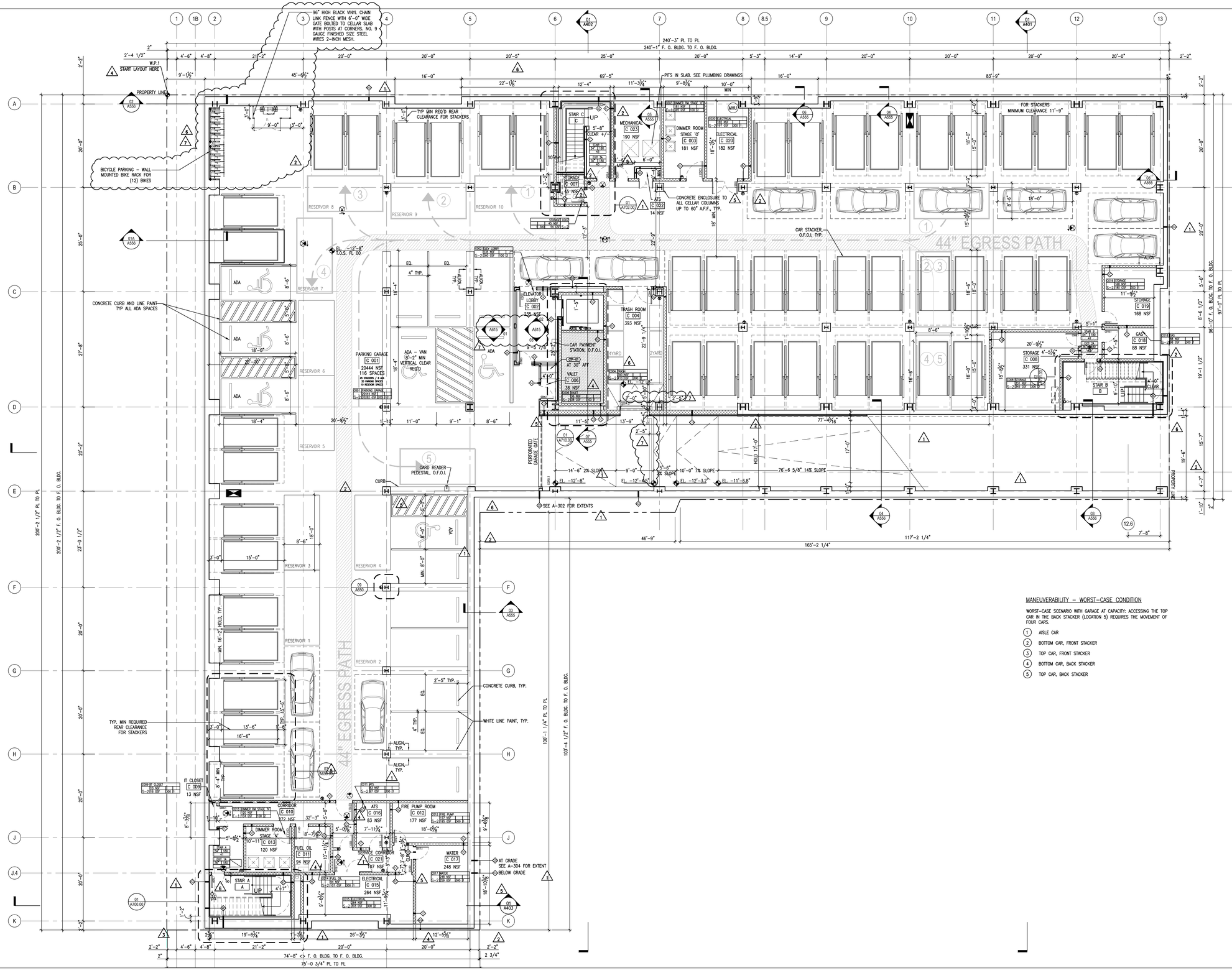
U: Analyzed for but not detected
J: Estimated value
Exceeds Unrestricted Use SCO

APPENDIX D

DEVELOPMENT PLAN DETAILS



LEGEND

DOOR TAG. SEE A-801 FOR DOOR TYPES & SCHEDULE

WALL TYPE TAG. SEE A-800 & A-804 FOR ASSEMBLY AND RATING

SURFACE MOUNT EXTINGUISHER CABINET

SEMI RECESSED EXTINGUISHER CABINET

CODE PLAN LEGEND

ROOM #	ROOM NAME	
USE	NET SF	NSF/OCC OCCUPANT #
GROUP	GROSS SF	GSF/OCC OCCUPANT #

EXIT NAME	
EXIT WIDTH	MAXIMUM OCCUPANCY
ACTUAL OCCUPANCY	

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MANEUVERABILITY - WORST-CASE CONDITION

WORST-CASE SCENARIO WITH GARAGE AT CAPACITY: ACCESSING THE TOP CAR IN THE BACK STACKER (LOCATION 5) REQUIRES THE MOVEMENT OF FOUR CARS.

1. AISLE CAR
2. BOTTOM CAR, FRONT STACKER
3. TOP CAR, FRONT STACKER
4. BOTTOM CAR, BACK STACKER
5. TOP CAR, BACK STACKER

KEY PLAN / SECTION

0'-0" = NAVD 37.16'

B-SCAN

SEAL

ISSUE / REVISIONS

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PROJECT

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36-02 34TH AVENUE (AKA 34-11 36TH STREET)
ASTORIA, QUEENS 11106
BOROUGH: QUEENS BLOCK 644 LOT 28

DRAWING SET

BULLETIN 3

DRAWING TITLE

CELLAR FLOOR PLAN

PROJECT #	1604
DRAWN BY	OR, JP, JC, JK, SB, SW
DATE	12.16.2016
SCALE	1/8" = 1'-0"

A-100.00

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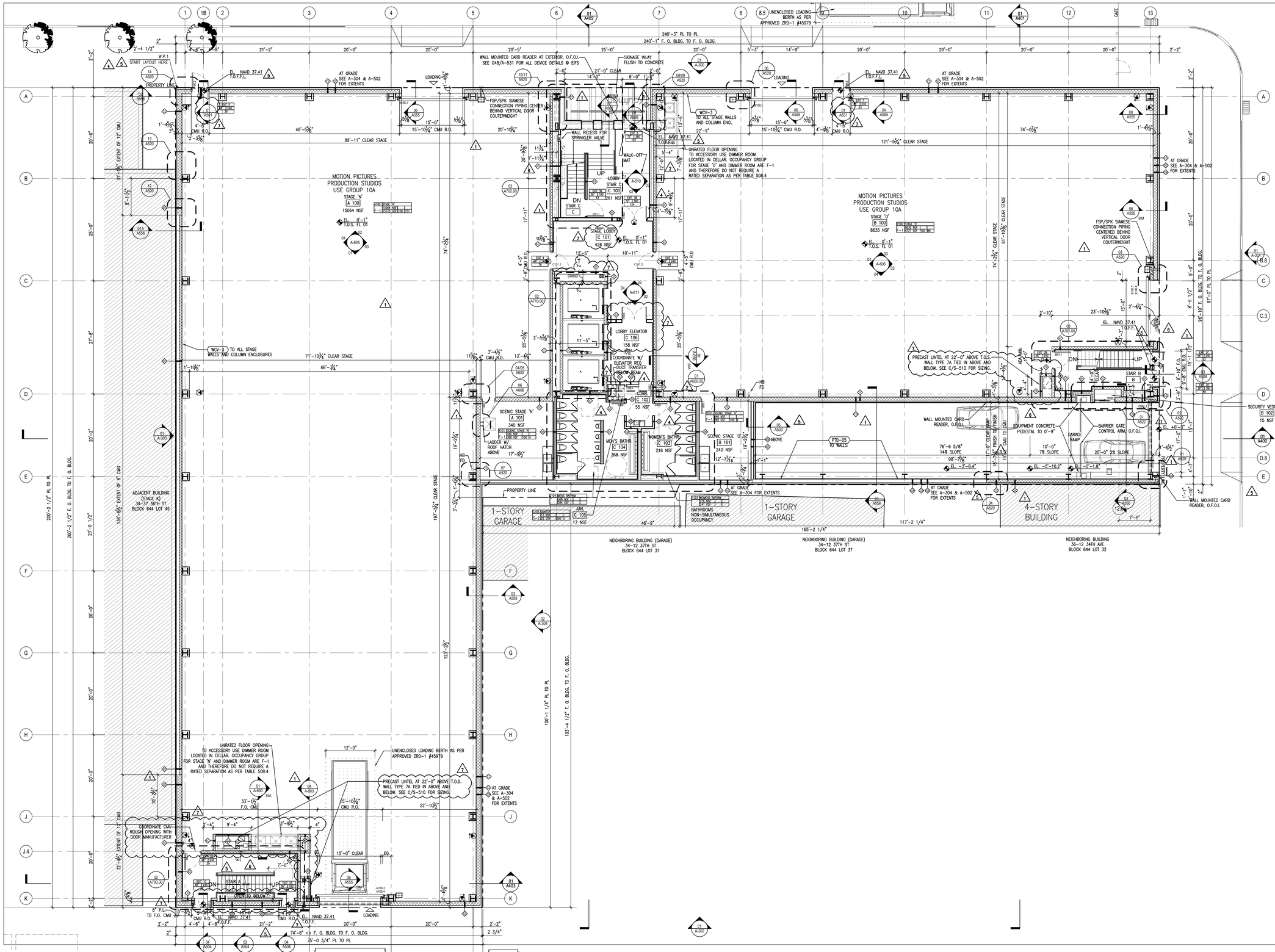

LEGEND

DOOR TAG. SEE A-801 FOR DOOR TYPES & SCHEDULE

WALL TYPE TAG. SEE A-800 & A-804 FOR ASSEMBLY AND RATING

SURFACE MOUNT EXTINGUISHER CABINET

SEMI RECESSED EXTINGUISHER CABINET

CODE PLAN LEGEND

ROOM #	ROOM NAME	
USE GROUP	NET SF	NSF/OCC OCCUPANT #
	GROSS SF	GSF/OCC OCCUPANT #

EXIT NAME	
EXIT WIDTH	MAXIMUM OCCUPANCY
ACTUAL OCCUPANCY	

GENERAL NOTES

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KEY PLAN / SECTION

0'-0" = NAVD 37.16'

B-SCAN

SEAL

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4	04.28.2017	BULLETIN 1
5	06.30.2017	BULLETIN 2
6	09.15.2017	BULLETIN 3

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ASTORIA, QUEENS 11106
BOROUGH: QUEENS BLOCK 644 LOT 28

DRAWING SET
BULLETIN 3

DRAWING TITLE
FIRST FLOOR PLAN

PROJECT #	1604
DRAWN BY	OR, JP, JC, JK, SB, SW
DATE	12.16.2016
SCALE	1/8" = 1'-0"

A-101.00
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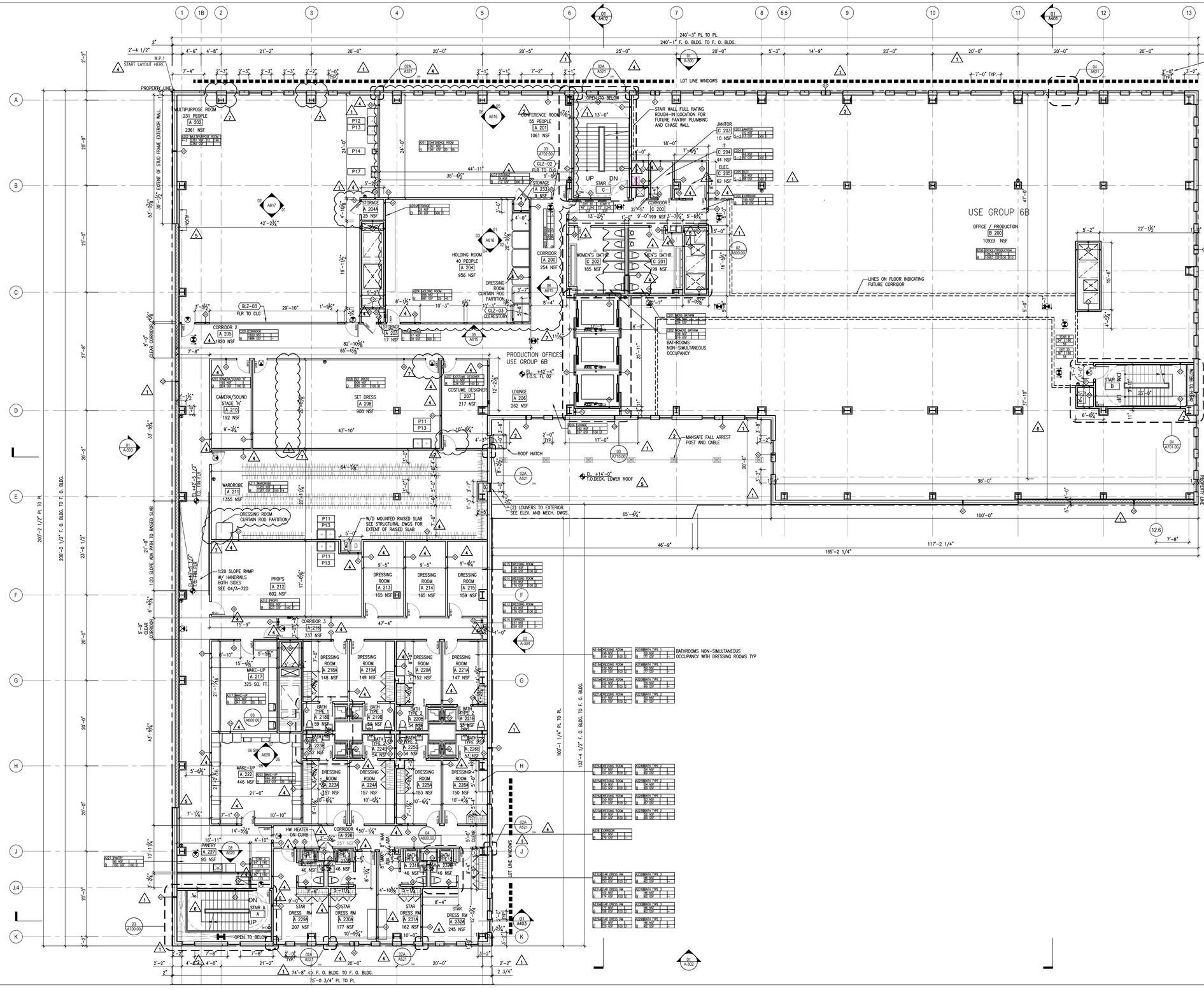

LEGEND

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- WALL TYPE TAG. SEE A-800 & A-804 FOR ASSEMBLY AND RATING
- SURFACE MOUNT EXTINGUISHER CABINET
- SEMI RECESSED EXTINGUISHER CABINET

CODE PLAN LEGEND

ROOM/USE GROUP	ROOM NAME	
USE	NET SF	NSF/OCC OCCUPANT #
GROUP	GROSS SF	GSF/OCC OCCUPANT #

EXIT NAME	
EXIT WIDTH	MAXIMUM OCCUPANCY
ACTUAL OCCUPANCY	

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KEY PLAN / SECTION

0'-0" = NAVD 37.16'

B-SCAN

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BOROUGH: QUEENS BLOCK 644 LOT 28

DRAWING SET

BULLETIN 3

DRAWING TITLE

SECOND FLOOR PLAN

PROJECT #	1604
DRAWN BY	OR, JP, JC, JK, SB, SW
DATE	12.16.2016
SCALE	1/8" = 1'-0"

A-102.00

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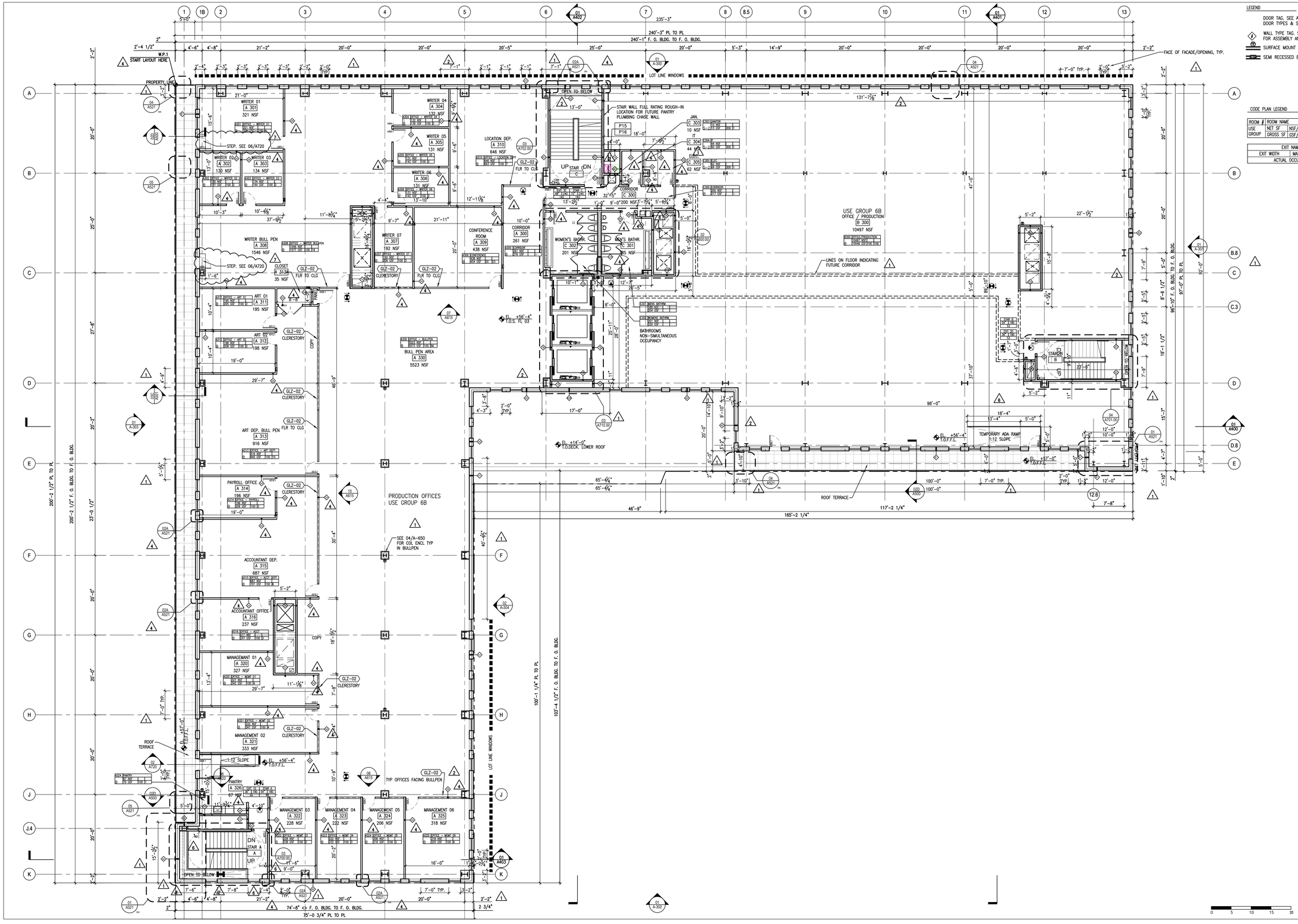

LEGEND

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SURFACE MOUNT EXTINGUISHER CABINET

SEMI RECESSED EXTINGUISHER CABINET

CODE PLAN LEGEND

ROOM #	ROOM NAME	
USE	NET SF	NSF/OCC OCCUPANT #
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KEY PLAN / SECTION

0'-0" = NAVD 37.16'

B-SCAN

SEAL

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PROJECT

KAUFMAN ASTORIA STUDIOS STAGES O AND N
34-02 34TH AVENUE (AKA 34-11 36TH STREET)
ASTORIA, QUEENS 11106
BOROUGH: QUEENS BLOCK 644 LOT 28

DRAWING SET

BULLETIN 3

DRAWING TITLE

THIRD FLOOR PLAN

PROJECT # 1604
DRAWN BY OR, JP, JC, JK, SB, SW
DATE 12.16.2016
SCALE 1/8" = 1'-0"

A-103.00
SHEET PAGE

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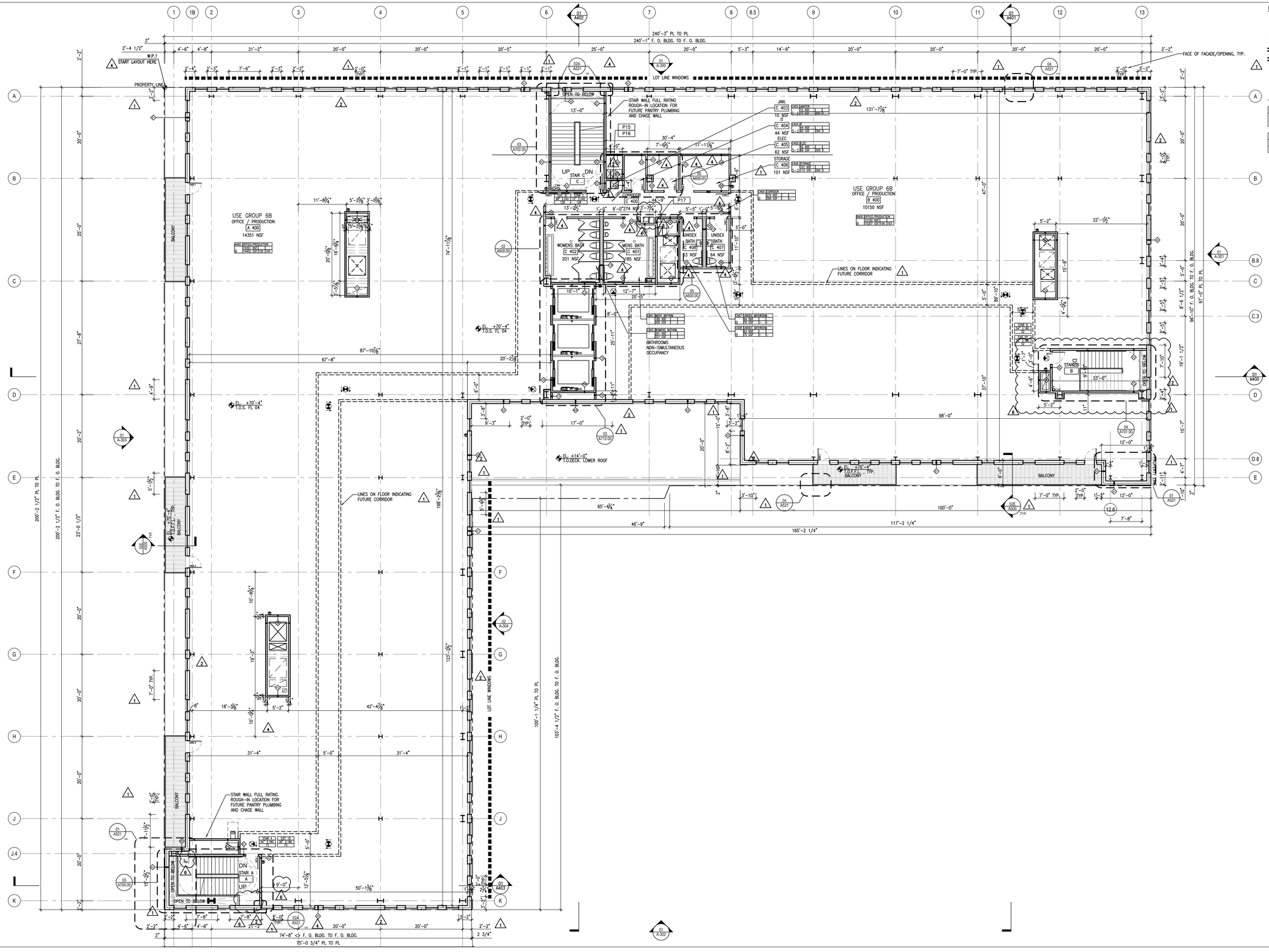

LEGEND

DOOR TAG. SEE A-801 FOR DOOR TYPES & SCHEDULE

WALL TYPE TAG. SEE A-800 & A-804 FOR ASSEMBLY AND RATING

SURFACE MOUNT EXTINGUISHER CABINET

SEMI RECESSED EXTINGUISHER CABINET

CODE PLAN LEGEND

ROOM #	ROOM NAME		
USE	NET SF	NSF/OCC	OCCUPANT #
GROUP	GROSS SF	GSF/OCC	OCCUPANT #

EXIT NAME	
EXIT WIDTH	MAXIMUM OCCUPANCY
ACTUAL OCCUPANCY	

GENERAL NOTES

1. ALL PLAN DIMENSIONS ARE TO F.O. FINISH U.O.N. SPECIFICALLY NOTE DIMENSIONS LABELED "CRITICAL" OR "CLEAR" OR "MIN".
2. VERIFY DOOR TYPES AND REQUIRED CLEARANCES PRIOR TO FRAMING ROUGH OPENINGS OF ALL DOORS.
3. WHEN INSTALLING RECESSED AND SEMI-RECESSED ELECTRICAL PANELS AND FIRE EXTINGUISHER CABINETS, MAINTAIN WALL RATING IN WHICH THEY ARE LOCATED.
4. ALL WALL RATINGS TO BE CONTINUOUS AS COMPLETE. SEE A-803 FOR FIREPROOFING AND FIRESTOPPING DETAILS.
5. ALL WALLS IN SHAFTS, BATHROOMS AND JANITOR'S CLOSETS TO RECEIVE MOLD RESISTANT GYPSUM BOARD.
6. COORDINATE FRAMING AND BLOCKING WITH ALL WALL-MOUNTED ITEMS INCLUDING: MILLWORK, PLUMBING FIXTURES AND ACCESSORIES, TOILET STALL PARTITIONS, HANDRAILS, GRAB BARS, FIRE EXTINGUISHERS.

KEY PLAN / SECTION

0'-0" = NAVD 37.16'

B-SCAN

SEAL

ISSUE / REVISIONS

REV #	DATE	NOTES
	09.09.2016	DOB FILING
	11.04.2016	GMP SET
1	12.16.2016	CD SET
2	02.17.2017	ADDENDUM 1
3	03.10.2017	ADDENDUM 3
4	06.30.2017	BULLETIN 2

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36-02 34TH AVENUE (AKA 34-11 36TH STREET)
ASTORIA, QUEENS 11106
BOROUGH: QUEENS BLOCK 644 LOT 28

DRAWING SET

BULLETIN 2

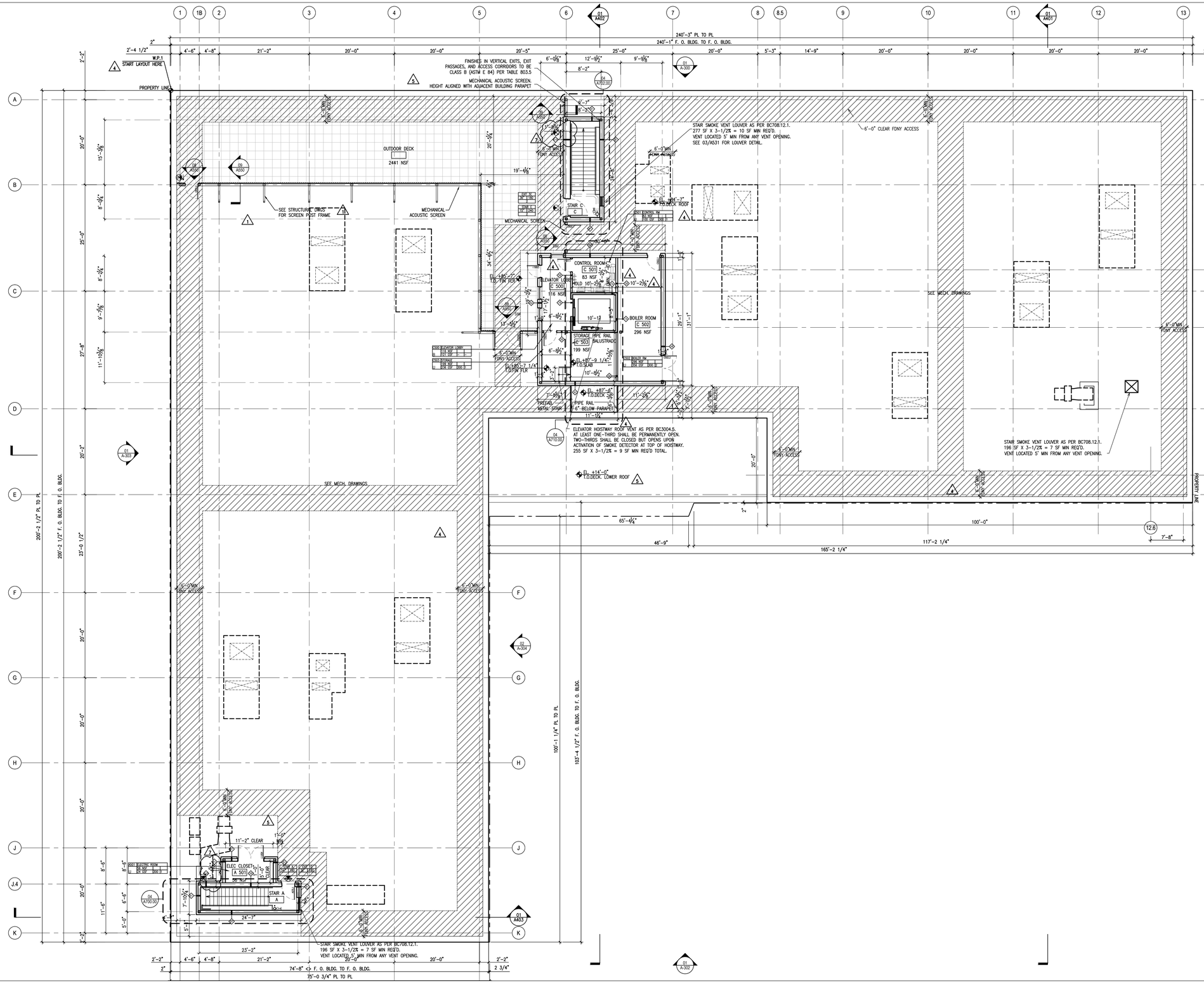
DRAWING TITLE

FOURTH FLOOR PLAN

PROJECT # 1604
DRAWN BY OR, JP, JC, JK, SB, SW
DATE 12.16.2016
SCALE 1/8" = 1'-0"

A-104.00

SHEET PAGE



LEGEND

DOOR TAG. SEE A-801 FOR DOOR TYPES & SCHEDULE

WALL TYPE TAG. SEE A-800 & A-804 FOR ASSEMBLY AND RATING

SURFACE MOUNT EXTINGUISHER CABINET

SEMI RECESSED EXTINGUISHER CABINET

CODE PLAN LEGEND

ROOM #	ROOM NAME		
USE	NET SF	NSF/OCC	OCCUPANT #
GROUP	GROSS SF	GSF/OCC	OCCUPANT #

EXIT NAME	
EXIT WIDTH	MAXIMUM OCCUPANCY
ACTUAL OCCUPANCY	

GENERAL NOTES

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KEY PLAN / SECTION

0'-0" = NAVD 37.16'

B-SCAN

SEAL

ISSUE / REVISIONS

REV #	DATE	NOTES
	09.09.2016	DOB FILING
	11.04.2016	GMP SET
1	12.16.2016	CD SET
2	03.10.2017	ADDENDUM 3
3	04.28.2017	BULLETIN 1
4	09.15.2017	BULLETIN 3

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36-02 34TH AVENUE (AKA 34-11 36TH STREET)
ASTORIA, QUEENS 11106
BOROUGH: QUEENS BLOCK 644 LOT 28

DRAWING SET

BULLETIN 3

DRAWING TITLE

ROOF FLOOR PLAN

PROJECT # 1604
DRAWN BY OR, JP, JC, JK, SB, SW
DATE 12.16.2016
SCALE 1/8" = 1'-0"

A-105.00
SHEET PAGE OF

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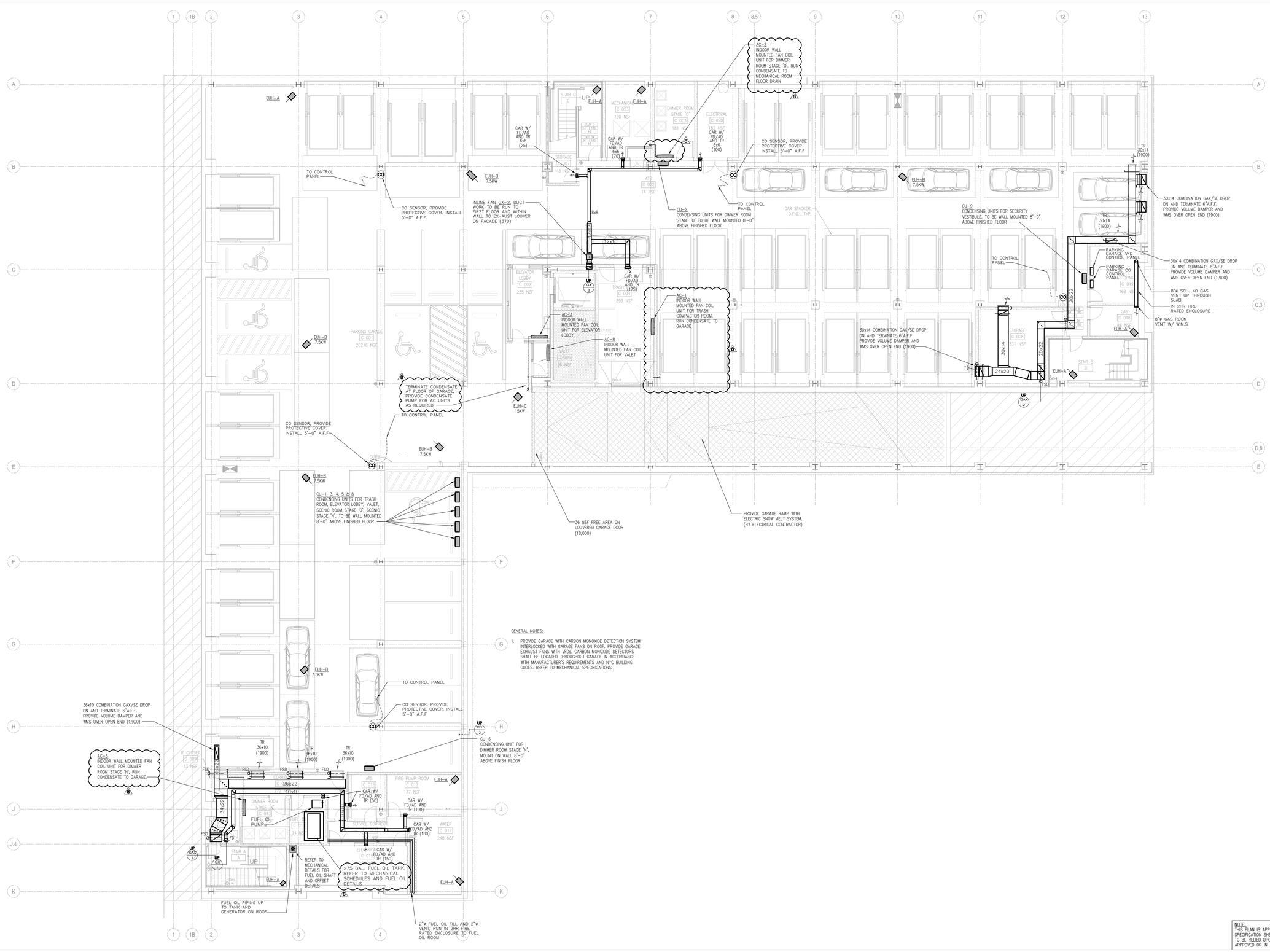

GENERAL NOTES

KEY PLAN / SECTION

B-SCAN

SEAL

ISSUE / REVISIONS

REV #	DATE	NOTES
8	10/20/17	BULLETIN 4
	10/17/17	REVISED PER DOB COMMENTS
7	09/01/17	BULLETIN 3
6	04/28/17	BULLETIN 1
4	03/10/17	ADDENDUM 3
	12/16/16	CD SET
	11/04/16	GMP SET
	10/18/16	ISSUED FOR 50% CD SET
	09/09/16	ISSUED FOR FILING

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ASTORIA, QUEENS 11106
BOROUGH:QUEENS BLOCK 644 LOT 28

DRAWING SET

DRAWING TITLE

ASTORIA STUDIOS CELLAR MECHANICAL PLAN

PROJECT # 5357.00
DRAWN BY X.X.
DATE 2016-12-13
SCALE 1/8" = 1'-0"

M-100.00

SHEET PAGE **1 OF 15**

NOTE:
THIS PLAN IS APPROVED ONLY FOR WORK ON THE APPLICATION SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON, OR TO BE CONSIDERED AS EITHER APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

APPENDIX E

QUALITY ASSURANCE PLAN

APPENDIX E – QUALITY ASSURANCE PLAN

E-1 Post-Remediation Groundwater Sampling Program

Post-remediation groundwater sampling will be performed in accordance with the NYSDEC-approved July 2010 Remedial Action Work Plan (RAWP). As described in the SMP, a total of three groundwater monitoring wells will be sampled on an annual basis for a minimum of two years, including existing upgradient monitoring well, MW-331(S), existing downgradient monitoring well MW-341(S), and one new downgradient monitoring well (MW-01), to be installed on the sidewalk of 36th Street and downgradient from endpoint sample EP-13. The initial round of groundwater sampling will be completed 3 months after Site remediation is complete. Upon completion of the first two groundwater sampling events, the data will be evaluated to determine future groundwater monitoring requirements, in consultation with NYSDEC and NYSDOH.

Groundwater samples will be analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) via USEPA Method 8260, in accordance with the NYSDEC 7/05 Analytical Services Protocol (ASP). During the initial round of sampling, the groundwater sample collected from monitoring well MW-341(S) will also be analyzed for emerging contaminants 1,4-dioxane and full Target Analyte List (TAL) per- and polyfluoroalkyl substances (PFAS) via USEPA Methods 8270 SIM and 537 Modified, respectively. In accordance with the NYSDEC's April 2018 Groundwater Sampling for Emerging Contaminants guidance document, these methods will achieve method detection limits (MDLs) of 0.28 micrograms per liter (ug/l) for 1,4-dioxane and 2 nanograms per liter (ng/l) for PFAS.

Quality Assurance/Quality Control (QA/QC) samples consisting of a matrix spike (MS), a matrix spike duplicate (MSD) and a field blank (FB) will be collected each sampling round, and one trip blank (TB) will be collected and included in each sample shipment cooler. Additionally, one field reagent blank will be collected in conjunction with the samples submitted to the laboratory for PFAS analysis.

New York State ELAP certified labs will be used for all groundwater sample analyses. Laboratories performing groundwater sample analyses will be reported in the annual Groundwater Monitoring Reports. All Groundwater Monitoring Reports will describe the completed sampling and provide tabulated groundwater analytical results, including all non-detects, compared to the NYSDEC Class GA Groundwater Standards and Guidance Values. The reports will also discuss data validation and the findings, with a comparison to historical results, where appropriate.

E-2 Detailed Sampling Procedures

Groundwater Sample Collection

The materials involved in groundwater sampling are critical to the collection of high quality monitoring information. When collecting groundwater samples, groundwater pump parts will be constructed of PTFE (e.g., Teflon^{TM}), stainless steel and/or polyethylene. When collecting groundwater samples for PFAS analysis, a PFAS-free bladder pump equipped with high-density polyethylene (HDPE) tubing will be utilized. In addition, common materials prohibited for use during sampling for PFAS include, but are not limited to the following: Teflon, adhesives, low-density polyethylene (LDPE) products, waterproof materials including waterproof field books, clothing containing Gore-Tex, Tyvek, and cosmetics and moisturizers, etc. Given the very low reporting limit, and the fact that PFAS are found in numerous commonly used products, great care will be taken to avoid cross-contamination during the sampling process.

Several steps will be taken after the transfer of the groundwater sample into the sample container that are necessary to properly complete collection activities. Once the groundwater sample is transferred into the appropriate container, the container will be capped and, if necessary, the outside of the container will be wiped with a clean paper towel to remove excess sample material. The container will not be submerged in water in an effort to clean it. Rather, if necessary, a clean paper towel moistened with distilled/deionized water will be used.

The sample container will then be properly labeled. Information such as sample number, location, collection time and sample description will be recorded in the field log book. Associated

paper work (e.g., Chain of Custody forms) will then be completed and will stay with the sample. The samples will be packaged in a manner that will allow the appropriate storage temperature to be maintained during shipment to the laboratory. Samples will be delivered to the laboratory within 48 hours of collection.

Sample Handling, Packaging and Shipping

All samples will be placed in the appropriate containers as specified in the 7/05 NYSDEC ASP. The holding time criteria identified in the ASP will be followed as specified in ***Table 1***. Collected samples awaiting shipment to the laboratory will be stored in a cooler with a sufficient amount of bagged ice or "blue ice" packs in order to keep the samples at 4 ºC.

Prior to packaging any samples for shipment, the sample containers will be checked for proper identification and compared to the field log book for accuracy. The samples will then be wrapped with a cushioning material and placed in a cooler (or laboratory shuttle) with a sufficient amount of bagged ice or "blue ice" packs in order to keep the samples at 4°C until arrival at the laboratory.

All necessary documentation required to accompany the sample during shipment will be placed in a sealed plastic bag and taped to the underside of the cooler lid. The cooler will then be sealed with fiber (duct) or clear packing tape, and custody seals will be placed in such a manner that any opening of the cooler prior to arrival at the laboratory can be detected.

All samples will be shipped to ensure laboratory receipt within 48 hours of sample collection in accordance with NYSDEC requirements. The laboratory will be notified prior to the shipment of the samples.

Groundwater Monitoring Well Sampling Procedure

The following procedure will be utilized for the collection of groundwater samples from the monitoring wells:

Table 1

SUMMARY OF MONITORING PARAMETERS

Sample Location	Sample Type	Sample Matrix	Sample Fraction	Number of Samples	Container Type/Size/No.	Sample Preservation	Maximum Holding Time*	Analytical Method
Groundwater Monitoring Wells	Grab	Groundwater	VOCs	3**	Glass, clear/ 40 mL/2 ICHEM 300 series or equivalent	Cool to 4°C	10 days after VTSR for analysis	2005 NYSDEC ASP, USEPA SW846 Method 8260
Groundwater Monitoring Wells	Grab	Groundwater	1,4-dioxane	1	Glass, amber/ 1L/1 ICHEM 300 series or equivalent	Cool to 4°C	5 days after VTSR for extraction. 40 days after extraction for analysis.	2005 NYSDEC ASP, USEPA SW846 Method 8270/SIM
Groundwater Monitoring Wells	Grab	Groundwater	PFAS	1	Polypropylene with polypropylene screw cap/ 250 mL/1 ICHEM 300 series or equivalent	Cool to 4°C Trizma 5.0 g/L	14 days after VTSR for extraction. 28 days after extraction for analysis.	USEPA/600/R08/092 Method 537 Modified
QA/QC Sample (Field Reagent Blank)	Grab	Field Reagent Blank	PFAS	1	Polypropylene with polypropylene screw cap/ 250 mL/1 ICHEM 300 series or equivalent	Cool to 4°C Trizma 5.0 g/L	14 days after VTSR for extraction. 28 days after extraction for analysis.	USEPA/600/R08/092 Method 537 Modified

VTSR – Verified Time of Sample Receipt at the laboratory
Most recent versions of the analytical methods will be utilized.
* Holding times based on the NYSDEC 7/2005 ASP
** Three samples will be collected per sampling round

- Groundwater sampling following this procedure shall be performed using non-dedicated bladder pumps fitted with disposable polyethylene discharge tubing.

- The sample pump intake shall be positioned within the well's screened section. The pump intake should be set in the lower one third of the screened interval.

- New, clean, disposable gloves shall be worn when handling any dedicated or decontaminated sampling equipment, sample containers, and during the collection of samples.

- All nondedicated sampling and measuring equipment must be decontaminated before use. At a minimum, equipment should be disassembled (when appropriate) and scrubbed in a non-phosphate, laboratory-grade detergent and distilled water solution, then rinsed with copious amounts of distilled water.

- All sample vials and containers shall be stored in a clean carrying case. Remove the sample containers only when needed.

- Field analysis equipment used for the measurement of field parameters, including pH, conductivity, temperature, turbidity and dissolved oxygen probes, shall be calibrated in accordance with the manufacturer's procedures. All calibration methods, procedures and results shall be documented in the calibration log and field notebook.

- Document the date, well identification and any unusual occurrences in the field log. Document all field measurements in the field log.

- Inspect the protective casing and general well condition and document any items of concern in the field log.

- Unlock the protective casing. Refer to the Health and Safety Plan for air monitoring or other health and safety requirements.

- Measure the depth to water (DTW) and depth to bottom of the well (DTB) from the measuring point (MP) located on the well (inner) casing using an electronic fluid level measuring device. Record the DTW and DTB measurements in the field log. As required, the water level measuring device can be left to monitor changes in DTW during well purging.

- Purge Volume Determination:

  – Minimum Purge Volume: A minimum of two times the volume of the discharge tubing shall be purged prior to the sampling of the well. The calculation for determining this volume of water to be removed from the pump and tubing is as follows:

    $PV_{min} = (TL \times TF) \times 2$

  where:

PV_{min} = The minimum volume of water to be purged from a well
TL = Tubing Length
TF = Tubing Factor which is 0.0102 gal/ft (39 ml/ft) for tubing diameter of 3/8 inch, or 0.0159 gal/ft (60 ml/ft) for tubing diameter of 5/8 inch

– Maximum Purge Volume: The maximum purge volume for most wells will be 0.25 (1/4) of one well casing volume. For some shallow wells, the PV_{min} may be greater than 0.25 casing volume. In these cases, the PV_{min} shall be purged followed by the measurement of field water quality parameters and collection of samples. The maximum purge volume (PV_{max}) is calculated as follows:

PV_{max} = $(DTB_{LS} - DTW_{LS}) F_c \times 0.25$

where:

PV_{max} = One quarter of one well casing volume (gal)
DTB_{LS} = Depth to Bottom from Land Surface (feet)
DTW_{LS} = Depth to Water from Land Surface (feet)
F_c = Casing factor (gal/ft) which is 0.16 for a 2-inch diameter well and 0.65 for a 4-inch diameter well

- Begin purging the well according to the manufacturer's instructions for operating the pump. The purge rate should be kept to less than 500 milliliters per minute (ml/m). Variation of the purge rate should be minimized. Note: Purged water will be containerized in DOT-approved 55-gallon drums.

- Following the removal of the minimum purge volume, begin monitoring the field water-quality indicator parameters (i.e., temperature, conductivity, pH, dissolved oxygen and turbidity). It is recommended that the water quality meter be attached to a flow-through cell to allow for continuous readings. Monitor the indicator parameters approximately once every 5 minutes and record the results in the field log. (Note: A minimum of 500 ml of purge water is required to fully exchange the water in the flow-through cell between measurements.) The well shall be considered stabilized and ready for sample collection when the indicator parameters have stabilized for three consecutive readings.

  If one or more key indicator parameters fail to stabilize after purging 0.25 well casing volume (the maximum purge volume), purging will be discontinued, and sampling will be initiated. In cases where the calculated minimum purge volume is greater than 0.25 casing volume, monitor the indicator parameters following the removal of PV_{min} approximately every 2 minutes (approximately every 0.5 gallon) for a maximum of 6 minutes (i.e., three sets of readings). Any parameters that fail to achieve stabilization should be noted in the field log. Turbidity should be less than 50 NTUs prior to collection of a sample for metals analysis.

- Turn pump off and disconnect the flow through cell. Turn pump on and reduce the pump discharge rate to the minimum capabilities of the pump (approximately 100 milliliters per minute or less). Collect the appropriate samples from the pump discharge hose. Samples for VOC analysis should have no air space in the sample vials prior to sealing. Label all sample containers and immediately place samples in a laboratory-supplied cooler with bagged ice sufficient to cool samples to 4°C.

- Upon the completion of sampling, decontaminate all nondedicated sampling and measuring equipment. Properly discard all non-cleanable materials such as gloves, hoses and rope.

- Secure and lock the well.

- Deliver samples to the appropriate analytical laboratory. Record all final field water quality data in the field log. A copy of the Chain of Custody (COC) and the field log should be sent to the office for data entry.

E-3 Decontamination Procedures

Whenever possible, all field sampling equipment should be sterile/disposable and dedicated to a particular sampling point. In instances where this is not possible, a field cleaning/ decontamination procedure will be used in order to mitigate cross contamination between sample locations. A decontamination station/pad will be established for all field activities. This will be an area located away from the source of contamination so as not to adversely impact the decontamination procedure, but close enough to the sampling locations to keep equipment transport handling to a minimum after decontamination.

Field Decontamination Procedures

All non-disposable equipment will be decontaminated at appropriate intervals (e.g., prior to initial use, prior to moving to a new sampling location and prior to leaving the Site). Different decontamination procedures are used for various types of equipment that are used to collect samples. When using field decontamination, sampling should commence in the area of the Site with the lowest contamination, if known or probable, and proceed through to the areas of highest contamination.

Decontamination Procedure for Sampling Equipment

Teflon, PVC, polyethylene and stainless steel sampling equipment decontamination procedures will be the following:

- Wash thoroughly with non-residual detergent (Alconox) and clean potable tap water using a brush to remove particulate matter or surface film;
- Rinse thoroughly with tap water; and
- Rinse thoroughly with distilled water and air dry.

The first step, a soap and water wash, will be performed to remove all visible particulate matter and residual oil, grease and tar. This step will be followed by a tap water rinse and a distilled/deionized water rinse to remove the detergent.

E-4 Quality Assurance/Quality Control Samples

Trip Blanks

The primary purpose of a trip blank is to detect other sources of contamination that might potentially influence contaminant values reported in actual samples, both quantitatively and qualitatively. The following have been identified as potential sources of contamination:

- Laboratory reagent water;
- Sample containers;
- Cross contamination in shipment;
- Ambient air or contact with analytical instrumentation during preparation and analysis at the laboratory; and
- Laboratory reagents used in analytical procedures.

A trip blank will consist of a set of 40 milliliter (ml) sample vials filled at the laboratory with laboratory demonstrated analyte free water. Trip blanks will be handled, transported and

analyzed in the same manner as the samples acquired that day, except that the sample containers themselves are not opened in the field. Rather, these sample containers only travel with the sample cooler. The temperature of the trip blanks will be maintained at 4°C while on-site and during shipment. Trip blanks will return to the laboratory with the same set of bottles they accompanied in the field.

The purpose of a trip blank is to control sample bottle preparation and blank water quality as well as sample handling. Thus, the trip blank will travel to the Site with the empty sample bottles and back from the Site with the collected samples in an effort to simulate sample handling conditions. Contaminated trip blanks may indicate inadequate bottle cleaning or blank water of questionable quality. Trip blanks will be implemented only when collecting water samples, including field blanks, and analyzed for VOCs only.

Matrix Spikes/Matrix Spike Duplicates

Matrix spike samples are quality control procedures, consistent with 7/05 NYSDEC ASP specifications, used by the laboratory as part of its internal Quality Assurance/Quality Control program. The matrix spikes (MS) and matrix spike duplicates (MSD) will be aliquots of a designated groundwater sample which are spiked with known quantities of specified compounds. These QA/QC samples will be used to evaluate the matrix effect of the sample upon the analytical methodology, as well as to determine the precision of the analytical method used. The procedure and frequency regarding the MS and MSD samples are defined in the 7/05 NYSDEC ASP. One MS sample and one MSD sample will be collected for each round of groundwater sampling.

Field Blank

The field blank will consist of an aliquot of analyte-free water, supplied by the laboratory, which is opened in the field and is generally poured over or through a sample collection device after it has been decontaminated, collected in a sample container and returned to the laboratory as a sample for analysis. In this manner, it is a check on sampling procedures and cleanliness (decontamination) of sampling devices. One field blank will be collected for each round of groundwater sampling.

E-5 Laboratory Analysis

A NYSDOH ELAP certified laboratory meeting the requirements for sample custody procedures, including cleaning and handling sample containers and analytical equipment, will be used. The laboratory will be NYSDOH ELAP certified for the parameters of interest and matrices that will be collected (e.g., groundwater).

Data quality requirements and assessments to be utilized for this project are provided in the 2005 NYSDEC Analytical Services Protocol (ASP), which includes the detection limit for each parameter and sample matrix. Note that quantification limits, estimated accuracy, accuracy protocol, estimated precision and precision protocol are determined by the laboratory and will be in conformance with the requirements of the 2005 NYSDEC ASP, where applicable.

E-6 Data Validation

Summary documentation regarding data validation will be completed by the laboratory using NYSDEC forms contained in the 7/05 NYSDEC ASP and submitted with the data package.

A Data Usability Summary Report (DUSR) will be prepared for each annual Groundwater Monitoring Report. The analytical and usability processes will be conducted in conformance with the NYSDEC ASP dated July 2005 and NYSDEC Guidance for the Development of Data Usability Summary Reports, as well as USEPA National Functional Guidelines for Data Validation and USEPA Region 2 Data Validation SOPs.

The DUSR will be prepared by reviewing and evaluating the analytical data. The parameters to be evaluated in reference to compliance with analytical method protocols include all chain of custody forms, holding times, raw data (instrument print out data and chromatograms), calibrations, blanks, spikes, controls, surrogate recoveries, duplicates and sample data. If available, field sampling notes will also be reviewed and any quality control problems will be evaluated as to their effect on the usability of the sample data.

The DUSR will describe the samples and analytical parameters reviewed. Data deficiencies, analytical protocol deviations and quality control problems will be described and their effect on the data discussed. Resampling and reanalysis recommendations will be made, if necessary.

The DUSR shall be prepared by the QA officer who meets the personnel requirements listed in the DUSR Guidance Document.

E-7 Field Documentation

Proper management and documentation of field activities is essential to ensure that all necessary work is conducted in accordance with the RAWP, and subsequent documents, in an efficient and high quality manner. Field management procedures include following proper chain of custody procedures to track a sample from collection through analysis, noting when and how samples are split (if required), completing COC forms and maintaining a Daily Field Log Book. Proper completion of the COC form and the field log book are necessary to support the future actions that may result from the sample analysis. This documentation will support that the samples were properly collected and handled.

A COC form is initiated at the laboratory with container preparation and transportation to the site. The COC must remain with the samples at all times and bear the name of the person assuming responsibility for the samples. This person is tasked with ensuring secure and proper handling of the containers and samples. When the form is complete, it should indicate that there were no lapses in sample accountability.

Field log books must be bound and should have consecutively numbered water resistant pages. All pertinent information regarding the site, project and sampling procedures must be documented. Notations should be made in log book fashion, noting the time and date of all entries. Information recorded in the log book should include:

- Sampling location
- Number(s) and volume(s) of sample(s) collected
- Description of sample location and sampling methodology
- Date and time of sample collection and personnel arrival and departure
- Collector's sample identification number(s)
- Sample distribution and method of storage and transportation
- Field observations such as weather conditions, visual or olfactory signs of contamination
- Signature of personnel responsible for completing log entries.

APPENDIX F

FIELD ACTIVITIES PLAN

APPENDIX F - FIELD SAMPLING PLAN

F-1 Monitoring Well Sampling

In order to evaluate groundwater quality at the Site, a total of three groundwater monitoring wells will be sampled on an annual basis for a minimum of two years to evaluate changes in groundwater contaminant concentrations and to ascertain the level of any natural attenuation which may occur after completing the remediation. The initial round of groundwater sampling will be completed 3 months after Site remediation is complete. Upon completion of the first two groundwater sampling events, the data will be evaluated to determine future groundwater monitoring requirements. Post-remediation groundwater sampling will consist of the sampling of existing upgradient monitoring well MW-331(S), existing downgradient monitoring well MW-341(S), and one new monitoring well (MW-01), to be installed on the sidewalk of 36th Street and downgradient from endpoint sample EP-13. Groundwater monitoring well locations are provided on ***Figure 1***. Upon installation of the new groundwater monitoring well MW-01, a revised monitoring well location map will be incorporated into this FSP, if necessary.

Prior to sampling, each monitoring well will be checked for an immiscible floating light, non-aqueous phase liquid (LNAPL) layer. The well will be opened, and the head space will be monitored with a photoionization detector (PID). An oil-water interface probe will be carefully lowered into the well to check the depth of the water surface as well as for the presence and thickness of an LNAPL layer.

Groundwater monitoring wells will be sampled utilizing portable 12-volt low-flow bladder with disposable tubing using USEPA low-flow sampling techniques. During well purging, field instruments will be utilized to measure temperature, dissolved oxygen, pH, conductivity and turbidity. Detailed sampling procedures are provided in the QAP, provided as ***Appendix E*** in the SMP. After field parameters have stabilized or the maximum purge volume has been reached, the groundwater sample will be collected and placed in laboratory-supplied sample bottles. All

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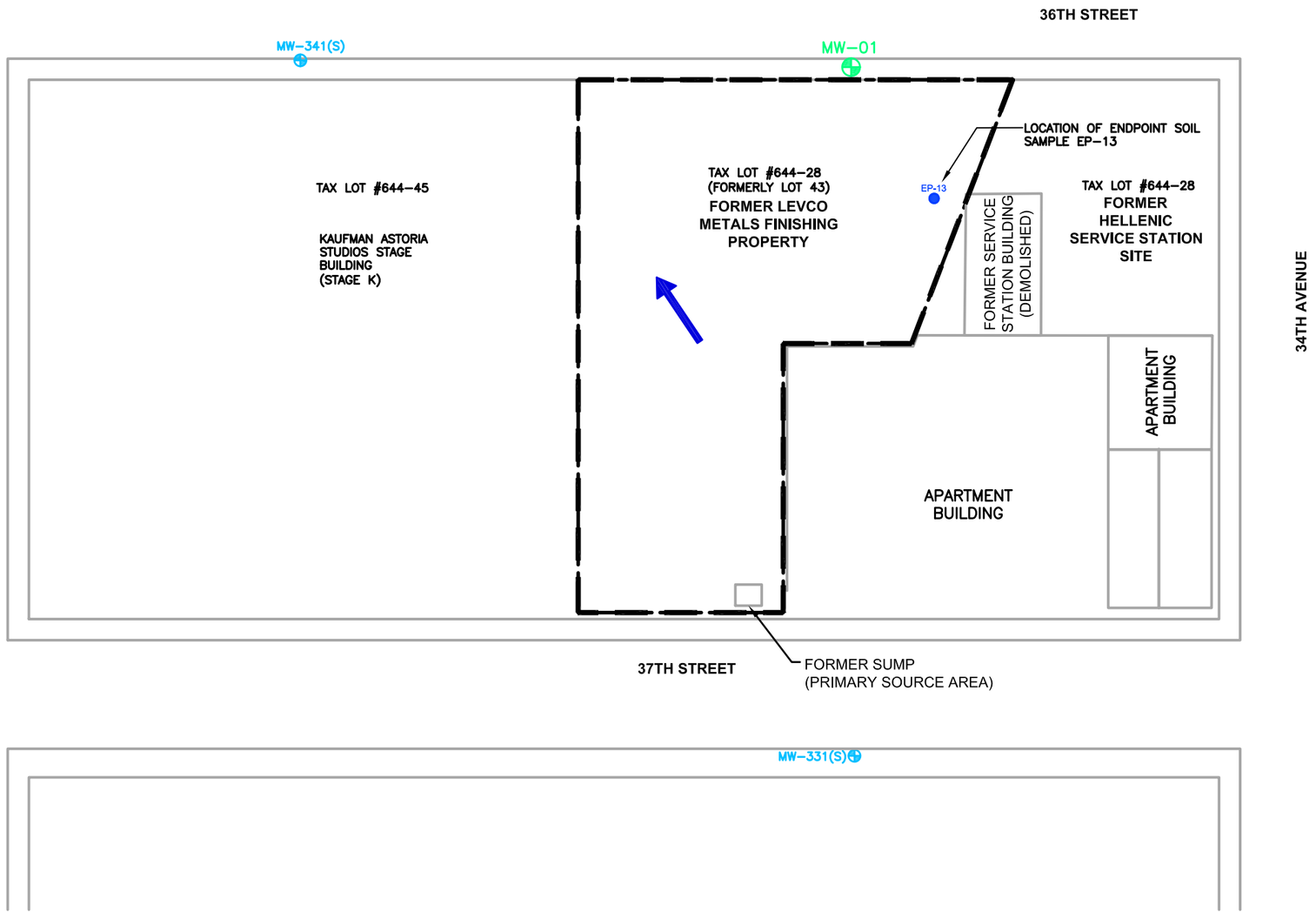

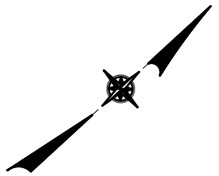

LEGEND:

- BOUNDARY OF SITE
- MW-01 — PROPOSED LOCATION OF SITE MANAGEMENT WELL DOWNGRADIENT OF ENDPOINT SOIL SAMPLE EP-13.
- MW-331(S) — MONITORING WELL LOCATION AND DESIGNATION (AS OF OCTOBER 2017)
  - (D) – DEEP MONITORING WELL
  - (S) – SHALLOW MONITORING WELL
- ESTIMATED DIRECTION OF GROUNDWATER FLOW

SCALE: 1' = 50'

D&B ENGINEERS AND ARCHITECTS, P.C.

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ASTORIA, NEW YORK

GROUNDWATER MONITORING WELL LOCATION MAP

FIGURE 1

samples will be labeled and placed in a cooler with bagged ice sufficient to cool the samples to 4°C.

When collecting groundwater samples for per- and polyfluoroalkyl substances (PFAS) analysis, a PFAS-free bladder pump equipped with high-density polyethylene (HDPE) tubing will be utilized. In addition, common materials prohibited for use during sampling for PFAS include, but are not limited to the following: Teflon, adhesives, low-density polyethylene (LDPE) products, waterproof materials including waterproof field books, clothing containing Gore-Tex, Tyvek, and cosmetics and moisturizers, etc. Given the very low reporting limit, and the fact that PFAS are found in numerous commonly used products, great care will be taken to avoid cross-contamination during the sampling process

All purge water will be collected and contained on-site in DOT-approved 55-gallon drums for proper off-site disposal, as discussed in Section F-3 of this Field Sampling Plan (FSP). All non-dedicated sampling equipment (e.g., bladder pump, oil-water interface probes, etc.) will be decontaminated between sampling locations, as detailed in the QAP provided as ***Appendix E***.

F-2 Sample Analysis

Groundwater samples will be analyzed for Target Compound List (TCL) Volatile Organic Compounds (VOCs) via USEPA Method 8260, in accordance with the NYSDEC 7/05 Analytical Services Protocol (ASP). During the initial round of sampling, the groundwater sample collected from monitoring well MW-341(S) will also be analyzed for emerging contaminants 1,4-dioxane and full Target Analyte List (TAL) PFAS via USEPA Methods 8270 SIM and 537 Modified, respectively. In accordance with the NYSDEC's April 2018 Groundwater Sampling for Emerging Contaminants guidance document, these methods will achieve method detection limits (MDLs) of 0.28 micrograms per liter (ug/l) for 1,4-dioxane and 2 nanograms per liter (ng/l) for PFAS.

Quality Assurance/Quality Control (QA/QC) samples consisting of a matrix spike (MS), a matrix spike duplicate (MSD) and a field blank (FB) will be collected each sampling round, and one trip blank (TB) will be collected and included in each sample shipment cooler. Additionally,

one field reagent blank will be collected in conjunction with the samples submitted to the laboratory for PFAS analysis.

All collected groundwater samples will be analyzed by a certified NYSDOH ELAP laboratory. All analyses will be conducted utilizing NYSDEC 7/05 ASP methods, or latest version, that are at least as stringent as USEPA CLP protocols. NYSDEC ASP Category B data deliverable packages and Electronic Data Deliverables (EDDs in EQuIS format) will be provided by the laboratory for all analyses.

All analytical data will be validated by a USEPA and NYSDEC-approved data validator in order to verify and document acceptable quality of the data. Details on data validation procedures are detailed in the QAP, provided as ***Appendix E*** in the SMP.

F-3 Management of Investigation Derived Waste

All purge water and decontamination water will be collected and containerized on-site in DOT-approved 55-gallon drums for proper off-site disposal. The drums used to store investigation waste will be sealed at the end of each workday and labeled with the date, the well number, the type of waste (i.e., purge water or decontamination water) and the name of a point-of-contact. It is anticipated that the groundwater sampling analytical results will be used for waste characterization purposes. If required, grab samples will be collected from the drums containing water in order to determine the most appropriate disposal method. All drums will be temporarily staged on-site pending receipt of laboratory analytical results for proper off-site transportation and disposal. All drums will be disposed of in accordance with all applicable local, state and federal regulations.

F-4 Report Preparation

After the analytical results have been received and validated, Groundwater Monitoring Reports will be prepared on an annual basis. Consistent with previously provided Bi-Annual Groundwater Sampling reports, each Groundwater Monitoring Report will describe the completed sampling and provide tabulated groundwater analytical results, including all non-detects,

compared to the NYSDEC Class GA Groundwater Standards and Guidance Values. The reports will also discuss data validation and the findings, with a comparison to historical results, where appropriate.