143-18 LIBERTY AVENUE
QUEENS, NEW YORK 11435

Remedial Action Work Plan

NYC VCP Project Number 17CVCP006Q
OER Project Number 16EH-N327Q

Prepared For:
Liberty Hospitality LLC.
2370 Bruner Avenue
Bronx, NY 10469

Prepared By:
EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
1808 Middle Country Road
Ridge, NY 11961

AUGUST 2016

REMEDIAL ACTION WORK PLAN
TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
AS/SVE	Air Sparging/Soil Vapor Extraction
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
C&D	Construction and Demolition
CEQR	City Environmental Quality Review
CFR	Code of Federal Regulations
CHASP	Construction Health and Safety Plan
COC	Certificate of Completion
CQAP	Construction Quality Assurance Plan
CSOP	Contractors Site Operation Plan
DCR	Declaration of Covenants and Restrictions
ECs/ICs	Engineering Controls and Institutional Controls
ELAP	Environmental Laboratory Accreditation Program
HASP	Health and Safety Plan
HAZWOPER	Hazardous Waste Operations Emergency Response
IRM	Interim Remedial Measure
BCA	Brownfield Cleanup Agreement
MNA	Monitored Natural Attenuation
NOC	Notice of Completion
NYS DEC	New York State Department of Environmental Conservation
NYC DEP	New York City Department of Environmental Protection
NYC DOHMH	New York State Department of Health and Mental Hygiene
NYC OER	New York City Office of Environmental Remediation
NYC VCP	New York City Voluntary Cleanup Program
NYCRR	New York Codes Rules and Regulations

NYS DEC	New York State Department of Environmental Conservation
NYS DEC DER	New York State Department of Environmental Conservation Division of Environmental Remediation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
ORC	Oxygen-Release Compound
OSHA	United States Occupational Health and Safety Administration
PCBs	Professional Engineer Polychlorinated Biphenyls
PE	Professional Engineer
PID	Photo Ionization Detector
QEP	Qualified Environmental Professional
QHHEA	Qualitative Human Health Exposure Assessment
RAOs	Remedial Action Objectives
RAR	Remedial Action Report
RAWP	Remedial Action Work Plan or Plan
RCA	Recycled Concrete Aggregate
RD	Remedial Design
RI	Remedial Investigation
RMZ	Residual Management Zone
SCOs	Soil Cleanup Objectives
SCG	Standards, Criteria and Guidance
SMP	Site Management Plan
SPDES	State Pollutant Discharge Elimination System
SSDS	Sub-Slab Depressurization System
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
TCL	Target Compound List
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

CERTIFICATION

I, [name], am currently a registered professional engineer licensed by the State of New York. I performed professional engineering services and had primary direct responsibility for designing the remedial program for the 143-18 Liberty Avenue site, site number 16EH-N327Q. I certify to the following:

- I have reviewed this document, to which my signature and seal are affixed.
- Engineering Controls developed for this remedial action were designed by me or a person under my direct supervision and designed to achieve the goals established in this Remedial Action Work Plan for this site.
- The Engineering Controls to be constructed during this remedial action are accurately reflected in the text and drawings of the Remedial Action Work Plan and are of sufficient detail to enable proper construction.
- This Remedial Action Work Plan (RAWP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAWP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

_____
Name

_____
PE License Number

_____
Signature

_____
Date

PE Stamp

I, Chawinie Reilly, am a qualified Environmental Professional. I had primary direct responsibility for implementation remedial program for the 143-18 Liberty Avenue site, site number 16EH-N327Q. I certify to the following:

- This Remedial Action Work Plan (RAWP) has a plan for handling, transport and disposal of soil, fill, fluids and other materials removed from the property in accordance with applicable City, State and Federal laws and regulations. Importation of all soil, fill and other material from off-Site will be in accordance with all applicable City, State and Federal laws and requirements. This RAWP has provisions to control nuisances during the remediation and all invasive work, including dust and odor suppression.

_____
QEP Name

_____
QEP Signature

_____
Date

EXECUTIVE SUMMARY

Liberty Hospitality LLC is working with the NYC Office of Environmental Remediation (OER) in the New York City Voluntary Cleanup Program to investigate and remediate an 8,534-square foot site located at 143-18 Liberty Avenue in Queens, New York. A remedial investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document provides for the protection of public health and the environment consistent with the intended property use, complies with applicable environmental standards, criteria and guidance and conforms with applicable laws and regulations.

Site Location and Background

The Site is located at 143-18 Liberty Avenue in the Jamaica section of the Borough of Queens, New York, and is currently identified as Block 10041 and Lot 6 on the New York City Tax Map. Figure 1 shows the Site location. The lot is 8,534 square feet in size and contains 102.11 feet of street frontage along Liberty Avenue, and 75.1 feet of street frontage along Pinegrove Street. The adjacent property to the west along Liberty Avenue has been noted as an open lot that is currently occupied by a commercial company, We Buy Cars. The adjacent property to the southeast along Pinegrove Street is indicated as a two-story residential building. Properties within the surrounding area were noted as being commercial buildings, mixed use residential and commercial buildings, a parking lot, a safety warehouse, and a tire shop. A map of the site boundary is shown on Figure 2.

The Site is not currently occupied and is vacant. A small single story structure remains on Site. A Site inspection was conducted by EBC, and two drains were identified along the Liberty Avenue side of the Site. The locations of the drains are approximately 8 to 10 feet from the Liberty Avenue property line and between 30 and 42 feet from the Pinegrove Street property line.

Summary of Redevelopment Plan

The proposed future use of the Site will consist of one 6-story hotel building with an inner court yard. The building will have a 6,000-square foot footprint. The sub-cellar will be developed with an elevator, meeting rooms, hotel rooms, a gym area, manager's office, electric meter room, fuel pump room, water meter room, refuse room, trash compactor room and laundry room. The open-air courtyard, which will consist of a concrete cap, will also be completed at this level. The cellar will be developed with meeting rooms, hotel rooms, a hotel lounge and a breakfast area. The 1st floor will be developed with a parking area and bicycle parking area. The 2nd and 3rd floors will be developed with hotel rooms. The 4th floor will be equipped with hotel rooms and a terrace area. The 5th floor will be equipped with eight hotel apartments. The 6th floor will be equipped with four hotel apartments.

The project will require excavation to a total depth of approximately 21 feet below grade across 100% of the lot. The sub-cellar (80% of the lot) and inner courtyard (20% of the lot) will be at this level. The elevator shaft will be excavated an additional 5 feet below grade. Approximately 6,600 cubic yards or 10,000 tons of soil will be excavated for the sub-cellar and inner courtyard. The water table is approximately 27.51 to 28.28 feet below grade surface (bgs) and therefore, will not be encountered during excavation.

Layout of the redevelopment plans for the cellar is presented in Figure 3. The current zoning designation is R6-A with a C2-4 commercial overlay. The proposed use is consistent with existing zoning for the property.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

Summary of Surrounding Property

The adjacent property to the southwest along Liberty Avenue has been noted as an open lot that is currently occupied by a commercial company, We Buy Cars, and residential buildings. The adjacent property to the southeast along Pinegrove Street is indicated as a two-story residential

building. The property adjacent to the east across Pinegrove Street is developed with a mixed use residential and commercial building. Liberty Avenue borders the site to the north and west beyond which is developed with commercial buildings and office buildings. Figure 4 shows the surrounding land usage of the adjacent properties listed below as well as additional properties located up to 500 feet away from the Site. No schools, daycare facilities, or hospitals were identified within a 500 ft radius of the Site.

Direction	Property Description
North – *Across Liberty Avenue*	Block 10020, Lot 137 – 144-01 LIBERTY AVENUE: a 32,000 sf residential lot developed with a commercial building which appears to be vacant.
East – *Across Pinegrove Street*	Block 10043, Lot 1 - 144-02 LIBERTY AVENUE: Mixed use residential and commercial building
Southeast – *Adjacent property*	Block 10041, Lot 1 - 104-10 PINEGROVE STREET: Residential building
Southwest – *Adjacent property*	Block 100041, Lots 4, 26, 27 and 28 - 143-12 LIBERTY AVENUE, 103-17 REMINGTON STREET, 103-15 REMINGTON STREET AND 103-13 REMINGTON STREET: an open lot currently occupied by a commercial company; We Buy Cars, and residential buildings
West- *Across Liberty Avenue*	Block 10020, Lot 138 - 143-05 REMINGTON STREET: Commercial building

Summary of Past Site Uses and Areas of Concern

The Site was vacant and undeveloped in the period between 1901 to circa 1953. From 1953 to 2006, the western portion of the Site was developed with a single-story building; the northern corner of the Site was developed with a small single-story building occupied by an office and the remainder of the Site was utilized as a building materials yard. From 1953 to 1961, the single-story building was utilized as an office, as storage and for the sales and display of all types of building materials (except lumber). From 1961 to circa 2005, this building was also additionally utilized as a garage. Beginning 2005 to at least 2013, the building was used for the sale of

automobiles, sale of automobile glass and also as a garage for five (5) trucks. The Site was most recently occupied by World Capital Auto Mall, a used car dealership.

The Site address (143-18 Liberty Avenue) is listed in the city directories for the years 1962 through 2013 (intermittent). The Site address is listed with several building materials companies, including Tru Val Mason Material Inc (1962, 1967, 1970 and 1983), C & B Mason Materials Inc, Liberty Mason Materials Inc (1991) and Avenue Concrete Inc (2013). In addition, the Site address is also listed with the prior tenant World Capital Auto Mall in 2013.

Based on the history of the Site no Recognized Environmental Conditions (RECs) were identified for the property. The following environmental issues were identified for the Site:

- The Site was assigned an E-designation (E-175) for Hazmat and Noise as part of the Downtown Jamaica rezoning action completed by the City in September 2007 (CEQR # 05DCP081Q).

The E-designation for hazmat will require a subsurface investigation and, if contaminants are found, a remedial plan to address the contaminants during the construction phase. The E-designation for Noise will require a separate remedial plan describing the methods proposed to meet the requirements of the Noise E (including a noise attenuation of 35 dBA for all facades and an alternate means of ventilation). The E-designation Hazmat and for Noise will have to be addressed under separate approved Remedial Action Plans before OER will issue a Notice to Proceed (NTP). The NTP is needed before DOB will release building permits.
Areas of Concern (AOCs) identified for the Site include:

1. The presence of historic fill material to depths up to 6 feet below grade.

Summary of Work Performed under the Remedial Investigation

EBC performed the following scope of work at the Site in May of 2016:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed six soil borings across the Site, and collected twelve soil samples with duplicate for chemical analysis from the soil borings to evaluate soil quality;

3. Installed three groundwater monitoring wells throughout the Site and collected three groundwater samples and one duplicate groundwater sample for chemical analysis to evaluate groundwater quality;
4. Installed five soil gas implants and collected five soil gas samples for chemical analysis.

Summary of Findings of Remedial Investigation

1. The elevation of the Site is approximately 45 feet above sea level.
2. Depth to groundwater is estimated to be approximately 27.51 to 28.38 feet below sidewalk grade.
3. Groundwater flow is generally west.
4. Depth to bedrock at the Site is greater than 100 feet.
5. The stratigraphy of the Site from the surface down consists of historic fill material to depths as great as 6 feet, underlain by native fine to coarse brown sand.
6. Soil/fill samples results were compared to the New York State Department of Environmental Conservation (NYSDEC) 6NYCRR Part 375 Section 6.8 Track 1 Unrestricted Use as well as to Track 2 Restricted Residential Use Soil Cleanup Objectives (SCOs). No VOCs above UUSCOs were detected in any of the samples. Several SVOCs including, benz(a)anthracene (max of 3,600 µg/kg), benzo(a)pyrene (max of 3,600 µg/kg), benzo(b)fluoranthene (max of 3,300 µg/kg), dibenz(a,h)anthracene (at 410 µg/kg), and indeno(1,23-,3-cd)pyrene (max. of 2,500 µg/kg) were detected above Restricted Residential Use SCOs within shallow soil samples. Two SVOCs, benzo(k)fluoranthene (max of 2,900 µg/kg) and chrysene (max of 3,600 µg/kg) were detected above Unrestricted Use SCOs within shallow soil samples. Two PCBs, PCB-1254 (at 490 µg/kg) and PCB-1260 (at 150 µg/kg) were detected above Unrestricted Use SCOs in the shallow soil samples within soil borings SB2 and SB4. One pesticide, dieldrin (at 6.2 µg/kg), was detected above Unrestricted Use SCOs within the shallow soil sample from soil boring SB1. Several metals including arsenic (max of 34.1 mg/kg), barium (max of 491 mg/kg), cadmium (max of 6.52 mg/kg), copper (max of 98.3 mg/kg), lead (max. of 2,730 mg/kg), manganese (max of 4,980 mg/kg) and zinc (max of 3,840 mg/kg) exceeded RRSCOs within all shallow soil samples. Chromium (max of 49.1

mg/kg), was noted above UUSCOs in one of the shallow soil samples. Overall, the soil results were consistent with data identified at sites with urban fill material in NYC.

7. Groundwater samples results were compared to New York State 6NYCRR Part 703.5 Class GA Groundwater Quality Standards (GQS). Groundwater samples collected during the investigations showed no PCBs at detectable concentrations. One VOC, chloroform (at 8.6 µg/L), was detected within one of the groundwater samples (MW2) exceeding its respective GQS. Several SVOCs including benz(a)anthracene (at 0.07 µg/L), benzo(b)fluoranthene (at 0.04 µg/L), benzo(k)fluoranthene (at 0.04 µg/L), chrysene (at 0.05 µg/L), and indeno(1,2,3-cd)pyrene (at 0.02 µg/L) were detected above their respective GQS within one of the three groundwater samples collected (MW2). One pesticide, chlordane (at 1.3 µg/L), was detected above its respective GQS within one of the three groundwater samples collected (MW3). Two dissolved metals, manganese (max. of 1.35 mg/L) and sodium (max. of 358 mg/L) were detected above their respective GQS within all three samples and the duplicate.

8. Soil vapor samples collected during the RI were compared to the compounds listed in Table 3.1 Air Guideline Values Derived by the NYSDOH located in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion dated October 2006. Soil vapor samples collected during the RI showed low levels of petroleum-related VOCs. The total concentration of petroleum-related VOCs (BTEX) ranged from 50.85 µg/m^3 to 86.68 µg/m^3. The chlorinated VOC, trichloroethylene (TCE) was detected in all of the soil gas samples ranging in concentrations from 0.26 µg/m^3 to 0.79 µg/m^3. Tetrachloroethylene (PCE) was detected in all soil gas samples ranging in concentration from 2.34 µg/m^3 to 89.5 µg/m^3. Carbon tetrachloride was detected in all of the soil gas samples in concentrations from 0.26 µg/m^3 to 0.43 µg/m^3. 1,1,1-trichloroethane (TCA) was detected in three of the soil gas samples ranging in concentrations from 1.08 µg/m^3 to 2.28 µg/m^3. Concentrations of chlorinated VOCs were all below the monitoring level ranges established within the NYSDOH soil vapor guidance matrix.

Summary of the Remedial Action

The proposed remedial action achieves protection of public health and the environment for the intended use of the property. The proposed remedial action achieves all of the remedial action objectives established for the project and addresses applicable standards, criterion, and guidance; is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants; is cost effective and implementable; and uses standards methods that are well established in the industry.

The major milestones for the Remedial Action were: A Pre-Application Meeting was held on May 13, 2016. A Remedial Investigation (RI) was performed from in May 2016 and a RI Report was prepared to evaluate data and information necessary to develop a Remedial Action Work Plan (RAWP).

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Establishment of Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs). Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of Track 1 SCOs.
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).
6. Excavation and removal of soil/fill exceeding Unrestricted Use (Track 1) SCOs.
   The entire footprint of the building area (about 100% of the property) will be excavated to a depth of approximately 21 feet below grade for development purposes.
   Approximately 6,600 cubic yards or 10,000 tons of soil/fill will be removed from the Site

and properly disposed at an appropriately licensed or permitted facility. The hotspot area (boring SB2) identified during the subsurface investigation will be delineated and excavated to the extent possible as determined with OER.

7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.
8. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of all USTs that are encountered during soil/fill removal actions. Registration of tanks and reporting of any petroleum spills associated with UST's and appropriate closure of these petroleum spills in compliance with applicable local, State and Federal laws and regulations.
10. Transportation and off-Site disposal of all soil/fill material at licensed or permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
11. As part of development, installation of a vapor barrier system consisting of vapor barrier beneath the building slab and outside of sub-grade foundation sidewalls to mitigate soil vapor migration into the building. The vapor barrier system will consist of a 20-mil Raven Industries VaporBlock 20+ below the slab throughout the full building area and a 20-mil Raven Industries VaporBlock 20+ outside all sub-grade foundation sidewalls. All welds, seams and penetrations will be properly sealed to prevent preferential pathways for vapor migration. The vapor barrier system is an Engineering Control for the remedial action. The remedial engineer will certify in the RAR that the vapor barrier system was designed and properly installed to mitigate soil vapor migration into the building
12. As part of development, construction of an engineered composite cover consisting of a six-inch thick concrete building and courtyard slab over the entire Site.
13. As part of new development, construction and operation of a parking garage with high volume air exchange in conformance with NYC Building Code.

14. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
15. Performance of all activities required for the remedial action, including acquisition of required permits and attainment of pretreatment requirements, in compliance with applicable laws and regulations.
16. Dewatering in compliance with city, state, and federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.
17. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
18. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, lists any changes from this RAWP.

COMMUNITY PROTECTION STATEMENT

The NYC Office of Environmental Remediation (OER) provides governmental oversight for the cleanup of contaminated property in NYC. This Remedial Action Work Plan ("cleanup plan") describes the findings of prior environmental studies that show the location of contamination at the site, and describes the plans to clean up the site to protect public health and the environment.

This cleanup plan provides a very high level of protection for neighboring communities and also includes many other elements that address common community concerns, such as community air monitoring, odor, dust and noise controls, hours of operation, good housekeeping and cleanliness, truck management and routing, and opportunities for community participation. The purpose of this Community Protection Statement is to explain these community protection measures in non-technical language to simplify community review.

Project Information:

- Site Address: 143-18 Liberty Avenue, Queens, New York
- NYC Voluntary Cleanup Program Project Number: 17CVCP006Q

Project Contacts:

- OER Project Manager: Colin Sullivan, 212-341-2082
- Site Project Manager: Chawinie Reilly, 631-504-6000
- Site Safety Officer: Kevin Waters, 631-504-6000
- Online Document Repository: http://www.nyc.gov/html/oer/html/document-repository/document-repository.shtml

Remedial Investigation and Cleanup Plan: Under the oversight of the NYC OER, a thorough cleanup study of this property (called a remedial investigation) has been performed to identify past property usage, to sample and test soils, groundwater and soil vapor, and to identify contaminant sources present on the property. The cleanup plan has been designed to address all contaminant sources that have been identified during the study of this property.

Identification of Sensitive Land Uses: Prior to selecting a cleanup, the neighborhood was evaluated to identify sensitive land uses nearby, such as schools, day care facilities, hospitals and residential areas. The cleanup program was then tailored to address the special conditions of this community.

Qualitative Human Health Exposure Assessment: An important part of the cleanup planning for the Site is the performance of a study to find all of the ways that people might come in contact with contaminants at the Site now or in the future. This study is called a Qualitative Human Health Exposure Assessment (QHHEA). A QHHEA was performed for this project. This assessment has considered all known contamination at the Site and evaluated the potential for people to come in contact with this contamination. All identified public exposures will be addressed under this cleanup plan.

Health and Safety Plan: This cleanup plan includes a Construction Health and Safety Plan (CHASP) that is designed to protect community residents and on-Site workers. The elements of this RAWP are in compliance with applicable safety requirements of the United States Occupational Safety and Health Administration (OSHA). This RAWP includes many protective elements including those discussed below.

Site Safety Coordinator: This project has a designated Site safety coordinator to implement the CHASP. The safety coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site safety coordinator is identified at the beginning of the Community Protection Statement.

Worker Training: Workers participating in cleanup of contaminated material on this project are required to be trained in a 40-hour hazardous waste operators training course and to take annual refresher training. This pertains to workers performing specific tasks including removing contaminated material and installing cleanup systems in contaminated areas.

Community Air Monitoring Plan: Community air monitoring will be performed during this cleanup project to ensure that the community is properly protected from contaminants, dust and odors. Air samples will be tested in accordance with a detailed plan called the Community Air Monitoring Plan or CAMP. Results will be regularly reported to the NYC Office of Environmental Remediation. This cleanup plan also has a plan to address any unforeseen problems that might occur during the cleanup (called a 'Contingency Plan').

Odor, Dust and Noise Control: This cleanup plan includes actions for odor and dust control. These actions are designed to prevent off-Site odor and dust nuisances and includes steps to be taken if nuisances are detected. Generally, dust is managed by application of physical covers and by water sprays. Odors are controlled by limiting the area of open excavations, physical covers, spray foams and by a series of other actions (called operational measures). The project is also required to comply with applicable NYC noise control standards. If you observe problems in these areas, please contact the onsite Project Manager or NYC Office of Environmental Remediation Project Manager listed on the first page of this Community Protection Statement document.

Quality Assurance: This cleanup plan requires that evidence be provided to illustrate that all cleanup work required under the plan has been completed properly. This evidence will be summarized in the final report, called the Remedial Action Report. This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

Stormwater Management: To limit the potential for soil erosion and discharge, this cleanup plan has provisions for stormwater management. The main elements of the stormwater management include physical barriers such as tarp covers and erosion fencing, and a program for frequent inspection.

Hours of Operation: The hours for operation of cleanup will comply with the NYC Department of Buildings construction code requirements or according to specific variances

issued by that agency. For this cleanup project, the hours of operation will conform to requirements of Department of Buildings.

Signage: While the cleanup is in progress, a placard will be prominently posted at the main entrance of the property with a laminated project Fact Sheet that states that the project is in the NYC Voluntary Cleanup Program and provides project contact names and numbers, and locations of project documents can be viewed.

Complaint Management: The contractor performing this cleanup is required to address all complaints. If you have any complaints, you can call the facility Project Manager or the NYC Office of Environmental Remediation Project Manager listed on the first page of this Community Protection Statement document, or call 311 and mention the Site is in the NYC Voluntary Cleanup Program.

Utility Mark-outs: To promote safety during excavation in this cleanup, the contractor is required to first identify all utilities and must perform all excavation and construction work in compliance with NYC Department of Buildings regulations.

Soil and Liquid Disposal: All soil and liquid material removed from the Site as part of the cleanup will be transported and disposed of in accordance with all applicable City, State and Federal regulations and required permits will be obtained.

Soil Chemical Testing and Screening: All excavations will be supervised by a trained and properly qualified environmental professional. In addition to extensive sampling and chemical testing of soils on the Site, excavated soil will be screened continuously using hand-held instruments, by sight, and by smell to ensure proper material handling and management, and community protection.

Stockpile Management: Soil stockpiles will be kept covered with tarps to prevent dust, odor and erosion. Stockpiles will be frequently inspected. Damaged tarp covers will be

promptly replaced. Stockpiles will be protected with silt fences. Hay bales will be used, as needed to protect storm water catch basins and other discharge points.

Trucks and Covers: Loaded trucks leaving the Site will be covered in compliance with applicable laws and regulations to prevent dust and odor. Trucks will be properly recorded in logs and records and placarded in compliance with applicable City, State and Federal laws, including those of the New York State Department of Transportation. If loads contain wet material that can leak, truck liners will be used. All transport of materials will be performed by licensed truckers and in compliance with applicable laws and regulations.

Imported Material: All fill materials proposed to be brought onto the Site will comply with rules outlined in this cleanup plan and will be inspected and approved by a qualified worker located on the Site. Waste materials will not be brought onto the Site. Trucks entering the Site with imported clean materials will be covered in compliance with applicable laws and regulations.

Equipment Decontamination: All equipment used for cleanup work will be inspected and washed, if needed, before it leaves the Site. Trucks will be cleaned at a truck inspection station on the property before leaving the Site.

Housekeeping: Locations where trucks enter or leave the Site will be inspected every day and cleaned regularly to ensure that they are free of dirt and other materials from the Site.

Truck Routing: Truck routes have been selected to: (a) limit transport through residential areas and past sensitive nearby properties; (b) maximize use of city-mapped truck routes; (c) limit total distance to major highways; (d) promote safety in entry to highways; (e) promote overall safety in trucking; and (f) minimize off-Site line-ups (queuing) of trucks entering the property. Operators of loaded trucks leaving the Site will be instructed not to stop or idle in the local neighborhood.

Final Report: The results of all cleanup work will be fully documented in a final report (called the Remedial Action Report) that will be available for public review online. A link to the online document repository and the public library with Internet access nearest the Site are listed on the first page of this Community Protection Statement document

Long-Term Site Management: If long-term protection is needed after the cleanup is complete, the property owner will be required to comply with an ongoing Site Management Plan that calls for continued inspection of protective controls, such as Site covers. The Site Management Plan is evaluated and approved by the NYC Office of Environmental Remediation. Requirements that the property owner must comply with are defined either in the property's deed or established through a city environmental designation registered with the Department of Buildings. A certification of continued protectiveness of the cleanup will be required from time to time to show that the approved cleanup is still effective.

REMEDIAL ACTION WORK PLAN

1.0 Project Background

Liberty Hospitality LLC is working with the NYC Office of Environmental Remediation (OER) in the New York City Voluntary Cleanup Program to investigate and remediate a property located at 143-18 Liberty Avenue in the Jamaica section of Queens, New York (the "Site"). A Remedial Investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP) in a manner that will render the Site protective of public health and the environment consistent with the contemplated end use. This RAWP establishes remedial action objectives, provides a remedial alternatives analysis that includes consideration of a permanent cleanup, and provides a description of the selected remedial action. The remedial action described in this document provides for the protection of public health and the environment, and complies with applicable environmental standards, criteria and guidance and applicable laws and regulations.

1.1 Site Location and Background

The Site is located at 143-18 Liberty Avenue in the Jamaica section of the Borough of Queens, New York, and is currently identified as Block 10041 Lot 6 on the New York City Tax Map. Figure 1 shows the Site location. The lot is 8,534 square feet in size and contains 102.11 feet of street frontage along Liberty Avenue and 75.1 feet of street frontage along Pinegrove Street. The adjacent property to the west along Liberty Avenue has been noted as an open lot that is currently occupied by a commercial company, We Buy Cars. The adjacent property to the southeast along Pinegrove Street is indicated as a two-story residential building. Properties within the surrounding area were noted as being commercial buildings, mixed use residential and commercial buildings, a parking lot, a safety warehouse, and a tire shop. A map of the site boundary is shown on Figure 2.

The Site is not currently occupied and is vacant. A small single story structure remains on Site. A Site inspection was conducted by EBC, and two drains were identified along the Liberty Avenue side of the Site. The locations of the drains are approximately 8 to 10 feet from the

Liberty Avenue property line and between 30 and 42 feet from the Pinegrove Street property line.

1.2 Redevelopment Plan

The proposed future use of the Site will consist of one 6-story hotel building with inner court yard. The building will have a 6,000-square foot footprint. The sub-cellar will be developed with an elevator, meeting rooms, hotel rooms, a gym area, manager's office, electric meter room, fuel pump room, water meter room, refuse room, trash compactor room and laundry room. The open-air courtyard, which will consist of a concrete cap, will also be completed at this level. The cellar will be developed with meeting rooms, hotel rooms, a hotel lounge and a breakfast area. The 1st floor will be developed with a parking area and bicycle parking area. The 2nd and 3rd floors will be developed with hotel rooms. The 4th floor will be equipped with hotel rooms and a terrace area. The 5th floor will be equipped with eight hotel apartments. The 6th floor will be equipped with four hotel apartments.

The project will require excavation to a total depth of approximately 21 feet below grade across 100% of the lot. The sub-cellar (80% of the lot) and inner courtyard (20% of the lot) will be at this level. The elevator shaft will be excavated an additional 5 feet below the sub cellar level. Approximately 6,600 cubic yards or 10,000 tonsof soil will be excavated for the sub-cellar and inner courtyard. The water table is approximately 27.51 to 28.28 feet below grade surface (bgs) and therefore, will not be encountered during excavation.

Layout of the redevelopment plans for the cellar is presented in Figure 3. The current zoning designation is R6-A with a C2-4 commercial overlay. The proposed use is consistent with existing zoning for the property.

The remedial action contemplated under this RAWP may be implemented independently of the proposed redevelopment plan.

1.3 Description of Surrounding Property

The adjacent property to the southwest along Liberty Avenue has been noted to as an open lot

that is currently occupied by a commercial company, We Buy Cars, and residential buildings. The adjacent property to the southeast along Pinegrove Street is indicated as a two-story residential building. The property adjacent to the east across Pinegrove Street is developed with a mixed use residential and commercial building. Liberty Avenue borders the site to the north and west beyond which is developed with commercial buildings and office buildings. Figure 4 shows the surrounding land usage of the adjacent properties listed below as well as additional properties located up to 500 feet away from the Site. No schools, daycare facilities, or hospitals were identified within a 500 ft radius of the Site.

Surrounding Property Usage

Direction	Property Description
North – *Across Liberty Avenue*	Block 10020, Lot 137 – 144-01 LIBERTY AVENUE: a 32,000 sf residential lot developed with a commercial building which appears to be vacant.
East – *Across Pinegrove Street*	Block 10043, Lot 1 - 144-02 LIBERTY AVENUE: Mixed use residential and commercial building
Southeast – *Adjacent property*	Block 10041, Lot 1 - 104-10 PINEGROVE STREET: Residential building
Southwest – *Adjacent property*	Block 100041, Lots 4, 26, 27 and 28 - 143-12 LIBERTY AVENUE, 103-17 REMINGTON STREET, 103-15 REMINGTON STREET AND 103-13 REMINGTON STREET: an open lot currently occupied by a commercial company; We Buy Cars, and residential buildings
West- *Across Liberty Avenue*	Block 10020, Lot 138 - 143-05 REMINGTON STREET: Commercial building

1.4 Summary of Past Site Uses and Areas of Concern

The Site was vacant and undeveloped in the period between 1901 to circa 1953. From 1953 to 2006, the western portion of the Site was developed with a single-story building; the northern corner of the Site was developed with a small single-story building occupied by an office, and the remainder of the Site was utilized as a building materials yard. From 1953 to 1961, the single-story building was utilized as an office, as storage and for the sales and display of all types of building materials (except lumber). From 1961 to circa 2005, this building was also

additionally utilized as a garage. Beginning 2005 to at least 2013, the building was used for the sale of automobiles, sale of automobile glass and also as a garage for five (5) trucks. The Site was most recently occupied by World Capital Auto Mall, a used car dealership.

The Site address (143-18 Liberty Avenue) is listed in the city directories for the years 1962 through 2013 (intermittent). The Site address is listed with several building materials companies, including Tru Val Mason Material Inc (1962, 1967, 1970 and 1983), C & B Mason Materials Inc, Liberty Mason Materials Inc (1991) and Avenue Concrete Inc (2013). In addition, the Site address is also listed with the prior tenant World Capital Auto Mall in 2013.

Based on the history of the Site no Recognized Environmental Conditions (RECs) were identified for the property. The following environmental issues were identified for the Site:

- The Site was assigned an E-designation (E-175) for Hazmat and Noise as part of the Downtown Jamaica rezoning action completed by the City in September 2007 (CEQR # 05DCP081Q).

The E-designation for hazmat will require a subsurface investigation and, if contaminants are found, a remedial plan to address the contaminants during the construction phase. The E-designation for Noise will require a separate remedial plan describing the methods proposed to meet the requirements of the Noise E (including a noise attenuation of 35 dBA for all facades and an alternate means of ventilation). The E-designation Hazmat and for Noise will have to be addressed under separate approved Remedial Action Plans before OER will issue a Notice to Proceed (NTP). The NTP is needed before DOB will release building permits.
Areas of Concern (AOCs) identified for the Site include:

1. The presence of historic fill material to depths up to 6 feet below grade.

1.5 Summary of Work Performed under the Remedial Investigation

EBC performed the following scope of work at the Site in May of 2016:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);

2. Installed six soil borings across the Site, and collected twelve soil samples with duplicate for chemical analysis from the soil borings to evaluate soil quality;
3. Installed three groundwater monitoring wells throughout the Site and collected three groundwater samples and one duplicate groundwater sample for chemical analysis to evaluate groundwater quality;
4. Installed five soil gas implants and collected five soil gas samples for chemical analysis.

1.6 Summary of Findings of Remedial Investigation

A remedial investigation was performed and the results are documented in a companion document called "Remedial Investigation Report, 143-18 Liberty Avenue", dated June 2016 (RIR).

1. The elevation of the Site is approximately 45 feet above sea level.
2. Depth to groundwater is estimated to be approximately 27.51 to 28.38 feet below sidewalk grade.
3. Groundwater flow is generally west.
4. Depth to bedrock at the Site is greater than 100 feet.
5. The stratigraphy of the Site from the surface down consists of historic fill material to depths as great as 6 feet, underlain by native fine to coarse brown sand.
6. Soil/fill samples results were compared to the New York State Department of Environmental Conservation (NYSDEC) 6NYCRR Part 375 Section 6.8 Track 1 Unrestricted Use as well as to Track 2 Restricted Residential Use Soil Cleanup Objectives (SCOs). No VOCs above UUSCOs were detected in any of the samples. Several SVOCs including, benz(a)anthracene (max of 3,600 µg/kg), benzo(a)pyrene (max of 3,600 µg/kg), benzo(b)fluoranthene (max of 3,300 µg/kg), dibenz(a,h)anthracene (at 410 µg/kg), and indeno(1,23-,3-cd)pyrene (max. of 2,500 µg/kg) were detected above Restricted Residential Use SCOs within shallow soil samples. Two SVOCs, benzo(k)fluoranthene (max of 2,900 µg/kg) and chrysene (max of 3,600 µg/kg) were detected above Unrestricted Use SCOs within shallow soil samples. Two PCBs, PCB-1254 (at 490 µg/kg) and PCB-1260 (at 150 µg/kg) were detected above Unrestricted Use SCOs in the shallow soil samples within soil borings SB2 and SB4. One pesticide,

dieldrin (at 6.2 µg/kg), was detected above Unrestricted Use SCOs within the shallow soil sample from soil boring SB1. Several metals including arsenic (max of 34.1 mg/kg), barium (max of 491 mg/kg), cadmium (max of 6.52 mg/kg), copper (max of 98.3 mg/kg), lead (max. of 2,730 mg/kg), manganese (max of 4,980 mg/kg) and zinc (max of 3,840 mg/kg) exceeded RRSCOs within all shallow soil samples. Chromium (max of 49.1 mg/kg), was noted above UUSCOs in one of the shallow soil samples. Overall, the soil results were consistent with data identified at sites with urban fill material in NYC.

7. Groundwater samples' results were compared to New York State 6NYCRR Part 703.5 Class GA Groundwater Quality Standards (GQS). Groundwater samples collected during the investigations showed no PCBs at detectable concentrations. One VOC, chloroform (at 8.6 µg/L), was detected within one of the groundwater samples (MW2) exceeding its respective GQS. Several SVOCs including benz(a)anthracene (at 0.07 µg/L), benzo(b)fluoranthene (at 0.04 µg/L), benzo(k)fluoranthene (at 0.04 µg/L), chrysene (at 0.05 µg/L), and indeno(1,2,3-cd)pyrene (at 0.02 µg/L) were detected above their respective GQS within one of the three groundwater samples collected (MW2). One pesticide, chlordane (at 1.3 µg/L), was detected above its respective GQS within one of the three groundwater samples collected (MW3). Two dissolved metals, manganese (max. of 1.35 mg/L) and sodium (max. of 358 mg/L) were detected above their respective GQS within all three samples and the duplicate.

8. Soil vapor samples collected during the RI were compared to the compounds listed in Table 3.1 Air Guideline Values Derived by the NYSDOH located in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion dated October 2006. Soil vapor samples collected during the RI showed low levels of petroleum-related VOCs. The total concentration of petroleum-related VOCs (BTEX) ranged from 50.85 µg/m^3 to 86.68 µg/m^3. The chlorinated VOC, trichloroethylene (TCE) was detected in all of the soil gas samples ranging in concentrations from 0.26 µg/m^3 to 0.79 µg/m^3. Tetrachloroethylene (PCE) was detected in all soil gas samples ranging in concentration from 2.34 µg/m^3 to 89.5 µg/m^3. Carbon tetrachloride was detected in all of the soil gas samples in concentrations from 0.26 µg/m^3 to 0.43 µg/m^3. 1,1,1-trichloroethane (TCA) was detected in three of the soil gas samples ranging in

concentrations from 1.08 µg/m^3 to 2.28 µg/m^3. Concentrations of chlorinated VOCs were all below the monitoring level ranges established within the NYSDOH soil vapor guidance matrix.

For more detailed results, consult the RIR. Based on an evaluation of the data and information from the RIR and this RAWP, disposal of significant amounts of hazardous waste is not suspected at this site.

2.0 Remedial Action Objectives

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

Soil

- Prevent direct contact with contaminated soil.
- Prevent exposure to contaminants volatilizing from contaminated soil.
- Prevent migration of contaminants that would result in groundwater or surface water contamination.

Groundwater

- Prevent direct exposure to contaminated groundwater.

Soil Vapor

- Prevent exposure to contaminants in soil vapor.
- Prevent migration of soil vapor into dwelling and other occupied structures.

3.0 Remedial Alternatives Analysis

The goal of the remedy selection process is to select a remedy that is protective of human health and the environment taking into consideration the current, intended and reasonably anticipated future use of the property. The remedy selection process begins by establishing RAOs for media in which chemical constituents were found in exceedance of applicable standards, criteria and guidance values (SCGs). Remedial alternatives are then developed and evaluated based on the following ten 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;
- Land use; and
- Sustainability.

As required, a Track 1 Unrestricted Use scenario is evaluated for the remedial action. The following is a detailed description of the alternatives analyzed to address impacted media at the Site:

Alternative 1:

- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs as defined in NYSDEC 6NYCRR Part 375-6.8 throughout the Site and confirmation that Track 1 Unrestricted Use SCOs have been achieved with post-excavation endpoint sampling. Based on the results of the Remedial Investigation, it is expected that this alternative would be achieved by excavating the entire Site to a depth of approximately to 21 feet below grade to remove all historic fill. If soil/fill containing analytes at concentrations above

Unrestricted Use SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building's cellar level is complete, additional excavation would be performed to ensure complete removal of soil that does not meet Track 1 Unrestricted Use SCOs.

- No Engineering or Institutional Controls are required for a Track 1 cleanup. As part of development, a vapor barrier would be installed to prevent potential exposures from off-Site soil vapor in the future.

Alternative 2:

- Removal of all soil/fill exceeding Track 4 Site-Specific SCOs and confirmation that Track 4 Site-Specific SCOs have been achieved with post-excavation end point sampling. Based on the results of the Remedial Investigation, it is expected that SCO's would be achieved by excavating for construction of the new building's sub cellar level to a depth of approximately 21 feet across the entire Site. If soil/fill containing analytes at concentrations above Track 4 Site-Specific SCOs is still present at the base of the excavation, additional excavation would be performed to meet Track 4 Site-Specific SCOs.
- Placement of a composite cover system over the entire Site to prevent exposure to remaining soil/fill;
- Installation of a vapor barrier system beneath the building slab and along foundation side walls to prevent potential exposures from soil vapor;
- Establishment of use restrictions including prohibitions on the use of groundwater from the Site; prohibitions of restricted Site uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without OER approval;
- Establishment of an approved Site Management Plan (SMP) to ensure long-term management of these Engineering and Institutional Controls including the performance of periodic inspections and certification that the controls are performing as they were intended. The SMP will note that the property owner and property owner's successors and assigns must comply with the approved SMP; and

- The property will continue to be registered with an E-Designation at the NYC Buildings Department.

3.1 Threshold Criteria

Protection of Public Health and the Environment

This criterion is an evaluation of the remedy's ability to protect public health and the environment, and an assessment of how risks posed through each existing or potential pathway of exposure are eliminated, reduced or controlled through removal, treatment, and implementation of Engineering Controls or Institutional Controls. Protection of public health and the environment must be achieved for all approved remedial actions.

Alternative 1 would be protective of human health and the environment by removing all soil/fill exceeding Track 1 Unrestricted Use SCOs and groundwater protection standards, thus eliminating potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contaminants leaching into groundwater.

Alternative 2 would achieve comparable protections of human health and the environment by excavation and removal of most of the historic fill at the Site and by ensuring that remaining soil/fill on-Site meets Track 4 Site-Specific SCOs, as well as by placement of Institutional and Engineering Controls, including a composite cover system. The composite cover system would prevent direct contact with any remaining on-Site soil/fill. Implementing Institutional Controls including a Site Management Plan and continuing the E-designation on the property would ensure that the composite cover system remains intact and protective of public health. Establishment of Track 4 Site-Specific SCOs would minimize the risk of contamination leaching into groundwater.

For both Alternatives, potential exposure to contaminated soils or groundwater during construction would be minimized by implementing a Construction Health and Safety Plan, an

approved Soil/Materials Management Plan and Community Air Monitoring Plan (CAMP). Potential contact with contaminated groundwater would be prevented as its use is prohibited by city laws and regulations. Potential future migration of off-Site soil vapors into the new building would be prevented by installing a vapor barrier below the building slab and outside foundations walls below grade.

3.2 Balancing Criteria

Compliance with Standards, Criteria and Guidance (SCGs

This evaluation criterion assesses the ability of the alternative to achieve applicable standards, criteria and guidance.

Alternative 1 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to achieve Track 1 Unrestricted Use SCOs and Protection of Groundwater SCOs. Compliance with SCGs for soil vapor would also be achieved by installing a waterproofing/vapor barrier system below the new building's basement slab and continuing the vapor barrier outside of subgrade foundation walls, as part of development.

Alternative 2 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to meet Track 4 Site-Specific SCOs. Compliance with SCGs for soil vapor would also be achieved by installing a vapor barrier system below the new building's basement slab and continuing the vapor barrier outside of subgrade foundation walls. A Site Management Plan would ensure that these controls remained protective for the long term.

Health and safety measures contained in the CHASP and Community Air Monitoring Plan (CAMP) will be implemented during Site redevelopment under this RAWP. For both Alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with applicable SCGs. These measures will protect on-site workers and the surrounding community from exposure to Site-related contaminants.

Short-Term Effectiveness and Impacts

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with respect to their short term effects during the remedial action on public health and the environment during implementation of the remedial action, including protection of the community, protection of onsite workers and environmental impacts.

Both Alternative 1 and 2 have similar short-term effectiveness during their implementation, as each requires excavation of historic fill material. Both alternatives would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic. Short-term impacts could potentially be higher for Alternative 1 since excavation of greater amounts of historical fill material would take place. However, focused attention to means and methods during a Track 1 removal action, including community air monitoring and appropriate truck routing, would minimize the overall impact of these activities.

An additional short-term adverse impact and risks to the community associated with both remedial alternatives is increased truck traffic. Truck traffic will be routed on the most direct course using major thoroughfares where possible and flag persons will be used to protect pedestrians at Site entrances and exits.

The potential adverse impact to the community, workers and the environment for both alternatives would be minimized through implementation of control plans including a Construction Health and Safety Plan, a Community Air Monitoring Plan (CAMP) and a Soil/Materials Management Plan (SMMP), during all on-Site soil disturbance activities and would minimize the release of contaminants into the environment. Both alternatives provide short-term effectiveness in protecting the surrounding community by decreasing the risk of contact with on-Site contaminants. Construction workers operating under appropriate management procedures and a Construction Health and Safety Plan (CHASP) would provide protection from on-Site contaminants by using personal protective equipment would be worn consistent with the documented risks within the respective work zones.

Long-term effectiveness and permanence

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site after response objectives have been met, such as permanence of the remedial alternative, magnitude of remaining contamination, adequacy of controls including the adequacy and suitability of Engineering Controls/Institutional Controls (ECs/ICs) that may be used to manage contaminant residuals that remain at the Site and assessment of containment systems and ICs that are designed to eliminate exposures to contaminants, and long-term reliability of ECs.

Alternative 1 would achieve long-term effectiveness and permanence related to on-Site contamination by permanently removing all impacted soil/fill above Track 1 Unrestricted Use SCOs. Removal of on-Site contaminant sources will also prevent future groundwater contamination.

Alternative 2 would provide long-term effectiveness by removing on-Site contamination and attaining Track 4 Site-Specific SCOs; installing a composite cover system across the Site; maintaining use restrictions; establishing an SMP to ensure long-term management of ICs and ECs; and maintaining registration as an E-designated property to memorialize these controls for the long term. The SMP would ensure long-term effectiveness of all ECs and ICs by requiring periodic inspection and certification that these controls and restrictions continue to be in place and are functioning as they were intended, assuring that protections designed into the remedy continue to provide the required level of protection.

Reduction of toxicity, mobility, or volume of contaminated material

This evaluation criterion assesses the remedial alternative's use of remedial technologies that permanently and significantly reduce toxicity, mobility, or volume of contaminants as their principal element. The following is the hierarchy of source removal and control measures that are to be used to remediate a Site, ranked from most preferable to least preferable: removal and/or treatment, containment, elimination of exposure and treatment of source at the point of

exposure. It is preferred to use treatment or removal to eliminate contaminants at a Site, reduce the total mass of toxic contaminants, cause irreversible reduction in contaminants mobility, or reduce of total volume of contaminated media.

Alternative 1 will permanently eliminate the toxicity, mobility, and volume of contaminants from on-Site soil by removing all soil in excess of Track 1 Unrestricted Use SCOs.

Alternative 2 would remove the historic fill at the Site, and all remaining on-Site soil/fill beneath the new building will meet Track 4 Site-Specific SCOs.

Alternative 1 would remove a greater total mass of contaminants from the Site. The removal of soil to 21 feet for the new development in both scenarios would lessen the difference in contaminant mass removal between these two alternatives.

Implementability

This evaluation criterion addresses the technical and administrative feasibility of implementing an alternative and the availability of various services and materials required during its implementation, including technical feasibility of construction and operation, reliability of the selected technology, ease of undertaking remedial action, monitoring considerations, administrative feasibility (e.g. obtaining permits for remedial activities), and availability of services and materials.

The techniques, materials and equipment to implement both Alternatives 1 and 2 are readily available and have been proven to be effective in remediating the contaminants present on the Site. They use standard equipment and technologies that are well established in the industry. The reliability of each remedy is also high. There are no special difficulties associated with any of the activities proposed.

Cost effectiveness

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, and disposal costs, engineering expenses) and site

management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a remedial action.

Since historic fill at the Site was only found to extend to a depth of up to 6 feet below grade during the RI, and the new building requires excavation of the entire Site to a depth of 21 feet, the costs associated with both Alternative 1 and Alternative 2 will likely be comparable. Costs associated with Alternative 1 could potentially be higher than Alternative 2 if soil with analytes above Track 1 Unrestricted Use SCOs is encountered below the excavation depth required for development. Additional costs would include installation of additional shoring/underpinning, disposal of additional soil, and import of clean soil for backfill. However, long-term costs for Alternative 2 are likely higher than Alternative 1 based on implementation of a Site Management Plan as part of Alternative 2.

The remedial plan would couple the remedial action with the redevelopment of the Site, lowering total costs. The remedial plan will also consider the selection of the most appropriate disposal facilities to reduce transportation and disposal costs during cleanup and redevelopment of the Site.

Community Acceptance

This evaluation criterion addresses community opinion and support for the remedial action. Observations here will be supplemented by public comment received on the RAWP.

This RAWP will be subject to a public review under the NYC VCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedy. This public comment will be considered by OER prior to approval of this plan. The Citizen Participation Plan for the project is provided in Appendix 2. Observations here will be supplemented by public comment received on the RAWP. Under both alternatives, the overall goals of the remedial program, to protect public health and the environment and eliminate potential contaminant exposures, have been broadly supported by citizens in NYC communities.

Land use

This evaluation criterion addresses the proposed use of the property. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas; environmental justice impacts, Federal or State land use designations; population growth patterns and projections; accessibility to existing infrastructure; proximity of the site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the site.

The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with the selected remedy of soil remediation. The proposed future use of the Site includes one 6-story hotel building with inner court yard. Following remediation, the Site will meet either Track 1 Unrestricted Use or Track 4 Site-Specific SCOs, both of which are protective of public health and the environment for its planned residential use. The proposed use is compliant with the property's zoning and is consistent with recent development patterns. The areas surrounding the site is urban and consists of predominantly mixed residential and commercial buildings in zoning districts designated for commercial and residential uses. The development would remediate a vacant contaminated lot and provide a modern hotel building. The proposed development would clean up the property and make it safer, create new employment opportunities, associated societal benefits to the community, and other economic benefits from land revitalization.

Temporary short-term project impacts are being mitigated through site management controls and truck traffic controls during remediation activities. Following remediation, the Site will meet either Track 1 Unrestricted Use SCOs or Track 4 Site-Specific SCOs, both of which are protective of public health and the environmental for its planned use.

The Site is not in close proximity to important cultural resources, including federal or state historic or heritage sites or Native American religious sites, natural resources, waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species. The Site is located in an urban area and not in proximity to fish or wildlife and neither alternative would result in any potential exposure pathways of contaminant migration affecting fish or wildlife. The remedial action is also protective of groundwater natural resources. The Site does not lie in a Federal Emergency Management Agency (FEMA)-designated flood plain. Both alternatives are equally protective of natural resources and cultural resources. Improvements in the current environmental condition of the property achieved by both alternatives considered in this plan are consistent with the City's goals for cleanup of contaminated land.

Sustainability of the Remedial Action

This criterion evaluates the overall sustainability of the remedial action alternatives and the degree to which sustainable means are employed to implement the remedial action including those that take into consideration NYC's sustainability goals defined in PlaNYC: A Greener, Greater New York. Sustainability goals may include: maximizing the recycling and reuse of non-virgin materials; reducing the consumption of virgin and non-renewable resources; minimizing energy consumption and greenhouse gas emissions; improving energy efficiency; and promotion of the use of native vegetation and enhancing biodiversity during landscaping associated with Site development.

While Alternative 2 would potentially result in lower energy usage based on reducing the volume of material transported off-Site, both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action. The remedial plan for either alternative would take into consideration the shortest trucking routes during off-Site disposal of historic fill and other soils, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. The New York City Clean Soil Bank program is available for reuse of any clean native soils under either alternative. A complete list of green remedial activities considered as part of the NYC VCP is included in a Sustainability Statement.

4.0 Remedial Action

4.1 Summary of Preferred Remedial Action

The preferred remedial action alternative is Alternative 1, the Track 1 remedial action. The preferred remedial action achieves protection of public health and the environment for the intended use of the property. The preferred remedial action will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Establishment of Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs). Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of Track 1 SCOs.
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).
6. Excavation and removal of soil/fill exceeding Unrestricted Use (Track 1) SCOs.
   The entire footprint of the building area (about 100% of the property) will be excavated to a depth of approximately 21 feet below grade for development purposes. Approximately 6,600 cubic yards or 10,000 tons of soil/fill will be removed from the Site and properly disposed at an appropriately licensed or permitted facility. The hotspot area

(boring SB2) identified during the subsurface investigation will be delineated and excavated to the extent possible as determined with OER.

7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.
8. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of all USTs that are encountered during soil/fill removal actions. Registration of tanks and reporting of any petroleum spills associated with USTs and appropriate closure of these petroleum spills in compliance with applicable local, State and Federal laws and regulations.
10. Transportation and off-Site disposal of all soil/fill material at licensed or permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
11. As part of development, installation of a vapor barrier system consisting of vapor barrier beneath the building slab and outside of sub-grade foundation sidewalls to mitigate soil vapor migration into the building. The vapor barrier system will consist of a 20-mil Raven Industries VaporBlock 20+ below the slab throughout the full building area and a 20-mil Raven Industries VaporBlock 20+ outside all sub-grade foundation sidewalls. All welds, seams and penetrations will be properly sealed to prevent preferential pathways for vapor migration. The vapor barrier system is an Engineering Control for the remedial action. The remedial engineer will certify in the RAR that the vapor barrier system was designed and properly installed to mitigate soil vapor migration into the building
12. As part of development, construction of an engineered composite cover consisting of a six-inch thick concrete building and courtyard slab over the entire Site.
13. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.

14. Performance of all activities required for the remedial action, including acquisition of required permits and attainment of pretreatment requirements, in compliance with applicable laws and regulations.
15. Dewatering in compliance with city, state, and federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.
16. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
17. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and lists any changes from this RAWP.

4.2 Soil Cleanup Objectives and Soil/ Fill Management

Track 1 SCOs are proposed for this project and SCOs are defined in 6 NYCRR Part 375, Table 6.8(a) Track 1 Unrestricted Use. If Track 1 SCOs are not achieved, the Track 4 Site Specific SCOs will be used.

RI data indicates that the site already meets Track 1 SCOs; if Track 1 SCOs are not met during post excavation confirmation sample analysis, OER will be contacted and SCOs will be determined.

Soil and materials management on-Site and off-Site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan in Appendix 4. Discrete contaminant sources (such as hotspots) identified during the remedial action will be identified by GPS or surveyed. This information will be provided in the Remedial Action Report.

Soil/Fill Excavation and Removal

100 % of the site will be excavated to a depth of 21 feet. The location of planned excavations is shown in Figure 5. The total quantity of soil/fill expected to be excavated and disposed off-Site is 10,000 tons. For each disposal facilities to be used in the remedial action, a letter from the developer/QEP to the receiving facility requesting approval for disposal and a letter back to the developer/QEP providing approval for disposal will be submitted to OER prior to any transport and disposal of soil at a facility.

Disposal facilities will be reported to OER when they are identified and prior to the start of remedial action.

End-point Sampling

End-point samples will be analyzed for compounds and elements as described below utilizing the following methodology:

- Volatile organic compounds by EPA Method 8260;
- Semi-volatile organic compounds by EPA Method 8270;
- Target Analyte List metals; and
- Pesticides/PCBs by EPA Method 8081/8082.

New York State ELAP certified labs will be used for all end-point sample analyses. Labs performing end-point sample analyses will be reported in the RAR. The RAR will provide a tabular and map summary of all end-point sample results and will include all data including non-detects and applicable standards and/or guidance values.

Confirmation End-point Sampling

Removal actions for development purposes under this plan will be performed in conjunction with confirmation end-point soil sampling. Six confirmation samples will be collected from the base of the excavation at locations to be determined by OER. To evaluate attainment of Track 1 SCOs, analytes will include those for which SCOs have been developed, including VOCs, SVOCs, PCBs, pesticides and metals according to analytical methods described above. Figure 6 shows the locations of all end point samples.

Hotspot End-point Sampling

Soil boring SB2 in the 0-2 foot interval identified during the subsurface investigation indicated elevated levels of lead (2,730 ppm) that will be delineated and excavated as a hotspot. For any hotspots identified during this remedial program, including any hotspots identified during the remedial action, hotspot removal actions will be performed to ensure that hot-spots are fully removed and end point samples will be collected at the following frequency:

1. For excavations less than 20 feet in total perimeter, at least one bottom sample and one sidewall sample biased in the direction of surface runoff.
2. For excavations 20 to 300 feet in perimeter:
    - For surface removals, one sample from the top of each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
    - For subsurface removals, one sample from each sidewall for every 30 linear feet of sidewall and one sample from the excavation bottom for every 900 square feet of bottom area.
3. For sampling of volatile organics, bottom samples should be taken within 24 hours of excavation, and should be taken from the zero to six-inch interval at the excavation floor. Samples taken after 24 hours should be taken at six to twelve inches.
4. For contaminated soil removal, post remediation soil samples for laboratory analysis should be taken immediately after contaminated soil removal. If the excavation is enlarged horizontally, additional soil samples will be taken pursuant to bullets 1-3 above.

Post-remediation end-point sample locations and depth will be biased towards the areas and depths of highest contamination identified during previous sampling episodes unless field indicators such as field instrument measurements or visual contamination identified during the remedial action indicate that other locations and depths may be more heavily contaminated. In all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

If either LNAPL and/or DNAPL are detected, appropriate samples will be collected for characterization and "finger print analysis" and required regulatory reporting (i.e. spills hotline) will be performed.

Quality Assurance/Quality Control

The fundamental QA objective with respect to accuracy, precision, and sensitivity of analysis for laboratory analytical data is to achieve the QC acceptance of the analytical protocol. The accuracy, precision and completeness requirements will be addressed by the laboratory for all data generated.

One blind duplicate sample for every 20 samples collected will be submitted to the approved laboratory for analysis of the same parameters. Trip blanks will be used whenever samples are transported to the laboratory for analysis of VOCs. One trip blank will be submitted to the laboratory with each shipment of soil samples. Trip blanks will not be used for samples to be analyzed for metals, SVOCs or pesticides.

Collected samples will be appropriately packaged, placed in coolers and shipped via overnight courier or delivered directly to the analytical laboratory by field personnel. Samples will be containerized in appropriate laboratory provided glassware and shipped in plastic coolers. Samples will be preserved through the use of ice or "cold-paks" to maintain a temperature of 4ºC.

Dedicated disposable sampling materials will be used for the collection endpoint samples, eliminating the need to prepare field equipment (rinsate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinsate blanks will be prepared at the rate of 1 for every eight samples collected. Decontamination of non-dedicated sampling equipment will consist of the following:

- Gently tap or scrape to remove adhered soil
- Rinse with tap water
- Wash with alconox® detergent solution and scrub
- Rinse with tap water

- Rinse with distilled or deionized water

Field blanks will be prepared by pouring distilled or deionized water over decontaminated equipment and collecting the water in laboratory provided containers. Trip blanks will be used whenever samples are transported to the laboratory for analysis of VOCs.

Import of Soils

Soil import is not planned on this project.

Reuse of Onsite Soils

Soil reuse is not planned on this project.

4.3 Engineering Controls

The remedial action will achieve Track 1 Unrestricted Use SCOs and no Engineering Controls are required. However, the following design elements will be incorporated into the project as part of the development:

(1) Composite Cover System (6 inches of concrete)
(2) Soil Vapor Barrier System

If Track 1 is not achieved, these elements will constitute Engineering Controls that will be employed in the remedial action to address residual contamination remaining at the Site.

Composite Cover System

Exposure to residual soil/fill will be prevented by an engineered, composite cover system to be built on the Site. This composite cover system will be comprised of 6 inches of reinforced concrete building and courtyard slab across the Site.

Figure 5 shows the typical design for each remedial cover type used on this Site. Figure 5 shows the location of each cover type built at the Site.

If Track 1 is not achieved, the composite cover system will be considered a permanent engineering control. The system will be inspected and its performance certified at specified intervals as required by this RAWP and the Site Management Plan. A Soil and Materials Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying residual soil/fill is disturbed after the remedial action is complete. Maintenance of this composite cover system will be described in the Site Management Plan in the Remedial Action Report.

Vapor Barrier System

Migration of soil vapor from onsite or offsite sources into the building will be mitigated with a combination of building slab and vapor barrier. The vapor barrier will be installed beneath the sub cellar area. The vapor barrier will consist of a 20-mil Raven Industries' VaporBlock 20 Plus, which is a seven layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins. The specifications for installation will be provided to the construction management company and the foundation contractor or installer of the liner. The specifications state that all vapor barrier seams, penetrations, and repairs will be sealed either by the tape method or weld method, according to the manufacturer’s recommendations and instructions.

The vapor barrier will extend throughout the area occupied by the footprint of the new building and up the foundation sidewalls and will be installed in accordance with manufacturer specifications.

A plan view showing the location of the proposed vapor barrier system is provided in Figure 7. Typical design sections for the vapor barrier on slab and sidewalls are provided in Figure 7. Product specification sheets are provided in Appendix 6. The Remedial Action Report will include as-built drawings and diagrams; manufacturer documentation; and photographs.

If Track 1 is not achieved, the Vapor Barrier System will be considered a permanent engineering control and will be inspected and it performance certified at specified intervals as required by this RAWP and the Site Management Plan. A Soil and Materials Management Plan will be included in the Site Management Plan and will outline the procedures to be followed in the event that the composite cover system and underlying vapor barrier system is disturbed after the

remedial action is complete. Maintenance of these systems will be described in the Site Management Plan in the Remedial Action Report.

4.4 Institutional Controls

A Track 1 remedial action is proposed and Institutional Controls are not required. If a Track 1 remedial action is not achieved, Institutional Controls (IC's) will be incorporated in this remedial action to manage residual soil/fill and other media and render the Site protective of public health and the environment. These ICs define the program to operate, maintain, inspect and certify the performance of Engineering Controls and Institutional Controls on this property. Institutional Controls would be implemented in accordance with a Site Management Plan included in the final Remedial Action Report (RAR). Institutional Controls would be:

- Continued registration of the E-Designation for the property. This RAWP includes a description of all ECs and ICs and summarizes the requirements of the SMP which will note that the property owner and property owner's successors and assigns must comply with the approved SMP;
- Submittal of a SMP in the RAR for approval by OER that provides procedures for appropriate operation, maintenance, inspection, and certification of ECs and ICs. SMP will require that the property owner and property owner's successors and assigns will submit to OER a periodic written statement that certifies that: (1) controls employed at the Site are unchanged from the previous certification or that any changes to the controls were approved by OER; and, (2) nothing has occurred that impairs the ability of the controls to protect public health and environment or that constitute a violation or failure to comply with the SMP. OER retains the right to enter the Site in order to evaluate the continued maintenance of any controls. This certification shall be submitted at a frequency to be determine by OER in the SMP and will comply with RCNY §43-1407(l)(3).
- Vegetable gardens and farming on the Site are prohibited in contact with residual soil materials;
- Use of groundwater underlying the Site is prohibited without treatment rendering it safe for its intended use;

- All future activities on the Site that will disturb residual material must be conducted pursuant to the soil management provisions in an approved SMP;
- The Site will be used for commercial use and will not be used for a higher level of use without prior approval by OER.

4.5 Site Management Plan

A Track 1 remedial action is proposed and Site Management is not required. If a Track 1 remedial action is not achieved, Site Management will be required and will be the last phase of remediation. Site Management will begin with the approval of the Remedial Action Report and issuance of the Notice of Completion (NOC) for the Remedial Action. The Site Management Plan (SMP) describes appropriate methods and procedures to ensure implementation of all ECs and ICs that are required by this RAWP. The Site Management Plan is submitted as part of the RAR but will be written in a manner that allows its use as an independent document. Site Management continues until terminated in writing by OER. The property owner is responsible to ensure that all Site Management responsibilities defined in the Site Management Plan are implemented.

The SMP will provide a detailed description of the procedures required to manage residual soil/fill left in place following completion of the remedial action in accordance with the Voluntary Cleanup Agreement with OER. This includes a plan for: (1) implementation of ECs and ICs; (2) operation and maintenance of ECs; (3) inspection and certification of ICs and ECs.

Site management activities and EC/IC certification will be scheduled by OER on a periodic basis to be established in the RAR and the SMP and will be subject to review and modification by OER. The Site Management Plan will be based on a calendar year and certification reports will be due for submission to OER by July 30 of the year following the reporting period.

4.6 Qualitative Human Health Exposure Assessment

The objective of the qualitative exposure assessment is to identify potential receptors and pathways for human exposure to the contaminants of concern (COC) that are present at, or

migrating from, the Site. The identification of exposure pathways describes the route that the COC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures actually occur.

Data and information reported in the Remedial Investigation Report (RIR) are sufficient to complete a Qualitative Human Health Exposure Assessment (QHHEA) for this project. As part of the VCP process, a QHHEA was performed to determine whether the Site poses an existing or future health hazard to the Site's exposed or potentially exposed population. The sampling data from the RI were evaluated to determine whether there is any health risk under current and future conditions by characterizing the exposure setting, identifying exposure pathways, and evaluating contaminant fate and transport. This QHHEA was prepared in accordance with Appendix 3B and Section 3.3 (b) 8 of the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation.

Known and Potential Contaminant Sources

Based on the results of the RIR, the contaminants of concern are:
Soil: Benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, arsenic, barium, cadmium, copper, lead, manganese and zinc exceeded Restricted Residential SCOs.
Groundwater: Chloroform, benz(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-cd)pyrene, chlordane, manganese and sodium were identified above their respective Groundwater Quality Standards (GQSs).
Soil Vapor: none

Nature, Extent, Fate and Transport of Contaminants

Soil: Data from the RI indicates that soil on site already meets Track 1 SCOs at the planned excavation depth. SCO exceedances only occurred in shallow soils.
Groundwater: One VOC, five SVOCs, one pesticide and two dissolved metals were detected in the groundwater samples at concentrations above their respective GQSs.
Soil Vapor: Soil vapor samples that exhibited low levels of petroleum-related BTEX compounds and low levels of chlorinated VOCs were detected within soil vapor samples.

Receptor Populations

On-Site Receptors: The site is currently vacant and undeveloped and access to the Site is restricted by a 6 foot high, chained and locked, perimeter fence. Onsite receptors are limited to trespassers, site representatives and visitors granted access to the property. During construction, potential on-site receptors include construction workers, site representatives, and visitors. Under proposed future conditions, potential on-site receptors include adult and child building residents, workers and visitors.

Off-Site Receptors: Potential off-site receptors within a 500 foot radius of the Site include adult and child residents; commercial and construction workers; pedestrians; and trespassers based on the following land uses within 500 feet of the Site:

1. Commercial Businesses – existing and future
2. Residential Buildings – existing and future
3. Building Construction/ Renovation – existing and future
4. Pedestrians, Trespassers, Cyclists – existing and future
5. Schools – existing and future

Potential Routes of Exposure

Three potential primary routes exist by which chemicals can enter the body: ingestion, inhalation, and dermal absorption. Exposure can occur based on the following potential media:

- Ingestion of groundwater or fill/ soil;
- Inhalation of vapors or particulates; and
- Dermal absorption of groundwater or fill/ soil.

Potential Exposure Points

Current Conditions: The site is currently capped with asphalt there are no potential exposure pathways from ingestion, inhalation, or dermal absorption of soil/ fill. Groundwater is not exposed at the site. The site is served by the public water supply and groundwater is not used at the site for potable supply and there is no potential for exposure. The Site is currently developed

with a small vacant structure. Based upon data collected from the RI, soil vapor may be accumulating beneath the current building slab.

Construction/ Remediation Conditions: During the remedial action, onsite workers will come into direct contact with surface and subsurface soils as a result of on-Site construction and excavation activities. On-Site construction workers potentially could ingest, inhale or have dermal contact with exposed impacted soil and fill. Similarly, off-Site receptors could be exposed to dust and vapors from on-Site activities. Due to the depth of groundwater, direct contact with groundwater is not expected. During construction, on-Site and off-Site exposures to contaminated dust from on-Site will be addressed through the Soil/Materials Management Plan, dust controls, and through the implementation of the Community Air-Monitoring Program and a Construction Health and Safety Plan.

Proposed Future Conditions: Under future remediated conditions, all soils in excess of Track 1 SCOs will be removed. The site will be fully capped, preventing potential direct exposure to soil and groundwater remaining in place, and engineering controls (vapor barrier) will prevent any potential exposure due to inhalation by preventing soil vapor intrusion. The site is served by the public water supply, and groundwater is not used at the site. There are no plausible off-site pathways for oral, inhalation, or dermal exposure to contaminants derived from the site.

Overall Human Health Exposure Assessment

There are potential complete exposure pathways for the current site condition. There are potential complete exposure pathways that requires mitigation during implementation of the remedy. There are no complete exposure pathways under future conditions after the site is developed. This assessment takes into consideration the reasonably anticipated use of the site, which includes a residential structure, site-wide surface cover, and a subsurface vapor barrier system for the building. Under current conditions, on-Site exposure pathways exist for those with access to the Site and trespassers. During remedial construction, on-Site and off-Site exposures to contaminated dust from historic fill material will be addressed through dust controls, and through the implementation of the Community Air Monitoring Program, the Soil/Materials Management Plan, and a Construction Health and Safety Plan. Potential post-

construction use of groundwater is not considered an option because groundwater in this area of New York City is not used as a potable water source. There are no surface waters in close proximity to the Site that could be impacted or threatened.

Environmental Media & Exposure Route	**Human Exposure Assessment for Proposed Remedial Action**
Direct contact with surface and subsurface soils	• There is not direct contact because all soils in excess of Track 1 SCOs will be removed from the site
Ingestion of groundwater	• The area is served by an upstate water supply and groundwater is not being used for potable water supply. Groundwater use for potable supply onsite is prohibited by municipal law.
Direct contact with groundwater	• All soils in excess of Track 1 SCOs and Groundwater Protection Standards will be removed from the site. Groundwater is not impacted by site conditions.
Direct contact with soil vapor	• Contact with soil vapor will be prevented with a soil vapor barrier and a high volume air exchange required by the Building Code for ventilation of the sub-grade parking garage.

5.0 Remedial Action Management

5.1 Project Organization and Oversight

Principal personnel who will participate in the remedial action include
Chawinie Reilly, Project Manager EBC and Kevin Waters, Field Operations Office EBC. The Professional Engineer (PE) and Qualified Environmental Professionals (QEP) for this project are Ariel Czemerinski P.E., AMC Engineering and Charles Sosik P.G. EBC.

5.2 Site Security

Site access will be controlled by a chain link or wooden construction fence, which will surround the property.

5.3 Work Hours

The hours for operation of cleanup will comply with the NYC Department of Buildings construction code requirements or according to specific variances issued by that agency. The hours of operation will be conveyed to OER during the pre-construction meeting.

5.4 Construction Health and Safety Plan

The Health and Safety Plan is included in Appendix 5. The Site Safety Coordinator will be Kevin Waters. Remedial work performed under this RAWP will be in full compliance with applicable health and safety laws and regulations, including Site and OSHA worker safety requirements and HAZWOPER requirements. Confined space entry, if any, will comply with OSHA requirements and industry standards and will address potential risks. The parties performing the remedial construction work will ensure that performance of work is in compliance with the HASP and applicable laws and regulations. The HASP pertains to remedial and invasive work performed at the Site until the issuance of the Notice of Completion.

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, such as 40-hour hazardous waste operator training and annual 8-hour refresher training. The Site Safety Officer will be responsible for maintaining workers training records. Personnel entering any exclusion zone will be trained in the provisions of the HASP and will comply with all requirements of 29 CFR 1910.120. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

An emergency contact sheet with names and phone numbers is included in the CHASP. That document will define the specific project contacts for use in case of emergency.

5.5 Community Air Monitoring Plan

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

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil and sediment samples or the collection of groundwater samples from existing monitoring wells. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location, monitoring while opening a well cap or overturning soil, monitoring during well bailing/purging, and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park,

or adjacent to a school or residence. Exceedences of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager and included in the Daily Report.

VOC Monitoring, Response Levels, and Actions

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

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

All 15-minute readings must be recorded and be available for OER personnel to review. Instantaneous readings, if any, used for decision purposes will also be recorded.

Particulate Monitoring, Response Levels, and Actions

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

- If the downwind PM-10 particulate level is 100 micrograms per cubic meter (mcg/m3) greater than background (upwind perimeter) for the 15-minute period or if airborne dust is observed leaving the work area, then dust suppression techniques will be employed. Work will continue with dust suppression techniques provided that downwind PM-10 particulate levels do not exceed 150 mcg/m3 above the upwind level and provided that no visible dust is migrating from the work area.
- If, after implementation of dust suppression techniques, downwind PM-10 particulate levels are greater than 150 mcg/m3 above the upwind level, work will be stopped and a re-evaluation of activities initiated. Work will resume provided that dust suppression measures and other controls are successful in reducing the downwind PM-10 particulate concentration to within 150 mcg/m3 of the upwind level and in preventing visible dust migration.

All readings will be recorded and be available for OER personnel to review.

5.6 Agency Approvals

All permits or government approvals required for remedial construction have been or will be obtained prior to the start of remedial construction. Approval of this RAWP by OER does not constitute satisfaction of these requirements and will not be a substitute for any required permit.

5.7 Site Preparation

Pre-Construction Meeting

OER will be invited to attend the pre-construction meeting at the Site with all parties involved in the remedial process prior to the start of remedial construction activities.

Mobilization

Mobilization will be conducted as necessary for each phase of work at the Site. Mobilization includes field personnel orientation, equipment mobilization (including securing all sampling equipment needed for the field investigation), marking/staking sampling locations and utility mark-outs. Each field team member will attend an orientation meeting to become familiar with the general operation of the Site, health and safety requirements, and field procedures.

Utility Marker Layouts, Easement Layouts

The presence of utilities and easements on the Site will be fully investigated prior to the performance of invasive work such as excavation or drilling under this plan by using, at a minimum, the One-Call System (811). Underground utilities may pose an electrocution, explosion, or other hazard during excavation or drilling activities. All invasive activities will be performed in compliance with applicable laws and regulations including NYC Building Code to assure safety. Utility companies and other responsible authorities will be contacted to locate and mark the locations, and a copy of the Mark-Out Ticket will be retained by the contractor prior to the start of drilling, excavation or other invasive subsurface operations. Overhead utilities may also be present within the anticipated work zones. Electrical hazards associated with drilling in the vicinity of overhead utilities will be prevented by maintaining a safe distance between overhead power lines and drill rig masts.

Proper safety and protective measures pertaining to utilities and easements, and compliance with all laws and regulations will be employed during invasive and other work contemplated under this RAWP. The integrity and safety of on-Site and off-Site structures will be maintained during all invasive, excavation or other remedial activity performed under the RAWP.

Dewatering

Dewatering not anticipated during remediation and construction.

Equipment and Material Staging

Equipment and materials will be stored and staged in a manner that complies with applicable laws and regulations.

Stabilized Construction Entrance

Steps will be taken to ensure that trucks departing the site will not track soil, fill or debris off-Site. Such actions may include use of cleaned asphalt or concrete pads or use of stone or other aggregate-based egress paths between the truck inspection station and the property exit. Measures will be taken to ensure that adjacent roadways will be kept clean of project related soils, fill and debris.

Truck Inspection Station

An outbound-truck inspection station will be set up close to 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. Soil and debris will be removed. Brooms, shovels and clean water will be utilized for the removal of soil from vehicles and equipment, as necessary.

Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include dislocation of soil and stockpiled materials, dislocation of site structures and construction materials and equipment, and dislocation of support of excavation 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 enrollee will undertake the following steps for site preparedness prior to the event and response after the event.

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 for 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; stormwater management systems will be inspected and fortified, including, as necessary: clean and reposition silt fences, hay bales; clean storm sewer filters and traps; and secure and protect pumps and hosing.

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 OER at the completion of site inspection and after the site security is assessed. 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 NYS DEC within 2 hours of identification and consistent with State regulations. Emergency and spill conditions will also be reported to OER. 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. Support of excavation structure 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 site to adjacent properties, property owners and OER will be notified and corrective measure plan designed to remove and clean dislocated material will be submitted to OER and implemented following approval by OER and granting of site access by the property owner. Impacted offsite areas may require characterization based on site conditions, at the discretion of OER. If onsite petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYS DEC's spill hotline at DEC 800-457-7362 within statutory 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 NYS DEC.

Storm Response Reporting

A site inspection report will be submitted to OER at the completion of site inspection. An inspection report established by OER is available on OER's website (www.nyc.gov/oer) and will be used for this purpose. 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 OER project manager and will include the site name, address, tax block and lot, site 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 support of excavation; presence of onsite or offsite exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYS DEC; description of corrective actions; schedule for corrective actions. This report should be completed and submitted to OER project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

5.8 Traffic Control

Drivers of trucks leaving the Site with soil/fill will be instructed to proceed without stopping in the vicinity of the Site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is shown on Figure 8.

5.9 Demobilization

Demobilization will include:

- As necessary, restoration of temporary access areas and areas that may have been disturbed to accommodate support areas (e.g., staging areas, decontamination areas, storage areas, temporary water management areas, and access area);
- Removal of sediment from erosion control measures and truck wash and disposal of materials in accordance with applicable laws and regulations;
- Equipment decontamination, and;
- General refuse disposal.

Equipment will be decontaminated and demobilized at the completion of all field activities. Investigation equipment and large equipment (e.g., soil excavators) will be washed at the truck inspection station as necessary. In addition, all investigation and remediation derived waste will be appropriately disposed.

5.10 Reporting and Record Keeping

Daily reports

Daily reports providing a general summary of activities for each day of active remedial work will be emailed to the OER Project Manager by the end of the following business day. Those reports will include:

- Project number and statement of the activities and an update of progress made and 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 all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP results noting all excursions. CAMP data may be reported;
- Photograph of notable Site conditions and activities.

The frequency of the reporting period may be revised in consultation with OER project manager based on planned project tasks. Daily email reports are not intended to be the primary mode of communication for notification to OER of emergencies (accidents, spills), requests for changes to the RAWP or other sensitive or time critical information. However, such information will be included in the daily reports. Emergency conditions and changes to the RAWP will be communicated directly to the OER project manager by personal communication. Daily reports will be included as an Appendix in the Remedial Action Report.

Record Keeping and Photo Documentation

Job-site record keeping for all remedial work will be performed. These records will be maintained on-Site during the project and will be available for inspection by OER staff. Representative photographs will be taken of the Site prior to any remedial activities and during major remedial activities to illustrate remedial program elements and contaminant source areas. Photographs will be submitted at the completion of the project in the RAR in digital format (i.e. jpeg files).

5.11 Complaint Management

All complaints from citizens will be promptly reported to OER. Complaints will be addressed and outcomes will also be reported to OER in daily reports. Notices to OER will include the nature of the complaint, the party providing the complaint, and the actions taken to resolve any problems.

5.12 Deviations From The Remedial Action Work Plan

All changes to the RAWP will be reported to, and approved by, the OER Project Manager and will be documented in daily reports and reported in the Remedial Action Report. The process to

be followed if there are any deviations from the RAWP will include a request for approval for the change from OER noting the following:

- Reasons for deviating from the approved RAWP;
- Effect of the deviations on overall remedy; and
- Determination with basis that the remedial action with the deviation(s) is protective of public health and the environment.

6.0 Remedial Action Report

A Remedial Action Report (RAR) will be submitted to OER following implementation of the remedial action defined in this RAWP. The RAR will document that the remedial work required under this RAWP has been completed and has been performed in compliance with this plan. The RAR will include:

- Information required by this RAWP;
- Text description with thorough detail of all engineering and institutional controls (if Track 1 remedial action is not achieved)
- As-built drawings for all constructed remedial elements;
- Manifests for all soil or fill disposal;
- Photographic documentation of remedial work performed under this remedy;
- Site Management Plan (if Track 1 remedial action is not achieved);
- Description of any changes in the remedial action from the elements provided in this RAWP and associated design documents;
- Tabular summary of all end point sampling results (including all soil test results from the remedial investigation for soil that will remain on site) and all soil/fill waste characterization results, QA/QC results for end-point sampling, and other sampling and chemical analysis performed as part of the remedial action;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all soil or fill material removed from the Site including a map showing the location of these excavations and hotspots, tanks or other contaminant source areas;

- Full accounting of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material;
- Account of the origin and required chemical quality testing for material imported onto the Site;
- Continue registration of the property with an E-Designation by the NYC Department of Buildings (if Track 1 remedial action is not achieved);
- The RAWP and Remedial Investigation Report will be included as appendices to the RAR;
- Reports and supporting material will be submitted in digital form and final PDF's will include bookmarks for each appendix.

Remedial Action Report Certification

I, [name], am currently a registered professional engineer licensed by the State of New York. I performed professional engineering services and had primary direct responsibility for implementation of the remedial program for the [site name (address)] site, site number [VCP site number]. I certify to the following:

- I have reviewed this document, to which my signature and seal are affixed.
- Engineering Controls implemented during this remedial action were designed by me or a person under my direct supervision and achieve the goals established in the Remedial Action Work Plan for this site.
- The Engineering Controls constructed during this remedial action were professionally observed by me or by a person under my direct supervision and (1) are consistent with the Engineering Control design established in the Remedial action Work Plan and (2) are accurately reflected in the text and drawings for as-built design reported in this Remedial Action Report.
- The OER-approved Remedial Action Work Plan dated [date] and Stipulations in a letter dated [date] were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

Name

PE License Number

Signature

Date

PE Stamp

I, [name], am a Qualified Environmental Professional. I had primary direct responsibility for implementation of the remedial program for the [site name (address)] site, site number [VCP site number]. I certify to the following:

- The OER-approved Remedial Action Work Plan dated August 15, 2012 and Stipulations in a letter dated September 10, 2014 were implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

QEP Name

QEP Signature

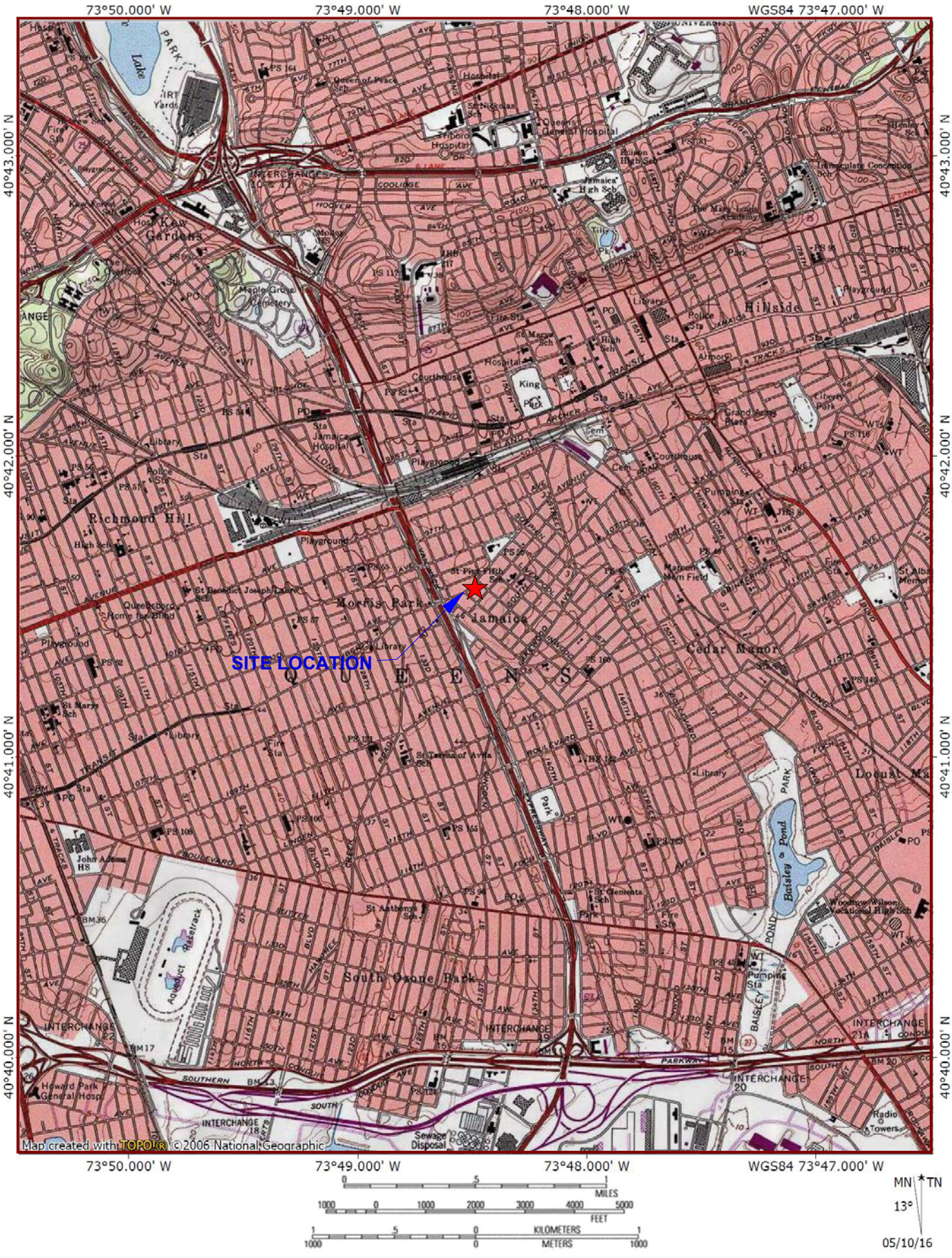
Date

7.0 Schedule

The table below presents a schedule for the proposed remedial action and reporting. If the schedule for remediation and development activities changes, it will be updated and submitted to OER. Currently, a 6 month remediation period is anticipated.

Schedule Milestone	**Weeks from Remedial Action Start**	**Duration (weeks)**
OER Approval of RAWP	0	-
Fact Sheet 2 announcing start of remedy	0	-
Mobilization	1	1
Remedial Excavation	2	8
Demobilization	10	1
Submit Remedial Action Report	20	-

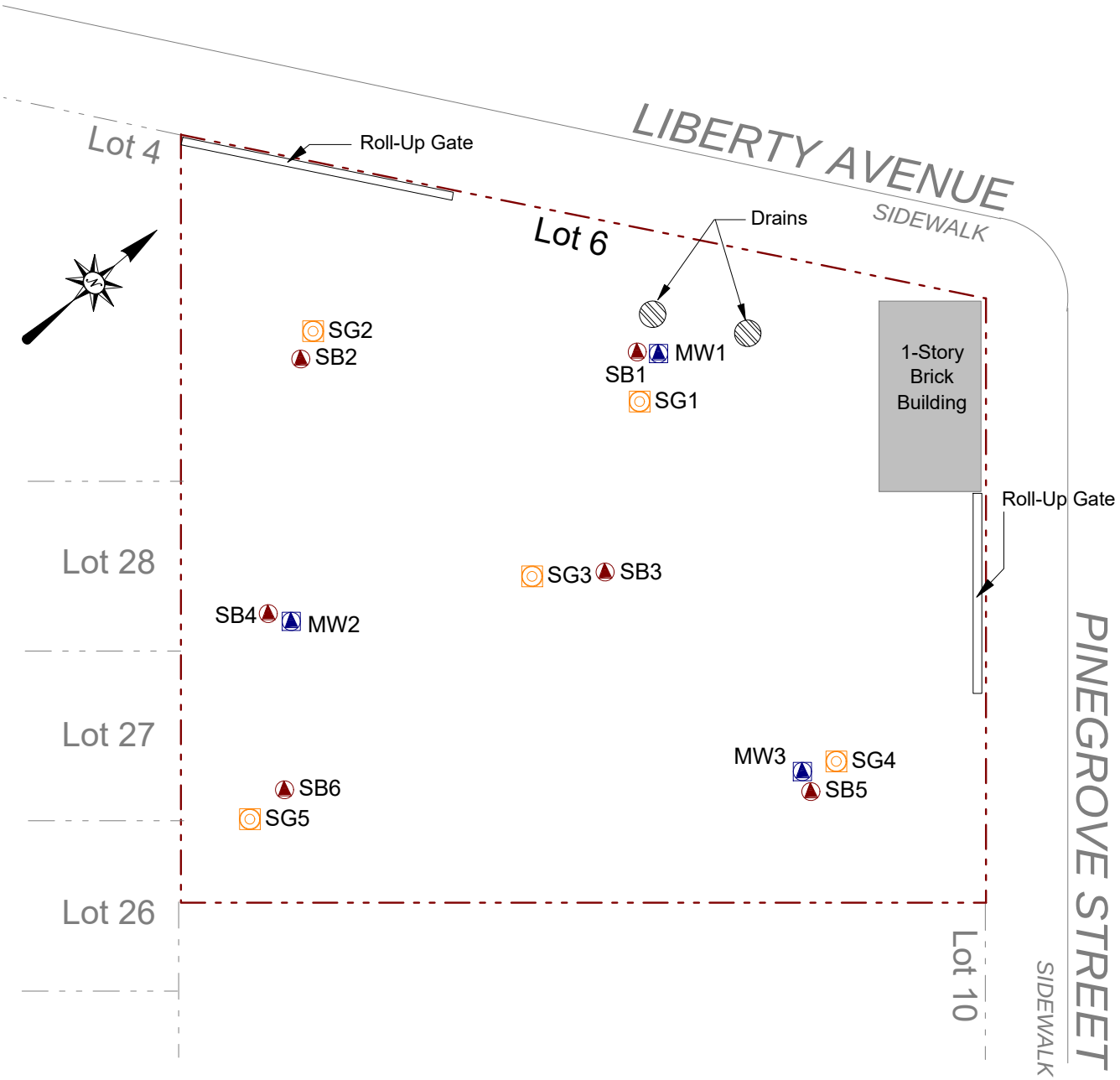
FIGURES



EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 1

Site Name: Redevelopment Project
Site Address: 143-18 Liberty Avenue, Queens, NY
Drawing Title: Site Location Map



KEY:

- Property Boundary
- Soil Boring Locations
- Monitoring Well Locations
- Soil Gas Sampling Locations

SCALE:

0 10 20

Scale: 1 inch = 20 feet

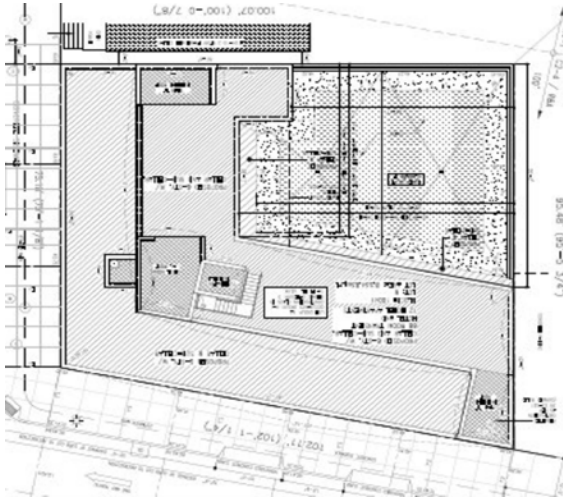
EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. **2**

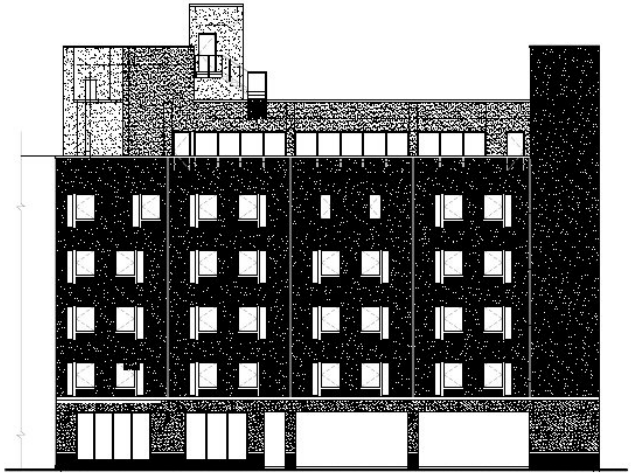
Site Name: Redevelopment Plan

Site Address: 143-18 Liberty Avenue, Queens, NY

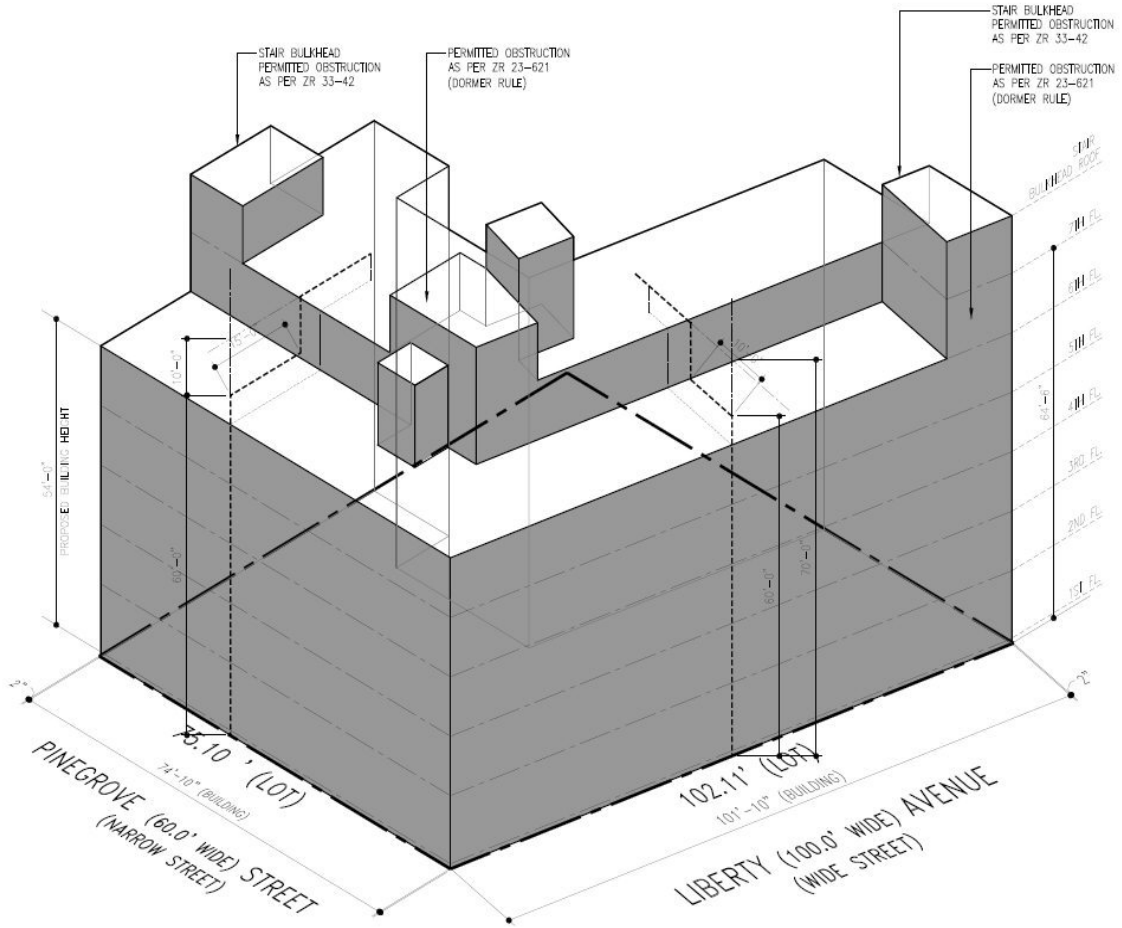
Drawing Title: Site Plan



Proposed Building outline



Liberty Avenue Front View



EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

Figure 3

Site Name: REDEVELOPMENT PROJECT
Site Address: 143-18 LIBERTY AVENUE, QUEENS, NY
Drawing Title: REDEVELPOMENT PLAN

Source: http://www.oasisnyc.net/map.aspx

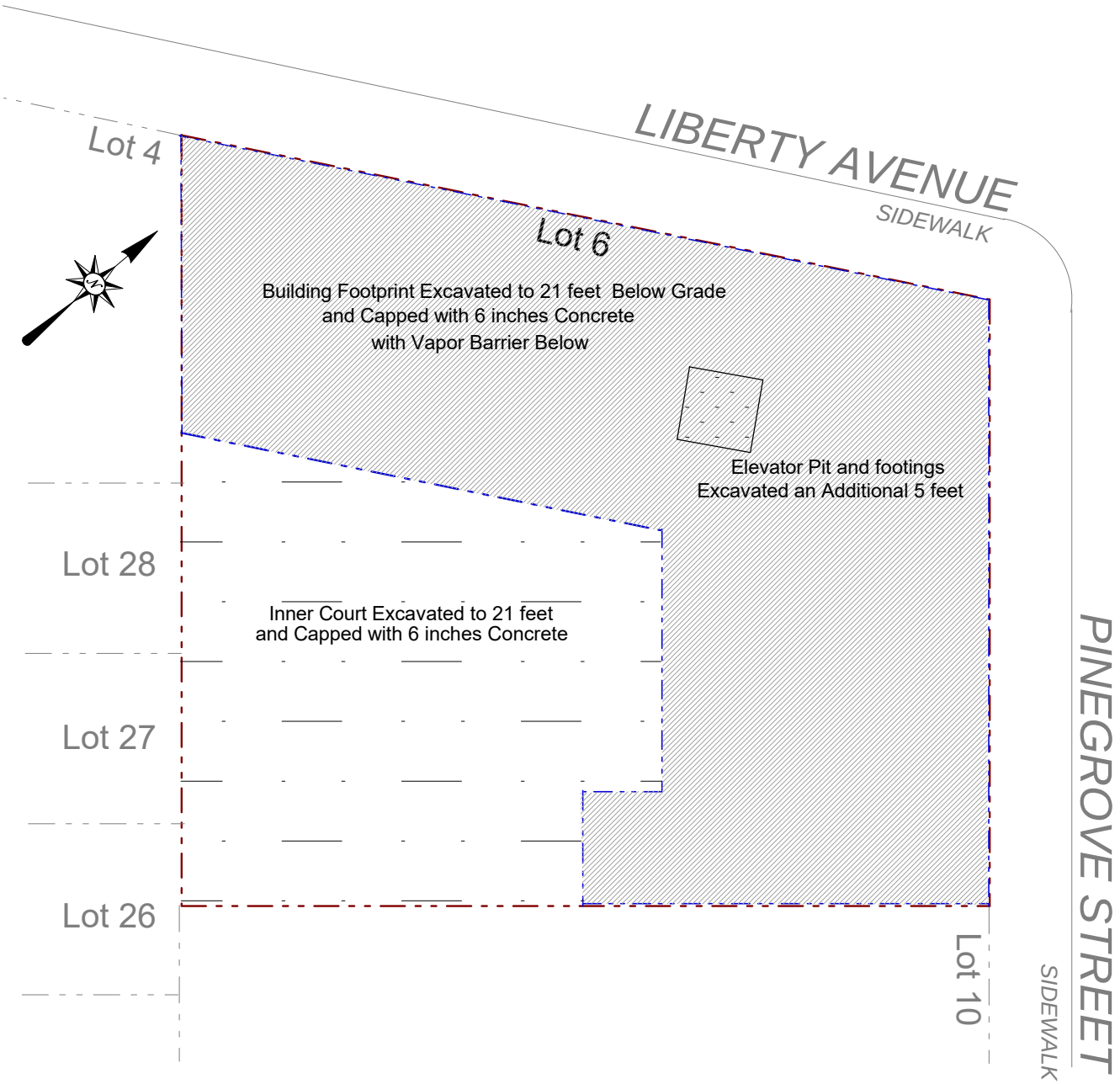
FIGURE 4

SURROUNDING LAND USE MAP

143-18 LIBERTY AVENUE, QUEENS, NY 11435

HAZARDOUS MATERIALS REMEDIAL INVESTIGATION REPORT

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
1808 MIDDLE COUNTRY ROAD, RIDGE, NEW YORK 11961
PHONE: (631) 504-6000 FAX: (631) 924-2870



KEY:

- Property Boundary
- Proposed New Building Footprint
- Inner Court Area
- Elevator Pit Location

SCALE:

0 10 20

Scale: 1 inch = 20 feet

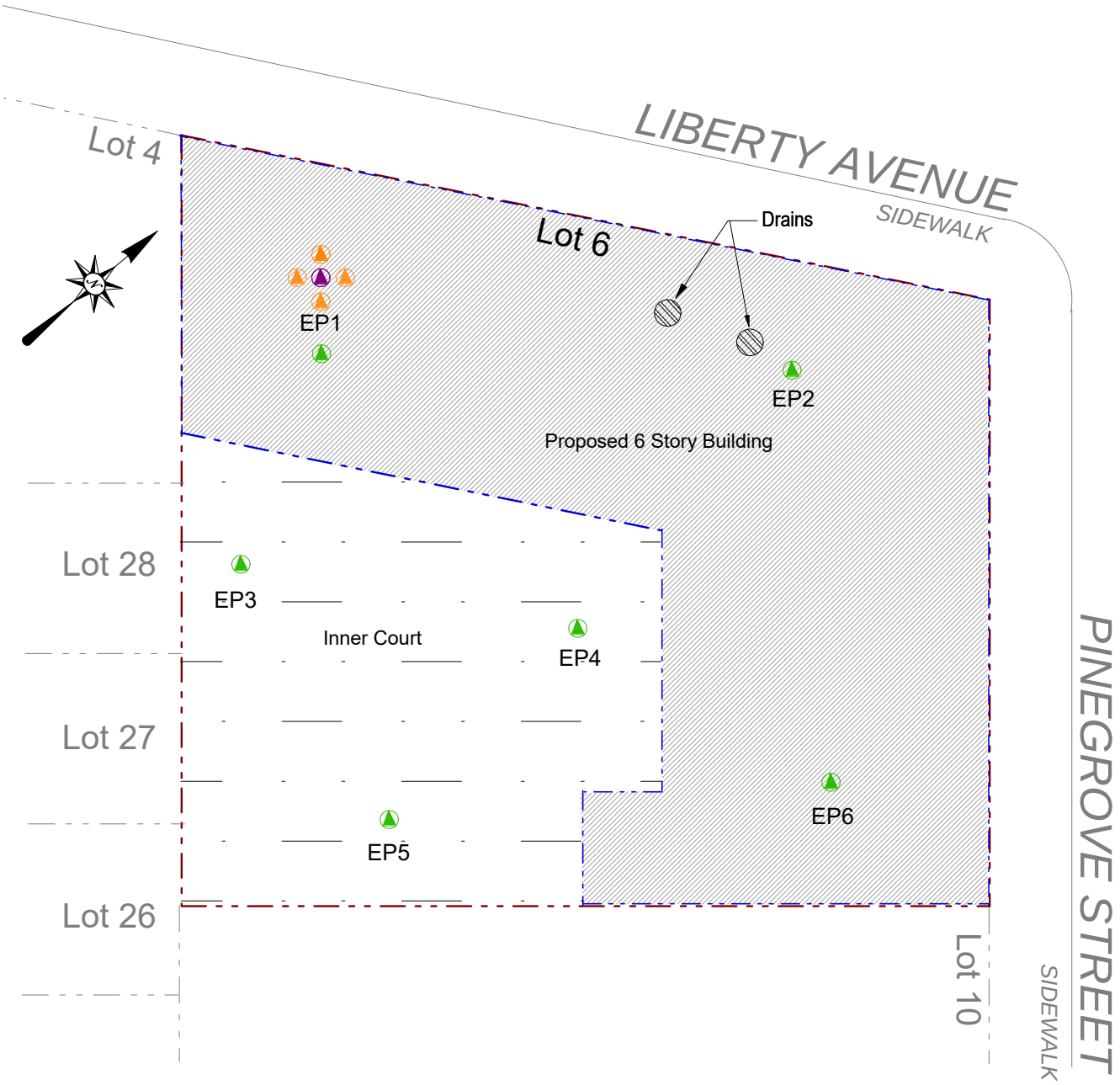
EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 5

Site Name: Redevelopment Project

Site Address: 143-18 Liberty Avenue, Queens, NY

Drawing Title: Site Plan



KEY:

- Property Boundary
- Proposed New Building Footprint
- Inner Court Area
- Endpoint Sampling Location (VOCs, SVOCs, PCBs, Pesticides, Metals; at final excavation depth)
- Side Wall Sample Conducted at (0-2') for Lead Hotspot (Analyze for lead only)
- Bottom Sample Conducted at (0-2') for Lead Hotspot (Analyze for lead only)

SCALE:

0 10 20

Scale: 1 inch = 20 feet

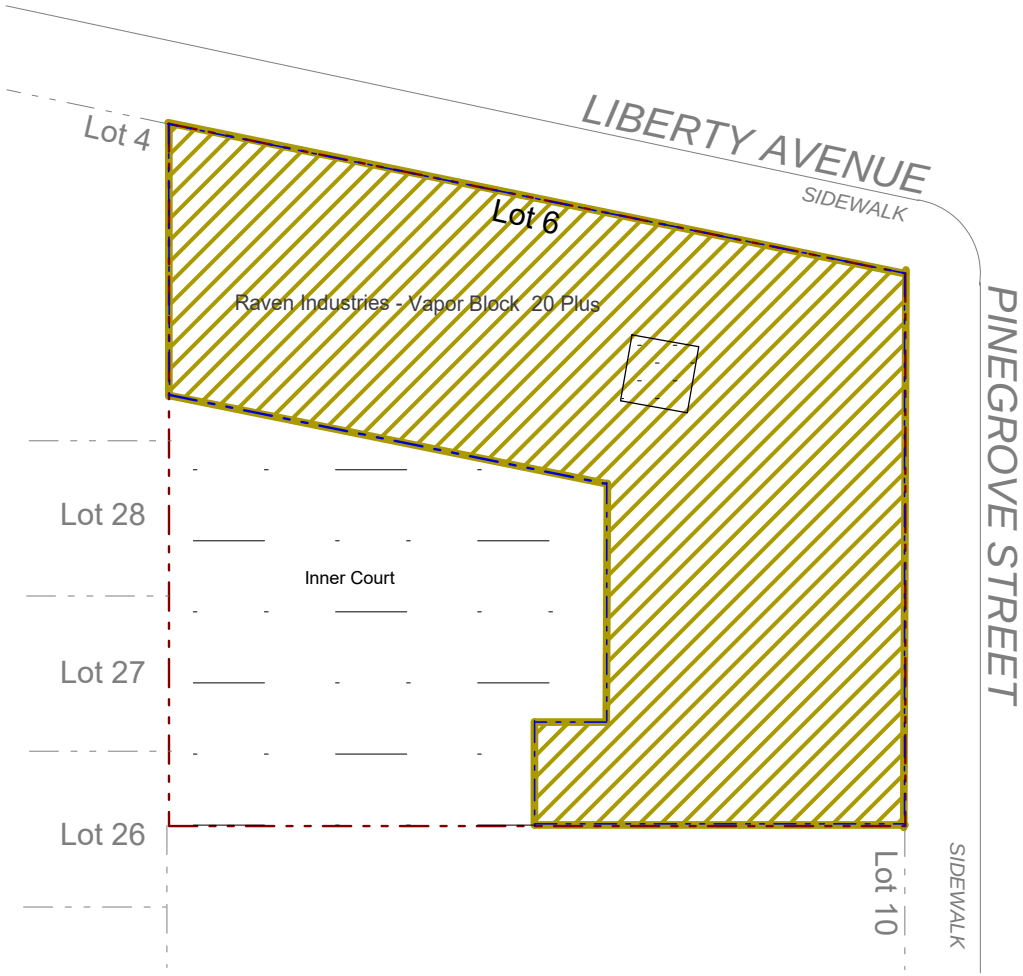
EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 6

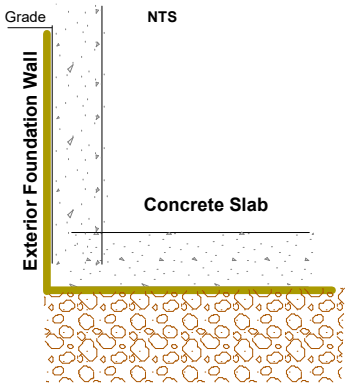
Site Name: Redevelopment Project

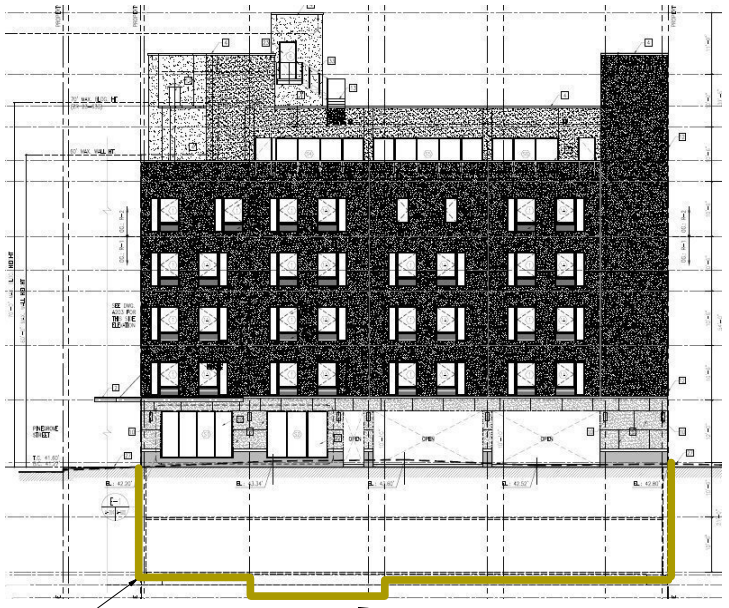
Site Address: 143-18 Liberty Avenue, Queens, NY

Drawing Title: Endpoint Sampling Plan



Detail A





KEY:

- Property Boundary
- Proposed New Building Footprint
- Inner Court Area
- Elevator Pit Location
- Vapor Barrier
- Vapor Block 20 Plus

SCALE:

0 10 20

Scale: 1 inch = 20 feet

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

Figure 7

Site Name: REDEVELPOMENT PROJECT

Site Address: 143-18 LIBERTY AVENUE, QUEENS, NY

Drawing Title: VAPOR BARRIER LAYOUT

Key:

Truck Route From Site

Truck Route To Site

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. 8

Site Name: REDEVELOPMENT PROJECT

Site Address: 143-18 LIBERTY AVENUE, QUEENS, NY

Drawing Title: TRUCK ROUTE

TABLES

TABLE 1
Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water	Unrestricted Use
		Residential	Restricted-Residential	Commercial	Industrial			
METALS								
Arsenic	7440-38 -2	16f	16f	16f	16f	13f	16f	13 [c]
Barium	7440-39 -3	350f	400	400	10,000 d	433	820	350 [c]
Beryllium	7440-41 -7	14	72	590	2,700	10	47	7.2
Cadmium	7440-43 -9	2.5f	4.3	9.3	60	4	7.5	2.5 [c]
Chromium, hexavalent [h]	18540-29-9	22	110	400	800	1e	19	1 [b]
Chromium, trivalent[h]	16065-83-1	36	180	1,500	6,800	41	NS	30 [c]
Copper	7440-50 -8	270	270	270	10,000 d	50	1,720	50
Total Cyanide [h]		27	27	27	10,000 d	NS	40	27
Lead	7439-92 -1	400	400	1,000	3,900	63f	450	63 [c]
Manganese	7439-96 -5	2,000f	2,000f	10,000 d	10,000 d	1600f	2,000f	1600 [c]
Total Mercury		0.81j	0.81j	2.8j	5.7j	0.18f	0.73	0.18 [c]
Nickel	7440-02 -0	140	310	310	10,000 d	30	130	30
Selenium	7782-49 -2	36	180	1,500	6,800	3.9f	4f	3.9[c]
Silver	7440-22 -4	36	180	1,500	6,800	2	8.3	2
Zinc	7440-66 -6	2200	10,000 d	10,000 d	10,000 d	109f	2,480	109 [c]
PESTICIDES / PCBs								
2,4,5-TP Acid (Silvex)	93-72-1	58	100a	500b	1,000c	NS	3.8	3.8
4,4'-DDE	72-55-9	1.8	8.9	62	120	0.0033 e	17	0.0033 [b]
4,4'-DDT	50-29-3	1.7	7.9	47	94	0.0033 e	136	0.0033 [b]
4,4'-DDD	72-54-8	2.6	13	92	180	0.0033 e	14	0.0033 [b]
Aldrin	309-00-2	0.019	0.097	0.68	1.4	0.14	0.19	0.005 [c]
alpha-BHC	319-84-6	0.097	0.48	3.4	6.8	0.04g	0.02	0.02
beta-BHC	319-85-7	0.072	0.36	3	14	0.6	0.09	0.036
Chlordane (alpha)	5103-71 -9	0.91	4.2	24	47	1.3	2.9	0.094
delta-BHC	319-86-8	100a	100a	500b	1,000c	0.04g	0.25	0.04
Dibenzofuran	132-64-9	14	59	350	1,000c	NS	210	7
Dieldrin	60-57-1	0.039	0.2	1.4	2.8	0.006	0.1	0.005[c]
Endosulfan I	959-98-8	4.8i	24i	200i	920i	NS	102	2.4
Endosulfan II	33213-65-9	4.8i	24i	200i	920i	NS	102	2.4
Endosulfan sulfate	1031-07 -8	4.8i	24i	200i	920i	NS	1,000c	2.4
Endrin	72-20-8	2.2	11	89	410	0.014	0.06	0.014
Heptachlor	76-44-8	0.42	2.1	15	29	0.14	0.38	0.042
Lindane	58-89-9	0.28	1.3	9.2	23	6	0.1	0.1
Polychlorinated biphenyls	1336-36 -3	1	1	1	25	1	3.2	0.1
SEMI-VOLATILES								
Acenaphthene	83-32-9	100a	100a	500b	1,000c	20	98	20
Acenapthylene	208-96-8	100a	100a	500b	1,000c	NS	107	100 [a]
Anthracene	120-12-7	100a	100a	500b	1,000c	NS	1,000c	100 [a]
Benz(a)anthracene	56-55-3	1f	1f	5.6	11	NS	1f	1[c]
Benzo(a)pyrene	50-32-8	1f	1f	1f	1.1	2.6	22	1[c]
Benzo(b) fluoranthene	205-99-2	1f	1f	5.6	11	NS	1.7	1[c]
Benzo(g,h,i) perylene	191-24-2	100a	100a	500b	1,000c	NS	1,000c	100
Benzo(k) fluoranthene	207-08-9	1	3.9	56	110	NS	1.7	0.8 [c]
Chrysene	218-01-9	1f	3.9	56	110	NS	1f	1[c]
Dibenz(a,h) anthracene	53-70-3	0.33e	0.33e	0.56	1.1	NS	1,000c	0.33 [b]
Fluoranthene	206-44-0	100a	100a	500b	1,000c	NS	1,000c	100 [a]
Fluorene	86-73-7	100a	100a	500b	1,000c	30	386	30
Indeno(1,2,3-cd) pyrene	193-39-5	0.5f	0.5f	5.6	11	NS	8.2	0.5 [c]
m-Cresol	108-39-4	100a	100a	500b	1,000c	NS	0.33e	0.33 [b]
Naphthalene	91-20-3	100a	100a	500b	1,000c	NS	12	12
o-Cresol	95-48-7	100a	100a	500b	1,000c	NS	0.33e	0.33 [b]
p-Cresol	106-44-5	34	100a	500b	1,000c	NS	0.33e	0.33 [b]
Pentachlorophenol	87-86-5	2.4	6.7	6.7	55	0.8e	0.8e	0.8[b]
Phenanthrene	85-01-8	100a	100a	500b	1,000c	NS	1,000c	100
Phenol	108-95-2	100a	100a	500b	1,000c	30	0.33e	0.33[b]
Pyrene	129-00-0	100a	100a	500b	1,000c	NS	1,000c	100

TABLE 1
Soil Cleanup Objectives

Contaminant	CAS Number	Protection of Public Health				Protection of Ecological Resources	Protection of Ground-water	Unrestricted Use
		Residential	Restricted-Residential	Commercial	Industrial			
VOLATILES								
1,1,1-Trichloroethane	71-55-6	100a	100a	500b	1,000c	NS	0.68	0.68
1,1-Dichloroethane	75-34-3	19	26	240	480	NS	0.27	0.27
1,1-Dichloroethene	75-35-4	100a	100a	500b	1,000c	NS	0.33	0.33
1,2-Dichlorobenzene	95-50-1	100a	100a	500b	1,000c	NS	1.1	1.1
1,2-Dichloroethane	107-06-2	2.3	3.1	30	60	10	0.02f	0.02[c]
cis-1,2-Dichloroethene	156-59-2	59	100a	500b	1,000c	NS	0.25	0.25
trans-1,2-Dichloroethene	156-60-5	100a	100a	500b	1,000c	NS	0.19	0.19
1,3-Dichlorobenzene	541-73-1	17	49	280	560	NS	2.4	2.4
1,4-Dichlorobenzene	106-46-7	9.8	13	130	250	20	1.8	1.8
1,4-Dioxane	123-91-1	9.8	13	130	250	0.1e	0.1e	0.1[b]
Acetone	67-64-1	100a	100b	500b	1,000c	2.2	0.05	0.05
Benzene	71-43-2	2.9	4.8	44	89	70	0.06	0.06
Butylbenzene	104-51-8	100a	100a	500b	1,000c	NS	12	12
Carbon tetrachloride	56-23-5	1.4	2.4	22	44	NS	0.76	0.76
Chlorobenzene	108-90-7	100a	100a	500b	1,000c	40	1.1	1.1
Chloroform	67-66-3	10	49	350	700	12	0.37	0.37
Ethylbenzene	100-41-4	30	41	390	780	NS	1	1
Hexachlorobenzene	118-74-1	0.33e	1.2	6	12	NS	3.2	0.33[b]
Methyl ethyl ketone	78-93-3	100a	100a	500b	1,000c	100a	0.12	0.12
Methyl tert-butyl ether	1634-04 -4	62	100a	500b	1,000c	NS	0.93	0.93
Methylene chloride	75-09-2	51	100a	500b	1,000c	12	0.05	0.05
n-Propylbenzene	103-65-1	100a	100a	500b	1,000c	NS	3.9	3.9
sec-Butylbenzene	135-98-8	100a	100a	500b	1,000c	NS	11	11
tert-Butylbenzene	98-06-6	100a	100a	500b	1,000c	NS	5.9	5.9
Tetrachloroethene	127-18-4	5.5	19	150	300	2	1.3	1.3
Toluene	108-88-3	100a	100a	500b	1,000c	36	0.7	0.7
Trichloroethene	79-01-6	10	21	200	400	2	0.47	0.47
1,2,4-Trimethylbenzene	95-63-6	47	52	190	380	NS	3.6	3.6
1,3,5-Trimethylbenzene	108-67-8	47	52	190	380	NS	8.4	8.4
Vinyl chloride	75-01-4	0.21	0.9	13	27	NS	0.02	0.02
Xylene (mixed)	1330-20 -7	100a	100a	500b	1,000c	0.26	1.6	0.26

All soil cleanup objectives (SCOs) are in parts per million (ppm). NS=Not specified. See Technical Support Document (TSD). Footnotes

a The SCOs for residential, restricted-residential and ecological resources use were capped at a maximum value of 100 ppm. See TSD section 9.3.

b The SCOs for commercial use were capped at a maximum value of 500 ppm. See TSD section 9.3.

c The SCOs for industrial use and the protection of groundwater were capped at a maximum value of 1000 ppm. See TSD section 9.3.

d The SCOs for metals were capped at a maximum value of 10,000 ppm. See TSD section 9.3.

e For constituents where the calculated SCO was lower than the contract required quantitation limit (CRQL), the CRQL is used as the SCO value.

APPENDIX 1
PROPOSED DEVELOPMENT PLANS

HOTEL

LIBERTY HOTEL

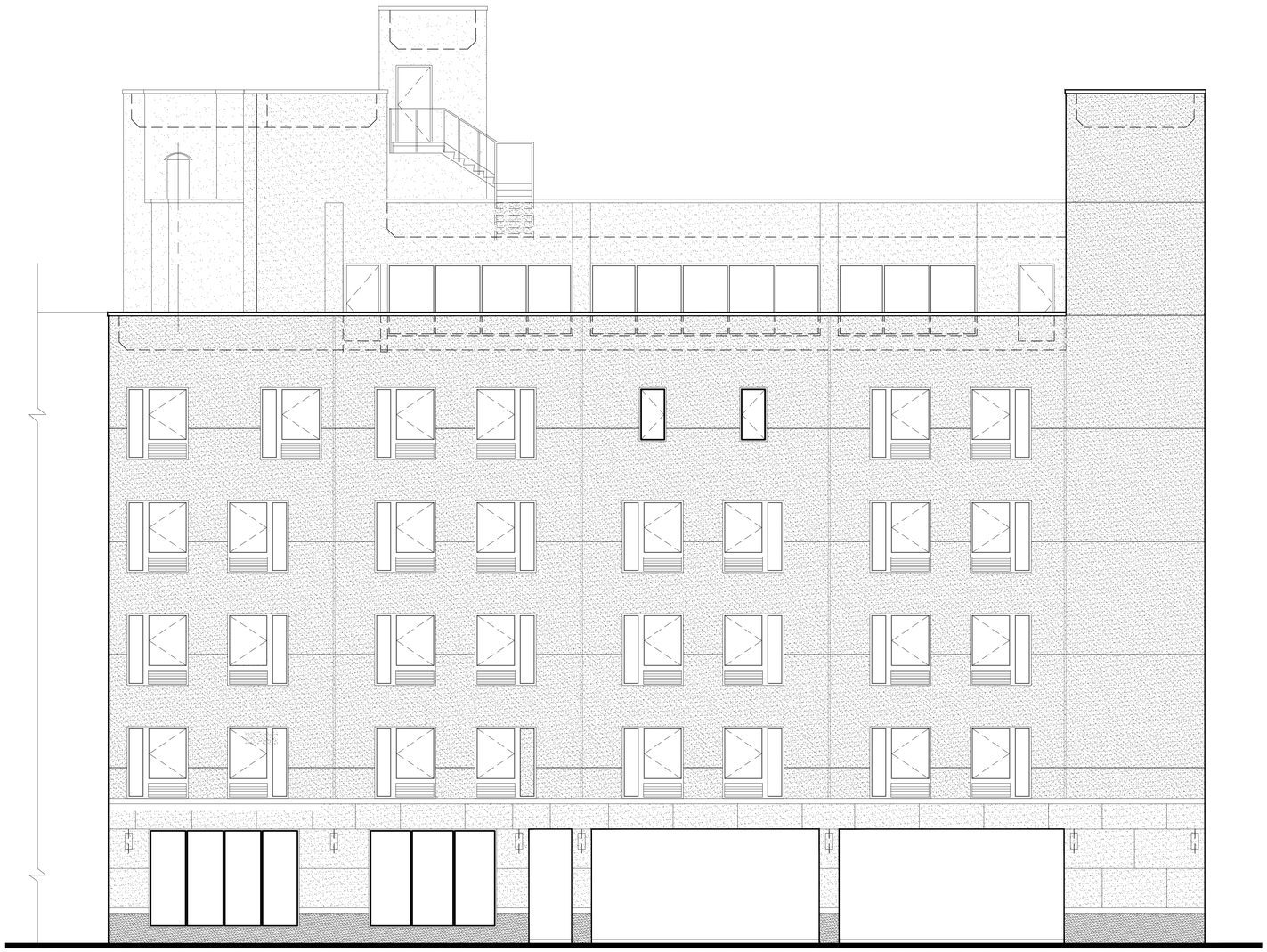
ARCHITECT
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

SOE



D R A W I N G I N D E X

SHEET No.	DESCRIPTION ARCHITECTURAL
T-100.00	DRAWING INDEX
Z-100.00	SITE PLAN, ZONING INFORMATION, GENERAL NOTES AND STATEMENTS
Z-101.00	ALTERNATE SKY EXPOSURE DIAGRAM AND AVERAGE CURB CUT CALCULATION
Z-102.00	BUILDING CODE ANALYSIS AND EGRESS DIAGRAMS
Z-103.00	BUILDING CODE AND EGRESS DIAGRAMS
Z-104.00	EGRESS DIAGRAMS
Z-105.00	SURVEY, FEMA AND TAX MAPS
C-100.00	SITE DETAILS, STREET TREE PLANTING DETAILS AND NOTES
EN-100.00	ENERGY ANALYSIS FOR BUILDING ENVELOPE – COMCHECK
EN-101.00	PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE AND ENVELOPE SECTIONS
EN-102.00	ENERGY ANALYSIS FOR BUILDING ENVELOPE – COMCHECK
EN-103.00	ENERGY ANALYSIS FOR BUILDING ENVELOPE – COMCHECK
EN-104.00	ENERGY ANALYSIS FOR BUILDING ENVELOPE – COMCHECK
EN-105.00	ENERGY ANALYSIS, MECHANICAL AND PLUMBING – COMCHECK
EN-106.00	ENERGY ANALYSIS, MECHANICAL AND PLUMBING – COMCHECK
FO-001.00	FOOTING AND FOUNDATION PLAN
A-100.00	SUB-CELLAR PLAN
A-101.00	CELLAR PLAN
A-102.00	1ST FLOOR PLAN
A-103.00	2ND & 3RD TYPICAL FLOOR PLANS
A-104.00	4TH THRU 6TH TYPICAL FLOOR PLAN
A-105.00	7TH FLOOR PLAN
A-106.00	8TH FLOOR – ROOF PLAN
A-107.00	BULKHEAD ROOF PLAN & MECHANICAL ROOM PLAN
A-130.00	TYPICAL HANDICAP ACCESSIBLE GUEST ROOM DETAIL PLAN
A-131.00	TYPICAL GUEST ROOM AND RUBBISH CHUTE DETAIL PLANS
A-200.00	FRONT AND REAR ELEVATIONS
A-201.00	SOUTH SIDE ELEVATION
A-202.00	NORTH SIDE ELEVATION
A-203.00	PARTIAL ELEVATIONS
A-204.00	PARTIAL ELEVATIONS
A-300.00	SECTIONS A-A
A-301.00	SECTIONS C-C
A-302.00	SECTIONS D-D
A-400.00	EXTERIOR WALL SECTIONS
A-401.00	EXTERIOR WALL SECTIONS
A-402.00	EXTERIOR WALL WATER PROOFING DETAILS
A-403.00	EXTERIOR WALL DETAILS
A-404.00	EXTERIOR WALL WATER PROOFING DETAILS
A-500.00	WALL TYPES
A-501.00	PENETRATION FIRE-STOPING DETAILS
A-502.00	TYPICAL PARTITIONS FRAMING DETAILS
A-503.00	WALL DETAILS
A-504.00	ROOFING DETAILS
A-505.00	FIRE STAIR 'A', 'B' AND 'C' DETAIL PLANS
A-506.00	FIRE STAIR 'A', 'B' AND 'C' – SECTIONS
A-507.00	STAIR TYPICAL DETAILS
A-508.00	PARTITION TYPES
A-509.00	ELEVATOR DETAILS
A-510.00	TYPICAL FRAMING DETAILS
A-600.00	DOOR SCHEDULE, TYPES, AND DETAILS
A-601.00	WINDOW AND STOREFRONT SCHEDULES
A-700.00	REFLECTED CEILING PLANS – SUB-CELLAR AND CELLAR
A-701.00	REFLECTED CEILING PLANS – 1ST, 2ND & 3RD FLOORS
A-702.00	REFLECTED CEILING PLANS – 4TH FLOOR THRU BULKHEAD
A-800.00	TYPICAL ADA DETAILS
A-801.00	TYPICAL ADA DETAILS
A-900.00	GENERAL NOTES #1
A-901.00	GENERAL NOTES #2
A-902.00	GENERAL NOTES #2

SHEET No.	DESCRIPTION STRUCTURAL

SHEET No.	DESCRIPTION MECHANICAL

SHEET No.	DESCRIPTION ELECTRICAL

SHEET No.	DESCRIPTION PLUMBING

SHEET No.	DESCRIPTION FIRE ALARM

SHEET No.	DESCRIPTION SPRINKLER

SHEET No.	DESCRIPTION GEOTECHNICAL

CONSULTANTS:

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
DRAWING IINDEX

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
T-100.00
CAD FILE NO: 01 OF
Z: \-MSS-647-ARVINDER-LIBERTY\

GENERAL INFORMATION

LOC. 143-18 LIBERTY AVENUE
QUEENS, NY 11435
BLOCK: 10041
LOT: 6
ZONING DISTRICT: C2-4 IN R6A
MAP#: 18c
COMMUNITY BOARD:412
FIRE DISTRICT: YES
BIN #: 4440168
LOT AREA = 8,534.83 SF
PROP. BUILDING HT. = 69'-4"
BASE WALL HT.(PERIMETER WALL) = 54'-10"

OCCUPANCY CLASS: R-1, R-2
CONSTRUCTION CLASS.: 1B
SEISMIC DESIGN CATG.: C
OF GUEST ROOMS : 67 (R-1)
OF APARTMENTS: 12 (R-2)

SPECIAL INSPECTIONS (TR 1)

STRUCTURAL STEEL-WELDING		BC 1704.3.1
STRUCTURAL STEEL DETAILS		BC 1704.3.2
STRUCTURAL STEEL- HIGH STRENGTH BOLTING		BC 1704.3.3
STRUCTURAL COLD-FORMED STEEL		BC 1704.3.4
CONCRETE-CAST-IN-PLACE		BC 1704.4
MASONRY		BC 1704.5
SOILS-SITE PREPARATION		BC 1704.7.1
SOILS - FILL PLACEMENT & IN-PLACE DENSITY		BC 1704.7.2, BC 1704.7.3
SOILS-INVESTIGATIONS (BORINGS/TEST PITS)	TR4	BC 1704.7.4
SPRAYED FIRE-RESISTANT MATERIALS		BC 1704.11
MASTIC AND INTUMESCENT FIRE-RESISTANT COATINGS		BC 1704.12
EXCAVATION-SHEETING, SHORING AND BRACING		BC 1704.20.2
SOIL PERCOLATION TEST - PRIVATE ON-SITE STORM WATER DRAINAGE DISPOSAL SYSTEMS AND DETENTION FACILITIES		BC 1704.21.1.2
PRIVATE ON-SITE STORM WATER DRAINAGE DISPOSAL SYSTEMS, AND DETENTION FACILITIES INSTALLATION		BC 1704.21.2
FIRE-RESISTANT PENETRATIONS AND JOINTS		BC 1704.27
CONCRETE DESIGN MIX	TR3	BC 1905.3, BC 1913.5
CONCRETE TEST CYLINDERS	TR2	BC 1905.6, BC 1913.10

PROGRESS INSPECTIONS

PRELIMINARY		BC 110.2
FOOTING AND FOUNDATION		BC 110.3.1
LOWEST FLOOR ELEVATION		BC 110.3.2
ENERGY CODE COMPLIANCE INSPECTIONS	TR8	BC 110.3.5
FIRE-RESISTANCE RATED CONSTRUCTION		BC 110.3.4

ENERGY INSPECTIONS (TR 8)

PROTECTION OF EXPOSED FOUNDATION INSULATION	(IIA1)
INSULATION PLACEMENT & R VALUES	(IIA2)
FENESTRATION U-FACTOR AND PRODUCT RATING	(IIA3)
FENESTRATION AIR LEAKAGE	(IIA4)
FENESTRATION AREAS	(IIA5)
AIR SEALING AND INSULATION-VISUAL	(IIA6)
SHUT-OFF DAMPERS	(IIB2)
HVAC AND SERVICE WATER HEATING EQUIPMENT	(IIB3)
HVAC AND SERICE WATER SYSTEMS CONTROL	(IIB4)
HVAC INSULATION AND SEALING	(IIB5)
DUCT LEAKAGE TESTING	(IIB6)
ELECTRICAL ENERGY CONSUMPTION	(IIC1)
LIGHTING IN DWELLING UNITS	(IIC2)
INTERIOR LIGHTING POWER	(IIC3)
EXTERIOR LIGHTING POWER	(IIC4)
LIGHTING CONTROLS	(IIC5)
EXIT SIGNS	(IIC6)
ELECTRIC MOTORS	(IIC7)
MAINTENANCE INFORMATION	(IID1)

ZONING FLOOR AREA CALCULATIONS (SEE DWG.# Z102 & Z103)

	GROSS SF	DEDUCTIONS SF	ZONING SF
COMMERCIAL (R-1)			
SUB-CELLAR	5,923.94 SF	5,923.94 SF	0.00 SF
CELLAR	5,923.94 SF	5,923.94 SF	0.00 SF
1 FLOOR	5,923.94 SF	4,533.51 SF	1,390.43 SF
2 FLOOR	5,695.04 SF	211.90 SF	5,483.14 SF
3 FLOOR	5,695.04 SF	211.90 SF	5,483.14 SF
4 FLOOR	5,695.04 SF	1,023.53 SF	4,671.51 SF
COMM. TOTAL			17,028.22 SF
RESIDENTIAL (R-2)			
5 FLOOR	5,695.04 SF	366.59 SF	5,328.45 SF
6 FLOOR	3,170.77 SF	69.93 SF	3,100.84 SF
RES. TOTAL			8,429.29 SF
TOTAL	43,718.75 SF		25,457.51 SF

ZONING NOTES (ZONING C2-4 IN R6A)

ZR 35-011(a):Q.H.P.
RESIDENTIAL PORTION OF BUILDING SHALL COMPLY WITH:
ART. II, CHP. 8 : Q.H.P.
SECT. 28-33 : PLANTING AREA
SECT. 28-30 : PARKING

ZR 35-23 RESIDENTIAL BULK
AS PER RESIDENTIAL REGULATIONS
HT. & SETBACK AS PER ZR 35-24

ZR 35-24 ST STREET WALL LOCATION & HEIGHT
(a): DORMERS PERMITTED AS PER ZR 23-621 (c)(i) & OBSTRUCTION PERMITTED UNDER ZR 33-42

(b): 70 PERCENT OF #AGGREGATE WIDTH OF STREET WALLS# SHALL BE LOCATED WITHIN EIGHT FEET OF THE #STREET LINE# AND SHALL EXTEND TO AT LEAST THE MINIMUM BASE HEIGHT
100% OF STREET WALL ON STREET LINE ..... (COMPLIES)
PROPOSED BASE HEIGHT = 54'-10" < 60' ..... (OK) (TABLE A)

(C)(i): MIN. 10' SETBACK ALONG WIDE STREET: < 16'-10" PROVIDE ALONG LIBERTY AVE.
MIN. 15' SETBACK ALONG NARROW ST.: < 16'-8" PROVIDE ALONG PINEGROVE AVE.

TABLE 'A': MAX. BUILD. HEIGHT (ZONING) PERMITTED: 70' > 64'-6" PROPOSED

ZR 35-31: MAX F.A.R.
COMMERCIAL F.A.R. AS PER ART. III, CHP.3 AND
RESIDENTIAL F.A.R. AS PER ART. II, CHP.3
PROVIDED THE MAX. PROPOSED DOES NOT EXCEED THE MAX. ALLOWED FOR ANY SUCH ALLOWABLE USE.

ZR 33-121:
COMMERCIAL F.A. = 2.0 x 8,534.83 = 17,069.66 SF (ALLOWABLE) > 17,028.22 SF (PROVIDED) (99%)

ZR 23-145:
RESIDENTIAL F.A. = 3.0 X 8,534.83 = 25,604.49 SF (ALLOWABLE) > 8,429.29 SF (PROVIDED) (33%)

TOTAL F.A ALLOWABLE = 25,604.49 SF (3.0) > 25,457.51 SF (2.9%) PROPD.

ZR 35-33: O.S.R. FOR RESIDENTIAL PORTION
N/A

ZR 35-34: LOCATION OF OPEN SPACE
NOT USED

ZR 35-51: MODIFICATION OF FRONT YARD REQUIREMENTS:
NONE REQUIRED
NONE PROVIDED

ZR 35-52: MODIFICATION OF SIDE YARD REQUIREMENTS:
NONE REQUIRED
NONE PROVIDED

ZR 35-53: MODIFICATION OF REAR YARD REQUIREMENTS:
RESIDENTIAL REAR YARD REQUIRED AT LOWEST LEVEL USED FOR DWELLING UNITS.
N/A SINCE PROPERTY IS A CORNER LOT (ZR 23-541)

ZR 23-22: MAXIMUM NO. OF DWELLING UNITS (FOR RESIDENTIAL PORTION):
25,604.49 SF (3.0) - 17,069.66 SF (2.0) TRANSIENT HOTEL = 8,534.83 SF
8,534.83 SF / 680 = 12.55 > 12 PROPOSED (OK)
(8 APTS. @ 5TH FL. AND 4 APTS. @ 6TH FL.)

ZR 23-851: INNER COURT REGULATIONS
MIN. 1,200 SF AND 30' MIN. DIMENSION
PROVIDED INNER COURT: 2,648.90 SF > 1,200 SF
PROVIDED INNER COURT DIMENSIONS: 42'-11" & 49'-6" > 30' (BOTH DIRECTIONS)

ZR 23-852: INNER COURT RECESSES
DEPTH = 11'-2"
WIDTH = 28'-11 (> 2x THE DEPTH OF THE RECESS) (OK)

ZONING NOTES CONTIN.

ZR 23-861:
MIN. DISTANCE BETWEEN WINDOW & LOT LINE = 30' < 49'-6" PROVIDED

ZR 23-863: (FOR RESIDENTIAL PORTION @ 5TH FL. & 6TH FL.)
MIN. 30' NOR LESS THAN HALF THE HEIGHT OF THE WALL ABOVE THE WINDOW SILL OF RESIDENTIAL PORTION.
30' (RESIDENTIAL) < 49'-6" PROVIDED

ZR 33-51: MIN. DIMENSION OF COURTS
N/A

ZR 36-21: PARKING FOR COMMERCIAL USE (TRANSIENT HOTEL)
1 SPACE / 12 GUEST ROOMS
1 SPACE / 25 PEOPLE FOR OTHER SPACES
76 GUEST ROOMS / 12 = 6 REQUIRED PARKING SPACES
AS PER ZR 36-232(a) UP TO 40 WAIVED. HENCE NO PARKING SHALL BE REQUIRED FOR HOTEL USE---- 3 PROVIDED (VOLUNTARY)

ZR 25-23: PARKING REQUIREMENTS FOR RESIDENTIAL USES, GROUP PARKING
50% PARKING REQUIRED
12 (D.U.) x 0.5 = 6 SPACES REQUIRED
6 PROVIDED (OK)- ATTENDANT PARKING

ZR 25-631: LOCATION & WIDTH OF CURB CUTS, ACCESSORY TO RESIDENCE
ZR 36-532(a) - COMPLY WITH PROVISIONS ON ZR 25-631

631(e): ONE CURBCUT 12' WIDE SHALL BE PROVIDED
PROVIDED ALONG PINEGROVE STREET 49'-3" FROM INTERSECTION

36-532(b): NO CURB CUTS FOR RESIDENTIAL PARKING ALONG WIDE STREET
CURB CUT ALONG LIBERTY AVE. (WIDE ST.) PROVIDED FOR HOTEL GUEST DROP OFF & PICK UP--- & HOTEL GUEST PARKING ONLY , WHICH SHALL BE PERMITTED

ZR 36-711: BICYCLE PARKING
RESIDENTIAL USE 1 SPACE / 2 D.U.
12D.U. / 2= 6 SPACES REQUIRED = 6 PROVIDED AT 1ST FLOOR

COMMERCIAL USE (HOTEL) 1SPACE / 10,000 SF
17,069.66 SF / 10,000 SF = 1.7 = 2 SPACES REQUIRED
ENCLOSED 2 PARKING SPACES PROVIDED @ 1ST FLOOR

TOTAL OF 8-BICYCLE PARKING PROVIDED (8x15sf =120sf DEDUCTIBLE)

QUALITY HOUSING (ARTICLE II, CHP. 8)

28-10 NEIGHBORHOOD IMPACT

28-11: BULK REGULATION
-SEE ZONING COMPUTATIONS

28-12: STREET TREE PLANTING
-ALL STREET TREES SHALL BE PLANTED, MAINTAINED AND REPLACED WHEN NECESSARY WITH THE APPROVAL OF, AND IN ACCORDANCE WITH THE STANDARDS, THE DEPT OF PARKS AND RECREATION AND DEPT OF TRANSPORTATION.

REQUIRED ONE(1) FOR EVERY 25' LINEAR FEET FRONTAGE
- (4)FOUR REQUIRED @ LIBERTY AVENUE - FRONTAGE OF 102.11'
- (3)TWO REQUIRED @ PINEGROVE STREET - FRONTAGE OF 75.10'
TOTAL OF 7 TREES (TO TREET FUND)

28-20 BUILDING INTERIOR

28-21: SIZE OF DWELLING UNIT
- MIN. REQ'D. = 400 sq.ft.
- PROVIDED = 401.0 sq.ft. --- SMALLEST #508(5TH FL) & #608 (6th FL.)

28-22: WINDOWS
- ALL WINDOWS TO BE DOUBLE GLAZED WITH LOW E. (SEE WINDOW SCHEDULE)

28-23: REFUSE STORAGE PROVIDED AT SUB CELLAR & 1ST FLOOR

28-24: LAUNDRY FACILITIES
-NOT APPLICABLE-

28-25: DAYLIGHT IN CORRIDORS
CORRIDOR ON 6TH FL. SHALL BE DEDUCTIBLE

28-30 RECREATIONAL SPACE AND PLANTING AREAS

28-31: RECREATIONAL SPACE
RESIDENTIAL F.A. 8,412.79 SF x 0.033 = 277.62 SF (REQUIRED) < 284.52 SF (PROVIDED)-- 6.9sf SHALL BE ADDED TO RESIDENTIAL AREA

28-32: STANDARDS FOR RECREATIONAL SPACE
MIN. DIMENSION OF 15' & 225 SF. - PROVIDED ROOM (COMPLIES)

28-33: PLANTING AREAS (NOT APPLICABLE)
THE ENTIRE AREA OF THE ZONING LOT BETWEEN THE STREET LINE AND ALL STREET WALLS OF THE BUILDING AND THEIR PROLONGATIONS SHALL BE PLANTED AT GROUND LEVEL, OR IN RAISED PLANTING BEDS THAT ARE PERMANENTLY AFFIXED TO THE GROUND, EXCEPT THAT SUCH PLANTINGS SHALL NOT BE REQUIRED AT THE ENTRANCES TO AND EXITS FROM THE BUILDING WITHIN DRIVEWAYS ACCESSING OFF-STREET PARKING SPACES LOCATED WITHIN, TO THE SIDE, OR REAR OF SUCH BUILDING, OR BETWEEN COMMERCIAL USES AND THE STREET LINE.

28-40 SAFETY AND SECURITY

28-41 DENSITY PER CORRIDOR
50% OF CORRIDOR CAN BE EXCLUDED FROM F.A. SINCE 8 D.U. (< 11 D.U.) SERVED. HENCE 50% OF CORRIDOR ON 5TH FLOOR CAN BE DEDUCTED.

28-50 PARKING FOR QUALITY HOUSING

PARKING SHALL BE AS SET FORTH IN ARTICLE II, CHP.5, AND ARTICLE III CHP. 6

25-23: REQUIREMENTS WHERE INDIVIDUAL PARKING FACILITIES ARE PROVIDED
- 50% PARKING REQD.
-REQUIRED = 6 SPACES
-PROVIDED = 6 SPACES

28-51: ENCLOSURE OF ACCESSORY OFF-STREET PARKING SPACES
-NOT APPLICABLE-

28-52: LOCATION OF ACCESSORY PARKING
-NOT APPLICABLE-

28-53: NON-CONFIRMING USES
-NOT APPLICABLE-

ACCESSIBILITY NOTES

PER BC 1107.6., GROUP R-1 OCCUPANCIES SHALL BE PROVIDED WITH ACCESSIBLE FEATURES AS PER TABLE 1107.6.1.1

TABLE 1107.6.1.1

TOTAL NUMBER OF UNITS PROVIDED	MIN. REQ. NO. OF ACCESSIBLE UNITS WITH ROLL-IN SHOWERS	TOTAL NUMBER OF ACCESSIBLE UNITS
67 GUEST ROOMS	1 REQUIRED, 2 PROVIDED (SUB-CELLAR)	4 REQUIRED, 5 PROVIDED (1,2,3,4,5 FLOOR)

OCCUPANCY PER FLOOR

AS PER DESIGN ACTUAL TOTAL NUMBER OF OCCUPANTS:

SUB - CELLAR :	4 ROOMS X 4 PERSONS PER ROOM	= 16 PERSONS
	4 ROOMS X 2 PERSONS PER ROOM	= 8 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ SUB - CELLAR	= 25 PERSONS
CELLAR :	9 ROOMS X 2 PERSONS PER ROOM	= 18 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	LOBBY AREA (NON SIMULTANEOUS OCCUPANCY)	= 38 PERSONS (LOBBY, BRKF)
	MEETING ROOM	= 22 PERSONS
	TOTAL @ CELLAR	= 79 PERSONS (NO P.A. REQUIRED)
1 FLOOR :	LOBBY AREA (NON SIMULTANEOUS OCCUPANCY)	= HOTEL GUESTS ONLY.
	TOTAL @ 1ST FLOOR	= 1 PERSONS
2 & 3 FLOOR (TYP. FLOOR):	21 ROOMS X 2 PERSONS PER ROOM	= 42 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ EA FLOOR, 2 & 3	= 43 PERSONS
4 FLOOR	17 ROOMS X 2 PERSONS PER ROOM	= 34 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ 4TH FLOOR.	= 35 PERSONS
5 FLOOR	8 APARTMENTS X 2 PERSONS PER ROOM	= 16 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ 5TH FLOOR.	= 17 PERSONS
6 FLOOR	4 APARTMENTS X 2 PERSONS PER ROOM	= 8 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ 6TH FLOOR.	= 9 PERSONS

TOTAL BUILDING OCCUPANTS FROM SUB-CELLAR TO SIXTH FLOOR:

25 + 41 + 1 + 43 + 35 + 17 + 9 = 171 PERSONS

(LOBBY OCCUPANCY NOT COUNTED AS IT IS NON-SIMULTANEOUS)

ARCHITECT'S NOTES

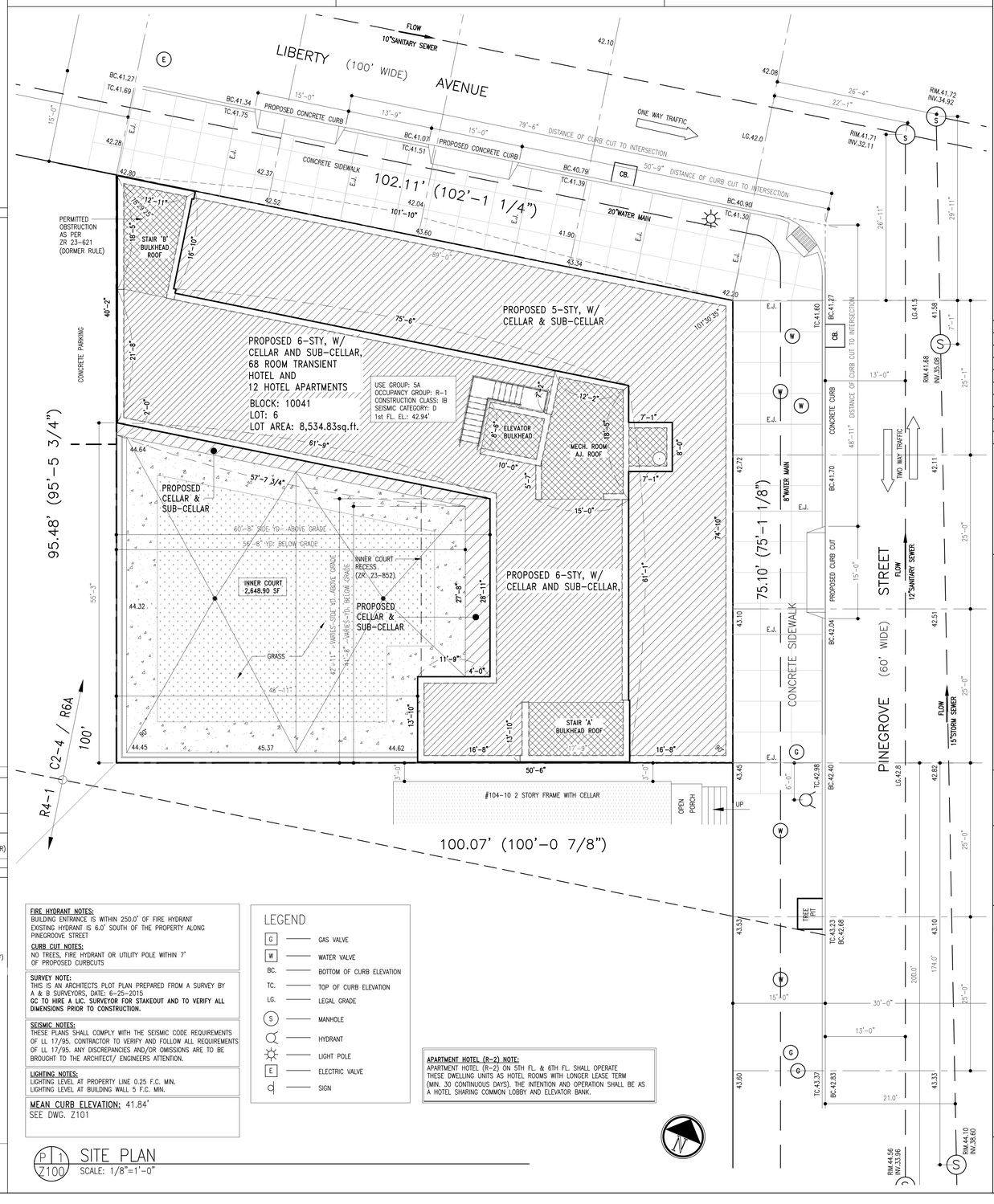
1) NOTHING IN THESE DOCUMENTS SHALL IMPOSE LIABILITY ON THE ARCHITECT/ENGINEER FOR CLAIMS, LAWSUITS, EXPENSES OR DAMAGES ARISING FROM, OR IN ANY MANNER RELATED TO THE EXPOSURE TO, OR THE HANDLING, MANUFACTURE OR DISPOSAL OF ASBESTOS, ASBESTOS PRODUCTS, OR HAZARDOUS WASTE IN ANY OF ITS VARIOUS FORMS, AS DEFINED BY THE ENVIRONMENTAL PROTECTION AGENCY.
2) CONTRACTOR SHALL IDENTIFY AND NOTIFY THE OWNER AND ARCHITECT OF THE PRESENCE OF ASBESTOS OR OTHER SUSPECTED HAZARDOUS MATERIALS BEFORE INITIATING THE DEMOLITION OF SAME, AT WHICH TIME APPROPRIATE IDENTIFICATION AND REMOVAL OF SUCH SUSPECTED MATERIALS BY A LICENSED AND APPROVED CONTRACTOR SHALL COMMENCE. METHOD AND COSTS OF REMOVAL SHALL BE APPROVED AND PAID FOR DIRECTLY BY THE OWNER.
3) METAL STUD SUPPLIER SHALL DESIGN AND DETAIL ALL METAL STUDS, BRACING, CONNECTIONS AND ATTACHMENTS TO MAIN STRUCTURE AND SUBMIT STRUCTURAL CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL. DESIGN WALL SYSTEM FOR 20 PSF WIND LOAD W/ A MAX. DEFLECTION OF L/360 BUT NOT TO EXCEED 1/2".
4) THE GENERAL CONTRACTOR/OWNER IS RESPONSIBLE TO OBTAIN A PRELIMINARY STAKEOUT SURVEY INDICATING ALL LOT DIMENSIONS, SETBACKS AND GRADE ELEVATION PRIOR TO THE COMMENCEMENT OF ANY WORK AND SHALL NOTIFY THE ARCHITECT IN WRITING OF ANY DISCREPANCIES BETWEEN THE SURVEY AND THESE PLANS.
5) THE CONTRACTOR'S SHALL BE RESPONSIBLE FOR ANY AND ALL WORK TO BE PERFORMED AND COMPLETED IN CONFORMANCE WITH THE REQUIREMENTS & PROCEDURES OF THE LATEST EDITION & AMENDMENTS OF NYC BUILDING CODE(S), LOCAL LAWS, ORDINANCES AND AGENCIES ETC HAVING JURISDICTION FOR THE PROJECT SHOWED HEREIN.
6)M.S. SAVANI ARCHITECTS AND IT'S PRINCIPAL/EMPLOYEES HAVE NOT BEEN RETAINED FOR ANY SUPERVISION OF THE ACTUAL CONSTRUCTION.

EXIT SIGN DESIGN NOTES AS PER BC 1011

1. A TACTILE SIGN INDICATING EXIT AND EXIT AWAY AND COMPLYING WITH ICC A 117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN EGRESS STAIR, AN EXIT PASSAGEWAY AND EXIT DISCHARGE.
2. A SIGN SHALL BE PROVIDED AT EACH FLOOR LANDING IN INTERIOR VERTICAL EXIT ENCLOSURE CONNECTING MORE THAN THREE STORIES DESIGNATING THE FLOOR LEVEL.
3. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR IS MORE THAN 100 FEET OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGNS.
4. THE FACE OF AN EXIT SIGN ILLUMINATED FROM AN EXTERNAL SOURCE SHALL HAVE AN INTENSITY OF NOT LESS THAN 25 FOOT-CANDLES (269.1 LUX).
5. EXIT SIGNS SHALL BE ILLUMINATED AT ALL TIMES. TO ENSURE CONTINUED ILLUMINATION FOR A DURATION OF NOT LESS THAN 90 MINUTES IN CASE OF PRIMARY POWER LOSS, THE SIGN ILLUMINATION MEANS SHALL BE CONNECTED TO AN EMERGENCY POWER SYSTEM PROVIDED FROM STORAGE BATTERIES, UNIT EQUIPMENT OR AN ON-SITE GENERATOR.

ADDITIONAL APPLICATIONS TO BE FILED SEPARATELY

STRUCTURAL/SOE	(ST)	#
MECH. PLUMBING, SPRK EMERGENCY GENERATOR	(MEP)	#
SIDEWALK	(BPP)	#
FIRE ALARM	(FA)	#
SITE CONNECTION	(SC)	#
EXHIBITS	CFRN	EXHIBIT I CRFN# _____
	CFRN	EXHIBIT III CRFN# _____



FIRE HYDRANT NOTES:
BUILDING ENTRANCE IS WITHIN 250.0' OF FIRE HYDRANT
EXISTING HYDRANT IS 6.0' SOUTH OF THE PROPERTY ALONG PINEGROVE STREET

CURB CUT NOTES:
NO TREES, FIRE HYDRANT OR UTILITY POLE WITHIN 7' OF PROPOSED CURBCUTS

SURVEY NOTE:
THIS IS AN ARCHITECTS PLOT PLAN PREPARED FROM A SURVEY BY A & B SURVEYORS, DATE: 6-25-2015
GC TO HIRE A LIC. SURVEYOR FOR STAKEOUT AND TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION.

SEISMIC NOTES:
THESE PLANS SHALL COMPLY WITH THE SEISMIC CODE REQUIREMENTS OF LL 17/95. CONTRACTOR TO VERIFY AND FOLLOW ALL REQUIREMENTS OF LL 17/95. ANY DISCREPANCIES AND/OR OMISSIONS ARE TO BE BROUGHT TO THE ARCHITECT/ ENGINEERS ATTENTION.

LIGHTING NOTES:
LIGHTING LEVEL AT PROPERTY LINE 0.25 F.C. MIN.
LIGHTING LEVEL AT BUILDING WALL 5 F.C. MIN.

MEAN CURB ELEVATION: 41.84'
SEE DWG. Z101

LEGEND
- G — GAS VALVE
- W — WATER VALVE
- BC. — BOTTOM OF CURB ELEVATION
- TC. — TOP OF CURB ELEVATION
- LG. — LEGAL GRADE
- S — MANHOLE
- HYDRANT
- LIGHT POLE
- E — ELECTRIC VALVE
- SIGN

APARTMENT HOTEL (R-2) NOTE:
APARTMENT HOTEL (R-2) ON 5TH FL. & 6TH FL. SHALL OPERATE
THESE DWELLING UNITS AS HOTEL ROOMS WITH LONGER LEASE TERM (MIN. 30 CONTINUOUS DAYS). THE INTENTION AND OPERATION SHALL BE AS A HOTEL SHARING COMMON LOBBY AND ELEVATOR BANK.

P1 / Z100 SITE PLAN
SCALE: 1/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

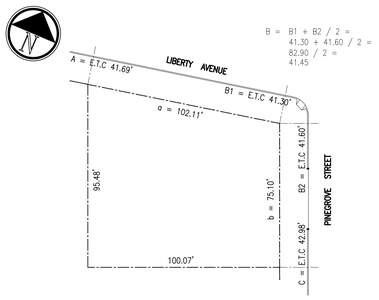
PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
SITE PLAN AND NOTES

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-100.00
CAD FILE NO: 02 OF Z: 1-MSS-647-MWNDER-LIBERTY

AVG. CURB CALCULATION: AS PER ZR: 12-10 & COMM. MEMO DT: MARCH' 04
FOR COMPLIANCE WITH MDL SEC 34



[A+B/2 x a] + [B+C/2 x b] / a+b
AS SHOWN IN THE DIAGRAM: A = 41.69' a = 102.11' B = 41.45' b = 75.10' C = 42.98'

HENCE ..

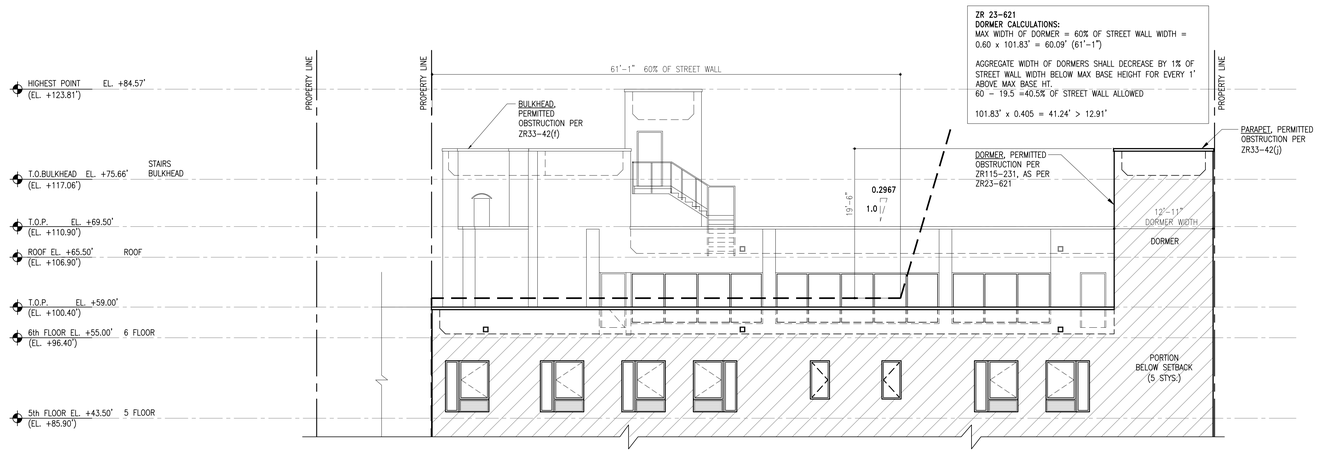
[(41.69'+41.45)/2 x 102.11'] = [41.57' x 102.11'] = 4,244.71'
[(41.45'+42.98')/2 x 75.10'] = [42.21' x 75.10'] = 3,169.97'

102.11' + 75.10' = 177.21'

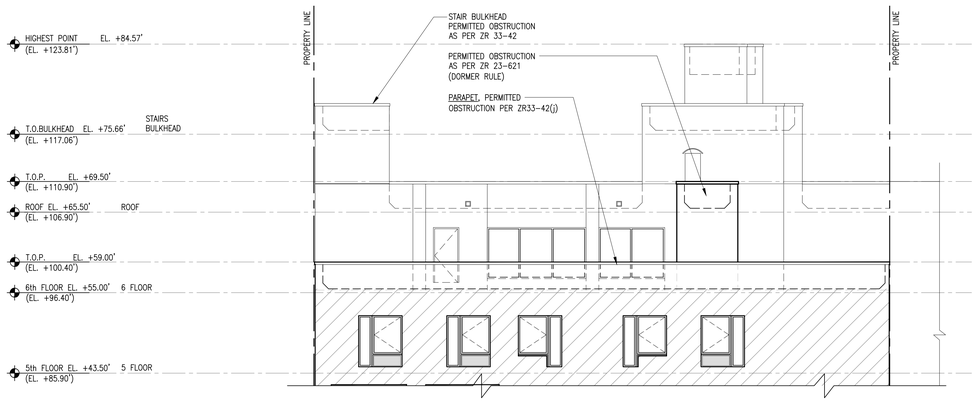
$$\frac{[4{,}244.71 + 3{,}169.97] = 7{,}414.68}{177.21} = 41.84'$$

∴ MEAN CURB LEVEL = 41.84'

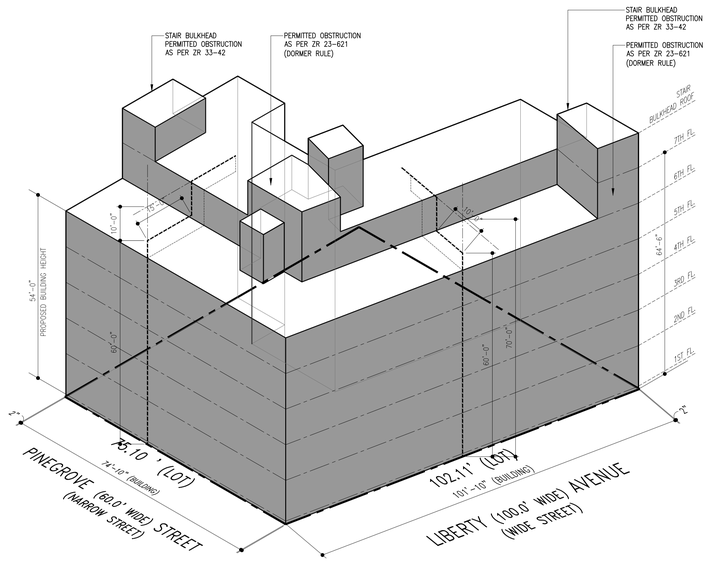
DORMER RULE COMPLIANCE (ALONG LIBERTY AVENUE)



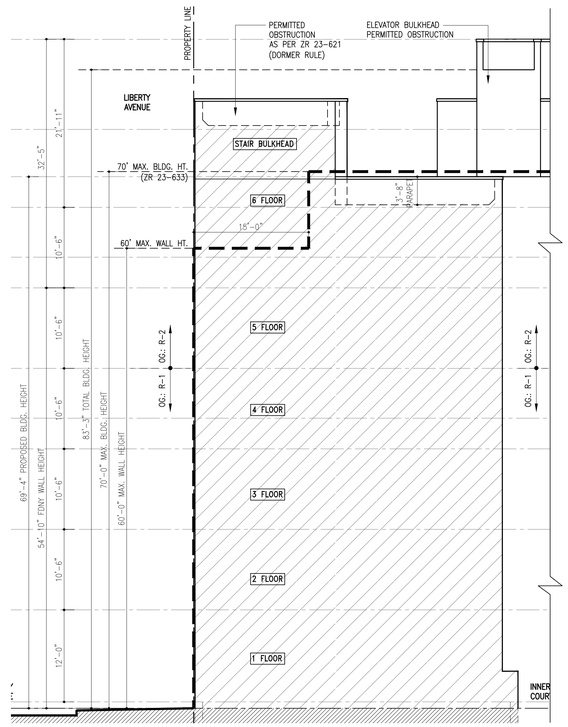
DORMER RULE COMPLIANCE (ALONG PINEGROVE STREET)



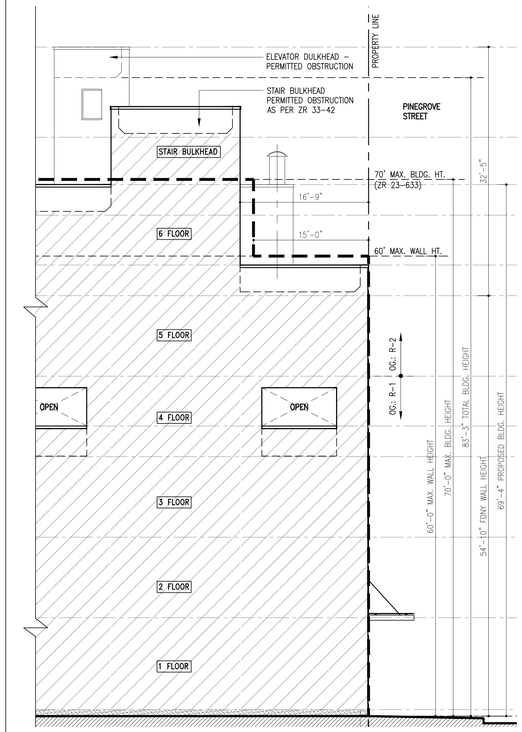
AXONOMETRIC - SKY EXPOSURE PLANE DIAGRAM (ZR: 43-44)
SCALE: N.T.S



HEIGHT & SETBACKS - LIBERTY AVENUE
PER ZR 43-43



HEIGHT & SETBACKS - PINEGROVE STREET
PER ZR 43-43



CONSULTANTS:

STRUCTURAL

MEP/FP/PHS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.8222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

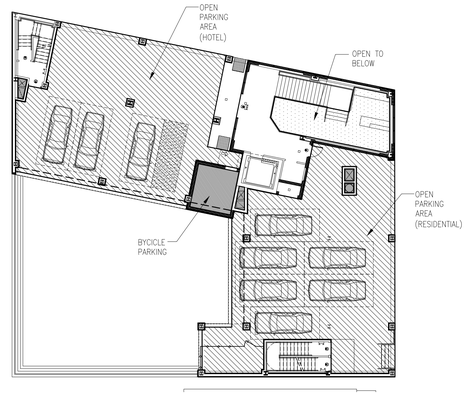
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

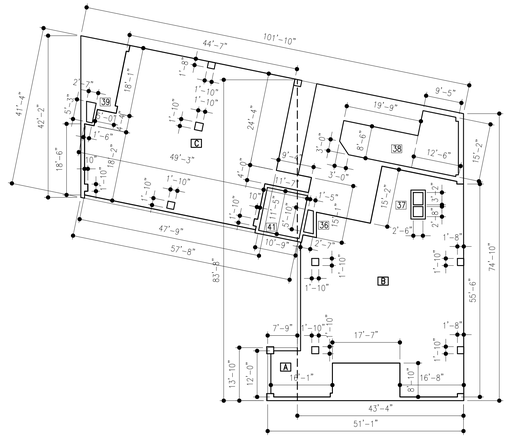
TITLE:
ALTERNATE SKY EXPOSURE DIAGRAM AND AVERAGE CURB CALCULATION

SEAL & SIGNATURE:

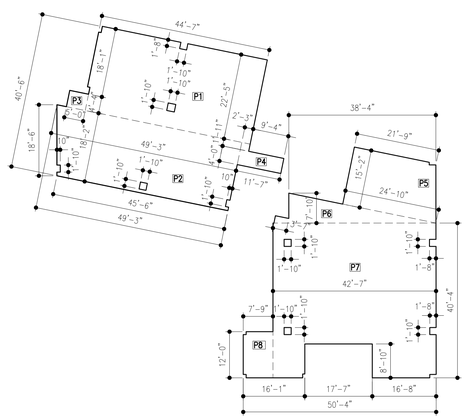
DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-101.00
CAD FILE NO: 03 OF
Z: \-MSS-647-ARVINDER-LIBERTY\



Z1 / Z102 1st FLOOR PLAN
SCALE: 1/16"=1'-0"



Z2 / Z102 1st FL. DEDUCTION DIAGRAM (MECHANICAL, OPEN SPACE, BYCICLE PARKING AREAS)
SCALE: 1/16"=1'-0"



Z2 / Z102 1st FL. DEDUCTION DIAGRAM (PARKING AREA)
SCALE: 1/16"=1'-0"

FLOOR AREA CALCULATIONS: 1ST FLOOR (WITHOUT DEDUCTIONS)
AREA A = 7.75' x 13.83' = 107.18 SF
AREA B = (83.66 + 74.83)/2 x 43.33 = 3,433.68 SF
AREA C = 57.66 X 41.33 = 2,383.08 SF

TOTAL FLOOR AREA (WITHOUT DEDUCTIONS) = 107.18 SF + 3,433.68 SF + 2,383.08 SF = 5,923.94 SF

DEDUCTIONS
AREA 36 (PLUMBING CHASE) = (1.41 + 2.58)/2 x 5.83 = 11.63 SF
AREA 37 (PLUMBING CHASE) = (2.50 x 2.66) + (2.50 x 3.16) = 14.55 SF
AREA 38 (OPEN TO BELOW) = (12.50 + 9.41)/2 x 15.16) + (19.75 x 8.50) – 9/2 = 320.44 SF
AREA 39 (PLUMBING CHASE) = (1.50 + 2.58)/2 x 5.25 = 10.71 SF
AREA 41 (BYCICLE PARKING) = 10.75 x 11.41 = 122.65 SF

OPEN PARKING SPACE DEDUCTIONS
AREA P1 (PARKING) = (44.58 x 22.41) – (1.66 x 1.83) – (1.83 x 1.83) = 992.66 SF
AREA P2 (PARKING) = (49.25 + 45.50)/2 x 18.16) – (1.83 x 1.83) – 2(1.83 x 0.83) = 853.96 SF
AREA P3 (PARKING) = 5.00 x 4.33 = 21.65
AREA P4 (PARKING) = (9.33 x 4.00) + (1.91 x 2.25) = 41.63 SF
AREA P5 (PARKING) = (24.83 + 21.75)/2 x 15.16 = 353.07 SF
AREA P6 (PARKING) = (38.33 x 7.83)/2 = 150.06 SF
AREA P7 (PARKING) = (42.58 x 40.33) – 2(1.83 x 1.83) – 2(1.83 x 1.66) – (8.83 x 17.78) = 1,547.50 SF
AREA P8 (PARKING) = 12.00 x 7.75 = 93.00 SF

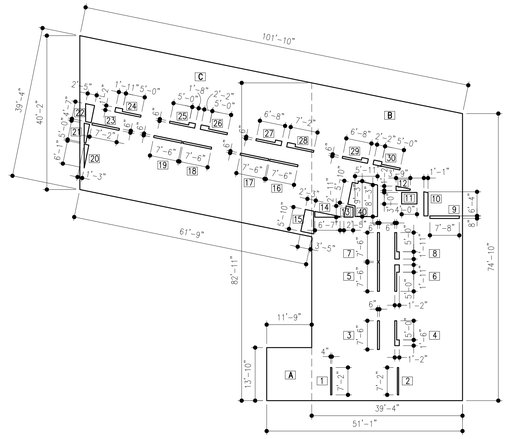
TOTAL PARKING SPACE = 4,053.53 SF

TOTAL DEDUCTIONS AT 1ST FLOOR = 479.98 SF + 4,053.53 SF = 4,533.51 SF

TOTAL ZONING FLOOR AREA AT 1ST FLOOR =
5,923.94 SF – 4,533.51 SF = 1,390.43 SF (HOTEL R-1 OCCUP.)

Z1 / Z102 1st FLOOR ZONING CALCS.
SCALE: 1/16"=1'-0"

Z4 / Z102 2nd & 3rd TYPICAL FLOOR PLAN
SCALE: 1/16"=1'-0"



Z5 / Z102 2nd & 3rd TYPICAL FLOOR DIAGRAM
SCALE: 1/16"=1'-0"

FLOOR AREA CALCULATIONS: TYPICAL FLOOR, 2ND AND 3RD (WITHOUT DEDUCTIONS)
AREA A = 11.75' x 13.83' = 162.50 SF
AREA B = (82.91 + 74.83)/2 x 39.33 = 3,103.92 SF
AREA C = 61.75 X 39.33 = 2,428.62 SF

TOTAL FLOOR AREA (WITHOUT DEDUCTIONS) = 162.50 SF + 3,103.92 + 2,428.62 SF = 5,695.04 SF

DEDUCTIONS
AREA 1 (PLUMBING CHASE) = 7.16 x 0.33' = 2.36 SF
AREA 2 (MECHANICAL SHAFT) = 7.16' x 0.33' = 2.36 SF.
AREA 3 (PLUMBING CHASE) = 7.50' x 0.50' = 3.75 SF
AREA 4 (PLUMBING CHASE) = (1.16 x 1.50) + (5.00 x 0.33) = 3.39 SF
AREA 5 (MECHANICAL SHAFT) = 7.50 x 0.50 = 3.75 SF
AREA 6 (PLUMBING CHASE) = (0.50 x 5.00) + (1.16 x 1.91) = 4.71 SF
AREA 7 (MECHANICAL SHAFT) = 7.50 x 0.50 = 3.75 SF
AREA 8 (PLUMBING CHASE) = (0.50 x 5.00) + (1.16 x 1.91) = 4.71 SF
AREA 9 (PLUMBING CHASE) = 7.66 x 0.66 = 5.05 SF
AREA 10 (PLUMBING CHASE) = 6.33 x 1.08 = 6.83 SF
AREA 11 (PLUMBING CHASE) = 4.00 x 3.00 = 12.00 SF
AREA 12 (PLUMBING CHASE) = 1.16 x 3.75 = 4.35 SF
AREA 13 (MECHANICAL SHAFT) = 2.41 x 2.91 = 7.01 SF
AREA 14 (MECHANICAL SHAFT) = 6.58 x 1.16 = 7.63 SF
AREA 15 (MECHANICAL SHAFT) = (3.41 + 2.25)/2 x 5.83 = 16.49
AREA 16 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 17 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 18 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 19 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 20 (PLUMBING CHASE) = 6.08 x 1.25 / 2 = 3.80 SF
AREA 21 (PLUMBING CHASE) = 5.00 x 1.30 / 2 = 3.25 SF
AREA 22 (MECHANICAL SHAFT) = (2.41 + 1.30)/2 x 4.58 = 8.49 SF
AREA 23 (PLUMBING CHASE) = 7.16 x 0.50 = 3.58 SF
AREA 24 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 25 (PLUMBING CHASE) = (5.00 x 0.50) + (1.16 x 1.66) = 4.42 SF
AREA 26 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 27 (PLUMBING CHASE) = (5.00 x 0.50) + (1.16 x 1.66) = 4.42 SF
AREA 28 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 29 (PLUMBING CHASE) = (5.00 x 0.50) + (1.16 x 1.66) = 4.42 SF
AREA 30 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 40 (MECH. RM.) = ((8.25+9.25)/2)x5.91 + (5.83 x 1.0) = 51.71+5.83 = 57.54 SF

TOTAL DEDUCTIONS AT TYPICAL FLOOR, 2 & 3 = 211.90 SF (EACH)
TOTAL ZONING FLOOR AREA AT TYPICAL FLOOR, 2 & 3 =
5,695.04 SF – 211.90 SF = 5,483.14 SF (EACH)

Z6 / Z102 2nd & 3rd TYPICAL FLOOR ZONING CALCS.
SCALE: 1/16"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssorch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

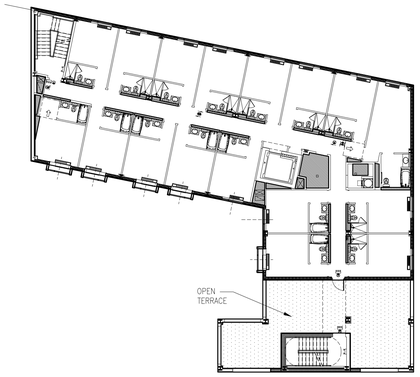
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
FLOOR AREA DEDUCTION DIAGRAMS & ZONING CALCULATIONS

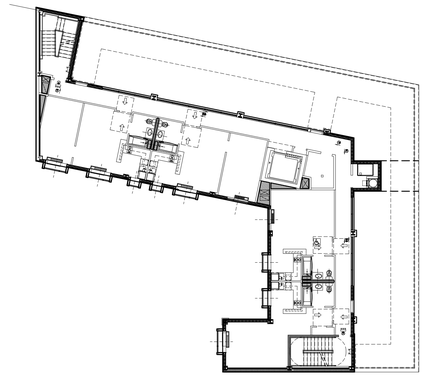
SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-102.00
CAD FILE NO: 04 OF
Z: \-MSS-647-ARVINDER-LIBERTY:

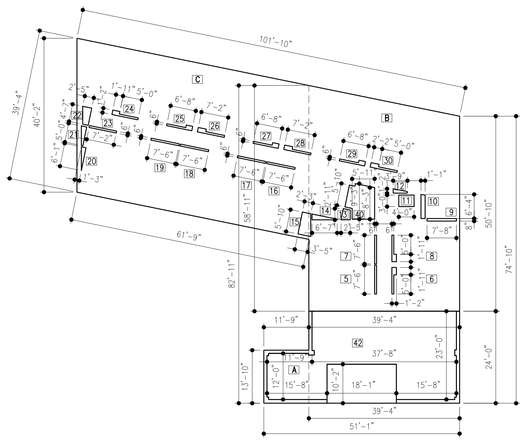


Z 7 / Z102 — 4th FLOOR PLAN
SCALE: 1/16"=1'-0"

Z 1 / Z103 — 5th FLOOR PLAN
SCALE: 1/16"=1'-0"



Z 4 / Z103 — 6th FLOOR PLAN
SCALE: 1/16"=1'-0"



Z 8 / Z102 — 4th FLOOR DIAGRAM
SCALE: 1/16"=1'-0"

FLOOR AREA CALCULATIONS: 4TH FLOOR (WITHOUT DEDUCTIONS)
AREA A = 11.75' x 13.83' = 162.50 SF
AREA B = (82.91 + 74.83)/2 x 39.33 = 3,103.92 SF
AREA C = 61.75 X 39.33 = 2,428.62 SF

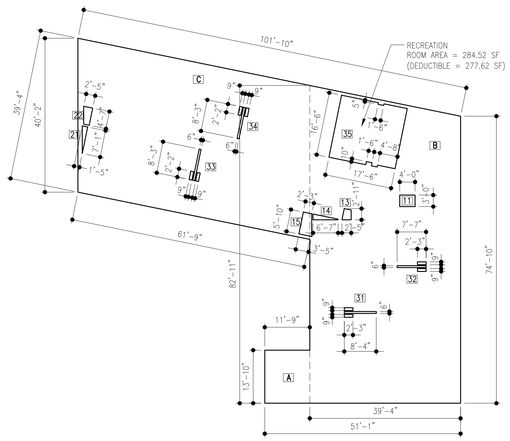
TOTAL FLOOR AREA (WITHOUT DEDUCTIONS) = 162.50 SF + 3,103.92 + 2,428.62 SF = 5,695.04 SF

DEDUCTIONS
AREA 5 (MECHANICAL SHAFT) = 7.50 x 0.50 = 3.75 SF
AREA 6 (PLUMBING CHASE) = (0.50 x 5.00) + (1.16 x 1.91) = 4.71 SF
AREA 7 (MECHANICAL SHAFT) = 7.50 x 0.50 = 3.75 SF
AREA 8 (PLUMBING CHASE) = (0.50 x 5.00) + (1.16 x 1.91) = 4.71 SF
AREA 9 (PLUMBING CHASE) = 7.66 x 0.66 = 5.05 SF
AREA 10 (PLUMBING CHASE) = 6.33 x 1.08 = 6.83 SF
AREA 11 (PLUMBING CHASE) = 4.00 x 3.00 = 12.00 SF
AREA 12 (PLUMBING CHASE) = 1.16 x 3.75 = 4.35 SF
AREA 13 (MECHANICAL SHAFT) = 2.41 x 2.91 = 7.01 SF
AREA 14 (MECHANICAL SHAFT) = 6.58 x 1.16 = 7.63 SF
AREA 15 (MECHANICAL SHAFT) = (3.41 + 2.25)/2 x 5.83 = 16.49
AREA 16 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 17 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 18 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 19 (PLUMBING CHASE) = 7.50 x 0.50 = 3.75 SF
AREA 20 (PLUMBING CHASE) = 6.08 x 1.25 / 2 = 3.80 SF
AREA 21 (PLUMBING CHASE) = 5.00 x 1.30 / 2 = 3.25 SF
AREA 22 (MECHANICAL SHAFT) = (2.41 + 1.30)/2 x 4.58 = 8.49 SF
AREA 23 (PLUMBING CHASE) = 7.16 x 0.50 = 3.58 SF
AREA 24 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 25 (PLUMBING CHASE) = (5.00 x 0.50) + (1.16 x 1.66) = 4.42 SF
AREA 26 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 27 (PLUMBING CHASE) = (5.00 x 0.50) + (1.16 x 1.66) = 4.42 SF
AREA 28 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 29 (PLUMBING CHASE) = (5.00 x 0.50) + (1.16 x 1.66) = 4.42 SF
AREA 30 (PLUMBING CHASE) = (1.16 x 1.91) + (5.00 x 0.50) = 4.71 SF
AREA 40 (MECH. RM.) = ((8.25+9.25)/2)X5.91 + (5.83 X 1.0) = 51.71+5.83 = 57.54 SF
AREA 42 (OPEN TERRACE) = (37.66 x 23.00 – 18.08 x 10.16) + (11.75 x 12.00) = 823.49 SF

TOTAL DEDUCTIONS AT 4TH FLOOR = 1,023.53 SF

TOTAL ZONING FLOOR AREA AT 4TH FLOOR =
5,695.04 SF – 1,023.53 SF = 4,671.51 SF

Z 9 / Z102 — 4th FLOOR ZONING CALCS.
SCALE: 1/16"=1'-0"



Z 2 / Z103 — 5th FLOOR DIAGRAM
SCALE: 1/16"=1'-0"

FLOOR AREA CALCULATIONS: 5TH FLOOR (WITHOUT DEDUCTIONS)
AREA A = 11.75' x 13.83' = 162.50 SF
AREA B = (82.91 + 74.83)/2 x 39.33 = 3,103.92 SF
AREA C = 61.75 X 39.33 = 2,428.62 SF

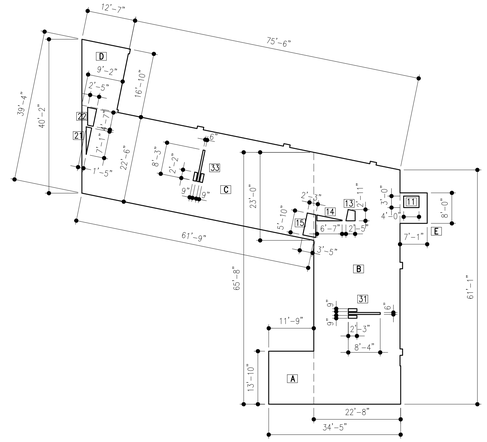
TOTAL FLOOR AREA (WITHOUT DEDUCTIONS) = 162.5 SF + 3,103.92 + 2,428.62 SF = 5,695.04 SF

DEDUCTIONS
AREA 11 (PLUMBING CHASE) = 4.00 x 3.00 = 12.00 SF
AREA 12 (PLUMBING CHASE) = 1.16 x 3.75 = 4.35 SF
AREA 13 (MECHANICAL SHAFT) = 2.41 x 2.91 = 7.01 SF
AREA 14 (MECHANICAL SHAFT) = 6.58 x 1.16 = 7.63 SF
AREA 15 (MECHANICAL SHAFT) = (3.41 + 2.25)/2 x 5.83 = 16.49
AREA 21 (PLUMBING CHASE) = 5.00 x 1.30 / 2 = 3.25 SF
AREA 22 (MECHANICAL SHAFT) = (2.41 + 1.30)/2 x 4.58 = 8.49 SF
AREA 31 (PLUMBING CHASE) = (2.25 x 0.75) x 2 + (8.33 x 0.50) = 7.53 SF
AREA 32 (PLUMBING CHASE) = (2.25 x 0.75) x 2 + (7.58 x 0.50) = 7.16 SF
AREA 33 (PLUMBING CHASE) = (2.25 x 0.75) x 2 + (8.33 x 0.50) = 7.53 SF
AREA 34 (PLUMBING CHASE) = (2.25 x 0.75) x 2 + (8.33 x 0.50) = 7.53 SF
AREA 35 (RECREATION RM.) = (16.50 x 17.50) – 4.23 = 288.75 – 4.23 = 284.52 SF (PROVIDED)
(RECREATION RM. DEDUCTABLE F.A. = 277.62 SF) (SEE DWG. Z-100)

TOTAL DEDUCTIONS AT 5TH FLOOR = 366.59 SF

TOTAL ZONING FLOOR AREA AT 5TH FLOOR =
5,695.04 SF – 366.59 SF = 5,328.45 SF

Z 3 / Z103 — 5th FLOOR ZONING CALCS.
SCALE: 1/16"=1'-0"



Z 5 / Z103 — 6th FLOOR DIAGRAM
SCALE: 1/16"=1'-0"

FLOOR AREA CALCULATIONS: 6TH FLOOR (WITHOUT DEDUCTIONS)
AREA A = 11.75' x 13.83' = 162.50 SF
AREA B = (65.66 + 61.08)/2 x 22.66 = 1,435.96 SF
AREA C = 61.75 X 22.50 = 1,389.37 SF
AREA D = (9.16 + 12.58)/2 x 16.83 = 182.94 SF

TOTAL FLOOR AREA (WITHOUT DEDUCTIONS) = 162.50 SF + 1,435.96 SF + 1,389.37 SF + 182.94 SF = 3,170.77 SF

DEDUCTIONS
AREA 11 (PLUMBING CHASE) = 4.00 x 3.00 = 12.00 SF
AREA 13 (MECHANICAL SHAFT) = 2.41 x 2.91 = 7.01 SF
AREA 14 (MECHANICAL SHAFT) = 6.58 x 1.16 = 7.63 SF
AREA 15 (MECHANICAL SHAFT) = (3.41 + 2.25)/2 x 5.83 = 16.49
AREA 21 (PLUMBING CHASE) = 5.00 x 1.30 / 2 = 3.25 SF
AREA 22 (MECHANICAL SHAFT) = (2.41 + 1.30)/2 x 4.58 = 8.49 SF
AREA 31 (PLUMBING CHASE) = (2.25 x 0.75) x 2 + (8.33 x 0.50) = 7.53 SF
AREA 32 N/A
AREA 33 (PLUMBING CHASE) = (2.25 x 0.75) x 2 + (8.33 x 0.50) = 7.53 SF

TOTAL DEDUCTIONS AT 6TH FLOOR = 69.93 SF

TOTAL ZONING FLOOR AREA AT 6TH FLOOR =
3,170.77 SF – 69.93 SF = 3,100.84 SF

Z 6 / Z103 — 6th FLOOR ZONING CALCS.
SCALE: 1/16"=1'-0"

FLOOR AREA & LOT COVERAGE CALCULATIONS

ZONING FLOOR AREA TOTAL (WITHOUT DEDUCTIONS)

FLOOR AREA WITHOUT DEDUCTIONS TO R-1 OCCUPANCY
1ST FLOOR AREA = 5,923.94 SF
2ND FLOOR AREA = 5,695.04 SF
3RD FLOOR AREA = 5,695.04 SF
4TH FLOOR AREA = 5,695.04 SF
FLOOR AREA WITHOUT DEDUCTIONS TO R-1 OCCUPANCY = 23,009.06 SF

FLOOR AREA WITH DEDUCTIONS TO R-2 OCCUPANCY
5TH FLOOR AREA = 5,695.04 SF
6TH FLOOR AREA = 3,170.77 SF
FLOOR AREA WITHOUT DEDUCTIONS TO R-2 OCCUPANCY = 8,865.81 SF

TOTAL ZONING FLOOR AREA WITHOUT DEDUCTIONS = 23,009.06 + 8,865.81 SF = 31,874.87 SF

ZONING FLOOR AREA TOTAL (WITH DEDUCTIONS)

FLOOR AREA WITH DEDUCTIONS TO R-1 OCCUPANCY
1ST THROUGH 4TH FLOOR:
1ST FLOOR AREA = 1,390.43 SF
2ND FLOOR AREA = 5,483.14 SF
3RD FLOOR AREA = 5,483.14 SF
4TH FLOOR AREA = 4,671.51 SF
FLOOR AREA WITH DEDUCTIONS TO R-1 OCCUPANCY = 17,028.22 SF (1.9)

FLOOR AREA WITH DEDACTIONS TO R-2 OCCUPANCY
5TH FLOOR AREA = 5,328.45 SF
6TH FLOOR AREA = 3,100.84 SF
FLOOR AREA WITH DEDUCTIONS TO R-2 OCCUPANCY = 8,429.29 SF (0.98)

TOTAL ZONING FLOOR AREA WITH DEDUCTIONS = 17,028.22 SF + 8,429.29 SF = 25,457.51 SF (2.97)

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
FLOOR AREA DEDUCTION DIAGRAMS & ZONING CALCULATIONS

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-103.00
CAD FILE NO: 05 OF
Z: \-MSS-647-ANWNDER-LIBERTY\

BUILDING CODE REQUIREMENTS AND COMPLIANCE

AS PER DESIGN ACTUAL TOTAL NUMBER OF OCCUPANTS:

SUB – CELLAR :	4 ROOMS X 4 PERSONS PER ROOM	= 16 PERSONS
	4 ROOMS X 2 PERSONS PER ROOM	= 8 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ SUB – CELLAR	= 25 PERSONS
CELLAR :	9 ROOMS X 2 PERSONS PER ROOM	= 18 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	LOBBY AREA (NON SIMULTANEOUS OCCUPANCY)	= 38 PERSONS (LOBBY, LOUNGE, BREAKFAST)
	MEETING ROOM	= 22 PERSONS
	TOTAL @ CELLAR	= 79 PERSONS (NO P.A. REQUIRED)
1 FLOOR :	LOBBY AREA (NON SIMULTANEOUS OCCUPANCY)	= HOTEL GUESTS ONLY.
	TOTAL @ 1ST FLOOR	= 1 PERSONS
2 & 3 FLOOR (TYP. FLOOR):	21 ROOMS X 2 PERSONS PER ROOM	= 42 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ EA. FLOOR, 2 & 3	= 43 PERSONS
4 FLOOR	17 ROOMS X 2 PERSONS PER ROOM	= 34 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ 4TH FLOOR.	= 35 PERSONS
5 FLOOR	8 APARTMENTS X 2 PERSONS PER ROOM	= 16 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ 5TH FLOOR.	= 17 PERSONS
6 FLOOR	4 APARTMENTS X 2 PERSONS PER ROOM	= 8 PERSONS
	FLOOR ATTENDANT	= 1 PERSON
	TOTAL @ 6TH FLOOR.	= 9 PERSONS

TOTAL BUILDING OCCUPANTS FROM SUB-CELLAR TO SIXTH FLOOR:

25 + 41 + 1 + 43 + 35 + 17 + 9 = 171 PERSONS (LOBBY OCCUPANCY NOT COUNTED AS IT IS NON-SIMULTANEOUS)

TABLE 601 BUILDING ELEMENTS

FIRE-RESISTANCE RATING REQ. FOR BUILDING ELEMENTS (HRS.)
CONSTRUCTION GROUP NON-COMBUSTIBLE

TYPE I B

BUILDING ELEMENT	FIRE RESISTANCE
STRUCTURAL FRAME [a] INCLUDING COLUMNS, GIRDERS, TRUSSES	2 HR
BEARING WALLS EXTERIOR [f,g]	2 HR
INTERIOR	2 HR
NONBEARING WALLS AND PARTITIONS EXTERIOR	PER TABLE 602 FIRE SEPARATION ≥ 10 TO < 30 = 1 HOUR FIRE SEPARATION > 30 = 0 HOUR
NONBEARING WALLS AND PARTITIONS INTERIOR [e]	0 HR
FLOOR CONSTRUCTION [b] INCLUDING SUPPORTING BEAMS AND JOIST	2 HR
ROOF CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOIST	1 HR

NOTE:
FIRE SEPARATION DISTANCE FOR ALL EXTERIOR NONBEARING WALLS AND PARTITIONS > 30 FT. REFER TO Z100.00 FOR SITE PLAN AND LOCATION OF ADJACENT BUILDINGS.

TABLE 503 BUILDING HEIGHT

HEIGHT LIMITATIONS SHOWN AS STORIES AND FEET ABOVE GRADE PLANE

AREA LIMITATIONS AS DETERMINED BY THE DEFINITION OF "AREA, BUILDING," PER FLOOR

	TYPE I B		
GROUP	HT(FEET)	HT(S)	AREA
R-1	UL (UNLIMITED)	UL (UNLIMITED)	UL (UNLIMITED)

TABLE 803.5 INTERIOR FINISHES

INTERIOR WALL & CEILING FINISH REQ. BY OCCUPANCY

SPRINKLERED	
	R-1
VERTICAL EXITS AND EXIT PASSAGEWAYS	B
EXIT ACCESS CORRIDORS & OTHER EXITWAYS	B
ROOMS & ENCLOSED SPACES	B

OCCUPANT LOAD CALCULATIONS AS PER BC 1004.1

MAX. FLOOR AREA ALLOWANCES PER OCCUPANT FOR RESIDENTIAL USE IS 200 SF GROSS WITHIN DWELLING UNITS.

D..U. ON 5TH FL & 6TH FL:
SMALLEST UNITS ARE #506 & #606: 401sf
.. 401/200 = 2P PER DWELLING UNIT

HENCE 12 DWELG. UNITS (5TH & 6TH) X 2 (PER DWELLING UNITS) = 24 OCCUPANTS AS PER TABLE 1004.1

FOR FLOORS WITH TRANSIENT HOTEL SEE OCCUPANCY TABLE ABOVE

AS PER BC 1004.1 " IN DETERMINING THE MEANS OF EGRESS REQUIREMENTS, THE NUMBER OF OCCUPANTS FOR WHOM MEANS OF EGRESS FACILITIES SHALL BE PROVIDED SHALL BE ESTABLISHED BY THE LARGEST NUMBER COMPUTED."

CELLAR LEVEL CALCULATED FOR THE GREATEST NUMBER OF OCCUPANTS = 79 OCCUPANTS.

EGRESS WIDTH ANALYSIS – BC 1005.1

AS PER BC TABLE 1005.1 THE MIN. REQUIRED EGRESS WIDTH @ EXIT STAIRS = 0.30" PER OCCUPANT AND 0.2" PER OCCUPANT AT OTHER MEANS OF EGRESS AT FLOOR SERVED.

REQUIRED EGRESS STAIR WIDTH FOR GREATEST OCCUPANT LOAD (CELLAR) = 79 X 0.3" = 23.7"

PROVIDE 2 FIRE STAIRS, EACH 44". PER BC 1009.1 MIN. WIDTH = 44"
2 X 44" = 88"

88" > 23.7" ... OK

REQUIRED EGRESS CORRIDOR WIDTH FOR GREATEST OCCUPANT LOAD (CELLAR) = 79 X 0.2" = 15.8"
PROVIDE CORRIDOR @ EACH FLOOR @ 48" MIN.

48" > 15.8" ... OK

SEE FLOOR PLANS FOR WIDTH OF FIRE STAIRS AND OCCUPANT LOAD CAPACITY.

EXIT DOORS – BC 1008.1

AS PER BC TABLE 1005.1 THE MIN. REQD. EGRESS WIDTH @ OTHER COMPONENTS = 0.2 INCHES PER OCCUPANT

REQUIRED EGRESS WIDTH FOR GREATEST OCCUPANT LOAD (CELLAR)
= 79 x 0.20" = 15.8"

= SLIDING ENTRY DOOR (WITH BREAKAWAY PANELS) PROVIDED AT LOBBY = 48" > 15.8" ... OK

EXIT SIGN DESIGN NOTES – BC 1011

1. A TACTILE SIGN INDICATING EXIT AND COMPLYING WITH ICC A 117.1 SHALL BE PROVIDED ADJACENT TO EACH DOOR TO AN EGRESS STAIR, AN EXIT PASSAGEWAY AND EXIT DISCHARGE.

2. A SIGN SHALL BE PROVIDED AT EACH FLOOR LANDING IN INTERIOR VERTICAL EXIT ENCLOSURE CONNECTING MORE THAN THREE STORIES DESIGNATING THE FLOOR LEVEL.

3. EXIT SIGN PLACEMENT SHALL BE SUCH THAT NO POINT IN AN EXIT ACCESS CORRIDOR IS MORE THAN 100 FEET OR THE LISTED VIEWING DISTANCE FOR THE SIGN, WHICHEVER IS LESS, FROM THE NEAREST VISIBLE EXIT SIGNS.

REMOTENESS OF EXITS – BC 1014.2.1

AS PER TABLE 1014.2.1 FOR A FULLY SPRINKLED BUILDING THE DISTANCE BETWEEN THE EXITS CANNOT BE LESS THAN 1/3 OF THE MAXIMUM DIAGONAL DISTANCE SERVED.

.. 1/3 x 138.00' = 46.0'

PROVIDED EXITS AT A DISTANCE OF (70.33'+47')=117.33' > 46.0'(REQD.) AT EACH FLOOR

MAX. TRAVEL DISTANCE – BC 1015.1

AS PER TABLE 1015.1 MAX. REQD TRAVEL DISTANCE IN A SPRINKLED BUILDING TO BE < 200'

PROPOSED ALL TRAVEL DISTANCE LESS THAN 200'
(SEE EGRESS DIAGRAM BELOW)

DEAD END ANALYSIS– BC 1016.3

AS PER BC 1016.3 EXIT ACCESS SHALL BE LESS THAN 20' FROM ANY DEAD END.

NO PROPOSED DEAD ENDS CORRIDORS

NO. OF EXITS REQUIREMENTS – BC 1018

AS PER TABLE 1018.1 MIN. NO. OF EXITS REQ. FOR OCCUPANTS BETWEEN 1 AND 500 IS 2.

MAX. OCCUPANT LOAD = 41 ... 2 EXITS MIN,

PROVIDED 2 EXITS AT EACH FLOOR, SEE FLOOR PLANS.

EXIT DISCHARGE – BC 1023

PER 1023.1, A MAX. OF 50% OF REQUIRED NUMBER AND CAPACITY OF EXITS ARE PERMITTED TO EGRESS THROUGH A PROTECTED ENCLOSURE, PROVIDED SUCH AN ENCLOSURE MEETS THE REQUIREMENTS OF 1023.1, EXCEPTION 1, PARTS 1.1–1.5.

EMERGENCY ESCAPE AND RESCUE – BC 1025

PER 1025.1, EMERGENCY ESCAPE REQUIRED IN GROUP R OCCUPANCIES. PER EXCEPTION 1, BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM IN ACCORDANCE WITH SECTION 903.3.1.1 OR 903.3.1.2 ARE EXEMPT.

ILLUMINATION LEVEL– BC 1006.2

ILLUMINATION LEVELS AT EXITS, EXIT PASSAGEWAYS AND CORRIDOR COMPLIES WITH BC 1006.2

ELECTRICAL PLANS TO BE FILED IN A SEPARATE APPLICATION.

SMOKE ALARM & DETECTOR NOTES AS PER BC 907.2

1. SMOKE DETECTORS AND AUDIBLE NOTIFICATION APPLIANCES SHALL BE INSTALLED IN DWELLING UNITS AND SHALL BE ANNUNCIATED BY DWELLING UNIT AT A CONSTANTLY ATTENDED LOCATION FROM WHICH THE FIRE ALARM SYSTEM IS CAPABLE OF BEING MANUALLY ACTIVATED.

2. SMOKE DETECTORS ARE REQUIRED IN THE FOLLOWING AREAS:
– IN SLEEPING AREAS
– IN EVERY ROOM IN THE PATH OF THE MEANS OF EGRESS FROM THE SLEEPING AREA TO THE DOOR LEADING FROM THE DWELLING UNIT.
– IN EACH STORY WITHIN THE UNIT, INCLUDING BELOW-GRADE STORIES.
FOR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, ASMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL.

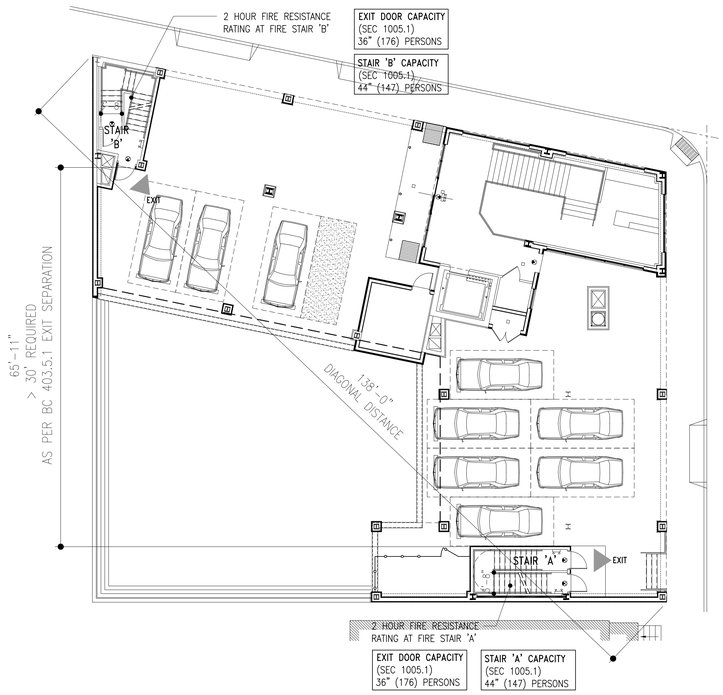
CARBON MONOXIDE ALARM & DETECTOR NOTES AS PER BC 908.7

1. CARBON MONOXIDE DETECTORS AND AUDIBLE NOTIFICATION APPLIANCES SHALL BE INSTALLED IN AFFECTED DWELLING UNITSAND SHALL BE ANNUNCIATED BY DWELLING UNIT AT A CONSTANTLY ATTENDED LOCATION FROM WHICH THE FIRE ALARM SYSTEM IS CAPABLE OF BEING MANUALLY ACTIVATED.
2. CARBON MONOXIDE DETECTORS SHALL BE LOCATED WITHIN DWELLING UNITS AS FOLLOWS:
– OUTSIDE ANY ROOM USED FOR SLEEPING PURPOSES, WITHIN 15 FEET OF THE ENTRANCE OF SUCH ROOM.
– IN ANY ROOM USED FOR SLEEPING PURPOSES.
– ON ANY STORY WITHIN A DWELLING UNIT, INCLUDING BELOW-GRADE STORES AND PENTHOUSES OF ANY AREA, BUT NOT INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS.
3. CARBON MONOXIDE ALARMA OR DETECTORS SHALL COMPLY WITH THE POWER SOURCE, INTERCONNECTION, AND ACCEPTANCE TESTING REQUIREMENTS AS REQUIRED FOR SMOKE ALARMS.
4. CARBON MONOXIDE ALARMS AND DETECTORS SHALL BE LISTED IN ACCORDANCE WITH UL 2034 AND UL 2075.

1ST FLOOR EGRESS DIAGRAM

SCALE: 3/32" = 1'-0"

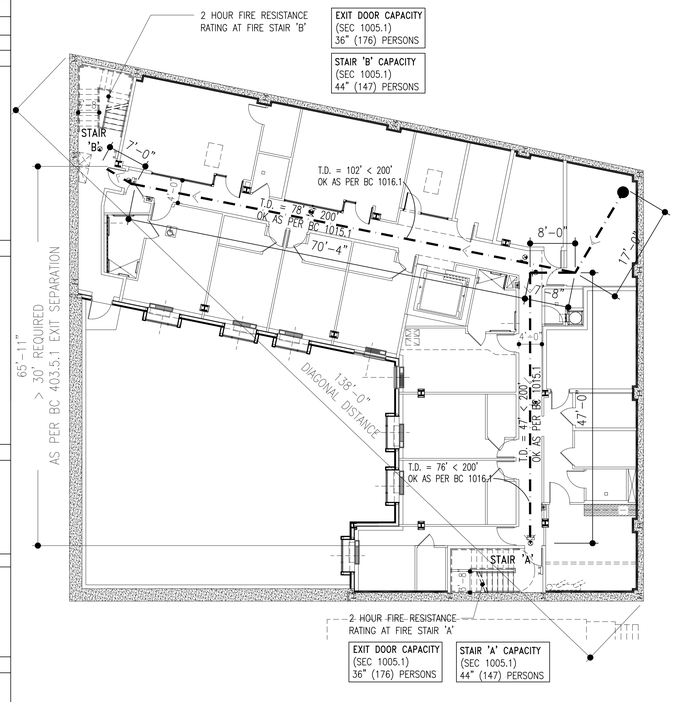
ALL EXIT DOORS ARE FIRE RATED AND SELF CLOSING. SEE FLOOR PLANS A100 SERIES AND DOOR SCHEDULES FOR ADDITIONAL INFORMATION---- TYPICAL FOR ALL FLOORS



SUB-CELLAR EGRESS DIAGRAM

SCALE: 3/32" = 1'-0"

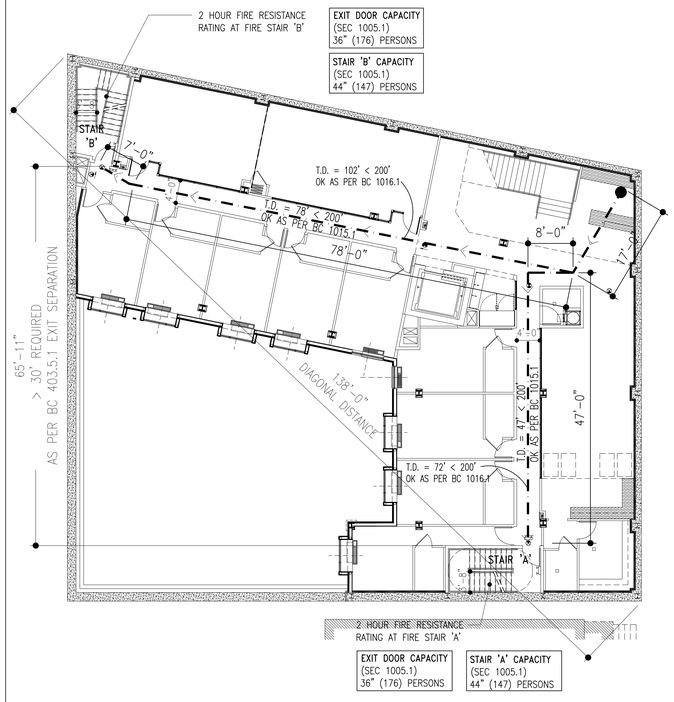
ALL EXIT DOORS ARE FIRE RATED AND SELF CLOSING. SEE FLOOR PLANS A100 SERIES AND DOOR SCHEDULES FOR ADDITIONAL INFORMATION---- TYPICAL FOR ALL FLOORS



CELLAR EGRESS DIAGRAM

SCALE: 3/32" = 1'-0"

ALL EXIT DOORS ARE FIRE RATED AND SELF CLOSING. SEE FLOOR PLANS A100 SERIES AND DOOR SCHEDULES FOR ADDITIONAL INFORMATION---- TYPICAL FOR ALL FLOORS



CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssorch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
BUILDING CODE AND EGRESS DIAGRAMS

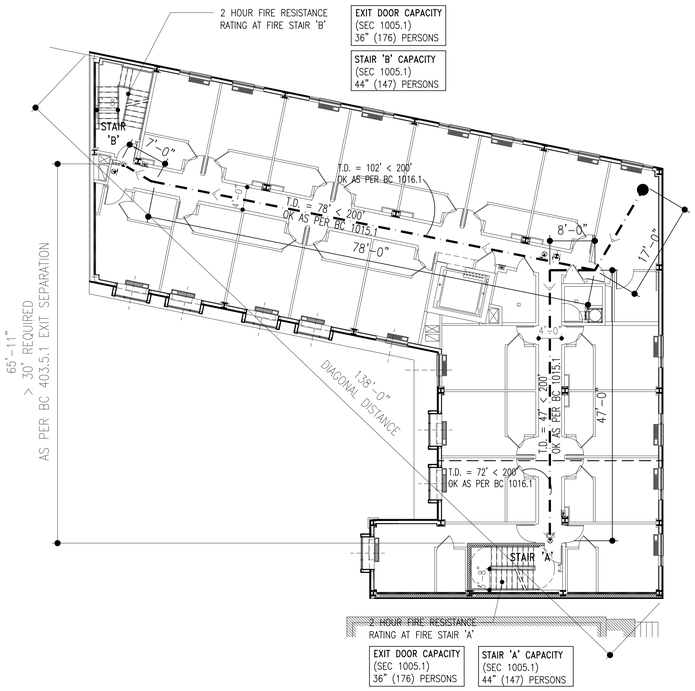
SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-104.00
CAD FILE NO: 06 OF
Z: \-MSS-647-WYNDER-LIBERTY\

2ND AND 3RD FLOOR EGRESS DIAGRAM

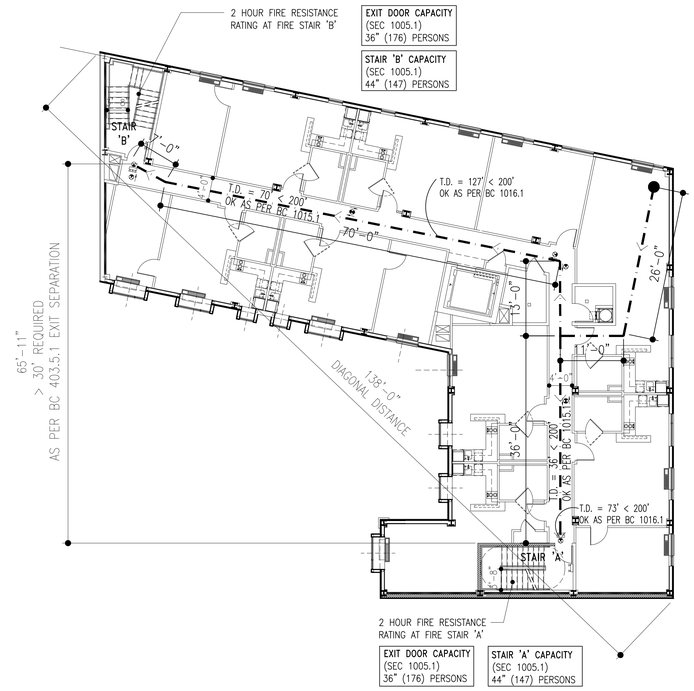
SCALE: 3/32" = 1'-0"

ALL EXIT DOORS ARE FIRE RATED AND SELF CLOSING. SEE FLOOR PLANS A100 SERIES AND DOOR SCHEDULES FOR ADDITIONAL INFORMATION---- TYPICAL FOR ALL FLOORS



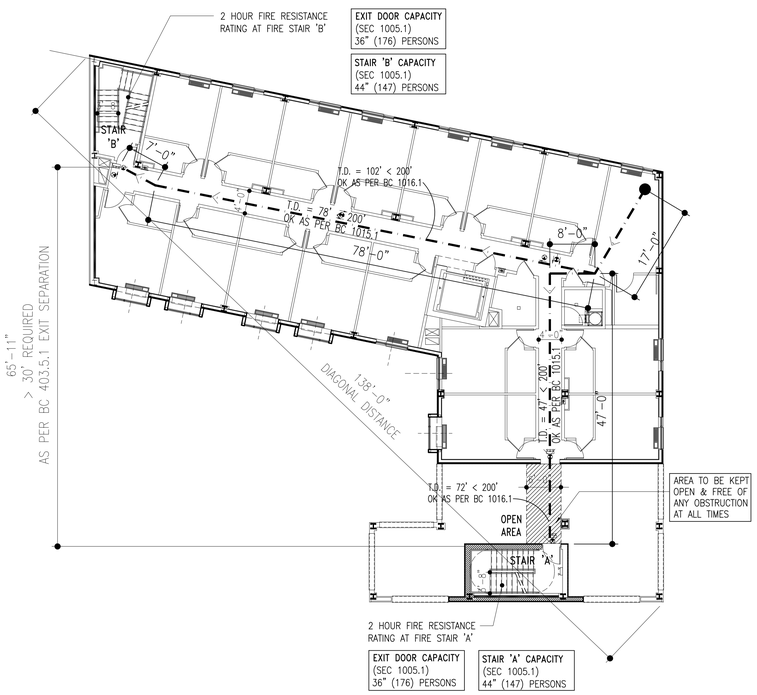
5TH FLOOR EGRESS DIAGRAM

SCALE: 3/32" = 1'-0"



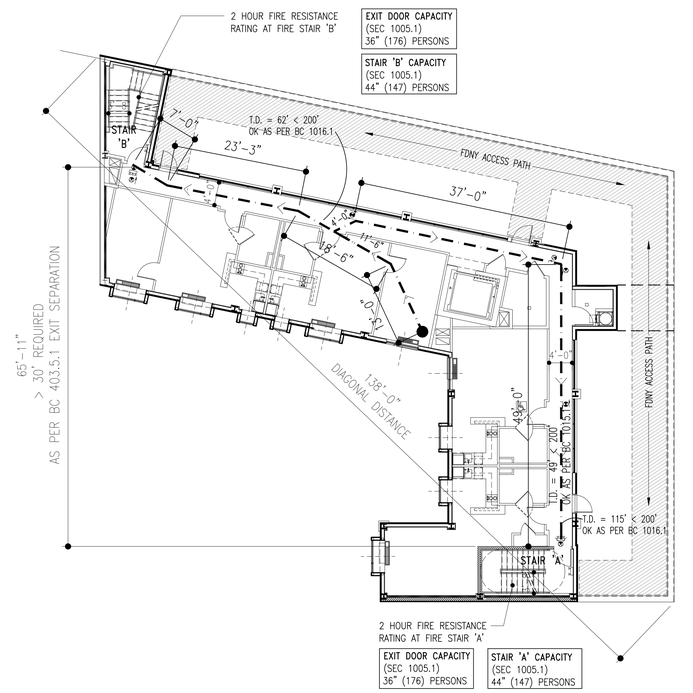
4TH FLOOR EGRESS DIAGRAM

SCALE: 3/32" = 1'-0"



6TH FLOOR EGRESS DIAGRAM

SCALE: 3/32" = 1'-0"



CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS

M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssorch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

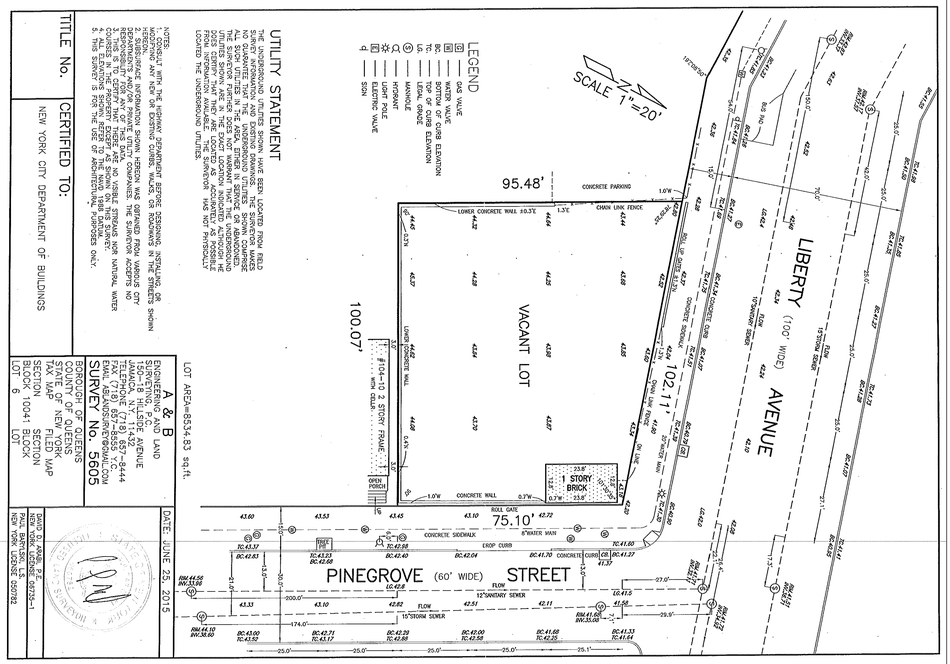
TITLE:
EGRESS DIAGRAMS

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-105.00
CAD FILE NO: 07 OF
Z: \-MSS-647-ARVINDER-LIBERTY\

ARCHITECTURAL SURVEY

SCALE: 1/16" = 1'-0"

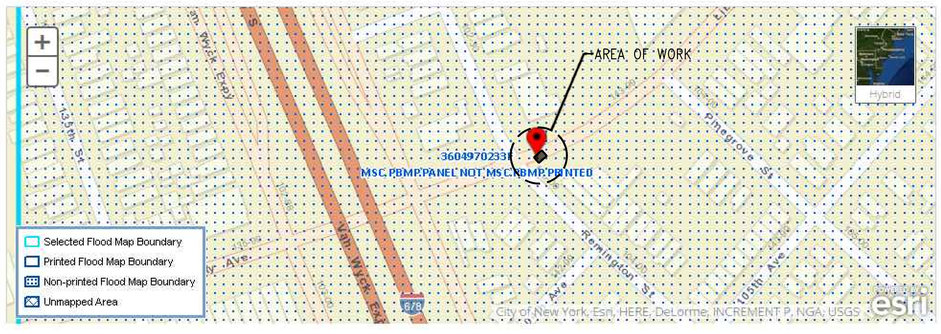


ZONING MAP

SCALE: N.T.S

FEMA MAP (NOT IN FLOOD ZONE)

SCALE: N.T.S



BORING TEST

SCALE: N.T.S

BORING B-1

Liberty Hospitality LLC — 143-18 Liberty Avenue, Queens — SB-6788

DEPTH FT.	SPOON BLOWS PER 1/2 FT.	HOLLOW STEM AUGER	MATERIAL
GROUND SURFACE			
	15 16	18 15	Uncontrolled Fills with Fine Brown Sands and Gravel Class 7
5.0			
	13 11	14 12	Clays SC Clayey Sands Sand-Clay Mixture Class 4b Moist
10.0			
	11 10	9 11	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
15.0			
	12 13	15 13	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
20.0			
	15 13	12 13	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
25.0			
Water – 26'	14 11	13 13	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b
30.0			
	14 15	13 15	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b
35.0			
	16 14	14 18	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b
40.0			
	19 17	21 19	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
45.0			
	18 18	21 24	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
50.0			
	23 21	19 16	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a End of Hole 52'
55.0			
60.0			Kenneth C. Thomas, P.E. Shazad Khan
65.0			B-7459.00
70.0			06-22-2015 06-25-2015
75.0			1 1
80.0			

BORING B-2

Liberty Hospitality LLC — 143-18 Liberty Avenue, Queens — SB-6788

DEPTH FT.	SPOON BLOWS PER 1/2 FT.	HOLLOW STEM AUGER	MATERIAL
GROUND SURFACE			
	11 10	13 9	Uncontrolled Fills mixed with Fine Brown Sands and Gravel Class 7
5.0			
	15 11	10 10	Granular Soils SM Fine Brown Sands with Traces of Silts Class 3b Moist
10.0			
	13 13	10 15	Granular Soils SM Fine Brown Sands with Traces of Silts Class 3b Moist
15.0			
	15 11	17 17	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
20.0			
	17 19	19 15	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
25.0			
Water – 28'	15 17	19 21	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
30.0			
	17 19	13 19	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
35.0			
	15 17	18 20	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
40.0			
	17 19	23 20	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
45.0			
	19 20	21 22	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
50.0			
	21 20	17 18	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a End of Hole 52'
55.0			
60.0			Kenneth C. Thomas, P.E. Shazad Khan
65.0			B-7459.00
70.0			06-22-2015 06-25-2015
75.0			1 1
80.0			

BORING B-3

Liberty Hospitality LLC — 143-18 Liberty Avenue, Queens — SB-6788

DEPTH FT.	SPOON BLOWS PER 1/2 FT.	HOLLOW STEM AUGER	MATERIAL
GROUND SURFACE			
	9 10	11 13	Uncontrolled Fills mixed with Fine Brown Sands Class 7
5.0			
	15 13	11 15	Granular Soils SM Fine Brown Sands with Traces of Silts Class 3b Moist
10.0			
	15 17	11 10	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
15.0			
	13 11	10 13	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
20.0			
	18 15	21 17	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a Moist
Water – 25' 25.0			
	17 19	21 15	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
30.0			
	15 19	19 20	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
35.0			
	19 17	21 23	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
40.0			
	18 23	20 20	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
45.0			
	17 20	15 17	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
50.0			
	21 20	17 21	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a End of Hole 52'
55.0			
60.0			Kenneth C. Thomas, P.E. Shazad Khan
65.0			B-7459.00
70.0			06-22-2015 06-25-2015
75.0			1 1
80.0			

BORING B-4

Liberty Hospitality LLC — 143-18 Liberty Avenue, Queens — SB-6788

DEPTH FT.	SPOON BLOWS PER 1/2 FT.	HOLLOW STEM AUGER	MATERIAL
GROUND SURFACE			
	13 11	10 15	Uncontrolled Fills mixed with Fine Brown Sands Class 7
5.0			
	9 13	11 9	Granular Soils SM Fine Brown Sands with Traces of Silts Class 3b Moist
10.0			
	15 10	13 13	Granular Soils SM Fine Brown Sands with Traces of Silts Class 3b Moist
15.0			
	15 11	17 10	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3b Moist
20.0			
	15 19	17 17	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a Moist
Water – 28' 25.0			
	19 21	17 19	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
30.0			
	21 19	15 19	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
35.0			
	23 17	20 21	Granular Soils SM Fine Brown Sands with Gravel and Traces of Silts Class 3a
40.0			
	20 19	18 19	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
45.0			
	15 17	21 20	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a
50.0			
	19 17	23 21	Granular Soils SP Medium to Coarse Brown Sands with Gravel and Traces of Silts Class 3a End of Hole 52'
55.0			
60.0			Kenneth C. Thomas, P.E. Shazad Khan
65.0			B-7459.00
70.0			06-22-2015 06-25-2015
75.0			1 1
80.0			

CONSULTANTS:

STRUCTURAL

MEP/FP/SPRINKLERS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

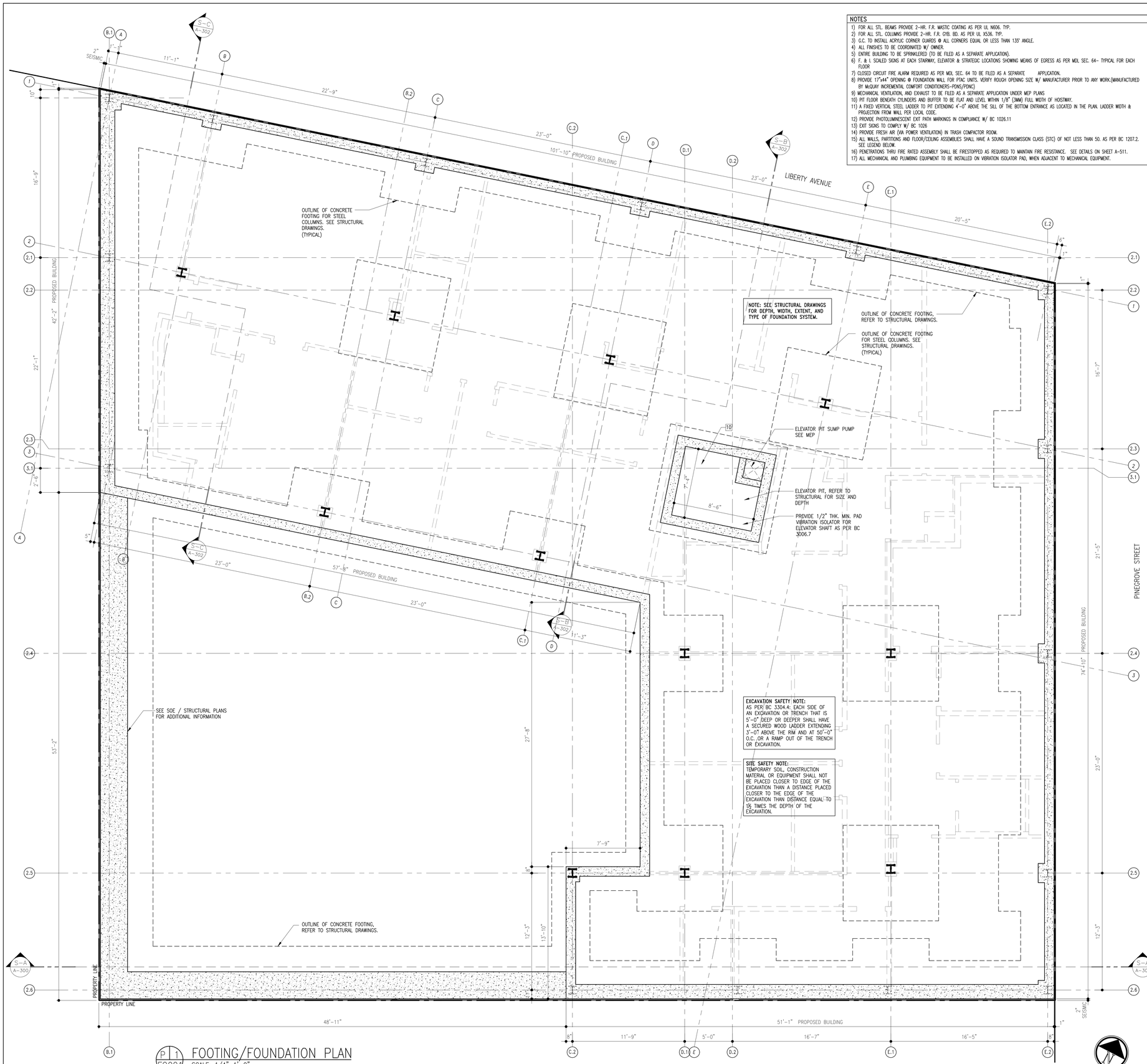
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
SURVEY, FEMA AND TAX MAPS

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
Z-106.00
CAD FILE NO: 07 OF
Z: \-MSS-647-ARVINDER-LIBERTY\



P 1 / F0001 FOOTING/FOUNDATION PLAN
SCALE: 1/4"=1'-0"

NOTES

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. CYBI. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY MCQUAY INCREMENTAL COMFORT CONDITIONERS-PDWS/PDWC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
FOOTING/FOUNDATION PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
FO-001.00
CAD FILE NO: 15 OF Z: \-MSS-647-MWNDER-LIBERTY\

TYP. NOTES:
1. ALL INTERIOR NON-BEARING FRAMES SHALL BE ___GA.
2. ALL EXTERIOR NON-BEARING FRAMES SHALL BE ___GA.

SEE SHEETS A-600, A601 AND A602 FOR DOOR AND WINDOW SCHEDULE

MECHANICAL EQUIPMENT SCHEDULE

NO.	DESCRIPTION	MANUFACTURER	MODEL	MEA #
1	CLOTHES WASHER	DEXTER LAUNDRY	T-950 EXPRESS WASHER	
2	CLOTHES DRYER (GAS FIRED)	DEXTER LAUNDRY	T-80 DRYER	
3	PTAC	GENERAL ELECTRIC	AZ61H12DAD	
4	ELEVATOR	THYSSENKRUPP ELEVATOR AMERICAS	3,000 LB	
5	RUBBISH CHUTE	"WESTERN CHUTES"	24" DIAMETER CHUTE	
6	TRASH COMPACTOR W/ MULTI-SORTER	"WESTERN CHUTES"	RAM-10 COMPACTOR, W SERIES	
7	TRASH BIN	"WESTERN CHUTES"	2.5 CUBIC YARD BIN	
8	EMERGENCY GENERATOR (INTEGRAL FUEL TANK)	"CUMMINS"	DSGAC, 250 GALLSONS	

BUILDING ENVELOPE MANDATORY PROVISIONS:

1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft^2 OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYP. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY McQUAY INCREMENTAL COMFORT CONDITIONERS-PDNS/PDNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MANTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

F.R. GLAZING ALONG EXIT CORRIDOR:
ALL GLAZING ALONG EXIT CORRIDOR SHALL BE MIN. 1-HR F.R. AS PROVIDED BY T.G.P. (FIRELITE) OR APPROVED EQUAL.

CONSTRUCTION PLAN KEY NOTES:

1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MOL# 450SS.
8 – HOSE BIB PER CODE. SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT, ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SY0160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION.
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ. IN MIN. VENTILATOR PER BC 910.5.2
32 – 6 PLY, BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS BY GAF BUILDING SOLUTIONS OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4'Ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE.

LEGEND

- PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
- PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
- PARTITION TYPE #2 – 3 5/8" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- PARTITION TYPE #3 – 2 1/2" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #4 – 3 5/8" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #5 – 3 5/8" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
- PARTITION TYPE #6 – 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- PARTITION TYPE #7 – 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE: 3-HR F.R.
- POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.
- SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
- 50 – EXHAUST FAN, CFM AS SHOWN.
- EMERGENCY LIGHT.
- LOCATION OF EXIT SIGN & LIGHT DIRECTION.
- FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

P	PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)	T	TILE (COLOR T.B.D.)
C	CARPET (COLOR T.B.D.)	GT	GRANITE TILE (COLOR T.B.D.)
CT	CERAMIC TILE (COLOR T.B.D.)		MILLWORK

FIRE RATING LEGEND

- 1-HR FIRE RATED PARTITION
- 2-HR FIRE RATED PARTITION
- 3-HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

ALL EXIT DOORS	FIRE STAIR 'A'	FIRE STAIR 'B'	CORRIDORS
PER 1005.1 EGRESS WIDTH 0.2" PER OCCUPANT. EGRESS WIDTH 72". CAPACITY OF EGRESS = 36"/.2"= 180 OCCUPANTS	PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	PER TABLE 1005.1 CORRIDORS 0.2" PER OCCUPANT. CORRIDORS 48" WIDE. CAPACITY OF CORRIDORS = 44/0.2 = 240 OCCUPANTS

P1 / A100 SUB-CELLAR PLAN
SCALE: 1/4"=1'-0" (8 GUEST'S ROOMS)

ADJ. #104-10 2-STY FRAME WITH CELLAR

CONSULTANTS:

STRUCTURAL

MEP/FA/FP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
SUB-CELLAR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-100.00
CAD FILE NO: 16 OF
Z: \1-MSS-647-MWNDER-LIBERTY\

ALL EXIT DOORS	FIRE STAIR 'A'	FIRE STAIR 'B'	CORRIDORS
PER 1005.1 EGRESS WIDTH 0.2" PER OCCUPANT. EGRESS WIDTH 72". CAPACITY OF EGRESS = 36"/.2"= 180 OCCUPANTS	PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	PER TABLE 1005.1 CORRIDORS 0.2" PER OCCUPANT. CORRIDORS 48" WIDE. CAPACITY OF CORRIDORS = 44/0.2 = 240 OCCUPANTS

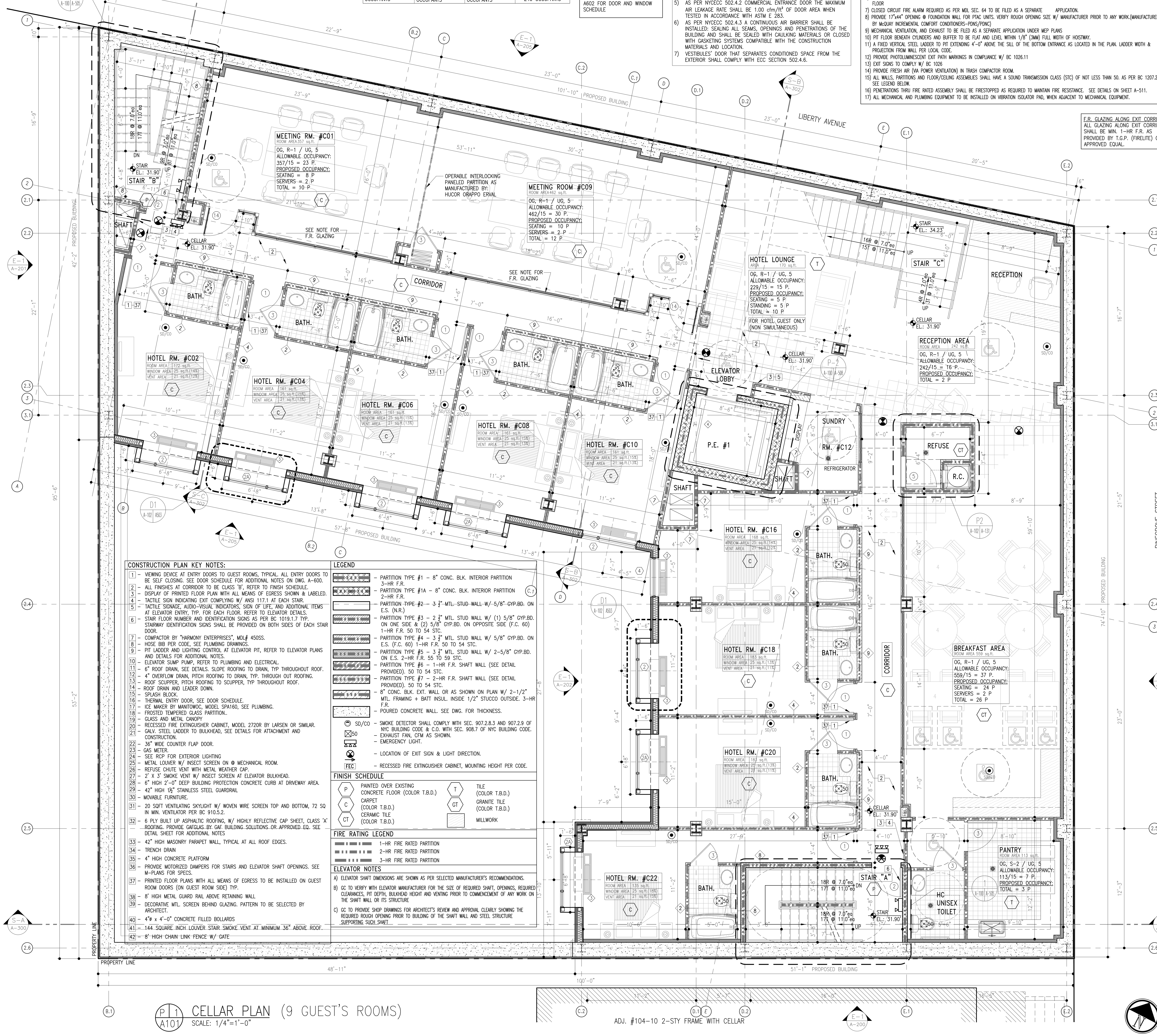
TYP. NOTES:
1. ALL INTERIOR NON-BEARING FRAMES SHALL BE __GA.
2. ALL EXTERIOR NON-BEARING FRAMES SHALL BE __GA.

SEE SHEETS A-600, A601 AND A602 FOR DOOR AND WINDOW SCHEDULE

BUILDING ENVELOPE MANDATORY PROVISIONS:
1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft² OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:
1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYB. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY McQUAY INCREMENTAL COMFORT CONDITIONERS-PDNS/PDNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

F.R. GLAZING ALONG EXIT CORRIDOR: ALL GLAZING ALONG EXIT CORRIDOR SHALL BE MIN. 1-HR F.R. AS PROVIDED BY T.G.P. (FIRELITE) OR APPROVED EQUAL.



LIBERTY AVENUE
PINEGROVE STREET
STAIR "B"
SHAFT
MEETING RM. #C01
ROOM AREA 357 sq.ft.
OG, R-1 / UG, 5
ALLOWABLE OCCUPANCY: 357/15 = 23 P.
PROPOSED OCCUPANCY: SEATING = 8 P SERVERS = 2 P TOTAL = 10 P
OPERABLE INTERLOCKING PANELED PARTITION AS MANUFACTURED BY: HUCOR ORAPPO ERVAL
MEETING ROOM #C09
ROOM AREA 462 sq.ft.
OG, R-1 / UG, 5
ALLOWABLE OCCUPANCY: 462/15 = 30 P.
PROPOSED OCCUPANCY: SEATING = 10 P SERVERS = 2 P TOTAL = 12 P
SEE NOTE FOR F.R. GLAZING
CORRIDOR
HOTEL LOUNGE
AREA 170 sq.ft.
OG, R-1 / UG, 5
ALLOWABLE OCCUPANCY: 229/15 = 15 P.
PROPOSED OCCUPANCY: SEATING = 5 P STANDING = 5 P TOTAL = 10 P
FOR HOTEL GUEST ONLY (NON SIMULTANEOUS)
STAIR "C"
RECEPTION
RECEPTION AREA
ROOM AREA 242 sq.ft.
OG, R-1 / UG, 5
ALLOWABLE OCCUPANCY: 242/15 = 16 P.
PROPOSED OCCUPANCY: TOTAL = 2 P
BATH.
HOTEL RM. #C02
HOTEL RM. #C04
HOTEL RM. #C06
HOTEL RM. #C08
HOTEL RM. #C10
ELEVATOR LOBBY
P.E. #1
SUNDRY RM. #C12
REFRIGERATOR
REFUSE
R.C.
HOTEL RM. #C16
HOTEL RM. #C18
HOTEL RM. #C20
HOTEL RM. #C22
BREAKFAST AREA
ROOM AREA 559 sq.ft.
OG, R-1 / UG, 5
ALLOWABLE OCCUPANCY: 559/15 = 37 P.
PROPOSED OCCUPANCY: SEATING = 24 P SERVERS = 2 P TOTAL = 26 P
STAIR "A"
HC UNISEX TOILET
PANTRY
ROOM AREA 113 sq.ft.
OG, S-2 / UG, 5
ALLOWABLE OCCUPANCY: 113/15 = 7 P.
PROPOSED OCCUPANCY: TOTAL = 3 P
PROPERTY LINE
PROPOSED BUILDING
ADJ. #104-10 2-STY FRAME WITH CELLAR

CONSTRUCTION PLAN KEY NOTES:

1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 – HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION..
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2.
32 – 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS BY GAF BUILDING SOLUTIONS OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4"ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND

- PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
- PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
- PARTITION TYPE #2 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- PARTITION TYPE #3 – 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #4 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #5 – 3 ½" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
- PARTITION TYPE #6 – 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- PARTITION TYPE #7 – 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3-HR F.R.
- POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.
- SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
- ⊠50 – EXHAUST FAN, CFM AS SHOWN.
- – EMERGENCY LIGHT.
- ⊗ – LOCATION OF EXIT SIGN & LIGHT DIRECTION.
- FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

P	PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)	T	TILE (COLOR T.B.D.)
C	CARPET (COLOR T.B.D.)	GT	GRANITE TILE (COLOR T.B.D.)
CT	CERAMIC TILE (COLOR T.B.D.)	▨	MILLWORK

FIRE RATING LEGEND

- 1-HR FIRE RATED PARTITION
- 2-HR FIRE RATED PARTITION
- 3-HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

P1 / A101 CELLAR PLAN (9 GUEST'S ROOMS)
SCALE: 1/4"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

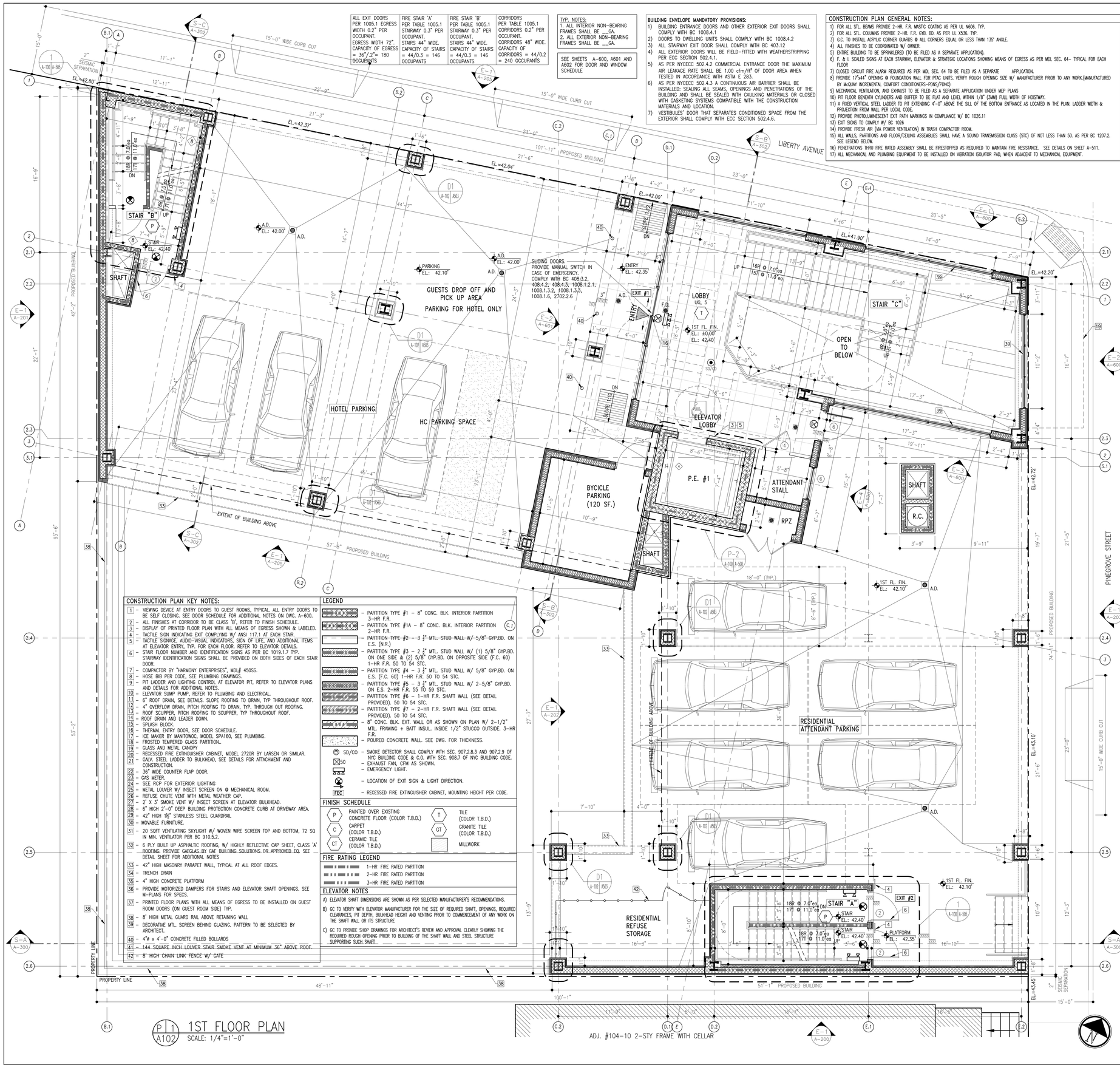
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
CELLAR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-101.00
CAD FILE NO: 17 OF
Z: 1-MSS-647-ARVINDER-LIBERTY:



ALL EXIT DOORS PER 1005.1 EGRESS WIDTH 0.2" PER OCCUPANT. EGRESS WIDTH 72". CAPACITY OF EGRESS = 36"/.2"= 180 OCCUPANTS	FIRE STAIR 'A' PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	FIRE STAIR 'B' PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	CORRIDORS PER TABLE 1005.1 CORRIDORS 0.2" PER OCCUPANT. CORRIDORS 48" WIDE. CAPACITY OF CORRIDORS = 44/0.2 = 240 OCCUPANTS

TYP. NOTES:
1. ALL INTERIOR NON-BEARING FRAMES SHALL BE __GA.
2. ALL EXTERIOR NON-BEARING FRAMES SHALL BE __GA.

SEE SHEETS A-600, A601 AND A602 FOR DOOR AND WINDOW SCHEDULE

BUILDING ENVELOPE MANDATORY PROVISIONS:

1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft^2 OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYB. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY MCAIR INCREMENTAL COMFORT CONDITIONERS-PTHS/PTHC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

CONSTRUCTION PLAN KEY NOTES:

1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 – HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION.
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2
32 – 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS..BY GAF BUILDING SOLUTIONS..OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4'ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER. STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND

- PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
- PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
- PARTITION TYPE #2 – 3 ⅝" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- PARTITION TYPE #3 – 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #4 – 3 ⅝" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #5 – 3 ⅝" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
- PARTITION TYPE #6 – 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- PARTITION TYPE #7 – 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3-HR F.R.
- POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.
- SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
- 50 – EXHAUST FAN, CFM AS SHOWN.
- EMERGENCY LIGHT.
- LOCATION OF EXIT SIGN & LIGHT DIRECTION.
- FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

P	PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)	T	TILE (COLOR T.B.D.)
C	CARPET (COLOR T.B.D.)	GT	GRANITE TILE (COLOR T.B.D.)
CT	CERAMIC TILE (COLOR T.B.D.)		MILLWORK

FIRE RATING LEGEND

- 1-HR FIRE RATED PARTITION
- 2-HR FIRE RATED PARTITION
- 3-HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT.

P1 / A102 **1ST FLOOR PLAN**
SCALE: 1/4"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
1ST FLOOR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-102.00
CAD FILE NO: 18 OF 2: I-MSS-647-ARVINDER-LIBERTY

ALL EXIT DOORS	FIRE STAIR 'A'	FIRE STAIR 'B'	CORRIDORS
PER 1005.1 EGRESS WIDTH 0.2" PER OCCUPANT. EGRESS WIDTH 72". CAPACITY OF EGRESS = 36"/.2"= 180 OCCUPANTS	PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	PER TABLE 1005.1 CORRIDORS 0.2" PER OCCUPANT. CORRIDORS 48" WIDE. CAPACITY OF CORRIDORS = 44/0.2 = 240 OCCUPANTS

TYP. NOTES:
1. ALL INTERIOR NON-BEARING FRAMES SHALL BE __GA.
2. ALL EXTERIOR NON-BEARING FRAMES SHALL BE __GA.

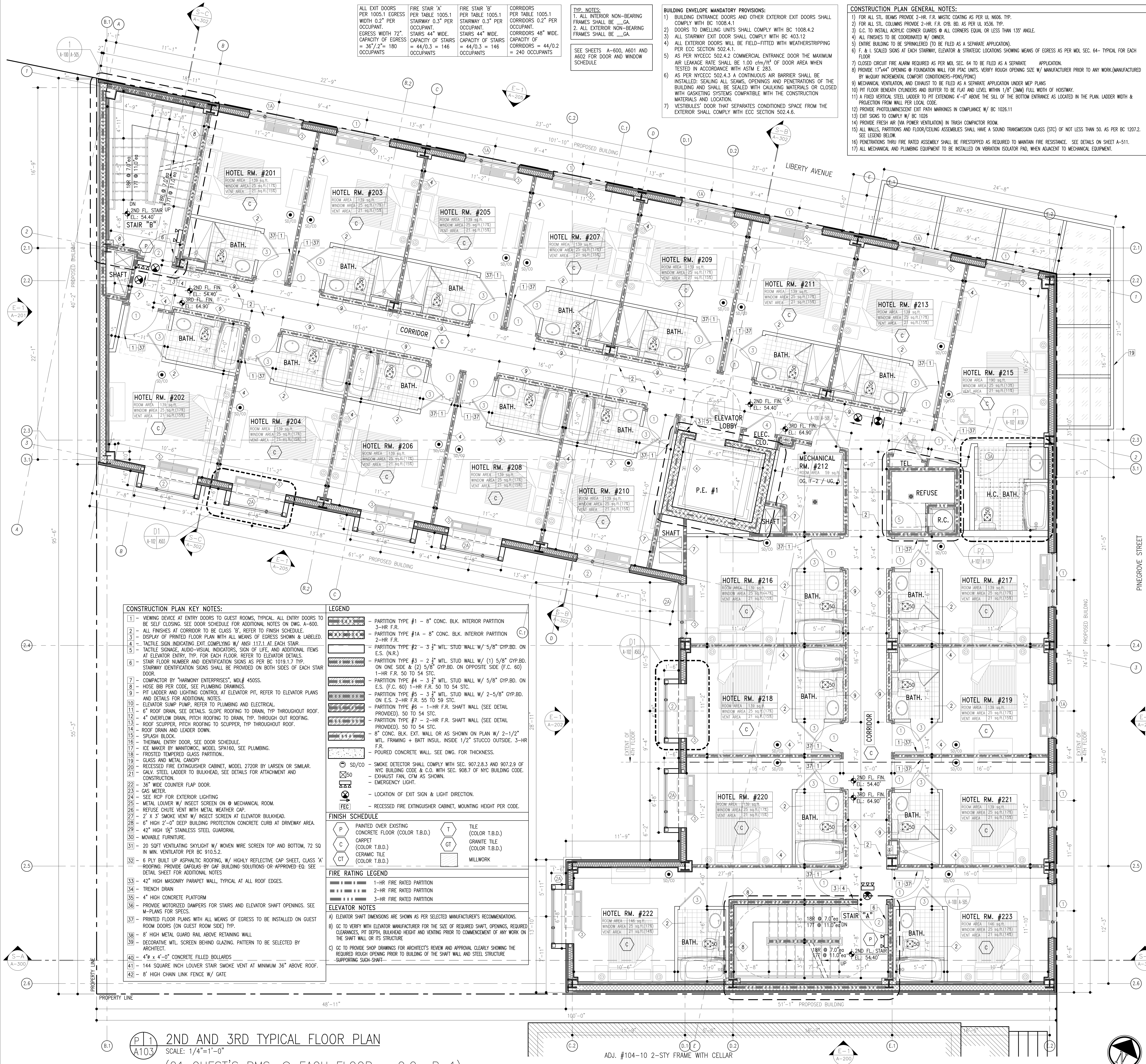
SEE SHEETS A-600, A601 AND A602 FOR DOOR AND WINDOW SCHEDULE

BUILDING ENVELOPE MANDATORY PROVISIONS:

1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft² OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYB. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY McQUAY INCREMENTAL COMFORT CONDITIONERS-PDNS/PDNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.



CONSTRUCTION PLAN KEY NOTES:

1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 – HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION..
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2.
32 – 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS BY GAF BUILDING SOLUTIONS OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4"ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND

- PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
- PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
- PARTITION TYPE #2 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- PARTITION TYPE #3 – 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #4 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #5 – 3 ½" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
- PARTITION TYPE #6 – 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- PARTITION TYPE #7 – 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3-HR F.R.
- POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.
- SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
- 50 – EXHAUST FAN, CFM AS SHOWN.
- EMERGENCY LIGHT.
- LOCATION OF EXIT SIGN & LIGHT DIRECTION.
- FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

- P – PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)
- C – CARPET (COLOR T.B.D.)
- CT – CERAMIC TILE (COLOR T.B.D.)
- T – TILE (COLOR T.B.D.)
- GT – GRANITE TILE (COLOR T.B.D.)
- ▨ MILLWORK

FIRE RATING LEGEND

- 1-HR FIRE RATED PARTITION
- 2-HR FIRE RATED PARTITION
- 3-HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

P1 / A103 2ND AND 3RD TYPICAL FLOOR PLAN

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

(21 GUEST'S RMS. @ EACH FLOOR – O.G.: R-1)

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

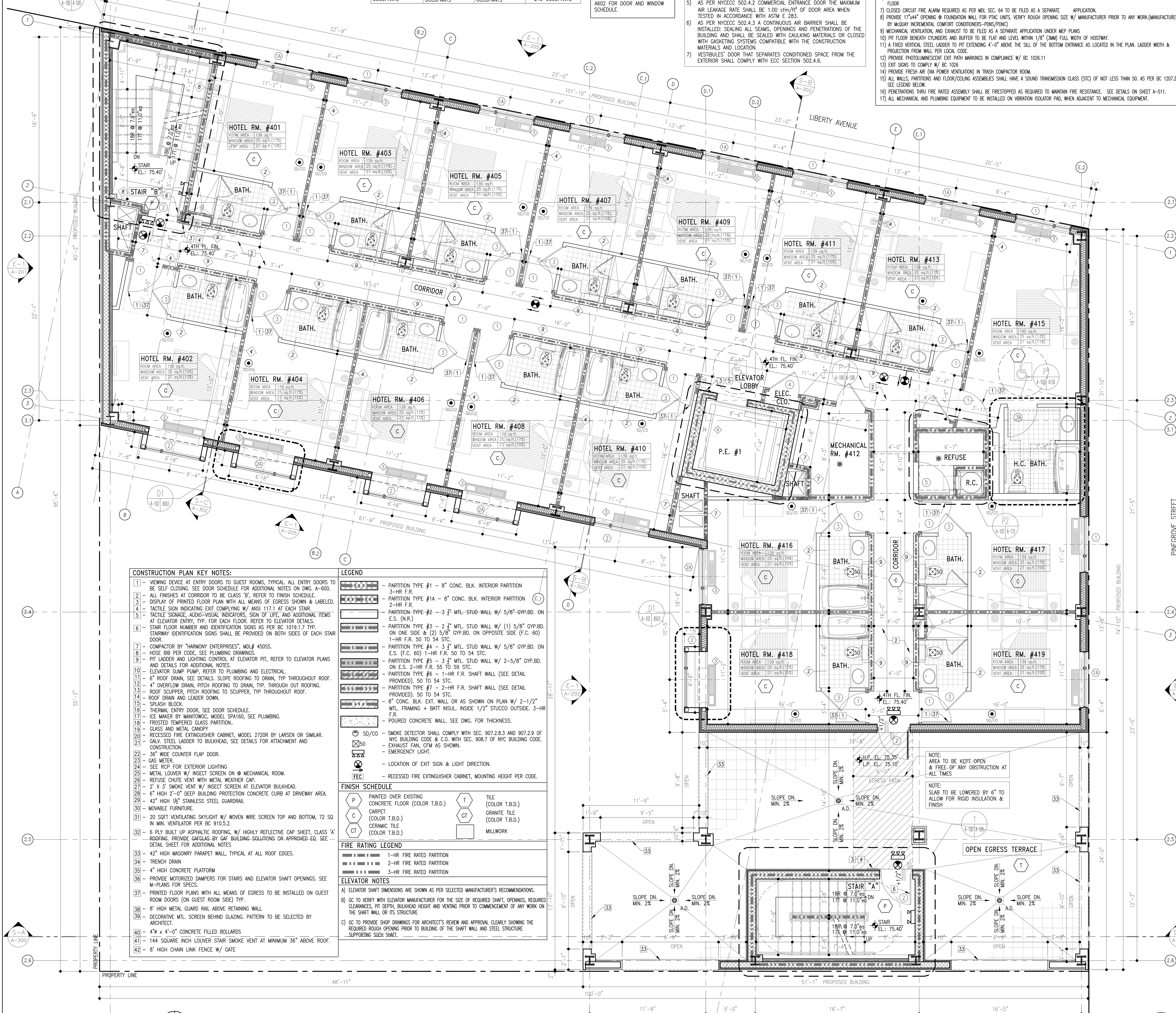
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
2ND AND 3RD TYPICAL FLOOR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-103.00
CAD FILE NO: 19 OF
Z: 1-MSS-647-ARVINDER-LIBERTY:



ALL EXIT DOORS PER 1005.1 EGRESS WIDTH 0.2" PER OCCUPANT. EGRESS WIDTH 72". CAPACITY OF EGRESS = 36"/.2"= 180 OCCUPANTS	FIRE STAIR 'A' PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	FIRE STAIR 'B' PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	CORRIDORS PER TABLE 1005.1 CORRIDORS 0.2" PER OCCUPANT. CORRIDORS 48" WIDE. CAPACITY OF CORRIDORS = 44/0.2 = 240 OCCUPANTS

TYP. NOTES:
1. ALL INTERIOR NON-BEARING FRAMES SHALL BE __GA.
2. ALL EXTERIOR NON-BEARING FRAMES SHALL BE __GA.

SEE SHEETS A-600, A601 AND A602 FOR DOOR AND WINDOW SCHEDULE

BUILDING ENVELOPE MANDATORY PROVISIONS:
1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft² OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:
1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYB. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY McQUAY INCREMENTAL COMFORT CONDITIONERS-PDNS/PDNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

CONSTRUCTION PLAN KEY NOTES:
1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 – HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION..
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2.
32 – 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS BY GAF BUILDING SOLUTIONS OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4"ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND
– PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
– PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
– ~~PARTITION TYPE #2 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON~~ E.S. (N.R.)
– PARTITION TYPE #3 – 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
– PARTITION TYPE #4 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
– PARTITION TYPE #5 – 3 ½" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
– PARTITION TYPE #6 – 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
– PARTITION TYPE #7 – 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
– 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3-HR F.R.
– POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.
SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
50 – EXHAUST FAN, CFM AS SHOWN.
– EMERGENCY LIGHT.
– LOCATION OF EXIT SIGN & LIGHT DIRECTION.
FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

P	PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)	T	TILE (COLOR T.B.D.)
C	CARPET (COLOR T.B.D.)	GT	GRANITE TILE (COLOR T.B.D.)
CT	CERAMIC TILE (COLOR T.B.D.)		MILLWORK

FIRE RATING LEGEND
1-HR FIRE RATED PARTITION
2-HR FIRE RATED PARTITION
3-HR FIRE RATED PARTITION

ELEVATOR NOTES
A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

P1 / A104 — 4TH FLOOR PLAN
SCALE: 1/4"=1'-0"
(17 GUEST'S ROOMS @ EACH FLOOR – O.G.: R-1)

CONSULTANTS:
STRUCTURAL
MEP/FA/FP/FS
GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
4TH FLOOR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-104.00
CAD FILE NO: 20 OF
Z: 1-MSS-647-ARVINDER-LIBERTY:

ALL EXIT DOORS PER 1005.1 EGRESS WIDTH 0.2" PER OCCUPANT. EGRESS WIDTH 72". CAPACITY OF EGRESS = 36"/.2"= 180 OCCUPANTS	FIRE STAIR 'A' PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE.. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	FIRE STAIR 'B' PER TABLE 1005.1 STAIRWAY 0.3" PER OCCUPANT. STAIRS 44" WIDE.. CAPACITY OF STAIRS = 44/0.3 = 146 OCCUPANTS	CORRIDORS PER TABLE 1005.1 CORRIDORS 0.2" PER OCCUPANT. CORRIDORS 48" WIDE. CAPACITY OF CORRIDORS = 44/0.2 = 240 OCCUPANTS

TYP. NOTES:
1. ALL INTERIOR NON-BEARING FRAMES SHALL BE __GA.
2. ALL EXTERIOR NON-BEARING FRAMES SHALL BE __GA.

SEE SHEETS A-600, A601 AND A602 FOR DOOR AND WINDOW SCHEDULE

BUILDING ENVELOPE MANDATORY PROVISIONS:

1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft² OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. CYTG. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY MCQUAY INCREMENTAL COMFORT CONDITIONERS-PSNS/PSNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

CONSTRUCTION PLAN KEY NOTES:

1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 – HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION..
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2.
32 – 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS-BY GAF BUILDING-SOLUTIONS-OR-APPROVED-EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4'ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND

- PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3–HR F.R.
- PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2–HR F.R.
- PARTITION TYPE #2 – 3 ⅝" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- PARTITION TYPE #3 – 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1–HR F.R. 50 TO 54 STC.
- PARTITION TYPE #4 – 3 ⅝" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1–HR F.R. 50 TO 54 STC.
- PARTITION TYPE #5 – 3 ⅝" MTL. STUD WALL W/ 2–5/8" GYP.BD. ON E.S. 2–HR F.R. 55 TO 59 STC.
- PARTITION TYPE #6 – 1–HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- PARTITION TYPE #7 – 2–HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2–1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3–HR F.R.
- POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.

SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
⊠50 – EXHAUST FAN, CFM AS SHOWN.
– EMERGENCY LIGHT.
– LOCATION OF EXIT SIGN & LIGHT DIRECTION.
FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

P	PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)	T	TILE (COLOR T.B.D.)
C	CARPET (COLOR T.B.D.)	GT	GRANITE TILE (COLOR T.B.D.)
CT	CERAMIC TILE (COLOR T.B.D.)		MILLWORK

FIRE RATING LEGEND

- 1–HR FIRE RATED PARTITION
- 2–HR FIRE RATED PARTITION
- 3–HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

P 1 / A105 — 5TH FLOOR PLAN
SCALE: 1/4"=1'-0"
(8 HOTEL APARTMENTS – O.G.: R-2)

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

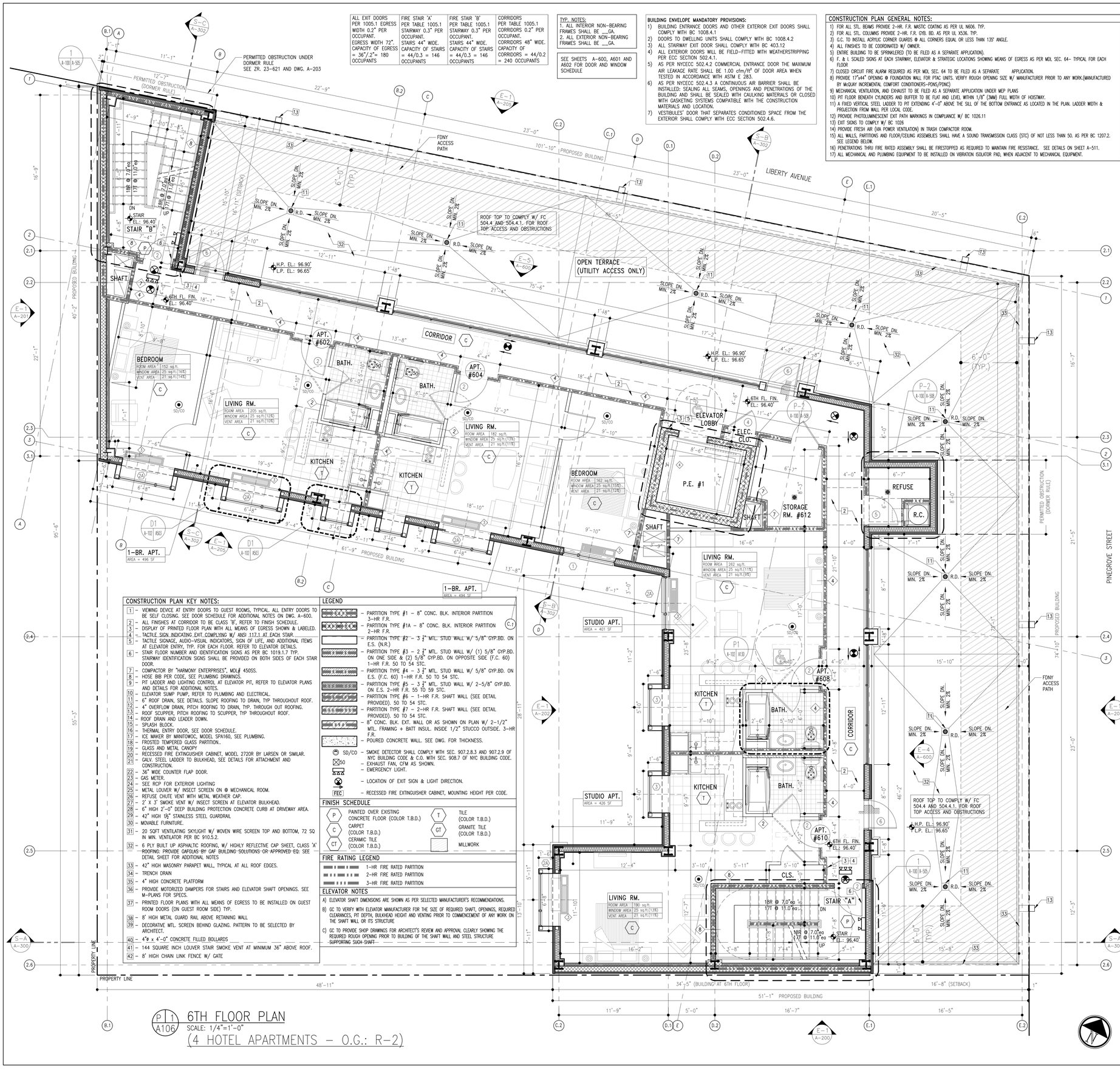
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
5TH FLOOR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-105.00
CAD FILE NO: 21 OF
Z: \-MSS-647-MWINDER-LIBERTY\



P 1 / A106 6TH FLOOR PLAN
SCALE: 1/4"=1'-0"
(4 HOTEL APARTMENTS – O.G.: R-2)

CONSULTANTS:

STRUCTURAL

MEP/FP/SPRINKLERS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

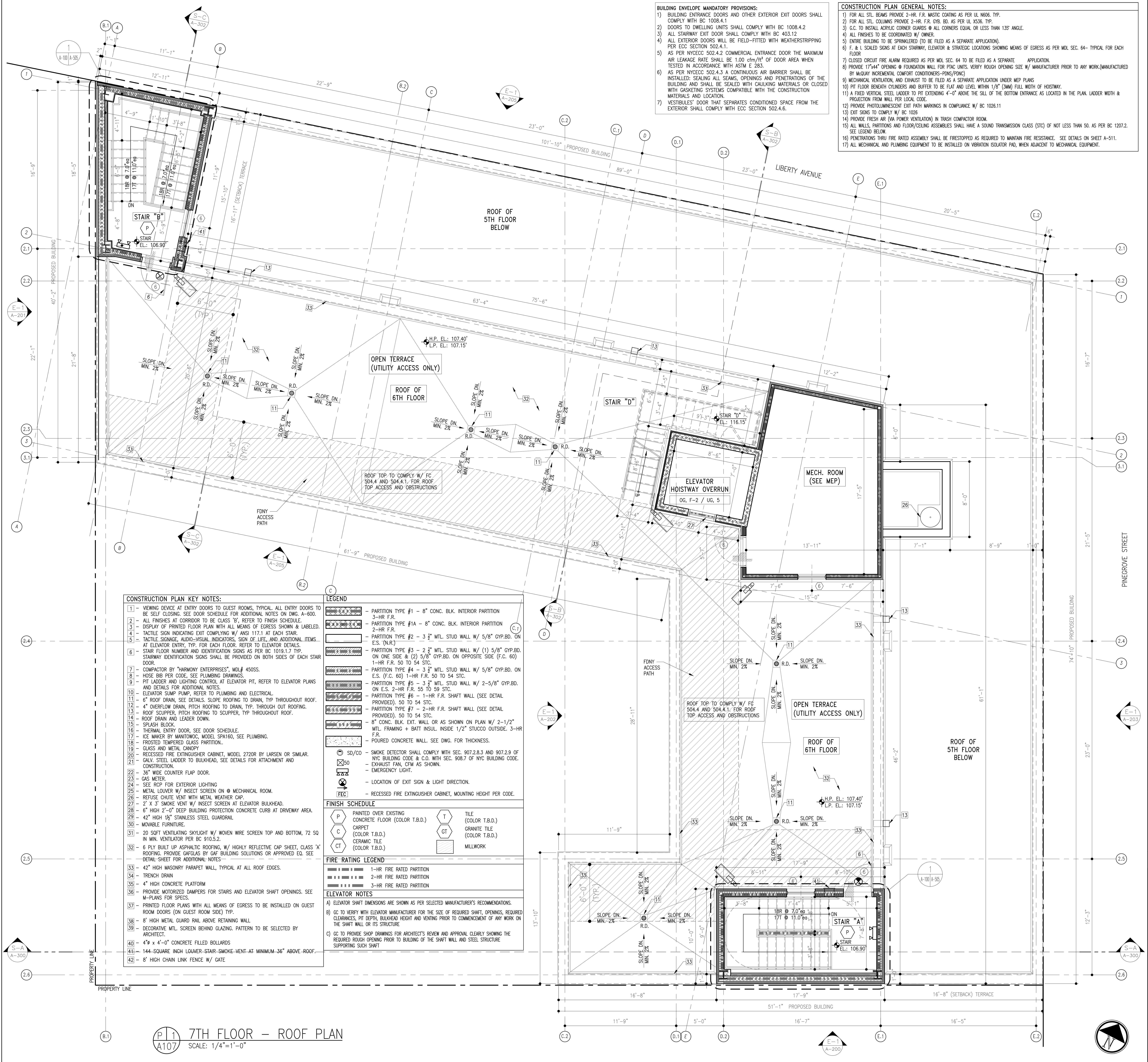
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
6TH FLOOR PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-106.00
CAD FILE NO: 22 OF
Z: \-MSS-647-ARVANDER-LIBERTY\



BUILDING ENVELOPE MANDATORY PROVISIONS:

1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft² OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYB. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY McQUAY INCREMENTAL COMFORT CONDITIONERS-PDNS/PDNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.

CONSTRUCTION PLAN KEY NOTES:

1 – VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 – ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 – DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 – TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 – TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 – STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 – COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 – HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 – PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 – ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 – 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 – 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 – ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 – ROOF DRAIN AND LEADER DOWN.
15 – SPLASH BLOCK.
16 – THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 – ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 – FROSTED TEMPERED GLASS PARTITION..
19 – GLASS AND METAL CANOPY
20 – RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 – GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 – 36" WIDE COUNTER FLAP DOOR.
23 – GAS METER.
24 – SEE RCP FOR EXTERIOR LIGHTING
25 – METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 – REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 – 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 – 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 – MOVABLE FURNITURE.
31 – 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2.
32 – 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS BY GAF BUILDING SOLUTIONS OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 – 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 – TRENCH DRAIN
35 – 4" HIGH CONCRETE PLATFORM
36 – PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 – PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 – 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 – DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 – 4"ø x 4'-0" CONCRETE FILLED BOLLARDS
41 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 – 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND

- ▨ – PARTITION TYPE #1 – 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
- ▨ – PARTITION TYPE #1A – 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
- □ – PARTITION TYPE #2 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- ▨ – PARTITION TYPE #3 – 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- ▨ – PARTITION TYPE #4 – 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- ▨ – PARTITION TYPE #5 – 3 ½" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
- ▨ – PARTITION TYPE #6 – 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- ▨ – PARTITION TYPE #7 – 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- ▨ – 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3-HR F.R.
- ▨ – POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.
- SD/CO – SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
- ☒50 – EXHAUST FAN, CFM AS SHOWN.
- – EMERGENCY LIGHT.
- ⊗ – LOCATION OF EXIT SIGN & LIGHT DIRECTION.
- FEC – RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

- P – PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)
- C – CARPET (COLOR T.B.D.)
- CT – CERAMIC TILE (COLOR T.B.D.)
- T – TILE (COLOR T.B.D.)
- GT – GRANITE TILE (COLOR T.B.D.)
- ▨ – MILLWORK

FIRE RATING LEGEND

- ▬ – 1-HR FIRE RATED PARTITION
- ▬ – 2-HR FIRE RATED PARTITION
- ▬ – 3-HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

P1 / A107 — 7TH FLOOR – ROOF PLAN
SCALE: 1/4"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
SEVENTH FLOOR – ROOF PLAN

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-107.00
CAD FILE NO: 23 OF
Z: 1-MSS-647-ARVINDER-LIBERTY:

ELEVATION KEY LEGEND

1 – ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.

2 – METAL AND GLASS CANOPY OVER MAIN ENTRANCE.

3 – STONE SILL

4 – CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.

5 – STONE VENEER FINISH UP 2ND FLOOR LEVEL.

6 – 2-COAT STUCCO FINISH.

7 – 42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.

8 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.

9 – 24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.

10 – EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.

11 – PROTECTIVE BOLLARD.

12 – 2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.

13 – METAL STAIR WITH HANDRAILS.

14 – LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.

15 – 8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.

16 – ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).

17 – 6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.

18 – 20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.

19 – SEE STRUCTURAL DRAWINGS. (TYPICAL)

20 – GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.

21 – TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.

22 – SEE WINDOW SCHEDULE. (TYPICAL)

23 – SEE DOOR SCHEDULE. (TYPICAL)

24 – THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)

26 – ROOF DRAIN AND LEADER DOWN. (TYPICAL.)

27 – EXISTING GRADE.

28 – FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)

29 – SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)

30 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.

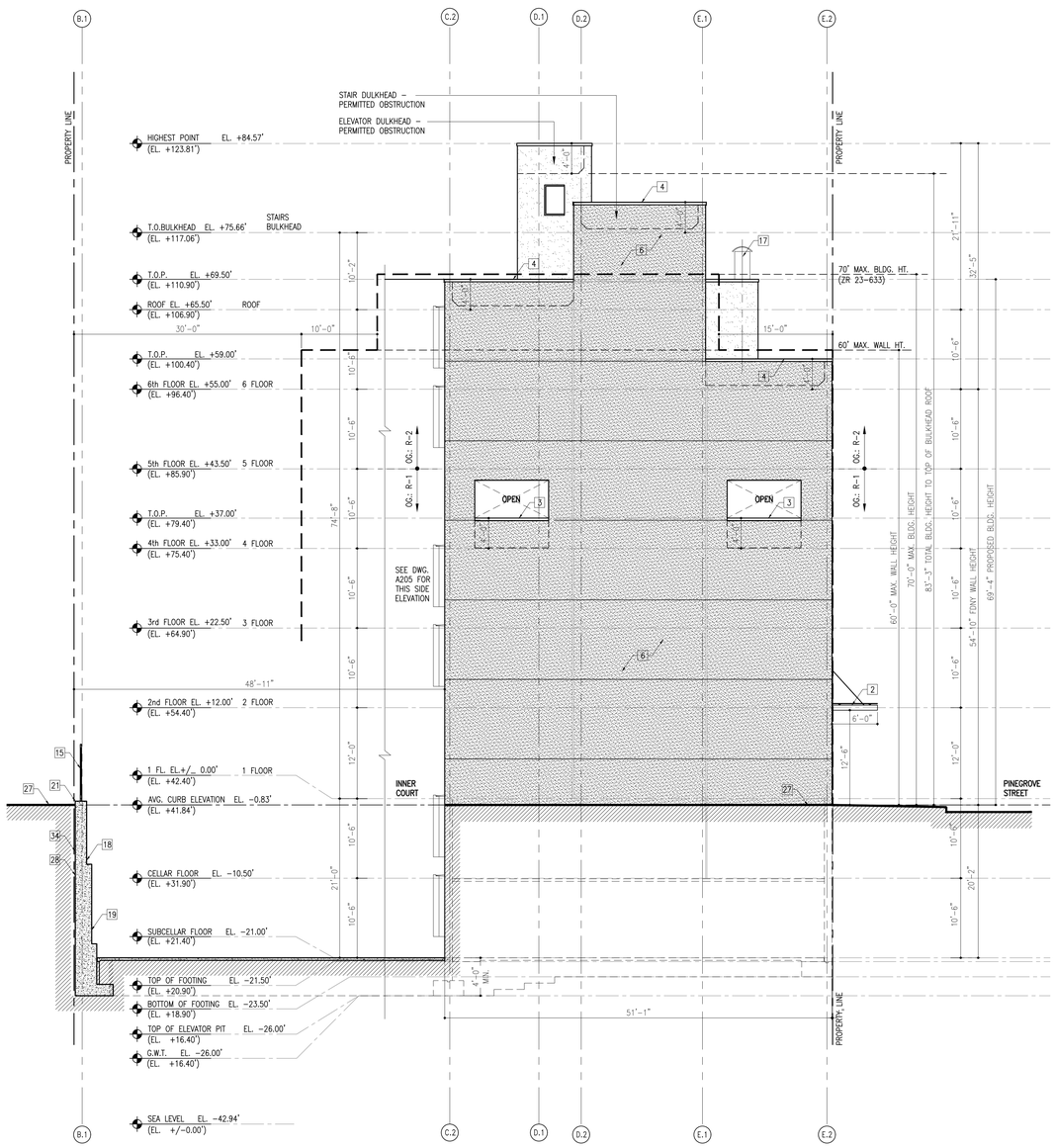
31 – FLOOR DRAIN

32 – EXISTING ADJACENT BUILDING (SEE SITE PLAN)

33 – STAIR RAILING

34 – SHORING FILED SEPARATELY UNDER APPLICATION # _____

SEE ENLARGED ELEVATIONS ON SHEETS A-200 THRU A-206.



E 1 / A-200 SIDE ELEVATION (SOUTH SIDE)
SCALE: 1/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssorch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
SIDE ELEVATION (SOUTH SIDE)

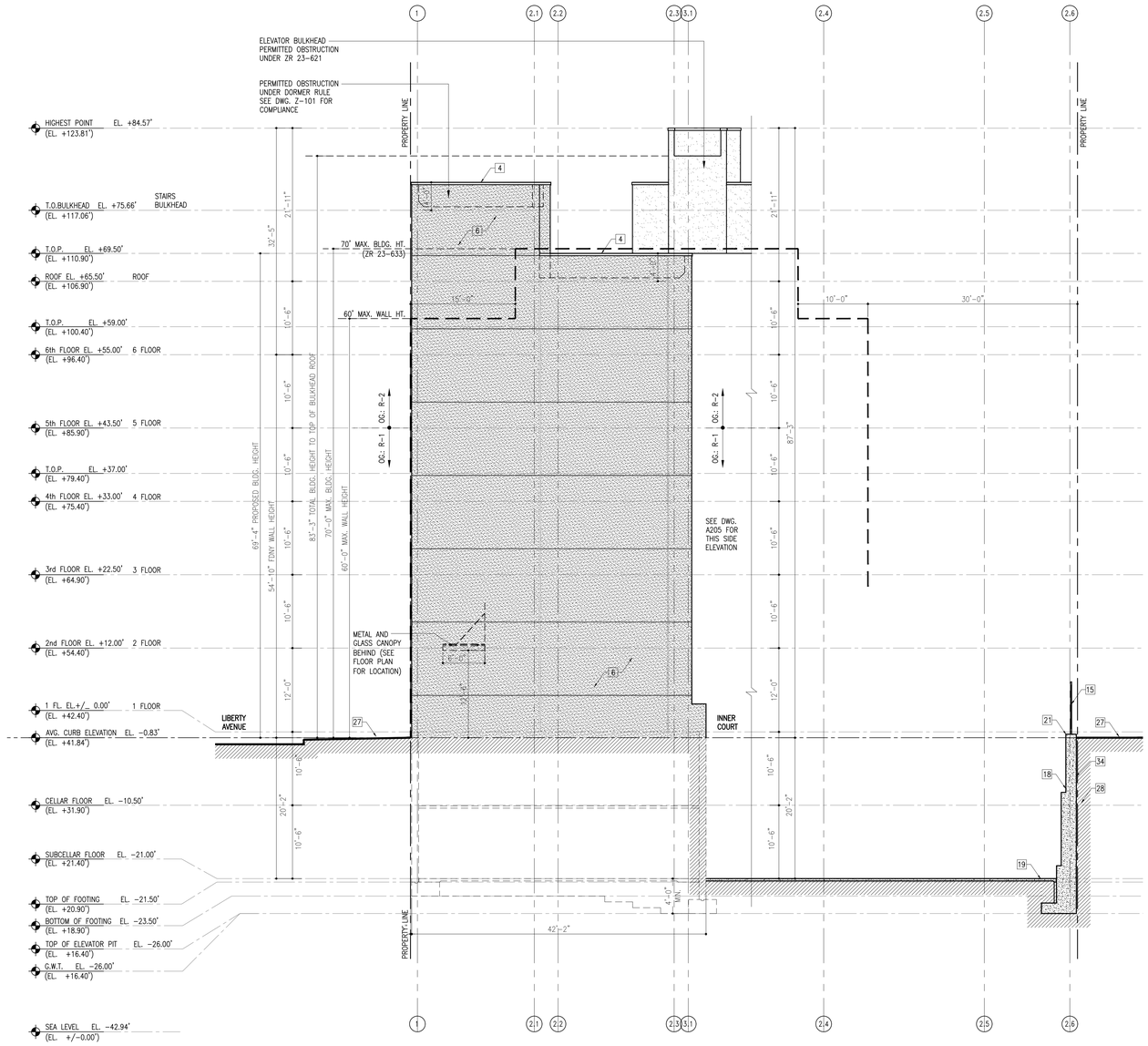
SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-200.00
CAD FILE NO: 26 OF
Z: \-MSS-647-ARVINDER-LIBERTY\

ELEVATION KEY LEGEND

1 – ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.
2 – METAL AND GLASS CANOPY OVER MAIN ENTRANCE.
3 – STONE SILL
4 – CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.
5 – STONE VENEER FINISH UP 2ND FLOOR LEVEL.
6 – 2-COAT STUCCO FINISH.
7 – 42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.
8 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
9 – 24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.
10 – EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.
11 – PROTECTIVE BOLLARD.
12 – 2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.
13 – METAL STAIR WITH HANDRAILS.
14 – LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.
15 – 8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.
16 – ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).
17 – 6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.
18 – 20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.
19 – SEE STRUCTURAL DRAWINGS. (TYPICAL)
20 – GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.
21 – TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.
22 – SEE WINDOW SCHEDULE. (TYPICAL)
23 – SEE DOOR SCHEDULE. (TYPICAL)
24 – THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)
26 – ROOF DRAIN AND LEADER DOWN. (TYPICAL.)
27 – EXISTING GRADE.
28 – FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)
29 – SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)
30 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.
31 – FLOOR DRAIN
32 – EXISTING ADJACENT BUILDING (SEE SITE PLAN)
33 – STAIR RAILING
34 – SHORING FILED SEPARATELY UNDER APPLICATION # _____

SEE ENLARGED ELEVATIONS ON SHEETS A-200 THRU A-206.



E 1 / A201 SIDE ELEVATION (WEST SIDE)
SCALE: 1/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
SIDE ELEVATION (WEST SIDE)

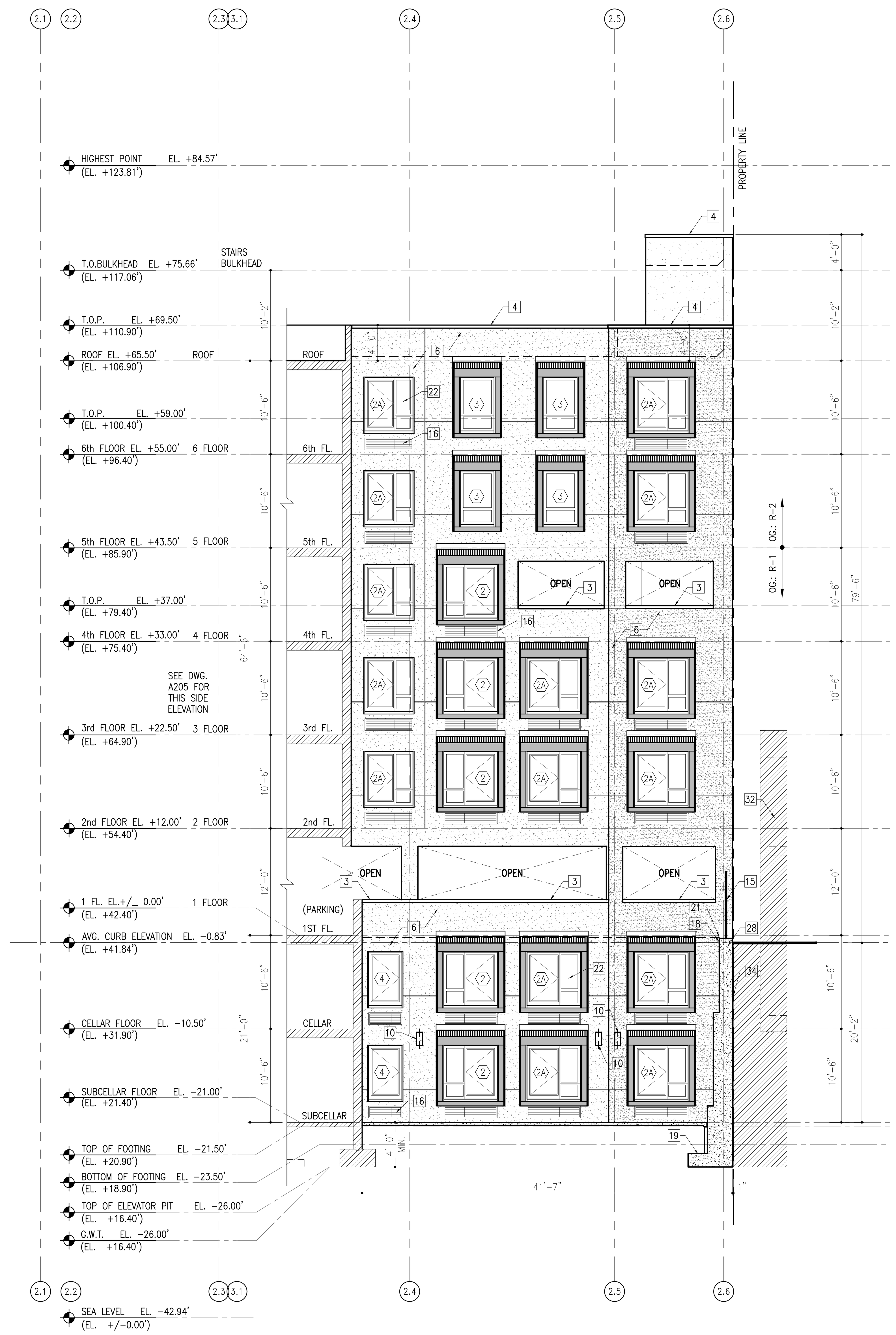
SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-201.00
CAD FILE NO: 27 OF
Z: \-MSS-647-ARVINDER-LIBERTY\

ELEVATION KEY LEGEND

1	–	ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.
2	–	METAL AND GLASS CANOPY OVER MAIN ENTRANCE.
3	–	STONE SILL
4	–	CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.
5	–	STONE VENEER FINISH UP 2ND FLOOR LEVEL.
6	–	2–COAT STUCCO FINISH.
7	–	42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.
8	–	2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
9	–	24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.
10	–	EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.
11	–	PROTECTIVE BOLLARD.
12	–	2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.
13	–	METAL STAIR WITH HANDRAILS.
14	–	LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.
15	–	8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.
16	–	ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).
17	–	6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.
18	–	20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.
19	–	SEE STRUCTURAL DRAWINGS. (TYPICAL)
20	–	GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.
21	–	TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.
22	–	SEE WINDOW SCHEDULE. (TYPICAL)
23	–	SEE DOOR SCHEDULE. (TYPICAL)
24	–	THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)
26	–	ROOF DRAIN AND LEADER DOWN. (TYPICAL.)
27	–	EXISTING GRADE.
28	–	FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)
29	–	SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)
30	–	144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.
31	–	FLOOR DRAIN
32	–	EXISTING ADJACENT BUILDING (SEE SITE PLAN)
33	–	STAIR RAILING
34	–	SHORING FILED SEPARATELY UNDER APPLICATION # ————

SEE ENLARGED ELEVATIONS ON SHEETS A–200 THRU A–206.



E 1 / A201 REAR ELEVATION (WEST SIDE)
SCALE: 1/8"=1'–0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11–16–15	DOB SUBMISSION

Mss

M.S. SAVANI ARCHITECT, PC

148–45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6–STORY W/ CELLAR AND SUB–CELLAR TRANSIENT HOTEL (R–1) & APARTMENT HOTEL (R–2)
143–18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
REAR ELEVATION (WEST SIDE)

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS–647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-202.00
CAD FILE NO: 28 OF
Z: 1–MSS–647–ARVINDER–LIBERTY:

ELEVATION KEY LEGEND

1 – ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.

2 – METAL AND GLASS CANOPY OVER MAIN ENTRANCE.

3 – STONE SILL

4 – CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.

5 – STONE VENEER FINISH UP 2ND FLOOR LEVEL.

6 – 2-COAT STUCCO FINISH.

7 – 42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.

8 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.

9 – 24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.

10 – EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.

11 – PROTECTIVE BOLLARD.

12 – 2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.

13 – METAL STAIR WITH HANDRAILS.

14 – LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.

15 – 8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.

16 – ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).

17 – 6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.

18 – 20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.

19 – SEE STRUCTURAL DRAWINGS. (TYPICAL)

20 – GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.

21 – TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.

22 – SEE WINDOW SCHEDULE. (TYPICAL)

23 – SEE DOOR SCHEDULE. (TYPICAL)

24 – THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)

26 – ROOF DRAIN AND LEADER DOWN. (TYPICAL.)

27 – EXISTING GRADE.

28 – FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)

29 – SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)

30 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.

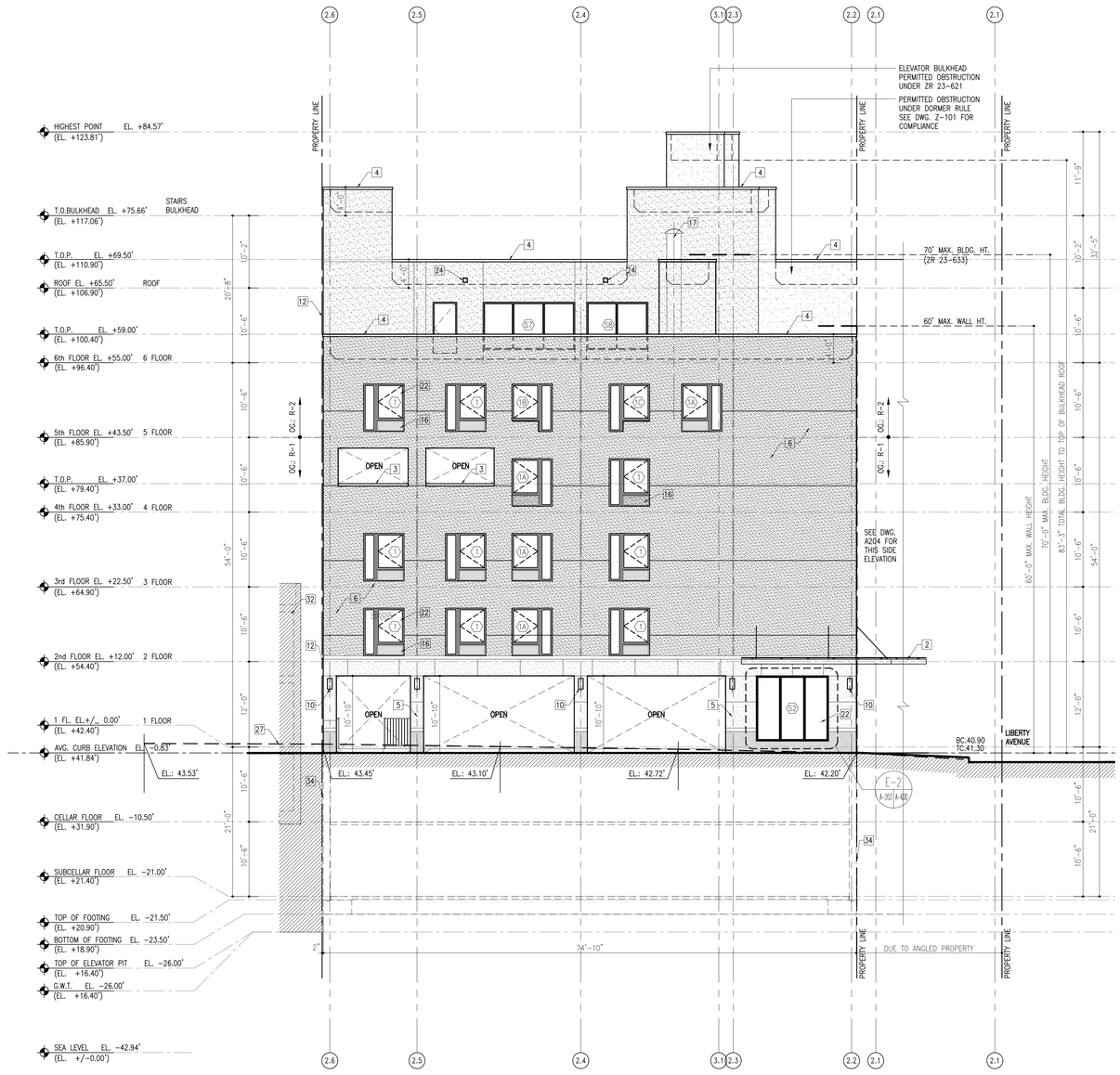
31 – FLOOR DRAIN

32 – EXISTING ADJACENT BUILDING (SEE SITE PLAN)

33 – STAIR RAILING

34 – SHORING FILED SEPARATELY UNDER APPLICATION # _____

SEE ENLARGED ELEVATIONS ON SHEETS A-200 THRU A-206.



E 1 / A201 FRONT ELEVATION (EAST SIDE)
SCALE: 1/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
FRONT ELEVATION
(EAST SIDE)

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-203.00
CAD FILE NO: 29 OF
Z: \-MSS-647-ARVINDER-LIBERTY\

ELEVATION KEY LEGEND

1 – ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.

2 – METAL AND GLASS CANOPY OVER MAIN ENTRANCE.

3 – STONE SILL

4 – CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.

5 – STONE VENEER FINISH UP 2ND FLOOR LEVEL.

6 – 2-COAT STUCCO FINISH.

7 – 42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.

8 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.

9 – 24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.

10 – EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.

11 – PROTECTIVE BOLLARD.

12 – 2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.

13 – METAL STAIR WITH HANDRAILS.

14 – LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.

15 – 8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.

16 – ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).

17 – 6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.

18 – 20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.

19 – SEE STRUCTURAL DRAWINGS. (TYPICAL)

20 – GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.

21 – TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.

22 – SEE WINDOW SCHEDULE. (TYPICAL)

23 – SEE DOOR SCHEDULE. (TYPICAL)

24 – THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)

26 – ROOF DRAIN AND LEADER DOWN. (TYPICAL.)

27 – EXISTING GRADE.

28 – FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)

29 – SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)

30 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.

31 – FLOOR DRAIN

32 – EXISTING ADJACENT BUILDING (SEE SITE PLAN)

33 – STAIR RAILING

34 – SHORING FILED SEPARATELY UNDER APPLICATION # _____

SEE ENLARGED ELEVATIONS ON SHEETS A-200 THRU A-206.

E 1 / A201 FRONT ELEVATION (NORTH SIDE)
SCALE: 1/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
FRONT ELEVATION (NORTH SIDE)

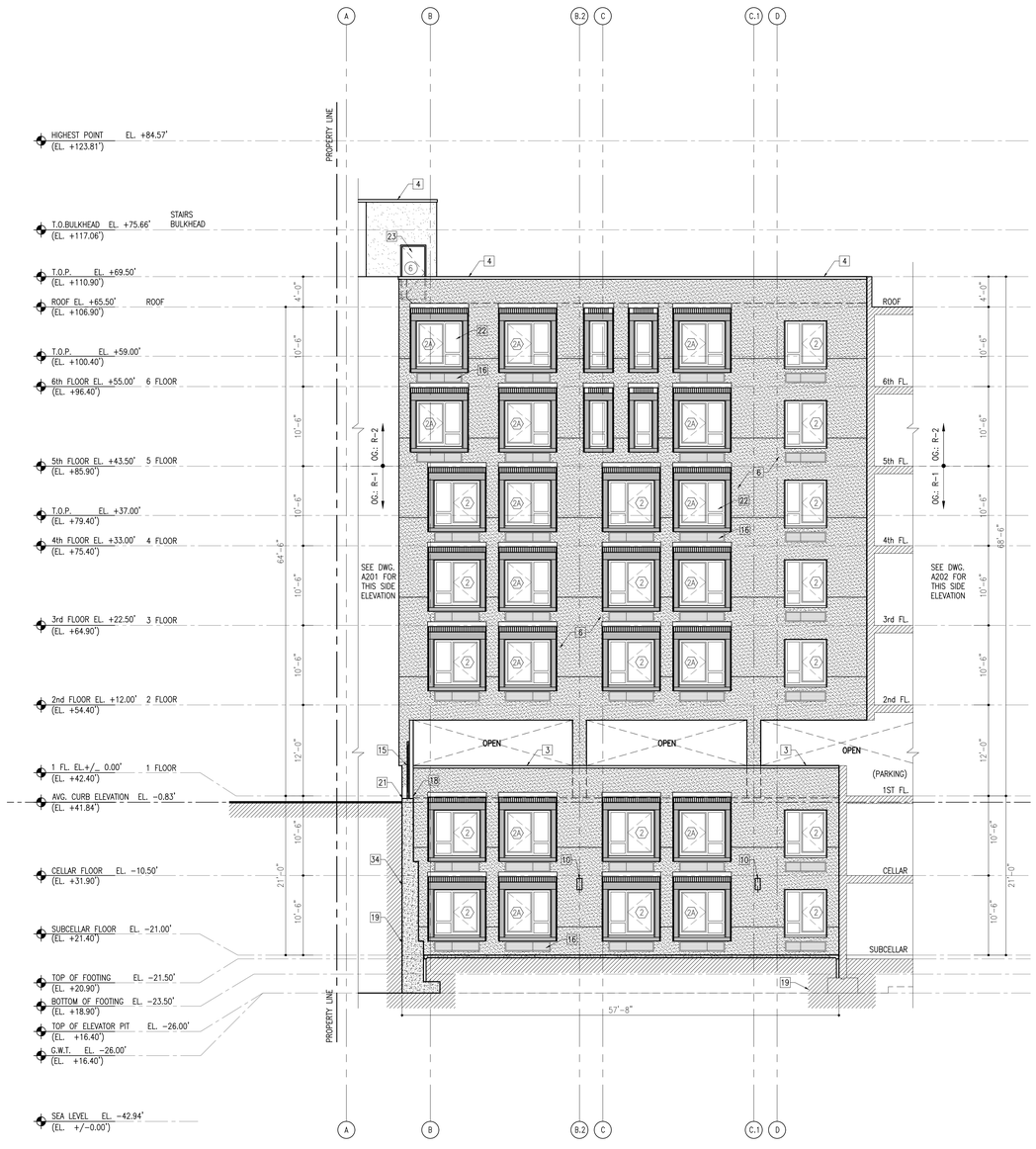
SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-204.00
CAD FILE NO: 30 OF
Z: 1-MSS-647-ARVINDER-LIBERTY

ELEVATION KEY LEGEND

1 – ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.
2 – METAL AND GLASS CANOPY OVER MAIN ENTRANCE.
3 – STONE SILL
4 – CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.
5 – STONE VENEER FINISH UP 2ND FLOOR LEVEL.
6 – 2-COAT STUCCO FINISH.
7 – 42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.
8 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
9 – 24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.
10 – EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.
11 – PROTECTIVE BOLLARD.
12 – 2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.
13 – METAL STAIR WITH HANDRAILS.
14 – LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.
15 – 8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.
16 – ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).
17 – 6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.
18 – 20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.
19 – SEE STRUCTURAL DRAWINGS. (TYPICAL)
20 – GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.
21 – TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.
22 – SEE WINDOW SCHEDULE. (TYPICAL)
23 – SEE DOOR SCHEDULE. (TYPICAL)
24 – THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)
26 – ROOF DRAIN AND LEADER DOWN. (TYPICAL.)
27 – EXISTING GRADE.
28 – FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)
29 – SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)
30 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.
31 – FLOOR DRAIN
32 – EXISTING ADJACENT BUILDING (SEE SITE PLAN)
33 – STAIR RAILING
34 – SHORING FILED SEPARATELY UNDER APPLICATION # _____

SEE ENLARGED ELEVATIONS ON SHEETS A-200 THRU A-206.



E 1 / A201 REAR ELEVATION (SOUTH SIDE)
SCALE: 1/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
REAR ELEVATION
(SOUTH SIDE)

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-205.00
CAD FILE NO: 31 OF
Z: \-MSS-647-MP\WINDER-LIBERTY\

ELEVATION KEY LEGEND

1 – ALUMINUM ENTRANCE AND STOREFRONT SYSTEM. SEE SCHEDULE.

2 – METAL AND GLASS CANOPY OVER MAIN ENTRANCE.

3 – STONE SILL

4 – CONTINUOUS ALUMINUM COPING OVER PARAPET WALL, BY NORTHCLAD OR SIMILAR.

5 – STONE VENEER FINISH UP 2ND FLOOR LEVEL.

6 – 2-COAT STUCCO FINISH.

7 – 42" HIGH GUARDRAIL. SEE DETAILS FOR GUARDRAIL CONSTRUCTION AND ATTACHMENT.

8 – 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.

9 – 24"x24" VENT W/ INSECT SCREEN AT LAUNDRY CHUTE.

10 – EXTERIOR LIGHTING FIXTURE. SEE RCP PLANS FOR LIGHTING SCHEDULE.

11 – PROTECTIVE BOLLARD.

12 – 2" CLEARANCE BETWEEN SIDE LOT LINE AND BUILDING WALL.

13 – METAL STAIR WITH HANDRAILS.

14 – LOCATION OF HOTEL SIGNAGE. ALUMINUM CHANNEL LETTERS FACE LIT INTERNALLY WITH LED. SIGNAGE APPLICATION WILL BE FILED SEPARATELY.

15 – 8 FEET HIGH STRUCTURAL METAL FENCE. PROVIDE ENGINEERING DRAWING FOR APPROVAL.

16 – ALUMINUM PTAC LOUVER INTEGRATED IN ALUMINUM PANELING (TYPICAL).

17 – 6 FEET HIGH LINEN CHUTE ABOVE ROOF WITH INTEGRAL FLASHING AND TERMINATED WITH VENTED HINGED EXPLOSION CAP.

18 – 20 FEET HIGH RETAINING WALL. SEE STRUCTURAL DWG.

19 – SEE STRUCTURAL DRAWINGS. (TYPICAL)

20 – GENERAL CONTRACTOR TO PROVIDE SHOP DRAWINGS WITH STRUCTURAL CALCULATIONS FOR ARCHITECTS REVIEW AND APPROVAL PRIOR TO FABRICATION.

21 – TOP OF EXPOSED RETAINING WALL TO HAVE BEVELED EDGES. PROVIDE THOROSEAL COATING AT ALL BACK SURFACES, COLOR T.B.D.

22 – SEE WINDOW SCHEDULE. (TYPICAL)

23 – SEE DOOR SCHEDULE. (TYPICAL)

24 – THROUGH WALL ROOF OVERFLOW SCUPPER. (TYPICAL)

26 – ROOF DRAIN AND LEADER DOWN. (TYPICAL.)

27 – EXISTING GRADE.

28 – FOR UNDERPINNING AND SHORING INFORMATION SEE STRUCTURAL / SOE DRAWINGS. (TYPICAL)

29 – SEE STRUCTURAL DRAWINGS FOR RETAINING WALL DETAILS. (TYPICAL)

30 – 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT 36" MINIMUM ABOVE ROOF.

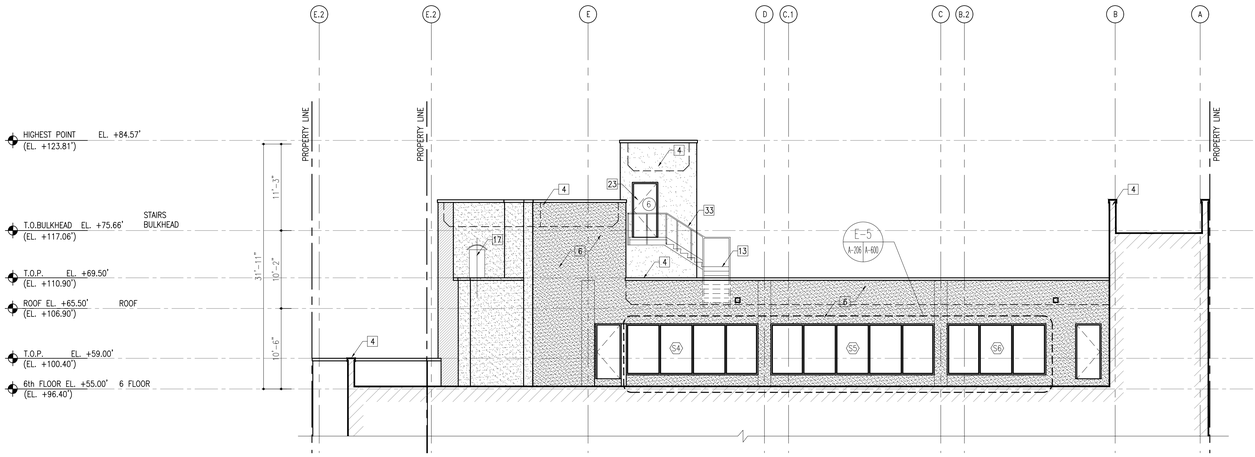
31 – FLOOR DRAIN

32 – EXISTING ADJACENT BUILDING (SEE SITE PLAN)

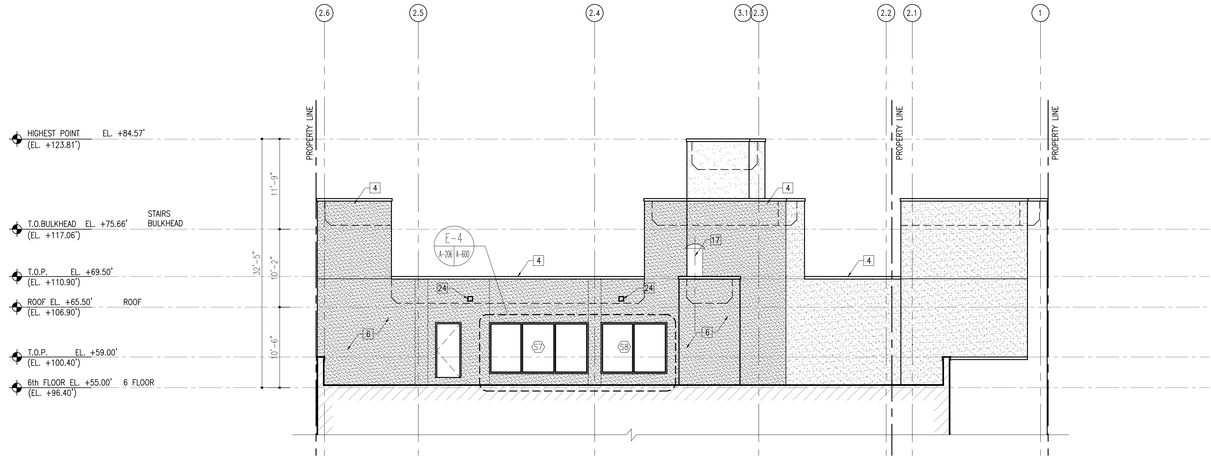
33 – STAIR RAILING

34 – SHORING FILED SEPARATELY UNDER APPLICATION # _____

SEE ENLARGED ELEVATIONS ON SHEETS A-200 THRU A-206.



E 1 / A203 PARTIAL FRONT ELEVATION (NORTH SIDE)
SCALE: 1/4"=1'-0"



E 2 / A203 PARTIAL FRONT ELEVATION (EAST SIDE)
SCALE: 1/4"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

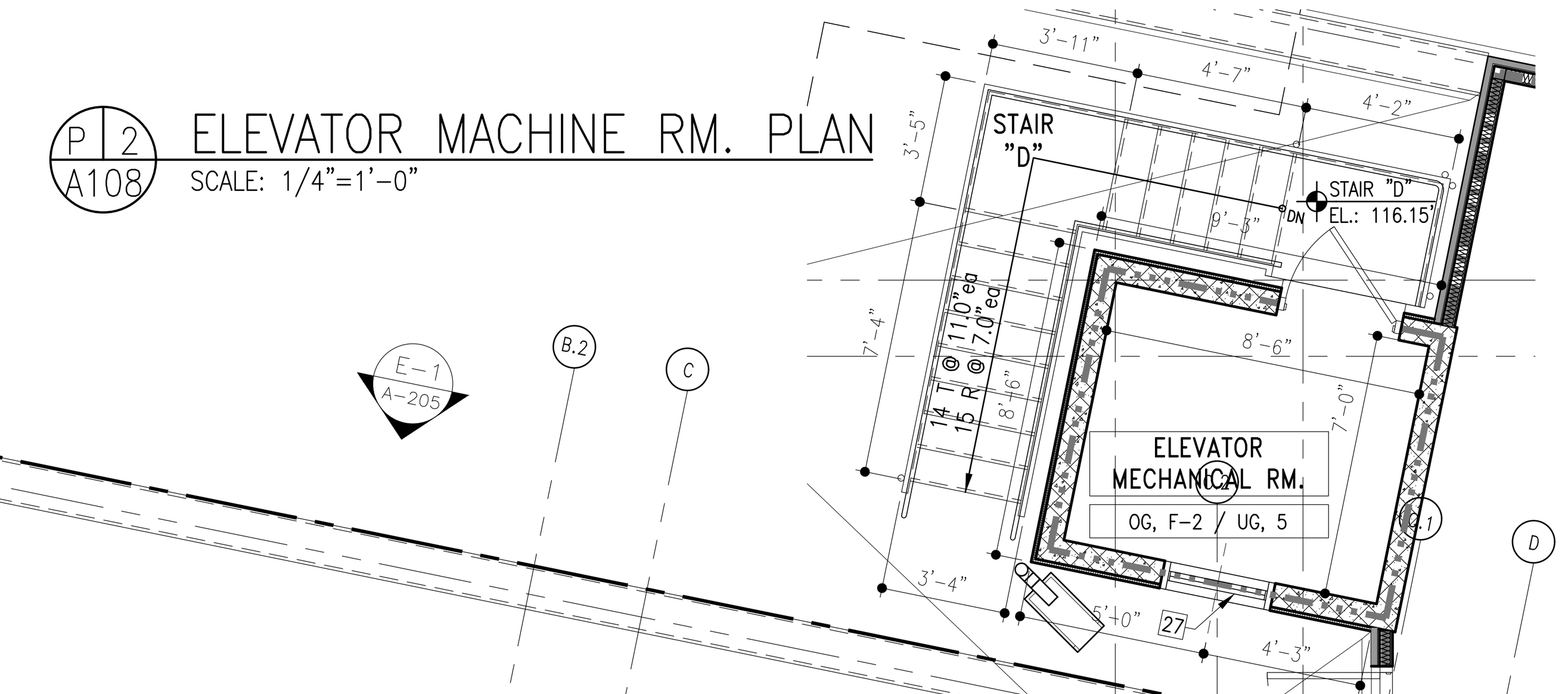
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
PARTIAL ELEVATIONS

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-206.00
CAD FILE NO: 32 OF
Z: \-MSS-647-ARVANDER-LIBERTY\

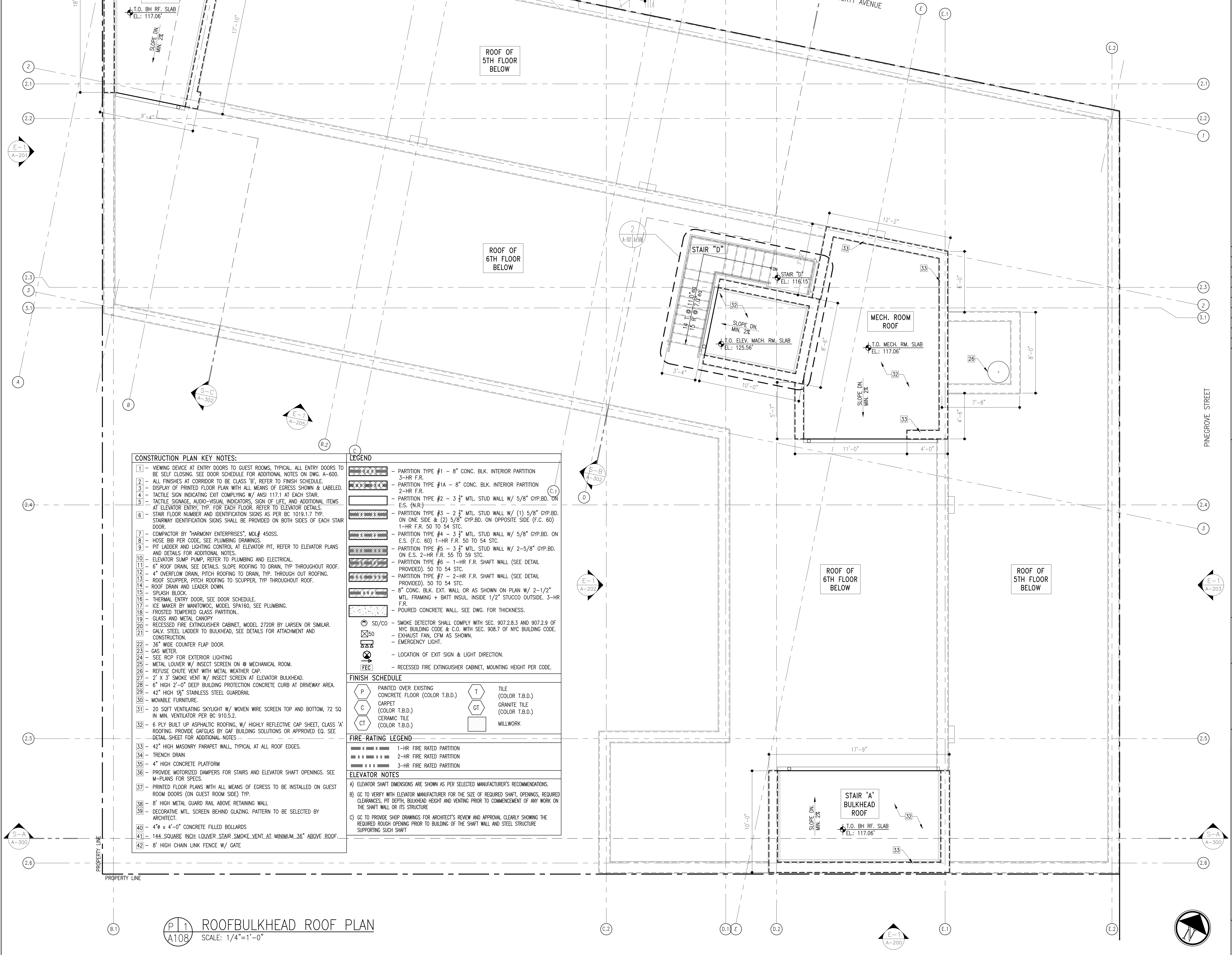


BUILDING ENVELOPE MANDATORY PROVISIONS:

1) BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS SHALL COMPLY WITH BC 1008.4.1
2) DOORS TO DWELLING UNITS SHALL COMPLY WITH BC 1008.4.2
3) ALL STAIRWAY EXIT DOOR SHALL COMPLY WITH BC 403.12
4) ALL EXTERIOR DOORS WILL BE FIELD-FITTED WITH WEATHERSTRIPPING PER ECC SECTION 502.4.1.
5) AS PER NYCECC 502.4.2 COMMERCIAL ENTRANCE DOOR THE MAXIMUM AIR LEAKAGE RATE SHALL BE 1.00 cfm/ft^2 OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.
6) AS PER NYCECC 502.4.3 A CONTINUOUS AIR BARRIER SHALL BE INSTALLED: SEALING ALL SEAMS, OPENINGS AND PENETRATIONS OF THE BUILDING AND SHALL BE SEALED WITH CAULKING MATERIALS OR CLOSED WITH GASKETING SYSTEMS COMPATIBLE WITH THE CONSTRUCTION MATERIALS AND LOCATION.
7) VESTIBULES' DOOR THAT SEPARATES CONDITIONED SPACE FROM THE EXTERIOR SHALL COMPLY WITH ECC SECTION 502.4.6.

CONSTRUCTION PLAN GENERAL NOTES:

1) FOR ALL STL. BEAMS PROVIDE 2-HR. F.R. MASTIC COATING AS PER UL N606. TYP.
2) FOR ALL STL. COLUMNS PROVIDE 2-HR. F.R. GYB. BD. AS PER UL X536. TYP.
3) G.C. TO INSTALL ACRYLIC CORNER GUARDS @ ALL CORNERS EQUAL OR LESS THAN 135° ANGLE.
4) ALL FINISHES TO BE COORDINATED W/ OWNER.
5) ENTIRE BUILDING TO BE SPRINKLERED (TO BE FILED AS A SEPARATE APPLICATION).
6) F. & I. SCALED SIGNS AT EACH STAIRWAY, ELEVATOR & STRATEGIC LOCATIONS SHOWING MEANS OF EGRESS AS PER MDL SEC. 64- TYPICAL FOR EACH FLOOR
7) CLOSED CIRCUIT FIRE ALARM REQUIRED AS PER MDL SEC. 64 TO BE FILED AS A SEPARATE APPLICATION.
8) PROVIDE 17"x44" OPENING @ FOUNDATION WALL FOR PTAC UNITS. VERIFY ROUGH OPENING SIZE W/ MANUFACTURER PRIOR TO ANY WORK.(MANUFACTURED BY McQUAY INCREMENTAL COMFORT CONDITIONERS-PDNS/PDNC)
9) MECHANICAL VENTILATION, AND EXHAUST TO BE FILED AS A SEPARATE APPLICATION UNDER MEP PLANS
10) PIT FLOOR BENEATH CYLINDERS AND BUFFER TO BE FLAT AND LEVEL WITHIN 1/8" (3MM) FULL WIDTH OF HOISTWAY.
11) A FIXED VERTICAL STEEL LADDER TO PIT EXTENDING 4'-0" ABOVE THE SILL OF THE BOTTOM ENTRANCE AS LOCATED IN THE PLAN. LADDER WIDTH & PROJECTION FROM WALL PER LOCAL CODE.
12) PROVIDE PHOTOLUMINESCENT EXIT PATH MARKINGS IN COMPLIANCE W/ BC 1026.11
13) EXIT SIGNS TO COMPLY W/ BC 1026
14) PROVIDE FRESH AIR (VIA POWER VENTILATION) IN TRASH COMPACTOR ROOM.
15) ALL WALLS, PARTITIONS AND FLOOR/CEILING ASSEMBLIES SHALL HAVE A SOUND TRANSMISSION CLASS (STC) OF NOT LESS THAN 50. AS PER BC 1207.2. SEE LEGEND BELOW.
16) PENETRATIONS THRU FIRE RATED ASSEMBLY SHALL BE FIRESTOPPED AS REQUIRED TO MAINTAIN FIRE RESISTANCE. SEE DETAILS ON SHEET A-511.
17) ALL MECHANICAL AND PLUMBING EQUIPMENT TO BE INSTALLED ON VIBRATION ISOLATOR PAD, WHEN ADJACENT TO MECHANICAL EQUIPMENT.



CONSTRUCTION PLAN KEY NOTES:

1 - VIEWING DEVICE AT ENTRY DOORS TO GUEST ROOMS, TYPICAL. ALL ENTRY DOORS TO BE SELF CLOSING. SEE DOOR SCHEDULE FOR ADDITIONAL NOTES ON DWG. A-600.
2 - ALL FINISHES AT CORRIDOR TO BE CLASS 'B', REFER TO FINISH SCHEDULE.
3 - DISPLAY OF PRINTED FLOOR PLAN WITH ALL MEANS OF EGRESS SHOWN & LABELED.
4 - TACTILE SIGN INDICATING EXIT COMPLYING W/ ANSI 117.1 AT EACH STAIR.
5 - TACTILE SIGNAGE, AUDIO-VISUAL INDICATORS, SIGN OF LIFE, AND ADDITIONAL ITEMS AT ELEVATOR ENTRY, TYP. FOR EACH FLOOR. REFER TO ELEVATOR DETAILS.
6 - STAIR FLOOR NUMBER AND IDENTIFICATION SIGNS AS PER BC 1019.1.7 TYP. STAIRWAY IDENTIFICATION SIGNS SHALL BE PROVIDED ON BOTH SIDES OF EACH STAIR DOOR.
7 - COMPACTOR BY "HARMONY ENTERPRISES", MDL# 450SS.
8 - HOSE BIB PER CODE, SEE PLUMBING DRAWINGS.
9 - PIT LADDER AND LIGHTING CONTROL AT ELEVATOR PIT, REFER TO ELEVATOR PLANS AND DETAILS FOR ADDITIONAL NOTES.
10 - ELEVATOR SUMP PUMP, REFER TO PLUMBING AND ELECTRICAL.
11 - 6" ROOF DRAIN, SEE DETAILS. SLOPE ROOFING TO DRAIN, TYP THROUGHOUT ROOF.
12 - 4" OVERFLOW DRAIN, PITCH ROOFING TO DRAIN, TYP. THROUGH OUT ROOFING.
13 - ROOF SCUPPER, PITCH ROOFING TO SCUPPER, TYP THROUGHOUT ROOF.
14 - ROOF DRAIN AND LEADER DOWN.
15 - SPLASH BLOCK.
16 - THERMAL ENTRY DOOR, SEE DOOR SCHEDULE.
17 - ICE MAKER BY MANITOWOC, MODEL SPA160, SEE PLUMBING.
18 - FROSTED TEMPERED GLASS PARTITION..
19 - GLASS AND METAL CANOPY
20 - RECESSED FIRE EXTINGUISHER CABINET, MODEL 2720R BY LARSEN OR SIMILAR.
21 - GALV. STEEL LADDER TO BULKHEAD, SEE DETAILS FOR ATTACHMENT AND CONSTRUCTION.
22 - 36" WIDE COUNTER FLAP DOOR.
23 - GAS METER.
24 - SEE RCP FOR EXTERIOR LIGHTING
25 - METAL LOUVER W/ INSECT SCREEN ON @ MECHANICAL ROOM.
26 - REFUSE CHUTE VENT WITH METAL WEATHER CAP.
27 - 2' X 3' SMOKE VENT W/ INSECT SCREEN AT ELEVATOR BULKHEAD.
28 - 6" HIGH 2'-0" DEEP BUILDING PROTECTION CONCRETE CURB AT DRIVEWAY AREA.
29 - 42" HIGH 1½" STAINLESS STEEL GUARDRAIL
30 - MOVABLE FURNITURE.
31 - 20 SQFT VENTILATING SKYLIGHT W/ WOVEN WIRE SCREEN TOP AND BOTTOM, 72 SQ IN MIN. VENTILATOR PER BC 910.5.2.
32 - 6 PLY BUILT UP ASPHALTIC ROOFING, W/ HIGHLY REFLECTIVE CAP SHEET, CLASS 'A' ROOFING. PROVIDE GAFGLAS BY GAF BUILDING SOLUTIONS OR APPROVED EQ. SEE DETAIL SHEET FOR ADDITIONAL NOTES
33 - 42" HIGH MASONRY PARAPET WALL, TYPICAL AT ALL ROOF EDGES.
34 - TRENCH DRAIN
35 - 4" HIGH CONCRETE PLATFORM
36 - PROVIDE MOTORIZED DAMPERS FOR STAIRS AND ELEVATOR SHAFT OPENINGS. SEE M-PLANS FOR SPECS.
37 - PRINTED FLOOR PLANS WITH ALL MEANS OF EGRESS TO BE INSTALLED ON GUEST ROOM DOORS (ON GUEST ROOM SIDE) TYP.
38 - 8' HIGH METAL GUARD RAIL ABOVE RETAINING WALL
39 - DECORATIVE MTL. SCREEN BEHIND GLAZING. PATTERN TO BE SELECTED BY ARCHITECT.
40 - 4"ø x 4'-0" CONCRETE FILLED BOLLARDS
41 - 144 SQUARE INCH LOUVER STAIR SMOKE VENT AT MINIMUM 36" ABOVE ROOF.
42 - 8' HIGH CHAIN LINK FENCE W/ GATE

LEGEND

- PARTITION TYPE #1 - 8" CONC. BLK. INTERIOR PARTITION 3-HR F.R.
- PARTITION TYPE #1A - 8" CONC. BLK. INTERIOR PARTITION 2-HR F.R.
- PARTITION TYPE #2 - 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (N.R.)
- PARTITION TYPE #3 - 2 ½" MTL. STUD WALL W/ (1) 5/8" GYP.BD. ON ONE SIDE & (2) 5/8" GYP.BD. ON OPPOSITE SIDE (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #4 - 3 ½" MTL. STUD WALL W/ 5/8" GYP.BD. ON E.S. (F.C. 60) 1-HR F.R. 50 TO 54 STC.
- PARTITION TYPE #5 - 3 ½" MTL. STUD WALL W/ 2-5/8" GYP.BD. ON E.S. 2-HR F.R. 55 TO 59 STC.
- PARTITION TYPE #6 - 1-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- PARTITION TYPE #7 - 2-HR F.R. SHAFT WALL (SEE DETAIL PROVIDED). 50 TO 54 STC.
- 8" CONC. BLK. EXT. WALL OR AS SHOWN ON PLAN W/ 2-1/2" MTL. FRAMING + BATT INSUL. INSIDE 1/2" STUCCO OUTSIDE. 3-HR F.R.
- POURED CONCRETE WALL. SEE DWG. FOR THICKNESS.

SD/CO - SMOKE DETECTOR SHALL COMPLY WITH SEC. 907.2.8.3 AND 907.2.9 OF NYC BUILDING CODE & C.O. WITH SEC. 908.7 OF NYC BUILDING CODE.
50 - EXHAUST FAN, CFM AS SHOWN.
- EMERGENCY LIGHT.
- LOCATION OF EXIT SIGN & LIGHT DIRECTION.
FEC - RECESSED FIRE EXTINGUISHER CABINET, MOUNTING HEIGHT PER CODE.

FINISH SCHEDULE

P	PAINTED OVER EXISTING CONCRETE FLOOR (COLOR T.B.D.)	T	TILE (COLOR T.B.D.)
C	CARPET (COLOR T.B.D.)	GT	GRANITE TILE (COLOR T.B.D.)
CT	CERAMIC TILE (COLOR T.B.D.)		MILLWORK

FIRE RATING LEGEND

- 1-HR FIRE RATED PARTITION
- 2-HR FIRE RATED PARTITION
- 3-HR FIRE RATED PARTITION

ELEVATOR NOTES

A) ELEVATOR SHAFT DIMENSIONS ARE SHOWN AS PER SELECTED MANUFACTURER'S RECOMMENDATIONS.
B) GC TO VERIFY WITH ELEVATOR MANUFACTURER FOR THE SIZE OF REQUIRED SHAFT, OPENINGS, REQUIRED CLEARANCES, PIT DEPTH, BULKHEAD HEIGHT AND VENTING PRIOR TO COMMENCEMENT OF ANY WORK ON THE SHAFT WALL OR ITS STRUCTURE
C) GC TO PROVIDE SHOP DRAWINGS FOR ARCHITECT'S REVIEW AND APPROVAL CLEARLY SHOWING THE REQUIRED ROUGH OPENING PRIOR TO BUILDING OF THE SHAFT WALL AND STEEL STRUCTURE SUPPORTING SUCH SHAFT

P1 A108 ROOFBULKHEAD ROOF PLAN
SCALE: 1/4"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

Mss
M.S. SAVANI ARCHITECT, PC
148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

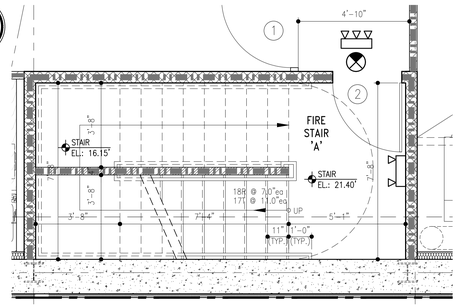
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

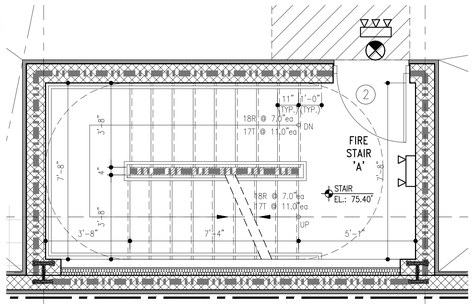
TITLE:
ROOFBULKHEAD - ROOF PLAN

SEAL & SIGNATURE:

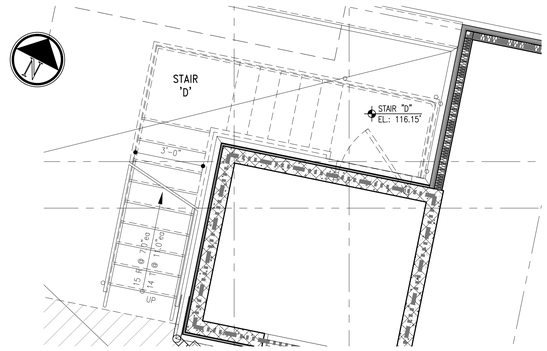
DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-108.00
CAD FILE NO: 25 OF
Z: 1-MSS-647-ARVINDER-LIBERTY:



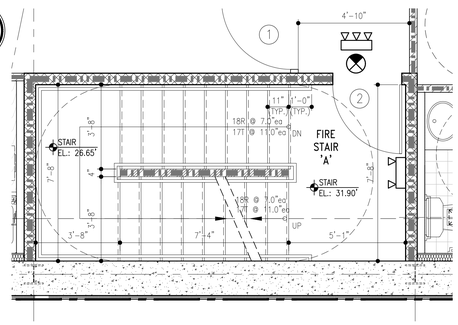
P 1 / A505 STAIR "A" – SUBCELLAR PLAN
SCALE: 3/8"=1'-0"



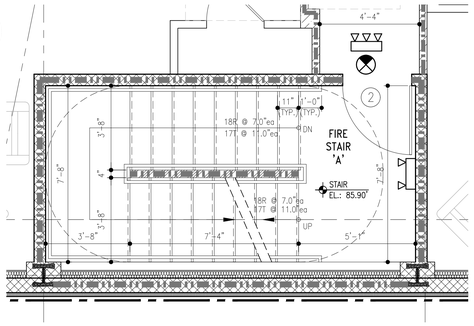
P 5 / A505 STAIR "A" 4TH FL. PLAN
SCALE: 3/8"=1'-0"



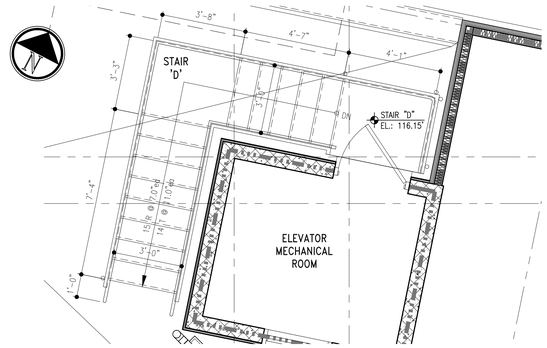
P 9 / A505 STAIR "D" PARTIAL ROOF PLAN
SCALE: 3/8"=1'-0"



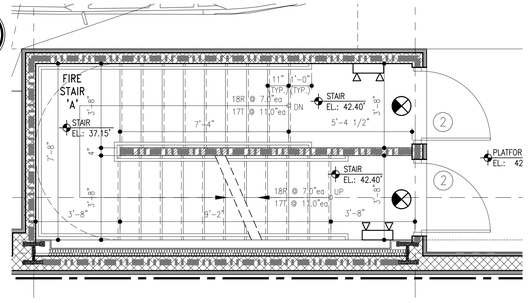
P 2 / A505 STAIR "A" – CELLAR PLAN
SCALE: 3/8"=1'-0"



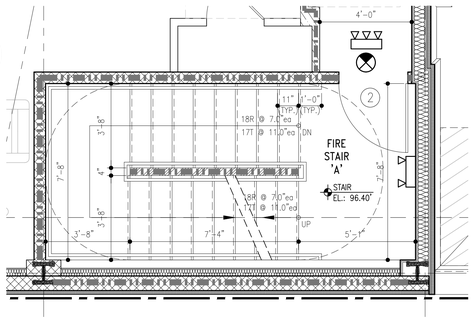
P 6 / A505 STAIR "A" 5TH FL. PLAN
SCALE: 3/8"=1'-0"



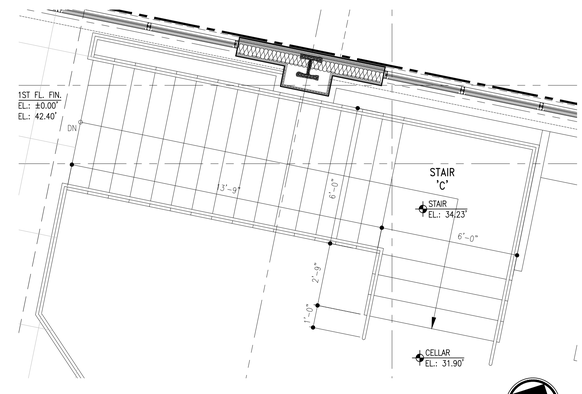
P 10 / A505 STAIR "D" ELEV. MECH. ROOM PLAN
SCALE: 3/8"=1'-0"



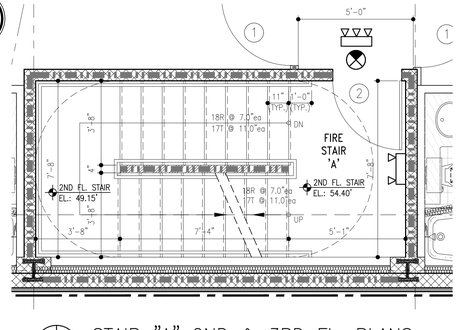
P 3 / A505 STAIR "A" FIRST FL. PLAN
SCALE: 3/8"=1'-0"



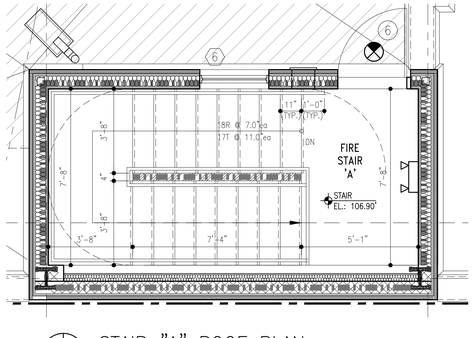
P 7 / A505 STAIR "A" 6TH FL. PLAN
SCALE: 3/8"=1'-0"



P 11 / A505 STAIR "C" – 1ST FL. PLAN
SCALE: 3/8"=1'-0"



P 4 / A505 STAIR "A" 2ND & 3RD FL. PLANS
SCALE: 3/8"=1'-0"



P 8 / A505 STAIR "A" ROOF PLAN
SCALE: 3/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FPP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

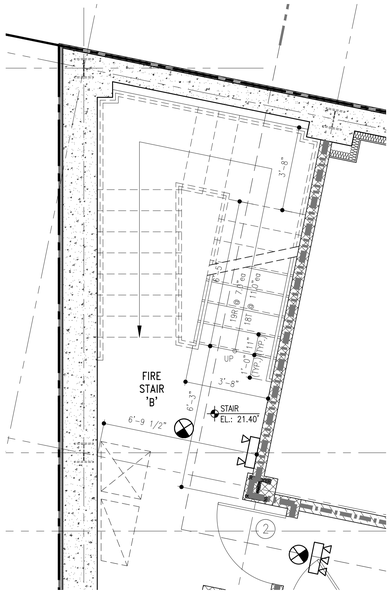
DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

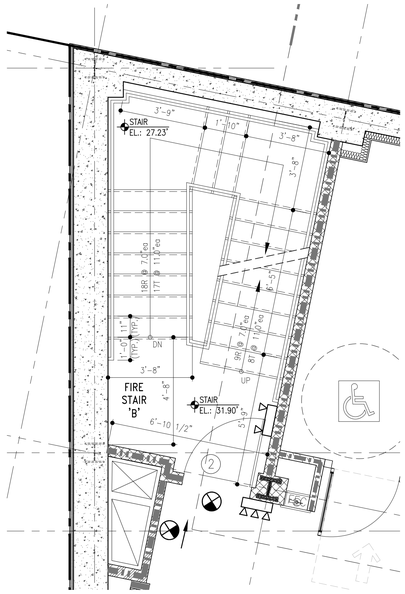
TITLE:
FIRE STAIR 'A', AND STAIR 'C' & 'D' DETAIL PLANS

SEAL & SIGNATURE:

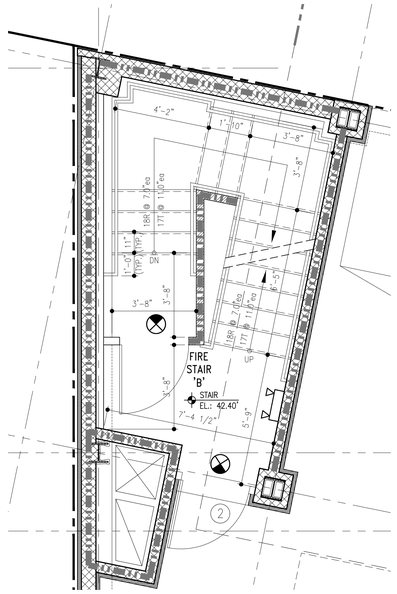
DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-505.00
CAD FILE NO: 45 OF
Z: \-MSS-647-ARVINDER-LIBERTY\



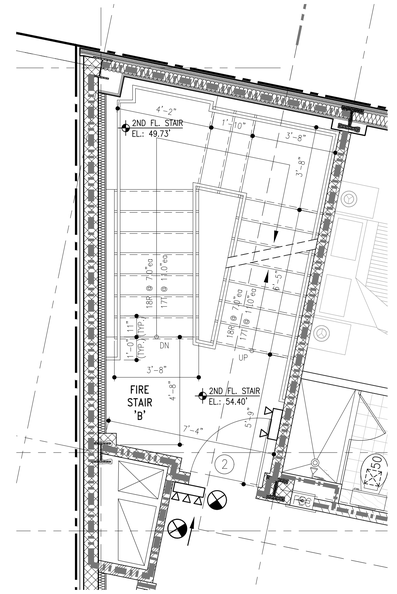
P 1 / A506 STAIR "B" – SUBCELLAR PLAN
SCALE: 3/8"=1'-0"



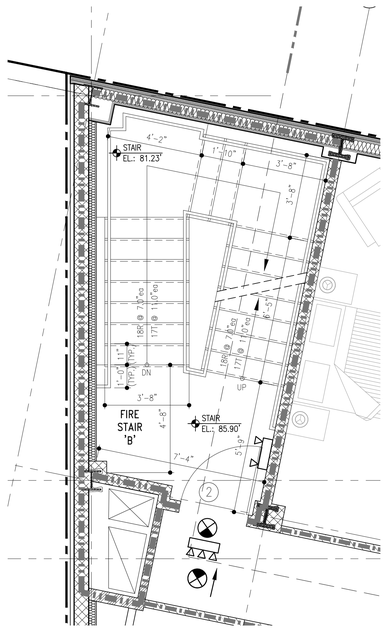
P 2 / A506 STAIR "B" – CELLAR PLAN
SCALE: 3/8"=1'-0"



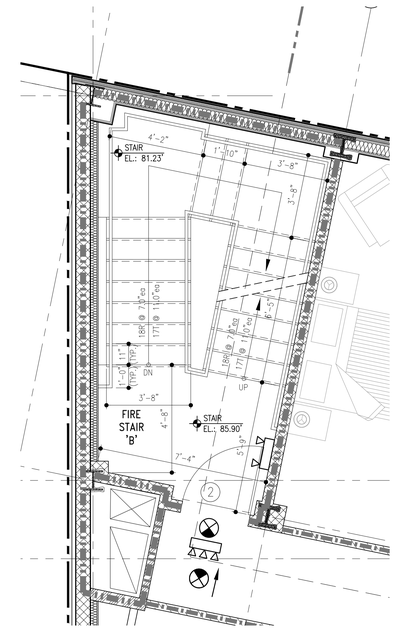
P 3 / A506 STAIR "B" FIRST FL. PLAN
SCALE: 3/8"=1'-0"



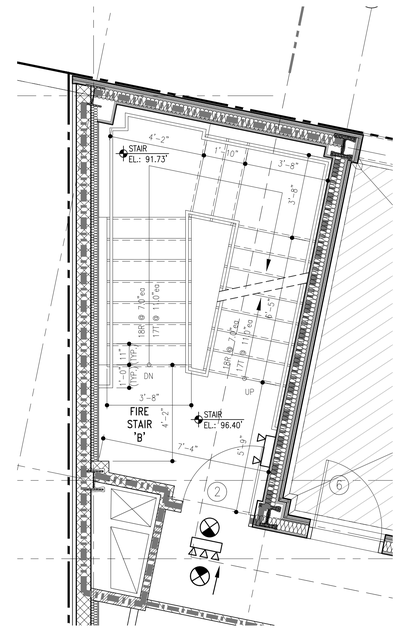
P 4 / A506 STAIR "B" 2ND & 3RD FL. PLANS
SCALE: 3/8"=1'-0"



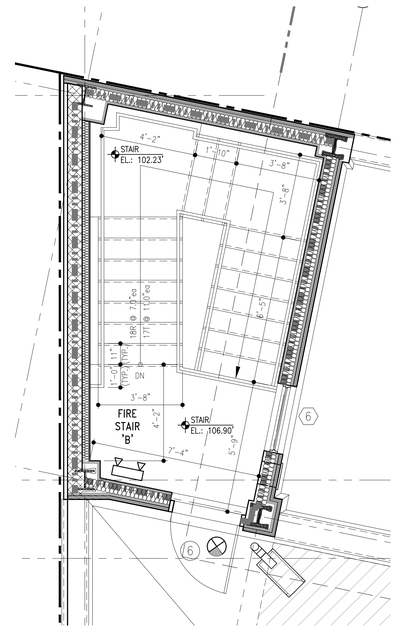
P 5 / A506 STAIR "B" 4TH FL. PLAN
SCALE: 3/8"=1'-0"



P 6 / A506 STAIR "B" 5TH FL. PLAN
SCALE: 3/8"=1'-0"



P 7 / A506 STAIR "B" 6TH FL. PLAN
SCALE: 3/8"=1'-0"



P 8 / A506 STAIR "B" ROOF PLAN
SCALE: 3/8"=1'-0"

CONSULTANTS:

STRUCTURAL

MEP/FA/FP/FS

GEOTECH

NO.	DATE	DESCRIPTION OF REVISION
1.	11-16-15	DOB SUBMISSION

MSS
M.S. SAVANI ARCHITECT, PC

148-45, HILLSIDE AVENUE
SUITE 201
JAMAICA, NY 11435
TEL: 718.657.6222
FAX: 718.657.6226
mss@mssarch.com

CLIENT:
LIBERTY HOSPITALITY LLC
2370 Bruner Avenue
Bronx, NY 10469

DOB STAMP & SIGNATURE:

PROJECT:
PROPOSED 6-STORY W/ CELLAR AND SUB-CELLAR TRANSIENT HOTEL (R-1) & APARTMENT HOTEL (R-2)
143-18 LIBERTY AVE
QUEENS, NY 11435

TITLE:
FIRE STAIR 'B' DETAIL PLANS

SEAL & SIGNATURE:

DATE: 12.14.15
PROJECT NO.: MSS-647
DRAWING BY: PD
CHK. BY: MSS
DWG NO:
A-506.00
CAD FILE NO: 46 OF
Z: \-MSS-647-ARVINDER-LIBERTY\

APPENDIX 2
CITIZEN PARTICIPATION PLAN

APPENDIX 2

CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation and Liberty Hospitality LLC have established this Citizen Participation Plan because the opportunity for citizen participation is an important component of the NYC Voluntary Cleanup Program. This Citizen Participation Plan describes how information about the project will be disseminated to the Community during the remedial process. As part of its obligations under the NYC VCP, Liberty Hospitality LLC will maintain a repository for project documents and provide public notice at specified times throughout the remedial program. This Plan also takes into account potential environmental justice concerns in the community that surrounds the project Site. Under this Citizen Participation Plan, project documents and work plans are made available to the public in a timely manner. Public comment on work plans is strongly encouraged during public comment periods. Work plans are not approved by the NYC Office of Environmental Remediation (OER) until public comment periods have expired and all comments are formally reviewed. An explanation of cleanup plans in the form of a public meeting or informational session is available upon request to OER's project manager assigned to this Site, Colin Sullivan, who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 788-8841.

Project Contact List: OER has established a Site Contact List for this project to provide public notices in the form of fact sheets to interested members of the Community. Communications will include updates on important information relating to the progress of the cleanup program at the Site as well as to request public comments on the cleanup plan. The Project Contact List includes owners and occupants of adjacent buildings and homes, principal administrators of nearby schools, hospitals and day care centers, the public water supplier that serves the area, established document repositories, the representative Community Board, City Council members, other elected representatives and any local Brownfield Opportunity Area (BOA) grantee organizations. Any member of the public or organization will be added to the

Site Contact List on request. A copy of the Site Contact List is maintained by OER's project manager. If you would like to be added to the Project Contact List, contact NYC OER at (212) 788-8841 or by email at brownfields@cityhall.nyc.gov.

Repositories: A document repository is maintained online. Internet access to view OER's document repositories is available at public libraries. This document repository is intended to house, for community review, all principal documents generated during the cleanup program including Remedial Investigation plans and reports, Remedial Action work plans and reports, and all public notices and fact sheets produced during the lifetime of the remedial project. The library nearest the Site is:
Briarwood Library
85-12 Main Street
(718-658-1680)

Monday: 12:00 PM to 8:00 PM
Tuesday: 1:00 PM to 6:00 PM
Wednesday: 10:00 AM to 6:00 PM
Thursday: 12:00 PM to 8:00 PM
Friday: 10:00 AM to 6:00 PM
Saturday: 10:00 AM to 5:00 PM

Digital Documentation: NYC OER requires the use of digital documents in our repository as a means of minimizing paper use while also increasing convenience in access and ease of use.

Issues of Public Concern:

The major issues of concern to the public will be potential impacts of nuisance odors and dust during the disturbance of historic fill soils at the Site. This work will be performed in accordance with procedures which will be specified under a detailed Remedial Program which considers and takes preventive measures for exposures to future residents of the property and those on adjacent properties during construction. Detailed plans to monitor the potential for exposure including a

Construction Health and Safety Plan and a Community Air Monitoring Plan are required components of the remedial program. Implementation of these plans will be under the direct oversight of the New York City Department of Environmental Remediation (NYCOER).

These plans will specify the following worker and community health and safety activities during remedial activity at the Site:

- On-Site air monitoring for worker protection,
- Perimeter air monitoring for community protection.

The Health and Safety Plan and the Community Air Monitoring Plan prepared as part of the Remedial Action Work Plan will be available for public review at the document repository.

Public Notice and Public Comment: Public notice to all members of the Project Contact List is required at three major steps during the performance of the cleanup program (listed below) and at other points that may be required by OER. Notices will include Fact Sheets with descriptive project summaries, updates on recent and upcoming project activities, repository information, and important phone and email contact information. All notices will be reviewed and approved by OER prior to distribution and mailed by the Enrollee. Public comment is solicited in public notices for all work plans developed under the NYC Voluntary Cleanup Program. Final review of all work plans by OER will consider all public comments. Approval will not be granted until the public comment period has been completed.

Citizen Participation Milestones: Public notice and public comment activities occur at several steps during a typical NYC VCP project. These steps include:

- **Public Notice of the availability of the Remedial Investigation Report and Remedial Action Work Plan and a 30-day public comment period on the Remedial Action Work Plan:** Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the availability of the Remedial Investigation Report and Remedial Action Work Plan and the initiation of a 30-day public comment period on the Remedial Action Work Plan. The Fact Sheet summarizes the findings of the RIR and

provides details of the RAWP. The public comment period will be extended an additional 15 days upon public request. A public meeting or informational session will be conducted by OER upon request.

- **Public Notice announcing the approval of the RAWP and the start of remediation:** Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the approval of the RAWP and the start of remediation.
- **Public Notice announcing the completion of remediation, designation of Institutional and Engineering Controls and issuance of the Notice of Completion:** Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the completion of remediation, providing a list of all Institutional and Engineering Controls implemented for to the Site and announcing the issuance of the Notice of Completion.

APPENDIX 3
SUSTAINABILITY STATEMENT

APPENDIX 3

SUSTAINABILITY STATEMENT

This Sustainability Statement documents sustainable activities and green remediation efforts planned under this remedial action.

Reuse of Clean, Recyclable Materials and Reduced Consumption of Non-Renewable Resources: Reuse of clean, locally-derived recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction.

An estimate of the quantity (in tons) of clean, non-virgin materials (reported by type of material) reused under this plan will be quantified and reported in the RAR.

Reduced Energy Consumption and Promotion of Greater Energy Efficiency: Reduced energy consumption lowers greenhouse gas emissions, improves local air quality, lessens in-city power generation requirements, can lower traffic congestion, and provides substantial cost savings.

Best efforts will be made to quantify energy efficiencies achieved during the remediation and will be reported in the Remedial Action Report (RAR). Where energy savings cannot be easily quantified, a gross indicator of the amount of energy saved or the means by which energy savings was achieved will be reported.

Conversion to Clean Fuels: Use of clean fuel improves NYC's air quality by reducing harmful emissions.

Natural gas will be utilized for fuel in the new building. A diesel AST will be located in the fuel pump room located within the sub-cellar. This AST will be used to fuel the emergency generator located on the roof. An estimate of the volume of clean fuels used during remedial activities will be quantified and reported in the RAR.

Recontamination Control: Recontamination after cleanup and redevelopment is completed undermines the value of work performed, may result in a property that is less protective of public health or the environment, and may necessitate additional cleanup work later or impede future redevelopment. Recontamination can arise from future releases that occur within the property or by influx of contamination from off-Site.

An estimate of the area of the Site that utilizes recontamination controls under this plan will be reported in the RAR in square feet.

Stormwater Retention: Stormwater retention improves water quality by lowering the rate of combined stormwater and sewer discharges to NYC's sewage treatment plants during periods of precipitation, and reduces the volume of untreated influent to local surface waters.

An estimate of the enhanced stormwater retention capability of the redevelopment project will be included in the RAR.

Linkage with Green Building: Green buildings provide a multitude of benefits to the city across a broad range of areas, such as reduction of energy consumption, conservation of resources, and reduction in toxic materials use.
No Green Building designs are associated with this site.

Paperless Voluntary Cleanup Program: Liberty Hospitality LLC is participating in OER's Paperless Voluntary Cleanup Program. Under this program, submission of electronic documents will replace submission of hard copies for the review of project documents, communications and milestone reports.

Low-Energy Project Management Program: Liberty Hospitality LLC is participating in OER's low-energy project management program. Under this program, whenever possible, meetings are held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation.

Trees and Plantings: Trees and other plantings provide habitat and add to NYC's environmental quality in a wide variety of ways. Native plant species and native habitat provide optimal support to local fauna, promote local biodiversity, and require less maintenance.

An estimate of the land area that will be vegetated, including the number of trees planted or preserved, will be reported in square feet in the RAR.

APPENDIX 4
SOIL / MATERIALS MANAGEMENT PLAN

APPENDIX 4

SOIL/MATERIALS MANAGEMENT PLAN

1.1 Soil Screening Methods

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional and will be reported in the final remedial report. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of final signoff by OER.

1.2 Stockpile Methods

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.) will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soils will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.
All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soils and other materials shall be located at least of 50 feet from the property boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

1.3 Characterization of Excavated Materials

Soil/fill or other excavated media that is transported off-Site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soils proposed for reuse on-Site will be managed as defined in this plan.

1.4 Materials Excavation, Load-Out, and Departure

The PE/QEP overseeing the remedial action will:

- oversee remedial work and the excavation and load-out of excavated material;
- ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAWP;
- ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site;
- ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-Site will not be performed without prior OER approval.

1.5 Off-Site Materials Transport

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-Site, when possible in order to minimize off Site disturbance. Off-Site queuing will be minimized.

Outbound truck transport routes are described in the remedial report. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-Site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

1.6 Materials Disposal Off-Site

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Enrollee to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in New York City under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the final remedial report.

The Remedial Action Report will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of

all material will include records and approvals for receipt of the material. This information will be presented in the final remedial report.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-Site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility). Waste characterization will be performed for off-Site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the final remedial report. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the final remedial report. Hazardous wastes derived from on-Site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not impacted by site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-Site to prevent mixing with impacted material.

1.7 Materials Reuse On-Site

Soil and fill that is derived from the property that meets the Soil Cleanup Objectives (SCOs) established in this plan may be reused on-Site. The SCOs for on-Site reuse are listed in Section 4.2 of this cleanup plan. ‘Reuse on-Site’ means material that is excavated during the remedy or development, does not leave the property, and is relocated within the same property and on land with comparable levels of contaminants in soil/fill material, compliant with applicable laws and regulations, and addressed pursuant to the NYC VCP agreement subject to Engineering and Institutional Controls. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this

remedial plan are followed. The expected location for placement of reused material is shown in Section 4.2.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-Site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

1.8 Demarcation

After completion of hotspot removal and any other invasive remedial activities, and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent material to be placed on the surface of residual soil/fill to provide an observable reference layer. A description or map of the approximate depth of the demarcation layer will be provided in the SMP; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soils, pavement and associated sub-soils, or other materials or structures or, (3) all materials beneath the approved cover will be considered impacted and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the RAR.

This demarcation will constitute the top of the site management horizon. Materials within this horizon require adherence to special conditions during future invasive activities as defined in the Site Management Plan.

1.9 Import of Backfill Soil From Off-Site Sources

This Section presents the requirements for imported fill materials to be used below the cover layer and within the clean soil cover layer. All imported soils will meet OER-approved backfill and cover soil quality objectives for this Site. The backfill and cover soil quality objectives are listed in Section 4.2. Imported soils will not exceed groundwater protection standards established in Part 375. Imported soils for Track 1 remedial action projects will not exceed Track 1 SCO’s.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.
The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;
- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations;
- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.
- All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this remedial plan. The final remedial report will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.
- All material will be subject to source screening and chemical testing.
- Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:
- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material will be taken at a minimum frequency of one sample for every 500 cubic yards of material. Once it is determined that the fill material meets imported

backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the final remedial report. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for, and will not be used as cover material.

1.10 Fluids Management

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e. a stream or river) is prohibited without a SPDES permit issued by New York State Department of Environmental Conservation.

1.11 Stormwater Pollution Prevention

Applicable laws and regulations pertaining to stormwater pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this remedial plan (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter

of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors.

Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. All necessary repairs shall be made immediately. Accumulated sediments will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

1.12 Contingency Plan for Unknown Contamination Sources

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-Site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for TAL metals, TCL volatiles and semi-volatiles, TCL pesticides and PCBs, as appropriate.

1.13 Odor, Dust, and Nuisance Control

Odor Control

All necessary means will be employed to prevent on- and off-Site odor 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) use of foams to cover exposed odorous soils. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-Site disposal; and (e) use of chemical odorants in spray or misting systems.

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying this remedial plan.

Dust Control

Dust management during invasive on-Site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.
- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying this remedial plan.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided, during Site clearing and grubbing, and during the remedial program, as necessary, to prevent nuisances.

APPENDIX 5
CONSTRUCTION HEALTH AND SAFETY PLAN

143-18 LIBERTY AVENUE

QUEENS, NEW YORK 11435

Block 10041 Lot 6

CONSTRUCTION HEALTH AND SAFETY PLAN

JULY 2016

Prepared By:

EBC

ENVIRONMENTAL BUSINESS

1808 Middle Country Road

Ridge, NY 11961

TABLE OF CONTENTS
CONSTRUCTION HEALTH AND SAFETY PLAN
143-18 LIBERTY AVENUE, QUEENS, NY

TABLE OF CONTENTS
CONSTRUCTION HEALTH AND SAFETY PLAN
143-18 LIBERTY AVENUE, QUEENS, NY

FIGURES

APPENDICES

STATEMENT OF COMMITMENT

This Construction Health and Safety Plan (CHASP) has been prepared to ensure that workers are not exposed to risks from hazardous materials during the Remedial Action at 143-18 Liberty Avenue, Queens, NY.

This CHASP, which applies to persons present at the site actually or potentially exposed to hazardous materials, describes emergency response procedures for actual and potential chemical hazards. This CHASP is also intended to inform and guide personnel entering the work area or exclusion zone. Persons are to acknowledge that they understand the potential hazards and the contents of this Health and Safety policy by signing off on receipt of their individual copy of the document. Contractors and suppliers are retained as independent contractors and are responsible for ensuring the health and safety of their own employees.

1.0 INTRODUCTION AND SITE ENTRY REQUIREMENTS

This document describes the health and safety guidelines developed by Environmental Business Consultants (EBC) for the planned Remedial Action at 143-18 Liberty Avenue, Queens, NY to protect on-site personnel, visitors, and the public from physical harm and exposure to hazardous materials or wastes during remedial activities. In accordance with the Occupational Safety and Health Administration (OSHA) 29 CFR Part 1910.120 Hazardous Waste Operations and Emergency Response Final rule, this CHASP, including the attachments, addresses safety and health hazards related to excavation, loading and other soil disturbance activities and is based on the best information available. The CHASP may be revised by EBC at the request of the developer and/or a regulatory agency upon receipt of new information regarding site conditions. Changes will be documented by written amendments signed by EBC's project manager, site safety officer and/or the EBC health and safety consultant.

1.1 Training Requirements

Personnel entering the exclusion zone or decontamination zone are required to be certified in health and safety practices for hazardous waste site operations as specified in the Federal OSHA Regulations CFR 1910.120e (revised 3/6/90).

Paragraph (e - 3) of the above referenced regulations requires that all on-site management personnel directly responsible for or who supervise employees engaged in hazardous waste operations, must initially receive 8 hours of supervisor training related to managing hazardous waste work.

Paragraph (e - 8) of the above referenced regulations requires that workers and supervisors receive 8 hours of refresher training annually on the items specified in Paragraph (e-1) and/or (e-3).

Additionally all on-site personnel must receive adequate site-specific training in the form of an on-site Health and Safety briefing prior to participating in field work with emphasis on the following:

- Protection of the adjacent community from hazardous vapors and / or dust which may be released during intrusive activities.
- Identification of chemicals known or suspected to be present on-site and the health effects and hazards of those substances.
- The need for vigilance in personnel protection, and the importance of attention to proper use, fit and care of personnel protective equipment.
- Decontamination procedures.
- Site control including work zones, access and security.
- Hazards and protection against heat or cold.
- The proper observance of daily health and safety practices, such as entry and exit of work zones and site. Proper hygiene during lunch, break, etc.
- Emergency procedures to be followed in case of fire, explosion and sudden release of hazardous gases.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

Health and Safety meetings will be conducted on a daily basis and will cover protective clothing and other equipment to be used that day, potential and chemical and physical hazards, emergency procedures, and conditions and activities from the previous day.

1.2 Medical Monitoring Requirements

Field personnel and visitors entering the exclusion zone or decontamination zone must have completed appropriate medical monitoring required under OSHA 29 CFR 1910.120(f) if respirators or other breathing related PPE is needed. Medical monitoring enables a physician to monitor each employee's health, physical condition, and his fitness to wear respiratory protective equipment and carry out on-site tasks.

1.3 Site Safety Plan Acceptance, Acknowledgment and Amendments

The project superintendent and the site safety officer are responsible for informing personnel (EBC employees and/or owner or owners representatives) entering the work area of the contents of this plan and ensuring that each person signs the safety plan acknowledging the on-site hazards and procedures required to minimize exposure to adverse effects of these hazards. A copy of the Acknowledgement Form is included in **Appendix A**.

Site conditions may warrant an amendment to the CHASP. Amendments to the HASP are acknowledged by completing forms included in **Appendix B**.

1.4 Key Personnel - Roles and Responsibilities

Personnel responsible for implementing this Health and Safety Plan are:

Name	Title	Address	Contact Numbers
Mrs. Chawinie Reilly	EBC Project Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
Mr. Kevin Waters	Site Safety Officer	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000

The project manager is responsible for overall project administration and, with guidance from the site safety officer, for supervising the implementation of this CHASP. The site safety officer will conduct daily (tail gate or tool box) safety meetings at the project site and oversee daily safety issues. Each subcontractor and supplier (defined as an OSHA employer) is also responsible for the health and safety of its employees. If there is any dispute about health and safety or project activities, on-site personnel will attempt to resolve the issue. If the issue cannot be resolved at the site, then the project manager will be consulted.

The site safety officer is also responsible for coordinating health and safety activities related to hazardous material exposure on-site. The site safety officer is responsible for the following:

1. Educating personnel about information in this CHASP and other safety requirements to be observed during site operations, including, but not limited to, decontamination procedures, designation of work zones and levels of protection, air monitoring, fit testing,

and emergency procedures dealing with fire and first aid.

2. Coordinating site safety decisions with the project manager.

3. Designating exclusion, decontamination and support zones on a daily basis.

4. Monitoring the condition and status of known on-site hazards and maintaining and implementing the air quality monitoring program specified in this CHASP.

5. Maintaining the work zone entry/exit log and site entry/exit log.

6. Maintaining records of safety problems, corrective measures and documentation of chemical exposures or physical injuries (the site safety officer will document these conditions in a bound notebook and maintain a copy of the notebook on-site).

The person who observes safety concerns and potential hazards that have not been addressed in the daily safety meetings should immediately report their observations/concerns to the site safety officer or appropriate key personnel.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

2.0 SITE BACKGROUND AND SCOPE OF WORK

The Site is located at 143-18 Liberty Avenue in the Jamaica section of the Borough of Queens, New York, and is currently identified as Block 10041 and Lot 6 on the New York City Tax Map. Figure 1 shows the Site location. The lot is 8,534 square feet in size and contains 102.11 feet of street frontage along Liberty Avenue, and 75.1 feet of street frontage along Pinegrove Street. The adjacent property to the west along Liberty Avenue has been noted to as an open lot that is currently occupied by a commercial company, We Buy Cars. The adjacent property to the southeast along Pinegrove Street is indicated as a two-story residential building. Properties within the surrounding area were noted as being commercial buildings, mixed use residential and commercial buildings, a parking lot, a safety warehouse, and a tire shop.

2.1 Previous Investigations

2.1.1 Remedial Investigation Report (EBC July 2016)

EBC performed the following scope of work at the Site on May 23 2016:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Installed 6 soil borings across the Site and collected 12 soil samples with duplicate for chemical analysis to evaluate soil quality;
3. Installed three groundwater monitoring wells at the Site to establish groundwater flow and collected three groundwater samples and one duplicate sample for chemical analysis to evaluate groundwater quality; and
4. Installed five soil gas implants and collected five soil gas samples for chemical analysis.

A remedial investigation was performed and the results are documented in a companion document called "Remedial Investigation Report, 143-18 Liberty Avenue", dated July 2016 (RIR).

1. The elevation of the Site is approximately 45 feet above sea level.
2. Depth to groundwater is estimated to be approximately 27.51 to 28.38 feet below sidewalk grade.
3. Groundwater flow is generally west.
4. Depth to bedrock at the Site is greater than 100 feet.
5. The stratigraphy of the Site from the surface down consists of historic fill material to depths as great as 6 feet, underlain by native fine to coarse brown sand.
6. Soil/fill samples results were compared to the New York State Department of Environmental Conservation (NYSDEC) 6NYCRR Part 375 Section 6.8 Track 1 Unrestricted Use as well as to Track 2 Restricted Residential Use Soil Cleanup Objectives (SCOs). No VOCs above UUSCOs were detected in any of the samples. Several SVOCs including, benz(a)anthracene (max of 3,600 µg/kg), benzo(a)pyrene (max of 3,600 µg/kg), benzo(b)fluoranthene (max of 3,300 µg/kg), dibenz(a,h)anthracene (at 410 µg/kg), and indeno(1,23-,3-cd)pyrene (max. of 2,500 µg/kg) were detected above Restricted Residential Use SCOs within shallow soil samples. Two SVOCs, benzo(k)fluoranthene (max of 2,900 µg/kg) and chrysene (max of 3,600 µg/kg) were detected above Unrestricted Use SCOs within shallow soil samples. Two PCBs, PCB-

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

1254 (at 490 µg/kg) and PCB-1260 (at 150 µg/kg) were detected above Unrestricted Use SCOs in the shallow soil samples within soil borings SB2 and SB4. One pesticide, dieldrin (at 6.2 µg/kg), was detected above Unrestricted Use SCOs within the shallow soil sample from soil boring SB1. Several metals including arsenic (max of 34.1 mg/kg), barium (max of 491 mg/kg), cadmium (max of 6.52 mg/kg), copper (max of 98.3 mg/kg), lead (max. of 2,730 mg/kg), manganese (max of 4,980 mg/kg) and zinc (max of 3,840 mg/kg) exceeded RRSCOs within all shallow soil samples. Chromium (max of 49.1 mg/kg), was noted above UUSCOs in one of the shallow soil samples. Overall, the soil results were consistent with data identified at sites with urban fill material in NYC.

7. Groundwater samples results were compared to New York State 6NYCRR Part 703.5 Class GA Groundwater Quality Standards (GQS). Groundwater samples collected during the investigations showed no PCBs at detectable concentrations. One VOC, chloroform (at 8.6 µg/L), was detected within one of the groundwater samples (MW2) exceeding its respective GQS. Several SVOCs including benz(a)anthracene (at 0.07 µg/L), benzo(b)fluoranthene (at 0.04 µg/L), benzo(k)fluoranthene (at 0.04 µg/L), chrysene (at 0.05 µg/L), and indeno(1,2,3-cd)pyrene (at 0.02 µg/L) were detected above their respective GQS within one of the three groundwater samples collected (MW2). One pesticide, chlordane (at 1.3 µg/L), was detected above its respective GQS within one of the three groundwater samples collected (MW3). Two dissolved metals, manganese (max. of 1.35 mg/L) and sodium (max. of 358 mg/L) were detected above their respective GQS within all three samples and the duplicate.
8. Soil vapor samples collected during the RI were compared to the compounds listed in Table 3.1 Air Guideline Values Derived by the NYSDOH located in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion dated October 2006. Soil vapor samples collected during the RI showed low levels of petroleum-related VOCs. The total concentration of petroleum-related VOCs (BTEX) ranged from 50.85 µg/m^3 to 86.68 µg/m^3. The chlorinated VOC, trichloroethylene (TCE) was detected in all of the soil gas samples ranging in concentrations from 0.26 µg/m^3 to 0.79 µg/m^3. Tetrachloroethylene (PCE) was detected in all soil gas samples ranging in concentration from 2.34 µg/m^3 to 89.5 µg/m^3. Carbon tetrachloride was detected in all of the soil gas samples in concentrations from 0.26 µg/m^3 to 0.43 µg/m^3. 1,1,1-trichloroethane (TCA) was detected in three of the soil gas samples ranging in concentrations from 1.08 µg/m^3 to 2.28 µg/m^3. Concentrations of chlorinated VOCs were all below the monitoring level ranges established within the NYSDOH soil vapor guidance matrix.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

2.2 Redevelopment Plans

The proposed future use of the Site will consist of one 6-story hotel building with inner court yardThe building will have an 6,000-square foot footprint. The sub-cellar will be developed with an elevator, meeting rooms, hotel rooms, a gym area, manager's office, electric meter room, fuel pump room, water meter room, refuse room, trash compactor room and laundry room. The open-air courtyard, which will consist of a concrete cap, will also be completed at this level. The cellar will be developed with meeting rooms, hotel rooms, a hotel lounge and a breakfast area. The 1st floor will be developed with a parking area and bicycle parking area. The 2nd and 3rd floors will be developed with hotel rooms. The 4th floor will be equipped with hotel rooms and a terrace area. The 5th floor will be equipped with eight hotel apartments. The 6th floor will be equipped with four hotel apartments.

The project will require excavation to a total depth of approximately 21 feet below grade across 100% of the lot. The sub-cellar (80% of the lot) and inner courtyard (20% of the lot) will be at this level. The elevator shaft will be excavated an additional 5 feet below grade. Approximately 4,600 cubic yards (cy) (7000 tons) of soil will be excavated for the sub-cellar. The water table is approximately 27.51 to 28.28 feet below grade surface (bgs) and therefore, will not be encountered during excavation.

The current zoning designation is R6-A with a C2-4 commercial overlay. The proposed use is consistent with existing zoning for the property.

2.3 Description of Remedial Action

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic carbon compounds.
3. Establishment of Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs). Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of Track 1 SCOs.
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).
6. Excavation and removal of soil/fill exceeding Unrestricted Use (Track 1) SCOs. The entire footprint of the building area (about 100% of the property) will be excavated to a depth of approximately 21 feet below grade for development purposes. Approximately 6,600 cubic yards or 10,000 tons of soil/fill will be removed from the Site and properly disposed at an appropriately licensed or permitted facility.
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-Site.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

8. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of all UST's that are encountered during soil/fill removal actions. Registration of tanks and reporting of any petroleum spills associated with UST's and appropriate closure of these petroleum spills in compliance with applicable local, State and Federal laws and regulations.
10. Transportation and off-Site disposal of all soil/fill material at licensed or permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-Site.
11. As part of development, construction of an engineered composite cover consisting of a six-inch thick concrete building slab.
12. As part of development, installation of a vapor barrier system consisting of vapor barrier beneath the building slab and outside of sub-grade foundation sidewalls to mitigate soil vapor migration into the building. The vapor barrier system will consist of a 20-mil Raven Industries VaporBlock 20+ below the slab throughout the full building area and a 20-mil Raven Industries VaporBlock 20+ outside all sub-grade foundation sidewalls. All welds, seams and penetrations will be properly sealed to prevent preferential pathways for vapor migration. The vapor barrier system is an Engineering Control for the remedial action. The remedial engineer will certify in the RAR that the vapor barrier system was designed and properly installed to mitigate soil vapor migration into the building
13. As part of new development, construction and operation of a parking garage with high volume air exchange in conformance with NYC Building Code.
14. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
15. Performance of all activities required for the remedial action, including acquisition of required permits and attainment of pretreatment requirements, in compliance with applicable laws and regulations.
16. Dewatering in compliance with city, state, and federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.
17. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations.
18. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, lists any changes from this RAWP.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

3.0 HAZARD ASSESSMENT

This section identifies the hazards associated with the proposed scope of work, general physical hazards that can be expected at most sites; and presents a summary of documented or potential chemical hazards at the site. Every effort must be made to reduce or eliminate these hazards. Those that cannot be eliminated must be guarded against using engineering controls and/or personal protective equipment.

3.1 Physical Hazards

3.1.1 Tripping Hazards

An area of risk associated with on-site activities are presented by uneven ground, concrete, curbstones or equipment which may be present at the site thereby creating a potential tripping hazard. During intrusive work, care should be taken to mark or remove any obstacles within the exclusion zone.

3.1.2 Climbing Hazards

During site activities, workers may have to work on excavating equipment by climbing. The excavating contractor will conform with any applicable NIOSH and OSHA requirements or climbing activities.

3.1.3 Cuts and Lacerations

Field activities that involve excavating activities usually involve contact with various types of machinery. A first aid kit approved by the American Red Cross will be available during all intrusive activities.

3.1.4 Lifting Hazards

Improper lifting by workers is one of the leading causes of industrial injuries. Field workers in the excavation program may be required to lift heavy objects. Therefore, all members of the field crew should be trained in the proper methods of lifting heavy objects. All workers should be cautioned against lifting objects too heavy for one person.

3.1.5 Utility Hazards

Before conducting any excavation, the excavation contractor will be responsible for locating and verifying all existing utilities at each excavation.

3.1.6 Traffic Hazards

All traffic, vehicular and pedestrian, shall be maintained and protected at all times consistent with local, state and federal agency regulations regarding such traffic and in accordance with NYCDOT guidelines. The excavation contractor shall carry on his operations without undue interference or delays to traffic. The excavation contractor shall furnish all labor, materials, guards, barricades, signs, lights, and anything else necessary to maintain traffic and to protect his work and the public, during operations.

3.2 Work in Extreme Temperatures

Work under extremely hot or cold weather conditions requires special protocols to minimize the chance that employees will be affected by heat or cold stress.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

3.2.1 Heat Stress

The combination of high ambient temperature, high humidity, physical exertion, and personal protective apparel, which limits the dissipation of body heat and moisture, can cause heat stress.

The following prevention, recognition and treatment strategies will be implemented to protect personnel from heat stress. Personnel will be trained to recognize the symptoms of heat stress and to apply the appropriate treatment.

1. Prevention
    a. Provide plenty of fluids. Available in the support zone will be a 50% solution of fruit punch and water or plain water.
    b. Work in Pairs. Individuals should avoid undertaking any activity alone.
    c. Provide cooling devices. A spray hose and a source of water will be provided to reduce body temperature, cool protective clothing and/or act as a quick-drench shower in case of an exposure incident.
    d. Adjustment of the work schedule. As is practical, the most labor-intensive tasks should be carried out during the coolest part of the day.

2. Recognition and Treatment
    a Heat Rash (or prickly heat):
        Cause: Continuous exposure to hot and humid air, aggravated by chafing clothing.
        Symptoms: Eruption of red pimples around sweat ducts accompanied by intense itching and tingling.
        Treatment: Remove source or irritation and cool skin with water or wet cloths.

    b. Heat Cramps (or heat prostration)
        Cause: Profuse perspiration accompanied by inadequate replenishment of body water and electrolytes.
        Symptoms: Muscular weakness, staggering gait, nausea, dizziness, shallow breathing, pale and clammy skin, approximately normal body temperature.
        Treatment: Perform the following while making arrangement for transport to a medical facility. Remove the worker to a contamination reduction zone. Remove protective clothing. Lie worker down on back in a cool place and raise feet 6 to 12 inches. Keep warm, but loosen all clothing. If conscious, provide sips of salt-water solution, using one teaspoon of salt in 12 ounces of water. Transport to a medical facility.
    c. Heat Stroke
        Cause: Same as heat exhaustion. This is also an extremely serious condition.
        Symptoms: Dry hot skin, dry mouth, dizziness, nausea, headache, rapid pulse.
        Treatment: Cool worker immediately by immersing or spraying with cool water or sponge bare skin after removing protective clothing. Transport to hospital.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

3.2.2 Cold Exposure

Exposure to cold weather, wet conditions and extreme wind-chill factors may result in excessive loss of body heat (hypothermia) and /or frostbite. To guard against cold exposure and to prevent cold injuries, appropriate warm clothing should be worn, warm shelter must be readily available, rest periods should be adjusted as needed, and the physical conditions of on-site field personnel should be closely monitored. Personnel and supervisors working on-site will be made aware of the signs and symptoms of frost bite and hypothermia such as shivering, reduced blood pressure, reduced coordination, drowsiness, impaired judgment, fatigue, pupils dilated but reactive to light and numbing of the toes and fingers.

3.3 Chemical Hazards

"Urban fill" materials, present throughout the New York City area typically contain elevated levels of semi-volatile organic compounds and metals. These "contaminants" are not related to a chemical release occurring on the site, but are inherent in the reworked fill material in the area which contains ash and bits of tar and asphalt. Considering the previous sampling results and the past and present use of the site, the following compounds are considered for the site as potential contaminants: Revise based on Remedial Investigation Report Results: pesticides such as chlordane and a-chlordane and heavy metals such as arsenic, copper, and mercury.

The primary routes of exposure to these contaminants are inhalation, ingestion and absorption.

3.3.1 Respirable Dust

Dust may be generated from vehicular traffic and/or excavation activities. If visible observation detects elevated levels of dust, a program of wetting will be employed by the site safety officer. If elevated dust levels persist, the site safety office will employ dust monitoring using a particulate monitor (Miniram or equivalent). If monitoring detects concentrations greater than 150 µg/m3 over daily background, the site safety officer will take corrective actions as defined herein, including the use of water for dust suppression and if this is not effective, requiring workers to wear APRs with efficiency particulate air (HEPA) cartridges.

Absorption pathways for dust and direct contact with soils or groundwater will be mitigated with the implementation of latex gloves, hand washing and decontamination exercises when necessary.

3.3.2 Dust Control and Monitoring During Earthwork

Dust generated during excavation activities or other earthwork may contain contaminants identified in soils at the site. Dust will be controlled by wetting the working surface with water. Calcium chloride may be used if the problem cannot be controlled with water. Air monitoring and dust control techniques are specified in a site specific Dust Control Plan (if applicable). Site workers will not be required to wear APR's unless dust concentrations are consistently over 150 $\mu g/m^3$ over site-specific background in the breathing zone as measured by a dust monitor unless the site safety officer directs workers to wear APRs. The site safety officer will use visible dust as an indicator to implement the dust control plan.

3.3.3 Organic Vapors

Elevated levels of VOCs were detected in both soil and soil vapor samples collected during

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

previous investigations at the site. Therefore, excavation activities may cause the release of organic vapors to the atmosphere. The site safety officer will periodically monitor organic vapors with a Photoionization Detector (PID) during excavation activities to determine whether organic vapor concentrations exceed action levels shown in Section 5 and/or the Community Air Monitoring Plan.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

4.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE) shall be selected in accordance with the site air monitoring program, OSHA 29 CFR 1910.120(c), (g), and 1910.132. Protective equipment shall be NIOSH approved and respiratory protection shall conform to OSHA 29 CFR Part 1910.133 and 1910.134 specifications; head protection shall conform to 1910.135; eye and face protection shall conform to 1910.133; and foot protection shall conform to 1910.136. The only true difference among the levels of protection from D thru B is the addition of the type of respiratory protection. **It is anticipated that work will be performed in Level D PPE.**

4.1 Level D

Level D PPE shall be donned when the atmosphere contains no known hazards and work functions preclude splashes, immersion, or the potential for inhalation of, or contact with, hazardous concentrations of harmful chemicals. Level D PPE consists of:

- standard work uniform, coveralls, or tyvek, as needed;
- steel toe and steel shank work boots;
- hard hat;
- gloves, as needed;
- safety glasses;
- hearing protection;
- equipment replacements are available as needed.

4.2 Level C

Level C PPE shall be donned when the concentrations of measured total organic vapors in the breathing zone exceed background concentrations (using a portable OVA, or equivalent), but are less than 5 ppm. The specifications on the APR filters used must be appropriate for contaminants identified or expected to be encountered. Level C PPE shall be donned when the identified contaminants have adequate warning properties and criteria for using APR have been met. Level C PPE consists of:

- chemical resistant or coated tyvek coveralls;
- steel-toe and steel-shank workboots;
- chemical resistant overboots or disposable boot covers;
- disposable inner gloves (surgical gloves);
- disposable outer gloves;
- full face APR fitted with organic vapor/dust and mist filters or filters appropriate for the identified or expected contaminants;
- hard hat;
- splash shield, as needed; and,
- ankles/wrists taped with duct tape.

The site safety officer will verify if Level C is appropriate by checking organic vapor concentrations using compound and/or class-specific detector tubes.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

- chemical resistant coveralls;
- steel-toe and steel-shank workboots;
- chemical resistant overboots or disposable boot covers;
- disposable inner gloves;
- disposable outer gloves;
- hard hat; and,
- ankles/wrists taped.

The exact PPE ensemble is decided on a site-by-site basis by the Site Safety Officer with the intent to provide the most protective and efficient worker PPE.

4.3 Activity-Specific Levels of Personal Protection

The required level of PPE is activity-specific and is based on air monitoring results (Section 4.0) and properties of identified or expected contaminants. **It is expected that site work will be performed in Level D.** If air monitoring results indicate the necessity to upgrade the level of protection engineering controls (i.e. Facing equipment away from the wind and placing site personnel upwind of drilling locations, active venting, etc.) will be implemented before requiring the use of respiratory protection.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

5.0 AIR MONITORING AND ACTION LEVELS

29 CFR 1910.120(h) specifies that monitoring shall be performed where there may be a question of employee exposure to hazardous concentrations of hazardous substances in order to assure proper selection of engineering controls, work practices and personal protective equipment so that employees are not exposed to levels which exceed permissible exposure limits, or published exposure levels if there are no permissible exposure limits, for hazardous substances.

5.1 Air Monitoring Requirements

If excavation work is performed, air will be monitored for VOCs with a portable ION Science 3000EX photoionization detector, or the equivalent. If necessary, Lower Explosive Limit (LEL) and oxygen will be monitored with a Combustible Gas Indicator (CGI). If appropriate, fugitive dust will be monitored using a MiniRam Model PDM-3 aerosol monitor. Air will be monitored when any of the following conditions apply:

- initial site entry;
- during any work where a potential IDLH condition or flammable atmosphere could develop;
- excavation work begins on another portion of the site;
- contaminants, other than those previously identified, have been discovered;
- each time a different task or activity is initiated;
- during trenching and/or excavation work.

The designated site safety officer will record air monitoring data and ensure that air monitoring instruments are calibrated and maintained in accordance with manufacturer's specifications. Instruments will be zeroed daily and checked for accuracy. Monitoring results will be recorded in a field notebook and will be transferred to instrument reading logs.

5.2 Work Stoppage Responses

The following responses will be initiated whenever one or more of the action levels necessitating a work stoppage are exceeded:

1 The SSO will be consulted immediately
2 All personnel (except as necessary for continued monitoring and contaminant migration, if applicable) will be cleared from the work area (eg from the exclusion zone).
3 Monitoring will be continued until intrusive work resumes.

5.3 Action Levels During Excavation Activities

Instrument readings will be taken in the breathing zone above the excavation pit unless otherwise noted. Each action level is independent of all other action levels in determining responses.

Organic Vapors (PID)	LEL %	Responses
0-1 ppm above background	0%	• Continue excavating • Level D protection • Continue monitoring every 10 minutes

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

1-5 ppm Above Background, Sustained Reading	1-10%	• Continue excavating • Go to Level C protection or employ engineering controls • Continue monitoring every 10 minutes
5-25 ppm Above Background, Sustaineed Reading	10-20%	• Discontinue excavating, unless PID is only action level exceeded. • Level C protection or employ engineering controls • Continue monitoring for organic vapors 200 ft downwind • Continuous monitoring for LEL at excavation pit
>25 ppm Above Background, Sustained Reading	>20%	• Discontinue excavating • Withdraw from area, shut off all engine ignition sources. • Allow pit to vent • Continuous monitoring for organic vapors 200 ft downwind.

Notes: Air monitoring will occur in the breathing zone 30 inches above the excavation pit. Readings may also be taken in the excavation pit but will not be used for action levels.

If action levels for any one of the monitoring parameters are exceeded, the appropriate responses listed in the right hand column should be taken. If instrument readings do not return to acceptable levels after the excavation pit has been vented for a period of greater than one-half hour, a decision will then be made whether or not to seal the pit with suppressant foam.

If, during excavation activities, downwind monitoring PID readings are greater than 5 ppm above background for more than one-half hour, excavation will stop until sustained levels are less then 5 ppm (see Community Air Monitoring Plan).

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

6.0 SITE CONTROL

6.1 Work Zones

The primary purpose of site controls is to establish the perimeter of a hazardous area, to reduce the migration of contaminants into clean areas, and to prevent access or exposure to hazardous materials by unauthorized persons. When operations are to take place involving hazardous materials, the site safety officer will establish an exclusion zone, a decontamination zone, and a support zone. These zones "float" (move around the site) depending on the tasks being performed on any given day. The site safety officer will outline these locations before work begins and when zones change. The site safety officer records this information in the site log book.

Due to the dimensions of the Site and the work area, it is expected that an exclusion zone will include the entire fenced area with the exception of the construction entrance area, which will serve as the decontamination zone. A support zone if needed will be located outside of the fenced area. All onsite workers engaged in the excavation of hazardous or contaminated materials must provide evidence of OSHA 24 or 40-hour Hazardous Waste Operations and Emergency Response Operations training to conduct work within the exclusion zone established by the site safety officer. Gross decontamination (as determined by the site Health and Safety Officer) is conducted in the exclusion zone; all other decontamination is performed in the decontamination zone or trailer.

Protective equipment is removed in the decontamination zone. Disposable protective equipment is stored in receptacles staged in the decontamination zone, and non-disposable equipment is decontaminated. All personnel and equipment exit the exclusion zone through the decontamination zone. If a decontamination trailer is provided the first aid equipment, an eye wash unit, and drinking water are kept in the decontamination trailer.

The support zone is used for vehicle parking, daily safety meetings, and supply storage. Eating, drinking, and smoking are permitted only in the support zone. When a decontamination trailer is not provided, the eye wash unit, first aid equipment, and drinking water are kept at a central location designated by the site safety officer.

EBC
Environmental Business Consultants
1808 Middle Country Road
Ridge, NY 11961
Phone 631.504.6000
Fax 631.924.2870

7.0 CONTINGENCY PLAN/EMERGENCY RESPONSE PLAN

Site personnel must be prepared in the event of an emergency. Emergencies can take many forms: illnesses, injuries, chemical exposure, fires, explosions, spills, leaks, releases of harmful contaminants, or sudden changes in the weather.

Emergency telephone numbers and a map to the hospital will be posted in the command post. Site personnel should be familiar with the emergency procedures, and the locations of site safety, first aid, and communication equipment.

7.1 Emergency Equipment On-site

Private telephones:	Site personnel.
Two-way radios:	Site personnel where necessary.
Emergency Alarms:	On-site vehicle horns*.
First aid kits:	On-site, in vehicles or office.
Fire extinguisher:	On-site, in office or on equipment.

* Horns: Air horns will be supplied to personnel at the discretion of the project superintendent or site safety officer.

7.2 Emergency Telephone Numbers

General Emergencies	911
New York City Police	911
Jamaica Hospital Medical Center	1-718-206-6000
NYSDEC Spills Division	1-800-457-7362
NYSDEC Hazardous Waste Division	1-718-482-4994
NYCDEP	1-718-699-9811
NYC Department of Health	1-212-788-4711
NYC Fire Department	911
National Response Center	1-800-424-8802
Poison Control	1-212-340-4494
Site Safety Officer	1-631-504-6000
Alternate Site Safety Officer	1-631-504-6000

7.3 Personnel Responsibilities During an Emergency

The project manager is primarily responsible for responding to and correcting any emergency situations. However, in the absence of the project manager, the site safety officer shall act as the project manager's on-site designee and perform the following tasks:

- Take appropriate measures to protect personnel including: withdrawal from the exclusion zone, evacuate and secure the site, or upgrade/downgrade the level of protective clothing and respiratory protection;

- Ensure that appropriate federal, state, and local agencies are informed and emergency response plans are coordinated. In the event of fire or explosion, the local fire department

should be summoned immediately. If toxic materials are released to the air, the local authorities should be informed in order to assess the need for evacuation;

- Ensure appropriate decontamination, treatment, or testing for exposed or injured personnel;

- Determine the cause of incidents and make recommendations to prevent recurrence; and,

- Ensure that all required reports have been prepared.

The following key personnel are planned for this project:

- Project Manager — Mrs. Chawinie Reilly (631) 504-6000
- Construction Superintendent — To be added
- Site Safety Officer — Mr. Kevin Waters (631) 504-6000

7.4 Medical Emergencies

A person who becomes ill or injured in the exclusion zone will be decontaminated to the maximum extent possible. If the injury or illness is minor, full decontamination will be completed and first aid administered prior to transport. First aid will be administered while waiting for an ambulance or paramedics. A Field Accident Report (**Appendix D**) must be filled out for any injury.

A person transporting an injured/exposed person to a clinic or hospital for treatment will take the directions to the hospital (**Appendix D**).and information on the chemical(s) to which they may have been exposed (**Appendix C**).

7.5 Fire or Explosion

In the event of a fire or explosion, the local fire department will be summoned immediately. The site safety officer or his designated alternate will advise the fire commander of the location, nature and identification of the hazardous materials on-site. If it is safe to do so, site personnel may:

- use fire fighting equipment available on site; or,
- remove or isolate flammable or other hazardous materials that may contribute to the fire.

7.6 Evacuation Routes

Evacuation routes established by work area locations for each site will be reviewed prior to commencing site operations. As the work areas change, the evacuation routes will be altered accordingly, and the new route will be reviewed.

Under extreme emergency conditions, evacuation is to be immediate without regard for equipment. The evacuation signal will be a continuous blast of a vehicle horn, if possible, and/or by verbal/radio communication. When evacuating the site, personnel will follow these instructions:

- Keep upwind of smoke, vapors, or spill location.

- Exit through the decontamination corridor if possible.

- If evacuation through the decontamination corridor is not possible, personnel should remove contaminated clothing once they are in a safe location and leave it near the exclusion zone or in a safe place.

- The site safety officer will conduct a head count to ensure that all personnel have been evacuated safely. The head count will be correlated to the site and/or exclusion zone entry/exit log.

- If emergency site evacuation is necessary, all personnel are to escape the emergency situation and decontaminate to the maximum extent practical.

7.7 Spill Control Procedures

Spills associated with site activities may be attributed to project equipment and include gasoline, diesel and hydraulic oil. In the event of a leak or a release, site personnel will inform their supervisor immediately, locate the source of spillage and stop the flow if it can be done safely. A spill containment kit including absorbent pads, booms and/or granulated speedy dry absorbent material will be available to site personnel to facilitate the immediate recovery of the spilled material. Daily inspections of site equipment components including hydraulic lines, fuel tanks, etc. will be performed by their respective operators as a preventative measure for equipment leaks and to ensure equipment soundness. In the event of a spill, site personnel will immediately notify the NYSDEC (1-800-457-7362), and a spill number will be generated.

7.8 Vapor Release Plan

If work zone organic vapor (excluding methane) exceeds 5 ppm, then a downwind reading will be made either 200 feet from the work zone or at the property line, whichever is closer. If readings at this location exceed 5 ppm over background, the work will be stopped.

If 5 ppm of VOCs are recorded over background on a PID at the property line, then an off-site reading will be taken within 20 feet of the nearest residential or commercial property, whichever is closer. If efforts to mitigate the emission source are unsuccessful for 30 minutes, then the designated site safety officer will:

- contact the local police;
- continue to monitor air every 30 minutes, 20 feet from the closest off-site property. If two successive readings are below 5 ppm (non-methane), off-site air monitoring will be halted.
- All property line and off site air monitoring locations and results associated with vapor releases will be recorded in the site safety log book.

APPENDIX A

SITE SAFETY ACKNOWLEDGEMENT FORM

DAILY BREIFING SIGN-IN SHEET

Date:_____ Person Conducting Briefing:_____

Project Name and Location:_____

1. AWARENESS (topics discussed, special safety concerns, recent incidents, etc…):

2. OTHER ISSUES (HASP changes, attendee comments, etc…):

3. ATTENDEES (Print Name):

1.	11.
2.	12.
3.	13.
4.	14.
5.	15.
6.	16.
7.	17.
8.	18.
9.	19.

10.	20.

APPENDIX B

SITE SAFETY PLAN AMENDMENTS

SITE SAFETY PLAN AMENDMENT FORM

Site Safety Plan Amendment #:_____

Site Name: _____

Reason for Amendment:_____

_____

_____

_____

Alternative Procedures:_____

_____

_____

_____

Required Changes in PPE:_____

_____

_____

_____

_____ _____

Project Superintendent (signature) **Date**

_____ _____

Health and Safety Consultant (signature) **Date**

Site Safety Officer (signature) **Date**

APPENDIX C

CHEMICAL HAZARDS

CHEMICAL HAZARDS

The attached International Chemical Safety Cards are provided for contaminants of concern that have been identified in soils and/or groundwater at the site.

International Chemical Safety Cards

BENZ(a)ANTHRACENE

ICSC: 0385

1,2-Benzoanthracene
Benzo(a)anthracene
2,3-Benzphenanthrene
Naphthanthracene
$C_{18}H_{12}$
Molecular mass: 228.3

ICSC # 0385
CAS # 56-55-3
RTECS # CV9275000
EC # 601-033-00-9
October 23, 1995 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.		Water spray, powder. In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Personal protection: complete protective clothing including self-contained breathing apparatus.	Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0385

International Chemical Safety Cards

BENZ(a)ANTHRACENE

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
COLOURLESS TO YELLOW BROWN FLUORESCENT FLAKES OR POWDER.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:

OCCUPATIONAL EXPOSURE LIMITS:
TLV: A2 (suspected human carcinogen); (ACGIH 2004).
MAK:
Carcinogen category: 2 (as pyrolysis product of organic materials)
(DFG 2005).

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
This substance is probably carcinogenic to humans.

PHYSICAL PROPERTIES

Sublimation point: 435°C
Melting point: 162°C
Relative density (water = 1): 1.274
Solubility in water:
none

Vapour pressure, Pa at 20°C: 292
Octanol/water partition coefficient as log Pow: 5.61

ENVIRONMENTAL DATA

Bioaccumulation of this chemical may occur in seafood.

N O T E S

This substance is one of many polycyclic aromatic hydrocarbons - standards are usually established for them as mixtures, e.g., coal tar pitch volatiles. However, it may be encountered as a laboratory chemical in its pure form. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. Do NOT take working clothes home. Tetraphene is a common name. Card has been partly updated in October 2005 and August 2006: see sections Occupational Exposure Limits, EU classification.

ADDITIONAL INFORMATION

ICSC: 0385 **BENZ(a)ANTHRACENE**

BENZO(a)PYRENE

ICSC: 0104

Benz(a)pyrene
3,4-Benzopyrene
Benzo(d,e,f)chrysene
$C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0104
CAS # 50-32-8
RTECS # DJ3675000
EC # 601-032-00-3
October 17, 2005 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray, foam, powder, carbon dioxide.
EXPLOSION			
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN	MAY BE ABSORBED!	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Personal protection: complete protective clothing including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.	Separated from strong oxidants.	T symbol N symbol R: 45-46-60-61-43-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0104

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

BENZO(a)PYRENE

ICSC: 0104

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
PALE-YELLOW CRYSTALS

PHYSICAL DANGERS:

CHEMICAL DANGERS:
Reacts with strong oxidants causing fire and explosion hazard.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: Exposure by all routes should be carefully controlled to levels as low as possible A2 (suspected human carcinogen); (ACGIH 2005).
MAK:
Carcinogen category: 2; Germ cell mutagen group: 2; (DFG 2005).

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
This substance is carcinogenic to humans. May cause heritable genetic damage to human germ cells. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Boiling point: 496°C
Melting point: 178.1°C
Density: 1.4
g/cm³

Solubility in water: none (<0.1 g/100 ml)
Vapour pressure :
negligible
Octanol/water partition coefficient as log Pow: 6.04

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in fish, in plants and in molluscs. The substance may cause long-term effects in the aquatic environment.

N O T E S

Do NOT take working clothes home. Benzo(a)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAHs) in the environment, usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.

ADDITIONAL INFORMATION

International Chemical Safety Cards

BENZO(b)FLUORANTHENE

ICSC: 0720

Benz(e)acephenanthrylene
2,3-Benzofluoroanthene
Benzo(e)fluoranthene
3,4-Benzofluoranthene
$C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0720
CAS # 205-99-2
RTECS # CU1400000
EC # 601-034-00-4
March 25, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0720

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BENZO(b)FLUORANTHENE

ICSC: 0720

I	**PHYSICAL STATE; APPEARANCE:** COLOURLESS CRYSTALS	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation

IMPORTANT DATA	**PHYSICAL DANGERS:** **CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: A2 (suspected human carcinogen); (ACGIH 2004). MAK: Carcinogen category: 2; (DFG 2004).	of its aerosol and through the skin. **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** This substance is possibly carcinogenic to humans. May cause genetic damage in humans.
PHYSICAL PROPERTIES	Boiling point: 481°C Melting point: 168°C Solubility in water: none	Octanol/water partition coefficient as log Pow: 6.12
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality. 	

N O T E S

Benzo(b)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.ACGIH recommends environment containing benzo(b)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m^3. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION

ICSC: 0720 **BENZO(b)FLUORANTHENE**

International Chemical Safety Cards

BENZO(k)FLUORANTHENE

ICSC: 0721

Dibenzo(b,jk)fluorene
8,9-Benzofluoranthene
11,12-Benzofluoranthene
$C_{20}H_{12}$
Molecular mass: 252.3

ICSC # 0721
CAS # 207-08-9
RTECS # DF6350000
EC # 601-036-00-5
March 25, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0721

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BENZO(k)FLUORANTHENE

ICSC: 0721

I **M**	**PHYSICAL STATE; APPEARANCE:** YELLOW CRYSTALS	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol and through the skin.

P O R T A N T D A T A	**PHYSICAL DANGERS:** **CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established. MAK: Carcinogen category: 2; (DFG 2004). **INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 480°C Melting point: 217°C Solubility in water: none Octanol/water partition coefficient as log Pow: 6.84
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality. Bioaccumulation of this chemical may occur in crustacea and in fish. 

N O T E S

Benzo(k)fluoranthene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.ACGIH recommends environment containing benzo(k)fluoranthene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m^3. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION

ICSC: 0721 **BENZO(k)FLUORANTHENE**

International Chemical Safety Cards

CHRYSENE

ICSC: 1672

Benzoaphenanthrene
1,2-Benzophenanthrene
1,2,5,6-Dibenzonaphthalene
$C_{18}H_{12}$
Molecular mass: 228.3

ICSC # 1672
CAS # 218-01-9
RTECS # GC0700000
UN # 3077
EC # 601-048-00-0
October 12, 2006 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray. Dry powder. Foam. Carbon dioxide.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety goggles	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Personal protection: P3 filter respirator for toxic particles. Do NOT let this chemical enter the environment. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place.	Separated from strong oxidants, Provision to contain effluent from fire extinguishing. Store in an area without drain or sewer access.	T symbol N symbol R: 45-68-50/53 S: 53-45-60-61 UN Hazard Class: 9 UN Packing Group: III Signal: Warning Aqua-Cancer Suspected of causing cancer Very toxic to aquatic life with long lasting effects Very toxic to aquatic life

SEE IMPORTANT INFORMATION ON BACK

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European

International Chemical Safety Cards

CHRYSENE

ICSC: 1672

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
COLOURLESS TO BEIGE CRYSTALS OR POWDER

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:
The substance decomposes on burning producing toxic fumes Reacts violently with strong oxidants

OCCUPATIONAL EXPOSURE LIMITS:
TLV: A3 (confirmed animal carcinogen with unknown relevance to humans); (ACGIH 2006).
MAK not established.

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
This substance is possibly carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 448°C
Melting point: 254 - 256°C
Density: 1.3 g/cm³

Solubility in water:
very poor
Octanol/water partition coefficient as log Pow: 5.9

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. Bioaccumulation of this chemical may occur in seafood. It is strongly advised that this substance does not enter the environment.

NOTES

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. This substance does not usually occur as a pure substance but as a component of polyaromatic hydrocarbon (PAH) mixtures. Human population studies have associated PAH's exposure with cancer and cardiovascular diseases.

Transport Emergency Card: TEC (R)-90GM7-III

ADDITIONAL INFORMATION

International Chemical Safety Cards

DIBENZO(a,h)ANTHRACENE

ICSC: 0431

1,25,6-Dibenzanthracene
$C_{22}H_{14}$
Molecular mass: 278.4

ICSC # 0431
CAS # 53-70-3
RTECS # HN2625000
EC # 601-041-00-2
October 23, 1995 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Water spray, powder.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN	Redness. Swelling. Itching.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness.	Face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Personal protection: P3 filter respirator for toxic particles.	Well closed.	T symbol N symbol R: 45-50/53 S: 53-45-60-61

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0431

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

DIBENZO(a,h)ANTHRACENE

ICSC: 0431

I

M

P

O

PHYSICAL STATE; APPEARANCE:
COLOURLESS CRYSTALLINE POWDER.

PHYSICAL DANGERS:

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation, through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration

R T A N T D A T A	**CHEMICAL DANGERS:** **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established.	of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** The substance may have effects on the skin , resulting in photosensitization. This substance is probably carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 524°C Melting point: 267°C Relative density (water = 1): 1.28	Solubility in water: none Octanol/water partition coefficient as log Pow: 6.5
ENVIRONMENTAL DATA	Bioaccumulation of this chemical may occur in seafood. 	

N O T E S

This is one of many polycyclic aromatic hydrocarbons - standards are usually established for them as mixtures, e.g., coal tar pitch volatiles. However, it may be encountered as a laboratory chemical in its pure form. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken. Do NOT take working clothes home. DBA is a commonly used name. This substance is one of many polycyclic aromatic hydrocarbons (PAH).

ADDITIONAL INFORMATION

ICSC: 0431 **DIBENZO(a,h)ANTHRACENE**

International Chemical Safety Cards

INDENO(1,2,3-cd)PYRENE

ICSC: 0730

o-Phenylenepyrene
2,3-Phenylenepyrene
$C_{22}H_{12}$
Molecular mass: 276.3

ICSC # 0730
CAS # 193-39-5
RTECS # NK9300000
March 25, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE			In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into covered containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment.	Provision to contain effluent from fire extinguishing. Well closed.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0730

International Chemical Safety Cards

INDENO(1,2,3-cd)PYRENE

ICSC: 0730

I **M** **P**	**PHYSICAL STATE; APPEARANCE:** YELLOW CRYSTALS **PHYSICAL DANGERS:**	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol and through the skin. **INHALATION RISK:**

O R T A N T D A T A	**CHEMICAL DANGERS:** Upon heating, toxic fumes are formed. **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established. MAK: Carcinogen category: 2; (DFG 2004).	Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** This substance is possibly carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: 536°C Melting point: 164°C Solubility in water: none	Octanol/water partition coefficient as log Pow: 6.58
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to air quality and water quality. Bioaccumulation of this chemical may occur in fish. 	

N O T E S

Indeno(1,2,3-cd)pyrene is present as a component of polycyclic aromatic hydrocarbons (PAH) content in the environment usually resulting from the incomplete combustion or pyrolysis of organic matters, especially fossil fuels and tobacco.ACGIH recommends environment containing Indeno(1,2,3-c,d)pyrene should be evaluated in terms of the TLV-TWA for coal tar pitch volatile, as benzene soluble 0.2 mg/m^3. Insufficient data are available on the effect of this substance on human health, therefore utmost care must be taken.

ADDITIONAL INFORMATION

ICSC: 0730 **INDENO(1,2,3-cd)PYRENE**

International Chemical Safety Cards

POLYCHLORINATED BIPHENYL (AROCLOR 1254)

ICSC: 0939

Chlorobiphenyl (54% chlorine)
Chlorodiphenyl (54% chlorine)
PCB
Molecular mass: 327 (average)

ICSC # 0939
CAS # 11097-69-1
RTECS # TQ1360000
UN # 2315
EC # 602-039-00-4
October 20, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: powder, carbon dioxide.
EXPLOSION			
EXPOSURE		PREVENT GENERATION OF MISTS! STRICT HYGIENE!	
•INHALATION		Ventilation.	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED! Dry skin. Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Safety goggles, face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Headache. Numbness.	Do not eat, drink, or smoke during work.	Rest. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Consult an expert! Collect leaking liquid in sealable containers. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT let this chemical enter the environment. Personal protection: complete protective clothing including self-contained breathing apparatus.	Separated from food and feedstuffs . Cool. Dry. Keep in a well-ventilated room.	Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs. Severe marine pollutant. Note: C Xn symbol N symbol R: 33-50/53 S: 2-35-60-61 UN Hazard Class: 9 UN Packing Group: II

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0939

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

POLYCHLORINATED BIPHENYL (AROCLOR 1254)

ICSC: 0939

IMPORTANT DATA	**PHYSICAL STATE; APPEARANCE:** LIGHT YELLOW VISCOUS LIQUID. **PHYSICAL DANGERS:** **CHEMICAL DANGERS:** The substance decomposes in a fire producing irritating and toxic gases . **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 0.5 mg/m³ as TWA; (skin); A3; (ACGIH 2004). MAK: 0.05 ppm, 0.70 mg/m³; H; Peak limitation category: II(8); Carcinogen category: 3B; Pregnancy risk group: B; (DFG 2004). OSHA PEL: TWA 0.5 mg/m^3 skin NIOSH REL*: Ca TWA 0.001 mg/m^3 See Appendix A *Note: The REL also applies to other PCBs. NIOSH IDLH: Ca 5 mg/m^3 See: IDLH INDEX	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion. **INHALATION RISK:** A harmful contamination of the air will be reached rather slowly on evaporation of this substance at 20° C. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact with skin may cause dermatitis. Chloracne is the most visible effect. The substance may have effects on the liver . Animal tests show that this substance possibly causes toxic effects upon human reproduction.
PHYSICAL PROPERTIES	Relative density (water = 1): 1.5 Solubility in water: none	Vapour pressure, Pa at 25°C: 0.01 Octanol/water partition coefficient as log Pow: 6.30 (estimated)
ENVIRONMENTAL DATA	In the food chain important to humans, bioaccumulation takes place, specifically in aquatic organisms. It is strongly advised not to let the chemical enter into the environment. 	

N O T E S

Changes into a resinous state (pour point) at 10°C. Distillation range: 365°-390°C. Card has been partly updated in October 2004. See sections Occupational Exposure Limits, EU classification, Emergency Response.

Transport Emergency Card: TEC (R)-90GM2-II-L

ADDITIONAL INFORMATION

Material Safety Data Sheet

Version 4.2
Revision Date 07/07/2011
Print Date 12/09/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Aroclor 1262
Product Number	:	442463
Brand	:	Supelco
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052
Emergency Phone # (For both supplier and manufacturer)	:	(314) 776-6555
Preparation Information	:	Sigma-Aldrich Corporation Product Safety - Americas Region 1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Carcinogen

GHS Classification
Carcinogenicity (Category 1B)
Specific target organ toxicity - repeated exposure (Category 2)
Acute aquatic toxicity (Category 3)
Chronic aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram

Signal word: Danger

Hazard statement(s)

H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P273	Avoid release to the environment.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.

HMIS Classification

Health hazard:	0
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	0

NFPA Rating

Health hazard:	0
Fire:	0

Reactivity Hazard: 0

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.
Ingestion	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS-No.	EC-No.	Index-No.	Concentration
PCB - Aroclor 1262			
37324-23-5	-	602-039-00-4	-

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.Move out of dangerous area.

If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Flush eyes with water as a precaution.

If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Conditions for safe storage
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection
Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Colour	no data available

Safety data

pH	no data available
Melting point/freezing point	no data available
Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available

Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
no data available

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral - rat - 11,300 mg/kg

Inhalation LC50
no data available

Dermal LD50
Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Carcinogen

Possible human carcinogen

IARC:	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
ACGIH:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP:	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
May cause damage to organs through prolonged or repeated exposure.
no data available

Aspiration hazard
no data available

Potential health effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion	May be harmful if swallowed.
Skin	May be harmful if absorbed through skin. May cause skin irritation.
Eyes	May cause eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
no data available

Additional Information
RTECS: TQ1364000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish	LC50 - Oncorhynchus clarki - 50 mg/l - 96 h

Persistence and degradability

Biodegradability	Result: - According to the results of tests of biodegradability this product is not readily biodegradable. Remarks: no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB assessment
no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2315 Class: 9 Packing group: II
Proper shipping name: Polychlorinated biphenyls, liquid
Reportable Quantity (RQ):
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG
UN number: 2315 Class: 9 Packing group: II EMS-No: F-A, S-A
Proper shipping name: POLYCHLORINATED BIPHENYLS, LIQUID
Marine pollutant: No

IATA
UN number: 2315 Class: 9 Packing group: II
Proper shipping name: Polychlorinated biphenyls, liquid

15. REGULATORY INFORMATION

OSHA Hazards
Carcinogen

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Chronic Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
PCB - Aroclor 1262	37324-23-5	1989-08-11

New Jersey Right To Know Components

	CAS-No.	Revision Date
PCB - Aroclor 1262	37324-23-5	1989-08-11

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. PCB - Aroclor 1262	37324-23-5	2008-08-01

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. PCB - Aroclor 1262	37324-23-5	2008-08-01

16. OTHER INFORMATION

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

International Chemical Safety Cards

DIELDRIN

ICSC: 0787

1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo-1,4-exo- 5,8-dimethanonaphthalene
3,4,5,6,9,9-Hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aalpha,2ß,2aalpha,3ß,6ß,6aalpha,7ß,7aalpha)-2,73,6-dimethanonaphth(2,3-b)oxirene
HEOD
$C_{12}H_8Cl_6O$
Molecular mass: 380.9

ICSC # 0787
CAS # 60-57-1
RTECS # IO1750000
UN # 2761
EC # 602-049-00-9
March 26, 1998 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Liquid formulations containing organic solvents may be flammable. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	
•INHALATION	(See Ingestion).	Ventilation (not if powder).	Fresh air, rest. Refer for medical attention.
•SKIN	MAY BE ABSORBED! See Ingestion.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		Safety goggles, or face shield.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Convulsions. Dizziness. Headache. Nausea. Vomiting. Muscle twitching.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give a slurry of activated charcoal in water to drink. Do NOT induce vomiting. Rest. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into sealable containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. (Extra personal protection: chemical protection suit including self-contained breathing apparatus).	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs and incompatible materials: See Chemical Dangers. Well closed. Keep in a well-ventilated room. Store in an area without drain or sewer access.	Do not transport with food and feedstuffs. Severe marine pollutant. T+ symbol N symbol R: 25-27-40-48/25-50/53 S: 1/2-22-36/37-45-60-61 UN Hazard Class: 6.1 UN Packing Group: II

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

DIELDRIN

ICSC: 0787

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
COLOURLESS CRYSTALS

PHYSICAL DANGERS:

CHEMICAL DANGERS:
The substance decomposes on heating producing toxic fumes including hydrogen chloride. Reacts with oxidants and acids. Attacks metal due to the slow formation of hydrogen chloride in storage.

OCCUPATIONAL EXPOSURE LIMITS:
TLV (as TWA): 0.25 mg/m³, A4 (skin) (ACGIH 1997).
MAK: (Inhalable fraction) 0.25 mg/m³ :
Peak limitation category: II(8)
skin absorption (H); (DFG 2007).
OSHA PEL: TWA 0.25 mg/m^3 skin
NIOSH REL: Ca TWA 0.25 mg/m^3 skin See Appendix A
NIOSH IDLH: Ca 50 mg/m^3 See: 60571

ROUTES OF EXPOSURE:
The substance can be absorbed into the body through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance may cause effects on the central nervous system , resulting in convulsions. Medical observation is indicated.

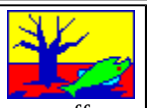
EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
The substance accumulates in the human body. Cumulative effects are possible: see Acute Hazards/Symptoms.

PHYSICAL PROPERTIES

Melting point: 175-176°C
Density: 1.7 g/cm³
Solubility in water: none

Vapour pressure, Pa at 20°C: 0.0004
Octanol/water partition coefficient as log Pow: 6.2

ENVIRONMENTAL DATA



The substance is very toxic to aquatic organisms. This substance may be hazardous to the environment; special attention should be given to honey bees, birds. In the food chain important to humans, bioaccumulation takes place, specifically in aquatic organisms. It is strongly advised not to let the chemical enter into the environment because it persists in the environment. The substance may cause long-term effects in the aquatic environment. Avoid release to the environment in circumstances different to normal use.

NOTES

Depending on the degree of exposure, periodic medical examination is indicated. If the substance is formulated with solvent(s) also consult the card(s) (ICSC) of the solvent(s). Carrier solvents used in commercial formulations may change physical and toxicological properties. Do NOT take working clothes home. Alvit, Dieldrex, Dieldrite, Illoxol, Octalox, Panoram, and Quintox are trade names. Also consult ICSC #0774, Aldrin.

Transport Emergency Card: TEC (R)-61G41b.
Card has been partially updated in August 2007: see Storage, Occupational Exposure Limits.

ADDITIONAL INFORMATION

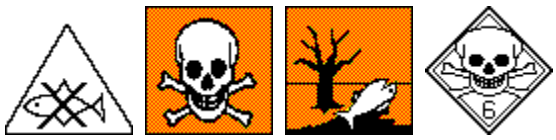
International Chemical Safety Cards

ARSENIC

ICSC: 0013

Grey arsenic
As
Atomic mass: 74.9

ICSC # 0013
CAS # 7440-38-2
RTECS # CG0525000
UN # 1558
EC # 033-001-00-X
October 18, 1999 Peer reviewed



TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames. NO contact with strong oxidizers. NO contact with hot surfaces.	Powder, water spray, foam, carbon dioxide.
EXPLOSION	Risk of fire and explosion is slight when exposed to hot surfaces or flames in the form of fine powder or dust.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT! AVOID EXPOSURE OF (PREGNANT) WOMEN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Cough. Sore throat. Shortness of breath. Weakness. See Ingestion.	Closed system and ventilation.	Fresh air, rest. Artificial respiration may be needed. Refer for medical attention.
•SKIN	Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness.	Face shield or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Diarrhoea. Nausea. Vomiting. Burning sensation in the throat and chest. Shock or collapse. Unconsciousness.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment.	Separated from strong oxidants, acids, halogens, food and feedstuffs. Well closed.	Do not transport with food and feedstuffs. Marine pollutant. T symbol N symbol R: 23/25-50/53 S: 1/2-20/21-28-45-60-61 UN Hazard Class: 6.1 UN Packing Group: II

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

ARSENIC

ICSC: 0013

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
ODOURLESS, BRITTLE, GREY, METALLIC-LOOKING CRYSTALS.

PHYSICAL DANGERS:

CHEMICAL DANGERS:
Upon heating, toxic fumes are formed. Reacts violently with strong oxidants and halogens, causing fire and explosion hazard. Reacts with acids to produce

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.01 mg/m³ as TWA A1 (confirmed human carcinogen); BEI issued (ACGIH 2004).
MAK:
Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).
OSHA PEL: 1910.1018 TWA 0.010 mg/m^3
NIOSH REL: Ca C 0.002 mg/m^3 15-minute See Appendix A
NIOSH IDLH: Ca 5 mg/m^3 (as As) See: 7440382

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly, when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the eyes the skin and the respiratory tract. The substance may cause effects on the gastrointestinal tract cardiovascular system central nervous system kidneys , resulting in severe gastroenteritis, loss of fluid, and electrolytes, cardiac disorders shock convulsions and kidney impairment Exposure above the OEL may result in death. The effects may be delayed. Medical observation is indicated.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis. The substance may have effects on the mucous membranes, skin, peripheral nervous system liver bone marrow , resulting in pigmentation disorders, hyperkeratosis, perforation of nasal septum, neuropathy, liver impairment anaemia This substance is carcinogenic to humans. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES

Sublimation point: 613°C
Density: 5.7 g/cm^3

Solubility in water:
none

ENVIRONMENTAL DATA

The substance is toxic to aquatic organisms. It is strongly advised that this substance does not enter the environment.

N O T E S

The substance is combustible but no flash point is available in literature. Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home. Refer also to cards for specific arsenic compounds, e.g., Arsenic pentoxide (ICSC 0377), Arsenic trichloride (ICSC 0221), Arsenic trioxide (ICSC 0378), Arsine (ICSC 0222).

Transport Emergency Card: TEC (R)-61GT5-II

ADDITIONAL INFORMATION

IMPORTANT LEGAL NOTICE:

International Chemical Safety Cards

BARIUM SULFATE

ICSC: 0827

Barium sulphate
Blanc fixe
Artificial barite
$BaSO_4$
Molecular mass: 233.43

ICSC # 0827
CAS # 7727-43-7
RTECS # CR0600000
October 20, 1999 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Personal protection: P1 filter respirator for inert particles.		R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0827

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

BARIUM SULFATE

ICSC: 0827

IMPORTANT DATA	**PHYSICAL STATE; APPEARANCE:** ODOURLESS TASTELESS, WHITE OR YELLOWISH CRYSTALS OR POWDER. **PHYSICAL DANGERS:** **CHEMICAL DANGERS:** Reacts violently with aluminium powder. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 10 mg/m³ as TWA; (ACGIH 2004). MAK: (Inhalable fraction) 4 mg/m³; (Respirable fraction) 1.5 mg/m³; (DFG 2004). OSHA PEL†: TWA 15 mg/m^3 (total) TWA 5 mg/m^3 (resp) NIOSH REL: TWA 10 mg/m^3 (total) TWA 5 mg/m^3 (resp) NIOSH IDLH: N.D. See: IDLH INDEX **ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol. **INHALATION RISK:** Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Lungs may be affected by repeated or prolonged exposure to dust particles , resulting in baritosis (a form of benign pneumoconiosis).
PHYSICAL PROPERTIES	Melting point (decomposes): 1600°C Density: 4.5 g/cm³ Solubility in water: none
ENVIRONMENTAL DATA	

NOTES

Occurs in nature as the mineral barite; also as barytes, heavy spar. Card has been partly updated in October 2005. See section Occupational Exposure Limits.

ADDITIONAL INFORMATION

International Chemical Safety Cards

CADMIUM

ICSC: 0020

Cd
Atomic mass: 112.4

ICSC # 0020
CAS # 7440-43-9
RTECS # EU9800000
UN # 2570
EC # 048-002-00-0
April 22, 2005 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Flammable in powder form and spontaneously combustible in pyrophoric form. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with heat or acid(s).	Dry sand. Special powder. NO other agents.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
•**INHALATION**	Cough. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•**SKIN**		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•**EYES**	Redness. Pain.	Safety goggles or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•**INGESTION**	Abdominal pain. Diarrhoea. Headache. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rest. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area! Personal protection: chemical protection suit including self-contained breathing apparatus. Remove all ignition sources. Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place.	Fireproof. Dry. Keep under inert gas. Separated from igntion sources, oxidants acids, food and feedstuffs	Airtight. Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs. Note: E T+ symbol N symbol R: 45-26-48/23/25-62-63-68-50/53 S: 53-45-60-61 UN Hazard Class: 6.1

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0020

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

CADMIUM

ICSC: 0020

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
SOFT BLUE-WHITE METAL LUMPS OR GREY POWDER. MALLEABLE. TURNS BRITTLE ON EXPOSURE TO 80°C AND TARNISHES ON EXPOSURE TO MOIST AIR.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:
Reacts with acids forming flammable/explosive gas (hydrogen - see ICSC0001.) Dust reacts with oxidants, hydrogen azide, zinc, selenium or tellurium , causing fire and explosion hazard.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: (Total dust) 0.01 mg/m³
(Respirable fraction)
0.002 mg/m³ as TWA A2 (suspected human carcinogen); BEI issued (ACGIH 2005).
MAK: skin absorption (H);
Carcinogen category: 1; Germ cell mutagen group: 3A; (DFG 2004).
OSHA PEL*: 1910.1027 TWA 0.005 mg/m^3 *Note: The PEL applies to all Cadmium compounds (as Cd).
NIOSH REL*: Ca See Appendix A *Note: The REL applies to all Cadmium compounds (as Cd).
NIOSH IDLH: Ca 9 mg/m^3 (as Cd) See: IDLH INDEX

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

EFFECTS OF SHORT-TERM EXPOSURE:
The fume is irritating to the respiratory tract Inhalation of fume may cause lung oedema (see Notes). Inhalation of fumes may cause metal fume fever. The effects may be delayed. Medical observation is indicated.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Lungs may be affected by repeated or prolonged exposure to dust particles. The substance may have effects on the kidneys , resulting in kidney impairment This substance is carcinogenic to humans.

PHYSICAL PROPERTIES

Boiling point: 765°C
Melting point: 321°C
Density: 8.6
g/cm3

Solubility in water: none
Auto-ignition temperature: (cadmium metal dust) 250°C

ENVIRONMENTAL DATA

N O T E S

Reacts violently with fire extinguishing agents such as water,foam,carbon dioxideand halons. Depending on the degree of exposure, periodic medical examination is indicated. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Do NOT take working clothes home. Cadmium also exists in a pyrophoric form (EC No. 048-011-00-X), which bears the additional EU labelling symbol F, R phrase 17, and S phrases 7/8 and 43. UN numbers and packing group will vary according to the physical form of the substance.

ADDITIONAL INFORMATION

International Chemical Safety Cards

CHROMIUM

ICSC: 0029

Chrome
Cr
Atomic mass: 52.0
(powder)

ICSC # 0029
CAS # 7440-47-3
RTECS # GB4200000
October 27, 2004 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible under specific conditions.	No open flames if in powder form.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION		Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough.	Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse skin with plenty of water or shower.
•EYES	Redness.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION		Do not eat, drink, or smoke during work.	Rinse mouth.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Personal protection: P2 filter respirator for harmful particles.		R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0029

International Chemical Safety Cards

CHROMIUM

ICSC: 0029

I

M

P

PHYSICAL STATE; APPEARANCE:
GREY POWDER

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

ROUTES OF EXPOSURE:

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed.

O R T A N T D A T A	**CHEMICAL DANGERS:** Chromium is a catalytic substance and may cause reaction in contact with many organic and inorganic substances , causing fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: (as Cr metal, Cr(III) compounds) 0.5 mg/m³ as TWA A4 (ACGIH 2004). MAK not established. OSHA PEL*: TWA 1 mg/m^3 See Appendix C *Note: The PEL also applies to insoluble chromium salts. NIOSH REL: TWA 0.5 mg/m^3 See Appendix C NIOSH IDLH: 250 mg/m^3 (as Cr) See: 7440473 **EFFECTS OF SHORT-TERM EXPOSURE:** May cause mechanical irritation tothe eyesandthe respiratory tract. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:**
PHYSICAL PROPERTIES	Boiling point: 2642°C Melting point: 1900°C Density: 7.15 g/cm³ Solubility in water: none
ENVIRONMENTAL DATA	

N O T E S

The surface of the chromium particles is oxidized to chromium(III)oxide in air. See ICSC 1531 Chromium(III) oxide.

ADDITIONAL INFORMATION

ICSC: 0029 **CHROMIUM**

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

COPPER

ICSC: 0240

Cu
(powder)

ICSC # 0240
CAS # 7440-50-8
RTECS # GL5325000
September 24, 1993 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Special powder, dry sand, NO other agents.
EXPLOSION			
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough. Headache. Shortness of breath. Sore throat.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN	Redness.	Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES	Redness. Pain.	Safety goggles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers. Carefully collect remainder. Then remove to safe place. (Extra personal protection: P2 filter respirator for harmful particles).	Separated from - See Chemical Dangers.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0240

International Chemical Safety Cards

COPPER

ICSC: 0240

I

M

P

PHYSICAL STATE; APPEARANCE:
RED POWDER, TURNS GREEN ON EXPOSURE TO MOIST AIR.

PHYSICAL DANGERS:

CHEMICAL DANGERS:

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

O **R** **T** **A** **N** **T** **D** **A** **T** **A**	Shock-sensitive compounds are formed with acetylenic compounds, ethylene oxides and azides. Reacts with strong oxidants like chlorates, bromates and iodates, causing explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 0.2 mg/m³ fume (ACGIH 1992-1993). TLV (as Cu, dusts & mists): 1 mg/m³ (ACGIH 1992-1993). Intended change 0.1 mg/m³ Inhal., A4 (not classifiable as a human carcinogen); MAK: 0.1 mg/m³ (Inhalable fraction) Peak limitation category: II(2) Pregnancy risk group: D (DFG 2005). OSHA PEL*: TWA 1 mg/m^3 *Note: The PEL also applies to other copper compounds (as Cu) except copper fume. NIOSH REL*: TWA 1 mg/m^3 *Note: The REL also applies to other copper compounds (as Cu) except Copper fume. NIOSH IDLH: 100 mg/m^3 (as Cu) See: 7440508	**EFFECTS OF SHORT-TERM EXPOSURE:** Inhalation of fumes may cause metal fume fever. See Notes. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact may cause skin sensitization.
PHYSICAL PROPERTIES	Boiling point: 2595°C Melting point: 1083°C Relative density (water = 1): 8.9	Solubility in water: none
ENVIRONMENTAL DATA		

N O T E S

The symptoms of metal fume fever do not become manifest until several hours.

ADDITIONAL INFORMATION

ICSC: 0240 **COPPER**

IMPORTANT LEGAL NOTICE:	Neither NIOSH, the CEC or the IPCS nor any person acting on behalf of NIOSH, the CEC or the IPCS is responsible for the use which might be made of this information. This card contains the collective views of the IPCS Peer Review Committee and may not reflect in all cases all the detailed requirements included in national legislation on the subject. The user should verify compliance of the cards with the relevant legislation in the country of use. The only modifications made to produce the U.S. version is inclusion of the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

LEAD

ICSC: 0052

Lead metal
Plumbum
Pb
Atomic mass: 207.2
(powder)

ICSC # 0052
CAS # 7439-92-1
RTECS # OF7525000
October 08, 2002 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.		In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	PREVENT DISPERSION OF DUST! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION		Local exhaust or breathing protection.	Fresh air, rest.
•SKIN		Protective gloves.	Remove contaminated clothes. Rinse and then wash skin with water and soap.
•EYES		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. Personal protection: P3 filter respirator for toxic particles.	Separated from food and feedstuffs incompatible materials See Chemical Dangers.	R: S:

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0052

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

LEAD

ICSC: 0052

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
BLUISH-WHITE OR SILVERY-GREY SOLID IN VARIOUS FORMS. TURNS TARNISHED ON EXPOSURE TO AIR.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air.

CHEMICAL DANGERS:
On heating, toxic fumes are formed. Reacts with oxidants. Reacts with hot concentrated nitric acid, boiling concentrated hydrochloric acid and sulfuric acid. Attacked by pure water and by weak organic acids in the presence of oxygen.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.05 mg/m³ A3 (confirmed animal carcinogen with unknown relevance to humans); BEI issued (ACGIH 2004).
MAK:
Carcinogen category: 3B; Germ cell mutagen group: 3A; (DFG 2004).
EU OEL: as TWA 0.15 mg/m³ (EU 2002).
OSHA PEL*: 1910.1025 TWA 0.050 mg/m^3 See Appendix C *Note: The PEL also applies to other lead compounds (as Pb) -- see Appendix C.
NIOSH REL*: TWA 0.050 mg/m^3 See Appendix C
*Note: The REL also applies to other lead compounds (as Pb) -- see Appendix C.
NIOSH IDLH: 100 mg/m^3 (as Pb) See: 7439921

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

EFFECTS OF SHORT-TERM EXPOSURE:

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
The substance may have effects on the blood bone marrow central nervous system peripheral nervous system kidneys , resulting in anaemia, encephalopathy (e.g., convulsions), peripheral nerve disease, abdominal cramps and kidney impairment. Causes toxicity to human reproduction or development.

PHYSICAL PROPERTIES		
	Boiling point: 1740°C	Density: 11.34 g/cm3
	Melting point: 327.5°C	Solubility in water: none

ENVIRONMENTAL DATA	
	Bioaccumulation of this chemical may occur in plants and in mammals. It is strongly advised that this substance does not enter the environment. 

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home.

Transport Emergency Card: TEC (R)-51S1872

ADDITIONAL INFORMATION

ICSC: 0052 **LEAD**

International Chemical Safety Cards

MANGANESE

ICSC: 0174

Mn
Atomic mass: 54.9
(powder)

ICSC # 0174
CAS # 7439-96-5
RTECS # OO9275000
November 27, 2003 Validated

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Dry sand, special powder.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Prevent deposition of dust; closed system, dust explosion-proof electrical equipment and lighting.	
EXPOSURE		PREVENT DISPERSION OF DUST! AVOID EXPOSURE OF (PREGNANT) WOMEN!	
•INHALATION	Cough.	Local exhaust or breathing protection.	Fresh air, rest. Refer for medical attention.
•SKIN		Protective gloves.	Rinse and then wash skin with water and soap.
•EYES		Safety goggles, or eye protection in combination with breathing protection if powder.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•INGESTION	Abdominal pain. Nausea.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place. (Extra personal protection: P2 filter respirator for harmful particles.)	Separated from acids. Dry.	

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0174

Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities (C) IPCS CEC 1994. No modifications to the International version have been made except to add the OSHA PELs, NIOSH RELs and NIOSH IDLH values.

International Chemical Safety Cards

MANGANESE

ICSC: 0174

I	**PHYSICAL STATE; APPEARANCE:** GREY - WHITE POWDER **PHYSICAL DANGERS:**	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation of its aerosol and by ingestion.

IMPORTANT DATA	Dust explosion possible if in powder or granular form, mixed with air. **CHEMICAL DANGERS:** Reacts slowly with water more rapidly with steam and acids forming flammable/explosive gas (hydrogen - see ICSC0001) causing fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV: 0.2 mg/m³ (as TWA); (ACGIH 2003). MAK: (Inhalable fraction) 0.5 mg/m³; Pregnancy risk group: C; (DFG 2007). OSHA PEL*: C 5 mg/m^3 *Note: Also see specific listings for Manganese cyclopentadienyl tricarbonyl and Methyl cyclopentadienyl manganese tricarbonyl. NIOSH REL*: TWA 1 mg/m^3 ST 3 mg/m^3 *Note: Also see specific listings for Manganese cyclopentadienyl tricarbonyl, Methyl cyclopentadienyl manganese tricarbonyl, and Manganese tetroxide. NIOSH IDLH: 500 mg/m^3 (as Mn) See: 7439965	**INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed. **EFFECTS OF SHORT-TERM EXPOSURE:** The aerosol is irritating to the respiratory tract . **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** The substance may have effects on the lungs and central nervous system , resulting in increased susceptibility to bronchitis, pneumonitis and neurologic, neuropsychiatric disorders (manganism). Animal tests show that this substance possibly causes toxicity to human reproduction or development.
PHYSICAL PROPERTIES	Boiling point: 1962°C Melting point: 1244°C Density: 7.47 g/cm³	Solubility in water: none
ENVIRONMENTAL DATA	This substance may be hazardous in the environment; special attention should be given to aquatic organisms. 	

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested. The recommendations on this Card also apply to ferro manganese.

ADDITIONAL INFORMATION

ICSC: 0174 **MANGANESE**

International Chemical Safety Cards

ZINC POWDER

ICSC: 1205

Blue powder
Merrillite
Zn
Atomic mass: 65.4
(powder)

ICSC # 1205
CAS # 7440-66-6
RTECS # ZG8600000
UN # 1436 (zinc powder or dust)
EC # 030-001-00-1
October 24, 1994 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable. Many reactions may cause fire or explosion. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with acid(s), base (s) and incompatible substances (see Chemical Dangers).	Special powder, dry sand, NO other agents. NO water.
EXPLOSION	Risk of fire and explosion on contact with acid(s), base(s), water and incompatible substances.	Closed system, ventilation, explosion-proof electrical equipment and lighting. Prevent build-up of electrostatic charges (e.g., by grounding). Prevent deposition of dust.	In case of fire: cool drums, etc., by spraying with water but avoid contact of the substance with water.
EXPOSURE		PREVENT DISPERSION OF DUST! STRICT HYGIENE!	
•**INHALATION**	Metallic taste and metal fume fever. Symptoms may be delayed (see Notes).	Local exhaust.	Fresh air, rest. Refer for medical attention.
•**SKIN**	Dry skin.	Protective gloves.	Rinse and then wash skin with water and soap.
•**EYES**		Safety spectacles.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
•**INGESTION**	Abdominal pain. Nausea. Vomiting.	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Extinguish or remove all ignition sources. Do NOT wash away into sewer. Sweep spilled substance into containers. then remove to safe place. Personal protection: self-contained breathing apparatus.	Fireproof. Separated from acids, bases oxidants Dry.	Airtight. F symbol N symbol R: 15-17-50/53 S: 2-7/8-43-46-60-61 UN Hazard Class: 4.3 UN Subsidiary Risks: 4.2

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

ZINC POWDER

ICSC: 1205

I M P O R T A N T D A T A

PHYSICAL STATE; APPEARANCE:
ODOURLESS GREY TO BLUE POWDER.

PHYSICAL DANGERS:
Dust explosion possible if in powder or granular form, mixed with air. If dry, it can be charged electrostatically by swirling, pneumatic transport, pouring, etc.

CHEMICAL DANGERS:
Upon heating, toxic fumes are formed. The substance is a strong reducing agent and reacts violently with oxidants. Reacts with water and reacts violently with acids and bases forming flammable/explosive gas (hydrogen - see ICSC0001) Reacts violently with sulfur, halogenated hydrocarbons and many other substances causing fire and explosion hazard.

OCCUPATIONAL EXPOSURE LIMITS:
TLV not established.

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly when dispersed.

EFFECTS OF SHORT-TERM EXPOSURE:
Inhalation of fumes may cause metal fume fever. The effects may be delayed.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
Repeated or prolonged contact with skin may cause dermatitis.

PHYSICAL PROPERTIES

Boiling point: 907°C
Melting point: 419°C
Relative density (water = 1): 7.14
Solubility in water: reaction
Vapour pressure, kPa at 487°C: 0.1
Auto-ignition temperature: 460°C

ENVIRONMENTAL DATA

N O T E S

Zinc may contain trace amounts of arsenic, when forming hydrogen, may also form toxic gas arsine (see ICSC 0001 and ICSC 0222). Reacts violently with fire extinguishing agents such as water, halons, foam and carbon dioxide. The symptoms of metal fume fever do not become manifest until several hours later. Rinse contaminated clothes (fire hazard) with plenty of water.

Transport Emergency Card: TEC (R)-43GWS-II+III
NFPA Code: H0; F1; R1;

ADDITIONAL INFORMATION

ICSC: 1205 **ZINC POWDER**

IMPORTANT LEGAL NOTICE:

APPENDIX D

HOSPITAL INFORMATION AND MAP

FIELD ACCIDENT REPORT

FIELD ACCIDENT REPORT

This report is to be filled out by the designated Site Safety Officer after EVERY accident.

PROJECT NAME _____ PROJECT. NO._____

Date of Accident _____ Time _____ Report By _____

Type of Accident (Check One):

( ) Vehicular ( ) Personal ( ) Property

Name of Injured _____ DOB or Age _____

How Long Employed _____

Names of Witnesses _____

_____

Description of Accident _____

_____

_____

Action Taken _____

_____

_____

Did the Injured Lose Any Time? _____ How Much (Days/Hrs.)? _____

Was Safety Equipment in Use at the Time of the Accident (Hard Hat, Safety Glasses, Gloves, Safety Shoes, etc.)? _____

_____

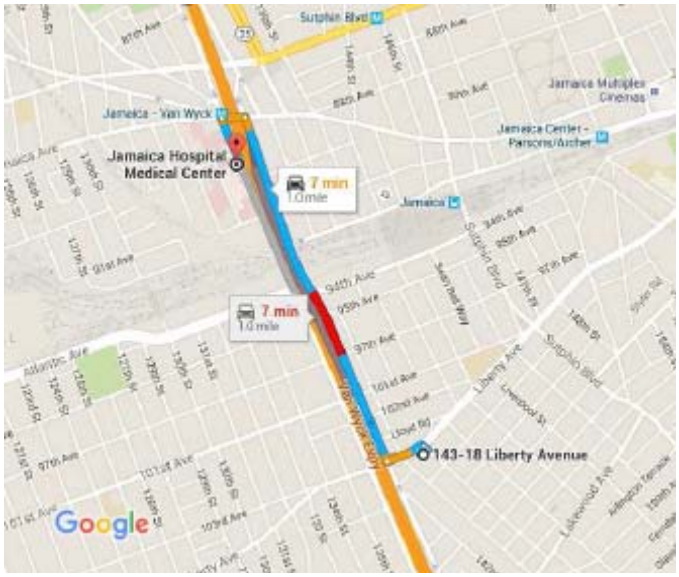
(If not, it is the EMPLOYEE'S sole responsibility to process his/her claim through his/her Health and Welfare Fund.)

INDICATE STREET NAMES, DESCRIPTION OF VEHICLES, AND NORTH ARROW

HOSPITAL INFORMATION AND MAP

The hospital nearest the site is:

Jamaica Hospital Medical Center
8900 Van Wyck Expressway, Jamaica, NY 11418
718-206-6000
1.0 Miles – About 7 Minutes



143-18 Liberty Avenue
Jamaica, NY 11435

1. Head northwest on Pinegrove St toward Liberty Ave — 49 ft
2. Turn left at the 1st cross street onto Liberty Ave — 459 ft
3. Turn right onto Van Wyck Expy — 0.8 mi
4. Turn left onto Jamaica Ave — 253 ft
5. Turn left at the 1st cross street onto Van Wyck Expy
   Destination will be on the right — 0.1 mi

Jamaica Hospital Medical Center
8900 Van Wyck Expressway, Jamaica, NY 11418

APPENDIX 6
VAPOR BARRIER SPECIFICATIONS

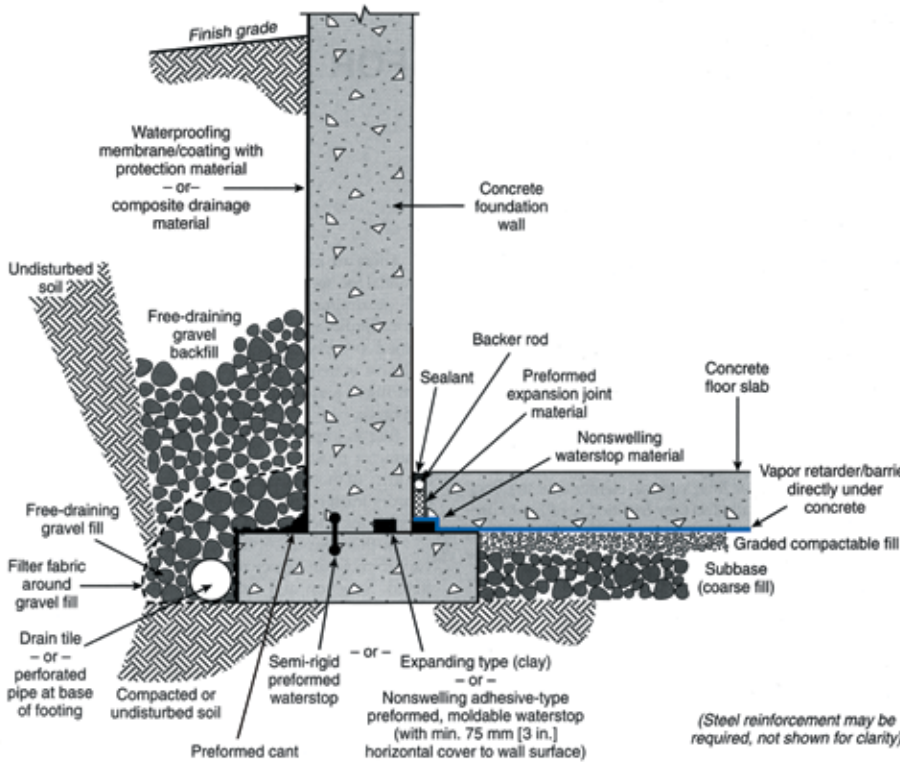
VaporBlock®
UNDERSLAB VAPOR RETARDER

INSTALLATION GUIDELINES

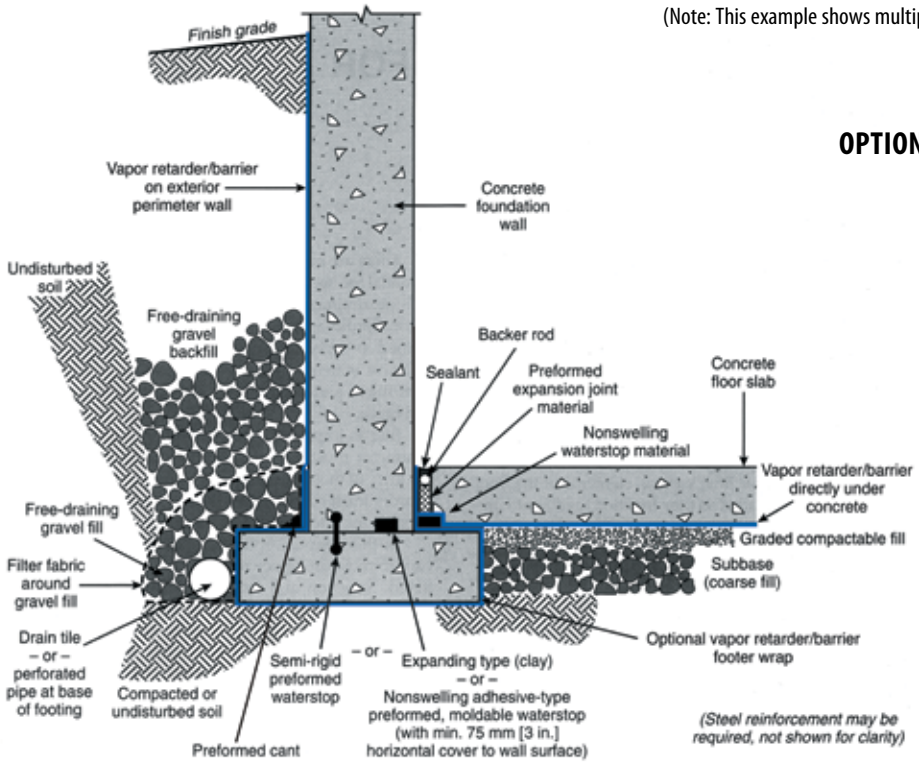
Please Note: *Read these instructions thoroughly before installation to ensure proper use of **VaporBlock®**. ASTM E 1643 can also provide valuable information regarding the installation of vapor retarders. When installing this product, contractors shall conform to all applicable local, state and federal regulations and laws pertaining to residential and commercial building construction.*

Materials List:

VaporBlock® Vapor Retarder (Barrier)
VaporBond 4" Seaming Tape
Butyl Seal 2-Sided Tape
VaporBoot Pipe Boot System 25/Tube plus Tape
VaporBoot Tape (optional)



Elements of a moisture-resistant floor system. General illustration only.
(Note: This example shows multiple options for waterstop placement.)



Elements of a moisture-resistant floor system. General illustration only.
(Note: This example shows multiple options for waterstop placement.)

OPTIONAL PERIMETER WALL & FOOTER METHODS

An optional perimeter wall class "A" vapor retarder can be installed with or without a bituminous coating applied to the concrete.

Raven VaporBlock® 10 or 15 mil (Class A) vapor retarders can be sealed to the perimeter wall with Raven Butyl Seal Tape. An optional footer wrap may also be applied.

Original diagrams on this page were reprinted with permission by the Portland Cement Association.
Reference: Kanare, Howard M., Concrete Floors and Moisture, EB119, Portland Cement Association, Skokie, Illinois, and National Ready Mixed Concrete Association, Silver Spring, Maryland, USA, 2008, 176 pages.

VAPORBLOCK® PLACEMENT

1.1. Level and tamp or roll granular base as specified by your architectural or structural drawings. If sharp crushed rock is used, a 1/2" layer of fine grade compactable fill is required between the base and the vapor retarder.

1.2. Unroll **VaporBlock®** running the longest dimension parallel with the direction of the pour and pull open all folds to full width. (Fig. 1)

1.3. Lap **VaporBlock®** over the footings and seal with Raven 2-sided Butyl Seal tape. Prime concrete surfaces and assure they are dry and clean prior to applying Raven Butyl Seal Tape. Apply even and firm pressure with a rubber roller.

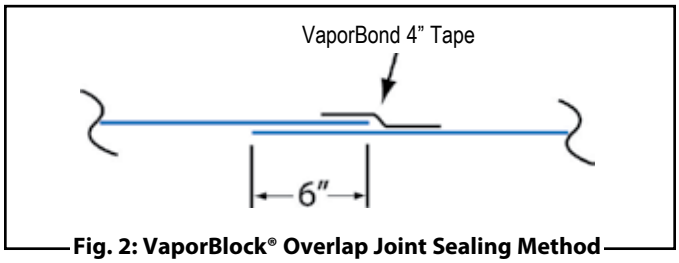


Fig. 2: VaporBlock® Overlap Joint Sealing Method

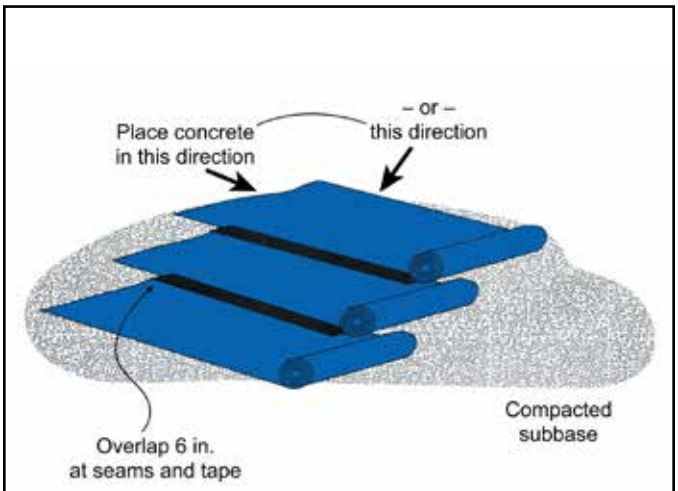


Fig. 1: VaporBlock® Overlaping Roll-out Method

SINGLE PENETRATION PIPE BOOT INSTALLATION

Overlap joints a minimum of 6" and seal overlap with Raven VaporBond Tape.

1.4. Seal around all plumbing, conduit, support columns or other penetrations that come through the **VaporBlock®** membrane. The Raven VaporBoot Pipe Boot System is the recommended sealing method. (Includes 25 pre-cut VaporBlock® pipe boots along with 1 roll of VaporBoot Tape). (Fig. 3 & 4)

Pipe boots may also be fabricated from excess **VaporBlock®** membrane (Fig. 3 & 4) and sealed with VaporBoot Tape or VaporBond Tape (sold separately).

Reminder Note: All holes or penetrations through the membrane will need a patch cut to a minimum of 6" from the opening in all directions.

To fabricate pipe boots from **VaporBlock®** excess material (see Fig. 3 & 4 for A-E):

A) Cut a square large enough to overlap 6" in all directions.

B) Mark where to cut opening on the center of the square and cut four to eight slices about 3/8" less than the diameter of the pipe.

C) Force the square over the pipe leaving the tightly stretched cut area around the bottom of the pipe with approximately a 1/2" of the boot material running vertically up the pipe. *(no more than a 1/2" of stretched boot material is recommended)*

D) Use VaporBoot Tape or VaporBond Tape to secure the boot to the pipe.

VaporBoot Tape (option) – fold tape in half lengthwise, remove half of the release liner and wrap around the pipe allowing 1" extra for overlap sealing. Peel off the second half of the release liner and work the tape outward gradually forming a complete seal.

VaporBond Tape (option) - Tape completely around the pipe overlapping the to get a tight seal against the pipe.

E) Complete the process by taping over the boot perimeter edge with VaporBond Tape to create a monolithic membrane between the surface of the slab and moisture sources below and at the slab perimeter. (Fig. 3 & 4)

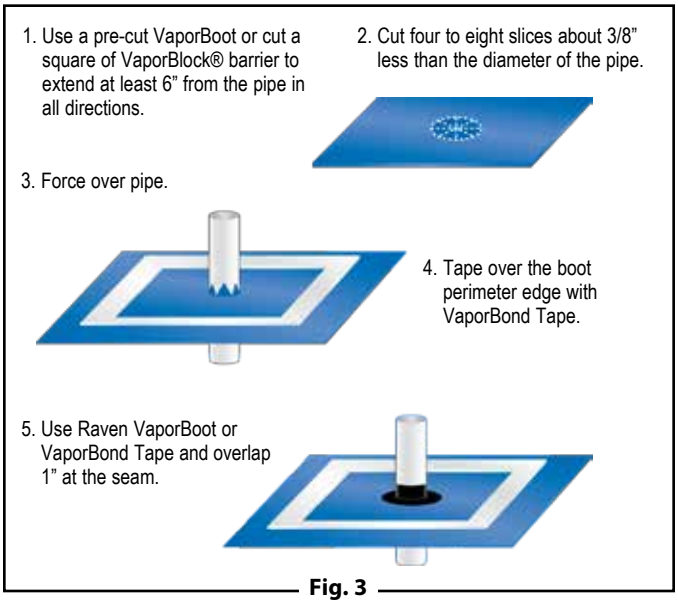


Fig. 3

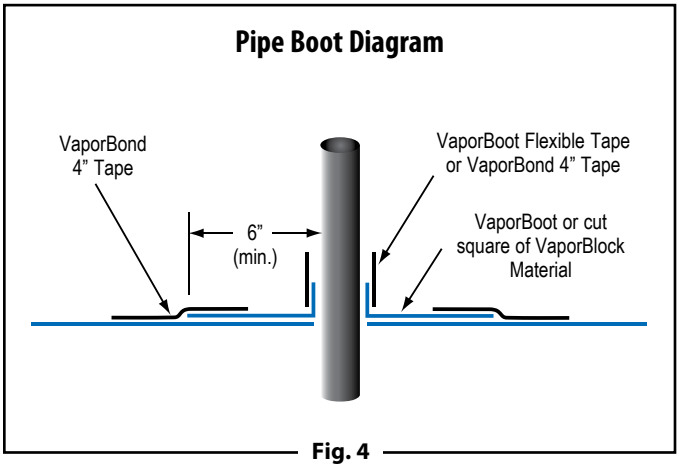


Fig. 4

MULTIPLE PENETRATION PIPE BOOT INSTALLATION

1.5. For side-by-side multiple penetrations;

A) Cut a patch large enough to overlap 6″ in all directions (Fig. 6) of penetrations.

B) Mark where to cut openings and cut four to eight slices about 3/8″ less than the diameter of the penetration for each.

C) Slide patch material over penetration to achieve a tight fit.

D) Tape around each of the penetrations and the patch with VaporBond 4″ Tape. (Fig. 7) For additional protection apply an acceptable polyurethane elastomeric sealant around the penetrations. (Fig. 8)

1.6. Holes or openings through **VaporBlock®** are to be repaired by cutting a piece of **VaporBlock®** 6″ larger in all directions from the opening. Seal the edges of the patch with VaporBond Tape.

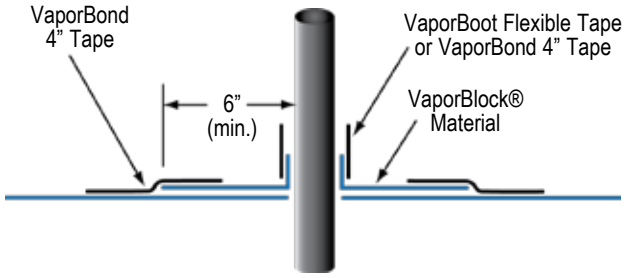


Fig. 5

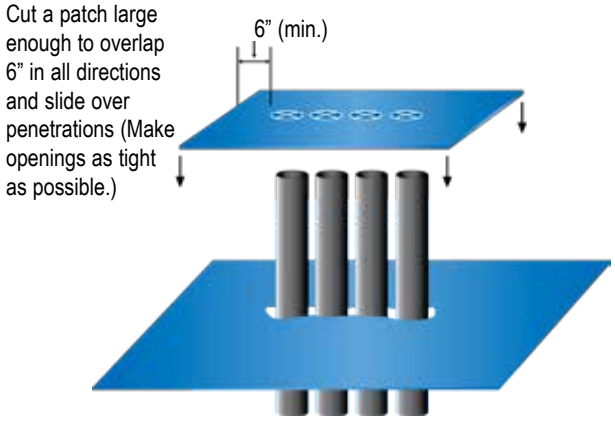


Fig. 6

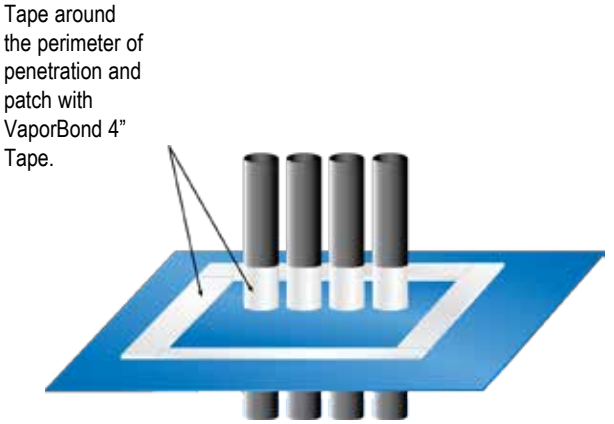


Fig. 7

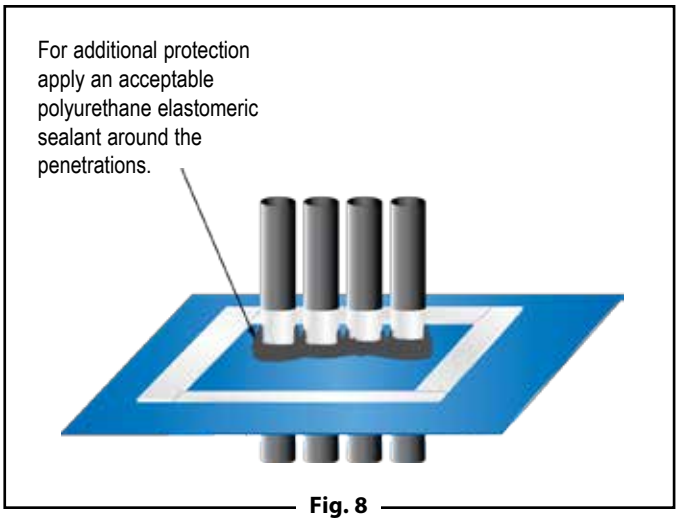


Fig. 8

VAPORBLOCK® PROTECTION

2.1. When installing reinforcing steel and utilities, in addition to the placement of concrete, take precaution to protect **VaporBlock®**. Carelessness during installation can damage the most puncture–resistant membrane. Sheets of plywood cushioned with geotextile fabric temporarily placed on **VaporBlock®** provide for additional protection in high traffic areas including concrete buggies.

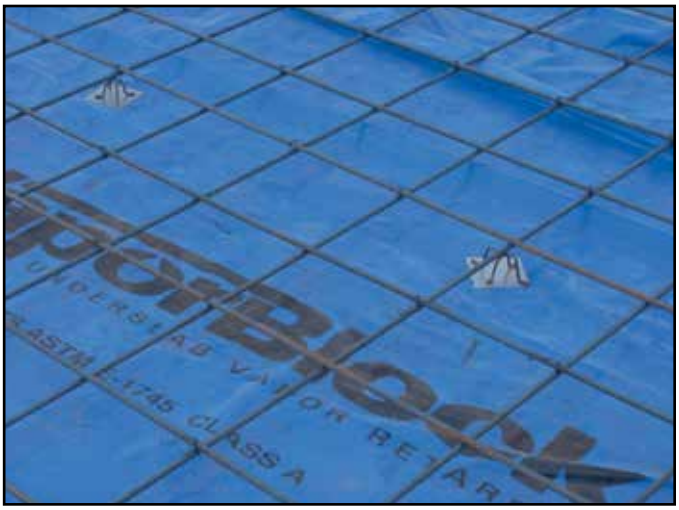
2.2. Use only brick-type or chair-type reinforcing bar supports to protect **VaporBlock®** from puncture.

2.3. Avoid driving stakes through **VaporBlock®**. If this cannot be avoided, each individual hole must be repaired.

2.4. If a cushion or blotter layer is required in the design between **VaporBlock®** and the slab, additional care should be given if sharp crushed rock is used. Washed rock will provide less chance of damage during placement. Care must be taken to protect blotter layer from precipitation before concrete is placed.

VaporBlock® Vapor Barrier can be identified on site as blue in color printed in black ink with the following logo and classification listing:

VaporBlock®
UNDERSLAB VAPOR RETARDER
MEETS ASTM E-1745 CLASS A
PROUDLY MANUFACTURED IN THE U.S.A.



ISO 9001:2008
CERTIFIED MANAGEMENT SYSTEM

Note: To the best of our knowledge, these are typical installation procedures and are intended as guidelines only. Architectural or structural drawings must be reviewed and followed as well as on a project basis. NO WARRANTIES ARE MADE AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS OR GUIDELINES REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and we disclaim all liability for resulting loss or damage.

RAVEN INDUSTRIES
Engineered Films Division
P.O. Box 5107
Sioux Falls, SD 57117-5107
Ph: (605) 335-0174 • Fx: (605) 331-0333
Toll Free: **800-635-3456**
Email: **efdsales@ravenind.com**
www.ravenefd.com

2/14 EFD 1156

VAPORBLOCK® PLUS™ VBP20

Under-Slab Vapor / Gas Barrier

RAVEN INDUSTRIES

Product Description

VaporBlock® Plus™ 20 is a seven-layer co-extruded barrier made from state-of-the-art polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission. VaporBlock® Plus™ 20 is a highly resilient underslab / vertical wall barrier designed to restrict naturally occurring gases such as radon and/or methane from migrating through the ground and concrete slab. VaporBlock® Plus™ 20 is more than 100 times less permeable than typical high-performance polyethylene vapor retarders against Methane, Radon and other harmful VOCs.

VaporBlock® Plus™ 20 is one of the most effective underslab gas barriers in the building industry today far exceeding ASTM E-1745 (Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill Under Concrete Slabs) Class A, B and C requirements. Available in a 20 (Class A) mil thicknesses designed to meet the most stringent requirements. VaporBlock® Plus™ 20 is produced within the strict guidelines of our ISO 9001:2008 Certified Management System.

Product Use

VaporBlock® Plus™ 20 resists gas and moisture migration into the building envelop when properly installed to provide protection from toxic/harmful chemicals. It can be installed as part of a passive or active control system extending across the entire building including floors, walls and crawl spaces. When installed as a passive system it is recommended to also include a ventilated system with sump(s) that could be converted to an active control system with properly designed ventilation fans.

VaporBlock® Plus™ 20 works to protect your flooring and other moisture-sensitive furnishings in the building's interior from moisture and water vapor migration, greatly reducing condensation, mold and degradation.

Size & Packaging

VaporBlock® Plus™ 20 is available in 10' x 150' rolls to maximize coverage. All rolls are folded on heavy-duty cores for ease in handling and installation. Other custom sizes with factory welded seams are available based on minimum volume requirements. Installation instructions and ASTM E-1745 classifications accompany each roll.

Under-Slab Vapor/Gas Retarder

Product	Part #
VaporBlock Plus 20	VBP 20

APPLICATIONS

- Radon Barrier
- Methane Barrier
- VOC Barrier
- Under-Slab Vapor Retarder
- Foundation Wall Vapor Retarder

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VAPORBLOCK® PLUS™ VBP20

ISO 9001:2008 CERTIFIED MANAGEMENT SYSTEM

Under-Slab Vapor / Gas Barrier

		VAPORBLOCK PLUS 20	
PROPERTIES	**TEST METHOD**	**IMPERIAL**	**METRIC**
Appearance		White/Gold	
Thickness, Nominal		20 mil	0.51 mm
Weight		102 lbs/MSF	498 g/m²
Classification	ASTM E 1745	CLASS A, B & C	
Tensile Strength lbf/in (N/cm) average MD & TD (new material)	ASTM E 154 Section 9 (D-882)	58 lbf	102 N
Impact Resistance	ASTM D 1709	2600 g	
Maximum Use Temperature		180° F	82° C
Minimum Use Temperature		-70° F	-57° C
Permeance (new material)	ASTM E 154 Section 7 ASTM E 96 Procedure B	0.0051 Perms grains/(ft²·hr·in·Hg)	0.0034 Perms g/(24hr·m²·mm Hg)
Radon Diffusion Coeffiecient	K124/02/95	$< 1.1 \times 10^{-13}$ m²/s	
Methane Permeance	ASTM D 1434	$< 1.7 \times 10^{-10}$ m²/d• atm 0.32 GTR (Gas Transmission Rate) ml/m²•D•ATM	

VaporBlock® Plus™ Placement

All instructions on architectural or structural drawings should be reviewed and followed.
Detailed installation instructions accompany each roll of VaporBlock® Plus™ and can also be located on our website.
ASTM E-1643 also provides general installation information for vapor retarders.

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VaporBlock® Plus™ is a seven-layer co-extruded barrier made using high quality virgin-grade polyethylene and EVOH resins to provide unmatched impact strength as well as superior resistance to gas and moisture transmission.

RAVEN INDUSTRIES
Engineered Films Division
P.O. Box 5107
Sioux Falls, SD 57117-5107
Ph: (605) 335-0174 • Fx: (605) 331-0333

Toll Free: **800-635-3456**
Email: **efdsales@ravenind.com**
www.ravenefd.com

Limited Warranty available at www.RavenEFD.com