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DRAFT REMEDIAL ACTION WORK PLAN
338-344 GRAND CONCOURSE REDEVELOPMENT SITE
NYSDEC BCP NO: C203188
338-344 GRAND CONCOURSE
BRONX, NEW YORK

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Prepared by:
H & A of New York Engineering and Geology, LLP
New York, New York

Prepared for:
338-344 Grand Concourse LLC
Brooklyn, New York

File No. 0212356
February 2026

H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W 35TH STREET
7TH FLOOR
NEW YORK, NY 10001
646.277.5685

SIGNATURE PAGE FOR
REMEDIAL ACTION WORK PLAN
338-344 GRAND CONCOURSE REDEVELOPMENT SITE
338-344 GRAND CONCOURSE
BRONX, NEW YORK
NYSDEC SITE C203188

PREPARED FOR
338-344 GRAND CONCOURSE LLC
BROOKYLN, NEW YORK

PREPARED BY:

_____
Thomas R. Giordano
Project Manager
H & A of New York Engineering and Geology, LLP

REVIEWED AND APPROVED BY:

_____
Matthew Levy
Senior Project Manager
H & A of New York Engineering and Geology, LLP

_____
Mari C. Conlon, P.G.
Senior Associate
H & A of New York Engineering and Geology, LLP

_____
Scott A. Underhill, P.E.
Principal | Remedial Engineer
H & A of New York Engineering and Geology, LLP

DRAFT

Certification

I, Scott A. Underhill, certify that I am currently a New York State-registered Professional Engineer and that this Remedial Action Work Plan was prepared in accordance with the applicable statutes and regulations and in substantial conformance with the Division of Environmental Remediation Technical Guidance for Site Investigation and Remediation (DER-10).

FINAL TO BE CERTIFIED AND STAMPED

Scott A. Underhill *Date*
New York State Professional Engineer #075332

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Executive Summary

This Remedial Action Work Plan (RAWP) was developed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) on behalf of 338-344 Grand Concourse LLC for the 338-344 Grand Concourse Redevelopment Site, located at 338-344 Grand Concourse, Bronx, New York (the "Site"). 338-344 Grand Concourse LLC applied to and was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP). A Brownfield Cleanup Agreement was executed by the NYSDEC on September 5, 2025 with 338-344 Grand Concourse LLC (the "Volunteer"; BCP Site No. C203188).

This RAWP summarizes the nature and extent of contamination on the Site as determined from data gathered during the Remedial Investigation (RI) performed by Haley & Aldrich of New York in December 2025 through January 2026. It provides an evaluation of a Track 1 cleanup and other applicable remedial action alternatives, their associated costs, and the recommended and preferred remedy. The remedies described in this document are consistent with the procedures defined in the NYSDEC Division of Environmental Remediation (DER) Program Policy: Technical Guidance for Site Investigation and Remediation (DER-10) and comply with applicable federal, state, and local laws, regulations, and requirements.

SITE DESCRIPTION/PHYSICAL SETTING/SITE HISTORY

The Site is located within the Mott Haven neighborhood of Bronx County, New York, and is identified as Block 2341, Lots 34 and 37 on the New York City tax map. The Site is approximately 10,900 square feet (0.25 acres) and is currently developed with a vacant, one-story commercial building which most recently operated as an automotive repair shop on Lot 34, and a vacant, one-story commercial building which most recently operated as an automative body shop on Lot 37. The Site is bounded to the north by a hotel, followed by a former BP gasoline service station; to the east by the Metropolitan Transit Authority (MTA) railroad tracks, followed by mixed-use commercial and industrial buildings; to the south by a multi-story residential building, and to the west by Grand Concourse, followed by a U-Haul self-storage building and vacant lot. MTA subway lines 4 and 5 run parallel to the Site beneath Grand Concourse. Properties immediately surrounding the Site consist of residential and commercial uses. The Project Locus is shown on **Figure 1**. Existing Site features are displayed on the Site Map provided as **Figure 2**. Site survey maps are provided in **Appendix A**.

The Site has been assigned an E-Designation (E-227, City Environmental Quality Review No. 08DCP071X) for hazardous materials, air quality, and noise as part of the Lower Concourse Rezoning. The Site is located within a C6-2A commercial zoning district in an urban area characterized by multi-story residential and commercial buildings and industrial buildings. The Volunteer plans to redevelop the Site for residential purposes, which is consistent with the current zoning. A copy of the zoning map is included in **Appendix B**.

Based on a Phase I Environmental Site Assessment completed by KB Environmental Assessment Ltd. for the Site in September 2024, the Site was first developed by 1908 with a small one-story structure occupied by the New York State (NYS) & Hudson Valley Railroad. By 1935, the property is depicted on Sanborn maps as developed with several interconnected one-story structures. The Sanborn maps detail historical operations, which have included a retail store, auto repair, auto service, auto painting, and storage buildings. By 1942, the only structure remaining depicted on Sanborn maps was an auto repair shop and

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retail store while the remaining structures were demolished. The 1952 Sanborn map depicts expanded development to the east, labeled as a garage. On the 1977 Sanborn map, the property addressed 338 Grand Concourse was depicted as redeveloped with a one-story commercial building, identified as an auto body repair shop with a retail store at the northwestern corner, and the property addressed at 344 Grand Concourse was depicted as an auto repair shop. Both structures are currently vacant.

SUMMARY OF THE REMEDIAL INVESTIGATION FINDINGS

The RI was completed in accordance with Title 6 of the New York Codes, Rules, and Regulations (NYCRR) Part 375, DER-10, the New York State Department of Health (NYSDOH) Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006 and subsequent updates), and the August 2025 Remedial Investigation Work Plan prepared by Haley & Aldrich of New York. The objectives of the RI were to determine the nature and extent of contamination in soil, groundwater, and soil vapor. The RI was performed from December 1, 2025 through January 5, 2026.

A summary of the environmental findings of the RI and associated supplemental sampling includes the following.

- The Site is underlain by a layer of contaminated fill consisting of mainly black and brown, medium to fine sand, with varying amounts of gravel, concrete, and brick observed from surface grade to approximately 2 to 8 feet (ft) below grade surface (bgs) at each boring location. The fill interval was observed to be underlain by a native layer consisting of silty sand and clay extending to bedrock between approximately 10 ft and over 15 ft bgs, which was determined based on the terminus of each boring at refusal.
- Groundwater was encountered at elevations ranging from 10.34 to 16.03 ft above mean sea level using the North American Vertical Datum of 1988 or between 15.75 to 21.14 ft bgs, and groundwater beneath the Site is anticipated to flow generally to the southeast.
- Soil analytical results were compared to NYSDEC 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs), Restricted Residential Soil Cleanup Objectives, and Protection of Groundwater Soil Cleanup Objectives. Note that no standards for per- and polyfluoroalkyl substances (PFAS) in soil currently exist in New York State; however, the NYSDEC published soil guidance values (GVs) for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS) in October 2020 (latest revision in April 2023). PFOA and PFOS soil sample results were compared to the unrestricted use, restricted residential, and protection of groundwater GVs outlined in the April 2023 PFAS Guidance.
- Groundwater analytical results were compared to 6 NYCRR Part 703.5 NYSDEC Technical Operations and Guidance Series 1.1.1 Ambient Water Quality Standards and GVs for Class GA Water. Emerging contaminants PFOA and PFOS were compared to the GVs for PFOA and PFOS outlined in the NYSDEC April 2023 PFAS Guidance. The emerging contaminant 1,4-dioxane was compared to the GV as set by NYSDEC in March 2023. Subsurface soils throughout the Site are impacted with elevated concentrations of semi-volatile organic compounds (SVOCs), specifically polycyclic aromatic hydrocarbons (PAHs), metals, including total and Toxicity Characteristic Leaching Procedure lead, and polychlorinated biphenyls, pesticides, and PFAS in limited areas.
- Contaminants of concern for the Site include metals and SVOCs (including PAHs) in soil, total/dissolved metals in groundwater, and petroleum-related volatile organic compounds in soil vapor.

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- Contaminated fill material varies in depth throughout the Site, generally extending from surface grade to approximately 6 to 8 ft bgs, with localized exceedances of the metals nickel and zinc extending as deep as 15 ft bgs.

SUMMARY OF THE REMEDY

Alternative I, a Track 1 remedy, will include the following tasks:

1. Development and implementation of a Construction Health and Safety Plan for the protection of on-Site workers.
2. Development and implementation of a Community Air Monitoring Plan for the protection of community residents and the environment during remediation and construction activities.
3. Design and construction of a support-of-excavation system to facilitate the Track 1 remediation.
4. Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
5. Removal of the existing Site buildings, impervious Site cover, and miscellaneous debris on the Site.
6. Decommissioning of on-Site monitoring wells, as necessary, in accordance with NYSDEC Commissioner Policy (CP)-43.
7. Excavation, stockpiling, off-Site transport, and disposal of approximately 5,965 cubic yards of contaminated historical fill/native material Site-wide that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8, including approximately 36 cubic yards of lead-impacted soil. Excavations will range from 3 ft bgs and anticipated to extend to a depth of 15 ft bgs.
8. Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
9. Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to a New York City Department of Environmental Protection-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
10. If encountered, removal, decommissioning, and off-Site disposal of any underground storage tanks (USTs) and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) during redevelopment in accordance with DER-10, 6 NYCRR Part 613-2.6b, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
11. Screening for indications of contamination (by visual means, odor, and monitoring with photoionization detectors) of excavated material during intrusive Site work.
12. Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
13. Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting UUSCOs), recycled concrete aggregate, or virgin, native crushed stone.
14. Collection and analysis of confirmation soil samples from the excavation base in accordance with DER-10 to document post-excavation conditions to confirm a Track 1 remedy was achieved. If the proposed endpoint sample exceeds the Track 1 UUSCOs, over-excavation and additional endpoint sampling may be performed, as necessary, to meet Track 1 UUSCOs. If soil is removed to bedrock at a proposed confirmation sample location, the area will be photo-documented and no

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confirmation sample collected. No confirmation sidewall soil samples will be collected due to proposed excavation limits extending to the Site boundaries.

15. Completion of a desktop Soil Vapor Intrusion Evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion following remedial excavation activities and prior to occupancy.
16. Implementation of a Site Management Plan and Environmental Easement in the event that a Track 1 unrestricted use cleanup is not achieved.

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I	Quality Assurance Project Plan
J	Proposed Remedial Action Project Schedule
K	Climate Screening Checklist
L	NYSDOH Generic CAMP

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List of Acronyms and Abbreviations

Acronym Symbol	Definition
µg/m^3	micrograms per cubic meter
A	
amsl	above mean sea level
AOC	Area of Concern
ASP	Analytical Services Protocol
AWQS	Ambient Water Quality Standards
B	
BCA	Brownfield Cleanup Agreement
BCP	Brownfield Cleanup Program
bgs	below ground surface
btoc	below top of casing
C	
C&D	Construction and Demolition
CAMP	Community Air Monitoring Plan
CFR	Code of Federal Regulations
CHASP	Construction Health & Safety Plan
COC	Contaminant of Concern
Coastal	Coastal Environmental Solutions, Inc.
CP	Commissioner's Policy
CPP	Citizen Participation Plan
CQAP	Construction Quality Assurance Plan
CSM	Conceptual Site Model
cu yd	cubic yard
CVOC	chlorinated volatile Organic Compound
D	
DER	Division of Environmental Remediation
DER-10	Division of Environmental Remediation-10 *(specifically "May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")*
DMM	Division of Materials Management
DustTrak	TSI DustTrak® Environmental Monitor

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List of Acronyms and Abbreviations (continued)

Acronym	Definition
E	
EC	Engineering Controls
ECL	Environmental Conservation Law
EE	Environmental Easement
El.	Elevation
ELAP	Environmental Laboratory Approval Program
ESA	Environmental Site Assessment
ESI	Environmental Site Investigation
F	
FER	Final Engineering Report
ft	feet/foot
FWRIA	Fish and Wildlife Resource Impact Analysis
G	
GV	Guidance Value
H	
Haley & Aldrich of New York	H & A of New York Engineering and Geology, LLP
HAZWOPER	Hazardous Waste Operations and Emergency Response
I	
IC	Institutional Control
in.	inches
K	
KBEA	KB Environmental Assessment, Ltd.
M	
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
MS/MSD	matrix spike/matrix spike duplicate
MTA	Metropolitan Transit Authority
MW	Monitoring Well

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List of Acronyms and Abbreviations (continued)

Acronym	Definition
N	
NAVD88	North American Vertical Datum of 1988
ND	Non-detect
NTU	nephelometric turbidity unit
NYCDEP	New York City Department of Environmental Protection
NYCRR	New York Codes, Rules and Regulations
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOB	New York State Department of Buildings
NYSDOH	New York State Department of Health
O	
OSHA	Occupational Health and Safety Administration
P	
Pace	Pace Analytical Laboratories, Inc.
PAH	polycyclic aromatic hydrocarbon
PBS	Petroleum Bulk Storage
PCB	polychlorinated biphenyl
PFAS	per- and polyfluoroalkyl substances
PFOA	perfluorooctanoic acid
PFOS	perfluorooctane sulfonate
PGWSCOs	Protection of Groundwater Soil Cleanup Objectives
PID	photoionization detector
PM-10	Particles with diameters generally less than 10 micrometers and smaller
ppb	parts per billion
PPE	personal protective equipment
ppm	parts per million
ppt	parts per trillion
PVC	polyvinyl chloride
Q	
QA	quality assurance
QC	quality control
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
QEP	Qualified Environmental Professional

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List of Acronyms and Abbreviations (continued)

Acronym	Definition
R	
RA	Remedial Action
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan
RCA	recycled concrete aggregate
RCRA	Resource Conservation and Recovery Act
RE	Remedial Engineer
RI	Remedial Investigation
RIR	Remedial Investigation Report
RIWP	Remedial Investigation Work Plan
RRSCO	Restricted Residential Soil Cleanup Objective
S	
Sanborn	Sanborn Fire Insurance Company
SCG	Standards, Criteria, and Guidelines
SCO	Soil Cleanup Objective
Site	338-344 Grand Concourse, Bronx, New York
S/MMP	Soil/Materials Management Plan
SMP	Site Management Plan
SOE	support-of-excavation
SPDES	State Pollutant Discharge Elimination System
sq ft	square feet
SVI	soil vapor intrusion
SVOC	semi-volatile organic compound
T	
TAL	Total Analyte List
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TOGS 1.1.1	Technical and Operational Guidance Series 1.1.1 *(Specifically "June 1998 NYSDEC Division of Water Technical and Operational Guidance Series 1.1.1 Ambient Water Quality Standards and Guidance Values, Class GA for the protection of a source of drinking water modified per the April 2000 addendum")*

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List of Acronyms and Abbreviations (continued)

Acronym	Definition
U	
USEPA	United States Environmental Protection Agency
UST	underground storage tank
UUSCO	Unrestricted Use Soil Cleanup Objective
V	
VOC	volatile organic compound
Volunteer	338-344 Grand Concourse LLC

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1. Introduction

This Remedial Action Work Plan (RAWP) was developed by H & A of New York Engineering and Geology, LLP (Haley & Aldrich of New York) on behalf of 338-344 Grand Concourse LLC for the proposed development located at 338-344 Grand Concourse (Block 2341, Lots 34 and 37) in Bronx, New York (the Site). In September 2025, the project (Site No. C203188) was accepted into the New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP), and a countersigned Brownfield Cleanup Agreement (BCA) was issued with 338-344 Grand Concourse LLC classified as a "Volunteer." The Volunteer proposes to remediate the Site for mixed-use commercial and residential purposes.

This RAWP summarizes the nature and extent of contamination as determined from data gathered during the Remedial Investigation (RI) performed by Haley & Aldrich of New York in December 2025 and January 2026. It provides an evaluation of Track 1 and Track 2 cleanups, their associated costs, and the recommended and preferred remedy. The remedy described in this document is consistent with the procedures defined by the NYSDEC Division of Environmental Remediation (DER) *(*specifically *"May 2010 NYSDEC Technical Guidance for Site Investigation and Remediation")* (DER-10; NYSDEC, 2010) and complies with all applicable standards, criteria, and guidance (SCG). The remedy described in this document also complies with all applicable federal, state, and local laws, regulations, and requirements.

The NYSDEC and New York State Department of Health (NYSDOH) have not yet determined if this Site poses a significant threat to human health and the environment. The RI for this Site did not identify fish and wildlife resources. A formal Remedial Design document will not be prepared.

1.1 SITE LOCATION AND DESCRIPTION

The Site is located within the Mott Haven neighborhood of Bronx County, New York, and is identified as Block 2341, Lots 34 and 37 on the New York City tax map. The Site is approximately 10,900 square feet (sq ft; 0.25 acres) and is currently developed with a vacant, one-story commercial building that most recently operated as an automotive repair shop on Lot 34, and a vacant, one-story commercial building that most recently operated as an automotive body shop on Lot 37. The Site is bounded to the north by a hotel, followed by a former BP gasoline service station; to the east by the Metropolitan Transit Authority (MTA) railroad tracks, followed by mixed-use commercial and industrial buildings; to the south by a multi-story residential building, and to the west by Grand Concourse, followed by a U-Haul self-storage building and vacant lot. MTA subway lines 4 and 5 run parallel to the Site beneath Grand Concourse. The Project Locus is shown on **Figure 1**. Existing Site features are displayed on the Site Map provided as **Figure 2**. The Volunteer plans to redevelop the Site for mixed-use commercial and residential purposes consistent with the current zoning.

1.2 PROPOSED REDEVELOPMENT PLAN

The Remedial Action (RA) to be performed under the RAWP is intended to make the Site protective of human health and the environment consistent with the contemplated end use. The proposed redevelopment plan and end use are described herein to provide the basis for this assessment. However,

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the RA contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

The proposed development will consist of two new 11-story buildings with an excavation to accommodate a cellar, extending approximately 12 feet (ft) below grade, and will include the following: multiple commercial spaces, residential dwellings, balconies on floors three through eight, and various mechanical, storage rooms, and bicycle parking. The building will be used for commercial and residential purposes, which is consistent with the current zoning. A copy of the proposed development plans is included in **Appendix C**.

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The Site is located within an urban area of the Mott Haven neighborhood of Bronx, New York, which is characterized by low-rise commercial buildings, multi-story residential apartment buildings, and one- and two-family homes. The MTA subway 4 and 5 lines run parallel to and are located southwest adjacent to the Site beneath Grand Concourse. There are no public parks within a 500-ft radius of the Site. There are two sensitive receptors within a 500-ft radius of the Site as listed below:

1) Community School for Social Justice – 350 Gerard Avenue, Bronx, New York 10451, listed as a public 9-12 school (approximately 350 ft west of the Site).
2) Family Life Academy Charter School III – 370 Gerard Avenue, Bronx, New York 10451, listed as a public K-12 school (approximately 400 ft northwest of the Site).

Properties immediately to the north and south of the Site are zoned C6-2A for residential use. To the east, the property is zoned M1-2, designated for use by the MTA. Adjoining and surrounding property uses are further detailed below:

Direction	Adjoining properties	Surrounding Properties
North	Commercial building (hotel)	Commercial and industrial buildings, vacant lots, and parking facilities.
South	Mixed-use commercial and residential building	Residential and commercial buildings.
East	Commuter Railroad (MTA Metro-North)	Commercial buildings beyond MTA Metro-North.
West	Grand Concourse, followed by commercial buildings and vacant lots.	Commercial and industrial buildings, vacant lots, and parking facilities.

1.4 SITE HISTORY

Based on a Phase I Environmental Site Assessment (ESA) completed by KB Environmental Assessment Ltd. (KBEA) for the Site in September 2024, the Site was first developed by 1908 with a small one-story structure occupied by the New York State (NYS) & Hudson Valley Railroad. By 1935, the property is depicted on Sanborn Fire Insurance Maps (Sanborn maps) as developed with several interconnected one-story structures. Sanborn maps that detailed historical operations have included a retail store, auto repair, auto service, auto painting, and storage buildings. By 1942, the only structure remaining depicted on Sanborn maps was an auto repair shop and retail store while the remaining structures were demolished. The 1952 Sanborn map depicts expanded development to the east, labeled as a garage. On the 1977

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Sanborn map, the property addressed 338 Grand Concourse was depicted as redeveloped with a one-story commercial building, identified as an auto body repair shop with a retail store at the northwestern corner and the property addressed 344 Grand Concourse was depicted as an auto repair shop. Both structures are currently vacant.

1.5 PREVIOUS ENVIRONMENTAL REPORTS

The following reports were prepared for the Site prior to submission of the 2026 Remedial Investigation Report (RIR):

1. September 2024 Phase I ESA for the property addressed 338 Grand Concourse, prepared by KBEA.
2. September 2024 Phase I ESA for the property addressed 344 Grand Concourse, prepared by KBEA.
3. November 2024 Limited Phase II Environmental Site Investigation (ESI) Report, prepared by Haley & Aldrich of New York.

Previous investigation findings are included in Appendix A of the Remedial Investigation Work Plan (RIWP) dated August 11, 2025, prepared by Haley & Aldrich of New York (2025b). The results of these previous investigations were relied upon, in addition to the RI for the preparation of this RAWP.

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2. Description of Remedial Investigation Findings

The Site was investigated in accordance with the scope of work presented in the NYSDEC-approved RIWP dated September 2025. The investigation was conducted between December 2025 and January 2026. The draft RIR was submitted to NYSDEC in February 2026.

2.1 REMEDIAL INVESTIGATION

The RI consisted of the following:

1. Advancement of fourteen soil borings to depths ranging from 3 to 20 ft below ground surface (bgs), with samples collected from the top 2 ft immediately beneath the Site cover, from the bottom of the historical fill interval (i.e., 3 to 5 ft bgs, 4 to 6 ft bgs, 5 to 7 ft bgs, or 6 to 8 ft bgs), immediately above perceived groundwater at several locations (10 to 12 ft bgs) or from the last 2-ft layer above bedrock (i.e., 11 to 13 ft bgs, 12 to 14 ft bgs, or 13 to 15 ft bgs). A total of 39 soil samples were collected.
2. Advancement of eighteen soil borings to depths of 8 ft bgs and two soil borings to depths of 4 ft bgs to delineate historical elevated concentrations of lead in the locale of two borings from previous investigations (i.e., SB-04 and SB-11). Samples were collected from each of the delineation borings at varying depths, including from 2 to 4 ft bgs, 4 to 6 ft bgs, and 6 to 8 ft bgs from the SB-04 and SB-11 locations; surface grade to 2 ft bgs, 2 to 4 ft bgs, 4 to 6 ft bgs, and 6 to 8 ft bgs in 16 step-out soil borings; and from surface grade to 2 ft bgs and 2 to 4 ft bgs in two borings.
3. Installation of five 2-inch (in.) permanent groundwater monitoring wells (two open bedrock wells and three screened monitoring wells) to depths ranging from 21 to 27 ft bgs and collection of five groundwater samples.
4. Survey and gauging of monitoring wells to determine groundwater elevation and flow direction.
5. Installation of seven soil vapor probes to a depth of approximately 11 ft bgs and collection of seven soil vapor samples.

Soil and groundwater samples were collected in laboratory-prepared sample bottles (pre-preserved when appropriate), placed in ice-packed coolers maintained at approximately 4 degrees Celsius under standard chain of custody procedures, and transported to Pace Analytical Laboratories, Inc. (Pace) of Westborough, Massachusetts (Environmental Laboratory Accreditation Program [ELAP] Certification No. 11148). Soil vapor samples were collected in laboratory-supplied batch certified-clean 2.7-liter Summa® canisters with two-hour flow controllers and transported under standard chain of custody procedures to Pace. Pace was responsible for analyzing the samples as per the analyses and methods identified in the RIR. Community air monitoring was conducted during all ground-intrusive activities.

2.1.1 Soil Boring Installation and Soil Sampling

Fourteen soil borings were advanced between 3 and 20 ft bgs using a track-mounted Geoprobe® 6011 DT drill rig operated by a licensed operator provided by Coastal Environmental Solutions, Inc. (Coastal). Soil samples were collected from acetate liners using a stainless-steel trowel or sampling spoon. Soils were

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logged continuously by field personnel using the Modified Burmeister Soil Classification System. The presence of staining, odors, and photoionization detector (PID) response was noted in soil boring logs. Soil boring logs are provided in Appendix C of the RIR.

Soil samples representative of Site conditions were collected from 14 locations across the Site (RI-SB-01 through RI-SB-13 and SB-05), as shown on **Figure 3**. Between one and four samples were collected at each boring, including from the surface at 0 to 2 ft bgs; the 2-ft interval at the base of the observed fill layer which ranged from 3 to 5 ft bgs (RI-SB-03), 4 to 6 ft bgs (RI-SB-01, RI-SB-08, RI-SB-09, and RI-SB-13), 5 to 7 ft bgs (RI-SB-04, RI-SB-05, and RI-SB-12), and 6 to 8 ft bgs (RI-SB-02, RI-SB-06, and RI-SB-07); from the 2-ft interval above the perceived groundwater interface, and and/or from the last 2-ft interval above bedrock from 11 to 13 ft bgs (RI-SB-01, RI-SB-02, and RI-SB-08), 12 to 14 ft bgs (RI-SB-03 and RI-SB-04), and 13 to 15 (RI-SB-05, RI-SB-06, SB-07, RI-SB-10, and RI-SB-12). Due to four refusals upon perceived shallow bedrock at the RI-SB-11 location (at approximately 3 ft bgs), only a 2-ft interval was collected from surface grade to 2 ft bgs.

Soil samples representative of Site conditions were collected from 11 locations at and within the vicinity of SB-04 in 344 Grand Concourse and from nine locations at and within the vicinity of SB-11 in 338 Grand Concourse to delineate historical elevated concentrations of lead, as shown on **Figure 3.** Borings were re-drilled at the SB-04 and SB-11 locations to facilitate the collection of vertical delineation samples at 2 to 4, 4 to 6, and 6 to 8 ft bgs. From the SB-04 and SB-11 locations, 5-ft and 10-ft step-out borings were advanced in each cardinal direction with samples collected at 0 to 2, 2 to 4, 4 to 6, and 6 to 8 ft bgs. Upon receipt of delineation samples, two additional step out locations, 15 ft and 20 ft east of SB-04 (designated as SB-04_E3 and SB-04_E4) were advanced to 4 ft with samples collected at 0 to 2 and 2 to 4 ft bgs.

Soils with dark staining were observed in RI-SB-10 (located in the southern-central portion of the Site) from 7 to 9 ft bgs and RI-SB-12 (located in the southeastern portion of the Site) from 10 to 12 ft bgs, where additional samples were collected. Elevated PID readings were observed in lead delineation soil boring SB-04-W2 at a maximum concentration of 21 parts per million (ppm) at approximately 1.5 ft bgs.

Haley & Aldrich of New York collected 39 soil samples (plus quality assurance/quality control [QA/QC] samples) for the full list of laboratory analyses and 17 delineation soil samples (plus QA/QC samples) analyzed for total and Toxicity Characteristic Leaching Procedure (TCLP) lead. Soil samples were collected in laboratory-supplied containers; volatile organic carbon (VOC) grab samples were collected using Terra Core® sampling devices. Soil samples were relinquished under standard chain of custody procedures and delivered via courier to Pace for analysis.

2.1.2 Groundwater Investigation

Five, 2-in.-diameter permanent monitoring wells were installed to depths ranging from approximately 21 to 27 ft bgs. Two of the five wells, RI-MW-02 and RI-MW-03, where the steel casing was installed from grade and embedded into the bedrock layer, were completed as open-hole bedrock wells. The three remaining monitoring wells, RI-MW-01, RI-MW-04, and RI-MW-05, were constructed using a 2-in.-diameter polyvinyl chloride (PVC) riser pipe with a 10 to 15-ft-long, 10-slot (0.01-in.) slotted screens. Each of the three PVC monitoring wells was constructed with a 2-in. annular space backfilled with #0 certified clean sand fill, followed by a bentonite plug, and sealed at grade with flush-mounted well covers. Monitoring well screens were installed to straddle the water table. Following installation, monitoring wells

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were developed by surging a pump in the well several times to pull fine-grained material from the well. Development was conducted until the water turbidity was 50 nephelometric turbidity units (NTUs) or less, or 10 well volumes were purged, whichever was achieved first.

Groundwater monitoring wells were sampled utilizing low-flow sampling procedures for groundwater sampling. Prior to sampling, the water level was measured from each monitoring well using an electronic water level meter. Groundwater from each well was purged using low pumping rates (less than 500 milliliters per minute) to limit drawdown of the water level. Dedicated disposable field equipment used at each well included high-density polyethylene and silicon tubing. Wells were purged until turbidity, pH, temperature, dissolved oxygen, and specific conductivity stabilized. If monitoring wells ran dry during low-flow sampling, a minimum of three well volumes were purged prior to the collection of groundwater samples.

During a monitoring well gauging event concurrent with the well survey performed by DPK Land Surveying on December 29, 2025, groundwater was encountered at depths ranging from 15.75 and 21.14 ft below top of casing (btoc) or elevations ranging from 10.34 to 16.03 ft above mean sea level (amsl) based on North American Vertical Datum of 1988 (NAVD88); groundwater generally flows from northwest to southeast. Rock core boring logs and well construction logs and groundwater elevation data are provided in Appendix D and E and Table 2 of the RIR, respectively. Groundwater contours are provided on **Figure 4**.

2.1.3 Soil Vapor Investigation

Soil vapor samples were collected in accordance with the NYSDOH Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York (2006). Seven temporary soil vapor probes were installed by Coastal to approximately 12 ft bgs. The temporary vapor implants were installed with a direct-push rig (e.g., Geoprobe®) to advance a stainless-steel probe to the desired sample depth.

To ensure the stainless-steel soil vapor probe was sealed completely to the surface using bentonite, a tracer gas was used in accordance with NYSDOH protocols to serve as a QA/QC measure to verify the integrity of the soil vapor probe seal. In addition, one to three implant volumes were purged prior to the collection of the soil vapor samples. Sampling occurred for the duration of two hours. At the conclusion of the sampling round, tracer monitoring was performed a second time to confirm the continued integrity of the probe seals. No leaks were observed during the soil vapor sampling.

Haley & Aldrich of New York collected seven soil vapor samples in accordance with the NYSDEC-approved RIWP. Samples were collected in appropriately sized Summa® canisters that were batch-certified clean by the laboratory. Samples were analyzed for VOCs using United States Environmental Protection Agency (USEPA) Method TO-15. The flow rate for both purging and sampling did not exceed 0.2 liters per minute. The soil vapor purge log is included in Appendix H of the RIR.

2.1.4 Samples Collected

During the RI, a total of 39 soil samples (plus two duplicates, two matrix spike/matrix spike duplicate [MS/MSD] sets, three field blanks, and three trip blanks for QA/QC purposes) were collected from the ground surface at 0 to 2 ft bgs; the 2-ft interval at the base of the observed fill layer which ranged from 3 to 5 ft bgs (RI-SB-03), 4 to 6 ft bgs (RI-SB-01, RI-SB-08, RI-SB-09, and RI-SB-13), 5 to 7 ft bgs (RI-SB-04, RI-

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SB-05, and RI-SB-12), and 6 to 8 ft bgs (RI-SB-02, RI-SB-06, and RI-SB-07); from the 2-ft interval above the perceived groundwater interface, and and/or from the last 2-ft interval above bedrock from 11 to 13 ft bgs (RI-SB-01, RI-SB-02, and RI-SB-08), 12 to 14 ft bgs (RI-SB-03 and RI-SB-04), and 13 to 15 ft bgs (RI-SB-05, RI-SB-06, SB-07, RI-SB-10, and RI-SB-12). Due to four refusals upon perceived shallow bedrock at the RI-SB-11 location (at approximately 3 ft bgs), only a 2-ft interval was collected from surface grade to 2 feet bgs. The samples were collected using laboratory-provided clean bottle ware, and VOC grab samples were collected using Terra Cores®.

Eighteen soil borings were advanced to 8 ft bgs using a track-mounted Geoprobe® 6011 DT drill rig operated by a licensed operator provided by Coastal and two soil borings were advanced to 4 ft bgs using hand tools to collect soil samples from the locations of SB-04 and SB-11 (from the November 2024 Limited Phase II investigation activities) as well as 5-ft and 10-ft step-out locations, to delineate the historical elevated concentrations of lead. Samples were collected from each of the delineation borings at varying depths, including from 2 to 4 ft bgs, 4 to 6 ft bgs, and 6 to 8 ft from the SB-04 and SB-11 locations; surface grade to 2 ft bgs, 2 to 4 ft bgs, 4 to 6 ft bgs, and 6 to 8 ft bgs in 16 step-out soil borings; and from surface grade to 2 ft bgs and 2 to 4 ft bgs in the two borings advanced via hand tools.

A total of five groundwater samples, one from each monitoring well installed during the RI, were collected for laboratory analysis. One field blank, two trip blanks, one duplicate sample, and one MS/MSD sample were also collected for QA/QC purposes. Groundwater monitoring wells were sampled using low-flow sampling methods. Monitoring wells were purged and physical and chemical parameters stabilized before the samples were taken.

A total of seven soil vapor samples were collected for laboratory analysis (one from each temporary soil vapor probe). Samples were collected in appropriately sized Summa® canisters that were certified-clean by the laboratory. Sampling occurred for the duration of two hours.

2.1.5 Chemical Analysis

The laboratory analyses performed on the soil, groundwater, and soil vapor samples are summarized below.

Soil samples collected from drilling were analyzed for the following parameters:

- Target Compound List (TCL) VOCs by USEPA Method 8260D/5035;
- TCL semi-volatile organic compounds (SVOCs) using USEPA Method by 8270E;
- Total Analyte List (TAL) Metals by USEPA Method 6010D;
- TCL polychlorinated biphenyls (PCBs) by USEPA Method 8082A;
- TCL pesticides by USEPA Method 8081B;
- Per- and polyfluoroalkyl substances (PFAS) by USEPA Method 1633; and
- 1,4-dioxane by USEPA Method 8270E.

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Lead delineation soil samples were analyzed for:

- Total lead using USEPA Method 6020A; and
- TCLP lead using USEPA Method 6020B.

Groundwater samples collected from permanent wells were analyzed for the following parameters:

- TCL VOCs by USEPA Method 8260D;
- TCL SVOCs by USEPA Method 8270;
- Total and dissolved metals by USEPA Methods 6010/6020;
- Total PCBs by USEPA Method 8082;
- TCL pesticides by USEPA Method 8081B;
- 1,4-dioxane by USEPA Method 8270E-SIM; and
- PFAS by USEPA Method 1633A.

Soil vapor samples were analyzed for VOCs using USEPA Method TO-15.

2.2 REMEDIAL INVESTIGATION FINDINGS SUMMARY

Below is a summary of the RI findings.

2.2.1 Soil Sampling Results

Soil analytical results were compared to NYSDEC Title 6 of the New York Codes, Rules and Regulations (NYCRR) Part 375 Unrestricted Use Soil Cleanup Objectives (UUSCOs), Restricted Residential Soil Cleanup Objectives (RRSCOs), and Protection of Groundwater Soil Cleanup Objectives (PGWSCOs). Perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) soil sample results are compared to the UUSCO, RRSCO, and PGWSCO guidance values (GVs) outlined in the April 2023 PFAS Guidance (NYSDEC, 2023). Soil analytical results from the initial RI sampling event are summarized below and shown on **Figure 5**.

2.2.1.1 Volatile Organic Compounds

Acetone was detected in one soil sample (RI-SB-06_0-2) within the fill layer at a concentration of 0.05 milligrams per kilogram (mg/kg), exceeding its UUSCO of 0.03 mg/kg. No other samples exceeded applicable standards.

2.2.1.2 Semi-Volatile Organic Compounds

SVOCs were detected in three soil borings (RI-SB-02, RI-SB-07, and RI-SB-11) throughout the contaminated fill layer, from the surface to approximately 8 ft bgs and in one boring (RI-SB-09) at a depth of 12 ft bgs. Seven SVOCs, specifically polycyclic aromatic hydrocarbons (PAHs), were detected at concentrations above both the UUSCOs and RRSCOs, including benzo(a)anthracene in two samples (maximum concentration of 3 mg/kg in DUP-01 [duplicate of RI-SB-02_6-8]), benzo(a)pyrene, exceeding in two

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samples (maximum concentration of 3.1 mg/kg in DUP-01 [duplicate of RI-SB-02_6-8]), benzo(b)fluoranthene in three samples (maximum concentration of 4.4 mg/kg in RI-SB-02_0-2),; dibenzo(a,h)anthracene in two samples (maximum concentration of 0.53 mg/kg in RI-SB-02_0-2), and indeno(1,2,3-cd)pyrene in four samples (maximum concentration of 2.3 mg/kg in RI-SB-02_0-2).

Benzo(b)fluoranthene, benzo(g,h,i)perylene and indeno(1,2,3-cd)pyrene were detected in RI-SB-07_6-8 at concentrations exceeding their UUSCOs but below their RRSCOs (1.3 mg/kg, 0.68 J[1] mg/kg, and 0.71 J mg/kg, respectively). Phenanthrene was detected in RI-SB-09_10-12 at a concentration (1.4 mg/kg) exceeding its UUSCO but below its RRSCO. Benzo(k)fluoranthene (maximum concentration of 1.5 mg/kg in RI-SB-02_0-2) and chrysene (maximum concentration of 3.5 mg/kg in RI-SB-02_0-2) were detected at concentrations above their UUSCOs, but below their RRSCOs in two samples.

No other SVOCs were detected above applicable standards.

2.2.1.3 Metals

Four metals were detected in multiple soil samples at depths ranging from the surface to approximately 15 ft bgs at concentrations exceeding both UUSCOs and RRSCOs, including barium (maximum concentration of 543 mg/kg in RI-SB-13_0-2), copper (maximum concentration of 392 mg/kg in RI-SB-05_0-2), lead (maximum concentration of 1,170 mg/kg in DUP-01 [duplicate of RI-SB-02_6-8]), and mercury (maximum concentration of 2.4 mg/kg in DUP-01 [duplicate of RI-SB-02_6-8]).

Beryllium was detected at a concentration of 4.46 mg/kg, exceeding its UUSCOs, but below its RRSCOs, in RI-SB-04_12-14. Nickel and zinc were detected at concentrations exceeding their UUSCOs, but below their RRSCOs, in multiple samples collected during the RI. Mercury was detected at a concentration of 0.247 mg/kg in RI-SB-12_10-12 and 0.208 mg/kg in RI-SB-13_4-6, exceeding its UUSCO, but below its RRSCO.

No other metals were detected above applicable standards.

2.2.1.4 Lead Delineation

Two delineation boring samples from the SB-04 delineation that were activated for TCLP lead, specifically SB-04_E1_0-2 and SB-04_E2_0-2, exceeded the USEPA Resource Conservation and Recovery Act (RCRA) Characteristics of Hazardous Waste limit of 5 milligrams per liter (mg/L), at a maximum concentration of 135 mg/L in sample SB-04_E1_0-2. None of the remaining RI samples activated for TCLP lead exceeded the USEPA RCRA Characteristics of Hazardous Waste limit of 5 mg/L. Soil analytical results of the lead delineation sampling are shown on **Figure 6**.

2.2.1.5 Polychlorinated Biphenyls

One PCB, Aroclor 1260, was detected at a concentration of 0.22 mg/kg in RI-SB-06_0-2, exceeding the UUSCO (for the total concentration of PCBs) of 0.2 mg/kg. No other PCBs were detected above applicable standards.

[1] J qualifier indicates value is estimated.

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2.2.1.6 Pesticides

The compound 4,4-DDE was detected at a concentration of 0.00344 mg/kg in RI-SB-07_0-2, exceeding its UUSCO of 0.0033 mg/kg. Alpha-chlordane (cis) was also detected in RI-SB-07_0-2 at a concentration of 0.0248 mg/kg, exceeding its UUSCO of 0.014 mg/kg. No other pesticide detections were above applicable standards.

2.2.1.7 Emerging Contaminants

The compound 1,4-dioxane was not detected above laboratory detection limits.

PFOS was detected in multiple samples throughout the Site at depths ranging from the surface to 6 ft bgs above its respective GV for unrestricted use. PFOS ranged from non-detect (ND) to a maximum concentration of 3.11 parts per billion (ppb) in RI-SB-07_0-2. PFOA was detected in above laboratory detection limits several samples, but below the respective GV for unrestricted use and restricted use.

Concentrations of total PFOA/PFOS ranged from ND to a maximum concentration of 3.76 ppb in RI-SB-07_6-8.

2.2.1.8 PGWSCO Application

PGWSCOs were used for comparison purposes only for compounds identified in groundwater above the applicable Ambient Water Quality Standards (AWQS; see Section 6.4 of the RIR). Those compounds include chloroform, PFOS, and PFOA. Chloroform was not detected above the PGWSCO in any soil samples collected. PFOS was detected above the PGWSCO in two shallow soil samples (RI-SB06 and RI-SB-05) and one deeper soil sample (RI-SB-07) at 6 to 8 ft bgs. PFOA was not detected above the PGWSCO in any soil samples collected.

2.2.2 Groundwater Sampling Results

Groundwater analytical results were compared to 6 NYCRR Part 703.5 NYSDEC Technical and Operational Guidance Series (TOGS) 1.1.1 AWQS and GVs for Class GA Water. Emerging contaminants PFOA and PFOS were compared to the GVs for PFOA and PFOS outlined in the NYSDEC April 2023 PFAS Guidance. Emerging contaminant 1,4-dioxane was compared to the GV as set by NYSDEC in March 2023. Groundwater analytical results from the initial RI sampling event are summarized below and shown on **Figure 7**.

2.2.2.1 Volatile Organic Compounds

One chlorinated volatile organic compound (CVOC), chloroform, was detected in RI-MW-04 and its duplicate sample (DUP-01) above the AWQS at concentrations of 8.2 and 7.6 ppb, respectively. No other VOCs were detected above the AWQS.

2.2.2.2 Semi-Volatile Organic Compounds

No SVOCs were detected above the AWQS.

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2.2.2.3 Polychlorinated Biphenyls

No PCBs were detected above laboratory detection limits in any groundwater sample.

2.2.2.4 Dissolved Metals

Two dissolved metals were detected in multiple groundwater samples above the AWQS, including manganese (maximum concentration of 790.7 ppb in DUP-01 [RI-MW-04]) and sodium (maximum concentration of 74,000 ppb in RI-MW-02). Of note, manganese and sodium are considered naturally occurring metals and were not included in the PGWSCO comparison.

No other dissolved metals were detected above the AWQS.

2.2.2.5 Total Metals

Three total metals were detected above the AWQS in several groundwater samples, including iron (maximum concentration of 26,200 ppb in RI-MW-03), manganese (maximum concentration of 2,230 ppb in RI-MW-03), and sodium (maximum concentration of 84,700 ppb in RI-MW-02). Magnesium was detected above the AWQS in RI-MW-02 at a concentration of 43,400 ppb. Chromium was detected above the AWQS in RI-MW-05 at a concentration of 78.99 ppb. Of note, total metals typically carry entrained sediment; therefore, dissolved metals analysis provides a clearer understanding of metals in groundwater. Therefore, the above-referenced compounds were not included in the PGWSCO comparison.

No other total metals were detected above the AWQS.

2.2.2.6 Pesticides

No pesticides were detected above laboratory detection limits in any groundwater sample.

2.2.2.7 Emerging Contaminants

Concentrations of 1,4-dioxane were compared to the GV of 0.35 ppb issued on March 15, 2023 by the NYSDEC. Emerging contaminants PFOA and PFOS in groundwater were compared to the April 2023 PFAS Guidance GVs of 6.7 parts per trillion (ppt) and 2.7 ppt, respectively.

The compound 1,4-dioxane was not detected above laboratory detection limits.

PFOS was detected above the GV of 2.7 ppt in two of the six groundwater samples at a maximum concentration of 32.1 ppt in RI-MW-02. PFOA was detected above the GV of 6.7 ppt in two of the six groundwater samples at a maximum concentration of 35.8 ppt in RI-MW-02.

Total PFOA/PFOS concentrations in groundwater samples ranged from 4.7 ppt in RI-MW-05 to a maximum concentration of 123.2 ppt in RI-MW-02.

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2.2.3 Soil Vapor Sampling Results

Total VOC concentrations ranged from 300.9 micrograms pe cubic meter (µg/m^3) in RI-SG-02 to a maximum of 1,295.99 µg/m^3 in RI-SG-05. Total CVOC concentrations ranged from 9.83 µg/m^3 in RI-SG-01 to a maximum of 684.21 µg/m^3 in RI-SG-06. Total benzene, toluene, ethylbenzene, and xylenes concentrations ranged from 24.34 µg/m^3 in RI-SG-02 to a maximum of 238.9 µg/m^3 in sample RI-SG-05.

Several petroleum-related VOCs were detected at elevated concentrations in all seven soil vapor samples, including benzene (maximum concentration of 31.8 µg/m^3 in RI-SG-01), toluene (maximum concentration of 25.4 µg/m^3 in RI-SG-01), ethylbenzene (maximum concentration of 35.3 µg/m^3 in RI-SG-05), m,p-xylenes (maximum concentration 136 µg/m^3 in RI-SG-05), and o-xylene (maximum concentration of 37.4 µg/m^3 in RI-SG-05). Additional petroleum-related VOCs detected included cyclohexane, which was detected in five of the seven samples at a maximum concentration of 4.44 µg/m^3 in RI-SG-07; 2,2,4-trimethylpentane, which was detected in three of the seven samples at a maximum concentration of 4.34 µg/m^3 in RI-SG-01; o-xylene which was detected in five of the seven samples at a maximum concentration of 37.4 µg/m^3 in RI-SG-05; heptane, which was detected in all seven samples at maximum concentration of 26.4 µg/m^3 in RI-SG-01; and hexane, which was detected in all samples at a maximum concentration of 50.8 µg/m^3 in RI-SG-01.

Several CVOCs were detected in the soil vapor samples, including tetrachloroethene, which was detected in all samples (maximum concentration of 144 µg/m^3 in RI-SG-06), and trichloroethene, which was only detected in two samples (RI-SG-06 and maximum concentration of 5.32 in RI-SG-07). Methylene chloride was detected in only RI-SG-01 at a concentration of 9.38 µg/m^3.

Other VOCs that were detected in the soil vapor samples included ethanol, which was detected in six of the seven samples at a maximum concentration of 32.2 µg/m^3 in RI-SG-05, and carbon disulfide, which was detected in all samples with a maximum concentration of 18.3 µg/m^3 in RI-SG-01.

Figure 8 provides the soil vapor sampling locations, as well as a summary of soil vapor data from the sampling event.

2.3 SIGNIFICANT THREAT

The NYSDEC and NYSDOH have not yet made a determination as to whether or not the Site poses a significant threat to human health and the environment.

2.4 GEOLOGY AND HYDROGEOLOGY

2.4.1 Contaminated Fill Material

Based on field observations from the RI and associated supplemental sampling, the Site is underlain by a layer of contaminated fill consisting of mainly black and brown, medium to fine sand, with varying amounts of gravel, concrete, and brick observed from surface grade to approximately 2 to 8 ft bgs at each boring location.

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2.4.2 Native Soil

The fill interval was observed to be underlain by a native layer consisting of silty sand and clay extending to bedrock between approximately 10 and over 15 ft bgs, which was determined based on the terminus of each boring at refusal.

2.4.3 Bedrock

Assumed bedrock was encountered during the RI at varying depths throughout the Site, ranging from approximately 10 to 15 ft bgs. According to the United States Geological Survey Bedrock Geology of Northern Manhattan, the Bronx and Staten Island (1987), the uppermost geologic formation underlying the soils at the Site is the Cambrian Manhattan Formation.

2.4.4 Hydrogeology

Groundwater was encountered at depths ranging from approximately 15.75 to 21.14 ft btoc, and groundwater beneath the Site generally flows from the northwest to southeast, with depth to water measurements ranging from elevation (El.) 10.34 ft at RI-MW-02 to El. 16.03 ft at RI-MW-01 (NAVD88). A groundwater contour map is provided as **Figure 4**.

2.5 CONTAMINATION CONDITIONS

A conceptual site model (CSM) was developed based on the findings of the RI and associated supplemental sampling. The CSM provides a framework for distribution of impacted materials Site-wide and potential migration/exposure pathways.

2.5.1 Conceptual Model of Site Contamination

Subsurface soils throughout the Site are impacted with elevated concentrations of SVOCs, specifically PAHs, metals, including total and TCLP lead, and PCBs, pesticides, and PFAS in limited areas. These findings are consistent with characteristics of contaminated fill found throughout the New York City area. Contaminated fill material varies in depth throughout the Site, generally extending from surface grade to approximately 6 to 8 ft bgs with localized exceedances of the metals nickel and zinc extending as deep as 15 ft bgs. Although concentrations of these analytes are consistent with contaminated fill found throughout the New York City area, the Site's historical uses, including auto repair, auto service, auto painting, and other miscellaneous industrial and commercial uses, there is a potential for these operations to have impacted the subsurface of the Site.

2.5.2 Description of Areas of Concern

Based on Site observations, Site development history, and the findings of the previous environmental reports, two Areas of Concern (AOCs) were identified.

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2.5.2.1 AOC 1 – Site-Wide Fill in Subsurface Soils

Subsurface soils throughout the Site are impacted with elevated concentrations of SVOCs, specifically PAHs, metals, including total and TCLP lead, and PCBs, pesticides, and PFAS in limited areas. These findings are consistent with characteristics of contaminated fill found throughout the New York City area. Contaminated fill material exceeding UUSCOs/RRSCOs varies in depth throughout the Site, generally extending from surface grade to approximately 6 to 8 ft bgs with localized exceedances of the metals nickel and zinc extending as deep as 15 ft bgs.

2.5.2.2 AOC 2 – PFAS Impacts to Subsurface Soil and Groundwater

Subsurface soils throughout the Site have slightly elevated PFOA concentrations exceeding the PGWSCO. Elevated PFOA and PFOS concentrations were also observed in groundwater samples. These findings are consistent with characteristics of PFAS impacts throughout the New York City Area and are likely the result of off-Site sources.

2.6 ENVIRONMENTAL AND PUBLIC HEALTH ASSESSMENTS

2.6.1 Qualitative Human Health Exposure Assessment

A qualitative exposure assessment consists of characterizing the exposure setting (including the physical environment and potentially exposed human populations), identifying exposure pathways, and evaluating chemical fate and transport. An exposure pathway describes the means by which an individual may be exposed to contaminants originating from a site. An exposure pathway has the following five elements:

1. Receptor population;
2. Contaminant source;
3. Contaminant release and transport mechanism;
4. Point of exposure; and
5. Route of exposure.

An exposure pathway is complete when all five elements of an exposure pathway are documented; a potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway is not documented but could reasonably occur. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway does not exist in the present and will not exist in the future.

2.6.1.1 Receptor Population

The receptor population includes the people who are or may be exposed to contaminants at a point of exposure. The identification of potential human receptors is based on the characteristics of the Site, the surrounding land uses, and the probable future land uses. The Site is currently vacant, paved with impervious surfaces (concrete and asphalt), and secured with locked doors on the existing buildings. Since the Site is vacant, individual receptors would currently only include construction/maintenance workers who may be employed to perform work on the property.

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The Site owner plans to redevelop the property with two multi-story residential buildings, consistent with surrounding property use and zoning. Exposed receptors under the future use scenario may comprise residents of the future building, indoor employees, outdoor employees (e.g., maintenance staff), and construction workers who may be employed at or perform work on the property. Site visitors may also be considered receptors; however, their exposure would be similar to that of the indoor employees but at a lesser frequency and duration.

2.6.1.2 Contaminant Sources

The source of contamination is defined as either the source of contaminant release to the environment (such as a waste disposal area or point of discharge) or the impacted environmental medium (soil, air, and/or water) at the point of exposure. Sections 6.0 and 7.0 discuss the contaminants of concern (COCs) present in the Site media at elevated concentrations. In general, Site COCs include SVOCs, specifically PAHs, and metals in soil and CVOCs in soil vapor.

2.6.1.3 Contaminant Release and Transport

Contaminant release and transport mechanisms carry contaminants from the source to points where people may be exposed and are specific to the type of contaminant and site use. This would include the indoor vapor intrusion pathway, also referred to as "soil vapor intrusion" (SVI). Additional pathways could include skin contact, inhalation, and incidental ingestion of VOCs present in groundwater when and where construction workers are involved in subsurface activities where volatiles are present at elevated concentrations.

2.6.1.4 Exposure Point

The point of exposure is a location where actual or potential human contact with a contaminated medium may occur. Based on the exceedances of UUSCOs and/or RRSCOs for heavy metals (including TCLP Lead), SVOCs, VOCs, PCBs, and pesticides in soil and petroleum-related VOC and CVOC concentrations above laboratory detection limits in soil vapor, the point of exposure is defined as the entire Site.

2.6.1.5 Exposure Route

The route of exposure is the manner in which a contaminant actually enters or contacts the human body (e.g., ingestion, inhalation, and/or dermal absorption). Based on the types of receptors and point of exposure identified above, potential routes of exposure are listed below.

Current Use Scenario

The Site is currently two vacant lots with overgrown vegetation and is secured with fencing. The risk of exposure to contaminated soil and contaminated groundwater is very low. Release and transport mechanisms include contaminated surface soil transported as dust, contaminated groundwater flow, and volatilization of contaminants from soil and/or groundwater into the vapor phase. Persons at risk of exposure via the indicated exposure routes are noted below:

- Occupant/Employee/Visitor – skin contact, inhalation, and incidental ingestion

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- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion

Construction/Remediation Scenario

In the continued absence of engineering controls (ECs) and institutional controls (ICs), there will be continued exposure pathways during construction/remediation, specifically related to surface soil. Planned construction/remedial activities include removal of the impervious Site cover, removal of underground storage tanks (USTs, if present), excavation and off-Site disposal of soil, and dewatering of impacted groundwater (if required) to facilitate the construction of the foundation elements. Release and transport mechanisms include disturbed and exposed soil during excavation, contaminated soil transported as dust, potentially contaminated groundwater flow (through dewatering, if required), and volatilization of contaminants from soil and/or groundwater into the vapor phase. Persons at risk of exposure via the indicated exposure routes are noted below.

- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion
- Public Adjacent to the Site – inhalation

Future Use Scenario

The anticipated future use as a redeveloped property with two multi-story mixed-use commercial and residential buildings will include a potential cellar to approximately 12 ft bgs, with localized excavations to 16 ft bgs for elevator pits. In the absence of remedial removal of impacted material, remaining contaminant release and transport would include potential migration of contaminated groundwater and volatilization of contaminants from soil and/or groundwater into the vapor phase. Routes of future exposure include cracks in the foundation or slab, or emergency repairs to the foundation walls or slab. Persons at risk of exposure via the indicated exposure routes are noted below.

- Construction/Utility Worker – skin contact, inhalation, and incidental ingestion
- Occupant/Employee/Visitor – inhalation
- Public Adjacent to the Site – inhalation

SVI is a relevant transport mechanism under the current and future use scenarios. Concerning skin contact, inhalation, and incidental ingestion of volatile organics present in soil and groundwater, the potential is low for exposure to VOCs for construction workers involved in subsurface activities where volatiles are present at elevated concentrations, given the results of the RI and associated supplemental sampling.

2.6.1.6 Exposure Assessment

Based on the above assessment, the potential exposure pathways for the current and future use conditions are discussed below.

Current Use Scenario

Site COCs include SVOCs, specifically PAHs, and metals in soil and petroleum-related VOCs and CVOCs in soil vapor. Under current conditions, the likelihood of exposure to soil or groundwater is limited. The Site

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is currently vacant, paved with impervious surfaces (concrete and asphalt), and secured with locked doors on the existing buildings. The Site entrances are each locked and secured with Site access only granted to personnel associated with the planned development. Potable water for Bronx County will continue to be sourced from reservoirs in the Catskill and Delaware watersheds. Intrusive work on the Site will be performed in accordance with a Site-specific Health and Safety Plan and the donning of personal protective equipment (PPE).

Construction/Remediation Scenario

The exposure element exists for each element during the construction/remediation phase. The overall risk will be minimized by the implementation of a Site-specific Construction Health and Safety Plan (CHASP), localized monitoring of organic vapors, community air monitoring on the Site perimeter for particulates and VOCs, vapor and dust suppression techniques, installation of a stabilized entrance, cleaning of truck tires and undercarriages, and the use of appropriate PPE. Additionally, the Site will be remediated under this RAWP, which will include a Soil/Materials Management Plan (S/MMP) that will highlight measures for PPE, covering of stockpiles, housekeeping, suppression techniques (particulates and vapor), and measures to prevent off-Site migration of contaminants. In addition, the Site will be secured and inaccessible to the public during remedial construction.

Future Use Scenario

Under the proposed future condition (after construction/remediation), residual contaminants may remain on the Site depending on the remedy achieved. The remaining contaminants would include those listed in the current conditions. If contaminants remain on the Site after construction/remediation, the route of exposure will be mitigated by proper installation of ECs, such as a Site composite cover system, and implementation of ICs, such as land use and groundwater use restrictions.

2.6.2 Fish and Wildlife Remedial Impact Analysis

NYSDEC DER-10 requires an on-Site and off-Site Fish and Wildlife Resource Impact Analysis (FWRIA) if certain criteria are met. Based on historical resources, the Site, which was first developed in the early 1900s, was occupied by railroad uses, retail stores, auto repair, auto service, auto painting, and storage uses up until 1977, when it was most recently occupied by auto repair shops. The Site is located in the Mott Haven neighborhood of the Bronx. The Site provides little or no wildlife habitat or food value and/or access to the detected subsurface contamination. No natural waterways are present on or adjacent to the Site. The proposed future use of the Site is for residential and commercial purposes. The proposed future use of the Site is anticipated to consist of a new building, which is anticipated to encompass the entire Site footprint, with a full cellar level. As such, no unacceptable ecological risks are expected under the current and future use scenarios. Based on the requirements stipulated in Section 3.10 and Appendix 3C of DER-10, a FWRIA is not required at this time.

2.7 INTERIM REMEDIAL ACTION

No Interim Remedial Measures have been performed or are proposed at the Site.

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2.8 REMEDIAL ACTION OBJECTIVES

Based on the results of the RI, the following Remedial Action Objectives (RAOs) have been identified for this Site.

2.8.1 Groundwater

RAOs for Public Health Protection:

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

RAOs for Environmental Protection:

- *Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.*
- *Remove the source of ground or surface water contamination.*

2.8.2 Soil

RAOs for Public Health Protection:

- *Prevent ingestion/direct contact with contaminated soil.*
- *Prevent inhalation exposure to contaminants volatilizing from soil.*

RAOs for Environmental Protection:

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

2.8.3 Soil Vapor

RAOs for Public Health Protection:

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

2.8.4 Protection of Human Health and the Environment

Alternative I – The remedy would significantly reduce the potential for each of the identified pathways of exposure to on-Site contaminated media. Remediating the Site to Track 1 standards would result in the removal of Site soils that exceed UUSCOs. Encountered USTs would be decommissioned, removed, and disposed of off Site, and petroleum-impacted material, if encountered, would be excavated and disposed of off Site. The RAOs for public health and environmental protection would be met through the removal of contaminated media at the Site to meet UUSCOs, which would significantly reduce the potential for exposure pathways via possible ingestion, inhalation, or dermal contact.

No ECs or ICs will be required because this remedy removes the potential for exposure to Site contamination; therefore, this remedy is the most protective of human health and the environment.

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Alternative II – The Track 2 remedy will provide similar overall protection to public health and the environment as Alternative I. Remediating the Site to Track 2 standards will result in the removal of Site soils up to 8 ft bgs and documentation of concentrations compared to RRSCOs. If encountered, USTs would be decommissioned, removed, and disposed of off Site, and petroleum-impacted material, if encountered, would be excavated and disposed of off Site. The RAOs for public health and environmental protection would be met through the removal of shallow contaminated media at the Site exceeding RRSCOs and the removal of USTs and source petroleum-impacted material.

Public health will be protected during remediation under both remedial alternatives by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures when needed. The environment will be protected by implementing and applying soil management controls as needed during future Site excavation and any other ICs through the enforcement of an Environmental Easement (EE), if needed.

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3. Description of Remedial Action Plan

3.1 EVALUATION OF REMEDIAL ALTERNATIVES

This section presents an analysis of the proposed remedial alternatives that could potentially be achieved under the BCP. The proposed soil cleanup objectives (SCOs) under Alternative I would be the Part 375 UUSCOs under a Track 1 cleanup. Alternative II would utilize Part 375 RRSCOs under a Track 2 cleanup. Both alternatives would achieve the established RAOs outlined in Section 2.8. Following evaluation, Alternative I was selected as the preferred remedy.

3.1.1 Alternative I – Technical Description

Alternative I, a Track 1 remedy, will include the following tasks:

- Development and implementation of a CHASP for the protection of on-Site workers.
- Development and implementation of a Community Air Monitoring Plan (CAMP) for the protection of community residents and the environment during remediation and construction activities.
- Design and construction of a support-of-excavation (SOE) system to facilitate the Track 1 remediation.
- Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
- Removal of the existing Site buildings, impervious Site cover, and miscellaneous debris on the Site.
- Decommissioning of on-Site monitoring wells, as necessary, in accordance with NYSDEC Commissioner's Policy (CP)-43.
- Excavation, stockpiling, off-Site transport, and disposal of approximately 5,965 cubic yards (cu yd) of contaminated historical fill/native material Site-wide that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8, including about 36 cu yd of lead-impacted soil. Excavations will range from 3 ft bgs and anticipated to extend to a depth of 15 ft bgs.
- Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to a New York City Department of Environmental Protection (NYCDEP)-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
- If encountered, removal, decommissioning, and off-site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) during redevelopment in accordance with DER-10, 6 NYCRR Part 613-2.6b, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
- Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
- Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive Site work.

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- Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
- Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting UUSCOs), recycled concrete aggregate (RCA), or virgin, native crushed stone.
- Collection and analysis of confirmation soil samples from the excavation base in accordance with DER-10 to document post-excavation conditions to confirm a Track 1 remedy was achieved. If the proposed endpoint sample exceeds the Track 1 UUSCOs, over-excavation and additional endpoint sampling may be performed, as necessary, to meet Track 1 UUSCOs. If soil is removed to bedrock at a proposed confirmation sample location, the area will be photo-documented and no confirmation sample collected. No confirmation sidewall soil samples will be collected due to proposed excavation limits extending to the Site boundaries.
- Completion of a desktop SVI Evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion (NYSDOH, 2006) following remedial excavation activities and prior to occupancy.
- Implementation of a Site Management Plan (SMP) and EE in the event that a Track 1 unrestricted use cleanup is not achieved.

The Alternative I remediation extent is shown on **Figure 9** and is based on data presented in the 2024 Limited Phase II Environmental Site Investigation (ESI) Report (Haley & Aldrich of New York, 2024), 2026 RIR (Haley & Aldrich, 2026), and the proposed development plans. The requirements for each of the Alternative I tasks are described below.

3.1.1.1 On-site Worker, Public Health, and Environmental Protection

A Site-specific CHASP is appended to this RAWP (**Appendix D**) and will be implemented during excavation and foundation construction to protect on-Site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health will be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP will include continuous perimeter monitoring of dust and organic vapor using TSI DustTrak® Environmental Monitor (DustTrak) aerosol monitors and PIDs (or an equivalent setup) capable of recording data and calculating 15-minute averages. Field personnel will monitor the Site perimeter for visible dust and odors.

3.1.1.2 Support of Excavation

To accommodate the removal of soil that exceeds Track 1 UUSCOs, a SOE system will be required. Excavations are not anticipated to be completed into the water table throughout the Site; however, localized dewatering may be required. Additional SOE to support hotspot excavation areas throughout the Site may be constructed, as necessary.

3.1.1.3 Waste Characterization

Waste characterization will be performed for off-Site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results, and QA/QC results will be reported. Data available for excavated material to be disposed

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of at a given facility will be submitted to the disposal facility with a suitable explanation prior to shipment and receipt.

Hazardous soil, if present, will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material is subject to USEPA and Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) regulations. The excavated material would be segregated in the field and temporarily placed in stockpiles or direct-loaded and transported by Part 364-permitted trucks to a facility permitted under RCRA to accept hazardous waste.

3.1.1.4 Fill and Soil Removal

Metals, SVOCs, and PFAS were detected in contaminated fill material and deeper native soil (metals and PFAS only) at concentrations that exceeded the UUSCOs and/or NYSDEC PFAS GVs for unrestricted use. To achieve Track 1 objectives, soil removal and disposal will vary throughout the Site and extend from surface grade to between 3 ft bgs and up to 15 ft bgs, or to bedrock. The lead-contaminated soil will be documented for waste characterization purposes; however, the remedial excavation, which is expected to extend to a maximum depth of approximately 15 ft bgs, will encompass both of these hotspots. For remedial purposes, a total of approximately 5,965 cu yd of material may be removed from the Site. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts. Due to varying bedrock depth throughout the Site, less soil may be removed than is anticipated.

3.1.1.5 UST Removal

Based on prior investigations, a large anomaly was identified in the southeastern portion of 338 Grand Concourse; however, it is uncertain if this anomaly was a former UST associated with former Site activities and operations. Any USTs, if encountered, and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5, 6 NYCRR Part 613-2.6b, and NYSDEC CP-51. USTs and/or associated appurtenances would be registered and administratively closed with the NYSDEC Petroleum Bulk Storage (PBS) unit.

After removal of any tank and its residual contents, confirmatory post-excavation soil samples will not be collected where the proposed remedial excavation would extend below the UST, unless visual, olfactory, or instrumental field screening techniques indicate the potential for contamination. If encountered, petroleum-impacted soil would be excavated and disposed of off Site at a permitted disposal facility in accordance with applicable regulations. Closure documentation, such as Contractor affidavits, bills of lading for sludge disposal, and tank disposal receipts, would be provided as appendices in the Final Engineering Report (FER). Confirmation samples would then be collected once field observations indicate impacted soil has been removed. Samples would be collected at the frequency as required in DER-10 for compounds required in NYSDEC CP-51.

3.1.1.6 Fluids Management

Liquids removed from the Site, including dewatering fluids (if encountered), would be handled and disposed of in accordance with applicable local, state, and federal regulations. Fluids will not be recharged

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back to the land surface or subsurface. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without a State Pollutant Discharge Elimination System (SPDES) permit.

Based on the depth to water, dewatering is not anticipated to facilitate the excavation of material that exceeds the UUSCOs and the construction of foundation components. However, if needed during foundation installation to 12 ft bgs and localized excavations to 16 ft bgs for elevator pits, localized dewatering fluids will be removed, treated, and sampled prior to discharge into the NYCDEP sewer system through a NYCDEP-issued permit. No dewatering discharge will commence prior to the NYCDEP approval. The dewatering design and permit application will be provided to NYSDEC upon approval.

3.1.1.7 Excavation Backfill

With remedial excavation expected to extend to a maximum depth of approximately 15 ft bgs and foundation elements expected to be installed approximately 12 ft bgs and to approximately 16 ft bgs for elevator pits, some need for backfill is anticipated. Imported material would consist of clean fill that meets the Allowable Constituent Levels of Imported Fill or Soil defined in DER-10 Appendix 5 or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA/virgin stone is imported to the Site, it will originate from an NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and/or permitting requirements for the period of RCA/virgin stone acquisition. RCA/virgin stone imported from compliant facilities will not require chemical testing, unless required by NYSDEC under its terms for operation of the facility. Imported RCA must be derived from recognizable and uncontaminated concrete. NYSDEC Request to Import/Reuse forms will be submitted, and a template is provided in **Appendix E**.

3.1.1.8 Confirmation Soil Sampling

Per NYSDEC DER-10, confirmation soil samples will be collected from the excavation base (estimated to extend to a maximum depth of approximately 15 ft bgs for remedial purposes) at a frequency of one sample per 900 sq ft to confirm Track 1 UUSCOs were achieved. Sidewall samples will not be collected from the Site perimeter because excavation will extend across the Site footprint, and SOE measures (e.g., sheeting and lagging) will have vertical excavation faces along the Site perimeter. If the proposed confirmation sample does not meet Track 1 UUSCOs, over-excavation and additional sampling will be performed to ensure that impacted material above Track 1 UUSCOs has been removed from the Site. If soil is removed to bedrock at a proposed confirmation sample location, the area will be photo-documented and no confirmation sample will be collected.

An estimated 12 confirmation soil samples, plus QA/QC samples, would be collected and analyzed for the Part 375 list of VOCs, SVOCs, PCBs, pesticides, metals, PFAS, and 1,4-dioxane. The proposed confirmation sample locations are included on **Figure 10**. Should excavation be required to bedrock to achieve the proposed UUSCOs, photo documentation of cleared bedrock in the 900-sq-ft area will serve as the endpoint confirmation and included in the future photographic log.

No sidewall confirmation samples will be collected due to proposed excavation limits extending to the Site boundaries.

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3.1.1.9 Post-Remedy Soil Vapor Intrusion Evaluation

Following the RA and prior to occupancy, a desktop SVI Evaluation will be conducted at the Site and submitted to NYSDEC and NYSDOH. Should the desktop SVI Evaluation indicate SVI, a potential remedial alternative/element would be proposed.

3.1.2 Alternative II – Technical Description

Alternative II, a Track 2 remedy, will include the following tasks:

- Development and implementation of a CHASP for the protection of on-Site workers.
- Development and implementation of a CAMP for the protection of community residents and the environment during remediation and construction activities.
- Design and construction of a SOE system to facilitate the Track 2 remediation.
- Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
- Removal of the existing Site buildings, impervious Site cover, and miscellaneous debris on the Site.
- Decommissioning on-Site monitoring wells, as necessary, in accordance with NYSDEC CP-43.
- Excavation, stockpiling, off-Site transport, and disposal of approximately 3,250 cu yd of historical fill material and solid waste that exceeds RRSCOs as defined by 6 NYCRR Part 375-6.8. Excavation will extend to 8 ft bgs Site-wide for the Track 2 remedy.
- If encountered, removal, decommissioning, and off-site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) during redevelopment in accordance with DER-10, 6 NYCRR Part 613-2.6b, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
- Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive Site work.
- Appropriate off-site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
- Collection and analysis of confirmation soil samples from the excavation base, in accordance with DER-10, to confirm post-excavation conditions of the Track 2 remedy.
- Completion of a SVI Evaluation, in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion, following remedial excavation activities and prior to occupancy.
- Establishment of use restrictions, if necessary, including prohibitions on the use of groundwater from the Site and prohibitions on sensitive Site uses, such as farming or vegetable gardening in residual Site soil, to significantly reduce the potential for future exposure pathways.
- Establishment of a SMP for ICs and ECs that includes an Institutional and Engineering Control Plan, a Monitoring Plan, and an Operations and Maintenance Plan.
- Recording of an EE to ensure future owners of the Site continue to maintain ECs/ICs as required.

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The Alternative II remediation extent is shown on **Figure 11** and is based on data presented in the 2024 Limited Phase II ESI Report, 2026 RIR, and the proposed development plans. The requirements for each of the Alternative II tasks are described below.

On-site Worker, Public Health, and Environmental Protection

A Site-specific CHASP is appended to this RAWP (**Appendix D**) and will be enforced during excavation and foundation construction to protect on-site workers from accidents and acute and chronic exposures to the identified contaminated media. Public health will be protected by implementing and enforcing dust, odor, and organic vapor control and monitoring procedures included in the CAMP. The CAMP will include continuous perimeter monitoring of dust and organic vapor using DustTrak aerosol monitors and PIDs capable of recording data and calculating 15-minute averages. Field personnel will monitor Site perimeters for visible dust and odors.

Support of Excavation

To accommodate the removal of soil to 8 ft bgs to remove soil above RRSCOs under a Track 2 remedy, a SOE system will be required. Additional SOE to support hotspot excavation areas within the Site may be constructed, as necessary.

Waste Characterization

Waste characterization will be performed for off-site disposal in a manner suitable to the receiving facility and in conformance with applicable permits. Sampling and analytical methods, sampling frequency, analytical results, and QA/QC results will be reported. Data available for excavated material to be disposed of at a given facility will be submitted to the disposal facility with a suitable explanation prior to shipment and receipt.

Hazardous soil will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material is subject to USEPA and OSHA HAZWOPER regulations. The excavated material would be segregated in the field and temporarily placed in stockpiles, or direct-loaded and transported by Part 364-permitted trucks to a facility permitted by the RCRA to accept hazardous waste.

Fill and Soil Removal

Metals, SVOCs, and PFAS were detected in contaminated fill material and deeper native soil (metals and PFAS only) at concentrations that exceeded the UUSCOs, RRSCOs, and/or NYSDEC PFAS GVs. To achieve Track 2, approximately 3,350 cu yd of historical fill material and solid waste that exceeds RRSCOs will be removed from the Site. Excavation will extend to 8 ft bgs Site-wide. The lead-contaminated soil will be documented for waste characterization purposes; however, the remedial excavation, which is expected to extend to a maximum depth of approximately 8 ft bgs, will encompass both of these hotspots. The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts. Due to varying bedrock depth throughout the Site, less soil may be removed than anticipated.

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An additional 1,600 cu yd of material would be removed to facilitate the installation of the proposed development to 12 ft bgs and localized excavations to 16 ft bgs for elevator pits.

UST Removal

Based on prior investigations, a large anomaly was identified in the southeast portion of 338 Grand Concourse; however, it is uncertain if this anomaly was a former UST associated with former Site activities and operations. Any USTs, if encountered, and/or associated appurtenances (e.g., fill lines, vent line, and electrical conduit) would be decommissioned in accordance with applicable NYSDEC tank closure requirements, including DER-10 Section 5.5, 6 NYCRR Part 613-2.6b, and NYSDEC CP-51. USTs and/or associated appurtenances would be registered and administratively closed with the NYSDEC Petroleum Bulk Storage (PBS) unit.

After removal of any tank and residual contents, confirmatory post-excavation soil samples will not be collected where the proposed remedial excavation would extend below the UST, unless visual, olfactory, or instrumental field screening techniques indicate the potential for contamination. If encountered, petroleum-impacted soil would be excavated and disposed of off Site at a permitted disposal facility in accordance with applicable regulations. Closure documentation, such as Contractor affidavits, bills of lading for sludge disposal, and tank disposal receipts, would be provided as appendices in the FER. Confirmation samples would then be collected once field observations indicate impacted soil has been removed. Samples would be collected at the frequency as required in DER-10 for compounds required in NYSDEC CP-51.

Fluids Management

Liquids removed from the Site would be handled and disposed of in accordance with applicable local, state, and federal regulations. Fluids will not be recharged back to the land surface or subsurface. Discharge of water generated during remedial construction to surface waters (i.e., a local pond, stream, and/or river) is prohibited without a State Pollutant Discharge Elimination System (SPDES) permit.

Based on the depth to water, dewatering is not anticipated to facilitate the excavation of material that exceeds the RRSCOs and the construction of foundation components. However, if needed during foundation installation to 12 ft bgs and localized excavations to 16 ft bgs for elevator pits, localized dewatering with containerization, classification, and disposal at an approved receiving facility may be implemented as part of development. . If necessary, dewatering fluids will be removed, treated and sampled prior to discharge into the NYCDEP sewer system through a NYCDEP-issued permit. No dewatering discharge will commence prior to the NYCDEP approval.

Confirmation Soil Sampling

Per NYSDEC DER-10, confirmation soil samples will be collected from the excavation base (estimated to be approximately 8 ft bgs) at a frequency of one sample per 900 sq ft to confirm post-excavation conditions as part of the Track 2 remedy. Bottom endpoint soil samples will also be collected from the base of the hotspot or tank excavations and from each hotspot or tank excavation sidewall, as necessary, and analyzed for applicable analytes to confirm the removal of all soil with concentrations above RRSCOs. Sidewall samples will be collected from the Site perimeter at a frequency of one sample per 30 linear feet.

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If the Site is sloped for SOE, then one sidewall sample would be collected for every 30 linear feet, per DER-10.

An estimated 12 confirmation soil samples, plus QA/QC samples, would be collected from the remedial excavation base and analyzed for the Part 375 list of VOCs, SVOCs, PCBs, pesticides, metals, PFAS, and 1,4-dioxane.

An estimated 10 hotspot endpoint soil samples, plus QA/QC samples, would be collected from the SB-04 and SB-11 hotspots and analyzed for Total and TCLP Lead.

Post-Remedy Soil Vapor Intrusion Evaluation

Following RAs and prior to occupancy, a desktop SVI Evaluation will be conducted to determine whether ECs will be required to address potential SVI at the Site. The desktop SVI Evaluation will be submitted to NYSDEC and NYSDOH.

Composite Cover System

A composite cover system will be installed as part of the development. No landscaped areas are proposed for the redevelopment. This composite cover system would not be considered an EC but may serve as an EC should a Track 2 remedy not be achieved.

Site Management Plan and Environmental Easement

An EE would be recorded referencing ICs that are part of the selected remedy, which would be binding upon all subsequent owners and occupants of the property. The ICs would: 1) restrict the Site's use to restricted residential, commercial, and industrial uses, although land use is subject to local zoning laws; 2) restrict the use of groundwater as a source of potable or process water, unless it undergoes necessary water quality treatment as determined by the NYSDEC or NYSDOH; 3) require implementation of an NYSDEC-approved SMP; 4) require the completion and submission to the NYSDEC of a periodic certification of ICs and ECs in accordance with Part 375; and 5) include notice-of-use restrictions of the Site's soil.

The SMP would identify all use restrictions, ECs, and long-term monitoring and maintenance requirements to ensure the ICs and/or ECs remain in place and are effective. The SMP will include, but may not be limited to:

- An Excavation Work Plan which details the provisions for management of future excavations in areas of remaining contamination;
- Descriptions of the provisions of the EE, including any land use and/or groundwater use restrictions;
- Provision for evaluation of the potential for SVI for any buildings developed on the Site, including provision for implementing actions recommended to address exposures related to SVI;
- Provision for the management and inspection of the identified ECs (should a Track 2 remedy not be achieved);

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- Maintaining Site access controls and NYSDEC notification;
- The steps necessary for the periodic reviews and certification of the ICs and ECs;
- A Monitoring Plan to assess the performance and effectiveness of the remedy. The Monitoring Plan will include, but may not be limited to:
  - Monitoring for vapor intrusion for any buildings developed on the Site, as may be required by the Institutional and Engineering Control Plan discussed above; and,
- A schedule of monitoring and frequency of submittals to NYSDEC.

3.2 SELECTION OF THE PREFERRED REMEDY

The following is an evaluation of the proposed remedy based on the BCP remedy evaluation criteria listed below. The first two criteria are considered "threshold criteria," and the remaining criteria are "balancing criteria." A remedial alternative must meet the threshold criteria to be considered and evaluated further under the balancing criteria.

- Protection of human health and the environment
- Compliance with SCGs
- Short-term effectiveness and impacts
- Long-term effectiveness and permanence
- Reduction of toxicity, mobility, or volume of contaminated material
- Implementability
- Cost-effectiveness
- Community acceptance
- Green and Sustainable Remediation (including climate resiliency)
- Land use

3.2.1 Compliance with Standards, Criteria, and Guidance

Both alternatives will be in compliance with applicable SCGs listed in Section 4.1 by removing Site sources of contamination to achieve the RAOs. While implementing either remedy, the protection of public health and the environment will be maintained by enforcing a Site-specific CHASP and CAMP. OSHA requirements for on-site construction safety will be followed by Site contractors performing work.

3.2.2 Short-Term Effectiveness and Impacts

Alternative I – The most significant short-term adverse impacts and risks to the community will be the potential complications and risks involved with designing and constructing the SOE and underpinning for the building and structures adjoining the Site. Potential impositions on roadway and pedestrian traffic associated with construction may result from the remedial excavation to achieve Track 1 cleanup.

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Increased truck traffic in Alternative I, relative to Alternative II, would be necessary to haul out the additional soil that exceeds UUSCOs to achieve Track 1 standards.

Under Alternative I, the excavated soil and fill would require up to approximately 299 20-cu-yd truck trips for disposal (assuming the maximum remedial excavation volume of 5,965 cu yd). Implementing Alternative I would require approximately three to four months of effort (assuming normal work hours). Truck traffic will be routed on the most direct course using major thoroughfares where possible and appropriate (see Section 5.4.4 for a full discussion of truck routing), and flaggers will be used to protect pedestrians at Site entrances and exits. Waiting times associated with the analysis of confirmation sampling and resampling may delay construction, leaving soil exposed for a longer time, resulting in a potential increase in dust, odors, and/or organic vapor from the excavation and construction-related noise. The effects of these potential adverse impacts on the community, workers, and the environment will be minimized by implementing the respective control plans.

Alternative II – Alternative II will result in similar, though lesser, short-term adverse impacts and risks to the community. The excavated soil and fill would require approximately 163 20-cu-yd truck trips (assuming the maximum remedial excavation volume of 3,250 cu yd). Implementing the Alternative II concept would require approximately one to two months of effort (assuming normal work hours).

Under both remedial alternatives, dust will be controlled by the on-site application of water spray as needed. ECs, such as slowing the pace of work, applying foam and/or dust suppressant, and/or covering portions of the excavation, will be used to suppress odors/dust when required. Work will be modified or stopped according to the action levels defined in the CAMP. Therefore, short-term impacts are similar for both alternatives.

3.2.3 Long-Term Effectiveness and Performance

Alternative I will remove contaminated soil from the Site exceeding UUSCOs, while Alternative II will remove contaminated soil from the Site to 8 ft bgs, which will be documented in post-excavation confirmation soil sampling. Both alternatives will require a post-construction desktop SVI Evaluation to be implemented to evaluate the potential for vapor intrusion into the newly constructed building. Alternative I would result in no restrictions to the use of the Site, while Alternative II would result in Restricted-Residential uses.

3.2.4 Reduction of Toxicity, Mobility, or Volume of Contaminated Material

Both remedial alternatives would permanently and significantly reduce the toxicity, mobility, and volume of contamination through the removal of contaminated fill and buried solid waste through excavation and off-site disposal.

3.2.5 Implementability

Alternative I – Implementing a Track 1 remedy will be technically challenging because of SOE requirements associated with the protection of the neighboring buildings and streets; however, the SOE requirements will be comparable to those required for construction. This remedy will consist primarily of excavation with standard bucket excavators. The availability of local contractors, personnel, and equipment suitable

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for working in a structurally challenging environment is high due to the frequency of this type of remediation in the region. The excavation and SOE are not expected to require schedule extensions or additional costs. If deeper contamination above UUSCOs is encountered requiring unanticipated over-excavation, the cost will be marginal compared to the benefit of achieving an unrestricted use remediation and avoiding long-term ECs and ICs. Additional coordination between trades may be required. This alternative is considered feasible.

Alternative II – The technical feasibility of implementing the Alternative II remedy is similar to Alternative I, if not more feasible, as less excavation and SOE will be required to achieve the Track 2 remedy. This alternative will consist primarily of excavation with standard bucket excavators. The availability of local contractors, personnel, and equipment suitable for working in a structurally challenging environment is high due to the frequency of this type of remediation in the region. Additional coordination between trades may be required. This alternative is considered feasible.

3.2.6 Cost-Effectiveness

Alternative I – Based on the assumptions detailed for Alternative I, the estimated remediation cost of a Track 1 cleanup is approximately $2,159,625. A detailed cost estimate for a Track 1 cleanup is provided in **Table 1**.

Alternative II – Based on the assumptions detailed for Alternative II, the estimated remediation cost of a Track 2 cleanup is approximately $1,716,075. Although Alternative II is more cost-effective in the short term, Alternative I is more cost-effective in the long term, as Alternative II will require long-term operation, maintenance, and monitoring for Site management. A detailed cost estimate for a Track 2 cleanup is provided in **Table 2**.

3.2.7 Community Acceptance

Both remedial alternatives should be acceptable to the community because the potential exposure pathways to on-site contamination will be addressed upon completion of the respective remedies, and the Site will be remediated to allow for a higher-level use. The selected remedy will be subject to a 45-day public comment period in accordance with the Citizen Participation Plan (CPP), included as **Appendix F**. Substantive public comments will be addressed before the remedy is approved.

3.2.8 Green and Sustainable Remediation

An environmental footprint analysis was conducted for both remedial alternatives. Alternative I, a Track 1 remedy, would potentially export a greater volume (up to approximately 4,075 tons) of waste off the Site to a recycling facility than Alternative II, a Track 2 remedy, due to the expected requirement of greater excavation depths. Additionally, Alternative I will potentially result in slightly more air emissions than Alternative II due to the expected additional excavation and off-site disposal required. The environmental footprint analysis is included as **Appendix G**.

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3.2.9 Land Use

The current, intended, and reasonably anticipated future residential land use of the Site and its surroundings are compatible with both remedial alternatives. The proposed development, while still in the development stages, will include the construction of a four-story mixed-use commercial/residential facility with a cellar extending approximately 12 ft bgs and 16 ft bgs in localized areas for elevator pits. Mid-rise residential and commercial use buildings are located at properties surrounding the Site.

3.3 SELECTION OF THE PREFERRED REMEDY

Both alternatives will be protective of human health and the environment and meet the remedy selection criteria. Alternative I achieves the RA goals established for the redevelopment project and is effective in the short term. Alternative I effectively reduces contaminant mobility and is a better alternative in the reduction of contaminant volume. Alternative I is more effective in the long term because the Site achieves unrestricted use. Alternative I is preferred over Alternative II if it can be feasibly and practically implemented at a similar cost while providing greater overall protection to human health and the environment. Therefore, Alternative I is the recommended remedial alternative for this Site. However, if Alternative I is not achievable, Alternative II is similarly protective of human health and the environment.

Figure 9 depicts the Alternative I (Track 1) cleanup plan. **Figure 11** depicts the Alternative II (Track 2) cleanup plan. The Alternative I and II remediation extents are based on data presented in the 2023 Limited Phase II ESI Report (Haley & Aldrich of New York, 2023) and 2025 RIR (Haley & Aldrich of New York, 2025).

3.3.1 Zoning

The Site is zoned as a medium-density residential (RM) area overlayed with a commercial district (CD) within the East End Historic District. The Site is in an urban area characterized by residential and commercial properties.

3.3.2 Surrounding Property Uses

The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with the selected remedy. The construction of a new multi-family residential building conforms to recent development patterns in the area and current zoning.

3.3.3 Citizen Participation

Both remedial alternatives should be acceptable to the community because the potential exposure pathways to on-site contamination will be addressed upon completion of the respective remedies, and the Site will be remediated to allow for a higher-level use. The selected remedy will be subject to a 45-day public comment period in accordance with the CPP, included as **Appendix F**. Substantive public comments will be addressed before the remedy is approved.

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3.3.4 Environmental Justice Concerns

Per the "Potential Environmental Justice Areas in Bronx, New York," the Site is in a potential Environmental Justice area, identified as Census Block Group 15000US360050051001, with 64.76 percent of the population below the poverty level and a minority population of 100 percent. The NYSDEC's Office of Environmental Justice acts as an advocate on behalf of these areas, which are disproportionately affected by environmental burdens. The proposed remedy will best reduce the environmental burden on the surrounding area.

3.3.5 Land Use Designations

There are no federal or state land use designations.

3.3.6 Population Growth Patterns

The population growth patterns and projections support the current and anticipated future land use.

3.3.7 Accessibility to Existing Infrastructure

The Site is accessible via existing infrastructure.

3.3.8 Proximity to Cultural Resources

The Site is not in close proximity to a registered landmark.

3.3.9 Proximity to Natural Resources

The Site is not located in close proximity to important federal, state, or local natural resources, including waterways, wildlife refuges, wetlands, and critical habitats of endangered or threatened species.

3.3.10 Off-site Groundwater Impacts

Municipal water supply wells are not present in this area of New York City; therefore, groundwater from the site does not affect municipal water supply wells or recharge areas.

3.3.11 Proximity to Floodplains

The Site is not located in a floodplain.

3.3.12 Geography and Geology of the Site

The Site geology is described in Section 2.4 and will not pose greater challenges to the implementation of the preferred remedy than to the alternative.

3.3.13 Current Institutional Controls

There are currently no ICs being implemented at the Site.

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3.4 SUMMARY OF SELECTED REMEDIAL ACTIONS

The selected Track 1 (Alternative I) remedy will include the following:

- Development and implementation of a CHASP for the protection of on-site workers.
- Development and implementation of a CAMP for the protection of community residents and the environment during remediation and construction activities.
- Design and construction of a SOE system to facilitate the Track 1 remediation.
- Implementation of soil erosion, pollution, and sediment control measures in compliance with applicable laws and regulations.
- Removal of the existing Site buildings, impervious Site cover and miscellaneous debris on the Site.
- Decommissioning of on-site monitoring wells, as necessary, in accordance with NYSDEC CP-43.
- Excavation, stockpiling, off-site transport, and disposal of about 5,965 cu yd of contaminated historical fill/native material Site-wide that exceeds UUSCOs as defined by 6 NYCRR Part 375-6.8, including about 36 cu yd of lead-impacted soil. Excavations will range from 3 ft bgs and are anticipated to extend to a depth of 15 ft bgs.
- Dewatering, treatment, sampling, and disposal of water accumulated in excavations, if encountered, to a NYCDEP-approved sewer/sanitary line (pending permits) in accordance with local, state, and federal regulations.
- If encountered, removal, decommissioning, and off-Site disposal of any USTs and/or associated appurtenances (e.g., fill lines, vent lines, and electrical conduit) during redevelopment in accordance with DER-10, 6 NYCRR Part 613-2.6b, NYSDEC CP-51, and other applicable NYSDEC UST closure requirements.
- Implementation of a preliminary waste characterization to facilitate off-Site disposal of excavated soil/fill.
- Screening for indications of contamination (by visual means, odor, and monitoring with PIDs) of excavated material during intrusive Site work.
- Appropriate off-Site disposal of material removed from the Site in accordance with federal, state, and local rules and regulations for handling, transport, and disposal.
- Backfilling of excavated areas, as necessary for development, with certified-clean material (i.e., meeting UUSCOs), RCA, or virgin, native crushed stone.
- Collection and analysis of confirmation soil samples from the excavation base in accordance with DER-10 to document post-excavation conditions to confirm a Track 1 remedy was achieved. If the proposed endpoint sample exceeds Track 1 UUSCOs, over-excavation and additional endpoint sampling may be performed, as necessary, to meet Track 1 UUSCOs. If soil is removed to bedrock at a proposed confirmation sample location, the area will be photo-documented and no confirmation sample collected. No confirmation sidewall soil samples will be collected due to proposed excavation limits extending to the Site boundaries.

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- Completion of a desktop SVI Evaluation in accordance with DER-10 and the NYSDOH Final Guidance on Soil Vapor Intrusion (2006) following remedial excavation activities and prior to occupancy.
- Implementation of a SMP and EE in the event that a Track 1 unrestricted use cleanup is not achieved.

Remedial activities will be performed in accordance with this RAWP and the NYSDEC-issued Decision Document under the oversight of a New York State-licensed Professional Engineer. Deviations from the RAWP and/or Decision Document will be promptly reported to the NYSDEC for approval and explained in the FER.

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

- Considering the environmental impacts of treatment technologies and remedy stewardship over the long term;
- Reducing direct and indirect greenhouse gases and other emissions;
- Increasing energy efficiency and minimizing the use of non-renewable energy;
- Conserving and efficiently managing resources and materials;
- Reducing waste, increasing recycling, and increasing reuse of materials which would otherwise be considered a waste;
- Maximizing habitat value and creating habitat when possible;
- Fostering green and healthy communities and working landscapes which balance ecological, economic, and social goals; and
- Integrating the remedy with the end use where possible and encouraging green and sustainable redevelopment.

As part of the remedial design program, to evaluate the remedy with respect to green and sustainable remediation principles, an environmental footprint analysis was completed and is included in **Appendix G**. The environmental footprint analysis was completed using USEPA's Spreadsheets for Environmental Footprint Analysis, which is an NYSDEC-accepted tool. Water consumption, greenhouse gas emissions, renewable and non-renewable energy use, waste reduction, and material use were estimated for both Alternatives. Goals for the project related to these green and sustainable remediation metrics, as well as for minimizing community impacts, protecting habitats and natural and cultural resources, and promoting environmental justice, are incorporated into the remedial design program, as appropriate. The project design specifications will include detailed requirements to achieve the green and sustainable remediation goals. Further, progress with respect to green and sustainable remediation metrics will be tracked during the implementation of the RA and reported in the FER, including a comparison to the goals established during the remedial design program.

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Additionally, the remedial design program includes a climate change vulnerability assessment to evaluate the impact of climate change on the project Site and the proposed remedy. Potential vulnerabilities associated with extreme weather events (e.g., hurricanes, lightning, heat stress, and drought), flooding, and sea level rise will be identified, and the remedial design program will incorporate measures to minimize the impact of climate change on potential identified vulnerabilities. Climate change is not expected to have a significant impact on the remedial system.

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4. Remedial Action Program

4.1 GOVERNING DOCUMENTS

The primary documents governing the RA are summarized in this section.

4.1.1 Standards, Criteria, and Guidance

- 29 Code of Federal Regulations (CFR) Part 1910.120 – HAZWOPER
- 6 NYCRR Part 364 – Waste Transporter Permits
- 6 NYCRR Part 371 – Identification and Listing of Hazardous Wastes
- 6 NYCRR Part 372 – Hazardous Waste Manifest System and Related Standards for Generators, Transporters, and Facilities
- 6 NYCRR Subpart 373-4 – Facility Standards for the Collection of Household Hazardous Waste and Hazardous Waste from Conditionally Exempt Small Quantity Generators
- 6 NYCRR Subpart 374-1 – Standards for the Management of Specific Hazardous Wastes and Specific Types of Hazardous Waste Management Facilities
- 6 NYCRR Subpart 374-3 – Standards for Universal Waste
- 6 NYCRR Part 375 – Environmental Remediation Programs
- 6 NYCRR Part 376 – Land Disposal Restrictions
- 6 NYCRR Part 750 – SPDES Permits
- CFR Title 29 Part 1926 – Safety and Health Regulations for Construction
- CP-43 – Commissioner Policy on Groundwater Monitoring Well Decommissioning (December 2009)
- NYSDEC Spill Response Guidance Manual
- NYSDEC Sampling, Analysis, and Assessment of PFAS Under NYSDEC's Part 375 Remedial Programs (April 2023)
- CP-51 – Soil Cleanup Guidance (2010)
- DER-10 – Technical Guidance for Site Investigation and Remediation (May 3, 2010)
- DER-23 – Citizen Participation Handbook for Remedial Programs (March 2010)
- DER-31 – Green Remediation (2011)
- NYSDOH Guidance for Evaluating Soil Vapor Intrusion in the State of New York (October 2006)
- TOGS 1.1.1 – Ambient Water Quality Standards & Guidance Values and Groundwater Effluent Limitations

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- Screening and Assessment of Contaminated Sediment (Division of Fish, Wildlife, and Marine Resources, June 2014)

4.1.2 Site-Specific Construction Health & Safety Plan

A Site-specific CHASP has been prepared (**Appendix D**). The CHASP will apply to remedial and construction-related work on the Site. The CHASP provides a mechanism for establishing on-Site safe working conditions, safety organization, procedures, and PPE requirements during the implementation of the remedy. The CHASP meets the requirements of 29 CFR Parts 1910 and 1926 (which includes 29 CFR §1910.120 and 29 CFR §1926.65, respectively). The CHASP includes, but is not limited to the following components:

- Organization and identification of key personnel;
- Training requirements;
- Medical surveillance requirements;
- List of Site hazards;
- Excavation safety;
- Drill rig safety;
- Work zone descriptions and monitoring procedures;
- Personal safety equipment and PPE requirements;
- Decontamination requirements;
- Standard operating procedures;
- Contingency plan;
- CAMP; and
- Safety data sheets.

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The Volunteer and associated parties preparing the remedial documents submitted to the state of New York, and those performing the construction work, are completely responsible for the preparation of an appropriate CHASP and for the performance of the work according to the CHASP and applicable laws. The CHASP and requirements defined in this RAWP pertain to all remedial and ground-intrusive work performed at the Site until the issuance of a Certificate of Completion. The Haley & Aldrich of New York Safety Coordinator will be Brian Ferguson, a resume for whom is included in **Appendix H**. If required, confined space entry will comply with OSHA requirements to address the potential risk posed by combustible and toxic gases. All remedial work performed under this plan will be in full compliance with governmental requirements, including Site and worker safety requirements federally mandated by OSHA.

4.1.3 Quality Assurance Project Plan

A Quality Assurance Project Plan (QAPP) has been prepared that describes the QC components that will ensure that the proposed remedy accomplishes the remedial goals and RAOs and is completed in accordance with the design specifications. The QAPP is provided as **Appendix I** and includes:

- Responsibilities of key personnel and their organizations for the proposed remedy;
- Qualifications of the Quality Assurance (QA) officer;
- Sampling requirements, including methodologies, quantity, volume, locations, frequency, and acceptance and rejection criteria; and
- Descriptions of the reporting requirements for QA activities, including weekly QA review reports.

4.1.4 Construction Quality Assurance Plan

A Construction Quality Assurance Plan (CQAP) has been prepared that describes the quality control (QC) components that will ensure that the proposed remedy accomplishes the remedial goals and RAOs and is completed in accordance with the design specifications. Because the remedy will be accomplished concurrently with building construction, the Contractor and Construction Manager will have the primary responsibility of providing construction quality. A list of engineering personnel involved in the implementation of the CQAP and procedures that will be carried out by the remedial engineering team are listed in Section 4.2.1. Project personnel resumes are provided in **Appendix H**.

4.1.5 Soil/Materials Management Plan

A S/MMP has been prepared that includes detailed plans for managing soils/materials that are disturbed at the Site, including during excavation, handling, storage, transport, and disposal. The S/MMP also includes controls that will be applied to these efforts to facilitate effective, nuisance-free performance in compliance with applicable federal, state, and local laws and regulations (see Section 5.4).

4.1.6 Stormwater Pollution Prevention Plan

Erosion and sediment controls will be implemented as necessary in conformance with requirements presented in the New York State Guidelines for Urban Erosion and Sediment Control. Best management practices for soil erosion and sediment control will be selected to minimize erosion and sedimentation off the Site from the outset of remediation to the completion of development. Stormwater pollution prevention will be implemented as described below in Section 5.4.10. A Stormwater Pollution Prevention Plan is not necessary because the project will disturb less than 1 acre and stormwater discharge will be to a combined sewer in accordance with the NYCDEP regulations.

4.1.7 Community Air Monitoring Plan

Details of the CAMP are discussed in Section 5.4.12.

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4.1.8 Contractors' Site Operations Plan

The Remedial Engineer (RE) will review plans and submittals for this remedial project, Contractor and subcontractor document submittals, and will confirm that plans and submittals are in compliance with this RAWP. The RE is responsible for ensuring that all later document submittals for this remedial project, including Contractor and subcontractor document submittals, are in compliance with this RAWP. Remedial documents, including Contractor and subcontractor document submittals, will be submitted to the NYSDEC and NYSDOH in a timely manner and prior to the start of work associated with the remedial document.

4.1.9 Citizen Participation Plan

Document repositories were established at the following locations and contain the applicable project documents:

1. Bronx Public Library-Mott Haven Branch
   321 East 140th Street Bronx, NY, 10454
   Phone: 718.665.4878
   Hours: Monday to Sunday – 9 a.m. to 5 p.m.

2. Bronx Community Board 1
   3024 3rd Avenue Bronx, NY, 10455
   Phone: 718.585.7117
   Hours: Monday to Friday – 9 a.m. to 5 p.m.

In addition, an electronic repository can be accessed via DECInfo Locator at the following link: https://extapps.dec.ny.gov/data/DecDocs/C203188/.

A certification of mailing will be sent by the Volunteer to the NYSDEC Project Manager following the distribution of all Fact Sheets and notices that includes: (1) certification that the Fact Sheets were mailed; (2) the date they were mailed; (3) a copy of the Fact Sheet, (4) a list of recipients (contact list); and (5) a statement that the repository was inspected on (date to be determined) and that it contained all of applicable project documents.

No changes will be made to approved Fact Sheets authorized for release by NYSDEC without the written consent of the NYSDEC. No other information, such as brochures and flyers, will be included with the Fact Sheet mailing.

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4.2 GENERAL REMEDIAL CONSTRUCTION INFORMATION

4.2.1 Project Organization

A project team for the Site was created based on qualifications and experience with personnel suited for the successful completion of the project.

The following project personnel are anticipated for oversight of the RAWP implementation. Project personnel resumes are provided in **Appendix H**.

NYSDEC Case Manager	Nour Haredy
NYSDOH Case Manager	Benjamin Caligiuri
RE	Scott A. Underhill, P.E.
Principal/Qualified Environmental Professional (QEP)	Mari Cate Conlon, P.G.
Project Manager	Matthew Levy
Haley & Aldrich of New York Health & Safety Director	Brian Fitzpatrick, CHMM
Health & Safety Officer	Brian Ferguson
Field Support and Coordination	Thomas Giordano
Field Team Leader/QA Officer	Calvin Jackson

Haley & Aldrich of New York personnel, under the direct supervision of the QEP and the RE, will be on the Site during the implementation of the RAWP to monitor particulates and organic vapor in accordance with the CAMP. CAMP results that exceed specified action levels will be reported to the NYSDEC and NYSDOH.

Haley & Aldrich of New York personnel will meet with the Construction Superintendent daily to discuss the plans for that day and schedule upcoming activities. Field personnel will document the remedial activities. Field activities will be forwarded to the Field Team Leader and Project Manager daily and to the QEP and the RE weekly. Daily reports will also be submitted to the NYSDEC and NYSDOH Case Managers by noon the following business day.

Field personnel will screen excavations with a PID during ground-intrusive work. PID readings, including specifically elevated readings, will be recorded in the project field book (or on separate logs) and reported to the NYSDEC and NYSDOH. Field personnel under the direct supervision of the RE and QEP will collect endpoint samples from the base and sidewalls of the excavation in accordance with this RAWP.

Field observations and laboratory tests will be recorded in the project field book or on separate logs. Recorded field observations may take the form of notes, charts, sketches, and/or photographs. A photo log will be kept to document the construction activities during remediation.

The Field Team Leader will maintain original field paperwork during performance of the remedy. Remedial activities will be documented in the monthly BCP progress reports. The Project Manager will maintain the field paperwork after completion and will maintain submittal document files.

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4.2.2 Remedial Engineer

The RE for this project will be Scott A. Underhill. The RE is a registered professional engineer licensed by the state of New York. The RE will have primary direct responsibility for the implementation of the remedial program at the Site. The RE will certify in the FER that the remedial activities were observed by QEPs under their supervision and that the remediation requirements set forth in this RAWP and other relevant provisions of the Environmental Conservation Law (ECL) 27-1419 have been achieved in substantial conformance with the RAWP.

Under the direction of the RE, the work of other contractors and subcontractors involved in aspects of the remedial construction will be documented, including soil excavation, stockpiling, confirmation sample collection, air monitoring, emergency spill response services, import of backfill, and management of waste transport and disposal. The RE will be responsible for all appropriate communication with NYSDEC and NYSDOH.

The RE will review the pre-remedial plans submitted by contractors and subcontractors for substantial conformance with this RAWP and will provide a certification in the FER. The RE will provide the certifications listed below in Section 8.1.

4.2.3 Remedial Action Construction Schedule

The RA construction schedule is discussed below in Section 9 and included in **Appendix J**. The NYSDEC will be promptly notified of proposed changes, delays, and/or deviations to the schedule.

4.2.4 Work Hours

The hours for operation of remedial construction will conform to the New York City Department of Buildings (NYCDOB) and Code Compliance construction code requirements or to specific variances issued by that agency. The NYSDEC will be notified by the Volunteer of any variances issued by the NYCDOB and Code Compliance. The NYSDEC reserves the right to deny alternate remedial construction hours.

4.2.5 Site Security

Site access will be controlled by gated entrances to the property. The Site perimeter will be secured with gated and signed plywood fencing with restricted points of entry in accordance with the NYCDOB and Code Compliance and the New York City Department of Transportation permits and requirements. The purpose of the fencing is to limit Site access to authorized personnel, protect pedestrians from Site activities, and maintain Site security.

4.2.6 Traffic Control

Site traffic will be controlled through designated points of access along Grand Concourse. Access points will be continuously monitored, and if necessary, a flagging system will be used to protect workers, pedestrians, and authorized guests. Traffic will also be required to adhere to applicable local, state, and federal laws.

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4.2.7 Contingency Plan

Contingency plans, as described below, have been developed to effectively deal with the potential unexpected discovery of additional contaminated media or USTs.

4.2.8 UST Discovery

Based on prior investigations, there are currently two USTs present on the Site associated with former automobile service station operations, which will be decommissioned, along with any additional unknown USTs encountered, and removed as part of the RA. All encountered USTs, known or unknown, will also be decommissioned per 6 NYCRR Part 613-2.6b and DER-10 Section 5.5. After removal of the tank and residual contents, confirmatory post-excavation soil samples will not be collected where the proposed excavation would extend below the UST. Post-excavation soil samples are not expected where the proposed excavation would extend below the UST, unless visual, olfactory, or instrumental field screening techniques indicate the potential for contamination. If petroleum-impacted soils are encountered, they will be segregated, characterized, and disposed of at an appropriate off-Site facility. Confirmation samples would then be collected once field observations indicate impacted soil has been removed. Samples would be collected at the frequency as required in DER-10 for compounds required in NYSDEC CP-51. Closure documentation, including affidavits, bills of lading, and tank disposal receipts, will be included in the FER. If necessary, the NYSDEC PBS registration will be updated.

In the event that USTs are encountered during ground-intrusive activities, the NYSDEC Case Manager will be promptly notified. Pertinent information will be included in the monthly BCP progress report.

4.2.9 Worker Training and Monitoring

Worker training and monitoring will be conducted in accordance with the Site-specific CHASP.

4.2.10 Agency Approvals

Permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction.

4.2.11 NYSDEC BCP Signage

Signs are optional for BCP sites and will be discussed with the NYSDEC Case Manager. If a sign is to be displayed, it will follow NYSDEC specifications for design and content. The NYSDEC Case Manager will provide details on signage protocol as necessary.

4.2.12 Pre-Construction Meeting with NYSDEC

Prior to the start of remedial construction, a meeting will be held among the NYSDEC, RE, the Volunteer, the Construction Manager, and the Remediation Contractor to discuss project roles, responsibilities, and expectations associated with this RAWP.

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4.2.13 Emergency Contact Information

An emergency contact sheet that states the specific project contacts (with names and phone numbers) for use by NYSDEC and NYSDOH in the case of an emergency is included in the CHASP.

4.2.14 Remedial Action Costs

Detailed summaries of the total estimated costs of the Track 1 and Track 2 remedies are included in **Tables 1** and **2**, respectively.

4.3 SITE PREPARATION

4.3.1 Mobilization

Prior to commencing remedial construction, the Remediation Contractor will mobilize to the Site and prepare for remedial activities. Mobilization and Site preparation activities may include the following:

- Identifying the location of aboveground and underground utilities (e.g., power, gas, water, sewer, and telephone), equipment, and structures as necessary to implement remediation;
- Mobilizing necessary remediation personnel, equipment, and materials to the Site;
- Constructing one or more stabilized construction entrance(s) consisting of non-hazardous material at or near the Site exit, which takes into consideration the Site setting and Site perimeter;
- Constructing an equipment decontamination pad for trucks, equipment, and personnel that come into contact with impacted materials during remediation; and/or
- Marking out metal hotspots and other hotspot areas (if identified during the RI or preliminary waste characterization sampling event).

4.3.2 Monitoring Well Decommissioning

Monitoring wells be decommissioned in accordance with NYSDEC CP-43 by an experienced driller with oversight from Haley & Aldrich of New York, as necessary. Decommissioning documentation will be provided in the FER.

4.3.3 Erosion and Sedimentation Controls

Since the planned earthwork activities will be below the adjacent sidewalk grade, full-time erosion and sedimentation measures are not anticipated. Best management practices for soil erosion will be implemented to minimize erosion and sedimentation off the Site.

4.3.4 Stabilized Construction Entrance(s)

A temporary stabilized construction entrance will be installed within the western portion of the Site, leading out to Grand Concourse. The entrance will be covered with NYSDEC-approved gravel or RCA and graded so that runoff water will be directed on the Site. Vehicles exiting construction areas will be cleaned

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using clean water or dry brushing, as needed, to remove Site soil from the tires and undercarriages. The Contractor will protect and maintain the existing sidewalks and roadways at both Site access points.

4.3.5 Utility Marker and Easements Layout

The entity 338-344 Grand Concourse LLC and its Contractors are solely responsible for the identification of utilities and/or easements that might be affected by work under this RAWP and implementation of the required, appropriate, or necessary health and safety measures during the performance of the work under this RAWP. The entity 338-344 Grand Concourse LLC and its Contractors are solely responsible for the safe execution of the work performed under this RAWP. The entity 338-344 Grand Concourse LLC and its Contractors must obtain the necessary local, state, and/or federal permits or approvals that may be required to perform the work detailed in this RAWP. Approval of this RAWP by the NYSDEC does not constitute satisfaction of these requirements.

4.4 EXCAVATION SUPPORT

Appropriate management of the structural stability of on-Site or off-Site structures during Site activities is the sole responsibility of 338-344 Grand Concourse LLC and its Contractors. The entity 338-344 Grand Concourse LLC and its Contractors are solely responsible for the safe execution of the work performed under this RAWP. The entity 338-344 Grand Concourse LLC and its Contractors must obtain the necessary local, state, and/or federal permits or approvals that may be required to perform the work detailed in this RAWP. Additionally, 338-344 Grand Concourse LLC and its Contractors are solely responsible for the implementation of the required, appropriate, or necessary health and safety measures during the performance of work conducted under this RAWP.

4.4.1 Equipment and Material Staging

The Contractor will notify the RE and 338-344 Grand Concourse LLC in writing, with receipt confirmed, at least 30 calendar days in advance of pending Site work mobilization. During mobilization, construction equipment will be delivered to the Site, temporary facilities constructed, and temporary utilities installed. The Contractor will place and maintain temporary toilet facilities within the work areas for usage by Site personnel.

4.4.2 Decontamination Area

An outbound-truck inspection station will be set up at or near the Site exit. Before exiting the Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. If observed, soil and debris will be removed. Brooms, shovels, and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary. The Contractor is responsible for collecting soil that is tracked immediately off the Site and returning the soil to the Site.

4.4.3 Site Fencing

The Site will be secured with a gated fence with appropriate signage maintained by the Contractor. The fence will limit access to authorized personnel and protect pedestrians from Site activities.

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4.4.4 Demobilization

After remediation and construction are completed, the Contractor will be responsible for demobilizing equipment and materials not designated for off-Site disposal. The RE's representative will document that the Contractor performs follow-up coordination and maintenance for the following activities:

- Removal of sediment and erosion control measures and disposal of materials in accordance with applicable rules and regulations;
- Equipment decontamination;
- Refuse disposal; and
- Removal of remaining contaminated material or waste.

4.5 REPORTING

Periodic reports and a FER will be required to document the RA. The RE, Scott A. Underhill, will be responsible for certifying the FER and is licensed to practice engineering in the state of New York. Should Mr. Underhill become unable to fulfill this responsibility, another suitably qualified NYS Professional Engineer will take his place. Field reports will be included as appendices to the FER. In addition to the periodic reports and the FER, copies of the relevant Contractor documents will be submitted to the NYSDEC.

4.5.1 Daily Reports

Reports providing a summary of activities for each day of active remedial work will be emailed to the NYSDEC and NYSDOH Case Managers daily. These reports will include:

- The project number, statement of activities, an update of the progress made, locations of excavation, and other remedial work performed;
- Quantities of material imported and exported from the Site;
- Status of on-Site soil/fill stockpiles;
- A summary of citizen complaints including relevant details (i.e., name, phone number, basis of complaint, actions taken);
- A summary of CAMP results noting exceedances; and
- Photographs of notable Site conditions and activities.

Reports are not intended to be the primary mode of communication for notifying NYSDEC of emergencies, requests for changes to the RAWP, or time-critical information. However, these conditions, if to occur, will be included in the daily reports. Emergency conditions and changes to the RAWP will be directly communicated to the NYSDEC Case Manager.

Daily reports will include a description of daily activities with a Site map that identifies the work areas. These reports will include a summary of air sampling results, odor and dust problems and corrective

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actions, and all complaints received from the public. The NYSDEC-assigned project number will appear on all reports.

4.5.2 Monthly Reports

Monthly reports will be submitted to NYSDEC and NYSDOH Case Managers by the 10th of the following month of the reporting period and will include:

- Activities relative to the Site during the previous reporting period and those anticipated for the next reporting period, including a quantitative presentation of work performed (i.e., tons of material exported and imported, etc.);
- Descriptions of approved activity modifications, including changes in work scope and/or schedule;
- Sampling results received following internal data review and validation, as applicable; and
- An update of the remedial schedule including the percentage of project completion, unresolved delays encountered or anticipated that may affect the future schedule, and efforts made to mitigate such delays.

4.5.3 Other Reporting

Photographs of the remedial activities will be taken and included in the daily reports and FER with provided descriptions of the representative photographs. Progress with respect to green and sustainable remediation metrics will be tracked during the implementation of the RA and reported in the FER, including a comparison to the analyses provided in this RAWP. The climate screening process and results will be documented in the form of a completed checklist and brief letter report. A completed climate screening checklist for the remediation phase is provided in **Appendix K**. An updated checklist will be included in the FER to document the post-remediation status of the Site.

4.5.4 Complaint Management Plan

Complaints from the public regarding nuisance or other Site conditions will be addressed by notifying the NYSDEC of the complaint and investigating the cause/source of the issue. Records will be kept regarding the date and time of the complaint, the nature of the complaint, the type of communication (i.e., telephone, email, letter, etc.), and the name and contact information of the complaint provider. Corrective measures will then be formulated and put into place to address the complaint as soon as possible. The resolution will be documented and submitted to the NYSDEC. A representative of the Volunteer will reply within two weeks of receipt to the complaint provider to ensure resolution.

4.5.5 Deviations from the Remedial Action Work Plan

Deviations from the RAWP will be communicated to and coordinated with the NYSDEC in advance. Notification will be provided to the NYSDEC by telephone and email for conditions requiring immediate action (e.g., conditions judged to be a danger to the surrounding community). Based on the significance of the deviation, an addendum to this RAWP may be necessary and will include:

- Reasons for deviating from the approved RAWP;
- Approval process to be followed for changes/editions to the RAWP; and

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- Effect of the deviations on the overall remedy.

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5. Remedial Action: Material Removal from Site

Remediation will include the following material removal:

- Excavation, stockpiling, off-Site transport, and disposal of up to approximately 5,965 cu yd of contaminated fill/native material that exceed UUSCOs as defined by 6 NYCRR Part 375-6.8. Excavation of material that exceeds UUSCOs will range from 3 ft bgs and is expected to extend to a maximum remedial depth of approximately 15 ft bgs.

The soil will be screened for visual, olfactory, and instrumental evidence of environmental impacts.

5.1 SOIL CLEANUP OBJECTIVES

SCOs for the Site will be the Track 1 UUSCO concentrations and NYSDEC PFAS GVs listed in **Table 3**. Soil and materials management will be conducted in accordance with the S/MMP as described below. Soil sample locations and results that exceed the UUSCOs are shown on **Figures 5** and **6**. UST closures, as applicable, will at a minimum, conform to the criteria defined in DER-10.

5.2 REMEDIAL PERFORMANCE EVALUATION (CONFIRMATION SAMPLING)

5.2.1 Soil Sampling Frequency

One endpoint soil sample will be collected for every 900 sq ft of excavation base Site-wide in accordance with NYSDEC DER-10, or at an alternative frequency approved by NYSDEC. Endpoint samples will be collected to confirm that UUSCOs have been achieved. A total of 12 confirmation soil samples, plus QA/QC samples, will be collected from the remedial excavation base. The proposed endpoint sample locations are shown on **Figure 10**.

5.2.2 Methodology

Confirmation soil samples will be collected from the base of the remedial excavations in accordance with NYSDEC DER-10 to document remedial performance and will be analyzed for the Part 375 list of VOCs, SVOCs, pesticides, metals, PCBs, PFAS, and 1,4-dioxane. Samples will be collected into laboratory-provided bottle ware. VOCs will be collected into Terra Cores® or Encores®. Samples will be transported under chain of custody procedures to an ELAP-certified laboratory. Should additional soil samples be deemed necessary (e.g., additional tank closure, an unknown environmental condition through visual evidence of a remaining source, or over-excavation of a failed confirmation sample), confirmation sampling will be conducted in accordance with NYSDEC DER-10.

5.2.3 Reporting of Results

Analytical laboratories that analyze confirmation soil samples, prepare results, and perform contingency sampling will be NYSDOH ELAP-certified.

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5.2.4 Quality Assurance/Quality Control

QC procedures for confirmation soil sampling are included in the QAPP (refer to **Appendix I**). Confirmation analytical results will be provided in the NYSDEC's electronic data deliverable format for EQuIS™. Guidance on the sampling frequency is presented in NYSDEC DER-10 Section 5.4.

The QA/QC procedures required by the NYSDEC Analytical Services Protocol (ASP) and SW-846 methods will be followed, including instrument calibration, standard compound spikes, surrogate compound spikes, and analysis of QC samples. The laboratory will provide sample bottles, which will be pre-cleaned and preserved. Where there are differences in the SW-846 and NYSDEC ASP requirements, the NYSDEC ASP will take precedence.

5.2.5 Data Usability Summary Reports

ASP Category B deliverables will be prepared for remedial performance samples collected during the implementation of this RAWP. Data Usability Summary Reports will be prepared by a qualified data validator, and the findings will be reported in the FER.

5.2.6 Reporting of Confirmation Sample Data in FER

Chemical laboratories used for all confirmation sample results and any contingency sampling will be NYSDOH ELAP-certified. Confirmation sampling will be performed in accordance with DER-10 sample frequency requirements. Sidewall samples will not be collected. Bottom samples will be collected at a rate of one for every 900 sq ft from the base of the remedial excavation. The FER will provide a tabular and map summary of all endpoint sample results and exceedances of SCOs, if applicable.

5.3 ESTIMATED MATERIAL REMOVAL QUANTITIES

Excavation on the Site for the proposed remedy is anticipated to generate approximately 5,965 cu yd of soil. A summary of anticipated material types to be excavated and disposed of off the Site is provided below:

1. Excavation, stockpiling, off-Site transport, and disposal of up to approximately 5,965 cu yd of contaminated fill/native material that exceed UUSCOs and as defined by 6 NYCRR Part 375-6.8.

5.4 SOIL/MATERIALS MANAGEMENT PLAN

This section presents the approach to management, disposal, and reuse of soil, fill, and materials excavated from the Site. This plan is based on the current knowledge of Site conditions and will be altered as necessary. Field personnel, under the direction of the RE, will monitor and document the handling and transport of material removed from the Site for disposal as a regulated solid waste. Field personnel, under the direction of the RE, will assist the Remediation Contractor in identifying impacted materials during remediation, determining materials suitable for direct load out versus temporary on-Site stockpiling, selecting samples for waste characterization, if necessary, and determining the proper off-Site disposal facility. Separate stockpile areas will be constructed as needed for the various materials to be excavated or generated to avoid commingling impacted with non-impacted soil.

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5.4.1 Soil Screening Methods

Visual, olfactory, and instrumental soil screening and assessment will be performed during remediation and development-related ground-intrusive activities into known or potentially contaminated material. Soil screening will be performed regardless of when the invasive work is performed and will include excavation and invasive work performed during the remedy and development, such as excavations for foundations and utility work.

All primary contaminant sources (including but not limited to tanks and hotspots) identified during Site Characterization, RI, and RA will be surveyed by a surveyor licensed to practice in the state of New York. This information will be provided on maps in the FER. Screening will be performed by QEPs. Resumes are provided in **Appendix H** for personnel responsible for field screening (i.e., those representing the RE) of invasive work for unknown contaminant sources during the remediation and development work.

5.4.2 Stockpile Methods

Stockpiles will be used as necessary to separate and stage excavated material pending loading or characterization sampling. Separate stockpile areas will be constructed to avoid commingling materials. Stockpile areas will meet the following minimum requirements:

- Excavated soil will be placed onto a minimum thickness of 6-mil low-permeability liner of sufficient strength and thickness to prevent puncture during use; separate stockpiles will be created where material types are different. The use of multiple layers of thinner liners is permissible.
- Efforts will be made to place and remove the soil to minimize the potential to jeopardize the integrity of the liner.
- Stockpiles will be covered at the designated times (see below) with minimum 6-mil plastic sheeting or tarps that will be securely anchored to the ground. Stockpiles will be routinely inspected and broken sheeting covers will be promptly replaced.
- Stockpiles will be covered upon reaching their capacity (approximately 1,000 cu yd) until ready for loading. Stockpiles that have not reached their capacity will be covered at the end of each workday.
- Each stockpile will be encircled with silt fences and hay bales, as needed, to contain and filter particulates from rainwater that has drained off the soils and to mitigate the potential for surface water runoff.
- Stockpiles will be inspected at a minimum of once daily and after every storm event.
- If hazardous material is encountered, stockpiling on the Site will be avoided to the extent possible, in favor of live-loading into trucks permitted to transport hazardous waste.

5.4.3 Materials Excavation and Load Out

The RE or a QEP under their supervision will monitor all ground-intrusive work and the excavation and load-out of excavated material.

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Loaded vehicles leaving the Site will be appropriately lined, securely covered, manifested, and placarded in accordance with the appropriate federal, state, and local requirements, including applicable transportation requirements (i.e., New York State Department of Transportation requirements). Trucks hauling historical fill material will not be lined unless free liquids are present or the material is grossly impacted. Hazardous wastes derived from the Site will be stored, transported, and disposed of in compliance with applicable local, state, and federal regulations.

An outbound-truck inspection and wash station will be operated on the Site. Trucks will be washed, as necessary, before leaving the Site, and Site ingress and egress points will be cleaned of dirt and other materials to prevent material generated during remediation and development from being tracked off the Site.

The Volunteer and its contractors are solely responsible for the safe performance of all invasive and other work performed under this QAPP and for the structural integrity of excavations and structures that may be affected by excavations (such as building foundations and bridge footings).

The Volunteers and associated parties will ensure that Site development activities will not interfere with, or otherwise impair or compromise, remedial activities proposed in this RAWP. Development-related grading cuts and fills will not be performed without NYSDEC approval and will not interfere with, or otherwise impair or compromise, the performance of remediation required by this RAWP. Mechanical processing of historical fill and contaminated soil on the Site is prohibited unless otherwise approved by NYSDEC.

Primary contaminant sources (including, but not limited to, tanks and hotspots) identified during Site characterization, the RI and associated supplemental sampling, and implementation of the remedy will be surveyed by a surveyor licensed to practice in the state of New York. The excavation will be surveyed and survey information will be shown on maps to be included with the FER.

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5.4.4 Materials Transport Off Site

Transport of materials will be performed by licensed haulers in accordance with appropriate local, state, and federal regulations, including 6 NYCRR Part 364. Haulers will be appropriately licensed, and trucks will be properly placarded. Trucks heading to disposal facilities will travel north on Grand Concourse, make a left on East 144th Street, make a left on Walton Avenue, make a right on East 138th Street and continue to Interstate 87, the New York Thruway (or other NYSDEC-approved routes). Truck routes are shown on **Figure 12**.

Loaded trucks will exit in the vicinity of the Site using approved truck routes. These routes are the most appropriate route to and from the Site and take into account the following:

- Limiting transport through residential areas and past sensitive Sites;
- Use of city-mapped truck routes;
- Prohibiting off-Site queuing of trucks entering the facility;
- Limiting total distance to major highways;

- Promoting safety in access to highways;
- Overall safety in transport; and
- Community input (where necessary).

Trucks will be prohibited from excessive stopping and idling in the neighborhood outside of the Site. Egress points for truck and equipment transport from the Site will be kept clean of dirt and other materials during Site remediation and development. Queuing of trucks will be performed on the Site in order to minimize off-Site disturbance. Off-Site queuing will be prohibited. Material transported by trucks exiting the Site will be secured with tight-fitting covers. Loose-fitting, canvas-type truck covers will be prohibited. If loads contain wet material capable of producing free liquid or hazardous metals-impacted material, truck liners will be used. Trucks will be washed as necessary prior to leaving the Site. Truck wash waters will be collected and disposed of off the Site in an appropriate manner.

5.4.5 Materials Disposal Off Site

Disposal location(s) will be established at a later date and will be reported to the NYSDEC Case Manager. The total quantity of material expected to be disposed of off the Site is up to approximately 3,900 cu yd.

All soil/fill/solid waste excavated and removed from the Site will be treated as contaminated and regulated material and will be disposed of in accordance with all local, state (including 6 NYCRR Part 360), and federal regulations. If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), a formal request with an associated plan will be made to NYSDEC's Case Manager. Unregulated off-Site management of materials from this Site is prohibited without formal NYSDEC approval.

Excavated material that does not meet UUSCOs, such as non-hazardous historical fill material, contaminated soil, and hazardous lead-impacted material, is prohibited from being taken to a New York State recycling facility (6 NYCRR Part 360.15 Registration Facility).

If hazardous soil is identified, it will be managed in accordance with applicable federal, state, and local regulations. As such, the handling, transport, and disposal of hazardous fill material is subject to USEPA and OSHA HAZWOPER regulations. The presence of hazardous waste requires compliance with both federal and state regulations and the following requirements:

1. Hazardous waste disposal requires obtaining a USEPA RCRA generator ID number;
2. Hazardous waste must be transported to a facility permitted under RCRA to accept hazardous waste;
3. Hazardous waste must be segregated and cannot be commingled with other Site material; and
4. Hazardous waste must be transported and disposed of by properly permitted (Part 364) transporters and facilities.

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The following documentation will be obtained and reported by the RE for each disposal location used in this project to fully demonstrate and document that the disposal of material derived from the Site conforms with all applicable laws.

- A letter from the RE or 338-344 Grand Concourse LLC to the receiving facility describing the material to be disposed of and requesting formal written acceptance of the material. This letter will state that the material to be disposed of is contaminated material generated at an environmental remediation site in New York. The letter will provide the project identity and the name and phone number of the RE. The letter will include, as an attachment, a summary of all chemical data for the material being transported (including Site Characterization data).
- A letter from each receiving facility stating it is in receipt of the correspondence (above) and is approved to accept the material.

These documents will be included in the FER.

Non-hazardous contaminated fill and contaminated soils taken off the Site will be handled, at a minimum, as Municipal Solid Waste per 6 NYCRR Part 360.2. The RE is responsible for assuring the material is properly characterized and determining the appropriate disposal methods based on the characterization results.

Historical fill and contaminated soils from the Site are prohibited from being disposed of at Part 360.15 Registration Facilities (also known as Soil Recycling Facilities).

Soils that are contaminated but non-hazardous and are being removed from the Site are considered by the NYSDEC's Division of Materials Management (DMM) to be Construction and Demolition (C&D) materials with contamination not typical of virgin soils. These soils may be sent to a permitted Part 360 landfill. They may be sent to a permitted C&D processing facility without permit modifications only upon prior notification of NYSDEC Region 3 DMM. This material is prohibited from being sent or redirected to a Part 360-15 Registration Facility. In this case, as dictated by DMM, special procedures will include, at a minimum, a letter to the C&D facility that provides a detailed explanation that the material is derived from a DER remediation site, that the soil material is contaminated, and that it must not be redirected to an off-Site Soil Recycling Facility. The letter will provide the project identity and the name and phone number of the RE. The letter will include, as an attachment, a summary of all chemical data for the material being transported.

The FER will include an accounting of the destination of all material removed from the Site during this RA, including excavated soil, contaminated soil, contaminated fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with the disposal of all material must also include records and approvals for receipt of the material. This information will also be presented in a tabular form in the FER.

A bill of lading system or equivalent will be used for off-Site movement of non-hazardous wastes and contaminated soils. This information will be reported in the FER. Hazardous wastes derived from the Site will be stored, transported, and disposed of in full compliance with applicable local, state, and federal regulations. Appropriately licensed haulers will be used for material removed from this Site and will be in full compliance with all applicable local, state, and federal regulations.

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Waste characterization sampling will be performed exclusively for the purposes of off-Site soil disposal in a manner suitable to receiving facilities and in conformance with applicable federal, state, and local laws, rules, regulations, and facility-specific permits. Sampling and analytical methods, sampling frequency, analytical results, and QA/QC associated with waste characterization activities will be reported in the FER. All data available for soil/material to be disposed of at a given facility must be submitted to the disposal facility with a suitable explanation prior to shipment and receipt. Waste characterization data will be used solely for complying with requirements for off-Site disposal. Waste characterization sampling cannot be utilized for:

- Delineating the extent of contamination required for remediation at a Site;
- Replacing or substituting data collected as part of Site Characterization and/or RI;
- Replacing or substituting confirmation or documentation sampling as described in NYSDEC DER-10, Section 5.4; or
- Modifying remedial decisions as formalized in an NYSDEC-approved Decision Document or Record of Decision.

5.4.6 Materials Reuse On Site

Materials reuse is not anticipated at the Site. If on-Site material is proposed for reuse, the chemical criteria for on-Site reuse of material will be approved by NYSDEC. The RE will ensure that procedures defined for materials reuse in this RAWP are followed and that unacceptable material will not remain on the Site. A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC Case Manager for review and approval prior to material reuse on the Site. A copy of the form is presented in **Appendix E**.

Organic matter (wood, roots, stumps, etc.) or other solid waste derived from clearing and grubbing of the Site is prohibited for reuse on the Site. Demolition material reuse is not anticipated at the Site. Concrete crushing or processing on the Site is prohibited unless NYSDEC has specifically approved on-Site processing and reuse of acceptable demolition material.

Contaminated on-site material, including contaminated fill and contaminated soil, removed for grading or other purposes will not be reused within a cover soil layer, within landscaping berms, or as backfill for subsurface utility lines.

5.4.7 Fluids Management

Based on the depth to water, dewatering is not anticipated to facilitate the excavation of material that exceeds the UUSCOs and the construction of foundation components; however, if required, localized dewatering with containerization, classification, and disposal at an approved receiving facility may be implemented.

5.4.8 Demarcation

Should the RA not achieve Track 1 UUSCOs after the completion of soil removal and any other invasive remedial activities and prior to backfilling, a land survey will be performed by a NYS-licensed surveyor.

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The survey will define the top elevation of residual contaminated soils. A physical demarcation layer, consisting of orange snow fencing material or equivalent material, will be placed on this surface to provide a visual reference. This demarcation layer will constitute the top of the "Residuals Management Zone," the zone that requires adherence to special conditions for the disturbance of contaminated residual soils defined in the SMP. The survey will measure the grade covered by the demarcation layer before the placement of cover soils, pavement and sub-soils, structures, or other materials. This survey and the demarcation layer placed on this grade surface will constitute the physical and written record of the upper surface of the "Residuals Management Zone" in the SMP. A map showing the survey results will be included in the FER and the SMP.

5.4.9 Backfill from Off-Site Sources

Materials proposed for import onto the Site are anticipated as part of the preferred Track 1 remedy. Documentation of the material will be provided to NYSDEC for approval prior to its use on the Site. Imported soil for backfill must meet the requirements of 6 NYCRR Part 375-6.7(d) and NYSDEC DER-10 Section 5.4(e), Table 5.4(e)10. Material from industrial sites, spill sites, other environmental remediation sites, or other potentially contaminated sites will not be imported to the Site. Solid waste will not be imported onto the Site.

Backfill material will consist of clean fill (as described in the following paragraph) or other acceptable fill material, such as virgin stone from a quarry or RCA. If RCA is imported to the Site, it will be from an NYSDEC-registered facility in compliance with 6 NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require chemical testing unless required by the NYSDEC under the terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete, with no more than 10 percent by weight passing through a No. 80 sieve. RCA is not acceptable for and will not be used as cover or drainage material.

Imported soil (i.e., clean fill) will meet the Allowable Constituents Levels of Imported Fill or Soil defined in DER-10 Appendix 5. Non-compliant soils will not be imported to the Site. Clean fill will be segregated at a source/facility that is free of environmental contaminants. Qualified environmental personnel will collect representative samples at a frequency consistent with NYSDEC CP-51. The samples will be analyzed for Part 375 VOCs, SVOCs, pesticides/herbicides, PCBs, cyanide, metals, including trivalent and hexavalent chromium, 1,4-dioxane, and PFAS by an NYSDOH ELAP-certified laboratory. Upon meeting these criteria, the certified-clean fill will be transported to the Site and segregated from impacted material, as necessary, on plastic sheeting until used as backfill. Trucks entering the Site with imported soils will be secured with tight-fitting covers.

Soils that meet "general fill" requirements under 6 NYCRR Part 360.13, but do not meet backfill or cover soil objectives for this Site, will not be imported onto the Site without prior approval by NYSDEC. Nothing in this RAWP should be construed as an approval for this purpose.

A "Request to Import/Reuse Fill Material" form will be filed with the NYSDEC Case Manager for review and approval prior to import to the Site. A copy of the form is presented in **Appendix E**. All materials proposed for import onto the Site will be approved by the RE and will be in compliance with provisions in this RAWP prior to receipt at the Site. Material from industrial sites, spill sites, other environmental

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remediation sites, or other potentially contaminated sites will not be imported to the Site. Solid waste will not be imported onto the Site.

The FER will include the following certification by the RE: "I certify that all import of soils from off Site, including source evaluation, approval, and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan."

5.4.10 Stormwater Pollution Prevention

A silt fence or hay bales will be installed around the perimeter of the remedial construction area, as needed. Barriers and hay bale checks will be installed and inspected once a week and after every storm event. Results of inspections will be recorded in a logbook maintained at the Site and available for inspection by the NYSDEC. Necessary repairs to the silt fence and/or hay bales will be made immediately. Accumulated sediments will be removed as required to keep the barriers and hay bales functional. The manufacturer's recommendations will be followed for replacing the silt fence damaged due to weathering. Erosion and sediment control measures identified in the RAWP will be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they will be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to the sewer system.

5.4.11 Contingency Plan

As discussed above in Section 4.2.8, if USTs or other previously unidentified contaminant sources are found during on-Site remedial excavation or development-related construction, sampling will be performed on product, if encountered, and surrounding subsurface materials (e.g., soil and stone). Chemical analyses will include Part 375 VOCs, SVOCs, PCBs, pesticides, metals, and PFAS. Analyses will not be otherwise limited without NYSDEC approval. Identification of unknown or unexpected contaminated media identified by screening during ground-intrusive work will be promptly communicated by phone to the NYSDEC Project Manager. These findings will also be detailed in the monthly BCP progress report.

5.4.12 Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include the dislocation of soil and stockpiled materials, the dislocation of Site structures, construction materials, and equipment, and the dislocation of SOE structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures, and cause downed power lines, creating dangerous Site conditions and loss of power. In the event of emergency conditions caused by an extreme storm event, the Volunteer will undertake the following steps for Site preparedness prior to the event and after the event.

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5.4.12.1 Storm Preparedness

Preparations in advance of an extreme storm event will include the following: containerized hazardous materials and fuels will be removed from the property, loose materials will be secured to prevent dislocation and blowing by wind or water, heavy equipment such as excavators and generators will be removed from excavated areas, trenches, and depressions on the property to high ground or removed from the property, an inventory of the property with photographs will be performed to establish conditions of the Site and equipment prior to the event; stockpile covers for soil and fill will be secured by adding weights such as sandbags for added security and worn or ripped stockpile covers will be replaced with competent covers, stockpiled hazardous wastes will be removed from the property, and stormwater management systems will be inspected and fortified, including, as necessary, cleaning and repositioning silt fences and hay bales, cleaning storm sewer filters and traps, and securing and protecting pumps and hosing.

5.4.12.2 Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the property will be performed. A Site Inspection Report will be submitted to NYSDEC at the completion of the Site inspection and after the Site security is assessed, as necessary. Site conditions will be compared to the inventory of Site conditions and material performed prior to the storm event, and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures, or equipment, will be reported to public safety authorities via appropriate means such as calling 911.

Petroleum spills will be reported to NYSDEC within two hours of identification and consistent with NYS regulations. Public safety structures, such as construction security fences, will be repaired promptly to eliminate public safety threats. Debris will be collected and removed.

Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil, including unsafe slopes, will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. SOE structures will be inspected and fortified as necessary. Impacted stockpiles will be contained and damaged stockpile covers will be replaced. Stormwater control systems and structures will be inspected and maintained as necessary.

If soil or fill materials are discharged off the Site to adjacent properties, property owners and NYSDEC will be notified, and a Corrective Measure Plan designed to remove and clean dislocated material will be submitted to NYSDEC and implemented following approval by NYSDEC and granting of Site access by the property owner. Impacted off-Site areas may require characterization based on Site conditions at the discretion of NYSDEC.

If on-Site petroleum spills are identified, a QEP will determine the nature and extent of the spill and report to NYSDEC's spill hotline at 800.457.7362 within statutorily defined timelines. If the source of the spill is ongoing and can be identified, it should be stopped if this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYSDEC.

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5.4.12.3 Storm Response Reporting

A Site Inspection Report will be submitted to NYSDEC at the completion of the Site inspection. Site conditions will be compared to the inventory of Site conditions and material performed prior to the storm event, and significant differences will be noted. The Site Inspection Report will be sent to the NYSDEC Case Manager and will include the Site name, address, tax block and lot number, and the Site's primary and alternate contact name and phone number.

Damage and soil release assessment will include whether the project had stockpiles, whether stockpiles were damaged, photographs of damage and notice of plan for repair, report of whether soil from the Site was dislocated and whether any of the soil left the Site, estimates of the volume of soil that left the Site, nature of impact, and photographs, description of erosion damage, description of equipment damage, description of damage to the remedial program or the construction program, such as damage to the SOE, the presence of on-Site or off-Site exposure pathways caused by the storm, the presence of petroleum or other spills and status of spill reporting to NYSDEC, a description of corrective actions, and a schedule for corrective actions.

This report should be completed and submitted to the NYSDEC Case Manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

5.4.13 Community Air Monitoring Plan

The CAMP will require real-time monitoring for particulates (i.e., dust) and VOCs at the upwind and downwind perimeters when ground-intrusive activities, including soil/waste excavation, soil handling, test pit excavation, and/or trenching, are in progress at the Site during the remedial construction activities. The CAMP aims to provide protection for residents in the designated work area and residents of the downwind community from potential airborne releases that directly result from the remedial construction activities conducted at the Site. Adherence to the monitoring action levels specified in the CAMP requires monitoring, and when necessary, corrective actions to abate emissions and/or shutdown work. The CAMP also helps to confirm that work activities do not spread contamination off the Site through the air. In addition, visual and olfactory observations will be made to keep dust and odors at a minimum around the work areas. VOCs will be monitored using PIDs and particulates will be monitored using DustTrak equipment. Readings will be recorded every 15 minutes at the Site by field personnel.

The following actions will be taken based on monitoring of particulate concentrations.

- If the downwind inhalable particles with diameters generally less than 10 micrometers and smaller (PM-10) particulate level is 100 µg/m^3 greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 µg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 µg/m^3 above the upwind level, work will be stopped, and a re-evaluation of activities initiated. Work will resume if dust suppression measures and other controls are

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successful in reducing the downwind PM-10 particulate concentration to within 150 µg/m^3 of the upwind level and in preventing visible dust migration.

The following actions will be taken based on VOC monitoring:

- If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 ppm above background for the 15-minute average, work activities will be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities will resume with continued monitoring.
- If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities will be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities will resume provided that the total organic vapor level 200 ft downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less, but in no case less than 20 ft, is below 5 ppm over background for the 15-minute average.
- If the organic vapor level is above 25 ppm at the perimeter of the work area, activities will be shut down.

When work areas are within 20 ft of potentially exposed populations or occupied structures, the continuous monitoring locations for VOCs and particulates must reflect the nearest potentially exposed individuals and the location of ventilation system intakes for nearby structures. The use of ECs, such as vapor/dust barriers, temporary negative pressure enclosures, or special ventilation devices, will be considered to prevent exposures related to the work activities and to control dust and odors. Consideration should be given to implementing the planned activities when potentially exposed populations are at a minimum, such as during weekends or evening hours in non-residential settings.

- If total VOC concentrations opposite the walls of occupied structures or next to intake vents exceed 1 ppm, monitoring should occur within the occupied structure(s). Background readings in the occupied spaces must be taken prior to the commencement of the planned work. Any unusual background readings should be discussed with NYSDOH prior to commencement of the work.
- If total particulate concentrations opposite the walls of occupied structures or next to intake vents exceed 150 µg/m^3, work activities should be suspended until controls are implemented and are successful in reducing the total particulate concentration to 150 µg/m^3 or less at the monitoring point.
- Depending upon the nature of contamination and remedial activities, other parameters (e.g., explosivity, oxygen, hydrogen sulfide, and carbon monoxide) may also need to be monitored. Response levels and actions should be pre-determined, as necessary, for each site.

Exceedances observed in the CAMP will be reported to NYSDEC and NYSDOH Case Managers within 24 hours of the exceedance and will include the reason(s) for the exceedance and steps taken to address the exceedance. CAMP exceedances will be included in the daily reports. CAMP requirements are included in **Appendix L**.

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5.4.14 Odor, Dust, and Nuisance Control Plan

Dust, odor, and nuisance controls will be accomplished by the Remediation Contractor as described in this section. The FER will include the following certification by the RE: "I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology defined in the Remedial Action Work Plan."

5.4.14.1 Odor Control Plan

This Odor Control Plan is capable of controlling emissions of nuisance odors off the Site. Specific odor control methods to be used, if needed, will include the application of foam suppressants or tarps over the odor or VOC source areas. If nuisance odors are identified, work will be halted, and the source of the odors will be identified and corrected. Work will not resume until nuisance odors have been abated. The NYSDEC and NYSDOH will be notified of odor events and other complaints about the project. Implementation of odor controls is the responsibility of the Contractor. Monitoring odor emission, including the halt of work, will be the responsibility of the RE or their designated representative.

Necessary means will be employed to prevent on- and off-Site nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) using foams to cover exposed odorous soils. If odors develop and cannot be otherwise controlled, additional means to eliminate odor nuisances will include: (a) direct load-out of soils to trucks for off-site disposal; (b) use of chemical odorants in spray or misting systems (e.g., Blanket 510 Wintergreen™); and (c) use of staff to monitor odors in surrounding neighborhoods. Odor control suppressant will be available on the Site during ground-intrusive work.

Where odor nuisances have developed during remedial work and cannot be corrected, or where the release of nuisance odors cannot otherwise be avoided due to on-Site conditions or close proximity to sensitive receptors, odor control will be achieved by sheltering excavation and handling areas under tented containment structures equipped with appropriate air venting/filtering systems.

5.4.14.2 Dust Control Plan

A Dust Control Plan that addresses dust management during ground-intrusive on-Site work will include, at a minimum: (a) the use of a dedicated water distribution system, an on-Site water truck for road wetting, or an alternate water source with suitable supply and pressure for use in dust control; (b) the use of gravel for on-Site roads to provide a clean and dust-free road surface; and (c) the limiting of the total area of on-Site roads to minimize the area required for water spraying.

5.4.14.3 Other Nuisances

A plan for rodent control will be developed and used by the Remediation Contractor during Site preparation (including clearing and grubbing) and during remedial work. A plan for noise control will be developed and used by the Remediation Contractor during Site preparation and remedial work and will conform, at a minimum, to NYCDEP's noise control standards.

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6. Residual Contamination to Remain on the Site

Residual contaminated soil will not exist beneath the development footprint after the Track 1 remedy is complete; therefore, ECs and ICs will not be required post-excavation. However, if the Track 1 remedy is not achieved, the following contingent Site management elements for Alternative II (Track 2 Remedy) will be implemented prior to the Certificate of Completion:

- Establishment of an approved SMP to ensure long-term management of ICs, including the performance of periodic inspections and certification that the controls are performing as they were intended; and
- Recording of an EE to ensure future owners of the Site maintain the required ICs.

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7. Engineering Controls

Following completion of the Track 1 UUSCO remedy, neither ECs nor ICs will be required as part of the RA.

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8. Final Engineering Report

A FER will be submitted to NYSDEC following the implementation of the remedy defined in this RAWP. The FER will be prepared in conformance with NYSDEC DER-10 and will include the following:

- Documentation that the remedial work required under this RAWP has been completed and has been performed in substantial conformance with this plan.
- A summary of the locations and characteristics of material removed from the Site, including the surveyed map(s) of each area, as necessary.
- As-built drawings for constructed elements, certifications, manifests, and bills of lading.
- A description of the changes to the remedy from the elements provided in the RAWP and associated design documents, if any.
- A tabular summary of performance evaluation sampling results, material characterization results and other sampling and chemical analyses performed as part of the remedy.
- Written and photographic documentation of remedial work performed under this remedy.
- A summary of confirmation sampling results to show that the remaining soil left on the Site meets the Track 1 UUSCOs.
- If necessary, a summary of remaining contamination that exceeds the Track 1 UUSCOs and an explanation for why the material was not removed as part of the remedy. A table and a map that shows the remaining contamination in excess of the Track 1 UUSCOs would also be included.
- Documentation of treatment and/or disposal of material removed from the Site, including excavated contaminated soil, historical fill, solid waste, hazardous waste, non-regulated material, and fluids. Documentation associated with the disposal of material must also include records and approvals for receipt of the material.
- Documentation of the origin and chemical quality of each material type imported onto the Site.
- Discussion of the green remediation practices/technologies employed throughout the remedial program. A final footprint analysis using a DER-accepted model and any tracking methods used throughout the construction, including restoration activities.

Before approval of the FER and issuance of a Certificate of Completion, the daily or weekly reports and monthly BCP progress reports must be submitted in digital format (i.e., PDF).

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8.1 CERTIFICATIONS

The following certification will appear in front of the Executive Summary of the FER. The certification will be signed by the RE, Scott A. Underhill, who is a Professional Engineer registered in New York. This certification will be appropriately signed and stamped. The certification will include the following statements:

I, _____, am currently a registered professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the 338-344 Grand Concourse Redevelopment Site (NYSDEC BCA Index No. C203188-06-25 Site No. C203188).

I certify that the Site description presented in this FER is identical to the Site descriptions presented in the Environmental Easement, the Site Management Plan, and the Brownfield Cleanup Agreement for the 338-344 Grand Concourse Redevelopment Site and related amendments.

I certify that the Remedial Action Work Plan dated [month day year] and Stipulations [if any] in a letter dated [month day year] and approved by the NYSDEC were implemented and that all requirements in those documents have been substantively complied with.

I certify that the remedial activities were observed by qualified environmental professionals under my supervision and that the remediation requirements set forth in the Remedial Action Work Plan and any other relevant provisions of ECL 27-1419 have been achieved.

I certify that all use restrictions, Institutional Controls, Engineering Controls, and all operation and maintenance requirements applicable to the Site are contained in an Environmental Easement created and recorded pursuant ECL 71-3605 and that all affected local governments, as defined in ECL 71-3603, have been notified that such easement has been recorded. A Site Management Plan has been submitted by the [Applicant / Volunteer / Participant] for the continual and proper operation, maintenance, and monitoring of all Engineering Controls employed at the Site, including the proper maintenance of all remaining monitoring wells, and that such plan has been approved by the NYSDEC.

I certify that the export of all contaminated soil, fill, water or other material from the property was performed in accordance with the Remedial Action Work Plan, and were taken to facilities licensed to accept this material in full compliance with all Federal, State and local laws.

I certify that all import of soils from off-site, including source approval and sampling, has been performed in a manner that is consistent with the methodology defined in the Remedial Action Work Plan.

I certify that all invasive work during the remediation and all invasive development work were conducted in accordance with dust and odor suppression methodology and soil screening methodology defined in the Remedial Action Work Plan.

I certify that all information and statements in this certification are true. I understand that a false statement made herein is punishable as Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

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It is a violation of Article 145 of New York State Education Law for any person to alter this document in any way without the express written verification of adoption by any New York State licensed engineer in accordance with Section 7209(2), Article 145, New York State Education Law.

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9. Schedule

Mobilization for implementation of the RAWP is expected to take place in about one to two weeks from receipt of the Decision Document. Once mobilization is complete, remediation of the Site will proceed. The remedy, which will be implemented in accordance with this RAWP, is anticipated to take about 12 to 16 weeks to complete. After completion of the remedy, a FER will be drafted and subsequently submitted to the NYSDEC for review and approval. A proposed project schedule is included in **Appendix J**.

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10. References

1. H & A of New York Engineering and Geology, LLP, 2024. Limited Phase II Environmental Site Investigation Report, 228-244 Grand Concourse Redevelopment. November.

2. H & A of New York Engineering and Geology, LLP, 2025a. Brownfield Cleanup Program Application. 338-344 Grand Concourse Redevelopment Site, Bronx, New York. May.

3. H & A of New York Engineering and Geology, LLP, 2025b. Remedial Investigation Work Plan for 338-344 Grand Concourse Redevelopment Site, NYSDEC BCP Site No. C203188, Bronx, New York. September

4. H & A of New York Engineering and Geology, LLP, 2026. Remedial Investigation Report for 338-344 Grand Concourse Redevelopment Site, NYSDEC BCP Site No. C203188, Bronx, New York. February.

5. KB Environmental Assessment Ltd., 2024a. Phase I Environmental Site Assessment. 338 Grand Concourse, Bronx, New York. October.

6. KB Environmental Assessment Ltd., 2024b. Phase I Environmental Assessment. 344 Grand Concourse, Bronx, New York. October.

7. New York State Department of Environmental Conservation, 2010. Program Policy DER-10, “Technical Guidance for Site Investigation and Remediation.” May.

8. New York State Department of Environmental Conservation, 2011. Program Policy DER-31, “Green Remediation.” August 2010; revised in January 2011.

9. New York State Department of Environmental Conservation, Part 375 of Title 6 of the New York Compilation of Codes, Rules, and Regulations, Effective December 14, 2006.

10. New York State Department of Environmental Conservation, Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances (PFAS), April 2023.

11. New York State Department of Health, 2006. Final Guidance for Evaluating Soil Vapor Intrusion in the State of New York. October.

12. New York State Division of Water Technical and Operational Guidance Series (TOGS) (1.1.1), dated June 1998.

13. United States Environmental Protection Agency, 2017. “Low Flow Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells,” EQASOP-GW 001. September.

14. United States Geological Survey, 1987. Bedrock Geology of Northern Manhattan, the Bronx and Staten Island.

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TABLES

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TABLE 1
ALTERNATIVE I REMEDIAL COST ESTIMATE
338-344 GRAND CONCOURSE REDEVELOPMENT SITE
BRONX, NEW YORK
BCP SITE NO. C203188

Consulting/Engineering Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Waste Characterization	Lump Sum	$ 100,000	1	$ 100,000
2	Program Management (NYSDEC/NYSDOH Correspondence, Daily/Weekly/Monthly Reporting, etc.)	Month	$ 5,000	9	$ 45,000
3	Remedial Oversight and Community Air Monitoring	Month	$ 34,000	4	$ 136,000
4	Documentation Sampling (including QA/QC samples and contingency samples)	Sample	$ 2,000	25	$ 50,000
5	Dewatering Sampling (if needed)	Sample	$ 500	0	$ -
6	Soil Vapor Intrusion Evaluation	Lump Sum	$ 10,000	1	$ 10,000
7	Final Engineering Report and COC Coordination	Allowance	$ 75,000	1	$ 75,000
				Consulting/Engineering Subtotal	$ 416,000
Contractor Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Mobilization/Demobilization, Site Maintenance, Security, etc.	Allowance	$ 350,000	1	$ 350,000
2	Waste Characterization Drilling	Lump Sum	$ 5,000	5	$ 25,000
3	Truck Wash Station	Month	$ 25,000	4	$ 100,000
4	Management/Handling Contaminated Material	Cubic Yard	$ 40	5,970	$ 238,800
5	Support of Excavation	Linear Foot	$ 1,500	310	$ 465,000
7	Transport and Disposal of Non-Hazardous Impacted Fill and Soil Material	Ton	$ 50	8,955	$ 447,750
8	Transport and Disposal of Non-Hazardous Petroleum Impacted Fill Material	Ton	$ 55	0	$ -
9	Transport and Disposal of Hazardous Material (F Listed and/or Lead)	Ton	$ 275	33	$ 9,075
10	Backfill Procurement, Placement and Compaction	Cubic Yard	$ 28	1,200	$ 33,000
11	Localized Dewatering	Allowance	$ 100,000	0	$ -
13	Underground Storage Tank & Regulatory Paperwork (Contingency Budget)	Allowance	$ 75,000	1	$ 75,000
				Contractor Subtotal	$ 1,743,625
				Total	$ 2,159,625
				15% Contingency	$ 323,944
				Estimated Total (Rounded to the nearest $1,000)	$ 2,484,000

Notes:

1. Assuming a Track 1 Remedy requiring excavation to an anticipated maximum depth of 15 ft bgs Site-wide to remove soil exceeding Track 1 UUSCOs and a 10 ft x10 ft hotspot to 2 ft bgs and a 10 ft x 20 ft hotspot to 2 ft bgs to remove hazardous lead.

2. Assumes density of 1.5 tons per cubic yard of fill/soil.

3. Assumes residual soil will meet Track 1 Unrestricted Use Soil Cleanup Objectives or all soil is removed to bedrock/to a maximum depth of 15 ft bgs.

4. Assumes dewatering is not required to execute the remedy.

5. SOE Costs are based on a conventional soldier pile and timber lagging system with lateral bracing provided by either steel rakers or tiebacks.

6. Costs are estimated and subject to change. Costs do not include new building construction.

7. RAWP implementation is assumed to take 3 to 4 months.

8. This cost estimate was prepared to compare various remedial alternatives as was based on available information at the time of preparation. The estimate may be +/- 30-50% of the actual cost. This estimate was not prepared for financial or legal consulting purposes and was not intended for use regarding compliance with financial reporting requirements or liability services.

9. This estimate does not include legal fees associated with attorneys involved in the project, insurance fees or outside consulting fees.

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TABLE 2
ALTERNATIVE II REMEDIAL COST ESTIMATE
338-344 GRAND CONCOURSE REDEVELOPMENT SITE
BRONX, NEW YORK
BCP SITE NO. C203188

Consulting/Engineering Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Waste Characterization	Lump Sum	$ 100,000	1	$ 100,000
2	Program Management (NYSDEC/NYSDOH Correspondence, Daily/Weekly/Monthly Reporting, etc.)	Month	$ 5,000	5	$ 25,000
3	Remedial Oversight and Community Air Monitoring	Month	$ 34,000	2	$ 68,000
4	Endpoint Sampling	Sample	$ 2,000	25	$ 50,000
5	Soil Vapor Intrusion Evaluation	Lump Sum	$ 10,000	1	$ 10,000
6	Final Engineering Report, Site Management Plan and COC Coordination	Allowance	$ 150,000	1	$ 150,000
7	Annual Site Management (engineering control monitoring, etc.)	Year	$ 25,000	5	$ 125,000
				Consulting/Engineering Subtotal	$ 528,000
Contractor Costs					
Task	**Description**	**Unit**	**Unit Cost**	**Quantity**	**Total Cost**
1	Mobilization/Demobilization, Site Maintenance, Security, etc.	Allowance	$ 350,000	1	$ 350,000
2	Waste Characterization Drilling	Lump Sum	$ 5,000	5	$ 25,000
3	Truck Wash Station	Month	$ 25,000	2	$ 50,000
4	Management/Handling Contaminated Material	Cubic Yard	$ 40	3,250	$ 130,000
5	Support of Excavation (multiplied by 66% for remedial excavation to 8 ft over 12 ft development excavation)	Linear Foot	$ 1,500	205	$ 307,500
6	Transport and Disposal of Non-Hazardous Impacted Fill and Soil Material	Ton	$ 50	4,830	$ 241,500
7	Transport and Disposal of Non-Hazardous Petroleum Impacted Fill Material	Ton	$ 55	0	$ -
8	Transport and Disposal of Hazardous Material (F Listed and/or Lead)	Ton	$ 275	33	$ 9,075
9	Backfill Procurement, Placement and Compaction	Cubic Yard	$ 28	0	$ -
10	Underground Storage Tank and Regulatory Paperwork (Contingency Budget)	Allowance	$ 75,000	1	$ 75,000
				Contractor Subtotal	$ 1,188,075
				Total	$ 1,716,075
				15% Contingency	$ 257,411
				Estimated Total (Rounded to the nearest $1,000)	$ 1,973,000

Notes:

1. Assuming a Track 2 Remedy with a 8 ft excavation and a 10 ft x10 ft hotspot to 2 ft bgs and a 10 ft x 20 ft hotspot to 2 ft bgs to remove hazardous lead.

2. Assumes density of 1.5 tons per cubic yard of fill/soil.

3. Assumes residual soil will meet Track 2 Restricted Residential Soil Cleanup Objectives

4. SOE Costs are based on a conventional soldier pile and timber lagging system with lateral bracing provided by either steel rakers or tiebacks.

5. Costs are estimated and subject to change. Costs do not include new building construction.

6. RAWP implementation is assumed to take 1 to 2 months.

7. This cost estimate was prepared to compare various remedial alternatives as was based on available information at the time of preparation. The estimate may be +/- 30-50% of the actual cost. This estimate was not prepared for financial or legal consulting purposes and was not intended for use regarding compliance with financial reporting requirements or liability services.

8. This estimate does not include legal fees associated with attorneys involved in the project, insurance fees or outside consulting fees.

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TABLE 3
TRACK 1 SOIL CLEANUP OBJECTIVES
338-344 GRAND CONCOURSE REDEVELOPMENT SITE
BRONX, NEW YORK
BCP SITE NO. C203188

PCBs/Pesticides (mg/kg)	
Delta-BHC	0.04
Lindane	0.025
Alpha-BHC	0.02
Beta-BHC	0.021
Heptachlor	0.013
Aldrin	0.0048
Endrin	0.014
Dieldrin	0.005
4,4'-DDE	0.0033
4,4'-DDD	0.0033
4,4'-DDT	0.0033
Endosulfan I	4.3
Endosulfan II	4.3
Endosulfan sulfate	4.3
cis-Chlordane	0.014
PCBs, Total	0.1

Volatile Organic Compounds (mg/kg)	
Methylene chloride	0.05
1,1-Dichloroethane	0.27
Chloroform	0.37
Carbon tetrachloride	0.76
Tetrachloroethene	1.3
Chlorobenzene	4.5
1,2-Dichloroethane	0.02
1,1,1-Trichloroethane	0.68
Benzene	0.06
Toluene	0.7
Ethylbenzene	1
Vinyl chloride	0.03
1,1-Dichloroethene	0.24
trans-1,2-Dichloroethene	0.19
Trichloroethene	0.47
1,2-Dichlorobenzene	1.1
1,3-Dichlorobenzene	2.6
1,4-Dichlorobenzene	1.8
Methyl tert butyl ether	0.1
Xylenes, Total	0.26
cis-1,2-Dichloroethene	0.19
Acetone	0.03
2-Butanone	0.1
n-Butylbenzene	18
sec-Butylbenzene	25
tert-Butylbenzene	11
Naphthalene	12
n-Propylbenzene	5
1,3,5-Trimethylbenzene	3.1
1,2,4-Trimethylbenzene	5.9
1,4-Dioxane	0.1

Semi-volatile Organic Compounds (mg/kg)	
Acenaphthene	20
Hexachlorobenzene	0.33
1,2-Dichlorobenzene	1.1
1,3-Dichlorobenzene	2.6
1,4-Dichlorobenzene	1.8
Fluoranthene	85
Naphthalene	12
Benzo(a)anthracene	1
Benzo(a)pyrene	1
Benzo(b)fluoranthene	1
Benzo(k)fluoranthene	0.8
Chrysene	1
Acenaphthylene	100
Anthracene	100
Benzo(ghi)perylene	0.64
Fluorene	30
Phenanthrene	1.1
Dibenzo(a,h)anthracene	0.33
Indeno(1,2,3-cd)pyrene	0.5
Pyrene	64
Dibenzofuran	2.1
Pentachlorophenol	0.8
Phenol	0.33
2-Methylphenol	0.33
3-Methylphenol/4-Methylphenol	0.33
1,4-Dioxane	0.1

Metals (mg/kg)	
Arsenic, Total	13
Barium, Total	410
Beryllium, Total	4.4
Cadmium, Total	2.5
Copper, Total	50
Lead, Total	63
Manganese, Total	1600
Mercury, Total	0.18
Nickel, Total	30
Selenium, Total	3.9
Silver, Total	2
Zinc, Total	109

PFAS (µg/kg)	
PFOA	0.66
PFOS	0.88

Notes:
1. Criteria are 6 NYCRR Part 375 Unrestricted Use Soil Cleanup Objectives or NYSDEC April 2023 PFAS Guidance Values.
2. mg/kg: milligram per kilogram (parts per million [ppm])
3. µg/kg: microgram per kilogram (parts per billion [ppb]) *4. Excavation to bedrock is anticipated. Confirmation samples are anticipated to be in the form of photo*

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FIGURES

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MAP SOURCE: ESRI
SITE COORDINATES: 40°48'54"N, 73°55'43"W

HALEY ALDRICH

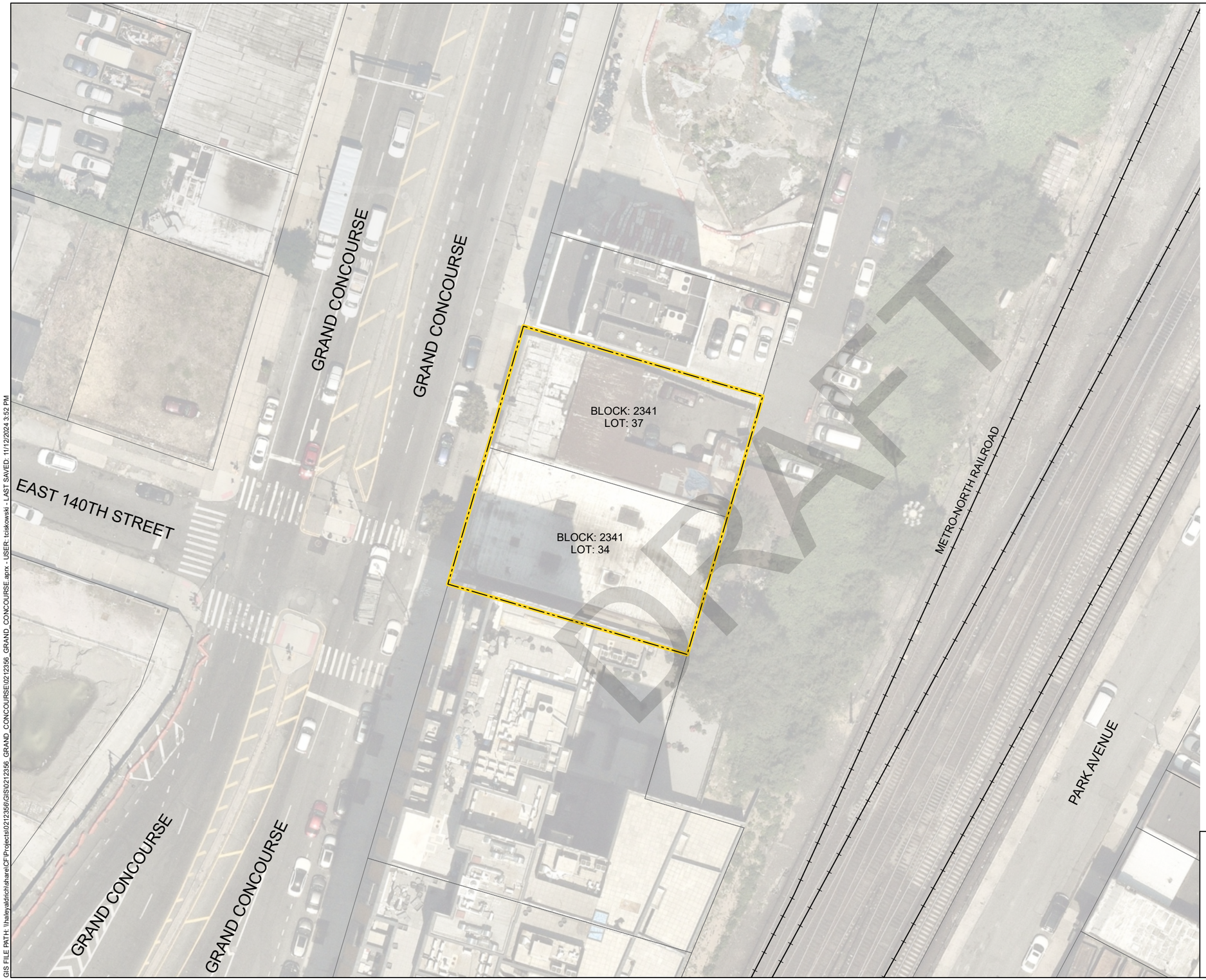
MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

PROJECT LOCUS

APPROXIMATE SCALE: 1 IN = 2000 FT
FEBRUARY 2026

FIGURE 1

GIS: \\haleyaldrich\share\CF\Projects\0212356\GIS\0212356_GRAND_CONCOURSE\0212356_GRAND_CONCOURSE.aprx - tciskowski - 10/15/2024 12:58 PM



LEGEND

- RAILROAD
- SITE BOUNDARY
- TAX LOT BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION

3. AERIAL IMAGERY SOURCE: NEARMAP, 18 JUNE 2024

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SCALE IN FEET

HALEY ALDRICH

MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

SITE PLAN

FEBRUARY 2026

FIGURE 2

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LEGEND

- SOIL BORING LOCATION
- SOIL BORING/PERMANENT MONITORING WELL LOCATION
- LEAD DELINEATION BORING LOCATION
- SOIL VAPOR SAMPLE LOCATION
- PREVIOUS SOIL BORING LOCATION
- PREVIOUS SOIL VAPOR SAMPLE LOCATION
- RAILROAD
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.

2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION

3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

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SCALE IN FEET

HALEY ALDRICH

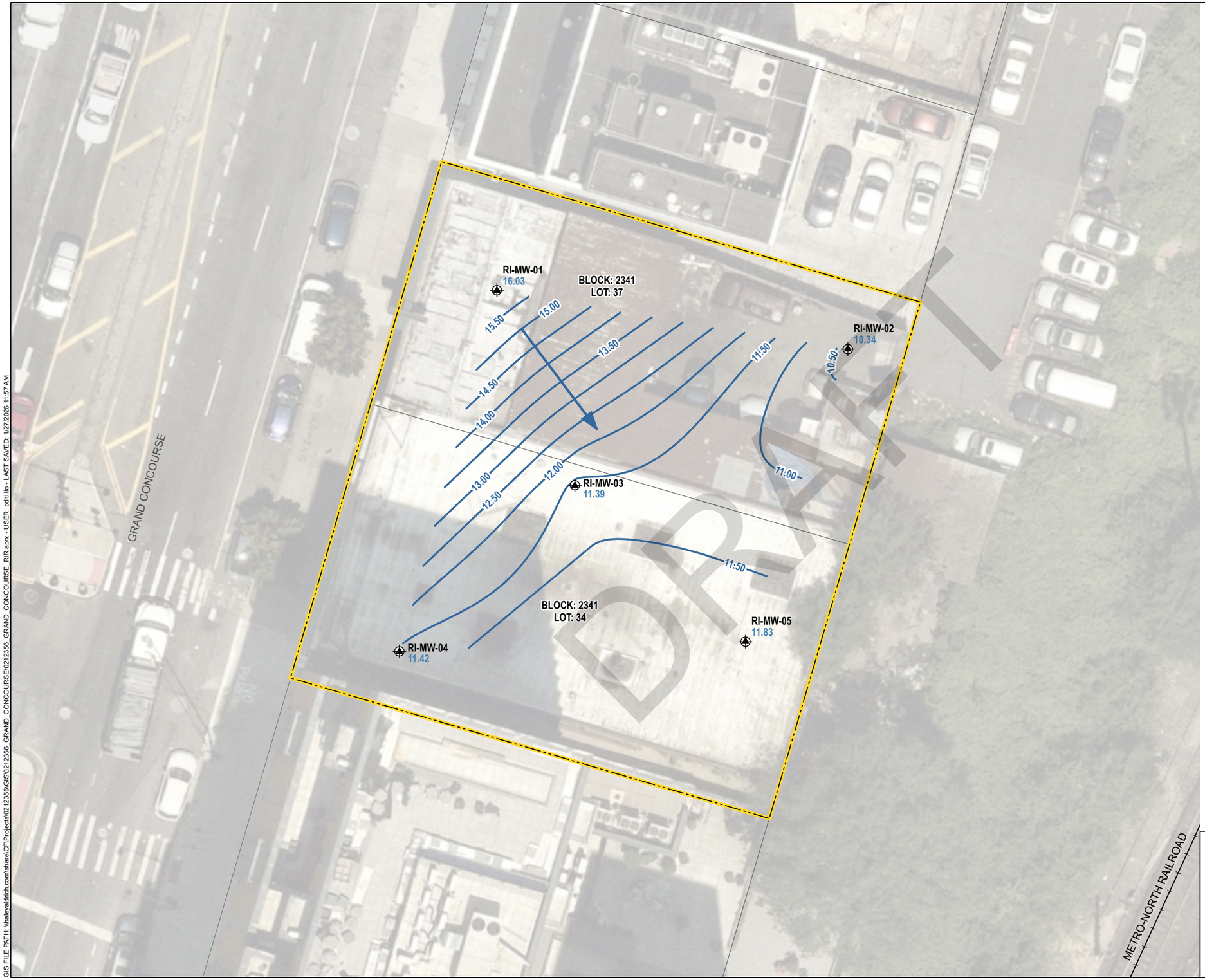
MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

SAMPLE LOCATION MAP

FEBRUARY 2026

FIGURE 3

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LEGEND

- MONITORING WELL
- RAILROAD
- GROUNDWATER ELEVATION CONTOUR, IN FEET. DASHED WHERE INFERRED
- GROUNDWATER FLOW DIRECTION
- SITE BOUNDARY
- PARCEL BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
3. AERIAL IMAGERY SOURCE: NEARMAP, JUNE 18, 2024

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SCALE IN FEET

HALEY ALDRICH

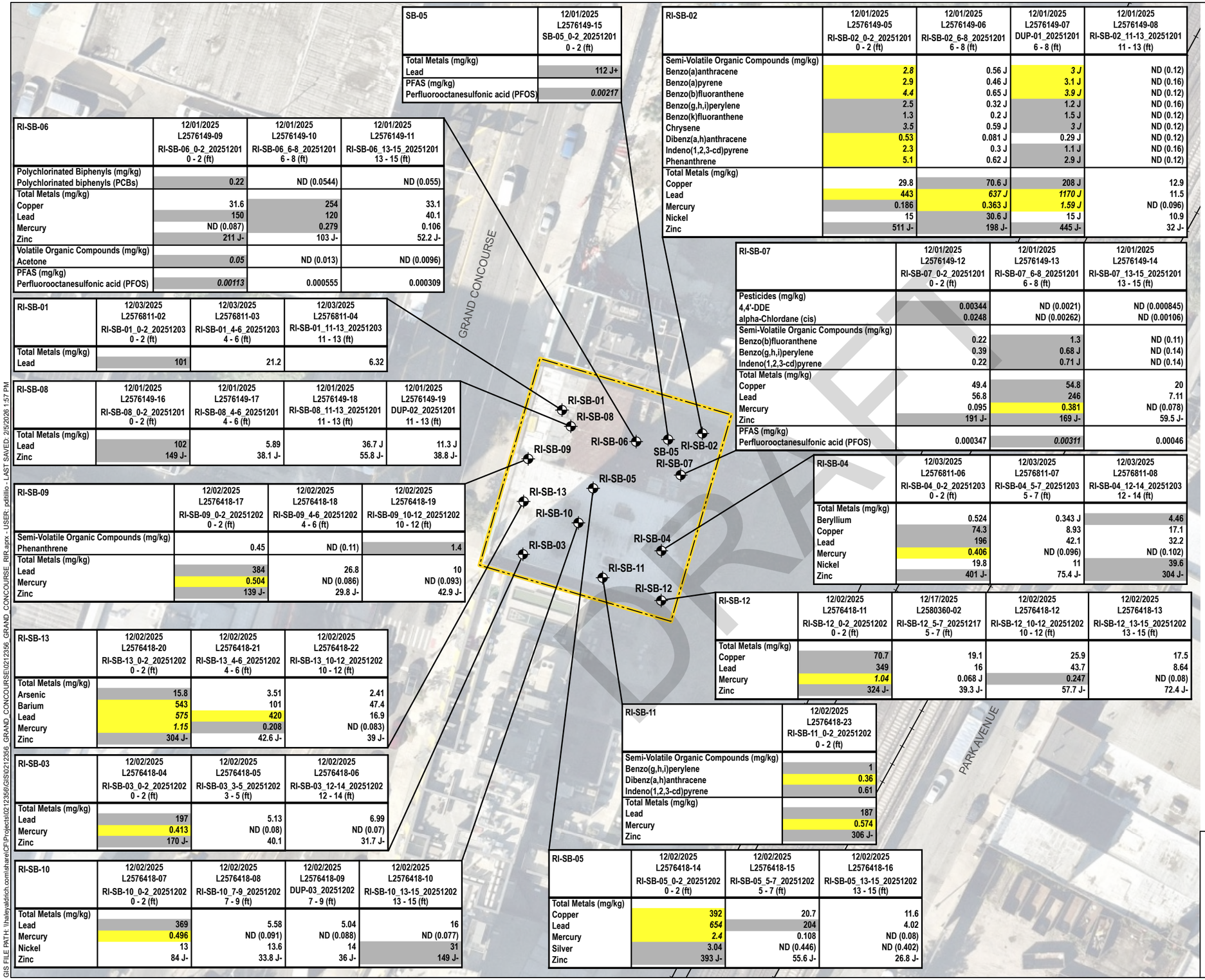
MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

GROUNDWATER CONTOUR MAP

FEBRUARY 2026

FIGURE 4

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SB-05	12/01/2025 L2576149-15 SB-05_0-2_20251201 0 - 2 (ft)
Total Metals (mg/kg)	
Lead	112 J+
PFAS (mg/kg)	
Perfluorooctanesulfonic acid (PFOS)	*0.00217*

RI-SB-02	12/01/2025 L2576149-05 RI-SB-02_0-2_20251201 0 - 2 (ft)	12/01/2025 L2576149-06 RI-SB-02_6-8_20251201 6 - 8 (ft)	12/01/2025 L2576149-07 DUP-01_20251201 6 - 8 (ft)	12/01/2025 L2576149-08 RI-SB-02_11-13_20251201 11 - 13 (ft)
Semi-Volatile Organic Compounds (mg/kg)				
Benzo(a)anthracene	*2.8*	0.56 J	*3 J*	ND (0.12)
Benzo(a)pyrene	2.9	0.46 J	3.1 J	ND (0.16)
Benzo(b)fluoranthene	*4.4*	0.65 J	*3.9 J*	ND (0.12)
Benzo(g,h,i)perylene	2.5	0.32 J	1.2 J	ND (0.16)
Benzo(k)fluoranthene	1.3	0.2 J	1.5 J	ND (0.12)
Chrysene	*3.5*	0.59 J	*3 J*	ND (0.12)
Dibenz(a,h)anthracene	0.53	0.081 J	0.29 J	ND (0.12)
Indeno(1,2,3-cd)pyrene	2.3	0.3 J	1.1 J	ND (0.16)
Phenanthrene	5.1	0.62 J	2.9 J	ND (0.12)
Total Metals (mg/kg)				
Copper	29.8	70.6 J	208 J	12.9
Lead	443	*637 J*	*1170 J*	11.5
Mercury	0.186	0.363 J	*1.59 J*	ND (0.096)
Nickel	15	30.6 J	15 J	10.9
Zinc	511 J-	198 J-	445 J-	32 J-

RI-SB-06	12/01/2025 L2576149-09 RI-SB-06_0-2_20251201 0 - 2 (ft)	12/01/2025 L2576149-10 RI-SB-06_6-8_20251201 6 - 8 (ft)	12/01/2025 L2576149-11 RI-SB-06_13-15_20251201 13 - 15 (ft)
Polychlorinated Biphenyls (mg/kg)			
Polychlorinated biphenyls (PCBs)	0.22	ND (0.0544)	ND (0.055)
Total Metals (mg/kg)			
Copper	31.6	254	33.1
Lead	150	120	40.1
Mercury	ND (0.087)	0.279	0.106
Zinc	211 J-	103 J-	52.2 J-
Volatile Organic Compounds (mg/kg)			
Acetone	*0.05*	ND (0.013)	ND (0.0096)
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	*0.00113*	0.000555	0.000309

RI-SB-07	12/01/2025 L2576149-12 RI-SB-07_0-2_20251201 0 - 2 (ft)	12/01/2025 L2576149-13 RI-SB-07_6-8_20251201 6 - 8 (ft)	12/01/2025 L2576149-14 RI-SB-07_13-15_20251201 13 - 15 (ft)
Pesticides (mg/kg)			
4,4'-DDE	0.00344	ND (0.0021)	ND (0.000845)
alpha-Chlordane (cis)	0.0248	ND (0.00262)	ND (0.00106)
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(b)fluoranthene	0.22	1.3	ND (0.11)
Benzo(g,h,i)perylene	0.39	0.68 J	ND (0.14)
Indeno(1,2,3-cd)pyrene	0.22	0.71 J	ND (0.14)
Total Metals (mg/kg)			
Copper	49.4	54.8	20
Lead	56.8	246	7.11
Mercury	0.095	0.381	ND (0.078)
Zinc	191 J-	169 J-	59.5 J-
PFAS (mg/kg)			
Perfluorooctanesulfonic acid (PFOS)	0.000347	*0.00311*	0.00046

RI-SB-01	12/03/2025 L2576811-02 RI-SB-01_0-2_20251203 0 - 2 (ft)	12/03/2025 L2576811-03 RI-SB-01_4-6_20251203 4 - 6 (ft)	12/03/2025 L2576811-04 RI-SB-01_11-13_20251203 11 - 13 (ft)
Total Metals (mg/kg)			
Lead	101	21.2	6.32

RI-SB-04	12/03/2025 L2576811-06 RI-SB-04_0-2_20251203 0 - 2 (ft)	12/03/2025 L2576811-07 RI-SB-04_5-7_20251203 5 - 7 (ft)	12/03/2025 L2576811-08 RI-SB-04_12-14_20251203 12 - 14 (ft)
Total Metals (mg/kg)			
Beryllium	0.524	0.343 J	4.46
Copper	74.3	8.93	17.1
Lead	196	42.1	32.2
Mercury	0.406	ND (0.096)	ND (0.102)
Nickel	19.8	11	39.6
Zinc	401 J-	75.4 J-	304 J-

RI-SB-08	12/01/2025 L2576149-16 RI-SB-08_0-2_20251201 0 - 2 (ft)	12/01/2025 L2576149-17 RI-SB-08_4-6_20251201 4 - 6 (ft)	12/01/2025 L2576149-18 RI-SB-08_11-13_20251201 11 - 13 (ft)	12/01/2025 L2576149-19 DUP-02_20251201 11 - 13 (ft)
Total Metals (mg/kg)				
Lead	102	5.89	36.7 J	11.3 J
Zinc	149 J-	38.1 J-	55.8 J-	38.8 J-

RI-SB-09	12/02/2025 L2576418-17 RI-SB-09_0-2_20251202 0 - 2 (ft)	12/02/2025 L2576418-18 RI-SB-09_4-6_20251202 4 - 6 (ft)	12/02/2025 L2576418-19 RI-SB-09_10-12_20251202 10 - 12 (ft)
Semi-Volatile Organic Compounds (mg/kg)			
Phenanthrene	0.45	ND (0.11)	1.4
Total Metals (mg/kg)			
Lead	384	26.8	10
Mercury	0.504	ND (0.086)	ND (0.093)
Zinc	139 J-	29.8 J-	42.9 J-

RI-SB-12	12/02/2025 L2576418-11 RI-SB-12_0-2_20251202 0 - 2 (ft)	12/17/2025 L2580360-02 RI-SB-12_5-7_20251217 5 - 7 (ft)	12/02/2025 L2576418-12 RI-SB-12_10-12_20251202 10 - 12 (ft)	12/02/2025 L2576418-13 RI-SB-12_13-15_20251202 13 - 15 (ft)
Total Metals (mg/kg)				
Copper	70.7	19.1	25.9	17.5
Lead	349	16	43.7	8.64
Mercury	*1.04*	0.068 J	0.247	ND (0.08)
Zinc	324 J-	39.3 J-	57.7 J-	72.4 J-

RI-SB-13	12/02/2025 L2576418-20 RI-SB-13_0-2_20251202 0 - 2 (ft)	12/02/2025 L2576418-21 RI-SB-13_4-6_20251202 4 - 6 (ft)	12/02/2025 L2576418-22 RI-SB-13_10-12_20251202 10 - 12 (ft)
Total Metals (mg/kg)			
Arsenic	15.8	3.51	2.41
Barium	543	101	47.4
Lead	*575*	420	16.9
Mercury	*1.15*	0.208	ND (0.083)
Zinc	304 J-	42.6 J-	39 J-

RI-SB-11	12/02/2025 L2576418-23 RI-SB-11_0-2_20251202 0 - 2 (ft)
Semi-Volatile Organic Compounds (mg/kg)	
Benzo(g,h,i)perylene	1
Dibenz(a,h)anthracene	0.36
Indeno(1,2,3-cd)pyrene	0.61
Total Metals (mg/kg)	
Lead	187
Mercury	0.574
Zinc	306 J-

RI-SB-03	12/02/2025 L2576418-04 RI-SB-03_0-2_20251202 0 - 2 (ft)	12/02/2025 L2576418-05 RI-SB-03_3-5_20251202 3 - 5 (ft)	12/02/2025 L2576418-06 RI-SB-03_12-14_20251202 12 - 14 (ft)
Total Metals (mg/kg)			
Lead	197	5.13	6.99
Mercury	0.413	ND (0.08)	ND (0.07)
Zinc	170 J-	40.1	31.7 J-

RI-SB-05	12/02/2025 L2576418-14 RI-SB-05_0-2_20251202 0 - 2 (ft)	12/02/2025 L2576418-15 RI-SB-05_5-7_20251202 5 - 7 (ft)	12/02/2025 L2576418-16 RI-SB-05_13-15_20251202 13 - 15 (ft)
Total Metals (mg/kg)			
Copper	392	20.7	11.6
Lead	*654*	204	4.02
Mercury	*2.4*	0.108	ND (0.08)
Silver	3.04	ND (0.446)	ND (0.402)
Zinc	393 J-	55.6 J-	26.8 J-

RI-SB-10	12/02/2025 L2576418-07 RI-SB-10_0-2_20251202 0 - 2 (ft)	12/02/2025 L2576418-08 RI-SB-10_7-9_20251202 7 - 9 (ft)	12/02/2025 L2576418-09 DUP-03_20251202 7 - 9 (ft)	12/02/2025 L2576418-10 RI-SB-10_13-15_20251202 13 - 15 (ft)
Total Metals (mg/kg)				
Lead	369	5.58	5.04	16
Mercury	0.496	ND (0.091)	ND (0.088)	ND (0.077)
Nickel	13	13.6	14	31
Zinc	84 J-	33.8 J-	36 J-	149 J-

LEGEND

- SOIL BORING
- RAILROAD
- SITE BOUNDARY

Analyte	*NY-PGW*	NY-RESR	NY-UNRES
PCBs (mg/kg)			
Polychlorinated biphenyls	3.2	1	0.1
Pesticides (mg/kg)			
4,4'-DDE	17	8.9	0.0033
Semi-Volatile Organic Compounds (mg/kg)			
Benzo(a)anthracene	1	1	1
Benzo(a)pyrene	22	1	1
Benzo(b)fluoranthene	1.7	1	1
Benzo(k)fluoranthene	1.7	3.9	0.8
Chrysene	1	3.9	1
Dibenz(a,h)anthracene	1000	0.33	0.33
Indeno(1,2,3-cd)pyrene	8.2	0.5	0.5
Total Metals (mg/kg)			
Arsenic	16	16	13
Barium	820	400	350
Copper	1720	270	50
Lead	450	400	63
Mercury	0.73	0.81	0.18
Nickel	130	310	30
Silver	8.3	180	2
Zinc	2480	10000	109

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SOIL ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO), RESTRICTED-USE RESIDENTIAL SCOS, AND PROTECTION OF GROUNDWATER SCO'S.
3. EXCEEDANCES OF NY-UNRES SCOs ARE SHADED GRAY. EXCEEDANCES OF NY-UNRES AND NY-RESRR ARE SHADED YELLOW ***ITALICS***
4. NY-PGW - NYSDEC PART 375 PROTECTION OF GROUNDWATER CRITERIA
5. NY-RESR - NYSDEC PART 375 RESTRICTED-USE RESIDENTIAL SCOs
6. NY-UNRES - NYSDEC PART 375 UNRESTRICTED USE SCOs
7. MG/KG: MILLIGRAM PER KILOGRAM
8. ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
9. J: VALUE IS ESTIMATED.
10. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

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SCALE IN FEET

HALEY ALDRICH

MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

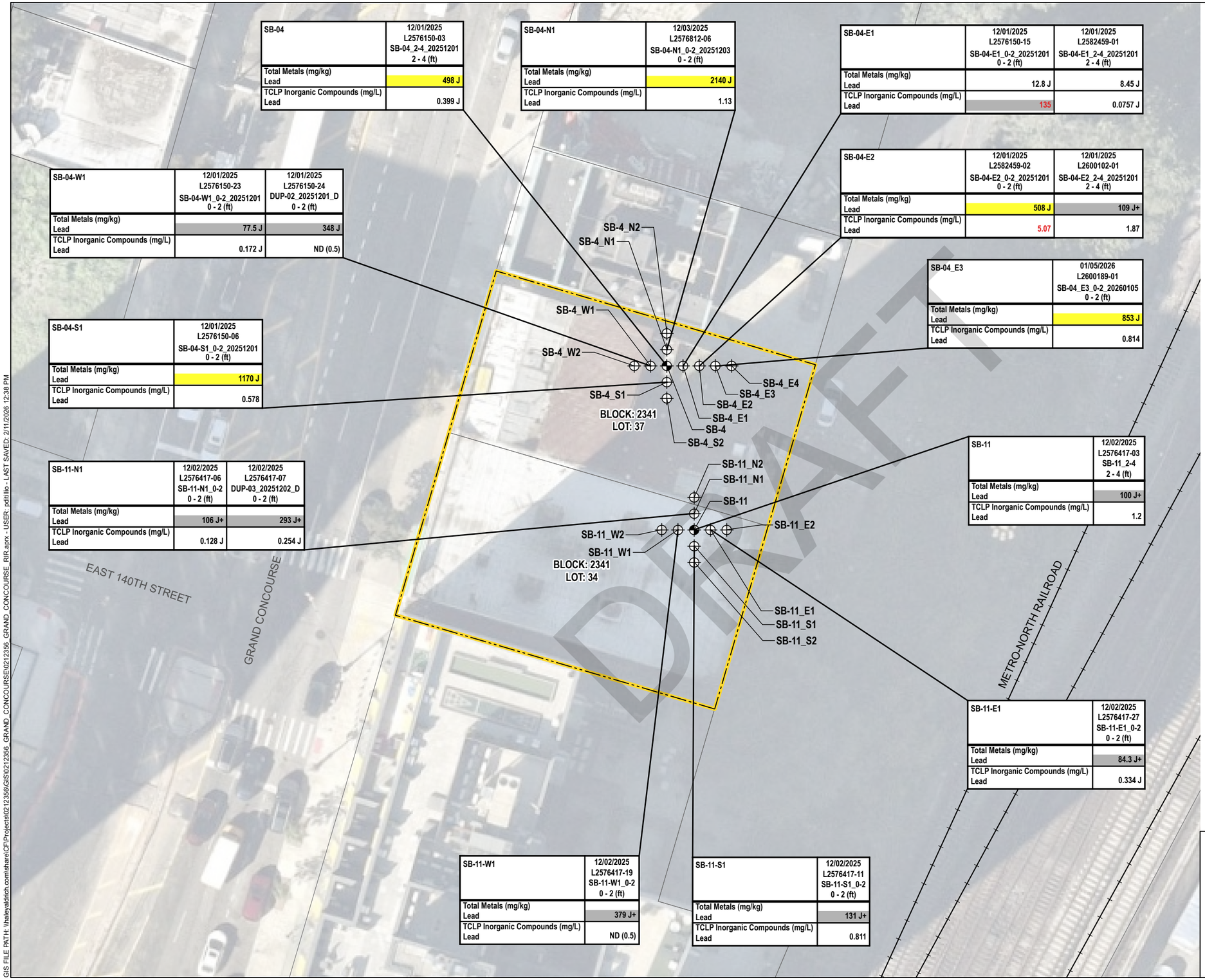
SOIL RESULTS EXCEEDANCE MAP

FEBRUARY 2026

FIGURE 5

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LEGEND

- SOIL BORING
- LEAD DELINEATION BORING
- RAILROAD
- SITE BOUNDARY
- PARCEL BOUNDARY

Analyte	NY-RESR	NY-UNRES	TCLP
Total Metals (mg/kg)			
Lead	400	63	NA
TCLP Metals (mg/L)			
Lead	NA	NA	5

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. SOIL ANALYTICAL RESULTS ARE COMPARED TO THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION (NYSDEC) TITLE 6 OF THE OFFICIAL COMPILATION OF NEW YORK CODES, RULES, AND REGULATIONS (NYCRR) PART 375 UNRESTRICTED USE SOIL CLEANUP OBJECTIVES (SCO), RESTRICTED-USE RESIDENTIAL SCOS, EPA TCLP CRITERIA
3. EXCEEDANCES OF THE UNRESTRICTED SCOS ARE SHADED GRAY.
4. EXCEEDANCES OF THE RESTRICTED SCOS ARE SHADED YELLOW.
5. EXCEEDANCES OF THE TCLP CRITERIA ARE SHOWN IN RED.
6. DEFINITIONS:
   NY-PGW - NYSDEC PART 375 PROTECTION OF GROUNDWATER CRITERIA
   NY-RESR - NYSDEC PART 375 RESTRICTED-USE RESIDENTIAL SCOs
   TCLP - ENVIRONMENTAL PROTECTION AGENCY TOXICITY CHARACTERISTIC LEACHING PROCEDURE
   MG/KG: MILLIGRAM PER KILOGRAM
   MG/L: MILLIGRAM PER LITER
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
   J: VALUE IS ESTIMATED.
7. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
8. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

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SCALE IN FEET

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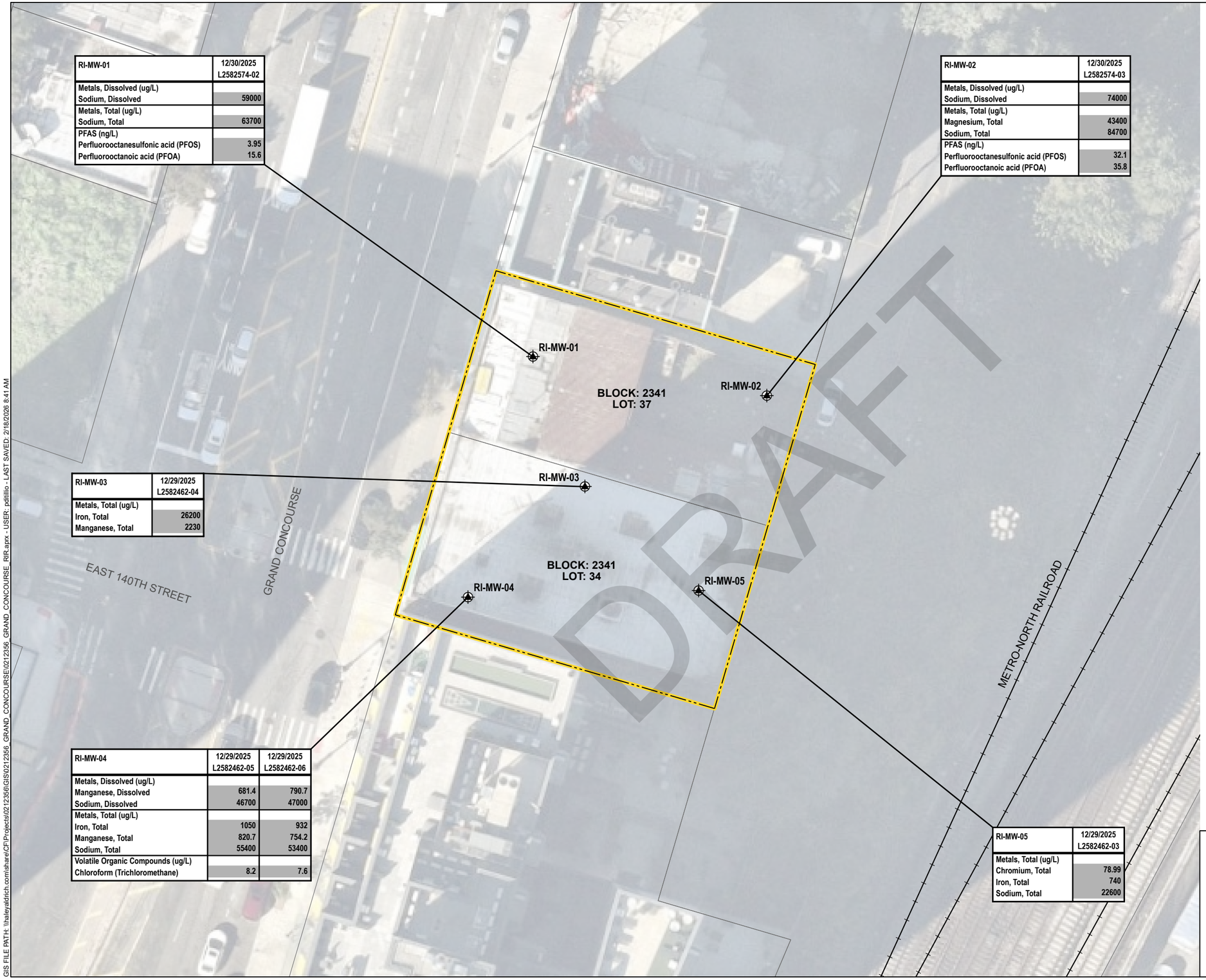
MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

LEAD DELINEATION RESULTS EXCEEDANCE MAP

FEBRUARY 2026

FIGURE 6

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RI-MW-01	12/30/2025 L2582574-02
Metals, Dissolved (ug/L)	
Sodium, Dissolved	59000
Metals, Total (ug/L)	
Sodium, Total	63700
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	3.95
Perfluorooctanoic acid (PFOA)	15.6

RI-MW-02	12/30/2025 L2582574-03
Metals, Dissolved (ug/L)	
Sodium, Dissolved	74000
Metals, Total (ug/L)	
Magnesium, Total	43400
Sodium, Total	84700
PFAS (ng/L)	
Perfluorooctanesulfonic acid (PFOS)	32.1
Perfluorooctanoic acid (PFOA)	35.8

RI-MW-03	12/29/2025 L2582462-04
Metals, Total (ug/L)	
Iron, Total	26200
Manganese, Total	2230

RI-MW-04	12/29/2025 L2582462-05	12/29/2025 L2582462-06
Metals, Dissolved (ug/L)		
Manganese, Dissolved	681.4	790.7
Sodium, Dissolved	46700	47000
Metals, Total (ug/L)		
Iron, Total	1050	932
Manganese, Total	820.7	754.2
Sodium, Total	55400	53400
Volatile Organic Compounds (ug/L)		
Chloroform (Trichloromethane)	8.2	7.6

RI-MW-05	12/29/2025 L2582462-03
Metals, Total (ug/L)	
Chromium, Total	78.99
Iron, Total	740
Sodium, Total	22600

LEGEND

- MONITORING WELL
- RAILROAD
- SITE BOUNDARY
- PARCEL BOUNDARY

	New York TOGS 111 Ambient Water Quality Standards	New York April 2023 Ambient Water Quality Guidance Values (AWQGV)
Metals, Dissolved (ug/L)		
Manganese, Dissolved	300	NA
Sodium, Dissolved	20000	NA
Metals, Total (ug/L)		
Chromium, Total	50	NA
Iron, Total	300	NA
Magnesium, Total	35000	NA
Manganese, Total	300	NA
Sodium, Total	20000	NA
PFAS (ng/L)		
Perfluorooctanesulfonic acid (PFOS)	2.7	2.7
erfluorooctanoic acid (PFOA)	4	6.7
olatile Organic Compounds (ug/L)		
Chloroform (Trichloromethane)	7	NA

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. GROUNDWATER ANALYTICAL RESULTS ARE COMPARED TO NYSDEC TECHNICAL AND OPERATIONAL GUIDANCE SERIES (TOGS) 1.1.1 AMBIENT WATER QUALITY STANDARDS AND GUIDANCE VALUES (SGVS) FOR CLASS GA WATER.
   EXCEEDANCES OF THE OF THE CRITERIA ARE SHADED GRAY.
3. DEFINITIONS:
   NA: NOT APPLICABLE
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
   PFAS: PER- AND POLYFLUOROALKYL SUBSTANCES
   J: VALUE IS ESTIMATED
   ug/L: MICROGRAMS PER LITER
   ng/L: NANOGRAMS PER LITER
4. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
5. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

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SCALE IN FEET

HALEY ALDRICH

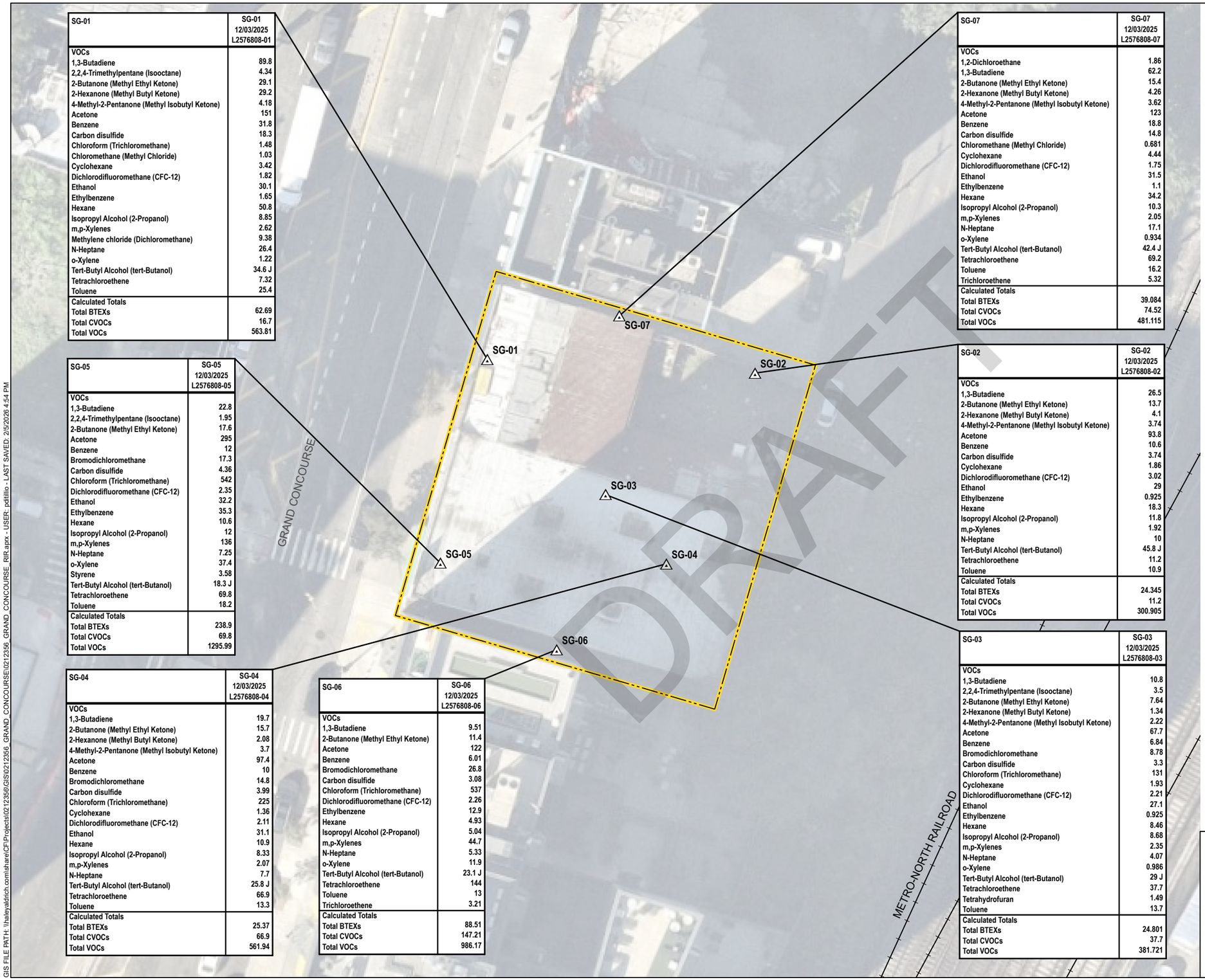
MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

GROUNDWATER RESULTS EXCEEDANCE MAP

FEBRUARY 2026

FIGURE 7

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0212356\GIS\0212356_GRAND_CONCOURSE\0212356_GRAND_CONCOURSE_RIR.aprx - USER: pdilillo - LAST SAVED: 2/18/2026 8:41 AM



SG-01	SG-01 12/03/2025 L2576808-01
VOCs	
1,3-Butadiene	89.8
2,2,4-Trimethylpentane (Isooctane)	4.34
2-Butanone (Methyl Ethyl Ketone)	29.1
2-Hexanone (Methyl Butyl Ketone)	29.2
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	4.18
Acetone	151
Benzene	31.8
Carbon disulfide	18.3
Chloroform (Trichloromethane)	1.48
Chloromethane (Methyl Chloride)	1.03
Cyclohexane	3.42
Dichlorodifluoromethane (CFC-12)	1.82
Ethanol	30.1
Ethylbenzene	1.65
Hexane	50.8
Isopropyl Alcohol (2-Propanol)	8.85
m,p-Xylenes	2.62
Methylene chloride (Dichloromethane)	9.38
N-Heptane	26.4
o-Xylene	1.22
Tert-Butyl Alcohol (tert-Butanol)	34.6 J
Tetrachloroethene	7.32
Toluene	25.4
Calculated Totals	
Total BTEXs	62.69
Total CVOCs	16.7
Total VOCs	563.81

SG-05	SG-05 12/03/2025 L2576808-05
VOCs	
1,3-Butadiene	22.8
2,2,4-Trimethylpentane (Isooctane)	1.95
2-Butanone (Methyl Ethyl Ketone)	17.6
Acetone	295
Benzene	12
Bromodichloromethane	17.3
Carbon disulfide	4.36
Chloroform (Trichloromethane)	542
Dichlorodifluoromethane (CFC-12)	2.35
Ethanol	32.2
Ethylbenzene	35.3
Hexane	10.6
Isopropyl Alcohol (2-Propanol)	12
m,p-Xylenes	136
N-Heptane	7.25
o-Xylene	37.4
Styrene	3.58
Tert-Butyl Alcohol (tert-Butanol)	18.3 J
Tetrachloroethene	69.8
Toluene	18.2
Calculated Totals	
Total BTEXs	238.9
Total CVOCs	69.8
Total VOCs	1295.99

SG-04	SG-04 12/03/2025 L2576808-04
VOCs	
1,3-Butadiene	19.7
2-Butanone (Methyl Ethyl Ketone)	15.7
2-Hexanone (Methyl Butyl Ketone)	2.08
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	3.7
Acetone	97.4
Benzene	10
Bromodichloromethane	14.8
Carbon disulfide	3.99
Chloroform (Trichloromethane)	225
Cyclohexane	1.36
Dichlorodifluoromethane (CFC-12)	2.11
Ethanol	31.1
Hexane	10.9
Isopropyl Alcohol (2-Propanol)	8.33
m,p-Xylenes	2.07
N-Heptane	7.7
Tert-Butyl Alcohol (tert-Butanol)	25.8 J
Tetrachloroethene	66.9
Toluene	13.3
Calculated Totals	
Total BTEXs	25.37
Total CVOCs	66.9
Total VOCs	561.94

SG-06	SG-06 12/03/2025 L2576808-06
VOCs	
1,3-Butadiene	9.51
2-Butanone (Methyl Ethyl Ketone)	11.4
Acetone	122
Benzene	6.01
Bromodichloromethane	26.8
Carbon disulfide	3.08
Chloroform (Trichloromethane)	537
Dichlorodifluoromethane (CFC-12)	2.26
Ethylbenzene	12.9
Hexane	4.93
Isopropyl Alcohol (2-Propanol)	5.04
m,p-Xylenes	44.7
N-Heptane	5.33
o-Xylene	11.9
Tert-Butyl Alcohol (tert-Butanol)	23.1 J
Tetrachloroethene	144
Toluene	13
Trichloroethene	3.21
Calculated Totals	
Total BTEXs	88.51
Total CVOCs	147.21
Total VOCs	986.17

SG-07	SG-07 12/03/2025 L2576808-07
VOCs	
1,2-Dichloroethane	1.86
1,3-Butadiene	62.2
2-Butanone (Methyl Ethyl Ketone)	15.4
2-Hexanone (Methyl Butyl Ketone)	4.26
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	3.62
Acetone	123
Benzene	18.8
Carbon disulfide	14.8
Chloromethane (Methyl Chloride)	0.681
Cyclohexane	4.44
Dichlorodifluoromethane (CFC-12)	1.75
Ethanol	31.5
Ethylbenzene	1.1
Hexane	34.2
Isopropyl Alcohol (2-Propanol)	10.3
m,p-Xylenes	2.05
N-Heptane	17.1
o-Xylene	0.934
Tert-Butyl Alcohol (tert-Butanol)	42.4 J
Tetrachloroethene	69.2
Toluene	16.2
Trichloroethene	5.32
Calculated Totals	
Total BTEXs	39.084
Total CVOCs	74.52
Total VOCs	481.115

SG-02	SG-02 12/03/2025 L2576808-02
VOCs	
1,3-Butadiene	26.5
2-Butanone (Methyl Ethyl Ketone)	13.7
2-Hexanone (Methyl Butyl Ketone)	4.1
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	3.74
Acetone	93.8
Benzene	10.6
Carbon disulfide	3.74
Cyclohexane	1.86
Dichlorodifluoromethane (CFC-12)	3.02
Ethanol	29
Ethylbenzene	0.925
Hexane	18.3
Isopropyl Alcohol (2-Propanol)	11.8
m,p-Xylenes	1.92
N-Heptane	10
Tert-Butyl Alcohol (tert-Butanol)	45.8 J
Tetrachloroethene	11.2
Toluene	10.9
Calculated Totals	
Total BTEXs	24.345
Total CVOCs	11.2
Total VOCs	300.905

SG-03	SG-03 12/03/2025 L2576808-03
VOCs	
1,3-Butadiene	10.8
2,2,4-Trimethylpentane (Isooctane)	3.5
2-Butanone (Methyl Ethyl Ketone)	7.64
2-Hexanone (Methyl Butyl Ketone)	1.34
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	2.22
Acetone	67.7
Benzene	6.84
Bromodichloromethane	8.78
Carbon disulfide	3.3
Chloroform (Trichloromethane)	131
Cyclohexane	1.93
Dichlorodifluoromethane (CFC-12)	2.21
Ethanol	27.1
Ethylbenzene	0.925
Hexane	8.46
Isopropyl Alcohol (2-Propanol)	8.68
m,p-Xylenes	2.35
N-Heptane	4.07
o-Xylene	0.986
Tert-Butyl Alcohol (tert-Butanol)	29 J
Tetrachloroethene	37.7
Tetrahydrofuran	1.49
Toluene	13.7
Calculated Totals	
Total BTEXs	24.801
Total CVOCs	37.7
Total VOCs	381.721

LEGEND

- SOIL VAPOR SAMPLE
- RAILROAD
- SITE BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. RESULTS ARE DISPLAYED IN MICROGRAMS PER CUBIC METER (µg/m3).
3. DEFINITIONS:
   CVOCS: CHLORINATED VOLATILE ORGANIC COMPOUNDS
   TOTAL BTEX IS THE SUM OF BENZENE, TOLUENE, ETHYLBENZENE, XYLENES
   TOTAL CVOCS IS THE SUM OF ALL THE DETECTED CONCENTRATIONS OF CARBON TETRACHLORIDE, 1,1-DICHLOROETHENE, CIS-1,2-DICHLOROETHENE, TRICHLOROETHENE, METHYLENE CHLORIDE, TETRACHLOROETHENE, 1,1,1-TRICHLOROETHANE, AND VINYL CHLORIDE
   TOTAL VOCS IS THE SUM OF ALL THE DETECTED CONCENTRATIONS
   ND (2.5): NOT DETECTED, NUMBER IN PARENTHESES IS THE LABORATORY REPORTING LIMIT
   J: VALUE IS ESTIMATED.
4. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 30 60
SCALE IN FEET

HALEY ALDRICH

MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

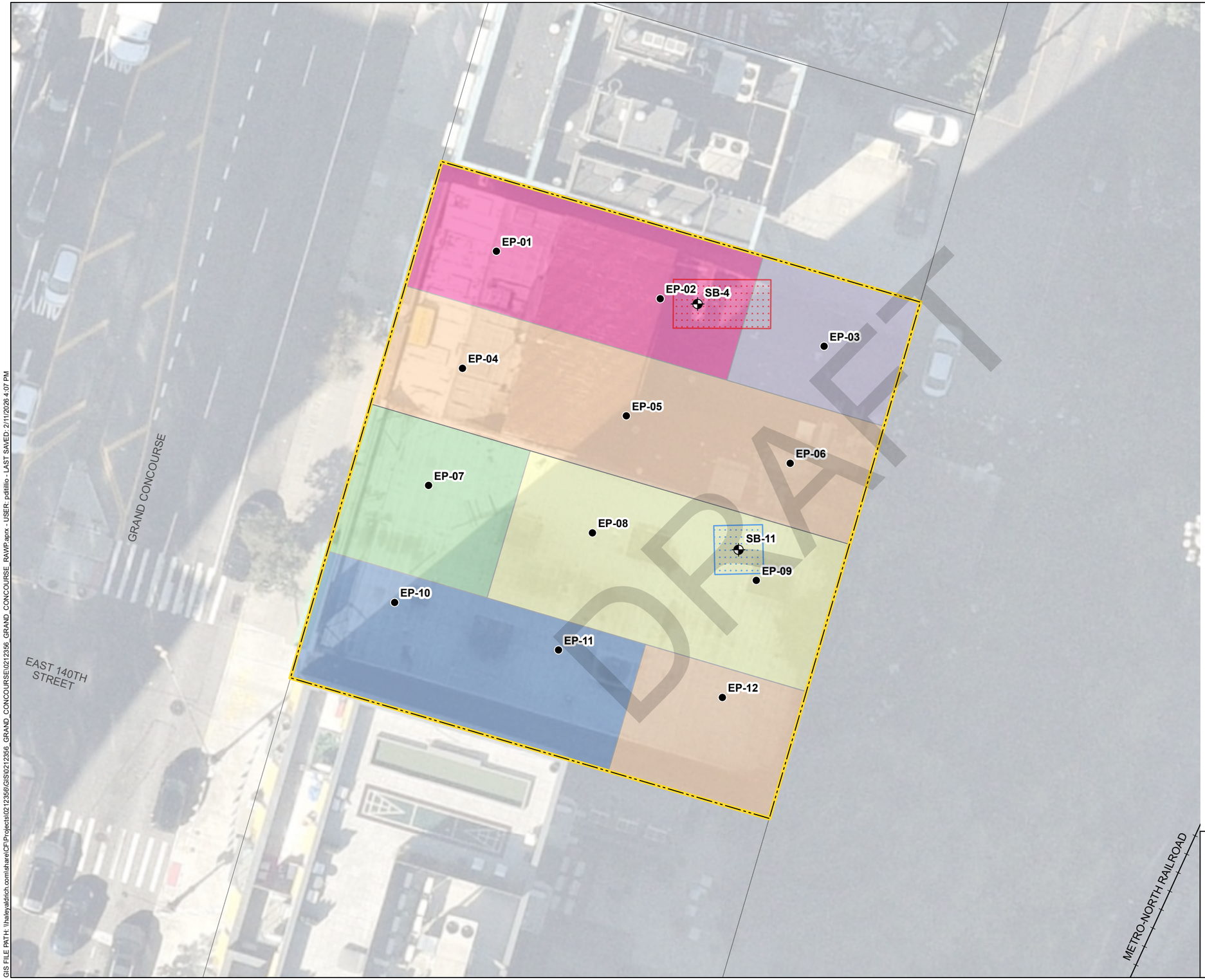
SOIL VAPOR RESULTS EXCEEDANCE MAP

FEBRUARY 2026

FIGURE 8

DRAFT

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0212356\GIS\0212356_GRAND_CONCOURSE\0212356_GRAND_CONCOURSE_RIR.aprx - USER: pdilillo - LAST SAVED: 2/5/2026 4:54 PM



LEGEND

- PROPOSED ENDPOINT SAMPLE
- SOIL BORING
- RAILROAD
- SITE BOUNDARY
- TAX LOT BOUNDARY

ANTICIPATED REMEDIAL EXCAVATION DEPTH IN FEET BELOW GROUND SURFACE (FT BGS)

- EXCAVATION TO 3 FT BGS
- EXCAVATION TO 4 FT BGS
- EXCAVATION TO 10 FT BGS
- EXCAVATION TO 11 FT BGS
- EXCAVATION TO 13 FT BGS
- EXCAVATION TO 15 FT BGS
- SB-04 LEAD HOTSPOT REMOVAL (10'X20'X2' DEEP)
- SB-11 LEAD HOTSPOT REMOVAL (10'X10'X2' DEEP)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

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SCALE IN FEET

HALEY ALDRICH

MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

ALTERNATIVE I EXCAVATION PLAN

FEBRUARY 2026

FIGURE 9

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LEGEND

- PROPOSED ENDPOINT SAMPLE
- RAILROAD
- SITE BOUNDARY
- TAX LOT BOUNDARY

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

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SCALE IN FEET

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MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

ENDPOINT SAMPLE LOCATION PLAN

FEBRUARY 2026

FIGURE 10

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LEGEND

- PROPOSED ENDPOINT SAMPLE
- SOIL BORING
- RAILROAD
- SITE BOUNDARY
- TAX LOT BOUNDARY
- EXCAVATION TO A MAXIMUM DEPTH OF 8 FT BGS
- SB-04 LEAD HOTSPOT REMOVAL (10'X20'X2' DEEP)
- SB-11 LEAD HOTSPOT REMOVAL (10'X10'X2' DEEP)

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
3. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 20 40
SCALE IN FEET

HALEY ALDRICH

MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

ALTERNATIVE II EXCAVATION PLAN

FEBRUARY 2026

FIGURE 11

GIS FILE PATH: \\haleyaldrich.com\share\CFLProjects\0212356\GIS\0212356_GRAND_CONCOURSE\0212356_GRAND_CONCOURSE_RAWP.aprx - USER: pdilillo - LAST SAVED: 2/11/2026 3:23 PM





LEGEND

- (11) PRINCIPAL ARTERIAL INTERSTATE
- (12) PRINCIPAL ARTERIAL EXPRESSWAY
- (14) PRINCIPAL ARTERIAL OTHER
- (16) MINOR ARTERIAL
- (17) MAJOR COLLECTOR

LEGEND

- SITE BOUNDARY
- PARCEL BOUNDARY
- TRUCK EGRESS
- TRUCK INGRESS

NOTES

1. ALL LOCATIONS AND DIMENSIONS ARE APPROXIMATE.
2. ASSESSOR PARCEL DATA SOURCE: NYC DEPARTMENT OF CITY PLANNING, INFORMATION TECHNOLOGY DIVISION
3. BASE MAP SOURCE: ESRI
4. AERIAL IMAGERY SOURCE: NEARMAP, OCTOBER 1, 2025

N

0 30 60
SCALE IN FEET

HALEY ALDRICH

MANHATTAN MANAGEMENT REALTY
338-344 GRAND CONCOURSE
BRONX, NEW YORK

TRUCK ROUTE MAP

FEBRUARY 2026

FIGURE 12

DRAFT

GIS FILE PATH: \\haleyaldrich.com\share\CP\Projects\0212356\GIS\0212356_GRAND_CONCOURSE\0212356_GRAND_CONCOURSE_RAWP.aprx — USER: pdilillo — LAST SAVED: 2/11/2026 4:01 PM

APPENDIX A
Survey Maps

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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.

2025110401026002001E6823

RECORDING AND ENDORSEMENT COVER PAGE **PAGE 1 OF 5**

Document ID: 2025110401026002 Document Date: 10-31-2025 Preparation Date: 11-04-2025
Document Type: ZONING LOT DESCRIPTION
Document Page Count: 4

PRESENTER:
SKYVIEW TITLE AGENCY INC.
4403 15TH AVENUE
SUITE 466
BROOKLYN, NY 11219
917-808-7020
ZONINGEXHIBITS@GMAIL.COM

RETURN TO:
SKYVIEW TITLE AGENCY INC.
4403 15TH AVENUE
SUITE 466
BROOKLYN, NY 11219
917-808-7020
ZONINGEXHIBITS@GMAIL.COM

PROPERTY DATA

Borough	Block	Lot		Unit	Address
BRONX	2341	34	Entire Lot		338 GRAND CONCOURSE

Property Type: COMMERCIAL REAL ESTATE

Borough	Block	Lot		Unit	Address
BRONX	2341	37	Entire Lot		344 GRAND CONCOURSE

Property Type: COMMERCIAL REAL ESTATE

CROSS REFERENCE DATA

CRFN_____ *or* DocumentID_____ *or* _____ Year_____ Reel____ Page_____ *or* File Number_____

PARTIES

PARTY ONE:
338-344 GRAND CONCOURSE LLC
162 MANHATTAN AVENUE, 1ST FLOOR
BROOKLYN, NY 11206

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:	$	60.00
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 11-12-2025 10:37
City Register File No.(CRFN): **2025000305380**

City Register Official Signature

DRAFT

N.B. No. _____

Or ALT. No. _____

EXHIBIT III

ZONING LOT DESCRIPTION AND OWNERSHIP STATEMENT BY BUILDING DEPARTMENT PERMIT APPLICANT AND TO BE RECORDED IN THE COUNTY CLERK'S OR REGISTER'S OFFICE

338-344 Grand Concourse LLC having an address **162 Manhattan Avenue, 1st Floor, Brooklyn, NY, 11206** present or future permits pursuant to the Zoning Resolution of the City of New York, effective as of December 15, 1961, and as subsequently amended, states that the zoning lot to which its aforementioned permit or permits pertain are shown on the Tax Map of City of New York, County of **Bronx** as Lot(s) **34 and 37 COMBINED AS ONE ZONING LOT** Block **2341** as shown on the Tax Map of the City of New York, **Bronx** County, and is more particularly described as:

SEE SCHEDULE "A" ANNEXED HERETO AND MADE A PART HEREOF

The above-described zoning lot is presently owned by:

Block	Tax Lot	Name	ADDRESS
2341	34	338-344 Grand Concourse LLC	338-340 Grand Concourse Bronx, NY,
2341	37	338-344 Grand Concourse LLC	342-344 Grand Concourse Bronx, NY,

DRAFT

Exhibit A

Block: 2341 Lot: 34

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

BEGINNING at a point on the easterly side of Grand Concourse distant 526.45 feet southerly from the corner formed by the intersection of the southerly side of East 144th Street and the easterly side of Grand Concourse 100 feet;

RUNNING THENCE easterly on a line at right angles to the easterly side of Grand Concourse 100 feet;

THENCE southerly on a line at right angles to the last mentioned course 54.6 feet;

THENCE westerly again on a line at right angles to the easterly side of Grand Concourse 100 feet to the said easterly side of Grand Concourse;

THENCE northerly along the easterly side of Grand Concourse 54.6 feet to the point or place of BEGINNING.

Block: 2341 Lot: 37

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

BEGINNING at a point on the easterly side of Grand Concourse distant 471.85 feet southerly from the corner formed by the intersection of the southerly side of East 144th Street and the easterly side of Grand Concourse 100 feet;

RUNNING THENCE easterly on a line at right angles to the easterly side of Grand Concourse 100 feet;

THENCE southerly on a line at right angles to the last mentioned course 54.6 feet;

THENCE westerly again on a line at right angles to the easterly side of Grand Concourse 100 feet to the said easterly side of Grand Concourse;

THENCE northerly along the easterly side of Grand Concourse 54.6 feet to the point or place of BEGINNING.

DRAFT

Block: 2341 **Lot: 34 and 37 COMBINED AS ONE ZONING LOT**

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

BEGINNING at a point on the easterly side of Grand Concourse distant 471.85 feet southerly from the corner formed by the intersection of the southerly side of East 144th Street and the easterly side of Grand Concourse 100 feet;

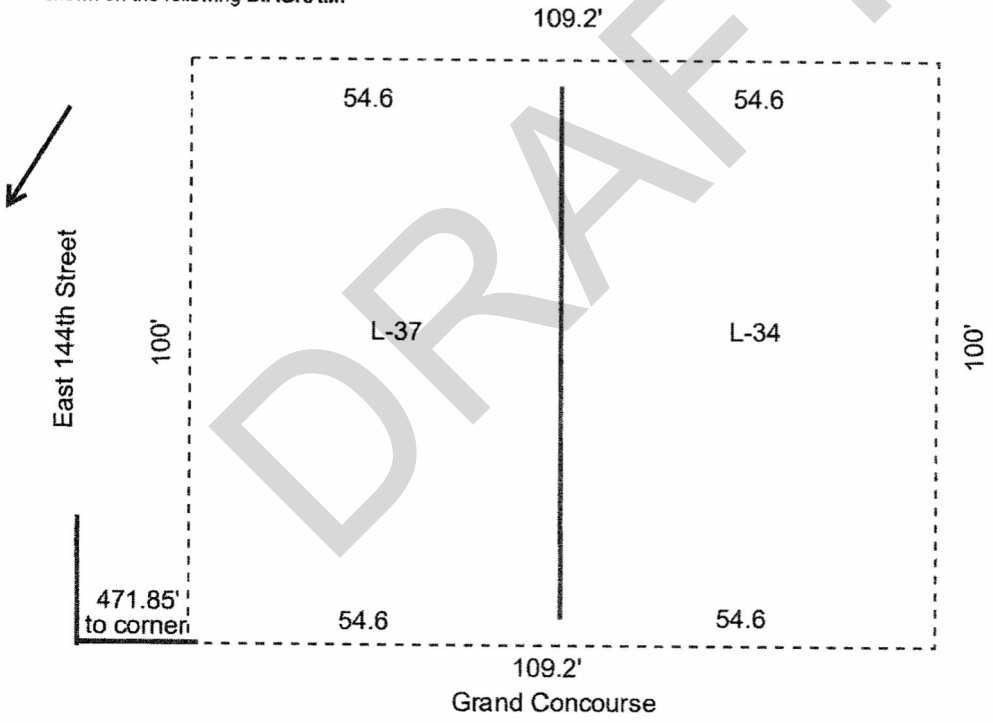
RUNNING THENCE easterly on a line at right angles to the easterly side of Grand Concourse 100 feet;

THENCE southerly on a line at right angles to the last mentioned course 109.2 feet;

THENCE westerly again on a line at right angles to the easterly side of Grand Concourse 100 feet to the said easterly side of Grand Concourse;

THENCE northerly along the easterly side of Grand Concourse 109.2 feet to the point or place of BEGINNING.

That the said premises known as and by **338 Grand Concourse, Bronx, NY, 10451 and 340 Grand Concourse, Bronx, NY, 10451, 342 Grand Concourse, Bronx, NY, 10451, and 344 Grand Concourse, Bronx, NY, 10451** shown on the following **DIAGRAM:**



That the Zoning Lot Description and Ownership Statement contains the above description was submitted for recording simultaneously herewith.

DRAFT

In Witness whereof the applicant has executed the foregoing instrument this 31st day of October, 2025.

338-344 Grand Concourse LLC

State of NY County of Kings ss.:

On the 31st day of October 2025, before me personally appeared Anshel Fridman personally, known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he/she executed the same in his/her capacity. And that by his/her signature on the instrument, the individual or the person upon behalf of which the individual acted, executed the instrument.

ESTHER KOHN
NOTARY PUBLIC-STATE OF NEW YORK
No. 01KO6429680
Qualified in Kings County
My Commission Expires 02-22-2026

(Signature and office of individual taking acknowledgment)

NOTE: Section C26- 110.2 Subdivision (a) Paragraph (I) of the Administration Code requires submission of an accurate Lot diagram in accordance with an attached boundary Survey made by a licensed surveyor, which need not be recorded but which must be submitted with the application for the permit.

SECTION:

BLOCK: 2341

LOT: 34 and 37

DRAFT

RECORD & RETURN TO:

Skyview Title Agency, Inc.

1001 Route 70, Suite 2326,

Toms River, NJ, 08755

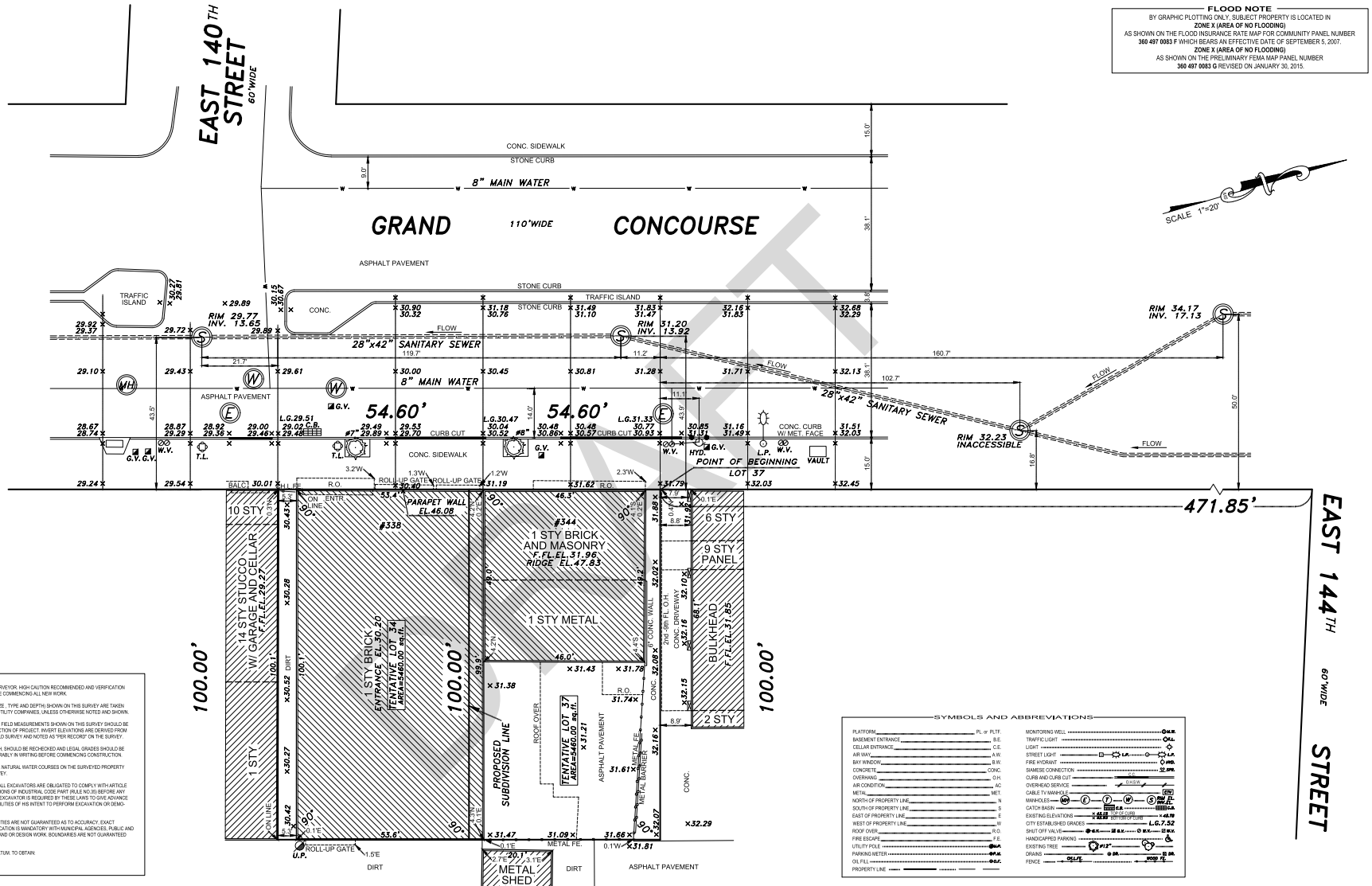
JOB NO.: BX 2341-34-37-TO+SD

DATE: APRIL 10, 2025

ARCHITECTURAL AND SUBDIVISION SURVEY

FLOOD NOTE

BY GRAPHIC PLOTTING ONLY, SUBJECT PROPERTY IS LOCATED IN
ZONE X (AREA OF NO FLOODING)
AS SHOWN ON THE FLOOD INSURANCE RATE MAP FOR COMMUNITY PANEL NUMBER
360 497 0083 F WHICH BEARS AN EFFECTIVE DATE OF SEPTEMBER 5, 2007.
ZONE X (AREA OF NO FLOODING)
AS SHOWN ON THE PRELIMINARY FEMA MAP PANEL NUMBER
360 497 0083 G REVISED ON JANUARY 30, 2015.



SCALE 1"=20'

GENERAL NOTES

SUBSURFACE UTILITIES ARE NOT GUARANTEED BY SURVEYOR. HIGH CAUTION RECOMMENDED AND VERIFICATION WITH PROPER CITY AGENCIES, IS MANDATORY BEFORE COMMENCING ALL NEW WORK.

ALL SUBSURFACE AND OVERHEAD UTILITIES (AS TO SIZE, TYPE AND DEPTH) SHOWN ON THIS SURVEY ARE TAKEN FROM RECORDS OF GOVERNMENTAL AGENCIES AND UTILITY COMPANIES, UNLESS OTHERWISE NOTED AND SHOWN.

COVER OR DEPTH OF UTILITIES WHICH DERIVED FROM FIELD MEASUREMENTS SHOWN ON THIS SURVEY SHOULD BE VERIFIED WITH PROPER AGENCY PRIOR TO CONSTRUCTION OF PROJECT. INVERT ELEVATIONS ARE DERIVED FROM CITY AGENCY RECORDS WHEN NOT AVAILABLE BY FIELD SURVEY AND NOTED AS "PER RECORD" ON THE SURVEY.

ALL SUBSURFACE UTILITY AS TO LOCATION AND DEPTH, SHOULD BE RECHECKED AND LEGAL GRADES SHOULD BE VERIFIED WITH THE TOPOGRAPHICAL BUREAU, PREFERABLY IN WRITING BEFORE COMMENCING CONSTRUCTION.

THIS IS TO CERTIFY THAT THERE ARE NO STREAMS OR NATURAL WATER COURSES ON THE SURVEYED PROPERTY EXCEPT AS SHOWN AND/OR DESCRIBED ON THIS SURVEY.

ALL OPERATIONS OF UNDERGROUND FACILITIES AND ALL EXCAVATORS ARE OBLIGATED TO COMPLY WITH ARTICLE 36 OF THE GENERAL BUSINESS LAW AND WITH PROVISIONS OF INDUSTRIAL CODE PART (RULE NO.35) BEFORE ANY EXCAVATION OR DEMOLITION IS COMMENCED. EVERY EXCAVATOR IS REQUIRED BY THESE LAWS TO GIVE ADVANCE NOTICE TO EVERY OPERATOR OF UNDERGROUND FACILITIES OF HIS INTENT TO PERFORM EXCAVATION OR DEMOLITION WORK IN THE SPECIFIED AREA

UNDERGROUND, OVERHEAD AND GROUND LEVEL UTILITIES ARE NOT GUARANTEED AS TO ACCURACY, EXACT LOCATION, TYPE OR USE, ACTIVE OR INACTIVE. VERIFICATION IS MANDATORY WITH MUNICIPAL AGENCIES, PUBLIC AND PRIVATE UTILITY COMPANIES PRIOR TO TAKING TITLE AND OR DESIGN WORK. BOUNDARIES ARE NOT GUARANTEED UNLESS SO NOTED.

ALL ELEVATIONS SHOWN REFER TO THE NAVD 1988 DATUM. TO OBTAIN:
- NGVD 1929 DATUM - ADD 1.099 FEET
- BRONX BOROUGH DATUM - SUBTRACT 1.938 FEET

SYMBOLS AND ABBREVIATIONS

PLATFORM	PL. or PLTF.	MONITORING WELL	M.W.
BASEMENT ENTRANCE	B.E.	TRAFFIC LIGHT	T.L.
CELLAR ENTRANCE	C.E.	LIGHT	
AIR WAY	A.W.	STREET LIGHT	L.P.
BAY WINDOW	B.W.	FIRE HYDRANT	HYD.
CONCRETE	CONC.	SIAMESE CONNECTION	S.F.DN.
OVERHANG	O.H.	CURB AND CURB CUT	
AIR CONDITION	AC	OVERHEAD SERVICE	
METAL	MET.	CABLE TV MANHOLE	CTV
NORTH OF PROPERTY LINE	N	MANHOLES	D.M. E. T. W. S.
SOUTH OF PROPERTY LINE	S	CATCH BASIN	C.B.
EAST OF PROPERTY LINE	E	EXISTING ELEVATIONS	45.18 (TOP OF CURB) x 44.78 (INVERT OF CURB)
WEST OF PROPERTY LINE	W	CITY ESTABLISHED GRADES	L.G.7.52
ROOF OVER	R.O.	SHUT OFF VALVE	G.V. W.V.
FIRE ESCAPE	F.E.	HANDICAPPED PARKING	
UTILITY POLE		EXISTING TREE	
PARKING METER		DRAINS	D.I.
OIL FILL		FENCE	CHAIN LINK WOOD
PROPERTY LINE			

TENTATIVE LOT 34 AREA = 5460.00 sq.ft. = 0.1253 acre
TENTATIVE LOT 37 AREA = 5460.00 sq.ft. = 0.1253 acre
TOTAL AREA = 10920.00 sq.ft. = 0.2507 acre

GRAPHIC SCALE

ALL WRITTEN MEASUREMENTS AND OFFSETS NOTED ON THIS SURVEY SUPERSEDE MEASUREMENTS SCALED OF THIS PLOT.

SCALE 1:20

0 10 20 30 40 50 100

338-344 GRAND CONCOURSE, BRONX, BRONX CO., NY

PERFECT POINT
LAND SURVEYING
brooklyn • queens • manhattan • bronx
staten island • nassau
phone: (718) 474-7700
fax: (718) 872-9699
info@ppsurveying.com
www.ppsurveying.com

STATE OF NEW YORK ARKADIUSZ JUSIEGA LICENSED LAND SURVEYOR

DATE: APR 10 2025

N.Y.S. LIC. NO. 050569

SEC. ..... BLOCK 2341 LOT 34, 37

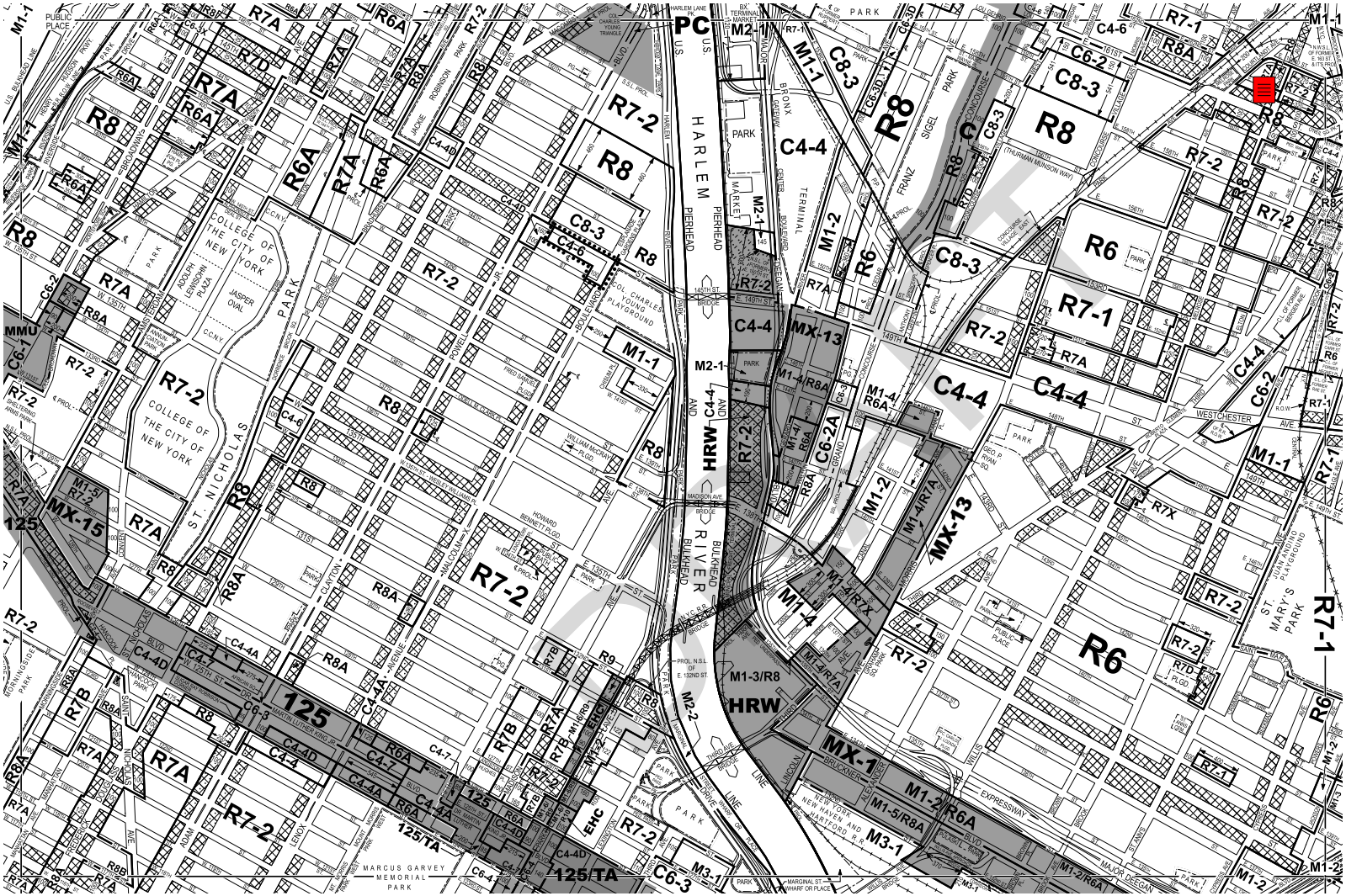
GUARANTEED TO: .....

TITLE NO. .....

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APPENDIX B
Zoning Map

DRAFT



C1-1 C1-2 C1-3 C1-4 C1-5 C2-1 C2-2 C2-3 C2-4 C2-5

NOTE: Where no dimensions for zoning district boundaries appear on the zoning maps, such dimensions are determined in Article VII, Chapter 6 (Location of District Boundaries) of the Zoning Resolution.

ZONING MAP

THE NEW YORK CITY PLANNING COMMISSION

Major Zoning Classifications:
The number(s) and/or letter(s) that follows an **R**, **C** or **M** District designation indicates use, bulk and other controls as described in the text of the Zoning Resolution.

R - RESIDENTIAL DISTRICT

C - COMMERCIAL DISTRICT

M - MANUFACTURING DISTRICT

SPECIAL PURPOSE DISTRICT
The letter(s) within the shaded area designates the special purpose district as described in the text of the Zoning Resolution.

AREA(S) REZONED

Effective Date(s) of Rezoning:
07-14-2025 C 250115 ZMM

Special Requirements:

For a list of lots subject to CEQR environmental requirements, see APPENDIX C.

For a list of lots subject to "D" restrictive declarations, see APPENDIX D.

For Inclusionary Housing designated areas and Mandatory Inclusionary Housing areas on this map, see APPENDIX F.

MAP KEY

	3b	3d
5c	**6a**	6c
5d	6b	6d

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ZONING MAP **6a**

NOTE: Zoning information as shown on this map is subject to change. For the most up-to-date zoning information for this map, visit the Zoning section of the Department of City Planning website: **www.nyc.gov/planning** or contact the Zoning Information Desk at (212) 720-3291.

APPENDIX C
Proposed Development Plans

DRAFT

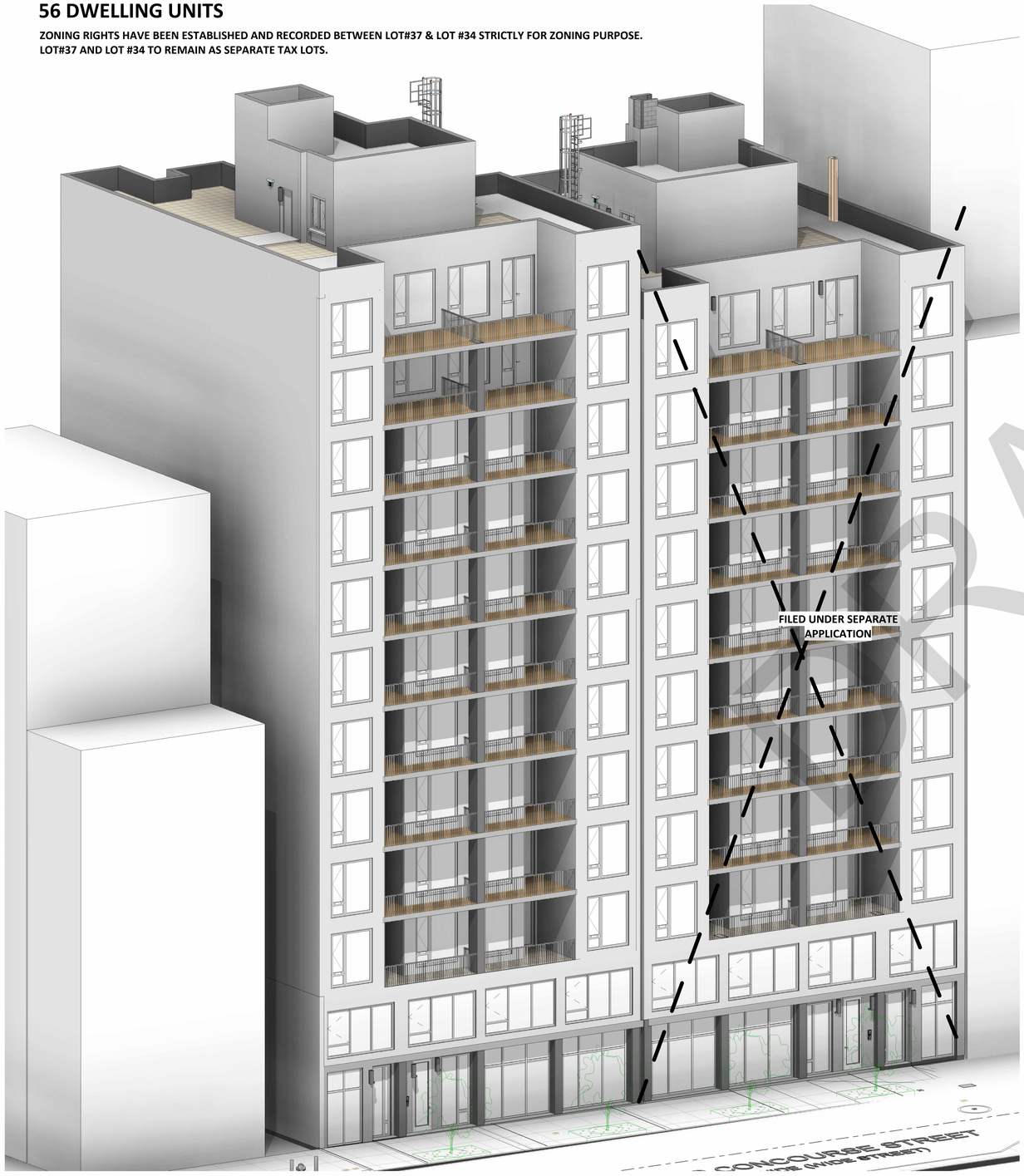
344 GRAND CONCOURSE

BRONX, NY 10451

PROPOSED 12 STORY NEW MIXED USE BUILDING (A)

56 DWELLING UNITS

ZONING RIGHTS HAVE BEEN ESTABLISHED AND RECORDED BETWEEN LOT#37 & LOT #34 STRICTLY FOR ZONING PURPOSE.
LOT#37 AND LOT #34 TO REMAIN AS SEPARATE TAX LOTS.



SHEET LIST

	SHEET NUMBER	DOB REV. NUMBER	SHEET NAME	REVISION DATE	ISSUE
.T-100					
1	T-100	0	TITLESHEET	08/15/2025	DOB FILING
.Z-100					
2	Z-100	0	ZONING ANALYSIS	08/15/2025	DOB FILING
3	Z-101	0	ZONING ANALYSIS	08/15/2025	DOB FILING
4	Z-102	0	ZONING ANALYSIS	08/15/2025	DOB FILING
5	Z-102.1	0	ZONING ANALYSIS	08/15/2025	DOB FILING
6	Z-103	0	ZONING SITE PLAN	08/15/2025	DOB FILING
7	Z-104	0	ZONING MAPS & SURVEY	08/15/2025	DOB FILING
8	Z-105	0	ZONING GROSS AREA PLANS	08/15/2025	DOB FILING
9	Z-106	0	ZONING GROSS AREA PLANS	08/15/2025	DOB FILING
10	Z-107	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
11	Z-108	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
12	Z-109	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
13	Z-110	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
14	Z-111	0	SITE IMAGES	08/15/2025	DOB FILING
15	Z-112	0	ZONING STREETSCAPE	08/15/2025	DOB FILING
A-000					
16	G-100	0	GENERAL NOTES	08/15/2025	DOB FILING
17	G-101	0	GENERAL NOTES	08/15/2025	DOB FILING
18	G-102	0	GENERAL NOTES	08/15/2025	DOB FILING
19	G-103	0	GENERAL NOTES	08/15/2025	DOB FILING
20	G-104	0	GENERAL NOTES	08/15/2025	DOB FILING
21	G-105	0	GENERAL NOTES	08/15/2025	DOB FILING
22	G-106	0	GENERAL NOTES	08/15/2025	DOB FILING
23	G-107	0	BUILDING CODE ANALYSIS	08/15/2025	DOB FILING
24	G-108	0	BUILDING CODE ANALYSIS	08/15/2025	DOB FILING
25	G-109	0	BUILDING CODE ANALYSIS	08/15/2025	DOB FILING
26	G-200	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
27	G-201	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
28	G-202	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
29	G-203	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
30	G-204	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
31	G-300	0	NET AREA PLANS	08/15/2025	DOB FILING
32	G-302	0	NET AREA PLANS	08/15/2025	DOB FILING
33	G-303	0	NET AREA SCHEDULES	08/15/2025	DOB FILING
34	G-304	0	ENLARGED UAP UNIT PLANS	08/15/2025	DOB FILING
A-100					
35	A-100	0	CELLAR PLAN	08/15/2025	DOB FILING
36	A-101	0	1ST FLOOR PLAN	08/15/2025	DOB FILING
37	A-102	0	2ND FLOOR PLAN	08/15/2025	DOB FILING
38	A-103	0	3RD-7TH FLOOR PLAN	08/15/2025	DOB FILING
39	A-104	0	8TH FLOOR PLAN	08/15/2025	DOB FILING
40	A-105	0	9TH-10TH FLOOR PLAN	08/15/2025	DOB FILING
41	A-106	0	11TH FLOOR PLAN	08/15/2025	DOB FILING
42	A-107	0	12TH FLOOR PLAN	08/15/2025	DOB FILING
43	A-108	0	ROOF PLAN	08/15/2025	DOB FILING
44	A-109	0	BULKHEAD PLAN	08/15/2025	DOB FILING
45	A-110	0	ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS	08/15/2025	DOB FILING
46	A-111	0	ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS	08/15/2025	DOB FILING
47	A-115	0	EXPLODED AXON	08/15/2025	DOB FILING
A-200					
48	A-200	0	WEST (GRAND CONCOURSE) ELEVATION	08/15/2025	DOB FILING
49	A-201	0	NORTH & SOUTH ELEVATION	08/15/2025	DOB FILING
50	A-202	0	EAST (RARE) ELEVATION	08/15/2025	DOB FILING
51	A-203	0	NORTH INNER ELEVATION	08/15/2025	DOB FILING
52	A-204	0	SOUTH INNER ELEVATION	08/15/2025	DOB FILING
53	A-210	0	3D VIEWS	08/15/2025	DOB FILING
A-300					
54	A-300	0	BUILDING SECTIONS	08/15/2025	DOB FILING
55	A-301	0	BUILDING SECTIONS	08/15/2025	DOB FILING
56	A-324	0	WALL DETAILS - BRICK/FRAMED	08/15/2025	DOB FILING
57	A-325	0	WALL DETAILS - EIFS/FRAMED	08/15/2025	DOB FILING
58	A-329	0	FLASHING DETAILS AT ADJACENT EXISTING	08/15/2025	DOB FILING
A-400					
59	A-400	0	EXTERIOR WALL, FLOOR AND ROOF DETAILS	08/15/2025	DOB FILING
60	A-401	0	PARTITION TYPES	08/15/2025	DOB FILING
61	A-402	0	JOINT & SEALING DETAILS	08/15/2025	DOB FILING
62	A-403	0	INTERIOR DETAILS / LAUNDRY DETAILS	08/15/2025	DOB FILING
63	A-404	0	REFUSE DETAILS	08/15/2025	DOB FILING
64	A-405	0	STAIR PLANS	08/15/2025	DOB FILING
65	A-406	0	STAIR DETAILS	08/15/2025	DOB FILING
66	A-407	0	STAIR DETAILS	08/15/2025	DOB FILING
67	A-408	0	ROOFING DETAILS	08/15/2025	DOB FILING
68	A-409	0	ELEVATOR PLANS	08/15/2025	DOB FILING
69	A-410	0	FACADE DETAILS	08/15/2025	DOB FILING
70	A-411	0	FACADE DETAILS	08/15/2025	DOB FILING
A-500					
71	A-500	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
72	A-501	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
73	A-502	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
74	A-503	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
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76	A-505	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
77	A-506	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
78	A-507	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
79	A-508	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
80	A-509	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING

SHEET LIST

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81	A-600	0	DOOR SCHEDULE	08/15/2025	DOB FILING
82	A-601	0	DOOR DETAILS	08/15/2025	DOB FILING
83	A-602	0	WINDOW SCHEDULE	08/15/2025	DOB FILING
83	A-604	0	WINDOW/DOOR SPECS	08/15/2025	DOB FILING
A-700					
84	A-700	0	ENLARGED KITTE & LAUNDRY PLANS	08/15/2025	DOB FILING
85	A-701	0	ENLARGED BATH PLANS	08/15/2025	DOB FILING
86	A-702	0	ENLARGED BATH PLANS	08/15/2025	DOB FILING
A-800					
87	A-800	0	MAILBOX ELEVATIONS	08/15/2025	DOB FILING
88	A-801	0	SIGNAGE	08/15/2025	DOB FILING
AB-100					
89	AB-100	0	AIR BARRIER PLAN	08/15/2025	DOB FILING
90	AB-101	0	AIR BARRIER DETAILS	08/15/2025	DOB FILING
TOTAL: 91					

SHEET LIST - ENERGY

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3	EN-101	0	ENERGY THERMAL ENVELOPE DIAGRAM	08/15/2025	DOB FILING
4	EN-102	0	ENERGY THERMAL ENVELOPE DIAGRAM	08/15/2025	DOB FILING
5	EN-103	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
6	EN-104	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
7	EN-105	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
8	EN-106	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
9	EN-200	0	ENERGY INSPECTIONS	08/15/2025	DOB FILING
10	EN-201	0	ENERGY INSPECTIONS	08/15/2025	DOB FILING
11	EN-202	0	ENERGY INSPECTIONS	08/15/2025	DOB FILING
TOTAL: 11					

RELATED APPLICATIONS

WORK TYPE		APPLICATION #	DOCUMENT #
	WASTE MANAGEMENT PLAN		
DM	DEMOLITION	X01208257-I1	
EA	EARTHWORK		
SE	SUPPORT OF EXCAVATION		
FO	FOUNDATION		
ST	STRUCTURAL		
MH	MECHANICAL		
EL	ELECTRICAL		
PL	PLUMBING		
SP	SPRINKLER		
FA	FIRE ALARM		
FE	FENCE		
BPP	BUILDERS PAVEMENT PLAN		
	STREET TREE		
CC	CURB CUT		
SD	STANDPIPE		
FPP	FIRE PROTECTION PLAN		
	ZONING EXHIBIT RECORD		
SH	SHED		
VT	ELEVATOR		
	SITE CONNECTION		

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

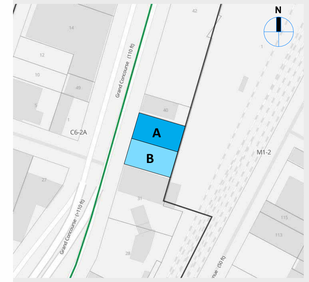
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BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025

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		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:

TITLESHEET

DOB # :

GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 14:58:49
SCALE:
DRAWN BY: XX

SEAL AND SIGNATURE

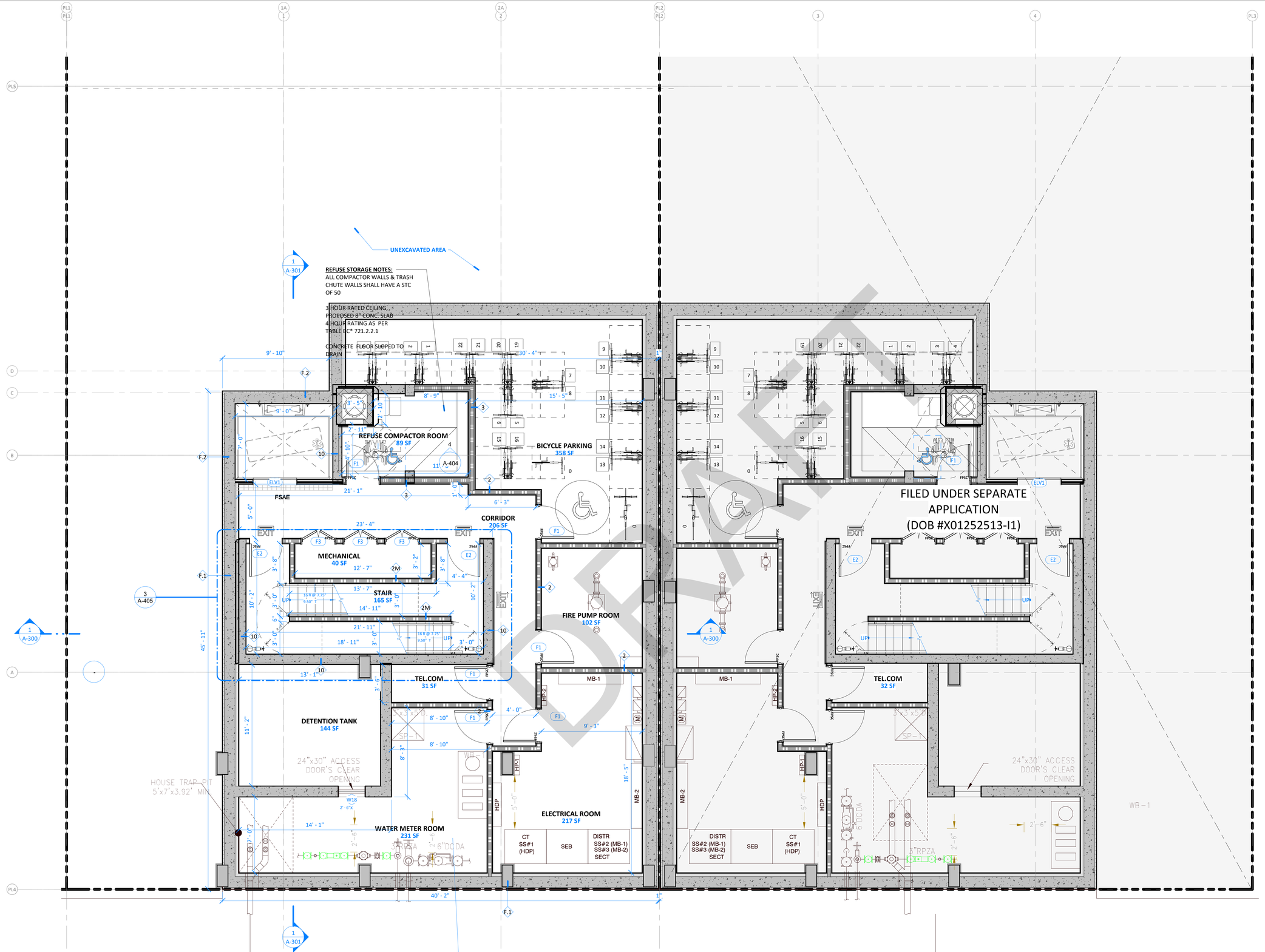
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SHEET: 1 OF 90

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27.10.2025 14:58:49



1 **CELLAR FLOOR PLAN**
SCALE: 1/4" = 1'-0"

ZR 25-83
BICYCLE STORAGE ANALYSIS:
15 SF OF AREA SHALL BE PROVIDED FOR EACH BICYCLE SPACE.
5% OF THE TOTAL NUMBER OF BICYCLE STORAGE SPACES MUST BE ACCESSIBLE.
TOTAL SF, BICYCLE PARKING: 581 SF.
28 BICYCLE PARKING SPACES PROPOSED.
28 X .05 = 2 ADA BICYCLE SPACE PROPOSED.
581 SF / 28 = 21 SF PER BICYCLE SPACE PROPOSED.

GRAND CONCOURSE
110' WIDE (WIDE STREET)

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
CELLAR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

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DRAWN BY: XX

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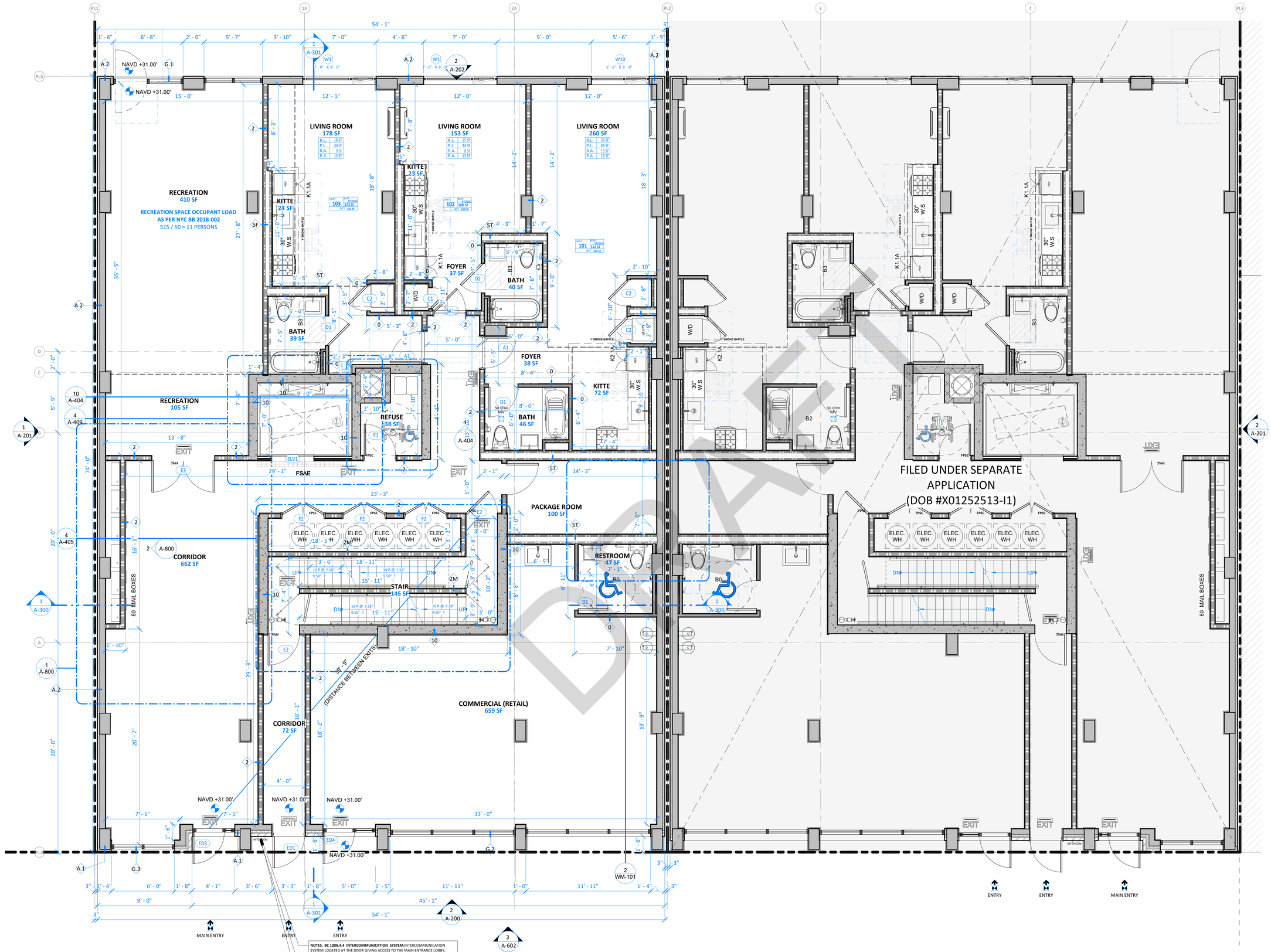
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1 **1ST FLOOR PLAN**
SCALE: 1/4" = 1'-0"

NOTES. BC 1008.4.4 INTERCOMMUNICATION SYSTEM.INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE LOBBY, CONSISTING OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH DWELLING UNIT AND A PERSON OUTSIDE THE DOOR TO THE MAIN ENTRANCE LOBBY, AND PERMITTING SUCH DWELLING UNIT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE DWELLING UNIT.

FIRE ALARM AND CONNECTION FOR SPRINKLER

TWO-WAY COMMUNICATION SYSTEM COMPLYING WITH SECTIONS 1007.8.1 AND 1007.8.2

GRAND CONCOURSE
110' WIDE (WIDE STREET)

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

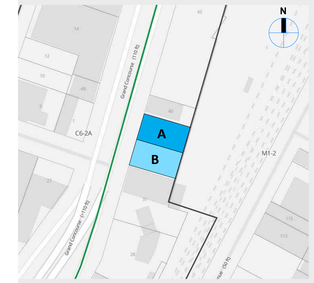
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:
1ST FLOOR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 14:59:02
SCALE: 1/4" = 1'-0"
DRAWN BY: XX

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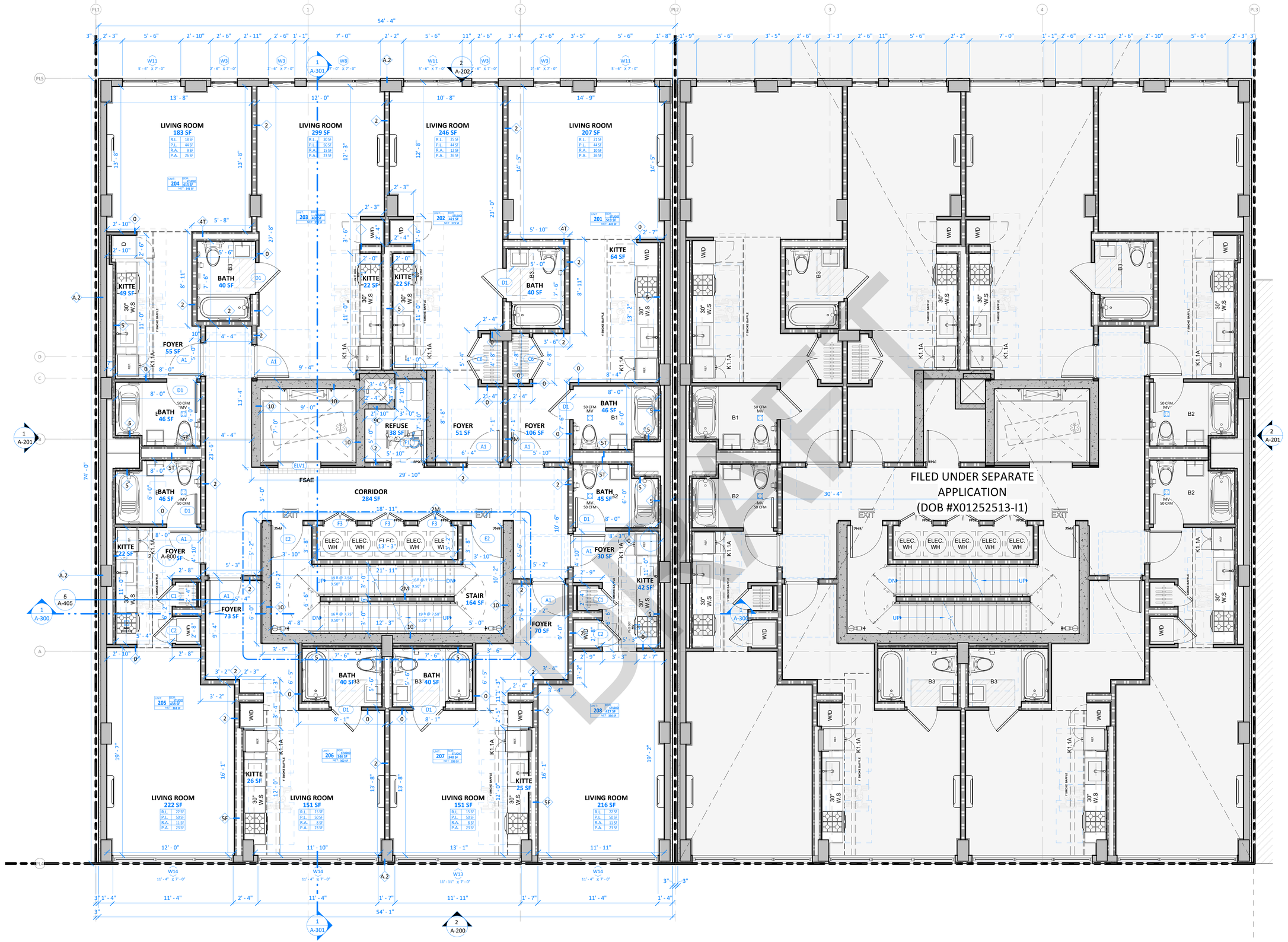
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27.10.2025 14:59:02



1 **2ND FLOOR PLAN**
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

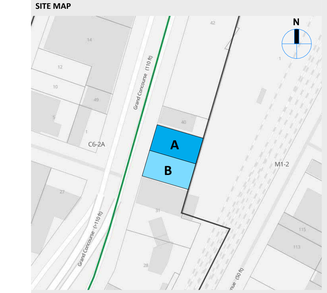
MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025

	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
2ND FLOOR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 14:59:12
SCALE: 1/4" = 1'-0"
DRAWN BY: XX

SEAL AND SIGNATURE

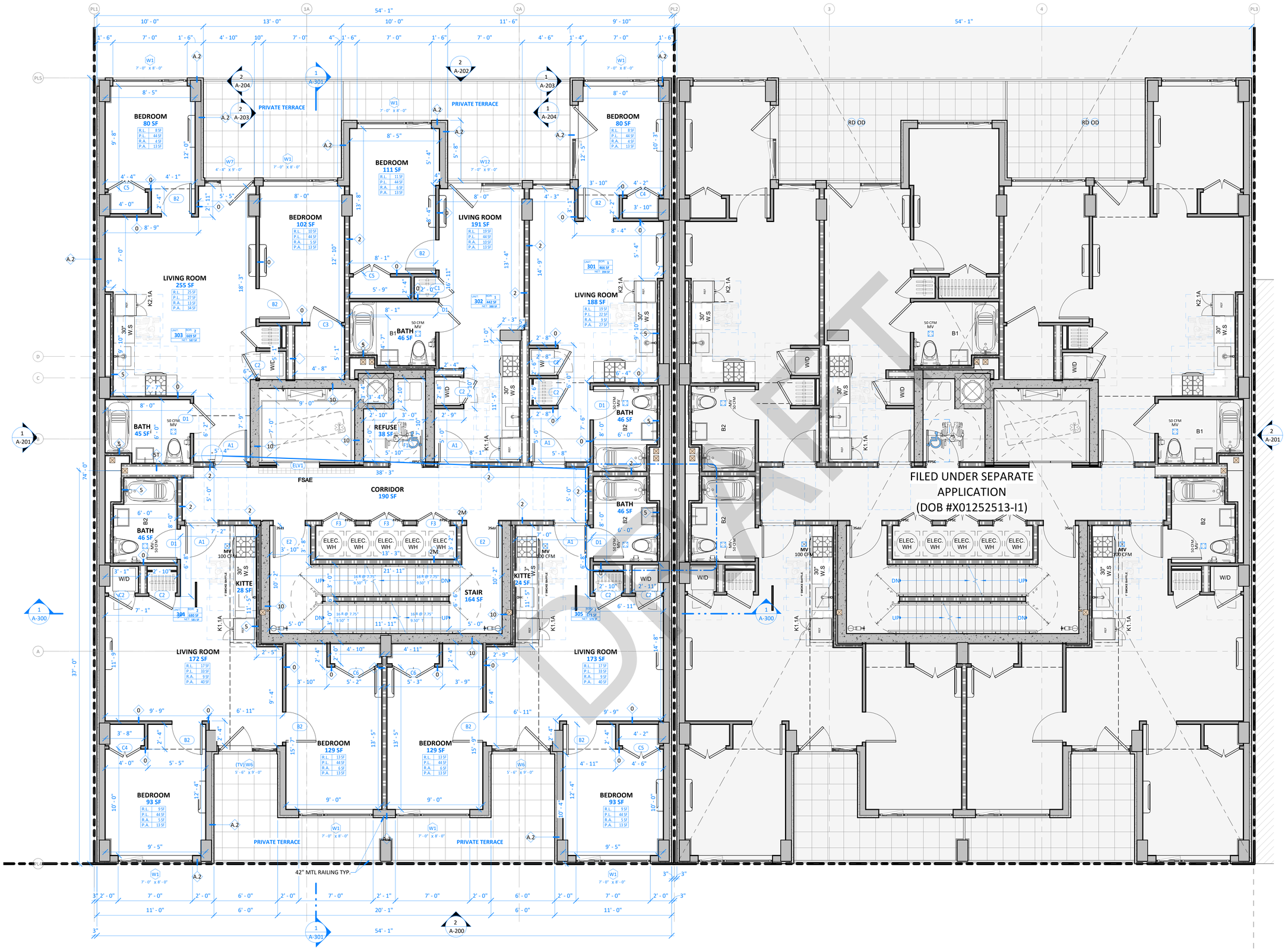
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27.10.2025 14:59:12



1 **3RD-7TH FLOOR PLAN**
SCALE: 1/4" = 1'-0"

S. WIEDER ARCHITECT PC

31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

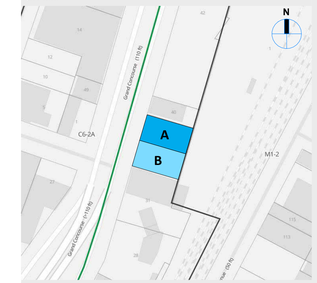
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
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		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
3RD-7TH FLOOR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 14:59:23
SCALE: 1/4" = 1'-0"
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DRAFT

27.10.2025 14:59:23

PARAPET WALL:
PER BC* 705.11.1.
42" MIN ABOVE FINISHED ROOF TYP.
COPING AND FLASHING AS NECESSARY
CONTRACTOR TO SUPPLY
MANUFACTURER'S SHOP DRAWINGS
SHOWING ALL ROOF WATERPROOFING
DETAILS

SLOPE TO DRAIN
4" ROOF DRAIN W/ CONTROLLED
FLOW DEVICE

SLOPE TO DRAIN
4" ROOF DRAIN W/ CONTROLLED
FLOW DEVICE

BEDROOM 82 SF
BEDROOM 101 SF
BEDROOM 112 SF
BEDROOM 80 SF
LIVING/KITCHEN 206 SF
LIVING/KITCHEN 163 SF
LIVING/KITCHEN 155 SF
BATH 45 SF
BATH 46 SF
WIC 24 SF
REFUSE 38 SF
CORRIDOR 190 SF
KITTE 28 SF
KITTE 24 SF
STAIR 164 SF
LIVING ROOM 172 SF
LIVING ROOM 173 SF
BEDROOM 129 SF
BEDROOM 129 SF
BEDROOM 93 SF
BEDROOM 93 SF

FILED UNDER SEPARATE
APPLICATION
(DOB #X01252513-I1)

PRIVATE TERRACE
PRIVATE TERRACE
42" MTL RAILING TYP.

FSAE

1 **8TH FLOOR PLAN**
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

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		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:
8TH FLOOR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 14:59:35
SCALE: 1/4" = 1'-0"
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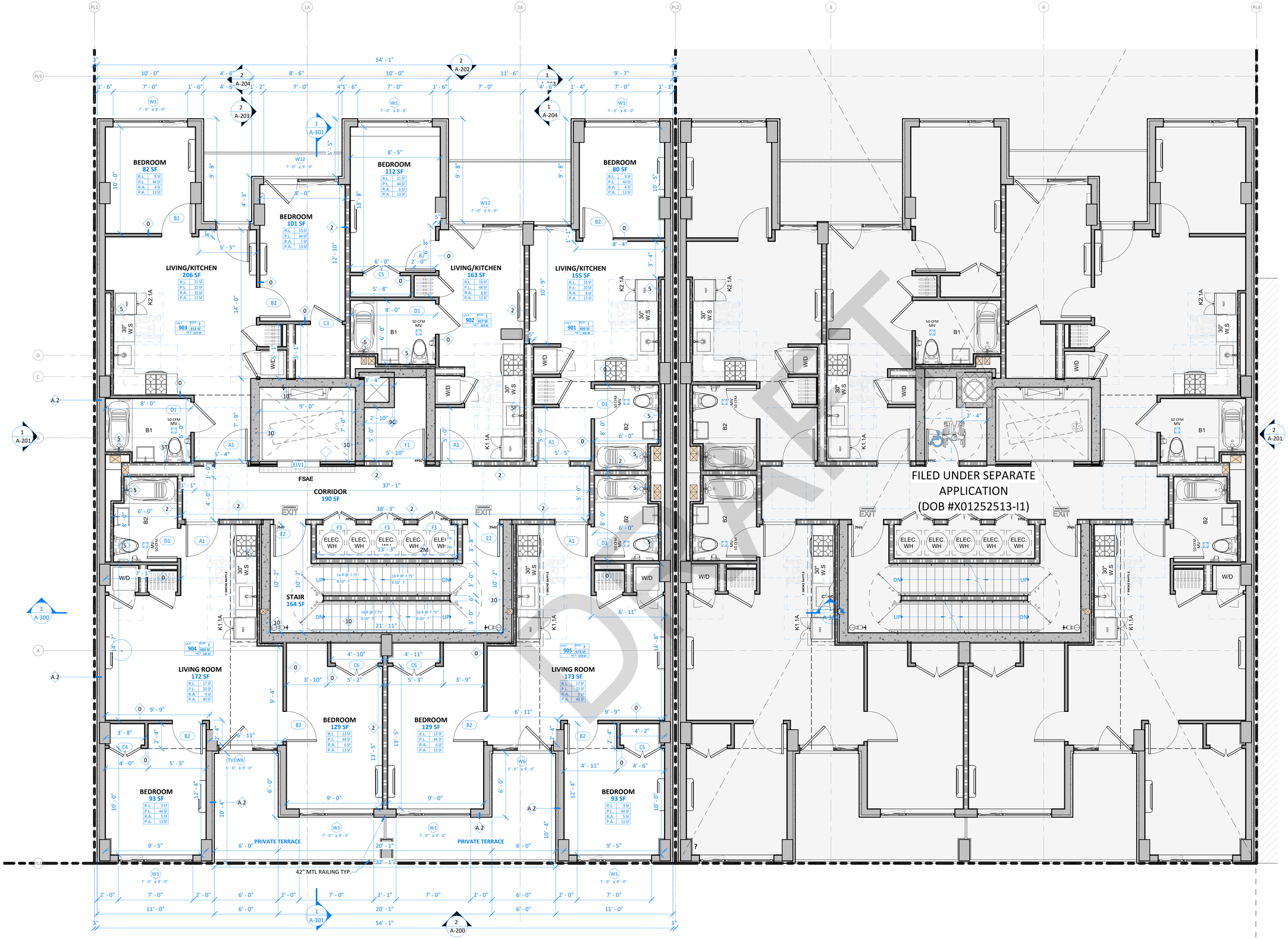
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1 **9TH-10TH FLOOR PLAN**

SCALE: 1/4" = 1'-0"

GRAND CONCOURSE

110' WIDE (WIDE STREET)

DRAFT

S. WIEDER ARCHITECT PC

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BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

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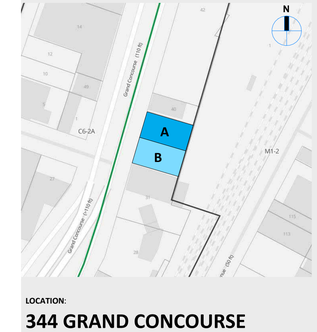
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MUNICIPAL CONSULTANT:
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T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:

9TH-10TH FLOOR PLAN

DOB # :

GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 14:59:47
SCALE: 1/4" = 1'-0"
DRAWN BY: XX

SEAL AND SIGNATURE

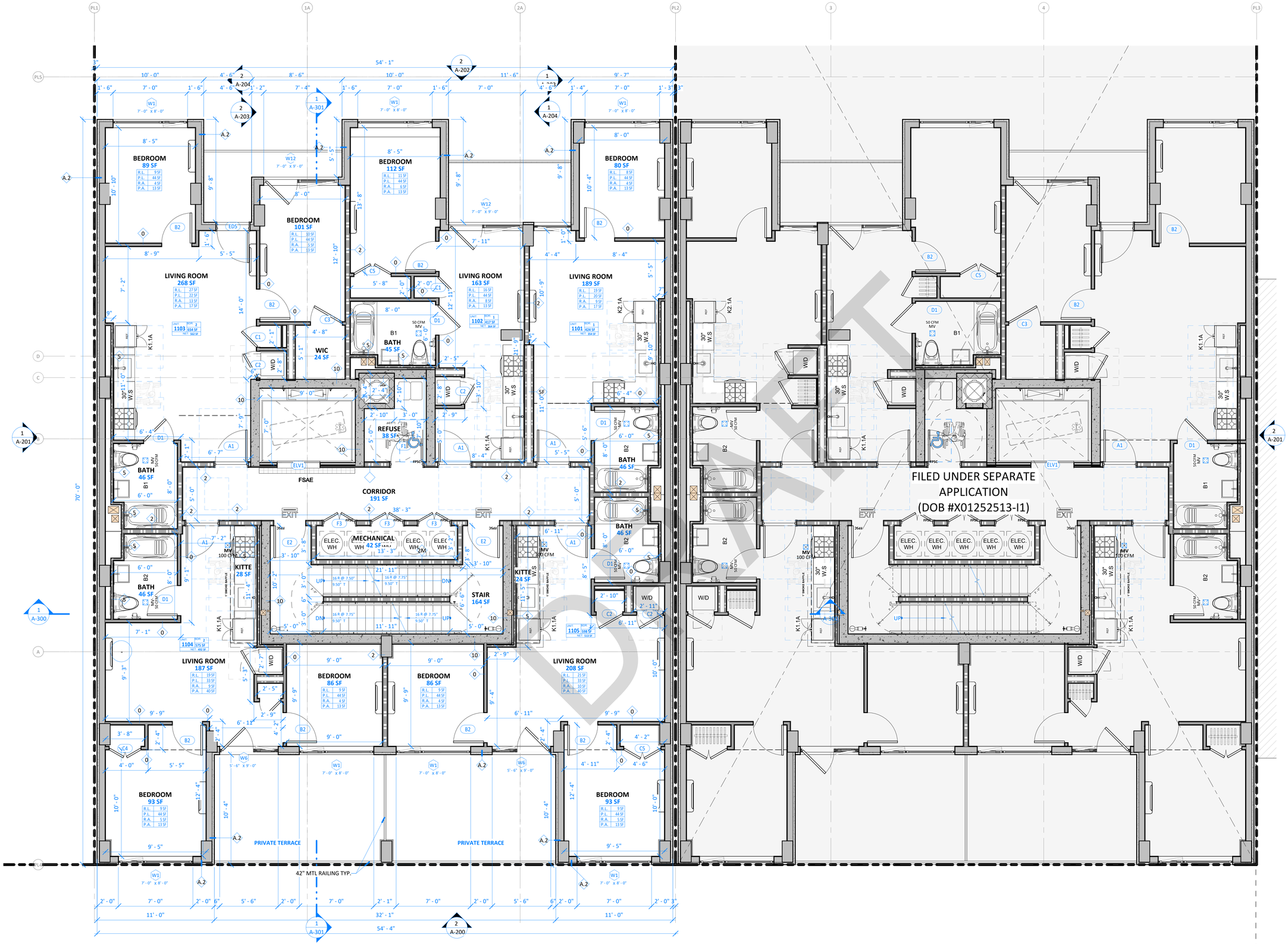
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27.10.2025 14:59:47



1 **11TH FLOOR PLAN**
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
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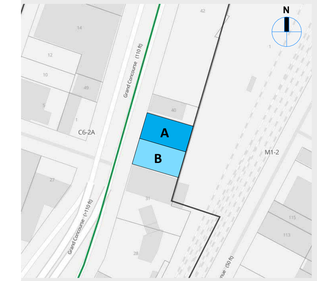
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OWNER:
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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.		DESCRIPTION	DATE
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		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
11TH FLOOR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

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27.10.2025 14:59:59

PARAPET WALL:
PER BC* 705.11.1.
42" MIN ABOVE FINISHED ROOF TYP.
COPING AND FLASHING AS NECESSARY
CONTRACTOR TO SUPPLY
MANUFACTURER'S SHOP DRAWINGS
SHOWING ALL ROOF WATERPROOFING
DETAILS

BEDROOM
89 SF
R.L. 9 SF
P.L. 0 SF
R.A. 4 SF
P.A. 0 SF

BEDROOM
101 SF
R.L. 10 SF
P.L. 0 SF
R.A. 5 SF
P.A. 0 SF

PRIVATE TERRACE
178 SF

GREEN ROOF SYSTEM

BB 2019-010 (LL 92/2019, LL94/2019)
BC* 1512
"SUSTAINABLE ROOF ZONE"
SEE SHEET A-110 FOR DETAILS

RECREATION AREA
451 SF

RD OD

SLOPE TO DRAIN
4" ROOF DRAIN W/ CONTROLLED
FLOW DEVICE

LIVING ROOM
268 SF
R.L. 27 SF
P.L. 0 SF
R.A. 13 SF
P.A. 0 SF

WIC
24 SF

REFUSE
38 SF

BATH
46 SF

FSAE

CORRIDOR
154 SF

FOYER
65 SF

BATH
46 SF

KITTE
28 SF

STAIR
164 SF

KITTE
25 SF

LIVING ROOM
187 SF
R.L. 19 SF
P.L. 0 SF
R.A. 9 SF
P.A. 0 SF

BEDROOM
86 SF
R.L. 9 SF
P.L. 0 SF
R.A. 4 SF
P.A. 0 SF

BEDROOM
86 SF
R.L. 9 SF
P.L. 0 SF
R.A. 4 SF
P.A. 0 SF

LIVING ROOM
201 SF
R.L. 20 SF
P.L. 0 SF
R.A. 10 SF
P.A. 0 SF

BEDROOM
93 SF
R.L. 9 SF
P.L. 0 SF
R.A. 5 SF
P.A. 0 SF

BEDROOM
93 SF
R.L. 9 SF
P.L. 0 SF
R.A. 5 SF
P.A. 0 SF

PRIVATE TERRACE

PRIVATE TERRACE

42" MTL RAILING TYP.

RD OD

FILED UNDER SEPARATE
APPLICATION
(DOB #X01252513-I1)

RD OD

1 12TH FLOOR (A)
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

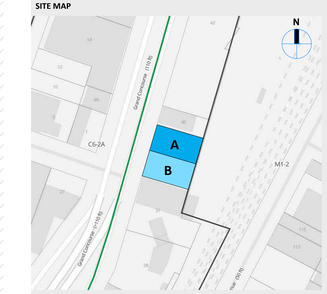
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OWNER:
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NO.		DESCRIPTION	DATE
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	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:
12TH FLOOR PLAN

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:00:06
SCALE: 1/4" = 1'-0"
DRAWN BY: XX

SEAL AND SIGNATURE

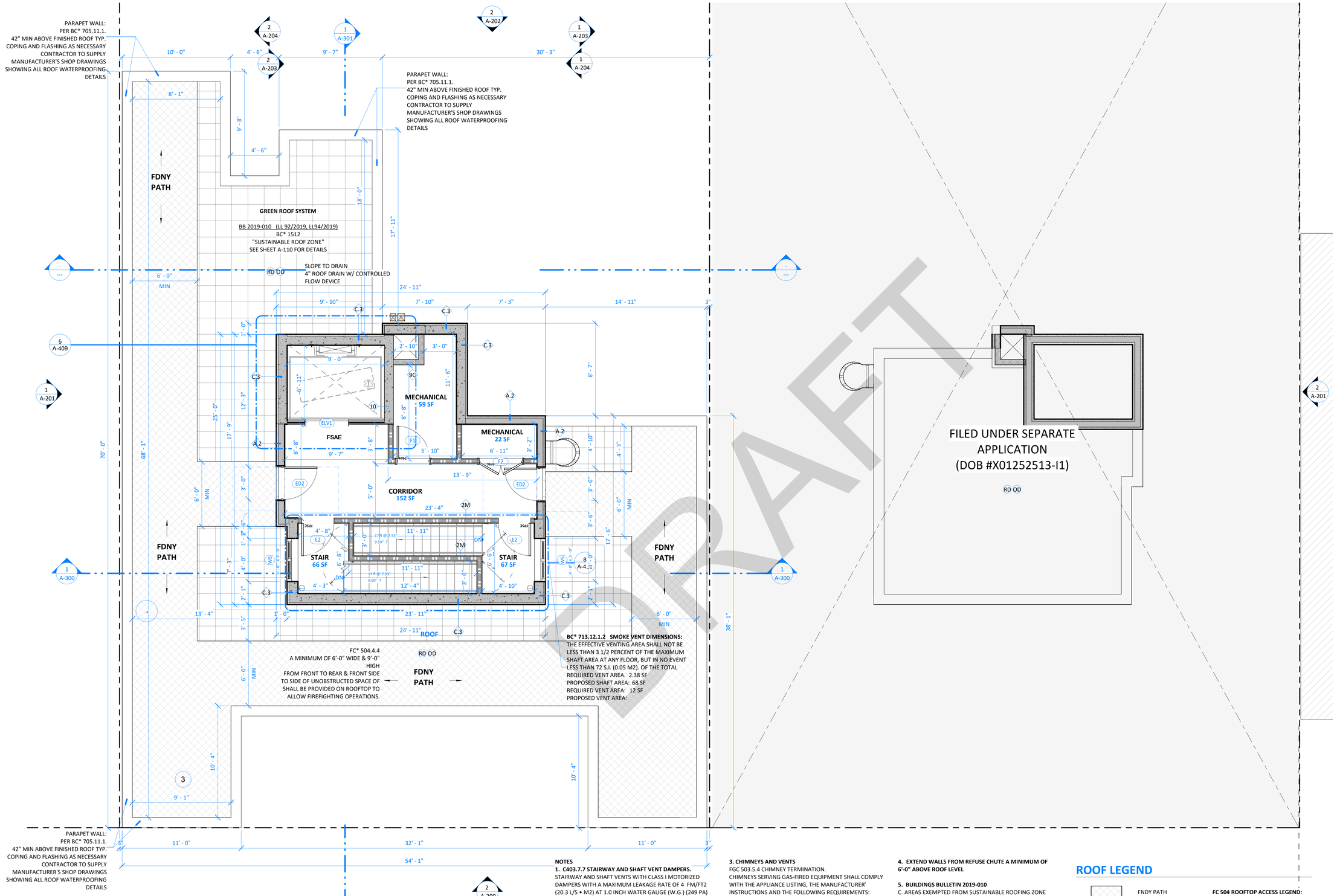
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27.10.2025 15:00:06



1 ROOF FLOOR PLAN

SCALE: 1/4" = 1'-0"

GRAND CONCOURSE

110' WIDE (WIDE STREET)

NOTES

1. C403.7.7 STAIRWAY AND SHAFT VENT DAMPERS.
STAIRWAY AND SHAFT VENTS WITH CLASS I MOTORIZED DAMPERS WITH A MAXIMUM LEAKAGE RATE OF 4 FM/FT2 (20.3 L/S • M2) AT 1.0 INCH WATER GAUGE (W.G.) (249 PA) WHEN TESTED IN ACCORDANCE WITH AMCA 500D. STAIRWAY AND SHAFT VENT DAMPERS SHALL BE INSTALLED WITH CONTROLS SO THAT THEY ARE CAPABLE OF AUTOMATICALLY OPENING UPON: THE INTERRUPTION OF POWER TO THE DAMPER.

2. MC 801.1.1.1
ADJACENT EXISTING CHIMNEYS TO BE EXTENDED 3'-0" MIN.ABOVE HIGHEST STRUCTURE IN A 10'-0" RADIUS (TYP) PRIOR TO PERMIT ,A LICENSE PER MC 801.1.1.1.3, TO NOTIFY THE OWNER(S) OF THE ADJACENT PROPERTY OF THE REQUIRED WORK AND SECURE CONSENT TO INSPECT AND PERFORM ANY WORK THAT MAY BE NECESSARY TO SAFEGUARD THE ADJACENT PROPERTY..

3. CHIMNEYS AND VENTS
FGC 503.5.4 CHIMNEY TERMINATION.
CHIMNEYS SERVING GAS-FIRED EQUIPMENT SHALL COMPLY WITH THE APPLIANCE LISTING, THE MANUFACTURER' INSTRUCTIONS AND THE FOLLOWING REQUIREMENTS: CHIMNEYS SERVING APPLIANCES SHALL EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST CONSTRUCTION, SUCH AS A ROOF RIDGE, PARAPET WALL, OR PENTHOUSE, WITHIN 10 FEET OF THE CHIMNEY OUTLET, WHETHER THE CONSTRUCTION IS ON THE SAME BUILDING AS THE CHIMNEY OR ON ANOTHER BUILDING. HOWEVER, SUCH CONSTRUCTIONS DO NOT INCLUDE OTHER CHIMNEYS, VENTS, OR OPEN STRUCTURAL FRAMING. ANY CHIMNEY LOCATED BEYOND 10 FEET FROM SUCH CONSTRUCTION, SHALL BE AT LEAST AS HIGH AS THE CONSTRUCTION.

4. EXTEND WALLS FROM REFUSE CHUTE A MINIMUM OF 6'-0" ABOVE ROOF LEVEL

4. EXTEND WALLS FROM REFUSE CHUTE A MINIMUM OF 6'-0" ABOVE ROOF LEVEL

5. BUILDINGS BULLETIN 2019-010
C. AREAS EXEMPTED FROM SUSTAINABLE ROOFING ZONE RECREATIONAL SPACES THAT ARE INTEGRAL TO THE PRINCIPAL USE OF THE BUILDING ON WHICH THE ROOFTOP IS LOCATED, INCLUDING BUT NOT LIMITED TO PLAYGROUNDS AND PARTICIPANT SPORT AREAS FOR SPORTS FACILITIES AND SCHOOLS, QUALITY HOUSING RECREATION SPACES, ROOF TERRACES AND PASSIVE RECREATION AREAS THAT ARE DOCUMENTED ON THE CERTIFICATE OF OCCUPANCY OR DEPARTMENT OF BUILDINGS APPROVED FILING AS OUTLINED IN BUILDING BULLETIN 2018-002.

ROOF LEGEND

- FNDY PATH
- RD — ROOF DRAIN
- OD — ROOF DRAIN OVERFLOW
- MECHANICAL SHAFTS
- GREEN ROOF SYSTEM XXX SF — GREEN ROOF TAG
- GREEN ROOF

FC 504 ROOFTOP ACCESS LEGEND:

1. ROOFTOP ACCESS AND LANDING LOCATIONS
2. 6' WIDE CLEAR PATH
3. 6' WIDE DOOR CLEARANCE

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
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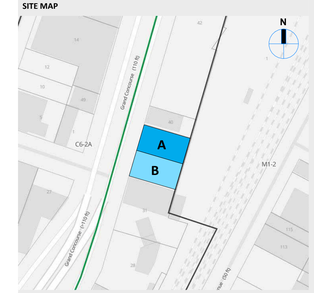
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		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:

ROOF PLAN

DOB # :

GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:00:10
SCALE: As indicated
DRAWN BY: XX

SEAL AND SIGNATURE

A-108.00

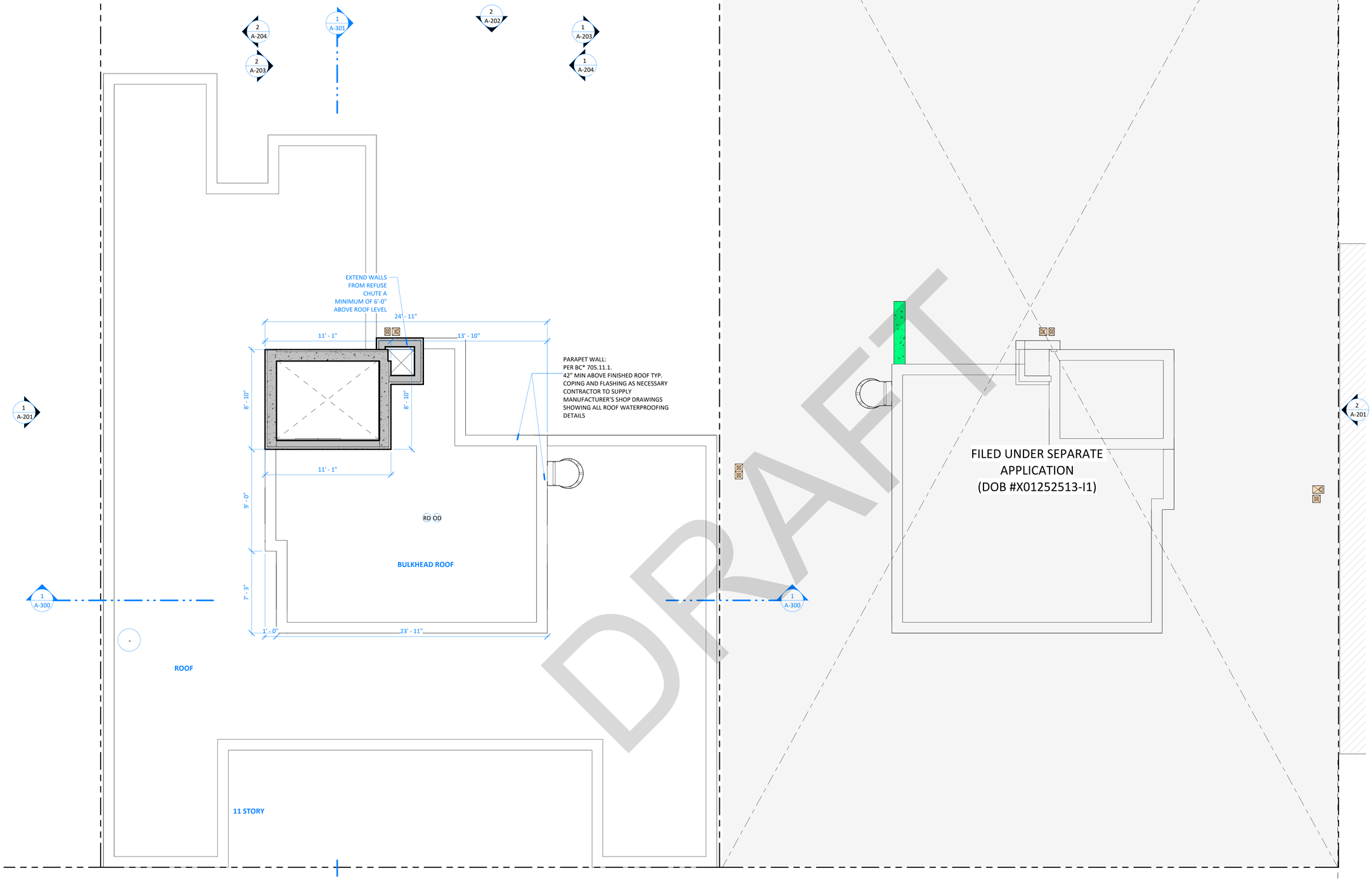
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DRAFT

27.10.2025 15:00:10



DRAFT

1 BULKHEAD FLOOR PLAN

SCALE: 1/4" = 1'-0"

GRAND CONCOURSE

110' WIDE (WIDE STREET)

ROOF LEGEND

	FNDY PATH
RD	ROOF DRAIN
OD	ROOF DRAIN OVERFLOW
	MECHANICAL SHAFTS
GREEN ROOF SYSTEM XXX SF	GREEN ROOF TAG
	GREEN ROOF

FC 504 ROOFTOP ACCESS LEGEND:

1. ROOFTOP ACCESS AND LANDING LOCATIONS
2. 6' WIDE CLEAR PATH
3. 6' WIDE DOOR CLEARANCE

S. WIEDER ARCHITECT PC

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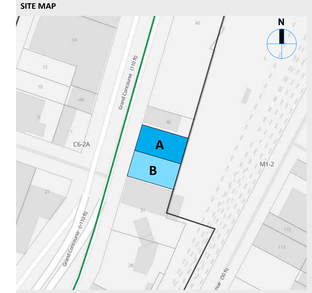
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:

BULKHEAD PLAN

DOB # :

GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:00:13

SCALE: As indicated

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SEAL AND SIGNATURE

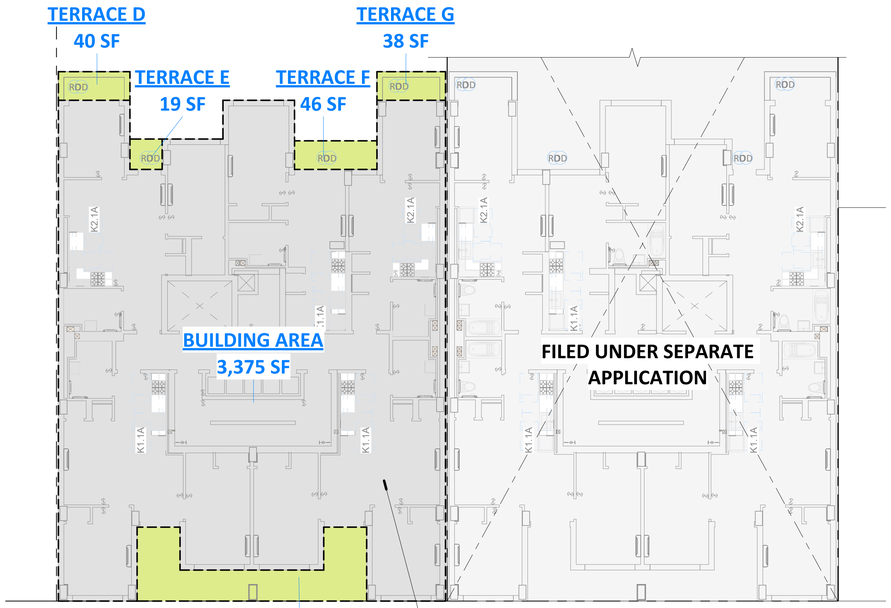
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SHEET: 44 OF 90

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2 **8TH FLOOR (A)**
SCALE: 1" = 10'-0"

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 3RD-7TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,519 SF**
3,519 SF X 25% = **880 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE A
211 SF < **880 SF**
THEREFORE EXEMPT

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 8TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,375 SF**
3,375 SF X 25% = **844 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

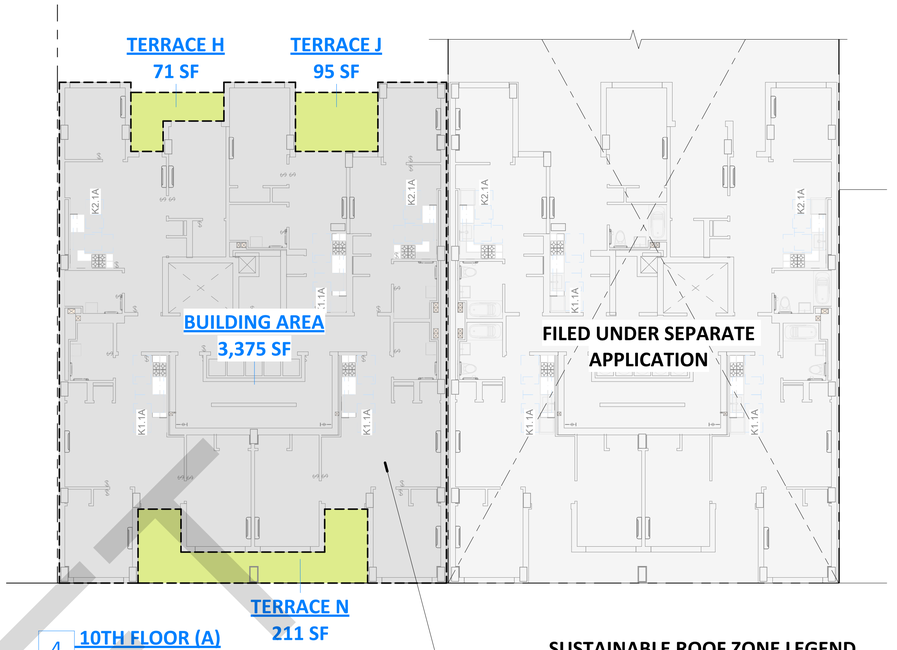
TERRACE C
211 SF < **844 SF**
THEREFORE EXEMPT

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK

SUSTAINABLE ZONE SCHEDULE - 10TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	2,470 SF
		2,470 SF
TERRACE / SETBACK		
TERRACE P	TERRACE / SETBACK	703 SF
TERRACE R	TERRACE / SETBACK	332 SF
		1,035 SF

SUSTAINABLE ZONE SCHEDULE - 8TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,375 SF
		3,375 SF
TERRACE / SETBACK		
TERRACE C	TERRACE / SETBACK	211 SF
TERRACE D	TERRACE / SETBACK	40 SF
TERRACE E	TERRACE / SETBACK	19 SF
TERRACE F	TERRACE / SETBACK	46 SF
TERRACE G	TERRACE / SETBACK	38 SF
		354 SF



4 **10TH FLOOR (A)**
SCALE: 1" = 10'-0"

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 9TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,375 SF**
3,375 SF X 25% = **844 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

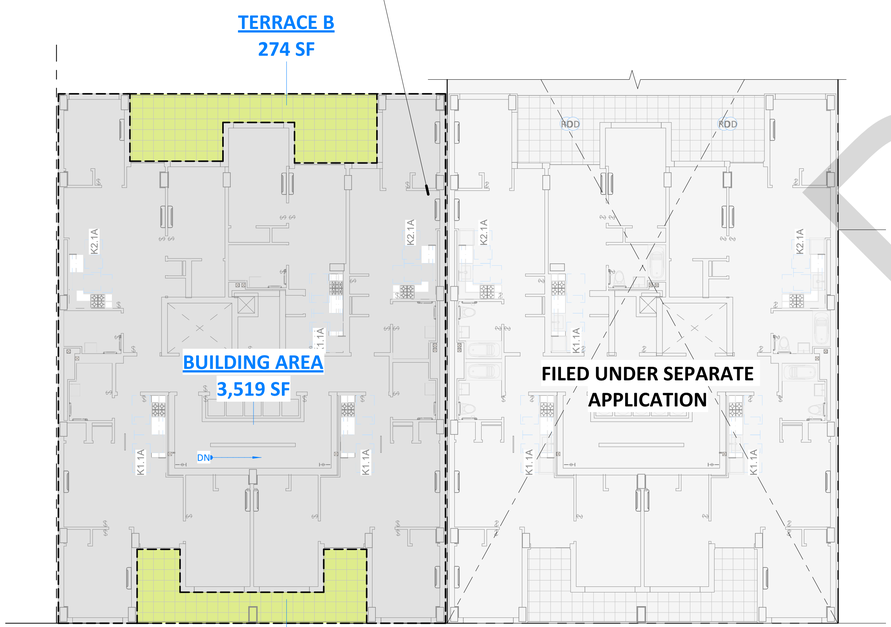
TERRACE K
211 SF < **844 SF**
THEREFORE EXEMPT

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 10TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,375 SF**
3,375 SF X 25% = **844 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE N
211 SF < **844 SF**
THEREFORE EXEMPT

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK



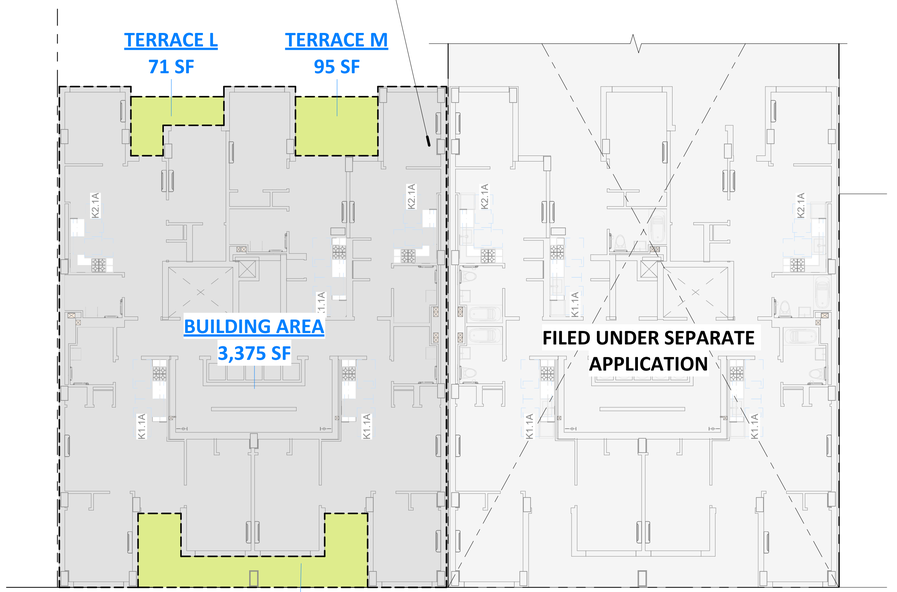
1 **3RD FLOOR (A)**
SCALE: 1" = 10'-0"

SUSTAINABLE ZONE SCHEDULE - 9TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,375 SF
		3,375 SF
TERRACE / SETBACK		
TERRACE K	TERRACE / SETBACK	211 SF
TERRACE L	TERRACE / SETBACK	71 SF
TERRACE M	TERRACE / SETBACK	95 SF
		377 SF

SUSTAINABLE ZONE SCHEDULE - 3RD7TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,519 SF
		3,519 SF
TERRACE / SETBACK		
TERRACE A	TERRACE / SETBACK	211 SF
TERRACE B	TERRACE / SETBACK	274 SF
		485 SF

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK



3 **9TH FLOOR (A)**
SCALE: 1" = 10'-0"

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

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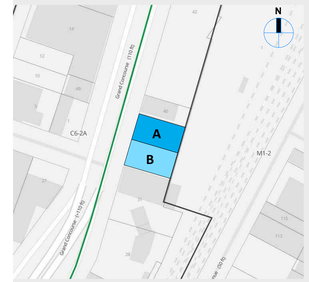
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		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:00:28
SCALE: 1" = 10'-0"
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SEAL AND SIGNATURE

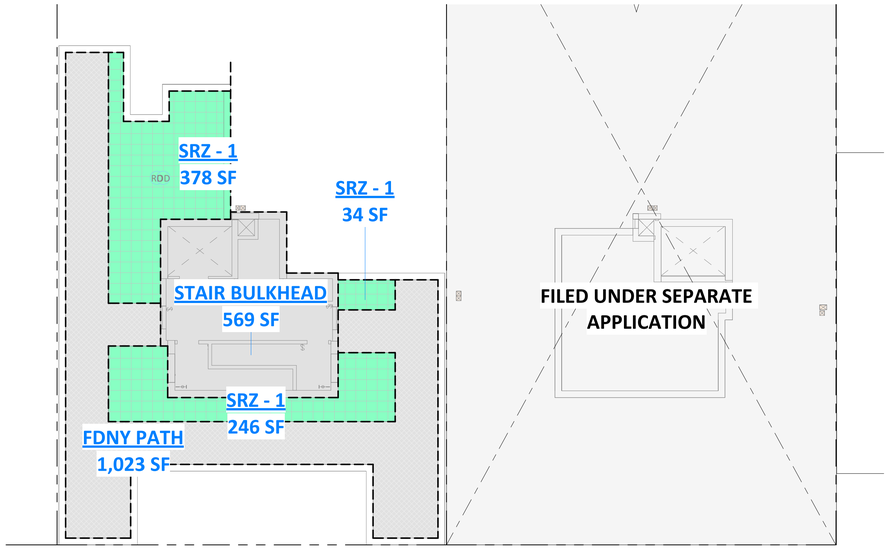
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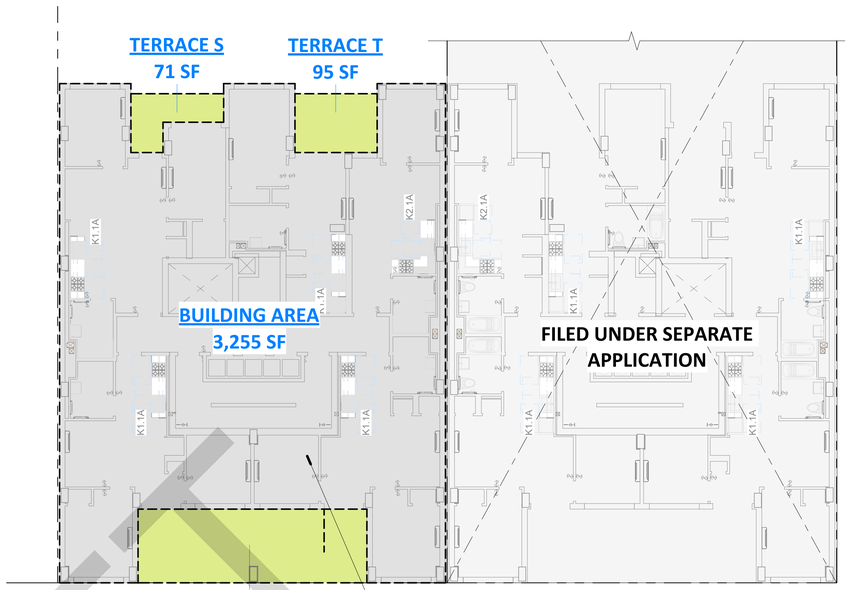
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27.10.2025 15:00:28



SUSTAINABLE ZONE SCHEDULE - 11TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,255 SF
		3,255 SF
TERRACE / SETBACK		
TERRACE O	TERRACE / SETBACK	332 SF
TERRACE S	TERRACE / SETBACK	71 SF
TERRACE T	TERRACE / SETBACK	95 SF
		498 SF

SUSTAINABLE ZONE SCHEDULE - 12TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,375 SF
		3,375 SF
TERRACE / SETBACK		
TERRACE H	TERRACE / SETBACK	71 SF
TERRACE J	TERRACE / SETBACK	95 SF
TERRACE N	TERRACE / SETBACK	211 SF
		377 SF



4 **11TH FLOOR (A)**
SCALE: 1" = 10'-0"

3 **ROOF (A)**
SCALE: 1" = 10'-0"

SUSTAINABLE ZONE SCHEDULE - ROOF LEVEL		
NAME	AREA TYPE	Area.
BUILDING AREA		
STAIR BULKHEAD	BUILDING AREA	569 SF
		569 SF
FDNY PATH		
FDNY PATH	FDNY PATH	1,023 SF
		1,023 SF
SUSTAINABLE ROOF ZONE		
SRZ - 1	SUSTAINABLE ROOF ZONE	378 SF
SRZ - 1	SUSTAINABLE ROOF ZONE	246 SF
SRZ - 1	SUSTAINABLE ROOF ZONE	34 SF
		658 SF

SOLAR PHOTOVOLTAIC ELECTRIC PANEL CALCULATION:
HIGH EFFICIENCY SOLAR PHOTOVOLTAIC ELECTRIC PANEL 1 SF PER 20 WATTS TO ACHIEVE 4 KW SYSTEM MINIMUM 200 SF OF CONTIGUOUS SPACE REQUIRED TYPICAL 60 CELL PHOTOVOLTAIC PANEL SIZE = 18.1 SF (MINIMUM 3'-4" X 5'-5")
11 PANELS REQUIRED
11 PANELS X 18 SF = 200 SF REQUIRED

FOR PROPOSED AREA THAT ARE LESS THAN 200 SF, NO SOLAR PANELS CAN EFFICIENTLY PRODUCE 4KW , GREEN ROOF WILL BE USED

BC 1511.2(2) GREEN ROOF SYSTEM PROVIDED FOR CONTIGUOUS AREAS LESS THAN 200 SF NOT CAPABLE OF PROVIDING A MINIMUM OF 4KW OF SOLAR PHOTOVOLTAIC ELECTRICITY

BB 2019-010 (LL 92/2019, LL94/2019)
SUSTAINABLE ROOF ZONE,
A. CONTIGUOUS SUSTAINABLE ROOFING ZONES **EQUAL OR OVER 200 SQUARE FEET** (100 SQUARE FEET FOR GROUP R BUILDINGS FIVE STORIES OR LESS) WITHIN CONTIGUOUS SUSTAINABLE ROOFING ZONE, EITHER A SOLAR PHOTOVOLTAIC SYSTEM **OR** A GREEN ROOF SYSTEM, OR A COMBINATION THEREOF, **MUST** BE INSTALLED. **IF** A SOLAR PHOTOVOLTAIC SYSTEM CANNOT MEET OR EXCEED A CAPACITY OF **4KW** DUE TO SITE CONDITIONS SUCH AS SHADING, A GREEN ROOF SYSTEM SHALL BE PROVIDED.

B. CONTIGUOUS SUSTAINABLE ROOFING ZONES **LESS THAN 200 SQUARE FEET** (100 SQUARE FEET FOR GROUP R BUILDINGS FIVE STORIES OR LESS) WHERE A CONTIGUOUS SUSTAINABLE ROOFING ZONE ON A ROOF **IS LESS** THAN **200 SF**, A SOLAR PHOTOVOLTAIC SYSTEM THAT CAN MEET OR EXCEED A CAPACITY OF **4KW MUST** BE INSTALLED. **IF** THE REQUIREMENT OF **4KW** CANNOT BE MET, A GREEN ROOF SYSTEM SHALL BE PROVIDED.

C. AREAS EXEMPTED FROM SUSTAINABLE ROOFING ZONE
THE FOLLOWING AREAS ARE EXCLUDED FROM THE SUSTAINABLE ROOFING ZONE:
1. AREAS REQUIRED TO BE SET ASIDE FOR SETBACKS OR ACCESS PURSUANT TO THE NEW YORK CITY FIRE CODE, NEW YORK CITY CONSTRUCTION CODES OR THE ZONING RESOLUTION OF THE CITY OF NEW YORK. FOR EXAMPLE, ROOFTOP ACCESS AREAS REQUIRED BY FIRE CODE SECTION 504.4 AND 512.3.1 THAT MUST BE KEPT CLEAR ARE EXCLUDED FROM THE SUSTAINABLE ROOFING ZONE.
2. AREAS OCCUPIED BY ROOFTOP STRUCTURES, WATER TOWERS, GREENHOUSES, MECHANICAL EQUIPMENT, TOWERS, ANTENNAS, PARAPETS, GUARDRAILS, SOLAR THERMAL SYSTEMS, EQUIPMENT ACCESS PATHWAYS AND APPURTENANCES.
3. AREAS OCCUPIED BY OBSTRUCTIONS RELATED TO STORMWATER MANAGEMENT PRACTICES INCLUDING, BUT NOT LIMITED TO, CISTERNS, OR REUSE SYSTEMS THAT ARE INSTALLED TO COMPLY WITH SITE CONNECTION OR STORMWATER CONSTRUCTION PERMITS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
4. BUILDING SETBACKS INCLUDING TERRACES THAT ARE EXISTING NON-COMPLYING PURSUANT TO THE NEW YORK CITY ZONING RESOLUTION, OR THAT ARE VOLUNTARILY PROVIDED. HOWEVER, EACH SETBACK MUST COMPRISE LESS THAN 25 PERCENT OF THE AREA OF THE LARGEST FLOOR PLATE IN THE BUILDING.
5. RECREATIONAL SPACES THAT ARE INTEGRAL TO THE PRINCIPAL USE OF THE BUILDING ON WHICH THE ROOFTOP IS LOCATED, INCLUDING BUT NOT LIMITED TO PLAYGROUNDS AND PARTICIPANT SPORT AREAS FOR SPORTS FACILITIES AND SCHOOLS, QUALITY HOUSING RECREATION SPACES, ROOF TERRACES AND PASSIVE RECREATION AREAS THAT ARE DOCUMENTED ON THE CERTIFICATE OF OCCUPANCY OR DEPARTMENT OF BUILDINGS APPROVED FILING AS OUTLINED IN BUILDING BULLETIN 2018-002.
6. PITCHED ROOFS (ROOF SLOPES GREATER THAN 17 PERCENT) THAT WOULD ACCOMMODATE LESS THAN 4KW OF SOLAR PHOTOVOLTAIC ELECTRICITY GENERATING CAPACITY. SUPPORTING DOCUMENTS, INCLUDING CALCULATIONS AND SHADING REPORT BY A QUALIFIED CONTRACTOR OR NYS REGISTERED DESIGN PROFESSIONAL, SHALL BE SUBMITTED. SEE PART D2 BELOW.
7. AREAS WHERE SITE CONDITIONS ARE DETERMINED BY THE DEPARTMENT TO BE UNFAVORABLE TO EITHER A SOLAR PHOTOVOLTAIC ELECTRICITY GENERATING SYSTEM OR A GREEN ROOF SYSTEM. FOR EXAMPLE, IN CASES WHERE THE ENTIRE ROOF ASSEMBLY INCLUDING ROOF DECK IS REPLACED, BUT THE BUILDING STRUCTURE CANNOT SUPPORT THE ADDED WEIGHT OF A SUSTAINABLE ROOFING ZONE, A STATEMENT BY A NYS REGISTERED DESIGN PROFESSIONAL SHALL BE SUBMITTED TO THE DEPARTMENT TO SUBSTANTIATE THE PRACTICAL DIFFICULTY DUE TO STRUCTURAL LIMITATION.

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE

PROPOSED **4 STORY** BUILDING GROUP 4A
CONTIGUOUS SUSTAINABLE ROOF ZONES REQUIRED TO COMPLY WITH BB 2019-010 (LL 92/2019, LL94/2019) (A)

SUSTAINABLE ROOF ZONE	
SRZ - 1	378 SF
SRZ - 1	246 SF
Grand total	624 SF

CONTIGUOUS SUSTAINABLE ROOF ZONES REQUIRED TO COMPLY WITH BB 2019-010 (LL 92/2019, LL94/2019) (B)

SUSTAINABLE ROOF ZONE	
SRZ - 1	
SRZ - 1	34 SF
SRZ - 2	
SRZ - 3	

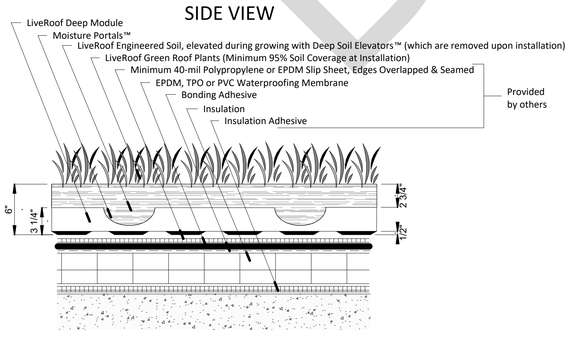
NO (B) CONTIGUOUS AREAS ABLE TO MEET 4KW MINIMUM THEREFORE GREEN ROOF SYSTEM SHALL BE PROVIDED FOR ALL (B) AREAS.

GREEN ROOFING SYSTEM OPTION CHOSEN FOR (A) AREAS
1,450 SF PROPOSED AT ROOF
1,972 SF GREEN ROOF SYSTEM AREA PROPOSED.

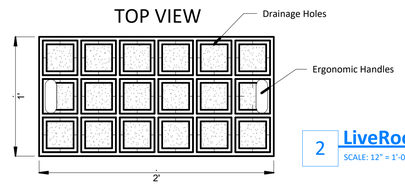
LiveRoof DEEP SYSTEM

Over Conventional Roofing Assembly

SIDE VIEW



TOP VIEW



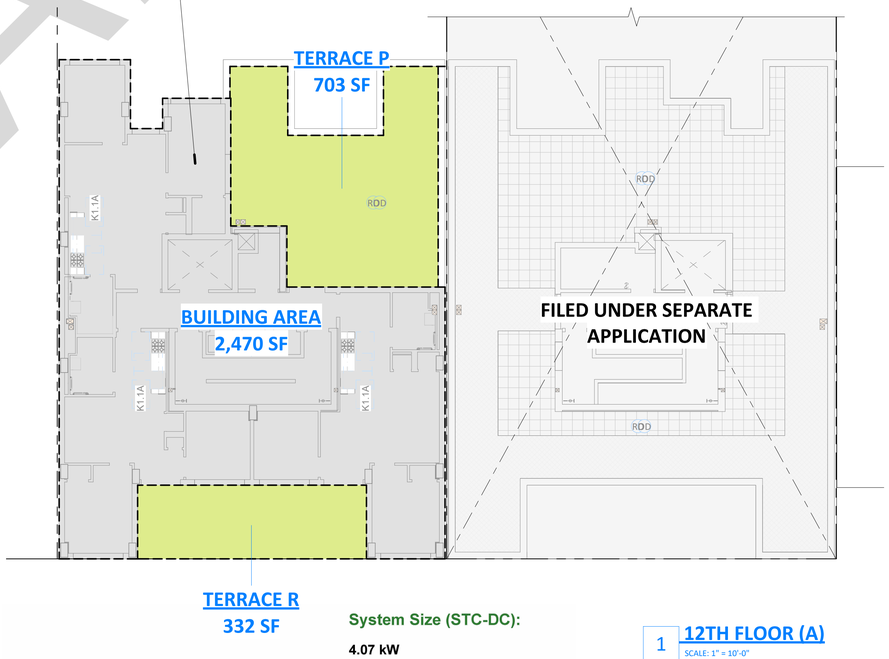
2 **LiveRoof - Deep A**
SCALE: 12" = 1'-0"

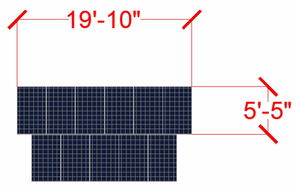
BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 12 FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **2,470 SF**
2,470 SF X 25% = **617 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE R
332 SF < **617 SF**
THEREFORE EXEMPT

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 11TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,255 SF**
3,255 SF X 25% = **814 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE O
332 SF < **814 SF**
THEREFORE EXEMPT





System Size (STC-DC):

4.07 kW

Estimated Solar Production:

520 kWh/Month • 6,240 kWh/Year

Panel Model: Neo 370W Mono
Number of Solar Panels: 11

Roof Type: N/A
Array: 1@11
Roof Pitch: 1@18°
Azimuth: 1@180°

• Dimensions for the layout are estimated.
• Please measure and confirm dimensions and notify your sales rep of any inaccuracies.

1 **12TH FLOOR (A)**
SCALE: 1" = 10'-0"

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

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T: (718)-399-4901
E: info@elevatedengineeringnyc.com

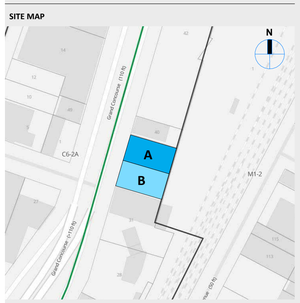
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	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:00:42
SCALE: As indicated
DRAWN BY: XX

SEAL AND SIGNATURE

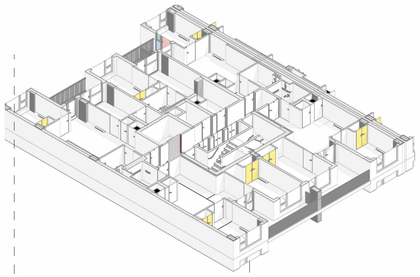
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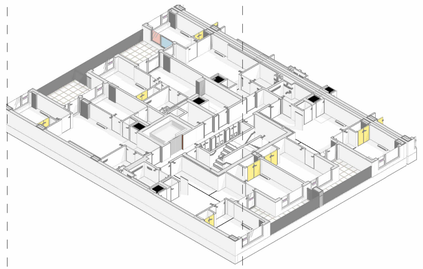
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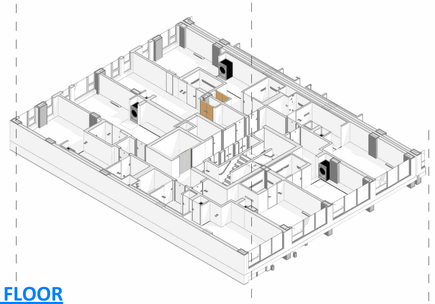
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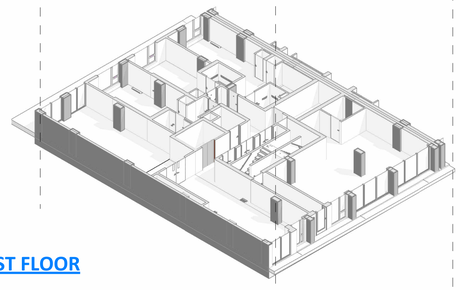
4 **3D - EXPLODED 4TH FLOOR**
SCALE:



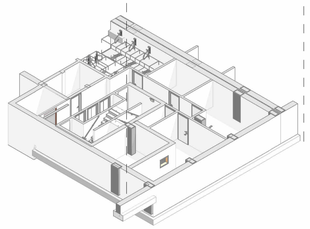
3 **3D - EXPLODED 3RD FLOOR**
SCALE:



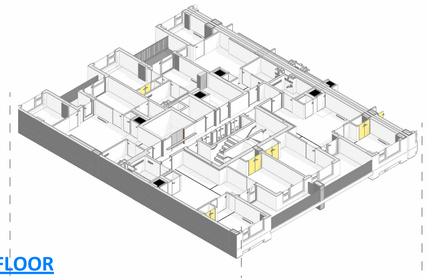
2 **3D - EXPLODED 2ND FLOOR**
SCALE:



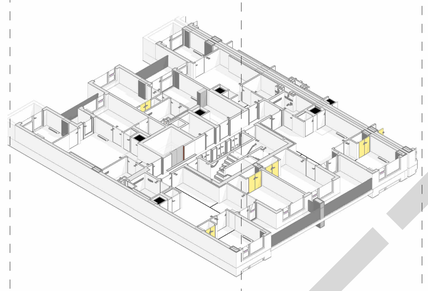
1 **3D - EXPLODED 1ST FLOOR**
SCALE:



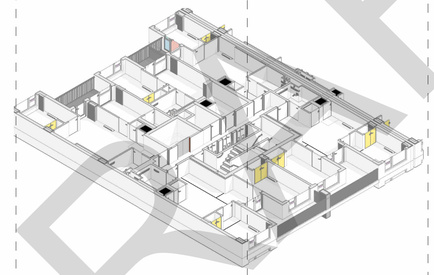
7 **3D - EXPLODED 0 CELLAR FLOOR**
SCALE:



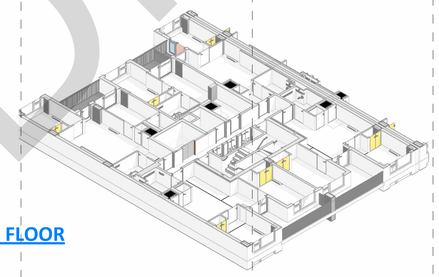
9 **3D - EXPLODED 9TH FLOOR**
SCALE:



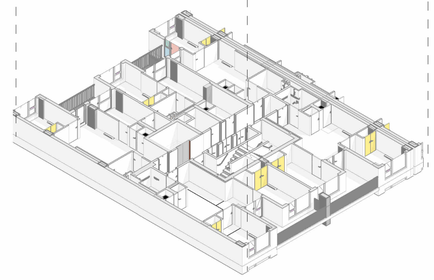
10 **3D - EXPLODED 8TH FLOOR**
SCALE:



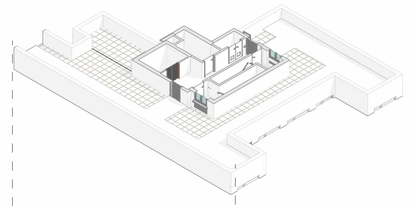
8 **3D - EXPLODED 7TH FLOOR**
SCALE:



6 **3D - EXPLODED 6TH FLOOR**
SCALE:



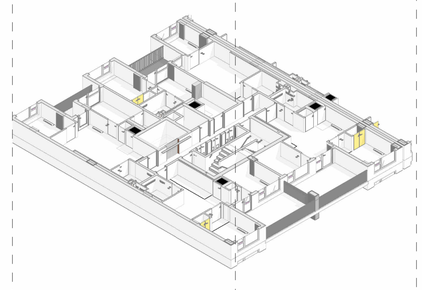
5 **3D - EXPLODED 5TH FLOOR**
SCALE:



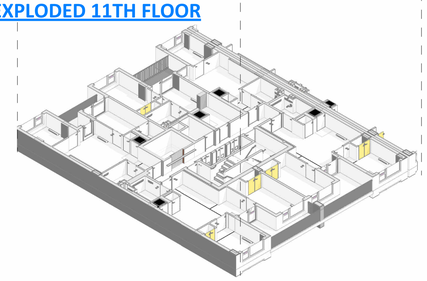
14 **3D - EXPLODED FLOOR ROOF**
SCALE:



12 **3D - EXPLODED 12TH FLOOR**
SCALE:



13 **3D - EXPLODED 11TH FLOOR**
SCALE:



11 **3D - EXPLODED 10TH FLOOR**
SCALE:

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S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

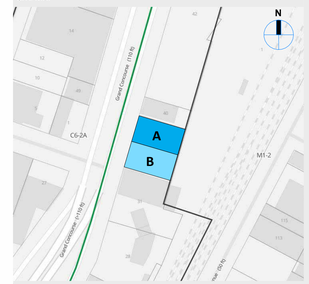
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:
EXPLODED AXON

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:01:32
SCALE:
DRAWN BY: XX

SEAL AND SIGNATURE

A-115.00

SHEET: 47 OF 90

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27.10.2025 15:01:32



2 WEST (GRAND CONCOURSE) ELEVATION

SCALE: 1/8" = 1'-0"

27.10.2025 15:01:46

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C

STC	44
OITC	38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC

OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C

STC	43
OITC	36

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)

STC	42
OITC	35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79

OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F

STC	40
OITC	33

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8

OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C
1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F

STC	43
OITC	38



EIFS - 2 MANUFACTURE DESCRIPTION | BRICK - BLACK MANUFACTURE DESCRIPTION | METAL - A MANUFACTURE DESCRIPTION

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

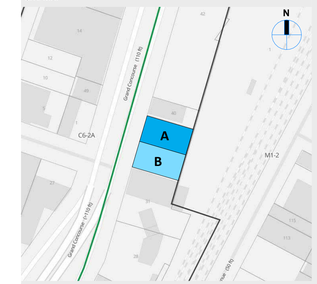
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
	✓ 50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE BRONX, NY 10451

PROJECT:

PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:

WEST (GRAND CONCOURSE) ELEVATION

DOB # :

GC # X01252512-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

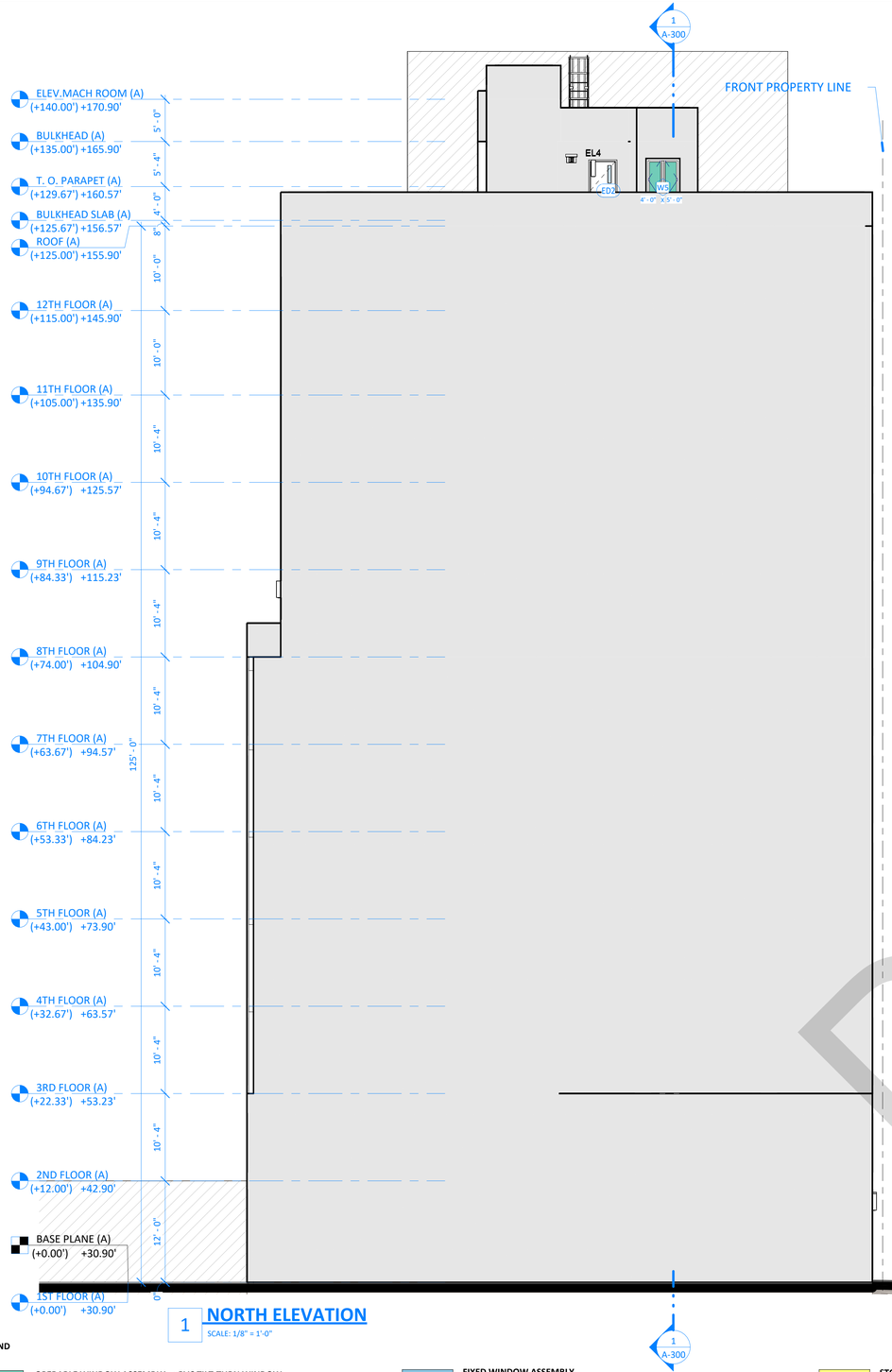
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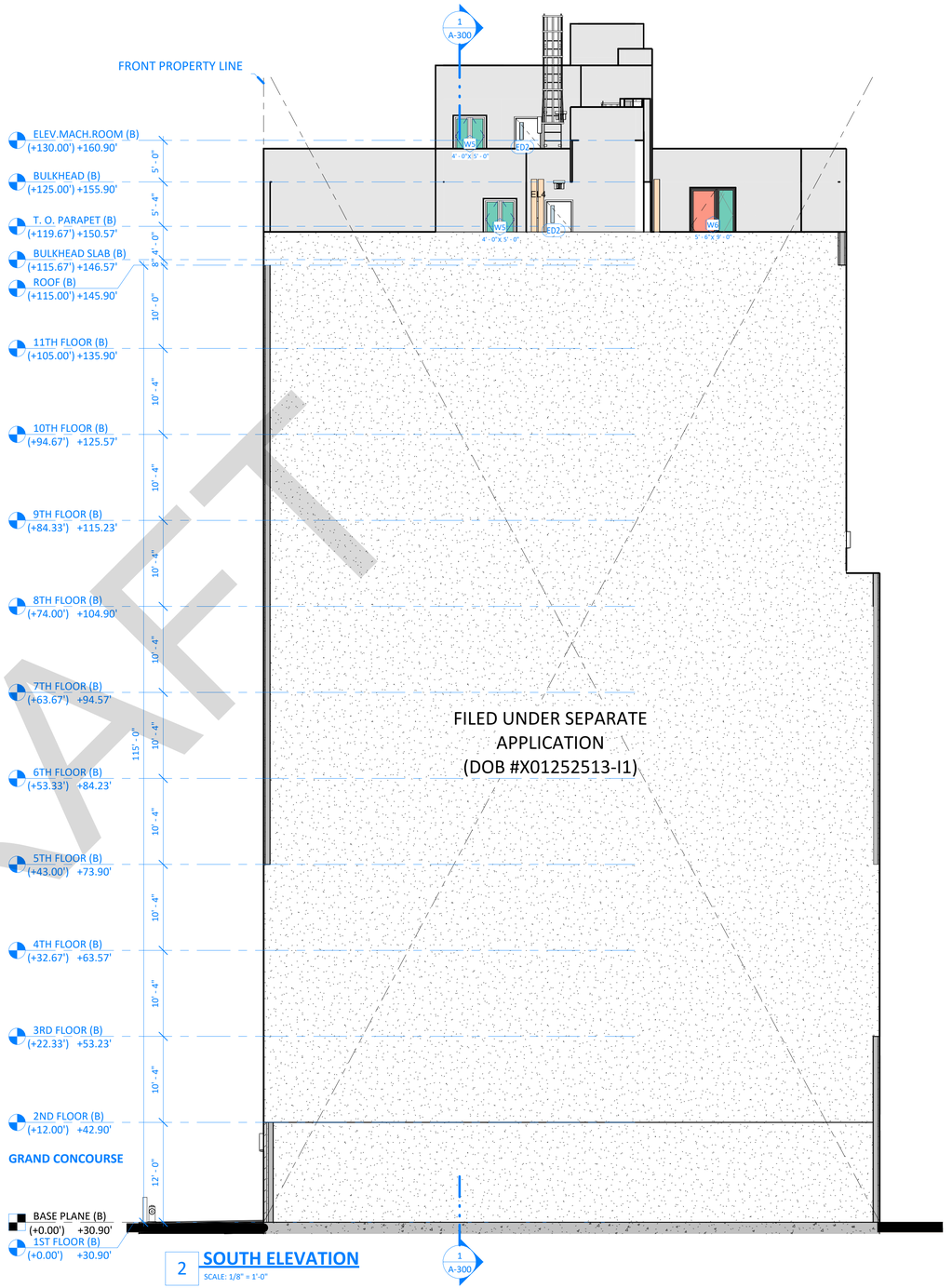
SHEET: 48 OF 90

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1 **NORTH ELEVATION**
SCALE: 1/8" = 1'-0"



2 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"

LEGEND

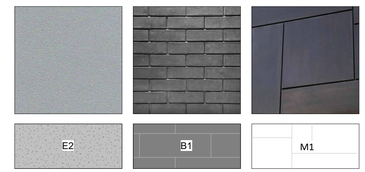
OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82
OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC
OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 43
OITC 36

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8
OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C
1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F
STC 43
OITC 38

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82
OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)
STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79
OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F
STC 40
OITC 33



EIFS - 2 MANUFACTURE DESCRIPTION
BRICK - BLACK MANUFACTURE DESCRIPTION
METAL - A MANUFACTURE DESCRIPTION

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

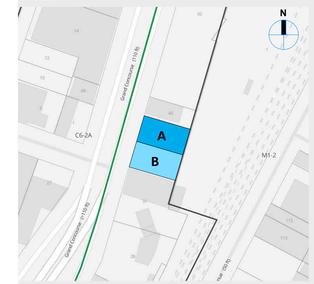
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
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NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
NORTH & SOUTH ELEVATION

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:02:09
SCALE: As indicated
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27.10.2025 15:02:09



2 EAST (RARE) ELEVATION

SCALE: 1/8" = 1'-0"

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC

OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 43
OITC 36

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)
STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79

OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F
STC 40
OITC 33

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8

OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C, 1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F
STC 43
OITC 38



EIFS - 2 MANUFACTURE DESCRIPTION | BRICK - BLACK MANUFACTURE DESCRIPTION | METAL - A MANUFACTURE DESCRIPTION

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

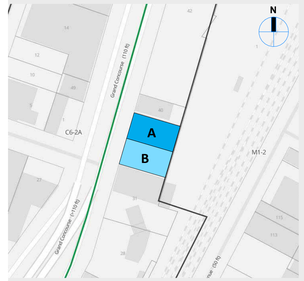
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A & D ENGINEERING
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NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
EAST (RARE) ELEVATION

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:02:22
SCALE: As indicated
DRAWN BY: XX

SEAL AND SIGNATURE

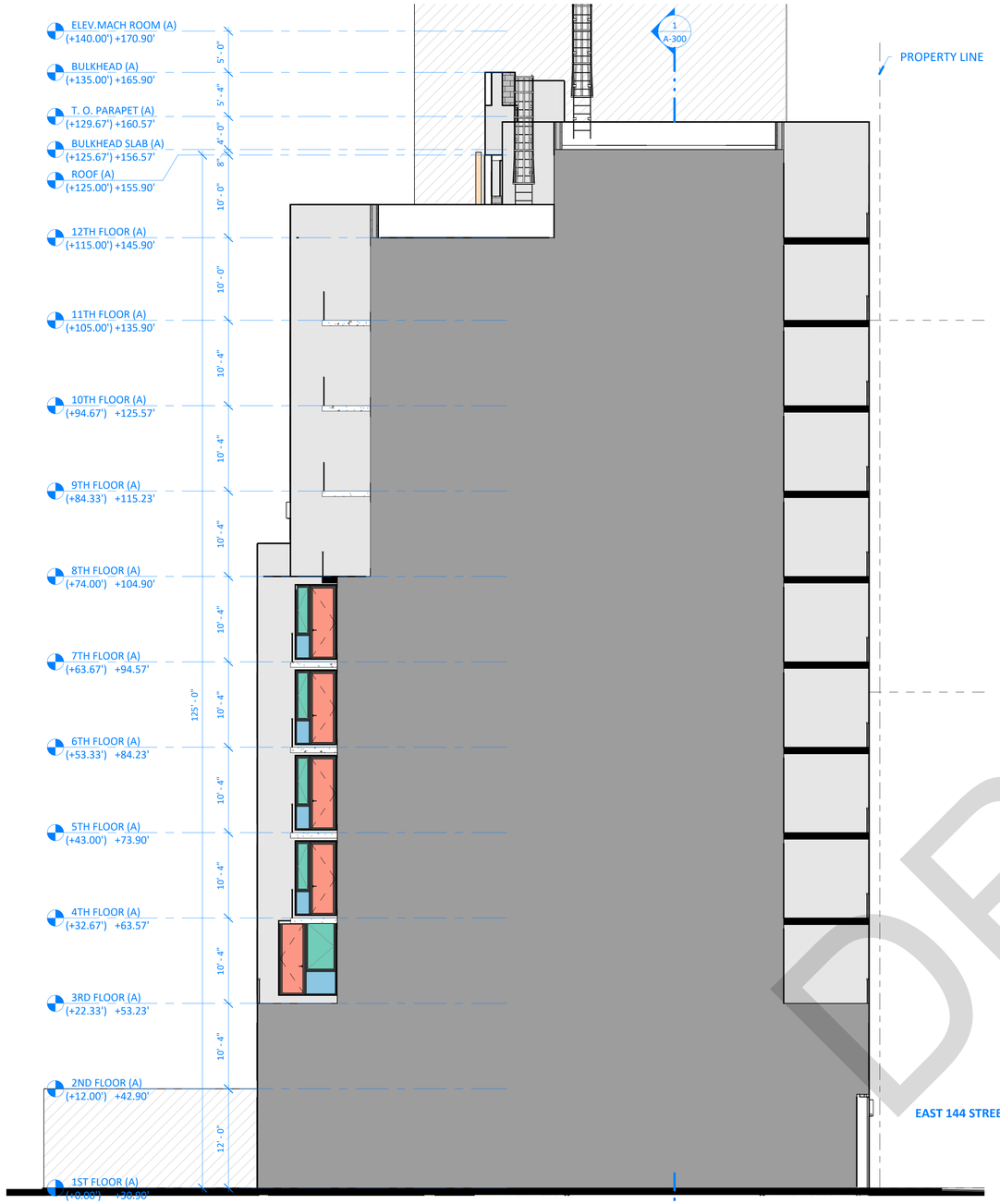
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SHEET: 50 OF 90

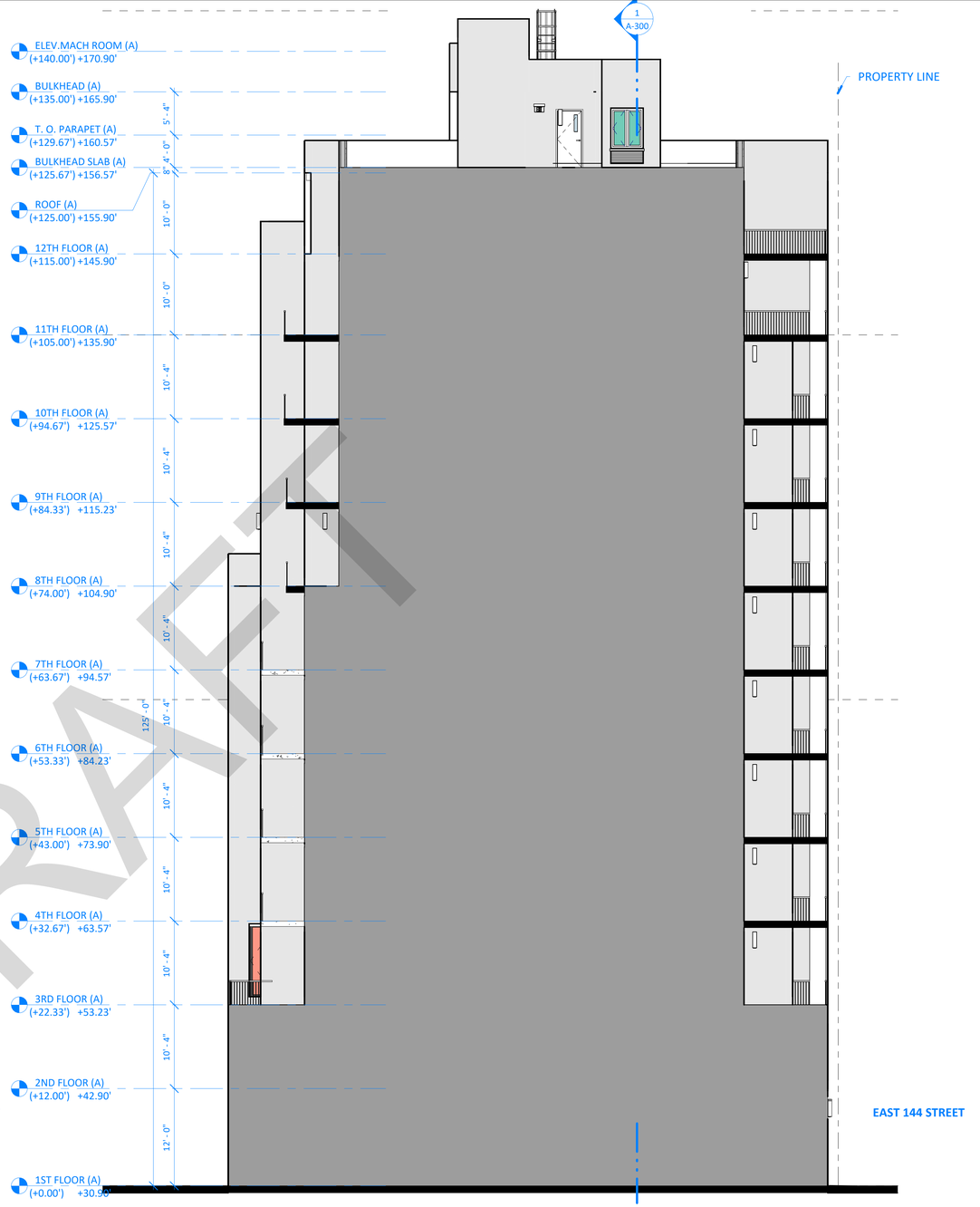
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27.10.2025 15:02:23



1 **NORTH INNER ELEVATION**
SCALE: 1/8" = 1'-0"



2 **NORTH INNER ELEVATION A**
SCALE: 1/8" = 1'-0"

DRAFT

LEGEND

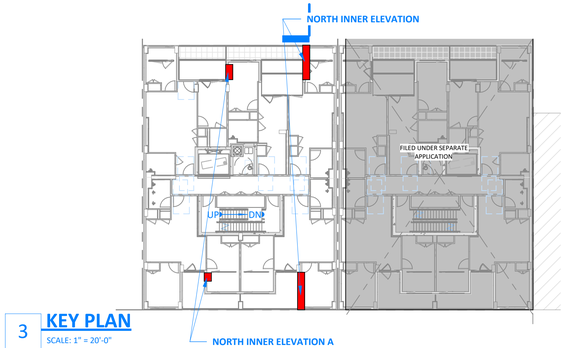
OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82
OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC
OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 43
OITC 36

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8
OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C, 1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F
STC 43
OITC 38

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82
OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)
STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79
OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F
STC 40
OITC 33



3 **KEY PLAN**
SCALE: 1" = 20'-0"

S. WIEDER ARCHITECT PC
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BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
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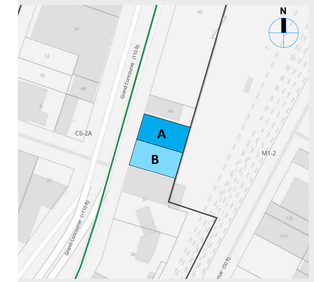
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233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
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E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025

	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
NORTH INNER ELEVATION

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:02:43
SCALE: As indicated
DRAWN BY: XX

SEAL AND SIGNATURE

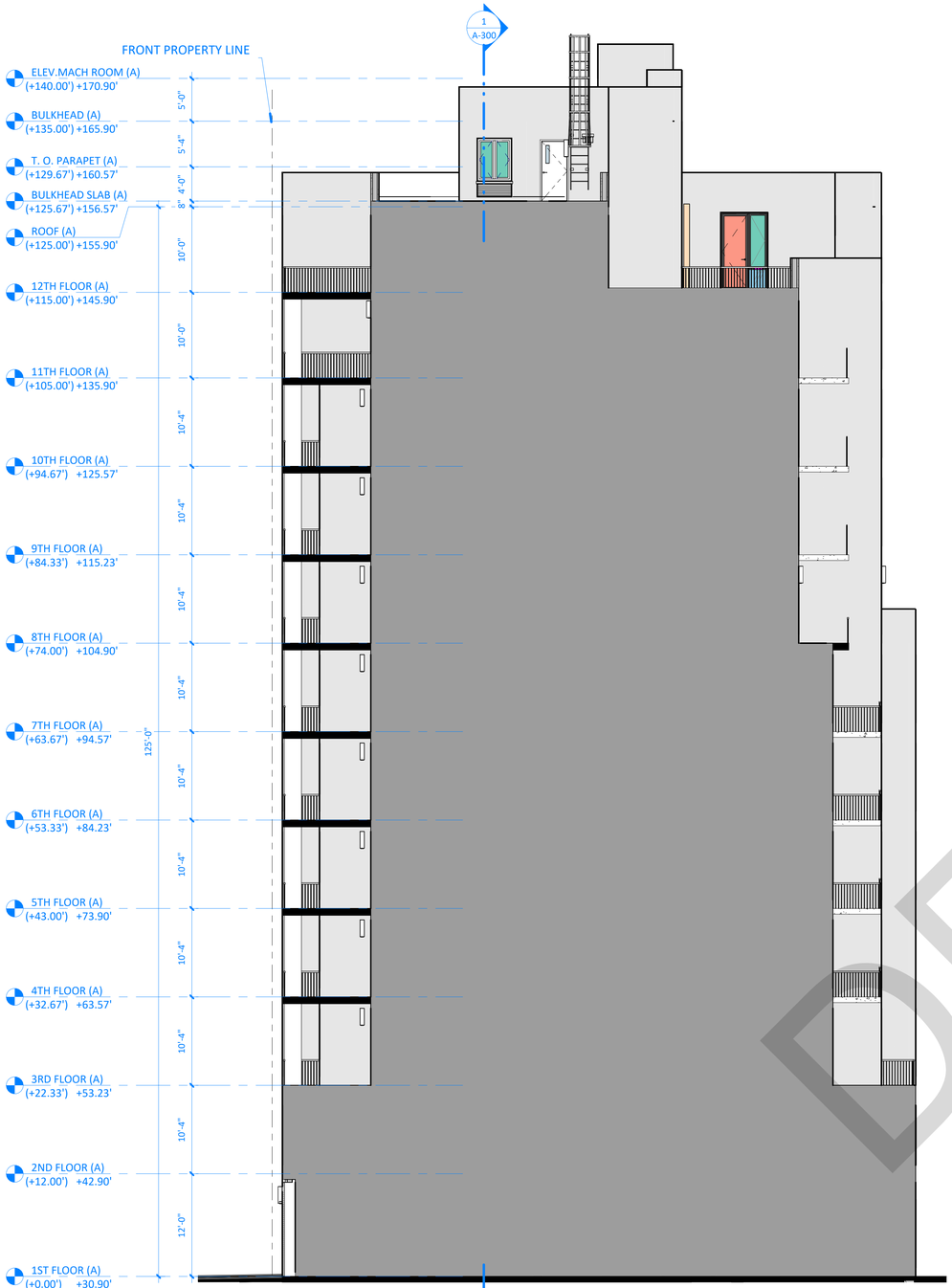
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SHEET: 51 OF 90

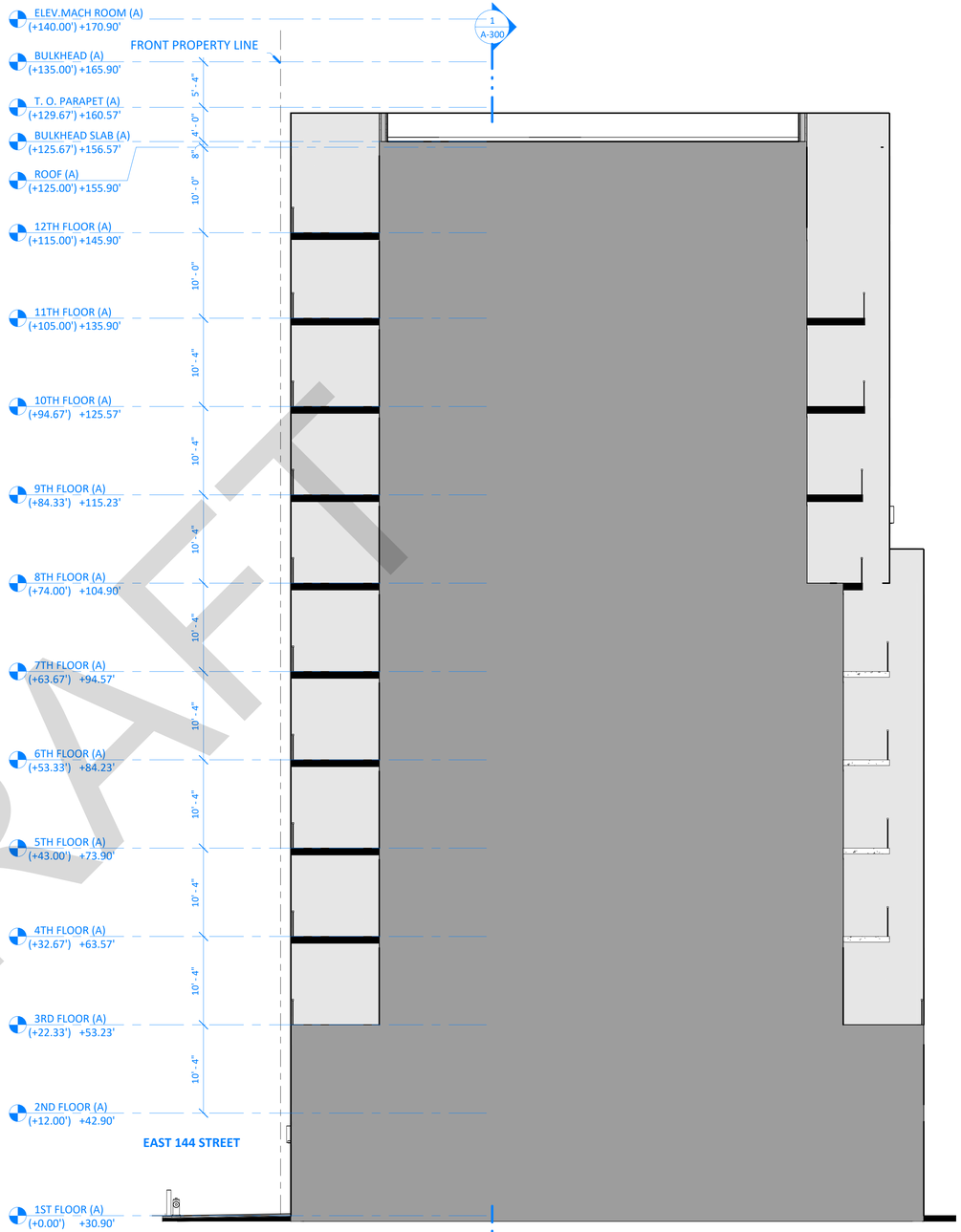
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27.10.2025 15:02:43



1 **SOUTH INNER ELEVATION**
SCALE: 1/8" = 1'-0"



2 **SOUTH INNER ELEVATION A**
SCALE: 1/8" = 1'-0"

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC

OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 43
OITC 36

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8

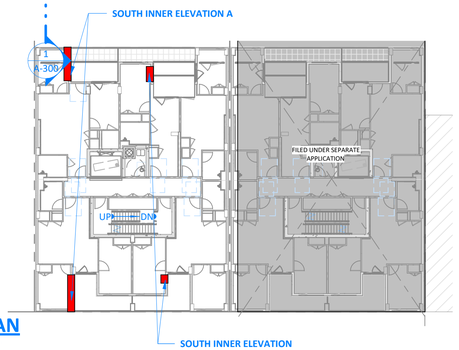
OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C 1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F
STC 43
OITC 38

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)
STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79

OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F
STC 40
OITC 33



3 **KEY PLAN**
SCALE: 1" = 20'-0"

DRAFT

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BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

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ELEVATED ENGINEERING NYC
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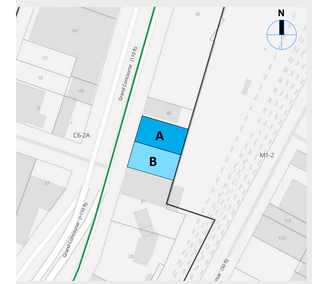
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MUNICIPAL CONSULTANT:
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NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
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		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
SOUTH INNER ELEVATION

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:02:52
SCALE: As indicated
DRAWN BY: XX

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1 **BLDG 3D VIEW 1**
SCALE:

3 **BLDG 3D VIEW 3**
SCALE:



2 **BLDG 3D VIEW 2**
SCALE:

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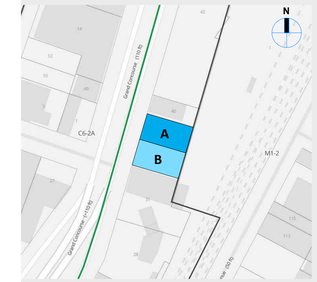
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MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
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		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:
3D VIEWS

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:03:31
SCALE:
DRAWN BY: XX

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A-210.00

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27.10.2025 15:03:31

PARAPET WALL:
PER BC* 705.11.1.
42" MIN ABOVE FINISHED ROOF TYP.
COPING AND FLASHING AS NECESSARY
CONTRACTOR TO SUPPLY
MANUFACTURER'S SHOP DRAWINGS
SHOWING ALL ROOF WATERPROOFING
DETAILS

PARAPET WALL:
PER BC* 705.11.1.
42" MIN ABOVE FINISHED ROOF TYP.
COPING AND FLASHING AS NECESSARY
CONTRACTOR TO SUPPLY
MANUFACTURER'S SHOP DRAWINGS
SHOWING ALL ROOF WATERPROOFING
DETAILS

PROPERTY LINE

PROPERTY LINE

ELEV.MACH ROOM (A)
(+140.00') +170.90'

BULKHEAD (A)
(+135.00') +165.90'

T. O. PARAPET (A)
(+129.67') +160.57'

BULKHEAD SLAB (A)
(+125.67') +156.57'

ROOF (A)
(+125.00') +155.90'

12TH FLOOR (A)
(+115.00') +145.90'

11TH FLOOR (A)
(+105.00') +135.90'

10TH FLOOR (A)
(+94.67') +125.57'

9TH FLOOR (A)
(+84.33') +115.23'

8TH FLOOR (A)
(+74.00') +104.90'

7TH FLOOR (A)
(+63.67') +94.57'

6TH FLOOR (A)
(+53.33') +84.23'

5TH FLOOR (A)
(+43.00') +73.90'

4TH FLOOR (A)
(+32.67') +63.57'

3RD FLOOR (A)
(+22.33') +53.23'

2ND FLOOR (A)
(+12.00') +42.90'

BASE PLANE (A)
(+0.00') +30.90'

1ST FLOOR (A)
(+0.00') +30.90'

CELLAR (A)
(-10.33') +20.57'

ELEV.MACH.ROOM (B)
+160.90' (+130.00')

BULKHEAD (B)
+155.90' (+125.00')

T. O. PARAPET (B)
+150.57' (+119.67')

BULKHEAD SLAB (B)
+146.57' (+115.67')

ROOF (B)
+145.90' (+115.00')

11TH FLOOR (B)
+135.90' (+105.00')

10TH FLOOR (B)
+125.57' (+94.67')

9TH FLOOR (B)
+115.23' (+84.33')

8TH FLOOR (B)
+104.90' (+74.00')

7TH FLOOR (B)
+94.57' (+63.67')

6TH FLOOR (B)
+84.23' (+53.33')

5TH FLOOR (B)
+73.90' (+43.00')

4TH FLOOR (B)
+63.57' (+32.67')

3RD FLOOR (B)
+53.23' (+22.33')

2ND FLOOR (B)
+42.90' (+12.00')

BASE PLANE (B)
+30.90' (+0.00')

1ST FLOOR (B)
+30.90' (+0.00')

CELLAR (B)
+20.57' (-10.33')

BATH LIVING ROOM
KITTE
KITTE
CORRIDOR
RESTROOM
CORRIDOR
STAIR
LIVING ROOM

FILED UNDER SEPARATE APPLICATION

1 BUILDING SECTION A
SCALE: 1/8" = 1'-0"



2 3D SECTION A
SCALE:

NOTE:
REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL DESIGN

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
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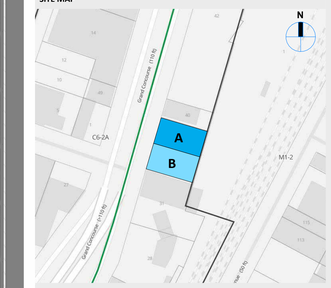
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MUNICIPAL CONSULTANT:
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T: (718)-360-0200
E: hershey@bacdg.com

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		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
BUILDING SECTIONS

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:05:16
SCALE: 1/8" = 1'-0"
DRAWN BY: XX

SEAL AND SIGNATURE

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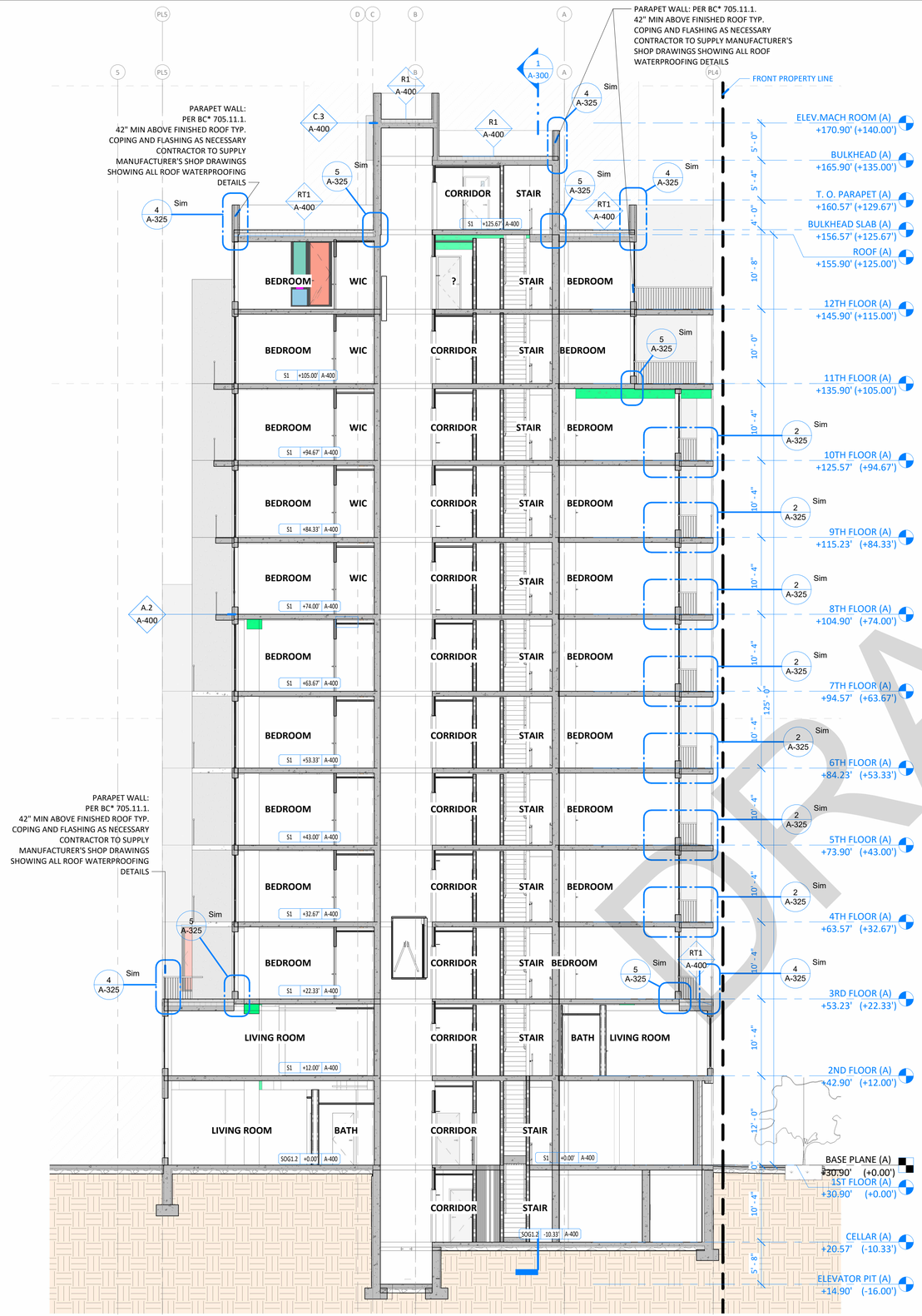
SHEET: 54 OF 90

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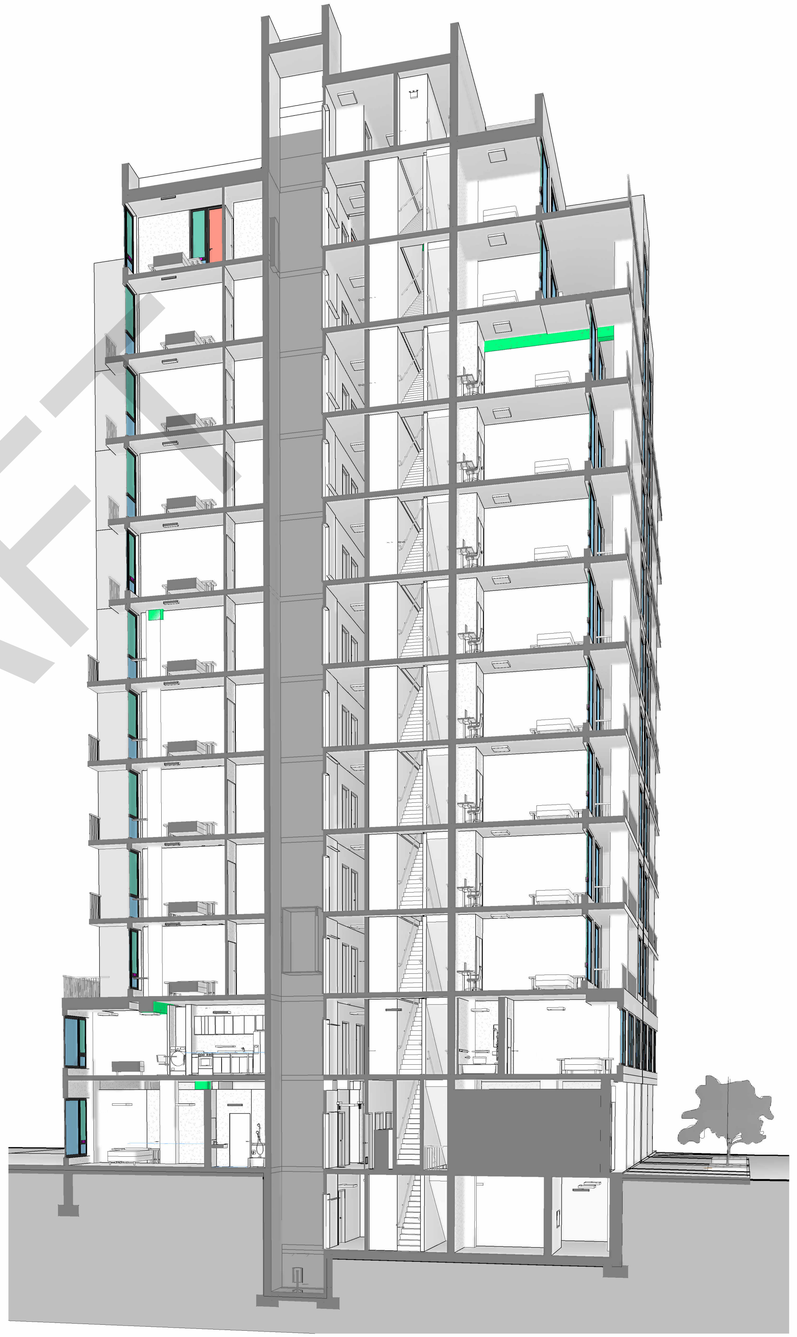
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27.10.2025 15:05:16



1 **BUILDING SECTION B**
SCALE: 1/8" = 1'-0"



2 **3D SECTION B**
SCALE:

DRAFT

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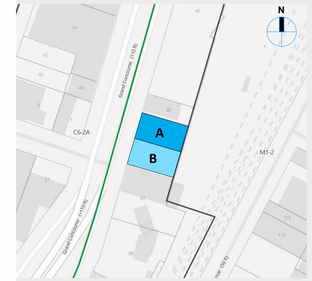
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NO.		DESCRIPTION	DATE
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	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED
NEW BUILDING (BUILDING A)

DRAWING TITLE:
BUILDING SECTIONS

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:07:37
SCALE: 1/8" = 1'-0"
DRAWN BY: XX

SEAL AND SIGNATURE

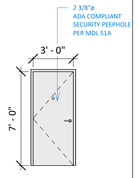
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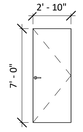
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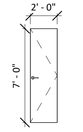
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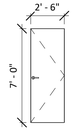
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COUNT	59



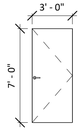
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NOTES	FPSC
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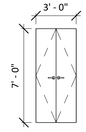
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NOTES	
COUNT	24



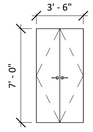
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NOTES	
COUNT	78



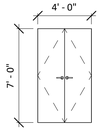
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HEIGHT	7' - 0"
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NOTES	
COUNT	10



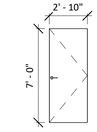
TYPE MARK	C4
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET
NOTES	
COUNT	15



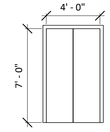
TYPE MARK	C5
WIDTH	3' - 6"
HEIGHT	7' - 0"
DESCRIPTION	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET
NOTES	
COUNT	24



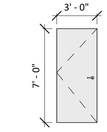
TYPE MARK	C6
WIDTH	4' - 0"
HEIGHT	7' - 0"
DESCRIPTION	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET
NOTES	
COUNT	18



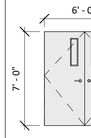
TYPE MARK	D1
WIDTH	2' - 10"
HEIGHT	7' - 0"
DESCRIPTION	HOLLOW CORE SINGEL PANEL
NOTES	
COUNT	60



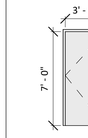
TYPE MARK	ELV1
WIDTH	4' - 0"
HEIGHT	7' - 0"
DESCRIPTION	ELEVATOR DOOR - SLIDING METAL
NOTES	
COUNT	14



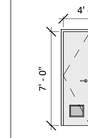
TYPE MARK	E2
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	METAL UNINSULATED
NOTES	
COUNT	28



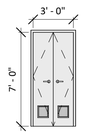
TYPE MARK	E3
WIDTH	6' - 0"
HEIGHT	7' - 0"
DESCRIPTION	METAL UNINSULATED, DOUBLE PANEL W/VISION PANEL
NOTES	
COUNT	1



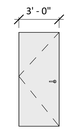
TYPE MARK	F1
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	UNINSULATED METAL DOOR
NOTES	FPSC
COUNT	20



TYPE MARK	F2
WIDTH	4' - 0"
HEIGHT	7' - 0"
DESCRIPTION	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS
NOTES	FPSC
COUNT	4



TYPE MARK	F3
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS
NOTES	FPSC
COUNT	36



TYPE MARK	G1
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	UNINSULATED METAL DOOR
NOTES	FPSC
COUNT	1

INTERIOR DOOR SCHEDULE

NOTE:
DOORS LEADING TO HAZARDOUS AREAS SHALL HAVE A DETECTABLE WARNING ON OPERATING HARDWARE OR SURFACE IN COMPLIANCE WITH BC* 1109.10

SCHEDULE - INTERIOR DOORS

TYPE MARK	DOOR_DESCRIPTION	SIZE WIDTH	SIZE HEIGHT	FIRE RATING	NOTES	QUANTITY
A1	DWELLING UNIT ENTRANCE, W/ PEEPHOLE	3' - 0"	7' - 0"	FPSC 1.5HR		59
B2	SINGLE	2' - 10"	7' - 0"	1.5 HR	FPSC	78
C1	HOLLOW CORE WOOD, SINGLE PANEL CLOSET	2' - 0"	7' - 0"	N/A		24
C2	HOLLOW CORE WOOD, SINGLE PANEL CLOSET	2' - 6"	7' - 0"	N/A		78
C3	HOLLOW CORE WOOD, SINGLE PANEL CLOSET	3' - 0"	7' - 0"	N/A		10
C4	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET	3' - 0"	7' - 0"	N/A		15
C5	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET	3' - 6"	7' - 0"	N/A		24
C6	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET	4' - 0"	7' - 0"	N/A		18
D1	HOLLOW CORE SINGEL PANEL	2' - 10"	7' - 0"	N/A		60
E2	METAL UNINSULATED	3' - 0"	7' - 0"	FPSC 1.5 HR		28
E3	METAL UNINSULATED, DOUBLE PANEL W/VISION PANEL	6' - 0"	7' - 0"	FPSC 1.5 HR		1
ELV1	ELEVATOR DOOR - SLIDING METAL	4' - 0"	7' - 0"			14
F1	UNINSULATED METAL DOOR	3' - 0"	7' - 0"	FPSC 1.5 HR	FPSC	20
F2	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS	4' - 0"	7' - 0"	2HR	FPSC	4
F3	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS	3' - 0"	7' - 0"	2HR	FPSC	36
G1	UNINSULATED METAL DOOR	3' - 0"	7' - 0"	FPSC 1.5 HR		1
TOTAL INTERIOR DOORS: 470						

FIRE RATING NOTES

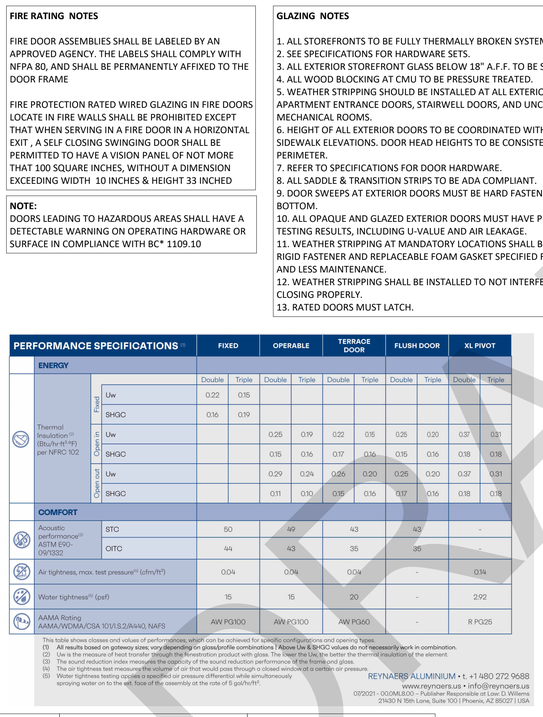
FIRE DOOR ASSEMBLIES SHALL BE LABELED BY AN APPROVED AGENCY. THE LABELS SHALL COMPLY WITH NFPA 80, AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR FRAME

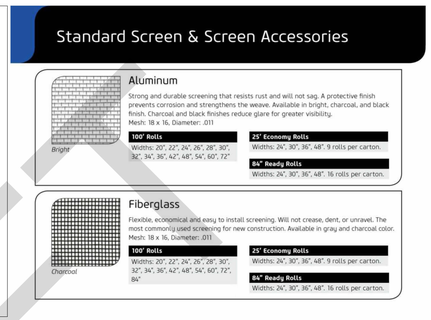
FIRE PROTECTION RATED WIRED GLAZING IN FIRE DOORS LOCATE IN FIRE WALLS SHALL BE PROHIBITED EXCEPT THAT WHEN SERVING IN A FIRE DOOR IN A HORIZONTAL EXIT , A SELF CLOSING SWINGING DOOR SHALL BE PERMITTED TO HAVE A VISION PANEL OF NOT MORE THAT 100 SQUARE INCHES, WITHOUT A DIMENSION EXCEEDING WIDTH 10 INCHES & HEIGHT 33 INCHED

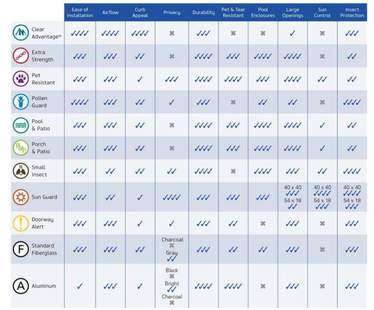
NOTE:
DOORS LEADING TO HAZARDOUS AREAS SHALL HAVE A DETECTABLE WARNING ON OPERATING HARDWARE OR SURFACE IN COMPLIANCE WITH BC* 1109.10

GLAZING NOTES

1. ALL STOREFRONTS TO BE FULLY THERMALLY BROKEN SYSTEMS.
2. SEE SPECIFICATIONS FOR HARDWARE SETS.
3. ALL EXTERIOR STOREFRONT GLASS BELOW 18" A.F.F. TO BE SAFETY GLASS
4. ALL WOOD BLOCKING AT CMU TO BE PRESSURE TREATED.
5. WEATHER STRIPPING SHOULD BE INSTALLED AT ALL EXTERIOR DOORS, APARTMENT ENTRANCE DOORS, STAIRWELL DOORS, AND UNCONDITIONED MECHANICAL ROOMS.
6. HEIGHT OF ALL EXTERIOR DOORS TO BE COORDINATED WITH EXTERIOR SIDEWALK ELEVATIONS. DOOR HEAD HEIGHTS TO BE CONSISTENT AT BUILDING PERIMETER.
7. REFER TO SPECIFICATIONS FOR DOOR HARDWARE.
8. ALL SADDLE & TRANSITION STRIPS TO BE ADA COMPLIANT.
9. DOOR SWEEPS AT EXTERIOR DOORS MUST BE HARD FASTENED AT THE BOTTOM.
10. ALL OPAQUE AND GLAZED EXTERIOR DOORS MUST HAVE PERFORMANCE TESTING RESULTS, INCLUDING U-VALUE AND AIR LEAKAGE.
11. WEATHER STRIPPING AT MANDATORY LOCATIONS SHALL BE INSTALLED WITH RIGID FASTENER AND REPLACEABLE FOAM GASKET SPECIFIED FOR DURABILITY AND LESS MAINTENANCE.
12. WEATHER STRIPPING SHALL BE INSTALLED TO NOT INTERFERE WITH DOOR CLOSING PROPERLY.
13. RATED DOORS MUST LATCH.







BIRD FRIENDLY MATERIALS
BIRD HAZARD INSTALLATIONS, AND FLY-THROUGH CONDITIONS SHALL BE CONSTRUCTED OF BIRD FRIENDLY MATERIALS AS DEFINED IN BC 1402.1

TYPICAL BIRD HAZARD INSTALLATIONS:
- INSECT SCREENS SHALL BE INSTALLED AT ALL DWELLING UNIT EXTERIOR OPERABLE WINDOWS AND DOOR **OPENINGS**.
- THREAT FACTOR: 1 (ANY TYPE)

- UNSCREENED AREAS OF GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS TO BE PROVIDED WITH
- MAXIMUM THREAT FACTOR: 25

BC* 1403.8: ALL EXTERIOR MATERIALS AND GLAZING HAVE BEEN EVALUATED FOR COMPLIANCE WITH BC 1403.8. WHERE EXTERIOR WALL ENVELOPE, BIRD HAZARD INSTALLATIONS, FLY-THROUGH CONDITIONS, OR ADJACENCIES TO GREEN ROOFS ARE PRESENT IN THE DESIGN, BIRD FRIENDLY MATERIALS WITH A THREAT FACTOR RATING OF 25 OR LESS HAVE BEEN SPECIFIED AS INDICATED IN THE MATERIAL LOCATION THREAT FACTOR TABLE WITH AN APPROVED MATERIAL/ASSEMBLY.

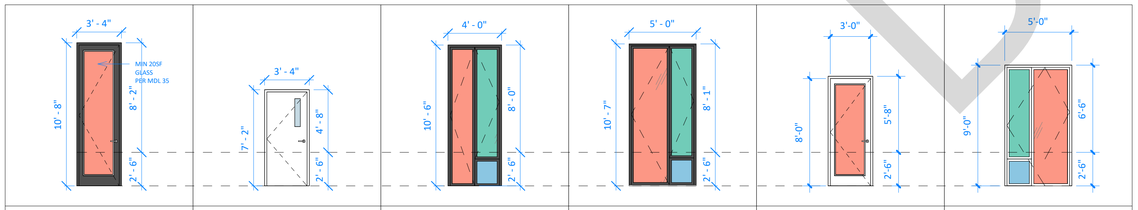
BC* 1402.1:
FLY-THROUGH CONDITIONS: ONE OR MORE PANELS OF GLASS THAT PROVIDE A CLEAR LINE OF SIGHT THROUGH SUCH ELEMENTS CREATING THE ILLUSION OF A VOID LEADING TO THE OTHER SIDE, INCLUDING PARALLEL GLASS ELEMENTS, AT A DISTANCE OF 17'-0" OR LESS, OR A CONVERGENCE OF GLASS SIDES CREATING A PERPENDICULAR, ACUTE OR OBTUSE CORNER.

BIRD HAZARD INSTALLATIONS: MONOLITHIC GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS, INCLUDING, BUT NOT LIMITED TO, GLASS AWNINGS, GLASS HANDRAILS AND GUARDS, GLASS WIND BREAK PANELS, OR GLASS ACOUSTIC BARRIERS.

BIRD FRIENDLY MATERIAL: A MATERIAL OR ASSEMBLY THAT HAS, OR HAS BEEN TREATED TO HAVE A MAXIMUM THREAT FACTOR OF 25 IN ACCORDANCE WITH THE AMERICAN BIRD CONSERVANCY BIRD COLLISION DETERRENCE MATERIAL THREAT FACTOR REFERENCE STANDARD, OR WITH THE AMERICAN BIRD CONSERVANCY BIRD-FRIENDLY MATERIALS EVALUATION PROGRAM AT CARNEGIE MUSEUM'S AVIAN RESEARCH CENTER TEST PROTOCOL, OR WITH A RELEVANT ASTM STANDARD.

BIRD FRIENDLY MATERIALS

MATERIAL/ASSEMBLY	LOCATION	THREAT FACTOR
3/4" LAMINATED GLASS WITH UV PATTERN	ALL WIND SCREENS	25
1/2" LAMINATED GLASS	BALUSTRADES	20
INSULATING GLASS WITH UV PATTERN	GLASS BELOW 75' UNLESS OTHERWISE NOTED.	20
INSULATING GLASS UNIT WITH CUSTOM FRIT PATTERN COVERING 90% OF THE UNIT	GROUND FLOOR STOREFRONT/WINDOW CURTAIN WALL	25



TYPE MARK	ED1	TYPE MARK	ED2	TYPE MARK	ED3	TYPE MARK	ED4	TYPE MARK	ED5	TYPE MARK	ED6
WIDTH	3' - 0"	WIDTH	3' - 0"	WIDTH	4' - 0"	WIDTH	5' - 0"	WIDTH	3' - 0"	WIDTH	5' - 0"
HEIGHT	10' - 6"	HEIGHT	7' - 0"	HEIGHT	10' - 6"	HEIGHT	10' - 6"	HEIGHT	8' - 0"	HEIGHT	9' - 0"
SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51	V.L.T.	N/A	V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51
U FACTOR / SHGC	0.77 / 0.27	U FACTOR / SHGC	0.31 / N/A	U FACTOR / SHGC	0.77 / 0.27	U FACTOR / SHGC	0.77 / 0.27	U FACTOR / SHGC	0.77 / 0.27	U FACTOR / SHGC	0.77 / 0.27
LIGHT AREA	25 SF	LIGHT AREA	25 SF	LIGHT AREA	38 SF	LIGHT AREA	38 SF	LIGHT AREA	19 SF	LIGHT AREA	32 SF
VENT AREA	32 SF	VENT AREA	32 SF	VENT AREA	37 SF	VENT AREA	46 SF	VENT AREA	24 SF	VENT AREA	39 SF
DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL	DESCRIPTION	VISION PANEL DOOR - w/TEMPERED AND WIRED GLASS PANEL	DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL	DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL
OITC	35	OITC	35	OITC	38 I 36 I 35	OITC	38 I 36 I 35	OITC	35	OITC	38 I 36 I 35
NOTES	?	NOTES	FPSC	NOTES	FPSC	NOTES	FPSC	NOTES	?	NOTES	FPSC
COUNT	1	COUNT	2	COUNT	1	COUNT	1	COUNT	8	COUNT	1

EXTERIOR DOOR SCHEDULE

SCHEDULE - EXTERIOR DOORS

TYPE MARK	DOOR_DESCRIPTION	SIZE WIDTH	SIZE HEIGHT	FIRE RATING	NOTES	QUANTITY
ED1	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL	3' - 0"	10' - 6"			1
ED2	VISION PANEL DOOR - w/TEMPERED AND WIRED GLASS PANEL	3' - 0"	7' - 0"	1.5 HR	FPSC	2
ED3	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	4' - 0"	10' - 6"	1.5 HR	FPSC	1
ED4	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	5' - 0"	10' - 6"	1.5 HR	FPSC	1
ED5	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL	3' - 0"	9' - 0"			8
ED6	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	5' - 0"	9' - 0"	1.5 HR	FPSC	1
TOTAL EXTERIOR DOORS: 14						

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

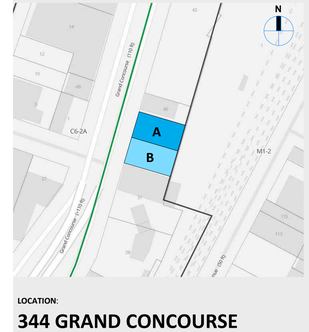
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:
DOOR SCHEDULE

DOB # :
GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:07:39
SCALE: As indicated
DRAWN BY: XX

SEAL AND SIGNATURE

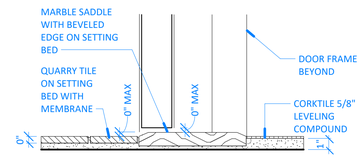
A-600.00

SHEET: 81 OF 90

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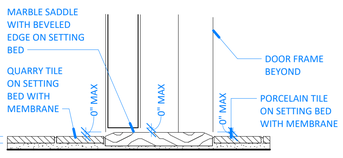
WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 59.5 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

27.10.2025 15:07:39



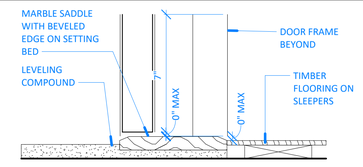
S20 SADDLE TYPE CORK TILE TO QUARRY TILE

SCALE: 3" = 1' - 0"



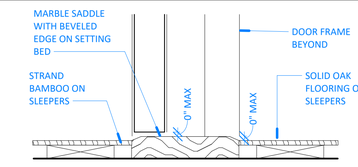
S19 SADDLE TYPE PORCELAIN TILE TO QUARRY TILE

SCALE: 3" = 1' - 0"



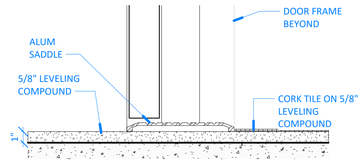
S18 SADDLE TYPE SELF LEVELING COMPOUND TO TIMBER

SCALE: 3" = 1' - 0"



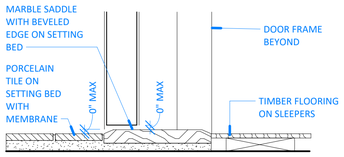
S17 SADDLE TYPE STRAND BAMBOO TO STRAND BAMBOO

SCALE: 3" = 1' - 0"



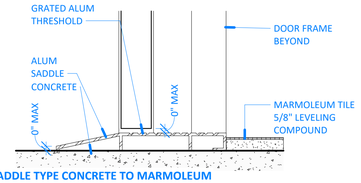
S16 SADDLE TYPE CONCRETE TO CORK

SCALE: 3" = 1' - 0"



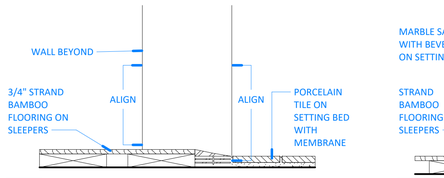
S15 SADDLE TYPE PORCELAIN TILE TO TIMBER

SCALE: 3" = 1' - 0"



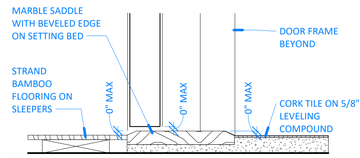
S14 SADDLE TYPE CONCRETE TO MARMOLEUM

SCALE: 3" = 1' - 0"



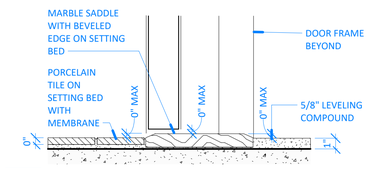
S13 SADDLE TYPE WOOD FLOORING TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



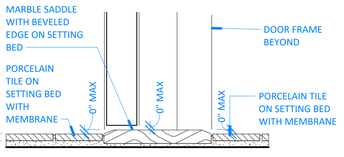
S12 SADDLE TYPE STRAND BAMBOO TO CORK TILE

SCALE: 3" = 1' - 0"



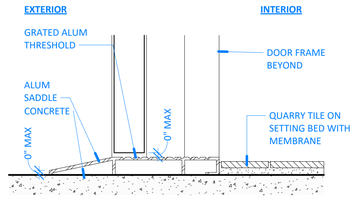
S11 SADDLE TYPE SELF LEVELING COMPOUND TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



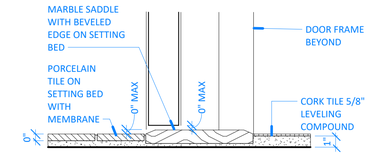
S10 SADDLE TYPE PORCELAIN TILE TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



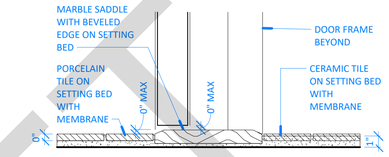
S9 SADDLE TYPE CONCRETE TO QUARRY TILE

SCALE: 3" = 1' - 0"



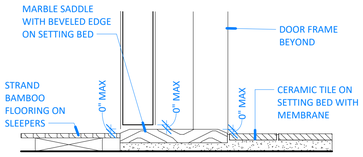
S8 SADDLE TYPE CORK TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



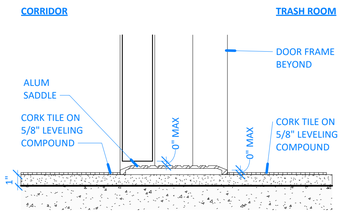
S7 SADDLE TYPE PORCELAIN TILE TO CERAMIC TILE

SCALE: 3" = 1' - 0"



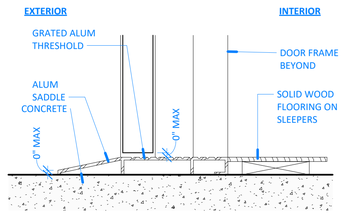
S6 SADDLE TYPE STRAND BAMBOO TO CERAMIC TILE

SCALE: 3" = 1' - 0"



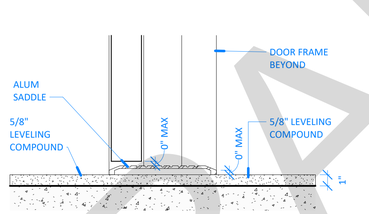
S5 SADDLE TYPE CORK TO CORK

SCALE: 3" = 1' - 0"



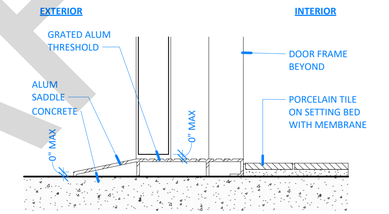
S4 SADDLE TYPE CONCRETE TO WOOD FLOORING

SCALE: 3" = 1' - 0"



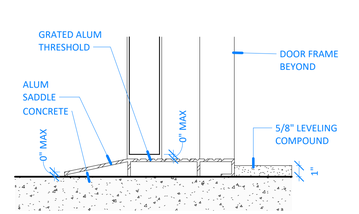
S3 SADDLE TYPE CONCRETE TO CONCRETE

SCALE: 3" = 1' - 0"



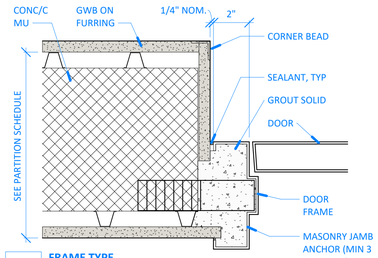
S2 SADDLE TYPE CONCRETE TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



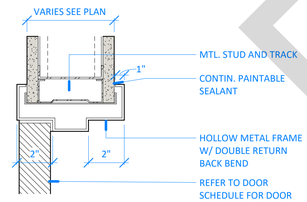
S1 SADDLE TYPE CONCRETE TO CONCRETE

SCALE: 3" = 1' - 0"



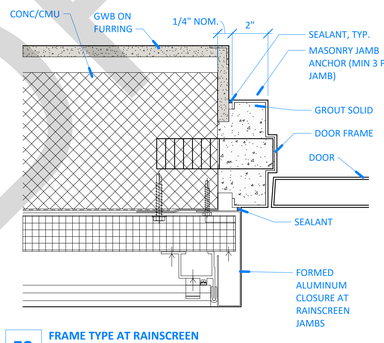
F6 FRAME TYPE

SCALE: 3" = 1' - 0"



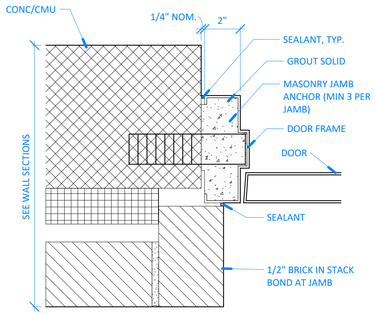
F10 FRAME TYPE AT GYPSUM WALL ASSEMBLY

SCALE: 3" = 1' - 0"



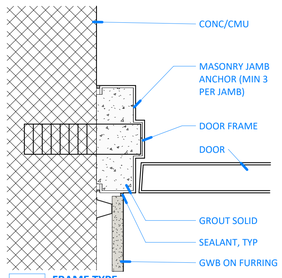
F9 FRAME TYPE AT RAINSCREEN

SCALE: 3" = 1' - 0"



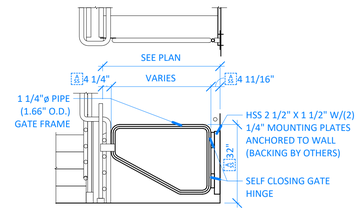
F8 FRAME TYPE AT BRICK WALL

SCALE: 3" = 1' - 0"



F7 FRAME TYPE

SCALE: 3" = 1' - 0"



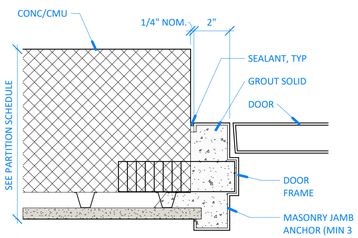
NOTE: GATE MATERIAL TO BE 1 1/2"ø (1.66" O.D.) PIPE

BC* 1023.8 DISCHARGE IDENTIFICATION: AN APPROVED BARRIER SHALL CONSIST OF PARTITIONS, DOORS, OR GATES SEPARATING THE PORTION OF THE VERTICAL EXIT ABOVE GRADE FROM THE PORTION BELOW GRADE. WHERE DOORS OR GATES ARE PROVIDED AS APPROVED BARRIERS, SUCH DOORS OR GATES SHALL BE SELF-CLOSING AND OPENING IN THE DIRECTION OF EXIT TRAVEL FROM THE FLOORS BELOW GRADE.

PACIFIC STAIR CORPORATION
8690 STAIR WAY NE SALEM, OR 97305
WWW.PACIFICSTAIR.COM I 503.390.8305

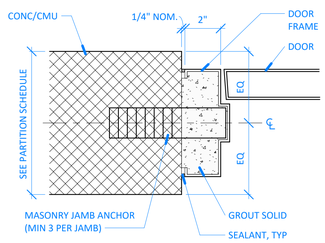
E3 - SINGLE SWING GATE

SCALE: 3" = 1'-0"



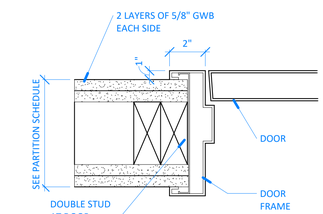
F5 FRAME TYPE

SCALE: 3" = 1' - 0"



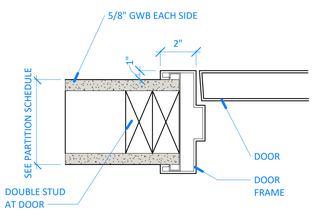
F4 FRAME TYPE

SCALE: 3" = 1' - 0"



F3 FRAME TYPE

SCALE: 3" = 1' - 0"



F2 FRAME TYPE

SCALE: 3" = 1' - 0"

DRAFT

S. WIEDER ARCHITECT PC

31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

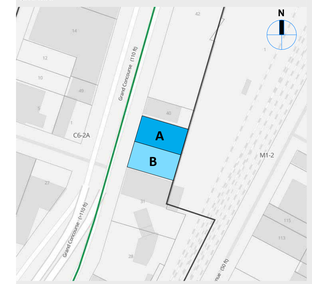
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.		DESCRIPTION	DATE
0		DOB FILING	08/15/2025
	✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
		75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
		100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

344 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 12 STORY MIXED NEW BUILDING (BUILDING A)

DRAWING TITLE:

DOOR DETAILS

DOB # :

GC # X01252512-I1

DOB BSCAN + STAMP :

DATE: 27.10.2025 15:07:43
SCALE: 3" = 1'-0"
DRAWN BY: XX

SEAL AND SIGNATURE

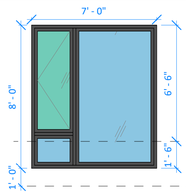
A-601.00

SHEET: 82 OF 90

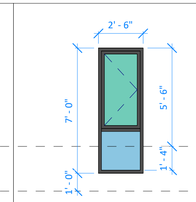
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WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 59.5 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

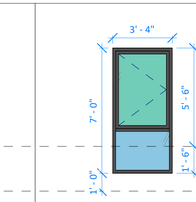
27.10.2025 15:07:43



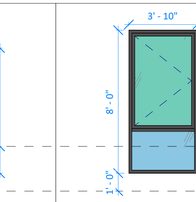
TYPE MARK	W1
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HEIGHT	8' - 0"
SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	44 SF
VENT AREA	13 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	71



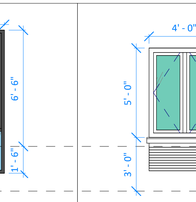
TYPE MARK	W2
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SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	20 SF
VENT AREA	17 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	9



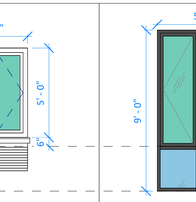
TYPE MARK	W3
WIDTH	3' - 4"
HEIGHT	7' - 0"
SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	16 SF
VENT AREA	13 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	4



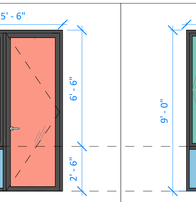
TYPE MARK	W4
WIDTH	3' - 10"
HEIGHT	8' - 0"
SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	22 SF
VENT AREA	17 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	1



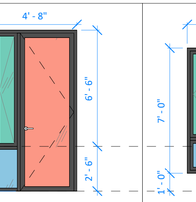
TYPE MARK	W5
WIDTH	4' - 0"
HEIGHT	5' - 0"
SILL HEIGHT	3' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25 / 0.15
LIGHT AREA	16 SF
VENT AREA	16 SF
DESCRIPTION	0.10 CFM/SF
OITC	38
COMMENTS	2PANELS
MANUFACTURER	REYNAERS
COUNT	2



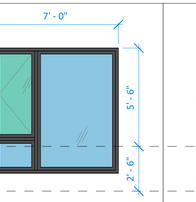
TYPE MARK	W6
WIDTH	5' - 6"
HEIGHT	9' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	OPERABLE 0.25/0.15 | 0.22/0.160 | TERRACE DOORS 0.26/0.15 FIXED
LIGHT AREA	33 SF
VENT AREA	40 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36 I 35
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	21



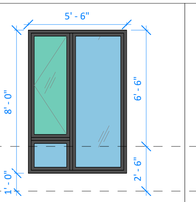
TYPE MARK	W7
WIDTH	4' - 8"
HEIGHT	9' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	OPERABLE 0.25/0.15 | 0.22/0.160 | TERRACE DOORS 0.26/0.15 FIXED
LIGHT AREA	27 SF
VENT AREA	34 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36 I 35
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	1



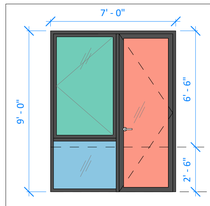
TYPE MARK	W8
WIDTH	7' - 0"
HEIGHT	7' - 0"
SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	34 SF
VENT AREA	10 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	1



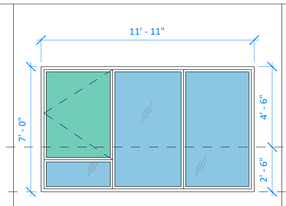
TYPE MARK	W10
WIDTH	5' - 6"
HEIGHT	8' - 0"
SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	33 SF
VENT AREA	13 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	1



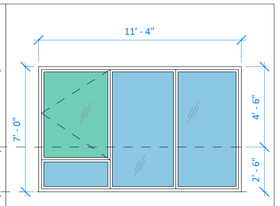
TYPE MARK	W11
WIDTH	5' - 6"
HEIGHT	7' - 0"
SILL HEIGHT	1' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	28 SF
VENT AREA	10 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	3



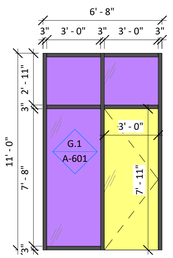
TYPE MARK	W12
WIDTH	7' - 0"
HEIGHT	9' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	OPERABLE 0.25/0.15 | 0.22/0.160 | TERRACE DOORS 0.26/0.15 FIXED
LIGHT AREA	48 SF
VENT AREA	40 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36 I 35
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	18

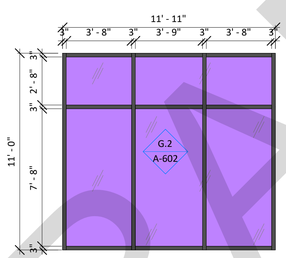


TYPE MARK	W13
WIDTH	11' - 11"
HEIGHT	7' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	59 SF
VENT AREA	19 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	1



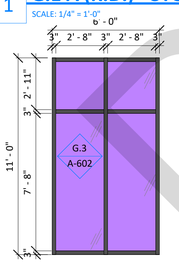
TYPE MARK	W14
WIDTH	11' - 4"
HEIGHT	7' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	56 SF
VENT AREA	19 SF
DESCRIPTION	0.10 CFM/SF
OITC	38 | 36
COMMENTS	
MANUFACTURER	REYNAERS
COUNT	3





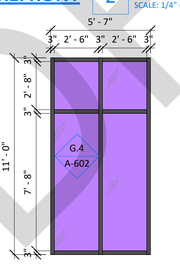
1 G.1 A (R.D.) - STOREFRONT

SCALE: 1/4" = 1'-0"



2 G.2 - STOREFRONT

SCALE: 1/4" = 1'-0"



SCHEDULE - STOREFRONT			
Type Mark	Length	Unconnected Height	Count
G.1	6' - 8"	11' - 0"	1
G.2	11' - 11"	11' - 0"	2
G.3	6' - 0"	11' - 0"	1
G.4	5' - 7"	11' - 0"	1

3 G.3 - STOREFRONT

SCALE: 1/4" = 1'-0"

4 G.4 - STOREFRONT

SCALE: 1/4" = 1'-0"

SCHEDULE - WINDOWS

TYPE MARK	SIZE WIDTH	SIZE HEIGHT	MANUFACTURER	U FACTOR / SHGC	AIR LEAKAGE	QUANTITY	.LIGHT AREA	.VENT AREA	V.L.T.
W1	7' - 0"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	71	44 SF	13 SF	0.51
W2	3' - 6"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	9	20 SF	17 SF	0.51
W3	2' - 6"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	4	16 SF	13 SF	0.51
W4	3' - 10"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	22 SF	17 SF	0.51
W5	4' - 0"	5' - 0"	REYNAERS	0.25 / 0.15	0.10 CFM/SF	2	16 SF	16 SF	0.51
W6	5' - 6"	9' - 0"	REYNAERS	0.25/0.15 | 0.22/0.160 | 0.26/0.15	0.10 CFM/SF	21	33 SF	40 SF	0.51
W7	4' - 8"	9' - 0"	REYNAERS	0.25/0.15 | 0.22/0.160 | 0.26/0.15	0.10 CFM/SF	1	27 SF	34 SF	0.51
W8	7' - 0"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	34 SF	10 SF	0.51
W10	5' - 6"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	33 SF	13 SF	0.51
W11	5' - 6"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	3	28 SF	10 SF	0.51
W12	7' - 0"	9' - 0"	REYNAERS	0.25/0.15 | 0.22/0.160 | 0.26/0.15	0.10 CFM/SF	18	40 SF	48 SF	0.51
W13	11' - 11"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	59 SF	19 SF	0.51
W14	11' - 4"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	3	56 SF	19 SF	0.51
TOTAL WINDOWS: 136									

Standard Screen & Screen Accessories



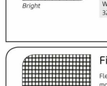
Aluminum

Strong and durable screening that resists rust and will not sag. A protective finish prevents corrosion and strengthens the weave. Available in bright, charcoal, and black finish. Charcoal and black finishes reduce glare for greater visibility.
Mesh: 18 x 16, Diameter: .011

100' Rolls
Widths: 20", 22", 24", 26", 28", 30", 32", 34", 36", 42", 48", 54", 60", 72"

25' Economy Rolls
Widths: 24", 30", 36", 48", 9 rolls per carton.

84" Ready Rolls
Widths: 24", 30", 36", 48". 16 rolls per carton.



Fiberglass

Flexible, economical and easy to install screening. Will not crease, dent, or unravel. The most commonly used screening for new construction. Available in gray and charcoal color.
Mesh: 18 x 16, Diameter: .011

100' Rolls
Widths: 20", 22", 24", 26", 28", 30", 32", 34", 36", 42", 48", 54", 60", 72", 84"

25' Economy Rolls
Widths: 24", 30", 36", 48", 9 rolls per carton.

84" Ready Rolls
Widths: 24", 30", 36", 48". 16 rolls per carton.

	Ease of Installation	Airflow	Cloth Appeal	Privacy	Durability	Pet & Tear Resistant	Pest Enclosure	Large Openings	Sun Control	Insect Protection
Clear Advantage™	✓✓✓	✓✓✓	✓✓✓	✖	✓✓✓	✖	✖	✓	✖	✓✓✓
Extra Strength	✓✓✓	✓✓✓	✓	✖	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✖	✓✓
Pet Resistant	✓✓✓	✓✓✓	✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✖	✓✓
Pollen Guard	✓✓✓	✓✓✓	✓✓	✓	✓✓✓	✖	✓✓	✓✓	✖	✓✓✓
Pool & Patio	✓✓✓	✓✓✓	✓✓	✖	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	✓✓
Porch & Patio	✓✓✓	✓✓✓	✓✓	✖	✓✓✓	✓✓✓	✓✓✓	✓✓✓	✓	✓✓
Small Insect	✓✓✓	✓✓	✓✓	✓✓	✓✓✓	✖	✓✓✓	✓✓✓	✓✓	✓✓✓
Sun Guard	✓✓✓	✓✓	✓	✓✓✓	✓✓✓	✓✓✓	✓✓✓	40 x 40 ✓✓✓ 54 x 18 ✓✓	40 x 40 ✓✓✓ 54 x 18 ✓✓✓	40 x 40 ✓✓✓ 54 x 18 ✓✓✓
Doorway Alert	✓✓✓	✓✓✓	✓	✓	✓✓✓	✓✓	✖	✓✓✓	✖	✓✓✓
Standard Fiberglass	✓✓✓	✓✓✓	✓✓	Charcoal ✖ Gray ✓✓	✓✓✓	✓✓	✓✓✓	✓✓✓	✖	✓✓✓
Aluminum	✓	✓✓✓	✓	Black ✖ Bright ✓✓ Charcoal ✖	✓✓✓	✓✓✓	✖	✓✓✓	✖	✓✓✓

BIRD FRIENDLY MATERIALS
BIRD HAZARD INSTALLATIONS, AND FLY-THROUGH CONDITIONS SHALL BE CONSTRUCTED OF BIRD FRIENDLY MATERIALS AS DEFINED IN BC 1402.1

TYPICAL BIRD HAZARD INSTALLATIONS:
- INSECT SCREENS SHALL BE INSTALLED AT ALL DWELLING UNIT EXTERIOR OPERABLE WINDOWS AND DOOR **OPENINGS**.
- THREAT FACTOR: 1 (ANY TYPE)
- UNSCREENED AREAS OF GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS TO BE PROVIDED WITH
- MAXIMUM THREAT FACTOR: 25

BC* 1403.8: ALL EXTERIOR MATERIALS AND GLAZING HAVE BEEN EVALUATED FOR COMPLIANCE WITH BC 1403.8. WHERE EXTERIOR WALL ENVELOPE, BIRD HAZARD INSTALLATIONS, FLY-THROUGH CONDITIONS, OR ADJACENCIES TO GREEN ROOFS ARE PRESENT IN THE DESIGN, BIRD FRIENDLY MATERIALS WITH A THREAT FACTOR RATING OF 25 OR LESS HAVE BEEN SPECIFIED AS INDICATED IN THE MATERIAL LOCATION THREAT FACTOR TABLE WITH AN APPROVED MATERIAL/ASSEMBLY.

BC* 1402.1:
FLY-THROUGH CONDITIONS: ONE OR MORE PANELS OF GLASS THAT PROVIDE A CLEAR LINE OF SIGHT THROUGH SUCH ELEMENTS CREATING THE ILLUSION OF A VOID LEADING TO THE OTHER SIDE, INCLUDING PARALLEL GLASS ELEMENTS, AT A DISTANCE OF 17'-0" OR LESS, OR A CONVERGENCE OF GLASS SIDES CREATING A PERPENDICULAR, ACUTE OR OBTUSE CORNER.

BIRD HAZARD INSTALLATIONS: MONOLITHIC GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS, INCLUDING, BUT NOT LIMITED TO, GLASS AWNINGS, GLASS HANDRAILS AND GUARDS, GLASS WIND BREAK PANELS, OR GLASS ACOUSTIC BARRIERS.

BIRD FRIENDLY MATERIAL: A MATERIAL OR ASSEMBLY THAT HAS, OR HAS BEEN TREATED TO HAVE A MAXIMUM THREAT FACTOR OF 25 IN ACCORDANCE WITH THE AMERICAN BIRD CONSERVANCY BIRD COLLISION DETERRENCE MATERIAL THREAT FACTOR REFERENCE STANDARD, OR WITH THE AMERICAN BIRD CONSERVANCY BIRD-FRIENDLY MATERIALS EVALUATION PROGRAM AT CARNEGIE MUSEUM'S AVIAN RESEARCH CENTER TEST PROTOCOL, OR WITH A RELEVANT ASTM STANDARD.

BIRD FRIENDLY MATERIALS

MATERIAL/ASSEMBLY	LOCATION	THREAT FACTOR
3/4" LAMINATED GLASS WITH UV PATTERN	ALL WIND SCREENS	25
1/2" LAMINATED GLASS	BALUSTRADES	20
INSULATING GLASS UNIT WITH UV PATTERN	GLASS BELOW 75' UNLESS OTHERWISE NOTED.	20
INSULATING GLASS UNIT WITH CUSTOM FRIT PATTERN COVERING 90% OF THE UNIT	GROUND FLOOR STOREFRONT/WINDOW CURTAIN WALL	25

WINDOW NOTES

1. COLOR CLEAR ANODIZED.
2. CASEMENT WINDOWS SHALL HAVE A LIMIT STOP OF 3.5" MAX. OPENING & LIMITER/OPERATOR CONCEALED IN THE FRAME.
3. WINDOWS AT PUBLIC AREAS TO BE KEY OPERATED.
4. PROVIDE OPERABLE INSECT SCREEN, TYP.
5. ALL DIMENSIONS SHOWN ON WINDOW ELEVATIONS & FLOOR PLANS ARE ROUGH DIMENSIONS. GC TO COORDINATE & PROVIDE SHOP DRAWINGS FOR OPENINGS & WINDOW DIMENSIONS PRIOR TO CONSTRUCTION.
6. ALL WINDOW PANES WITHIN 18" ABOVE FLOOR TO RECEIVE TEMPERED GLASS PER 2022 NYC BC* 2406.4
7. SEE SPECIFICATIONS FOR THERMAL VALUES.
8. WINDOW FRAMES SHALL BE SEPARATED FROM CONDUCTIVE FRAMING WITH INSULATION DESIGNED TO SERVE AS A THERMAL BREAK
9. AIR LEAKAGE OF WINDOW/DOOR ASSEMBLIES SHALL BE DETERMINED IN ACCORDANCE WITH NFRC 400 BY AN ACCREDITED. INDEPENDENT LABORATORY, AND LABELED AND CERTIFIED BY THE MANUFACTURER SAND SHALL NOT EXCEED 1.0 CFM PER SQUARE FOOD FOR GLAZED SWINGING ENTRANCE DOORS AND FOR REVOLVING DOORS AND NO MORE THAN 0.4 CFM PER SQUARE FOOD FOR ALL OTHER PRODUCT.
10. PER 2022 NYC BC* 1010.4.3, ALL OPERABLE WINDOWS SHALL BE EQUIPPED WITH SASH LOCKS DESIGNED TO BE OPERABLE FROM THE INSIDE ONLY. GRILLES LOCKABLE FROM THE INSIDE ONLY MAY BE PLACED ON THE INSIDE OR OUTSIDE OF WINDOWS THAT ARE ACCESSIBLE FROM GRADE BUT THAT DO NOT SERVE TO PROVIDE ACCESS TO EXITS.

IN ALL BUILDINGS WITH THREE OR MORE APARTMENTS, NEW YORK CITY (NYC) LAW REQUIRES THAT BUILDING OWNERS INSTALL WINDOW GUARDS IF A CHILD AGE 10 YEARS OR YOUNGER LIVES THERE, OR IF THE TENANT OR OCCUPANT REQUESTS WINDOW GUARDS FOR ANY REASON.

ALL WINDOWS OF ALL TYPES — INCLUDING THOSE WITH SCREENS — MUST HAVE WINDOW GUARDS OR LIMITING DEVICES, EXCEPT
- (1) WINDOWS LEADING TO FIRE ESCAPES OR THOSE DESIGNATED FOR OTHER EMERGENCY ESCAPES, (2) SECONDARY EXIT WINDOWS IN FIRST-FLOOR APARTMENTS AND (3) WINDOWS IN WHICH AIR CONDITIONER (AC) UNITS ARE PERMANENTLY INSTALLED DETAILS).
- DOUBLE-HUNG WINDOWS: WINDOW GUARDS MUST BE MADE OF RIGID METAL AND BE A MINIMUM OF 15 INCHES TALL WITH THREE OR MORE HORIZONTAL BARS. SPACE BETWEEN THE HORIZONTAL BARS SHOULD BE NO MORE THAN 4 1/2 INCHES WIDE. EACH WINDOW GUARD MUST HAVE A HEALTH DEPARTMENT APPROVAL NUMBER IMPRINTED ON A STILE (VERTICAL BAR) OF THE WINDOW GUARD.
- NON-DOUBLE-HUNG WINDOWS (SUCH AS SLIDING CASEMENT, SLIDER, TILT AND TURN, AWNING, PROJECT-OUT, HOPPER): HEALTH DEPARTMENT-APPROVED LIMITING DEVICES, WITH AN IMPRINTED APPROVAL NUMBER, MUST BE INSTALLED IN PAIRS TO PREVENT THE WINDOW FROM OPENING MORE THAN4 1/2 INCHES IN ANY DIRECTION.

BC* 1015.9. WINDOWS AND OPENINGS IN GROUP R-2 OCCUPANCIES. WINDOWS AND OPENINGS THAT DO NOT ALLOW PASSAGEWAY ONTO GRADE, BALCONY, TERRACE, SETBACK, ROOF OR OTHER WALKING SURFACES IN GROUP R-2 OCCUPANCIES SHALL BE SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE WITH REGARD TO WINDOW GUARDS.

GLAZING NOTES
1. ALL STOREFRONTS TO BE FULLY THERMALLY BROKEN SYSTEMS.
2. SEE SPECIFICATIONS FOR HARDWARE SETS.
3. ALL EXTERIOR STOREFRONT GLASS BELOW 18" A.F.F. TO BE SAFETY GLASS
4. ALL WOOD BLOCKING AT CMU TO BE PRESSURE TREATED.
5. WEATHER STRIPPING SHOULD BE INSTALLED AT ALL EXTERIOR DOORS, APARTMENT ENTRANCE DOORS, STAIRWELL DOORS, AND UNCONDITIONED MECHANICAL ROOMS.
6. HEIGHT OF ALL EXTERIOR DOORS TO BE COORDINATED WITH EXTERIOR SIDEWALK ELEVATIONS. DOOR HEAD HEIGHTS TO BE CONSISTENT AT BUILDING PERIMETER.
7. REFER TO SPECIFICATIONS FOR DOOR HARDWARE.
8. ALL SADDLE & TRANSITION STRIPS TO BE ADA COMPLIANT.
9. DOOR SWEEPS AT EXTERIOR DOORS MUST BE HARD FASTENED AT THE BOTTOM.
10. ALL OPAQUE AND GLAZED EXTERIOR DOORS MUST HAVE PERFORMANCE TESTING RESULTS, INCLUDING U-VALUE AND AIR LEAKAGE.
11. WEATHER STRIPPING AT MANDATORY LOCATIONS SHALL BE INSTALLED WITH RIGID FASTENER AND REPLACEABLE FOAM GASKET SPECIFIED FOR DURABILITY AND LESS MAINTENANCE.
12. WEATHER STRIPPING SHALL BE INSTALLED TO NOT INTERFERE WITH DOOR CLOSING PROPERLY.
13. RATED DOORS MUST LATCH.

PERFORMANCE SPECIFICATIONS (3)

			FIXED		OPERABLE		TERRACE DOOR		FLUSH DOOR		XL PIVOT	
ENERGY												
Thermal Insulation (2) (Btu/hr·ft²·°F) per NFRC 102	Fixed		Double	Triple	Double	Triple	Double	Triple	Double	Triple	Double	Triple
		Uw	0.22	0.15								
		SHGC	0.16	0.19								
	Operable	Uw			0.25	0.19	0.22	0.15	0.25	0.20	0.37	0.31
		SHGC			0.15	0.16	0.17	0.16	0.15	0.16	0.18	0.18
	Operable/ Fixed	Uw			0.29	0.24	0.26	0.20	0.25	0.20	0.37	0.31
		SHGC			0.11	0.10	0.15	0.16	0.17	0.16	0.18	0.18
COMFORT												
Acoustic performance (2) ASTM E90-09/10	STC		50		49		43		43		-	
	OITC		44		43		35		35		-	
Air tightness, max. test pressure (2) (cfm/ft²)			0.04		0.04		0.04		-		0.14	
Water tightness (2) (psf)			15		15		20		-		2.92	
AAMA Rating AAMA/WDMA/CSA 101/I.S.2/A440, NAFS			AW PG100		AW PG100		AW PG60		-		R PG25	

This table shows classes and values of performance, which can be achieved for specific configurations and operating types.
(1) **Not all performance classes can be achieved in the corresponding rail glass/profile combinations.** Above Uw & SHGC values do not necessarily work in combination.
(2) Uw is the measure of heat transfer through the fenestration product with glass. The lower the Uw, the better the thermal insulation of the element.
(2) The sound reduction index measures the capacity of the sound reduction performance of the frame and glass.
(2) The air tightness test measures the volume of air that would pass through a closed window at a certain air pressure.
(3) Water tightness testing applies a specified air pressure differential while simultaneously spraying water on to the ext. face of the assembly at the rate of 5 gal/hr/ft².

REYNAERS ALUMINIUM • t. +1 480 272 9688
www.reynaers.us • info@reynaers.us
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21630 N 15th Lane, Suite 100 | Phoenix, AZ 85027 | USA

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

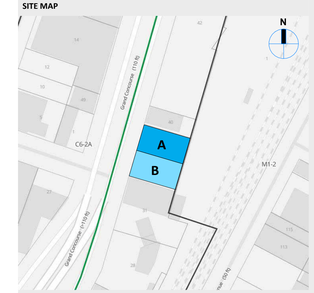
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP


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Grand Concourse (Hwy)
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York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR ZEPHYR WINDOWS INC.
Report No.: J2954.01-113-11-R0
Date: 08/12/19

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Super 82
TYPE	uPVC tilt-turn window

OPTION A

GLAZING (Nominal Dimensions)	32 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 4 mm annealed interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01A
STC	41
OITC	32

OPTION B

GLAZING (Nominal Dimensions)	24 mm IG (4 mm annealed, 16 mm argon, 4 mm annealed)
DATA FILE NO.	J2954.01B
STC	31
OITC	26

OPTION C

GLAZING (Nominal Dimensions)	32 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 4 mm annealed interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01C
STC	40
OITC	32

OPTION D3

GLAZING (Nominal Dimensions)	34 mm IG (8 mm [44.2] laminated exterior, 16 mm argon, 10 mm annealed interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01D3
STC	44
OITC	38

OPTION E

GLAZING (Nominal Dimensions)	30 mm IG (6 mm [33.2] laminated exterior, 16 mm argon, 8 mm [44.2] laminated Interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01D3
STC	41
OITC	33

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Facsimile: 717-764-4129
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TEST REPORT FOR ALUPROF S.A.
Report No.: N7448.01-113-11-R0
Date: 08/08/22

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	MB-79
TYPE	Fixed Window

GLAZING (Nominal Dimensions)	1-1/16" IG (1/4" tempered exterior, 1/2" argon, 5/16" tempered interior)
DATA FILE NO.	N7448.01A
STC	36
OITC	31

GLAZING (Nominal Dimensions)	1-3/8" IG (1/4" annealed exterior, 13/16" argon, 5/16" annealed interior)
DATA FILE NO.	N7448.01B
STC	37
OITC	30

GLAZING (Nominal Dimensions)	1-7/16" IG (1/4" annealed exterior, 13/16" argon, 3/8" annealed interior)
DATA FILE NO.	N7448.01C
STC	38
OITC	32

GLAZING (Nominal Dimensions)	1-7/16" IG (3/8" laminated exterior, 13/16" argon, 1/4" annealed interior), Glass temperature 75°F
DATA FILE NO.	N7448.01D
STC	40
OITC	32

GLAZING (Nominal Dimensions)	1-7/16" IG (1/4" annealed exterior, 13/16" argon, 3/8" laminated interior), Glass temperature 75°F
DATA FILE NO.	N7448.01D1
STC	40
OITC	33

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130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR ZEPHYR WINDOWS, INC.
Report No.: J2953.01-113-11-R0
Date: 06/28/19

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Super 82 UPVC
TYPE	Fixed window

OPTION A

GLAZING (Nominal Dimensions)	24 mm IG (4 mm annealed, 16 mm air space, 4 mm annealed)
DATA FILE NO.	J2953.01A
STC	30
OITC	25

OPTION B1

GLAZING (Nominal Dimensions)	34 mm IG (10 mm annealed exterior, 16 mm argon, 8 [44.2] mm laminated interior), Glass temperature 23.8°C
DATA FILE NO.	J2953.01B1
STC	43
OITC	36

SECTION 3
TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM E90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*

ASTM E413-16, *Classification for Rating Sound Insulation*

ASTM E1332-16, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*

ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

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130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR REYNAERS ALUMINIUM
Report No.: Q2396.01-113-11-R0
Date: 11/21/23

GLAZING (Nominal Dimensions)	36.76 mm IG (8 mm annealed exterior, 16 mm argon, 12.76 mm laminated interior), Glass temperature 23.9°C 13/16" IG (5/16" annealed exterior, 5/8" argon, 1/2" laminated interior), Glass temperature 75°F
DATA FILE NO.	Q2396.01E
STC	40
OITC	36

GLAZING (Nominal Dimensions)	47.52 mm IG (8.76 mm laminated [SR] exterior, 20 mm argon, 12.76 mm laminated [SR] interior), Glass temperature 23.9°C 1-9/16" IG (5/16" laminated [SR] exterior, 3/4" argon, 1/2" laminated [SR] interior), Glass temperature 75°F
DATA FILE NO.	Q2396.01F
STC	42
OITC	38

GLAZING (Nominal Dimensions)	45.52 mm IG (16.76 mm laminated [SR] exterior, 16 mm argon, 12.76 mm laminated [SR] interior), Glass temperature 23.9°C 1-3/4" IG (5/8" laminated [SR] exterior, 5/8" argon, 1/2" laminated [SR] interior), Glass temperature 75°F
DATA FILE NO.	Q2396.01G
STC	43
OITC	38

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130 Derry Court
York, Pennsylvania 17406

Telephone: 717-764-7700
Facsimile: 717-764-4129
www.intertek.com/building

TEST REPORT FOR ZEPHYR WINDOWS, INC.
Report No.: J2951.01-113-11-R0
Date: 07/15/19

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Super 82
TYPE	UPVC Swing Door

OPTION A

GLAZING (Nominal Dimensions)	24 mm IG (4 mm annealed, 16 mm argon, 4 mm annealed)
DATA FILE NO.	J2951.01A
STC	32
OITC	26

OPTION B

GLAZING (Nominal Dimensions)	32 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 4 mm annealed), Glass temperature 23.8°C
DATA FILE NO.	J2951.01B
STC	39
OITC	31

OPTION C

GLAZING (Nominal Dimensions)	34 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 6 mm annealed)
DATA FILE NO.	J2951.01C
STC	42
OITC	35

OPTION D

GLAZING (Nominal Dimensions)	30 mm IG (6 mm [33.2] laminated exterior, 16 mm argon, 8 mm [44.2] laminated), Glass temperature 23.8°C
DATA FILE NO.	J2951.01D
STC	41
OITC	33

DRAFT

S. WIEDER ARCHITECT PC

31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

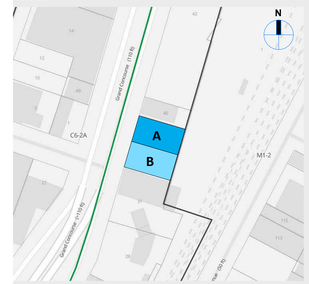
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



338 GRAND CONCOURSE

BRONX, NY 10451

PROPOSED 11 STORY NEW MIXED USE BUILDING (B)

56 DWELLING UNITS

ZONING RIGHTS HAVE BEEN ESTABLISHED AND RECORDED BETWEEN LOT#37 & LOT #34 STRICTLY FOR ZONING PURPOSE.
LOT#37 AND LOT #34 TO REMAIN AS SEPARATE TAX LOTS.



SHEET LIST

	SHEET NUMBER	DOB REV. NUMBER	SHEET NAME	REVISION DATE	ISSUE
.T-100					
1	T-100	0	TITLESHEET	08/15/2025	DOB FILING
.Z-100					
2	Z-100	0	ZONING ANALYSIS	08/15/2025	DOB FILING
3	Z-101	0	ZONING ANALYSIS	08/15/2025	DOB FILING
4	Z-102	0	ZONING ANALYSIS	08/15/2025	DOB FILING
6	Z-103	0	ZONING SITE PLAN	08/15/2025	DOB FILING
7	Z-104	0	ZONING MAPS & SURVEY	08/15/2025	DOB FILING
8	Z-105	0	ZONING GROSS AREA PLANS	08/15/2025	DOB FILING
9	Z-106	0	ZONING GROSS AREA PLANS	08/15/2025	DOB FILING
10	Z-107	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
11	Z-108	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
12	Z-109	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
13	Z-110	0	ZONING FLOOR AREA DEDUCTIONS	08/15/2025	DOB FILING
14	Z-111	0	SITE IMAGES	08/15/2025	DOB FILING
15	Z-112	0	ZONING STREETSCAPE	08/15/2025	DOB FILING
A-000					
15	G-100	0	GENERAL NOTES	08/15/2025	DOB FILING
16	G-101	0	GENERAL NOTES	08/15/2025	DOB FILING
17	G-102	0	GENERAL NOTES	08/15/2025	DOB FILING
18	G-103	0	GENERAL NOTES	08/15/2025	DOB FILING
19	G-104	0	GENERAL NOTES	08/15/2025	DOB FILING
20	G-105	0	GENERAL NOTES	08/15/2025	DOB FILING
21	G-106	0	GENERAL NOTES	08/15/2025	DOB FILING
22	G-107	0	BUILDING CODE ANALYSIS	08/15/2025	DOB FILING
23	G-108	0	GENERAL NOTES	08/15/2025	DOB FILING
24	G-109	0	GENERAL NOTES	08/15/2025	DOB FILING
25	G-200	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
26	G-201	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
27	G-202	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
28	G-203	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
29	G-204	0	LIFE SAFETY PLANS	08/15/2025	DOB FILING
30	G-300	0	NET AREA PLANS	08/15/2025	DOB FILING
31	G-301	0	NET AREA PLANS	08/15/2025	DOB FILING
32	G-302	0	NET AREA SCHEDULES	08/15/2025	DOB FILING
33	G-303	0	ENLARGED UAP UNIT PLANS	08/15/2025	DOB FILING
A-100					
34	A-100	0	CELLAR PLAN	08/15/2025	DOB FILING
35	A-101	0	1ST FLOOR PLAN	08/15/2025	DOB FILING
36	A-102	0	2ND FLOOR PLAN	08/15/2025	DOB FILING
37	A-103	0	3RD-7TH FLOOR PLAN	08/15/2025	DOB FILING
38	A-104	0	8TH FLOOR PLAN	08/15/2025	DOB FILING
39	A-105	0	9TH-10TH FLOOR PLAN	08/15/2025	DOB FILING
40	A-106	0	11TH FLOOR PLAN	08/15/2025	DOB FILING
41	A-107	0	ROOF PLAN	08/15/2025	DOB FILING
42	A-108	0	BULKHEAD PLAN	08/15/2025	DOB FILING
43	A-109	0	ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS	08/15/2025	DOB FILING
44	A-110	0	ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS	08/15/2025	DOB FILING
45	A-111	0	EXPLODED AXON	08/15/2025	DOB FILING
A-200					
46	A-200	0	WEST (GRAND CONCOURSE) ELEVATION	08/15/2025	DOB FILING
47	A-201	0	EAST (REAR) ELEVATION	08/15/2025	DOB FILING
48	A-202	0	NORTH & SOUTH ELEVATION	08/15/2025	DOB FILING
49	A-203	0	NORTHEAST INNER ELEVATIONS	08/15/2025	DOB FILING
50	A-204	0	SOUTHWEST INNER ELEVATIONS	08/15/2025	DOB FILING
51	A-210	0	3D VIEWS	08/15/2025	DOB FILING
A-300					
52	A-300	0	BUILDING SECTIONS	08/15/2025	DOB FILING
53	A-301	0	BUILDING SECTIONS	08/15/2025	DOB FILING
54	A-324	0	WALL DETAILS - BRICK/FRAMED	08/15/2025	DOB FILING
55	A-325	0	WALL DETAILS - EIFS/FRAMED	08/15/2025	DOB FILING
56	A-329	0	FLASHING DETAILS AT ADJACENT EXISTING	08/15/2025	DOB FILING
A-400					
57	A-400	0	EXTERIOR WALL, FLOOR AND ROOF DETAILS	08/15/2025	DOB FILING
58	A-401	0	PARTITION TYPES	08/15/2025	DOB FILING
59	A-402	0	JOINT & SEALING DETAILS	08/15/2025	DOB FILING
60	A-403	0	INTERIOR DETAILS / LAUNDRY DETAILS	08/15/2025	DOB FILING
61	A-404	0	REFUSE DETAILS	08/15/2025	DOB FILING
62	A-405	0	STAIR PLANS	08/15/2025	DOB FILING
63	A-406	0	STAIR DETAILS	08/15/2025	DOB FILING
64	A-407	0	STAIR DETAILS	08/15/2025	DOB FILING
65	A-408	0	ROOFING DETAILS	08/15/2025	DOB FILING
66	A-409	0	ELEVATOR PLANS	08/15/2025	DOB FILING
67	A-410	0	FACADE DETAILS	08/15/2025	DOB FILING
68	A-411	0	FACADE DETAILS	08/15/2025	DOB FILING
A-500					
69	A-500	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
70	A-501	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
71	A-502	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
72	A-503	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
73	A-504	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
74	A-505	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
75	A-506	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
76	A-507	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
77	A-508	0	REFLECTED CEILING PLANS	08/15/2025	DOB FILING
A-600					
78	A-600	0	DOOR SCHEDULE	08/15/2025	DOB FILING
79	A-601	0	DOOR DETAILS	08/15/2025	DOB FILING
80	A-602	0	WINDOW SCHEDULE	08/15/2025	DOB FILING
80	A-603	0	WINDOW/DOOR SPECS	08/15/2025	DOB FILING
46	A-604	0	WEST (GRAND CONCOURSE) ELEVATION	08/15/2025	DOB FILING
47	A-605	0	EAST (REAR) ELEVATION	08/15/2025	DOB FILING

SHEET LIST

	SHEET NUMBER	DOB REV. NUMBER	SHEET NAME	REVISION DATE	ISSUE
48	A-606	0	NORTH & SOUTH ELEVATION	08/15/2025	DOB FILING
50	A-607	0	SOUTHWEST INNER ELEVATIONS	08/15/2025	DOB FILING
A-700					
81	A-700	0	ENLARGED KITTE & LAUNDRY PLANS	08/15/2025	DOB FILING
82	A-701	0	ENLARGED BATH PLANS	08/15/2025	DOB FILING
83	A-702	0	ENLARGED BATH PLANS	08/15/2025	DOB FILING
A-800					
84	A-800	0	MAILBOX ELEVATIONS	08/15/2025	DOB FILING
85	A-801	0	SIGNAGE	08/15/2025	DOB FILING
AB-100					
86	AB-100	0	AIR BARRIER PLAN	08/15/2025	DOB FILING
87	AB-101	0	AIR BARRIER DETAILS	08/15/2025	DOB FILING
TOTAL: 92					

SHEET LIST - ENERGY

	SHEET NUMBER	DOB REV. NUMBER	SHEET NAME	REVISION DATE	ISSUE
EN-100					
1	EN-000	0	TITLESHEET	08/15/2025	DOB FILING
2	EN-100	0	ENERGY ANALYSIS	08/15/2025	DOB FILING
3	EN-101	0	ENERGY THERMAL ENVELOPE DIAGRAM	08/15/2025	DOB FILING
4	EN-102	0	ENERGY THERMAL ENVELOPE DIAGRAM	08/15/2025	DOB FILING
5	EN-103	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
6	EN-104	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
7	EN-105	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
8	EN-107	0	ENERGY AREA DIAGRAMS	08/15/2025	DOB FILING
9	EN-200	0	ENERGY INSPECTIONS	08/15/2025	DOB FILING
10	EN-201	0	ENERGY INSPECTIONS	08/15/2025	DOB FILING
11	EN-202	0	ENERGY INSPECTIONS	08/15/2025	DOB FILING
TOTAL: 11					

RELATED APPLICATIONS

WORK TYPE		APPLICATION #	DOCUMENT #
DM	DEMOLITION	X01208253	I1
EA	EARTHWORK		
SE	SUPPORT OF EXCAVATION		
FO	FOUNDATION		
ST	STRUCTURAL		
MH	MECHANICAL		
EL	ELECTRICAL		
PL	PLUMBING		
SP	SPRINKLER		
FA	FIRE ALARM		
FE	FENCE		
BPP	BUILDERS PAVEMENT PLAN		
	STREET TREE		
CC	CURB CUT		
SD	STANDPIPE		
FPP	FIRE PROTECTION PLAN		
	ZONING EXHIBIT RECORD		
SH	SHED		
VT	ELEVATOR		
	SITE CONNECTION		

S. WIEDER ARCHITECT PC

31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

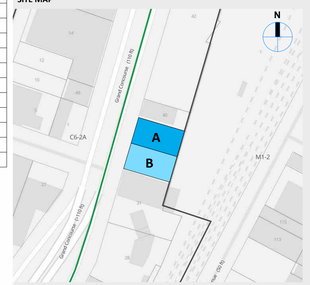
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL
NEW BUILDING (BUILDING B)

DRAWING TITLE:

TITLESHEET

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:37:07
SCALE:
DRAWN BY: XX

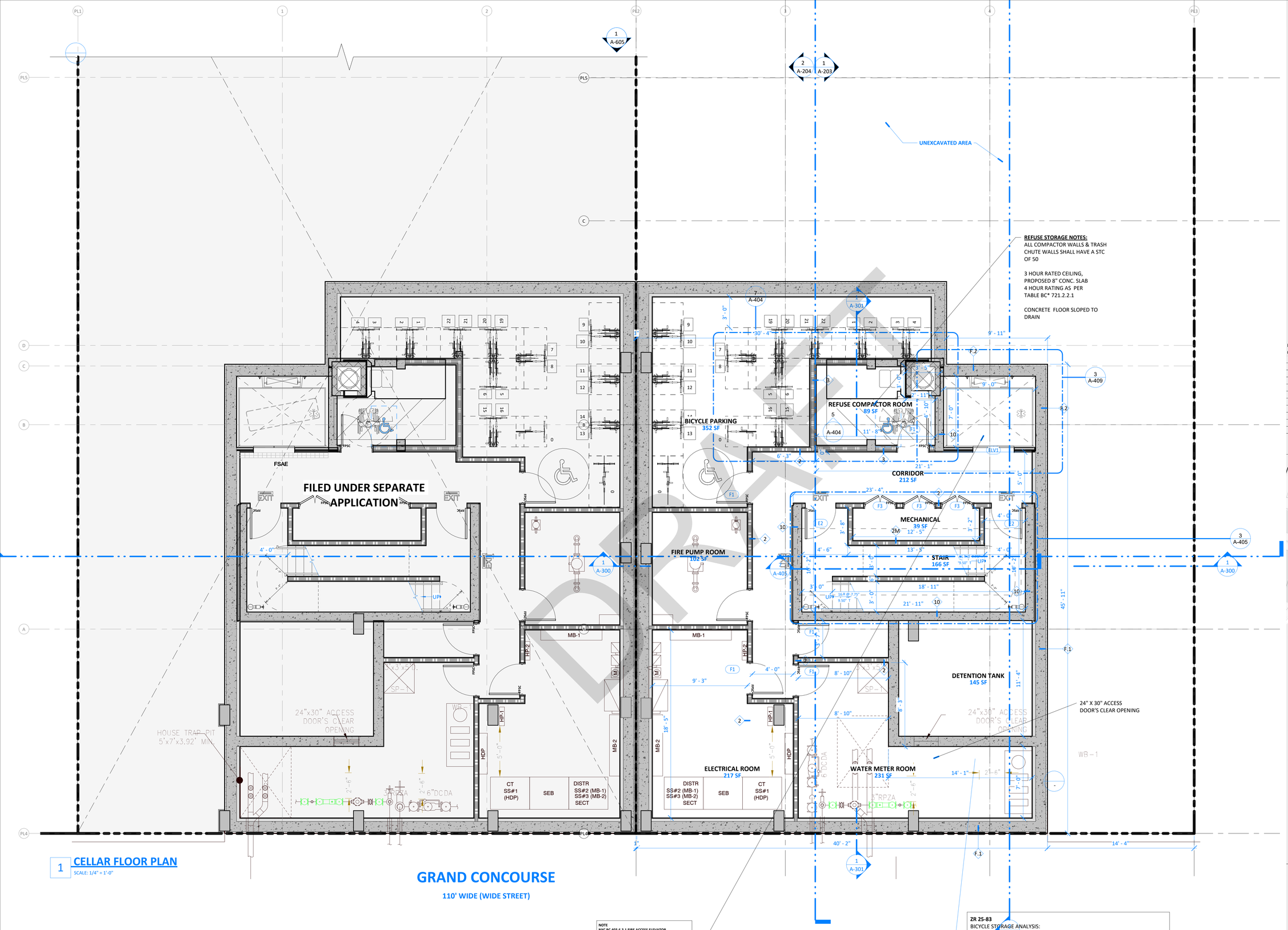
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SHEET: 1 OF 87

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WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 59.5 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

27.10.2025 15:37:07



1 **CELLAR FLOOR PLAN**
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' -0" < 120' FSAE ELEVATOR NOT REQUIRED

ZR 25-83
BICYCLE STORAGE ANALYSIS:
15 SF OF AREA SHALL BE PROVIDED FOR EACH BICYCLE SPACE.
5% OF THE TOTAL NUMBER OF BICYCLE STORAGE SPACES MUST BE ACCESSIBLE.
TOTAL SF, BICYCLE PARKING: 581 SF.
28 BICYCLE PARKING SPACES PROPOSED.
28 X .05 = 2 ADA BICYCLE SPACE PROPOSED.
581 SF / 28 = 21 SF PER BICYCLE SPACE PROPOSED.

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

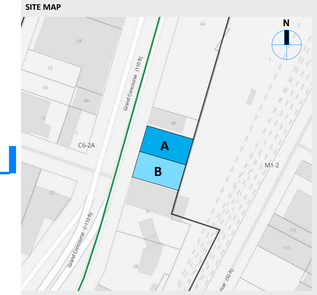
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
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	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
CELLAR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

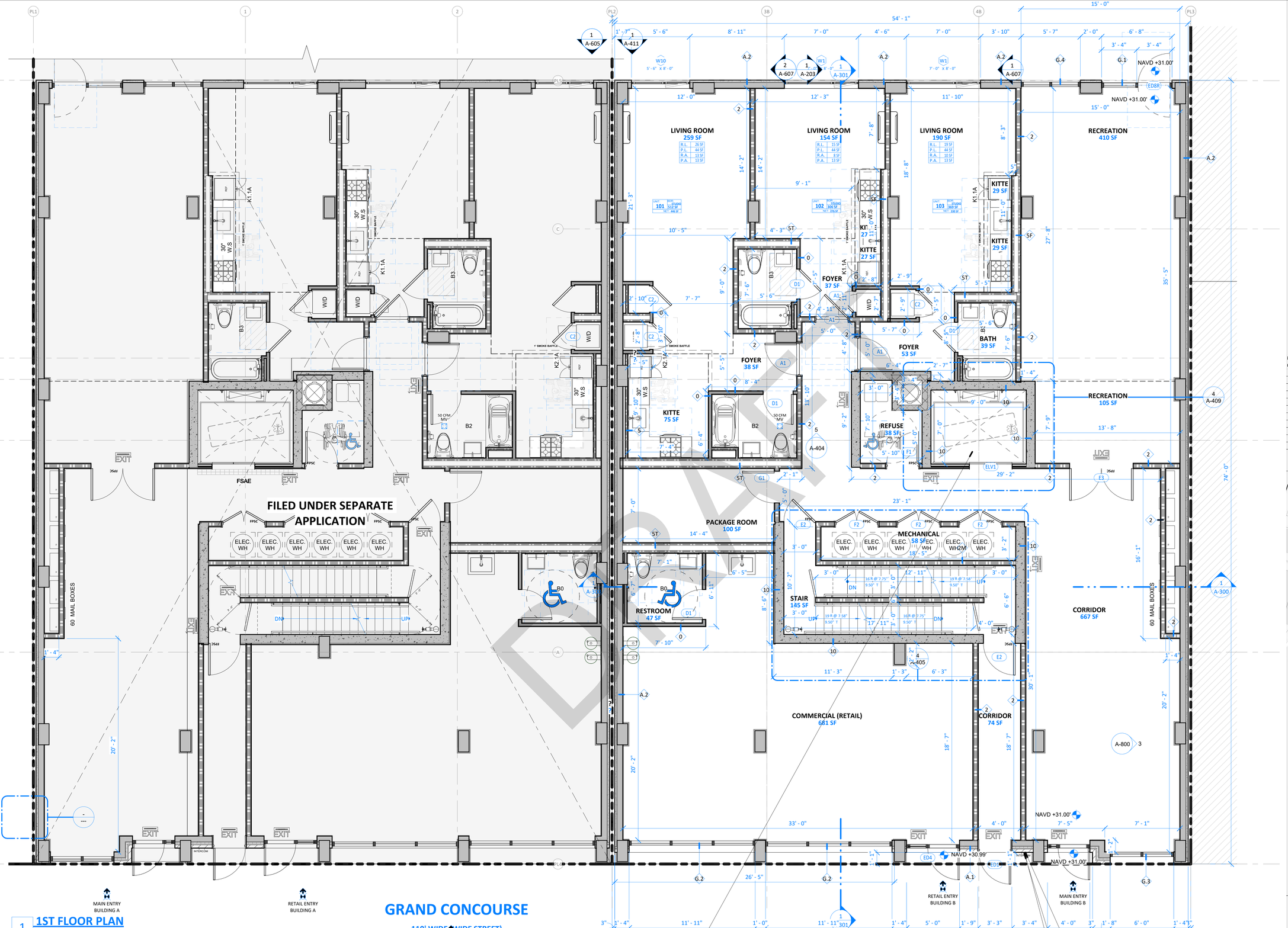
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SCALE: 1/4" = 1'-0"
DRAWN BY: XX

A-100.00

SHEET: 34 OF 87

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27.10.2025 15:37:12



1 1ST FLOOR PLAN

SCALE: 1/4" = 1'-0"

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' - 0" < 120' FSAE ELEVATOR NOT REQUIRED

NOTES
1. **BC 1008.4.4 INTERCOMMUNICATION SYSTEM.** INTERCOMMUNICATION SYSTEM LOCATED AT THE DOOR GIVING ACCESS TO THE MAIN ENTRANCE LOBBY, CONSISTING OF A DEVICE OR DEVICES FOR VOICE COMMUNICATION BETWEEN THE OCCUPANT OF EACH DWELLING UNIT AND A PERSON OUTSIDE THE DOOR TO THE MAIN ENTRANCE LOBBY, AND PERMITTING SUCH DWELLING UNIT OCCUPANT TO RELEASE THE LOCKING MECHANISM OF SAID DOOR FROM THE DWELLING UNIT.

FIRE ALARM AND CONNECTION FOR SPRINKLER

TWO-WAY COMMUNICATION SYSTEM COMPLYING WITH SECTIONS 1007.8.1 AND 1007.8.2

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

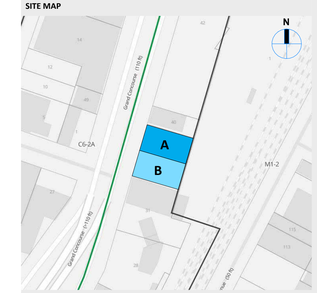
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A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

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T: (718)-360-0200
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	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
1ST FLOOR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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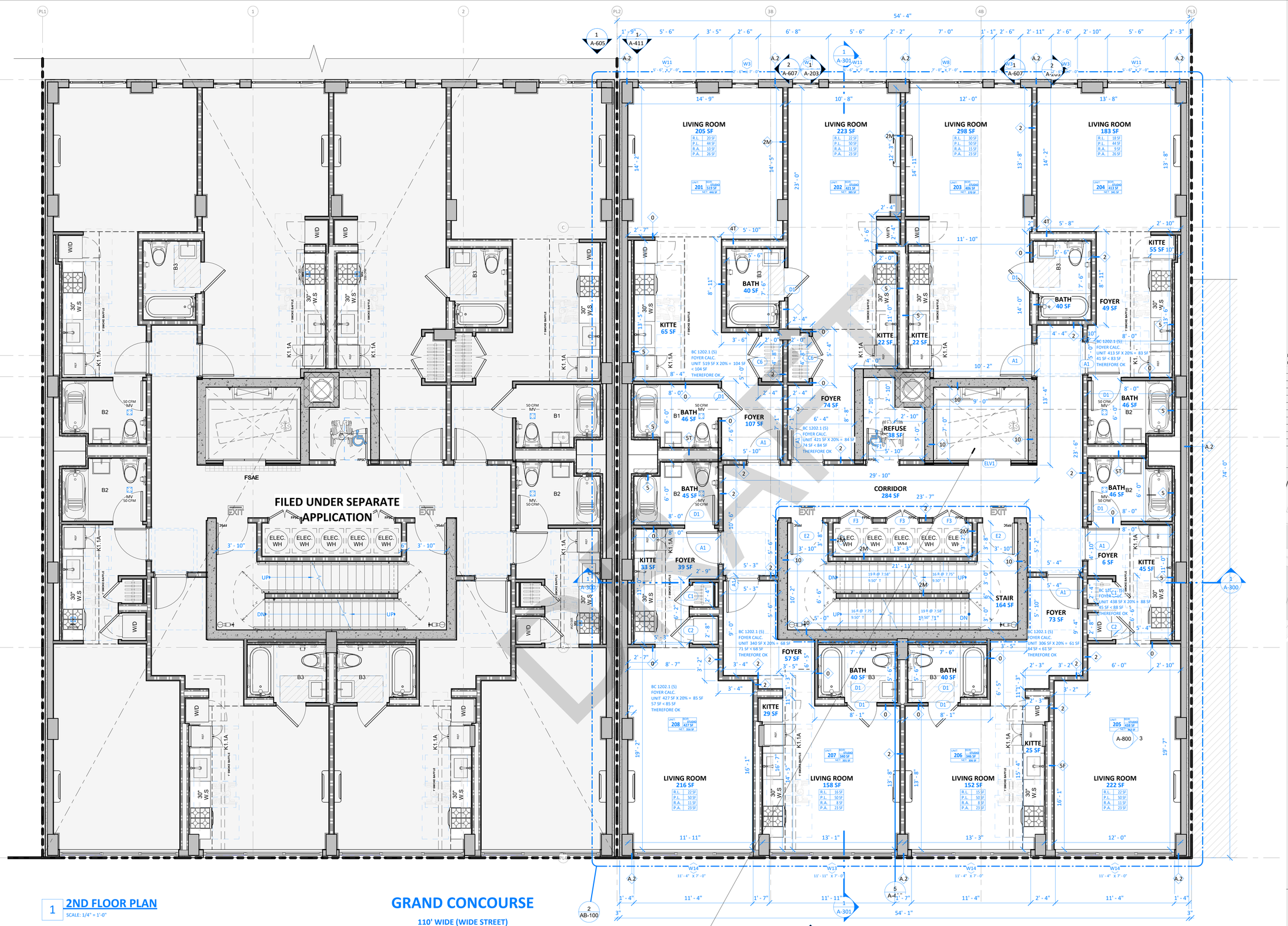
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1 **2ND FLOOR PLAN**
SCALE: 1/4" = 1'-0"

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' -0" < 120' FSAE ELEVATOR NOT REQUIRED

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
2ND FLOOR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

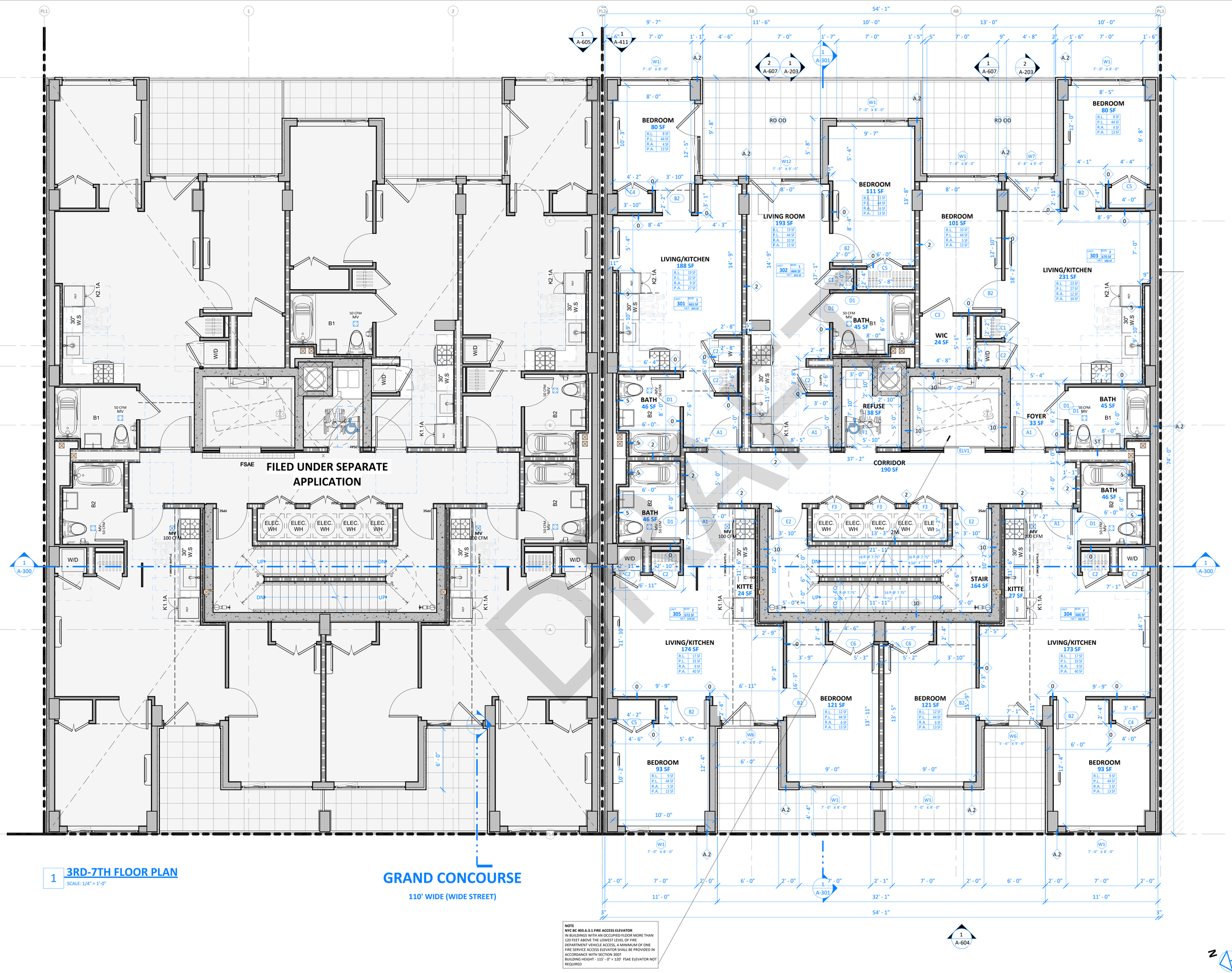
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1 **3RD-7TH FLOOR PLAN**
SCALE: 1/4" = 1'-0"

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' - 0" < 120' FSAE ELEVATOR NOT REQUIRED

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S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

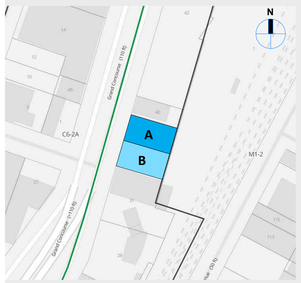
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A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
3RD-7TH FLOOR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

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FC* 504.4.4
A MINIMUM OF 6'-0" WIDE & 9'-0" HIGH
FROM FRONT TO REAR & FRONT SIDE TO SIDE OF UNOBSTRUCTED SPACE OF SHALL BE PROVIDED ON ROOFTOP TO ALLOW FIREFIGHTING OPERATIONS.

SLOPE TO DRAIN
4" ROOF DRAIN W/ CONTROLLED FLOW DEVICE

42" MTL RAILING

RD OD

BEDROOM 80 SF
R.L. 8 SF
P.L. 48 SF
R.A. 4 SF
P.A. 40 SF

LIVING/KITCHEN 155 SF
R.L. 15 SF
P.L. 20 SF
R.A. 8 SF
P.A. 17 SF
UNIT 801 BOR. 1 409 SF NET 362 SF

BEDROOM 112 SF
R.L. 11 SF
P.L. 44 SF
R.A. 6 SF
P.A. 13 SF

LIVING/KITCHEN 164 SF
R.L. 16 SF
P.L. 44 SF
R.A. 8 SF
P.A. 13 SF
UNIT 802 BOR. 1 411 SF NET 359 SF

BEDROOM 101 SF
R.L. 10 SF
P.L. 44 SF
R.A. 5 SF
P.A. 13 SF

BEDROOM 82 SF
R.L. 8 SF
P.L. 48 SF
R.A. 4 SF
P.A. 40 SF

LIVING/KITCHEN 206 SF
R.L. 21 SF
P.L. 22 SF
R.A. 10 SF
P.A. 17 SF
UNIT 803 BOR. 2 610 SF NET 523 SF

KITTE 24 SF

STAIR 164 SF

CORRIDOR 190 SF

KITTE 27 SF

UNIT 805 BOR. 2 573 SF NET 529 SF

LIVING/KITCHEN 174 SF
R.L. 17 SF
P.L. 33 SF
R.A. 9 SF
P.A. 40 SF

BEDROOM 129 SF
R.L. 13 SF
P.L. 44 SF
R.A. 6 SF
P.A. 13 SF

BEDROOM 129 SF
R.L. 13 SF
P.L. 44 SF
R.A. 6 SF
P.A. 13 SF

UNIT 804 BOR. 2 680 SF NET 581 SF

LIVING/KITCHEN 173 SF
R.L. 17 SF
P.L. 33 SF
R.A. 9 SF
P.A. 40 SF

BEDROOM 93 SF
R.L. 5 SF
P.L. 44 SF
R.A. 5 SF
P.A. 13 SF

BEDROOM 93 SF
R.L. 5 SF
P.L. 44 SF
R.A. 5 SF
P.A. 13 SF

FSAE

FILED UNDER SEPARATE APPLICATION

ELEC. WH

50 CFM MV

30" W.S

W/D

B1 B2 C1 C2 C3 C4 C5 C6 D1 D2 E2 F1 F3 K1.1A K2.1A W1 W6 ELV1

EXIT

FPSC

UP DN

DRAFT

1 8TH FLOOR PLAN
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' - 0" < 120' FSAE ELEVATOR NOT REQUIRED

27.10.2025 15:37:44

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

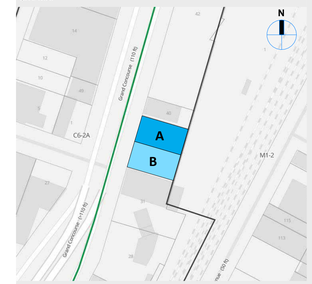
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A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
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MUNICIPAL CONSULTANT:
BACDG EXPEDITING
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OWNER:
MANHATTAN MANAGEMENT
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	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
8TH FLOOR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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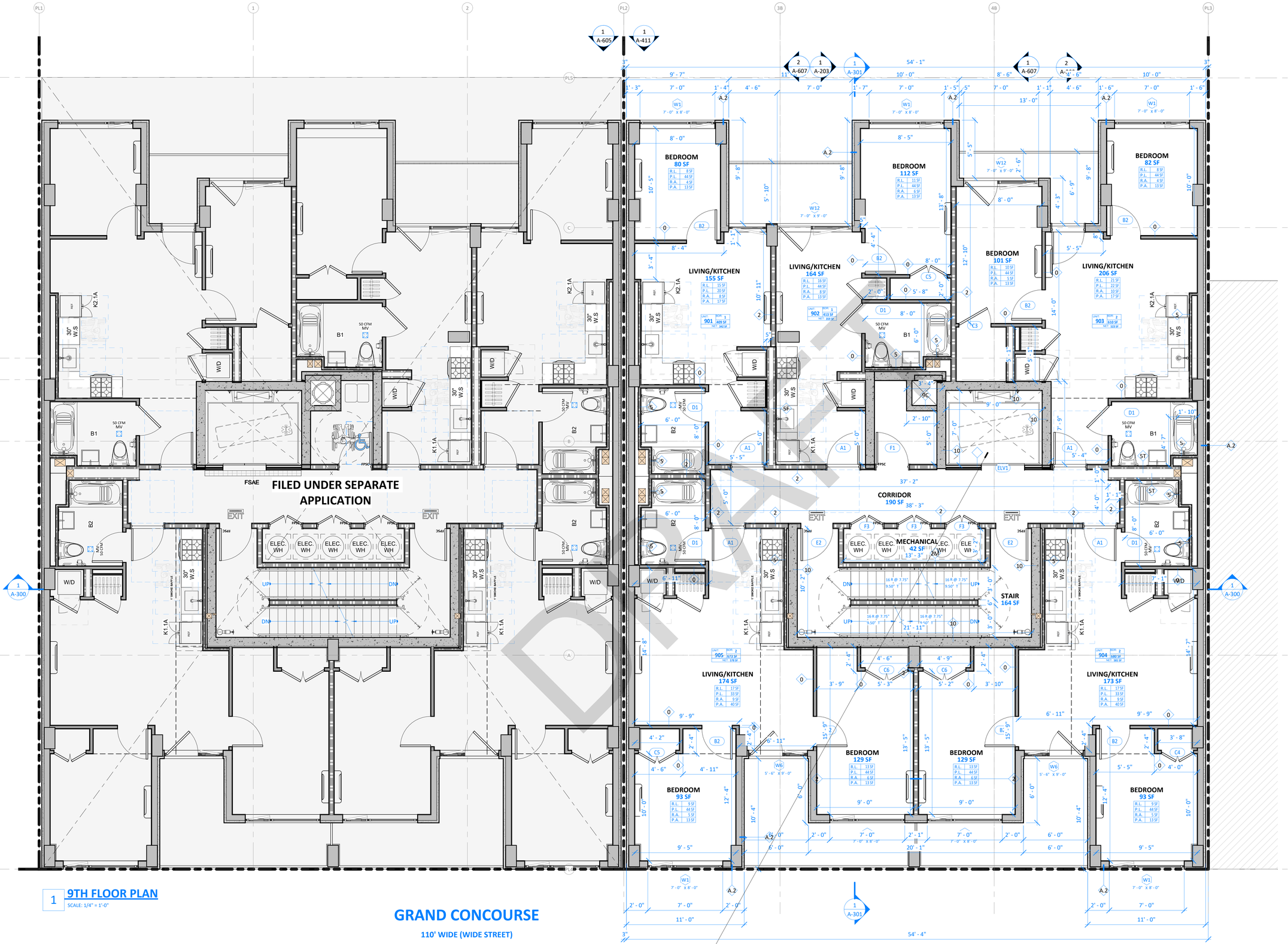
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1 **9TH FLOOR PLAN**
SCALE: 1/4" = 1'-0"

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' - 0" < 120' FSAE ELEVATOR NOT REQUIRED

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S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
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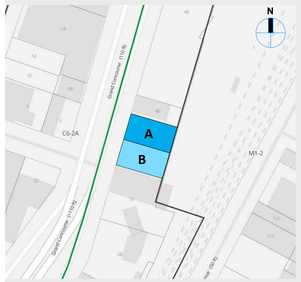
MEP ENGINEER:
A & D ENGINEERING
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BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
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MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
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	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
9TH-10TH FLOOR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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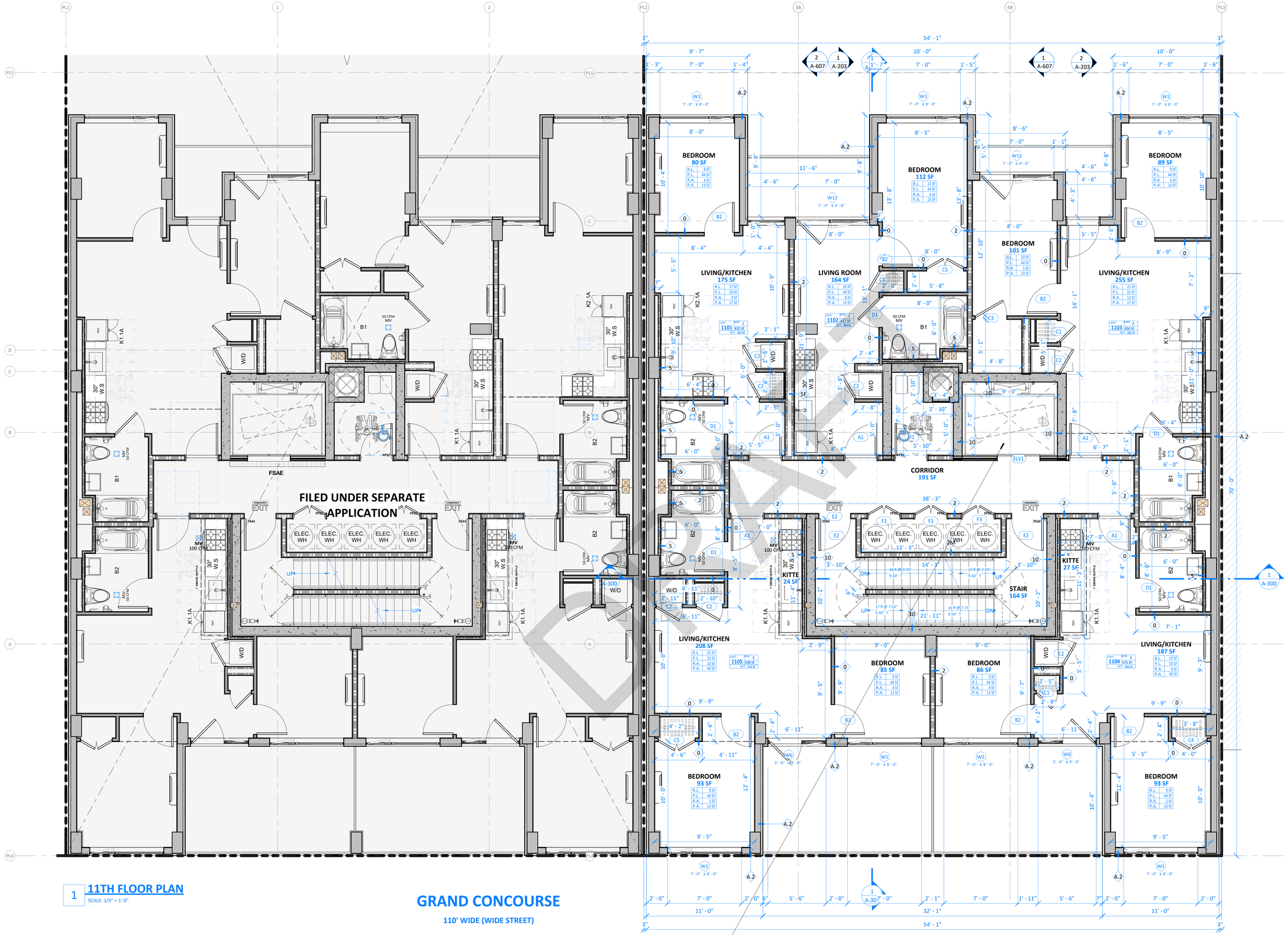
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1 11TH FLOOR PLAN

SCALE: 1/4" = 1'-0"

NOTE
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BUILDING HEIGHT - 115' - 0" < 120' FSAE ELEVATOR NOT REQUIRED

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31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
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E: info@elevatedengineeringnyc.com

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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
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SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
11TH FLOOR PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

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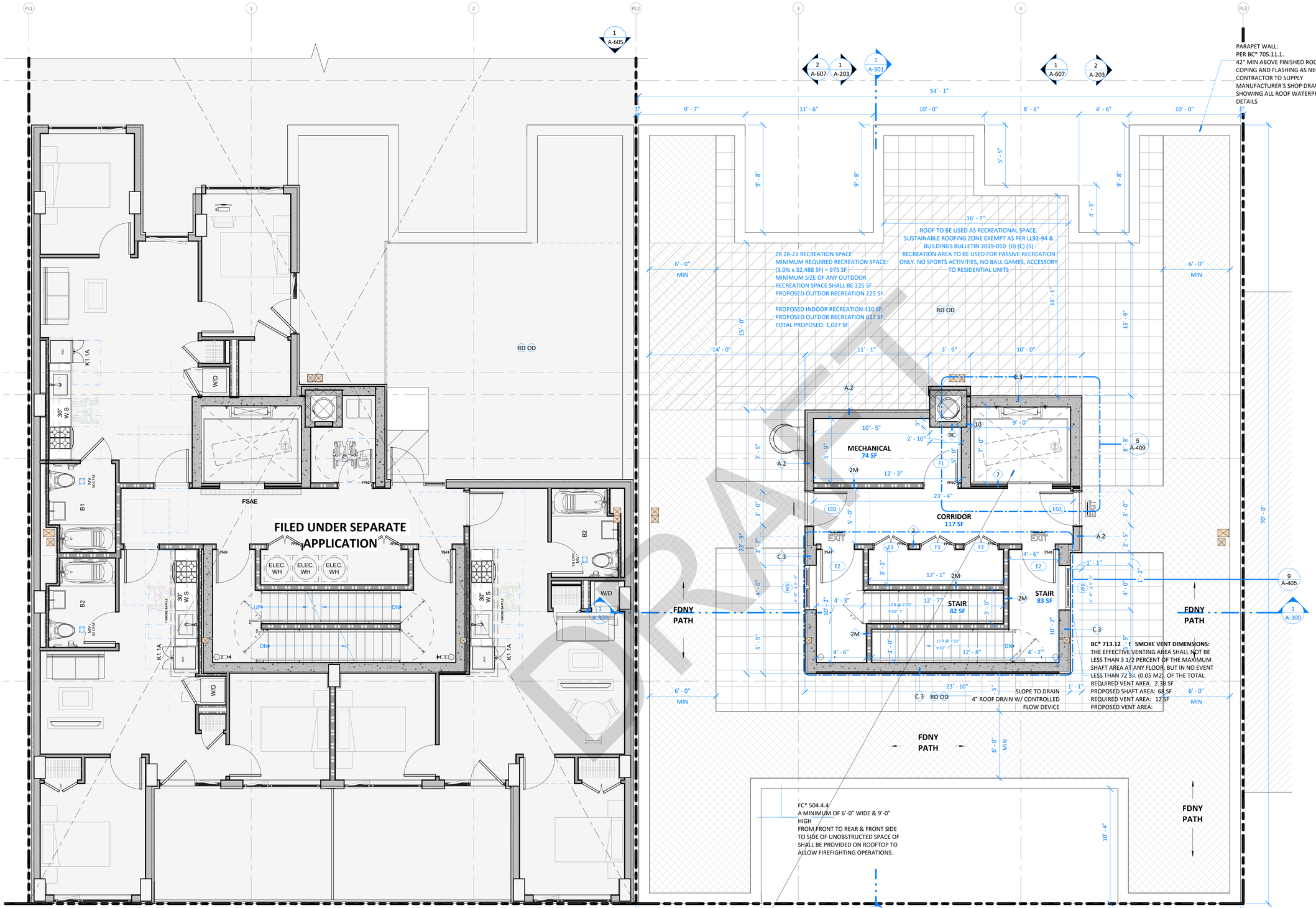
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1 ROOF FLOOR PLAN

SCALE: 1/4" = 1'-0"

GRAND CONCOURSE

110' WIDE (WIDE STREET)

NOTE
NYC BC 403.6.3.1 FIRE ACCESS ELEVATOR
IN BUILDINGS WITH AN OCCUPIED FLOOR MORE THAN 120 FEET ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT VEHICLE ACCESS, A MINIMUM OF ONE FIRE SERVICE ACCESS ELEVATOR SHALL BE PROVIDED IN ACCORDANCE WITH SECTION 3007
BUILDING HEIGHT - 115' -0" + 120' FSAE ELEVATOR NOT REQUIRED

NOTES

1. C403.7.7 STAIRWAY AND SHAFT VENT DAMPERS.
STAIRWAY AND SHAFT VENTS WITH CLASS I MOTORIZED DAMPERS WITH A MAXIMUM LEAKAGE RATE OF 4 FM/FT2 (20.3 L/S • M2) AT 1.0 INCH WATER GAUGE (W.G.) (249 PA) WHEN TESTED IN ACCORDANCE WITH AMCA 500D. STAIRWAY AND SHAFT VENT DAMPERS SHALL BE INSTALLED WITH CONTROLS SO THAT THEY ARE CAPABLE OF AUTOMATICALLY OPENING UPON: THE INTERRUPTION OF POWER TO THE DAMPER.

2. MC 801.1.1.1
ADJACENT EXISTING CHIMNEYS TO BE EXTENDED 3'-0" MIN.ABOVE HIGHEST STRUCTURE IN A 10'-0" RADIUS (TYP) PRIOR TO PERMIT ,A LICENSE PER MC 801.1.1.1.3, TO NOTIFY THE OWNER(S) OF THE ADJACENT PROPERTY OF THE REQUIRED WORK AND SECURE CONSENT TO INSPECT AND PERFORM ANY WORK THAT MAY BE NECESSARY TO SAFEGUARD THE ADJACENT PROPERTY.

3. CHIMNEYS AND VENTS
FGC 503.5.4 CHIMNEY TERMINATION.
CHIMNEYS SERVING GAS-FIRED EQUIPMENT SHALL COMPLY WITH THE APPLIANCE LISTING, THE MANUFACTURER' INSTRUCTIONS AND THE FOLLOWING REQUIREMENTS: CHIMNEYS SERVING APPLIANCES SHALL EXTEND AT LEAST 3 FEET ABOVE THE HIGHEST CONSTRUCTION, SUCH AS A ROOF RIDGE, PARAPET WALL, OR PENTHOUSE, WITHIN 10 FEET OF THE CHIMNEY OUTLET, WHETHER THE CONSTRUCTION IS ON THE SAME BUILDING AS THE CHIMNEY OR ON ANOTHER BUILDING. HOWEVER, SUCH CONSTRUCTIONS DO NOT INCLUDE OTHER CHIMNEYS, VENTS, OR OPEN STRUCTURAL FRAMING. ANY CHIMNEY LOCATED BEYOND 10 FEET FROM SUCH CONSTRUCTION, SHALL BE AT LEAST AS HIGH AS THE CONSTRUCTION.

4. EXTEND WALLS FROM REFUSE CHUTE A MINIMUM OF 6'-0" ABOVE ROOF LEVEL

5. BUILDINGS BULLETIN 2019-010
C. AREAS EXEMPTED FROM SUSTAINABLE ROOFING ZONE
RECREATIONAL SPACES THAT ARE INTEGRAL TO THE PRINCIPAL USE OF THE BUILDING ON WHICH THE ROOFTOP IS LOCATED, INCLUDING BUT NOT LIMITED TO PLAYGROUNDS AND PARTICIPANT SPORT AREAS FOR SPORTS FACILITIES AND SCHOOLS, QUALITY HOUSING RECREATION SPACES, ROOF TERRACES AND PASSIVE RECREATION AREAS THAT ARE DOCUMENTED ON THE CERTIFICATE OF OCCUPANCY OR DEPARTMENT OF BUILDINGS APPROVED FILING AS OUTLINED IN BUILDING BULLETIN 2018-002.

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

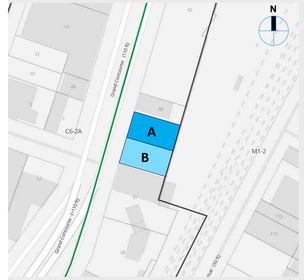
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A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

ROOF PLAN

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

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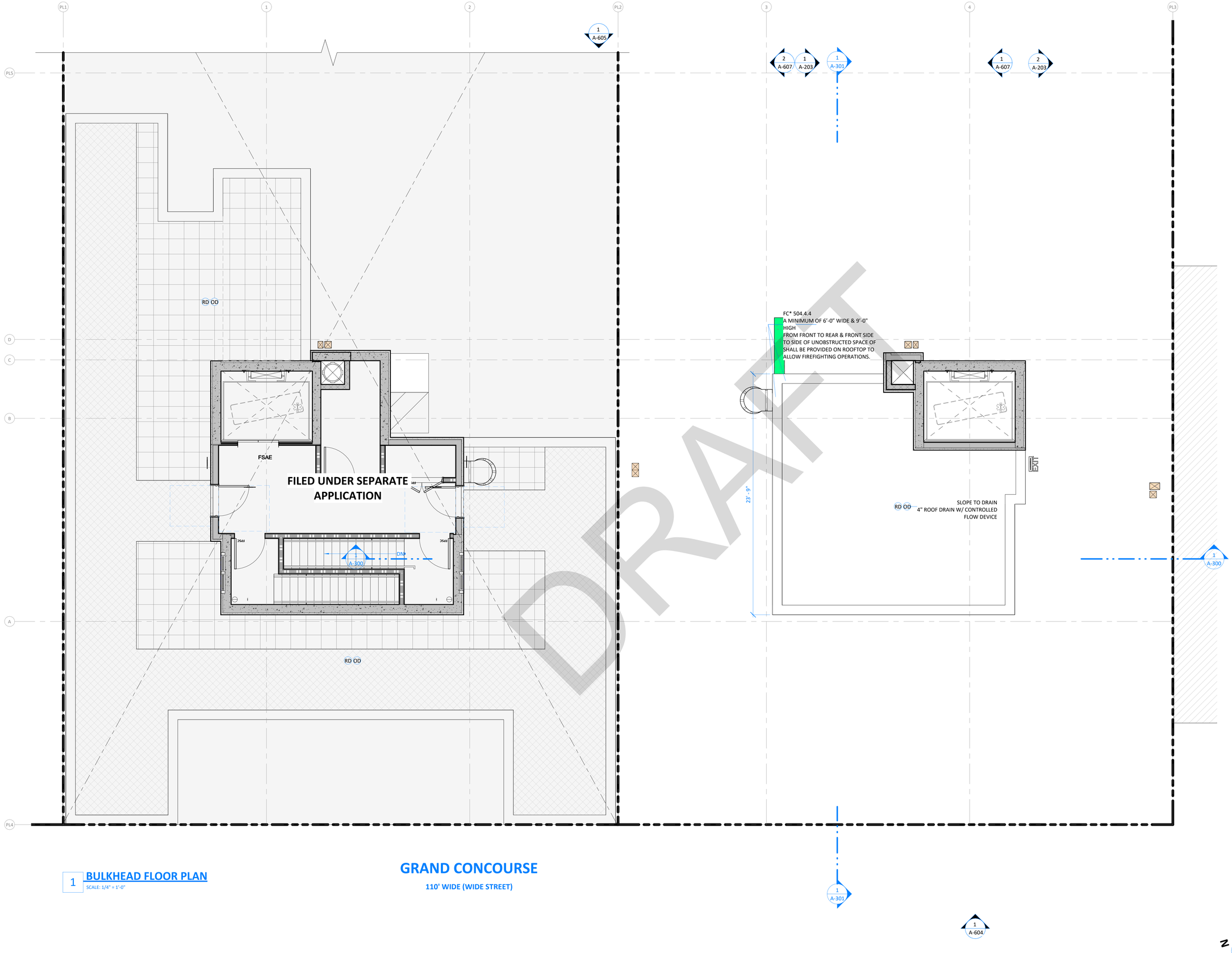
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27.10.2025 15:38:05



1 **BULKHEAD FLOOR PLAN**
SCALE: 1/4" = 1'-0"

GRAND CONCOURSE
110' WIDE (WIDE STREET)

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

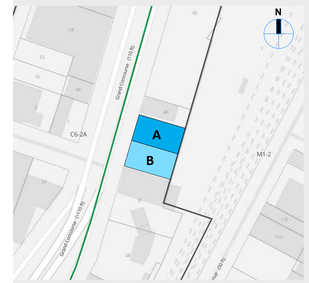
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2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

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233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
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SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
BULKHEAD PLAN

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

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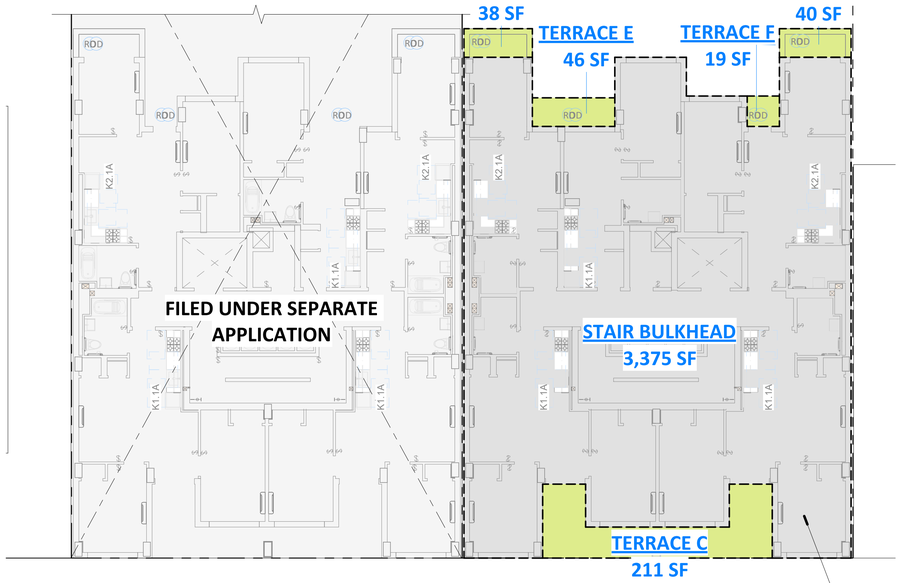
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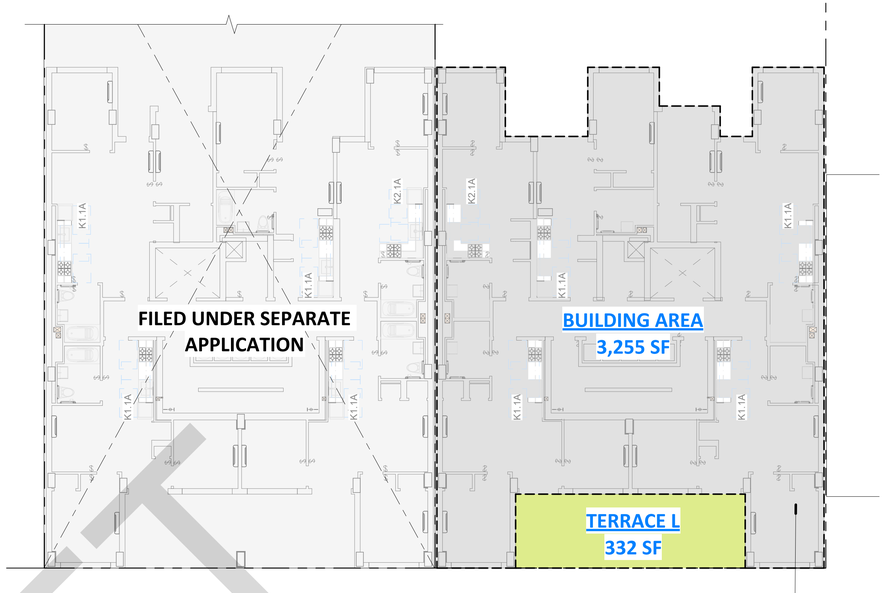
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SUSTAINABLE ZONE SCHEDULE - 11TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,255 SF
		3,255 SF
TERRACE / SETBACK		
TERRACE L	TERRACE / SETBACK	332 SF
		332 SF

SUSTAINABLE ZONE SCHEDULE - 8TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
STAIR BULKHEAD	BUILDING AREA	3,375 SF
		3,375 SF
TERRACE / SETBACK		
TERRACE C	TERRACE / SETBACK	211 SF
TERRACE D	TERRACE / SETBACK	38 SF
TERRACE E	TERRACE / SETBACK	46 SF
TERRACE F	TERRACE / SETBACK	19 SF
TERRACE G	TERRACE / SETBACK	40 SF
		354 SF



GRAND CONCOURSE

110' WIDE (WIDE STREET)

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK

4 8TH FLOOR (B)

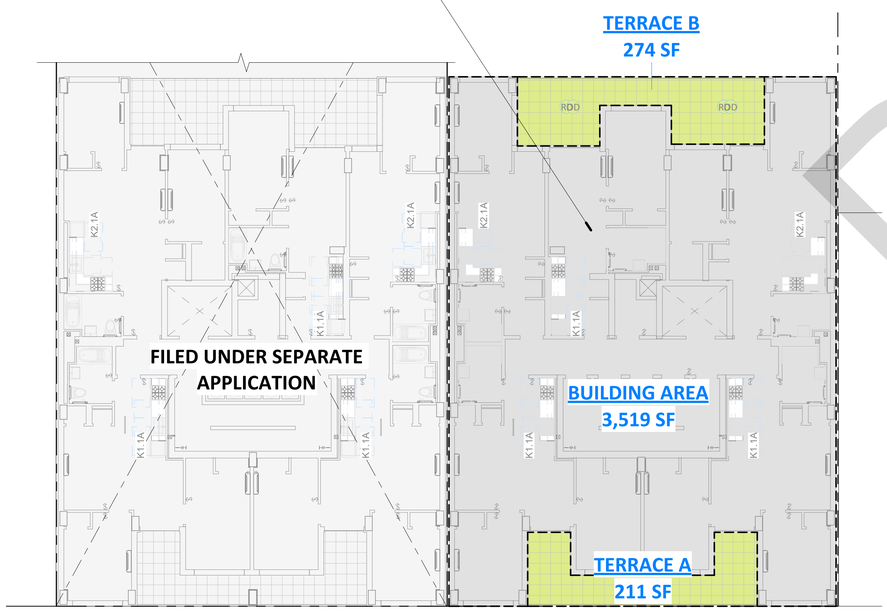
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BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 3RD-7TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,519 SF**
3,519 SF X 25% = **880 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE A
211 SF < **880 SF**
THEREFORE EXEMPT

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 8TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,375 SF**
3,375 SF X 25% = **844 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE C
211 SF < **844 SF**
THEREFORE EXEMPT



SUSTAINABLE ZONE SCHEDULE - 9TH-10TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,301 SF
		3,301 SF
TERRACE / SETBACK		
TERRACE K	TERRACE / SETBACK	285 SF
		285 SF

SUSTAINABLE ZONE SCHEDULE - 3RD-7TH FLOOR		
NAME	AREA TYPE	AREA
BUILDING AREA		
BUILDING AREA	BUILDING AREA	3,519 SF
		3,519 SF
TERRACE / SETBACK		
TERRACE A	TERRACE / SETBACK	211 SF
TERRACE B	TERRACE / SETBACK	274 SF
		485 SF

3 3RD-7TH FLOOR (B)

SCALE: 1" = 10'-0"

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK

GRAND CONCOURSE

110' WIDE (WIDE STREET)

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK

2 11TH FLOOR (B)

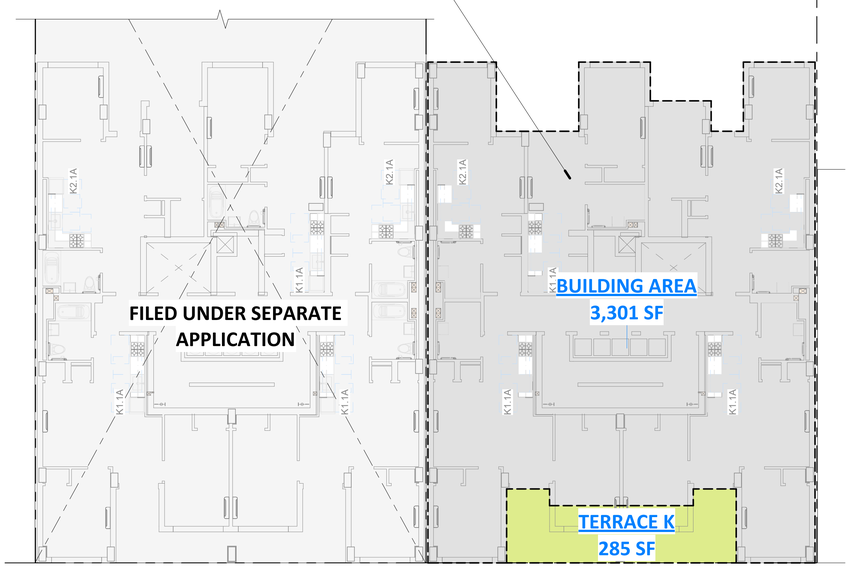
SCALE: 1" = 10'-0"

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 9TH-10TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,301 SF**
3,301 SF X 25% = **825 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE K
285 SF < **825 SF**
THEREFORE EXEMPT

BUILDINGS BULLETIN 2019-010
EXCEPTION: C (4)
EXEMPTED SETBACK CALCULATION FOR 11TH FLOOR:
LARGEST FLOOR PLATE TOTAL AREA **3,255 SF**
3,255 SF X 25% = **814 SF**
AREA OF SETBACK / TERRACE AREA NOT REQUIRED BY ZONING HEIGHT AND SETBACK REGULATIONS:

TERRACE C
332 SF < **814 SF**
THEREFORE EXEMPT



1 9TH-10TH FLOOR (B)

SCALE: 1" = 10'-0"

GRAND CONCOURSE

110' WIDE (WIDE STREET)

SUSTAINABLE ROOF ZONE LEGEND

- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK

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S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
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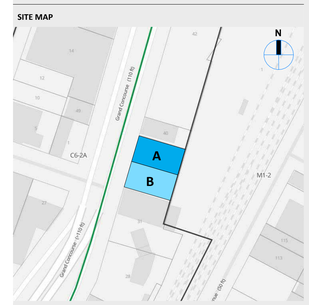
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SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

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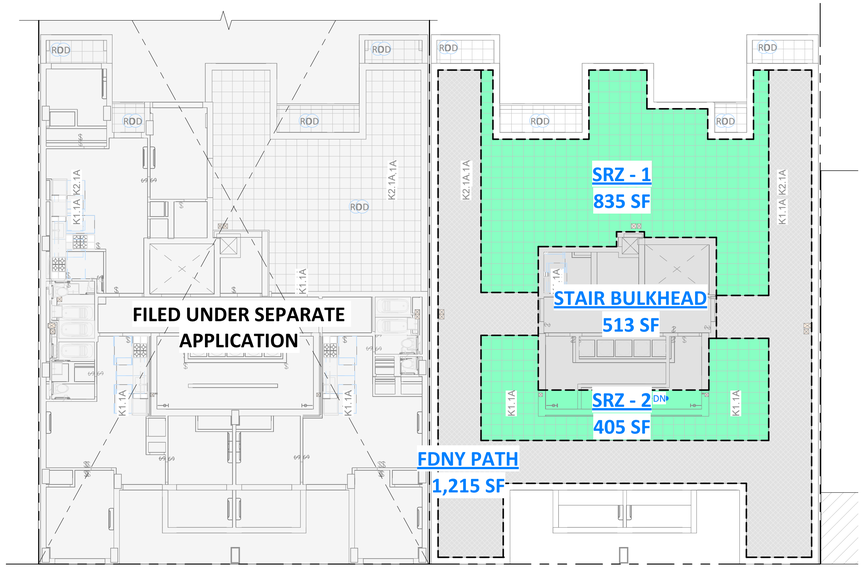
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1 **ROOF (B)**
SCALE: 1" = 10'-0"

GRAND CONCOURSE

110' WIDE (WIDE STREET)

SUSTAINABLE ROOF ZONE LEGEND

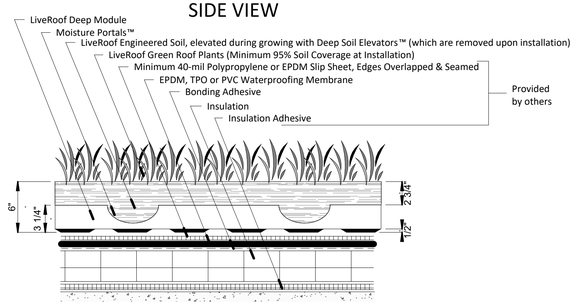
- BUILDING AREA
- FDNY PATH
- MECHANICAL CLEARANCE
- SUSTAINABLE ROOF ZONE
- TERRACE
- TERRACE / SETBACK

SUSTAINABLE ZONE SCHEDULE - ROOF LEVEL		
NAME	AREA TYPE	Area.
BUILDING AREA		
STAIR BULKHEAD	BUILDING AREA	513 SF
		513 SF
FDNY PATH		
FDNY PATH	FDNY PATH	1,215 SF
		1,215 SF
SUSTAINABLE ROOF ZONE		
SRZ - 1	SUSTAINABLE ROOF ZONE	835 SF
SRZ - 2	SUSTAINABLE ROOF ZONE	405 SF
		1,240 SF

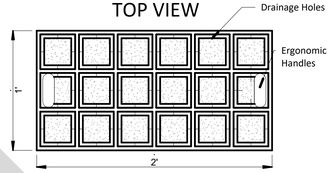
LiveRoof DEEP SYSTEM

Over Conventional Roofing Assembly

SIDE VIEW



TOP VIEW



2 **LiveRoof - Deep A**
SCALE: 12" = 1'-0"

SOLAR PHOTOVOLTAIC ELECTRIC PANEL CALCULATION:
HIGH EFFICIENCY SOLAR PHOTOVOLTAIC ELECTRIC PANEL 1 SF PER 20 WATTS TO ACHIEVE 4 KW SYSTEM MINIMUM 200 SF OF CONTIGUOUS SPACE REQUIRED TYPICAL 60 CELL PHOTOVOLTAIC PANEL SIZE = 18.1 SF (MINIMUM 3'-4" X 5'-5")
11 PANELS REQUIRED
11 PANELS X 18 SF = 200 SF REQUIRED

FOR PROPOSED AREA THAT ARE LESS THAN 200 SF, NO SOLAR PANELS CAN EFFICIENTLY PRODUCE 4KW , GREEN ROOF WILL BE USED

BC 1511.2(2) GREEN ROOF SYSTEM PROVIDED FOR CONTIGUOUS AREAS LESS THAN 200 SF NOT CAPABLE OF PROVIDING A MINIMUM OF 4KW OF SOLAR PHOTOVOLTAIC ELECTRICITY

BB 2019-010 (LL 92/2019, LL94/2019)
SUSTAINABLE ROOF ZONE,
A. CONTIGUOUS SUSTAINABLE ROOFING ZONES **EQUAL OR OVER 200 SQUARE FEET** (100 SQUARE FEET FOR GROUP R BUILDINGS FIVE STORIES OR LESS) WITHIN CONTIGUOUS SUSTAINABLE ROOFING ZONE, EITHER A SOLAR PHOTOVOLTAIC SYSTEM **OR** A GREEN ROOF SYSTEM, OR A COMBINATION THEREOF, **MUST** BE INSTALLED. **IF** A SOLAR PHOTOVOLTAIC SYSTEM CANNOT MEET OR EXCEED A CAPACITY OF **4KW** DUE TO SITE CONDITIONS SUCH AS SHADING, A GREEN ROOF SYSTEM SHALL BE PROVIDED.

B. CONTIGUOUS SUSTAINABLE ROOFING ZONES **LESS THAN 200 SQUARE FEET** (100 SQUARE FEET FOR GROUP R BUILDINGS FIVE STORIES OR LESS) WHERE A CONTIGUOUS SUSTAINABLE ROOFING ZONE ON A ROOF **IS LESS** THAN **200 SF**, A SOLAR PHOTOVOLTAIC SYSTEM THAT CAN MEET OR EXCEED A CAPACITY OF **4KW MUST** BE INSTALLED. **IF** THE REQUIREMENT OF **4KW** CANNOT BE MET, A GREEN ROOF SYSTEM SHALL BE PROVIDED.

C. AREAS EXEMPTED FROM SUSTAINABLE ROOFING ZONE
THE FOLLOWING AREAS ARE EXCLUDED FROM THE SUSTAINABLE ROOFING ZONE:

1. AREAS REQUIRED TO BE SET ASIDE FOR SETBACKS OR ACCESS PURSUANT TO THE NEW YORK CITY FIRE CODE, NEW YORK CITY CONSTRUCTION CODES OR THE ZONING RESOLUTION OF THE CITY OF NEW YORK. FOR EXAMPLE, ROOFTOP ACCESS AREAS REQUIRED BY FIRE CODE SECTION 504.4 AND 512.3.1 THAT MUST BE KEPT CLEAR ARE EXCLUDED FROM THE SUSTAINABLE ROOFING ZONE**.**
2. AREAS OCCUPIED BY ROOFTOP STRUCTURES, WATER TOWERS, GREENHOUSES, MECHANICAL EQUIPMENT, TOWERS, ANTENNAS, PARAPETS, GUARDRAILS, SOLAR THERMAL SYSTEMS, EQUIPMENT ACCESS PATHWAYS AND APPURTENANCES.
3. AREAS OCCUPIED BY OBSTRUCTIONS RELATED TO STORMWATER MANAGEMENT PRACTICES INCLUDING, BUT NOT LIMITED TO, CISTERNS, OR REUSE SYSTEMS THAT ARE INSTALLED TO COMPLY WITH SITE CONNECTION OR STORMWATER CONSTRUCTION PERMITS ISSUED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
4. BUILDING SETBACKS INCLUDING TERRACES THAT ARE EXISTING NON-COMPLYING PURSUANT TO THE NEW YORK CITY ZONING RESOLUTION, OR THAT ARE VOLUNTARILY PROVIDED. HOWEVER, EACH SETBACK MUST COMPRISE LESS THAN 25 PERCENT OF THE AREA OF THE LARGEST FLOOR PLATE IN THE BUILDING.
5. RECREATIONAL SPACES THAT ARE INTEGRAL TO THE PRINCIPAL USE OF THE BUILDING ON WHICH THE ROOFTOP IS LOCATED, INCLUDING BUT NOT LIMITED TO PLAYGROUNDS AND PARTICIPANT SPORT AREAS FOR SPORTS FACILITIES AND SCHOOLS, QUALITY HOUSING RECREATION SPACES, ROOF TERRACES AND PASSIVE RECREATION AREAS THAT ARE DOCUMENTED ON THE CERTIFICATE OF OCCUPANCY OR DEPARTMENT OF BUILDINGS APPROVED FILING AS OUTLINED IN BUILDING BULLETIN 2018-002.
6. PITCHED ROOFS (ROOF SLOPES GREATER THAN 17 PERCENT) THAT WOULD ACCOMMODATE LESS THAN 4KW OF SOLAR PHOTOVOLTAIC ELECTRICITY GENERATING CAPACITY. SUPPORTING DOCUMENTS, INCLUDING CALCULATIONS AND SHADING REPORT BY A QUALIFIED CONTRACTOR OR NYS REGISTERED DESIGN PROFESSIONAL, SHALL BE SUBMITTED. SEE PART D2 BELOW.
7. AREAS WHERE SITE CONDITIONS ARE DETERMINED BY THE DEPARTMENT TO BE UNFAVORABLE TO EITHER A SOLAR PHOTOVOLTAIC ELECTRICITY GENERATING SYSTEM OR A GREEN ROOF SYSTEM. FOR EXAMPLE, IN CASES WHERE THE ENTIRE ROOF ASSEMBLY INCLUDING ROOF DECK IS REPLACED, BUT THE BUILDING STRUCTURE CANNOT SUPPORT THE ADDED WEIGHT OF A SUSTAINABLE ROOFING ZONE, A STATEMENT BY A NYS REGISTERED DESIGN PROFESSIONAL SHALL BE SUBMITTED TO THE DEPARTMENT TO SUBSTANTIATE THE PRACTICAL DIFFICULTY DUE TO STRUCTURAL LIMITATION.

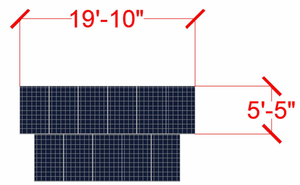
PROPOSED **4 STORY** BUILDING GROUP 4A
CONTIGUOUS SUSTAINABLE ROOF ZONES REQUIRED TO COMPLY WITH BB 2019-010 (LL 92/2019, LL94/2019) (A)

SUSTAINABLE ROOF ZONE	
SRZ - 1	835 SF
SRZ - 2	405 SF
Grand total	1,240 SF

CONTIGUOUS SUSTAINABLE ROOF ZONES REQUIRED TO COMPLY WITH BB 2019-010 (LL 92/2019, LL94/2019) (B)

NO (B) CONTIGUOUS AREAS ABLE TO MEET 4KW MINIMUM THEREFORE GREEN ROOF SYSTEM SHALL BE PROVIDED FOR ALL (B) AREAS.

GREEN ROOFING SYSTEM OPTION CHOSEN FOR (A) AREAS
1,450 SF PROPOSED AT ROOF
1,977 SF GREEN ROOF SYSTEM AREA PROPOSED.



System Size (STC-DC):

4.07 kW

Estimated Solar Production:

520 kWh/Month • 6,240 kWh/Year

Panel Model: Neo 370W Mono
Number of Solar Panels: 11

Roof Type: N/A
Array: 1@11
Roof Pitch: 1@18°
Azimuth: 1@180°

• Dimensions for the layout are estimated.
• Please measure and confirm dimensions and notify your sales rep of any inaccuracies.

DRAFT

S. WIEDER ARCHITECT PC
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BROOKLYN NY, 11205
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LIC# 040451

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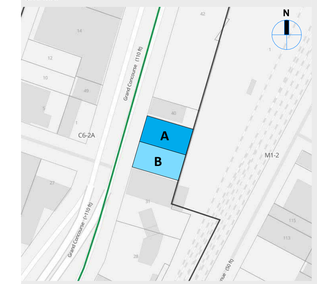
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SITE MAP



LOCATION:

338 GRAND CONCOURSE BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

ROOF SUSTAINABLE ZONE CONTIGUOUS ZONES DIAGRAMS

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

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SCALE: As indicated
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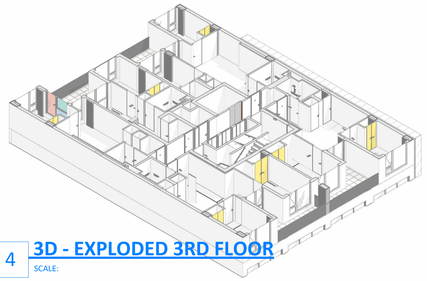
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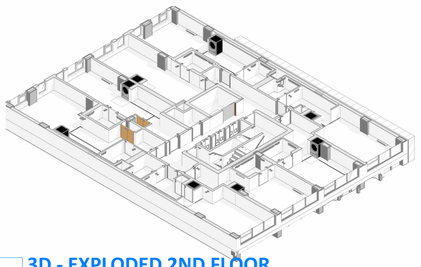
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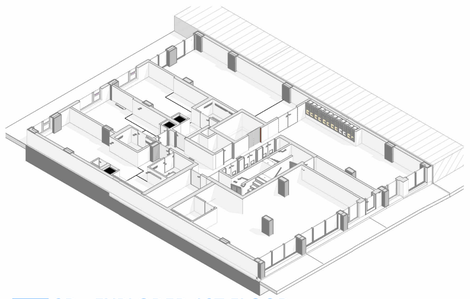
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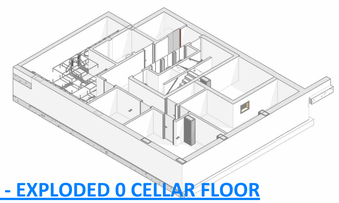
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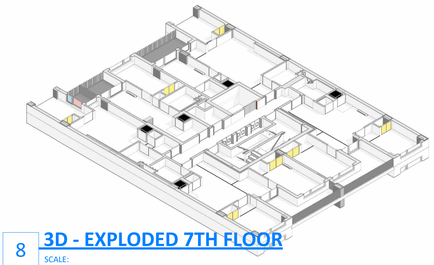
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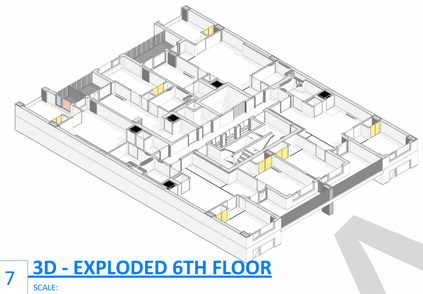
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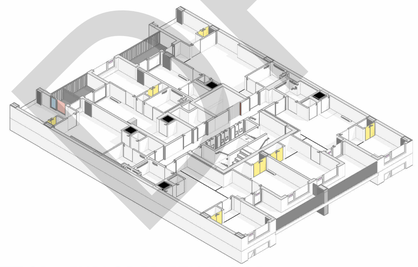
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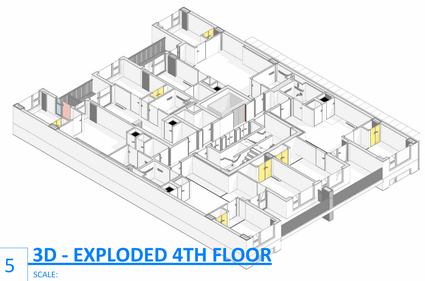
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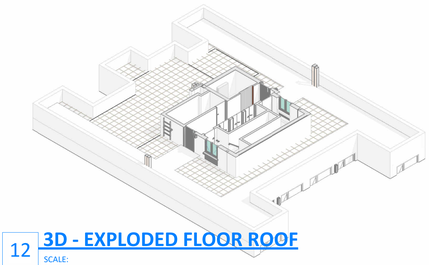
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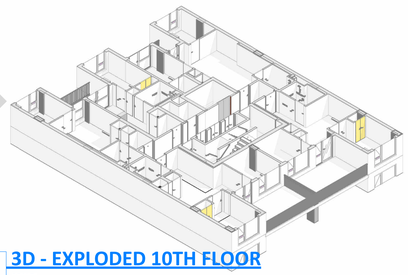
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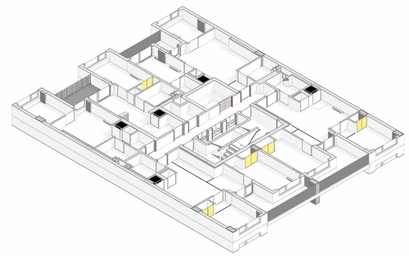
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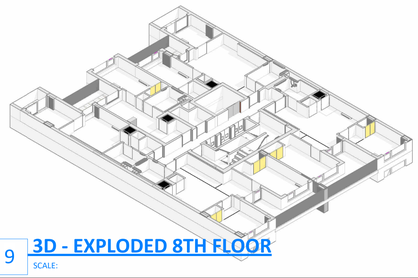
12 **3D - EXPLODED FLOOR ROOF**
SCALE:



11 **3D - EXPLODED 10TH FLOOR**
SCALE:



10 **3D - EXPLODED 9TH FLOOR**
SCALE:



9 **3D - EXPLODED 8TH FLOOR**
SCALE:

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31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

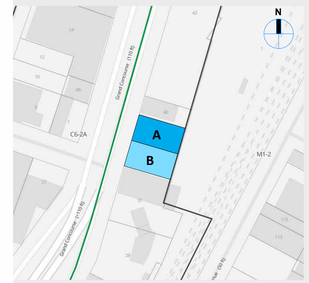
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A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
EXPLODED AXON

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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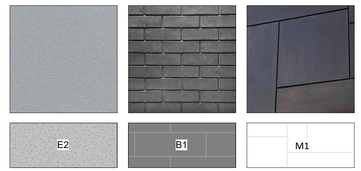
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2 WEST (GRAND CONCOURSE) ELEVATION

SCALE: 1/8" = 1'-0"



EIFS - 2 MANUFACTURE DESCRIPTION

BRICK - BLACK MANUFACTURE DESCRIPTION

METAL - A MANUFACTURE DESCRIPTION

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31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
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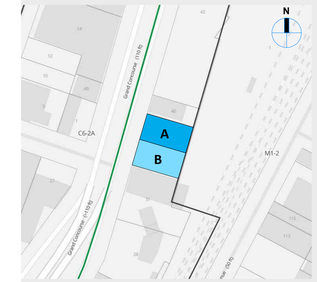
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E: ad@adeng.com

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233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
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	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

338 GRAND CONCOURSE BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

WEST (GRAND CONCOURSE) ELEVATION

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

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SHEET: 46 OF 87

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2 **EAST (REAR) ELEVATION**
SCALE: 1/8" = 1'-0"

NOTE:
ALL EXTERIOR LIGHTING SHALL HAVE PHOTOSENSOR ,TIME OR ASTRONOMICAL CONTROLS

ZR 23-62: BALCONIES
a) WITHIN ANY YARDS, COURTS, OR OTHER REQUIRED OPEN AREAS, SUCH BALCONY:
1) NOT PROJECT BY MORE THAN ONE THIRD OF THE DEPTH OF SUCH AREAS SPECIFIED ABOVE, OR A DISTANCE GREATER THAN 7'-0" , WHICHEVER IS LESS, AS MEASURED FROM THE PLANE SURFACE OF THE BUILDING WALL FROM WHICH IT PROJECTS.
PROPOSED: BALCONY PROJECTION 0" . COMPLIES
2) NOT COVER MORE THAN 10 PERCENT OF ANY OPEN AREA REQUIRED PURSUANT TO SECTION 23-30, INCLUSIVE, OR ANY OUTDOOR RECREATION SPACE PROVIDED PURSUANT TO SECTION 23-63.
PROPOSED: COMPLIES
3) HAVE AN AGGREGATE WIDTH, AT THE LEVEL OF ANY STORY, NOT EXCEEDING 50 PERCENT OF THE WIDTH AT THAT LEVEL OF THE PLANE SURFACE OF THE BUILDING WALL FROM WHICH IT PROJECTS.
PROPOSED: BUILDING WIDTH = 54' - 1" X 50% = 27' - 1"
MAX ALLOWED BALCONY WIDTH = 27' - 1"
PROPOSED: BALCONY WIDTH = 24' - 6" ≤ 27' - 1" OK COMPLIES
b) WITHIN ANY OPEN AREAS , WHETHER REQUIRED OR NOT, SUCH BALCONY SHALL:
1) BE UNENCLOSED EXCEPT FOR BUILDING WALLS AND PARAPETS, RAILINGS, OR SAFETY GUARDS, WHETHER APPLIED SINGLY, OR IN COMBINATION, PROVIDED THAT:
I) PARAPETS SHALL NOT EXCEED FOUR FEET IN HEIGHT.
PROPOSED: RAILINGS ARE 3'-6" HIGH & 50% OPEN
II) BE UNENCLOSED EXCEPT FOR A RAILING NOT LESS THAN 50 PERCENT OPEN AND NOT EXCEEDING 4 FEET, 6 INCHES IN HEIGHT.
PROPOSED: RAILINGS ARE 3'-6" HIGH & 50% OPEN
III) SAFETY GUARDS SHALL NOT EXCEED 10 FEET IN HEIGHT AND SHALL BE AT LEAST 90 PERCENT TRANSPARENT MATERIALS FOR THE PORTION THAT EXCEEDS FOUR FEET IN HEIGHT. IN ADDITION, WHERE SUCH BALCONY HAS A ROOFED PORTION ABOVE IT, THERE SHALL BE AN OPENING THAT IS NOT LESS THAN 40 PERCENT OF THE HEIGHT BETWEEN THE BOTTOM OF THE ROOF AND THE FINISHED FLOOR LEVEL OF SUCH BALCONY. HOWEVER, SUCH BALCONIES MAY BE RECESSED INTO A BUILDING WALL UP TO A MAXIMUM DEPTH OF SIX FEET PROVIDED THAT AT LEAST 33 PERCENT OF THE PERIMETER OF SUCH BALCONY IS UNENCLOSED EXCEPT FOR A PARAPET, RAILING , OR SAFETY GUARD
PROPOSED: COMPLIES
2) BE LOCATED AT LEAST 13 FEET ABOVE CURB LEVEL, EXCEPT THAT FOR BUILDINGS CONTAINING RESIDENCES NOT MORE THAN 35 FEET IN HEIGHT, SUCH BALCONY MAY BE LOCATED AT OR HIGHER THAN THE FLOOR LEVEL OF THE SECOND STORY PROVIDED THAT SUCH BALCONY IS LOCATED NOT LOWER THAN SEVEN FEE T ABOVE CURB LEVEL OR SEVEN FEET ABOVE NATURAL GRADE, WHICHEVER IS HIGHER.
PROPOSED: 4TH - 11TH FLOORS ONLY

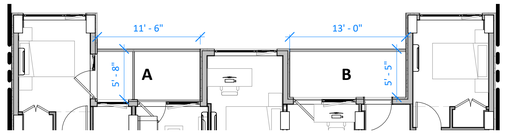
ZR 12-10 (k)
DEFINITIONS
FLOOR SPACE IN EXTERIOR BALCONIES OR IN OPEN OR ROOFED TERRACES IF MORE THAN 67 PERCENT OF THE PERIMETER OF SUCH BALCONY OR TERRACE IS ENCLOSED AND PROVIDED THAT PARAPETS, RAILINGS OR SAFETY GUARDS, WHETHER APPLIED SINGLY, OR IN COMBINATION, SHALL NOT CONSTITUTE AN ENCLOSURE WHEN MEETING THE FOLLOWING CRITERIA:
1) PARAPETS SHALL NOT EXCEED FOUR FEET IN HEIGHT;
COMPLIES
2) RAILINGS SHALL NOT EXCEED 4 FEET, 6 INCHES, AND SHALL BE AT LEAST 50 PERCENT OPEN FOR THE PORTION THAT EXCEEDS FOUR FEET IN HEIGHT;
COMPLIES
3) SAFETY GUARDS SHALL NOT EXCEED 10 FEET IN HEIGHT AND SHALL BE AT LEAST 90 PERCENT TRANSPARENT FOR THE PORTION THAT EXCEEDS FOUR FEET IN HEIGHT. IN ADDITION, WHERE SUCH BALCONY OR TERRACE HAS A ROOFED PORTION ABOVE IT, THERE SHALL BE AN OPENING THAT IS NOT LESS THAN 40 PERCENT OF THE HEIGHT BETWEEN THE BOTTOM OF THE ROOF AND THE FINISHED FLOOR LEVEL OF SUCH BALCONY.
COMPLIES
FOR THE PURPOSES OF SUCH CALCULATION, EXTERIOR BUILDING WALLS ON ADJOINING ZONING LOTS ABUTTING AN OPEN OR ROOFED TERRACE SHALL NOT CONSTITUTE AN ENCLOSURE. A SUN CONTROL DEVICE THAT IS ACCESSIBLE FOR PURPOSES OTHER THAN FOR MAINTENANCE SHALL BE CONSIDERED A BALCONY;

4TH - 7TH FLOOR BALCONIES;
BALCONY A: TOTAL PERIMETER: (11'-6" + 5'-8"+ 11'-6" + 5'-8") = 34.33'
34.33' X 67% = 23'
PROPOSED ENCLOSURE (5'-8" + 11'-6" + 5'-8") = 22.83' < 23'
THEREFORE SHALL NOT BE INCLUDE IN ZONING FLOOR AREA

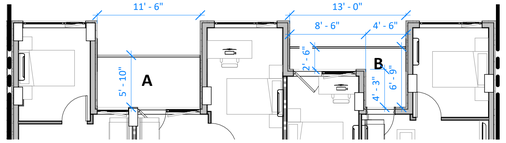
BALCONY B: TOTAL PERIMETER: (13'-0" + 5'-5"+ 13'-0" + 5'-5") = 36.83'
36.83' X 67% = 24.68'
PROPOSED ENCLOSURE (5'-5" + 13'-0" + 5'-5") = 23.83' < 24.68'
THEREFORE SHALL NOT BE INCLUDE IN ZONING FLOOR AREA

8TH - 11TH FLOOR BALCONIES;
BALCONY A: TOTAL PERIMETER: (11'-6" + 5'-10"+ 11'-6" + 5'-10") = 34.67'
34.67' X 67% = 23.23'
PROPOSED ENCLOSURE (5'-10" + 11'-6" + 5'-10") = 23.17' < 23.23'
THEREFORE SHALL NOT BE INCLUDE IN ZONING FLOOR AREA

BALCONY B: TOTAL PERIMETER: (13'-0" + 2'-6"+ 8'-6" + 4'-3" + 6'-9") = 39.5'
39.5' X 67% = 26.5'
PROPOSED ENCLOSURE (2'-6" + 8'-6" + 4'-3" + 6'-9") = 26.5' = 26.5'
THEREFORE SHALL NOT BE INCLUDE IN ZONING FLOOR AREA



1 **4TH - 7TH BALCONIES**
SCALE: 1/8" = 1'-0"



3 **8TH - 11TH BALCONIES**
SCALE: 1/8" = 1'-0"



EIFS - 2 MANUFACTURE DESCRIPTION
BRICK - BLACK MANUFACTURE DESCRIPTION
METAL - A MANUFACTURE DESCRIPTION

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

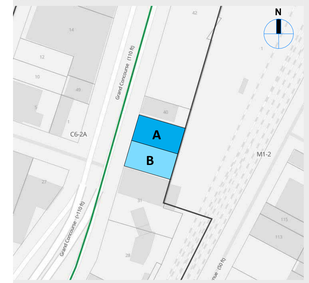
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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
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SITE MAP



LOCATION:
338 GRAND CONCOURSE BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
EAST (REAR) ELEVATION

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

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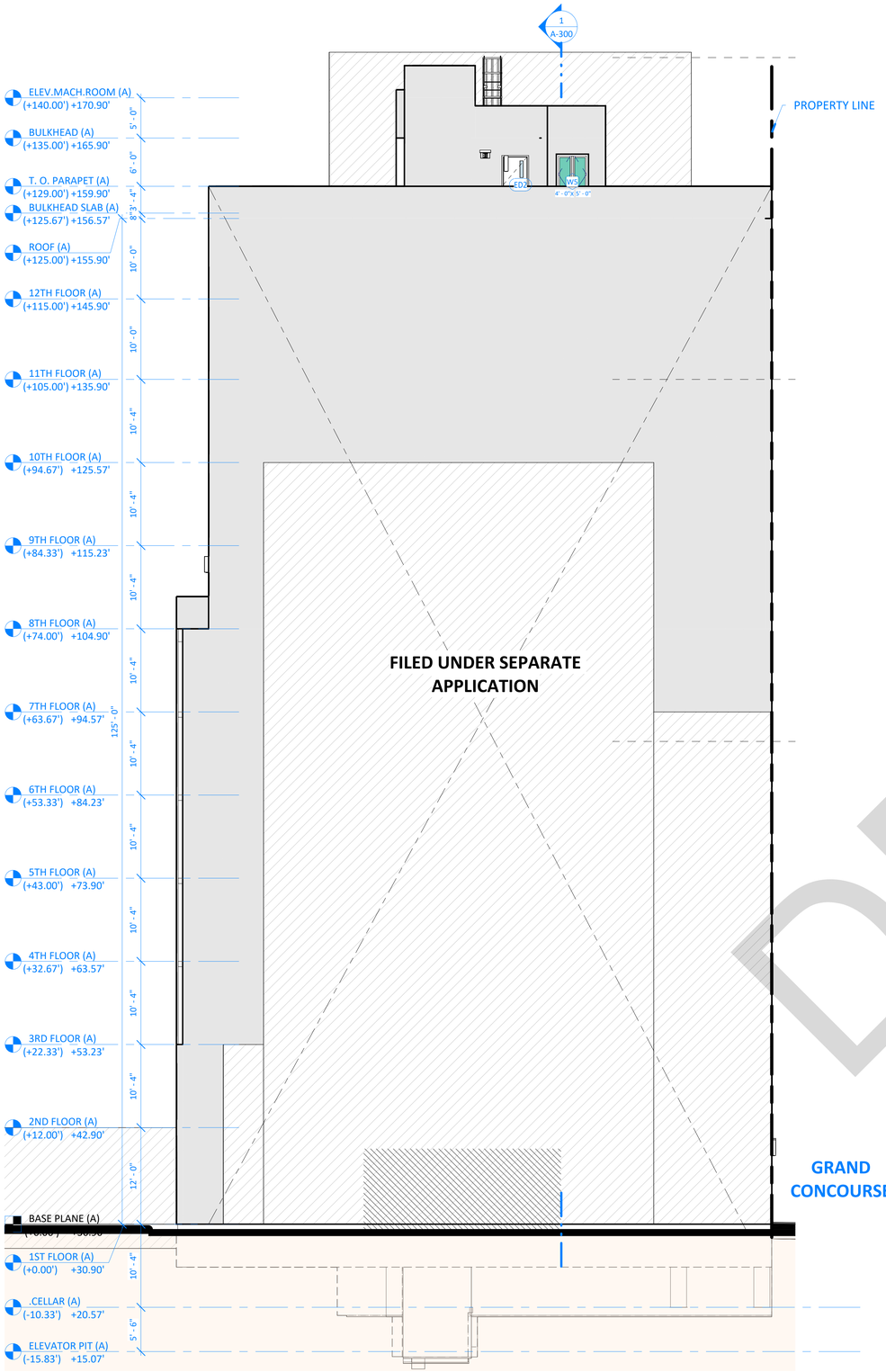
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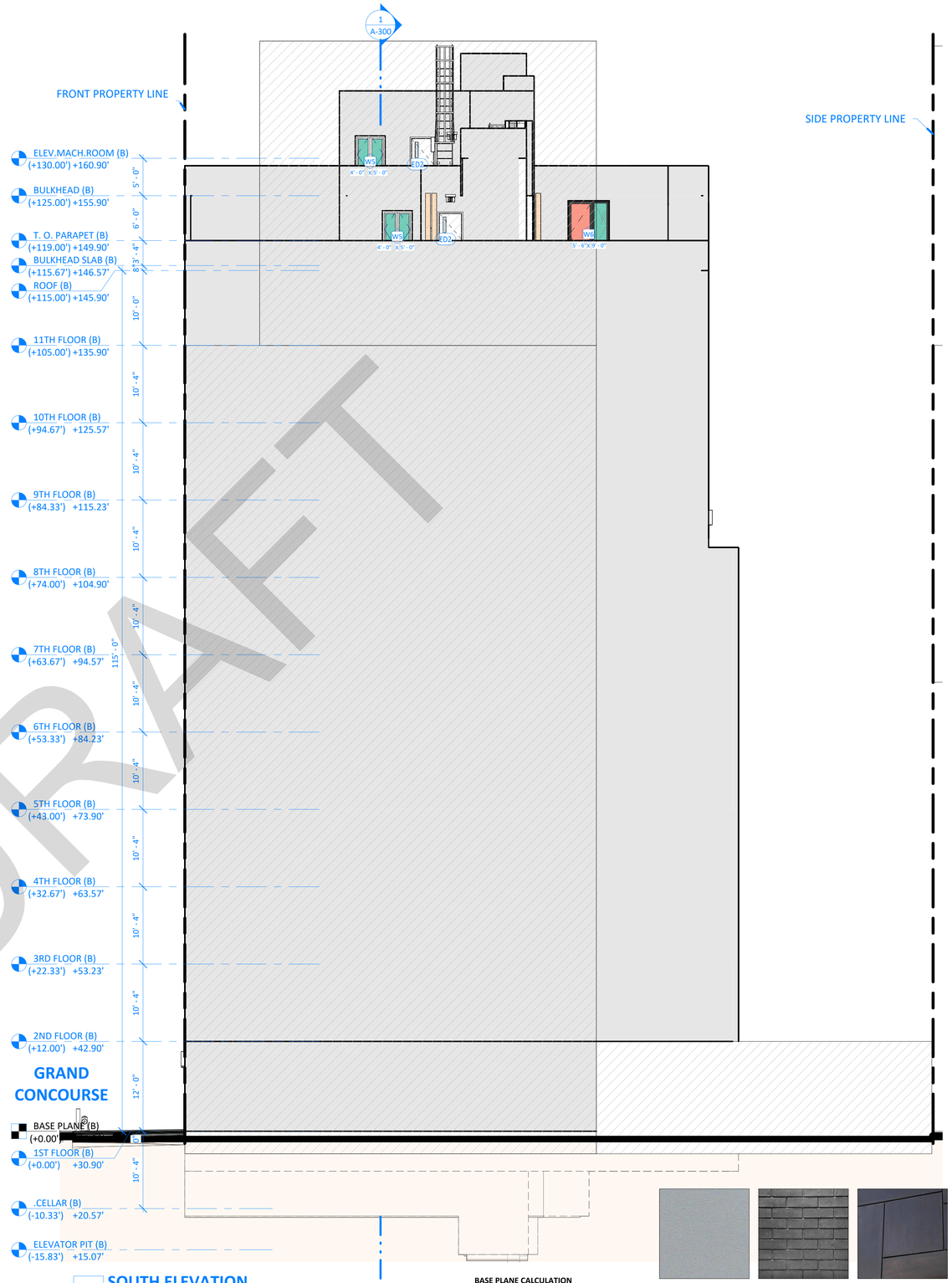
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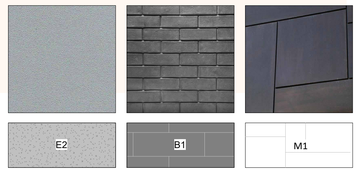


1 **NORTH ELEVATION (BUILDING A)**
SCALE: 1/8" = 1'-0"



2 **SOUTH ELEVATION**
SCALE: 1/8" = 1'-0"

BASE PLANE CALCULATION
31.79 + 30.01 = 61.80 / 2 = 30.90



EIFS - 2
MANUFACTURE
DESCRIPTION

BRICK - BLACK
MANUFACTURE
DESCRIPTION

METAL - A
MANUFACTURE
DESCRIPTION

DRAFT

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31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
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STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
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SITE MAP

LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL
NEW BUILDING (BUILDING B)

DRAWING TITLE:
NORTH & SOUTH ELEVATION

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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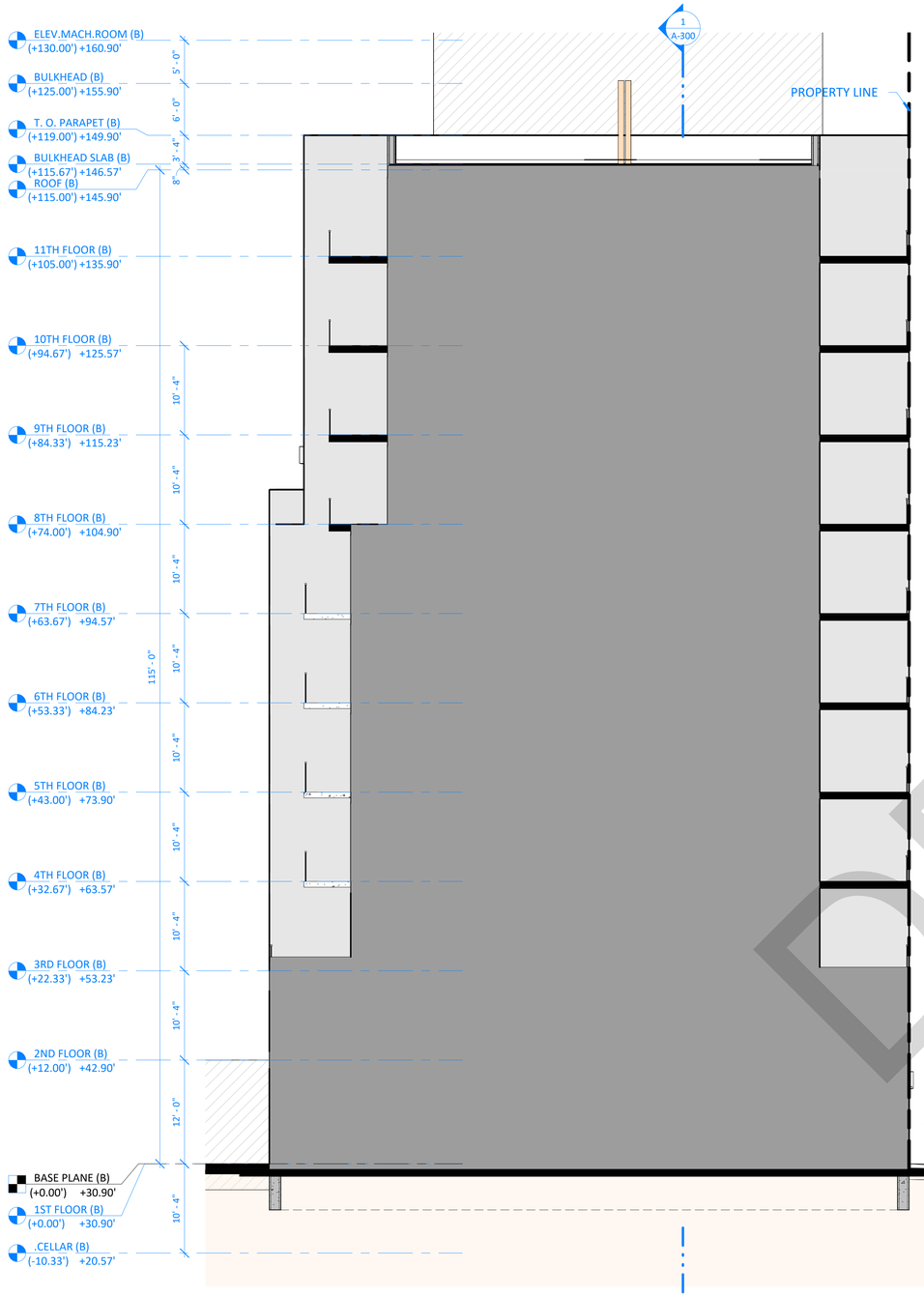
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SHEET: 48 OF 87

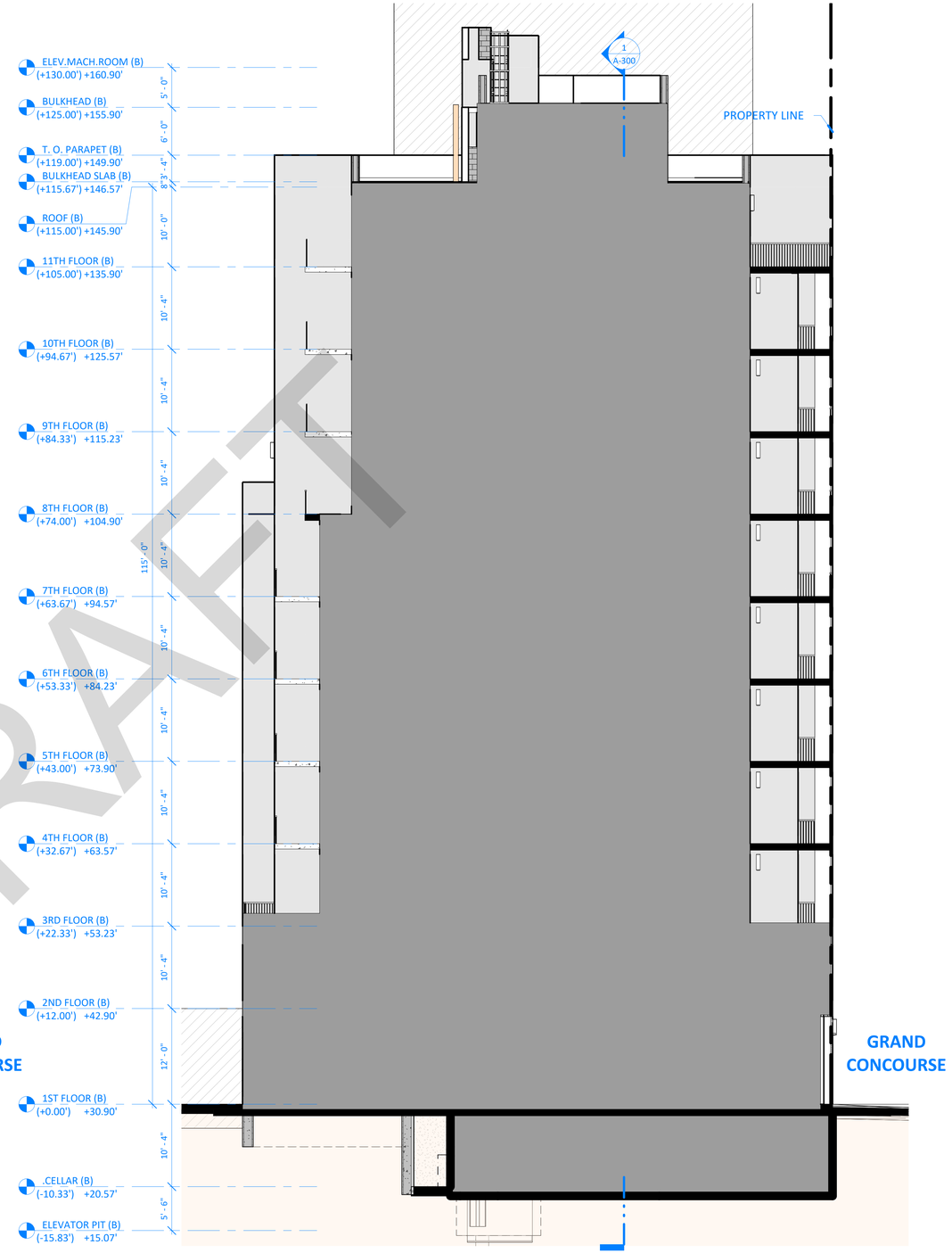
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27.10.2025 15:39:42



2 **NORTH INNER ELEVATION**
SCALE: 1/8" = 1'-0"



1 **NORTH INNER ELEVATION A**
SCALE: 1/8" = 1'-0"



3 **KEY PLAN**
SCALE: 1" = 40'-0"

DRAFT

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BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

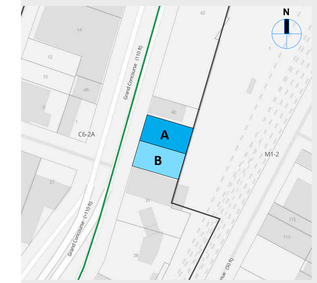
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2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
NORTHEAST INNER ELEVATIONS

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:39:52
SCALE: As indicated
DRAWN BY: XX

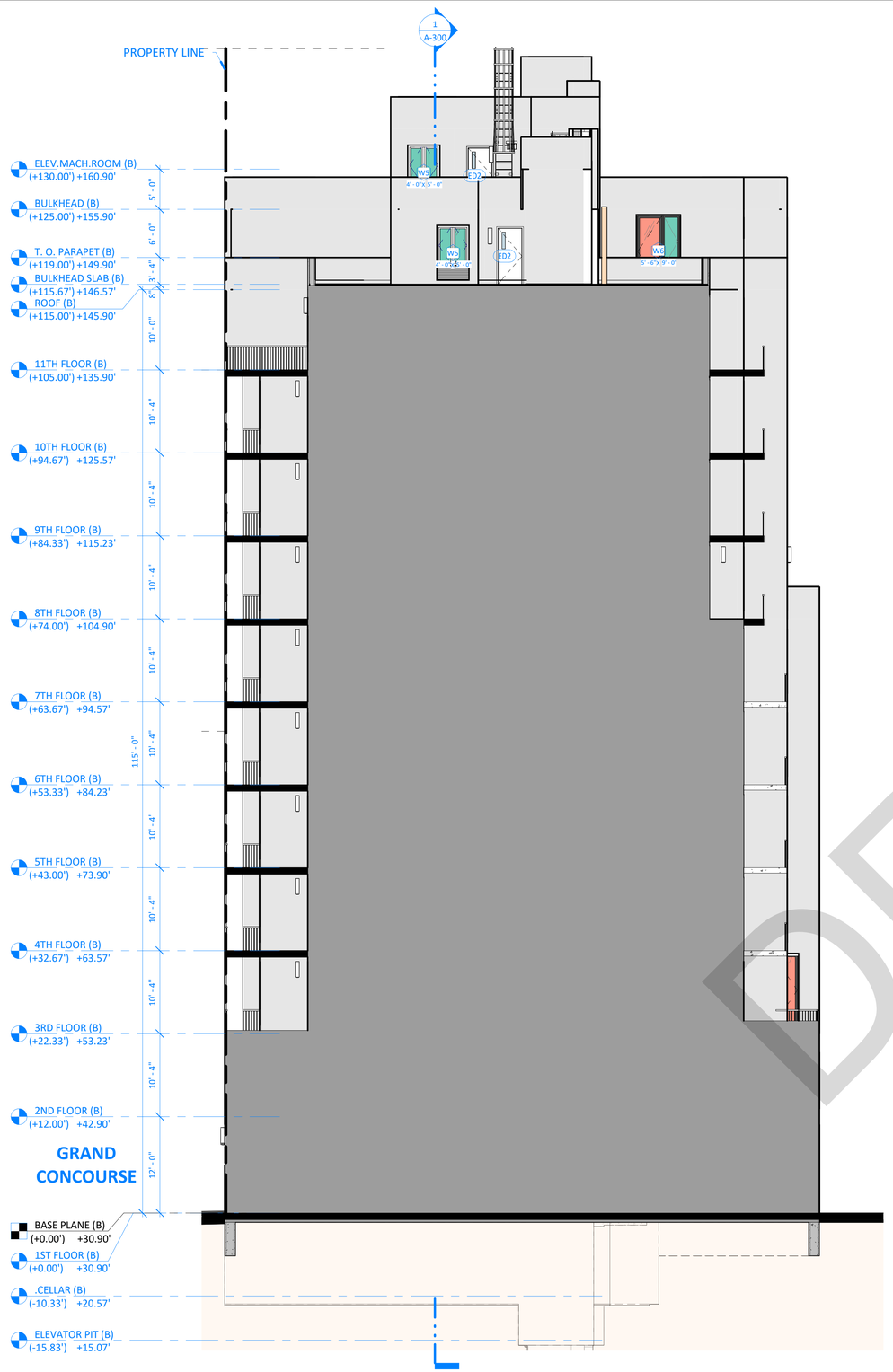
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SHEET: 49 OF 87

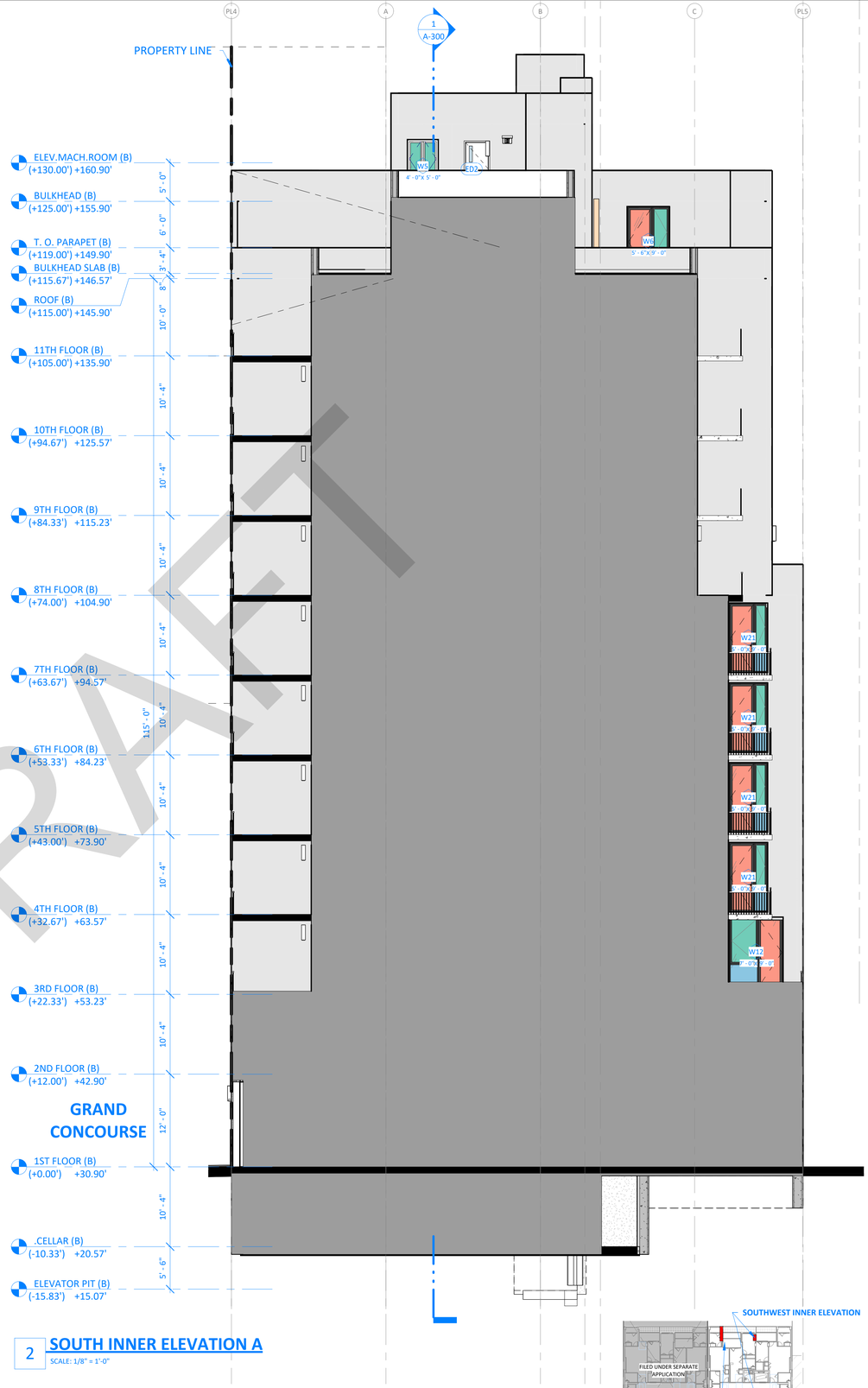
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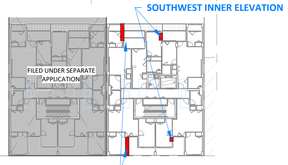
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1 **SOUTH INNER ELEVATION**
SCALE: 1/8" = 1'-0"



2 **SOUTH INNER ELEVATION A**
SCALE: 1/8" = 1'-0"



3 **KEY PLAN**
SCALE: 1" = 40'-0"

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

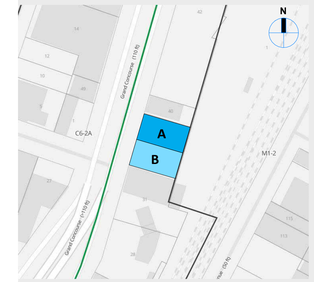
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T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
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NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
SOUTHWEST INNER ELEVATIONS

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:40:11
SCALE: As indicated
DRAWN BY: XX

A-204.00

SHEET: 50 OF 87

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27.10.2025 15:40:11



1 **BLDG 3D VIEW 1**
SCALE:



3 **BLDG 3D VIEW 3**
SCALE:



2 **BLDG 3D VIEW 2**
SCALE:

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BROOKLYN NY, 11205
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1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
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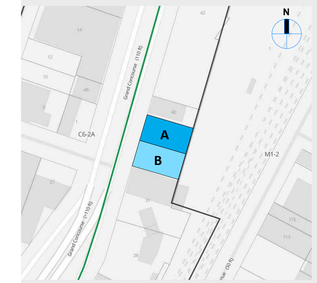
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233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

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NO.	DESCRIPTION	DATE
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✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL
NEW BUILDING (BUILDING B)

DRAWING TITLE:
3D VIEWS

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:40:49
SCALE:
DRAWN BY: XX

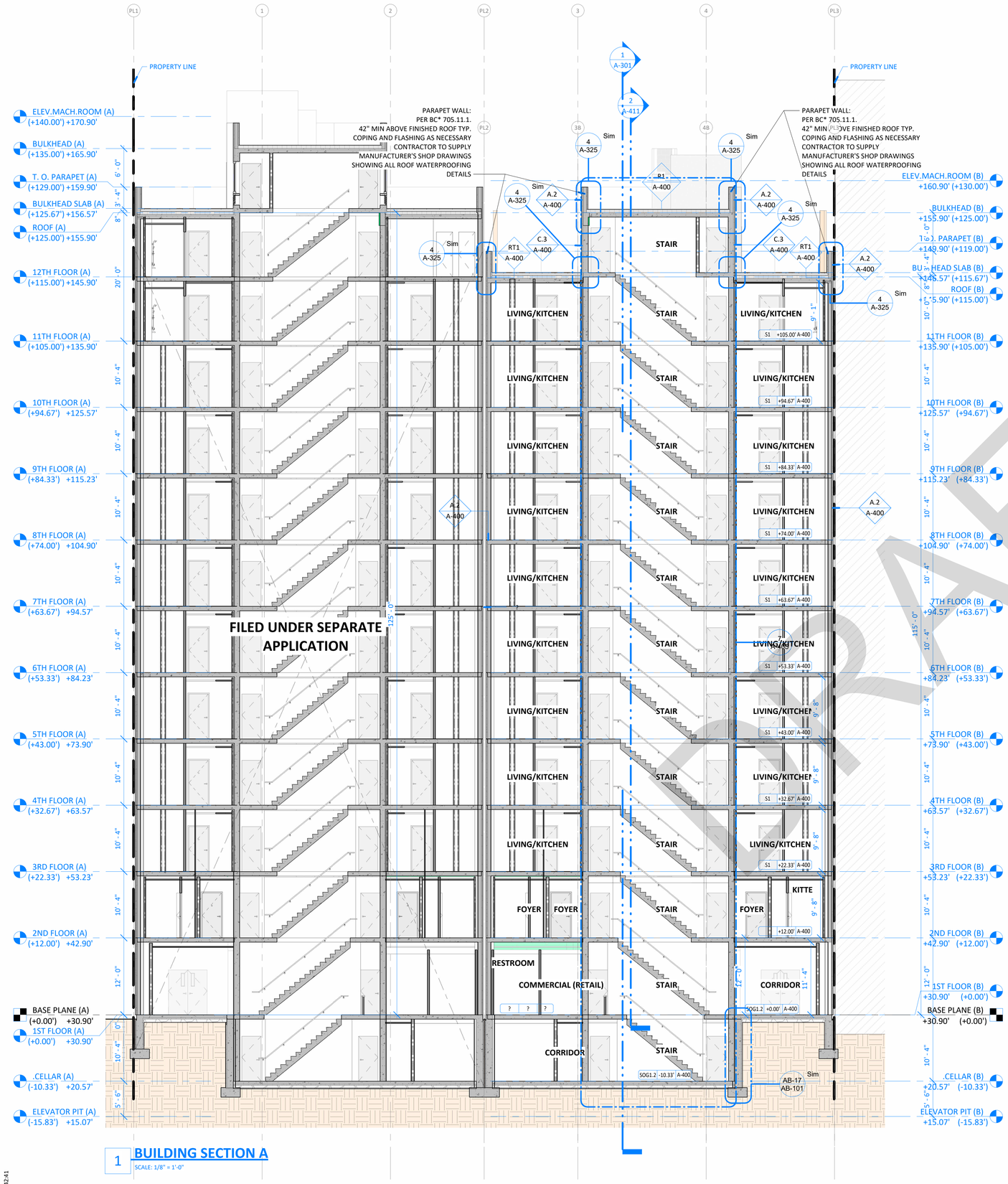
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SHEET: 51 OF 87

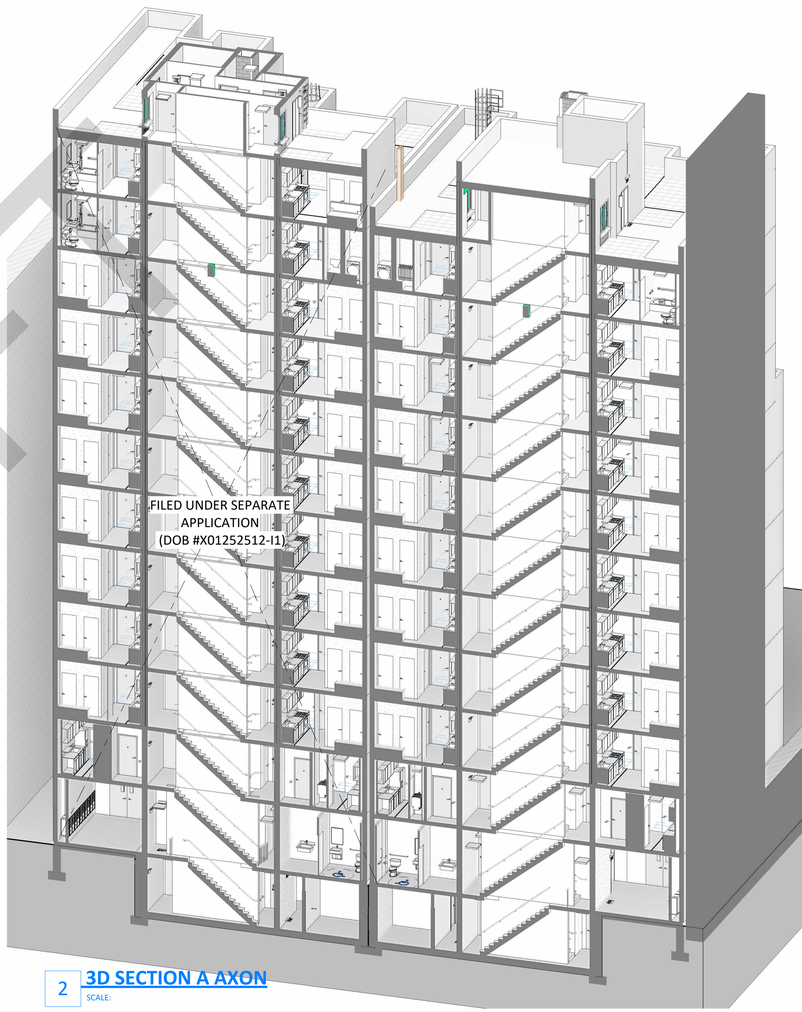
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27.10.2025 15:40:49



1 **BUILDING SECTION A**
SCALE: 1/8" = 1'-0"



2 **3D SECTION A AXON**
SCALE:

NOTE:
REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL DESIGN

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BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

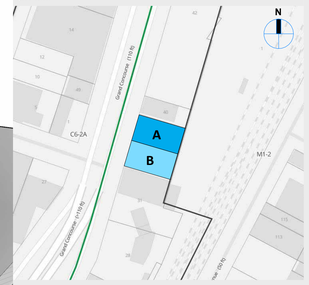
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MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL
NEW BUILDING (BUILDING B)

DRAWING TITLE:
BUILDING SECTIONS

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:42:41
SCALE: 1/8" = 1'-0"
DRAWN BY: XX

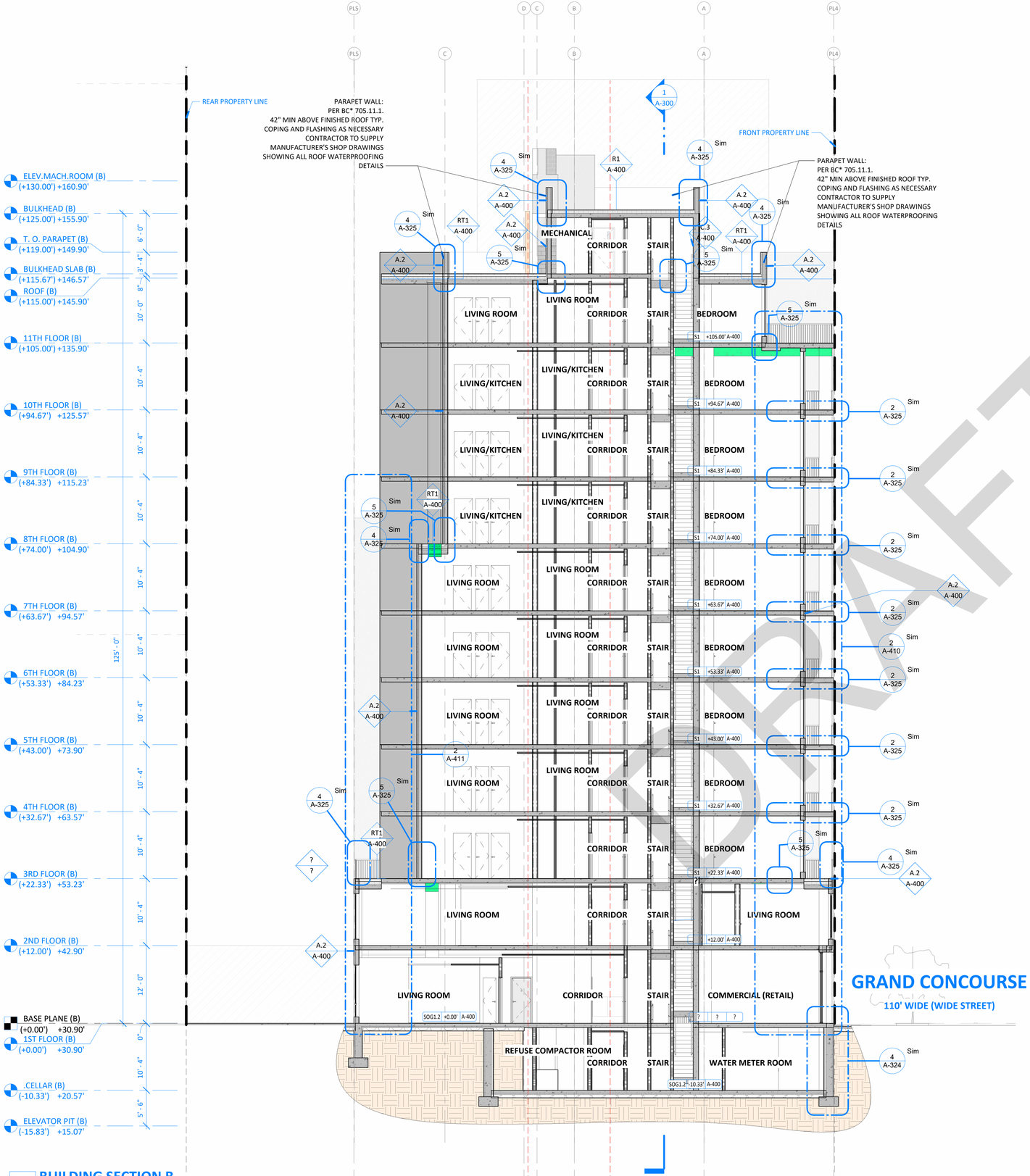
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SHEET: 52 OF 87

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27.10.2025 15:42:41



1 **BUILDING SECTION B**
SCALE: 1/8" = 1'-0"



2 **3D SECTION B**
SCALE:

NOTE:
REFER TO STRUCTURAL DRAWINGS FOR STRUCTURAL DESIGN

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BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

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1822 FULTON STREET, BROOKLYN, NY, 11233
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E: info@elevatedengineeringnyc.com

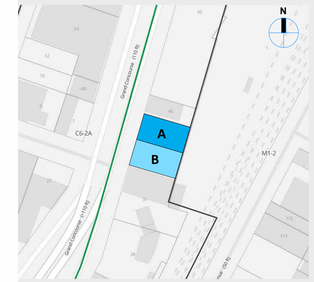
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MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

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E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
BUILDING SECTIONS

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:43:20
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DRAWN BY: XX

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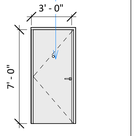
SHEET: 53 OF 87

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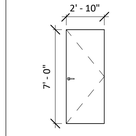
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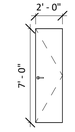
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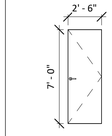
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NOTES	
COUNT	56



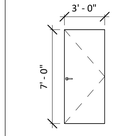
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NOTES	FPSC
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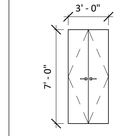
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NOTES	
COUNT	22



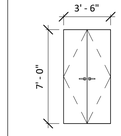
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NOTES	
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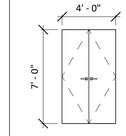
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NOTES	
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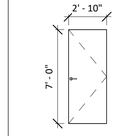
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NOTES	
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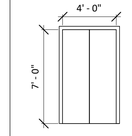
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NOTES	
COUNT	23



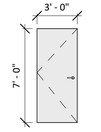
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NOTES	
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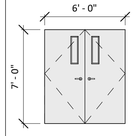
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NOTES	
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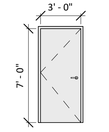
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COUNT	13



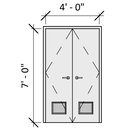
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NOTES	
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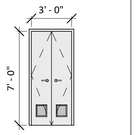
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NOTES	
COUNT	1



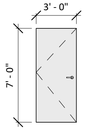
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WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	UNINSULATED METAL DOOR
NOTES	FPSC
COUNT	17



TYPE MARK	F2
WIDTH	4' - 0"
HEIGHT	7' - 0"
DESCRIPTION	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS
NOTES	FPSC
COUNT	3



TYPE MARK	F3
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS
NOTES	FPSC
COUNT	36



TYPE MARK	G1
WIDTH	3' - 0"
HEIGHT	7' - 0"
DESCRIPTION	UNINSULATED METAL DOOR
NOTES	FPSC
COUNT	1

INTERIOR DOOR SCHEDULE

NOTE:
DOORS LEADING TO HAZARDOUS AREAS SHALL HAVE A DETECTABLE WARNING ON OPERATING HARDWARE OR SURFACE IN COMPLIANCE WITH BC* 1109.10

FIRE RATING NOTES

FIRE DOOR ASSEMBLIES SHALL BE LABELED BY AN APPROVED AGENCY. THE LABELS SHALL COMPLY WITH NFPA 80, AND SHALL BE PERMANENTLY AFFIXED TO THE DOOR FRAME

FIRE PROTECTION RATED WIRED GLAZING IN FIRE DOORS LOCATE IN FIRE WALLS SHALL BE PROHIBITED EXCEPT THAT WHEN SERVING IN A FIRE DOOR IN A HORIZONTAL EXIT , A SELF CLOSING SWINGING DOOR SHALL BE PERMITTED TO HAVE A VISION PANEL OF NOT MORE THAT 100 SQUARE INCHES, WITHOUT A DIMENSION EXCEEDING WIDTH 10 INCHES & HEIGHT 33 INCHED

NOTE:
DOORS LEADING TO HAZARDOUS AREAS SHALL HAVE A DETECTABLE WARNING ON OPERATING HARDWARE OR SURFACE IN COMPLIANCE WITH BC* 1109.10

GLAZING NOTES

1. ALL STOREFRONTS TO BE FULLY THERMALLY BROKEN SYSTEMS.
2. SEE SPECIFICATIONS FOR HARDWARE SETS.
3. ALL EXTERIOR STOREFRONT GLASS BELOW 18" A.F.F. TO BE SAFETY GLASS
4. ALL WOOD BLOCKING AT CMU TO BE PRESSURE TREATED.
5. WEATHER STRIPPING SHOULD BE INSTALLED AT ALL EXTERIOR DOORS, APARTMENT ENTRANCE DOORS, STAIRWELL DOORS, AND UNCONDITIONED MECHANICAL ROOMS.
6. HEIGHT OF ALL EXTERIOR DOORS TO BE COORDINATED WITH EXTERIOR SIDEWALK ELEVATIONS. DOOR HEAD HEIGHTS TO BE CONSISTENT AT BUILDING PERIMETER.
7. REFER TO SPECIFICATIONS FOR DOOR HARDWARE.
8. ALL SADDLE & TRANSITION STRIPS TO BE ADA COMPLIANT.
9. DOOR SWEEPS AT EXTERIOR DOORS MUST BE HARD FASTENED AT THE BOTTOM.
10. ALL OPAQUE AND GLAZED EXTERIOR DOORS MUST HAVE PERFORMANCE TESTING RESULTS, INCLUDING U-VALUE AND AIR LEAKAGE.
11. WEATHER STRIPPING AT MANDATORY LOCATIONS SHALL BE INSTALLED WITH RIGID FASTENER AND REPLACEABLE FOAM GASKET SPECIFIED FOR DURABILITY AND LESS MAINTENANCE.
12. WEATHER STRIPPING SHALL BE INSTALLED TO NOT INTERFERE WITH DOOR CLOSING PROPERLY.
13. RATED DOORS MUST LATCH.

SCHEDULE - INTERIOR DOORS

TYPE MARK	DOOR_DESCRIPTION	SIZE WIDTH	SIZE HEIGHT	FIRE RATING	NOTES	QUANTITY
A1	DWELLING UNIT ENTRANCE, W/ PEEPHOLE	3' - 0"	7' - 0"	FPSC 1.5HR		56
B2	SINGLE	2' - 10"	7' - 0"	1.5 HR	FPSC	72
C1	HOLLOW CORE WOOD, SINGLE PANEL CLOSET	2' - 0"	7' - 0"	N/A		22
C2	HOLLOW CORE WOOD, SINGLE PANEL CLOSET	2' - 6"	7' - 0"	N/A		76
C3	HOLLOW CORE WOOD, SINGLE PANEL CLOSET	3' - 0"	7' - 0"	N/A		9
C4	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET	3' - 0"	7' - 0"	N/A		14
C5	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET	3' - 6"	7' - 0"	N/A		23
C6	HOLLOW CORE WOOD, DOUBLE PANEL CLOSET	4' - 0"	7' - 0"	N/A		18
D1	HOLLOW CORE SINGEL PANEL	2' - 10"	7' - 0"	N/A		57
E2	METAL UNINSULATED	3' - 0"	7' - 0"	FPSC 1.5 HR		26
E3	METAL UNINSULATED, DOUBLE PANEL W/VISION PANEL	6' - 0"	7' - 0"	FPSC 1.5 HR		1
ELV1	ELEVATOR DOOR - SLIDING METAL	4' - 0"	7' - 0"			13
F1	UNINSULATED METAL DOOR	3' - 0"	7' - 0"	FPSC 1.5 HR	FPSC	17
F2	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS	4' - 0"	7' - 0"	2HR	FPSC	3
F3	METAL UNINSULATED, DOUBLE PANEL W/VENT GRILLS	3' - 0"	7' - 0"	2HR	FPSC	36
G1	UNINSULATED METAL DOOR	3' - 0"	7' - 0"	FPSC 1.5 HR		1

TOTAL INTERIOR DOORS: 444

SCHEDULE - EXTERIOR DOORS

TYPE MARK	DOOR_DESCRIPTION	SIZE WIDTH	SIZE HEIGHT	FIRE RATING	NOTES	QUANTITY
ED1	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL	3' - 0"	10' - 6"			1
ED2	VISION PANEL DOOR - w/TEMPERED AND WIRED GLASS PANEL	3' - 0"	7' - 0"	1.5 HR	FPSC	2
ED3	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	4' - 0"	10' - 6"	1.5 HR	FPSC	1
ED4	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL	5' - 0"	10' - 6"	1.5 HR	FPSC	1
ED5	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL	3' - 0"	9' - 0"			8

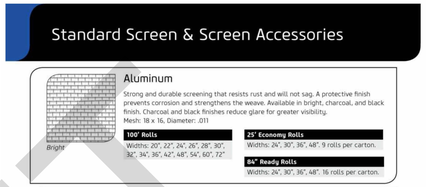
TOTAL EXTERIOR DOORS: 13

PERFORMANCE SPECIFICATIONS

			FIXED		OPERABLE		TERRACE DOOR		FLUSH DOOR		XL PIVOT	
ENERGY			Double	Triple	Double	Triple	Double	Triple	Double	Triple	Double	Triple
Thermal Insulation[1] (Btu/hr·ft²·°F) per NFRC 102	Fixed	Uw	0.22	0.15								
		SHGC	0.16	0.19								
	Open-in	Uw			0.25	0.19	0.22	0.15	0.25	0.20	0.37	0.31
		SHGC			0.15	0.16	0.17	0.16	0.15	0.16	0.18	0.18
	Open-out	Uw			0.29	0.24	0.26	0.20	0.25	0.20	0.37	0.31
		SHGC			0.11	0.10	0.15	0.16	0.17	0.16	0.18	0.18
COMFORT												
Acoustic performance[2] ASTM E90-09/1332	STC		50		49		43		43		-	
	OITC		44		43		35		35		-	
Air tightness, max. test pressure[3] (cfm/ft²)			0.04		0.04		0.04		-		0.14	
Water tightness[4] (psf)			15		15		20		-		2.92	
AAMA Rating AAMA/WDMA/CSA 101/I.S.2/A440, NAFS			AW PG100		AW PG100		AW PG60		-		R PG25	

This table shows classes and values of performances, which can be achieved for specific configurations and opening types.
(1) All results based on gateway sizes; vary depending on glass/profile combinations | Above Uw & SHGC values do not necessarily work in combination.
(2) Uw is the measure of heat transfer through the fenestration product with glass. The lower the Uw, the better the thermal insulation of the element.
(3) The sound reduction index measures the capacity of the sound reduction performance of the frame and glass.
(4) The air tightness test measures the volume of air that would pass through a closed window at a certain air pressure.
(5) Water tightness testing applies a specified air pressure differential while simultaneously spraying water on to the ext. face of the assembly at the rate of 5 gal/hr/ft².

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www.reynaers.us • info@reynaers.us
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21430 N 15th Lane, Suite 100 | Phoenix, AZ 85027 | USA



	Ease of Installation	Airflow	Curb Appeal	Privacy	Durability	Pet & Tear Resistant	Pool Enclosures	Large Openings	Sun Control	Insect Protection
Clear Advantage™	✓✓✓	✓✓✓	✓✓✓	✖	✓✓✓	✖	✖	✓	✖	✓✓✓
Extra Strength	✓✓✓	✓✓✓	✓✓	✖	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✖	✓✓
Pet Resistant	✓✓✓	✓✓✓	✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓	✓✓
Pollen Guard	✓✓✓✓	✓✓✓	✓✓	✓	✓✓✓	✖	✓✓	✓✓	✖	✓✓✓✓
Pool & Patio	✓✓✓	✓✓✓	✓✓	✖	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓	✓✓
Porch & Patio	✓✓✓	✓✓✓	✓✓	✖	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓	✓✓
Small Insect	✓✓✓	✓✓✓	✓✓	✓✓	✓✓✓✓	✖	✓✓✓✓	✓✓✓	✓✓	✓✓✓✓
Sun Guard	✓✓✓	✓✓✓	✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓	40 x 80 ✓✓✓ 64 x 38 ✓✓	40 x 80 ✓✓✓✓ 64 x 38 ✓✓✓	40 x 80 ✓✓✓✓ 64 x 38 ✓✓✓
Doorway Alert	✓✓✓	✓✓✓	✓	✓	✓✓✓	✓✓	✖	✓✓✓	✖	✓✓✓
Standard Fiberglass	✓✓✓	✓✓✓	✓✓	Charcoal ✖ Gray ✓✓	✓✓✓	✓✓	✓✓	✓✓✓	✖	✓✓✓
Aluminum	✓	✓✓✓	✓	Black ✖ Bronze ✓✓ Charcoal ✖	✓✓✓✓	✓✓✓✓	✖	✓✓✓	✖	✓✓✓

BIRD FRIENDLY MATERIALS
BIRD HAZARD INSTALLATIONS, AND FLY-THROUGH CONDITIONS SHALL BE CONSTRUCTED OF BIRD FRIENDLY MATERIALS AS DEFINED IN BC 1402.1

TYPICAL BIRD HAZARD INSTALLATIONS:
- INSECT SCREENS SHALL BE INSTALLED AT ALL DWELLING UNIT EXTERIOR OPERABLE WINDOWS AND DOOR **OPENINGS**.
- THREAT FACTOR: 1 (ANY TYPE)

- UNSCREENED AREAS OF GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS TO BE PROVIDED WITH
- MAXIMUM THREAT FACTOR: 25

BC* 1403.8: ALL EXTERIOR MATERIALS AND GLAZING HAVE BEEN EVALUATED FOR COMPLIANCE WITH BC 1403.8. WHERE EXTERIOR WALL ENVELOPE, BIRD HAZARD INSTALLATIONS, FLY-THROUGH CONDITIONS, OR ADJACENCIES TO GREEN ROOFS ARE PRESENT IN THE DESIGN, BIRD FRIENDLY MATERIALS WITH A THREAT FACTOR RATING OF 25 OR LESS HAVE BEEN SPECIFIED AS INDICATED IN THE MATERIAL LOCATION THREAT FACTOR TABLE WITH AN APPROVED MATERIAL/ASSEMBLY.

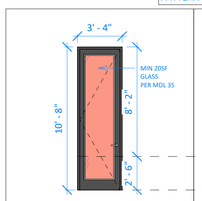
BC* 1402.1:
FLY-THROUGH CONDITIONS: ONE OR MORE PANELS OF GLASS THAT PROVIDE A CLEAR LINE OF SIGHT THROUGH SUCH ELEMENTS CREATING THE ILLUSION OF A VOID LEADING TO THE OTHER SIDE, INCLUDING PARALLEL GLASS ELEMENTS, AT A DISTANCE OF 17'-0" OR LESS, OR A CONVERGENCE OF GLASS SIDES CREATING A PERPENDICULAR, ACUTE OR OBTUSE CORNER.

BIRD HAZARD INSTALLATIONS: MONOLITHIC GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS, INCLUDING, BUT NOT LIMITED TO, GLASS AWNINGS, GLASS HANDRAILS AND GUARDS, GLASS WIND BREAK PANELS, OR GLASS ACOUSTIC BARRIERS.

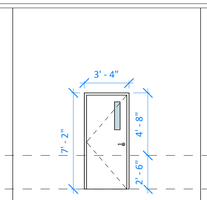
BIRD FRIENDLY MATERIAL: A MATERIAL OR ASSEMBLY THAT HAS, OR HAS BEEN TREATED TO HAVE A MAXIMUM THREAT FACTOR OF 25 IN ACCORDANCE WITH THE AMERICAN BIRD CONSERVANCY BIRD COLLISION DETERRENCE MATERIAL THREAT FACTOR REFERENCE STANDARD, OR WITH THE AMERICAN BIRD CONSERVANCY BIRD-FRIENDLY MATERIALS EVALUATION PROGRAM AT CARNEGIE MUSEUM'S AVIAN RESEARCH CENTER TEST PROTOCOL, OR WITH A RELEVANT ASTM STANDARD.

BIRD FRIENDLY MATERIALS

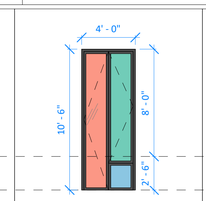
MATERIAL/ASSEMBLY	LOCATION	THREAT FACTOR
3/4" LAMINATED GLASS WITH UV PATTERN	ALL WIND SCREENS	25
1/2" LAMINATED GLASS	BALUSTRADES	20
INSULATING GLASS WITH UV PATTERN	GLASS BELOW 75' UNLESS OTHERWISE NOTED.	20
INSULATING GLASS UNIT WITH CUSTOM FRIT PATTERN COVERING 90% OF THE UNIT	GROUND FLOOR STOREFRONT/WINDOW CURTAIN WALL	25



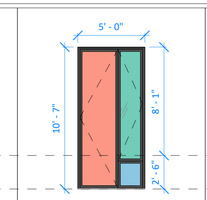
TYPE MARK	ED1
WIDTH	3' - 0"
HEIGHT	10' - 6"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.77 / 0.27
LIGHT AREA	25 SF
VENT AREA	32 SF
DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL
OITC	35
NOTES	?
COUNT	1



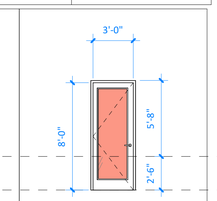
TYPE MARK	ED2
WIDTH	3' - 0"
HEIGHT	7' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	N/A
U FACTOR / SHGC	0.31 / N/A
LIGHT AREA	25 SF
VENT AREA	32 SF
DESCRIPTION	VISION PANEL DOOR - w/TEMPERED AND WIRED GLASS PANEL
OITC	35
NOTES	FPSC
COUNT	2



TYPE MARK	ED3
WIDTH	4' - 0"
HEIGHT	10' - 6"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.77 / 0.27
LIGHT AREA	38 SF
VENT AREA	37 SF
DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL
OITC	38 I 36 I 35
NOTES	FPSC
COUNT	1



TYPE MARK	ED4
WIDTH	5' - 0"
HEIGHT	10' - 6"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.77 / 0.27
LIGHT AREA	38 SF
VENT AREA	46 SF
DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR WITH STOREFRONT w/TEMPERED GLASS PANEL
OITC	38 I 36 I 35
NOTES	FPSC
COUNT	1



TYPE MARK	ED5
WIDTH	3' - 0"
HEIGHT	8' - 0"
SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51
U FACTOR / SHGC	0.77 / 0.27
LIGHT AREA	19 SF
VENT AREA	24 SF
DESCRIPTION	ENTRANCE DOOR - SINGLE DOOR w/TEMPERED GLASS PANEL
OITC	35
NOTES	?
COUNT	8

EXTERIOR DOOR SCHEDULE

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

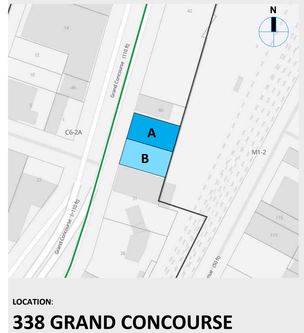
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
DOOR SCHEDULE

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:43:29
SCALE: As indicated
DRAWN BY: XX

A-600.00

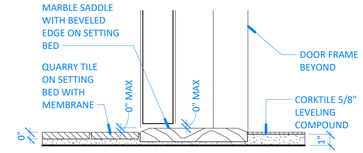
SHEET: 78 OF 87

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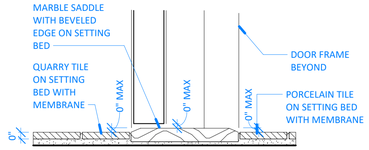
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27.10.2025 15:43:29



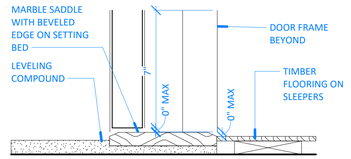
S20 SADDLE TYPE CORK TILE TO QUARRY TILE

SCALE: 3" = 1' - 0"



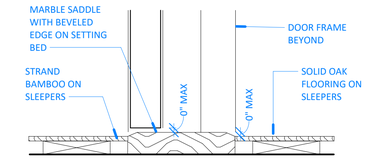
S19 SADDLE TYPE PORCELAIN TILE TO QUARRY TILE

SCALE: 3" = 1' - 0"



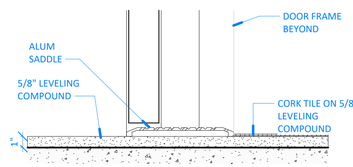
S18 SADDLE TYPE SELF LEVELING COMPOUND TO TIMBER

SCALE: 3" = 1' - 0"



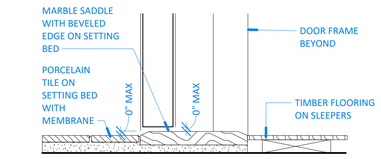
S17 SADDLE TYPE STRAND BAMBOO TO STRAND BAMBOO

SCALE: 3" = 1' - 0"



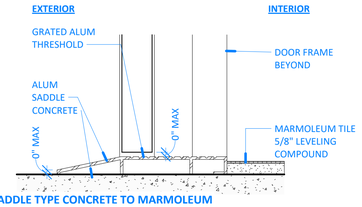
S16 SADDLE TYPE CONCRETE TO CORK

SCALE: 3" = 1' - 0"



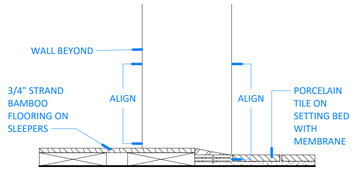
S15 SADDLE TYPE PORCELAIN TILE TO TIMBER

SCALE: 3" = 1' - 0"



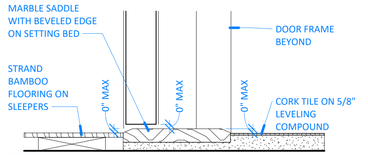
S14 SADDLE TYPE CONCRETE TO MARMOLEUM

SCALE: 3" = 1' - 0"



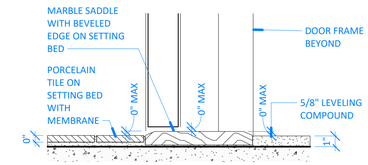
S13 SADDLE TYPE WOOD FLOORING TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



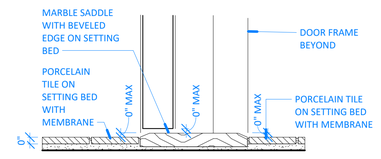
S12 SADDLE TYPE STRAND BAMBOO TO CORK TILE

SCALE: 3" = 1' - 0"



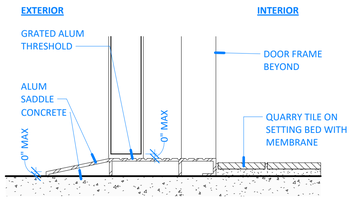
S11 SADDLE TYPE SELF LEVELING COMPOUND TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



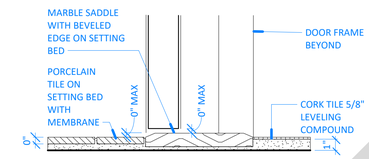
S10 SADDLE TYPE PORCELAIN TILE TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



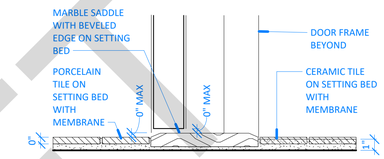
S9 SADDLE TYPE CONCRETE TO QUARRY TILE

SCALE: 3" = 1' - 0"



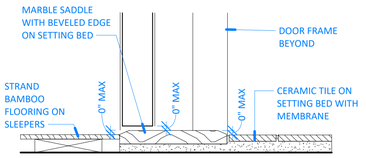
S8 SADDLE TYPE CORK TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



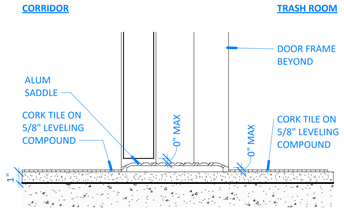
S7 SADDLE TYPE PORCELAIN TILE TO CERAMIC TILE

SCALE: 3" = 1' - 0"



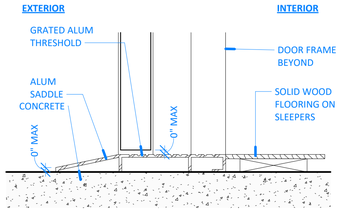
S6 SADDLE TYPE STRAND BAMBOO TO CERAMIC TILE

SCALE: 3" = 1' - 0"



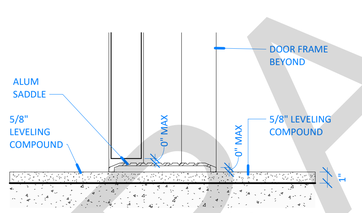
S5 SADDLE TYPE CORK TO CORK

SCALE: 3" = 1' - 0"



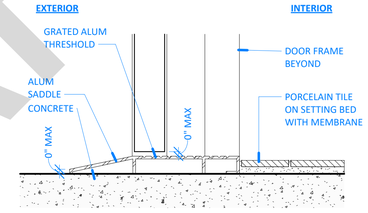
S4 SADDLE TYPE CONCRETE TO WOOD FLOORING

SCALE: 3" = 1' - 0"



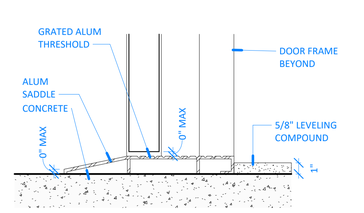
S3 SADDLE TYPE CONCRETE TO CONCRETE

SCALE: 3" = 1' - 0"



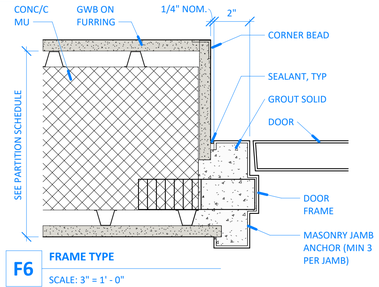
S2 SADDLE TYPE CONCRETE TO PORCELAIN TILE

SCALE: 3" = 1' - 0"



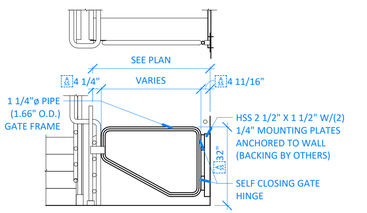
S1 SADDLE TYPE CONCRETE TO CONCRETE

SCALE: 3" = 1' - 0"



F6 FRAME TYPE

SCALE: 3" = 1' - 0"



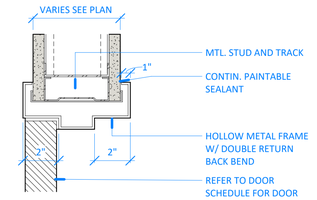
NOTE: GATE MATERIAL TO BE 1 1/2"ø (1.66" O.D.) PIPE

BC* 1023.8 DISCHARGE IDENTIFICATION: AN APPROVED BARRIER SHALL CONSIST OF PARTITIONS, DOORS, OR GATES SEPARATING THE PORTION OF THE VERTICAL EXIT ABOVE GRADE FROM THE PORTION BELOW GRADE. WHERE DOORS OR GATES ARE PROVIDED AS APPROVED BARRIERS, SUCH DOORS OR GATES SHALL BE SELF-CLOSING AND OPENING IN THE DIRECTION OF EXIT TRAVEL FROM THE FLOORS BELOW GRADE.

PACIFIC STAIR CORPORATION
8690 STAIR WAY NE SALEM, OR 97305
WWW.PACIFICSTAIR.COM I 503.390.8305

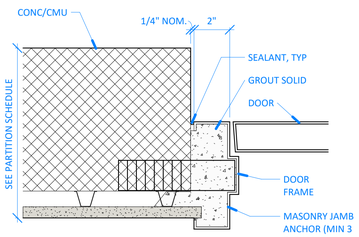
E3 - SINGLE SWING GATE

SCALE: 3" = 1'-0"



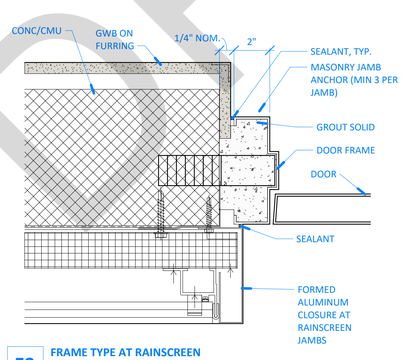
F10 FRAME TYPE AT GYPSUM WALL ASSEMBLY

SCALE: 3" = 1' - 0"



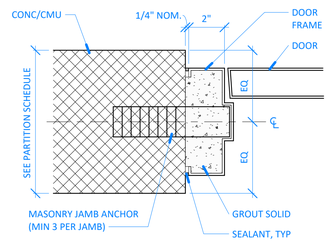
F5 FRAME TYPE

SCALE: 3" = 1' - 0"



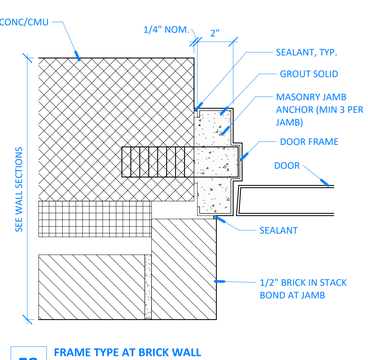
F9 FRAME TYPE AT RAINSCREEN

SCALE: 3" = 1' - 0"



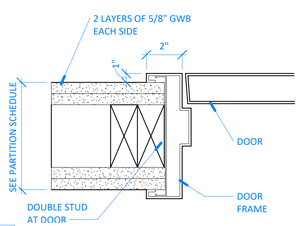
F4 FRAME TYPE

SCALE: 3" = 1' - 0"



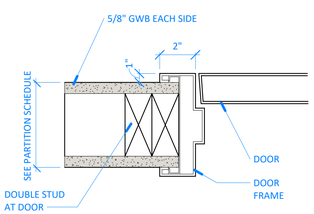
F8 FRAME TYPE AT BRICK WALL

SCALE: 3" = 1' - 0"



F3 FRAME TYPE

SCALE: 3" = 1' - 0"



F2 FRAME TYPE

SCALE: 3" = 1' - 0"

DRAFT

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

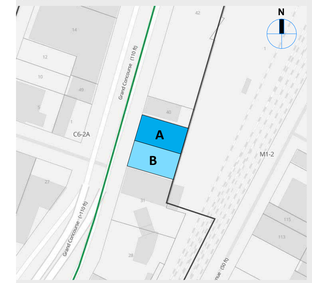
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

NO.	DESCRIPTION	DATE
0	DOB FILING	08/15/2025
✓	50% CONSTRUCTION DRAWINGS DOB SET	08/15/2025
	75% CONSTRUCTION DRAWINGS BID SET	XX/XX/202X
	100% CONSTRUCTION DRAWINGS	XX/XX/202X

SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

DOOR DETAILS

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

SEAL AND SIGNATURE

DATE: 27.10.2025 15:43:33
SCALE: 3" = 1'-0"
DRAWN BY: XX

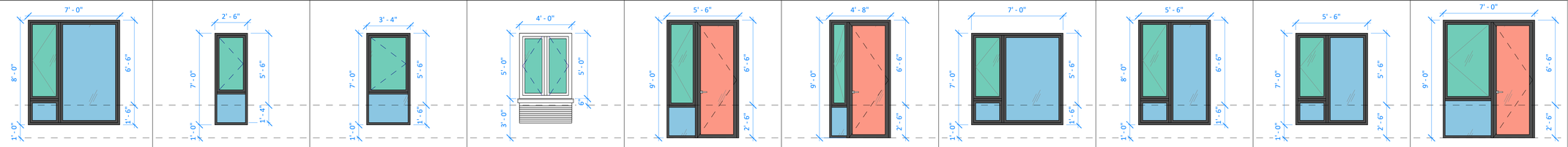
A-601.00

SHEET: 79 OF 87

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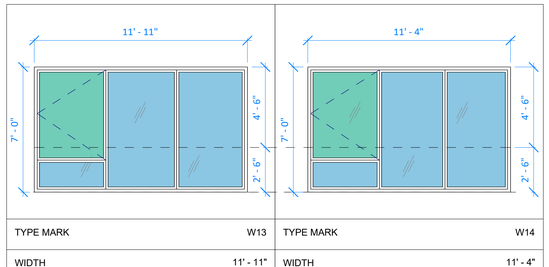
WARNING: IT IS A VIOLATION OF THE NYS EDUCATION LAW ARTICLE 59.5 FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A LICENSED ARCHITECT, TO ALTER AN ITEM IN ANY WAY.

27.10.2025 15:43:33

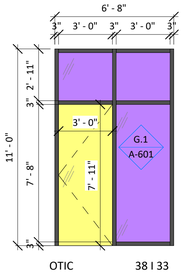


TYPE MARK	W1	TYPE MARK	W2	TYPE MARK	W3	TYPE MARK	W5	TYPE MARK	W6	TYPE MARK	W7
WIDTH	7' - 0"	WIDTH	2' - 6"	WIDTH	3' - 4"	WIDTH	4' - 0"	WIDTH	5' - 6"	WIDTH	4' - 8"
HEIGHT	8' - 0"	HEIGHT	7' - 0"	HEIGHT	7' - 0"	HEIGHT	5' - 0"	HEIGHT	9' - 0"	HEIGHT	9' - 0"
SILL HEIGHT	1' - 0"	SILL HEIGHT	1' - 0"	SILL HEIGHT	1' - 0"	SILL HEIGHT	3' - 0"	SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	0.25 / 0.15	U FACTOR / SHGC	OPERABLE 0.25/0.15 | 0.22/0.160 | TERRACE DOORS 0.26/0.15 FIXED	U FACTOR / SHGC	OPERABLE 0.25/0.15 | 0.22/0.160 | TERRACE DOORS 0.26/0.15 FIXED
LIGHT AREA	44 SF	LIGHT AREA	20 SF	LIGHT AREA	16 SF	LIGHT AREA	16 SF	LIGHT AREA	33 SF	LIGHT AREA	27 SF
VENT AREA	13 SF	VENT AREA	17 SF	VENT AREA	13 SF	VENT AREA	16 SF	VENT AREA	40 SF	VENT AREA	34 SF
DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF
OITC	38 | 36	OITC	38 | 36	OITC	38 | 36	OITC	38	OITC	38 | 36 | 35	OITC	38 | 36 | 35
COMMENTS		COMMENTS		COMMENTS		COMMENTS	2PANELS	COMMENTS		COMMENTS	
MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS
COUNT	65	COUNT	9	COUNT	4	COUNT	2	COUNT	18	COUNT	1

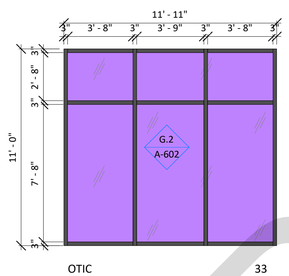
TYPE MARK	W8	TYPE MARK	W10	TYPE MARK	W11	TYPE MARK	W12				
WIDTH	7' - 0"	WIDTH	5' - 6"	WIDTH	5' - 6"	WIDTH	7' - 0"				
HEIGHT	7' - 0"	HEIGHT	8' - 0"	HEIGHT	7' - 0"	HEIGHT	9' - 0"				
SILL HEIGHT	1' - 0"	SILL HEIGHT	1' - 0"	SILL HEIGHT	1' - 0"	SILL HEIGHT	0' - 0"				
AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF				
V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51	V.L.T.	0.51				
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	OPERABLE 0.25/0.15 | 0.22/0.160 | TERRACE DOORS 0.26/0.15 FIXED				
LIGHT AREA	34 SF	LIGHT AREA	33 SF	LIGHT AREA	28 SF	LIGHT AREA	48 SF				
VENT AREA	10 SF	VENT AREA	13 SF	VENT AREA	10 SF	VENT AREA	40 SF				
DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF				
OITC	38 | 36	OITC	38 | 36	OITC	38 | 36	OITC	38 | 36 | 35				
COMMENTS		COMMENTS		COMMENTS		COMMENTS					
MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS				
COUNT	1	COUNT	1	COUNT	3	COUNT	18				



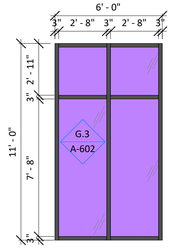
TYPE MARK	W13	TYPE MARK	W14
WIDTH	11' - 11"	WIDTH	11' - 4"
HEIGHT	7' - 0"	HEIGHT	7' - 0"
SILL HEIGHT	0' - 0"	SILL HEIGHT	0' - 0"
AIR LEAKAGE	0.10 CFM/SF	AIR LEAKAGE	0.10 CFM/SF
V.L.T.	0.51	V.L.T.	0.51
U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED	U FACTOR / SHGC	0.25/0.15 | 0.22/0.16 OPERABLE FIXED
LIGHT AREA	59 SF	LIGHT AREA	56 SF
VENT AREA	19 SF	VENT AREA	19 SF
DESCRIPTION	0.10 CFM/SF	DESCRIPTION	0.10 CFM/SF
OITC	38 | 36	OITC	38 | 36
COMMENTS		COMMENTS	
MANUFACTURER	REYNAERS	MANUFACTURER	REYNAERS
COUNT	1	COUNT	3



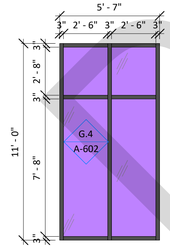
1 G.1 B (L.D.) - STOREFRONT
SCALE: 1/4" = 1'-0"



2 G.2 - STOREFRONT
SCALE: 1/4" = 1'-0"



3 G.3 - STOREFRONT
SCALE: 1/4" = 1'-0"



4 G.4 - STOREFRONT
SCALE: 1/4" = 1'-0"

SCHEDULE - STOREFRONT			
Type Mark	Length	Unconnected Height	Count
G.1	6' - 8"	11' - 0"	1
G.2	11' - 11"	11' - 0"	2
G.3	6' - 0"	11' - 0"	1
G.4	5' - 7"	11' - 0"	1

SCHEDULE - WINDOWS

TYPE MARK	SIZE WIDTH	SIZE HEIGHT	MANUFACTURER	U FACTOR / SHGC	AIR LEAKAGE	QUANTITY	.LIGHT AREA	.VENT AREA	V.L.T.
W1	7' - 0"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	65	44 SF	13 SF	0.51
W2	3' - 6"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	9	20 SF	17 SF	0.51
W3	2' - 6"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	4	16 SF	13 SF	0.51
W5	4' - 0"	5' - 0"	REYNAERS	0.25 / 0.15	0.10 CFM/SF	2	16 SF	16 SF	0.51
W6	5' - 6"	9' - 0"	REYNAERS	0.25/0.15 | 0.22/0.160 | 0.26/0.15	0.10 CFM/SF	18	33 SF	40 SF	0.51
W7	4' - 8"	9' - 0"	REYNAERS	0.25/0.15 | 0.22/0.160 | 0.26/0.15	0.10 CFM/SF	1	27 SF	34 SF	0.51
W8	7' - 0"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	34 SF	10 SF	0.51
W10	5' - 6"	8' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	33 SF	13 SF	0.51
W11	5' - 6"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	3	28 SF	10 SF	0.51
W12	7' - 0"	9' - 0"	REYNAERS	0.25/0.15 | 0.22/0.160 | 0.26/0.15	0.10 CFM/SF	18	40 SF	48 SF	0.51
W13	11' - 11"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	1	59 SF	19 SF	0.51
W14	11' - 4"	7' - 0"	REYNAERS	0.25/0.15 | 0.22/0.16	0.10 CFM/SF	3	56 SF	19 SF	0.51

TOTAL WINDOWS: 126

Standard Screen & Screen Accessories

Aluminum

Strong and durable screening that resists rust and will not sag. A protective finish prevents corrosion and strengthens the weave. Available in bright, charcoal, and black finish. Charcoal and black finishes reduce glare for greater visibility. Mesh: 18 x 16, Diameter: .011

Bright

100' Rolls
Widths: 20", 22", 24", 26", 28", 30", 32", 34", 36", 42", 48", 54", 60", 72"

25' Economy Rolls
Widths: 24", 30", 36", 48". 9 rolls per carton.

84" Ready Rolls
Widths: 24", 30", 36", 48". 16 rolls per carton.

Fiberglass

Flexible, economical and easy to install screening. Will not crease, dent, or unravel. The most commonly used screening for new construction. Available in gray and charcoal color. Mesh: 18 x 16, Diameter: .011

Charcoal

100' Rolls
Widths: 20", 22", 24", 26", 28", 30", 32", 34", 36", 42", 48", 54", 60", 72", 84"

25' Economy Rolls
Widths: 24", 30", 36", 48". 9 rolls per carton.

84" Ready Rolls
Widths: 24", 30", 36", 48". 16 rolls per carton.

	Ease of Installation	Airflow	Curb Appeal	Privacy	Durability	Pet & Tear Resistant	Pool Enclosures	Large Openings	Sun Control	Insect Protection
Clear Advantage™	✓✓✓	✓✓✓	✓✓✓	✖	✓✓✓	✖	✖	✓	✖	✓✓✓
Extra Strength	✓✓✓	✓✓✓	✓✓	✖	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✖	✓✓
Pet Resistant	✓✓✓	✓✓✓	✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓	✓✓
Pollen Guard	✓✓✓✓	✓✓✓	✓✓✓	✓	✓✓✓	✖	✓✓	✓✓	✖	✓✓✓✓
Pool & Patio	✓✓✓	✓✓✓	✓✓	✖	✓✓✓✓	✓✓✓	✓✓✓✓	✓✓✓✓	✓	✓✓
Porch & Patio	✓✓✓	✓✓✓	✓✓	✖	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓✓✓✓	✓	✓✓
Small Insect	✓✓✓	✓✓	✓✓	✓✓	✓✓✓✓	✖	✓✓✓✓	✓✓✓	✓✓	✓✓✓✓
Sun Guard	✓✓✓	✓✓	✓	✓✓✓✓	✓✓✓	✓✓✓	✓✓✓	40 x 80 ✓✓✓ 54 x 118 ✓✓	40 x 80 ✓✓✓ 54 x 118 ✓✓	40 x 80 ✓✓✓ 54 x 118 ✓✓
Doorway Alert	✓✓✓	✓✓✓	✓	✓✓✓	✓✓	✖	✓✓✓	✖	✖	✓✓✓
Standard Fiberglass	✓✓✓	✓✓✓	✓✓	Charcoal ✖ Gray ✓✓✓	✓✓✓	✓✓	✓✓	✓✓✓	✖	✓✓✓
Aluminum	✓	✓✓✓	✓	Black ✖ Bright ✓✓ Charcoal ✖	✓✓✓✓	✓✓✓✓	✖	✓✓✓	✖	✓✓✓

BIRD FRIENDLY MATERIALS
BIRD HAZARD INSTALLATIONS, AND FLY-THROUGH CONDITIONS SHALL BE CONSTRUCTED OF BIRD FRIENDLY MATERIALS AS DEFINED IN BC 1402.1

TYPICAL BIRD HAZARD INSTALLATIONS:
- INSECT SCREENS SHALL BE INSTALLED AT ALL DWELLING UNIT EXTERIOR OPERABLE WINDOWS AND DOOR **OPENINGS**.
- THREAT FACTOR: 1 (ANY TYPE)
- UNSCREENED AREAS OF GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS TO BE PROVIDED WITH
- MAXIMUM THREAT FACTOR: 25

BC* 1403.8: ALL EXTERIOR MATERIALS AND GLAZING HAVE BEEN EVALUATED FOR COMPLIANCE WITH BC 1403.8. WHERE EXTERIOR WALL ENVELOPE, BIRD HAZARD INSTALLATIONS, FLY-THROUGH CONDITIONS, OR ADJACENCIES TO GREEN ROOFS ARE PRESENT IN THE DESIGN, BIRD FRIENDLY MATERIALS WITH A THREAT FACTOR RATING OF 25 OR LESS HAVE BEEN SPECIFIED AS INDICATED IN THE MATERIAL LOCATION THREAT FACTOR TABLE WITH AN APPROVED MATERIAL/ASSEMBLY.

BC* 1402.1:
FLY-THROUGH CONDITIONS: ONE OR MORE PANELS OF GLASS THAT PROVIDE A CLEAR LINE OF SIGHT THROUGH SUCH ELEMENTS CREATING THE ILLUSION OF A VOID LEADING TO THE OTHER SIDE, INCLUDING PARALLEL GLASS ELEMENTS, AT A DISTANCE OF 17'-0" OR LESS, OR A CONVERGENCE OF GLASS SIDES CREATING A PERPENDICULAR, ACUTE OR OBTUSE CORNER.

BIRD HAZARD INSTALLATIONS: MONOLITHIC GLAZING INSTALLATIONS THAT PROVIDE A CLEAR LINE OF SIGHT ON THE EXTERIOR OF BUILDINGS, INCLUDING, BUT NOT LIMITED TO, GLASS AWNINGS, GLASS HANDRAILS AND GUARDS, GLASS WIND BREAK PANELS, OR GLASS ACOUSTIC BARRIERS.

BIRD FRIENDLY MATERIAL: A MATERIAL OR ASSEMBLY THAT HAS, OR HAS BEEN TREATED TO HAVE A MAXIMUM THREAT FACTOR OF 25 IN ACCORDANCE WITH THE AMERICAN BIRD CONSERVANCY BIRD COLLISION DETERRENCE MATERIAL THREAT FACTOR REFERENCE STANDARD, OR WITH THE AMERICAN BIRD CONSERVANCY BIRD-FRIENDLY MATERIALS EVALUATION PROGRAM AT CARNEGIE MUSEUM'S AVIAN RESEARCH CENTER TEST PROTOCOL, OR WITH A RELEVANT ASTM STANDARD.

BIRD FRIENDLY MATERIALS

MATERIAL/ASSEMBLY	LOCATION	THREAT FACTOR
3/4" LAMINATED GLASS WITH UV PATTERN	ALL WIND SCREENS	25
1/2" LAMINATED GLASS	BALUSTRADES	20
INSULATING GLASS WITH UV PATTERN	GLASS BELOW 75' UNLESS OTHERWISE NOTED.	20
INSULATING GLASS UNIT WITH CUSTOM FRIT PATTERN COVERING 90% OF THE UNIT	GROUND FLOOR STOREFRONT/WINDOW CURTAIN WALL	25

WINDOW NOTES

1. COLOR CLEAR ANODIZED.
2. CASEMENT WINDOWS SHALL HAVE A LIMIT STOP OF 3.5" MAX. OPENING & LIMITER/OPERATOR CONCEALED IN THE FRAME.
3. WINDOWS AT PUBLIC AREAS TO BE KEY OPERATED.
4. PROVIDE OPERABLE INSECT SCREEN, TYP.
5. ALL DIMENSIONS SHOWN ON WINDOW ELEVATIONS & FLOOR PLANS ARE ROUGH DIMENSIONS. GC TO COORDINATE & PROVIDE SHOP DRAWINGS FOR OPENINGS & WINDOW DIMENSIONS PRIOR TO CONSTRUCTION.
6. ALL WINDOW PANES WITHIN 18" ABOVE FLOOR TO RECEIVE TEMPERED GLASS PER 2022 NYC BC* 2406.4
7. SEE SPECIFICATIONS FOR THERMAL VALUES.
8. WINDOW FRAMES SHALL BE SEPARATED FROM CONDUCTIVE FRAMING WITH INSULATION DESIGNED TO SERVE AS A THERMAL BREAK
9. AIR LEAKAGE OF WINDOW/DOOR ASSEMBLIES SHALL BE DETERMINED IN ACCORDANCE WITH NFRC 400 BY AN ACCREDITED. INDEPENDENT LABORATORY, AND LABELED AND CERTIFIED BY THE MANUFACTURER SAND SHALL NOT EXCEED 1.0 CFM PER SQUARE FOOD FOR GLAZED SWINGING ENTRANCE DOORS AND FOR REVOLVING DOORS AND NO MORE THAN 0.4 CFM PER SQUARE FOOD FOR ALL OTHER PRODUCT.
10. PER 2022 NYC BC* 1010.4.3, ALL OPERABLE WINDOWS SHALL BE EQUIPPED WITH SASH LOCKS DESIGNED TO BE OPERABLE FROM THE INSIDE ONLY. GRILLES LOCKABLE FROM THE INSIDE ONLY MAY BE PLACED ON THE INSIDE OR OUTSIDE OF WINDOWS THAT ARE ACCESSIBLE FROM GRADE BUT THAT DO NOT SERVE TO PROVIDE ACCESS TO EXITS.

IN ALL BUILDINGS WITH THREE OR MORE APARTMENTS, NEW YORK CITY (NYC) LAW REQUIRES THAT BUILDING OWNERS INSTALL WINDOW GUARDS IF A CHILD AGE 10 YEARS OR YOUNGER LIVES THERE, OR IF THE TENANT OR OCCUPANT REQUESTS WINDOW GUARDS FOR ANY REASON.

ALL WINDOWS OF ALL TYPES — INCLUDING THOSE WITH SCREENS — MUST HAVE WINDOW GUARDS OR LIMITING DEVICES, EXCEPT

- (1) WINDOWS LEADING TO FIRE ESCAPES OR THOSE DESIGNATED FOR OTHER EMERGENCY ESCAPES, (2) SECONDARY EXIT WINDOWS IN FIRST-FLOOR APARTMENTS AND (3) WINDOWS IN WHICH AIR CONDITIONER (AC) UNITS ARE PERMANENTLY INSTALLED DETAILS).
- DOUBLE-HUNG WINDOWS: WINDOW GUARDS MUST BE MADE OF RIGID METAL AND BE A MINIMUM OF 15 INCHES TALL WITH THREE OR MORE HORIZONTAL BARS. SPACE BETWEEN THE HORIZONTAL BARS SHOULD BE NO MORE THAN 4 1/2 INCHES WIDE. EACH WINDOW GUARD MUST HAVE A HEALTH DEPARTMENT APPROVAL NUMBER IMPRINTED ON A STILE (VERTICAL BAR) OF THE WINDOW GUARD.
- NON-DOUBLE-HUNG WINDOWS (SUCH AS SLIDING CASEMENT, SLIDER, TILT AND TURN, AWNING, PROJECT-OUT, HOPPER): HEALTH DEPARTMENT-APPROVED LIMITING DEVICES, WITH AN IMPRINTED APPROVAL NUMBER, MUST BE INSTALLED IN PAIRS TO PREVENT THE WINDOW FROM OPENING MORE THAN4 1/2 INCHES IN ANY DIRECTION.

BC* 1015.9. WINDOWS AND OPENINGS IN GROUP R-2 OCCUPANCIES. WINDOWS AND OPENINGS THAT DO NOT ALLOW PASSAGEWAY ONTO GRADE, BALCONY, TERRACE, SETBACK, ROOF OR OTHER WALKING SURFACES IN GROUP R-2 OCCUPANCIES SHALL BE SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE WITH REGARD TO WINDOW GUARDS.

GLAZING NOTES

1. ALL STOREFRONTS TO BE FULLY THERMALLY BROKEN SYSTEMS.
2. SEE SPECIFICATIONS FOR HARDWARE SETS.
3. ALL EXTERIOR STOREFRONT GLASS BELOW 18" A.F.F. TO BE SAFETY GLASS
4. ALL WOOD BLOCKING AT CMU TO BE PRESSURE TREATED.
5. WEATHER STRIPPING SHOULD BE INSTALLED AT ALL EXTERIOR DOORS, APARTMENT ENTRANCE DOORS, STAIRWELL DOORS, AND UNCONDITIONED MECHANICAL ROOMS.
6. HEIGHT OF ALL EXTERIOR DOORS TO BE COORDINATED WITH EXTERIOR SIDEWALK ELEVATIONS. DOOR HEAD HEIGHTS TO BE CONSISTENT AT BUILDING PERIMETER.
7. REFER TO SPECIFICATIONS FOR DOOR HARDWARE.
8. ALL SADDLE & TRANSITION STRIPS TO BE ADA COMPLIANT.
9. DOOR SWEEPS AT EXTERIOR DOORS MUST BE HARD FASTENED AT THE BOTTOM.
10. ALL OPAQUE AND GLAZED EXTERIOR DOORS MUST HAVE PERFORMANCE TESTING RESULTS, INCLUDING U-VALUE AND AIR LEAKAGE.
11. WEATHER STRIPPING AT MANDATORY LOCATIONS SHALL BE INSTALLED WITH RIGID FASTENER AND REPLACEABLE FOAM GASKET SPECIFIED FOR DURABILITY AND LESS MAINTENANCE.
12. WEATHER STRIPPING SHALL BE INSTALLED TO NOT INTERFERE WITH DOOR CLOSING PROPERLY.
13. RATED DOORS MUST LATCH.

PERFORMANCE SPECIFICATIONS [1]			FIXED		OPERABLE		TERRACE DOOR		FLUSH DOOR		XL PIVOT	
ENERGY												
Thermal Insulation [2] (Btu/hr·ft²·°F) per NFRC 102	Fixed	Uw	Double 0.22	Triple 0.15								
		SHGC	0.16	0.19								
	Operable	Uw			0.25	0.19	0.22	0.15	0.25	0.20	0.37	0.31
		SHGC			0.15	0.16	0.17	0.16	0.15	0.16	0.18	0.18
	Clerestory	Uw			0.29	0.24	0.26	0.20	0.25	0.20	0.37	0.31
		SHGC			0.11	0.10	0.15	0.16	0.17	0.16	0.18	0.18
COMFORT												
Acoustic performance [3] ASTM E90-09/13S2	STC		50		49		43		43		-	
	OITC		44		43		35		35		-	
Air tightness, max. test pressure [4] (cfm/ft²)			0.04		0.04		0.04		-		0.14	
Water tightness [5] (psf)			15		15		20		-		2.92	
AAMA Rating AAMA/WDMA/CSA 101/I.S.2/A440, NAFS			AW PG100		AW PG100		AW PG60		-		R PG25	

This table shows classes and values of performances, which can be achieved for specific configurations and opening types.
(1) **All results based on gateway sizes, vary depending on glass/profile combinations | Above Uw & SHGC values do not necessarily work in combination.**
(2) Uw is the measure of heat transfer through the fenestration product with glass. The lower the Uw, the better the thermal insulation of the element.
(3) The sound reduction index measures the capacity of the sound reduction performance of the frame and glass.
(4) The air tightness test measures the volume of air that would pass through a closed window at a certain air pressure.
(5) Water tightness testing applies a specified air pressure differential while simultaneously spraying water on to the ext. face of the assembly at the rate of 5 gal/hr/ft².

REYNAERS ALUMINIUM • t. +1 480 272 9688
www.reynaers.us • info@reynaers.us
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21430 N 95th Lane, Suite 100 | Phoenix, AZ 85027 | USA

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

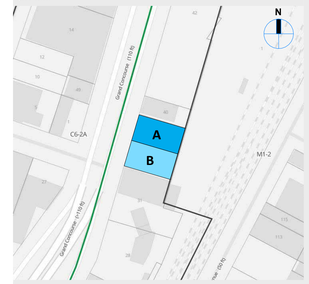
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hersheyf@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

WINDOW SCHEDULE

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

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TEST REPORT FOR ZEPHYR WINDOWS INC.
Report No.: J2954.01-113-11-R0
Date: 08/12/19

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Super 82
TYPE	uPVC tilt-turn window

OPTION A

GLAZING (Nominal Dimensions)	32 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 4 mm annealed interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01A
STC	41
OITC	32

OPTION B

GLAZING (Nominal Dimensions)	24 mm IG (4 mm annealed, 16 mm argon, 4 mm annealed)
DATA FILE NO.	J2954.01B
STC	31
OITC	26

OPTION C

GLAZING (Nominal Dimensions)	32 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 4 mm annealed interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01C
STC	40
OITC	32

OPTION D3

GLAZING (Nominal Dimensions)	34 mm IG (8 mm [44.2] laminated exterior, 16 mm argon, 10 mm annealed interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01D3
STC	44
OITC	38

OPTION E

GLAZING (Nominal Dimensions)	30 mm IG (6 mm [33.2] laminated exterior, 16 mm argon, 8 mm [44.2] laminated Interior), Glass temperature 23.8°C
DATA FILE NO.	J2954.01D3
STC	41
OITC	33

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TEST REPORT FOR ALUPROF S.A.
Report No.: N7448.01-113-11-R0
Date: 08/08/22

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	MB-79
TYPE	Fixed Window

GLAZING (Nominal Dimensions)	1-1/16" IG (1/4" tempered exterior, 1/2" argon, 5/16" tempered interior)
DATA FILE NO.	N7448.01A
STC	36
OITC	31

GLAZING (Nominal Dimensions)	1-3/8" IG (1/4" annealed exterior, 13/16" argon, 5/16" annealed interior)
DATA FILE NO.	N7448.01B
STC	37
OITC	30

GLAZING (Nominal Dimensions)	1-7/16" IG (1/4" annealed exterior, 13/16" argon, 3/8" annealed interior)
DATA FILE NO.	N7448.01C
STC	38
OITC	32

GLAZING (Nominal Dimensions)	1-7/16" IG (3/8" laminated exterior, 13/16" argon, 1/4" annealed interior), Glass temperature 75°F
DATA FILE NO.	N7448.01D
STC	40
OITC	32

GLAZING (Nominal Dimensions)	1-7/16" IG (1/4" annealed exterior, 13/16" argon, 3/8" laminated interior), Glass temperature 75°F
DATA FILE NO.	N7448.01D1
STC	40
OITC	33

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TEST REPORT FOR ZEPHYR WINDOWS, INC.
Report No.: J2953.01-113-11-R0
Date: 06/28/19

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Super 82 UPVC
TYPE	Fixed window

OPTION A

GLAZING (Nominal Dimensions)	24 mm IG (4 mm annealed, 16 mm air space, 4 mm annealed)
DATA FILE NO.	J2953.01A
STC	30
OITC	25

OPTION B1

GLAZING (Nominal Dimensions)	34 mm IG (10 mm annealed exterior, 16 mm argon, 8 [44.2] mm laminated interior), Glass temperature 23.8°C
DATA FILE NO.	J2953.01B1
STC	43
OITC	36

SECTION 3
TEST METHODS

The specimens were evaluated in accordance with the following:

ASTM E90-09 (2016), *Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements*

ASTM E413-16, *Classification for Rating Sound Insulation*

ASTM E1332-16, *Standard Classification for Rating Outdoor-Indoor Sound Attenuation*

ASTM E2235-04 (2012), *Standard Test Method for Determination of Decay Rates for Use in Sound Insulation Test Methods*

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TEST REPORT FOR REYNAERS ALUMINIUM
Report No.: Q2396.01-113-11-R0
Date: 11/21/23

GLAZING (Nominal Dimensions)	36.76 mm IG (8 mm annealed exterior, 16 mm argon, 12.76 mm laminated interior), Glass temperature 23.9°C 1-7/16" IG (5/16" annealed exterior, 5/8" argon, 1/2" laminated interior), Glass temperature 75°F
DATA FILE NO.	Q2396.01E
STC	40
OITC	36

GLAZING (Nominal Dimensions)	41.52 mm IG (8.76 mm laminated [SR] exterior, 20 mm argon, 12.76 mm laminated [SR] interior), Glass temperature 23.9°C 1-9/16" IG (5/16" laminated [SR] exterior, 3/4" argon, 1/2" laminated [SR] interior), Glass temperature 75°F
DATA FILE NO.	Q2396.01F
STC	42
OITC	38

GLAZING (Nominal Dimensions)	45.52 mm IG (16.76 mm laminated [SR] exterior, 16 mm argon, 12.76 mm laminated [SR] interior), Glass temperature 23.9°C 1-3/4" IG (5/8" laminated [SR] exterior, 5/8" argon, 1/2" laminated [SR] interior), Glass temperature 75°F
DATA FILE NO.	Q2396.01G
STC	43
OITC	38

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TEST REPORT FOR ZEPHYR WINDOWS, INC.
Report No.: J2951.01-113-11-R0
Date: 07/15/19

SECTION 2
SUMMARY OF TEST RESULTS

SERIES/MODEL	Super 82
TYPE	UPVC Swing Door

OPTION A

GLAZING (Nominal Dimensions)	24 mm IG (4 mm annealed, 16 mm argon, 4 mm annealed)
DATA FILE NO.	J2951.01A
STC	32
OITC	26

OPTION B

GLAZING (Nominal Dimensions)	32 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 4 mm annealed), Glass temperature 23.8°C
DATA FILE NO.	J2951.01B
STC	39
OITC	31

OPTION C

GLAZING (Nominal Dimensions)	34 mm IG (8 mm [44.2] laminated exterior, 20 mm argon, 6 mm annealed)
DATA FILE NO.	J2951.01C
STC	42
OITC	35

OPTION D

GLAZING (Nominal Dimensions)	30 mm IG (6 mm [33.2] laminated exterior, 16 mm argon, 8 mm [44.2] laminated), Glass temperature 23.8°C
DATA FILE NO.	J2951.01D
STC	41
OITC	33

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S. WIEDER ARCHITECT PC

31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

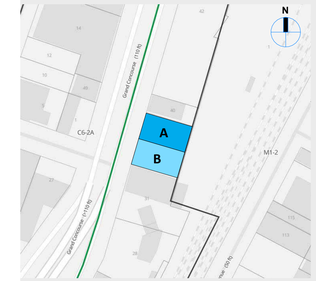
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2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
MANHATTAN MANAGEMENT
162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
E: yoel@manhattanmgmt.com

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SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

WINDOW/DOOR SPECS

DOB # :

GC #X01252513-I1

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1 **WEST (GRAND CONCOURSE) ELEVATION_2**
SCALE: 1/8" = 1'-0"

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C

STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC

OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C

STC 43
OITC 36

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)

STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79

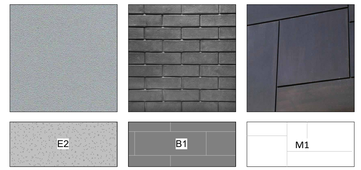
OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F

STC 40
OITC 33

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8

OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C
1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F

STC 43
OITC 38



EIFS - 2 MANUFACTURE DESCRIPTION
BRICK - BLACK MANUFACTURE DESCRIPTION
METAL - A MANUFACTURE DESCRIPTION

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BROOKLYN NY, 11205
T: (718) 484-3201
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STRUCTURAL ENGINEER:
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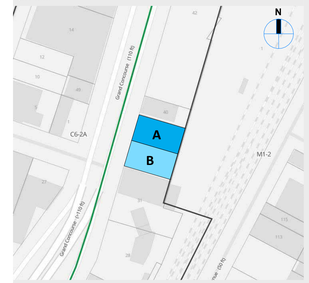
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A & D ENGINEERING
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T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

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SITE MAP



LOCATION:
338 GRAND CONCOURSE BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
WEST (GRAND CONCOURSE) ELEVATION

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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1 **EAST (REAR) ELEVATION2**

SCALE: 1/8" = 1'-0"

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C

STC	44
OITC	38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC

OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C

STC	43
OITC	36

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)

STC	42
OITC	35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79

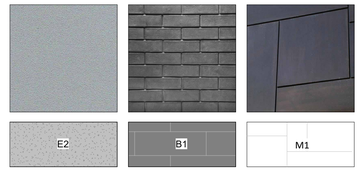
OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F

STC	40
OITC	33

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8

OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C
1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F

STC	43
OITC	38



EIFS - 2 MANUFACTURE DESCRIPTION

BRICK - BLACK MANUFACTURE DESCRIPTION

METAL - A MANUFACTURE DESCRIPTION

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
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T: (718)-399-4901
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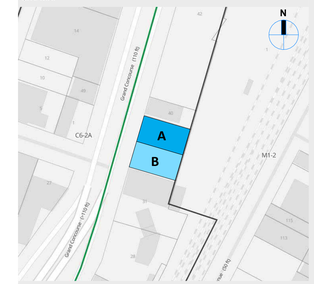
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A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

OWNER:
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162 MANHATTAN AVENUE, BROOKLYN, NY, 11206
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SITE MAP



LOCATION:

338 GRAND CONCOURSE BRONX, NY 10451

PROJECT:

PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:

EAST (REAR) ELEVATION

DOB # :

GC #X01252513-I1

DOB BSCAN + STAMP :

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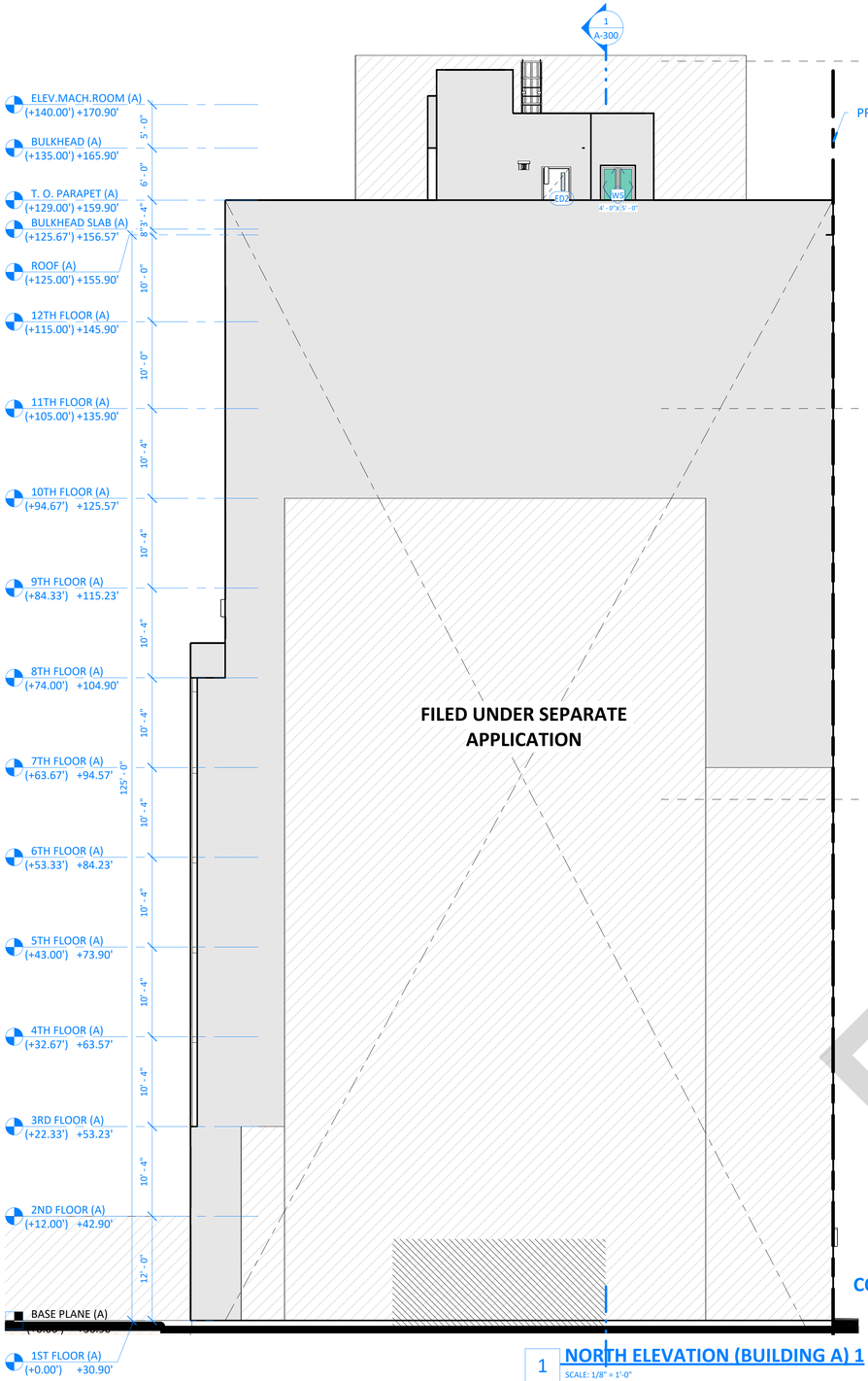
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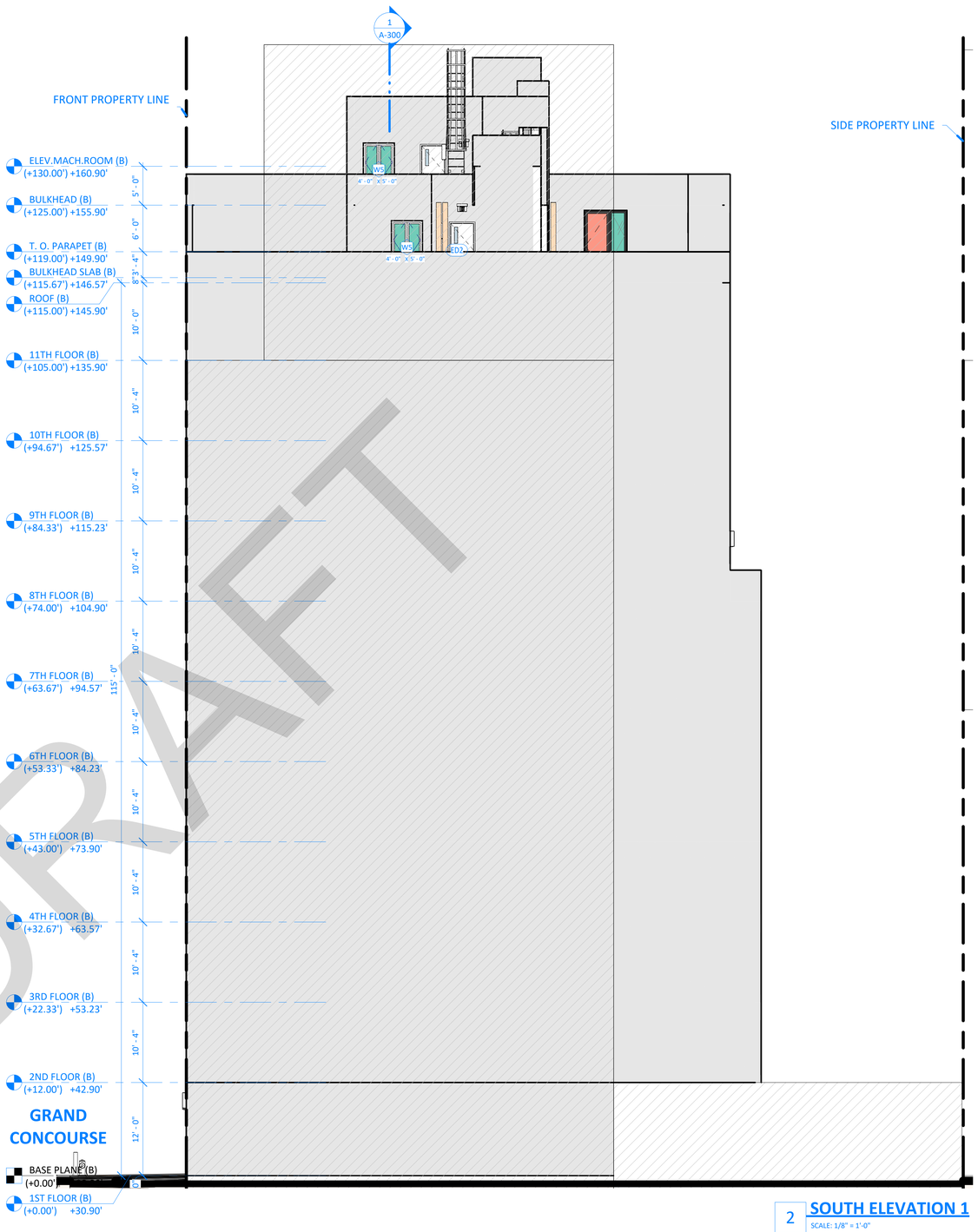
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1 NORTH ELEVATION (BUILDING A) 1

SCALE: 1/8" = 1'-0"



2 SOUTH ELEVATION 1

SCALE: 1/8" = 1'-0"

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC

OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 43
OITC 36

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8

OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C
1-3/4" IG [5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F
STC 43
OITC 38

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82

OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)
STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79

OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F
STC 40
OITC 33

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S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
E: info@elevatedengineeringnyc.com

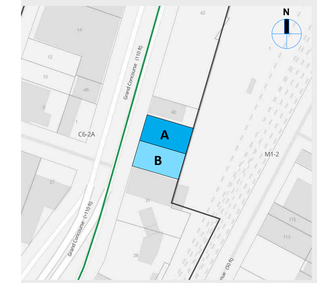
MEP ENGINEER:
A & D ENGINEERING
2606 EAST 15TH STREET, SUITE #203, BROOKLYN, NY, 11235
T: (718)-872-6122
E: ad@adeng.com

MUNICIPAL CONSULTANT:
BACDG EXPEDITING
233 SPENCER STREET, SUITE #103, BROOKLYN, NY, 11205
T: (718)-360-0200
E: hershey@bacdg.com

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SITE MAP



LOCATION:

338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
NORTH & SOUTH ELEVATION

DOB # :
GC #X01252513-I1

DOB BSCAN + STAMP :

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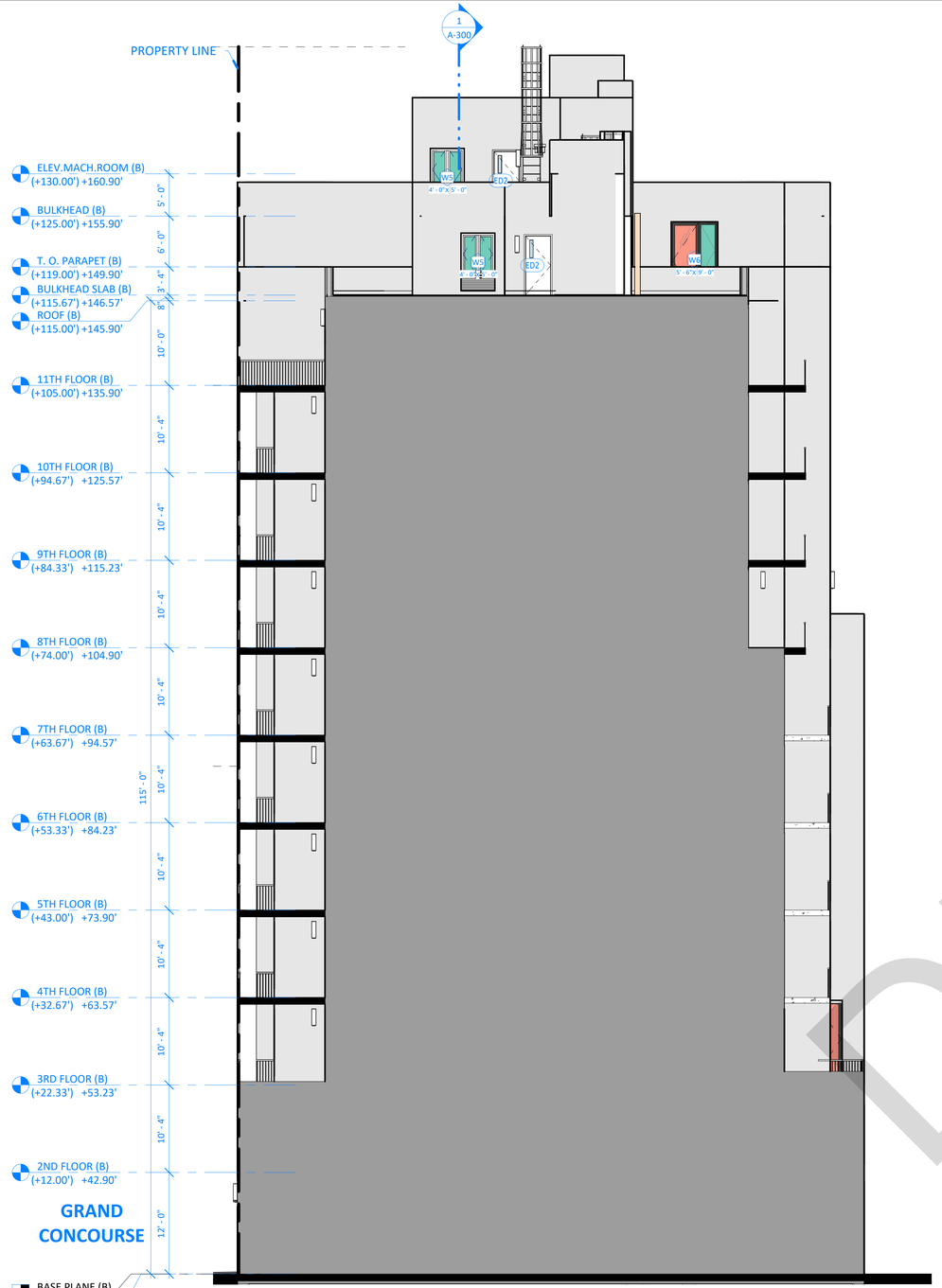
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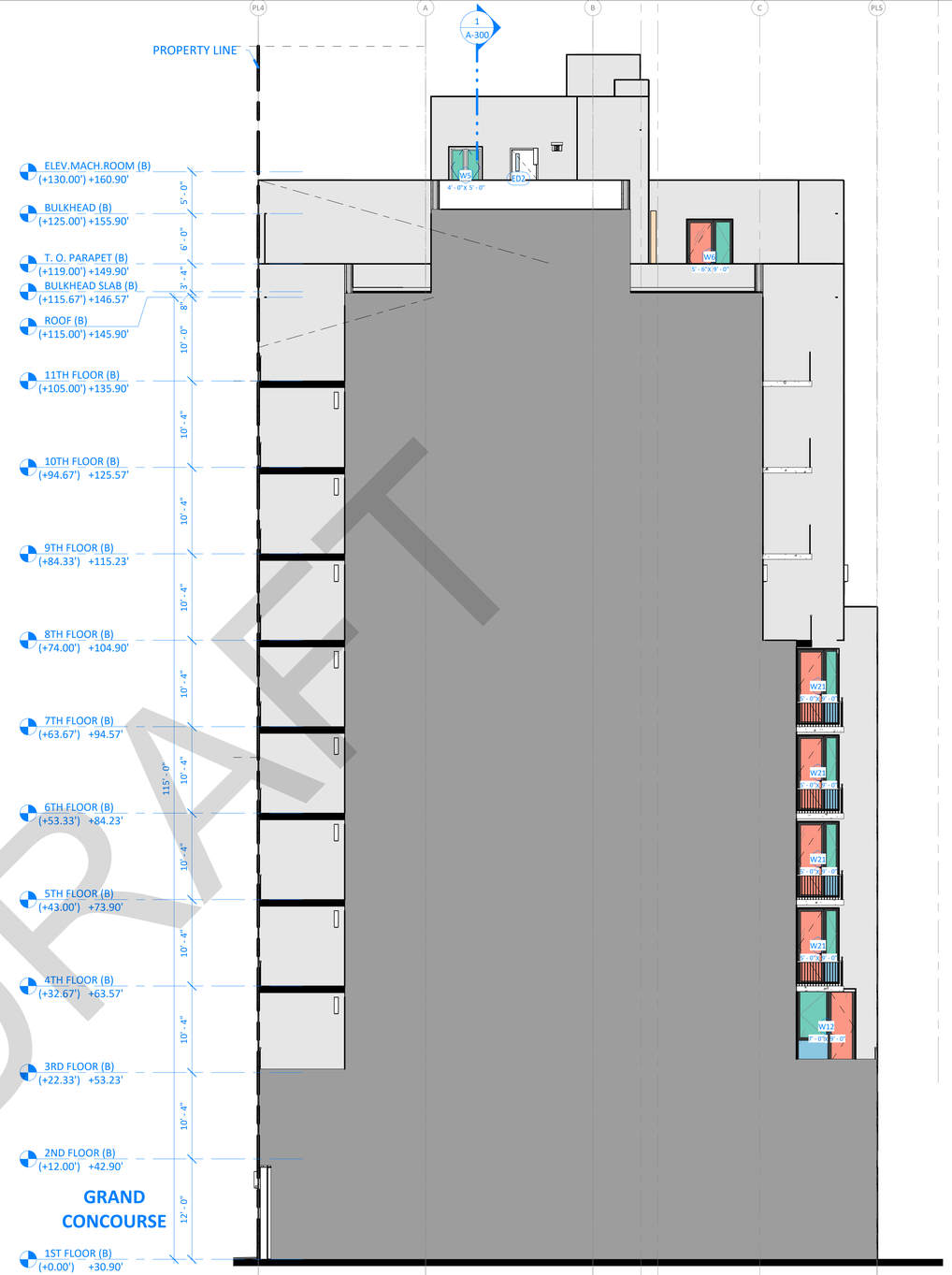
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1 **SOUTH INNER ELEVATION 1**
SCALE: 1/8" = 1'-0"



2 **SOUTH INNER ELEVATION A Copy 1**
SCALE: 1/8" = 1'-0"

DRAFT

LEGEND

OPERABLE WINDOW ASSEMBLY - uPVC TILT-TURN WINDOW
SERIES/MODEL - SUPER 82
OITC RATINGS: OPTION D3 - J2954.01D3
GLAZING (NOMINAL DIMENSIONS) 34 MM IG (8 MM [44.2] LAMINATED EXTERIOR, 16 MM ARGON, 10 MM ANNEALED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 44
OITC 38

FIXED WINDOW ASSEMBLY
SERIES/MODEL - SUPER 82 UPVC
OITC RATINGS: OPTION B1 - J2953.01B1
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (10 mm ANNEALED EXTERIOR, 16 mm ARGON, 8 [44.2] mm LAMINATED INTERIOR), GLASS TEMPERATURE 23.8°C
STC 43
OITC 36

STOREFRONT DOOR - ENTRANCE DOOR
SERIES/MODEL - MASTERLINE 8
OITC RATINGS: OPTION Q2396.01G
GLAZING (NOMINAL DIMENSIONS) 45.52 mm IG (16.76 mm LAMINATED [SR] EXTERIOR, 16 mm ARGON, 12.76 mm LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 23.9°C
1-3/4" IG (5/8" LAMINATED [SR] EXTERIOR, 5/8" ARGON, 1/2" LAMINATED [SR] INTERIOR), GLASS TEMPERATURE 75°F
STC 43
OITC 38

STOREFRONT DOOR - UPVC SWING DOOR
SERIES/MODEL - SUPER 82
OITC RATINGS: OPTION C - J2951.01C
GLAZING (NOMINAL DIMENSIONS) 34 mm IG (8 MM [44.2] LAMINATED EXTERIOR, 20 mm ARGON, 6 mm ANNEALED)
STC 42
OITC 35

FIXED STOREFRONT WINDOW ASSEMBLY - FIXED WINDOW
SERIES/MODEL - MB 79
OITC RATINGS: OPTION N7448.01D1
GLAZING (NOMINAL DIMENSIONS) 1-7/16" IG (1/4" ANNEALED EXTERIOR, 13/16" ARGON, 3/8" LAMINATED INTERIOR), GLASS TEMPERATURE 75°F
STC 40
OITC 33

S. WIEDER ARCHITECT PC
31 SPENCER STREET, SUITE #1404, 14TH FLOOR
BROOKLYN NY, 11205
T: (718) 484-3201
LIC# 040451

STRUCTURAL ENGINEER:
ELEVATED ENGINEERING NYC
1822 FULTON STREET, BROOKLYN, NY, 11233
T: (718)-399-4901
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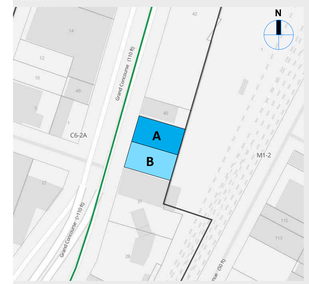
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T: (718)-360-0200
E: hersheyf@bacdg.com

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SITE MAP



LOCATION:
338 GRAND CONCOURSE
BRONX, NY 10451

PROJECT:
PROPOSED 11 STORY RESIDENTIAL NEW BUILDING (BUILDING B)

DRAWING TITLE:
SOUTHWEST INNER ELEVATIONS

DOB # :
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APPENDIX D
Construction Health and Safety Plan

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HALEY & ALDRICH, INC.
SITE-SPECIFIC SAFETY PLAN

FOR

338-344 Grand Concourse Redevelopment Site

338-344 Grand Concourse, Bronx, NY

Project/File No. 0212356

Gensuite EZ Scan®

BI - Developers

DRAFT

Prepared By: Thomas Giordano	**Date: 2/10/2026**
Approvals: The following signatures constitute approval of this Health & Safety Plan.	
Field Safety Manager: Luke J. McCartney, P.G.	**Date: TBD**
Project Manager: Matthew Levy	**Date: TBD**
HASP Valid Through: 12/31/2026	

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Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

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Attachment C	Roles and Responsibilities
Attachment D	Job Safety Analyses
Attachment E	Project Site Forms

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STOP WORK AUTHORITY

In accordance with Haley & Aldrich (Haley & Aldrich) Stop Work Authority Operating Procedure (OP1035), any individual has the right to refuse to perform work that he or she believes to be unsafe without fear of retaliation. He or she also has the authority, obligation, and responsibility to stop others from working in an unsafe manner.

STOP Work Authority is the stop work policy for all personnel and subcontractors on the Site. When work has been stopped due to an unsafe condition, Haley & Aldrich site management (e.g., Project Manager [PM], Site Health & Safety Officer [SHSO], etc.) and the Haley & Aldrich Senior Project Manager (SPM) will be notified immediately.

Reasons for issuing a stop work order include, but are not limited to:

- The belief/perception that injury to personnel or accident causing significant damage to property or equipment is imminent.
- An Haley & Aldrich subcontractor is in breach of site safety requirements and/or their own site HASP.
- Identifying a substandard condition (e.g., severe weather) or activity that creates an unacceptable safety risk as determined by a qualified person.

Work will not resume until the unsafe act has been stopped OR sufficient safety precautions have been taken to remove or mitigate the risk to an acceptable degree. Stop work orders will be documented as part of an on-site stop work log, on daily field reports to include the activity/activities stopped, the duration, person stopping work, person in-charge of stopped activity/activities, and the corrective action agreed to and/or taken. Once work has been stopped, only the Haley & Aldrich SPM or SHSO can give the order to resume work. Haley & Aldrich senior management is committed to support anyone who exercises his or her “Stop Work” authority.

DRAFT

Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

ISSUANCE AND COMPLIANCE

This HASP has been prepared in accordance with Occupational Safety and Health Administration (OSHA) regulations (CFR 29, Parts 1904, 1910, and 1926) if such are applicable.

The specific requirements of this HASP include precautions for hazards that exist during this project and may be revised as new information is received or as site conditions change.

- This HASP must be signed by all Haley & Aldrich personnel involved in implementation of the SOW (Section 2 of this HASP).
- This HASP, or a current signed copy, must be retained at all times when Haley & Aldrich staff are present.
- Revisions to this HASP must be outlined within the contents of the HASP. If immediate or minor changes are necessary, the Field Safety Manager (FSM), Haley & Aldrich, SSO and/or Project Manager (PM) may use Attachment 1 (HASP Amendment Form), presented at the end of this HASP. Any revision to the HASP requires employees and subcontractors to be informed of the changes so that they understand the requirements of the change.
- Deviations from this HASP are permitted with approval from the Haley & Aldrich FSM, PM, or Senior Health & Safety Manager (SHSM). Unauthorized deviations may constitute a violation of Haley & Aldrich company procedures/policies and may result in disciplinary action.
- This HASP will be relied upon by Haley & Aldrich's subcontractors and visitors to the site. Haley & Aldrich's subcontractors must have their own HASP which will address hazards specific to their trade that is not included in this HASP. This HASP will be made available for review to Haley & Aldrich's subcontractors and other interested parties (e.g. Facility personnel and regulatory agencies) to ensure that Haley & Aldrich has properly informed our subcontractors and others of the potential hazards associated with the implementation of the SOW to the extent that Haley &Aldrich is aware.

This site-specific HASP provides only site-specific descriptions and work procedures. General safety and health compliance programs in support of this HASP (e.g., injury reporting, medical surveillance, personal protective equipment (PPE) selection, etc.) are described in detail in the Haley &Aldrich Corporate Health and Safety Program Manual and within Haley & Aldrich's Standard Operating Procedures Both the manual and SOPs can be located on the Haley & Aldrich's Company Intranet. When appropriate, users of this HASP should always refer to these resources and incorporate to the extent possible. The manual and SOPs are available to clients and regulators upon request.

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EMERGENCY EVENT PROCEDURES

1 - ASSESS THE SCENE

- **STOP WORK**
- Review the situation and ascertain if it's safe to enter the area.
- Evacuate the site if the conditions are unsafe.

2 - EVALUATE THE EMERGENCY

- **Call 911, or designated emergency number, if required.**
- **Provide first aid for the victim if qualified and safe to do so.**
  - First aid will be addressed using the onsite first aid kit. *
    - If providing first aid, remember to use proper first aid universal precautions if blood or bodily fluids are present.
- **If exposure to hazardous substance is suspected, immediately vacate the contaminated area.**
  - Remove any contaminated clothing and/or equipment.
  - Wash any affected dermal/ocular area(s) with water for at least 15 minutes.
  - Seek immediate medical assistance if any exposure symptoms are present.

* *Note: Haley & Aldrich employees are not required or expected to administer first aid / CPR to any Haley & Aldrich staff member, Contractor, or Civilian personnel at any time; it is Haley & Aldrich´s position that those who do are doing so on their own behalf and not as a function of their job.*

3 - SECURE THE AREA

- **Cordon off the incident area, if possible.**
  - Notify any security personnel, if required.
  - Escort all non-essential personnel out of the area, if able.

4 - REPORT ON-SITE ACCIDENTS / INCIDENTS TO PM / SSO

- **Notify the PM and SSO as soon as it is safe to do so.**
  - Assist PM and SSO in completing any additional tasks, as required.

5 - INVESTIGATE / REPORT THE INCIDENT

- **Record details of the incident for input to the Gensuite.**
  - Complete any additional forms as requested by the PM and SSO.

6 - TAKE CORRECTIVE ACTION

- **Implement corrective actions per the PM following root cause analysis.**
  - Complete Lessons Learned form.

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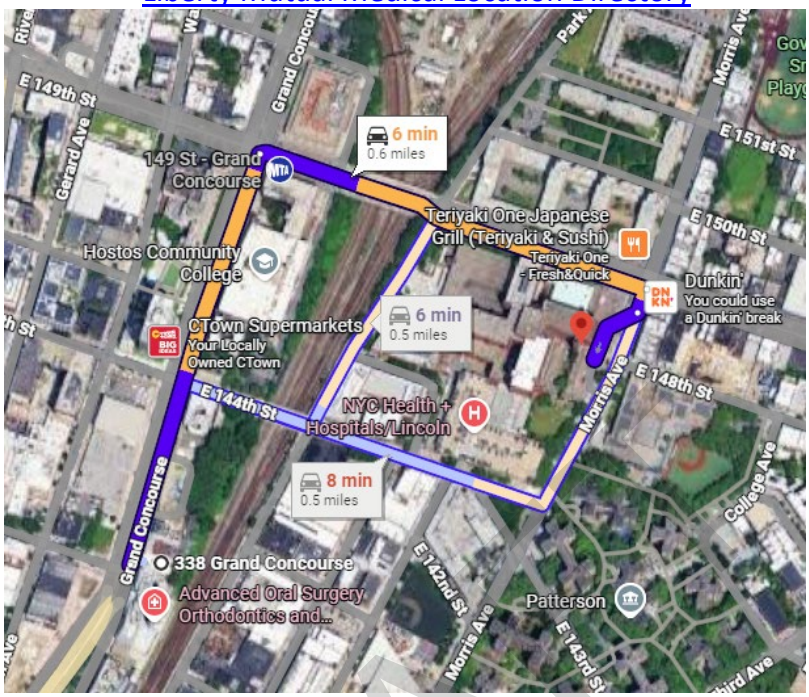
PROJECT INFORMATION AND CONTACTS	
Project Name: 338-344 Grand Concourse Redevelopment Site	**Haley & Aldrich File No.:** 0212356
Location: 338-344 Grand Concourse, Bronx, New York 10451	
Client/Site Contact: Phone Number:	338-344 Grand Concourse LLC / Manhattan Management USA LLC. Attn: Yoel Barminka 917.608.5419
Haley & Aldrich Field Representative: Phone Number: Emergency Phone Number:	Calvin Jackson 646.656.9393 929.729.1243
Haley & Aldrich Project Manager: Phone Number: Emergency Phone Number:	Matthew Levy 646.893.4733 516.666.5382
Field Safety Manager: Phone Number: Emergency Phone Number:	Brian Furguson 617.886.7439 617.908.2761
Subcontractor Project Manager: Phone Number:	Enter Name Enter Phone Number
Nearest Hospital: Address: (see map on next page) Phone Number:	NYC Health + Hospitals 234 East 149th Street, Bronx, New York 10451 718.579.5000
Nearest Occ. Health Clinic: http://www.talispoint.com/liberty/ext/ Address: (see map on next page) Phone Number:	**CALL ACUITY** **1-888-397-8099**
Liberty Mutual Claim Policy	**WC6Z11254100036**
ACUITY HOTLINE	**1-888-397-8099**
Emergency Response Number:	**911**
Other Local Emergency Response Number:	N/A
Other Ambulance, Fire, Police, or Environmental Emergency Resources:	911

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DIRECTIONS TO THE NEAREST HOSPITAL

Liberty Mutual Medical Location Directory



Directions to the Nearest Hospital:

5 min (0.6 mile)

via Grand Concourse and E 149th St

Fastest route now due to traffic conditions

338 Grand Concourse
Bronx, NY 10451

↑ Head toward E 144th St
0.3 mi

↱ Turn right onto E 149th St
0.2 mi

↱ Turn right onto Morris Ave
82 ft

↱ Turn right
Destination will be on the right
217 ft

234 E 149th St
Bronx, NY 10451

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DIRECTIONS TO THE NEAREST URGENT CARE

Liberty Mutual Medical Location Directory

CALL ACUITY HOTLINE:

1-888-397-8099

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1. WORK SCOPE

This Site-Specific Health and Safety Plan addresses the health and safety practices and procedures that will be exercised by all Haley & Aldrich employees participating in all work on the Project Site. This plan is based on an assessment of the site-specific health and safety risks available to Haley & Aldrich and Haley & Aldrich's experience with other similar project sites. The scope of work includes the following:

Site mobilization involving site walks, equipment mobilization and utility mark outs (GPR). Remedial oversight and soil sampling. Screening of soil cored during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID.

Project Task Breakdown

Task No.	Task Description	Employee(s) Assigned	Work Date(s) or Duration
1	Site Walk	Calvin Jackson	1 day
2	Remedial Oversight (Excavation/Hauling Soils Off-site/Stockpiling)	Calvin Jackson	4 months
3	Soil Sampling	Calvin Jackson	4 months

Subcontractor(s) Tasks

Firm Name	Work Activity	Work Date(s) or Duration
Enter name.	Enter task description.	Enter dates/duration.

Projected Start Date: 5/1/2026

Projected Completion Date: 8/31/2026

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2. SITE OVERVIEW / DESCRIPTION

Site Classification

Commercial

Site Description

The Site is located within the Mott Haven neighborhood of Bronx County, New York, and is identified as Block 2341, Lots 34 and 37 on the New York City tax map. The Site is approximately 10,900 square feet (sq ft) (0.25 acres) and is currently developed with a vacant, one-story commercial building which most recently operated as an automotive repair shop on Lot 34, and a vacant, one-story commercial building which most recently operated as an automative body shop on Lot 37. The Site has been assigned an E-Designation (E-227, City Environmental Quality Review [CEQR] No. 08DCP071X) for hazardous materials, air quality, and noise as part of the Lower Concourse Rezoning.

Background and Historic Site Usage

Historical operations at the Site, which was developed as early as 1908 as a small one-story structure occupied by the New York State & Hudson Valley Railroad was later redeveloped into several interconnected one-story structures by 1935, including a retail store, auto repair, auto service, auto painting, and storage buildings. Between the mid-20th Century until present day, the Site was developed with two buildings and operated as auto body repair and auto repair garages. Both structures are currently vacant.

Site Status

Indicate current activity status and describe operations at the site:

Inactive

Vacant auto repair-related garages

Site Plan

Is a site plan or sketch available? Yes

Work Areas

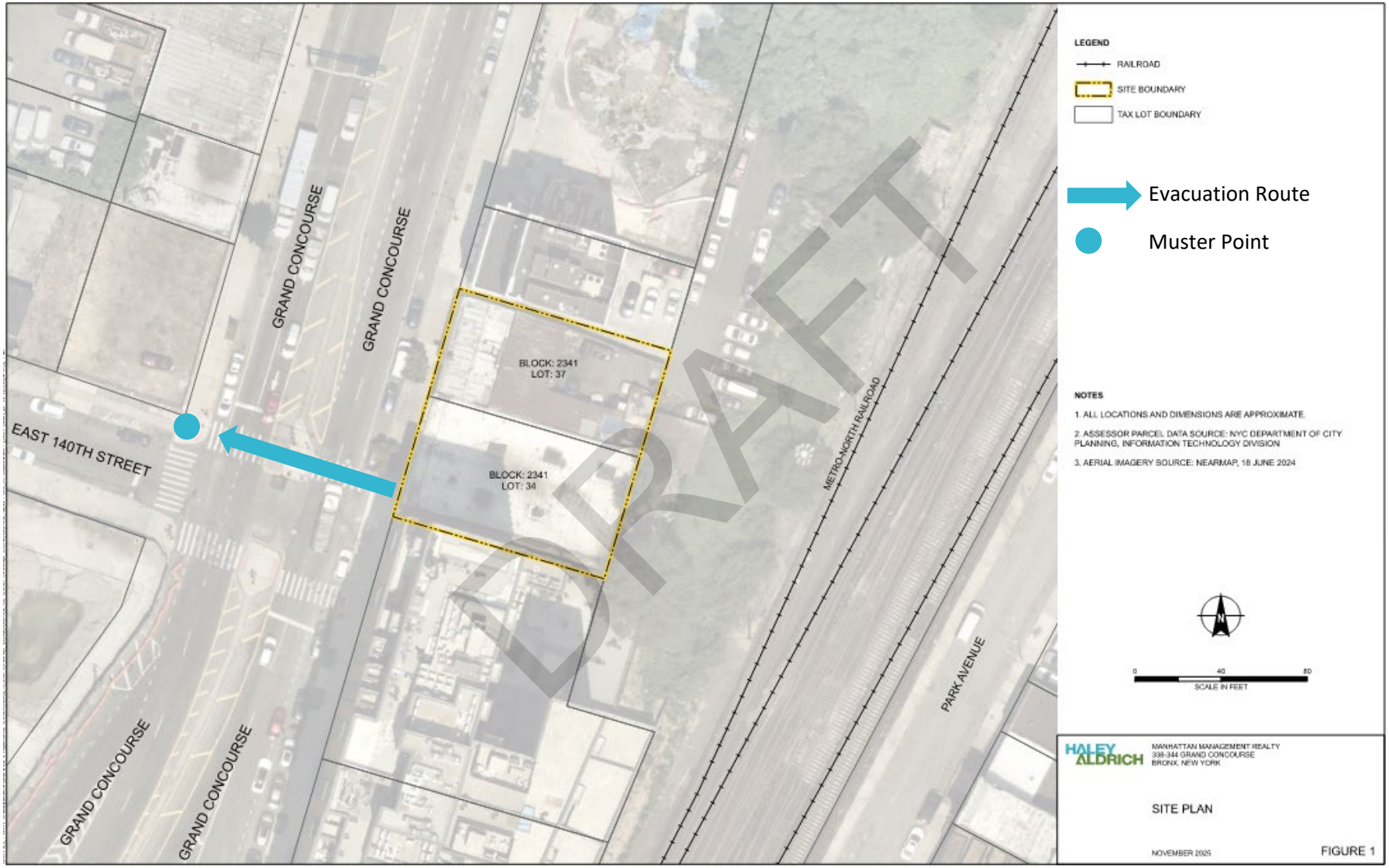
List and identify each specific work areas(s) on the job site and indicate its location(s) on the site plan:

Entire Site

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Site Plan



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3. HAZARD ASSESSMENT

Indicate all hazards that may be present at the site and for each task. If any of these potential hazards are checked, it is the Project Manager's responsibility to determine how to eliminate / minimize the hazard to protect onsite personnel.

Site Chemical Hazards

Is this Site impacted with chemical contamination? Yes

Source of information about contaminants: Previous Investigation

Contaminant of Concern	Location/Media	Concentration	Units
Benzo(a)pyrene	Soil	3.1	mg/kg
Benzo(a)anthracene	Soil	3	mg/kg
Benzo(b)fluoranthene	Soil	4.4	mg/kg
Benzo(k)fluoranthene	Soil	1.5	mg/kg
Dibenzo(a,h)anthracene	Soil	0.53	mg/kg
Chyrsene	Soil	3.5	mg/kg
Indeno(1,2,3-cd)pyrene	Soil	2.3	mg/kg
Organochlorine Pesticides	Soil	0.0034	mg/kg
Barium	Soil	543	mg/kg
Copper	Soil	392	mg/kg
Lead	Soil	2,140	mg/kg
TCLP Lead	Soil	135	mg/L
Mercury	Soil	2.4	mg/kg
Polychlorinated biphenyls (PCBs)	Soil	0.22	mg/kg
Chloroform	Groundwater	8.2	ug/L
Benzo(a)anthracene	Groundwater	0.05	ug/L
Iron	Groundwater	26,200	ug/L

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Manganese	**Groundwater**	**2,230**	**ug/L**
Sodium	**Groundwater**	**84,700**	**ug/L**
Magnesium	**Groundwater**	**43,400**	**ug/L**
Chromium	**Groundwater**	**78.99**	**ug/L**
Choose an item.			
PFOA	**Groundwater**	**39.5**	**ppt**
PFOS	**Groundwater**	**35.8**	**ppt**
BTEX/VOCs	**Soil Vapor**	**238.9**	**ug/m^3**
Trichloroethylene	**Soil Vapor**	**5.32**	**ug/m^3**
Tetrachloroethylene	**Soil Vapor**	**144**	**ug/m3**

Polycyclic aromatic hydrocarbons (PAHs): are a class of chemicals that occur naturally in coal, crude oil, and gasoline. They also are produced when coal, oil, gas, wood, garbage, and tobacco are burned. PAHs generated from these sources can bind to or form small particles in the air. High-temperature cooking will form PAHs in meat and in other foods. Naphthalene is a PAH that is produced commercially in the United States to make other chemicals and mothballs. Cigarette smoke contains many PAHs.

VOCs: include all organic compounds (substances made up of predominantly carbon and hydrogen) with boiling temperatures in the range of 50-260 degrees C, excluding pesticides. This means that they are likely to be present as a vapor or gas in normal ambient temperatures. Substances which are included in the VOC category include aliphatic hydrocarbons (such as hexane), aldehydes, aromatic hydrocarbons (such as benzene, toluene, and the xylenes or BTEX), and oxygenated compounds (such as acetone and similar ketones). The term VOC often is used in a legal or regulatory context and in such cases the precise definition is a matter of law.

VOCs are released from oil and gasoline refining, storage and combustion as well as from a wide range of industrial processes. Processes involving fuels, solvents, paints or the use of chemicals are the most significant sources. VOCs may also be emitted from cleaning products, degreasing products, fabrics, carpets, plastic products, glues, printed material, varnishes, wax, disinfectants, and cosmetics.

Typically, VOCs are present in gas or vapor and will enter the body by breathing contaminated air. Higher concentrations of VOCs may occur in areas of poor ventilation.

BTEX/VOCs: BTEX is an acronym for benzene, toluene, ethylbenzene and xylenes. These compounds are VOCs, are common in petroleum-related products (e.g., oil, gasoline, coal-tar DNAPL, etc.), and frequently co-occur at hazardous waste sites. Benzene, toluene, ethylbenzene, and xylenes have acute and chronic harmful effects on the central nervous system. Benzene is classified as a carcinogen.

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Short-term health effects of low-level BTEX exposure include drowsiness, dizziness, accelerated heart rate, headaches, tremors, confusion, and unconsciousness.

Barium: is a soft, silvery metal that rapidly tarnishes in air and reacts with water. It is mostly used in drilling fluids for oil and gas wells and used in paint and in glassmaking. All barium compounds are toxic; however, barium sulfate is insoluble and so can be safely swallowed. A suspension of barium sulfate is sometimes given to patients suffering from digestive disorders.

Barium has no known biological role, although barium sulfate has been found in one type of algae. Barium is toxic, as are its water- or acid-soluble compounds. Barium occurs only in combination with other elements. The major ores are barite (barium sulfate) and witherite (barium carbonate). Barium metal can be prepared by electrolysis of molten barium chloride, or by heating barium oxide with aluminum powder.

Lead: The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system. Long-term exposure to lead can result in decreased performance in some tests measuring functions of the nervous system in adults. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys and ultimately cause death.

Mercury: is an odorless, silver metallic liquid. It can be inhaled or absorbed through the skin. Contact may cause irritation to the skin or eyes. Toxic if ingested. Fume inhalation may cause irritation in the nose, throat or lungs. This is a corrosive chemical. Symptoms of poisoning include, muscle tremors, loss of appetite, and nausea. Long-term exposure may have effects on the central nervous system and kidneys. The PEL is 0.1 mg/m^3 averaged over an 8 hour shift.

Click + Add Additional Chemical Language

Zinc: is an odorless, bluish-white powder. It is typically used in paints and can be mixed with other metals to make bass and other types of alloys. Zinc can produce flammable gases when in contact with water, sometimes creating vigorous or explosive reactions. It can also create gaseous hydrogen in contact with water or moist air. Inhalation will cause irritation to eyes and respiratory system. Exposures cause flu-like symptoms, called “metal fume fever”, which can sometimes be delayed up to 48 hours after initial exposure.

Click + Add Additional Chemical Language

Polycyclic aromatic hydrocarbons (PAHs): are a class of chemicals that occur naturally in coal, crude oil, and gasoline. They also are produced when coal, oil, gas, wood, garbage, and tobacco are burned. PAHs generated from these sources can bind to or form small particles in the air. High-temperature cooking will form PAHs in meat and in other foods. Naphthalene is a PAH that is produced commercially in the United States to make other chemicals and mothballs. Cigarette smoke contains many PAHs.

Organochlorine Pesticides: are chlorinated hydrocarbons used extensively from the 1940s through the 1960s in agriculture and mosquito control. Representative compounds include DDT, methoxychlor,

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dieldrin, chlordane, toxaphene, mirex, kepone, lindane, and benzene hexachloride. As neurotoxicants, many organochlorine pesticides were banned in the United States, few are still registered for use.

People can be exposed to organochlorine pesticides through accidental inhalation exposure if in an area where they were recently applied. The chemicals can also be ingested in fish, dairy products, and other fatty foods that are contaminated. Organochlorine pesticides accumulate in the environment and are very persistent and move long distances in surface runoff or groundwater.

Exposure to these chemicals over a short period may produce convulsions, headache, dizziness, nausea, vomiting, tremors, confusion, muscle weakness, slurred speech, salivation and sweating. Long-term exposure may damage the liver, kidney, central nervous system, thyroid and bladder. Many of these pesticides have been linked to elevated rates of liver or kidney cancer in animals. There is some evidence indicating that organochlorine pesticides may also cause cancer in humans.

Trichloroethylene: is a nonflammable colorless liquid with a sweet odor. Trichloroethylene vapor is heavier than air and is found in low lying areas.

Tetrachloroethylene: is a colorless liquid with a sharp sweet odor. Tetrachloroethylene vapor is heavier than air and will be found in low lying areas.

Per- and Polyfluoroalkyl Substances: Per- and polyfluoroalkyl substances (PFAS) are a group of chemicals used in some industries and consumer products. Per- and polyfluoroalkyl substances (PFAS) are a group of over 14,000 synthetic chemicals that have been used in industry and consumer products, worldwide, for over 70 years. This includes compounds such as perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), and Hexafluoropropylene Oxide Dimer Acid (also known as "GenX"). PFAS as a class have a wide variety of distinct chemical properties and toxicities; for example, some PFAS can bioaccumulate and persist in the human body and the environment, while others transform relatively quickly. The PFAS that do transform, however, will become one or more other PFAS because the carbon–fluorine bond they contain does not break naturally. It is for this reason that PFAS are termed “forever chemicals.” A large number of studies have examined possible relationships between levels of PFAS in blood and harmful health effects in people. Long term exposure may have reproductive, immune system, kidney, testicular, and metabolic effects. NIOSH have been conducting studies since 2004, focusing on occupational exposures to PFAS, including toxicological assessments and health impacts in workers. Current research include assessing exposure to various sectors, such as manufacturing and firefighting, and developing analytical methods for measuring PFAS exposure in the workplace.

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Site Hazards Checklist			
Weather			
High Winds	Cold Temperatures	Hot Temperatures	Lightning Storms

High Winds

While high winds are commonly associated with severe thunderstorms and hurricanes they may also occur as a result of differences in air pressures, such as when a cold front passes across the area. They

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can cause downed trees and power lines, and flying debris (such as dust or larger debris), which adds additional risks and could lead to power outages, transportation disruptions, damage to buildings and vehicles, and serious injury.

Wind Advisory are issued for sustained winds 25 to 39 mph and/or gusts to 57 mph. High Wind warnings are issued by the National Weather Service when high wind speeds may pose a hazard or is life threatening. The criteria for this warning will varies by state. The Beaufort Wind Scale is a helpful tool to when dealing with high winds.

Cold Temperatures

Cold stress may occur at any time work is being performed at low ambient temperatures and high velocity winds. Because cold stress is common and has potentially serious illnesses associated with outdoor work during cold seasons, regular monitoring and other preventative measures are vital.

Refer to OP1003-Cold Stress for additional information and mitigation controls.

Hot Temperatures

Heat stress may occur at any time work is being performed at elevated ambient temperatures. Because heat stress is one of the most common and potentially serious illnesses associated with outdoor work during hot seasons, regular monitoring and other preventative measures are vital. Site workers must learn to recognize and treat the various forms of heat stress. The best approach is preventative heat stress management.

H&A employees and their subcontractors should be aware of potential health effects and/or physical hazards of working when there are hot temperatures or a high heat index. Refer OP1015-Heat Stress for a discussion on hot weather hazards.

Lightning Storms

Where the threat of electrical storms and the hazard of lightning exist staff shall ensure site procedures exist to: (1) detect when lightning is in the near vicinity and when there is a potential for lightning and (2) to notify appropriate site personnel of these conditions and (3) implement protocols to stop work and seek shelter.

The 30-30 Rule states that if time between seeing the lightning and hearing the thunder is less than 30 seconds, you are in danger and must seek shelter. You must also stay indoors for more than 30 minutes after hearing the last clap of thunder.

Biological			
Stinging Insects	Large/Small Mammals	Mosquitoes	Choose an item.

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Stinging Insects

Stinging Insects fall into two major groups: Apidae (honeybees and bumblebees) and vespids (wasps, yellow jackets, and hornets). Apidae are docile and usually do not sting unless provoked. The stinger of the honeybee has multiple barbs, which usually detach after a sting. Vespids have few barbs and can inflict multiple stings.

There are several kinds of stinging insects that might be encountered on the project site. Most stings will only result in a temporary injury. However, sometimes the effects can be more severe, even life-threatening depending on where you are stung and what allergies you have. Being stung in the throat area of the neck may cause edema (swelling caused by fluid build-up in the tissues) around the throat and may make breathing difficult.

In rare cases, a severe allergic reaction can occur. This can cause "anaphylaxis" or anaphylactic shock with symptoms appearing immediately or up to 30 minutes later. Symptoms include; Hives, itching and swelling in areas other than the sting site, swollen eyes/eyelids, wheezing, chest tightness, difficulty breathing, hoarse voice, swelling of the tongue, dizziness or sharp drop in blood pressure, shock, unconsciousness or cardiac arrest. Reactions can occur the first time you are stung or with subsequent stings. If you see any signs of reaction, or are unsure, call or have a co-worker call emergency medical services (e.g., 911) right away. Get medical help for stings near the eyes, nose or throat. Stay with the person who has been stung to monitor their reaction.

Staff who are allergic to bee stings are encouraged to inform their staff/project manager. If staff member carries an Epi-pen (i.e., epinephrine autoinjector) they are encouraged to inform their colleagues in case they are stung and are incapable of administering the injection. Examine site for any signs of activity or a hive/nest. If you see several insects flying around, see if they are entering/exiting from the same place. Most will not sting unless startled or attacked. Do not swat, let insects fly away on their own. If you must, walk away slowly or gently "blow" them away. If a nest is disturbed and you hear "wild" buzzing, protect your face with your hands and run from the area immediately. Wear long sleeves, long pants, and closed-toed boots. Wear light colored clothes such as khakis. Avoid brightly colored, patterned, or black clothing. Tie back long hair to avoid bees or wasps from entanglement. Do not wear perfumes, colognes or scented soaps as they contain fragrances that are attractive. If bee or wasp is found in your car, stop and leave windows open.

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Small Mammals

Rodents, are the most abundant order of mammals. There are hundreds of species of rats; the most common are the black and brown rat. Other rodents you may encounter are mice, beavers, squirrels, guinea pigs, capybaras and coypu.

The Brown Rat has small ears, blunt nose, and short hair. It is approximately 14-18” long (with tail). They frequently infest garbage/rubbish, slaughterhouses, domestic dwellings, warehouses, and supermarkets. They also frequent any space with an easy meal and potential nesting sites. The Black Rat is identified by its tail, that is always longer than the length from the head to the body. It is also slimmer and more agile than the Brown rat. Its size varies according to its environment and food supply.

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The House Mouse has the amazing ability to adapt and can frequently be found in human dwellings. In buildings, mice will live anywhere and difficult to keep out. Mice are omnivorous, they will eat anything. Rats and mice often become a serious problem in cold winter months when they seek food and warmth inside buildings. They may suddenly appear in large numbers when excavation work disturbs their in-ground nesting locations or their food source is changed.

Some major problems caused by rats and mice are contaminating the food they eat with urine and excrement. Gnawing into materials such as paper, wood, or upholstery, to use as nest material. Also gnawing plastic, cement, soft metals such as lead and aluminum, and wiring, which may cause a fire hazard. Occasionally biting people and may kill small animals. They, or the parasites they carry, like fleas, mites and worms, spread many diseases such as salmonella, trichinosis, rat bite fever, hantavirus, Weil's disease, and bubonic plague. They damage ornamental plants by burrowing among the roots or feeding on new growth. They also eat garden vegetables, such as corn and squash. These rodents have been a problem for centuries, because of their incredible ability to survive and are so difficult to eliminate. In addition, they are extremely compatible with human behavior and needs.

Avoid contact with rodents, if possible. Avoid contact with rodent excrement. Do not eat food or water that may have encountered rodent excrement. If exposed, wash hands and avoid touching your face with your hands.

Mosquitos

Work outdoors with temperatures above freezing will likely bring staff into contact with mosquitos. There are a variety of mosquito species that can transmit a range of diseases. Birds act as reservoirs for the viruses that can be collected by the mosquito and transmitted to a person. Majority of mosquitos are mainly a nuisance but staff need to take appropriate precautions to minimize the potential transmission of a virus that can result in one of the following diseases: West Nile, Eastern Equine Encephalitides and Western Encephalitides. Knowing some key steps that can minimize the risk of mosquito bites is, therefore, important in reducing the risks. Workers working outdoors should be aware that the use of PPE techniques is essential to preventing mosquito bites especially when working at sites where mosquitoes may be active and biting.

Use repellents containing DEET, picaridin, IR3535, and some oil of lemon eucalyptus and para-menthane-diol products provide longer-lasting protection. To optimize safety and effectiveness, repellents should be used according to the label instructions. Cover as much of your skin as possible by wearing shirts with long-sleeves, long pants, and socks whenever possible. Avoid use of perfumes and colognes when working outdoors during peak times when mosquitoes may be active; mosquitoes may be more attracted to individuals wearing perfumes and colognes.

Location/Terrain			
Slip/Trip/Falls	Public Rd/Right of Way	SIMOPS	Economically Depressed

Slips, Trips & Falls

Slip and trip injuries are the most frequent injuries to workers. Statistics show most falls happen on the same level resulting from slips and trips. Both slips and trips result from unintended or unexpected

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change in the contact between the feet and the ground or walking surface. Good housekeeping, quality of walking surfaces (flooring), awareness of surroundings, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents.

Site workers will be walking on a variety of irregular surfaces, that may affect their balance. Extra care must be taken to walk cautiously near rivers because the bottom of the riverbed maybe slick and may not be visible. Rocks, gradient changes, sandy bottoms, and debris may be present but not observable.

Take your time and pay attention to where you are going. Adjust your stride to a pace that is suitable for the walking surface and the tasks you are doing. Check the work area to identify hazards - beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain. Establish and utilize a pathway free of slip and trip hazards. Choose a safer walking route. Carry loads you can see over. Keep work areas clean and free of clutter. Communicate hazards to on-site personnel and remove hazards as appropriate.

Public Right of Way

H&A staff and their subcontractors conducting work on public roads and/or right of ways can be exposed to vehicular traffic and expose the public to the hazards of the job site. Where a hazard exists to site workers because of traffic or haulage conditions at work sites that encroach public streets or highways, a system of traffic controls in conformance with the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), or state program, is required. A Temporary Traffic Control Plan (TCP) describes traffic controls to be used for facilitating vehicle and pedestrian traffic through a temporary traffic control zone TCPs are required to provide for worker protection and safe passage of traffic through and around job sites with as little inconvenience and delay as possible.

The plan may range in scope from being very detailed, to merely referencing typical drawings contained in the MUTCD. The degree of detail in the TCP depends entirely on the complexity of the situation, and TCP's should be prepared by persons knowledgeable about the fundamental principles of temporary traffic control and the work activities to be performed.

H&A Project Managers or their subcontractors need to establish appropriate control measures and obtain any permits when project work is on or encroaches public roadways. You may need flaggers or police details. Cease work and notify the field supervisor immediately if any conditions are such that safety is jeopardized. Utilize protective vehicles whenever appropriate or position equipment so in between the work and oncoming traffic.

SIMOPS

SIMOPS are described as the potential class of activities which could bring about an undesired event or set of circumstances, e.g., safety, environment, damage to assets, schedule, commercial, financial, etc. SIMOPS are defined as performing two or more operations concurrently.

SIMOPS should be identified at an early stage before operations commence to understand issues such as schedule and physical clashes, maintenance activities, failure impacts, interferences between vessels, contracts and third part interfaces and environmental impacts.

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Coordinate project with site activities. Identify and understand the hazards associated with the host and client's activities. Integrate site emergency response protocols where appropriate and communicate to all project staff. Integrate site communication protocols and communicate to all project staff.

Economically Depressed Areas

Economically depressed areas may have high crime rates. Projects involving work in and around inactive industrial sites may bring staff into contact with indigent and homeless persons. Staff could be subjected to crime that includes but may not be limited to thievery, vandalism, and violence. Prior to the start of work staff need to understand the work locations and the potential for exposure to low level crime.

Staff members should never work alone in these areas. A buddy system is required. Conduct during daylight hours. Secure equipment and vehicles. If warranted, contact the local police department for a security detail. Leave the work area immediately and contact the local authorities if staff members feel threatened or are threatened.

Miscellaneous			
Extended Shift	Night Work	Choose an item.	Choose an item.

Extended Shift

An extended shift can include extending a workday beyond eight hours. Extended or unusual work shifts may be more stressful physically, mentally, and emotionally. Non-traditional shifts and extended work hours may disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. This leads to an increased risk of operator error, injuries and/or accidents. The degree to which an individual is exposed to fatigue risk factors depends upon the work schedule. As both the duration of the workday and the number of days worked increase so does the fatigue risk factors. Staff Managers need to be aware of the fatigue risk factors and ensure projects are structured to mitigate these factors. Staff Members also have a responsibility to manage the personal fatigue risk factors that they can control outside of work (e.g, duration and quality of sleep, diet, drugs, and alcohol)

Fatigue is a message to the body to rest and can be eliminated with proper rest. However, if rest is not possible, fatigue can increase and becomes distressing and eventually debilitating. Fatigue symptoms, both mental and physical, vary and depend on the person and degree of overexertion. Examples include: weariness, sleepiness, irritability, reduced alertness, lack of memory, concentration and motivation, increased susceptibility to illness, depression, headache, loss of appetite, and digestive problems.

When possible, managers should limit use of extended shifts and increase the number of days worked. Working shifts longer than 8 hours generally result in reduced productivity and alertness. Additional breaks and meals should be provided when working extended shift periods. Tasks requiring heavy physical labor or intense concentration should be performed at the beginning of the shift if possible. This is an important consideration for pre-emergency planning.

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Make efforts, when feasible, to ensure that unavoidable extended work shifts and shift changes allow affected employees time for adequate rest and recovery. Project Managers need to plan to have an adequate number of personnel available to enable workers to take breaks, eat meals, relax, and sleep.

Plan for regular and frequent breaks throughout the work shift. If at remote sites, ensure if possible, that there is a quiet, secluded area designated for rest and recuperation. In addition to formal breaks such as lunch or dinner, encourage use of micro breaks to change positions, move about, and shift concentration. Personnel should look to obtain an adequate quantity and quality of sleep.

Night Work

The way work is planned and scheduled can increase the risk of fatigue. Scheduling work in a way that fails to allow staff members enough time for travel to and from work and/or allow for sufficient time for sleep can cause fatigue. Working at times when staff members are biologically programmed to sleep and working for long periods of time can also produce fatigue. Working night shift, including the number of consecutive nights can be a significant fatigue risk factor if not managed properly.

Night shifts may be more stressful physically, mentally, and emotionally. They can disrupt the body's regular schedule, leading to increased fatigue, stress, and lack of concentration. These effects lead to an increased risk of operator error, injuries and/or accidents. The degree which an individual is exposed to fatigue risk factors depends upon the work schedule. As both the duration of the workday and number of days worked increase so does the exposure to fatigue risk factors. Staff Managers need to be aware of the fatigue risk factors and ensure projects are structured to mitigate these risk factors.

Employers must ensure that employees are not exposed to hazardous chemicals or other agents in excess of health standards. Working extended shifts may involve prolonged exposures to hazards which exceed established standards. Employers should implement measures to monitor and limit exposures. Controls may include limiting time employees may remain at the project site; having clean locations for employee rest areas; or rest areas located sufficiently up wind of contaminated sites.

Minimize or redesign routine administrative tasks to ensure staff members can focus on core duties during their night work. Limit consecutive night shifts worked. If a project requiring staff to work beyond four nights requires a fatigue management plan. Ensure that rosters allow for at least two full night's sleep after the last night shift before returning to day shift. Regular and frequent breaks are needed. Comprehensive training on fatigue risk factors for the staff members assigned to the project. Optimal sleeping conditions during the day (e.g., dark/quiet rooms, minimize distractions, light meal prior to sleep).

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Task Hazard Summary

Task 1 - Site Walk

General hazards associated with site walk-throughs and site surveys include the following: • Exposure to irritant and toxic plants such as poison ivy and sticker bushes may cause allergic reactions to personnel. • Surfaces covered with heavy vegetation and undergrowth create a tripping hazard. • Back strain due

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to carrying equipment, tools, and instruments. • Native wildlife such as rodents, ticks, and snakes present the possibility of insect bites and associated diseases such as Lyme disease
Driving vehicles on uneven or unsafe surfaces can result in accidents such as overturned vehicles or flat tires. • Heat stress/cold stress exposure.

HAZARD PREVENTION • Wear long-sleeved clothing and slacks to minimize contact with irritant and toxic plants and to protect against insect bites. Appropriate first aid for individuals' known allergic reactions. • Be alert and observe terrain while walking to minimize slips and falls. • Use proper lifting techniques to prevent back strain. • Avoid wildlife when possible. In case of an animal bite, perform first aid and capture the animal, if possible, for rabies testing. Perform a tick check after leaving a wooded or vegetated area. • Ensure all maintenance is performed on vehicles before going to the field. A site surveillance on foot might be required to choose clear driving paths. • Implement heat stress management techniques such as shifting work hours, fluid intake, and monitoring employees, especially high risk workers.

Task 2a – Excavation/Trenching (Remedial Oversight)

There are multiple hazards associated with working in and around excavations and trenches including cave-ins, potential running soils, dislodged excavated soils, lack of proper access and egress. Nonfatal, and even fatal, injuries may occur in association with excavation and trenching activities with a greater frequency than one might expect. Causes of bodily injury, illness, or death include asphyxiation, internal injuries due to physical crushing, falling objects and toxic exposures.

Excavations five (5) feet deep or greater require a protective system unless the excavation is made entirely in stable rock. If the depth is less than five (5) feet deep, a competent person may determine that a protective system is not required. Trenches 20 feet deep or greater require that the protective system be designed by a registered professional engineer or be based on tabulated data prepared and/or approved by a registered professional.

H&A Staff Members shall not enter a trench that is five feet deep or greater unless a protective system is used or the soil(s) have been characterized and benched and/or sloped appropriately.

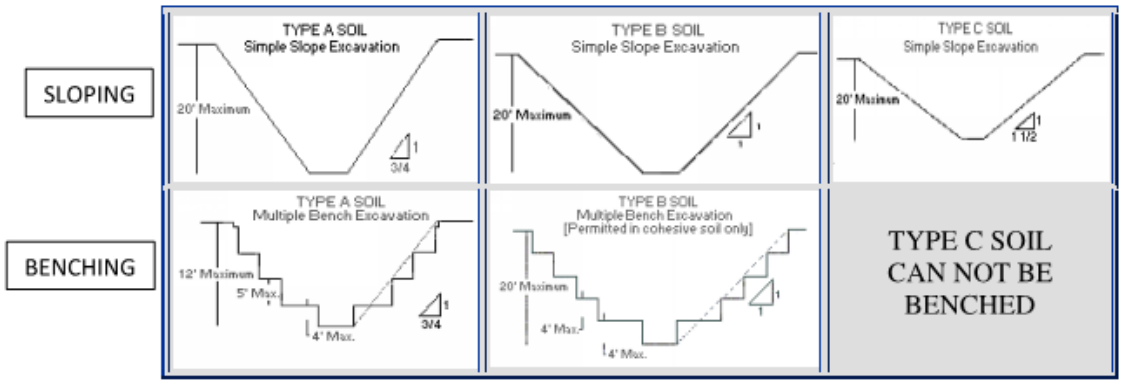
The following are list identifies the types of protective measures that can be used in the event a staff member is required to enter an excavation or trench.

- **Sloping** involves cutting back the trench wall at an angle inclined away from the excavation.

- **Benching** means a method of protecting workers from cave-ins by excavating the sides of an excavation to form one or a series of horizontal levels or steps, usually with vertical or near vertical surfaces between levels. Benching cannot be done in Type C soil. Below is a diagram indicating the appropriate slope angle for both sloping and benching.

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- **Shoring** requires installing aluminum hydraulic or other types of supports to prevent soil movement and cave-ins.
- **Shielding** protects workers by using trench boxes or other types of supports to prevent soil cave-ins.

Designing a protective system can be complex because you must consider many factors: soil classification, depth of cut, water content of soil, changes caused by weather or climate, surcharge loads (e.g., spoil, other materials to be used in the trench) and other operations in the vicinity.

See OP 1001 Excavation and Trenching Safety for more information.

Task 2b - Hauling Soils Off-site (Remedial Oversight)

Hauling Soils Off-site is conducted for a range of services that can include but are not limited to: building, foundation, utility excavation and environmental cleanup. Familiarity with basic heavy construction safety is an essential component of all hauling projects. Potential hazards related to hauling soils off-site operations include, but are not limited to encountering underground or overhead utilities, traffic and heavy equipment, generated waste, and the use or unexpected encountering of toxic or hazardous substances. While staff members do not operate heavy equipment, they may work in close proximity to the equipment and may be exposed to many of the same hazards as the Contractor. Care should be taken during loading of truck/container that the staff is not in the line of fire of the loading equipment (swing radius/traffic pattern) or of the falling spoils/soil from the loading bucket or truck bed. The staff should be aware at all times of subsurface stability as a truck may tip during truck loading and unloading due items such as but not limited to uneven surface, poorly or uncompacted subsurface, thawing soils, saturated soils and proximity to excavation. It is imperative that staff are aware of emergency / communication protocols with the Contractor prior to the start of work.

Task 2c – Stockpiling (Remedial Oversight)

Stockpiling of soils is conducted for a range of services that can include but are not limited to: building, foundation, utility excavation, drilling spoils containment and environmental cleanup. Familiarity with basic heavy construction safety is an essential component of all hauling projects. Potential hazards related to stockpiling operations include, but are not limited to encountering underground or overhead utilities, traffic and heavy equipment, and the use or unexpected encountering of toxic or hazardous substances. While staff members do not operate heavy equipment, they may work in close proximity to

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the equipment and may be exposed to many of the same hazards as the Contractor. Care should be taken during material stockpiling that the staff is not in the line of fire of the loading equipment (swing radius/traffic pattern). The staff should be aware of any setback requirements of stockpile surcharges near trenches and excavations.

Task 3 – Soil Sampling

Soil sampling by H&A staff on active construction sites can be conducted in conjunction with a wide range activities such as building construction, earthwork and soil management related activities. These activities can include, but are not limited to: drill spoil characterization and management during building foundation element installation, characterization of excavated soils for management/disposal/reuse during earthwork activities, and as part of environmental remedial activities such as delineation and confirmation sampling. Familiarity with basic heavy construction safety, site conditions (geotechnical and environmental), and potential soil contaminants are essential components of soil sampling performed on active sites. Potential hazards related to soil sampling at construction sites include, but are not limited to: encountering site vehicle traffic and heavy equipment operations, manual lifting, generated waste, contact or exposure to impacted soil, and encountering unknown toxic or hazardous substances. Although soil sampling is commonly performed within active excavations, from stockpiles, or within trench excavations, sampling locations and situations will vary depending on site conditions. Care should be taken while entering and exiting excavations or trenches, and when accessing (climbing up or down) soil stockpiles, ensuring that the sampling area is not being actively accessed by construction equipment. Care should also be taken with handling of potentially environmentally impacted soil during sampling, with appropriate PPE identified and used. At no time during classification activities are personnel to reach for debris near machinery that is in operation, place any samples in their mouth, or come in contact with the soils without the use of gloves. Staff will have to carry and use a variety of sampling tools, equipment, containers, and potentially heavy sample bags. It is imperative that staff are aware of emergency / communication protocols with the Contractor prior to the start of work.

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Potential Task Hazards	Task 1 Site Walk	Task 2 Remedial Oversight	Task 3 Soil Sampling
Congested Area	☐	☒	☒
Compressed Gas	☐	☒	☒
Ergonomics	☒	☒	☒
Energized Equipment	☐	☒	☐
Excavation/Trenching	☐	☒	☒
Generated Wastes	☐	☒	☒
Ground Disturbance	☐	☒	☐

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Hand/Power Tools	☐	☒	☒
Heavy Equipment	☐	☒	☐
Line of Fire	☐	☒	☒
Manual Lifting	☒	☒	☒
Noise	☐	☒	☐
Overhead Utilities	☐	☒	☐
Repetitive Motion	☒	☒	☒
Slippery Surfaces	☒	☒	☒
Sharp Objects	☐	☒	☒
Traffic	☒	☒	☐
Underground Utilities	☐	☒	☒
Other: Specify	☐	☐	☐

Summary of Physical Hazards & Controls

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Compressed Gas

Hazards associated with compressed gases include oxygen displacement, fires, explosions, and toxic gas exposures, as well as the physical hazards associated with pressurized containers. In most instances, accidents are caused by improper application, misuse of the gas, or its container by inadequately trained personnel. Special storage, use, and handling precautions are necessary to minimize accidents and control these hazards above.

See OP 1048 Compressed Gas Safety for more information.

Controls

- Visually inspect the cylinder prior to and after use for any damage. Report any damage to the vendor for direction.
- Ensure that cylinders are clearly identified. Labels must not be defaced or removed.
- Leave valve protection caps in place (if provided) until cylinders are secured and connected for use.
- Keep cylinder valves closed except when the cylinder is being used.
- When opening a cylinder valve, stand so the valve outlet is pointed away from yourself and all other employees. Open valves slowly.
- Replace protective caps and outlet caps or plugs before returning empty cylinders to the supplier.
- Never tamper with or alter cylinders, valves, or safety relief devices.
- Do not tighten connections or leaking fittings or attempt repairs while the system is under pressure.
- Do not subject cylinders to artificially low temperatures or temperatures above 125 F. Do not place them next to heat sources or allow a flame to contact any part of the cylinder.

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- Avoid dragging or sliding cylinders. Do not lift cylinders by the caps.
- Firmly secure the cylinder and move with a suitable hand truck, lift truck, or crane with a cradle or platform.

Storage

- Provide adequate space or segregate by partitions and post a conspicuous sign that identifies the gas or hazard class.
- Storage areas should be dry, well-drained, ventilated, and fire resistant.
- Cylinders can be stored in the open, but they should be protected from the ground or continuous dampness to prevent rusting.
- Cylinders can usually be stored in the sun; but, cylinders must not exceed temperatures >125 F.
- Always refer to the manufacturers' storage requirements and SDSs.
- Storage areas should protect cylinders from damage. Do not store on unprotected platform edges or obstruct walkways or exits.
- Use brackets, chains, or straps around the upper third of the cylinder to secure cylinders in storage or in use.

Transport

- Cylinders must be stored upright, firmly secured, and be capped during transport.

Congested Areas

Working in congested areas can expose both workers and the public to a wide range of hazards depending upon the specific activities taking place. Staff Members need to understand the work scope, work areas, equipment on-site, and internal traffic patterns to minimize or eliminate exposure potential.

Controls

- Provide barricades, fencing, warning signs/signals and adequate lighting to protect people while working in or around congested areas.
- Vehicles and heavy equipment with restricted views to the rear should have functioning back-up alarms that are audible above the surrounding noise levels. Whenever possible, use a signaler to assist heavy equipment operators and/or drivers in backing up or maneuvering in congested areas.
- Lay out traffic control patterns to eliminate excessive congestion.
- Workers in congested areas should always wear high visibility clothing.
- Be aware of Line of Fire hazards when performing work activities in congested areas.
- Hazards associated with SIMOPs should be discussed daily at Tailgate Safety Meetings.

Ergonomics

Most Work-related Musculoskeletal Disorders (WMSDs) are caused by Ergonomic Stressors. Ergonomic Stressors are caused by poor workplace practices and/or insufficient design, which may present ergonomic risk factors. These stressors include, but not limited to, repetition, force, extreme postures, static postures, quick motions, contact pressure, vibration, and cold temperatures.

WMSDs are injuries to the musculoskeletal system, which involves bones, muscles, tendons, ligaments, and other tissues in the system. Symptoms may include numbness, tightness, tingling, swelling, pain, stiffness, fatigue, and/or redness. WMSD are usually caused by one or more Ergonomic Stressors. There

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may be individual differences in susceptibility and symptoms among employees performing similar tasks. Any symptoms are to be taken seriously and reported immediately.

See OP1053 Ergonomics for more information.

Controls

- Ensure workstations are ergonomically correct so bad posture is not required to complete tasks.
- Take periodic breaks over the course of the day.
- Stretch during break times.
- Break up tasks that require repetitive motion.
- Contact Corporate H&S with any ergonomic concerns

Energized Equipment

Energy sources including electrical, mechanical, hydraulic, pneumatic, or other sources in machines and equipment can be hazardous to workers. During servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers.

Staff members that are required to work on energized equipment must first ensure that the source of energy is isolated and/or de-energized. In addition, any stored energy must also be released. Staff must ensure that the process to de-energize and isolate energy sources is documented and communicated to those who are working on the equipment. Staff must be trained on and understand the procedure.

See OP 1032 Control of Hazardous Energy for more information.

Controls

- Document process to de-energize or isolate energy sources.
- Ensure staff are appropriately trained to conduct work requiring LOTO.
- Affix log or tag to equipment to ensure improper start-up or release of energy.
- Execute an Energy Isolation Permit.

Excavation & Trenches

There are multiple hazards associated with working in and around excavations and trenches including cave-ins, potential running soils, dislodged excavated soils, lack of proper access and egress. Nonfatal, and even fatal, injuries may occur in association with excavation and trenching activities with a greater frequency than one might expect. Causes of bodily injury, illness, or death include asphyxiation, internal injuries due to physical crushing, falling objects and toxic exposures.

See OP1001 Excavation and Trenching Safety for more information.

Controls

- Do not enter an exaction unless it has been inspected and has appropriate protective measures in place: shoring, benching, or sloping.
    - Protective measures are required for excavations that are 5 feet or deeper.
- If entry is required verify with the on-site competent person that:
    - no atmospheric hazards exist or have the potential to exist
    - there is no standing water or water removal operations are in place

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  - the daily inspection has occurred
  - spoil piles, equipment or other is at least 2 feet from the edge
  - There is safe access and egress to the excavation which can include ladders, steps, ramps or other safe means. The means of access and egress shall be no more than 25' away.
- If there is any doubt about the safety of the excavation personnel will not enter the excavation or trench and will contact the PM and the Regional Safety Manager.
- Do not stand on the long side of the cut. If required ensure there are no tension cracks.

Generated Waste

Activities on environmental sites may generate waste that requires regulated handling and disposal. Excess sample solids, decontamination materials, poly sheeting, used PPE, etc. that are determined to be free of contamination through field or laboratory screening can usually be disposed into client-approved, on-site trash receptacles. Uncontaminated wash water may be discarded onto the ground surface away from surface water bodies in areas where infiltration can occur. Contaminated materials must be segregated into liquids or solids and drummed separately for off-site disposal.

Controls

- Manage waste properly through good work practices.
- Collect, store, containerize waste, and dispose of it properly.
- All wastes generated shall be containerized in an appropriate container (i.e. open or closed top 55-gallon drum, roll-off container, poly tote, cardboard box, etc.) as directed by the PM.
- Containers should be inspected for damages or defects
- Waste containers should be appropriately labeled indicating the contents, date the container was filled, owner of the material (including address) and any unique identification number, if necessary.
- Upon completion of filling the waste container, the container should be inspected for leaks and an appropriate seal.

Ground Disturbance

Ground disturbance is defined as any activity disturbing the ground. Ground disturbance activities include, but are not limited to, excavating, trenching, drilling (either mechanically or by hand), digging, plowing, grading, tunneling and pounding posts or stakes.

Because of the potential hazards associated with striking an underground utility or structure, the operating procedure for underground utility clearance shall be followed prior to performing any ground disturbance activities.

See OP1020 Working Near Utilities

Controls

Prior to performing ground disturbance activities, the following requirements should be applied:

- Confirm all approvals and agreements (as applicable) either verbal or written have been obtained.
- Request for line location has been registered with the applicable One-Call or Dial Before You Dig organization, when applicable.
  - Whenever possible, ground disturbance areas should be adequately marked or staked prior to the utility locators site visit.

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- Notification to underground facility operator/owner(s) that may not be associated with any known public notification systems such as the One-Call Program regarding the intent to cause ground disturbance within the search zone.
- Notifications to landowners and/or tenant, where deemed reasonable and practicable.
- Proximity and Common Right of Way Agreements shall be checked if the line locator information is inconclusive.

Hand and Power Tools

Hand and power tools can expose staff to a wide range of hazards depending upon the tool used. Hazards can include but are not limited to: falling, flying, abrasive, and splashing objects, or harmful dusts, fumes, mists, vapors, or gases.

Serious accidents often occur before steps are taken to evaluate and avoid or eliminate tool-related hazards. Staff must recognize the hazards associated with the different types of tools and the safety precautions necessary to prevent those hazards.

See OP 1026 Hand and Power Tools for more information.

Controls

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job. Do not use a tool for a task which it was not designed for.
- Examine each tool for damage before use and do not use damaged tools.
- For tools that are damaged or defective, red tag the tool and take out of service.
- Operate tools per the manufacturers' instructions.
- Use the appropriate personal protective equipment.
- All electrically powered tools will be connected through a ground fault circuit interrupter (GFCI).
- All personnel must be trained on the use of the tool they are utilizing.

Heavy Equipment

Staff must be careful and alert when working around heavy equipment, failure or breakage and limited visibility can lead to accidents and worker injury. Heavy equipment such as cranes, drills, haul trucks, or other can fail during operation increasing chances of worker injury. Equipment of this nature shall be visually inspected and checked for proper working order prior to commencement of field work. Those operating heavy equipment must meet all requirements to operate the equipment. Haley & Aldrich, Inc. staff that supervise projects or are associated with high risk projects that involve digging or drilling should use due diligence when working with a construction firm.

See OP1052 Heavy Equipment for additional information.

Controls

- Only approach equipment once you have confirmed contact with the operator (e.g., operator places the bucket on the ground).
- Always maintain visual contact with operators and keep out of the strike zone whenever possible.
- Always be alert to the position of the equipment around you.
- Always approach heavy equipment with an awareness of the swing radius and traffic routes of all equipment and never go beneath a hoisted load.

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- Avoid fumes created by heavy equipment exhaust.

Line of Fire

Line of fire refers to the path an object will travel. Examples of line of fire situations typically observed on project sites include lifting/hoisting, lines under tension, objects that can fall or roll, pressurized objects or lines, springs or stored energy, work overhead, vehicles and heavy equipment.

Controls

- Never walk under a suspended load.
- Be aware and stay clear of tensioned lines such as cable, chain and rope.
- Be cautious of torque stresses that drilling equipment and truck augers can generate. Equipment can rotate unexpectedly long after applied torque force has been stopped.
- Springs and other items can release tremendous energy if compressed and suddenly released
- Items under tension and pressure can release tremendous energy if it is suddenly released.
- Not all objects may be overhead; be especially mindful of top-heavy items and items being transported by forklift or flatbed.
- Secure objects that can roll such as tools, cylinders, and pipes.
- Stay clear of soil cuttings or soil stockpiles generated during drilling operations and excavations, be aware that chunks of soil, rocks, and debris can fall or roll.

Manual Lifting/Moving

Most materials associated with investigation, remedial, or construction-related activities are moved by hand. The human body is subject to damage in the forms of back injury, muscle strains, and hernia if caution is not observed in the handling process.

Controls

- Under no circumstances should any one person lift more than 49 pounds unassisted.
- Always push, not pull, the object when possible.
- Size up the load before lifting. If it is heavy or clumsy, get a mechanical aid or help from a worker.
- Bend the knees; it is the single most important aspect of lifting.
- When performing the lift:
    - Place your feet close to the object and center yourself over the load.
    - Get a good handhold.
    - Lift straight up, smoothly and let your legs do the work, not your back!
    - Avoid overreaching or stretching to pick up or set down a load.
    - Do not twist or turn your body once you have made the lift.
    - Make sure beforehand that you have a clear path to carry the load.
    - Set the load down properly.

Noise

Working around heavy equipment (drill rigs, excavators, etc.) often creates excessive noise. The effects of noise include physical damage to the ear, pain, and temporary and/or permanent hearing loss. Workers can also be startled, annoyed, or distracted by noise during critical activities. Noise monitoring data that indicates that working within 25 feet of operating heavy equipment result in exposure to hazardous levels of noise (levels greater than 85 dBA).

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See OP 1031 Hearing Conservation for additional information.

Controls

- Personnel are required to use hearing protection (earplugs or earmuffs) within 25 feet of any operating piece of heavy equipment.
- Limit the amount of time spent at a noise source.
- Move to a quiet area to gain relief from hazardous noise sources.
- Increase the distance from the noise source to reduce exposure.

Overhead Utilities

When work is undertaken near overhead electrical lines, the distance maintained from those lines shall also meet the minimum distances for electrical hazards as defined in Table 1 below. Note: utilities other than overhead electrical utilities need to be considered when performing work.

Table 1 Minimal Radial Clearance Distances *

Normal System Voltage Kilovolts (kV)	Required Minimal Radial Clearance Distance (feet/meters)
0 – 50	10/3.05
51 – 100	12/3.66
101 – 200	15/4.57
201 – 300	10/6.1
301 – 500	25/7.62
501 – 750	35/10.67
750 - 1000	45/13.72

* For those locations where the utility has specified more stringent safe distances, those distances shall be observed.

Controls

- To prevent damage, guy wires shall be visibly marked and work barriers or spotters provided in those areas where work is being conducted.
    - When working around guy wires, the minimum radial clearance distances for electrical power shall be observed.
- The PM shall research and determine if the local, responsible utility or client has more restrictive requirements than those stated in Table 1.
- If equipment cannot be positioned in accordance with the requirements established in Table 1 the lines need to be de-energized.

Repetitive Motion

Repetitive Motion or Strain Injuries are injuries effecting muscles, nerves, and tendons by repetitive movement and overuse. Almost any kind of awkward or repetitive motion you make could lead to an injury over time. Actions like bending or twisting of the wrists, reaching for materials, working with your hands above shoulder level, or grasping objects can increase wear and tear on the body. The condition mostly effects the upper body.

Controls

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- Arrange your work zone, supplies and tools as much as possible to avoid reaching, leaning, bending and twisting your waist or wrists.
- During rest breaks, use stretches to loosen up your body.
- Vary tasks if you can so that you are not making the same movement repeatedly over for a long period.

Sharp Objects

Workers who handle sharp edged objects like sheets of steel or glass are at risk of cuts. Workers who handle sharp edged objects are also at risk of cuts. Injuries may occur to hands, fingers, or legs when they are in the way of the blade, when the blade slips, or if an open blade is handled unexpectedly. Other hazards at job sites include stepping on sharp objects (e.g. wooden boards with protruding nails, sharp work-tools, chisels, etc.) and colliding with sharp and/or protruding objects.

Controls

Always be alert when handling sharps. Never look away or become distracted while handling sharp objects. Use caution when working with tools; use right tool for the job. Keep tools sharp, dull blades are a safety hazard, requiring more force to make cuts which can lead to tool slippage. Wear appropriate PPE and do not handle sharp objects (i.e., broken glass) with bare hands. Use mechanical devices, when possible. Stay away from building debris; avoid handling site debris or placing your hand where you cannot see. Watch out for barbed wire and electrical fences; cover with a car mat or equivalent to cross or walk around; use the buddy system to avoid entanglement; wear gloves. Do not leave unprotected sharps unattended. Use protective shields, cases, styrofoam blocks, etc. Pass a sharp by handing it over carefully by the handle with the blade down or retracted. Fixed open blades are prohibited. Always cut away from the body, making several passes when cutting thicker materials. Make sure blades are fitted properly into the knife. Never cut items with a blade or other sharp object on your lap. Never try to catch a blade or cutting tool that is falling.

Slippery Surfaces

Both slips and trips result from unintended or unexpected change in the contact between the feet and ground or walking surface. Good housekeeping, quality of walking surfaces, selection of proper footwear, and appropriate pace of walking are critical for preventing fall accidents. Slips happen where there is too little friction or traction between the footwear and walking surface.

Common causes of slips are wet or oily surfaces, spills, weather hazards, loose unanchored rugs or mats and flooring or other walking surfaces that do not have same degree of traction in all areas.

Weather-related slips and falls become a serious hazard as winter conditions often make for wet or icy surfaces outdoors. Even wet organic material or mud can create hazardous walking conditions. Spills and leaks can also lead to slips and falls.

Controls

- Evaluate the work area to identify any conditions that may pose a slip hazard.
- Address any spills, drips or leaks immediately.
- Mark areas where slippery conditions exist.
- Select proper footwear or enhance traction with additional PPE.
- Where conditions are uncertain or environmental conditions result in slippery surfaces walk slowly, take small steps, and slide feet on wet or slippery surfaces.

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Traffic

To ensure worker protection and the safe passage of traffic through and around job sites, Site Traffic Control procedures may need to be implemented on project sites. Job zone control and traffic management are necessary when Simultaneous Operations (SIMOPS) or third parties could be at risk of injury by entering the work zone, or when the work crew is at risk of injury by other operations.

Traffic patterns shall be evaluated. Conditions such as high pedestrian traffic, peak periods, daily deliveries or SIMOPS known, Heavy equipment traffic volume and light duty traffic volume shall be evaluated

Early identification and planning for site operations that require job zone control and traffic management, including SIMOPS, is the responsibility of the Project Manager and primary contractor manager. Traffic control plans shall be consistent with the Manual on Uniform Traffic Control Devices.

See OP1025 Signs, Signals, and Barricades and/or OP1043 Site Traffic Control for more information.

Controls

- Alternate walkways where possible.
- Use of the local police to direct traffic.
- Use of an air horn to alert drivers or other workers.
- Maintain good housekeeping and clean the area as work is completed.
- Use the 'buddy' or 'watchperson' system while performing work.
- Use a spotter for backing, tight maneuvers and bin/tank/equipment drop-offs.
- Use traffic control devices, field vehicles and barricades and avoid the use of caution tape.
- Park all vehicles (with wheels in a safe direction away from work) to block traffic with a flashing yellow light. Park so that access to the vehicle is away from oncoming traffic while working.
- When parking a vehicle and equipment, utilize a 'first move forward' driving practice.
- Work in an upright position, face traffic and make eye contact with drivers when possible.
- Minimize work time in traffic.
- Establish a 'Stop Work' hand signal.
- Personnel shall always wear high visibility vest

If public sites, such as public roads, bicycle paths or footpaths, are closed or rerouted, local and regulatory requirements shall be followed and traffic control permits shall be put in place. Proper traffic guiding equipment includes stop/slow paddle signs, flaggers, flashing lights and directional signs.

All personnel on-site should be aware of the plan of the day and the Traffic Control Plan should be communicated with all parties involved during the pre-shift meeting.

Underground Utilities

Various forms of underground/overhead utility lines or conveyance pipes may be encountered during site activities. Prior to the start of intrusive operations, utility clearance is mandated, as well as obtaining authorization from all concerned public utility department offices. Should intrusive operations cause equipment to come into contact with utility lines, the SHSO, Project Manager, and Regional H&S

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Manager shall be notified immediately. Work will be suspended until the client and applicable utility agency is contacted and the appropriate actions for the situation can be addressed.

See OP1020 Work Near Utilities for complete information.

Controls

- Obtain as-built drawings for the areas being investigated from the property owner;
- Visually review each proposed soil boring locations with the property owner or knowledgeable site representative;
- Perform a geophysical survey to locate utilities;
- Hire a private line locating firm to determine location of utility lines that are present at the property;
- Identifying a no-drill or dig zone;
- Hand dig or use vacuum excavation in the proposed ground disturbance locations if insufficient data is unavailable to accurately determine the location of the utility lines.

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4. PROTECTIVE MEASURES

The personal protective equipment and safety equipment (if listed) is specific to the associated task. The required PPE and equipment listed must be onsite during the task being performed. Work shall not commence unless the required PPE or Safety Equipment is present.

Required Safety & Personal Protective Equipment

Required Personal Protective Equipment (PPE)	**Task 1**	**Task 2**	**Task 3**	
	Site Walk	Remedial Oversight	Soil Sampling	Enter task description.
Hard hat	☒	☒	☒	☐
Safety Glasses	☒	☒	☒	☐
Safety Toed Shoes	☒	☒	☒	☐
Class 2 Safety Vest	☒	☒	☒	☐
Hearing Protection	☐	☒	☒	☐
Nitrile Gloves	☐	☐	☒	☐
Cut Resistant Gloves	☒	☒	☒	☐
Level of protection required	D	D	D	Select
Required Safety Equipment				
First Aid Kit	☒	☒	☒	☐

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5. TRAINING REQUIREMENTS

The table below lists the training requirements staff must have respective to their assigned tasks and that are required to access the Site.

Site Specific Training Requirements
HAZWOPER - 40 Hour (Initial)
HAZWOPER - 8 Hour (Annual Refresher)
Site Specific Orientation
40 Hour SST

Task Specific Training Requirements				
Required Training Type	**Task 1**	**Task 2**	**Task 3**	**Task 4**
	Site Walk	Remedial Oversight	Soil Sampling	Enter task description.
Hazard Communication	☒	☒	☒	☐
RCRA Haz Waste Generator	☐	☒	☐	☐

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6. AIR MONITORING PLAN AND EQUIPMENT

Exposures to airborne substances shall be fully characterized throughout project operations to ensure that exposure controls are effectively selected and modified as needed.

Is air/exposure monitoring required at this work site for personal protection? Yes

Is perimeter monitoring required for community protection? Yes

Air monitoring plan not applicable No

Air Monitoring/Screening Equipment Requirements

Photo-Ionization Detector (PID) 10.6eV

Dust Monitor (DustTrak)

The required equipment listed above must be on site. Work shall not commence unless the equipment is present and in working order.

Monitoring Plans

Parameter/ Contaminant	Equipment	Action Level	Response Activity
VOCs	PID 10.6 eV	< 10 ppm	Continue work and monitoring.
		>10 ppm for 5 minutes	Clear Instrument and Re-Monitor the Area. Implement PPE upgrades
		>10 ppm for >5 minutes	Evacuate the area and call the FSM and/or PM for further guidance. Implement engineering controls.

Zone Location and Monitoring Interval
Breathing zone and edge of Exclusion Zone.

See RAWP for CAMP requirements and Special CAMP requirements.

***If chemical does not have an action level use TLV or REL, whichever is lowest, to be used as an action level. If TLV or REL are the same as PEL, cut the PEL in half for an action level.**

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7. DECONTAMINATION & DISPOSAL METHODS

All possible and necessary steps shall be taken to reduce or minimize contact with chemicals and contaminated/impacted materials while performing field activities (e.g., avoid sitting or leaning on, walking through, dragging equipment through or over, tracking, or splashing potential or known contaminated/impacted materials.)

Personal Hygiene Safeguards

The following minimum personal hygiene safeguards shall be adhered to:

1. No smoking or tobacco products in any project work areas.
2. No eating or drinking in the exclusion zone.
3. It is required that personnel present on site wash hands before eating, smoking, taking medication, chewing gum/tobacco, using the restroom, or applying cosmetics and before leaving the site for the day.

It is recommended that personnel present on site shower or bathe at home at the end of each day of working on the site.

Decontamination Supplies

All decontamination should be conducted at the project site in designated zones or as dictated by Client requirements. Decontamination should not be performed on Haley & Aldrich owned or leased premises.

☐ Acetone	☒ Distilled Water	☐ Polyethylene Sheeting
☒ Alconox Soap	☐ Drums	☐ Pressure/Steam Cleaner
☒ Brushes	☐ Hexane	☒ Tap Water
☒ Disposal Bags	☐ Methanol	☐ Wash tubs
☐ 5 Gallon Buckets	☒ Paper Towels	☐ Other: Specify

Location of Decontamination Station

To be communicated during Site kick-off meeting.

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Standard Personal Decontamination Procedures

Outer gloves and boots should be decontaminated periodically as necessary and at the end of the day. Brush off solids with a hard brush and clean with soap and water or other appropriate cleaner whenever possible. Remove inner gloves carefully by turning them inside out during removal. Wash hands and forearms frequently. It is good practice to wear work-designated clothing while on-site which can be removed as soon as possible. Non-disposable overalls and outer work clothing should be bagged onsite prior to laundering. If gross contamination is encountered on-site contact the Project Manager and Field Safety Manager to discuss proper decontamination procedures.

The steps required for decontamination will depend upon the degree and type of contamination but will generally follow the sequence below.

1. Remove and wipe clean hard hat
2. Rinse boots and gloves of gross contamination
3. Scrub boots and gloves clean
4. Rinse boots and gloves
5. Remove outer boots (if applicable)
6. Remove outer gloves (if applicable)
7. Remove Tyvek coverall (if applicable)
8. Remove respirator, wipe clean and store (if applicable)
9. Remove inner gloves (if outer gloves were used)

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles.

Small Equipment Decontamination

Pretreatment of heavily contaminated equipment may be conducted as necessary:

1. Remove gross contamination using a brush or wiping with a paper towel
2. Soak in a solution of Alconox and water (if possible)
3. Wipe off excess contamination with a paper towel

Standard decontamination procedure:

4. Wash using a solution of Alconox and water
5. Rinse with potable water
6. Rinse with methanol (or equivalent)
7. Rinse with distilled/deionized water

Inspect the equipment for any remaining contamination and repeat as necessary.

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Disposal Methods

Procedures for disposal of contaminated materials, decontamination waste, and single use personal protective equipment shall meet applicable client, locate, State, and Federal requirements.

Disposal of Single Use Personal Protective Equipment

PPE that is not grossly contaminated can be bagged and disposed in regular trash receptacles. PPE that is grossly contaminated must be bagged (sealed and field personnel should communicate with the Project Manager to determine proper disposal.

Standard Disposal Methods for Contaminated Materials

- Excess sample solids, decontamination materials, rags, brushes, poly-sheeting, etc. that are determined to be free of contamination through field screening can usually be disposed into client-approved, on-site trash receptacles.
- Uncontaminated wash water may be discarded onto the ground surface away from surface water bodies in areas where infiltration can occur.
- Contaminated materials must be segregated into liquids or solids and containerized separately for offsite disposal.

Disposal Method for Contaminated Soil

- Contaminated soil cuttings and spoils must be containerized for disposal off-site unless otherwise specifically directed.
- Soil cuttings and spoils determined to be free of contamination through field screening can usually be returned to the boreholes or excavations from which they came.

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8. SITE CONTROL

The overall purpose of site control is to minimize potential contamination of workers, protect the public from the site's hazards, and prevent vandalism. Site control is especially important in emergency situations. The degree of site control necessary depends on site characteristics, site size, and the surrounding community. The following information identifies the elements used to control the activities and movements of people and equipment at the project site.

Communication
Internal Haley & Aldrich site personnel will communicate with other Haley & Aldrich staff member and/or subcontractors or contractors with: Face to Face Communication
External H&S site personnel will use the following means to communicate with off-site personnel or emergency services. Cellular Phones
Visitors
Project Site Will visitors be required to check-in prior to accessing the project site? Yes
Visitor Access Authorized visitors that require access to the project site need to be provided with known information with respect to the site operations and hazards as applicable to the purpose of their site visit. Authorized visitors must have the required PPE and appropriate training to access the project site. Site Safety Officer is responsible for facilitating authorized visitor access.
Zoning
Work Zone The work zone will be clearly delineated to ensure that the general public or unauthorized worker access is prevented. The following will be used: Cones Barricades Temporary Fencing

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9. SITE SPECIFIC EMERGENCY RESPONSE PLAN

The Emergency Response Plan addresses potential emergencies at this site, procedures for responding to these emergencies, roles, responsibilities during emergency response, and training. This section also describes the provisions this project has made to coordinate its emergency response with other contractors onsite and with offsite emergency response organizations (as applicable).

During the development of this emergency response plan, local, state, and federal agency disaster, fire, and emergency response organizations were consulted (if required) to ensure that this plan is compatible and integrated with plans of those organizations. Documentation of the dates of these consultations are the names of individuals contacted is kept on file and available upon request.

The site has been evaluated for potential emergency occurrences, based on site hazards, and the major categories of emergencies that could occur during project work are:

- Fire(s)/Combustion
- Hazardous Material Event
- Medical Emergency
- Natural Disaster

A detailed list of emergency types and response actions are summarized in Table 9-2 below. Prior to the start of work, the SSO will update the table with any additional site-specific information regarding evacuations, muster points, or additional emergency procedures. The SSO will establish evacuation routes and assembly areas for the Site. All personnel entering the Site will be informed of these routes and assembly areas.

Pre-Emergency Planning

Before the start of field activities, the Project Manager will ensure preparation has been made in anticipation of emergencies. Preparatory actions include the following:

Meeting with the subcontractor/and or client concerning the emergency procedures in the event a person is injured. Appropriate actions for specific scenarios will be reviewed. These scenarios will be discussed, and responses determined before the sampling event commences. A form of emergency communication (i.e.; Cell phone, Air horn, etc.) between the Project Manager and subcontractor and/or client will be agreed on before the work commences.

A training session (i.e., “safety meeting”) given by the Project Manager or their designee informing all field personnel of emergency procedures, locations of emergency equipment and their use, and proper evacuation procedures.

Ensuring field personnel are aware of the existence of the emergency response HASP and ensuring a copy of the HASP accompanies the field team(s).

Onsite Emergency Response Equipment

Emergency procedures may require specialized equipment to facilitate work rescue, contamination control and reduction or post-emergency cleanup. Emergency response equipment stocked

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Table 9.1 Emergency Equipment and Emergency PPE			
Emergency Equipment	**Specific Type**	**Quantity Stocked**	**Location Stored**
First Aid Kit	ANSI	1 Kit	With Haley & Aldrich staff
Emergency PPE	**Specific Type**	**Quantity Stocked**	**Location Stored**
Gloves	Nitrile	1 box	With Haley & Aldrich staff

EVACUATION ALARM
Will be communicated during the Onsite Kickoff Meeting
EVACUATION ROUTES
See Site Plan in this HASP for Evacuation Routes
EVACUATION MUSTER POINT(S)/ SHELTER AREA(S)
See Site Plan in this HASP for Muster Point and Shelter Area
EVACUTION RESPONSE DRILLS
The Site relies on outside emergency responders and a drill is not required.

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Table 9-2 – Emergency Planning

Emergency Type	Notification	Response Action	Evacuation Plan/Route
Chemical Exposure	Report event to SSO immediately	Refer to Safety Data Sheet for required actions	Remove personnel from work zone
Fire - Small	Notify SSO and contact 911	Use fire extinguisher if safe and qualified to do so	Mobilize to *Muster Point*
Fire – Large/Explosion	Notify SSO and contact 911	Evacuate immediately	Mobilize to *Muster Point*
Hazardous Material – Spill/Release	Notify SSO; SSO will contact PM to determine if additional agency notification is	If practicable don PPE and use spill kit and applicable procedures to contain the release	See Evacuation Map for route, move at least 100 ft upwind of spill location
Medical – Bloodborne Pathogen	Notify SSO	If qualified dispose in container or call client or city to notify for further instruction.	None Anticipated
Medical – First Aid	Notify SSO	If qualified perform first aid duties	None Anticipated
Medical – Trauma	If life threatening or transport is required call 911, immediately	Wait at site entrance for ambulance	Noe Anticipated
Security Threat	Notify SSO who will call 911 as warranted	Keep all valuables out of site and work zones delineated.	None Anticipated
Weather – Earthquake/Tsunami's	STOP WORK and evacuate Site upon any earthquake	Turn off equipment and evacuate as soon as is safe to do so	Mobilize to *Shelter Location*
Weather – Lightning Storm	STOP WORK	Work may resume 30 minutes after the last observed lightning.	None Anticipated
Weather – Tornadoes/Hurricanes	Monitor weather conditions STOP WORK and evacuate the site	Evacuate to shelter location or shelter in place immediately	Mobilize to *Shelter Location*
MUSTER POINT Will be communicated during the Onsite Kickoff Meeting		*SHELTER LOCATION* Will be communicated during the Onsite Kickoff Meeting	
In case of site emergencies, site personnel shall be evacuated per this table and will not participate in emergency response activities. Site emergencies shall be reported to local, state, and federal governmental agencies as required.			

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10. HASP ACKNOWLEDGEMENT FORM

All Haley & Aldrich employees onsite must sign this form prior to entering the site.

I hereby acknowledge receipt of, and briefing on, this HASP prior to the start of on-site work. I declare that I understand and agree to follow the provisions, processes, and procedures set forth herein at all times while working on this site.

Printed Name	Signature	Date

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ATTACHMENT A
HASP AMENDMENT FORM

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HASP AMENDMENT FORM

This form is to be used whenever there is an immediate change in the project scope that will require an amendment to the HASP. For project scope changes associated with "add-on" tasks, the changes must be made in the body of the HASP. Before changes can be made, a review of the potential hazards must be initiated by the Haley & Aldrich Project Manager.

This original form must remain on site with the original HASP. If additional copies of this HASP have been distributed, it is the Project Manager's responsibility to forward a signed copy of this amendment to those who have copies.

Amendment No.	
Site Name	
Work Assignment No.	
Date	
Type of Amendment	
Reason for Amendment	
Alternate Safeguard Procedures	
Required Changes in PPE	

Project Manager Name (Print)	Project Manager Signature	Date

Health & Safety Approver Name (Print)	Health & Safety Approver Signature	Date

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ATTACHMENT B
TRAINING REQUIREMENTS

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TRAINING REQUIREMENTS

Health and Safety Training Requirements

Personnel will not be permitted to supervise or participate in field activities until they have been trained to a level required by their job function and responsibility. Haley & Aldrich staff members, contractors, subcontractors, and consultants who have the potential to be exposed to contaminated materials or physical hazards must complete the training described in the following sections.

The Haley & Aldrich Project Manager/FSM will be responsible for maintaining and providing to the client/site manager documentation of Haley & Aldrich staff members' compliance with required training as requested. Records shall be maintained per OSHA requirements.

40-Hour Health and Safety Training

The 40-Hour Health and Safety Training course provides instruction on the nature of hazardous waste work, protective measures, proper use of personal protective equipment, recognition of signs and symptoms which might indicate exposure to hazardous substances, and decontamination procedures. It is required for all personnel working on-site, such as equipment operators, general laborers, and supervisors, who may be potentially exposed to hazardous substances, health hazards, or safety hazards consistent with 29 CFR 1910.120.

8-hour Annual Refresher Training

Personnel who complete the 40-hour health and safety training are subsequently required to attend an annual 8-hour refresher course to remain current in their training. When required, site personnel must be able to show proof of completion (i.e., certification) at an 8-hour refresher training course within the past 12 months.

8-Hour Supervisor Training

On-site managers and supervisors directly responsible for, or who supervise staff members engaged in hazardous waste operations, should have eight additional hours of Supervisor training in accordance with 29 CFR 1910.120. Supervisor Training includes, but is not limited to, accident reporting/investigation, regulatory compliance, work practice observations, auditing, and emergency response procedures.

Additional Training for Specific Projects

Haley & Aldrich personnel will ensure their personnel have received additional training on specific instrumentation, equipment, confined space entry, construction hazards, etc., as necessary to perform their duties. This specialized training will be provided to personnel before engaging in the specific work activities including:

- Client specific training or orientation
- Competent person excavations
- Confined space entry (entrant, supervisor, and attendant)
- Heavy equipment including aerial lifts and forklifts
- First aid/ CPR
- Use of fall protection
- Use of nuclear density gauges
- Asbestos awareness

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ATTACHMENT C
ROLES AND RESPONSIBILITIES

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SITE ROLES AND RESPONSIBILITIES

Haley & Aldrich Personnel

Field Safety Manager (FSM)

The Haley & Aldrich FSM is a full-time Haley & Aldrich staff member, trained as a safety and health professional, who is responsible for the interpretation and approval of this Safety Plan. Modifications to this Safety Plan cannot be undertaken by the PM or the SSO without the approval of the FSM.

Specific duties of the FSM include:

- Approving and amending the Safety Plan for this project
- Advising the PM and SHSOs on matter relating to health and safety
- Recommending appropriate personal protective equipment (PPE) and air monitoring instrumentation
- Maintaining regular contact with the PM and SSO to evaluate the conditions at the property and new information which might require modifications to the HASP and
- Reviewing and approving JSAs developed for the site-specific hazards.

Project Manager (PM)

The Haley & Aldrich PM is responsible for ensuring that the requirements of this HASP are implemented at that project location. Some of the PM´s specific responsibilities include:

- Assuring that all personnel to whom this HASP applies have received a copy of it;
- Providing the FSM with updated information regarding environmental conditions at the site and the scope of site work;
- Providing adequate authority and resources to the on-site SHSO to allow for the successful implementation of all necessary safety procedures;
- Supporting the decisions made by the SHSO;
- Maintaining regular communications with the SHSO and, if necessary, the FSM;
- Coordinating the activities of all subcontractors and ensuring that they are aware of the pertinent health and safety requirements for this project;
- Providing project scheduling and planning activities; and
- Providing guidance to field personnel in the development of appropriate Job Safety Analysis (JSA) relative to the site conditions and hazard assessment.

Site Health & Safety Officer (SHSO)

The SHSO is responsible for field implementation of this HASP and enforcement of safety rules and regulations. SHSO functions may include some or all of the following:

- Act as Haley & Aldrich´s liaison for health and safety issues with client, staff, subcontractors, and agencies.
- Verify that utility clearance has been performed by Haley & Aldrich subcontractors.
- Oversee day-to-day implementation of the Safety Plan by Haley & Aldrich personnel on site.

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- Interact with subcontractor project personnel on health and safety matters.
- Verify use of required PPE as outlined in the safety plan.
- Inspect and maintain Haley & Aldrich safety equipment, including calibration of air monitoring instrumentation used by Haley & Aldrich.
- Perform changes to HASP and document in Appendix A of the HASP as needed and notify appropriate persons of changes.
- Investigate and report on-site accidents and incidents involving Haley & Aldrich and its subcontractors.
- Verify that site personnel are familiar with site safety requirements (e.g., the hospital route and emergency contact numbers).
- Report accidents, injuries, and near misses to the Haley & Aldrich PM and FSM as needed.

The SHSO will conduct initial site safety orientations with site personnel (including subcontractors) and conduct toolbox and safety meetings thereafter with Haley & Aldrich employees and Haley & Aldrich subcontractors at regular intervals and in accordance with Haley & Aldrich policy and contractual obligations. The SHSO will track the attendance of site personnel at Haley & Aldrich orientations, toolbox talks, and safety meetings.

Field Personnel

Haley & Aldrich personnel are responsible for following the health and safety procedures specified in this HASP and for performing their work in a safe and responsible manner. Some of the specific responsibilities of the field personnel are as follows:

- Reading the HASP in its entirety prior to the start of on-site work;
- Submitting a completed Safety Plan Acceptance Form and documentation of medical surveillance and training to the SHSO prior to the start of work;
- Attending the pre-entry briefing prior to beginning on-site work;
- Bringing forth any questions or concerns regarding the content of the Safety Plan to the PM or the SHSO prior to the start of work;
- Stopping work when it is not believed it can be performed safely;
- Reporting all accidents, injuries and illnesses, regardless of their severity, to the SHSO;
- Complying with the requirements of this safety plan and the requests of the SHSO; and
- Reviewing the established JSAs for the site-specific hazards on a daily basis and prior to each shift change, if applicable.

Visitors

Authorized visitors (e.g., Client Representatives, Regulators, Haley & Aldrich management staff, etc.) requiring entry to any work location on the site will be briefed by the Site Supervisor on the hazards present at that location. Visitors will be escorted at all times at the work location and will be responsible for compliance with their employer´s health and safety policies. In addition, this safety plan specifies the minimum acceptable qualifications, training and personal protective equipment which are required for entry to any controlled work area; visitors must comply with these

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requirements at all times. Unauthorized visitors, and visitors not meeting the specified qualifications, will not be permitted within established controlled work areas.

SUBCONTRACTOR PERSONNEL

Subcontractor Site Representative

Each contractor and subcontractor shall designate a Contractor Site Representative. The Contractor Site Representative will interface directly with Insert Staff Name Here, the Subcontractor Site Safety Manager, with regards to all areas that relate to this safety plan and safety performance of work conducted by the contractor and/or subcontractor workforce. Contractor Site Representatives for this site are listed in the Contact Summary Table at the beginning of the Safety Plan.

Subcontractor Site Safety Manager

Each contractor / subcontractor will provide a qualified representative who will act as their Site Safety Manager (Sub-SSM). This person will be responsible for the planning, coordination, and safe execution of subcontractor tasks, including preparation of job hazard analyses (JHA), performing daily safety planning, and coordinating directly with the Haley & Aldrich SHSO for other site safety activities. This person will play a lead role in safety planning for Subcontractor tasks, and in ensuring that all their employees and lower tier subcontractors are in adherence with applicable local, state, and/or federal regulations, and/or industry and project specific safety standards or best management practices.

General contractors / subcontractors are responsible for preparing a site-specific HASP and/or other task specific safety documents (e.g., JHAs), which are, at a minimum, in compliance with local, state, and/or federal other regulations, and/or industry and project specific safety standards or best management practices. The contractor(s)/subcontractor(s) safety documentation will be at least as stringent as the health and safety requirements of the Haley & Aldrich Project specific HASP.

Safety requirements include, but are not limited to: legal requirements, contractual obligations and industry best practices. Contractors/subcontractors will identify a site safety representative during times when contractor/subcontractor personnel are on the Site. All contractor/subcontractor personnel will undergo a field safety orientation conducted by the Haley & Aldrich SHSO and/or PM prior to commencing site work activities. All contractors / subcontractors will participate in Haley & Aldrich site safety meetings and their personnel will be subject to training and monitoring requirements identified in this Safety Plan. If the contractors / subcontractors means and methods deviate from the scope of work described in Section 1 of this Safety Plan, the alternate means and methods must be submitted, reviewed and approved by the Haley & Aldrich SHSO and/or PM prior to the commencement of the work task. Once approved by the Haley & Aldrich SHSO and/or PM, the alternate means and methods submittal will be attached to this Safety Plan as an Addendum.

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ATTACHMENT D
JOB SAFETY ANALYSES

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338-344 GRAND CONCOURSE REDEVELOPMENT SITE

KEY TASK Tasks 1 through 3:		
Subtask Category	**Potential Hazards**	**Controls**
Site Walk	Slips, Trips, and Falls	• Take your time and pay attention to where you are going • Adjust your stride to a pace that is suitable for the walking surface and tasks you are doing • Check the work area to identify hazards – beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain • Establish and utilize a pathway free of slip and trip hazards • Choose a safer walking route · Carry loads you can see over • Keep work areas clean and free of clutter • Communicate hazards to on-site personnel – remove hazards as appropriate
Site Walk	Work site access and controls	• Observe all work site access and controls before entering work area • Use only routes that are designated for personnel • Do not change or alter established work site access or controls
Site Walk	General site hazards	• Be mindful of moving vehicles and where you are walking • Notify field team of any observed hazards • Complete tailgate and discuss site hazards
Site Walk	Vehicle traffic/safety	• Watch out for vehicular traffic in and around work area • Access work area along routes that are the least bus

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Remedial Oversight	Heavy equipment	• Personal protective equipment, licensed excavator/machine operators • Maintain a safe distance from moving equipment and observe equipment swing radii
Remedial Oversight	Noise reduction	• Personal protective equipment, ear plugs or ear muffs
Remedial Oversight	Vehicle traffic/safety	• Watch out for vehicular traffic in and around work area • Access work area along routes that are the least busy
Remedial Oversight	Weather-related hazards	• Avoid slippery surfaces as a result of weather • Seek shelter in the event of a lightning storm and stay clear of potential lightning receptors
Soil Sampling	Tool/Equipment Use	• Inspect any tools or equipment before you use them • Ensure that any cords or plugs are not frayed or damaged • Only use tools/equipment for the purpose they are meant to be used – tools/equipment are not toys to be played with • Think of the steps in which you will use the tools/equipment before using them • Handle all tools/equipment in a safe manner • If unsure how to use a tool/equipment, be sure to receive proper training or instruction prior to using them • Use tools/equipment at a safe pace • Do not force tools/equipment to work

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Note: This HASP is developed for Haley & Aldrich purposes only and not for use by others.

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ATTACHMENT E
PROJECT SITE FORMS

Note: This HASP has been developed for Haley & Aldrich purposes only and is not for use by others.

APPENDIX E
NYSDEC Request to Import-Reuse Form

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NEW YORK STATE
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Request to Import/Reuse Fill or Soil

This form is based on the information required by DER-10, Section 5.4(e) and 6NYCRR Part 360.13. Use of this form is not a substitute for reading the applicable regulations and Technical Guidance document.

SECTION 1 – SITE BACKGROUND

The allowable site use is: Choose an item

Have Ecological Resources been identified? Choose an item

Is this soil originating from the site? Choose an item

How many cubic yards of soil will be imported/reused? Choose an item

If greater than 1000 cubic yards will be imported, enter volume to be imported:

SECTION 2 – MATERIAL OTHER THAN SOIL

Is the material to be imported gravel, rock or stone? Choose an item

Does it contain less than 10%, by weight, material that passes a size 100 sieve? Choose an item

Is this virgin material from a permitted mine or quarry? Choose an item

Is this material recycled concrete or brick from a DEC registered processing facility? Choose an item

SECTION 3 - SAMPLING

Provide a brief description of the number and type of samples collected in the space below:

Example Text: 5 discrete samples were collected and analyzed for VOCs. 2 composite samples were collected and analyzed for SVOCs, Inorganics & PCBs/Pesticides.

If the material meets requirements of DER-10 section 5.4(e)5 (other material), no chemical testing needed.

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SECTION 3 CONT'D - SAMPLING

Provide a brief written summary of the sampling results or attach evaluation tables (compare to DER-10, Appendix 5):

Example Text: Arsenic was detected up to 17 ppm in 1 (of 5) samples; the allowable level is 16 ppm.

If Ecological Resources have been identified use the "If Ecological Resources are Present" column in Appendix 5.

SECTION 4 – SOURCE OF FILL

Name of person providing fill and relationship to the source:

Location where fill was obtained:

Identification of any state or local approvals as a fill source:

If no approvals are available, provide a brief history of the use of the property that is the fill source:

Provide a list of supporting documentation included with this request:

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The information provided on this form is accurate and complete.

_____ _____

Signature Date

_____

Print Name

_____

Firm

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APPENDIX F
Citizen Participation Plan

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NEW YORK STATE | Department of Environmental Conservation

Brownfield Cleanup Program

Citizen Participation Plan
for
338-344 Grand Concourse Redevelopment

September 2025

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BCP Site #C203188
338-344 Grand Concourse
Bronx, NY 10451

Contents

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* * * * *

Note: The information presented in this Citizen Participation Plan was current as of the date of its approval by the New York State Department of Environmental Conservation. Portions of this Citizen Participation Plan may be revised during the site's investigation and cleanup process.

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Applicant: **338-344 Grand Concourse LLC ("Applicant")**
Site Name: **338-344 Grand Concourse Redevelopment ("Site")**
Site Address: **338-344 Grand Concourse, Bronx, NY 10451**
Site County: **Bronx**
Site Number: **C203188**

1. What is New York's Brownfield Cleanup Program?

New York's Brownfield Cleanup Program (BCP) works with private developers to encourage the voluntary cleanup of contaminated properties known as "brownfields" so that they can be reused and developed. These uses include recreation, housing, and business.

A *brownfield* is any real property that is difficult to reuse or redevelop because of the presence or potential presence of contamination. A brownfield typically is a former industrial or commercial property where operations may have resulted in environmental contamination. A brownfield can pose environmental, legal, and financial burdens on a community. If a brownfield is not addressed, it can reduce property values in the area and affect economic development of nearby properties.

The BCP is administered by the New York State Department of Environmental Conservation (NYSDEC) which oversees Applicants who conduct brownfield site investigation and cleanup activities. An Applicant is a person who has requested to participate in the BCP and has been accepted by NYSDEC. The BCP contains investigation and cleanup requirements, ensuring that cleanups protect public health and the environment. When NYSDEC certifies that these requirements have been met, the property can be reused or redeveloped for the intended use.

For more information about the BCP, go online at:
http://www.dec.ny.gov/chemical/8450.html

2. Citizen Participation Activities

Why NYSDEC Involves the Public and Why It Is Important

NYSDEC involves the public to improve the process of investigating and cleaning up contaminated sites, and to enable citizens to participate more fully in decisions that affect their health, environment, and social well-being. NYSDEC provides opportunities for citizen involvement and encourages early two-way communication with citizens before decision makers form or adopt final positions.

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Involving citizens affected and interested in site investigation and cleanup programs is important for many reasons. These include:

- Promoting the development of timely, effective site investigation and cleanup programs that protect public health and the environment

- Improving public access to, and understanding of, issues and information related to a site and that site's investigation and cleanup process

- Providing citizens with early and continuing opportunities to participate in NYSDEC's site investigation and cleanup process

- Ensuring that NYSDEC makes site investigation and cleanup decisions that benefit from input that reflects the interests and perspectives found within the affected community

- Encouraging dialogue to promote the exchange of information among the affected/interested public, State agencies, and other interested parties that strengthens trust among the parties, increases understanding of site and community issues and concerns, and improves decision making.

This Citizen Participation (CP) Plan provides information about how NYSDEC will inform and involve the public during the investigation and cleanup of the site identified above. The public information and involvement program will be carried out with assistance, as appropriate, from the Applicant.

Project Contacts

Appendix A identifies NYSDEC project contact(s) to whom the public should address questions or request information about the site's investigation and cleanup program. The public's suggestions about this CP Plan and the CP program for the site are always welcome. Interested people are encouraged to share their ideas and suggestions with the project contacts at any time.

Locations of Reports and Information

The locations of the reports and information related to the site's investigation and cleanup program also are identified in Appendix A. These locations provide convenient access to important project documents for public review and comment. Some documents may be placed on the NYSDEC web site. If this occurs, NYSDEC will inform the public in fact sheets distributed about the site and by other means, as appropriate.

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Site Contact List

Appendix B contains the site contact list. This list has been developed to keep the community informed about, and involved in, the site's investigation and cleanup process. The site contact list will be used periodically to distribute fact sheets that provide updates about the status of the project. These will include notifications of upcoming activities at the site (such as fieldwork), as well as availability of project documents and announcements about public comment periods.
The site contact list includes, at a minimum:

- Chief executive officer and planning board chairperson of each county, city, town and village in which the site is located;
- Residents, owners, and occupants of the site and properties adjacent to the site;
- The public water supplier which services the area in which the site is located;
- Any person who has requested to be placed on the site contact list;
- The administrator of any school or day care facility located on or near the site for purposes of posting and/or dissemination of information at the facility;
- Location(s) of reports and information.

The site contact list will be reviewed periodically and updated as appropriate. Individuals and organizations will be added to the site contact list upon request. Such requests should be submitted to the NYSDEC project contact(s) identified in Appendix A. Other additions to the site contact list may be made at the discretion of the NYSDEC project manager, in consultation with other NYSDEC staff as appropriate.

Note: The first site fact sheet (usually related to the draft Remedial Investigation Work Plan) is distributed both by paper mailing through the postal service and through DEC Delivers, its email listserv service. The fact sheet includes instructions for signing up with the appropriate county listserv to receive future notifications about the site. See http://www.dec.ny.gov/chemical/61092.html .

Subsequent fact sheets about the site will be distributed exclusively through the listserv, except for households without internet access that have indicated the need to continue to receive site information in paper form. Please advise the NYSDEC site project manager identified in Appendix A if that is the case. Paper mailings may continue during the investigation and cleanup process for some sites, based on public interest and need.

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CP Activities

The table at the end of this section identifies the CP activities, at a minimum, that have been and will be conducted during the site's investigation and cleanup program. The flowchart in Appendix D shows how these CP activities integrate with the site investigation and cleanup process. The public is informed about these CP activities through fact sheets and notices distributed at significant points during the program. Elements of the investigation and cleanup process that match up with the CP activities are explained briefly in Section 5.

- **Notices and fact sheets** help the interested and affected public to understand contamination issues related to a site, and the nature and progress of efforts to investigate and clean up a site.

- **Public forums, comment periods and contact with project managers** provide opportunities for the public to contribute information, opinions and perspectives that have potential to influence decisions about a site's investigation and cleanup.

The public is encouraged to contact project staff at any time during the site's investigation and cleanup process with questions, comments, or requests for information.

This CP Plan may be revised due to changes in major issues of public concern identified in Section 3 or in the nature and scope of investigation and cleanup activities. Modifications may include additions to the site contact list and changes in planned citizen participation activities.

Technical Assistance Grant

NYSDEC must determine if the site poses a significant threat to public health or the environment. This determination generally is made using information developed during the investigation of the site, as described in Section 5.

If the site is determined to be a significant threat, a qualifying community group may apply for a Technical Assistance Grant (TAG). The purpose of a TAG is to provide funds to the qualifying group to obtain independent technical assistance. This assistance helps the TAG recipient to interpret and understand existing environmental information about the nature and extent of contamination related to the site and the development / implementation of a remedy.

An eligible community group must certify that its membership represents the interests of the community affected by the site, and that its members' health, economic well-being or

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enjoyment of the environment may be affected by a release or threatened release of contamination at the site.

As of the date the declaration (page 2) was signed by the NYSDEC project manager, the significant threat determination for the site had not yet been made.

To verify the significant threat status of the site, the interested public may contact the NYSDEC project manager identified in Appendix A.

For more information about TAGs, go online at https://dec.ny.gov/regulatory/regulations/technical-assistance-grant-tag-guidance-handbook-der-14

Note: The table identifying the citizen participation activities related to the site's investigation and cleanup program follows on the next page:

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Citizen Participation Activities	Timing of CP Activity(ies)
Application Process:	
• Prepare site contact list • Establish document repository(ies)	At time of preparation of application to participate in the BCP.
• Publish notice in Environmental Notice Bulletin (ENB) announcing receipt of application and 30-day public comment period • Publish above ENB content in local newspaper • Mail above ENB content to site contact list • Conduct 30-day public comment period	When NYSDEC determines that BCP application is complete. The 30-day public comment period begins on date of publication of notice in ENB. End date of public comment period is as stated in ENB notice. Therefore, ENB notice, newspaper notice, and notice to the site contact list should be provided to the public at the same time.
After Execution of Brownfield Site Cleanup Agreement (BCA):	
• Prepare Citizen Participation (CP) Plan	Before start of Remedial Investigation **Note:** Applicant must submit CP Plan to NYSDEC for review and approval within 20 days of the effective date of the BCA.
Before NYSDEC Approves Remedial Investigation (RI) Work Plan:	
• Distribute fact sheet to site contact list about proposed RI activities and announcing 30-day public comment period about draft RI Work Plan • Conduct 30-day public comment period	Before NYSDEC approves RI Work Plan. If RI Work Plan is submitted with application, public comment periods will be combined, and public notice will include fact sheet. Thirty-day public comment period begins/ends as per dates identified in fact sheet.
After Applicant Completes Remedial Investigation:	
• Distribute fact sheet to site contact list that describes RI results	Before NYSDEC approves RI Report
Before NYSDEC Approves Remedial Work Plan (RWP):	
• Distribute fact sheet to site contact list about draft RWP and announcing 45-day public comment period • Public meeting by NYSDEC about proposed RWP (if requested by affected community or at discretion of NYSDEC project manager) • Conduct 45-day public comment period	Before NYSDEC approves RWP. Forty-five-day public comment period begins/ends as per dates identified in fact sheet. Public meeting would be held within the 45-day public comment period.
Before Applicant Starts Cleanup Action:	
• Distribute fact sheet to site contact list that describes upcoming cleanup action	Before the start of cleanup action.
After Applicant Completes Cleanup Action:	
• Distribute fact sheet to site contact list that announces that cleanup action has been completed and that NYSDEC is reviewing the Final Engineering Report • Distribute fact sheet to site contact list announcing NYSDEC approval of Final Engineering Report and issuance of Certificate of Completion (COC)	At the time the cleanup action has been completed. **Note:** The two fact sheets are combined when possible if there is not a delay in issuing the COC.

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3. Major Issues of Public Concern

This section of the CP Plan identifies major issues of public concern that relate to the site. Additional major issues of public concern may be identified during the site's investigation and cleanup process.

No major issues of public concern have been identified at this point in the Brownfield Cleanup Program process. Any future changes to this section will be detailed in the Scoping Sheet for Major Issues of Public Concern and submitted to the NYSDEC.

Based on analytical results from a Limited Phase II Environmental Site Investigation (ESI) performed at the Site in October 2024, the primary contaminants of concern at the Site are metals and semi-volatile organic compounds (SVOCs) in soil; and volatile organic compounds (VOCs), including petroleum-related VOCs and chlorinated VOCs, in soil vapor. Issues of concern would be regarding the nearby local residents and property owners.

The Site is located along Grand Concourse in an urban area of the Mott Haven neighborhood of Bronx, NY. There are two sensitive receptors within a 500-foot (ft) radius of the Site, Family Life Academy Charter School III and Community School for Social Justice. The area surrounding the Site has been characterized by commercial, industrial, and residential properties.

The Site is in a Potential Environmental Justice Area (Census Block Group # 360050051001). There is a sizable Hispanic-American and African-American population nearby. Future fact sheets will be translated into Spanish.

Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

Environmental justice efforts focus on improving the environment in communities, specifically minority and low-income communities, and addressing disproportionate adverse environmental impacts that may exist in those communities.

For additional information, visit:
https://statisticalatlas.com/tract/New-York/Bronx-County/005100/Overview

If addition, there may be concerns regarding odor, noise and truck-related traffic.

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4. Site Information

Appendix C contains a map identifying the location of the site.

Site Description

The Site is located at 338 and 344 Grand Concourse in an urban area characterized by mixed-use commercial, industrial, and residential buildings. The Site, identified as Block 2341, Lots 34 and 37 on the New York City tax map in a C6-2A zoning area, is approximately 0.25-acres in size and currently developed with two vacant, one-story commercial buildings previously operated as automotive repair shops.

Section	Block	Lot	Official Address	Acreage
2	2341	34	338 Grand Concourse	0.134
2	2341	37	334 Grand Concourse	0.116

The Site is located in the Mott Haven neighborhood of Bronx, NY. Adjacent properties include:

Direction	Adjoining Properties	Surrounding Properties
North	Multi-story commercial hotel building	Vacant land formerly operated by a BP gasoline station followed by residential buildings
South	Mixed-use commercial/residential building	Mixed-use commercial/residential buildings
East	MTA Metro-North New-Haven railroad followed by Park Avenue	Mixed-use commercial and industrial buildings
West	Grand Concourse followed by mixed-use commercial/residential building	Mixed-use commercial/residential buildings

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History of Site Use, Investigation, and Cleanup

Based on a Phase I Environmental Site Assessment completed by KB Environmental Assessment Ltd. (KBEA) for the Site in September 2024, the Site was first developed by 1908 with a small one-story structure occupied by the New York State (NYS) & Hudson Valley Railroad. By 1935, the property is depicted on Sanborn Maps as developed with several interconnected one-story structures. Sanborn Maps detailed historical operations have included a retail store, auto repair, auto service, auto painting, and storage buildings. By 1942, the only structure remaining depicted on Sanborn Maps was an auto repair shop and retail store while remaining structures were demolished. The 1952 Sanborn Map

depicts expanded development to the east, labeled as a garage. On the 1977 Sanborn Map, the property addressed 338 Grand Concourse was depicted as redeveloped with a one-story commercial building, identified as an auto body repair shop with a retail store at the northwestern corner and the property addressed 344 Grand Concourse was depicted as an auto repair shop. The structure located at 338 Grand Concourse is currently vacant. The structure located at 344 Grand Concourse is currently occupied by Teddy's Place Auto Repair, which has reportedly occupied the Site since the mid-1970s.

In September 2024, KB Environmental Assessment Ltd. (KBEA) completed Phase I Environmental Site Assessments for 338 and 344 Grand Concourse. Each assessment identified one Recognized Environmental Condition (REC) due to the historical use of the properties, and surrounding areas, for auto repair, auto painting, and industrial activities, which may have impacted subsurface conditions, including soil vapor and indoor air quality. At 338 Grand Concourse, an additional Business Environmental Risk (BER) was identified related to a historical 225-gallon underground storage tank (UST) shown on a 1935 Sanborn Map. Although the tank is presumed removed and has been listed as out of service since the late 1940's, its historical presence presents a potential concern.

A Limited Phase II Environmental Site Investigation was completed and summarized in a report prepared by Haley & Aldrich in November 2024. Based on the results of this investigation, the primary contaminants of concern for the Site are metals and semi-volatile organic compounds (SVOCs) in soils and elevated concentrations of volatile organic compounds (VOCs), including petroleum-related VOCs and chlorinated VOCs, in soil vapor. A Remedial Investigation Work Plan (RIWP) has been submitted to NYSDEC. The results of the Remedial Investigation (RI) will be used to confirm the results of the previous Site characterization activities, delineate any on-Site source(s), and determine a course for remedial action.

Redevelopment plans, while still conceptual, include developing the site as two 11-story mixed use commercial residential buildings with partial cellars. During future ground intrusive activities, the community will be protected from contamination migration using air monitoring protocols which will be detailed in a forthcoming Remedial Action Work Plan (RAWP) to be approved by NYSDEC.

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5. Investigation and Cleanup Process

Application

The Applicant has applied for and been accepted into New York's Brownfield Cleanup Program (BCP) as a Volunteer. This means that the Applicant was not responsible for the disposal or discharge of the contaminants or whose ownership or operation of the site took place after the discharge or disposal of contaminants. The Volunteer must fully characterize the nature and extent of contamination onsite, and must conduct a "qualitative exposure assessment," a process that characterizes the actual or potential exposures of people, fish and wildlife to contaminants on the site and to contamination that has migrated from the site.

The Applicant in its Application proposes that the site will be used for residential and commercial purposes.

To achieve this goal, the Applicant will conduct any remaining investigation and cleanup activities at the site with oversight provided by NYSDEC. The Brownfield Cleanup Agreement executed by NYSDEC and the Applicant sets forth the responsibilities of each party in conducting these activities at the site.

Investigation

The Applicant will investigate of the site officially called a "remedial investigation" (RI). This investigation will be performed with NYSDEC oversight. The Applicant must develop a remedial investigation workplan, which is subject to public comment.

The site investigation has several goals:

1) Define the nature and extent of contamination in soil, surface water, groundwater and any other parts of the environment that may be affected;
2) Identify the source(s) of the contamination;
3) Assess the impact of the contamination on public health and the environment; and
4) Provide information to support the development of a proposed remedy to address the contamination or the determination that cleanup is not necessary.

The Applicant submits a draft "Remedial Investigation Work Plan" to NYSDEC for review and approval. NYSDEC makes the draft plan available to the public review during a 30-day public comment period.

When the investigation is complete, the Applicant will prepare and submit a report that summarizes the results. This report also will recommend whether cleanup action is needed to address site-related contamination. The investigation report is subject to review

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and approval by NYSDEC.

NYSDEC will use the information in the investigation report to determine if the site poses a significant threat to public health or the environment. If the site is a “significant threat,” it must be cleaned up using a remedy selected by NYSDEC from an analysis of alternatives prepared by the Applicant and approved by NYSDEC. If the site does not pose a significant threat, the Applicant may select the remedy from the approved analysis of alternatives.

Interim Remedial Measures

An Interim Remedial Measure (IRM) is an action that can be undertaken at a site when a source of contamination or exposure pathway can be effectively addressed before the site investigation and analysis of alternatives are completed. If an IRM is likely to represent all or a significant part of the final remedy, NYSDEC will require a 30-day public comment period.

Remedy Selection

When the investigation of the site has been determined to be complete, the project likely would proceed in one of two directions:

1. The Applicant may recommend in its investigation report that no action is necessary at the site. In this case, NYSDEC would make the investigation report available for public comment for 45 days. NYSDEC then would complete its review, make any necessary revisions, and, if appropriate, approve the investigation report. NYSDEC would then issue a “Certificate of Completion” (described below) to the Applicant.

or

2. The Applicant may recommend in its investigation report that action needs to be taken to address site contamination. After NYSDEC approves the investigation report, the Applicant may then develop a cleanup plan, officially called a “Remedial Action Work Plan”. The Remedial Action Work Plan describes the Applicant’s proposed remedy for addressing contamination related to the site.

When the Applicant submits a draft Remedial Action Work Plan for approval, NYSDEC would announce the availability of the draft plan for public review during a 45-day public comment period.

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Cleanup Action

NYSDEC will consider public comments, and revise the draft cleanup plan, if necessary, before approving the proposed remedy. The New York State Department of Health (NYSDOH) must concur with the proposed remedy. After approval, the proposed remedy becomes the selected remedy. The selected remedy is formalized in the site Decision Document.

The Applicant may then design and perform the cleanup action to address the site contamination. NYSDEC and NYSDOH oversee the activities. When the Applicant completes cleanup activities, it will prepare a final engineering report that certifies that cleanup requirements have been achieved or will be achieved within a specific time frame. NYSDEC will review the report to be certain that the cleanup is protective of public health and the environment for the intended use of the site.

Certificate of Completion

When NYSDEC is satisfied that cleanup requirements have been achieved or will be achieved for the site, it will approve the final engineering report. NYSDEC then will issue a Certificate of Completion (COC) to the Applicant. The COC states that cleanup goals have been achieved and relieves the Applicant from future liability for site-related contamination, subject to certain conditions. The Applicant would be eligible to redevelop the site after it receives a COC.

Site Management

The purpose of site management is to ensure the safe reuse of the property if contamination will remain in place. Site management is the last phase of the site cleanup program. This phase begins when the COC is issued. Site management incorporates any institutional and engineering controls required to ensure that the remedy implemented for the site remains protective of public health and the environment. All significant activities are detailed in a Site Management Plan.

An *institutional control* is a non-physical restriction on use of the site, such as a deed restriction that would prevent or restrict certain uses of the property. An institutional control may be used when the cleanup action leaves some contamination that makes the site suitable for some, but not all uses.

An *engineering control* is a physical barrier or method to manage contamination. Examples include: caps, covers, barriers, fences, and treatment of water supplies.

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Site management also may include the operation and maintenance of a component of the remedy, such as a system that pumps and treats groundwater. Site management continues until NYSDEC determines that it is no longer needed.

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Appendix A -
Project Contacts and Locations of Reports and Information

Project Contacts

For information about the site's investigation and cleanup program, the public may contact any of the following project staff:

New York State Department of Environmental Conservation (NYSDEC):

Nour Haredy
Project Manager
NYSDEC Region 2
Division of Environmental Remediation
1 Hunter's Point Plaza
47-40 21st Street
Long Island City, NY 11101
Tel: (718) 482-6333
Email: Nour.Haredy@dec.ny.gov

Thomas V. Panzone
Public Participation Specialist
NYSDEC Region 2
Division of Communication, Education and Engagement
47-40 21st Street
Long Island City, NY 11101
Tel: 718-482-4953
Email: Thomas.panzone@dec.ny.gov

New York State Department of Health (NYSDOH):

Benjamin Caligiuri
Public Health Specialist
NYSDOH
Bureau of Environmental Exposure Investigation
Corning Tower, Rm 1787
Albany, NY 12237
Tel: (518) 402-7868
Email: beei@health.ny.gov

NYSDEC Info Tracker
https://extapps.dec.ny.gov/data/DecDocs/C203188/

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Locations of Reports and Information

The facilities identified below are being used to provide the public with convenient access to important project documents.

Bronx Public Library-Mott Haven Branch
321 East 140th Street Bronx, NY, 10454
Attn: Josephine Freeman – Managing Librarian
Email: josephinefreeman@nypl.org
Phone: 718-665-4878
Hours: Mon-Thurs: 10AM-7PM
Fri-Sat: 10AM-5PM
Sun: 1 PM-5 PM

Bronx Community Board 1
3024 3rd Avenue Bronx, NY, 10455
Attn: Clarisa M. Alayeto, Chairperson
Anthony R. Jordan, District Manager
Committee on Environmental Justice and Sanitation – Cesar Yoc, Committee Chairperson
Email: Bx01@cb.nyc.gov
Phone : 718-585-7117
Office hours: 9:00 AM to 5:00 PM

Phone: 718-585-7117
Hours: Mon-Sun: 9-5PM

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Appendix B - Site Contact List

Local Government and Elected Officials:

Hon. Eric Adams
NYC Mayor
City Hall
New York, NY 10007

Hon. Jumaane D. Williams
Public Advocate
1 Centre Street
New York, NY 10007

Rohit Aggarwala
Commissioner, NYC Dept. of Environmental Protection
59-17 Junction Boulevard
Flushing, NY 11373

Hon. Vanessa L. Gibson
Bronx Borough President
851 Grand Concourse, 3rd Floor
Bronx, NY 10451

Hon. Kirsten Gillibrand
U.S. Senator
780 Third Avenue, Suite 2601
New York, NY 10017

Hon. Diana Ayala
NYC Councilmember
Bronx Office:
214 St. Ann's Avenue
Bronx, NY 10454

Hon. Brad Lander
NYC Comptroller
1 Centre Street New York,
NY 10007

David Gold, Esq.
Commissioner, NYC Dept. of City Planning
120 Broadway, 31st Floor
New York, NY 10271

Shaminder Chawla, Director NYC Office of Environmental Remediation
100 Gold Street - 2nd Floor
New York, NY 10038

Hon Charles Schumer
U.S. Senator
780 Third Avenue, Suite 2301
New York, NY 10017

Hon. Ritchie Torres
U.S. House of Representatives
540 E Fordham Road Suite 2A
Bronx, NY 10458

Hon. Jose M. Serrano
NYS Senator
335 East 100th Street
New York, NY 10029

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Hon. Amanda Septimo
NYS Assemblymember
505 Brook Avenue
Bronx, NY 10455

Hon. Ischia Bravo Bronx
County Clerk
851 Grand Concourse, Room 118
Bronx, NY 10451

New York City Municipal Water Finance Authority
Philip Wasserman - Executive Director
255 Greenwich Street, 6th Floor
New York, NY 10007

New York City Water Board
NYC Department of Environmental Protection

Iris Rodriguez-Rosa, Commissioner
NYC Department of Parks & Recreation
830 Fifth Ave
New York, NY, 10065

Alfonso L. Carney, Jr., Chairperson
59-17 Junction Boulevard, 8th Floor
Flushing, NY 11373

MTA Metro-North Railroad
Justin Vonashek – President
420 Lexington Avenue
New York, NY 10017

Owners, Residents, Occupants:

The Site is currently vacant with no occupants or residents.

Yoel Barminka
338-344 Grand Concourse LLC
162 Manhattan Avenue
Brooklyn, NY 11206

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Adjacent Properties:

Owner/Entity Name	Contact Name	Site Use	Property Address	Owner Mailing Address
AREC 9, LLC	Not Available	Industrial/manufacturing	356 Walton Avenue, Bronx, NY 10451	2727 North Central Avenue, Phoenix, AZ 85004
Montar Owner, LLC	Not Available	Commercial/Office Buildings	349 Grand Concourse, Bronx, NY 10451	C/o Rosenberg & Estis, p.c. 733 Third Avenue, New York, NY 10017
Green Street Property Owner LLC	Not Available	Vacant Land	335 Grand Concourse, Bronx, NY 10451	C/o Rosenberg & Estis, p.c. 733 Third Avenue, New York, NY 10017
Walton Street GC Developments LLC	Not Available	Commercial/Office Buildings	315 Grand Concourse, Bronx, NY 10451	1021 38th street, Brooklyn, NY 11219
336 Grand Concourse LLC	Not Available	Residential/Commercial Buildings	336 Grand Concourse, Bronx, NY 10451	199 Lee Avenue, Suite 777, Brooklyn, NY 11211
346 Grand A LLC	Not Available	Hotel	346 Grand Concourse, Bronx, NY 10451	99-06 Metropolitan Avenue, 2nd Floor, Forest Hills, NY 11375
350 Rising LLC	Not Available	Vacant Land	350 Grand Concourse, Bronx, NY 10451	350 Grand Concourse, Bronx, NY 10451

Local News and Media:

Spectrum NY News
75 Ninth Avenue
New York, NY 10011

New York Post
1211 Avenue of the Americas
New York, NY 10036

New York Daily News
PO Box 7180
New York, NY 10008

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Hoy Nueva York
Impremedia, 41 Flatbush Avenue 1st Floor
Brooklyn, NY 11217

El Diario NY
Impremedia, 41 Flatbush Avenue 1st Floor
Brooklyn, NY 11217

Schneps Media
3602 East Tremont Avenue
Bronx, NY 10465

News12 The Bronx
930 Soundview Ave,
Bronx, NY 10473

Norwood News
3400 Reservoir Oval
Bronx, NY 10467
norwoodnews@norwoodnews.org

Mott Haven Herald
https://motthavenherald.com/
editor@motthavenherald.com

NYCHA Journal
https://nychajournal.nyc/
journal@nycha.nyc.gov

School or Day Care Located on or Proximal to the Site

The following schools or day care facilities are located within ½-mile radius to the Site:

Rosalyn Yalow Charter School
President/Executive Director/Principal
(347) 735-5480
650 Grand Concourse,
Bronx, NY 10451

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Success Academy Charter School - Bronx 1 Elementary
President/Executive Director/Principal
(347) 286-7950
339 Morris Ave 2nd Floor,
Bronx, NY 10451

Health Opportunities High School
President/Executive Director/Principal
(718) 401-1826
350 Gerard Ave,
Bronx, NY 10451

The Bronx Charter School for Children Elementary School (Access Bronx Charter School)
President/Executive Director/Principal
(718) 402-3300
388 Willis Ave,
Bronx, NY 10454

The Laboratory School of Finance and Technology: X223
President/Executive Director/Principal
(718) 585-8202
360 E 145th St,
Bronx, NY 10454

Hostos Children's Center @ Hostos Community College – CUNY
President/Executive Director/Principal
475 Grand Concourse,
Bronx, NY 10451
(718) 518-4176

Sunshine Learning Center of Morris Ave LLC
President/Executive Director/Principal
(718) 989-9807
253 E 142nd St,
Bronx, NY 10451

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Kaamba Daycare - Mott Haven
President/Executive Director/Principal
(718) 973-9834
477 Gerard Ave,
Bronx, NY 10451

Luminous Early Childhood Learning Center
President/Executive Director/Principal
(718) 682-3650
655 Morris Ave,
Bronx, NY 10451

Jojo’s Group Family Daycare Corp.
President/Executive Director/Principal
(646) 377-5849
225 E 149th St,
Bronx, NY 10451

Bernie's Magical Place Family Group Corp.
President/Executive Director/Principal
(917) 545-5238
730 Grand Concourse,
Bronx, NY 10451

Bendiciones de Vida Daycare LLC
President/Executive Director/Principal
(347) 761-1735
366 E 146th St,
Bronx, NY 10455

Super Hero Day Care
President/Executive Director/Principal
(646) 982-9084
495 Courtlandt Ave,
Bronx, NY 10451

Valdez Group Family Daycare
President/Executive Director/Principal
250 E 144th St,
Bronx, NY 10451

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Community School for Social Justice
President/Executive Director/Principal
350 Gerard Avenue,
Bronx, NY 10451
(718) 402-8481

Family Life Academy Charter School III
President/Executive Director/Principal
370 Gerard Avenue,
Bronx, NY 10451
718-585-6580

Eugenio Maria de Hostos Community College
President/Executive Director/Principal
500 Grand Concourse,
Bronx, NY 10451
(718) 518-4444

P.S. 018 John Peter Zenger
President/Executive Director/Principal
502 Morris Avenue,
Bronx, NY 10451
(718) 292-2868

The Urban Assembly Bronx Academy of Letters
President/Executive Director/Principal
339 Morris Avenue,
Bronx NY 10451
(718) 401-4891

Family Life Academy Charter School II
President/Executive Director/Principal
296 East 140th Street,
Bronx, NY 10454
718-665-2805

South Bronx Preparatory – A College Board School
President/Executive Director/Principal
360 East 145th Street,
Bronx, NY 10454
(718) 292-2211

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Boys Prep Bronx Elementary School,
President/Executive Director/Principal
192 East 151st Street,
Bronx, NY 10451
(718) 742-4321

P.S. 49 Willis Avenue School
President/Executive Director/Principal
383 East 139th Street,
Bronx, NY 10454
(718) 292-4623

P.S. 154 Jonathan D. Hyatt Elementary School
President/Executive Director/Principal
333 East 135th Street 3rd Floor,
Bronx, NY 10454
(718) 292-4742

NYCHA Patterson Houses
Daycare Center
https://www.nyc.gov/assets/nycha/downloads/pdf/Patterson.pdf
414 Morris Avenue,
Bronx, NY 10451

Mitchel Houses NYCHA
Day Care Center
https://www.nyc.gov/assets/nycha/downloads/pdf/Mitchel.pdf
200 Alexander Avenue,
Bronx, NY 10454

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Community, Civic, Religious, and Other Environmental Organizations:

Consolidated Edison Corporate Affairs
Franchesca Diaz - Director Regional and Community Affairs team Bronx
511 Theodore Fremd Avenue,
Rye, NY 10580

FDNY
Battalion 14/Engine 60/Ladder 17
341 East 143rd Street,
Bronx, NY 10454

40th NYPD Police Precinct Council
President Gabriel DeJesus
567 E 149th Street,
Bronx, NY, 10455

St Rita's Roman Catholic Church
448 College Ave,
Bronx, NY 10451

Good News Manhattan Church
171 Lincoln Ave,
Bronx, NY 10454

Deeper Life Bible Church
213 E 144th St,
Bronx, NY 10451

St. Jerome Roman Catholic Church
230 Alexander Ave,
Bronx, NY 10454

Abundant Life Tabernacle
2692 Third Ave,
Bronx, NY 10454

Greater Universal Baptist Church
253 E 153rd St,
Bronx, NY 10451

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Mott Haven Reformed Church
350 E 146th St,
Bronx, NY 10451

Calvary Deliverance Christian
737 Concourse Village W #739,
Bronx, NY 10451

Third Spanish Baptist Church
322 Alexander Ave,
Bronx, NY 10454

Iglesia Católica Santa Ana
164 Morris Ave,
Bronx, NY 10451

Masjid Ebun Abass or Masjid Ibn Abass
2580 Third Ave,
Bronx, NY 10454

NYCHA Patterson Houses
Senior Center
https://www.nyc.gov/assets/nycha/downloads/pdf/Patterson.pdf
308 E 145th St,
Bronx, NY 10451

NYCHA Patterson Houses
Development Management Office
https://www.nyc.gov/assets/nycha/downloads/pdf/Patterson.pdf
301 East 143rd Street,
Bronx, NY 10451

NYCHA Patterson Houses
President – Patterson Houses Resident Association
https://www.nyc.gov/assets/nycha/downloads/pdf/Patterson.pdf
301 East 143rd Street,
Bronx, NY 10451

East Side House Settlement
188 Lincoln Ave,
Bronx, NY 10454

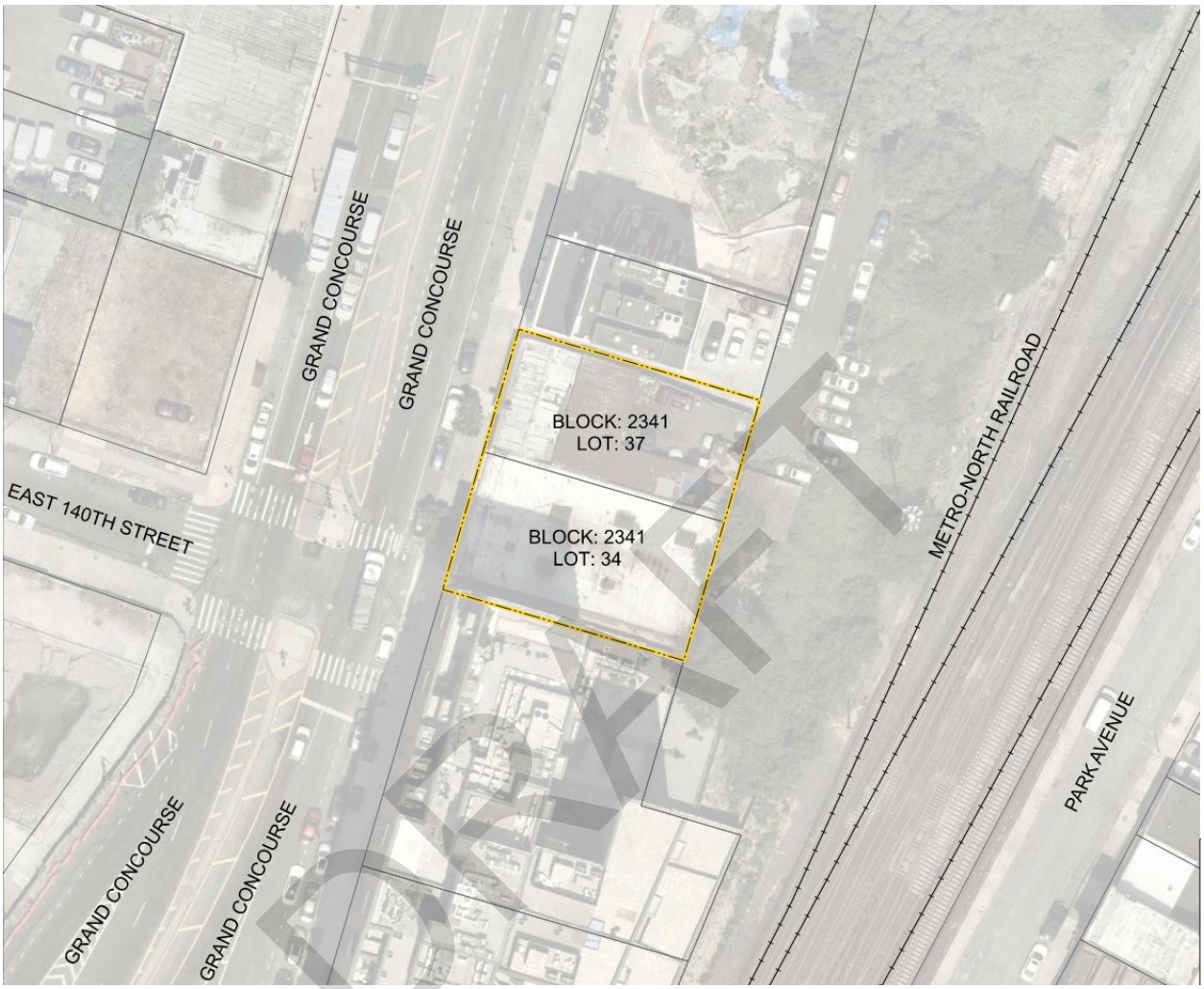
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Mitchel Houses NYCHA Senior Center
https://www.nyc.gov/assets/nycha/downloads/pdf/Mitchel.pdf
188 Lincoln Ave,
Bronx, NY 10454

Mitchel Houses NYCHA
https://www.nyc.gov/assets/nycha/downloads/pdf/Mitchel.pdf
Development Management Office
225 Alexander Avenue,
Bronx, NY 10454

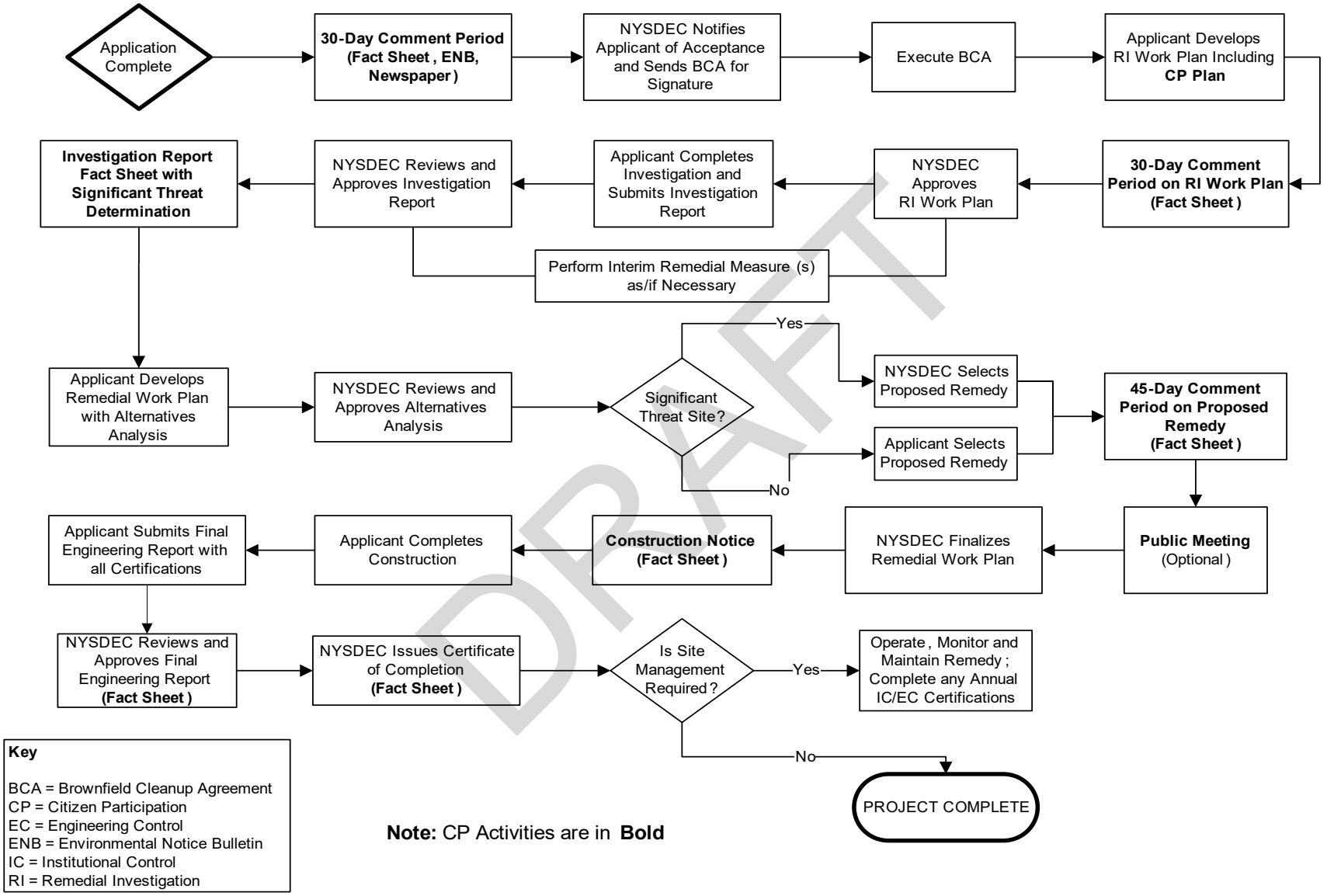
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Appendix C - Site Location Map



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Appendix D– Brownfield Cleanup Program Process



Key

BCA = Brownfield Cleanup Agreement
CP = Citizen Participation
EC = Engineering Control
ENB = Environmental Notice Bulletin
IC = Institutional Control
RI = Remedial Investigation

Note: CP Activities are in **Bold**

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NEW YORK STATE OF OPPORTUNITY. | Department of Environmental Conservation

Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern

Instructions

This Scoping Sheet assesses major issues of public concern; impacts of the site and its remedial program on the community; community interest in the site; information the public needs; and information needed from the public.

The information generated helps to plan and conduct required citizen participation (CP) activities, and to choose and conduct additional CP activities, if appropriate. The scoping sheet can be revisited and updated as appropriate during the site's remedial process to more effectively implement the site's CP program.

Note: Use the information as an aid to prepare and update the Major Issues of Public Concern section of the site CP Plan.

General Instructions

- When to prepare: During preparation of the CP Plan for the site. It can be revisited and updated anytime during the site remedial process.
- Fill in site name and other information as appropriate.
- The Scoping Sheet may be prepared by DEC or a remedial party but must be reviewed and approved by the DER site project manager or his/her designee.

Instructions for Numbered Parts

Consider the bulleted issues and questions below and any others that may be unique or appropriate to the site and the community to help complete the five Parts of this Scoping Sheet. Identify the issue stakeholders in Parts 1 through 3 and adjust the site's contact list accordingly.

Part 1. List Major Issues of Public Concern and Information the Community Wants.

- Is our health being impacted? (e.g. Are there problems with our drinking water or air? Are you going to test our water, yards, sumps, basements? Have health studies been done?)
- There are odors in the neighborhood. Do they come from the site and are they hazardous?
- Are there restrictions on what we may do (e.g. Can our children play outside? Can we garden? Must we avoid certain areas? Can we recreate (fish, hunt, hike, etc. on/around the site?)
- How and when were the site's contamination problems created?
- What contaminants are of concern and why? How will you look for contamination and find out where it is going? What is the schedule for doing that?
- The site is affecting our property values!
- How can we get more information (e.g. who are the project contacts?)
- How will we be kept informed and involved during the site remedial process?
- Who has been contacted in the community about site remedial activities?
- What has been done to this point? What happens next and when?
- The site is going to be cleaned up for restricted use. What does that mean? We don't want redevelopment on a "dirty" site.

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Part 2. List Important Information Needed From the Community, if Applicable.

- Can the community supplement knowledge about past/current uses of the site?
- Does the community have knowledge that the site may be significantly impacting nearby people, properties, natural resources, etc.?
- Are activities currently taking place at the site or at nearby properties that may need to be restricted?
- Who may be interested or affected by the site that has not yet been identified?
- Are there unique community characteristics that could affect how information is exchanged?
- Does the community and/or individuals have any concerns they want monitored?
- Does the community have information about other sources in the area for the contamination?

Part 3. List Major Issues and Information That Need to be Communicated to the Community.

- Specific site investigation or remediation activities currently underway, or that will begin soon.
- The process and general schedule to investigate, remediate and, if applicable, redevelop the site.
- Current understanding about the site contamination and effects, if any, on public health and the environment.
- Site impacts on the community and any restrictions on the public's use of the site and/or nearby properties.
- Planned CP activities, their schedule, and how they relate to the site's remedial process.
- Ways for the community to obtain/provide information (document repositories, contacts, etc.).

Part 4. Community Characteristics

a. - e. Obtain information from local officials, property owners and residents, site reports, site visits, "windshield surveys," other staff, etc.

f. Has the affected community experienced other **significant** present or past environmental problems unrelated to this site? Such experiences could significantly affect public concerns and perspectives about the site; how the community will relate to project staff; the image and credibility of project staff within the community; and the ways in which project staff communicate with the community.

g. In its remedial programs, DER seeks to integrate, and be consistent with, environmental justice principles set forth in *DEC Commissioner Policy 29 on Environmental Justice* and *DER 23 – Citizen Participation Handbook for Remedial Programs*. Is the site and/or affected community wholly or partly in an Environmental Justice (EJ) Area? Use the Search feature on DEC's public web site for "environmental justice". DEC's EJ pages define an EJ area, and link to county maps to help determine if the site and/or community are in an EJ area.

h. Consider factors such as:

- Is English the primary language of the affected community? If not, provisions should be considered regarding public outreach activities such as fact sheets, meetings, door-to-door visits and other activities to ensure their effectiveness.
- The age demographics of the community. For example, is there a significant number of senior citizens in the community? It may be difficult for some to attend public meetings and use document repositories. This may suggest adopting more direct interaction with the community with activities such as door-to-door visits, additional fact sheets, visits to community and church centers, nursing homes, etc.
- How do people travel about the community? Would most people drive to a public meeting or document repository? Is there adequate public transportation?

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Part 5. Affected/Interested Public.

Individuals and organizations who need or want information and input can change during the site's remedial process. This need is influenced by real, potential, or perceived impacts of the site or the remedial process. Some people may want information and input throughout the remedial process. Others may participate only during specific remedial stages or may only be interested in particular issues.

It is important to revisit this question when reviewing this scoping sheet. Knowing who is interested in the site – and the issues that are important to them – will help to select and conduct appropriate outreach activities, and to identify their timing and the information to be exchanged.

Check all affected/interested parties that apply to the site. **Note: Adjust the site's contact list appropriately.** The following are some ways to identify affected/interested parties:

- Tax maps of adjacent property owners
- Attendees at public meetings
- Telephone discussions
- Letters and e-mails to DER, the remedial party, and other agencies
- Political jurisdictions and boundaries
- Media coverage
- Current/proposed uses of site and/or nearby properties (recreational, commercial, industrial)
- Discussions with community organizations: grass roots organizations, local environmental groups, environmental justice groups, churches, and neighborhood advisory groups

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Division of Environmental Remediation

Remedial Programs
Scoping Sheet for Major Issues of Public Concern (see instructions)

Site Name: 338-344 Grand Concourse Redevelopment

Site Number: C203188

Site Address and County: 338-344 Grand Concourse, Bronx, NY

Remedial Party(ies): 338-344 Grand Concourse LLC

Note: For Parts 1. – 3. the individuals, groups, organizations, businesses and units of government identified should be added to the site contact list as appropriate.

Part 1. List major issues of public concern and information the community wants. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and information needs. **Use this information as an aid to prepare or update the Major Issues of Public Concern section of the site Citizen Participation Plan.**

The site is in a Potential Environmental Justice Area. Environmental justice is defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.

The primary contaminants of concern for the Site are metals and semi-volatile organic compounds (SVOCs) in soils and elevated concentrations of volatile organic compounds (VOCs), including petroleum-related VOCs and chlorinated VOCs, in soil vapor. Issues of concern would be regarding the nearby local residents and property owners. During ground intrusive activities, the community will be protected from contamination migration using air monitoring protocols and management of investigation derived waste.

How were these issues and/or information needs identified?

These issues were identified through the previous investigation results and correspondence with NYSDEC.

Part 2. List important information needed **from** the community, if applicable. Identify individuals, groups, organizations, businesses and/or units of government related to the information needed.

The sources of the contaminants of concern detailed in Part 1 will be fully characterized and identified during upcoming investigations at the Site.

How were these information needs identified?

This information was identified through review of the results of the previous environmental investigations.

Part 3. List major issues and information that need to be communicated **to** the community. Identify individuals, groups, organizations, businesses and/or units of government related to the issue(s) and/or information.

Following approval of the RIWP, the Remedial Investigation will commence. Following implementation of the RIWP, a Remedial Investigation Report will be prepared and will describe the nature and extent of contamination at the site. A Remedial Action Work Plan (RAWP) will then be developed to describe the preferred remedy and alternatives analysis. The RAWP will be subject to a 45-day public comment period prior to NYSDEC approval. Following NYSDEC approval of the RAWP, the remedial contractor will mobilize

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to the site to begin implementation of the NYSDEC-approved remedy.

How were these issues and/or information needs identified?

These issues were identified through the previous subsurface investigations results and correspondence with NYSDEC.

Part 4. Identify the following characteristics of the affected/interested community. This knowledge will help to identify and understand issues and information important to the community, and ways to effectively develop and implement the site citizen participation plan (mark all that apply):

a. Land use/zoning at and around site:
☒ **Residential** ☐ **Agricultural** ☐ **Recreational** ☒ **Commercial** ☐ **Industrial**

b. Residential type around site:
☒ **Urban** ☐ **Suburban** ☐ **Rural**

c. Population density around site:
☒ **High** ☐ **Medium** ☐ **Low**

d. Water supply of nearby residences:
☒ **Public** ☐ **Private Wells** ☐ **Mixed**

e. Is part or all the water supply of the affected/interested community currently impacted by the site?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

f. Other environmental issues significantly impacted/impacting the affected community?
☐ **Yes** ☒ **No**

Provide details if appropriate:
Click here to enter text.

g. Is the site and/or the affected/interested community wholly or partly in an Environmental Justice Area?
☒ **Yes** ☐ **No**

h. Special considerations:
☒ **Language** ☐ **Age** ☐ **Transportation** ☐ **Other**

Explain any marked categories in **h:**

The Site is in an area with a sizable Hispanic-American and African-American population nearby. Therefore, all future fact sheets will be translated into Spanish.

Part 5. The site contact list must include, at a minimum, the individuals, groups, and organizations identified in Part 2. of the Citizen Participation Plan under 'Site Contact List'. Are *other* individuals, groups, organizations, and units of government affected by, or interested in, the site, or its remedial program? (Mark and identify all that apply, then adjust the site contact list as appropriate.)

☐ **Non-Adjacent Residents/Property Owners:** Click here to enter text.

☒ **Local Officials:** Click here to enter text.

☒ **Media:** Click here to enter text.

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☒ **Business/Commercial Interests:** Click here to enter text.

☐ **Labor Group(s)/Employees:** Click here to enter text.

☐ **Indian Nation:** Click here to enter text.

☒ **Citizens/Community Group(s):** Click here to enter text.

☒ **Environmental Justice Group(s):** Click here to enter text.

☒ **Environmental Group(s):** Click here to enter text.

☒ **Civic Group(s):** Click here to enter text.

☐ **Recreational Group(s):** Click here to enter text.

☐ **Other(s):** Click here to enter text.

Prepared/Updated By: Thomas R. Giordano **Date:** 9/23/2025

Reviewed/Approved By: Matthew Levy **Date:** 8/6/2025

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APPENDIX G
Environmental Footprint Analyses

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H & A OF NEW YORK ENGINEERING
AND GEOLOGY, LLP
213 W. 35th Street
7th Floor
New York, NY 10001
646.277.5685

February 13, 2026
File No. 0212356

New York State Department of Environmental Conservation
Region 2 – Division of Environmental Remediation
47-40 21st Street
Long Island City, New York 11101-5401

Attention: Ms. Nour Haredy

Subject: Remedial Action Work Plan
338-344 Grand Concourse Redevelopment Site
338-344 Grand Concourse
BCP Site C203188
Bronx, New York 10451

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H & A of New York Engineering and Geology, LLP presents the following environmental footprint analysis in accordance with U.S. Environmental Protection Agency 542-R-12-002 for the Investigation and Remedy of the above-referenced site at 338-344 Grand Concourse, Bronx, New York (Site).

338-344 GRAND CONCOURSE REDEVELOPMENT SITE – POTENTIAL REMEDY

The remedy (Track 1) is anticipated to result in estimated totals of:

- 2,626.49 million British Thermal Units (MMBtus) of energy used
- 208.89 tons of total greenhouse gas emissions (in carbon dioxide equivalents [CO2e])
- 7,190.52 pounds (lbs) of nitrogen oxide (NOx) + sulfur oxide (SOx) + particulate matter (PM) emissions
- 37.65 lbs of hazardous air pollutant (HAP) emissions

Energy

- 1,021.91 MMbtus used for on-site activities
- 0.52 MMbtus used for grid electricity generation
- 10.84 MMbtus used for transportation of personnel and materials
- 1,593.22 MMbtus used for off-site activities

Greenhouse Gas Emissions (CO2e)

- 75.01 tons of CO2e produced from on-site activities

- 0.04 tons of CO2e produced from grid electricity generation
- 0.79 tons of CO2e produced from transportation of personnel and materials
- 113.66 tons of CO2e produced from off-site activities

Overall, the footprint of the remediation is anticipated to be dominated by off-site activities, which are anticipated to include the transportation and export of soils from the Site. Off-site energy use is anticipated to comprise 61.3 percent of all energy use and off-site greenhouse gas emissions to comprise 60.59 percent of all emissions for the remedy.

Sincerely yours,
H & A OF NEW YORK ENGINEERING AND GEOLOGY, LLP



Matthew Levy
Senior Project Manager

https://haleyaldrich.sharepoint.com/sites/ManhattanManagementRealty/Shared Documents/0212356.338-344 Grand Concourse/Deliverables/10. NYSDEC RAWP/Appendices/Appendix G - Environmental Footprint Analysis/1. GSR_Overview_Letter_F.docx

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Environmental Footprint Summary

Core Element	Metric		Unit of Measure	Footprint						
				Track 1 Excavation	Track 2 Excavation	< Component 3 >	< Component 4 >	< Component 5 >	< Component 6 >	Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-2	% of refined materials from recycled or reused material	%							
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%							
	M&W-5	On-site hazardous waste disposed of off-site	Tons	33.0	33.0	0.0	0.0	0.0	0.0	66.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	8,955.0	4,830.0	0.0	0.0	0.0	0.0	13,785.0
	M&W-7	Recycled or reused waste	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-8	% of total potential waste recycled or reused	%	0.0%	0.0%					0.0%
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	2,626.5	1,392.6	0.0	0.0	0.0	0.0	4,019.1
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.075	0.038	0.000	0.000	0.000	0.000	0.1
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	1,314.2	657.1	0.0	0.0	0.0	0.0	1,971.3
	A-2	On-site HAP emissions	Pounds	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	A-3	Total NOx, SOx, and PM emissions	Pounds	7,190.5	3,947.8	0.0	0.0	0.0	0.0	11,138.3
	A-3A	Total NOx emissions	Pounds	2,620.1	1,398.9	0.0	0.0	0.0	0.0	4,019.0
	A-3B	Total SOx emissions	Pounds	913.1	560.4	0.0	0.0	0.0	0.0	1,473.4
	A-3C	Total PM emissions	Pounds	3,657.4	1,988.5	0.0	0.0	0.0	0.0	5,645.9
	A-4	Total HAP emissions	Pounds	37.6	27.8	0.0	0.0	0.0	0.0	65.4
	A-5	Total greenhouse gas emissions	Tons CO2e*	208.9	110.4	0.0	0.0	0.0	0.0	319.3
Land & Ecosystems	Qualitative Description									

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** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:

Environmental Footprint Summary

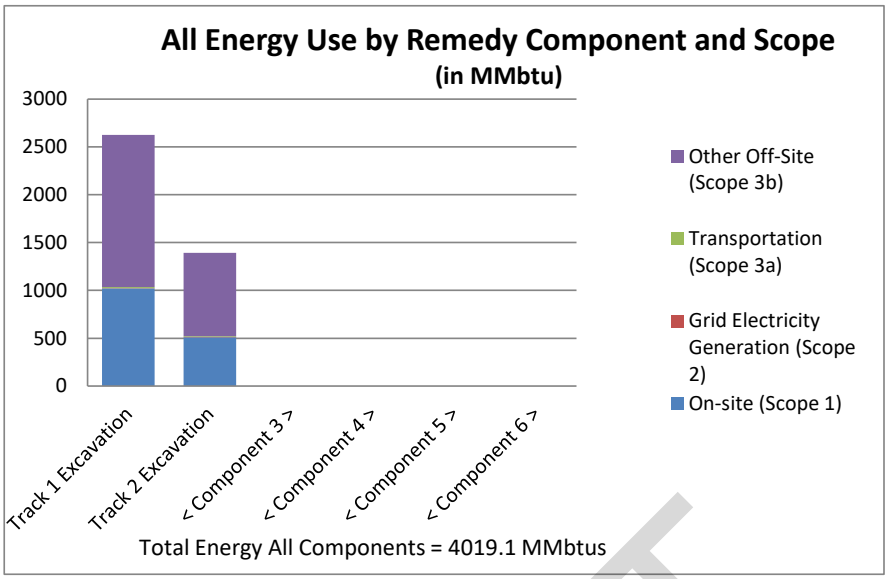
Core Element	Metric		Unit of Measure	Footprint						
				Track 1 Excavation	Track 2 Excavation	< Component 3 >	< Component 4 >	< Component 5 >	< Component 6 >	Total
Materials & Waste	M&W-1	Refined materials used on-site	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-2	% of refined materials from recycled or reused material	%							
	M&W-3	Unrefined materials used on-site	Tons	0.000	0.000	0.000	0.000	0.000	0.000	0.0
	M&W-4	% of unrefined materials from recycled or reused material	%							
	M&W-5	On-site hazardous waste disposed of off-site	Tons	33.0	33.0	0.0	0.0	0.0	0.0	66.0
	M&W-6	On-site non-hazardous waste disposed of off-site	Tons	8,955.0	4,830.0	0.0	0.0	0.0	0.0	13,785.0
	M&W-7	Recycled or reused waste	Tons	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	M&W-8	% of total potential waste recycled or reused	%	0.0%	0.0%					0.0%
Water (used on-site)	W-1	Public water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-2	Groundwater use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-3	Surface water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-4	Reclaimed water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-5	Storm water use	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-6	User-defined water resource #1	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-7	User-defined water resource #2	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	W-8	Wastewater generated	MG	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Energy	E-1	Total energy used (on-site and off-site)	MMBtu	2,626.5	1,392.6	0.0	0.0	0.0	0.0	4,019.1
	E-2	Energy voluntarily derived from renewable resources								
	E-2A	On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-2B	Voluntary purchase of renewable electricity	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-3	Voluntary purchase of RECs	MWh	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	E-4	On-site grid electricity use	MWh	0.075	0.038	0.000	0.000	0.000	0.000	0.1
Air	A-1	On-site NOx, SOx, and PM emissions	Pounds	1,314.2	657.1	0.0	0.0	0.0	0.0	1,971.3
	A-2	On-site HAP emissions	Pounds	0.0	0.0	0.0	0.0	0.0	0.0	0.1
	A-3	Total NOx, SOx, and PM emissions	Pounds	7,190.5	3,947.8	0.0	0.0	0.0	0.0	11,138.3
	A-3A	Total NOx emissions	Pounds	2,620.1	1,398.9	0.0	0.0	0.0	0.0	4,019.0
	A-3B	Total SOx emissions	Pounds	913.1	560.4	0.0	0.0	0.0	0.0	1,473.4
	A-3C	Total PM emissions	Pounds	3,657.4	1,988.5	0.0	0.0	0.0	0.0	5,645.9
	A-4	Total HAP emissions	Pounds	37.6	27.8	0.0	0.0	0.0	0.0	65.4
	A-5	Total greenhouse gas emissions	Tons CO2e*	208.9	110.4	0.0	0.0	0.0	0.0	319.3
Land & Ecosystems	Qualitative Description									

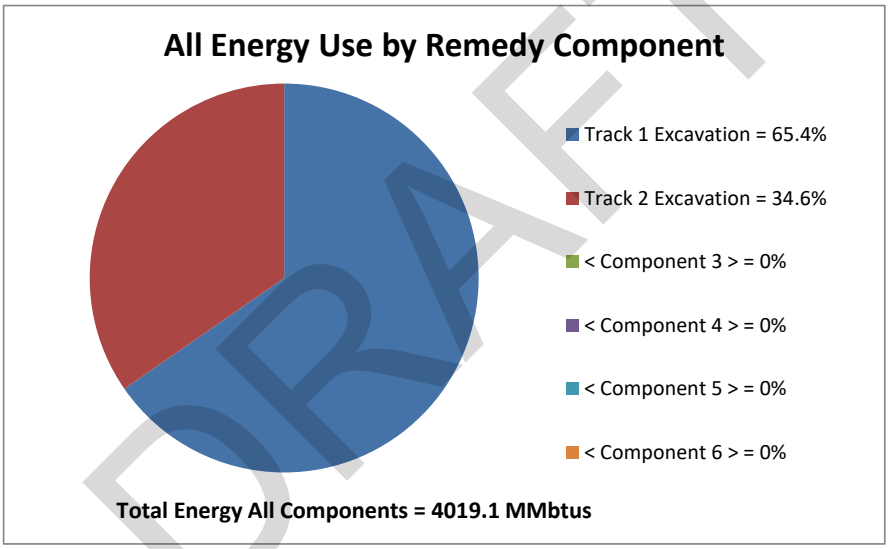
** Total greenhouse gases emissions (in CO2e) include consideration of CO2, CH4, and N2O (Nitrous oxide) emissions.*
"MMBtu" = millions of Btus
"MG" = millions of gallons
"CO2e" = carbon dioxide equivalents of global warming potential
"MWh" = megawatt hours (i.e., thousands of kilowatt-hours or millions of Watt-hours)
"Tons" = short tons (2,000 pounds)

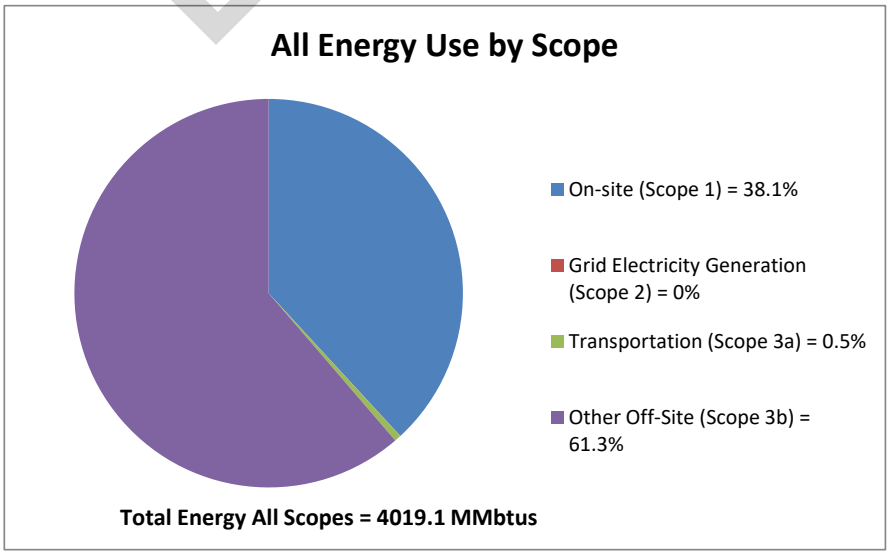
The above metrics are consistent with EPA's Methodology for Understanding and Reducing a Project's Environmental Footprint (EPA 542-R-12-002), February 2012

Notes:

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All Energy Use by Remedy Component and Scope
(in MMbtu)
3000
2500
2000
1500
1000
500
0
Track 1 Excavation
Track 2 Excavation
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
Total Energy All Components = 4019.1 MMbtus


All Energy Use by Remedy Component
Track 1 Excavation = 65.4%
Track 2 Excavation = 34.6%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
Total Energy All Components = 4019.1 MMbtus


All Energy Use by Scope
On-site (Scope 1) = 38.1%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.5%
Other Off-Site (Scope 3b) = 61.3%
Total Energy All Scopes = 4019.1 MMbtus

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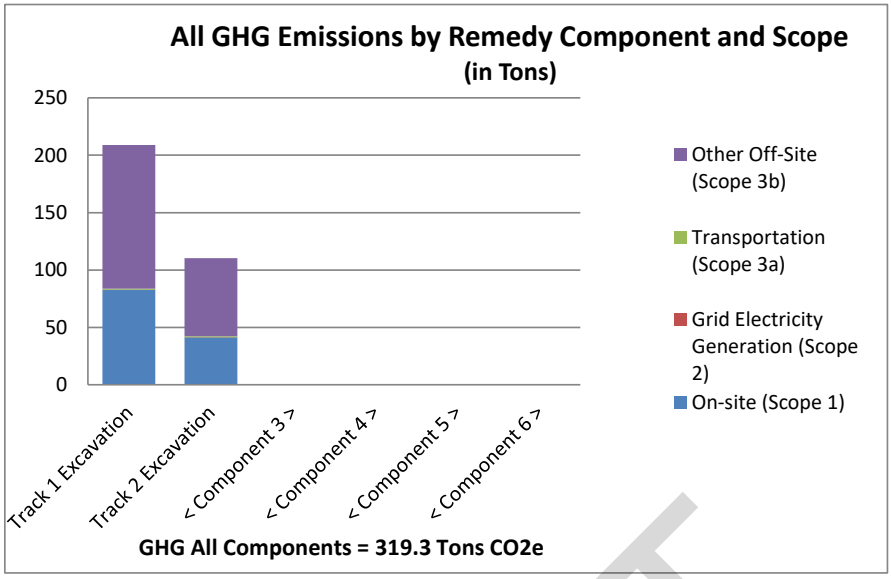
Total Energy MMbtus	Track 1 Exc	Track 2 Exc	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	1,021.9	511.0	0.0	0.0	0.0	0.0	1,532.9	
Generation (Scope 2)	0.5	0.3	0.0	0.0	0.0	0.0	0.8	d Electricity
nsportation (Scope 3a)	10.8	10.8	0.0	0.0	0.0	0.0	21.7	Tran
ner Off-Site (Scope 3b)	1,593.2	870.5	0.0	0.0	0.0	0.0	2,463.8	Oth
Total	2,626.5	1,392.6	0.0	0.0	0.0	0.0	4,019.1	

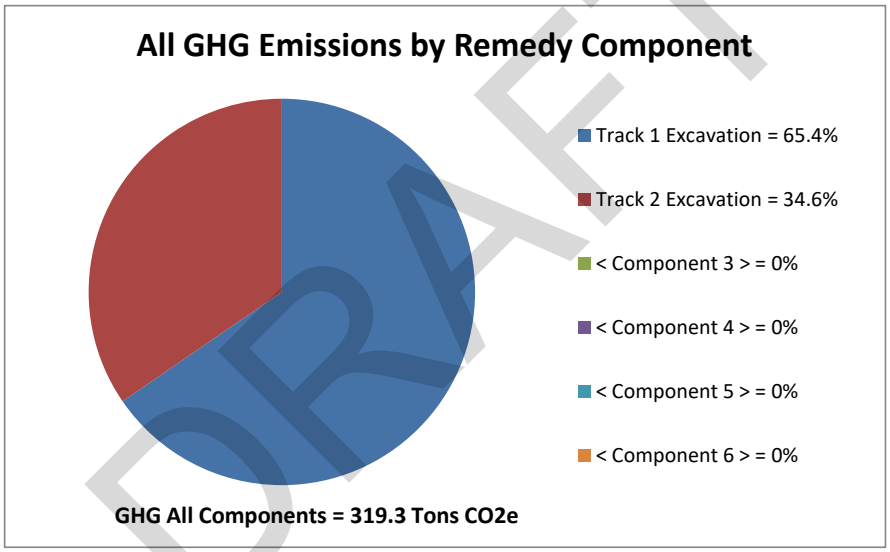
Track 1 Excavation = 65.4%
Track 2 Excavation = 34.6%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

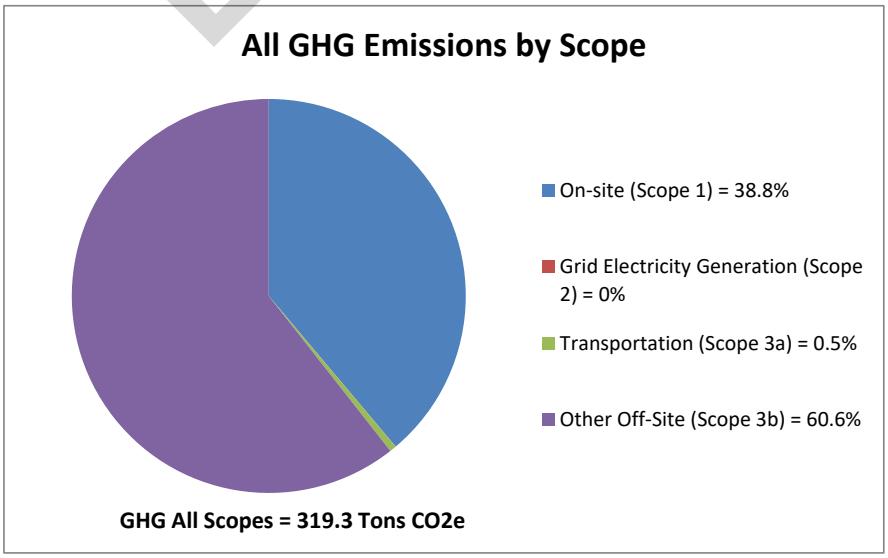
On-site (Scope 1) = 38.1%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.5%
Other Off-Site (Scope 3b) = 61.3%

Total Energy All Components = 4019.1 MMbtus
Total Energy All Scopes = 4019.1 MMbtus

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All GHG Emissions by Remedy Component and Scope
(in Tons)
250
200
150
100
50
0
Track 1 Excavation
Track 2 Excavation
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
GHG All Components = 319.3 Tons CO2e


All GHG Emissions by Remedy Component
Track 1 Excavation = 65.4%
Track 2 Excavation = 34.6%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
GHG All Components = 319.3 Tons CO2e


All GHG Emissions by Scope
On-site (Scope 1) = 38.8%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.5%
Other Off-Site (Scope 3b) = 60.6%
GHG All Scopes = 319.3 Tons CO2e

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GHG
Tons CO2e

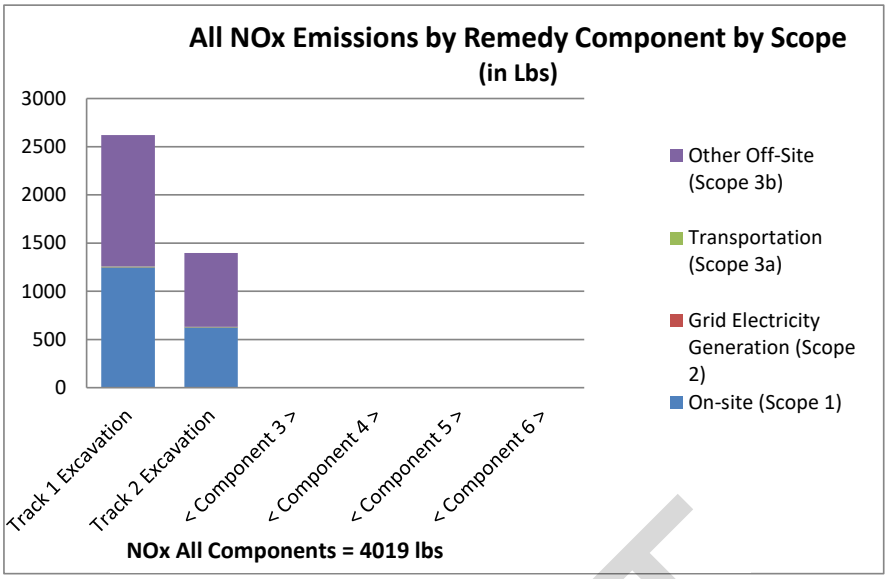
	Track 1 Exc	Track 2 Exc	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	82.7	41.3	0.0	0.0	0.0	0.0	124.0	
Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	d Electricity
ısportation (Scope 3a)	0.9	0.9	0.0	0.0	0.0	0.0	1.7	Tran
ıer Off-Site (Scope 3b)	125.3	68.2	0.0	0.0	0.0	0.0	193.4	Oth
Total	208.9	110.4	0.0	0.0	0.0	0.0	319.3	

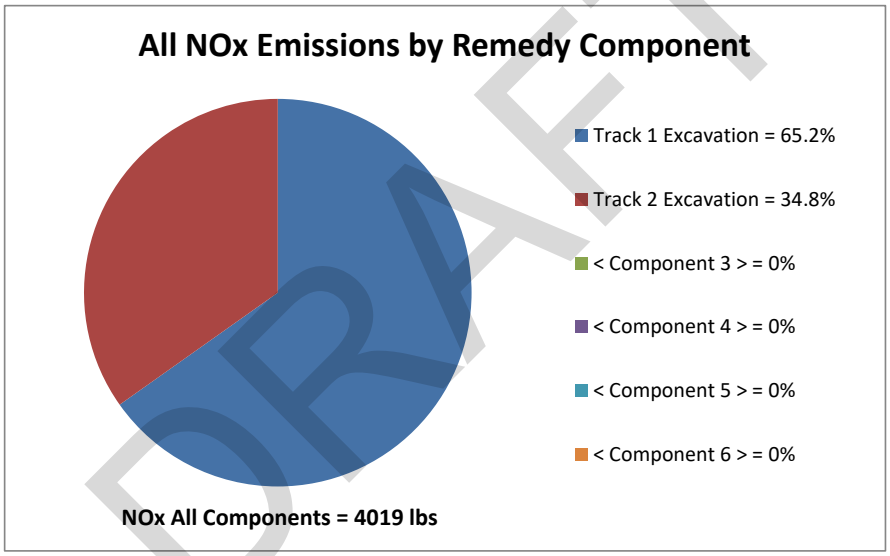
Track 1 Excavation = 65.4%
Track 2 Excavation = 34.6%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

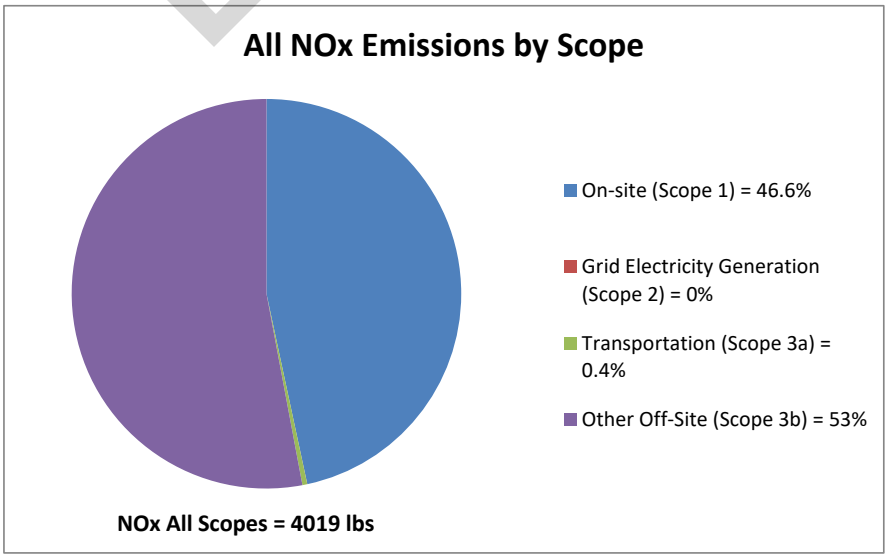
On-site (Scope 1) = 38.8%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.5%
Other Off-Site (Scope 3b) = 60.6%

GHG All Components = 319.3 Tons CO2e
GHG All Scopes = 319.3 Tons CO2e

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All NOx Emissions by Remedy Component by Scope
(in Lbs)
3000
2500
2000
1500
1000
500
0
Track 1 Excavation
Track 2 Excavation
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
NOx All Components = 4019 lbs


All NOx Emissions by Remedy Component
Track 1 Excavation = 65.2%
Track 2 Excavation = 34.8%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
NOx All Components = 4019 lbs


All NOx Emissions by Scope
On-site (Scope 1) = 46.6%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.4%
Other Off-Site (Scope 3b) = 53%
NOx All Scopes = 4019 lbs

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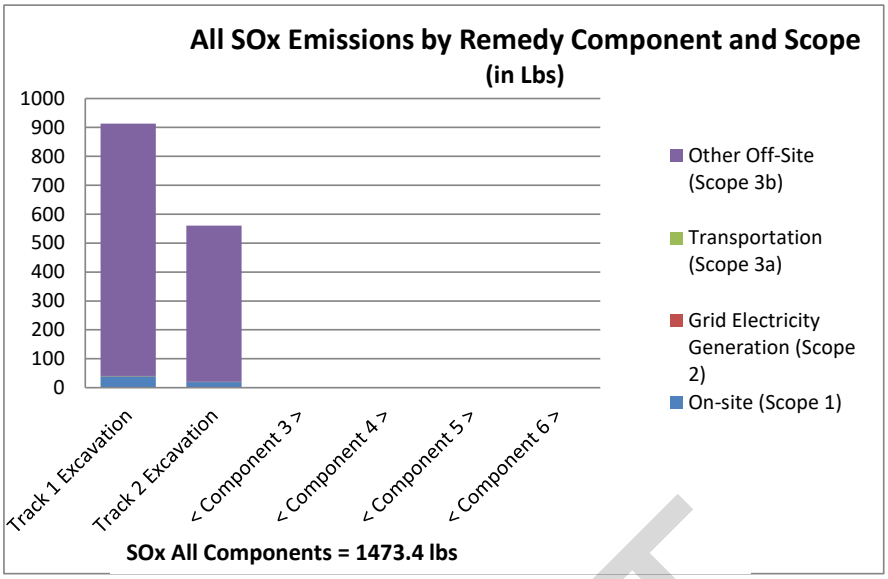
NOx lbs	Track 1 Exc	Track 2 Exc	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	1,249.5	624.8	0.0	0.0	0.0	0.0	1,874.3	
Generation (Scope 2)	0.2	0.1	0.0	0.0	0.0	0.0	0.2	d Electricity
sportation (Scope 3a)	8.1	8.1	0.0	0.0	0.0	0.0	16.2	Tran
ier Off-Site (Scope 3b)	1,362.3	766.0	0.0	0.0	0.0	0.0	2,128.3	Oth
Total	2,620.1	1,398.9	0.0	0.0	0.0	0.0	4,019.0	

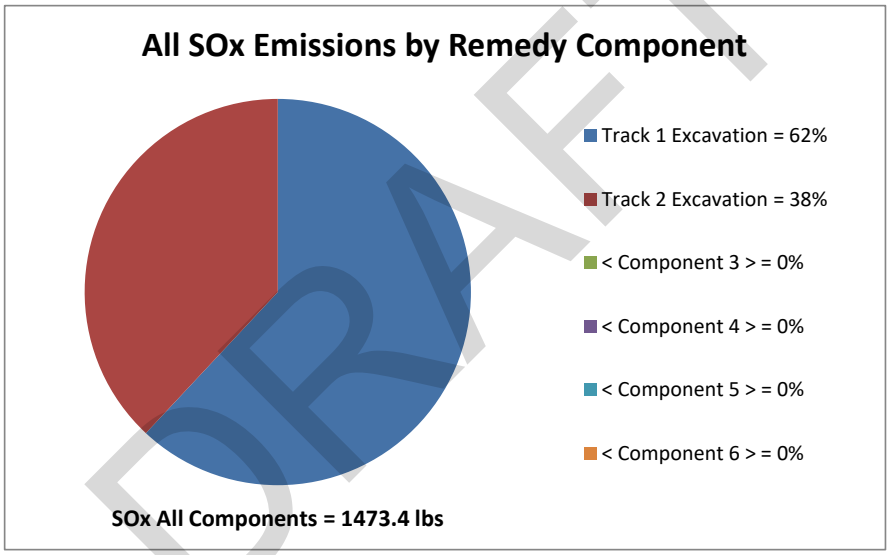
Track 1 Excavation = 65.2%
Track 2 Excavation = 34.8%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

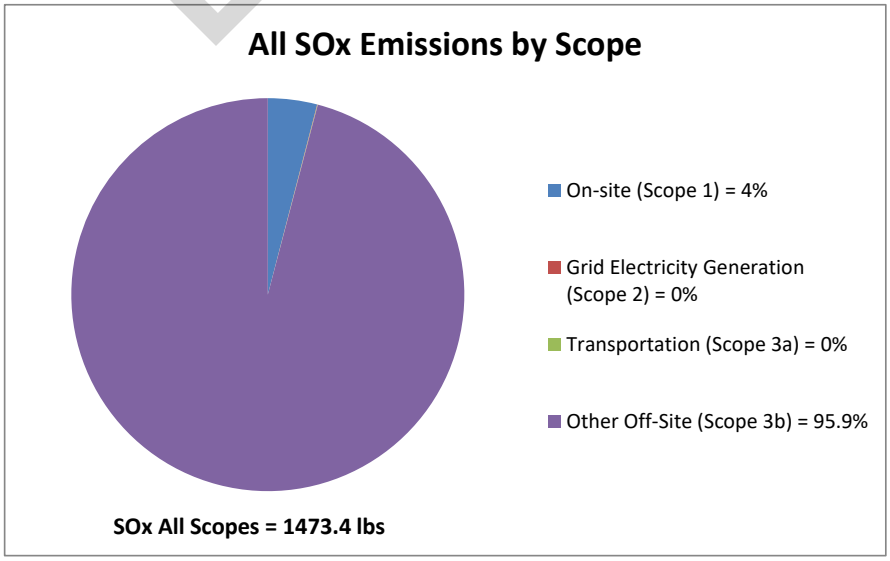
On-site (Scope 1) = 46.6%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.4%
Other Off-Site (Scope 3b) = 53%

NOx All Components = 4019 lbs
NOx All Scopes = 4019 lbs

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All SOx Emissions by Remedy Component and Scope
(in Lbs)
1000
900
800
700
600
500
400
300
200
100
0
Track 1 Excavation
Track 2 Excavation
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
SOx All Components = 1473.4 lbs


All SOx Emissions by Remedy Component
Track 1 Excavation = 62%
Track 2 Excavation = 38%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
SOx All Components = 1473.4 lbs


All SOx Emissions by Scope
On-site (Scope 1) = 4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0%
Other Off-Site (Scope 3b) = 95.9%
SOx All Scopes = 1473.4 lbs

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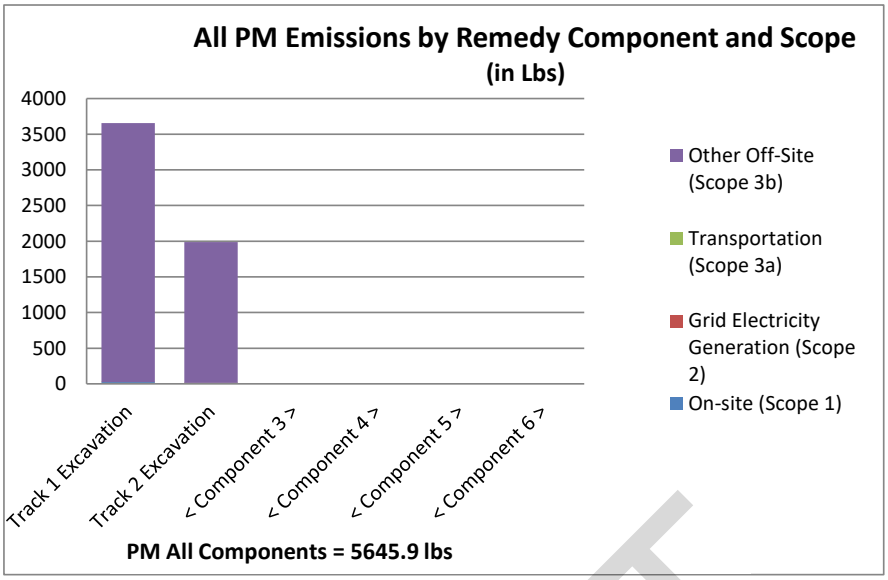
SOx lbs	Track 1 Exc	Track 2 Exc	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	39.7	19.8	0.0	0.0	0.0	0.0	59.5	
Generation (Scope 2)	0.3	0.1	0.0	0.0	0.0	0.0	0.4	d Electricity
sportation (Scope 3a)	0.2	0.2	0.0	0.0	0.0	0.0	0.4	Tran
ier Off-Site (Scope 3b)	872.8	540.3	0.0	0.0	0.0	0.0	1,413.1	Oth
Total	913.1	560.4	0.0	0.0	0.0	0.0	1,473.4	

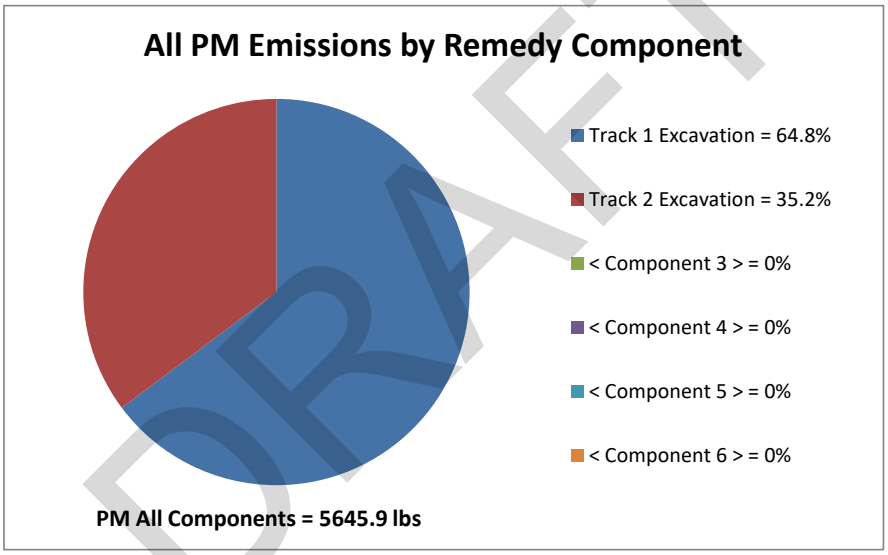
Track 1 Excavation = 62%
Track 2 Excavation = 38%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

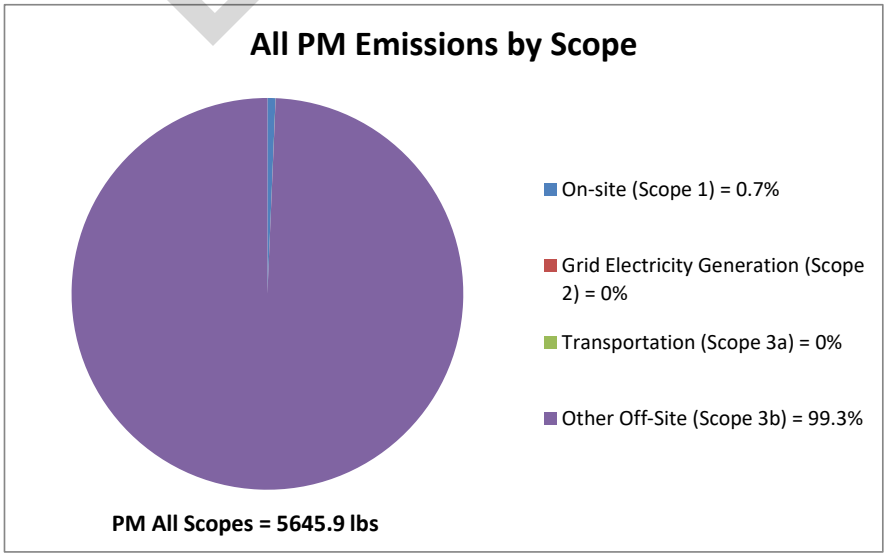
On-site (Scope 1) = 4%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0%
Other Off-Site (Scope 3b) = 95.9%

SOx All Components = 1473.4 lbs
SOx All Scopes = 1473.4 lbs

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All PM Emissions by Remedy Component and Scope
(in Lbs)
4000
3500
3000
2500
2000
1500
1000
500
0
Track 1 Excavation
Track 2 Excavation
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
PM All Components = 5645.9 lbs


All PM Emissions by Remedy Component
Track 1 Excavation = 64.8%
Track 2 Excavation = 35.2%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
PM All Components = 5645.9 lbs


All PM Emissions by Scope
On-site (Scope 1) = 0.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0%
Other Off-Site (Scope 3b) = 99.3%
PM All Scopes = 5645.9 lbs

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PM
lbs

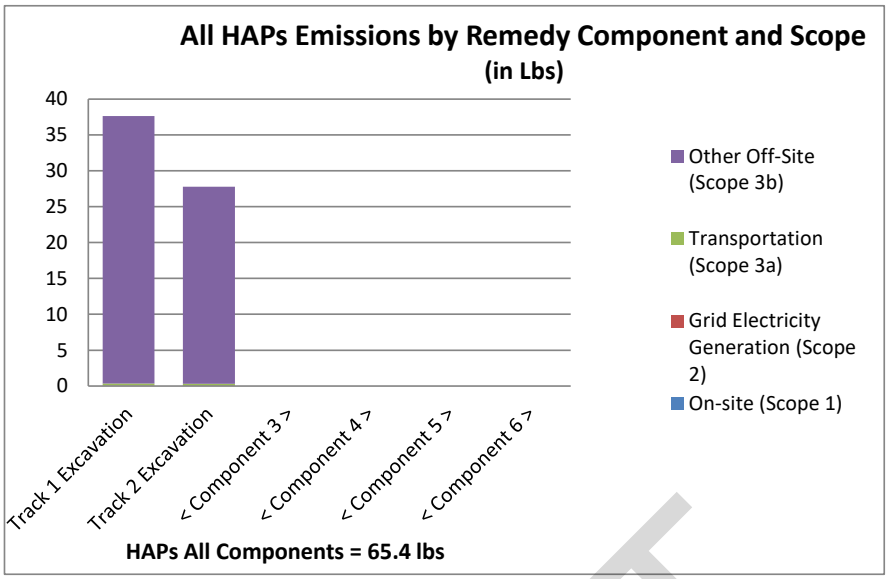
	Track 1 Exc	Track 2 Exc	< Compon	< Compon	< Compon	< Compon	Total	
On-site (Scope 1)	25.0	12.5	0.0	0.0	0.0	0.0	37.5	
Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	d Electricity
sportation (Scope 3a)	0.3	0.3	0.0	0.0	0.0	0.0	0.5	Tran
er Off-Site (Scope 3b)	3,632.1	1,975.8	0.0	0.0	0.0	0.0	5,607.9	Oth
Total	3,657.4	1,988.5	0.0	0.0	0.0	0.0	5,645.9	

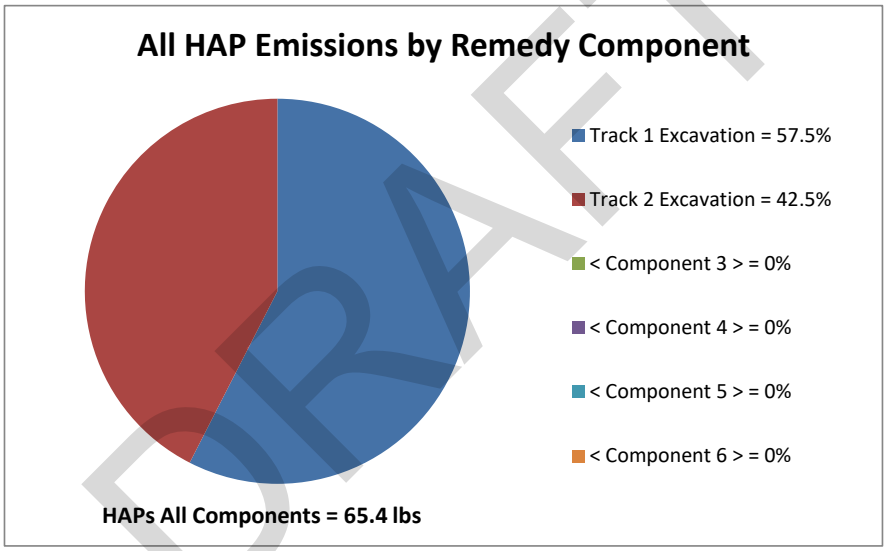
Track 1 Excavation = 64.8%
Track 2 Excavation = 35.2%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

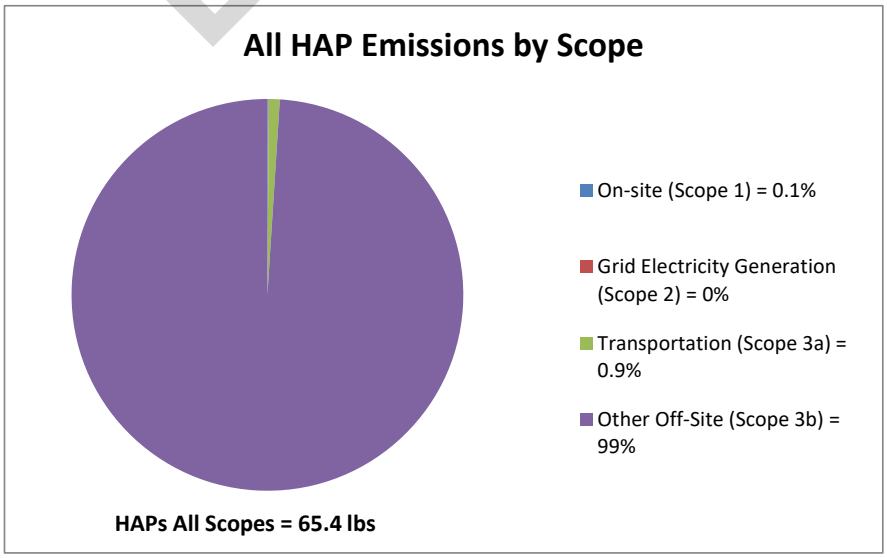
On-site (Scope 1) = 0.7%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0%
Other Off-Site (Scope 3b) = 99.3%

PM All Components = 5645.9 lbs
PM All Scopes = 5645.9 lbs

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All HAPs Emissions by Remedy Component and Scope
(in Lbs)
40
35
30
25
20
15
10
5
0
Track 1 Excavation
Track 2 Excavation
< Component 3 >
< Component 4 >
< Component 5 >
< Component 6 >
Other Off-Site (Scope 3b)
Transportation (Scope 3a)
Grid Electricity Generation (Scope 2)
On-site (Scope 1)
HAPs All Components = 65.4 lbs


All HAP Emissions by Remedy Component
Track 1 Excavation = 57.5%
Track 2 Excavation = 42.5%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%
HAPs All Components = 65.4 lbs


All HAP Emissions by Scope
On-site (Scope 1) = 0.1%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.9%
Other Off-Site (Scope 3b) = 99%
HAPs All Scopes = 65.4 lbs

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HAPs
lbs

	Track 1 Exc	Track 2 Exc	< Compon	< Compon	< Compon	< Compon	Total
On-site (Scope 1)	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Generation (Scope 2)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ısportation (Scope 3a)	0.3	0.3	0.0	0.0	0.0	0.0	0.6
ıer Off-Site (Scope 3b)	37.3	27.5	0.0	0.0	0.0	0.0	64.8
Total	37.6	27.8	0.0	0.0	0.0	0.0	65.4

Track 1 Excavation = 57.5%
Track 2 Excavation = 42.5%
< Component 3 > = 0%
< Component 4 > = 0%
< Component 5 > = 0%
< Component 6 > = 0%

On-site (Scope 1) = 0.1%
Grid Electricity Generation (Scope 2) = 0%
Transportation (Scope 3a) = 0.9%
Other Off-Site (Scope 3b) = 99%

HAPs All Components = 65.4 lbs
HAPs All Scopes = 65.4 lbs

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Track 1 Excavation - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**1,022**	**165,375**	**1,250**	**40**	**25**	**1,314**	**0**
Grid Electricity Generation (Scope 2)	**0.522**	**85**	**0**	**0**	**0**	**1**	**0**
Transportation (Scope 3a)	**11**	**1,743**	**8**	**0**	**0**	**9**	**0**
Other Off-Site (Scope 3b)	**1,593**	**250,581**	**1,362**	**873**	**3,632**	**5,867**	**37**
Remedy Totals	**2,626**	**417,783**	**2,620**	**913**	**3,657**	**7,191**	**38**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

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Track 2 Excavation - Energy & Air Compiled Results

Category	Total Energy	GHG	NOx	SOx	PM	NOx + SOx + PM	HAPs
	MMbtus	lbs CO2e	lbs	lbs	lbs	lbs	lbs
On-site (Scope 1)	**511**	**82,688**	**625**	**20**	**12**	**657**	**0**
Grid Electricity Generation (Scope 2)	**0**	**13**	**0**	**0**	**0**	**0**	**0**
Transportation (Scope 3a)	**11**	**1,743**	**8**	**0**	**0**	**9**	**0**
Other Off-Site (Scope 3b)	**871**	**136,306**	**766**	**540**	**1,976**	**3,282**	**27**
Remedy Totals	**1,393**	**220,749**	**1,399**	**560**	**1,989**	**3,948**	**28**

Values that are forwarded to the "Summary" tab are indicated in orange.

Voluntary Renewable Energy Use	Unit	Quantity	
On-site renewable energy generation or use	MMBtu	**0**	
On-site biodiesel use	MMBtu	**0**	
Biodiesel and other renewable resource use for transportation	MMBtu	**0**	
On-site renewable energy generation or use + on-site biodiesel use + biodiesel and other renewable resource use for transportation	MMBtu	**0**	*(This value is the sum of the three rows above)*
Voluntary purchase of renewable electricity	MWh	**0**	
Voluntary purchase of RECs	MWh	**0**	

This worksheet is not intended for user input. Values on this worksheet are obtained from the following file: SEFA_calculations_(121718).xlsx

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Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
		Column headings in Row 6 must match the name of "Input" tabs in this workbook for Columns C - P in this table to be populated ("0" in Row 4 means "Input" tab is turned Off and will not be grouped to a Remedy Component (Columns Q - V) or used in subsequent calculations)																				
Item		Input Template	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
On-Site																						
On-site Renewable Energy																						
Renewable electricity generated on-site	MWh	0	0													0	0	0	0	0	0	0
Landfill gas combusted on-site for energy use	ccf CH_4	0	0													0	0	0	0	0	0	0
On-site biodiesel use	gal	0	0													0	0	0	0	0	0	0
On-site biodiesel use - Other	gal	0	0													0	0	0	0	0	0	0
User-defined on-site renewable energy use #1	TBD	0	0													0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0													0	0	0	0	0	0	0
On-Site Conventional Energy																						
Grid electricity	MWh	0.075264	0.037632													0.075264	0.037632	0	0	0	0	0.112896
On-site diesel use - Other	Gal	7350	3675													7350	3675	0	0	0	0	11025
On-site diesel use <75 hp	Gal	0	0													0	0	0	0	0	0	0
On-site diesel use 75<hp<750	Gal	0	0													0	0	0	0	0	0	0
On-site diesel use >750 hp	Gal	0	0													0	0	0	0	0	0	0
On-site gasoline use - Other	Gal	0	0													0	0	0	0	0	0	0
On-site gasoline use <25 hp	Gal	0	0													0	0	0	0	0	0	0
On-site gasoline use >25 hp	Gal	0	0													0	0	0	0	0	0	0
On-site natural gas use	ccf	0	0													0	0	0	0	0	0	0
On-site compressed natural gas use - Other	ccf	0	0													0	0	0	0	0	0	0
On-site compressed natural gas use	ccf	0	0													0	0	0	0	0	0	0
On-site liquified petroleum gas use - Other	gal	0	0													0	0	0	0	0	0	0
On-site liquified petroleum gas use	gal	0	0													0	0	0	0	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0													0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0													0	0	0	0	0	0	0
Other On-site Emissions																						
On-site HAP process emissions	Lbs	0	0													0	0	0	0	0	0	0
On-site GHG emissions	Lbs CO2e	0	0													0	0	0	0	0	0	0
On-site carbon storage	Lbs CO2e	0	0													0	0	0	0	0	0	0
GHG avoided by flaring on-site landfill methane	ccf CH4	0	0													0	0	0	0	0	0	0
Other on-site NOx emissions or reductions	Lbs	0	0													0	0	0	0	0	0	0
Other on-site SOx emissions or reductions	Lbs	0	0													0	0	0	0	0	0	0
Other on-site PM emissions or reductions	Lbs	0	0													0	0	0	0	0	0	0
Electricity Generation																						
Grid electricity	MWh	0.075264	0.037632													0.075264	0.037632	0	0	0	0	0.112896
Voluntary purchase of renewable electricity	MWh	0	0													0	0	0	0	0	0	0
Voluntary purchase of RECs	MWh	0	0													0	0	0	0	0	0	0
Transportation																						
Transportation Fuel Use Breakdown																						
Biodiesel use - Personnel Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Personnel Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Equipment Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Equipment Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Material Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Material Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Waste Transport	gal	0	0													0	0	0	0	0	0	0
Biodiesel use - Waste Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - other vehicles	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - car	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - passenger truck	gal	0	0													0	0	0	0	0	0	0
Diesel use - Personnel Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Equipment Transport	gal	38.4	38.4													38.4	38.4	0	0	0	0	76.8
Diesel use - Equipment Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Material Transport	gal	0	0													0	0	0	0	0	0	0
Diesel use - Material Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Diesel use - Waste Transport	gal	0	0													0	0	0	0	0	0	0
Diesel use - Waste Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Personnel Transport - other vehicles	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Personnel Transport - car	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Personnel Transport - passenger truck	gal	44.4	44.4													44.4	44.4	0	0	0	0	88.8
Gasoline use - Personnel Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Equipment Transport	gal	0	0													0	0	0	0	0	0	0
Gasoline use - Equipment Transport - User Defined	gal	0	0													0	0	0	0	0	0	0
Natural Gas use - Personnel Transport	ccf	0	0													0	0	0	0	0	0	0
Natural Gas use - Personnel Transport - User Defined	ccf	0	0													0	0	0	0	0	0	0
Natural Gas use - Equipment Transport	ccf	0	0													0	0	0	0	0	0	0

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Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
		Column headings in Row 6 must match the name of "Input" tabs in this workbook for Columns C - P in this table to be populated ("0" in Row 4 means "Input" tab is turned Off and will not be grouped to a Remedy Component (Columns Q - V) or used in subsequent calculations)																				
Item		Input Template	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Conventional Energy																						
Transportation diesel use	gal	38.4	38.4													38.4	38.4	0	0	0	0	76.8
Transportation gasoline use	gal	44.4	44.4													44.4	44.4	0	0	0	0	88.8
Transportation natural gas use	ccf	0	0													0	0	0	0	0	0	0
User-defined conventional energy transportation #1	TBD	10	10													10	10	0	0	0	0	20
User-defined conventional energy transportation #2	TBD	0	0													0	0	0	0	0	0	0
Renewable Energy																						
Transportation biodiesel use	gal	0	0													0	0	0	0	0	0	0
User-defined renewable energy transportation #1	TBD	0	0													0	0	0	0	0	0	0
User-defined renewable energy transportation #2	TBD	0	0													0	0	0	0	0	0	0
Off-Site																						
Construction Materials																						
Aluminum, Rolled Sheet	lb	0	0													0	0	0	0	0	0	0
Asphalt, mastic	lb	0	0													0	0	0	0	0	0	0
Asphalt, paving-grade	lb	0	0													0	0	0	0	0	0	0
Ethanol, Corn, 95%	lb	0	0													0	0	0	0	0	0	0
Ethanol, Corn, 99.7%	lb	0	0													0	0	0	0	0	0	0
Ethanol, Petroleum, 99.7%	lb	0	0													0	0	0	0	0	0	0
Gravel/Sand Mix, 65% Gravel	lb	0	0													0	0	0	0	0	0	0
Gravel/sand/clay	lb	0	0													0	0	0	0	0	0	0
HDPE	lb	0	0													0	0	0	0	0	0	0
Photovoltaic system (installed)	W	0	0													0	0	0	0	0	0	0
PVC	lb	0	0													0	0	0	0	0	0	0
Portland cement, US average	lb	0	0																			
Ready-mixed concrete, 20 MPa	ft3	0	0													0	0	0	0	0	0	0
Round Gravel	lb	0	0													0	0	0	0	0	0	0
Sand	lb	0	0													0	0	0	0	0	0	0
Stainless Steel	lb	0	0													0	0	0	0	0	0	0
Steel	lb	0	0													0	0	0	0	0	0	0
Other refined construction materials	lb	0	0													0	0	0	0	0	0	0
Other unrefined construction materials	lb	0	0													0	0	0	0	0	0	0
Treatment Materials & Chemicals																						
Cheese Whey	lbs	0	0													0	0	0	0	0	0	0
Emulsified vegetable oil	lbs	0	0													0	0	0	0	0	0	0
Granular activated carbon, primary	lbs	0	0													0	0	0	0	0	0	0
Granular activated carbon, regenerated	lbs	0	0													0	0	0	0	0	0	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0													0	0	0	0	0	0	0
Iron (II) Sulfate	lbs	0	0													0	0	0	0	0	0	0
Lime, Hydrated, Packed	lbs	0	0													0	0	0	0	0	0	0
Molasses	lbs	0	0													0	0	0	0	0	0	0
Phosphoric Acid, 70% in H2O	lbs	0	0													0	0	0	0	0	0	0
Potassium Permanganate	lbs	0	0													0	0	0	0	0	0	0
Sodium Hydroxide, 50% in H2O	lbs	0	0													0	0	0	0	0	0	0
Other Treatment Chemicals & Materials	lbs	0	0													0	0	0	0	0	0	0
Material Type																						
Total Virgin Refined Materials	tons	0	0													0	0	0	0	0	0	0
Total Recycled Refined Materials	tons	0	0													0	0	0	0	0	0	0
Total Reused Refined Materials	tons	0	0													0	0	0	0	0	0	0
Total Refined Material	tons	0	0													0	0	0	0	0	0	0
Total Virgin Unrefined Materials	tons	0	0													0	0	0	0	0	0	0
Total Recycled Unrefined Materials	tons	0	0													0	0	0	0	0	0	0
Total Reused Unrefined Materials	tons	0	0													0	0	0	0	0	0	0
Total Unrefined Material	tons	0	0													0	0	0	0	0	0	0
Fuel Processing																						
Biodiesel produced	gal	0	0													0	0	0	0	0	0	0
Diesel produced	gal	7388.4	3713.4													7388.4	3713.4	0	0	0	0	11101.8
Gasoline produced	gal	44.4	44.4													44.4	44.4	0	0	0	0	88.8
Compressed natural gas produced	ccf	0	0													0	0	0	0	0	0	0
Liquified petroleum gas produced	gal	0	0													0	0	0	0	0	0	0
Natural gas produced	ccf	0	0													0	0	0	0	0	0	0
Water Use																						
Public Water Supply	gal x 1000	10.8	3.75													10.8	3.75	0	0	0	0	14.55
Extracted Groundwater	gal x 1000	0	0													0	0	0	0	0	0	0
Surface Water	gal x 1000	0	0													0	0	0	0	0	0	0
Reclaimed Water	gal x 1000	0	0													0	0	0	0	0	0	0
Collected/Diverted Storm Water	gal x 1000	0	0													0	0	0	0	0	0	0
User-defined water resource #1	gal x 1000	0	0													0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0													0	0	0	0	0	0	0

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Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
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Item		Input Template	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Waste/Recycle Handling																						
Hazardous waste incineration	lbs	0	0													0	0	0	0	0	0	0
Off-site waste water treatment (POTW)	gal x 1000	0	0													0	0	0	0	0	0	0
Off-site non-hazardous waste landfill	tons	8955	4830													8955	4830	0	0	0	0	13785
Off-site hazardous waste landfill	tons	33	33													33	33	0	0	0	0	66
Recycled/Reused On-Site	tons	0	0													0	0	0	0	0	0	0
Recycled/Reused Off-Site	tons	0	0													0	0	0	0	0	0	0
Solid Waste Totals																						
Total Non-Hazardous Waste	tons	8955	4830													8955	4830	0	0	0	0	13785
Total Hazardous Waste	tons	33	33													33	33	0	0	0	0	66
Total Recycled/Reused	tons	0	0													0	0	0	0	0	0	0
Total Waste (all types)	tons	8988	4863													8988	4863	0	0	0	0	13851
Lab Services																						
Off-site Laboratory Analysis - Other	sample	88	88													88	88	0	0	0	0	176
Off-site Laboratory Analysis - Metals	sample	60	60													60	60	0	0	0	0	120
Off-site Laboratory Analysis - Mercury	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - Sulfate	sample	0	0													0	0	0	0	0	0	0
Off-site Laboratory Analysis - PCBs	sample	44	44													44	44	0	0	0	0	88
Off-site Laboratory Analysis - VOCs	sample	51	51													51	51	0	0	0	0	102
Off-site Laboratory Analysis - SVOCs	sample	44	44													44	44	0	0	0	0	88
Resource Extraction for Electricity																						
Coal extraction and processing	MWh	0.0229555	0.0022579													0.0229555	0.0022579	0	0	0	0	0.0252134
Natural gas extraction and processing	MWh	0.0255145	0.0037632													0.0255145	0.0037632	0	0	0	0	0.0292777
Nuclear fuel extraction and processing	MWh	0.0149023	0.0007526													0.0149023	0.0007526	0	0	0	0	0.0156549
Oil extraction and processing	MWh	0.0005268	0.0018816													0.0005268	0.0018816	0	0	0	0	0.0024084
Other fuel extraction and processing	MWh	7.526E-05	0													7.526E-05	0	0	0	0	0	7.526E-05
Electricity Transmission																						
Transmission and distribution losses	MWh	0.075264	0.037632													0.075264	0.037632	0	0	0	0	0.112896

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Input Summary

Remedy Component Number →		1	2	3	4	5	6									Remedy Component Subtotals						
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Item		Input Template	Input Template (2)	Input Template (3)	Input Template (4)	Input Template (5)	Input Template (6)	Input Template (7)	Input Template (8)	Input Template (9)	Input Template (10)	Input Template (11)	Input Template (12)	Input Template (13)	Input Template (14)	1	2	3	4	5	6	Total
Other																						
SV Points & Tubing (to 12 feet)	lbs	0	0													0	0	0	0	0	0	0
User-defined material #2	TBD	0	0													0	0	0	0	0	0	0
User-defined material #3	TBD	0	0													0	0	0	0	0	0	0
User-defined material #4	TBD	0	0													0	0	0	0	0	0	0
User-defined material #5	TBD	0	0													0	0	0	0	0	0	0
User-defined material #6	TBD	0	0													0	0	0	0	0	0	0
User-defined material #7	TBD	0	0													0	0	0	0	0	0	0
User-defined material #8	TBD	0	0													0	0	0	0	0	0	0
User-defined material #9	TBD	0	0													0	0	0	0	0	0	0
User-defined material #10	TBD	0	0													0	0	0	0	0	0	0
User-defined material #11	TBD	0	0													0	0	0	0	0	0	0
User-defined material #12	TBD	0	0													0	0	0	0	0	0	0
User-defined material #13	TBD	0	0													0	0	0	0	0	0	0
User-defined material #14	TBD	0	0													0	0	0	0	0	0	0
User-defined material #15	TBD	0	0													0	0	0	0	0	0	0
User-defined material #16	TBD	0	0													0	0	0	0	0	0	0
User-defined material #17	TBD	0	0													0	0	0	0	0	0	0
User-defined material #18	TBD	0	0													0	0	0	0	0	0	0
User-defined material #19	TBD	0	0													0	0	0	0	0	0	0
User-defined material #20	TBD	0	0													0	0	0	0	0	0	0
User-defined Waste Destinations																						
User-defined recycled/reused on-site #1	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused on-site #2	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0													0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	0													0	0	0	0	0	0	0
User-defined non-hazardous waste destination #1	TBD	0	0													0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0													0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0													0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0													0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0													0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0													0	0	0	0	0	0	0

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Track 1 Excavation - On-Site Footprint (Scope 1)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
On-Site														
On-site Renewable Energy														
Renewable electricity generated on-site	MWh	0	3.413	0										
Landfill gas combusted on-site for energy use	ccf CH4	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined on-site renewable energy use #1	gal	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
On-site Conventional Energy														
On-site grid electricity	MWh	0.075264	3.413	0.256876										
On-site diesel use - Other	Gal	7350	0.139	1021.65	22.5	165375	0.17	1249.5	0.0054	39.69	0.0034	24.99	0.0000052	0.03822
On-site diesel use <75 hp	Gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	Gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	Gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
On-site gasoline use - Other	Gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
On-site gasoline use <25 hp	Gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	Gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site compressed natural gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed natural gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site liquified petroleum gas use - Other	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Conventional Energy Subtotals				**1,022**		**165,375**		**1,250**		**40**		**25**		**0**
Notes:														
Other On-site Emissions														
On-site HAP process emissions	lbs	0											1	0
On-site GHG emissions	lbs CO2e	0			1	0								
On-site carbon storage	lbs CO2e	0			1	0								
GHG avoided by flaring on-site landfill methane	Lbs	0			-262	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Other on-site NOx emissions or reductions	lbs	0					1	0						
Other on-site SOx emissions or reductions	lbs	0							1	0				
Other on-site PM emissions or reductions	lbs	0									1	0		
User-defined recycled/reused on-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
On-site Totals				**1,021.91**		**165,375**		**1,250**		**40**		**25**		**0**

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Track 1 Excavation - Electricity Generation Footprint (Scope 2)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Electricity Generation														
Grid electricity	MWh	0.075264	6.929	0.5215043	1124.3	84.619315	2.2421	0.1687494	4.6078874	0.346808	0.057518	0.004329	0.2102371	0.0158233
Voluntary purchase of renewable electricity	MWh	0												
Voluntary purchase of RECs	MWh	0												
Notes:														

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Track 1 Excavation - Transportation Footprint (Scope 3a)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Conventional Energy														
Transportation diesel use	gal	38.4	0.139	5.3376	22.5	864	0.17	6.528	0.0054	0.20736	0.0034	0.13056	0.0000052	0.0001997
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	0	0.124	0	19.77	0	0.027	0	0.00036	0	0.003	0	0.0067	0
Transportation gasoline use - passenger truck	gal	44.4	0.124	5.5056	19.79	878.676	0.035	1.554	0.00036	0.015984	0.003	0.1332	0.00661	0.293484
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
User-defined conventional energy transportation #1	TBD	10	0	0	0	0	0	0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional Energy Subtotals				**11**		**1,743**		**8**		**0**		**0**		**0**
Notes:														
Renewable Energy														
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined renewable energy transportation #1	TBD	0	Biodiesel		0	0	0	0	0	0	0	0	Ref.	
User-defined renewable energy transportation #2	TBD	0	mpg or pmp		0	0	0	0	0	0	0	0	0	0
Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Transportation Totals				**11**		**1743**		**8**		**0**		**0**		**0**

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Track 1 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Construction Materials														
Aluminum, Rolled Sheet	lb	0	0.0633	0	9.15	0	0.0148	0	0.0283	0	0.0088	0	0.00102	0
Asphalt, mastic	lb	0	0.0412	0	0.85	0	0.00271	0	0.00798	0	0.000766	0	0.00107	0
Asphalt, paving-grade	lb	0	0.5	0	8.58	0	0.0299	0	0.0969	0	0.0091	0	0.0133	0
Ethanol, Corn, 95%	lb	0	0.0318	0	-0.0199	0	0.00425	0	0.00303	0	0.000469	0	0.0000846	0
Ethanol, Corn, 99.7%	lb	0	0.0324	0	0.0591	0	0.00431	0	0.0031	0	0.000472	0	0.000087	0
Ethanol, Petroleum, 99.7%	lb	0	0.0205	0	1.25	0	0.00199	0	0.00214	0	0.000277	0	0.0000589	0
Gravel/Sand Mix, 65% Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Gravel/sand/clay	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0
HDPE	lb	0	0.0332	0	1.94	0	0.00325	0	0.00409	0	0.000439	0	0.0000641	0
Photovoltaic system (installed)	W	0	0.0336	0	4.47	0	0.015	0	0.032	0	0.00063	0	0.0000029	0
PVC	lb	0	0.0262	0	2.02	0	0.004	0	0.00274	0	0.000372	0	0.000375	0
Portland cement, US average	lb	0	0.0139	0	1.34	0	0.00654	0	0.0104	0	0.00378	0	0.00097	0
Ready-mixed concrete, 20 MPa	ft3	0	0.217	0	19.5	0	0.0975	0	0.154	0	0.057	0	0.0141	0
Round Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Sand	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Stainless Steel	lb	0	0.0116	0	3.4	0	0.0075	0	0.012	0	0.0044	0	0.000144	0
Steel	lb	0	0.0044	0	1.1	0	0.0014	0	0.0017	0	0.00056	0	0.000067	0
Other refined construction materials	lb	0	0.01885	0	2.115	0	0.0040375	0	0.0051325	0	0.0014428	0	0.0001625	0
Other unrefined construction materials	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0

Notes:

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Track 1 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Treatment Materials & Chemicals														
Cheese Whey	lbs	0	0.0025	0	0.031	0	0.000062	0	0.000033	0	0.000002	0	NP	
Emulsified vegetable oil	lbs	0	0.0077	0	3.44	0	0.0066	0	0.0019	0	0.000033	0	NP	
Granular activated carbon, primary	lbs	0	0.0356	0	4.82	0	0.0793	0	0.128	0	0.000987	0	0.000657	0
Granular activated carbon, regenerated	lbs	0	0.00873	0	1.7	0	0.00733	0	0.0129	0	0.000886	0	0.000671	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0.00979	0	1.19	0	0.00142	0	0.0024	0	0.000308	0	0.0000629	0
Iron (II) Sulfate	lbs	0	0.00147	0	0.167	0	0.000316	0	0.000589	0	0.000103	0	0.000023	0
Lime, Hydrated, Packed	lbs	0	0.00206	0	0.762	0	0.000513	0	0.000358	0	0.00013	0	6.57E-06	0
Molasses	lbs	0	0.0044	0	0.48	0	0.0011	0	0.00024	0	0.0000041	0	NP	
Phosphoric Acid, 70% in H2O	lbs	0	0.0067	0	0.882	0	0.00282	0	0.0294	0	0.00171	0	0.000163	0
Potassium Permanganate	lbs	0	0.00981	0	1.16	0	0.00234	0	0.0032	0	0.000422	0	0.000122	0
Sodium Hydroxide, 50% in H2O	lbs	0	0.00977	0	1.09	0	0.00194	0	0.00352	0	0.000403	0	0.000129	0
Other Treatment Chemicals & Materials	lbs	0	0.015	0	1.67	0	0.003	0	0.0065	0	0.00061	0	0.000016	0
Notes:														
Fuel Processing														
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Diesel produced	gal	7388.4	0.017	125.6028	3.02	22312.968	0.0051	37.68084	0.0062	45.80808	0.0017	12.56028	0.0011	8.12724
Gasoline produced	gal	44.4	0.033	1.4652	2.8	124.32	0.0046	0.20424	0.005	0.222	0.0015	0.0666	0.001	0.0444
Liquefied Petroleum Gas Produced	gal	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Natural Gas - Compressed Produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Natural Gas Produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Fuel Processing Subtotals				**127.068**		**22437.288**		**37.88508**		**46.03008**		**12.62688**		**8.17164**
Notes:														
Public water	gal x 1000	10.8	0.0092	0.09936	5	54	0.0097	0.10476	0.0059	0.06372	0.016	0.1728	0.000015	0.000162
User-defined water resource #1	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														

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Track 1 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Off-Site Services														
Hazardous waste incineration	lb	0	0.00609	0	2.43	0	0.0016	0	0.00167	0	0.000209	0	0.000087	0
Off-site waste water treatment (POTW)	gal x 1000	0	0.015	0	4.4	0	0.016	0	0.015	0	NP		NP	
Off-site non-hazardous waste landfill	ton	8955	0.16	1432.8	25	223875	0.14	1253.7	0.075	671.625	0.4	3582	0.0014	12.537
Off-site hazardous waste landfill	ton	33	0.18	5.94	27.5	907.5	0.154	5.082	0.0825	2.7225	0.44	14.52	0.00154	0.05082
Off-site Laboratory Analysis - Other	sample	88	0.058071	5.1102506	6.8534384	603.10258	0.131402	11.563372	0.3038758	26.741067	0.0455698	4.0101445	0.0330165	2.9054545
Off-site Laboratory Analysis - Metals	sample	60	0.212	12.72	27.4693	1648.158	0.6423	38.538	1.5072	90.432	0.2264	13.584	0.1643	9.858
Off-site Laboratory Analysis - Mercury	sample	0	0.0731715	0	9.325458	0	0.2127439	0	0.4982396	0	0.0747359	0	0.0542332	0
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0.0074025	0	0.6459478	0	0.0067681	0	0.0147929	0	0.0022024	0	0.0015542	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0.0174398	0	1.3381922	0	0.0070106	0	0.0132496	0	0.00194	0	0.0012831	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0.023885	0	1.8717054	0	0.0079807	0	0.0141535	0	0.0020547	0	0.0012875	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0.0336475	0	4.29897	0	0.0954592	0	0.2226646	0	0.0335099	0	0.0242506	0
Off-site Laboratory Analysis - Sulfate	sample	0	0.0141225	0	1.4726728	0	0.0079807	0	0.0136024	0	0.0019797	0	0.0012015	0
Off-site Laboratory Analysis - PCBs	sample	44	0.0512769	2.2561836	5.224902	229.89569	0.0833339	3.6666907	0.1904774	8.3810074	0.0284393	1.251331	0.0212083	0.9331631
Off-site Laboratory Analysis - VOCs	sample	51	0.0762045	3.8864288	9.016814	459.85751	0.104498	5.3294	0.2270738	11.580764	0.0339508	1.7314928	0.0235892	1.2030502
Off-site Laboratory Analysis - SVOCs	sample	44	0.0715602	3.1486481	7.870422	346.29857	0.1459445	6.4215589	0.3373038	14.841367	0.0504853	2.221355	0.0372577	1.6393406
Notes:														
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0229555	3.1	0.0701016	180.0	4.1319936	0.8	0.0176758	0.2	0.0034433	0.0	0.0004132	NP	
Natural gas extraction and processing	MWh	0.0255145	1.6	0.0416346	270.0	6.8889139	0.2	0.0045926	13.0	0.3316884	0.0	0.0001812	NP	
Nuclear fuel extraction and processing	MWh	0.0149023	0.2	0.0023169	25.0	0.3725568	0.2	0.0022353	0.5	0.0074511	0.0	2.235E-05	NP	
Oil extraction and processing	MWh	0.0005268	2.3	0.0012093	270.0	0.142249	1.7	0.0008956	0.1	3.635E-05	0.0	2.213E-05	NP	
Other fuel extraction and processing	MWh	7.526E-05	0	0	0	0	0	0	0	0	0	0	0	0
Resource Extraction Subtotals				**0.1152623**		**11.535713**		**0.0253993**		**0.3426193**		**0.0006388**		**0**
Notes:														
Electricity Transmission														
Transmission and distribution losses	MWh	0.075264	1.0342	0.077838	112.43	8.4619315	0.22421	0.0168749	0.4607887	0.0346808	0.0057518	0.0004329	0.0210237	0.0015823
Notes:														

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Track 1 Excavation - Off-Site Footprint (Scope 3b)

			Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv.		Conv.		Conv.		Conv.		Conv.		Conv.	
Category	**Units**	**Usage**	**Factor**	**MMBtus**	**Factor**	**lbs CO2e**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**	**Factor**	**lbs**
User-defined Materials														
SV Points & Tubing (to 12 feet)	lbs	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #4	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #5	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #6	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #7	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #8	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #9	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #10	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #11	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #12	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #13	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #14	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #15	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #16	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #17	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #18	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #19	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #20	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
User-defined Waste Destinations														
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	y(MMBtu/u		lbs CO2e/u		Ox(lbs/unit		Ox(lbs/unit		M(lbs/unit)		APs(lbs/unit	
User-defined non-hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
Off-site Totals				**1593.222**		**250581.1**		**1362.3331**		**872.79481**		**3632.1191**		**37.300213**

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Track 1 Excavation - Intermediate Totals

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Total Grid Electricity Footprint														
On-site grid electricity	MWh	0.075264	3.413	0.256876										
Electricity Generation														
Grid electricity	MWh	0.075264	6.929	0.5215043	1124.3	84.619315	2.2421	0.1687494	4.6078874	0.346808	0.057518	0.004329	0.2102371	0.0158233
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0229555	3.1	0.0701016	180.0	4.1319936	0.8	0.0176758	0.2	0.0034433	0.0	0.0004132	NP	
Natural gas extraction and processing	MWh	0.0255145	1.6	0.0416346	270.0	6.8889139	0.2	0.0045926	13.0	0.3316884	0.0	0.0001812	NP	
Nuclear fuel extraction and processing	MWh	0.0149023	0.2	0.0023169	25.0	0.3725568	0.2	0.0022353	0.5	0.0074511	0.0	2.235E-05	NP	
Oil extraction and processing	MWh	0.0005268	2.3	0.0012093	270.0	0.142249	1.7	0.0008956	0.1	3.635E-05	0.0	2.213E-05	NP	
Other fuel extraction and processing	MWh	7.526E-05	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Electricity Transmission														
Transmission and distribution losses	MWh	0.075264	1.0342	0.077838	112.43	8.4619315	0.22421	0.0168749	0.4607887	0.0346808	0.0057518	0.0004329	0.0210237	0.0015823
Total Grid Electricity Footprint				**1**		**105**		**0**		**1**		**0**		**0**
Total Fuel Footprints														
Total Gasoline Footprint														
On-site gasoline use - Other	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
On-site gasoline use <25 hp	gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	0	0.124	0	19.77	0	0.027	0	0.00036	0	0.003	0	0.0067	0
Transportation gasoline use - passenger truck	gal	44.4	0.124	5.5056	19.79	878.676	0.035	1.554	0.00036	0.015984	0.003	0.1332	0.00661	0.293484
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Gasoline produced	gal	44.4	0.033	1.4652	2.8	124.32	0.0046	0.20424	0.005	0.222	0.0015	0.0666	0.001	0.0444
Total Gasoline Footprint		**44.4**		**6.9708**		**1002.996**		**1.75824**		**0.237984**		**0.1998**		**0.337884**
Total Diesel Footprint														
On-site diesel use - Other	gal	7350	0.139	1021.65	22.5	165375	0.17	1249.5	0.0054	39.69	0.0034	24.99	0.0000052	0.03822
On-site diesel use <75 hp	gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
Transportation diesel use	gal	38.4	0.139	5.3376	22.5	864	0.17	6.528	0.0054	0.20736	0.0034	0.13056	0.0000052	0.0001997
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Diesel produced	gal	7388.4	0.017	125.6028	3.02	22312.968	0.0051	37.68084	0.0062	45.80808	0.0017	12.56028	0.0011	8.12724
Total Diesel Footprint		**7388.4**		**1152.5904**		**188551.97**		**1293.7088**		**85.70544**		**37.68084**		**8.1656597**
Total Biodiesel Footprint														
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Total Biodiesel Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Natural Gas Footprint														
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Natural gas produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Liquified Petroleum Gas Footprint														
On-site liquified petroleum gas use - Other	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Liquified petroleum gas produced	ccf	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Compressed Gas Footprint														
On-site compressed gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
Compressed gas produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**

Notes:

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Note: Please refer to the "Default Conversions" tab for references for the default conversion factors used on this calculation sheet.

Space below available for notes and calculations:

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Track 2 Excavation - On-Site Footprint (Scope 1)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
On-Site														
On-site Renewable Energy														
Renewable electricity generated on-site	MWh	0	3.413	0										
Landfill gas combusted on-site for energy use	ccf CH4	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined on-site renewable energy use #1	gal	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined on-site renewable energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
On-site Conventional Energy														
On-site grid electricity	MWh	0.037632	3.413	0.128438										
On-site diesel use - Other	Gal	3675	0.139	510.825	22.5	82687.5	0.17	624.75	0.0054	19.845	0.0034	12.495	0.0000052	0.01911
On-site diesel use <75 hp	Gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	Gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	Gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
On-site gasoline use - Other	Gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
On-site gasoline use <25 hp	Gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	Gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
On-site compressed natural gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed natural gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site liquified petroleum gas use - Other	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	gal	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Other forms of on-site conventional energy use #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Other forms of on-site conventional energy use #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
On-site Conventional Energy Subtotals				**511**		**82.688**		**625**		**20**		**12**		**0**
Notes:														
Other On-site Emissions														
On-site HAP process emissions	lbs	0											1	0
On-site GHG emissions	lbs CO2e	0			1	0								
On-site carbon storage	lbs CO2e	0			1	0								
GHG avoided by flaring on-site landfill methane	Lbs	0			-262	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Other on-site NOx emissions or reductions	lbs	0					1	0						
Other on-site SOx emissions or reductions	lbs	0							1	0				
Other on-site PM emissions or reductions	lbs	0									1	0		
User-defined recycled/reused on-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused on-site #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
On-site Totals				**510.95**		**82.688**		**625**		**20**		**12**		**0**

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Track 2 Excavation - Electricity Generation Footprint (Scope 2)

Contributors to Footprints	Units	Usage	Energy		GHG		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Electricity Generation														
Grid electricity	MWh	0.037632	6.929	0.2607521	352	13.246464	1.504	0.0565985	1.46966	0.0553062	0.07546	0.0028397	0.0454035	0.0017086
Voluntary purchase of renewable electricity	MWh	0												
Voluntary purchase of RECs	MWh	0												
Notes:														

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Track 2 Excavation - Transportation Footprint (Scope 3a)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Conventional Energy														
Transportation diesel use	gal	38.4	0.139	5.3376	22.5	864	0.17	6.528	0.0054	0.20736	0.0034	0.13056	0.0000052	0.0001997
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	0	0.124	0	19.77	0	0.027	0	0.00036	0	0.003	0	0.0067	0
Transportation gasoline use - passenger truck	gal	44.4	0.124	5.5056	19.79	878.676	0.035	1.554	0.00036	0.015984	0.003	0.1332	0.00661	0.293484
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
User-defined conventional energy transportation #1	TBD	10	0	0	0	0	0	0	0	0	0	0	0	0
User-defined conventional energy transportation #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Conventional Energy Subtotals				**11**		**1,743**		**8**		**0**		**0**		**0**
Notes:														
Renewable Energy														
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
User-defined renewable energy transportation #1	TBD	0	Biodiesel		0	0	0	0	0	0	0	0	Ref.	
User-defined renewable energy transportation #2	TBD	0	mpg or pmp		0	0	0	0	0	0	0	0	0	0
Renewable Energy Subtotals				**0**		**0**		**0**		**0**		**0**		**0**
Notes:														
Transportation Totals				**11**		**1743**		**8**		**0**		**0**		**0**

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Track 2 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Construction Materials														
Aluminum, Rolled Sheet	lb	0	0.0633	0	9.15	0	0.0148	0	0.0283	0	0.0088	0	0.00102	0
Asphalt, mastic	lb	0	0.0412	0	0.85	0	0.00271	0	0.00798	0	0.000766	0	0.00107	0
Asphalt, paving-grade	lb	0	0.5	0	8.58	0	0.0299	0	0.0969	0	0.0091	0	0.0133	0
Ethanol, Corn, 95%	lb	0	0.0318	0	-0.0199	0	0.00425	0	0.00303	0	0.000469	0	0.0000846	0
Ethanol, Corn, 99.7%	lb	0	0.0324	0	0.0591	0	0.00431	0	0.0031	0	0.000472	0	0.000087	0
Ethanol, Petroleum, 99.7%	lb	0	0.0205	0	1.25	0	0.00199	0	0.00214	0	0.000277	0	0.0000589	0
Gravel/Sand Mix, 65% Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Gravel/sand/clay	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0
HDPE	lb	0	0.0332	0	1.94	0	0.00325	0	0.00409	0	0.000439	0	0.0000641	0
Photovoltaic system (installed)	W	0	0.0336	0	4.47	0	0.015	0	0.032	0	0.00063	0	0.0000029	0
PVC	lb	0	0.0262	0	2.02	0	0.004	0	0.00274	0	0.000372	0	0.000375	0
Portland cement, US average	lb	0	0.0139	0	1.34	0	0.00654	0	0.0104	0	0.00378	0	0.00097	0
Ready-mixed concrete, 20 MPa	ft3	0	0.217	0	19.5	0	0.0975	0	0.154	0	0.057	0	0.0141	0
Round Gravel	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Sand	lb	0	0.0000248	0	0.0024	0	0.000018	0	4.52E-06	0	2.61E-06	0	3.08E-07	0
Stainless Steel	lb	0	0.0116	0	3.4	0	0.0075	0	0.012	0	0.0044	0	0.000144	0
Steel	lb	0	0.0044	0	1.1	0	0.0014	0	0.0017	0	0.00056	0	0.000067	0
Other refined construction materials	lb	0	0.01885	0	2.115	0	0.0040375	0	0.0051325	0	0.0014428	0	0.0001625	0
Other unrefined construction materials	lb	0	0.000028	0	0.00335	0	0.0000165	0	0.000015	0	0.000002	0	2.05E-10	0

Notes:

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Track 2 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Treatment Materials & Chemicals														
Cheese Whey	lbs	0	0.0025	0	0.031	0	0.000062	0	0.000033	0	0.000002	0	NP	
Emulsified vegetable oil	lbs	0	0.0077	0	3.44	0	0.0066	0	0.0019	0	0.000033	0	NP	
Granular activated carbon, primary	lbs	0	0.0356	0	4.82	0	0.0793	0	0.128	0	0.000987	0	0.000657	0
Granular activated carbon, regenerated	lbs	0	0.00873	0	1.7	0	0.00733	0	0.0129	0	0.000886	0	0.000671	0
Hydrogen Peroxide, 50% in H2O	lbs	0	0.00979	0	1.19	0	0.00142	0	0.0024	0	0.000308	0	0.0000629	0
Iron (II) Sulfate	lbs	0	0.00147	0	0.167	0	0.000316	0	0.000589	0	0.000103	0	0.000023	0
Lime, Hydrated, Packed	lbs	0	0.00206	0	0.762	0	0.000513	0	0.000358	0	0.00013	0	6.57E-06	0
Molasses	lbs	0	0.0044	0	0.48	0	0.0011	0	0.00024	0	0.0000041	0	NP	
Phosphoric Acid, 70% in H2O	lbs	0	0.0067	0	0.882	0	0.00282	0	0.0294	0	0.00171	0	0.000163	0
Potassium Permanganate	lbs	0	0.00981	0	1.16	0	0.00234	0	0.0032	0	0.000422	0	0.000122	0
Sodium Hydroxide, 50% in H2O	lbs	0	0.00977	0	1.09	0	0.00194	0	0.00352	0	0.000403	0	0.000129	0
Other Treatment Chemicals & Materials	lbs	0	0.015	0	1.67	0	0.003	0	0.0065	0	0.00061	0	0.000016	0
Notes:														
Fuel Processing														
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Diesel produced	gal	3713.4	0.017	63.1278	3.02	11214.468	0.0051	18.93834	0.0062	23.02308	0.0017	6.31278	0.0011	4.08474
Gasoline produced	gal	44.4	0.033	1.4652	2.8	124.32	0.0046	0.20424	0.005	0.222	0.0015	0.0666	0.001	0.0444
Liquefied Petroleum Gas Produced	gal	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Natural Gas - Compressed Produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Natural Gas Produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Fuel Processing Subtotals				**64.593**		**11338.788**		**19.14258**		**23.24508**		**6.37938**		**4.12914**
Notes:														
Public water	gal x 1000	3.75	0.0092	0.0345	5	18.75	0.0097	0.036375	0.0059	0.022125	0.016	0.06	0.000015	5.625E-05
User-defined water resource #1	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined water resource #2	gal x 1000	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														

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Track 2 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Off-Site Services														
Hazardous waste incineration	lb	0	0.00609	0	2.43	0	0.0016	0	0.00167	0	0.000209	0	0.000087	0
Off-site waste water treatment (POTW)	gal x 1000	0	0.015	0	4.4	0	0.016	0	0.015	0	NP		NP	
Off-site non-hazardous waste landfill	ton	4830	0.16	772.8	25	120750	0.14	676.2	0.075	362.25	0.4	1932	0.0014	6.762
Off-site hazardous waste landfill	ton	33	0.18	5.94	27.5	907.5	0.154	5.082	0.0825	2.7225	0.44	14.52	0.00154	0.05082
Off-site Laboratory Analysis - Other	sample	88	0.058071	5.1102506	6.8534384	603.10258	0.131402	11.563372	0.3038758	26.741067	0.0455698	4.0101445	0.0330165	2.9054545
Off-site Laboratory Analysis - Metals	sample	60	0.212	12.72	27.4693	1648.158	0.6423	38.538	1.5072	90.432	0.2264	13.584	0.1643	9.858
Off-site Laboratory Analysis - Mercury	sample	0	0.0731715	0	9.325458	0	0.2127439	0	0.4982396	0	0.0747359	0	0.0542332	0
Off-site Laboratory Analysis - Inorganic Anions	sample	0	0.0074025	0	0.6459478	0	0.0067681	0	0.0147929	0	0.0022024	0	0.0015542	0
Off-site Laboratory Analysis - Alkalinity	sample	0	0.0174398	0	1.3381922	0	0.0070106	0	0.0132496	0	0.00194	0	0.0012831	0
Off-site Laboratory Analysis - Perchlorate	sample	0	0.023885	0	1.8717054	0	0.0079807	0	0.0141535	0	0.0020547	0	0.0012875	0
Off-site Laboratory Analysis - Nitrogen/Nitrate	sample	0	0.0336475	0	4.29897	0	0.0954592	0	0.2226646	0	0.0335099	0	0.0242506	0
Off-site Laboratory Analysis - Sulfate	sample	0	0.0141225	0	1.4726728	0	0.0079807	0	0.0136024	0	0.0019797	0	0.0012015	0
Off-site Laboratory Analysis - PCBs	sample	44	0.0512769	2.2561836	5.224902	229.89569	0.0833339	3.6666907	0.1904774	8.3810074	0.0284393	1.251331	0.0212083	0.9331631
Off-site Laboratory Analysis - VOCs	sample	51	0.0762045	3.8864288	9.016814	459.85751	0.104498	5.3294	0.2270738	11.580764	0.0339508	1.7314928	0.0235892	1.2030502
Off-site Laboratory Analysis - SVOCs	sample	44	0.0715602	3.1486481	7.870422	346.29857	0.1459445	6.4215589	0.3373038	14.841367	0.0504853	2.221355	0.0372577	1.6393406
Notes:														
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0022579	3.1	0.0068952	180.0	0.4064256	0.8	0.0017386	0.2	0.0003387	0.0	4.064E-05	NP	
Natural gas extraction and processing	MWh	0.0037632	1.6	0.0061408	270.0	1.016064	0.2	0.0006774	13.0	0.0489216	0.0	2.672E-05	NP	
Nuclear fuel extraction and processing	MWh	0.0007526	0.2	0.000117	25.0	0.018816	0.2	0.0001129	0.5	0.0003763	0.0	1.129E-06	NP	
Oil extraction and processing	MWh	0.0018816	2.3	0.004319	270.0	0.508032	1.7	0.0031987	0.1	0.0001298	0.0	7.903E-05	NP	
Other fuel extraction and processing	MWh	0	0	0	0	0	0	0	0	0	0	0	0	0
Resource Extraction Subtotals				**0.0174721**		**1.9493376**		**0.0057276**		**0.0497664**		**0.0001475**		**0**
Notes:														
Electricity Transmission														
Transmission and distribution losses	MWh	0.037632	1.0342	0.038919	35.2	1.3246464	0.1504	0.0056599	0.146966	0.0055306	0.007546	0.000284	0.0045403	0.0001709
Notes:														

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Track 2 Excavation - Off-Site Footprint (Scope 3b)

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
User-defined Materials														
SV Points & Tubing (to 12 feet)	lbs	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #4	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #5	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #6	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #7	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #8	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #9	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #10	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #11	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #12	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #13	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #14	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #15	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #16	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #17	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #18	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined material #19	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
User-defined Waste Destinations														
User-defined recycled/reused off-site #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined recycled/reused off-site #3	TBD	0	y(MMBtu/u		lbs CO2e/u		Ox(lbs/unit		Ox(lbs/unit)		M(lbs/unit)		APs(lbs/unit	
User-defined non-hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined non-hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #1	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #2	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
User-defined hazardous waste destination #3	TBD	0	0	0	0	0	0	0	0	0	0	0	0	0
Notes:														
Off-site Totals				**870.5454**		**136305.62**		**765.99136**		**540.27121**		**1975.7581**		**27.481195**

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Track 2 Excavation - Intermediate Totals

Category	Units	Usage	Energy		Greenhouse Gas		NOx		SOx		PM		HAPs	
			Conv. Factor	MMBtus	Conv. Factor	lbs CO2e	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs	Conv. Factor	lbs
Total Grid Electricity Footprint														
On-site grid electricity	MWh	0.037632	3.413	0.128438										
Electricity Generation														
Grid electricity	MWh	0.037632	6.929	0.2607521	1124.3	42.309658	2.2421	0.0843747	4.6078874	0.173404	0.057518	0.0021645	0.2102371	0.0079116
Resource Extraction for Electricity														
Coal extraction and processing	MWh	0.0022579	3.1	0.0068952	180.0	0.4064256	0.8	0.0017386	0.2	0.0003387	0.0	4.064E-05	NP	
Natural gas extraction and processing	MWh	0.0037632	1.6	0.0061408	270.0	1.016064	0.2	0.0006774	13.0	0.0489216	0.0	2.672E-05	NP	
Nuclear fuel extraction and processing	MWh	0.0007526	0.2	0.000117	25.0	0.018816	0.2	0.0001129	0.5	0.0003763	0.0	1.129E-06	NP	
Oil extraction and processing	MWh	0.0018816	2.3	0.004319	270.0	0.508032	1.7	0.0031987	0.1	0.0001298	0.0	7.903E-05	NP	
Other fuel extraction and processing	MWh	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0
Electricity Transmission														
Transmission and distribution losses	MWh	0.037632	1.0342	0.038919	112.43	4.2309658	0.22421	0.0084375	0.4607887	0.0173404	0.0057518	0.0002165	0.0210237	0.0007912
Total Grid Electricity Footprint				**0**		**48**		**0**		**0**		**0**		**0**
Total Fuel Footprints														
Total Gasoline Footprint														
On-site gasoline use - Other	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
On-site gasoline use <25 hp	gal	0	0.124	0	17.48	0	0.037	0	0.00025	0	0.165	0	0.00008	0
On-site gasoline use >25 hp	gal	0	0.124	0	19.93	0	0.032	0	0.00029	0	0.002	0	0.00009	0
Transportation gasoline use	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Transportation gasoline use - car	gal	0	0.124	0	19.77	0	0.027	0	0.00036	0	0.003	0	0.0067	0
Transportation gasoline use - passenger truck	gal	44.4	0.124	5.5056	19.79	878.676	0.035	1.554	0.00036	0.015984	0.003	0.1332	0.00661	0.293484
Transportation gasoline use - User Defined	gal	0	0.124	0	19.6	0	0.11	0	0.0045	0	0.00054	0	0.000039	0
Gasoline produced	gal	44.4	0.033	1.4652	2.8	124.32	0.0046	0.20424	0.005	0.222	0.0015	0.0666	0.001	0.0444
Total Gasoline Footprint		**44.4**		**6.9708**		**1002.996**		**1.75824**		**0.237984**		**0.1998**		**0.337884**
Total Diesel Footprint														
On-site diesel use - Other	gal	3675	0.139	510.825	22.5	82687.5	0.17	624.75	0.0054	19.845	0.0034	12.495	0.0000052	0.01911
On-site diesel use <75 hp	gal	0	0.139	0	22.21	0	0.1565	0	0.000145	0	0.0145	0	0.00004	0
On-site diesel use 75<hp<750	gal	0	0.139	0	22.24	0	0.101	0	0.00013	0	0.009	0	0.00004	0
On-site diesel use >750 hp	gal	0	0.139	0	22.24	0	0.149	0	0.00013	0	0.006	0	0.00004	0
Transportation diesel use	gal	38.4	0.139	5.3376	22.5	864	0.17	6.528	0.0054	0.20736	0.0034	0.13056	0.0000052	0.0001997
Transportation diesel use - car	gal	0	0.139	0	22.57	0	0.015	0	0.0002	0	0.003	0	0.00252	0
Transportation diesel use - passenger truck	gal	0	0.139	0	22.545	0	0.0585	0	0.0002	0	0.007	0	0.002605	0
Transportation diesel use - User Defined	gal	0	0.139	0	22.5	0	0.17	0	0.0054	0	0.0034	0	0.0000052	0
Diesel produced	gal	3713.4	0.017	63.1278	3.02	11214.468	0.0051	18.93834	0.0062	23.02308	0.0017	6.31278	0.0011	4.08474
Total Diesel Footprint		**3713.4**		**579.2904**		**94765.968**		**650.21634**		**43.07544**		**18.93834**		**4.1040497**
Total Biodiesel Footprint														
On-site biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
On-site biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Transportation biodiesel use - User Defined	gal	0	0.127	0	22.3	0	0.2	0	0	0	0.00099	0	NP	
Biodiesel produced	gal	0	0.029	0	-16.8	0	0.018	0	0.033	0	0.00082	0	NP	
Total Biodiesel Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Natural Gas Footprint														
On-site natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Transportation natural gas use - User Defined	ccf	0	0.103	0	13.1	0	0.01	0	0.0000063	0	0.00076	0	0.0000084	0
Natural gas produced	ccf	0	0.0052	0	2.2	0	0.0037	0	0.0046	0	0.000072	0	0.0000061	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Liquified Petroleum Gas Footprint														
On-site liquified petroleum gas use - Other	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
On-site liquified petroleum gas use	ccf	0	NP		12.69	0	0.021	0	0.00013	0	0.001	0	0	0
Liquified petroleum gas produced	ccf	0	0.088	0	1.47	0	0.0016	0	0.0024	0	0.0007	0	0.0003	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**
Total Compressed Gas Footprint														
On-site compressed gas use - Other	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
On-site compressed gas use	ccf	0	NP		1957.835	0	16.0325	0	0.023045	0	0.2775	0	0	0
Compressed gas produced	ccf	0	19.983	0	343.92	0	0.4732	0	2.1651	0	0.1846	0	0.2895	0
Total Natural Gas Footprint		**0**		**0**		**0**		**0**		**0**		**0**		**0**

Notes:

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Note: Please refer to the "Default Conversions" tab for references for the default conversion factors used on this calculation sheet.

Space below available for notes and calculations:

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APPENDIX H
Project Personnel Resumes

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SCOTT A. UNDERHILL, PE

Principal | Senior Environmental Remediation Engineer

EDUCATION

MS, Environmental Engineering, State University of New York
BS, Civil Engineering, State University of New York

PROFESSIONAL REGISTRATIONS

1998/ NY: Professional Engineer (PE Reg. No. 075332)

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour Hazardous Waste Operations and Emergency Response Supervisor Training
Project Management Training
8-Hour Hazardous Waste Operations and Emergency Response Refresher

Scott has more than 25 years of experience as an environmental engineer. His diverse background includes the investigation, design, installation, and operation of remediation systems for soil, water, and air; design of water and wastewater treatment facilities; energy studies; and numerical modeling of environmental media. Scott has worked for federal, state and industrial clients throughout the United States, most recently working on the remediation of contaminated sites, such as manufactured gas plant (MGP) and chlorinated solvent, in the Northeast and Midwest.

RELEVANT PROJECT EXPERIENCE

NiSource, former MGP remediation, Michigan City, Indiana. Scott was the lead design engineer for remediation at a former MGP that consists of the installation of two soil mix walls as a support of excavation to protect adjacent active gas and railroads; ISS of 10,000 cubic yards of soil to depths of 16 feet; and removal and off-site disposal of 4,000 cubic yards of impacted soils. Engineering services included developing a full set of design drawings and specifications and providing oversight during construction; working to develop engineering solutions to changes in field conditions; and documenting remediation activities in a construction completion report.

New York State Electric and Gas (NYSEG), former MGP remediation, Seneca Falls, New York. Scott was the engineer-of-record for the remedial design of a former MGP that consists of the removal and off-site disposal of 2,100 cubic yards of impacted sediment from the Seneca River, ISS of 4,000 cubic yards of impacted upland soil, removal and off-site disposal of 3,600 cubic yards of impacted soil, installing a soil cover system, dewatering during excavation, and restoration of site including sediment and riverbank replacement. Engineering services also included obtaining permits for work such as river work permits from the U.S. Army Corps of Engineers and New York State Department of Environmental Conservation (NYSDEC) and providing technical support to the client during public meetings and the bid phase.

New Jersey Natural Gas, Former MGP Remediation, Toms River, New Jersey. Construction project manager for the construction inspection oversight of a former MGP that consists of the removal and off-site disposal of 6,800 cubic yards of impacted soils, dewatering during excavation that produced over 12,000,000 gallons of water to handle, treat and dispose, and in situ solidification (ISS) of 85,000 cubic yards of soil to depths of 45 feet. Engineering oversight services provided during construction included attending weekly meetings, reviewing contractor submittals, issuing field orders and work change directives, reviewing and responding to change order requests, developing change orders, responding to request for information, and documenting remediation activities in a remedial action report.

Duke Energy, Former MGP Remediation, Cincinnati, Ohio. Lead design engineer for a design/build remediation project at a former MGP that consists of the removal and off-site disposal of 75,000 cubic yards of impacted soils, dewatering during excavations, and ISS of over 150,000 cubic yards of soil to depths of 60 feet below ground surface. Engineering services provided during construction included weekly engineering calls, working with contractor to

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develop engineering solutions to changes in field conditions, reviewing contractor submittals, issuing field orders, developing change orders, and documenting remediation activities in a construction completion report.

AEP, Former MGP Remediation, Three Rivers, Michigan. Lead design engineer for a design/build remediation project at a former manufactured gas plant (MGP) that consists of the installation of a four-cell sheeting system, installation and operation of a dewatering system that removed and discharged 420,000 gallons of water, and removal and off-site disposal of 5,400 cubic yards of impacted soils. Engineering services included developing full set of design drawings and specifications and provided engineering oversight during construction included weekly engineering calls, working to develop engineering solutions to changes in field conditions, and documenting remediation activities in a construction completion report.

American Electric Power, Former MGP Remediation, Dowagiac, Michigan. Lead design engineer for a design/build remediation project at a former manufactured gas plant (MGP) that consists of the removal and off-site disposal of 1,000 tons of impacted soils. Engineering services included developing full set of design drawings and specifications and provided engineering oversight during construction included weekly engineering calls, working to develop engineering solutions to changes in field conditions, and documenting remediation activities in a construction completion report.

New York State Energy and Gas, Former MGP Remediation, Lockport, New York. Project manager for the remedial design of a former MGP that consists of the removal of 4,000 cubic yards of impacted soils, overburden non-aqueous phase liquid (NAPL) collection trench, 600 linear feet of bedrock grout wall, bedrock NAPL collection wells and the removal of 1,200 cubic yards of impacted sediment from the NYS Barge Canal. Design required submission of work plan, pilot test for grout wall implementation, and New York State Department of Environmental Conservation (NYSDEC) approval of final design drawing, report and specifications. Program director for the engineering oversight services provided during construction which included attending weekly meetings, reviewing contractor submittals, reviewing and approving change orders, responding to request for information, and certifying the construction completion report.

New York State Energy and Gas, Former MGP Remediation, Norwich, New York. Project manager for design and construction management, including design of an ISS system of 52,000 cubic yards of soil and NAPL recovery, in situ chemical oxidation (ISCO) and enhanced in situ bioremediation systems for the off-site groundwater plume. Scott managed preparation of work plans for submission to the NYSDEC and on-site construction management services during remediation of the on-site ISS services. Scott managed the operation and maintenance of the NAPL recovery system from 2009-2016 which resulted in the recovery of almost 100,000 gallons of total fluids or 40,000 gallons of NAPL. Due to the large quantities of NAPL encountered off-site, initiated and obtained NYSDEC approval in 2015 for a modification to the Record of Decision to all for ISS of the off-site soils rather than NAPL recovery and ISCO. Program director for the design package for the ISS treatment of 11,500 cubic yards of soil and NAPL.

New York State Energy and Gas, Former MGP Remediation, Ithaca, New York. Project manager for remedial design of a former MGP plant that consisted of the removal of 11,000 tons of impacted soils within sheet piling down to a depth of 18 feet, temporary relocation of a sewer main, and three injection events for in situ chemical oxidation (ISCO) treatment of coal tar stringers. Design requires submission of work plan, pilot test for ISCO implementation, and NYSDEC approval of final design drawing, report and specifications. Program director for the engineering oversight services provided during construction which included attending weekly meetings, reviewing contractor submittals, reviewing and approving change orders, responding to request for information, and certifying the construction completion report.

New York State Department of Environmental Conservation, New York. Program manager of three standby engineering services contracts issued by the NYSDEC for the investigation, design, construction oversight, and site management of inactive hazardous waste sites within New York. Responsible for overall program management, including budgeting, schedule and quality deliverable to the NYSDEC for over 100 individual work assignments valued at over $35,000,000, which was managed by a team of over 12 project managers. As required, acted as engineer-of-

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record for many sites, which required approval of feasibility studies, remedial designs, construction completion reports, and periodic review reports.

United States Army Corps of Engineers, Former Scotia Naval Depot, Scotia, New York. Project manager for the design and installation of a 900-foot-long, 45-foot-high and 0.25-foot-thick permeable reactive barrier (PRB) wall containing zero valent iron. The PRB was installed to treat a chlorinated solvent groundwater plume. In addition, four large commercial buildings (80,000 square feet) over a portion of the groundwater plume were fitted with sub-slab depressurization systems to mitigate indoor air concerns. As project manager, Scott was responsible for project deliverables, costs, schedule and quality for the $10MM remediation project.

New York State Department of Environmental Conservation, Scotia New York. Remedial design lead and engineer of record for the development and issuance of two feasibility studies (on-site and off-site) for a large, complex inactive hazardous waste site. An estimated 7,000 gallons of tetrachloroethylene (PCE) released to the environment created a groundwater plume almost ¾ mile in length and impacting numerous residential supply wells. The on-site feasibility study evaluated remedial technologies selecting excavation and in situ thermal treatment for a present worth cost of $14,000,000. The off-site feasibility study selected ISCO/bioremediation and downgradient permeable reactive barrier wall to treat the plume with concentrations greater than 100 μg/L with a present worth cost of $13,000,000. Also designed an aeration system as an interim remedial measure to treat PCE impacts to local surface water detention pond and stream.

New York State Department of Environmental Conservation, Scotia New York. Project manager for the design and construction oversight of the installation of water line to a residential neighborhood affected by a PCE plume. The design consisted of engineering calculations, basis of design, drawings, and specifications for the installation of 8,800 linear feet of water main and 100 residential connections. Construction services included reviewing contractor submittals and invoices, overseeing contractor work, responding to request for information and attending weekly construction meetings.

New York State Energy and Gas, Former MGP Remediation, Homer, New York. Project manager for design and construction management, including design of a permanent watertight barrier wall system, in situ stabilization system within the utility corridor and a temporary water treatment plant as part of the remediation of 25,000 cubic yards of soil. Scott managed preparation of work plans for submission to the NYSDEC and on-site construction management services during remediation. Scott managed air monitoring, scheduling of trucks for off-site disposal of impacted soil, and preparation of daily reports and a final closure report.

New York State Energy and Gas, Former MGP Remediation, Mechanicville, New York. Project manager for design and construction management, including the design of a temporary watertight barrier wall system and temporary water treatment system as part of a remediation of 10,000 cubic yards of soil. The project also included the evaluation and development of alternatives for the recovery of coal tar contamination in the fractured bedrock underlying the site, which included performing multiple long-term NAPL recovery pump tests. Project manager for the engineering oversight services provided during construction which included attending weekly meetings, reviewing contractor submittals, reviewing and approving change orders, responding to request for information, and certifying the construction completion report.

New York State Department of Environmental Conservation, Poughkeepsie, New York. Engineer of record for the design and construction oversight of the thermal treatment of soil and groundwater at an inactive hazardous waste site impacted with chlorinated solvents. The design consisted of engineering calculations, basis of design, drawings, and specifications for the installation 100 electrodes to treat the 0.5-acre plume. Construction services included reviewing contractor submittals and invoices, overseeing contractor work, responding to request for information and attending regular construction meetings.

New York State Department of Environmental Conservation, Poughkeepsie, New York. Project engineer for the design and implementation of a full-scale pilot test of in situ enhanced bioremediation to treatment of soil and

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groundwater at an inactive hazardous waste site impacted with chlorinated solvents. The pilot study consisted of direct injection of approximately 4,150 gallons of 60% edible vegetable oil (EVO) and 7,825 pounds zero-valent iron (ZVI) at 75 points. Scott managed development of design and bid package, selected and oversaw injection contractor, and reviewed follow-on sampling reports.

United States Army Corps of Engineers, Griffiss Air Force Base, Rome, New York. Project engineer for land farming treatment of over 50,000 cubic yards of petroleum impacted soils. Activities included design of a land farming approach in a performance based contract to successfully remediate the soils within a three-year contract period. Due to an aggressive remediation approach, all soils were remediated within two years.

New York State Electric and Gas, Cortland Homer Manufactured Gas Plant Demolition Procurement, Homer, New York. Project manager for procuring a contractor to demolish the southern portion of the MGP building as defined by the demolition drawings. Work included developing a request for proposal with final demolition drawings, specifications, and bid schedule and overseeing successful completion of the building demolition.

New York State Energy and Gas, Former MGP Remediation, Oneonta, New York. Project engineer for the design of temporary water treatment system as part of the remediation of a former MGP site.

US Air National Guard, Site Management and Project Close-Out for Site 2 – Pesticide Burial Pit, Stewart ANGB, Newburg, New York. Project manager for preparation of a site management plan (SMP) and periodic review report (PRR) for Site 2 - Pesticide Burial Pit Area at the 105th Airlift Wing (AW), New York Air National Guard (ANG), and Stewart International Airport. Due to negotiations with the NYSDEC, Site 2 was delisted.

US Air National Guard, Remedial Design and Remedial Action, Site 15, Hancock ANGB, New York. Project engineer for the bioremediation of a petroleum groundwater plume. The project included the design, installation and operation of a 15 well biosparing system for the on-site source area and the injection of calcium peroxide for the downgradient plume. Responsible for the remedial action work plan, construction completion report and annual periodic review reports.

US Air National Guard, Interim Remedial Action and Focused Feasibility Study, Sites 3 and 6, Stratton ANGB, New York. Project manager for an interim remedial measure and focused feasibility study at Site 3 contaminated with chlorinated solvents, and Site 6 contaminated with petroleum hydrocarbons. At Site 6, managed removal of 6,200 tons of contaminated soil, installation of a horizontal well network below the water table, and injection of a substrate into the groundwater to enhance biodegradation of the contaminants. At Site 3, managing removal of 600 tons of contaminated soils from four hot spots, delineation of the nature and extent of groundwater contamination by installing and sampling new wells.

BP, Pilot-Scale Soil Thermal Treatment, Rumaila, Iraq. Primary author of a pilot scale work plan for the treatment of heavily-impacted soils at the Rumaila Well Field. Work plan included the evaluation of several thermal desorption units capable of being shipped to the location, transportation logistics, compound design for placement of the unit and utility requirements to operate the TDU.

Confidential Client, Lagoon Biocell Design, Maybrook, New York. Project engineer for the design of a membrane lined biocell for the treatment of 25,000 cubic yards of soils impacted with petroleum and pyridine compounds associated with former waste lagoons. Design also included the use of enhanced bioremediation for the contaminants of concern in groundwater. Scott managed development of a design in accordance with the remedial design and remedial action framework developed by the United States Environmental Protection Agency (USEPA).

Chevron, Malabalay Remediation Project, Philippines. Project engineer for remedial design sub-slab depressurization system and vapor barrier for the redevelopment of a gasoline station for a Jolibee Store in Malabalay. Project was completed within budget and on-time given challenging field conditions.

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Confidential Client, Solid Waste Disposal Area, Kisladag, Turkey. Project engineer responsible for the development of a feasibility study to evaluate 1,250 cubic meters of petroleum impacted soil as a waste storage area at an active mining facility in Turkey. Remedial alternatives evaluated included land farming, windrow composting, bioremediation in piles, in situ solidification, and capping.

Chevron, Remedial Design and construction Oversight, Service Station/Residential House, Manila, Philippines. Project engineer for the design and implementation of a sub-slab barrier system and vapor collection system at a residential home downgradient from a gas station. Travelled to site to oversee installation and quality control of the first sub-slab barrier system to be installed in the Philippines. Project was recognized by Chevron for being completed with zero accidents.

BEM Systems, Remedial Design and Remedial Action, Site 6, Schenectady ANGB, New York. Project manager for the design and implementation of the in situ chemical oxidation of chlorinated hydrocarbon impacted groundwater at Site 6. Project included supporting the development and issuance of the Record of Decision (ROD), submission and approval of the remedial design and implementation of the injection of sodium permanganate to treat the residual groundwater plume at Site 6.

Navy, Light Non-Aqueous Phase Liquid (LNAPL) Modeling Effort, Pearl Harbor, HI. Provided technical support for investigation and modeling of several large LNAPL plumes at the Shipyard GSA at Pearl Harbor. The modeling effort included applying the van Genuchten method to properly estimating the LNAPL plume size, volume, distribution, transport, and potential release to the harbor.

New York State Department of Environmental Conservation, Remediation System Installation, National Heatset Printing, East Farmingdale, New York. Project engineer supporting the installation and evaluation of a pilot study evaluating the use of an innovative technology - density driven convection (DDC) and in-well stripping – for the treatment of a large chlorinated solvent plume in a sandy aquifer on Long Island.

NYSDEC, Remedial Design and Construction Oversight, North East Alloy and Metals Site, Utica, New York. Project engineer for the design of a sub-slab depressurization system (SSDS) at a residential house above a chlorinated solvent plume. The design utilized two fans and six vacuum points installed over a concrete slab. Oversaw contractor's installation of the system including sealing of the concrete floor cracks and documented installed system met the performance requirements of the design.

Confidential Client, Remediation System Pilot Study and Evaluation, Schenectady, New York. Project engineer responsible for technical evaluation and comparison of a traditional and an innovative thermal enhanced soil vapor extraction system below a concrete slab. The innovative thermal enhanced soil vapor extraction (TESVE) system removed over 99.99% of the volatile compounds and over 96% of the semi volatile compounds in the unsaturated zone and outperformed the traditional TESVE system.

NYSDEC, Remedial Design and Construction Oversight, Utility Manufacturing Site, New Hampstead, New York. Project engineer for the design of nine SSDSs at three industrial buildings above a chlorinated solvent plume. The design utilized 30 fans and 30 vacuum points installed over a concrete slab. Oversaw contractor's installation of the system and documented that the installed system met the performance requirements of the design.

NYSDEC, Remediation System Optimization, Multiple Sites, New York. Provided technical support for the optimization and improvements of a number of remediation systems currently operated under the NYSDEC contract (D004445). System evaluations and improvements included the Becker Electronic pump-and treat system; NOW Corporation pump-and-treat system; SMS Industries biosparge (PhoSTER) system; Kingsbury Landfill pump and treat system, Fort Edward phytoremediation system; and Korkay soil vapor extraction/air sparging system.

NYSDEC, Site Management, Multiple Sites, New York. Provided technical support, final review and engineering certification for periodic reviews on the following sites: Armonk; Becker Electronics; Dzus Fasteners; Fort Edward Landfill; Kingsbury Landfill; Korkay; Liberty Industries; Now Corporation; Old Agway; ServeAll; and SMS Industries.

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NYSDEC, Remedial Design, BB&S Treated Lumber Site, Southampton, New York. Project engineer reviewing preliminary design concepts of the groundwater remedy selected in the ROD for this former wood pressure treating site. The site was contaminated primarily with chromium, which was associated with the former wood preservative chromated copper arsenate (CCA). Using results from the pre-design investigations, prepared a Supplemental Feasibility Study (FS) that formed the basis for NYSDEC to amend the ROD for the site. The Amended ROD revised the groundwater remedy for the site from groundwater pump and treat to providing an alternative water-supply to authorized homes and businesses, and ongoing monitoring of plume attenuation.

New York State Department of Environmental Conservation, Construction Oversight, Freeman's Bridge Site, Scotia, New York. Quality assurance/quality control (QA/QC) manager for the certification report of completion for the remediation of contaminated soils using low-temperature thermal desorption at the 34 Freeman's Bridge Road site.

New York State Office of General Services (NYSOGS), Remediation System Optimization, Multiple Sites, New York. Provided technical support for optimization and improvements of a number of remediation systems operated under the NYSOGS contract. System evaluations and improvements included the Bedford Hills pump-and-treat system and the Highland Residential pump-and-treat system.

Bank of New York, Brownfield Remediation Monthly Site Visits, Flushing, New York. Project manager for periodic site visits to review progress of work performed by Creamer Environmental, Inc., the remedial contractor working on behalf of Muss Development. Scott managed the review of the remedial progress in relation to the proposed schedule, budget, and New York State Department of Environmental Conservation approved work plans. Scott managed preparation of a site observation report with information pertaining to construction status; permits, tests, and certifications; subcontracts; change orders; and contractor's completion schedule.

Remediation System Design, Fort Drum Military Reservation, New York. Scott designed a 150-well multiphase extraction and air sparging system for remediation of a 200,000-gallon gasoline-contaminated area and oversaw installation, start-up, and operation of the complex remedial systems.

Solvent Site Remediation, Batavia, New York. Scott designed and implemented injection of whey powder solution for the bioremediation of a chlorinated solvent site.

Railyard, Oneonta, New York. Scott designed, installed, and operated two 8-well soil vapor extraction and air sparging system at an industrial facility.

Railyard Site, North Creek, New York. Scott implemented an innovative application of Fenton's reagent to remediate diesel-contaminated soil at a historic railyard. Was awarded an Engineering Excellence Award by the American Consulting Engineering Council.

Toluene Site, Pittsburgh, Pennsylvania. Scott optimized a 20-well soil vapor extraction and air sparge system at an industrial facility in an urban area.

Town of Windham, Wastewater Treatment Plant, Windham, New York. Scott designed a new 250,000-gpd wastewater treatment plant that used tertiary filtration, microfiltration, and ultraviolet disinfection.

Ski Windham, Wastewater Treatment Plant, Windham, New York. Scott designed tertiary filtration, microfiltration, and ultraviolet disinfection for a treatment plant upgrade.

Wastewater Treatment Plant Upgrade, Endicott, New York. Scott designed solids contact tanks, secondary clarifiers, ultraviolet disinfection system, and pumping station as part of the upgrade of the 10-mgd wastewater treatment plant.

New York State, Gas-to-Energy Studies, New York. Scott evaluated the potential of using landfill gas from Colonie Landfill at Mohawk Paper mills boilers.

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New York State, Sludge-to-Energy Study, Glens Falls, New York. Scott evaluated the potential of using dried paper sludge from a paper manufacturer as feed material and energy source at a cement kiln.

Groundwater and Soil Vapor Treatment, Pease AFB, NH, and Loring AFB, Maine. Scott designed, installed, and operated in-situ treatment systems at the former bases, including two groundwater pump-and-treat systems, four soil vapor extraction and air sparging systems, and 16 bioventing systems.

Hydrocarbon Cleanup, Pease AFB, New Hampshire. Scott evaluated and implemented the use of natural attenuation to remediate more than 60 petroleum hydrocarbon plumes.

Remedial Action, Loring AFB, Maine. Field engineer responsible for eight remedial actions including oversight of three subcontractors.

Oak Ridge National Laboratory, RI Report, Oak Ridge, Tennessee. Scott prepared remedial investigation report for a radioactive waste burial.

Radioactive Waste Disposal Sitting Study, Nebraska. Scott provided hydrologic modeling support for the safety analysis and license application permit for siting a low-level radioactive waste disposal site.

PUBLICATIONS

"Subsurface Solution," with C.H. Floess, T. Blazicek, M. Thorpe, S. McDonough and R. Doshi, *American Society of Civil Engineering Magazine*, pp. 76-81,86. September 2012.

"In Situ Chemical Oxidation of Saturated and Unsaturated Petroleum-Containing Soils at a Historic Railroad Site," with A.R. Vitolins, B.R. Nelson, L.M. Thomas, *Contaminated Soil Sediment and Water, International Issue*, pp. 38-40, 2001.

"Development and Application of a Geographically-Based Groundwater Flow and Solute Transport Model," Master's Thesis, State University of New York at Buffalo, 1993.

INVITED LECTURER OR SPEAKER

"Developing a Water Supply System in Rural Haiti," Albany, New York Celebration of Engineer's Week. February 16, 2012.

"Remediation of a Former MGP Site in Norwich, New York: A Case Study," with C. Floess and T. Blazicek, 27th Annual Conference on Contaminated Soils, Amherst, Massachusetts, October 17-20, 2011.

"Developing a Water Supply System in Rural Zimbabwe,". Albany, 7 June 2016, New York Celebration of Engineer's Week. February 15, 2008.

"Remediation of Petroleum-Containing Soil and Groundwater at a Former Rail Yard Locomotive Fueling Area," with S. Compston, B.R. Nelson, L.M. Thomas, 20th Annual Conference on Contaminated Soils, Amherst, Massachusetts, October 18-21, 2004.

"Optimization of an LNAPL Recovery System Based on the Observational Approach," with S. Taylor and A. Ditto, ASCE International Water Resources Engineering Conference in Seattle, Washington, August 8-11, 1999.

"Natural Attenuation of 60 Petroleum Groundwater Plumes at Pease Air Force Base, New Hampshire, USA," with S. Szojka and J. Flagg, 6th FZK/TNO International Conference on Contaminated Soils, Edinburgh, Scotland. May 17-21, 1998.

"Bioremediation of Petroleum Contaminated Soils at Loring Air Force Base, Maine," with P. Forbes and J.A. Mueller, Fourth International Conference on Bioremediation, New Orleans, Louisiana, April 28-May 2, 1997.

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"Expedited CERCLA Removal Actions at Loring AFB," with T.R. Wood, D. St. Peter, D.S. Hopkins and J.A. Mueller, Maine. 11th Annual Conference on Contaminated Soils, Amherst, Massachusetts, October 21-24, 1996.

"Innovative Investigative Technique for Characterization of Radioactive Disposal Trenches," with J.B. Cange and S.A. Blair, Superfund XVI Conference, Washington D.C., November 6-8, 1995.

"Development of a Geographically Based Groundwater Flow and Solute Transport Model," with S.W. Taylor and J.V. DePinto, ASCE International Groundwater Symposium, San Antonio, Texas, August 14-18, 1995.

"Modeling Surface Water Flow and Contaminant Flux from a Mixed Waste Burial Ground," with R.A. Lambert and J.B. Cange, 21st Environmental Symposium. San Diego, California, April 18-21, 1995.

"Who's Taking Out the Garbage?", ASCE Environmental Engineering Division Conference. Reno, Nevada, July 6-10, 1991.

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MARI C. CONLON

Senior Client Account Manager

EDUCATION

MS, Geology, Boston College

BS, Geology with a minor in Economics and Business, Lafayette College

PROFESSIONAL REGISTRATIONS

NY: Professional Geologist (License No. 000769)

PROFESSIONAL SOCIETIES

Big Apple Brownfield Awards, Co-Chair, 2018-2022

Big Apple Brownfield Awards Nomination Committee, 2016-2025

New York City Brownfield Partnership Executive Board, 2021-2025

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)

10-Hour OSHA Construction Safety

8-Hour OSHA Supervisor of Hazardous Waste (29 CFR 1910.120 & 29 CFR 1926.65)

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Mari is a senior client account manager with experience in soil, groundwater and soil vapor investigation and a focus on remedial design and implementation. She is also experienced in completion of numerous Phase I Environmental Site Assessments and Phase II Environmental Site Investigations, site characterization, hazardous materials analysis, regulatory closure reports as well as remedial design and implementation.

Mari has experience in composing site closure documentation including Remedial Closure Reports and Noise Installation Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports and Site Management Plans reviewed by the New York State Department of Environmental Conservation. Mari has also worked on city rezoning proposals by performing work associated with and composing the Hazardous Materials Analysis chapter included in Final Environmental Impact Statements published by New York City Department of Planning. Analysis methods were performed in accordance with the City Environmental Quality Review (CEQR) guidelines for neighborhoods including East New York, Brooklyn, Jerome Avenue, Brooklyn, Inwood, and Manhattan.

Mari has managed the investigation, remedial design, remediation and closeout of multiple inactive Resource Conservation and Recovery Act (RCRA) hazardous waste sites, New York State Superfund sites and petroleum spill case sites. Her background includes developing and complying with approved site management plans overseeing the operation and maintenance of on-site engineering controls, such as soil vapor extraction systems, sub-slab depressurization systems, product recovery systems, etc., and ensuring the protection of human health and the environment.

RELEVANT PROJECT EXPERIENCE

State and City Agencies

School Construction Authority, Waste Characterization and Excavation Materials Disposal Plan, Brooklyn, New York. Project manager for consulting services for New York Public School 127. Services included composition of an Excavated Materials Disposal Plan, collection of waste characterization samples and preparation of and preparation of a findings and recommendations report.

Department of City Planning, Rezoning Environmental Impact Statement, Bronx, New York. Project lead for analysis and composing the Hazardous Materials Chapter as per City Environmental Quality Review (CEQR) Technical Manual guidelines included in the Final Environmental Impact Statement (FEIS) for an approximately 92-block area primarily along Jerome Avenue and its east-west commercial corridors in the Bronx. The review assessed the potential for the

presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 146 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Department of City Planning, Rezoning Environmental Impact Statement, Brooklyn, New York. Project lead for performance analysis and composing the Hazardous Materials Chapter as per CEQR Technical Manual guidelines included in the FEIS for an approximately 190-block area of East New York, Cypress Hills, and Ocean Hill neighborhoods of Brooklyn, New York. The review assessed the potential for the presence of hazardous materials in soil and/or groundwater at both the projected and potential development sites identified in the reasonable worst-case development scenario under the proposed East New York Rezoning Proposal. Procedures involved site inspections and review of historic Sanborn fire insurance maps, city directories and city/state regulatory databases. The assessment identified that each of the 186 projected and potential development sites has some associated concern regarding environmental conditions. As a result, the proposed zoning map actions include (E) designations (E-366) for all privately-held projected and potential development sites.

Redevelopment and Remediation

Titan Equity Group, Hotel Redevelopment, Bronx, New York. Project manager for a hotel redevelopment in the south Bronx. The site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials, noise, and air quality. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan and Air Quality/Noise Remedial Action Plan as per NYC OER requirements.

The Related Companies, Chelsea Mixed-Use Redevelopment, New York, New York. Field geologist for oversight of the remediation of a mixed-use residential and commercial building, the second of a two-building development on 30th Street. Contaminants of concern included volatile and semi-volatile organic compounds associated with historic operations and underground storage tanks (USTs) located on the Site. The Site was given an E-designation (E-142) for hazardous materials and noise as part of the Highline/West Chelsea rezoning proposal. To satisfy the requirements of the E-designation program, soil was excavated to at least 12 feet below grade and bottom endpoint collected showing no contaminants of concern exceeding the New York State Department of Environmental Conservation (NYSDEC) Unrestricted Use Soil Cleanup Objectives (SCO). By achieving Unrestricted Use SCOs, no engineering controls were necessary, although the building slab was included as part of development, and removal of the hazardous materials E-designation was requested.

Tishman Speyer, Long Island City Residential Development, Long Island City, New York. Field geologist for remedial oversight and implementation of a Community Air Monitoring Program during concurrent remediation and development of three Brownfield Cleanup Program (BCP) sites located in Long Island City, New York. The Sites were grossly contaminated with creosote, a carcinogenic chemical formed from the distillation of various tars. Remediation strategies included soil excavation and in-situ soil stabilization. To prevent migration of groundwater off-site, a temporary and later a permanent capture well system was installed on the western boundary of the property. The BCP site located on the western portion of the property left residual contamination in place requiring installation of a sub-slab depressurization system.

Queens West Development Corporation, Queens Waterfront Development, Long Island City, New York. Field geologist for performance of site management post remedial action. Services included annual groundwater monitoring, evaluation of engineering and institutional controls completion and Period Review Reports. In addition to conducting annual site management activities, responsibilities included composing a work plan to evaluate the transition from active sub-slab depressurization systems to passive. Upon NYSDEC approval, active systems were shut down for 30 days prior to a sub-slab vapor sampling event evaluation soil vapor, indoor and outdoor air conditions for

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potential vapor intrusion risk. As results indicated no evidence of vapor intrusion, continued pressure monitoring was conducted for from the existing monitoring ports for one year assessing whether negative pressure was held by the existing slab by stack-effect or other passive processes.

Jim Beam Brands Co., Brownfield Cleanup Program Remediation Site, Long Island City, New York. Field geologist for oversight of the installation of an Electrical Resistive Heating (ERH) system implemented in order to remediate trichloroethylene groundwater plumes in shallow/intermediate and deep groundwater on- and off-site. The Site, a former stapler manufacturing facility, underwent various remedies, including a Soil Vapor Extraction system, air sparging, ozone injection and chemical oxidation using potassium permanganate injections, which resulted in little reduction to contamination levels and rebounding chlorinated solvents. Components of the ERH system installed included electrodes for delivery of steam, vapor recovery wells, and groundwater monitoring wells. The site is currently under remediation in the state BCP program.

Due Diligence and Site Characterization

Manufacturing Plants, Multiple Investors, Environmental and Compliance Assessment Portfolio United States. Project lead for completion of Phase I Environmental Site Assessments (ESAs) and Limited Compliance Reviews for multiple auto parts manufacturing facilities throughout the United States. Services included completion of Phase I ESAs in accordance with the American Society for Testing and Materials E1527-13 requirements and a limited review of each facility's compliance liabilities including issues pertaining to the Resource Conservation and Recovery Act, Greenhouse Gas Emission Standards and Tier II Emergency and Hazardous Chemical Inventory reporting requirements.

ARM Parking, Environmental Site Assessment and Subsurface Investigation, Brooklyn, New York. Project manager for site assessment and subsurface investigation of parking facility in Sunset Park neighborhood, Brooklyn, New York. Services included ground penetrating radar survey for former and current petroleum USTs, completion of a subsurface investigation of soils and composition of Limited Subsurface Investigation Report.

Spill Consulting

The Trump Organization, Spill Consulting Services, New York, New York. Project manager for consulting services provided after incidental release of calcium carbonate ice rink paint to the Central Park Pond from Wollman Rink. Services included liaising with NYSDEC regarding violations, consent order and required corrective action. Corrective action included designing alterations to the existing on-site drainage plans and routing all meltwater containing paint into the combined sewer system. Coordination was required with property owner, operations personnel, New York City Department of Parks and NYSDEC.

Richmond Gardens Apartments, Spill Management and Closure Services, Staten Island, New York. Project lead responsible for spill closure activities and reporting for Spill 1105661 located at the Richmond Gardens Apartment Complex in the Richmond neighborhood of Staten Island, New York. The spill was opened in 2011 when several underground storage tanks were identified adjacent to the apartments at Jersey Street and Hendricks Avenue. The tanks were cleaned and removed and impacted soils surrounding the tank area excavated to the extent possible. Excavation of all impacted material was not feasible due to the proximity of the tanks to the apartment buildings. Residual contamination in soil and groundwater remained and was monitored through 2016. Upon reviewing the groundwater monitoring data from over 12 consecutive quarters, it was apparent monitored natural attenuation was not a feasible option and an in situ chemical oxidation (ISCO) remedy was approved by NYSDEC. Due to success of the pilot test, the ISCO injection event was implemented utilizing pressure pulse technology to deliver the alkaline activated persulfate solution to the subsurface.

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MATTHEW J. LEVY

Senior Project Manager | Environmental Scientist

EDUCATION

BS, Biochemistry and Environmental Science, Muhlenberg College

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA Hazardous Waste Worker Refresher Training (29 CFR 1910.120)
30-Hour OSHA Construction
NYSDEC Erosion and Sediment Control Inspector
American Red Cross First Aid Training and CPR Course

Matthew is a project manager with over 12 years of experience in soil, groundwater and soil vapor investigation, specializing in remedial design and implementation. During his time at Haley & Aldrich, Matthew's focus has been serving the environmental and real estate markets. He is experienced in Phase I Environmental Site Assessments, Phase II Environmental Site Investigations, site characterization, hazardous materials analysis, regulatory closure reports as well as remedial design and implementation.

Matthew has experience in composing site closure documentation including Remedial Closure Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports reviewed by the New York State Department of Environmental Conservation. His background includes the development of and compliance with regulator-approved site management plans, overseeing the operation and maintenance of on-site engineering controls and ensuring the protection of human health and the environment.

Matthew has also worked on city rezoning proposals by performing work associated with and composing the Hazardous Materials Analysis chapter included in Final Environmental Impact Statements published by New York City Department of Planning. Analysis methods were performed in accordance with the City Environmental Quality Review (CEQR) guidelines for neighborhoods including East Harlem, Manhattan and Gowanus, Brooklyn as well as Industry City, Brooklyn.

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RELEVANT PROJECT EXPERIENCE

Redevelopment and Remediation

The Jay Group, Brownfield Cleanup Program Remediation Site, 101 Fleet Place, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former childcare center into a mixed-use commercial and residential high-rise. The Site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion (COC) for remedial work completed in the New York State Brownfield Cleanup Program (NYS BCP). OER Services included the development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a remedial investigation (RI), composition of a Remedial Investigation Report (RIR), development of a BCP Remedial Action Work Plan (RAWP), Remedial Oversight during the implementation of the RAWP, composition of the Site Management Plan (SMP) and composition of the Final Engineering Report (FER). The remedy included the excavation and disposal of hazardous waste, PFAS-contaminated soil, and the design and implementation of an active SSDS, achieving a conditional Track 1 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 401 West 207th Street, New York, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an Intermediate Remedial Measure Work Plan (IRMWP) composition of a RIR and Construction Completion Report (CCR), development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER. Services also included the management and closure of NYSDEC Spill Number 2304082. The remedy included the excavation and disposal of petroleum-contaminated soil, the treatment and removal of over 12 million gallons of groundwater, achieving a conditional Track 1 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 1885 Atlantic Avenue, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an IRMWP, completion of a supplemental RI to delineate deep VOC contamination in soil, composition of a RIR, supplemental RIR, and CCR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER and SMP. The remedy included in-situ chemical oxidation (ISCO) injections to treat groundwater contamination, the excavation and disposal of petroleum-contaminated soil, the management and closure of NYSDEC Spill Number 2306185, the installation of a soil vapor extraction (SVE) system do remediate deep VOC contamination, and the design and implementation of an active SSDS, achieving a Track 2 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 2864 Atlantic Avenue, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an IRMWP, composition of a RIR and CCR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER and SMP. The remedy included in-situ chemical oxidation (ISCO) injections to treat groundwater contamination and the excavation and disposal of hazardous waste, achieving a conditional Track 1 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 210 Greenpoint Avenue, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an IRMWP, composition of a RIR and CCR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER. The remedy included the excavation and disposal of hazardous and petroleum-contaminated wastes, and the treatment and disposal of over 17 million gallons of groundwater, achieving a Track 1 remedy.

Manhattan Management, Brownfield Cleanup Program Remediation Site, Bedford Beverly Redevelopment, Brooklyn York, New York. Project manager for environmental consulting services during the redevelopment of a former auto service center, landmark commercial building and associated parking lots into a development renovating the landmarked building and redeveloping the surrounding space into four mixed-use commercial and residential buildings. The Site was remediated to a combination of Track 1 and Track 4 under the NYS BCP. NYS BCP services included completion of a RI, composition of a RIR, development of a BCP RAWP, Remedial Oversight during the implementation

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of the RAWP, composition of the FER and SMP, and coordination of the Certificate of Completion. The remedy included the management of non-hazardous and hazardous wastes, the design and oversight of ISCO and zero valent iron (ZVI) groundwater injections.

295 W Holdings LLC, 295-297 Wallabout Street, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former woodworking and plastics manufacturer into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, composition of a RIR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER and SMP. The remedy included the excavation and disposal of non-hazardous and hazardous wastes, the design and oversight of *in situ* chemical reductant (ISCR) groundwater treatment, and the treatment and disposal of approximately 1 million gallons of groundwater, achieving a conditional Track 1 remedy.

Titan Equity Group, Hotel Redevelopment, Bronx, New York. Project manager for a hotel redevelopment in the south Bronx. The site has been assigned NYS OER E-Designation status for hazardous materials, noise, and air quality. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan and Air Quality/Noise Remedial Action Plan as per NYC OER requirements.

Private Developer, Mixed-Use Redevelopment, Queens, New York. Project manager for a mixed-use residential and commercial redevelopment in Queens being remediated under a consent order as an inactive hazardous waste facility for chlorinated VOC and petroleum contamination. Services include a review of historical reports, conducting a Limited Phase II ESI, development of a Site Characterization Work Plan, completion of the Site Characterization and development of an IRMWP. Remediation is ongoing.

Private Developer, Mixed-Use Redevelopment, Bronx, New York. Project manager for a mixed-use residential and commercial redevelopment in the Bronx being remediated under a consent order as an inactive hazardous waste facility for chlorinated VOC contamination within bedrock. Services include a review of historical reports, development of a Supplemental Site Characterization Work Plan including the installation of groundwater monitoring wells installed at various depths within bedrock to horizontally and vertically delineate CVOC contamination across the Site, completion of the Supplemental Site Characterization and development of an IRMWP. Remediation is ongoing.

Private Developer, Mixed-Use Redevelopment, Queens, New York. Project manager for a mixed-use residential and commercial redevelopment in Queens. The Site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan as per NYC OER requirements.

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THOMAS GIORDANO

Project Manager, Environmental Scientist

EDUCATION

B.S., Environmental Science and B.A., Geography, State University of New York College at Oneonta

ACTIVE CERTIFICATIONS

NYSDEC SWPPP Certification

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
30-Hour OSHA Construction
10-Hour OSHA Construction
10-Hour Site Safety Training (SST)

Thomas is an environmental scientist and project manager who brings 10 years of professional experience. He provides management and oversight of field staff involved in projects, and coordinates with contractors, clients, and regulatory agencies. Thomas's experience includes implementing remedial oversight programs, completing site investigations and due diligence inspections, and providing management and oversight of in situ soil and groundwater treatment remedial work. He also develops and implements remedial, site safety, and sampling work plans. As a project manager, he ensures environmental compliance and construction quality assurance. Thomas has served as a key member managing a range of projects from high-profile to smaller projects throughout his career.

RELEVANT PROJECT EXPERIENCE

NP Staten Island Industrial, LLC, former Port Mobil Terminal site, Staten Island, New York (H&A of New York, 2024-2025).

Thomas served as the project manager for this New York State Department of Environmental Conservation (NYSDEC) and United States Environmental Protection Agency (USEPA) Order on Consent site, addressed 4101 Arthur Kill Road, during ongoing implementation of the corrective measures under an Interim Remedial Measures (IRM) Plan and support activities during formulation of the Alternatives Analysis / Remedial Action Work Plan (AA/RAWP) between 2024 and 2025. The 240-acre site operated as a Major Oil Storage Facility (MOSF) from 1934 until 2019, where the storage capacity at the facility was 125 million gallons with an annual throughput of approximately 1.4 billion gallons. The facility previously stored and transferred gasoline, No. 6 fuel oil, and distillate fuels, such as No. 4 fuel oil, No. 2 fuel oil, marine lubricating oils, and kerosene. In addition, there was an aboveground piping network to transfer petroleum products throughout the operational areas, and there was piping throughout the Site for the distribution of firefighting foam. Work included excavation and disposal of Light Non-Aqueous Liquids (LNAPL) and per- and polyfluoroalkyl substances (PFAS) impacted soil into the groundwater table. Work also included the oversight of amendment placement (BOS 200) and site restoration as well as documentation sampling of residual material. Other ongoing site activities include implementation of a long-standing Monthly Natural Attenuation (MNA) gauging and sampling efforts.

650 Southern Blvd LLC, 650 Southern Boulevard Redevelopment site, Bronx, New York (H&A of New York, 2025-2026).

Thomas served as the project manager for this NYSDEC BCP site, addressed 650 Southern Boulevard, upon issuance of the Decision Document to implement the RAWP. Management tasks included overseeing daily operations (oversight of soil management and implementation of the CAMP) and coordinating with the client, contractors, and NYSDEC,

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including groundwater treatment injection well work within bedrock. As of 2026, the project achieved a Track 1 cleanup and received their Certificate of Completion (COC) for the remedy in December 2025.

Rose Castle Redevelopment II LLC, Former Gutta Percha and Rubber Manufacturing Site, Brooklyn, New York (H&A of New York, 2025-2026).

Thomas served as the project manager for this NYSDEC BCP site, addressed 43 Franklin Avenue, during the implementation of the RAWP. Management tasks included overseeing daily operations (oversight of soil management and implementation of the CAMP) and coordinating with the client, contractors, and NYSDEC. As of 2026, the project achieved a Track 1 cleanup and received their Certificate of Completion (COC) for the remedy in December 2025.

One Wythe LLC, former Anglo Chemical and Rubber site, Brooklyn, New York (Vektor Consultants, LLC 2024). Thomas served as the project manager for this NYSDEC BCP site, addressed 1-9 Wythe Avenue, during the closeout of the implementation of the Remedial Action Work Plan (RAWP). Management tasks included overseeing daily operations (oversight of non-hazardous and hazardous soil management and implementation of the Community Air Monitoring Program) and coordinating with the client, contractors, and NYSDEC during additional remedial excavation, as determined by NYSDEC, to ensure project Soil Cleanup Objectives (SCOs) were achieved prior to foundation installation. Thomas also prepared the draft Final Engineering Report and Site Management Plan outlining the work completed under the remedial action and proposed work during the post-construction monitoring phase. As of October 2024, the project was in the closeout phase of reporting.

Walton Street GC Developments LLC, Copyrite Plastic Sheets site, Bronx, New York (Vektor Consultants, LLC 2024). Thomas served as the project manager for this NYSDEC BCP site, addressed 261-315 Grand Concourse and 270 Walton Avenue, upon issuance of the Decision Document to implement the Remedial Action Work Plan (RAWP). Management tasks included overseeing daily operations (oversight of soil management and implementation of the CAMP) and coordinating with the client, contractors, and NYSDEC for groundwater treatment injection well work within bedrock for a petroleum bulk storage (PBS) spill associated with the site. Thomas also prepared the groundwater treatment pilot test and groundwater treatment plans for implementation. As of 2024, the project was in superstructure construction.

Franklin Plaza II LLC, Consumers Park Brewery site, Brooklyn, New York (Vektor Consultants, LLC 2023-2024). Thomas served as the project manager for this NYSDEC BCP site, addressed 960 Franklin Avenue, including management of the remedial investigations (and associated reporting), waste characterization sampling, preparation of the RAWP, and assisting in the design of remedial technology treatability studies for elevated chlorinated solvent soil vapor and groundwater contamination. Thomas managed daily operations (including implementation of the CAMP during investigation phase work), subcontractors, and coordination with the NYSDEC. As of 2024, the project was anticipating the issuance of the Decision Document for the start of the RAWP implementation.

2201 Union LLC, 450 Union Street site, Brooklyn, New York (Vektor Consultants, LLC 2023-2024). Thomas carried out project management duties for this NYSDEC BCP site, immediately adjacent to the Gowanus Canal, during the grossly contaminated material (GCM) investigation, remedial technology treatability studies, and implementation of remedial technology phases to address GCM encountered at the site. Thomas managed daily operations (including implementation of the CAMP and overseeing soil management), subcontractors, and coordination with the NYSDEC. Thomas also wrote the treatability study work plan, the in situ solidification/stabilization (ISS) pilot test, and full production treatability work plans. As of October 2024, the project was in the reporting phase for the completed ISS work and awaiting approval of the Excavation Work Plan for site redevelopment.

Various clients, NYCOER Volunteer Cleanup Program sites, Brooklyn and New York, New York (AKRF, Inc. / Vektor Consultants, LLC 2020-2024). Thomas served as the project manager for the implementation of the remedial investigations and remedial actions of various sites within the NYC Mayor's Office of Environmental Remediation (NYCOER) during earthwork activities and foundation construction. Management tasks included oversight of soil

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management, outgoing waste tracking (both hazardous and non-hazardous), implementation of CAMP, overseeing of remedial technologies (including lead stabilization), and preparation of reports for submittal to OER. Thomas authored closure reports and compiled documentation for closure for each of the projects and assisted clients with grant applications if eligible.

Gilbane Building Company, Department of Sanitation New York (DSNY) Staten Island District 1/3 Garage, Staten Island, New York (AKRF, Inc. 2021-2023). Thomas carried out project management and field duties including daily oversight activities, coordination with field staff, compliance reporting, data analysis, and submittal review. As the construction quality assurance managers, AKRF oversaw and conducted inspections of work to assess compliance with the design criteria, contract drawings, documents, and technical specifications (including geotechnical) under the NYSDEC Fresh Kills Landfill Order of Consent. Work included management of exports, imports, site cap material, implementation of a strict CAMP, overseeing inspections of the stormwater pollution prevention plan (SWPPP), ensuring testing conforms to standardized procedures, and reporting directly to the NYSDEC project manager. Thomas ensured fieldwork and inspections of work to assess compliance were within the design criteria and with the principle regulatory framework under which all landfill systems were designed, installed, and continued to operate.

CIM Group, 85 Jay Street (Front and York), Brooklyn, New York (AKRF, Inc. 2018-2019). Thomas served as the assistant project manager and field lead for implementation of the Remedial Action Work Plan during earthwork activities and foundation construction. Environmental oversight monitoring included overseeing soil management and outgoing waste tracking, implementation of the CAMP, collection of water and soil samples, overseeing in situ lead stabilization, and coordinating with the NYSDEC project manager. The 1.1 million-square-foot redevelopment was awarded the Big Apple Brownfield Award for Environmental Protection by the New York City Brownfield Partnership in 2020 for the successful remediation of the former industrial site.

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BRIAN FITZPATRICK, CHMM

Corporate Director, Health and Safety

EDUCATION

M.P.A., Environmental Policy, Syracuse University
B.S., Environmental Science, University of Massachusetts-Amherst
A.S., Chemistry, Valley Forge Military Junior College
Commissioned Officer, United States Army

CERTIFICATIONS

Certified Hazardous Materials Manager (Reg. No. 13454)
Certified Department of Transportation Shipper
Certified International Air Transport Authority Shipper

PROFESSIONAL SOCIETIES

Alliance of Hazardous Materials Professionals
Academy of Certified Hazardous Materials Managers, New England Chapter

SPECIAL STUDIES AND COURSES

Department of Transportation
International Air Transport Authority
Incident Commander
Confined Space Entry and Rescue
Radiation Safety Officer
RCRA Hazardous Waste
Massachusetts Industrial Waste Water Operator Grade 2I (expired)

AWARDS

Presidents Club Award (one million hours worked without a recordable injury), Cabot Corporation
Chancellors Award for Excellence, Syracuse University

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Brian ensures the work we do for our clients is done safely – knowing this reduces costs, improves service quality and site conditions, and ultimately protects our clients' reputations. In addition to building the Haley & Aldrich Health & Safety (H&S) culture, Brian is hands-on with clients to help improve their and their partners' safety cultures.

He has extensive expertise in the Occupational Safety and Health Administration (OSHA) general industry, process safety management, and construction safety programs. He is an active member of the Alliance of Hazardous Materials Professionals and the New England chapter of the Academy of Certified Hazardous Materials Managers.

Brian knows an organization's success is predicated on empowering its people to safely work within the complex, living processes in which they operate. He is a student of human factors in the workplace, of the phenomena of human error and drift into failure, and of the safety applications of Lean techniques.

RELEVANT PROJECT EXPERIENCE

Haley & Aldrich, Inc., Burlington, Massachusetts. As Chief Health and Safety Officer, Brian has led and facilitated the development and implementation of corporate health and safety (H&S) improvement plans to enhance compliance and improve H&S performance. In Brian's time with Haley & Aldrich, Inc., the company has realized dramatic improvement on H&S goals and in Key Performance Indicators. Brian is responsible for developing a risk competence culture, where our staff are empowered to look for and engage to address risk before anyone is injured. Brian oversees the development, implementation and continuous improvement of all H&S programs for the company. Additional responsibilities include:

- Developing a safety culture through incident reporting, root cause analysis, behavior-based safety, hazard recognition and risk assessment, communication, and developing leaders;

- Monitoring proposed and existing SH&E regulations and legislation to determine their impact on operations and to ensure continued compliance;
- Overseeing the safety, industrial hygiene, and toxicology programs for over 600 staff members engaged in remediation, construction, health and safety, consulting, and general office work across 28 offices in the United States and on assignment to international project sites;
- Continuously seeks to improve H&S performance as measured by the OSHA Incident Rating (IR) and Worker's Compensation Experience Modification Rating (EMR), as well as Leading Indicators developed with the management team; and
- Participating in the corporate audit program as an auditor or lead auditor;

Energy Client, California. As Chief Health and Safety Officer, Brian led and facilitated the Alliance Partnership Safety Council in 2017, is still an active contributor to the council, and hosts routine contractor safety forums for the client. Brian is actively involved in the development and implementation of program safety, health, and environmental (SH&E) plans to ensure safe operations on project sites. Brian developed permits and Health and Safety Plans for large projects and routinely audits the site safety. Additional responsibilities include:

- Driving reporting and behavior-based safety initiatives to support our internal safety culture and developing monthly summary reports to illustrate performance to our client.
- Develop, assess and continuously improve site safety plans and practices, including specific safety protocols for working safely over and around water.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits sites to ensure compliance with our internal policies and client-specific requirements.

Energy Client, Ohio. As Chief Health and Safety Officer, Brian supports the project team in developing and executing client and project specific health and safety measures, such as a site specific Health and Safety Plan, Job Hazard Analyses, Industrial Hygiene program, and site specific training. Brian also routinely visits the site to assess current practices and condition and to ensure continuous improvement. Additional responsibilities include:

- Develop, assess, and continuously improve site safety plans and practices, including specific safety protocols to comply with supplemental EH&S requirements such as the Duke Health and Safety Handbook, Environmental Supplemental, and EHS Keys to Life.
- Develop, assess, and continuously improve site safety plans and practices to address the risks associated with the work being performed on site, as well as the environmental conditions and simultaneous operations, including trenching and excavation, hot work, work over and near water, heavy equipment, HAZWOPER, etc.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits site to ensure compliance with our internal policies and client-specific requirements.

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APPENDIX I
Quality Assurance Project Plan

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HALEY ALDRICH

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QUALITY ASSURANCE PROJECT PLAN
338-344 GRAND CONCOURSE REDEVELOPMENT SITE
NYSDEC BCP NO: C203188
338-344 GRAND CONCOURSE
BRONX, NEW YORK

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by
H & A of New York Engineering and Geology, LLP
New York, New York

for
338-344 Grand Concourse LLC
Brooklyn, New York

File No. 0212356
February 2026



Executive Summary

This Quality Assurance Project Plan outlines the scope of the quality assurance and quality control activities associated with the site monitoring activities associated with the Remedial Action Work Plan for 338-344 Grand Concourse in Bronx, New York (Site).

Protocols for sample collection, sample handling and storage, chain of custody procedures, and laboratory and field analyses are described herein or specifically referenced to related project documents.

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1. Project Description

This Quality Assurance Project Plan (QAPP) has been prepared as a component of the Remedial Action Work Plan (RAWP) for the property located at 338-344 Grand Concourse in Bronx, New York (Site).

1.1 PROJECT OBJECTIVES

The primary objective for data collection activities is to collect sufficient data necessary to characterize the subsurface conditions at the Site and determine the nature and extent of contamination.

1.2 SITE DESCRIPTION AND HISTORY

The general Site description and Site history are provided in the Site Description and History Summary that accompanies the RAWP appended to the Brownfield Cleanup Program (BCP) application for the Site and incorporated herein by reference.

1.3 LABORATORY PARAMETERS

The laboratory parameters for soil include:

- Target Compound List (TCL) volatile organic compounds (VOCs) using U.S. Environmental Protection Agency (USEPA) Method 8260C;
- TCL semi-volatile organic compounds (SVOCs) using USEPA Method 8270D;
- Total Analyte List Metals using USEPA Method 6010D;
- TCL Pesticides using USEPA Method 8081B;
- Polychlorinated biphenyls using EPA Method 8082A;
- Per- and polyfluoroalkyl substances (PFAS) using USEPA Method 1633; and
- 1,4-dioxane using USEPA Method 8270 SIM.

Note: PFAS samples will be collected in accordance with the New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER) Sampling, Analysis and Assessment of Per- and Polyfluoroalkyl Substances (PFAS) under NYSDEC Part 375 Remedial Program, April 2023.

Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

1.4 SAMPLING LOCATIONS

The RAWP provides the locations of remedial excavation confirmation sample locations that will be sampled (as applicable).

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2. Project Organization and Responsibilities

This section defines the roles and responsibilities of the individuals who will perform the RAWP monitoring activities. A New York State Department of Health (NYSDOH)-certified analytical laboratory will perform the analyses of environmental samples collected at the Site.

2.1 PROJECT TEAM

The following project personnel are anticipated for oversight of the RAWP implementation. Project team resumes are included in Attachment A.

NYSDEC[1] Case Manager	Nour Haredy
NYSDOH Case Manager	Ben Caligiuri
Remedial Engineer-of-Record	Scott A. Underhill, PE
Qualified Environmental Professional	Mari Cate Conlon, P.G.
Project Manager	Matthew Levy
Haley & Aldrich of New York[2] Health & Safety Director	Brian Fitzpatrick, CHMM
Health and Safety Officer	Brian Ferguson
Quality Assurance (QA) Officer	Thomas Giordano
Third-Party Validator	Katherine Miller

[1] *NYSDEC = New York State Department of Environmental Conservation*
[2] *H & A of New York Engineering and Geology LLP (Haley & Aldrich of New York)*

2.2 MANAGEMENT RESPONSIBILITIES

The Project Manager is responsible for managing the implementation of the RAWP and monitoring and coordinating the collection of data. The Project Manager is responsible for technical quality control (QC) and project oversight. The Project Manager's responsibilities include the following:

- Acquiring and applying technical and corporate resources as needed to ensure performance within budget and schedule restraints;
- Reviewing work performed to ensure quality, responsiveness, and timeliness;
- Communicating with the client point of contact concerning the progress of the monitoring activities;
- Assuring corrective actions are taken for deficiencies cited during audits of RAWP monitoring activities; and
- Assuring compliance with the Site Health and Safety Plan (HASP).

2.3 QUALITY ASSURANCE RESPONSIBILITIES

The QA team will consist of a QA Officer and the Data Validation Staff. QA responsibilities are described as follows.

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2.3.1 Quality Assurance Officer

The QA Officer reports directly to the Project Manager and will be responsible for overseeing the review of field and laboratory data. Additional responsibilities include the following:

- Assuring the application and effectiveness of the QAPP by the analytical laboratory and the project staff;
- Providing input to the Project Manager as to corrective actions that may be required as a result of the above-mentioned evaluations; and
- Preparing and/or reviewing data validation and audit reports.

The QA Officer will be assisted by the Data Validation Staff in the evaluation and validation of field and laboratory-generated data.

2.3.2 Data Validation Staff

The Data Validation Staff will be independent of the laboratory and familiar with the analytical procedures performed. The validation will include a review of each validation criterion as prescribed by the guidelines presented in Section 9.2 of this document and be presented in a Data Usability Summary Report (DUSR) for submittal to the QA Officer.

2.4 LABORATORY RESPONSIBILITIES

The Environmental Laboratory Approval Program-approved laboratory to be used will be Alpha Analytical Inc. (Alpha), located in Westborough, Massachusetts. Laboratory services to support the RAWP monitoring include the following personnel.

2.4.1 Laboratory Project Manager

The Laboratory Project Manager will report directly to the QA Officer and Project Manager and will be responsible for ensuring all resources of the laboratory are available on an as-required basis. The Laboratory Project Manager will also be responsible for the approval of the final analytical reports.

2.4.2 Laboratory Operations Manager

The Laboratory Operations Manager will report to the Laboratory Project Manager and will be responsible for coordinating laboratory analysis, supervising in-house chain of custody reports, scheduling sample analyses, overseeing data review, and overseeing the preparation of analytical reports.

2.4.3 Laboratory QA Officer

The Laboratory QA Officer will have sole responsibility for the review and validation of the analytical laboratory data. The Laboratory QA Officer will provide Case Narrative descriptions of any data quality issues encountered during the analyses conducted by the laboratory. The QA Officer will also define appropriate QA procedures and oversee QA/QC documentation.

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2.4.4 Laboratory Sample Custodian

The Laboratory Sample Custodian will report to the Laboratory Operations Manager and will be responsible for the following:

- Receiving and inspecting the incoming sample containers;
- Recording the condition of the incoming sample containers;
- Signing appropriate documents;
- Verifying chain of custody and its correctness;
- Notifying the Project Manager and Operations Manager of sample receipt and inspection;
- Assigning a unique identification number and entering each into the sample receiving log;
- Initiating transfer of samples to laboratory analytical sections; and
- Controlling and monitoring access/storage of samples and extracts.

2.4.5 Laboratory Technical Personnel

The Laboratory Technical Personnel will have the primary responsibility in the performance of sample analysis and the execution of the QA procedures developed to determine the data quality. These activities will include the proper preparation and analysis of the project samples in accordance with the laboratory's Quality Assurance Manual and associated Standard Operating Procedures (SOPs).

2.5 FIELD RESPONSIBILITIES

2.5.1 Field Coordinator

The Field Coordinator is responsible for the overall operation of the field team and reports directly to the Project Manager. The Field Coordinator works with the project Health and Safety Officer (HSO) to conduct operations in compliance with the project HASP. The Field Coordinator will facilitate communication and coordinate efforts between the Project Manager and the field team members.

Other responsibilities include the following:

- Developing and implementing field-related work plans, ensuring schedule compliance, and adhering to management-developed project requirements;
- Coordinating and managing field staff;
- Performing field system audits;
- Overseeing QC for technical data provided by the field staff;
- Preparing and approving text and graphics required for field team efforts;
- Coordinating and overseeing technical efforts of subcontractors assisting the field team;
- Identifying problems in the field, resolving difficulties in consultation with the Project QA Officer and Project Manager, and implementing and documenting corrective action procedures; and
- Participating in the preparation of the final reports.

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2.5.2 Field Team Personnel

Field Team Personnel will be responsible for the following:

- Performing field activities as detailed in the RAWP and in compliance with the Field Sampling Plan (FSP) and QAPP.
- Immediately reporting any accidents and/or unsafe conditions to the Site HSO and taking reasonable precautions to prevent injury.

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3. Sampling Procedures

The FSP provides the SOPs for sampling required by the RAWP. Sampling will be conducted in general accordance with the NYSDEC Technical Guidance for Site Investigation and Remediation (DER-10) and the Sampling, Analysis, and Assessment of PFAS under NYSDEC Part 375 Remedial Program (April 2023) when applicable.

3.1 SAMPLE CONTAINERS

Sample containers for each sampling task will be provided by the laboratory performing the analysis. The containers will be cleaned by the manufacturer to meet or exceed the analyte specifications established in the EPA's "Specifications and Guidance for Obtaining Contaminant-Free Sample Containers," April 1992, OSWER Directive #9240.0-0.5A. Certificates of analysis for each lot of sample containers used will be maintained by the laboratory.

The appropriate sample containers, preservation methods, maximum holding times, and handling requirements for each sampling task are provided in Table I.

3.2 SAMPLE LABELING

Each sample will be labeled with a unique sample identifier that will facilitate tracking and cross-referencing of sample information. Field blanks and field duplicate samples also will be numbered with a unique sample identifier to prevent analytical bias of field QC samples.

Refer to the FSP for the sample labeling procedures.

3.3 FIELD QC SAMPLE COLLECTION

3.3.1 Field Duplicate Sample Collection

3.3.1.1 Water Samples

Field duplicate samples will be collected by filling the first sample container to the proper level and sealing and then repeated for the second set of sample containers.

1. The samples are properly labeled as specified in Section 3.2.
2. Steps 1 through 4 are repeated for the bottles for each analysis. The samples are collected in order of decreasing analyte volatility as detailed in Section 3.3.1.
3. Chain of custody documents are executed.
4. The samples will be handled as specified in Table I.

3.3.1.2 Soil Samples

Soil field duplicates will be collected as specified in the following procedure:

1. Soils will be sampled directly from acetate liners.

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2. Soil for VOC analysis will be removed from the sampling device as specified in the FSP.
3. Soil for non-VOC analysis will be removed from the sampling device and collected into clean laboratory-provided containers.

3.4 GENERAL DECONTAMINATION PROCEDURES

Care must be taken to minimize the potential for the transfer of contaminated materials to the ground or onto other materials. Regardless of the size or nature of the equipment being decontaminated, the process will utilize a series of steps that involve the removal of gross material (dirt, grease, oil, etc.), washing with a detergent, and multiple rinsing steps. In lieu of a series of washes and rinse steps, steam cleaning with low-volume, high-pressure equipment (i.e., a steam cleaner) is acceptable.

Exploration equipment and all monitoring equipment in contact with the sampling media must be decontaminated prior to initiating Site activities, between exploration locations to minimize cross-contamination, and prior to mobilizing off the Site after the completion of Site work.

The following specific decontamination procedure is recommended for sampling equipment and tools:

- Brush loose soil off equipment;
- Wash equipment with laboratory-grade detergent (i.e., Alconox or equivalent);
- Rinse with tap water;
- Rinse equipment with distilled water;
- Allow water to evaporate before reusing equipment; and
- Wrap equipment in aluminum foil when not being used.

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4. Custody Procedures

Sample custody is addressed in three parts: field sample collection, laboratory analysis, and final project files. The custody of a sample begins when it is collected by or transferred to an individual and ends when that individual relinquishes or disposes of the sample.

A sample is under custody if:

1. The item is in actual possession of a person;
2. The item is in the view of the person after being in actual possession of the person;
3. The item was in actual possession and subsequently stored to prevent tampering; or
4. The item is in a designated and identified secure area.

4.1 FIELD CUSTODY PROCEDURES

Field personnel will maintain written records of field activities on applicable preprinted field forms or in a bound field notebook to record data-collecting activities. These records will be written legibly in ink and will contain pertinent field data and observations. Entry errors or changes will be crossed out with a single line, dated, and initialed by the person making the correction. Field forms and notebooks will be periodically reviewed by the Field Coordinator.

The beginning of each entry in the logbook or preprinted field form will contain the following information:

- Date;
- Start time;
- Weather;
- Names of field personnel (including subcontractors);
- Level of personal protective equipment (PPE) used at the Site; and
- Names of all visitors and the purpose of their visit.

For each measurement and sample collected, the following information will be recorded:

- Detailed description of sample location;
- Equipment used to collect the sample or make the measurement and the date equipment was calibrated;
- Time the sample was collected;
- Description of the sample conditions;
- Depth at which the sample was collected (if applicable);
- Volume and number of containers filled with the sample; and
- Sampler's identification.

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4.1.1 Field Procedures

The following procedure describes the process to maintain the integrity of the samples:

- Upon collection, samples are placed in the proper containers. In general, samples collected for organic analysis will be placed in pre-cleaned glass containers and samples collected for inorganic analysis will be placed in pre-cleaned plastic (polyethylene) bottles. Refer to the FSP for sample packaging procedures.
- Samples will be assigned a unique sample number and will be affixed to a sample label. Refer to the FSP for sample labeling procedures.
- Samples will be properly and appropriately preserved by field personnel to minimize loss of the constituent(s) of interest due to physical, chemical, or biological mechanisms.
- Appropriate volumes will be collected to ensure that the appropriate reporting limits can be successfully achieved and that the required QC sample analyses can be performed.

4.1.2 Transfer of Custody and Shipment Procedures

- A chain of custody record will be completed at the time of sample collection and will accompany each shipment of project samples to the laboratory. The field personnel collecting the samples will be responsible for the custody of the samples until the samples are relinquished to the laboratory. Sample transfer will require the individuals relinquishing and receiving the samples to sign, date, and note the time of sample transfer on the chain of custody record.
- Samples will be shipped or delivered in a timely fashion to the laboratory so that holding times and/or analysis times as prescribed by the methodology can be met.
- Samples will be transported in containers (coolers) that will maintain the refrigeration temperature for those parameters for which refrigeration is required in the prescribed preservation protocols.
- Samples will be placed in an upright position and limited to one layer of samples per cooler. Additional bubble wrap or packaging material will be added to fill the cooler. Shipping containers will be secured with strapping tape and custody tape for shipment to the laboratory.
- When samples are split with the NYSDEC representatives, a separate chain of custody will be prepared and marked to indicate with whom the samples are shared. The person relinquishing the samples will require the representative's signature acknowledging sample receipt.
- If samples are sent by a commercial carrier, a bill of lading will be used. A copy of the bill of lading will be retained as part of the permanent record. Commercial carriers will not sign the custody record as long as the custody record is sealed inside the sample cooler and the custody tape remains intact.
- Samples will be picked up by a laboratory courier or transported to the laboratory the same day they are collected unless collected on a weekend or holiday. In these cases, the samples will be stored in a secure location until delivery to the laboratory. Additional ice will be added to the cooler as needed to maintain proper preservation temperatures.

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4.2 LABORATORY CHAIN OF CUSTODY PROCEDURES

A Sample Custodian will be designated by the laboratory and will have the responsibility to receive all incoming samples. Once received, the Sample Custodian will document if the sample is received in good condition (i.e., unbroken, cooled, etc.) and that the associated paperwork, such as chain of custody forms, has been completed. The custodian will sign the chain of custody forms.

The custodian will also document if sufficient sample volume has been received to complete the analytical program. The Sample Custodian will then place the samples into secure, limited-access storage (refrigerated storage, if required). They will assign a unique number to each incoming sample for use in the laboratory. The unique number will then be entered into the sample-receiving log with the verified time and date of receipt also noted.

Consistent with the analyses requested on the chain of custody form, analyses by the laboratory's analysts will begin in accordance with the appropriate methodologies. Samples will be removed from secure storage with internal chain of custody sign-out procedures followed.

4.3 STORAGE OF SAMPLES

Empty sample bottles will be returned to secure and limited-access storage after the available volume has been consumed by the analysis. Upon completion of the entire analytical work effort, samples will be disposed of by the sample custodian. The length of time that samples are held will be at least 30 days after reports have been submitted. Disposal of remaining samples will be completed in compliance with all federal, state, and local requirements.

4.4 FINAL PROJECT FILES CUSTODY PROCEDURES

The final project files will be the central repository for all documents with information relevant to sampling and analysis activities as described in this QAPP. The Haley & Aldrich of New York Project Manager will be the custodian of the project file. The project files, including all relevant records, reports, logs, field notebooks, pictures, subcontractor reports, and data reviews will be maintained in a secured, limited-access area and under the custody of the Project Director or their designee.

The final project file will include the following:

- Project plans and drawings;
- Field data records;
- Sample identification documents;
- All chain of custody documentation;
- Correspondence;
- References and literature;
- Laboratory data deliverables;
- Data validation and assessment reports;
- Progress and QA reports; and

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- A final report.

The laboratory will be responsible for maintaining analytical logbooks, laboratory data, and sample chain of custody documents. Raw laboratory data files and copies of hard-copy reports will be inventoried and maintained by the laboratory for a period of six years, at which time the laboratory will contact the Haley & Aldrich of New York Project Manager regarding the disposition of the project-related files.

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5. Calibration Procedures and Frequency

5.1 FIELD INSTRUMENT CALIBRATION PROCEDURES

Several field instruments will be used for both on-Site screening of samples and for health and safety monitoring, as described in the HASP. On-Site air monitoring for health and safety purposes may be accomplished using a vapor detection device, such as a photoionization detector.

Field instruments will be calibrated at the beginning of each day and checked during field activities to verify performance. Instrument-specific calibration procedures will be performed in accordance with the instrument manufacturer's requirements.

5.2 LABORATORY INSTRUMENT CALIBRATION PROCEDURES

Reference materials of known purity and quality will be utilized for the analysis of environmental samples. The laboratory will carefully monitor the preparation and use of reference materials, including solutions, standards, and reagents through well-documented procedures.

All solid chemicals and acids/bases used by the laboratory will be rated as "reagent-grade" or better. All gases will be "high"-purity or better. All Standard Reference Materials (SRMs) or Performance Evaluation materials will be obtained from approved vendors of the National Institute of Standards and Technology (NIST; formerly National Bureau of Standards), the USEPA Environmental Monitoring Support Laboratories, or reliable Cooperative Research and Development Agreement (CRADA)-certified commercial sources.

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6. Analytical Procedures

Analytical procedures to be utilized for the analysis of environmental samples will be based on referenced USEPA analytical protocols and/or project-specific SOPs.

6.1 FIELD ANALYTICAL PROCEDURES

Field analytical procedures include the measurement of pH, temperature, oxidation-reduction potential (ORP), dissolved oxygen (DO), and specific conductivity during sampling of groundwater, and the qualitative measurement of VOCs during the collection of soil samples.

6.2 LABORATORY ANALYTICAL PROCEDURES

Laboratory analyses will be based on the USEPA methodology requirements promulgated in:

- "Test Methods for Evaluating Solid Waste," SW-846 EPA, Office of Solid Waste, and promulgated updates, 1986.

6.2.1 List of Project Target Compounds and Laboratory Detection Limits

The method detection limits studies are performed by the laboratories in accordance with the procedures established in the Code of Federal Regulations, Title 40, Part 136.

Laboratory parameters for soil samples are listed in the RAWP. Laboratory parameters for disposal samples will be determined by the disposal facility after an approved facility has been determined.

6.2.2 List of Method-Specific Quality Control Criteria

The laboratory SOPs include a section that presents the minimum QC requirements for the project analyses. Section 7.0 references the frequency of the associated QC samples for each sampling effort and matrix.

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7. Internal Quality Control Checks

This section presents the internal QC checks that will be employed for field and laboratory measurements.

7.1 FIELD QUALITY CONTROL

7.1.1 Field Blanks

Internal QC checks will include analysis of field blanks to validate equipment cleanliness. Whenever possible, dedicated equipment will be employed to reduce the possibility of cross-contamination of samples.

7.1.2 Trip Blanks

Trip blank samples will be prepared by the project laboratory using American Society for Testing and Materials International (ASTM) Type II or equivalent water placed within pre-cleaned 40-milliliter VOC vials equipped with Teflon septa. Trip blanks will accompany each sample delivery group of environmental samples collected for the analysis of VOCs.

Trip blank samples will be placed in each cooler that stores and transports project samples that are to be analyzed for VOCs.

7.2 LABORATORY PROCEDURES

Procedures that contribute to the maintenance of overall laboratory QA/QC include appropriately cleaned sample containers, proper sample identification and logging, applicable sample preservation, storage, and analysis within prescribed holding times, and use of controlled materials.

7.2.1 Field Duplicate Samples

The precision or reproducibility of the data generated will be monitored through the use of field duplicate samples. Field duplicate analysis will be performed at a frequency of one in 20 project samples.

Precision will be measured in terms of the absolute value of the relative percent difference (RPD) as expressed by the following equation:

$$RPD = [|R1-R2|/[(R1+R2)/2]] \; X \; 100\%$$

Acceptance criteria for duplicate analyses performed on solid matrices will be 100 percent and aqueous matrices will be 35 percent (or the absolute difference rule was satisfied if detects were less than five times the reporting limit [RL]). RPD values outside these limits will require an evaluation of the sampling and/or analysis procedures by the project QA Officer and/or Laboratory QA Director. Corrective actions may include re-analysis of additional sample aliquots and/or qualification of the data for use.

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7.2.2 Matrix Spike Samples

Ten percent of each project sample matrix for each analytical method performed will be spiked with known concentrations of the specific target compounds/analytes.

The amount of the compound recovered from the sample compared to the amount added will be expressed as a percent recovery. The percent recovery of an analyte is an indication of the accuracy of an analysis within the site-specific sample matrix. Percent recovery will be calculated for matrix spike and matrix spike duplicate (MS/MSD) samples using the following equation.

$$\%\ Recovery = \frac{Spiked\ Sample - Background}{Known\ Value\ of\ Spike} x100\%$$

If the QC value falls outside the control limits (Upper Control Limit or Lower Control Limit) due to sample matrix effects, the results will be reported with appropriate data qualifiers. To determine the effect a non-compliant MS recovery has on the reported results, the recovery data will be evaluated as part of the validation process.

7.2.3 Laboratory Control Sample Analyses

The laboratory will perform laboratory control sample (LCS) analyses prepared from SRMs. The SRMs will be supplied from an independent manufacturer and traceable to NIST materials with known concentrations of each target analyte to be determined by the analytical methods performed. In cases where an independently supplied SRM is not available, the LCS may be prepared by the laboratory from a reagent lot other than that used for instrument calibration.

The laboratory will evaluate LCS analyses in terms of percent recovery using the most recent laboratory-generated control limits.

LCS recoveries that do not meet acceptance criteria will be deemed invalid. Analysis of project samples will cease until an acceptable LCS analysis has been performed. If sample analysis is performed in association with an out-of-control LCS sample analysis, the data will be deemed invalid.

Corrective actions will be initiated by the Haley & Aldrich of New York QA Officer and/or Laboratory QA Officer to investigate the problem. After the problem has been identified and corrected, the solution will be noted in the instrument run logbook and re-analysis of project samples will be performed, if possible.

The analytical anomaly will be noted in the SDG Case Narrative and reviewed by the Data Validator. The Data Validator will confirm that appropriate corrective actions were implemented and recommend the applicable use of the affected data.

7.2.4 Surrogate Compound/Internal Standard Recoveries

For VOCs, surrogates will be added to each sample prior to analysis to establish purge and trap efficiency. Quantitation will be accomplished via internal standardization techniques.

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The recovery of surrogate compounds and internal standards will be monitored by laboratory personnel to assess possible Site-specific matrix effects on instrument performance.

For SVOC analyses, surrogates will be added to the raw sample to assess extraction efficiency. Internal standards will be added to all sample extracts and instrument calibration standards immediately before analysis for quantitation via internal standardization techniques.

Method-specific QC limits are provided in the attached laboratory method SOPs. Surrogate compound/internal standard recoveries that do not fall within accepted QC limits for the analytical methodology performed will have the analytical results flagged with data qualifiers as appropriate by the laboratory and will not be noted in the laboratory report Case Narrative.

To ascertain the effect non-compliant surrogate compound/internal standard recoveries may have on the reported results, the recovery data will be evaluated as part of the validation process. The Data Validator will provide recommendations for corrective actions including but not limited to additional data qualification.

7.2.5 Calibration Verification Standards

Calibration verification (CV) standards will be utilized to confirm instrument calibrations and performance throughout the analytical process. CV standards will be prepared as prescribed by the respective analytical protocols. Continuing calibration will be verified by compliance with method-specific criteria prior to additional analysis of project samples.

Non-compliant analysis of CV standards will require immediate corrective action by the project Laboratory QA Officer and/or designated personnel. Corrective action may include a re-analysis of each affected project sample, a detailed description of the problem, the corrective action undertaken, the person who performed the action, and the resolution of the problem.

7.2.6 Laboratory Method Blank Analyses

Method blank sample analysis will be performed as part of each analytical batch for each methodology performed. If target compounds are detected in the method blank samples, the reported results will be flagged by the laboratory in accordance with SOPs. The Data Validator will provide recommendations for corrective actions, including but not limited to additional data qualification.

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8. Data Quality Objectives

Sampling that will be performed as described in the RAWP is designed to produce data of the quality necessary to achieve the minimum standard requirements of the field and laboratory analytical objectives described below. These data are being obtained with the primary objective to assess levels of contaminants of concern associated with the Site.

The overall project data quality objective (DQO) is to implement procedures for field data collection, sample collection, handling, and laboratory analysis and reporting that achieve the project objectives. The following section is a general discussion of the criteria that will be used to measure the achievement of the project DQO.

8.1 PRECISION

8.1.1 Definition

Precision is defined as a quantitative measure of the degree to which two or more measurements are in agreement. Precision will be determined by collecting and analyzing field duplicate samples and by creating and analyzing laboratory duplicates from one or more of the field samples. The overall precision of measurement data is a mixture of sampling and analytical factors. The analytical results from the field duplicate samples will provide data on sampling precision. The results from duplicate samples created by the laboratory will provide data on analytical precision. The measurement of precision will be stated in terms of RPD. RPD is defined as the absolute difference of duplicate measurements divided by the mean of these analyses normalized to percentage.

8.1.2 Field Precision Sample Objectives

Field precision will be assessed through the collection and measurement of field duplicate samples at a rate of one duplicate per 20 investigative samples. The RPD criteria for the project field duplicate samples will be “plus or minus 100 percent for soil” and “plus or minus 35 percent for groundwater” for parameters of analysis detected at concentrations greater than five times the laboratory RL.

8.1.3 Laboratory Precision Sample Objectives

Laboratory precision will be assessed through the analysis of LCSs and laboratory control sample duplicates (LCSDs) and MS/MSD samples for groundwater and soil samples and the analysis of laboratory duplicate samples for air and soil vapor samples. Air and soil vapor laboratory duplicate sample analyses will be performed by analyzing the same SUMMA canister twice. The RPD criteria for the air/soil vapor laboratory duplicate samples will be “plus or minus 35 percent” for parameters of analysis detected at concentrations greater than five times the laboratory RL.

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8.2 ACCURACY

8.2.1 Definition

Accuracy relates to the bias in a measurement system. Bias is the difference between the observed and the "true" value. Sources of error are the sampling process, field contamination, preservation techniques, sample handling, sample matrix, sample preparation, and analytical procedure limitations.

8.2.2 Field Accuracy Objectives

Sampling bias will be assessed by evaluating the results of field equipment rinse and trip blanks. Equipment rinse and trip blanks will be collected as appropriate based on sampling and analytical methods for each sampling effort.

If non-dedicated sampling equipment is used, equipment rinse blanks will be collected by passing ASTM Type II water over and/or through the respective sampling equipment utilized during each sampling effort. One equipment rinse blank will be collected for each type of non-dedicated sampling equipment used for the sampling effort. Equipment rinse blanks will be analyzed for each target parameter for the respective sampling effort for which environmental media have been collected. (Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.)

Trip blank samples will be prepared by the laboratory and provided with each shipping container that includes containers for the collection of groundwater samples for the analysis of VOCs. Trip blank samples will be analyzed for each VOC for which groundwater samples have been collected for analysis.

8.3 LABORATORY ACCURACY OBJECTIVES

Analytical bias will be assessed through the use of LCS and Site-specific MS sample analyses. LCS analyses will be performed with each analytical batch of project samples to determine the accuracy of the analytical system.

One set of MS/MSD analyses will be performed with each batch of 20 project samples collected for analysis to assess the accuracy of the identification and quantification of analytes within the Site-specific sample matrices. Additional sample volume will be collected at sample locations selected for the preparation of MS/MSD samples so that the standard laboratory RLs are achieved.

The accuracy of analyses that include a sample extraction procedure will be evaluated through the use of system monitoring or surrogate compounds. Surrogate compounds will be added to each standard, blank, and QC sample prior to sample preparation and analysis. Surrogate compound percent recoveries will provide information on the effect of the sample matrix on the accuracy of the analyses.

8.4 REPRESENTATIVENESS

8.4.1 Definition

Representativeness expresses the degree to which sample data represent a characteristic of a population, a parameter variation at a sampling point, or an environmental condition.

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Representativeness is a qualitative parameter that is dependent upon the design of the sampling program. The representativeness criterion is satisfied through the proper selection of sampling locations, the quantity of samples, and the use of appropriate procedures to collect and analyze the samples.

8.4.2 Measures to Ensure Representativeness of Field Data

Representativeness will be addressed by prescribing sampling techniques and the rationale used to select sampling locations. Sampling locations may be biased (based on existing data, instrument surveys, observations, etc.) or unbiased (completely random or stratified-random approaches).

8.5 COMPLETENESS

8.5.1 Definition

Completeness is a measure of the amount of valid (usable) data obtained from a measuring system compared to the total amount anticipated to be obtained. The completeness goal for all data uses is that a sufficient amount of valid data be generated so that determinations can be made related to the intended data use with a sufficient degree of confidence. Valid data is determined by independent confirmation of compliance with method-specific and project-specific DQOs. The calculation of dataset completeness will be performed by the following equation.

$$\frac{Number\ of\ Valid\ Sample\ Results}{Total\ Number\ of\ Samples\ Planned}\ X\ 100 = \%\ Complete$$

8.5.2 Field Completeness Objectives

Completeness is a measure of the number of valid measurements obtained from measurements taken in this project versus the number planned. The field completeness objective for this project will be greater than 90 percent.

8.5.3 Laboratory Completeness Objectives

The laboratory data completeness objective is a measure of the amount of valid data obtained from laboratory measurements. The evaluation of the data completeness will be performed at the conclusion of each sampling and analysis effort.

The completeness of the data generated will be determined by comparing the amount of valid data, based on independent validation, with the total laboratory dataset. The completeness goal will be greater than 90 percent.

8.6 COMPARABILITY

8.6.1 Definition

Comparability is a qualitative parameter expressing the confidence with which one dataset can be compared to another.

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8.6.2 Measures to Ensure Comparability of Laboratory Data

Comparability of laboratory data will be measured from the analysis of SRM obtained from either USEPA CRADA suppliers or NIST. The reported analytical data will also be presented in standard units of mass of contaminant within a known volume of environmental media. The standard units for various sample matrices are as follows:

- Solid Matrices – micrograms per kilogram for PFAS analyses, milligrams per kilogram of media (dry weight).
- Aqueous Matrices – nanograms per liter for PFAS analyses, micrograms per liter of media for organic analyses, and milligrams per liter for inorganic analyses.

8.7 LEVEL OF QUALITY CONTROL EFFORT

If non-dedicated sampling equipment is used, equipment rinse blanks will be prepared by field personnel and submitted for analysis of target parameters. Equipment rinse blank samples will be analyzed to check for potential cross-contamination between sampling locations that may be introduced during the sampling event. One equipment rinse blank will be collected per sampling event to the extent that non-dedicated sampling equipment is used.

If necessary, a separate equipment rinse blank sample will be collected for PFAS. (Note: If dedicated or disposable sampling equipment is used, equipment rinse samples will not be collected as part of that field effort.)

Trip blanks will be used to assess the potential for contamination during sample storage and shipment. Trip blanks will be provided with the sample containers to be used for the collection of groundwater samples for the analysis of VOC. Trip blanks will be preserved and handled in the same manner as the project samples. One trip blank will be included along with each shipping container containing project samples to be analyzed for VOCs.

Method blank samples will be prepared by the laboratory and analyzed concurrently with all project samples to assess potential contamination introduced during the analytical process.

Field duplicate samples will be collected and analyzed to determine sampling and analytical reproducibility. One field duplicate will be collected for every 20 or fewer investigative samples collected for off-Site laboratory analysis.

MS samples will provide information to assess the precision and accuracy of the analysis of the target parameters within the environmental media collected. One MS/MSD will be collected for every 20 or fewer investigative samples per sample matrix.

(Note: Soil MS/MSD samples require triple sample volume for VOCs only. Aqueous MS/MSD samples require triple the normal sample volume for VOC analysis and double the volume for the remaining parameters.)

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9. Data Reduction, Validation, and Reporting

Data generated by the laboratory operation will be reduced and validated prior to reporting in accordance with the following procedures:

9.1 DATA REDUCTION

9.1.1 Field Data Reduction Procedures

Field data reduction procedures will be minimal in scope compared to those implemented in the laboratory setting. The pH, conductivity, temperature, turbidity, DO, ORP, and breathing zone VOC readings collected in the field will be generated from direct-read instruments. The data will be written into field logbooks immediately after measurements are taken. If errors are made, data will be legibly crossed out, initialed and dated by the field member, and corrected in a space adjacent to the original entry.

9.1.2 Laboratory Data Reduction Procedures

Laboratory data reduction procedures are provided by the appropriate chapter of the USEPA's "Test Methods for Evaluating Solid Waste," SW-846, Third Edition. Errors will be noted and corrections made with the original notations crossed out legibly. Analytical results for soil samples will be calculated and reported on a dry-weight basis.

9.1.3 Quality Control Data

QC data (e.g., laboratory duplicates, surrogates, MS, and MSD) will be compared to the method acceptance criteria. Data determined to be acceptable will be entered into the laboratory information management system.

Unacceptable data will be appropriately qualified in the project report. Case Narratives will be prepared which will include information concerning data that fell outside acceptance limits and any other anomalous conditions encountered during sample analysis.

9.2 DATA VALIDATION

Data validation procedures of the analytical data will be performed by the Haley & Aldrich of New York QA Officer or designee using the following documents as guidance for the review process:

- "U.S. EPA National Functional Guidelines for Organic Data Review," "Analysis of Volatile Organic Compounds in Air Contained in Canisters by Method TO-15," "Sampling, Analysis, and Assessment of Per- and Polyfluoroalkyl Substances Under NYSDEC's Part 375 Remedial Programs," and the "U.S. EPA National Functional Guidelines for Inorganic Data Review."
- The specific data qualifiers used will be applied to the reported results as presented and defined in the USEPA National Functional Guidelines. Validation will be performed by qualified personnel at the direction of the Haley & Aldrich of New York QA Officer. Tier 1 data validation (the equivalent of USEPA's Stage 2A validation) will be performed to evaluate data quality.

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- The completeness of each data package will be evaluated by the Data Validator. Completeness checks will be administered on all data to determine that the deliverables are consistent with the NYSDEC Analytical Services Protocol (ASP) Category A and Category B data package requirements. The validator will determine whether the required items are present and request copies of missing deliverables (if necessary) from the laboratory.

9.3 DATA REPORTING

Data reporting procedures will be carried out for field and laboratory operations as indicated below:

- Field Data Reporting: Field data reporting will be conducted principally through the transmission of report sheets containing tabulated results of measurements made in the field and documentation of field calibration activities.
- Laboratory Data Reporting: The laboratory data reporting package will enable data validation based on the protocols described above. The final laboratory data report format will include the QA/QC sample analysis deliverables to enable the development of a DUSR based on NYSDEC DER-10 Appendix 2B.

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10. Performance and System Audits

A performance audit is an independent quantitative comparison with data routinely obtained in the field or the laboratory. Performance audits include two separate, independent parts, including internal and external audits.

10.1 FIELD PERFORMANCE AND SYSTEM AUDITS

10.1.1 Internal Field Audit Responsibilities

Internal audits of field activities will be initiated at the discretion of the Project Manager and will include the review of sampling and field measurements. The audits will verify that all procedures are being followed. Internal field audits will be conducted periodically during the project. The audits will include an examination of the following:

- Field sampling records, screening results, and instrument operating records;
- Sample collection;
- Handling and packaging in compliance with procedures;
- Maintenance of QA procedures; and
- Chain of custody reports.

10.1.2 External Field Audit Responsibilities

External audits may be conducted by the Project Coordinator at any time during the field operations. These audits may or may not be announced and are at the discretion of the NYSDEC. The external field audits can include (but are not limited to) the following:

- Sampling equipment decontamination procedures;
- Sample bottle preparation procedures;
- Sampling procedures;
- Examination of HASPs;
- Procedures for verification of field duplicates; and
- Field screening practices.

10.2 LABORATORY PERFORMANCE AND SYSTEM AUDITS

10.2.1 Internal Laboratory Audit Responsibilities

The laboratory system audits are typically conducted by the Laboratory QA Officer or designee annually. The system audit will include an examination of laboratory documentation including sample receiving logs, sample storage, chain of custody procedures, sample preparation and analysis, and instrument operating records.

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At the conclusion of internal system audits, reports will be provided to the laboratory's operating divisions for appropriate comment and remedial/corrective action where necessary. Records of audits and corrective actions will be maintained by the Laboratory QA Officer.

10.2.2 External Laboratory Audit Responsibilities

External audits will be conducted as required by the NYSDOH or designee. External audits may include any of the following:

- Review of laboratory analytical procedures;
- Laboratory on-Site visits; and/or
- Submission of performance evaluation samples for analysis.

Failure of any of the above audit procedures can lead to laboratory de-certification. An audit may consist of but not be limited to:

- Sample receipt procedures;
- Custody, sample security, and log-in procedures;
- Review of instrument calibration logs;
- Review of QA procedures;
- Review of log books;
- Review of analytical SOPs; and/or
- Personnel interviews.

A review of a data package from samples recently analyzed by the laboratory can include (but not be limited to) the following:

- Comparison of resulting data to the SOP or method;
- Verification of initial and continuing calibrations within control limits;
- Verification of surrogate recoveries and instrument timing results;
- Review of extended quantitation reports for comparisons of library spectra to instrument spectra, where applicable; and/or
- Assurance that samples are run within holding times.

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11. Preventive Maintenance

11.1 FIELD INSTRUMENT PREVENTIVE MAINTENANCE

The field equipment preventive maintenance program is designed to ensure the effective completion of the sampling effort and to minimize equipment downtime. Program implementation is concentrated in three areas:

- Maintenance responsibilities;
- Maintenance schedules; and
- Inventory of critical spare parts and equipment.

The maintenance responsibilities for field equipment will be assigned to the task leaders in charge of specific field operations. Field personnel will be responsible for daily field checks and calibrations and for reporting any problems with the equipment. The maintenance schedule will follow the manufacturer's recommendations. In addition, the field personnel will be responsible for determining that an inventory of spare parts will be maintained with the field equipment. The inventory will primarily contain parts that are subject to frequent failure, have limited useful lifetimes, and/or cannot be obtained in a timely manner.

11.2 LABORATORY INSTRUMENT PREVENTIVE MAINTENANCE

Analytical instruments at the laboratory will undergo routine and/or preventive maintenance. The extent of the preventive maintenance will be a function of the complexity of the equipment.

Generally, annual preventive maintenance service will involve cleaning, adjusting, inspecting, and testing procedures designed to deduce instrument failure and/or extend useful instrument life. Between visits, routine operator maintenance and cleaning will be performed according to the manufacturer's specifications by laboratory personnel.

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12. Specific Routine Procedures Used to Assess Data Precision, Accuracy, and Completeness

12.1 FIELD MEASUREMENTS

Field-generated information will be reviewed by the Field Coordinator and typically includes evaluation of bound logbooks/forms, data entry, and calculation checks. Field data will be assessed by the Project Coordinator who will review the field results for compliance with the established QC criteria that are specified in Sections 7 and 8 of this QAPP. The accuracy of pH and specific conductance will be assessed using daily instrument calibration, calibration checks, and blank data. Accuracy will be measured by determining the percent recovery of calibration check standards. The precision of the pH and specific conductance measurements will be assessed on the basis of the reproducibility of duplicate readings of a field sample and will be measured by determining the RPD. The accuracy and precision of the soil VOC screening will be determined using duplicate readings of calibration checks. Field data completeness will be calculated using the following equation:

$$\text{Completeness} = \frac{\text{Valid (usable) Data Obtained}}{\text{Total Data Planned}} \text{ X } 100$$

12.2 LABORATORY DATA

Laboratory data will be assessed by the Haley & Aldrich of New York QA Officer or designee who will review the laboratory results for compliance with the established QC criteria that are specified in Sections 7 and 8 of this QAPP.

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13. Quality Assurance Reports

Critically important to the successful implementation of the QAPP is a reporting system that provides the means by which the program can be reviewed, problems identified, and programmatic changes made to improve the plan.

QA reports to management can include:

- Audit reports, internal and external audits with responses;
- Performance evaluation sample results, internal and external sources; and
- Daily QA/QC exception reports/corrective actions.

QA/QC corrective action reports will be prepared by the Haley & Aldrich of New York QA Officer when appropriate and presented to the project and/or laboratory management personnel so that performance criteria can be monitored for all analyses from each analytical department. The updated trend/QA charts prepared by the Laboratory QA Personnel will be distributed and reviewed by various levels of the laboratory management.

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References

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4. United States Environmental Protection Agency, 1999. EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations. EPA QA/R-5 Interim Final. November.

5. United States Environmental Protection Agency, 1991. Preparation Aids for the Development of Category I Quality Assurance Project Plans. U.S. EPA/600/8-91/003, Risk Reduction Engineering Laboratory, Office of Research and Development, Cincinnati, Ohio. February.

6. United States Environmental Protection Agency, 1992. Specifications and Guidance for Contaminant-Free Sample Containers. OSWER Directive 9240.0-05A. April.

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8. United States Environmental Protection Agency. Test Methods for Evaluating Solid Waste, Office of Solid Waste, U.S. EPA, SW-846, November 1986, with updates.

9. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-002.

10. United States Environmental Protection Agency. U.S. EPA National Functional Guidelines for Organic Data Review. U.S. EPA 540/R-2017-001.

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TABLE

TABLE I
SUMMARY OF ANALYSIS METHOD, PRESERVATION METHOD, HOLDING TIME, SAMPLE SIZE REQUIREMENTS, AND SAMPLE CONTAINERS
338-344 GRAND CONCOURSE
BRONX, NEW YORK

Analysis/Method[3]	Sample Type	Preservation	Holding Time	Volume/Weight	Container[4]
Volatile Organic Compounds/8260C	Soil	1 - 1 Vial MeOH/2 Vial Water, Cool, 4 ± 2 °C	14 days[1]	120 mL	3 - 40ml glass vials
Semi-Volatile Organic Compounds/8270D	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 8 oz Glass
Pesticides/8081B	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 4 oz Glass
Polychlorinated Biphenyls/8082A	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 4 oz Glass
Metals/6010D	Soil	Cool, 4 ± 2 °C	180 days	60 mL	1 - 4 oz Glass
Per- and Polyfluoroalkyl Substances (PFAS)/1633	Soil	Cool, 4 ± 2 °C	28 days extraction / 40 days analysis	To be determined by laboratory	1 - HDPE container
1,4-Dioxane/8270	Soil	Cool, 4 ± 2 °C	14 days extraction / 40 days analysis	250 mL	1 - 8 oz Glass
Volatile Organic Compounds/8260C	Groundwater	HCl, Cool, 4 ± 2 °C	14 days	120 mL	3 - 40 mL glass vials
Volatile Organic Compounds/TO-15	Soil Vapor	N/A	30 days	2.7 - 6 L	1 - 2.7 L Summa Canister

Notes:
1. Terracores and encores must be frozen within 48 hours of collection
2. Refer to text for additional information.
3. Equivalent method can be used.
4. Volume may vary by laboratory and/or equivalent method.
5. °C = degrees Celsius
6. HCl = hydrochloric acid
7. HDPE = high-density polyethylene
8. L = liter
9. MeOH = methanol
10. mL = milliliter

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ATTACHMENT A
Project Team Resumes



JAMES BELLEW

Senior Client Leader

EDUCATION

M.S., Environmental Geology, Queens College
B.S., Geology, Pre-Law, Environmental Science, Binghamton University

PROFESSIONAL SOCIETIES

American Council of Engineering Companies, Member, 2017
Urban Land Institute, Member, 2016
Business Council of New York, Member, 2018

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
30-Hour OSHA Construction Safety and Heath
8-hour OSHA Site Supervisor Certification
OSHA Confined Space Entry Training Certification
Erosion and Sediment Control, New York, No. 006925
USDOT/IATA Training on the Shipping and/or Transportation of Hazardous Materials

James Bellew is a senior client leader and geologist with experience in bedrock, soil and groundwater investigation and an emphasis on remedial design and implementation and will focus his time at Haley & Aldrich serving the Buildings and Infrastructure markets. His experience also includes completion of numerous Phase I Environmental Site Assessments and Phase II Environmental Site Investigations, development of conceptual site models, site characterization, environmental permitting, environmental compliance reports as well as remedial design and implementation. He has been involved with numerous projects within the New York State Superfund Program, New York State Brownfield Clean-up Program and New York City Office of Environmental Remediation E-Designation Program.

James has designed, estimated and managed large-scale remediation jobs in a variety of settings in the New York/New Jersey metropolitan area. He has performed construction management services on large scale projects requiring abatement of asbestos-containing materials and polychlorinated biphenyls (PCBs). He has direct experience developing and implementing operation, maintenance and monitoring programs for groundwater and soil remediation systems.

James has also worked on large scale remediation projects for Manufactured Gas Product (MGP) in the lower New York Region from former operations associated with National Grid and Con Edison. He has also designed, installed, operated and maintained remedial systems at retail petroleum stations for Hess Amerada, British Petroleum, Sunoco and Shell in addition to providing operation and maintenance programs for chemical injection and petroleum systems for New York State Department of Environmental Conservation (NYSDEC) Superfund and Environmental Protection Agency (EPA) Superfund Sites.

RELEVANT PROJECT EXPERIENCE

Development, Former BP Station, Elmhurst Queens, NY. James was responsible for the preparation of a full environmental impact statement with respect to a mixed-use development proposed in Elmhurst Queens. The work includes a full impact assessment of the proposed construction with respect to the neighborhood, evaluation of green/open spaces for the community and environmental site investigation and remediation services.

New York State Superfund Site, Former Nuhart Plastics Site, New York State Superfund Site, Brooklyn, NY. Senior Project Manager for a feasibility study and remedial planning for a former plasticizer facility with on- and off-site pollutant concerns. Project was a high-profile New York State Superfund Site that required compliance with the

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NYSDEC, the New York City Office of Environmental Remediation (NYCOER), and local regulatory agencies. Ongoing work was the operation and maintenance (O&M) activities related to two large groundwater plumes impacted by light non-aqueous liquids (LNAPL) with phthalates and trichloroethene (TCE), which extend downgradient of the Site. Completed the first remedial action design for Lot 57 with is enrolled in the NYCOER E-Designation program. The Site will include two additional developments within the former manufacturing building footprint.

New York State Brownfield Site, Former Delta Metals Site, Brooklyn, NY. Senior Project manager for the remedial investigation and remedial action design for the former Delta Metal Products Company. Project is under the New York State Brownfield Cleanup program as a Participant where TCE and tetrachloroethene (PCE) were encountered in soil and groundwater. James successfully delineated the vertical and lateral extents of the plumes which were identified as an upgradient, on-site and downgradient plume. Investigation results triggered the NYSDEC to utilize its call-out contract to perform a plume trackdown for the immediate area and identify additional Potentially Responsible Parties. The design for an Air Sparge Soil Vapor Extraction system has been accepted and the project is currently in construction.

Manufacturing-Industrial, Hess Amerada, Bogota and Edgewater, NJ. James provided construction management services for the demolition of two waterfront terminals, one each on the Hackensack and Hudson rivers. Demolition included oversight, planning and coordination of activities related to asbestos abatement, demolition of buildings, thirty holding tanks, piping structures, containment structures and storm water structures.

Manufacturing-Industrial, PQ Corporation, Northeastern United States. James designed and implemented a three phased program for handling PCBs containing materials on approximately 100 tank structures at large, active industrial sites, which included coating removal, encapsulation, demolition, and Toxic Substances Control Act (TSCA) remediation. He was responsible for development of the overall program, specifications, drawings, bid packages, construction oversight and project administration until closure. Program also included design and oversight of a new façade and roof upgrades completed concurrently to client operations.

Development, New York State Brownfield Site, Former Cascade Laundry, Brooklyn, NY. James was responsible for environmental and construction management services required to successfully navigate seven-building redevelopment project through the NYSDEC Brownfield Cleanup Program (BCP). Project included site investigation, design, and remediation for development of seven buildings within a 2-acre site in Brooklyn, New York. Remediation included excavation of approximately 40,000 cubic yards of soil, groundwater extraction and treatment, underground storage tank (UST) removal, design and installation of a Sub Slab Depressurization System (SSDS) and ex situ chemical oxidation of groundwater impacted by petroleum.

Development, New York City Brownfield Site - 520-534 West 29th Street, New York, NY. James was responsible for environmental site investigation and remediation activities required to successfully navigate the project through the New York City Office of Environmental Remediation's (NYCOER's) E-Designation and Voluntary Cleanup Programs. Project included demolition of for existing buildings and development of two separate mixed-use buildings.

Development, New York State Brownfield Site, BJ's Wholesale, Brooklyn, NY. James managed construction oversight activities at an 8-acre peninsula in Gravesend Bay being redeveloped by BJ's Wholesale Club (BJ's) into a "big-box" warehouse and parking garage, and a publicly accessible, waterfront open space. Implemented a comprehensive community air monitoring plan (CAMP), managed the design and installation of a passive sub slab depressurization system, and oversaw handling and off-site disposal of impacted material generated by BJ's (the Lessee for the subject site) during their foundation construction activities.

Development, New York State Brownfield Site, Coney Island, Brooklyn, NY. James provided environmental services during the rehabilitation and expansion of a 1970s-era mixed-use complex, which covers an area equivalent to three city block. He facilitated the BCP applications for two adjacent parcels within the complex impacted by historic dry-cleaning uses. Site investigations performed had documented the presence of PCE in soil gas and was delineated over three separate structural slabs in commercial and residential space utilizing a mobile laboratory. He designed and installed two sub-slab depressurization systems and prepared Remedial Investigation Work Plan which outlined work

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required to delineate the vertical and horizontal extent of the impacted soils, soil vapor and groundwater at both BCP sites. The system was designed with below slab suction pits, remote sensing vacuum monitoring points, and a variable frequency drive blower tied into the monitoring points for optimization and power savings.

Development, New York City Brownfield Site, Hospitals, Memorial Sloan Kettering Cancer Center (MSKCC), New York, NY. Project Manager for environmental remediation for this MSKCC development project. James was directly responsible for subsurface investigation and remediation activities, large MGP gas holder removal (from former Con Edison Operations), UST removal, daily status updates to the NYCOER, implementation of the CAMP and the management, handling, characterization, and off-site disposal of MGP impacted soil and dewatering fluids.

New York State Spill Remediation, Metropolitan Transportation Agency Bridges and Tunnels, New York, NY. James managed investigation for underground storage tank removal, excavation of 600 cubic yards of petroleum impacted soil, design and installation of a groundwater extraction and treatment system and post remediation samples. Implemented the In Situ Chemical Oxidation program for the injection of 54,000 gallons of 8 percent solution Fenton's Reagent and the O&M of the petroleum spill with respect to the Fenton's performance and the plume migration.

Various Public Schools, New York City School Construction Authority, New York, NY. James oversaw environmental remediation proposed for several school development sites, including PS 312, P.S. 281 and PS 27K. Assisted in the design and implementation of the remediation programs for the sites for petroleum spills, PCB TSCA contamination and hazardous lead hot spots.

Development, i.Park Edgewater, Edgewater, NJ. James designed and oversaw the environmental remediation on-site. Implemented the construction plan for remediation of arsenic, pitch- and PCB-impacted soil for excavation and off-site disposal of 20,000 tons. He managed the air monitoring system on-site which consisted of four permanent stations set upwind and downwind on-site for volatile organic compound (VOC) and particulate migration off-site. Also, James performed redesigns throughout the project to keep within the current schedule and budget.

Development, New York State Brownfield, Queens West, Long Island City, NY. Assistant Project Manager for oversight of the Environmental Remediation on-site. James implemented the construction plan for remediation of 20,000 cubic yards of LNAPL on the Site; he assisted in design and oversight of the In Situ Chemical Oxidation mixing on-site. The project was eventually developed into three large towers and a new school.

Manufactured Gas Plant, National Grid, Rockaway, NY. James aided in the design and implementation of the soil characterization plan for MGP impacted sands. After delineation of the contamination plume, helped draft work plans and site layout of the negative pressure tent. He performed and trained the on-site staff on the use of personal air monitoring equipment and provided assistance with design considerations on the installation of a waterloo barrier to be advanced to minus 80 feet below grade surface. James also helped with the design and permitting for the groundwater treatment system installed on-site.

Manufactured Gas Plant, Con Edison, New York, NY. Environmental engineer for responsible party for all environmental issues associated with this job, including transportation and disposal of 8,000 tons of MGP contaminated soil from former Con Edison operations. James scheduled weekly work for all civil and environmental tasks on the job. He was responsible for the design and installation of the dewatering treatment system with a daily discharge of 25,000 gallons per day of MGP-impacted water.

New York State Superfund Project, NYSDEC, Hicksville, NY. James performed O&M and reporting on the Site's Potassium Permanganate Injection system, which was on a timed system; maintained the system, troubleshooting problems and ensuring that the proper ratios were being injected. He performed the fieldwork for analysis and drafted interim reports for the project manager.

Retail Petroleum, New York State Spills Program, Hess Amerada, Various Locations, NY. James designed installed and maintained groundwater and soil vapor remedial systems at over 30 retail petroleum stations for Hess. Responsible for ensuring that the remedial systems were operating properly and performing repairs as necessary

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during operation. He performed groundwater and soil vapor monitoring and drafted O&M reports for the NYSDEC. Plume size ranged from within the retail station property with monitoring off-site impacts in local neighborhoods greater than a 3-mile radius.

Retail Petroleum, New York State Spills Program, British Petroleum, Various Locations, NY. James designed installed and maintained groundwater and soil vapor remedial systems at over 10 retail petroleum stations for BP. He was responsible for ensuring that the remedial systems were operating properly and performing repairs necessary during operation. He performed groundwater and soil vapor monitoring and drafted O&M reports for the NYSDEC. Plume size ranged from within the retail station property with monitoring off-site impacts in local neighborhoods greater than a 2-mile radius.

Development, 524 West 19th Street, New York, NY (Metal Shutter Homes). Responsible party for all environmental and civil issues associated with this job, including transportation and disposal of 5,000 tons of MGP contaminated soil from former Con Edison operations. James scheduled weekly work for all civil and environmental tasks on the job. He successfully redesigned the grout cutoff wall connections to the installed steel sheeting with a secant wall installed off-site. He provided technical guidance for drilling 4-foot diameter exploratory casings for subsurface anomalies. Additionally, James was responsible for the design and installation of the dewatering treatment system with a daily discharge of 25,000 gallons per day of MGP impacted water.

EPA Superfund Site, Newtown Creek Superfund, Brooklyn, NY. James aided in the design of the pump and treat system installed at Peerless Importers. He also aided in the design and installation of the harbor boom set up. Operated and Maintained groundwater/LNAPL extraction systems on-site and performed monthly site gauging as part of the O&M plan.

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MATTHEW J. LEVY

Senior Project Manager | Environmental Scientist

EDUCATION

BS, Biochemistry and Environmental Science, Muhlenberg College

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
8-Hour OSHA Hazardous Waste Worker Refresher Training (29 CFR 1910.120)
30-Hour OSHA Construction
NYSDEC Erosion and Sediment Control Inspector
American Red Cross First Aid Training and CPR Course

Matthew is a project manager with over 13 years of experience in soil, groundwater and soil vapor investigation, specializing in remedial design and implementation. During his time at Haley & Aldrich, Matthew's focus has been serving the environmental and real estate markets. He is experienced in Phase I Environmental Site Assessments, Phase II Environmental Site Investigations, site characterization, hazardous materials analysis, regulatory closure reports as well as remedial design and implementation.

Matthew has experience in composing site closure documentation including Remedial Closure Reports reviewed by the Office of Environmental Remediation as well as Final Engineering Reports reviewed by the New York State Department of Environmental Conservation. His background includes the development of and compliance with regulator-approved site management plans, overseeing the operation and maintenance of on-site engineering controls and ensuring the protection of human health and the environment.

Matthew has also worked on city rezoning proposals by performing work associated with and composing the Hazardous Materials Analysis chapter included in Final Environmental Impact Statements published by New York City Department of Planning. Analysis methods were performed in accordance with the City Environmental Quality Review (CEQR) guidelines for neighborhoods including East Harlem, Manhattan and Gowanus, Brooklyn as well as Industry City, Brooklyn.

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RELEVANT PROJECT EXPERIENCE

Redevelopment and Remediation

The Jay Group, Brownfield Cleanup Program Remediation Site, 101 Fleet Place, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former childcare center into a mixed-use commercial and residential high-rise. The Site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion (COC) for remedial work completed in the New York State Brownfield Cleanup Program (NYS BCP). OER Services included the development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a remedial investigation (RI), composition of a Remedial Investigation Report (RIR), development of a BCP Remedial Action Work Plan (RAWP), Remedial Oversight during the implementation of the RAWP, composition of the Site Management Plan (SMP) and composition of the Final Engineering Report (FER). The remedy included the excavation and disposal of hazardous waste, PFAS-contaminated soil, and the design and implementation of an active SSDS, achieving a conditional Track 1 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 401 West 207th Street, New York, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an Intermediate Remedial Measure Work Plan (IRMWP) composition of a RIR and Construction Completion Report (CCR), development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER. Services also included the management and closure of NYSDEC Spill Number 2304082. The remedy included the excavation and disposal of petroleum-contaminated soil, the treatment and removal of over 12 million gallons of groundwater, achieving a conditional Track 1 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 1885 Atlantic Avenue, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an IRMWP, completion of a supplemental RI to delineate deep VOC contamination in soil, composition of a RIR, supplemental RIR, and CCR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER and SMP. The remedy included in-situ chemical oxidation (ISCO) injections to treat groundwater contamination, the excavation and disposal of petroleum-contaminated soil, the management and closure of NYSDEC Spill Number 2306185, the installation of a soil vapor extraction (SVE) system do remediate deep VOC contamination, and the design and implementation of an active SSDS, achieving a Track 2 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 2864 Atlantic Avenue, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an IRMWP, composition of a RIR and CCR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER and SMP. The remedy included in-situ chemical oxidation (ISCO) injections to treat groundwater contamination and the excavation and disposal of hazardous waste, achieving a conditional Track 1 remedy.

The Jay Group, Brownfield Cleanup Program Remediation Site, 210 Greenpoint Avenue, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former gas station into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, development and implementation of an IRMWP, composition of a RIR and CCR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER. The remedy included the excavation and disposal of hazardous and petroleum-contaminated wastes, and the treatment and disposal of over 17 million gallons of groundwater, achieving a Track 1 remedy.

Manhattan Management, Brownfield Cleanup Program Remediation Site, Bedford Beverly Redevelopment, Brooklyn York, New York. Project manager for environmental consulting services during the redevelopment of a former auto service center, landmark commercial building and associated parking lots into a development renovating the landmarked building and redeveloping the surrounding space into four mixed-use commercial and residential buildings. The Site was remediated to a combination of Track 1 and Track 4 under the NYS BCP. NYS BCP services included completion of a RI, composition of a RIR, development of a BCP RAWP, Remedial Oversight during the implementation

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of the RAWP, composition of the FER and SMP, and coordination of the Certificate of Completion. The remedy included the management of non-hazardous and hazardous wastes, the design and oversight of ISCO and zero valent iron (ZVI) groundwater injections.

295 W Holdings LLC, 295-297 Wallabout Street, Brooklyn, New York. Project manager for environmental consulting services during the redevelopment of a former woodworking and plastics manufacturer into a mixed-use commercial and residential high-rise. The Site has been assigned NYC OER E-Designation status for hazardous materials, noise and air quality and has received its Certificate of Completion for remedial work completed in the NYS BCP. OER Services development of an Air Quality/Noise Remedial Action Plan and Installation Report. NYS BCP services included completion of a RI, composition of a RIR, development of a BCP RAWP, Remedial Oversight during the implementation of the RAWP, composition of the FER and SMP. The remedy included the excavation and disposal of non-hazardous and hazardous wastes, the design and oversight of *in situ* chemical reductant (ISCR) groundwater treatment, and the treatment and disposal of approximately 1 million gallons of groundwater, achieving a conditional Track 1 remedy.

Titan Equity Group, Hotel Redevelopment, Bronx, New York. Project manager for a hotel redevelopment in the south Bronx. The site has been assigned NYS OER E-Designation status for hazardous materials, noise, and air quality. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan and Air Quality/Noise Remedial Action Plan as per NYC OER requirements.

Private Developer, Mixed-Use Redevelopment, Queens, New York. Project manager for a mixed-use residential and commercial redevelopment in Queens being remediated under a consent order as an inactive hazardous waste facility for chlorinated VOC and petroleum contamination. Services include a review of historical reports, conducting a Limited Phase II ESI, development of a Site Characterization Work Plan, completion of the Site Characterization and development of an IRMWP. Remediation is ongoing.

Private Developer, Mixed-Use Redevelopment, Bronx, New York. Project manager for a mixed-use residential and commercial redevelopment in the Bronx being remediated under a consent order as an inactive hazardous waste facility for chlorinated VOC contamination within bedrock. Services include a review of historical reports, development of a Supplemental Site Characterization Work Plan including the installation of groundwater monitoring wells installed at various depths within bedrock to horizontally and vertically delineate CVOC contamination across the Site, completion of the Supplemental Site Characterization and development of an IRMWP. Remediation is ongoing.

Private Developer, Mixed-Use Redevelopment, Queens, New York. Project manager for a mixed-use residential and commercial redevelopment in Queens. The Site has been assigned New York City Office of Environmental Remediation (NYC OER) E-Designation status for hazardous materials. Services included completion of a remedial investigation, composition of a Remedial Investigation Report and development of Hazardous Material Remedial Action Work Plan as per NYC OER requirements.

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Thomas Giordano

Project Manager, Environmental Scientist

EDUCATION

B.S., Environmental Science and B.A., Geography, State University of New York College at Oneonta

ACTIVE CERTIFICATIONS

NYSDEC SWPPP Certification

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120)
30-Hour OSHA Construction
10-Hour OSHA Construction
10-Hour Site Safety Training (SST)

Thomas is an environmental scientist and project manager who brings 10 years of professional experience. He provides management and oversight of field staff involved in projects, and coordinates with contractors, clients, and regulatory agencies. Thomas's experience includes implementing remedial oversight programs, completing site investigations and due diligence inspections, and providing management and oversight of in situ soil and groundwater treatment remedial work. He also develops and implements remedial, site safety, and sampling work plans. As a project manager, he ensures environmental compliance and construction quality assurance. Thomas has served as a key member managing a range of projects from high-profile to smaller projects throughout his career.

RELEVANT PROJECT EXPERIENCE

One Wythe LLC, former Anglo Chemical and Rubber site, Brooklyn, New York (Vektor Consultants, LLC 2024).
Thomas served as the project manager for this New York State Department of Environmental Conservation (NYSDEC) Brownfield Cleanup Program (BCP) site, addressed 1-9 Wythe Avenue, during the closeout of the implementation of the Remedial Action Work Plan (RAWP). Management tasks included overseeing daily operations (oversight of non-hazardous and hazardous soil management and implementation of the Community Air Monitoring Program) and coordinating with the client, contractors, and NYSDEC during additional remedial excavation, as determined by NYSDEC, to ensure project Soil Cleanup Objectives (SCOs) were achieved prior to foundation installation. Thomas also prepared the draft Final Engineering Report and Site Management Plan outlining the work completed under the remedial action and proposed work during the post-construction monitoring phase. As of October 2024, the project was in the closeout phase of reporting.

Walton Street GC Developments LLC, Copyrite Plastic Sheets site, Bronx, New York (Vektor Consultants, LLC 2024).
Thomas served as the project manager for this NYSDEC BCP site, addressed 261-315 Grand Concourse and 270 Walton Avenue, upon issuance of the Decision Document to implement the Remedial Action Work Plan (RAWP). Management tasks included overseeing daily operations (oversight of soil management and implementation of the CAMP) and coordinating with the client, contractors, and NYSDEC for groundwater treatment injection well work within bedrock for a petroleum bulk storage (PBS) spill associated with the site. Thomas also prepared the groundwater treatment pilot test and groundwater treatment plans for implementation. As of October 2024, the project was in superstructure construction.

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Franklin Plaza II LLC, Consumers Park Brewery site, Brooklyn, New York (Vektor Consultants, LLC 2023-2024). Thomas served as the project manager for this NYSDEC BCP site, addressed 960 Franklin Avenue, including management of the remedial investigations (and associated reporting), waste characterization sampling, preparation of the RAWP, and assisting in the design of remedial technology treatability studies for elevated chlorinated solvent soil vapor and groundwater contamination. Thomas managed daily operations (including implementation of the CAMP during investigation phase work), subcontractors, and coordination with the NYSDEC. As of October 2024, the project was anticipating the issuance of the Decision Document for the start of the RAWP implementation.

2201 Union LLC, 450 Union Street site, Brooklyn, New York (Vektor Consultants, LLC 2023-2024). Thomas carried out project management duties for this NYSDEC BCP site, immediately adjacent to the Gowanus Canal, during the grossly contaminated material (GCM) investigation, remedial technology treatability studies, and implementation of remedial technology phases to address GCM encountered at the site. Thomas managed daily operations (including implementation of the CAMP and overseeing soil management), subcontractors, and coordination with the NYSDEC. Thomas also wrote the treatability study work plan, the in situ solidification/stabilization (ISS) pilot test, and full production treatability work plans. As of October 2024, the project was in the reporting phase for the completed ISS work and awaiting approval of the Excavation Work Plan for site redevelopment.

Various clients, NYCOER Volunteer Cleanup Program sites, Brooklyn and New York, New York (AKRF, Inc. / Vektor Consultants, LLC 2020-2024). Thomas served as the project manager for the implementation of the remedial investigations and remedial actions of various sites within the NYC Mayor's Office of Environmental Remediation (NYCOER) during earthwork activities and foundation construction. Management tasks included oversight of soil management, outgoing waste tracking (both hazardous and non-hazardous), implementation of CAMP, overseeing of remedial technologies (including lead stabilization), and preparation of reports for submittal to OER. Thomas authored closure reports and compiled documentation for closure for each of the projects and assisted clients with grant applications if eligible.

Gilbane Building Company, Department of Sanitation New York (DSNY) Staten Island District 1/3 Garage, Staten Island, New York (AKRF, Inc. 2021-2023). Thomas carried out project management and field duties including daily oversight activities, coordination with field staff, compliance reporting, data analysis, and submittal review. As the construction quality assurance managers, AKRF oversaw and conducted inspections of work to assess compliance with the design criteria, contract drawings, documents, and technical specifications (including geotechnical) under the NYSDEC Fresh Kills Landfill Order of Consent. Work included management of exports, imports, site cap material, implementation of a strict CAMP, overseeing inspections of the stormwater pollution prevention plan (SWPPP), ensuring testing conforms to standardized procedures, and reporting directly to the NYSDEC project manager. Thomas ensured fieldwork and inspections of work to assess compliance were within the design criteria and with the principle regulatory framework under which all landfill systems were designed, installed, and continued to operate.

CIM Group, 85 Jay Street (Front and York), Brooklyn, New York (AKRF, Inc. 2018-2019). Thomas served as the assistant project manager and field lead for implementation of the Remedial Action Work Plan during earthwork activities and foundation construction. Environmental oversight monitoring included overseeing soil management and outgoing waste tracking, implementation of the CAMP, collection of water and soil samples, overseeing in situ lead stabilization, and coordinating with the NYSDEC project manager. The 1.1 million-square-foot redevelopment was awarded the Big Apple Brownfield Award for

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Environmental Protection by the New York City Brownfield Partnership in 2020 for the successful remediation of the former industrial site.

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BRIAN FITZPATRICK, CHMM

Corporate Director, Health and Safety

EDUCATION

M.P.A., Environmental Policy, Syracuse University
B.S., Environmental Science, University of Massachusetts-Amherst
A.S., Chemistry, Valley Forge Military Junior College
Commissioned Officer, United States Army

CERTIFICATIONS

Certified Hazardous Materials Manager (Reg. No. 13454)
Certified Department of Transportation Shipper
Certified International Air Transport Authority Shipper

PROFESSIONAL SOCIETIES

Alliance of Hazardous Materials Professionals
Academy of Certified Hazardous Materials Managers, New England Chapter

SPECIAL STUDIES AND COURSES

Department of Transportation
International Air Transport Authority
Incident Commander
Confined Space Entry and Rescue
Radiation Safety Officer
RCRA Hazardous Waste
Massachusetts Industrial Waste Water Operator Grade 2I (expired)

AWARDS

Presidents Club Award (one million hours worked without a recordable injury, Cabot Corporation
Chancellors Award for Excellence, Syracuse University

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Brian has over 25 years of experience in developing, implementing, and managing a wide range of environmental, health, and safety (EH&S) solutions for a variety of clients. Brian has served as the Health and Safety Manager and Incident Commander at several research and development sites and has managed extensive programs to maintain and clean contaminated sites under Federal and State regulatory programs. He has provided expertise in managing EH&S programs as a consultant, and has actively developed, implemented, and managed these programs as an EH&S professional for various industries.

Brian is currently working as the Chief Health and Safety Officer for Haley & Aldrich, Inc. He, and his staff, are involved in every project Haley & Aldrich, Inc. undertakes. Brian is involved on several projects, directly overseeing the health and safety on the project site of our staff, our contractors, and the public. Brian also acts as support for our on-site health and safety staff on other larger construction and remediation projects.

Through Brian's leadership our safety culture and focus extend from the top of our organization to each and every Haley & Aldrich employee as well as subconsultants and subcontractors. Utilizing a Behavior Based Safety approach, Haley & Aldrich expects every project team member to play an important role in making our projects safe and has given authority to every Haley & Aldrich employee, subconsultant, and subcontractor to stop any activity at any time for health or safety concerns. Our record illustrates that our hard work is paying off. The company has gone 4 years without a lost time injury, and our TRIR and EMR have consistently improved each of the last 3 years.

RELEVANT PROJECT EXPERIENCE

Haley & Aldrich, Inc., Burlington, Massachusetts. As Chief Health and Safety Officer, Brian has led and facilitated the development and implementation of corporate health and safety (H&S) improvement plans to enhance compliance and improve H&S performance. In Brian's time with Haley & Aldrich, Inc., the company has realized dramatic improvement on H&S goals and in Key Performance Indicators. Brian is responsible for developing a risk competence culture, where our staff are empowered to look for and engage to address risk before anyone is injured. Brian oversees the development, implementation and continuous improvement of all H&S programs for the company. Additional responsibilities include:

- Developing a safety culture through incident reporting, root cause analysis, behavior-based safety, hazard recognition and risk assessment, communication, and developing leaders;
- Monitoring proposed and existing SH&E regulations and legislation to determine their impact on operations and to ensure continued compliance;
- Overseeing the safety, industrial hygiene, and toxicology programs for over 600 staff members engaged in remediation, construction, health and safety, consulting, and general office work across 28 offices in the United States and on assignment to international project sites;
- Continuously seeks to improve H&S performance as measured by the OSHA Incident Rating (IR) and Worker's Compensation Experience Modification Rating (EMR), as well as Leading Indicators developed with the management team; and
- Participating in the corporate audit program as an auditor or lead auditor;

Energy Client, California. As Chief Health and Safety Officer, Brian led and facilitated the Alliance Partnership Safety Council in 2017, is still an active contributor to the council, and hosts routine contractor safety forums for the client. Brian is actively involved in the development and implementation of program safety, health, and environmental (SH&E) plans to ensure safe operations on project sites. Brian developed permits and Health and Safety Plans for large projects and routinely audits the site safety. Additional responsibilities include:

- Driving reporting and behavior-based safety initiatives to support our internal safety culture and developing monthly summary reports to illustrate performance to our client.
- Develop, assess and continuously improve site safety plans and practices, including specific safety protocols for working safely over and around water.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits sites to ensure compliance with our internal policies and client-specific requirements.

Energy Client, Ohio. As Chief Health and Safety Officer, Brian supports the project team in developing and executing client and project specific health and safety measures, such as a site specific Health and Safety Plan, Job Hazard Analyses, Industrial Hygiene program, and site specific training. Brian also routinely visits the site to assess current practices and condition and to ensure continuous improvement. Additional responsibilities include:

- Develop, assess, and continuously improve site safety plans and practices, including specific safety protocols to comply with supplemental EH&S requirements such as the Duke Health and Safety Handbook, Environmental Supplemental, and EHS Keys to Life.
- Develop, assess, and continuously improve site safety plans and practices to address the risks associated with the work being performed on site, as well as the environmental conditions and simultaneous operations, including trenching and excavation, hot work, work over and near water, heavy equipment, HAZWOPER, etc.
- Worked as an extension of the client's organization to provide assurance that the remedy was completed safely and consistent with client-specific requirements.
- Support on-site safety personnel in ensuring the health and safety of the general public, our staff, and our sub-contracted employees.
- Audits and visits site to ensure compliance with our internal policies and client-specific requirements.

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BRIAN A. FERGUSON

Senior Engineer

EDUCATION

M. S. Geotechnical Engineering, Tufts University, Medford, Massachusetts; 2012
B. S. Civil Engineering, State University of New York - Environmental, Science, and Forestry, Syracuse, New York; 2000
Ass. Science Degree in Applied Science and Technology (Nuclear Engineering), Thomas A. Edison State College, Trenton, New Jersey; 2000

PROFESSIONAL SOCIETIES

Order of the Engineer – 2000
Boston Society of Civil Engineers (BSCE)
American Society of Civil Engineers (ASCE)

SPECIAL STUDIES AND COURSES

American Concrete Institute – Certified Field Technician Certified Grade 1
Radiation Safety and Operations of Nuclear Testing Equipment – Troxler
40-Hour OSHA Hazardous Waste Operations Training (+ 8-Hour annual refresher)
10-Hour OSHA Construction training
Confined Space Entry Training
16-Hour Asbestos Operations and Maintenance

Mr. Ferguson has over six years of experience serving as project engineer on a variety of real estate development projects. His project experience has included monitoring field investigations and performing construction oversight, performing due diligence and engineering analyses, performing geotechnical analyses and developing geotechnical recommendations, and preparing geotechnical reports and project specifications.

In addition to providing engineering design support, Mr. Ferguson has managed and participated in a number of field service activities. Field work has included construction monitoring and documentation of contractors' deep and shallow foundation related construction, including slurry walls, caissons, pile driving, pile cap installation, earthwork, backfilling and compaction, installation of soldier pile and wood lagging support systems, installation of tie backs, reading inclinometers, conducting in-place field unit weight tests, tie-back load testing, seismograph installation, monitoring, and evaluating, and preparation of footing bearing surfaces. Other responsibilities have included site development activities, including placement of utilities and subgrade preparation for roads; observations and testing to determine that work is completed in compliance with contract documents; on-site soil management; sampling of soil and groundwater for chemical laboratory testing and conducting in situ field screening; maintenance of job records including pile driving logs, results of field density tests, records of caisson and footing installations; preparation of daily field reports; in contact with key personnel; and resolution of field related problems.

RELEVANT PROJECT EXPERIENCE

St. Elizabeths Hostpital – West Campus Forensic Evaluations, Washington, D.C. Project Engineer for forensic evaluations on the adaptive reuse of former hospital buildings. Responsibilities included coordination of a field exploration program, including test borings and test pits to obtain subsurface information for project design and construction, overseeing multiple field personnel, subcontractors, assisting with project management, reviewing subcontractors invoices, reviewing and summarizing subsurface data and writing data reports.

TUFTS University, New Central Energy Plant, Medford, MA. Project engineer for a new Central Energy Plant that will house new co-generation steam boilers, centralized chilled water and electrical transformer switchgear that is planned to occupy approximately 20,000 square feet across two or three levels. Responsibilities included coordination of construction monitoring, observing SOE and footing installation, assisting with project management,

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reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Lahey Hospital and Medical Center – Stilts Infill Project, Burlington, MA Project Engineer for an addition to the existing Stilts building on the Lahey campus. Responsibilities included coordination and overseeing geotechnical and environmental subsurface investigations, coordination of construction monitoring, observing footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Gloucester Beauport Hotel, Gloucester, MA Project engineer for a four story hotel with a seawall constructed adjacent to tidal beach. Responsibilities included coordination and overseeing geotechnical and environmental subsurface investigations, coordination of construction monitoring, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings, design and implementation of a sub-slab gas mitigation system.

275 Wyman Street, New Office Building, Waltham, MA. Project engineer for a new office building and parking garage founded on a shallow foundation system. Responsibilities included preparing proposals, assisting with management and planning of a subsurface investigation program, summarizing subsurface data and reviewing geotechnical test boring logs, coordination of construction monitoring and instrumentation monitoring programs, reviewing weekly field construction reports, reviewing and responding to specialty geotechnical design submittals and RFIs by others and attending project meetings.

Suffolk University - 20 Somerset Street, Boston, MA Project engineer for design of 8-story academic building with two levels of below grade finished space. Responsibilities included coordination of construction monitoring, observing SOE and footing installation, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Worcester State University, New Student Housing, Worcester, MA Project engineer for design and construction of a 7-story residence/dining hall with a single level basement and a major site retaining wall structure. Responsibilities included overseeing geotechnical subsurface investigations, provided foundation recommendations and specifications, and prepared a retaining wall contract document. Responsibilities included coordination of construction monitoring, excavation and construction of footings, and soil reuse and management, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

University of Massachusetts Boston, General Academic Building No.1, Boston, MA. Project engineer responsible for assisting project manager in preliminary foundation engineering recommendations and construction considerations for a new academic building on a part of Columbia Point, a historic landfill area. Assisted in design phase services that included preparing foundation support design recommendations including the use of high allowable stresses for 190-ft long end-bearing H-piles and application of Slickcoat coating to address downdrag concerns and reduce foundation costs.

Waltham Watch Factory, Waltham, MA project engineer for redevelopment of former watch factory. Responsibilities included construction oversight of new precast parking garage, utilitiy upgrades, soil remediation and management, installation of gas mitigation systems, assisting with project management, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

Massachusetts Green High Performance Computing Center, Holyoke, MA. Project engineer for 60,000 sq. ft high level computing center and associated support utilities. Redevelopment of the site included recycling 50,000 cy of construction debris into the site fills at this historic site along the Connecticut River. Responsibilities included coordinating geotechnical and environmental field investigations, coordination of construction monitoring, seismic analysis, reviewing weekly field construction reports, reviewing and responding to geotechnical design submittals and attending project meetings.

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The Shops at Riverwood, Hyde Park, MA. The project consisted of the redevelopment of a colonial era paper mill. The multi-building complex was demolished and the concrete and brick from the previous buildings were recycled. The project involved crushing 50,000 cy of brick and concrete and placement of excavated soils and recycled brick and concrete as compacted fill materials to support proposed buildings, pavement areas, and achieve 5 to 9 ft. raises in grade. Field Representative was responsible for management and reuse of brick and concrete stockpiles, in-place density testing, coordination of test pits, installation of soldier pile and versa-lok walls, and backfilling of underground vaults. Remedial activities included: excavation of 5,000 cy of petroleum contaminated soils, on-site cement batching in a pug mill, and placement of compacted recycled materials in roadway areas; delineation, excavation and off-site disposal of TSCA-regulated PCB contaminated soils associated with historical Askarel transformers and dioxin-contaminated soils associated with historical bleaching operations; and disposition of 1,000 tons of paper mill sludge encountered within an abandoned granite-walled sluiceway structure. In addition, assisted with weekly project meetings, maintaining a record of material reuse, and providing weekly field reports.

Harvard Law School, Cambridge, MA. The Harvard Law School project is located on Massachusetts Avenue in Cambridge. The project consisted of a multistory building above ground with 5 levels below ground for a parking garage. Field Representative was responsible for overseeing the installation of slurry walls into bedrock and LBEs with three installation rigs while monitoring the removal of urban fill and transfer to several different receiving facilities from another portion of the site. The slurry walls were constructed into bedrock. Other Field Representative activities were: testing of the slurry, management of the excavated soils, and record keeping of the Contractor's obstruction and down time of the equipment. In addition, assisted with weekly project meetings, maintaining a record of obstruction and machine time, and providing weekly field reports.

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KATHERINE R. MILLER

Project Manager

EDUCATION

B.S., Chemistry, University of Arizona

SPECIAL STUDIES AND COURSES

40-Hour OSHA Hazardous Waste Operations and Emergency Response Training (29 CFR 1910.120 and 40 CFR 265.16)
8-Hour OSHA Refresher Training (29 CFR 1910.120)
Level IV Data Validation Training

AWARDS

Pinnacle Award, 2009
Pathfinder Award, 2014

In her 10 years at Haley & Aldrich, Katherine has worked on soil and groundwater environmental investigations and the preparation of environmental reports for private, industrial, and government-based project clients. She is a qualified Data Validator capable of performing various levels of validation on laboratory water quality data according to U.S. Environmental Protection Agency (EPA) National Functional Guidelines and to U.S. Department of Energy radiochemical guidelines. She also has experience designing and maintaining databases for project-specific needs.

Project management responsibilities for a $1.5 million per year stormwater project include preparation of subcontractor bids and contracts; preparation of cost estimates, proposals, and reports; coordination of field testing programs; and interpretation of chemical testing results. She has interacted with local regulatory agencies.

RELEVANT PROJECT EXPERIENCE

Confidential Aerospace Manufacturer, Groundwater Monitoring, Western U.S. Katherine served as project manager for the comprehensive stormwater management program. Responsibilities included project finance management and data management including quality assurance/quality control (QA/QC) and interpretation of chemical testing results. Evaluated QA/QC of groundwater quality data, prepared reports and managed data for the site. Performed data validation of quarterly water quality data from over 300 locations according to EPA National Functional Guidelines and to DOE radiochemical guidelines over a six-year period. Also, responsible for updating and maintaining the integrity of over 200,000 records during that time period. Assisted with management of sampling, analysis, and reporting of constituents of concern, ensured compliance with post-closure permit monitoring and reporting requirements, Data Management Plan, QAPP, and Environmental Data Management System, and ensured and maintained 100% compliance with the QAPP and Data Management Plan. Additionally, prepared groundwater data summaries for proposed extraction wells including comparisons to site NPDES outfall limits in support of Groundwater Interim Measures planning.

Asarco Hayden Plant Site, Hayden, Arizona. Katherine assisted with field preparation, QA/QC of analytical data, and data validation as part of the Remedial Investigation/Feasibility Work Plan including soil, sediment, air, process water, surface water, and stormwater.

Former MGP Site, California. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation for the investigation of three large former MGP sites in an urban, residential setting; includes over 200 residential properties.

General Manufacturing, Leitchfield, Kentucky. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation for a soil and groundwater RCRA site. Groundwater monitoring is conducted annually at more than 50 locations for volatile organic compounds (VOCs), including 1,4-dioxane and semi-volatile organic compound (SVOCs).

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Skyworks Solutions, Inc., Newbury Park, California. Katherine assisted with report preparation, QA/QC of soil and/or groundwater quality data, and data validation at groundwater remediation site. She monitored for VOCs, including 1,4-dioxane, and inorganic chemicals, including hexavalent chromium.

Teledyne Scientific Company, Thousand Oaks, California. Katherine assisted with report preparation for this groundwater assessment site. Monitored natural attenuation has been instituted as the long-term site remedy.

Port of Redwood City, Permitting and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Kiewit Infrastructure West, Sediment Quality Study, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Aeolian Yacht Harbor, Permitting, Eel Grass Conservation and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

Marin County, Paradise Cay Permitting and Sediment Characterization, California. Katherine assisted with report preparation, QA/QC of sampling data, and data validation.

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APPENDIX J
Proposed Remedial Action Project Schedule

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APPENDIX J
REMEDIAL ACTION PROJECT SCHEDULE
338-344 GRAND CONCOURSE REDEVELOPMENT
BRONX, NEW YORK
BCP PROJECT C203188

PROJECT SCHEDULE		2025			2026											
Task	**Description**	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
1	Design, Investigation and Permitting															
2	NYSDEC RAWP Review															
3	45-Day Public Comment Period															
4	Implementation of RAWP															
6	Preparation of FER and SMP (if required)															
7	SVI Evaluation															
8	NYSDEC/NYSDOH Review of FER, SMP (if required), SVI Evaluation															
9	Issuance of COC															

Notes:

1. Schedule is estimated and subject to change.
2. Implementation of RAWP does not include completion of building construction
3. NYSDEC - New York State Department of Environmental Conservation
4. NYSDOH - New York State Department of Health
5. BCP - Brownfield Cleanup Program
6. RAWP - Remedial Action Work Plan
7. FER - Final Engineering Report
8. SMP - Site Management Plan
10. SVI - Soil Vapor Intrusion
9. COC - Certificate of Completion
10. COC issuance estimated for December 2026

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APPENDIX K
Climate Screening Checklist

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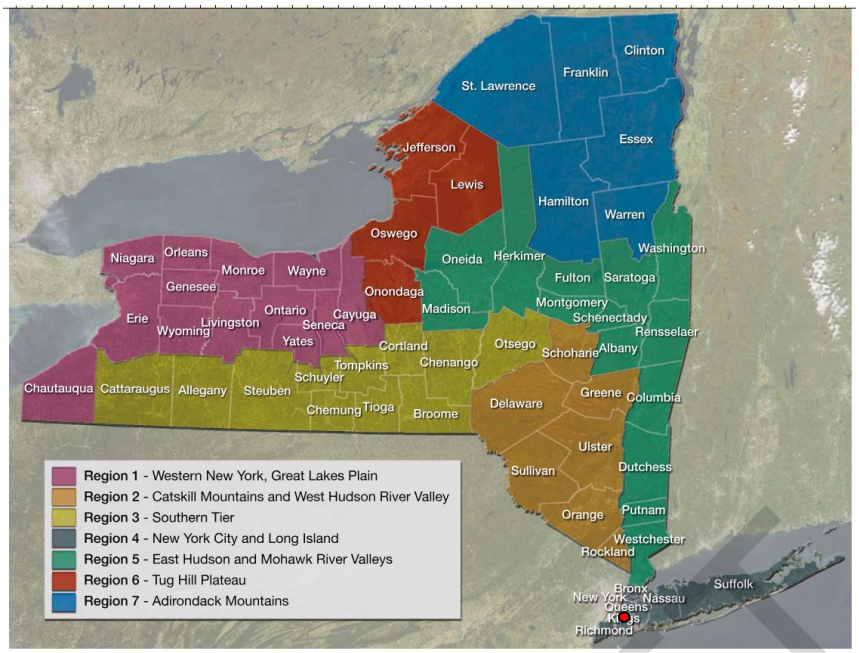
Climate Screening Checklist

Background Information

- Project Manager: Matthew Levy
- Site Name: 338-344 Grand Concourse Redevelopment Site
- Site Number: C203188
- Site Location: 338-344 Grand Concourse, Bronx, New York
- Site Elevation (average above sea level): Approximately 32 feet above sea level (Google Earth)



- ClimAID Region (Responding Climate Change in New York State (ClimAID) - NYSERDA): Region 4 – New York City and Long Island

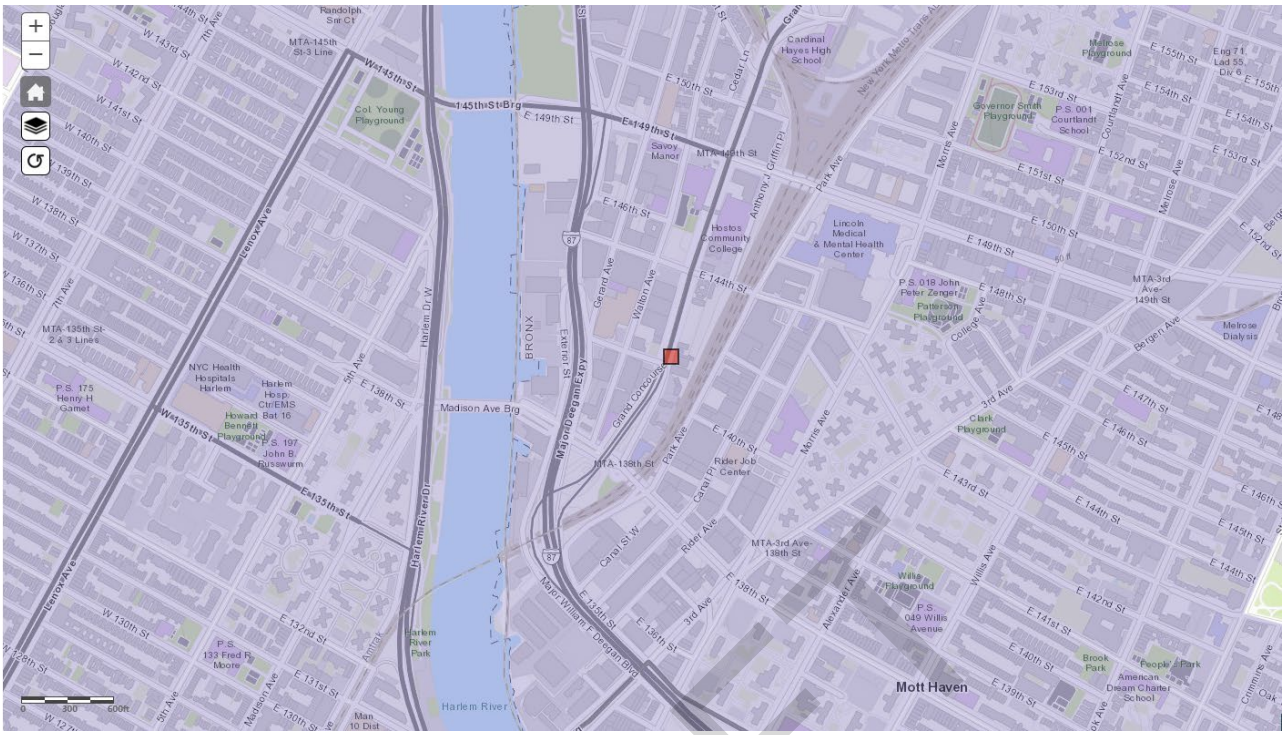


- Remedial Stage/Site Classification: Remedial Action
- Contamination - Media Impacted/ Contaminants of Concern: Soil –SVOCs, specifically PAHs, and metals. Soil vapor - petroleum-related VOCs. Groundwater - SVOCs and metals.
- Proposed/Current Remedy: remedy will consist of excavation, stockpiling, off-Site transport, and disposal of contaminated historical fill material and contaminated soil below the historic fill interval Site-wide that exceeded the Unrestricted Use Soil Cleanup Objectives (UUSCOs), and removal of underground storage tanks (USTs) and/or associated appurtenances, if encountered, and decommissioning and off-Site disposal.
- What is the predicted timeframe of the remedy? Will components of the remedy still be in place in 10+ years? Remedy is anticipated to be completed in approximately one year. If required, engineering controls will remain in place and be maintained or replaced as needed for the duration of the requirement under future Site management.
- Is the site in proximity to any sensitive receptors? (e.g., wetlands, waterbodies, residential properties, hospitals, schools, drinking water supplies, etc.) There are two sensitive receptors located within a 500-foot radius of the Site: Community School for Social Justice (listed as a school) and Family Life Academy Charter School III (listed as a school).

Is the site in a disadvantaged community (DAC) or potential environmental justice area (PEJA) (Use DECinfolocator: DECinfo Locator (ny.gov))?

X Yes ☐ No

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If the site is in a DAC or PEJA, will climate impacts be magnified? If yes, list how and why.

☐**Yes X No**

Should thresholds of concern be lowered to account for magnification of impacts? If yes, indicate how lower thresholds will be used in the screening.

☐**Yes X No**

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Climate Screening Table*

Potential Climate Hazards	**Relevant to the Site Location** (Y/N/NA)[1]	**Projected Change** (Resilience Analysis and Planning Tool [RAPT]/arcgis.com)[3]	**Potential to Impact Remedy** (Y/N)	**Is remedy/site already resilient?** (Y/N)[4]
Precipitation	Potentially	N/A	N/A	N/A
Temperature[2] (Extreme Heat or Cold Weather Impacts)	Y	Y	Y	Future remedy will evaluate
Sea Level Rise	N	N/A	N/A	N/A
Flooding	N	N/A	N/A	N/A
Storm Surge	N	N/A	N/A	N/A
Wildfire	N	N/A	N/A	N/A
Drought	N	N/A	N/A	N/A
Storm Severity	Y	N/A	Y	Future remedy will evaluate
Landslides	N	N/A	N/A	N/A
Other Hazards:	N/A	N/A	N/A	N/A

* Links to potential data sources can be found on the following page

[1] If the first column is N --> The rest of the columns will be N/A, the hazard is not applicable to the site.

[2] Extreme Heat: periods of three or more days above 90°F- Extreme Cold: Individual days with minimum temperatures at or below 0 degrees F (NYSERDA ClimAID report)

[3] List the projected change in specific terms or units e.g. inches of rainfall, feet of sea level rise, etc.

[4] If final column is Y, provide reasoning, if the final column is N --> Climate Vulnerability Assessment (CVA) required.

Required Next Steps (If no further action is required, provide justification):

Conduct severe weather storm inspections during the active remedy, as necessary.

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Potential Data Sources (not an exhaustive list)- from Superfund Climate Resilience: Vulnerability Assessment | US EPA

NYSERDA ClimAID report- Responding Climate Change in New York State (ClimAID) - NYSERDA

FEMA- National Flood Hazard Layer | FEMA.gov

NOAA- National Storm Surge Risk Maps - Version 3 (noaa.gov)

Department of Agriculture Forest Service Wildfire Risk to Communities

EPA Climate Change Indicators in the United States

EPA Climate Resilience Evaluation & Awareness Tool (CREAT) | U.S. Climate Resilience Toolkit

EPA National Stormwater Calculator

National Integrated Drought Information System U.S. Drought Portal

National Interagency Coordination Center National Interagency Fire Center

National Oceanic and Atmospheric Administration Coastal Services Digital Coast

- Resources to help communities assess coastal hazards, such as the Sea Level Rise Viewer for visualizing community-level impacts of flooding or sea level rise and downloadable LIDAR data

National Oceanic and Atmospheric Administration National Centers for Environmental Information website

National Oceanic and Atmospheric Administration Sea Level Trends

National Weather Service Climate Prediction Center

National Weather Service National Hurricane Center

National Weather Service Sea, Lake, and Overland Surges from Hurricanes (SLOSH)

National Weather Service Storm Surge Hazard Maps

U.S. Federal Government Climate Resilience Toolkit: The Climate Explorer

U.S. Army Corps of Engineers Climate Preparedness and Resilience

U.S. Geological Survey Coastal Change Hazards Portal

U.S. Geological Survey Landslide Hazards Program

U.S. Geological Survey National Ground-water Monitoring Network Data Portal

U.S. Geological Survey National Climate Change Viewer

U.S. Geological Survey National Water Dashboard

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U.S. Geological Survey StreamStats

NYS Department of State- Assess | Department of State (ny.gov)

NYSERDA NY Costal Floodplain Mapper- Home Page (ny.gov)

NYSDEC Coastal Erosion Hazards- Coastal Areas Regulated By The CEHA Permit Program - NYDEC

NYSDOH Heat Index- health.ny.gov/environmental/weather/vulnerability_index/county_maps.htm

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APPENDIX L
NYSDOH Generic CAMP

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Appendix 1A
New York State Department of Health
Generic Community Air Monitoring Plan

Overview

A Community Air Monitoring Plan (CAMP) requires real-time monitoring for volatile organic compounds (VOCs) and particulates (i.e., dust) at the downwind perimeter of each designated work area when certain activities are in progress at contaminated sites. The CAMP is not intended for use in establishing action levels for worker respiratory protection. Rather, its intent is to provide a measure of protection for the downwind community (i.e., off-site receptors including residences and businesses and on-site workers not directly involved with the subject work activities) from potential airborne contaminant releases as a direct result of investigative and remedial work activities. The action levels specified herein require increased monitoring, corrective actions to abate emissions, and/or work shutdown. Additionally, the CAMP helps to confirm that work activities did not spread contamination off-site through the air.

The generic CAMP presented below will be sufficient to cover many, if not most, sites. Specific requirements should be reviewed for each situation in consultation with NYSDOH to ensure proper applicability. In some cases, a separate site-specific CAMP or supplement may be required. Depending upon the nature of contamination, chemical- specific monitoring with appropriately-sensitive methods may be required. Depending upon the proximity of potentially exposed individuals, more stringent monitoring or response levels than those presented below may be required. Special requirements will be necessary for work within 20 feet of potentially exposed individuals or structures and for indoor work with co-located residences or facilities. These requirements should be determined in consultation with NYSDOH.

Reliance on the CAMP should not preclude simple, common-sense measures to keep VOCs, dust, and odors at a minimum around the work areas.

Community Air Monitoring Plan

Depending upon the nature of known or potential contaminants at each site, real-time air monitoring for VOCs and/or particulate levels at the perimeter of the exclusion zone or work area will be necessary. Most sites will involve VOC and particulate monitoring; sites known to be contaminated with heavy metals alone may only require particulate monitoring. If radiological contamination is a concern, additional monitoring requirements may be necessary per consultation with appropriate DEC/NYSDOH staff.

Continuous monitoring will be required for all ground intrusive activities and during the demolition of contaminated or potentially contaminated structures. Ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pitting or trenching, and the installation of soil borings or monitoring wells.

Periodic monitoring for VOCs will be required during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. "Periodic" monitoring during sample collection might reasonably consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or

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overturning soil, monitoring during well baling/purging, and taking a reading prior to leaving a sample location. In some instances, depending upon the proximity of potentially exposed individuals, continuous monitoring may be required during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence.

VOC Monitoring, Response Levels, and Actions

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

1. If the ambient air concentration of total organic vapors at the downwind perimeter of the work area or exclusion zone exceeds 5 parts per million (ppm) above background for the 15-minute average, work activities must be temporarily halted and monitoring continued. If the total organic vapor level readily decreases (per instantaneous readings) below 5 ppm over background, work activities can resume with continued monitoring.

2. If total organic vapor levels at the downwind perimeter of the work area or exclusion zone persist at levels in excess of 5 ppm over background but less than 25 ppm, work activities must be halted, the source of vapors identified, corrective actions taken to abate emissions, and monitoring continued. After these steps, work activities can resume provided that the total organic vapor level 200 feet downwind of the exclusion zone or half the distance to the nearest potential receptor or residential/commercial structure, whichever is less - but in no case less than 20 feet, is below 5 ppm over background for the 15-minute average.

3. If the organic vapor level is above 25 ppm at the perimeter of the work area, activities must be shutdown.

4. All 15-minute readings must be recorded and be available for State (DEC and NYSDOH) personnel to review. Instantaneous readings, if any, used for decision purposes should also be recorded.

Particulate Monitoring, Response Levels, and Actions

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

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1. If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m^3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques must be employed. Work may continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m^3 above the upwind level and provided that no visible dust is migrating from the work area.

2. If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m^3 above the upwind level, work must be stopped and a re-evaluation of activities initiated. Work can resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m^3 of the upwind level and in preventing visible dust migration.

3. All readings must be recorded and be available for State (DEC and NYSDOH) and County Health personnel to review.

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APPENDIX 1B

FUGITIVE DUST AND PARTICULATE MONITORING FROM DER-10 TECHNICAL GUIDANCE FOR SITE INVESTIGATIONS AND REMEDIATION

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Appendix 1B
Fugitive Dust and Particulate Monitoring

A program for suppressing fugitive dust and particulate matter monitoring at hazardous waste sites is a responsibility on the remedial party performing the work. These procedures must be incorporated into appropriate intrusive work plans. The following fugitive dust suppression and particulate monitoring program should be employed at sites during construction and other intrusive activities which warrant its use:

1. Reasonable fugitive dust suppression techniques must be employed during all site activities which may generate fugitive dust.

2. Particulate monitoring must be employed during the handling of waste or contaminated soil or when activities on site may generate fugitive dust from exposed waste or contaminated soil. Remedial activities may also include the excavation, grading, or placement of clean fill. These control measures should not be considered necessary for these activities.

3. Particulate monitoring must be performed using real-time particulate monitors and shall monitor particulate matter less than ten microns (PM10) with the following minimum performance standards:

(a) Objects to be measured: Dust, mists or aerosols;
(b) Measurement Ranges: 0.001 to 400 mg/m3 (1 to 400,000 :ug/m3);
(c) Precision (2-sigma) at constant temperature: +/- 10 :g/m3 for one second averaging; and +/- 1.5 g/m3 for sixty second averaging;
(d) Accuracy: +/- 5% of reading +/- precision (Referred to gravimetric calibration with SAE fine test dust (mmd= 2 to 3 :m, g= 2.5, as aerosolized);
(e) Resolution: 0.1% of reading or 1g/m3, whichever is larger;
(f) Particle Size Range of Maximum Response: 0.1-10;
(g) Total Number of Data Points in Memory: 10,000;
(h) Logged Data: Each data point with average concentration, time/date and data point number
(i) Run Summary: overall average, maximum concentrations, time/date of maximum, total number of logged points, start time/date, total elapsed time (run duration), STEL concentration and time/date occurrence, averaging (logging) period, calibration factor, and tag number;
(j) Alarm Averaging Time (user selectable): real-time (1-60 seconds) or STEL (15 minutes), alarms required;
(k) Operating Time: 48 hours (fully charged NiCd battery); continuously with charger;
(l) Operating Temperature: -10 to 50° C (14 to 122° F);
(m) Particulate levels will be monitored upwind and immediately downwind at the working site and integrated over a period not to exceed 15 minutes.

4. In order to ensure the validity of the fugitive dust measurements performed, there must be appropriate Quality Assurance/Quality Control (QA/QC). It is the responsibility of the remedial party to adequately supplement QA/QC Plans to include the following critical features: periodic instrument calibration, operator training, daily instrument performance (span) checks, and a record keeping plan.

5. The action level will be established at 150 ug/m3 (15 minutes average). While conservative,

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this short-term interval will provide a real-time assessment of on-site air quality to assure both health and safety. If particulate levels are detected in excess of 150 ug/m3, the upwind background level must be confirmed immediately. If the working site particulate measurement is greater than 100 ug/m3 above the background level, additional dust suppression techniques must be implemented to reduce the generation of fugitive dust and corrective action taken to protect site personnel and reduce the potential for contaminant migration. Corrective measures may include increasing the level of personal protection for on-site personnel and implementing additional dust suppression techniques (see paragraph 7). Should the action level of 150 ug/m3 continue to be exceeded work must stop and DER must be notified as provided in the site design or remedial work plan. The notification shall include a description of the control measures implemented to prevent further exceedances.

6. It must be recognized that the generation of dust from waste or contaminated soil that migrates off-site, has the potential for transporting contaminants off-site. There may be situations when dust is being generated and leaving the site and the monitoring equipment does not measure PM10 at or above the action level. Since this situation has the potential to allow for the migration of contaminants off-site, it is unacceptable. While it is not practical to quantify total suspended particulates on a real-time basis, it is appropriate to rely on visual observation. If dust is observed leaving the working site, additional dust suppression techniques must be employed. Activities that have a high dusting potential--such as solidification and treatment involving materials like kiln dust and lime--will require the need for special measures to be considered.

7. The following techniques have been shown to be effective for the controlling of the generation and migration of dust during construction activities:

(a) Applying water on haul roads;
(b) Wetting equipment and excavation faces;
(c) Spraying water on buckets during excavation and dumping;
(d) Hauling materials in properly tarped or watertight containers;
(e) Restricting vehicle speeds to 10 mph;
(f) Covering excavated areas and material after excavation activity ceases; and
(g) Reducing the excavation size and/or number of excavations.

Experience has shown that the chance of exceeding the 150ug/m3 action level is remote when the above-mentioned techniques are used. When techniques involving water application are used, care must be taken not to use excess water, which can result in unacceptably wet conditions. Using atomizing sprays will prevent overly wet conditions, conserve water, and provide an effective means of suppressing the fugitive dust.

8. The evaluation of weather conditions is necessary for proper fugitive dust control. When extreme wind conditions make dust control ineffective, as a last resort remedial actions may need to be suspended. There may be situations that require fugitive dust suppression and particulate monitoring requirements with action levels more stringent than those provided above. Under some circumstances, the contaminant concentration and/or toxicity may require additional monitoring to protect site personnel and the public. Additional integrated sampling and chemical analysis of the dust may also be in order. This must be evaluated when a health and safety plan is developed and when appropriate suppression and monitoring requirements are established for protection of health and the environment.

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