1134 FULTON STREET SITE

1134-1152 FULTON STREET & 512-531 FRANKLIN AVENUE

BROOKLYN, NEW YORK 11238

Remedial Action Work Plan

NYC VCP Number: 16CVCP014K

E-Designation Site Number: 13EH-N483K

Prepared for:

Porter Avenue Holdings
390 Berry Street, Suite 200
Brooklyn, New York 11249

Prepared by:

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS

1808 Middle Country Road
Ridge, NY 11961

OCTOBER 2015

REMEDIAL ACTION WORK PLAN
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LIST OF ACRONYMS

Acronym	Definition
AOC	Area of Concern
BOA	Brownfield Opportunity Area
CAMP	Community Air Monitoring Plan
COC	Certificate of Completion
CSOP	Contractors Site Operation Plan
ECs/ICs	Engineering and Institutional Controls
HASP	Health and Safety Plan
VCA	Voluntary Cleanup Agreement
NOC	Notice of Completion
NYC VCP	New York City Voluntary Cleanup Program
NYC DEP	New York City Department of Environmental Protection
NYC DOHMH	New York State Department of Health and Mental Hygiene
NYCRR	New York Codes Rules and Regulations
NYC OER	New York City Office of Environmental Remediation
NYS DEC	New York State Department of Environmental Conservation
NYS DOH	New York State Department of Health
NYS DOT	New York State Department of Transportation
OSHA	United States Occupational Health and Safety Administration
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
SVOC	Semi-Volatile Organic Compound
USGS	United States Geological Survey
UST	Underground Storage Tank
VOC	Volatile Organic Compound

CERTIFICATION

I, Ariel Czemerinski, 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 1134 Fulton Street, Brooklyn site; site number 13EH-N483K and VCP Number 16CVCP014K. I certify to the following:

- I have reviewed this document and the Stipulation List, 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

_____
NYS PE License Number

_____
Signature

_____
Date

PE Stamp

I, Robert Bennett, am a qualified Environmental Professional. I will have primary direct responsibility for implementation of the remedial program for the 1134 Fulton Street, Brooklyn site, site number 13EH-N483K. 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.

Robert Bennett
QEP Name

QEP Signature

10/22/2015
Date

EXECUTIVE SUMMARY

Porter Avenue Holdings is working with the NYC Office of Environmental Remediation (OER) in the New York City Voluntary Cleanup Program to investigate and remediate a 25,744-ft^2 Site located at 1134-1152 Fulton Street and 513-531 Franklin Avenue in the Bedford Stuyvesant section of Brooklyn, 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 Current Usage

The Site is located at 1134-1152 Fulton Street and 513-531 Franklin Avenue in the Bedford-Stuyvesant section of Brooklyn, New York, and is currently identified as Block 2017, Lot No. 8 on the New York City Tax Map. **Figure 1** shows the Site location. The Site is bordered by Fulton Street to the north, Franklin Avenue to the west and residential buildings (with commercial spaces on the ground floor) to the south and east of the Site. A map with the site boundary shown is provided in **Figure 2**.

The Site has approximately 200 feet of street frontage on Fulton Street, approximately 200 feet of street frontage along Franklin Avenue and extends 130 feet back from Fulton Street and 130 feet back from Franklin Avenue. The Site has a total footprint of 25,744 ft^2. The Site is currently developed with multiple one and two story commercial (retail) use tenant spaces. According to a Phase I ESA report dated April 2014, the Site was recently occupied by a tax service center, Popeye's fried chicken, a convenient store, an African artisans shop, a soul food restaurant, Key Foods grocery store and a furniture store; however, all but two of these tenant spaces are currently vacant.

Summary of Proposed Redevelopment Plan

The proposed building will include a full cellar, approximately 18,781 square feet (s.f.) of commercial space on the ground floor and approximately 101,140 s.f. of residential space on the

second through eighth floors. The proposed building will have a two story portion towards the rear with a common outdoor roof terrace level with the third floor of the building. Seven story portions of the building will be present along Franklin Avenue and Fulton Street and an eight story portion will be present at the intersection of Franklin Avenue and Fulton Street. Please see **Figure 3** for the proposed new building's construction and design drawings. Because the entire Site consists of a single tax lot, the Site will not need to be sub-divided or merged.

The current zoning designation is R7D with a C2-4 commercial overlay. The proposed use is consistent with existing zoning for the property.

Summary of Environmental Findings

1. The elevation of the Site is approximately 90 to 100 feet above mean sea level (amsl).
2. Depth to groundwater is approximately 80 to 90 feet below grade surface (bgs).
3. Regional groundwater flow is generally west.
4. The stratigraphy of the Site from the surface down consists of silt and sand mixtures with concentrations of metals above Unrestricted Use SCOs and low levels of pesticides in VOCs in a couple locations (typical of fill material) that extends to depths as great as 12 feet. No evidence construction and demolition debris (red brick, concrete and asphalt fragments) which are typically associated with historic fill material was encountered.
5. Soil/fill samples results were compared to NYSDEC Unrestricted Use Soil Cleanup Objectives and Restricted Residential Soil Cleanup Objectives as presented in 6NYCRR Part 375-6.8 and CP51. Data collected during the RI showed that no VOCs, SVOCs or PCBs were detected above Unrestricted Use SCOs. Trace levels of the VOCs, Tetrachloroethene (maximum of 4.3 µg/kg) and Tricholoethene (maximum of 150 µg/kg) were detected in three soil samples each. The pesticide 4,4'-DDE was detected in two separate shallow soil samples at a concentration of 4.3 µg/kg in B4 (0-2') and at a concentration of 8.7 µg/kg in B7 (0-2'). Several metals were detected above Unrestricted Use SCOs in three shallow soil samples. These included Lead (maximum of 485 µg/kg) Copper (maximum of 110 µg/kg), Mercury (maximum of 0.45 µg/kg), and Zinc (maximum of 188 µg/kg). Of these metals, lead and mercury exceeded Restricted

Residential Use SCOs. Overall, the soil chemistry is unremarkable and the soil results were consistent with data identified at sites with historic fill material in NYC.

6. Groundwater wells were not installed due to access issues. Groundwater investigation will be performed after buildings demolition.
7. Soil vapor results collected during the RI were compared to the compounds listed in Vapor Intrusion Matrices in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion, dated October 2006. Data collected during the RI indicated petroleum related VOCs were present at low concentrations. Total concentrations of petroleum-related VOCs (BTEX) ranged from 22.75 µg/m^3 to 194.40 µg/m^3. The chlorinated VOC Trichloroethene (TCE) was detected in all six of the soil gas samples ranging in concentrations from 8.5 µg/m^3 to 1,030 (SG7). Tetrachloroethylene (PCE) also was detected in all six soil gas samples ranging in concentration from 7.39 µg/m^3 (SG2) to 489 µg/m^3 (SG4). Carbon tetrachloride was detected at maximum concentrations of 227 µg/m^3. PCE was also detected in ambient air at 253 µg/m^3. Concentrations of carbon tetrachloride, PCE and TCE are above the monitoring level ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion.

Summary of the Remedy

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.

Since most of contamination was detected in shallow historic fill, and excavation to depths of 15 feet is required for new building cellar for the entire Site, the site soils meet Unrestricted Use Track 1 SCOs. No Engineering Controls are allowed for soil management for a Track 1 Unrestricted Use cleanup. A concrete slab covering the entire site and vapor barrier system would be installed as part of standard building development and are not considered part of the

remedy. Additional soil vapor management is required due to high soil vapor contamination and includes an active SSDS along with a soil vapor extraction (SVE) system. Use of the SSDS as a long-term engineering control for vapor contamination is permitted under Track 2 Restricted Residential Use remedies.

The preferred remedy for the site is a combination of Track 1 Unrestricted Use SCOs for soil in conjunction with Engineering Controls involving SSDS, SVE, a Site Management Plan and use restrictions. Active SSDS and SVE systems will be monitored for five years and results will be evaluated to convert from active system to passive systems.

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 VOCs;
3. Selection of NYSDEC 6NYCRR Part 375 Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) for soil. Overall, remedy will be Track 4 because of the need to mitigate high soil vapors through active SSDS. Complete Track 1 can be achieved within five years of running active SSDS if soil vapor concentrations are below mitigation ranges established by NYSDOH;
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;
5. Delineation of chlorinated volatile organic compound (CVOC) impacted area on the southern portion of the Site by collecting data from two additional soil vapor sample points (locations indicated on **Figure 12**);
6. After building demolition, installation of three monitoring wells will be completed. Groundwater samples will be evaluated prior to start of construction;
7. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility. A Waste Characterization Report documenting sample procedures, location, analytical results shall be submitted to NYCOER prior to start of remedial action;
8. Excavation and removal of soil/fill exceeding Unrestricted Use SCOs. For development purposes, the entire Site will be excavated to depth of 15 feet. An estimated 1,669 tons of

soil will be excavated and removed from this property;

9. 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;
10. 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;
11. Removal of any potential tanks or underground anomalies encountered during Site development will be properly removed;
12. Registration of tanks and reporting petroleum spills (if evidence of a spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations;
13. Transportation and off-Site disposal of all soil/fill material at 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;
14. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;
15. Installation of a vapor barrier system below the concrete slab underneath the building as well as behind foundation walls of the proposed building. The vapor barrier will consist of the 20-mil Vapor Block 20Plus vapor barrier as manufactured by Ravens Industries, or equivalent system, below the slab throughout the full building area. 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;
16. Installation of an active sub-slab depressurization system (SSDS) consisting of a network of horizontal pipe set in the middle of a gas permeable layer immediately beneath the building slab and vapor barrier system. The SSDS system will be constructed with a new loop of piping every 4,000 square feet. The active SSDS is an Engineering Control for the remedial action. The remedial engineer will certify in the RAR that the active SSDS was designed and properly installed to establish a vacuum in the gas permeable layer and a negative (decreasing outward) pressure gradient across the building slab to prevent

vapor migration into the building;

17. Construction and operation of a Soil Vapor Extraction (SVE) system to address CVOC impacted soils present on the south side of the Site. Depending on the findings from a pilot test, a number of extraction points will be installed along southern portion of the Site;
18. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations;
19. Construction and maintenance of an engineered composite cover consisting of a 10-inch thick concrete slab beneath the building and a 6-inch thick concrete cap in sidewalk to prevent human exposure to residual soil/fill remaining at the Site;
20. 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;
21. 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, and describes all Engineering and Institutional Controls to be implemented at the Site;
22. Submission of an approved Site Management Plan (SMP) in the Remedial Action Plan (RAP) for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency; and,
23. The property will continue to be registered with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls in this RAWP and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

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, shows the location of identified 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: 1134-1152 Fulton Street and 513-531 Franklin Avenue, Brooklyn, NY 11238
- NYC Voluntary Cleanup Program Project Number: 16CVCP014K

Project Contacts:

- OER Project Manager: Samantha Morris, 212-341-2082
- Site Project Manager: Robert Bennett, Environmental Business Consultants , 631-504-6000
- Site Safety Officer: Kevin Waters, Environmental Business Consultants, 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 NYC VCP, 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 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 plan are in compliance with safety requirements of the United States Occupational Safety and Health Administration (OSHA). This plan includes many protective elements including those discussed below. A Site-specific CHASP is included in this RAP as **Attachment E**.

Site Safety Coordinator. This project has a designated Site Safety Coordinator to implement the CHASP. The Site Safety Coordinator maintains an emergency contact sheet and protocol for management of emergencies. The Site Safety Coordinator is Kevin Waters of Environmental Business Consultants. Mr. Waters can be reached at (631) 504-6000.

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 only to workers performing specific tasks including removing hazardous 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 (CAMP). Results will be regularly reported to the NYC OER. 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 (RAR). This report will be submitted to the NYC Office of Environmental Remediation and will be thoroughly reviewed.

Storm-Water Management. To limit the potential for soil erosion and discharge, this cleanup plan has provisions for storm-water management. The main elements of the storm water 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 are 7:00AM to 6:00PM Monday through Friday.

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, 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, odors 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 all 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-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. To provide long-term protection 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 OER. Requirements that the property owner must comply with are established through a city environmental designation. 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 SITE BACKGROUND

Porter Avenue Holdings is working with the NYC Office of Environmental Remediation (OER) in the New York City Voluntary Cleanup Program and/or in the "E" Designation Program to investigate and remediate a 25,744 ft^2 property located at 1134-1152 Fulton Street and 513-531 Franklin Avenue in the Bedford Stuyvesant section of Brooklyn, 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 remedial alternatives analyses that include 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 Current Usage

The Site is located at 1134-1152 Fulton Street and 513-531 Franklin Avenue in the Bedford-Stuyvesant section of Brooklyn, New York, and is currently identified as Block 2017, Lot No. 8 on the New York City Tax Map. **Figure 1** shows the Site location. The Site is bordered by Fulton Street to the north, Franklin Avenue to the west and residential buildings (with commercial spaces on the ground floor) to the south and east of the Site. A map with the site boundary shown is provided in **Figure 2**.

The Site has approximately 200 feet of street frontage on Fulton Street, approximately 200 feet of street frontage along Franklin Avenue and extends 130 feet back from Fulton Street and 130 feet back from Franklin Avenue. The Site has a total footprint of 25,744 ft^2. The Site is currently developed with multiple one and two story commercial (retail) use tenant spaces. According to a Phase I ESA report dated April 2014, the Site was recently occupied by a tax service center, Popeye's fried chicken, a convenient store, an African artisans shop, a soul food

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restaurant, Key Foods grocery store and a furniture store; however, all but two of these tenant spaces are currently vacant.

1.2 Proposed Redevelopment Plan

The proposed building will include a full cellar, approximately 18,781 square feet (s.f.) of commercial space on the ground floor and approximately 101,140 s.f. of residential space on the second through eighth levels. The proposed building will have a two story portion towards the rear with a common outdoor roof terrace level with the third floor of the building. Seven story portions of the building will be present along Franklin Avenue and Fulton Street and an eight story portion will be present at the intersection of Franklin Avenue and Fulton Street. Please see **Figure 3** for the proposed new building's construction and design drawings. Because the entire Site consists of a single tax lot, the Site will not need to be sub-divided or merged.

The current zoning designation is R7D 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 area immediately surrounding Site consists of residential buildings to the east and south of the Site, Franklin Street followed by the Franklin Avenue Subway Station to the west and Fulton Street to the north followed by three to four story apartment buildings with commercial spaces on the ground floor. **Figure 4** shows the surrounding land usage of the adjacent properties listed below as well as additional properties located approximately 500 feet away from the Site. Commercial spaces in the surrounding vicinity consist of delis, grocery stores, restaurants, cafe's, pharmacy, administrative spaces, salons and clothing stores.

Surrounding Property Usage

Direction	Property Description

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North – *Across Fulton Street*	Fulton Street followed by: Block 1999, Lots 42, 41, 40, 39, 38, 37, 36, 35, 34, 33 and 32 – 1151 through 1175 Fulton Street: Eleven separate lots developed with three to four story apartment buildings with commercial spaces on the ground level.
South – *Adjacent properties*	Block 2017, Lots 7, 62 and 61 - Lot 7 (533 Franklin Ave) is approximately 2,000 s.f. in area and developed with a three story residential building. Lot 7 is followed by six nearly identical properties to the south along Franklin Avenue. Lot 62 (11 Brevoort Place) is approximately 2,800 s.f. in area and developed with a three story residential building. Lot 61 (13 Brevoort Place) is approximately 2,800 s.f. in area and developed with a three story residential building.
East – *Adjacent property*	Block 2017, Lots 24 and 63 - Lot 24 (1154 Fulton Street) is approximately 2,000 s.f. in area and developed with a four story residential building with a dental/medical practice present on the ground floor. Lot 63 (Brevoort Place) located at the southeast corner of the Site is 845 s.f. in area and currently undeveloped.
West– *Across Franklin Avenue*	Franklin Avenue followed by Block 2016, Lot 42 - NYC-MTA Franklin-Fulton Street Subway Station which has an elevated platform. Further west along Fulton Street there are three to four story apartment buildings with commercial spaces on the ground floor.

1.4 Remedial Investigation

A remedial investigation was performed and the results are documented in a companion document called "*Remedial Investigation Report, 1134-1152 Fulton Street & 513-531 Franklin Avenue, Brooklyn, NY 11238*", (RIR) dated September 2015.

Summary of Past Uses of Site and Areas of Concern

A Phase I ESA report was prepared for the site by Associated Environmental Services, Ltd. (AES) dated April 28, 2014 and EBC reviewed Sanborn Maps of the site area. Three (3) three (3) recognized environmental conditions (RECs) were identified as follows:

- Associated observed a large in-service aboveground storage tank (AST) in the basement portion of the building which was used to store heating oil. Also, an empty, out of service 275-gallon AST was observed; and,
- The potential for vapor encroachment conditions (VECs) exist at the Site due to the historical uses in the surrounding vicinity.
- Historical use of the Site as a coal yard.

In addition to the aforementioned RECs, EBC identified additional environmental concerns regarding the Site. A historical Sanborn map from 1908 indicated that the southern portion of the Site (currently

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the southern portion of the vacant grocery store) was used as a coal yard. The historical storage and processing of coal on the Site is considered a REC as coal yards are typically known to contaminate the subsurface. Additionally, two off-site dry cleaners were historically present in the surrounding vicinity. One dry cleaning facility, to the northwest of the Site along Fulton Street, was present from circa 1962 to 1995 and another, to the north of the site along Franklin Avenue, was present from circa 1965 to 1988. These offsite properties are positioned hydraulically down-gradient; however, due to their close proximity to the Site, there is a potential for subsurface impacts to the Site originating from these offsite properties.

Summary of the Work Performed under the Remedial Investigation

EBC performed the following scope of work at the Site from February through August of 2015:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e. structures, buildings, etc.);
2. Performed a GPR survey across the entire Site; however, no underground anomalies were identified;
3. Ten soil borings (B1-B10) were installed throughout the Site on July 30, 2015. Two samples from each boring were retained for chemical analysis to evaluate soil quality;
4. One outside air and one inside air sample were collected for analysis of VOCs on June 22, 2015;
5. One ambient air and one sub-slab soil vapor sample were collected for analysis of VOCs on February 4, 2015; and,
6. Five soil vapor samples were collected on August 7, 2015 to evaluate the potential for soil vapor intrusion.

Summary of Environmental Findings from the Phase II ESA and Remedial Investigation

1. The elevation of the Site is approximately 90 to 100 feet above mean sea level (amsl).
2. Depth to groundwater is approximately 80 to 90 feet below grade surface (bgs).
3. Regional groundwater flow is generally west.
4. The stratigraphy of the Site from the surface down consists of silt and sand mixtures with concentrations of metals above Unrestricted Use SCOs (typical of fill material) that

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extends to depths as great as 12 feet. No evidence construction and demolition debris (red brick, concrete and asphalt fragments) which are typically associated with historic fill material was encountered.

5. Soil/fill samples results were compared to NYSDEC Unrestricted Use Soil Cleanup Objectives and Restricted Residential Soil Cleanup Objectives as presented in 6NYCRR Part 375-6.8 and CP51. Data collected during the RI showed that no VOCs, SVOCs or PCBs were detected above Unrestricted Use SCOs. Trace levels of the VOCs, Tetrachloroethene (maximum of 4.3 µg/kg) and Tricholoethene (maximum of 150 µg/kg) were detected in three soil samples each. The pesticide 4,4'-DDE was detected in two separate shallow soil samples at a concentration of 4.3 µg/kg in B4 (0-2') and at a concentration of 8.7 µg/kg in B7 (0-2'). Several metals were detected above Unrestricted Use SCOs in three shallow soil samples. These included Lead (maximum of 485 µg/kg) Copper (maximum of 110 µg/kg), Mercury (maximum of 0.45 µg/kg), and Zinc (maximum of 188 µg/kg). Of these metals, lead and mercury exceeded Restricted Residential Use SCOs. Overall, the soil chemistry is unremarkable and the soil results were consistent with data identified at sites with historic fill material in NYC.
6. Groundwater wells were not installed due to access issues. Groundwater investigation will be performed after buildings demolition.
7. Soil vapor results collected during the RI were compared to the compounds listed in Vapor Intrusion Matrices in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion, dated October 2006. Data collected during the RI indicated petroleum related VOCs were present at low concentrations. Total concentrations of petroleum-related VOCs (BTEX) ranged from 22.75 µg/m^3 to 194.40 µg/m^3. The chlorinated VOC Trichloroethene (TCE) was detected in all six of the soil gas samples ranging in concentrations from 8.5 µg/m^3 to 1,030 (SG7). Tetrachloroethylene (PCE) also was detected in all six soil gas samples ranging in concentration from 7.39 µg/m^3 (SG2) to 489 µg/m^3 (SG4). Carbon tetrachloride was detected at maximum concentrations of 227 µg/m^3. PCE was also detected in ambient air at 253 µg/m^3. Concentrations of carbon tetrachloride, PCE and TCE are above the

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monitoring level ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion.

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.

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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; and,
- Prevent migration of contaminants that would result in offsite contamination.

Groundwater

- Prevent direct exposure to contaminated groundwater. However it is very unlikely because depth to water at the Site is approximately 80 to 90 feet below grade; and,
- Prevent exposure to contaminants volatilizing from contaminated groundwater.

Soil Vapor

- Prevent exposure to contaminants in soil vapor; and,
- Prevent migration of soil vapor towards the adjacent property to the south and to prevent soil vapor intrusion at the proposed new building.

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3.0 REMEDIAL ALTERNATIVES ANALYSIS

The goal of the remedy selection process under 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 remedial action objectives (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 with a Track 4 alternative scenario is evaluated for the remedial action at the Site. The following is a detailed description of the alternatives analyzed to address impacted media at the Site:

Alternative 1 involves:

- Selection of NYSDEC 6NYCRR Part 375 Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs).
- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs throughout the Site and confirmation that Track 1 Unrestricted SCOs has been achieved with post-excavation endpoint sampling. Based on the results of the Remedial Investigation, it is expected that this alternative would require excavation to a minimum depth of approximately 6 feet to remove all historic fill. If soil/fill containing analytes at concentrations above

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Unrestricted Use SCOs is still present at the base of the excavation, additional excavation will be performed to ensure complete removal of soil that does not meet Track 1 Unrestricted Use SCOs.

- Collection of three groundwater samples during geophysical soil sampling;
- No Engineering or Institutional Controls are required for a Track 1 Unrestricted Use cleanup, but a vapor barrier would be installed beneath the basement and grade-level building slabs and behind foundation sidewalls of the new building as a part of development to prevent any potential future exposures from off-Site soil vapor; and,
- As part of the development, a composite cover would be placed over the entire Site.

Alternative 2 involves:

- Establishment of Site-specific (Track 4) SCOs.
- 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. For development purpose 100% of the property (building footprint) will be excavated to depths of 15 feet below grade. If soil/fill containing analytes at concentrations above Track 4 Site-Specific SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building's cellar is complete, additional excavation will be performed to ensure complete removal of soil that does not meet Track 4 Site-Specific SCOs.
- Placement of a composite cover system over the entire Site to prevent exposure to remaining soil/fill. The engineered composite cover will consist of a 10-inch thick concrete slab beneath the building, and a 6-inch thick concrete cap in sidewalk and exterior parking areas.
- Installation of a vapor barrier system beneath the building slab and along foundation side walls to grade to prevent potential exposures from soil vapor.
- Installation of an active Sub Slab Depressurization System (SSDS).
- Installation and operation of a Soil Vapor Extraction (SVE) system at the Site to prevent migration of VOCs from on-site soils into the building or onto surrounding properties.

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- 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.
- 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 soil/fill exceeding Track 1 Unrestricted Use SCOs thus eliminating potential for direct contact with contaminated soil/fill once construction is complete and eliminating the risk of contamination migrating offsite unless contaminated soil is encountered at depths greater than 15 feet below grade.

Alternative 2 would achieve comparable protections of human health and the environment by excavating 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, an SVE system and an active SSDS system. The composite cover system would prevent direct contact with any remaining on-Site soil/fill. The active SSDS

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and SVE system would prevent vapor intrusion in new building. 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. Additionally, contact with groundwater is considered very unlikely because of the 80 to 90 foot depth to groundwater at the Site. Potential future migration of off-Site soil vapors into the new building would be prevented by installing a vapor barrier system, a passive SSDS below the entire footprint of the new building's basement slab, installation of an SVE system on the southern portion of the Site and continuing the vapor barrier around the foundation walls.

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

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.

Alternative 2

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 a vapor barrier and a passive SSDS system below the new building's slab and continuing the vapor barrier around foundation walls (within the

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southeast portion). 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) that comply with the applicable SCGs shall 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 effects on public health and the environment during implementation of the remedial action, including protection of the community, environmental impacts, time until remedial response objectives are achieved, and protection of workers during remedial actions.

Both alternatives 1 and 2 have similar short term effectiveness, as each requires excavation of historic fill material/soil to the depths of 15 feet below grade. Both alternatives are considered to be effective in protecting human health and the environment in the short term. Both alternatives would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic.

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.

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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, enabling unrestricted usage of the property and attaining Track 1 SCOs.

Alternative 2 would provide long-term effectiveness by removing most on-Site contamination and attaining Track 4 Site-Specific SCOs; establishing Engineering Controls including a composite cover system across the Site; installing a SVE system and an active SSDS system; establishing Institutional Controls to ensure long-term management including use restrictions, a Site Management Plan and maintaining continued 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 will provide a continued high level of protection in perpetuity.

Both alternatives would result in removal of soil contamination exceeding the SCOs providing a high level, effective and permanent remedy over the long-term with respect to a remedy for contaminated soil, which would eliminate any migration to groundwater. Potential sources of soil vapor and groundwater contamination would also be eliminated as part of the remedy.

Reduction of toxicity, mobility, or volume of contaminated material

This evaluation criterion assesses the remedial alternative's use of remedial technologies that

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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 would 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. The planned excavation depth for the proposed redevelopment project is 15 feet below grade. Track 1 SCOs should be attained upon removing this volume. If Track 1 SCOs are not attained, a Track 4 alternative will be warranted.

Alternative 2 would remove all the historic fill at the Site, with the entire Site being excavated to 15 ft below grade prior to the redevelopment of the Site; any remaining on-Site soil beneath the new building's cellar and first floor slab on grade will meet Track 4 - Site-Specific SCOs. Alternative 2 would eliminate a greater total mass of contaminants on the southern portion of the Site would be remediated by a SVE system.

The removal of soil for the building's cellar to at least 15 feet for the new development in both scenarios would probably result in relatively minor differences between these two alternatives. However, a SVE system installed on the southern portion of the Site would be helpful to address any potential remaining levels of CVOCs on the southern portion of the Site and would also provide as a means to prevent the potential migration of CVOC vapors to the southern adjacent property.

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

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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 proposed remedial action is both feasible and implementable. The techniques, materials and equipment to implement Alternatives 1 and 2 are readily available and have been proven effective in remediating the contaminants associated with the Site. They use standard materials and services that are well established technology. 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 the new development requires excavation of the Site to at least 15 feet, installation an operation of active SSDS along with SVE systems, the costs associated with both Alternatives would be similar. Long-term costs for Alternative 2 are likely higher than Alternative 1 based on implementation of SMP.

The remedial plan creates an approach that combines the remedial action with the redevelopment of the Site, including the construction of the building foundation and subgrade structures. The remedial plan is also cost effective in that it will take into consideration the selection of the closest and most appropriate disposal facilities to reduce transportation and disposal costs during the excavation to 15 feet below grade during the 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.

Based on the overall goals of the remedial program and initial permitting associated with the

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proposed site development, no adverse community opinion is anticipated for either alternative. 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 **Attachment B**.

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 building will have a full cellar, approximately 18,781 s.f. of commercial space on the ground floor and approximately 101,140 s.f. of residential space on the second through eighth floors. The proposed building will have a two-story portion towards the rear with a common outdoor roof terrace level with the third floor of the building. Seven story portions of the building will be present along Franklin Avenue and Fulton Street and an eight story portion will be present at the intersection of Franklin Avenue and Fulton Street. Following remediation, the Site will meet Track 1 Unrestricted Use or as an alternative, 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

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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 mixed-use apartment building. The proposed development would clean up the property and make it safer, create new employment opportunities, 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 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.

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Alternative 2 would result in higher total energy usage based on the operation of the active SSDS and SVE systems. This would offset any savings realized in potentially reduced offsite disposal of contaminated soil. Alternative 2 would have a greater opportunity to achieve a sustainable remedial action. The remedial plan 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. New York City Clean Soil Bank program may be utilized for reuse of import soils. To the extent practicable, energy efficient building materials, appliances, and equipment will be utilized to complete the development. Both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action. A complete list of green remedial activities considered as part of the NYC VCP is included in the Sustainability Statement, included as **Attachment C**.

Selection of the Preferred Remedy

Since most of contamination was detected in shallow historic fill, and excavation to depths of 15 feet is required for new building cellar for the entire Site, the site soils will meet Unrestricted Use Track 1 SCOs.

No Engineering Controls are required for soil management for a Track 1 Unrestricted Use cleanup. A concrete slab covering the entire site and vapor barrier system would be installed as part of standard building development and are not considered part of the remedy. Additional soil vapor management is required due to high soil vapor contamination and includes an active SSDS along with a soil vapor extraction (SVE) system.

The preferred remedy for the site is a combination of Track 1 Unrestricted Use SCOs for soil in conjunction with Engineering Controls involving SSDS, SVE and a Site Management Plan. Active SSDS and SVE systems will be monitored for five years and results will be evaluated to convert from active system to passive systems.

Use restrictions will be imposed on the site (including prohibitions on any use higher than Restricted Residential, e.g. the use of groundwater from the Site; prohibitions of restricted Site

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uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without NYSDEC approval). The Site would continue to be encumbered with an E-designation for hazardous material while active SSDS is operational.

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4.0 REMEDIAL ACTION

4.1 Summary of Preferred Remedial Action

The preferred remedial action alternative is the Track 1 Alternative. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the property. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative 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 VOCs;
3. Selection of NYSDEC 6NYCRR Part 375 Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs) for soil. Overall, remedy will be Track 4 because of the need to mitigate high soil vapors through active SSDS. Complete Track 1 can be achieved within five years of running active SSDS if soil vapor concentrations are below mitigation ranges established by NYSDOH;
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;
5. Delineation of chlorinated volatile organic compound (CVOC) impacted area on the southern portion of the Site by collecting data from two additional soil vapor sample points (locations indicated on **Figure 12**);
6. After building demolition, installation of three monitoring wells will be completed. Groundwater samples will be evaluated prior to start of construction;
7. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility. A Waste Characterization Report documenting sample procedures, location, analytical

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results shall be submitted to NYCOER prior to start of remedial action;

8. Excavation and removal of soil/fill exceeding Unrestricted Use SCOs. For development purposes, the entire Site will be excavated to depth of 15 feet. An estimated 1,669 tons of soil will be excavated and removed from this property;
9. 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;
10. 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;
11. Removal of any potential tanks or underground anomalies encountered during Site development will be properly removed;
12. Registration of tanks and reporting petroleum spills (if evidence of a spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations;
13. Transportation and off-Site disposal of all soil/fill material at 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;
14. Collection and analysis of end-point samples to determine the performance of the remedy with respect to attainment of SCOs;
15. Installation of a vapor barrier system below the concrete slab underneath the building as well as behind foundation walls of the proposed building. The vapor barrier will consist of the 20-mil Vapor Block 20Plus vapor barrier as manufactured by Ravens Industries, or equivalent system, below the slab throughout the full building area. 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;
16. Installation of an active sub-slab depressurization system (SSDS) consisting of a network of horizontal pipe set in the middle of a gas permeable layer immediately beneath the building slab and vapor barrier system. The SSDS system will be constructed with a new

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loop of piping every 4,000 square feet. The active SSDS is an Engineering Control for the remedial action. The remedial engineer will certify in the RAR that the active SSDS was designed and properly installed to establish a vacuum in the gas permeable layer and a negative (decreasing outward) pressure gradient across the building slab to prevent vapor migration into the building;

17. Construction and operation of a Soil Vapor Extraction (SVE) system to address CVOC impacted soils present on the south side of the Site. Depending on the findings from a pilot test, a number of extraction points will be installed along southern portion of the Site;
18. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations;
19. Construction and maintenance of an engineered composite cover consisting of a 10-inch thick concrete slab beneath the building and a 6-inch thick concrete cap in sidewalk to prevent human exposure to residual soil/fill remaining at the Site;
20. 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;
21. 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, and describes all Engineering and Institutional Controls to be implemented at the Site;
22. Submission of an approved Site Management Plan (SMP) in the Remedial Action Plan (RAP) for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency; and,
23. The property will continue to be registered with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls in this RAWP and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1) vegetable gardening and farming; (2) use of groundwater without treatment rendering it

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safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

4.2 Soil Cleanup Objectives and Soil/Fill Management

Track 1 Soil Cleanup Objectives (SCOs) are proposed for this project. If 6NYCRR Part 375, Table 6.8(a) Track 1 Unrestricted Use is not achieved, the 6 NYCRR Part 375, Table 6.8(b) Track 2 Restricted Residential SCOs will be used as amended by the following Site-Specific Track 4 SCOs:

Contaminant	Track 4 SCOs
Lead	800 ppm
Mercury	1.5 ppm

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 **Attachment D**. The location of planned excavations is shown in **Figure 5**.

Soil/Fill Excavation and Removal

The total quantity of soil/fill expected to be excavated and disposed off-Site is approximately 1,668.6 tons. The location of planned excavations (the entire Site to 15 feet below grade) is shown in **Figure 5**. For each disposal facility 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.

The proposed disposal locations for Site-derived impacted materials are listed below. Additional disposal locations established at a later date will be reported promptly to the OER Project Manager.

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Disposal Facility	Waste Type	Estimated Quantity
TBD	TBD	1,668.6 tons
TBD	TBD	TBD

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 (VOCs) by EPA Method 8260;
- Semi-volatile organic compounds (SVOCs) by EPA Method 8270;
- Target Analyte List (TAL) 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 Remedial Action Report (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. To evaluate attainment of Track 1 SCOs, five end point samples will be collected and analyzed for VOCs, SVOCs, metals, Pesticides and PCBs. The approximate collection location of the endpoint soil samples is shown on **Figure 6**.

Confirmation End-Point Sampling

Soil removal for development purposes under this plan will be performed in conjunction with confirmation end-point soil sampling. Five confirmation samples will be collected from the base of the excavation at location shown on **Figure 6** (EP1 through EP5). If Track 1 Unrestricted Use SCOs are pursued, samples will be analyzed for VOCs, SVOCs, pesticides, PCBs and metals

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according to analytical methods described above. To evaluate attainment of Track 4 SCOs, analytes will include those for which SCOs have been developed, including lead and mercury.

Hotspot End-Point Sampling

End-point samples will be collected from the sidewalls and base of excavation at the hotspot location identified in the Remedial Investigation, according to the procedure listed below. Hotspots include a chlorinated VOC (CVOC) impacted area on the southern portion of the Site. As such, end-point samples should also be analyzed for VOCs.

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 hotspots 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

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all cases, post-remediation samples should be biased toward locations and depths of the highest expected contamination.

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 duplicate sample for every 20 samples collected will be submitted to the approved laboratory for analysis of the same parameters. One trip blank will be submitted to the laboratory with each shipment of soil samples.

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-packs" to maintain a temperature of $4^{o}C$.

Dedicated disposable sampling materials will be used for the collection endpoint samples, eliminating the need to prepare field equipment (rinseate) blanks. However, if non-disposable equipment is used, (stainless steel scoop, etc.) field rinseate blanks will be prepared at the rate of one 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; and,
- Rinse with distilled or deionized water.

Prepare field blanks by pouring distilled or deionized water over decontaminated equipment and

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collecting the water in laboratory provided containers. Trip blanks will be used whenever samples are transported to the laboratory for analysis of VOCs. Trip blanks will not be used for samples to be analyzed for metals, SVOCs, PCBs or pesticides. One blind duplicate sample will be prepared and submitted for analysis every 20 samples.

Import and Reuse of Soils

Import of soils onto the property and reuse of soils already on-Site will be performed in conformance with the Soil/Materials Management Plan in **Attachment D**. The estimated quantity of soil to be imported into the Site for backfill and cover soil is 0 tons. The estimated quantity of onsite soil/fill expected to be reused/relocated on Site is also 0 tons.

4.3 Engineering Controls

The excavation required for the proposed Site development will achieve Track 1 Unrestricted Use SCOs. However, engineering controls will be required to mitigate high soil vapor numbers at the site. The following elements will be implemented during construction:

(1) composite cover system;

(2) vapor barrier system;

(3) an active SSDS system; and,

(4)an SVE system on the southern portion of 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 is comprised of the 10-inch thick concrete slab beneath the building and a 6-inch thick concrete cap along sidewalk areas.

If Track 1 SCO's are not achieved at the Site, the composite cover system will be a permanent engineering control to address residual soils. The system will be inspected and reported at specified intervals as required by this RAWP and the SMP. A Soil 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

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action is complete. Maintenance of this composite cover system will be described in the Site Management Plan.

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

Vapor Barrier

Migration of potential soil vapor from on-Site or off-Site in the future will be mitigated with a vapor barrier. The vapor barrier will consist of the 20-mil Vapor Block 20 Plus vapor barrier as manufactured by Ravens Industries or equivalent system. The vapor barrier will be installed prior to pouring the building's concrete slab. The vapor barrier will extend throughout the area occupied by the footprint of the new buildings (beneath the cellar and at-grade building slab and beneath and around the elevator pit, and up the foundation sidewalls to grade in accordance with manufacturer specifications. The vapor barrier rising from the elevator pit will be taped seamlessly to the subslab vapor barrier. 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 seam, penetrations, and repairs will be sealed either by the tape method or weld method, according to the manufacturer's recommendations and instructions.

The project's Professional Engineer licensed by the State of New York will have primary direct responsibility for overseeing the implementation of the vapor barrier. The extent of the proposed vapor barrier membrane is provided in **Figure 7**. Product specification sheets are provided in **Attachment F**.

Sub-Slab Depressurization System

A active sub-slab depressurization system will be installed beneath the new building slab to address residual soil vapors.

Migration of soil vapor beneath the building will be mitigated with the construction of a passive sub-slab depressurization system. The SSDS will consist of six loops installed within porous granular material beneath the basement foundation. The loops will provide the correct coverage in accordance with USEPA sub-slab depressurization design specifications which recommend a

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separate vent loop for every 4,000 ft^2 of slab area. The loop will be outfitted with a collection point and riser. The riser will be placed at a minimum distance of 10ft from all air intakes. The layout plan for the SSDS system is provided as **Figure 8**. Details of the SSD system are provided in **Figure 9**.

Soil Vapor Extraction System

The RI identified PCE and TCE-impacted soil on the southern portion of the Site. To address this contamination a soil vapor extraction (SVE) system may be required to remediate soil vapors. The final design specifications of the SVE system will be determined through a pilot test to establish extraction well influence, applied vacuum and air flow rates. These will be largely dependent upon soil type and subsurface structures; however, based on soil type observed at the Site, the areal extent of the source area and typical SVE system design parameters, the following preliminary design is anticipated:

- Two extraction well system;
- Extraction wells constructed of 2-inch diameter PVC with a 20 foot slotted screen and 10-foot PVC riser for a total depth of 30 feet;
- Wells tied to system with a 2-inch diameter PVC extraction line;
- 2-hp regenerative blower with particulate filter and vapor trap; and,
- Discharge treatment with vapor-phase granular activated carbon.

The anticipated layout of the SVE system and components are shown in **Figure 10**.

4.4 Institutional Controls

Institutional Controls are not required on sites that achieve Track 1 remedial action. If Track 1 SCOs are not achieved Institutional Controls (IC) will be utilized in this remedial action to manage residual soil/fill and other media and render the Site protective of public health and the environment. Institutional Controls are listed below. Long-term employment of EC/ICs will be implemented under a site-specific Site Management Plan (SMP) that will be included in the RAR.

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Institutional Controls for this remedial action are:

- The property will continue to be registered with an E-Designation at the NYC Buildings Department. This RAWP includes a description of all ECs and ICs and summarizes the requirements of the Site Management Plan which will note that the property owner and property owner's successors and assigns must comply with the approved SMP;
- Submittal of a Site Management Plan in the RAR for approval by OER that provides procedures for appropriate operation, maintenance, monitoring, inspection, reporting and certification of ECs. 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 annually and will comply with RCNY §43-1407(l)(3).
- Vegetable gardens and farming on the Site are prohibited;
- 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; and,
- The Site will be used for residential and commercial, use and will not be used for a higher level of use without prior approval by OER.

4.5 Site Management Plan

Site Management is not required for Track 1 remedial actions. However, if Track 1 Unrestricted Use SCOs are not achieved, Site Management will be the last phase of remediation and begins 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

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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 this RAWP and 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 EC's and ICs; (2) implementation of monitoring programs; (3) operation and maintenance of EC's; (4) inspection and certification of EC's; and (5) reporting.

Site management activities, reporting, and EC/IC certification will be scheduled on an periodic basis to be established in 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 January 31 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

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Section 3.3 (b) 8 of the NYSDEC Draft DER-10 Technical Guidance for Site Investigation and Remediation.

Known and Potential Sources

Based on the results of the Remedial Investigation Report the contaminants of concern found are:

Soil

- VOCs: Trace levels of VOCs including Tectrachloroethylene (PCE) with a maximum detection of 4.3 ug/kg and Trichloroethene (TCE) with a maximum concentration detected at 150 ug/kg;
- Pesticides: The pesticide 4,4'-DDE was detected in two shallow soil samples at a concentrations of 4.3 ug/kg and 8.7 ug/kg; and,
- Metals: Several metals were detected above Unrestricted Use SCOs in three shallow soil samples. These included Lead (maximum of 485 ug/kg), Copper (maximum of 110 ug/kg), Mercury (maximum of 0.45 ug/kg) and Zinc (maximum of 188 ug/kg).

Groundwater

- Because the depth to groundwater is estimated at approximately 80 to 90 feet below grade, groundwater was not sampled during the Phase II investigation. However, during geotechnical borings planned prior to redevelopment, three groundwater samples will be collected. Such results will be reported to OER upon receipt of analytical results from the laboratory. Locations have yet to be determined.

Soil Vapor

- BTEX: Total concentrations of petroleum related VOCs (BTEX-analytes) ranged from 22.75 ug/m^3 to 194.4 ug/m^3; and,
- CVOCs: Trichloroethene (TCE) was detected in all six of the soil gas samples ranging in concentrations from 8.5 ug/m^3 to 1,030 ug/m^3. Carbon tetrachloride was detected at a maximum concentration of 227 ug/m^3. Tetrachloroethylene (PCE) was also detected in all six of the soil gas samples ranging in concentrations from 7.39 ug/m^3 to 489 ug/m^3. The highest concentrations of CVOCs were detected on the southern portion of the Site.

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Nature, Extent, Fate and Transport of Contaminants

VOCs, pesticides and metals are present in onsite soil to depths as great as 12 feet below grade. Exceedances for metals including lead, copper, mercury and zinc were detected in shallow soils at concentrations above the applicable criteria. Chlorinated VOCs PCE, TCE and Carbon tetrachloride were detected above guidance values in soil gas. Because the depth to groundwater is estimated at approximately 80 to 90 feet bgs, groundwater was not sampled during the Phase II investigation. During geotechnical borings planned prior to redevelopment, three groundwater samples will be collected. Such results will be reported to OER upon receipt of analytical results from the laboratory.

Receptor Populations

On-Site Receptors: The Site is currently developed with multiple one and two story commercial (retail) use tenant spaces which will be demolished prior to redevelopment. On-site 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; and,
5. Schools – existing and future.

Potential Routes of Exposure

The five elements of an exposure pathway are:

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1. The source of contamination;
2. The environmental media and transport mechanisms - direct contact, ingestion, and inhalation;
3. The point of exposure;
4. The route of exposure; and,
5. The receptor population.

An exposure pathway is considered complete when all five elements of an exposure pathway are documented. A potential exposure pathway exists when any one or more of the five elements comprising an exposure pathway cannot be documented. An exposure pathway may be eliminated from further evaluation when any one of the five elements comprising an exposure pathway has not existed in the past, does not exist in the present, and will never exist in the future. Three potential primary routes exist by which chemicals can enter the body:

- Ingestion of water, fill, or soil;
- Inhalation of vapors and particulates; and,
- Dermal contact with water, fill, soil, or building materials.

Potential Exposure Points

Current Conditions: The Site is currently capped with a building and asphalt except for a small lawn in the rear of the Site. There is potential for exposure to surficial historic fill under current conditions; however, it is limited to the rear yard area. The Site is served by public water supply and groundwater use for potable supply is prohibited, groundwater is not used at the Site and there is no potential for exposure. There is potential for vapor intrusion into the existing building and adjacent residential property to the south.

Construction/Remediation Activities: Once redevelopment activities begin, construction workers will come into direct contact with surface and subsurface soils, as a result of on-Site construction and excavation activities. Contact with groundwater is not anticipated due to the depth of water. On-Site construction workers potentially could ingest, inhale or have dermal contact with any exposed impacted soil, and fill. Similarly, off-Site receptors could be exposed

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to dust and vapors from on-Site activities. 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, soils in excess of Track 4 Site-Specific SCOs will be removed. The Site will be fully capped, limiting potential direct exposure to soil and groundwater remaining in place, and an active SSDS, SVE system and vapor barrier will prevent any exposure to potential off-Site soil vapors in the future. The Site is served by a public water supply, and groundwater is not used at the Site for potable supply. There are no plausible off-site pathways for ingestion, inhalation, or dermal exposure to contaminants derived from the Site under future conditions.

Overall Human Health Exposure Assessment

Based upon above analysis, complete on-Site exposure pathways appear to be present only during the current unremediated phase and during the remedial construction phase. There are potential complete exposure pathways for the current site condition. There is a potential complete, exposure pathway that requires mitigation during implementation of the remedy. There is no complete exposure pathway 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 impervious surface cover cap, a vapor barrier system and passive SSDS system for the building. 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. After the remedial action is complete, there will be no remaining exposure pathways to on-Site soil/fill, as all soil above Unrestricted Use SCOs will have been removed and a vapor barrier system will have been installed as part of development. 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.

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5.0 REMEDIAL ACTION MANAGEMENT

5.1 Project Organization and Oversight

Principal personnel who will participate in the remedial action include Robert Bennett, the Project Manager with EBC and Kevin Waters, Field Operations Officer with 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 **Attachment E**. The Site Safety Coordinator will be Kevin Waters - EBC. 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, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

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Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment. 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 HASP. 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 baling/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. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager

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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; and,
- 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.

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Particulate Monitoring, Response Levels, and Actions

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

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

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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 incompliance with applicable laws and regulations 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.

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Dewatering

Groundwater is estimated at approximately 80 to 90 feet below grade and maximum excavation to a depth up of 15 feet is anticipated; therefore, dewatering of groundwater during construction will not be necessary. If groundwater in encountered during excavation activities, the water will be disposed into the New York City combined sanitary/storm sewer system. A permit to discharge will be obtained from the New York City Department of Environmental Protection (NYCDEP). As part of the permit to discharge, the location of discharge will be based on the Site-Specific requirements of the DEP. The need for pretreatment will be determined by DEP's requirements for the discharge permit. If pretreatment is required by the DEP, it will be performed in accordance with the requirements of the DEP.

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 roads 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 NYC VCP 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 potable water will be utilized for the removal of soil from vehicles and equipment, as necessary.

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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; lose materials will be secured to prevent dislocation and blowing by wind or water; heavy equipment such as excavators and generators will be removed from holes, 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

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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 by 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. Storm-water 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 on-Site 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. If the source of the spill is ongoing and can be identified, it should be stopped it 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

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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 NYC VCP 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 11**.

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.

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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 day. Those reports will include:

- Project number and statement of the activities and an update of progress made and locations of 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 excursions; if any,
- 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.* jpg files).

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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 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 that the remedial action with the deviation(s) is protective of public health and the environment.

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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 al 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; and,
- Continue registration of the property with an E-Designation by the NYC Department of Buildings (if Track 1 remedial action is not achieved).

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Remedial Action Report Certification

The following certification will appear in front of the Executive Summary of the Remedial Action Report. The certification will include the following statements:

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:

- 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 Robert Bennett

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QEP Signature

Date 10/22/2015

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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 2 month remediation period is anticipated.

Schedule Milestone	Weeks from Remedial Action Start	Duration (weeks)
OER Approval of RAWP	4	-
Fact Sheet 2 announcing start of remedy	4	-
Mobilization	5	3
Installation of SVE extraction wells	8	1
Remedial Excavation	8	4
Demobilization	12	1
Submit Remedial Action Report	12	1

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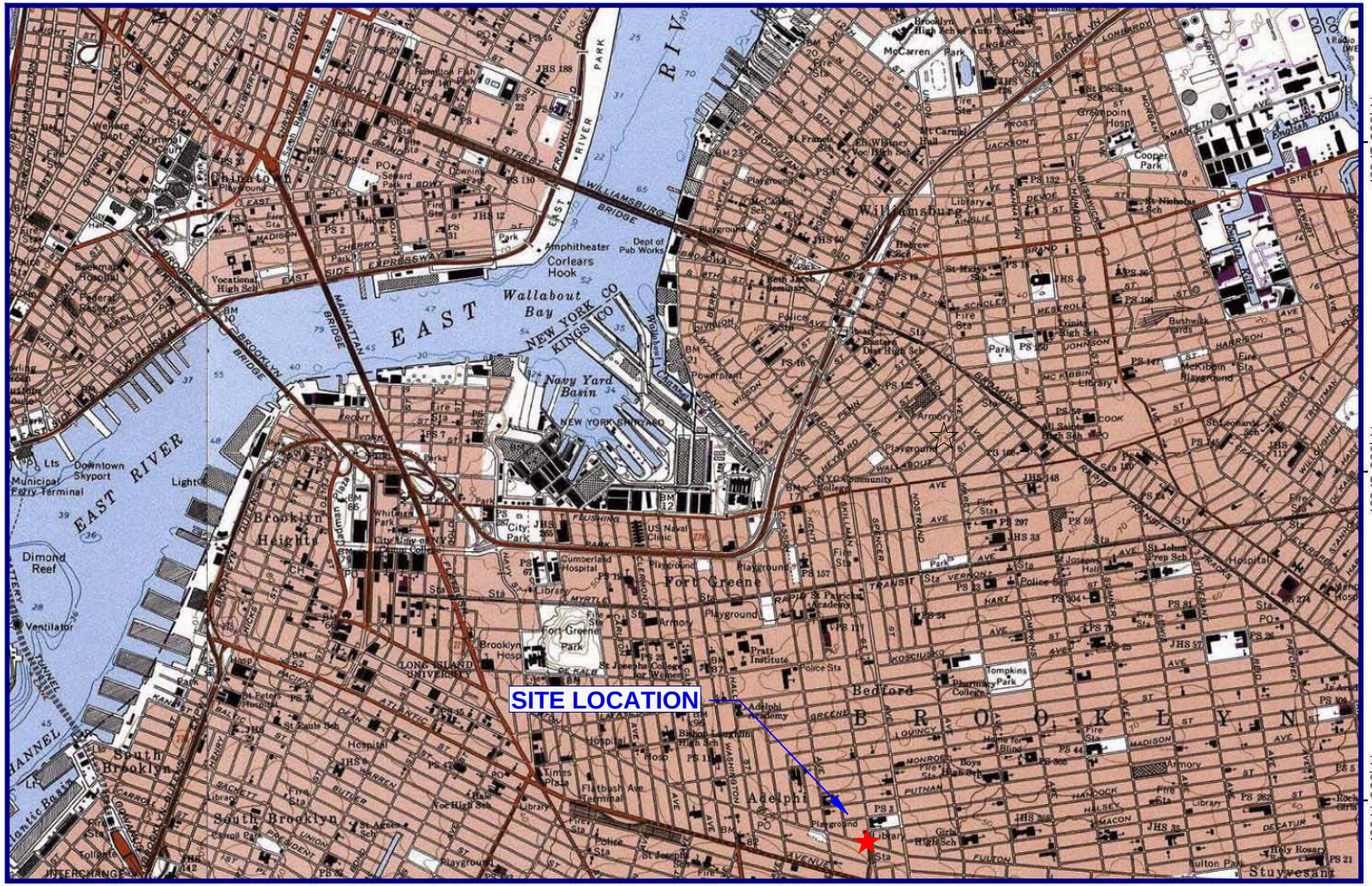
FIGURES



USGS Brooklyn Quadrangle 1995, Contour Interval = 10 feet

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1138 FULTON STREET
BROOKLYN, NY

FIGURE 1 SITE LOCATION MAP

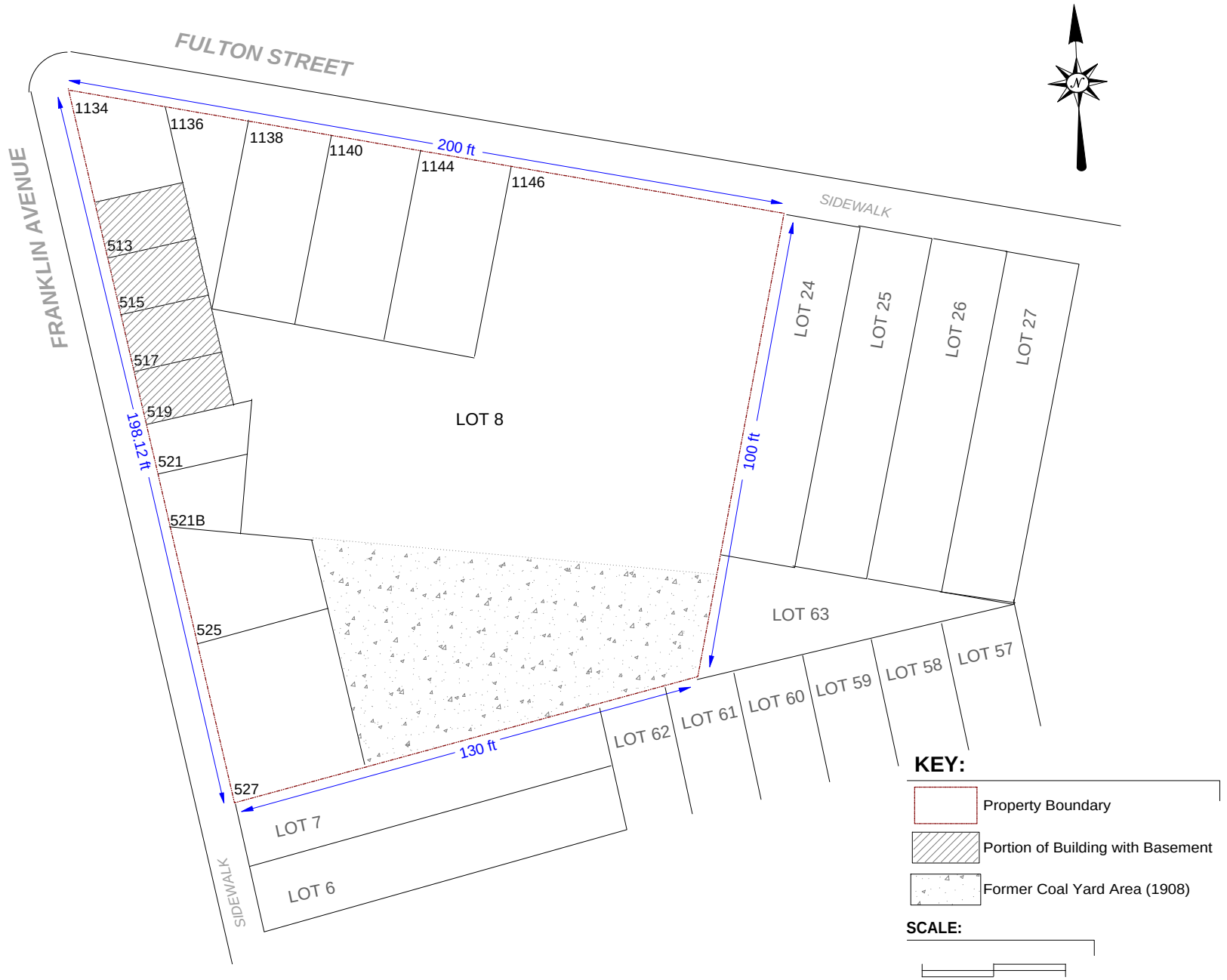

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Figure No. 2

Site Name: 1138 Fulton Street
Site Address: 1138 Fulton Street, Brooklyn, NY
Drawing Title: Site Plan

KEY:

Property Boundary

SCALE:

0 10 20

Scale: 1 inch = 20 feet

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Figure No. 3

Site Name: Redevelopment Project

Site Address: 1134 Fulton Street, Brooklyn, NY

Drawing Title: Redevelopment Plan

AREA CHART - 1134 Fulton Street - 2015/03/05

Floor	Total Gross Floor Area	Commercial Gross Floor Area	Parking Floor Area	Residential Gross Floor Area	Quality Housing Deductions: Refuse Room	Corridor Density 50%	Corridor Light 50%	Mechanical	Recreation Room	Other Deductions: Open to below	Bicycle Parking	Loading Berth	Parking	Total Deductions	Residential Net for FAR	Commercial Net for FAR	Net for FAR
Cellar	25,638.00	17,675.00		2,038.00							1,222.00			25,638.00		17,675.00	0.00
1st	24,587.00	18,781.00	1,870.00	3,514.00				25.30		282.00		722.00	1,870.00	3,007.30	3,486.50	18,489.00	21,979.50
2	25,194.00		25,194.00	0.00				0.00					25,164.00	25,194.00	0.00	0.00	0.00
3	18,001.00			18,001.00	12.00		955.80	217.20	1,240.00		211.00			2,634.90	15,416.10		15,416.10
4	17,904.00			17,904.00	12.00		879.15	217.20		1,454.00				2,562.35	15,341.65		15,341.65
5	17,904.00			17,904.00	12.00		879.15	217.20		304.50				1,412.85	16,491.15		16,491.15
6	17,904.00			17,904.00	12.00		879.15	217.20		304.50				1,412.85	16,491.15		16,491.15
7	17,904.00			17,904.00	12.00		879.15	217.20		304.50				1,412.85	16,491.15		16,491.15
8	7,607.00			7,607.00	12.00		385.42	106.15	1,250.00	304.50				2,062.12	5,544.88		5,544.88
Roof	353.00			353.00										267.00	352.00		85.00
Total Gross Area Above Grade	**147,777.00**	**18,791.00**	**27,134.00**	**101,140.00**	72.00	0.00	4,856.02	1,218.60	2,491.60	2,964.00	211.00	722.00	27,134.00	**39,938.42**	**89,618.58**	**18,489.00**	**107,840.58**
Total Gross Area Incl. Cellar	**173,412.00**	**36,451.00**	**27,134.00**		**72.00**	**0.00**	**4,856.02**	**1,218.60**	**2,491.60**	**2,964.00**	**1,434.00**	**722.00**	**27,134.00**	**65,571.42**		**36,159.00**	**107,840.58**

EFFICIENCY	Sellable / Gross Area	Sellable Area	Units A–X
[illegible]	[illegible]	[illegible]	[illegible]

TOTAL AREA LOT	25,753 S.F

MAXIMUM PERMITTED RESIDENTIAL FAR	4.20 FAR
MAXIMUM PERMITTED NET RESIDENTIAL ZONING FLOOR AREA	108,163 SF
MAXIMUM PERMITTED RESIDENTIAL ZONING FLOOR AREA	108,163 SF

PROPOSED GROSS RESIDENTIAL FLOOR AREA	[illegible] SF
PROPOSED RESIDENTIAL NET FLOOR AREA FOR FAR	[illegible] SF
PROPOSED RESIDENTIAL FAR	3.48

PROPOSED GROSS COMMERCIAL FLOOR AREA	[illegible] SF
PROPOSED RESIDENTIAL NET FLOOR AREA FOR FAR	[illegible] SF
PROPOSED COMMERCIAL FAR	0.72

PROPOSED TOTAL GROSS FLOOR AREA INCLUDING CELLAR	[illegible] SF
PROPOSED TOTAL GROSS FLOOR AREA ABOVE GRADE	147,777.00 SF
PROPOSED TOTAL ZONING FLOOR AREA	107,840.58 SF
PROPOSED TOTAL FAR	4.19
USEABLE LOT	[illegible] SF

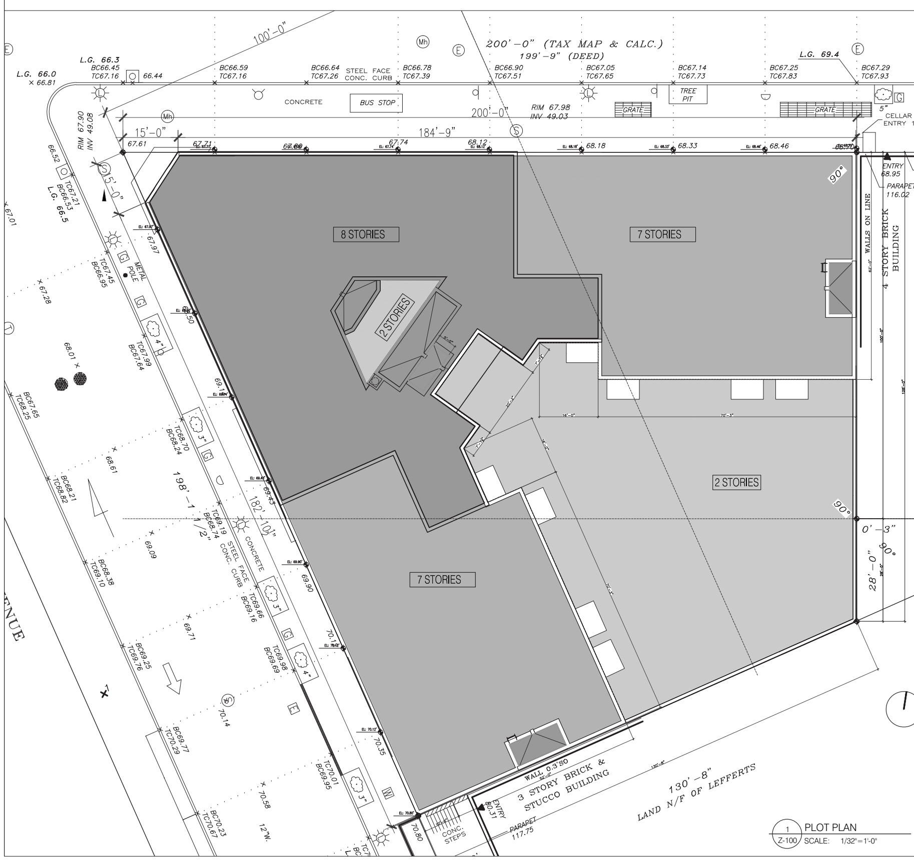
REQUIRED INCLUSIONARY HOUSING				10%
TOTAL UNITS REQUIRED	117	*50%	=	[illegible]

ZONING ANALYSIS

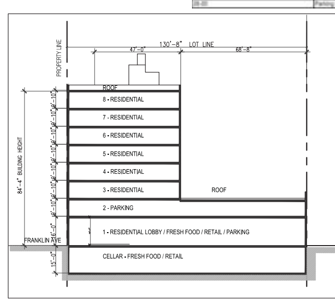
ADDRESS	1134 FULTON STREET, BROOKLYN NEW YORK 11216
Block	2017
Lot(s)	8
Zoning District(s)	C2-4 / R7D
Zoning Map	17A
Total Lot Area	25753 SF
Community Board	3 BROOKLYN
Inclusionary Housing	YES
Flood Zone	No
Environmental Designation	Yes. Underground Gasoline storage tanks testing protocol. Window Wall attenuation & Alternate Ventilation

Applicable ZR Section	Item	Required/Permitted	Proposed	Compliance
Use Regulations				
22-00	General Provisions. Uses Permitted	UG 1-4	UG 2	Complies
32-00	Uses Permitted	UG 1-9	UG 4	
Bulk Regulations - RESIDENTIAL BUILDING				
23-011	Quality Housing Program	Any Building in R7D shall comply with requirements of chapter 8. quality housing program	Quality housing program requirements are provided as required in R7D residential Districts See requirements	Complies
23-02	Applicability of Residential District Bulk Regulations			
23-933	Inclusionary Housing		not provided	complies
23-10	Open Space and Floor Area Regulations			
23-145 23-952	For Quality Housing Buildings	Maximum Lot Coverage for corner lot 80%. (80%x10,946.9= 8,756.72 sf) for Interior Lot. 80%. (80%x14,807.1sf = 9,624.6sf) Maximum Floor area Ratio: 4.20 (25,753sf x 4.2= 108,162.6 sf)	Lot Coverage Corner: 8,660.3 sf = 79.3% Lot Coverage Interior: 9,369.7 sf = 63.3% Res. Zoning Floor Area = 89,886.58 sf Floor Area Ratio: 3.48	complies complies
23-952	Inclusionary Housing	Base FAR - 4.20		
33-121	Max Commercial FAR - R7D/C2-4	FAR - 2.00 x 25,753 sf = 51,506 sf	18,489 sf FAR = 0.72	complies
	Total FAR permitted	4.20	4.19	complies
23-20	Density Regulations			
35-40 / 23-22	Maximum Number of Dwelling Units	Permitted Zoning Floor Area/680 = 108,162.6/680 = 159 units	117.00	Complies
23-30	Lot Area And Lot Width Regulations			
23-32	Minimum Lot Area or Lot Width for Residences	Minimum Lot Area = 1,700 sf Minimum Lot Width = 18 ft	Lot Area = 25,753 sf Lot Width = 128'-0"	complies
23-40	Yard Regulations			
23-42	Level Of Yard	All Yards provided shall not be higher than curb level unless this is existing condition. No structure permitted on rear yard		complies
23-44 (a)	Permitted Obstructions in Required Yards	Balconies		
23-132	Balconies in R7 district	Balconies may project up to 7ft into required rear yard. Can not cover more than 10% of required open space. Must be located at or higher than 3rd story. Have an aggregate width not exceeding 50% of building wall (50%x172.5'=86.25 max)	Balconies project 5'-0" on 3rd to 7th floor into rear yard setback. Balconies provided on floors 3-7 Aggregate width of Balconies = 84'	complies
35-51	Front Yard	Front=0'	0'-0"	complies
35-52 / 23-46	Minimum Required Side Yards	Side Yard = 0.0' or 8.0'	No side yard provided	complies
35-53 / 23-47	Minimum Required Rear Yards	30'	68'	complies
23-60	Height and Setback Regulations			
23-62	Permitted Obstructions	The following shall not be considered obstructions and may thus penetrate a maximum height limit or front or rear sky exposure planes: (c) Chimneys or flues, with a total width not exceeding 10% of the aggregate width of street walls of a building at any given level (e) Elevator or stair bulkheads, each having an aggregate width of street walls equal to not more than 30 feet. However, the product, in square feet, of the aggregate width of street walls of such obstructions facing each street frontage, times their average height, in feet, shall not exceed a figure equal to four times the width, in feet, of the street wall of the building facing such frontage (f) Elevator shafts, portion of which provide as elevator stop with access to a roof, and associated vestibules providing access to such roof, provided that such vestibules include no more than 60 s.f. of floor area (h) Parapet walls, not more than 4 ft. high	Proposed stair and elevator bulkhead are complying	Complies
23-633 (a)	Street Wall Location and Height and Setback	In R7D, the street wall shall be located no closer to the street line than the closest street wall of an existing building to such street line located on the same block, and within 150 ft. of such development. however the street wall need not to be located further from the street line more than 15 ft. On corner lots these street wall location provisions shall apply along only one street line	The building wall is located on the street line to match neighboring building on Fulton street	complies
35-24 / 23-633 (d)	Min. & Max Base Height and Max Building Height	Min. Base Height = 60'-0" Max Base Height = 85'-0" Maximum Building Height = 100'-0"	Base Height = 75'-0" Building Height = 84'-8"	complies
35-24 / 23-633 (b)	Setback Regulations	Setback on Narrow street (Franklin) = 15'-0" Setback on Wide street (Fulton) = 10'-0" Rear Yard Setback = 10-0' @ 65-0' Base height	No setback as building is below max. Base height	complies
23-80	Court Regulations, Minimum Distance Between Windows and Walls or Lot Lines and Open Area Requirements			
23-89	Open Area Requirements for Residences			
23-892 (a)	In R6 through R10 Districts	In R7D, 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	Area between the building and street line to be planted.	Complies
Accessory Off-Street Parking and Loading Regulations				
25-162	Maximum Spaces for residences	1 spot/300 sf of Lot area = 25 max.	attendant parking	Complies
25-20	Required Accessory Off-Street Parking Spaces For Residence			complies
25-23	Residential Parking Requirements	50% of Total Residences Required = (117 units x 50%=59 spots required)	75 Spaces provided	complies
36-21	Required Accessory Off-Street Parking Spaces For Commercial	1/100 sf Food stores / General retail 36,451 sf/1000 sf = 36 spaces required	Spaces waived see 36-233 below	complies
36-233	Waiver of commercial parking spaces	In C2-4 less than 40 spaces waived	Spaces waived	complies
36-62	Required Accessory Off-street Loading berths	first 25.00 sf none required, next 15,000 sf - 1 required 36,451 sf = 1 required	1 provided	complies
25-80	Bicycle Parking			
25-811	Enclosed Bicycle Parking Spaces	1 bicycle parking for each 2 dwelling units is required Required no. of spaces = 117x0.5 =59 bicycle spaces	59 spaces provided (59x15 sf=885 sf)	Complies
25-83	Restrictions on Operations, Size and Location of Bicycle Parking spaces	All enclosed bicycle parking spaces shall be provided on the same zoning lot as the building. All enclosed bicycle parking's spaces shall be surrounded on all sides by solid enclosure except where a parking garage is open at the sides, and covered by a roof for weather protection. Each bicycle space shall adjoin a rack or similar system for securing the bicycle. 15 s.f of area shall be provided for each bicycle space. Required area = 20 x 15 = 300 s.f. A plaque shall be placed at the exterior of the entry to the bicycle parking area with lettering at least 3/4 in. in height stating 'Bicycle Parking'	All Bicycle Parking spaces are enclosed with the signage as required. See CELLAR Plan (A-101)	Complies
Quality Housing requirements				
28-12	Street Tree planting	1 tree/25' street frontage, 3" min caliper	8	complies
28-21	Size of dwelling units	400 sf min.	414 sf	complies
28-22	Windows	all residential windows to be double-glazed	provided	complies
28-23	Refuse storage and disposal	2.9 cu/ft unit 2.9 x 117 units = 339.3 cu.ft		
28-24	Laundry Facilities	1 w.m. / 20 d.u. + 1 dryer/40 d.u. = 117 UNITS/20 = 6 req. W.m. 3 req. Dryers	W+D provided in dwelling units	complies
28-25	Daylight in Corridor. excl. 30% FA	exterior window 20 sf min., visible from 50 % of corridor or vertical core		
28-31	Req'd recreation space	3.3% of residential FA 89,618.58 sf x 3.3 % = 2,957.4 sf	Indoor 2,492 sf Outdoor 7,4258 sf	
28-32	Standards for rec. space			complies
28-33	Planting Areas	area between street and proposed building		complies
28-50	Parking	per 25-00	0	complies

3 INCLUSIONARY HOUSING MAP
Z-100 SCALE:



1 PLOT PLAN
Z-100 SCALE: 1/32"=1'-0"



2 SCHEMATIC SECTION
Z-100 SCALE: 1/16"=1'-0"

4 ZONING MAP
Z-100 SCALE:

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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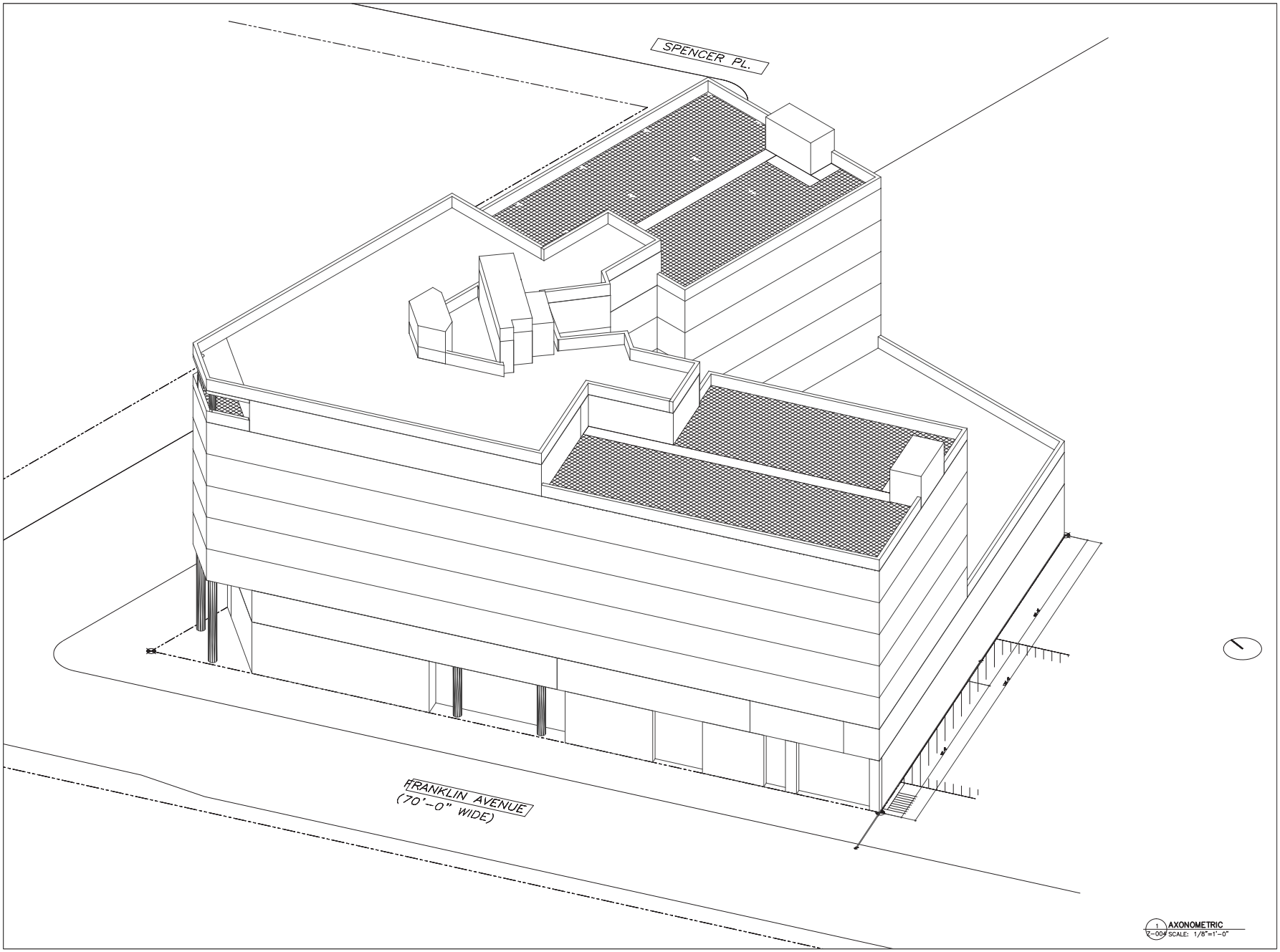
project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ZONING ANALYSIS

dob no

scale	project no.
1/16"=1'-0"	14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. Z-001.00
checked	



1 AXONOMETRIC
Z-004 SCALE: 1/8"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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SEAL

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
MASSING STUDY
AXONOMETRIC

dob no

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date 2014-02-20	sheet no. OF
drawn HW	drawing no. Z-004.00
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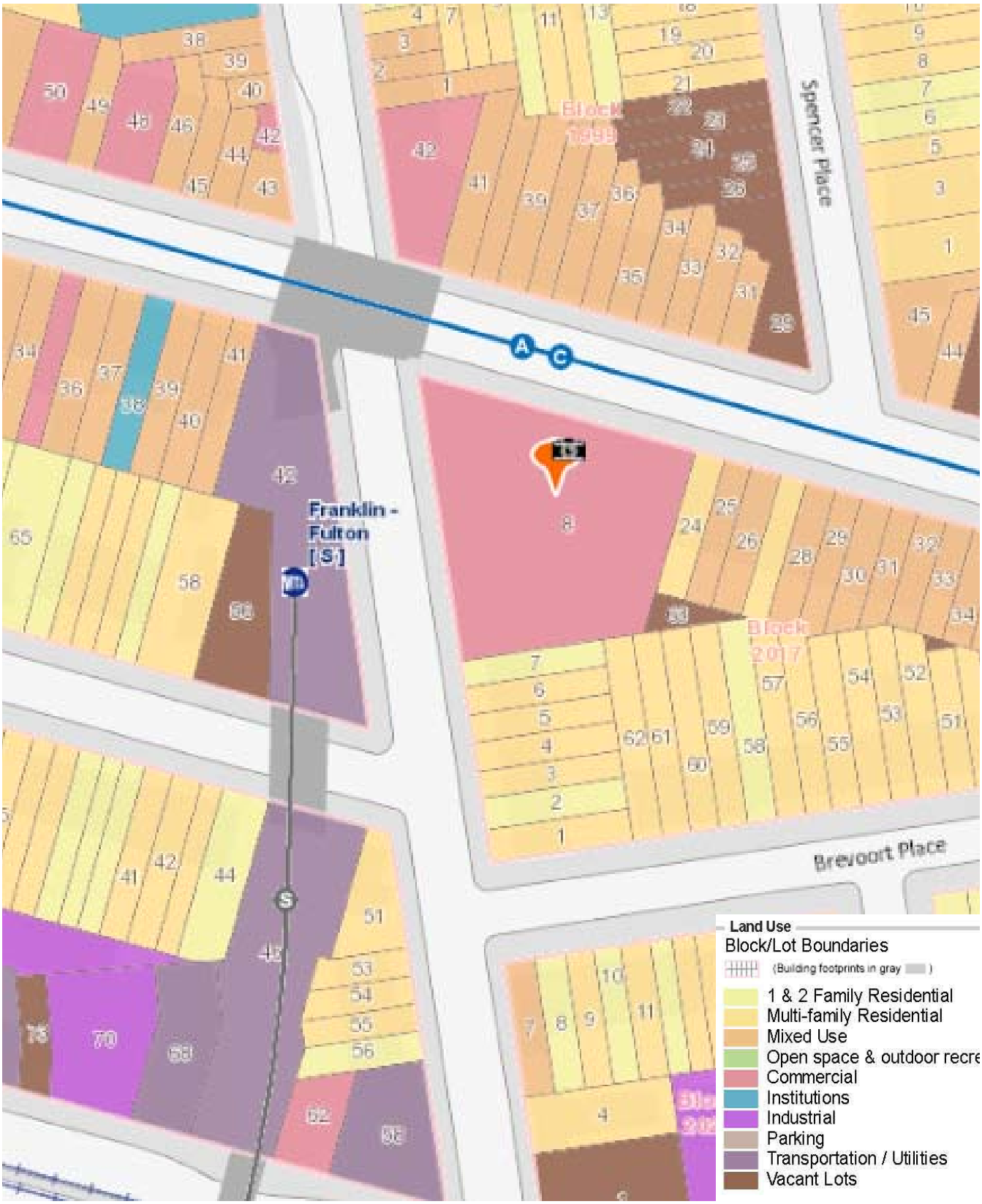

EBC
Environmental Business Consultants
Phone 631.504.6000
Fax 631. 924 .2870

Figure No. **4**

Site Name: Redevelopment Project

Site Address: 1134 Fulton Street, Brooklyn, NY

Drawing Title: Surrounding Land Use Map

EBC
ENVIRONMENTAL BUSINESS CONSULTANTS
Phone 631.504.6000
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Figure No. 5

Site Name: REDEVELOPMENT PROJECT

Site Address: 1134 FULTON STREET, BROOKLYN, NY

Drawing Title: EXCAVATING AND CAPPING PLAN

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

Figure No. 6

Site Name: Redevelopment Project
Site Address: 1134 Fulton Street, Brooklyn, NY
Drawing Title: End Point Sampling Plan

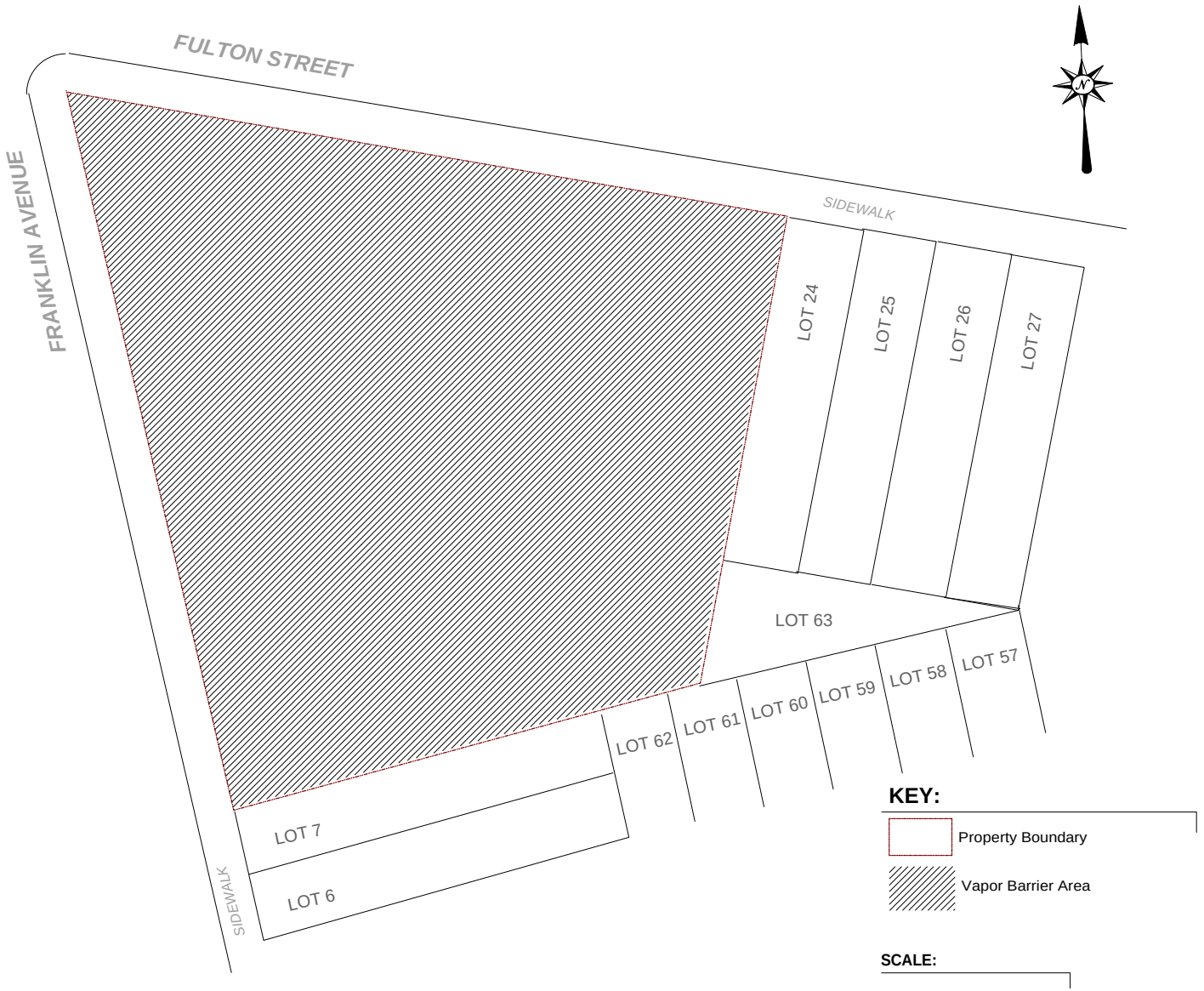

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Figure No. 7

Site Name: REDEVELOPMENT PROJECT
Site Address: 1134 FULTON STREET, BROOKLYN, NY
Drawing Title: VAPOR BARRIER PLAN

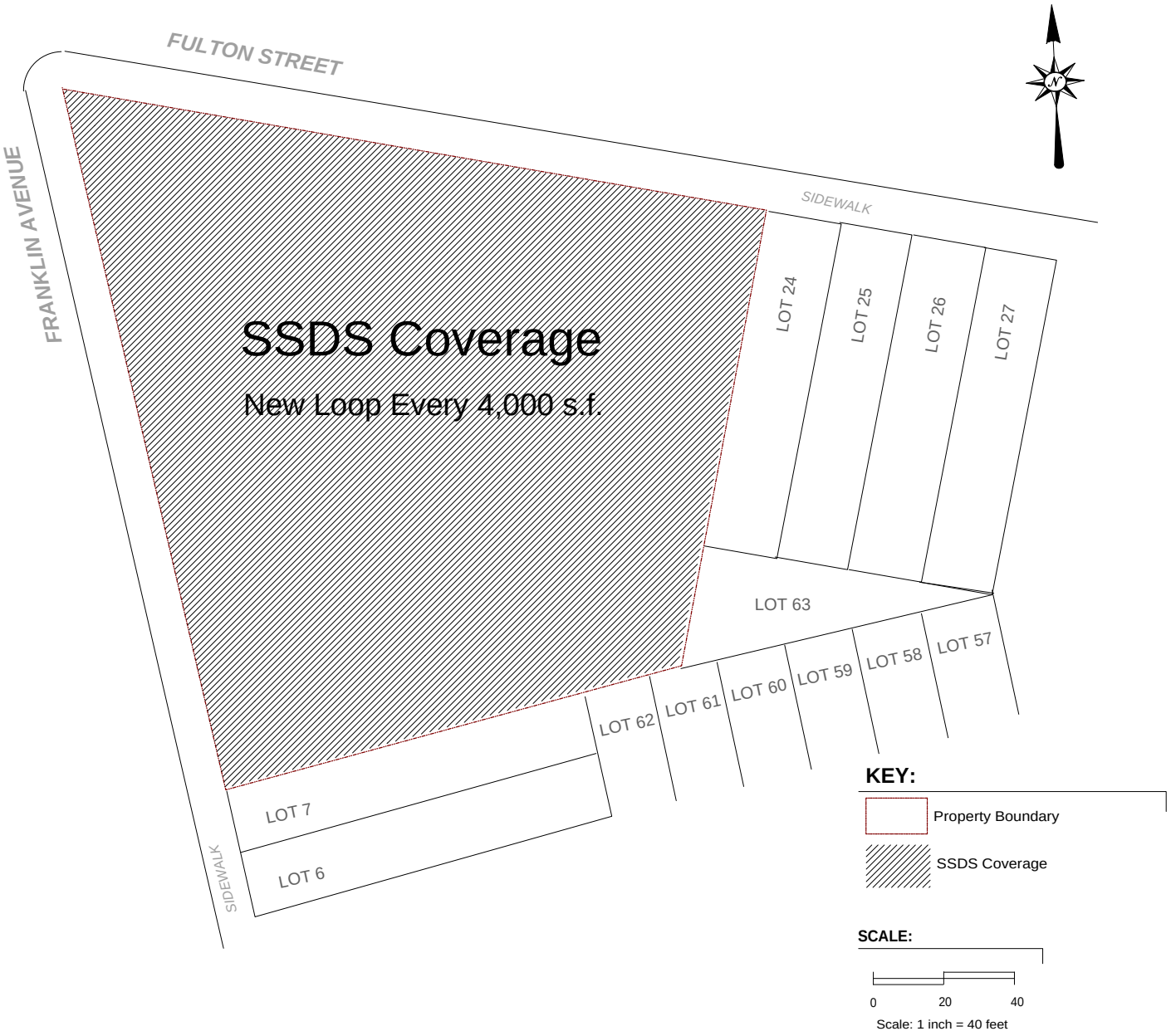

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Figure No. 8

Site Name: Redevelopment Project
Site Address: 1134 Fulton Street, Brooklyn, NY
Drawing Title: SSDS Plan

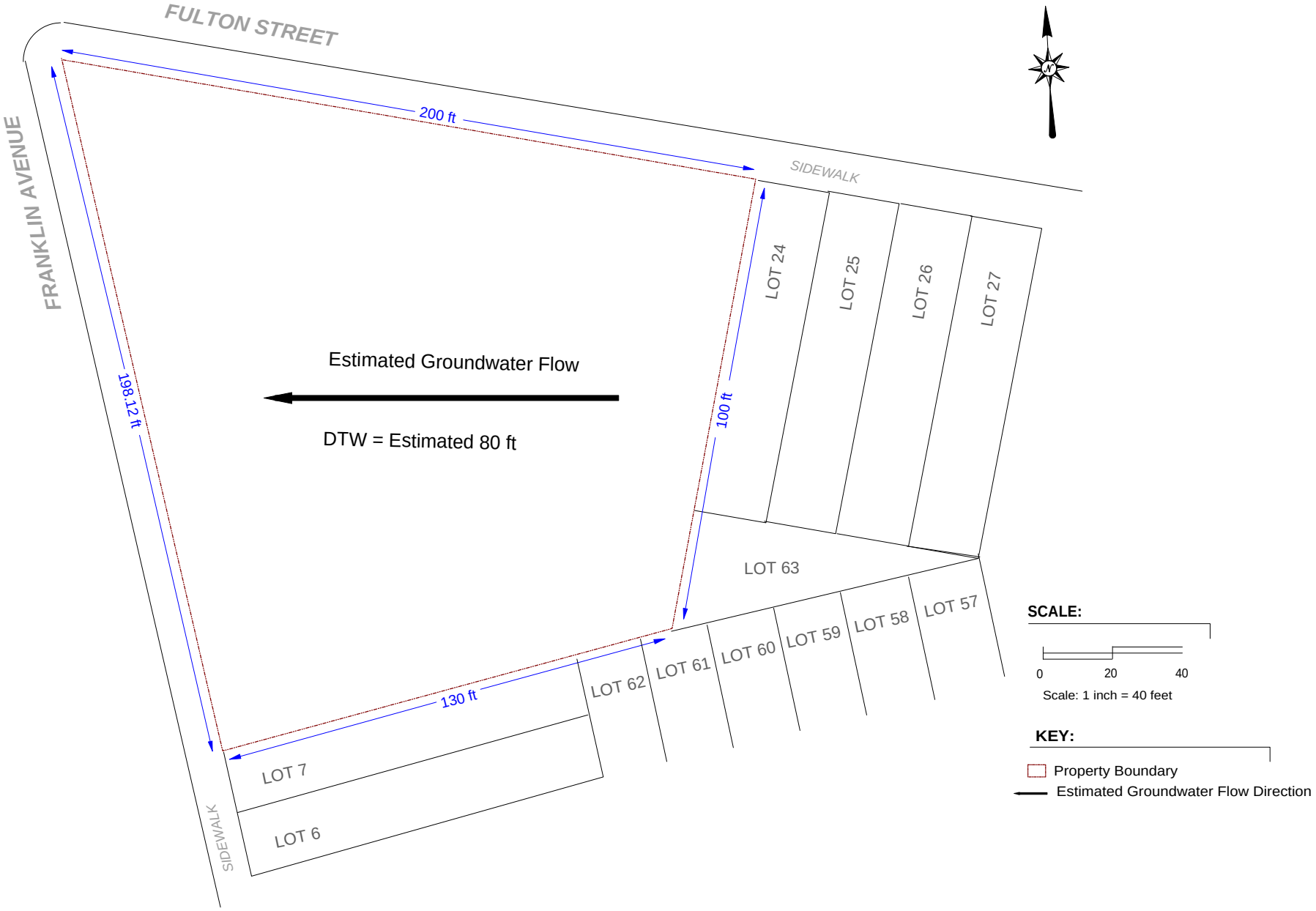

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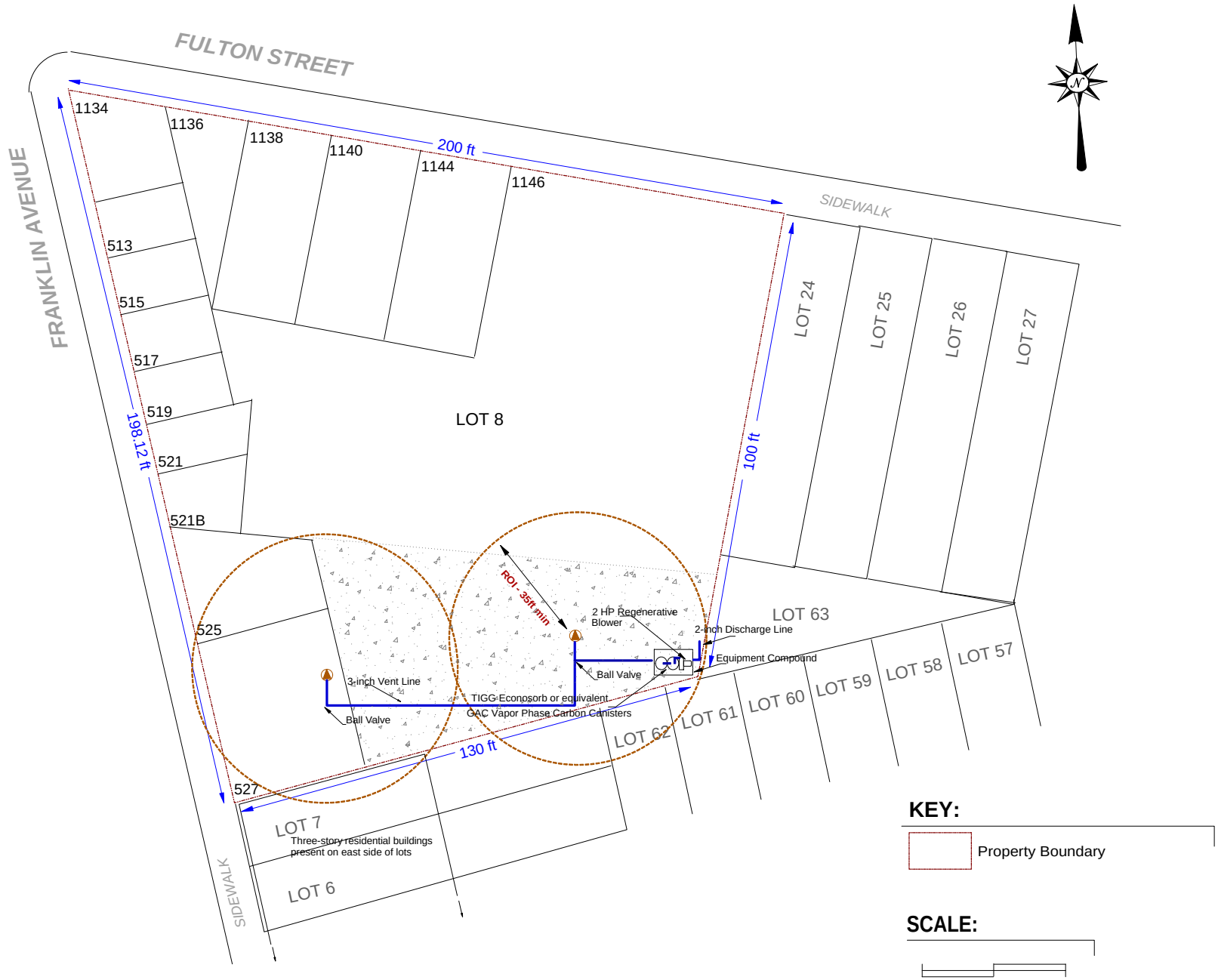
Figure No. 9

Site Name: 1134 Fulton Street
Site Address: 1134 Fulton Street, Brooklyn, NY
Drawing Title: Groundwater Elevation Map



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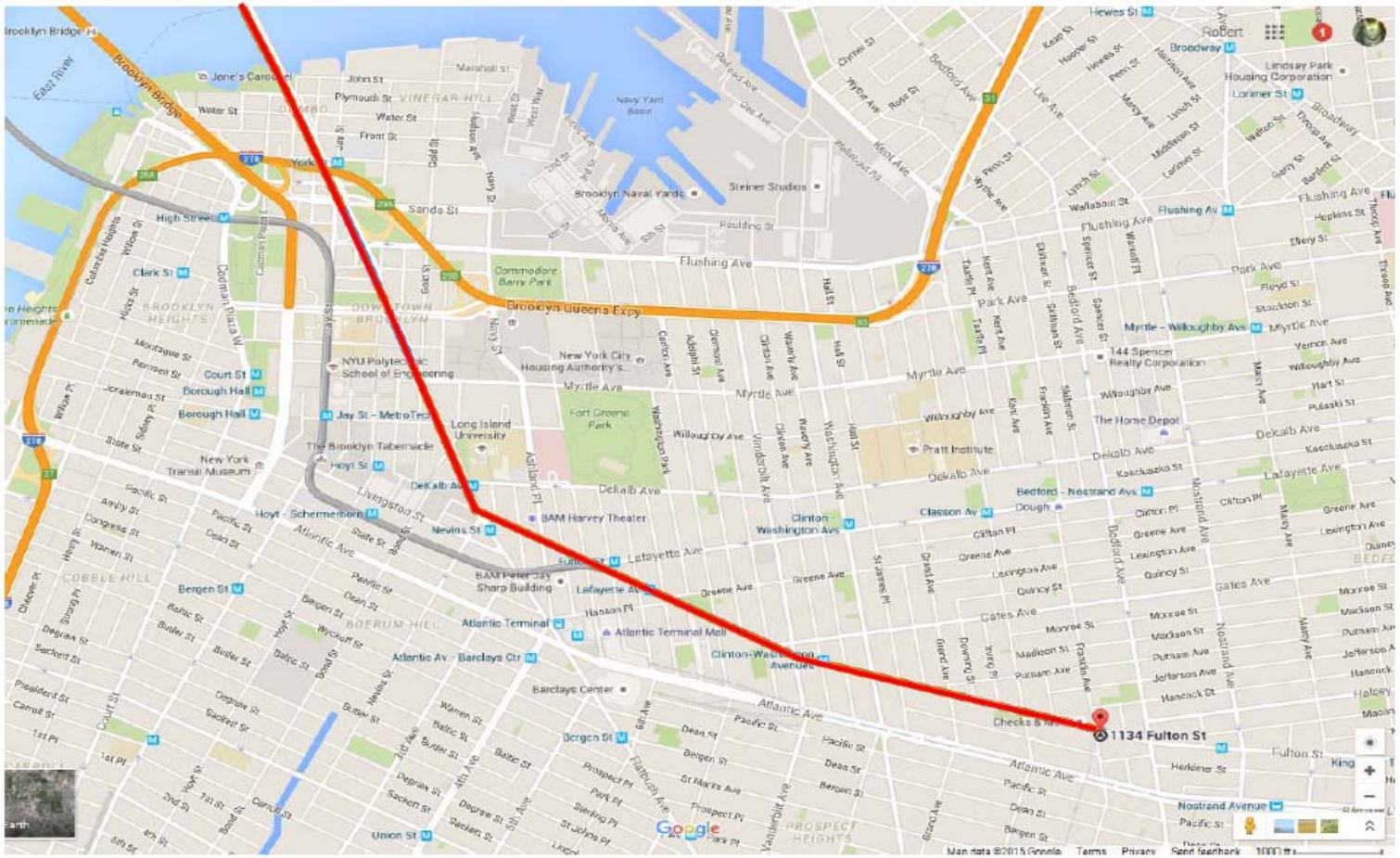
Fax 631. 924 .2870

Figure No. 10

Site Name: 1134 Fulton Street
Site Address: 1134 Fulton Street, Brooklyn, NY
Drawing Title: SVE System



Truck Route to and from the Site

EBC Environmental Business Consultants Phone 631.504.6000 Fax 631. 924 .2870	Figure No. 11	Site Name:	Redevelopment Project
		Site Address:	1134 Fulton Street, Brooklyn, NY
		Drawing Title:	Truck Route Map

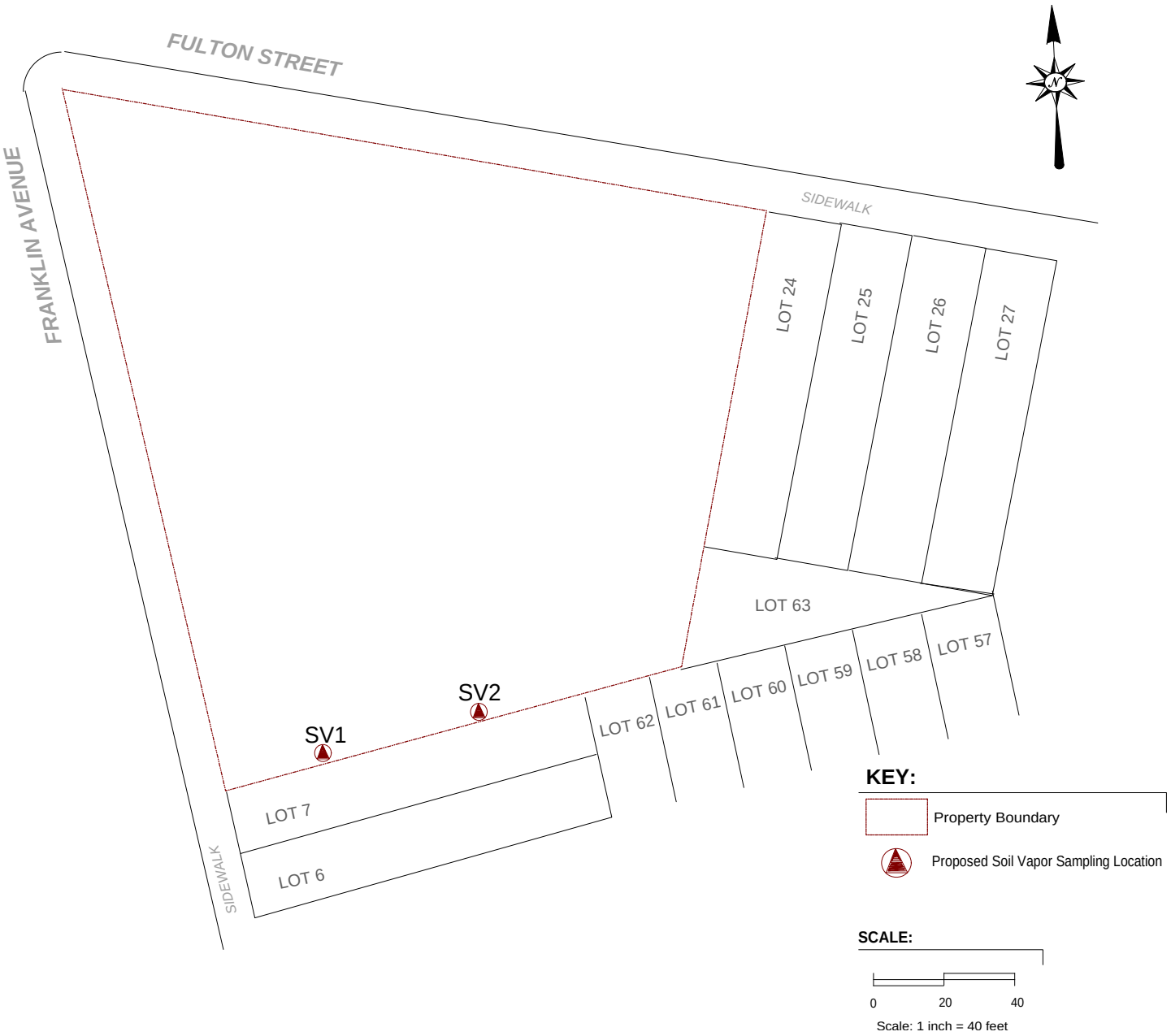


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Figure No. 12

Site Name: Redevelopment Project
Site Address: 1134 Fulton Street, Brooklyn, NY
Drawing Title: Additional Soil Vapor Points Sampling

ATTACHMENT A

PROPOSED DEVELOPMENT PLAN

MIXED USE DEVELOPMENT

1134 FULTON STREET, BROOKLYN, NY

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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project title
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1134 FULTON STREET, BROOKLYN 11216

drawing title
COVER SHEET

dob no

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ISSUED TO DOB 03/05/15

ARCHITECTURAL DRAWINGS LIST

ISSUED / REVISED	SHEET NO.	SHEET TITLE	PAGE
●	T-001.00	COVER SHEET	1
●	T-002.00	DRAWING LIST	2
●	T-003.00	GENERAL NOTES, CODE ANALYSIS, LEGEND	3
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●			
●	Z-004.00	ZONING ANALYSIS -AXONOMETRIC	5
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●	Z-007.00	ZONING ANALYSIS - GROSS FLOOR AREA CALCULATION DIAGRAMS	8
●	Z-008.00	ZONING ANALYSIS - GROSS FLOOR AREA CALCULATION DIAGRAMS	9
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●	Z-010.00	ZONING ANALYSIS - FLOOR AREA DEDUCTION DIAGRAMS	11
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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
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NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
GENERAL NOTES, CODE ANALYSIS, LEGEND

dob no

scale	project no. 14-76
date NTS	sheet no. OF
drawn HW	drawing no. T-002.00
checked	

GENERAL NOTES:

1. DO NOT SCALE THE DRAWINGS. USE CALCULATED DIMENSIONS ONLY.

2. THE CONTRACTOR SHALL PROVIDE PROTECTION FOR THE GENERAL PUBLIC AND CONSTRUCTION WORKERS IN AND AROUND THE CONSTRUCTION AREA, AND FOR THE ADJACENT PROPERTY AND PERSONS. ADEQUATE BARRIERS SHALL BE PROVIDED TO EXERCISE CONTROL OF SAFE INGRESS AND EGRESS OF THE PREMISES. FIRE EXITS SHALL BE MAINTAINED AT ALL TIMES, AND AT NO TIME BE BLOCKED. THE CONTRACTOR SHALL BARRICADE ALL UNSAFE OR INJURIOUS CONDITIONS.

3. ALL EXISTING CONSTRUCTION AND EQUIPMENT SHALL BE PROTECTED BY THE CONTRACTOR DURING THE ENTIRE PERFORMANCE OF THE WORK. AREAS DISTURBED OR DAMAGED BY THE CONTRACTORS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY CLEAN UP OF CONSTRUCTION DEBRIS. ALL UNUSED MATERIALS AND DEBRIS SHALL BE LEGALLY DISPOSED OF, AWAY FROM THE PREMISES. NO ON-SITE STORAGE OR BURIAL OF DEBRIS SHALL BE ALLOWED.

5. NOT USED

6. THE CONTRACTOR SHALL CHECK AND VERIFY THE EXISTING CONDITIONS AT THE SITE AGAINST THE DRAWINGS AND SPECIFICATIONS, AND INFORM THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO COMMENCEMENT OF WORK.

7. ALL DIMENSIONS INDICATED ON THESE DRAWINGS, OF EXISTING CONDITIONS, ARE APPROXIMATE AND SHALL BE FIELD VERIFIED TO THE CONTRACTOR'S SATISFACTION PRIOR TO COMMENCEMENT OF WORK.

8. NOT USED

9. WORK NOT INDICATED ON A PART OF THE DRAWINGS, BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES, SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

10. MINOR DETAILS OR INCIDENTAL ITEMS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR A PROPER AND COMPLETE INSTALLATION OF ANY PART OF THE WORK SHALL BE INCLUDED AS REQUIRED, AS IF THEY WERE INDICATED ON THE DRAWINGS.

11. ALL ITEMS LABELED 'EXISTING' ARE EXISTING 'TO REMAIN', UNLESS OTHERWISE INDICATED. ITEMS NOT LABELED 'EXISTING' ARE TO BE PROVIDED. THE TERM 'PROVIDE' SHALL MEAN PROVIDE AND INSTALL, AS IT IS USED THROUGHOUT THE NOTES ON THE DRAWINGS AND IN THE SPECIFICATIONS.

12. DETAILS AND SECTIONS ON THE DRAWINGS ARE SHOWN AT SPECIFIC LOCATIONS, AND ARE INTENDED TO SHOW GENERAL REQUIREMENTS THROUGHOUT. DETAILS NOTED AS 'TYPICAL' IMPLY ALL CONDITIONS ARE TO BE TREATED SIMILARLY.

13. ALL TIME-RATED CONSTRUCTION SHALL MEET THE FIRE-RESISTIVE RATINGS AND OTHER REQUIREMENTS OF LOCAL LAWS, ORDINANCES, REGULATIONS AND AUTHORITIES HAVING JURISDICTION.

14. ALL PIPE SPACES AND DUCT SPACES SHALL BE ENCLOSED AND FIRE-STOPPED BY A PARTITION OF THE REQUIRED RATING.

15. NOT USED

16. PRIOR TO THE START OF THE WORK, THE CONTRACTOR SHALL COORDINATE THE SEQUENCE OF THE WORK AND SCHEDULE FOR ALL WORK WITH THE OWNER. CONTRACTOR SHALL MEET WITH WITH THE OWNER PRIOR TO THE START OF THE WORK TO DETERMINE ANY AND ALL ITEMS FOR SALVAGE.

17. NOT USED.

18. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH THE OWNER, THE DISCONNECT OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK.

19. ALL INFORMATION FOR ALL TRADES CONTAINED WITHIN THE CONTRACT DOCUMENTS SHALL BE USED, TOGETHER AND IN CONCERT WITH ONE ANOTHER, AS A WHOLE BODY OF INFORMATION FOR THE PROJECT. NO CONTRACTOR NOR SUBCONTRACTOR SHALL BE RELIEVED OF THE RESPONSIBILITY TO PROVIDE ALL ITEMS REQUIRED BY THE INFORMATION AND DESIGN INTENT INDICATED AND IMPLIED BY THE DOCUMENTS, REGARDLESS OF THE LOCATION OF THIS INFORMATION.

20. ALL ELECTRICAL OUTLETS, PLUMBING FIXTURES, MECHANICAL GRILLES, ETC. SHOWN ON THE ARCHITECTURAL DRAWINGS ARE INDICATED TO SET THE GENERAL LOCATION FOR EACH COMPONENT. CONTRACTOR SHALL REFER TO THE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE COMPLETE LAYOUT OF EACH RESPECTIVE ITEM.

21. THE CONTRACTOR SHALL SUBMIT REFLECTED CEILING COORDINATION PLANS FOR ALL SPACES. PLANS SHALL INDICATE CEILING GRID AND MATERIALS, DIFFUSERS, ELECTRICAL FIXTURES, SPRINKLERS, ETC. NO RELATED WORK SHALL PROCEED UNTIL SAID PLANS ARE APPROVED BY THE ARCHITECT.

22. NOT USED.

23. ALL NEW PIPING AND ELECTRICAL CONDUITS SHALL BE CONCEALED WITHIN NEW CONSTRUCTION UNLESS OTHERWISE NOTED.

24. THE CONTRACTOR SHALL FURNISH AND INSTALL ENCLOSURES NECESSARY TO FURR IN PIPES AND CHASES OR TO CONTINUE THE NORMAL LINE OF WALLS AND PARTITIONS.

25. PARTITIONS SHALL BE CONTINUOUS OVER ALL BUILT-IN EQUIPMENT WHERE SHOWN ON PLANS AND DETAILS. CONTRACTOR SHALL FURNISH ALL NECESSARY CONSTRUCTION TO SUPPORT THESE PARTITIONS.

26. THE GENERAL CONTRACTOR SHALL PATCH, REPAIR AND FINISH ALL CUTTING BY THE SUBCONTRACTORS.

27. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING TO SUPPORT EXISTING CONSTRUCTION UNTIL PERMANENT SUPPORT IS ERECTED. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES TO PREVENT COLLAPSE OF WALLS, SLABS, ETC.

28. NOT USED.

29. ALL EXPOSED CONCRETE BLOCK WALLS TO BE RUNNING BOND, UNLESS OTHERWISE NOTED.

30. ALL INTERIOR SURFACES (NEW OR EXISTING) SHALL BE FIELD PAINTED, EXCEPT COLOR COORDINATED FACTORY FINISHES, UNLESS OTHERWISE NOTED.

31. FIRE AREAS SHALL BE SEPARATED FROM EACH OTHER VERTICALLY AND HORIZONTALLY BY FIRE BARRIER ASSEMBLIES HAVING A FIRE RESISTANCE RATING AS PER NEW YORK CITY BUILDING CODE 'SECTION BC 706 FIRE BARRIERS' FOR OCCUPANCY GROUPS B (BUSINESS), M (MERCANTILE), AND U (UTILITY AND MISCELLANEOUS).

ABBREVIATIONS:

A.B.	ANCHOR BOLT
ABV.	ABOVE
A/C	AIR CONDITIONING
A.C.T.	ACOUSTICAL CEILING TILE
A.F.F.	ABOVE FINISHED FLOOR
ALT.	ALTERNATE
ALUM.	ALUMINUM
ARCH.	ARCHITECT
@	AT
BD.	BOARD
BIT.	BITUMINOUS
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
B.O.	BOTTOM OF
B.U.R.	BUILT-UP ROOFING
CAB.	CABINET
C.B.	CATCH BASIN
CEM.	CEMENT
C.J.	CONTROL JOINT
℄	CENTER LINE
CLG.	CEILING
CLOS.	CLOSET
C.M.U.	CONCRETE MASONRY UNIT
C.O.	CLEAN OUT
COL.	COLUMN
COL. DIM.	COLUMN DIMENSION
COMP. FL.	COMPOSITION FLOORING
CONC.	CONCRETE
CONT.	CONTINUOUS
CPT.	CARPET
CRS.	COURSE(S)
C.T.	CERAMIC TILE
DBL.	DOUBLE
DEPT.	DEPARTMENT
DET.	DETAIL
D.F.	DRINKING FOUNTAIN
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
D.S.	DOWNSPOUT
DWG.	DRAWING
EA.	EACH
E.F.	EXHAUST FAN
E.I.F.S.	EXTERIOR INSULATION FINISHING SYSTEM
EL.	ELEVATION
ELEC.	ELECTRIC
ELEV.	ELEVATOR
EQUIP.	EQUIPMENT
E.W.C.	ELECTRIC WATER COOLER
EXIST.	EXISTING
EXP. JT.	EXPANSION JOINT
F.B.C.	FIRE BLANKET CABINET
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.C.	FIRE HOSE CABINET
FIN.	FINISH
FIXT.	FIXTURE
FL.	FLOOR
FOOT'G.	FOOTING
GA.	GAUGE
GALV.	GALVANIZED
G.C.	GENERAL CONTRACTOR
GEO.	GEODETIC
GL.	GLASS
GYP. BD.	GYPSUM BOARD
H.	HEIGHT
HDCP	HANDICAPPED
H.M.TL.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.P.	HIGH POINT
HR.	HOUR
H.R.	HANDRAIL
HTR.	HEATER
H.W.	HOT WATER
INDIV.	INDIVIDUAL
INSTR.	INSTRUMENT
INSUL./INS.	INSULATION
JAN.	JANITOR
JST.	JOIST
JT.	JOINT
LAM.	LAMINATE
LAV.	LAVATORY
LDR.	LEADER
L.P.	LOW POINT
MACH.	MACHINE
MAX.	MAXIMUM
MECH.	MECHANICAL
MFR.	MANUFACTURER
MIN.	MINIMUM
MIR.	MIRROR
M.O.	MASONRY OPENING
MOD.	MODIFIED
MTL.	METAL
N.I.C.	NOT IN CONTRACT
NO.	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.H.	OVERHEAD
OHG.	OVERHANG
PART.	PARTITION
P.C.	PRECAST
P.I.P.	POURED IN PLACE
P.L.	PROPERTY LINE
P. LAM	PLASTIC LAMINATE
PL.TFM.	PLATFORM
PLY.WD.	PLYWOOD
PM.F.	PREMOLDED FILLER
R.D.	ROOF DRAIN
REC.	RECEPTACLE
REINF.	REINFORCEMENT
REQ.	REQUIRED
RM.	ROOM
R.W.L.	RAIN WATER LEADER
S.A.P.	SPRAY-APPLIED ACOUSTICAL PLASTER
S.A.T.	SUSP. ACOUSTICAL TILE
SECT.	SECTION
SIM.	SIMILAR
SPEC.	SPECIFICATION
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRUCT.	STRUCTURAL
T.B.	TACK BOARD
TEMP.	TEMPERATURE
TEMP'D.	TEMPERED
T.O.	TOP OF
TOIL.	TOILET
T.O.M.	TOP OF MASONRY
T.O.S.	TOP OF STEEL
TYP.	TYPICAL
U/S	UNDERSIDE
U.V.	UNIT VENTILATOR
VCT	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
W/	WITH
W.C.	WATER CLOSETS
W.D.	WOOD
W.G.	WIRE GLASS
W.W.F.	WELDED WIRE FABRIC

MATERIALS LEGEND:

- EARTH-UNTOUCHED
- EARTH-BACKFILL
- CONCRETE
- GRAVEL
- BRICK/FACE BRICK
- CONCRETE MASONRY UNIT
- GYPSUM BOARD
- PLYWOOD
- WOOD-FINISHED
- CARPET
- CERAMIC TILE
- CONTINUOUS BLOCKING
- INTERMITTENT BLOCKING
- COMPRESSIBLE FILLER
- INSULATION-RIGID
- INSULATION-BATT/BLANKET
- ACOUSTIC TILE
- GLASS
- FIBERBOARD
- STEEL
- ALUMINUM
- PLASTIC LAMINATE

NOTES:

1. ALL BATHROOMS, KITCHENS & KITCHENETTES WITHIN ALL DWELLING UNITS SHALL BE HANDICAPPED ADAPTABLE.
2. ALL TOILETS & PANTRIES IN COMMERCIAL & RECREATION SPACES TO BE HANDICAPPED ACCESSIBLE.
3. MINIMUM SIZE ADAPTABLE KITCHEN OR KITCHENETTE AS PER NYC B.C. CHAPTER 11, SECTION 1107.
4. MINIMUM SIZE ADAPTABLE BATHROOM AS PER NYC B.C. CHAPTER 11, SECTION 1107.
5. ALL HANDICAPPED ACCESSIBLE DOORS SHOWN ON PLANS TO HAVE A MINIMUM OF 32" (2'-10" WIDTH) CLEARANCE & TO HAVE HARDWARE AND SADDLES COMPLYING WITH (ANSI A117.1), (SEE HANDICAPPED DETAILS & NOTES).
6. ALL NON FIRE RATED DOORS TO BE SOLID CORE.
7. ALL FIREPROOF SELF-CLOSING DOORS 'FPSC' TO BE 1½Hr. OR ¾Hr. FIRE RATED AS PER TABLE 715.3, SEE DOOR SCHEDULE.
8. ENCLOSURE OF VERTICAL EXITS, EXIT PASSAGEWAYS, HOISTWAYS AND SHAFTS TO BE 2Hr. FIRE RATED AS PER 2008 NYC BUILDING CODE.
9. FLOOR CONSTRUCTION INCLUDING BEAMS TO BE 1½Hr. FIRE RATED AS PER 2008 NYC BUILDING CODE.
10. COLUMNS AND GIRDERS TO BE 2Hr. FIRE RATED AS PER 2008 NYC BUILDING CODE.
11. ALL BATHROOMS TO BE MECHANICALLY VENTED BY AN EXHAUST SYSTEM HAVING A MINIMUM OF 50c.f.m.
12. ALL BATHROOM DOORS TO BE ½" UNDERCUT FOR AIR INGRESS.
13. ALL KITCHENETTE FLOOR AREAS TO BE 79 Sq. Ft. MAXIMUM.
14. ALL KITCHENETTES TO BE MECHANICALLY VENTED BY AN EXHAUST SYSTEM HAVING A MINIMUM. OF 120c.f.m.

SPECIAL INSPECTIONS (TR-1):

• MASONRY	BC 1704.5	
• CURTAIN WALLS, AND VENEERS		BC 1704.10
• FIRESTOP, DRAFTSTOP AND FIREBLOCK SYSTEMS		BC 1704.25
• FRAME INSPECTION	BC109.3.3	
• ENERGY CODE COMPLIANCE INSPECTIONS	TR8	BC 109.3.5
• FIRE-RESISTANCE RATED CONSTRUCTION		BC 109.3.4

SPECIAL INSPECTIONS (TR-8):

• PROTECTION OF FOUNDATION	IA1, IIA1
• INSULATION PLACEMENT AND R VALUES	IA2, IIA2
• FENESTRATION THERMAL VALUES AND RATINGS	IA3, IIA3
• FENESTRATION RATINGS FOR AIR LEAKAGE	IA4, IIA4
• FENESTRATION AREAS	IA5, IIA5
• AIR SEALING AND INSULATION - VISUAL	IA6, IIA6
• PROJECTION FACTORS	IIA7

PLAN SYMBOLS - LEGEND

- GYPSUM BOARD WALL (GWB) NOT FIRE RATED SEE WALL TYPES
- 1 HR. FIRE RATED WALL SEE WALL TYPES
- 2 HR. FIRE RATED WALL SEE WALL TYPES
- 3 HR. FIRE RATED WALL SEE WALL TYPES
- C.M.U. WALL SEE WALL TYPES FOR FIRE RATING
- POURED IN PLACE CONCRETE WALL REFER TO STRUCTURAL DRAWINGS.
- FUTURE OUTWARD DOOR SWING OF ADAPTABLE BATH ROOM ONCE THE DWELLING UNIT IS OCCUPIED BY PERSON W/ PHYSICAL DISABILITY.
- ** INDICATES 1 1/2 HR. FIRE RATED ULC LABELED DOOR AND PRESSED STEEL FRAME WITH DOOR CLOSER
- EXIT SIGN
- EXIT SIGN W/ DIRECTION
- REVISED AREA & REVISION NUMBER
- COMBINATION SMOKE & CARBON MONOXIDE DETECTOR: HARDWIRED SMOKE & CARBON MONOXIDE DETECTORS SHALL COMPLY WITH NYSC 907.2.9.1.3 & 908.7 AND SHALL BE PROVIDED ON THE CEILING OR WALL OUTSIDE OF EACH ROOM USED FOR SLEEPING PURPOSES WITHIN 15 FEET OF THE DOOR TO SUCH ROOM. IN EACH ROOM USED FOR SLEEPING PURPOSES; OR IN EACH STORY OF A DWELLING UNIT
- SMOKE DETECTOR 'w' DENOTES ELEVATOR RECALL
- ACTUAL T.D. (TRAVEL DISTANCE) / MAX. T.D. (TRAVEL DISTANCE) ALLOWED
- * INDICATES 3/4 HR. FIRE RATED ULC LABELED DOOR AND PRESSED STEEL FRAME WITH DOOR CLOSER
- BATH ROOM MECH. VENTILATION
- NON-FREEZE WALL HOSE BIB 'RECESSED'
- WINDOW TAG
- DOOR TAG
- WALL TAG
- FIRE ALARM REMOTE ANNUNCIATOR PANEL
- FIRE ALARM MANUAL PULL STATION
- FIRE ALARM PANEL
- CARBON MONOXIDE SENSOR
- "YOU ARE HERE" SIGN
- DETAIL NUMBER / ENLARGE DETAIL SHEET NUMBER
- ELEVATION NUMBER / BUILDING ELEVATION SHEET NUMBER
- SECTION NUMBER / BUILDING SECTION SHEET NUMBER
- SECTION NUMBER / DETAIL SECTION SHEET NUMBER
- ELECTRIC PANEL
- HEAT DETECTOR
- BALCONY TYPE

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL

REGISTERED ARCHITECT KARL FISCHER 021262 STATE OF NEW YORK

project title

NEW DEVELOPMENT

1134 FULTON STREET, BROOKLYN 11216

drawing title

GENERAL NOTES, CODE ANALYSIS, LEGEND

dob no

scale	project no. 14-76
date NTS	sheet no. OF
drawn HW	drawing no. T-003.00
checked	

W:\2014\14-76 1134 Fulton\DOB\T-003 TITLE.dwg, 05/03/2015 4:24:23 PM, Hamishw, DWG To PDF.pc3

AREA CHART -1134 Fulton street - 2015/03/05

Floor	Total Gross Floor Area	Commercial Gross Floor Area	Parking Floor Area	Residential Gross Floor Area	Quality Housing Deductions					Other Deductions				Total Deductions	Residential Net for FAR	Commercial Net for FAR	Net for FAR
					Refuse Room	Corridor Density 50%	Corridor Light 50%	Mechanical	Recreation Room	Open to below	Bicycle Parking	Loading Berth	Parking				
Cellar	**25,635.00**	**17,670.00**		**2,028.00**							1,223.00			25,635.00		17,670.00	0.00
1st	**24,987.00**	**18,781.00**	**1,970.00**	**3,514.00**				23.50		292.00		722.00	1,970.00	3,007.50	3,490.50	18,489.00	21,979.50
2	**25,164.00**		**25,164.00**	**0.00**				0.00					25,164.00	25,164.00	0.00	0.00	0.00
3	**18,051.00**			**18,051.00**	12.00		953.80	217.20	1,240.90		211.00			2,634.90	15,416.10		15,416.10
4	**17,904.00**			**17,904.00**	12.00		879.15	217.20		1,454.00				2,562.35	15,341.65		15,341.65
5	**17,904.00**			**17,904.00**	12.00		879.15	217.20		304.50				1,412.85	16,491.15		16,491.15
6	**17,904.00**			**17,904.00**	12.00		879.15	217.20		304.50				1,412.85	16,491.15		16,491.15
7	**17,904.00**			**17,904.00**	12.00		879.15	217.20		304.50				1,412.85	16,491.15		16,491.15
8	**7,607.00**			**7,607.00**	12.00		385.62	109.10	1,250.90	304.50				2,062.12	5,544.88		5,544.88
Roof	**352.00**			**352.00**										267.00	352.00		85.00
Total Gross Area Above Grade	**147,777.00**	**18,781.00**	**27,134.00**	**101,140.00**	72.00	0.00	4,856.02	1,218.60	2,491.80	2,964.00	211.00	722.00	27,134.00	**39,936.42**	**89,618.58**	**18,489.00**	**107,840.58**
Total Gross Area Incl. Cellar	**173,412.00**	**36,451.00**	**27,134.00**		**72.00**	**0.00**	**4,856.02**	**1,218.60**	**2,491.80**	**2,964.00**	**1,434.00**	**722.00**	**27,134.00**	**65,571.42**		**36,159.00**	**107,840.58**

EFFICIENCY	Residential	Units																							Units
Sellable / Gross Area	Sellable Area	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
0.00	0.00																								0
75.97%	13,713.00	1,174	443	650	650	650	650	650	664	602	650	650			657	649	602	666	652	652	652	652	652	446	21
76.59%	13,713.00	1,174	443	650	650	650	650	650	664	602	650	650			657	649	602	666	652	652	652	652	652	446	21
83.43%	14,937.00	1,174	443	650	650	650	650	650	664	602	650	650	611	613	657	649	602	666	652	652	652	652	652	446	23
83.43%	14,937.00	1,174	443	650	650	650	650	650	664	602	650	650	611	613	657	649	602	666	652	652	652	652	652	446	23
83.43%	14,937.00	1,174	443	650	650	650	650	650	664	602	650	650	611	613	657	649	602	666	652	652	652	652	652	446	23
60.28%	4,585.60	1,014		650	650																	652	652	968	6
																									0
																									0
																									0
																									0
0.00	0.00																								
	76,822.60																								**117**

TOTAL AREA LOT	25,753.17 S.F.

MAXIMUM PERMITTED RESIDENTIAL FAR	4.20 FAR
MAXIMUM PERMITTED NET RESIDENTIAL ZONING FLOOR AREA	108,163 SF
MAXIMUM PERMITTED RESIDENTIAL ZONING FLOOR AREA	108,163 SF

PROPOSED GROSS RESIDENTIAL FLOOR AREA	101140.00 SF
PROPOSED RESIDENTIAL NET FLOOR AREA FOR FAR	89618.58 SF
POPOSED RESIDENTIAL FAR	3.48

PROPOSED GROSS COMMERCIAL FLOOR AREA	18781.00 SF
PROPOSED RESIDENTIAL NET FLOOR AREA FOR FAR	18489.00 SF
POPOSED RESIDENTIAL FAR	0.72

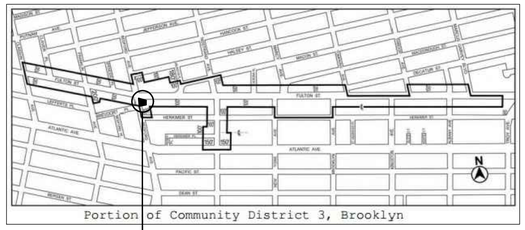
PROPOSED TOTAL GROSS FLOOR AREA INCLUDING CELLAR	**173412.00** SF
PROPOSED TOTAL GROSS FLOOR AREA ABOVE GRADE	**147777.00** SF
PROPOSED TOTAL ZONING FLOOR AREA	**107840.58** SF
PROPOSED TOTAL FAR :	**4.19**
UNDERBUILT BY	322.73 SF

REQUIRED PARKING RESIDENTIAL				50%
TOTAL SPOTS REQUIRED	**117**	***50%**	=	58.5

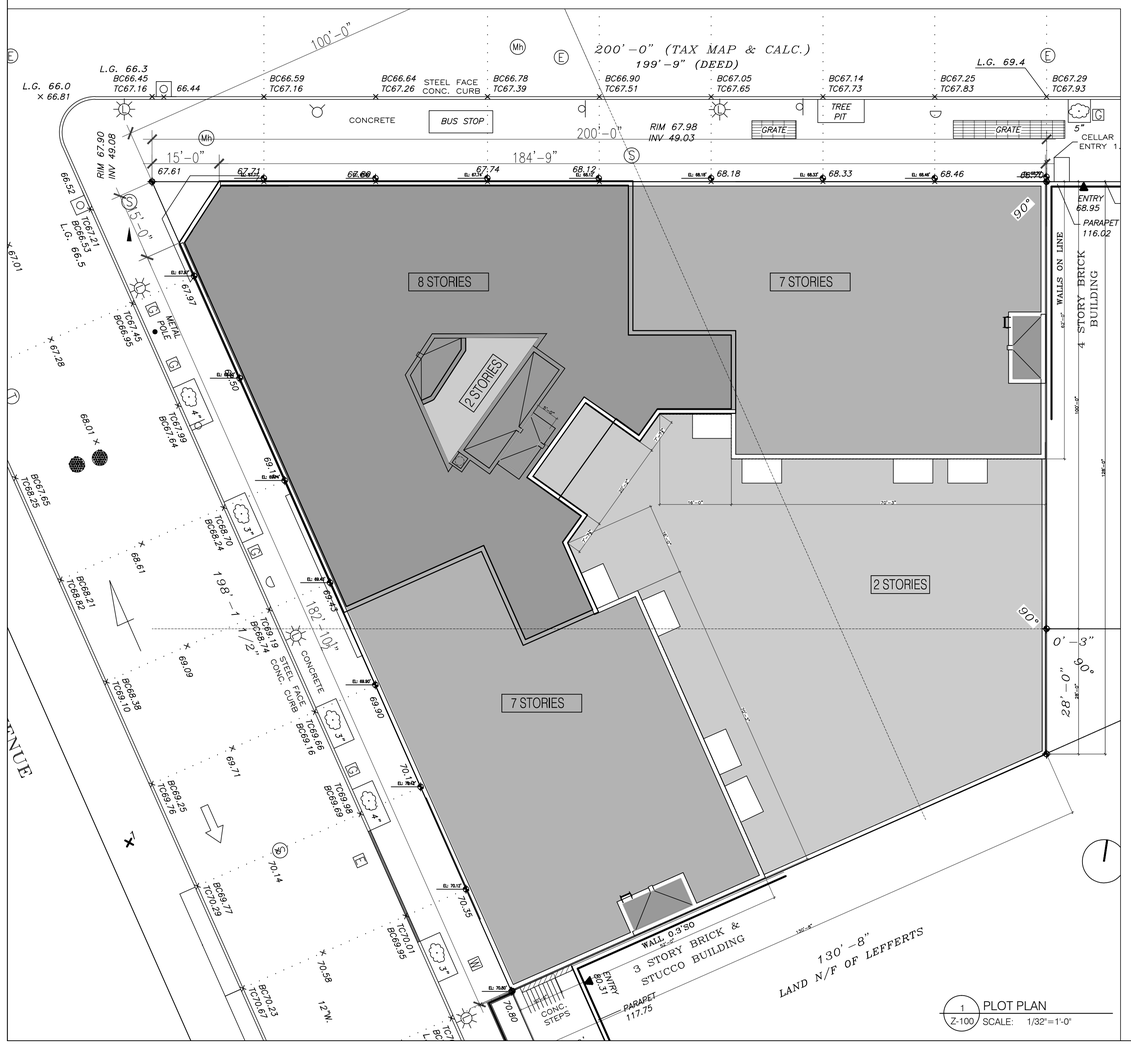
ZONING ANALYSIS

ADDRESS:	1134 FULTON STREET, BROOKLYN NEW YORK 11216
Block:	2017
Lot(s):	8
Zoning District(s):	C2-4 / R7D
Zoning Map:	17A
Total Lot Area	25753 SF
Community Board:	3 BROOKLYN
Inclusionary Housing	YES
Flood Zone	No
Environmental Designation	Yes: Underground Gasoline storage tanks testing protocol, Window Wall attenuation & Alternate Ventilation

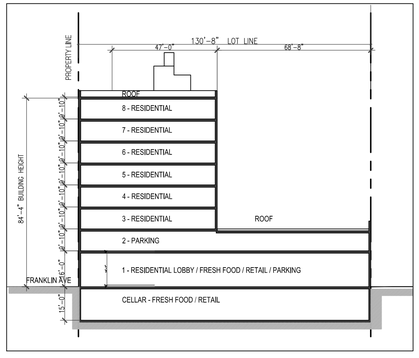
Applicable ZR Section	Item	Required/Permitted	Proposed	Compliance
Use Regulations				
22-00	General Provisions, Uses Permitted	UG 1-4	UG 2	Complies
32-00	Uses Permitted	UG 1-9	UG 4	
Bulk Regulations - RESIDENTIAL BUILDING				
23-011	Quality Housing Program	Any Building in R7D shall comply with requirements of chapter 8, quality housing program	Quality housing program requirements are provided as required in R7D residential Districts.See requirements	Complies
23-02	Applicability of Residential District Bulk Regulations			
23-933	Inclusionary Housing		not provided	complies
23-10	Open Space and Floor Area Regulations			
23-145/23-952	For Quality Housing Buildings	Maximum Lot Coverage for corner lot 80%: (80%x10,945.9= 8,756.72 sf) for Interior Lot: 65% (65%x14,807.1sf = 9,624.6sf) Maximum Floor area Ratio: 4.20 (25,753sfx 4.2= 108,162.6 sf)	Lot Coverage Corner: 8,680.3 sf = 79.3% Lot Coverage Interior: 9,369.7 sf = 63.3% Res. Zoning Floor Area = 89,086.58 sf Floor Area Ratio: 3.46	complies complies
23-952	Inclusionary Housing	Base FAR - 4.20		
33-121	Max Commercial FAR - R7D/C2-4	FAR - 2.00 x 25,753 sf = 51,506 sf	18,489 sf : FAR = 0.72	complies
	Total FAR permitted	4.20	4.19	complies
23-20	Denisty Regulations			
35-40 / 23-22	Maximum Number of Dwelling Units	Permitted Zoning Floor Area/680 = 108,162.6/680 = 159 units	117.00	Complies
23-30	Lot Area And Lot Width Regulations			
23-32	Minimum Lot Area or Lot Width for Residences	Minimum Lot Area = 1,700 sf Minimum Lot Width = 18 ft	Lot Area = 25,753 sf Lot Width = 128'-0"	complies
23-40	Yard Regulations			
23-42	Level Of Yard	All Yards provided shall not be higher than curb level unless this is existing condition. No structure permitted on rear yard		complies
23-44 (a)	Permitted Obstructions in Required Yards	Balconies		
23-132	Balconies in R7 district	Balconies may project up to 7ft into required rear yard. Can not cover more than 10% of required open space . Must be located at or higher than 3rd story Have an aggregate width not exceeding 50% of building wall (50%x172.5'=86.25' max)	Balconies project 5'-0" on 3rd to 7th floor into rear yard setback. Balconies provided on floors 3-7 Aggregate width of Balconies= 64'	complies
35-51	Front Yard	Front=0"	0'-0"	complies
35-52 / 23-46	Minimum Required Side Yards	Side Yard = 0'-0" or 8'-0"	No side yard provided	complies
35-53 / 23-47	Minimum Required Rear Yards	30'	66'	complies
23-60	Height and Setback Regulations			
23-62	Permitted Obstructions	The following shall not be considered obstructions and may thus penetrate a maximum height limit or front or rear sky exposure planes: (c) Chimneys or flues, with a total width not exceeding 10% of the aggregate width of street walls of a building at any given level (e) Elevator or stair bulkheads, each having an aggregate width of street walls equal to not more than 30 feet. However, the product, in square feet, of the aggregate width of street walls of such obstructions facing each street frontage, times their average height, in feet, shall not exceed a figure equal to four times the width, in feet, of the street wall of the building facing such frontage. (f) Elevator shafts, portion of which provide as elevator stop with access to a roof, and associated vestibules providing access to such roof, provided that such vestibules include no more than 60 s.f. of floor area. (h) Parapet walls, not more than 4 ft. high.	Proposed stair and elevator bulkhead are complying.	Complies
23-633 (a)	Street Wall Location and Height and Setback	in R7D, the street wall shall be located no closer to the street line than the closest street wall of an existing building to such street line located on the same block, and within 150 ft. of such development. however the street wall need not to be located further from the street line more than 15 ft. On corner lots these street wall location provisions shall apply along only one street line	The building wall is located on the street line to match neighboring building on Fulton street	complies
35-24 / 23-633 (d)	Min. & Max Base Height and Max Building Height	Min. Base Height = 60'-0" Max Base Height = 85'-0" Maximum Building Height = 100'-0"	Base Height = 75'-0" Building Height = 84'-8"	complies
35-24 / 23-633 (b)	Setback Regulations	Setback on Narrow street (Franklin) = 15'-0" Setback on Wide street (Fulton) = 10'-0" Rear Yard Setbakc = 10-0" @ 65'-0" Base height	No setback as building is below max. Base height	complies
23-80	Court Regulations, Minimum Distance Between Windows and Walls or Lot Lines and Open Area Requirements			
23-89	Open Area Requirements for Residences			
23-892 (a)	In R6 through R10 Districts	In R7D, 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.	Area between the building and street line to be planted.	Complies
Accessory Off-Street Parking and Loading Regulations				
25-162	Maximum Spaces for residences	1 spot/300 sf of Lot area = 25 max	attendant parking	Complies
25-20	Required Accessory Off-Street Parking Spaces For Residence			complies
25-23	Residential Parking Requirements	50% of Total Residences Required = (117 units x 50%=59 spots required)	75 Spaces provided	complies
36-21	Required Accessory Off-Street Parking Spaces For Commercial	1/100 sf Food stores / General retail 36,451 sf/1000 sf = 36 spaces required	Spaces waived see 36-233 below	comlpies
36-233	Waiver of commercial parking spaces	In C2-4 less than 40 spaces waived	Spaces waived	complies
36-62	Required Accessory Off-street Loading berths	first 25,00 sf none required, next 15,000 sf - 1 required 36,451 sf = 1 required	1 provided	complies
25-80	Bicycle Parking			
25-811	Enclosed Bicycle Parking Spaces	1 bicycle parking for each 2 dwelling units is required Required no. of spaces = 117x 0.5 =59 bicycle spaces	59 spaces provided (59x15 sf=885 sf)	Complies
25-83	Restrictions on Operations, Size and Location of Bicycle Parking spaces	All enclosed bicycle parking spaces shall be provided on the same zoning lot as the building. All enclosed bicycle parking's spaces shall be surrounded on all sides by solid enclosure, except where a parking garage is open at the sides, and covered by a roof for weather protection. Each bicycle space shall adjoin a rack or similar system for securing the bicycle. 15 s.f. of area shall be provided for each bicycle space. Required area =20 x 15 = 300 s.f. A plaque shall be placed at the exterior of the entry to the bicycle parking area with lettering at least 3/4 in. in height stating "Bicycle Parking".	All Bicycle Parking spaces are enclosed with the signage as required. See CELLAR Plan (A-101)	Complies
Quality Housing requirements				
28-12	Street Tree planting	1 tree/25' street frontage; 3" min caliper	8	complies
28-21	Size of dwelling units	400 sf min	414 sf	complies
28-22	Windows	all residential windows to be double-glazed	provided	complies
28-23	Refuse storage and disposal	2.9 cuft/ unit		
		2.9 x 117 units = 339.3 cu.ft.		
28-24	Laundry Facilities	1 w.m./ 20 d.u. + 1 dryer/40 d.u. = 117 UNITS/20 = 6 req. W.m. 3 req. Dryers	W+D provided in dwelling units	complies
28-25	Daylight in Corridor: excl. 50% FA	exterior window 20 sf min., visible from 50 % of corridor or vertical core		
28-31	Req'd recreation space	3.3% of residential FA 89,618.58 sf x 3.3 % = 2,957.4 sf	Indoor: 2,492 sf Outdoor: 7,4258 sf	
28-32	Standards for rec. space			complies
28-33	Planting Areas	area between street and proposed building		complies
28-50	Parking	per 25-00	0	complies



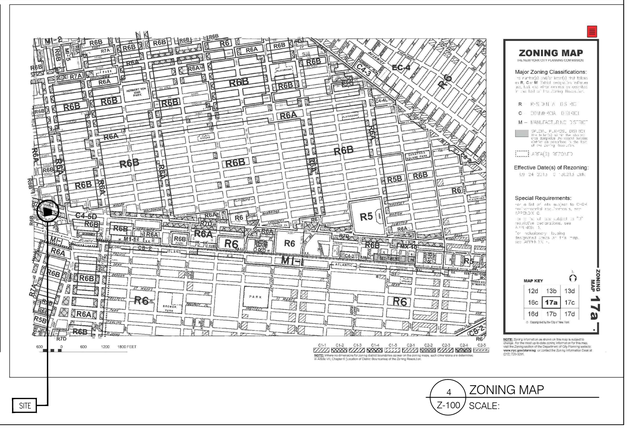
3
Z-100
INCLUSIONARY HOUSING MAP
SCALE:



1
Z-100
PLOT PLAN
SCALE: 1/32"=1'-0"



2
Z-100
SCHEMATIC SECTION
SCALE: 1/16"=1'-0"



4
Z-100
ZONING MAP
SCALE:

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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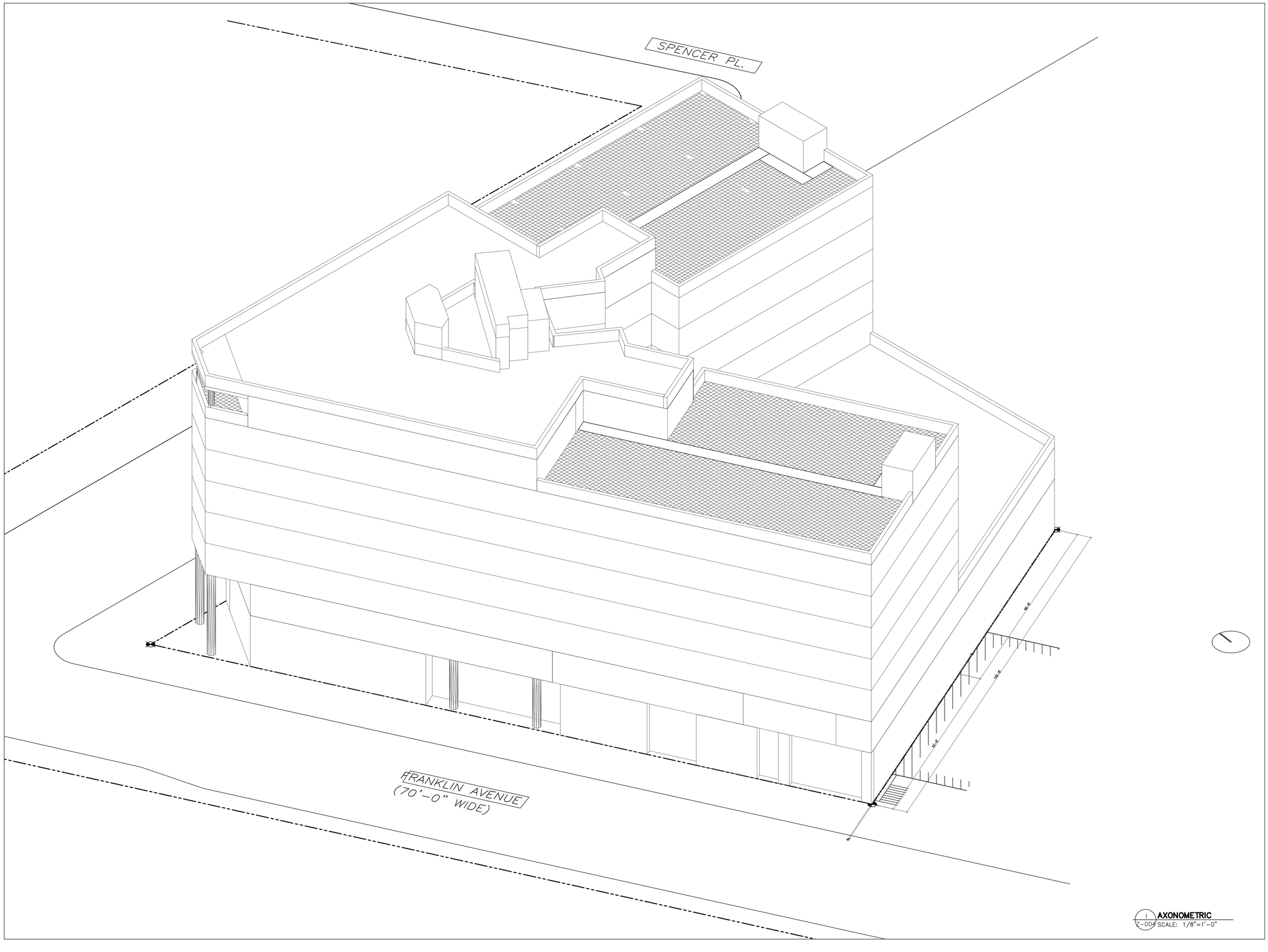
drawing title
ZONING ANALYSIS

dob no

scale 1/16"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. **Z-001.00**
checked	



1 AXONOMETRIC
Z-004 SCALE: 1/8"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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SEAL

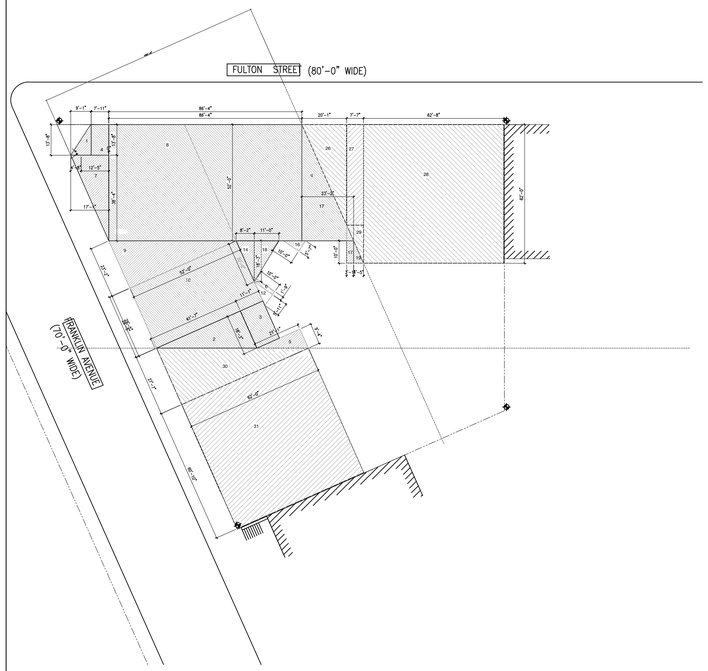
REGISTERED ARCHITECT KARL FISCHER 026282 STATE OF NEW YORK

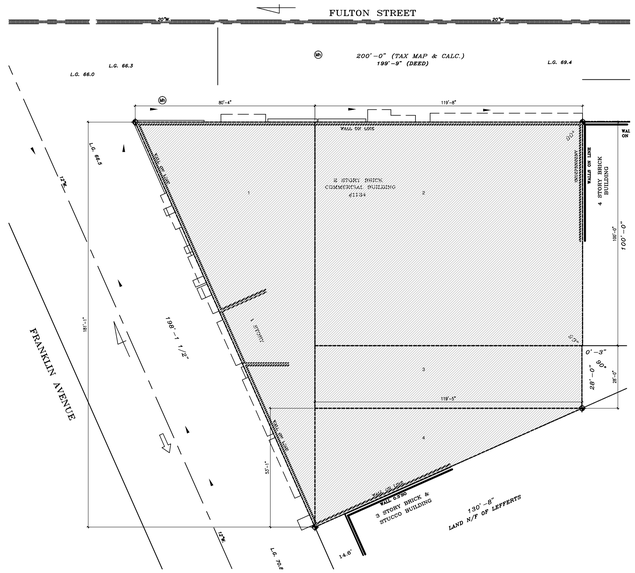
project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

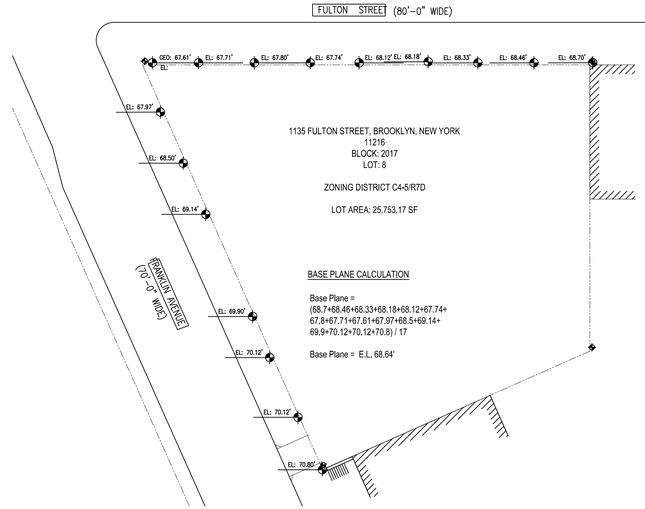
drawing title
MASSING STUDY
AXONOMETRIC

dob no

scale —	project no. 14-76
date 2014-02-20	sheet no. OF
drawn HW	drawing no. Z-004.00
checked	







	3RD-7TH FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	13'-8"	9'-1"	62.1 SQ. FT.
2	41'-7"	18'-3"	758.9 SQ. FT.
3	11'-1"	18'-3"	202.3 SQ. FT.
4	1'-8"	12'-5"	20.7 SQ. FT.
5	9'-4"	21'-1"	98.4 SQ. FT.
6	1'-9"	10'-0"	17.5 SQ. FT.
7	17'-1"	38'-4"	327.4 SQ. FT.
8	86'-4"	52'-0"	4489.3 SQ. FT.
9	23'-2"	52'-0"	602.3 SQ. FT.
10	52'-0"	29'-5"	1529.7 SQ. FT.
12	5'-11"	10'-0"	29.6 SQ. FT.
13	1'-9"	10'-0"	17.5 SQ. FT.
14	8'-2"	18'-3"	74.5 SQ. FT.
16	10'-0"	5'-7"	27.9 SQ. FT.
17	3'-1"	10'-0"	30.8 SQ. FT.
18	11'-0"	18'-3"	100.4 SQ. FT.
19	4'-5"	10'-0"	22.1 SQ. FT.
			8,680.3 SQ. FT.

	INTERIOR LOT COVERAGE		
TAG	LENGTH	WIDTH	AREA
26	20'-1"	45'-0"	451.9 SQ. FT.
27	7'-7"	45'-0"	341.3 SQ. FT.
28	62'-8"	62'-0"	3885.3 SQ. FT.
29	7'-7"	17'-0"	64.5 SQ. FT.
30	27'-7"	62'-0"	855.1 SQ. FT.
31	62'-0"	60'-10"	3771.7 SQ. FT.
			9369.7 SQ. FT.

	TOTAL LOT COVERAGE		
	LOT COVERAGE	LOT AREA	PERCENTAGE
100' FROM CORNER	8680.3 SQ. FT.	10945.9 SQ. FT.	79.3%
BEYOND 100'	9369.7 SQ. FT.	14807.27 SQ. FT.	63.3%
TOTAL	18050.0 SQ. FT.	25753.17 SQ. FT.	70.1%

A	LOT AREA BREAKDOWN		
TAG	LENGTH	WIDTH	AREA
1	80'-4"	181'-1"	7273.5 SQ. FT.
2	100'-0"	119'-8"	11966.7 SQ. FT.
3	28'-0"	119'-5"	3343.7 SQ. FT.
4	53'-1"	119'-5"	3169.5 SQ. FT.
			25753.4 SQ. FT.

1 LOT COVERAGE DIAGRAM
Z-005 SCALE: 1/32'=1'-0"

2 LOT AREA DIAGRAM
Z-005 SCALE: 1/32'=1'-0"

3 BASE PLANE CALCULATION
Z-005 SCALE: 1/32'=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
LOT AREA DIAGRAM
LOT COVERAGE DIAGRAM
BASE PLANE CALCULATION

dob no

scale: AS INDICATED	project no.: 14-76
date: 2014-04-24	sheet no.: OF
drawn: HW	drawing no.: Z-005
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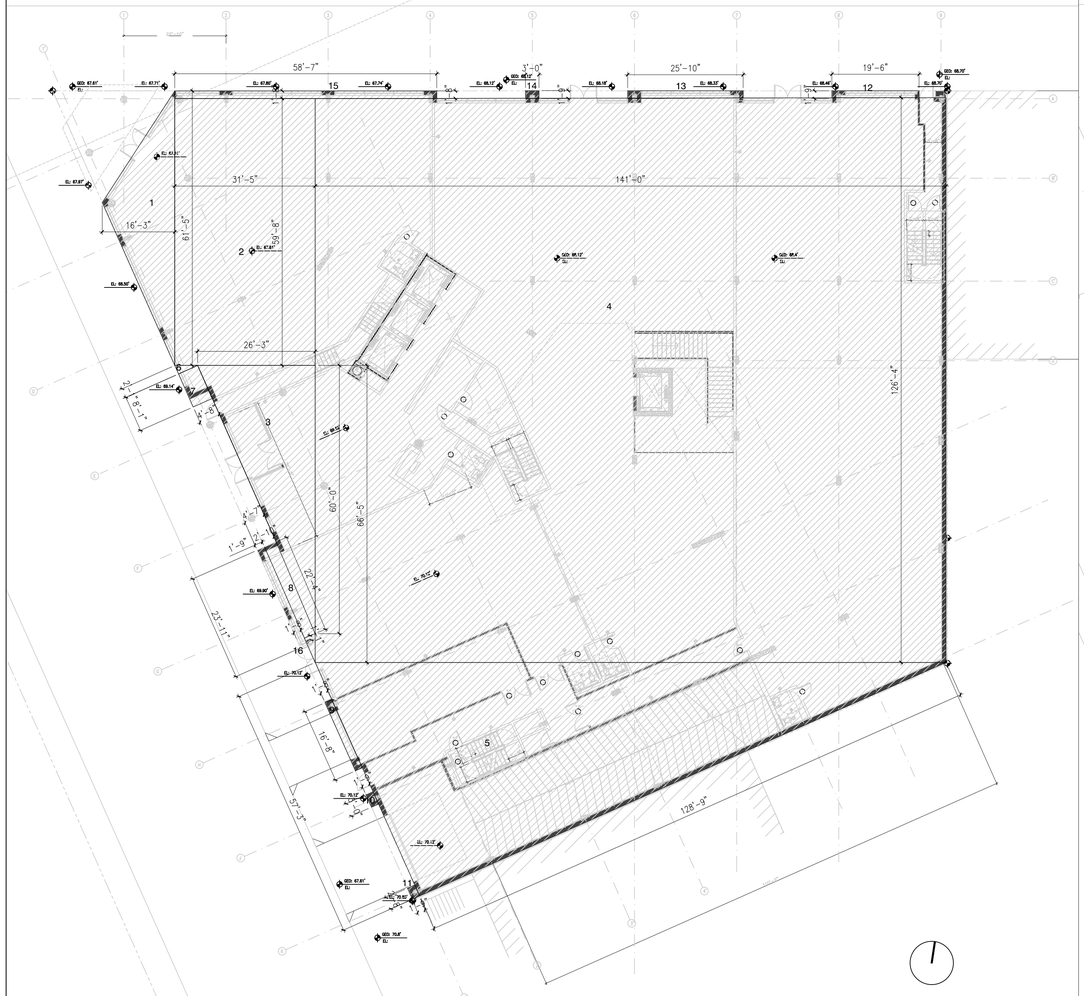
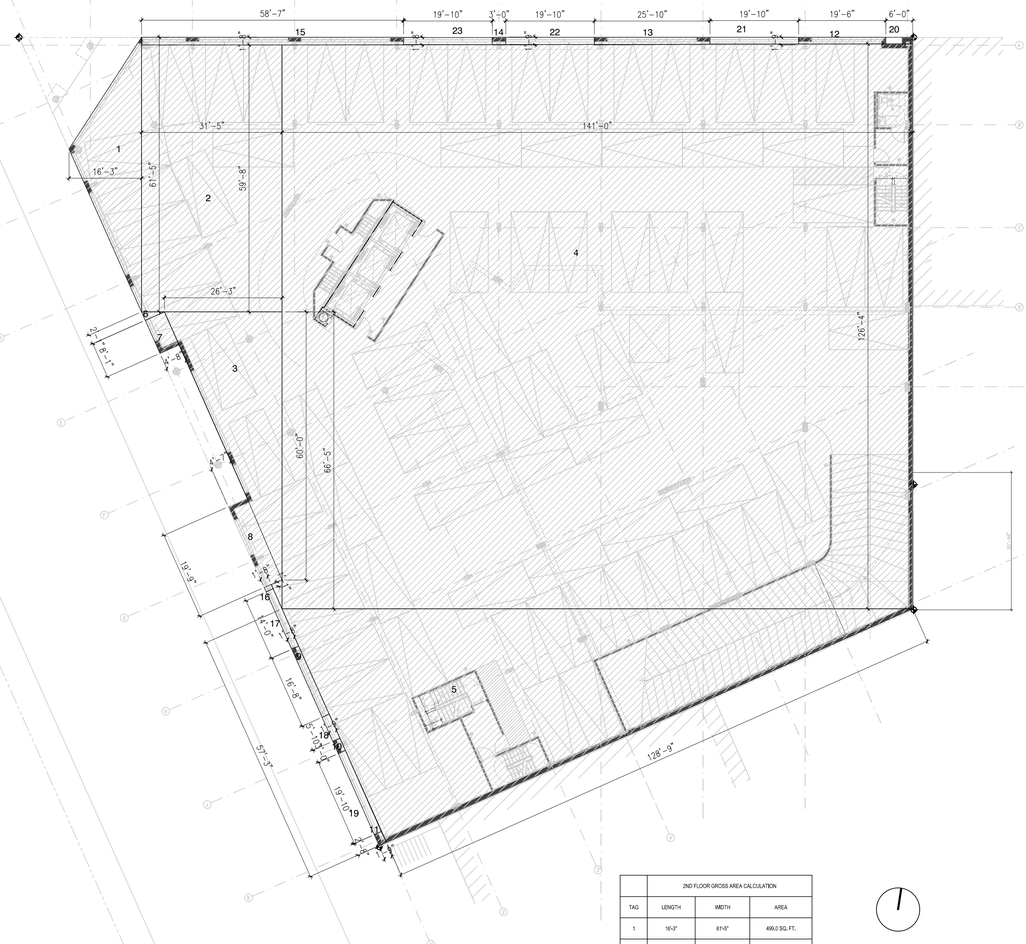


1 Z-006 **FIRST FLOOR GROSS AREA DIAGRAM**
SCALE: 1/16"=1'-0"

	FIRST FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	16'-3"	61'-5"	499.0 SQ. FT.
2	31'-5"	59'-8"	1874.5 SQ. FT.
3	60'-0"	26'-3"	787.5 SQ. FT.
4	141'-0"	126'-4"	17813.0 SQ. FT.
5	128'-9"	57'-3"	3685.5 SQ. FT.
6	2'-1"	4'-8"	4.9 SQ. FT.
7	4'-8"	8'-1"	37.7 SQ. FT.
8	2'-10"	22'-4"	31.6 SQ. FT.
9	16'-8"	1'-8"	27.8 SQ. FT.
10	1'-0"	3'-2"	5.3 SQ. FT.
11	1'-9"	2'-8"	4.7 SQ. FT.
12	19'-6"	1'-9"	34.1 SQ. FT.
13	25'-10"	1'-9"	45.2 SQ. FT.
14	1'-8"	3'-0"	5.0 SQ. FT.
15	58'-7"	1'-8"	97.6 SQ. FT.
16	1'-8"	23'-11"	39.9 SQ. FT.
			24, 983 SQ.FT.



2 Z-007 **SECOND FLOOR GROSS AREA DIAGRAM**
SCALE: 1/16"=1'-0"

	2ND FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	16'-3"	61'-5"	499.0 SQ. FT.
2	31'-5"	59'-8"	1874.5 SQ. FT.
3	60'-0"	26'-3"	787.5 SQ. FT.
4	141'-0"	126'-4"	17813.0 SQ. FT.
5	128'-9"	57'-3"	3685.5 SQ. FT.
6	2'-1"	4'-8"	4.9 SQ. FT.
7	4'-8"	8'-1"	37.7 SQ. FT.
8	4'-7"	19'-9"	45.3 SQ. FT.
9	16'-8"	1'-8"	27.8 SQ. FT.
10	1'-0"	3'-2"	5.3 SQ. FT.
11	1'-9"	2'-8"	4.7 SQ. FT.
12	19'-6"	1'-9"	34.1 SQ. FT.
13	25'-10"	1'-9"	45.2 SQ. FT.
14	1'-8"	3'-0"	5.0 SQ. FT.
15	58'-7"	1'-8"	97.6 SQ. FT.
16	1'-8"	1'-1"	1.8 SQ. FT.
17	14'-0"	1'-8"	23.3 SQ. FT.
18	5'-10"	1'-8"	9.7 SQ. FT.
19	19'-10"	1'-8"	33.1 SQ. FT.
20	6'-0"	1'-8"	10.0 SQ. FT.
21	19'-10"	1'-8"	33.1 SQ. FT.
22	19'-10"	1'-8"	33.1 SQ. FT.
23	19'-10"	1'-8"	33.1 SQ. FT.
			25,164 SQ.FT.

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT KARL FISCHER 094282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

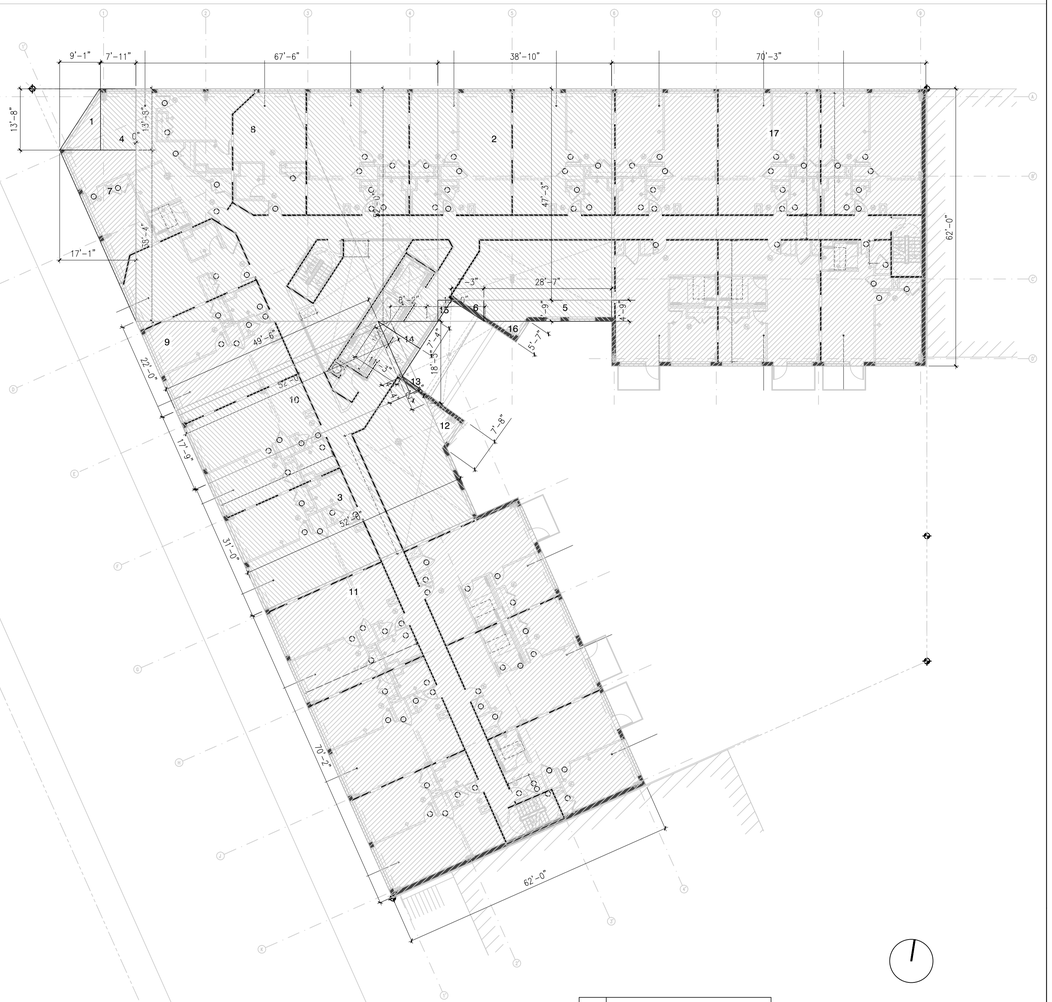
drawing title
GROSS FLOOR AREA CALCULATIONS
FIRST & SECOND FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
drawn HW	drawing no. Z-006
checked	

	3RD FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	13'-8"	9'-1"	62.1 SQ. FT.
4	7'-11"	13'-8"	108.2 SQ. FT.
7	17'-1"	38'-4"	327.4 SQ. FT.
8	106'-4"	52'-0"	5529.3 SQ. FT.
9	23'-2"	52'-0"	602.3 SQ. FT.
10	52'-0"	47'-7"	2474.3 SQ. FT.
11	62'-0"	70'-2"	4350.3 SQ. FT.
12	7'-8"	10'-0"	38.3 SQ. FT.
13	1'-9"	10'-0"	17.5 SQ. FT.
14	8'-2"	18'-3"	74.5 SQ. FT.
15	10'-0"	0'-6"	5.0 SQ. FT.
16	10'-0"	5'-7"	27.9 SQ. FT.
17	62'-0"	70'-3"	4355.5 SQ. FT.
18	11'-0"	18'-3"	118.6 SQ. FT.
			18,051 SQ. FT.

1 Z-007 **3RD FLOOR GROSS AREA DIAGRAM**
SCALE: 1/16"=1'-0"



	5TH-7TH FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	13'-8"	9'-1"	62.1 SQ. FT.
2	38'-10"	47'-3"	1834.9 SQ. FT.
3	52'-0"	31'-0"	1612.0 SQ. FT.
4	7'-11"	13'-8"	108.2 SQ. FT.
5	28'-7"	4'-9"	135.8 SQ. FT.
6	7'-3"	4'-9"	17.2 SQ. FT.
7	17'-1"	38'-4"	327.4 SQ. FT.
8	67'-6"	52'-0"	3510.0 SQ. FT.
9	22'-0"	49'-6"	544.5 SQ. FT.
10	52'-0"	17'-9"	923.0 SQ. FT.
11	62'-0"	70'-2"	4350.3 SQ. FT.
12	7'-8"	10'-0"	38.3 SQ. FT.
13	2'-6"	4'-4"	5.4 SQ. FT.
14	7'-4"	11'-3"	82.5 SQ. FT.
15	2'-6"	4'-4"	5.4 SQ. FT.
16	10'-0"	5'-7"	27.9 SQ. FT.
17	62'-0"	70'-3"	4355.5 SQ. FT.
			17,904 SQ. FT.

2 Z-007 **4TH-7TH FLOOR GROSS AREA DIAGRAM**
SCALE: 1/16"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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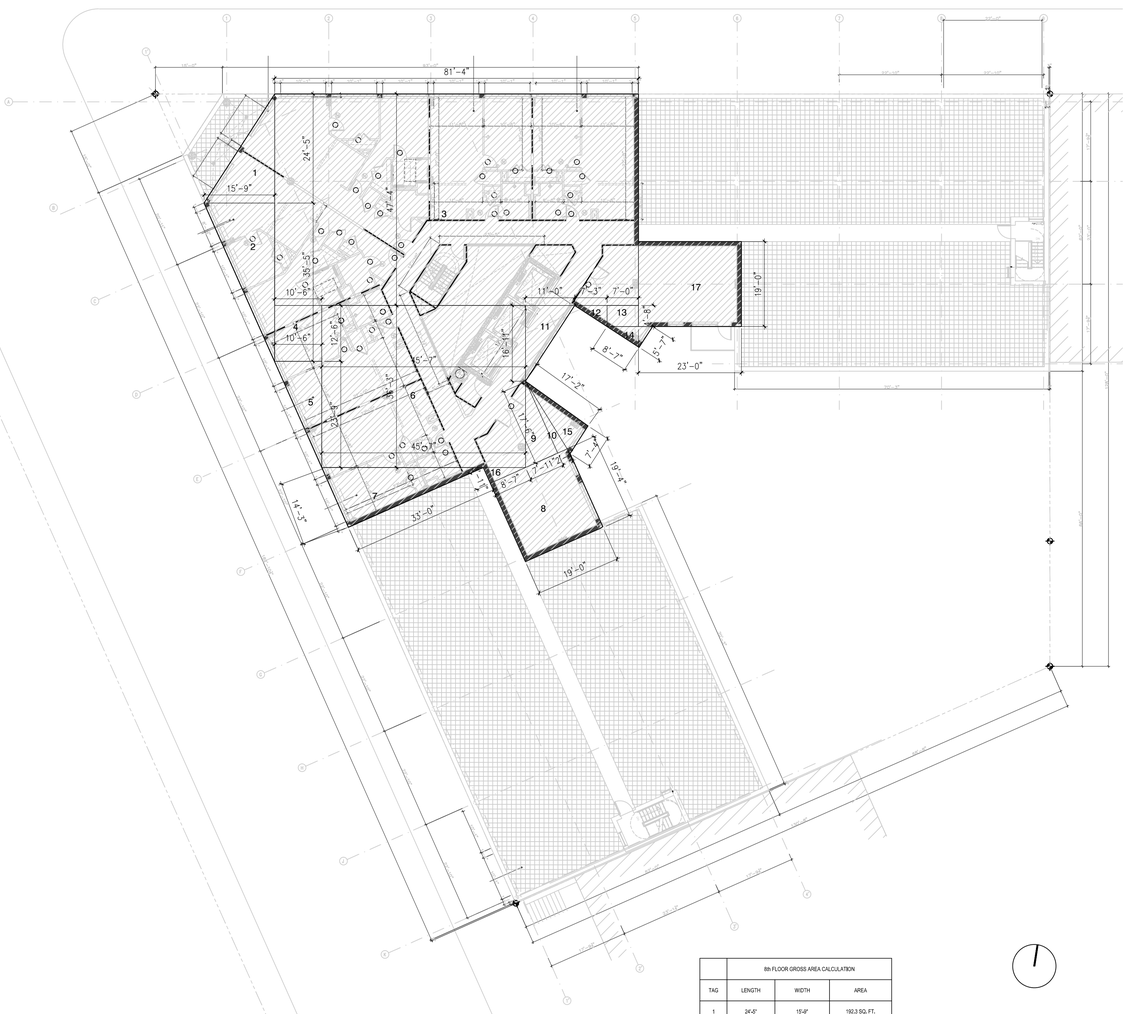
project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
GROSS FLOOR AREA CALCULATIONS
THIRD & FOURTH-SEVENTH FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
drawn HW	drawing no. Z-007
checked	



	8th FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	24'-5"	15'-9"	192.3 SQ. FT.
2	35'-5"	15'-8"	278.9 SQ. FT.
3	81'-4"	47'-4"	3849.8 SQ. FT.
4	10'-6"	12'-6"	131.3 SQ. FT.
5	10'-6"	23'-9"	124.7 SQ. FT.
6	45'-7"	36'-3"	1652.4 SQ. FT.
7	14'-3"	33'-0"	235.1 SQ. FT.
8	19'-0"	19'-4"	367.3 SQ. FT.
9	7'-11"	17'-6"	69.3 SQ. FT.
10	17'-6"	2'-4"	20.4 SQ. FT.
11	11'-0"	16'-11"	93.0 SQ. FT.
12	7'-3"	4'-8"	16.9 SQ. FT.
13	7'-0"	4'-8"	32.7 SQ. FT.
14	5'-7"	8'-2"	24.0 SQ. FT.
15	7'-4"	17'-2"	62.9 SQ. FT.
16	8'-7"	3'-11"	16.8 SQ. FT.
17	19'-0"	23'-0"	437.0 SQ. FT.
			7,607 SQ. FT.

1 **8TH FLOOR GROSS AREA DIAGRAM**
1" = 20'-0" SCALE: 3/16" = 1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
GROSS FLOOR AREA CALCULATIONS
8TH FLOOR
BULKHEAD

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
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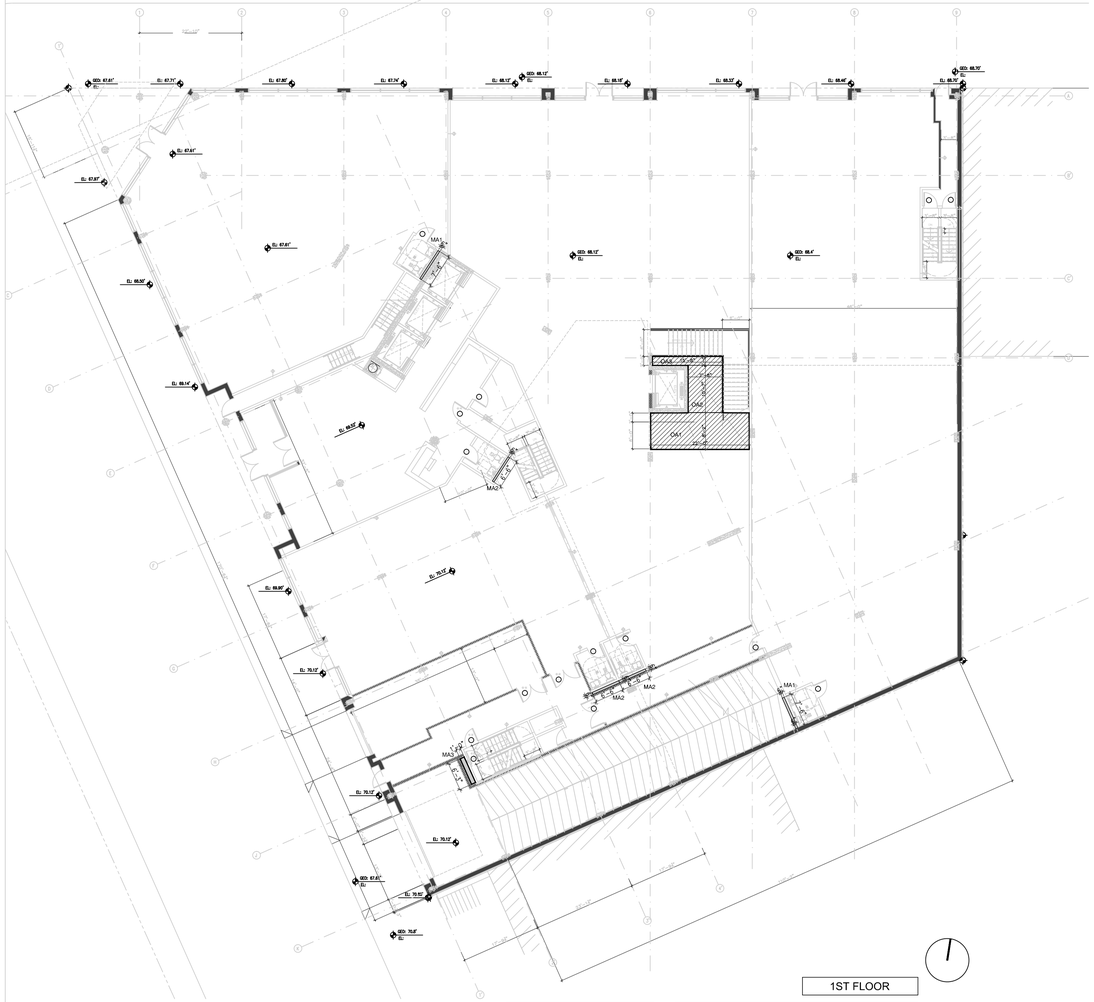
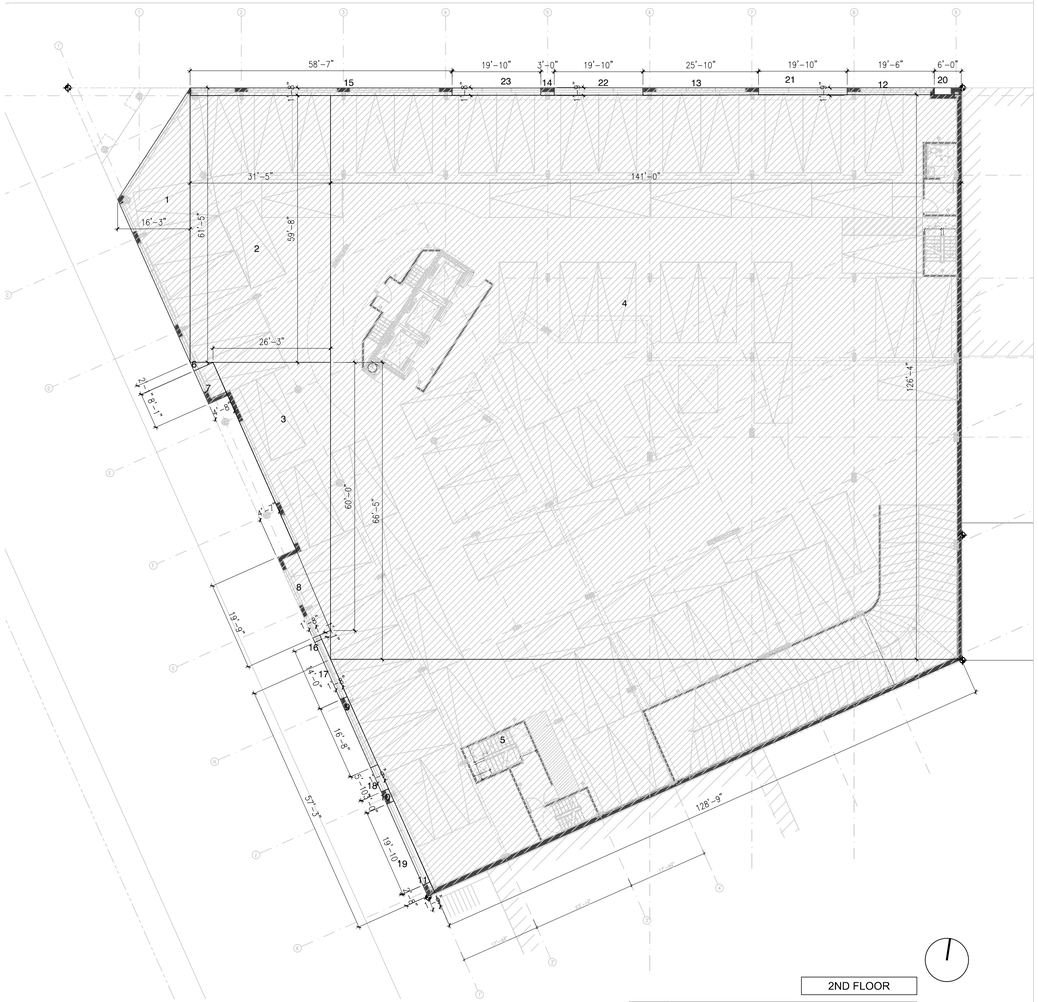


1ST FLOOR

	DEDUCTION: FLOOR OPENING		
TAG	LENGTH	WIDTH	AREA
0A1	22'-0"	8'-2"	179.7 SQ. FT.
MA2	10'-7"	7'-8"	81.1 SQ. FT.
MA3	15'-8"	2'-0"	31.3 SQ. FT.
TOTAL			292.1 SQ. FT.

	MECHANICAL DEDUCTIONS				
TAG	LENGTH	WIDTH	AREA	QUANTITY	TOTAL AREA
MA1	7'-6"	0'-6"	3.8 SQ. FT.	2	7.5 SQ. FT.
MA2	6'-6"	0'-6"	3.3 SQ. FT.	3	9.8 SQ. FT.
MA3	1'-0"	6'-3"	6.3 SQ. FT.	1	6.3 SQ. FT.
TOTAL					23.5 SQ. FT.



2ND FLOOR

	2ND FLOOR GROSS AREA CALCULATION		
TAG	LENGTH	WIDTH	AREA
1	16'-3"	61'-5"	499.0 SQ. FT.
2	31'-5"	59'-8"	1874.5 SQ. FT.
3	60'-0"	26'-3"	787.5 SQ. FT.
4	141'-0"	126'-4"	17813.0 SQ. FT.
5	128'-9"	57'-3"	3685.5 SQ. FT.
6	2'-1"	4'-8"	4.9 SQ. FT.
7	4'-8"	8'-1"	37.7 SQ. FT.
8	4'-7"	19'-9"	45.3 SQ. FT.
9	16'-8"	1'-8"	27.8 SQ. FT.
10	1'-9"	3'-0"	5.3 SQ. FT.
11	1'-9"	2'-8"	4.7 SQ. FT.
12	19'-6"	1'-9"	34.1 SQ. FT.
13	25'-10"	1'-9"	45.2 SQ. FT.
14	1'-8"	3'-0"	5.0 SQ. FT.
15	58'-7"	1'-8"	97.6 SQ. FT.
16	1'-8"	1'-1"	1.8 SQ. FT.
17	14'-0"	1'-8"	23.3 SQ. FT.
18	5'-10"	1'-8"	9.7 SQ. FT.
19	19'-10"	1'-8"	33.1 SQ. FT.
20	6'-0"	1'-8"	10.0 SQ. FT.
21	19'-10"	1'-8"	33.1 SQ. FT.
22	19'-10"	1'-8"	33.1 SQ. FT.
23	19'-10"	1'-8"	33.1 SQ. FT.
			25,164 SQ.FT.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
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021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ZONING DEDUCTION CALCULATIONS
1st and 2nd FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-07-09	sheet no. 16 OF
drawn HW SW	drawing no. Z-009
checked	

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3RD FLOOR

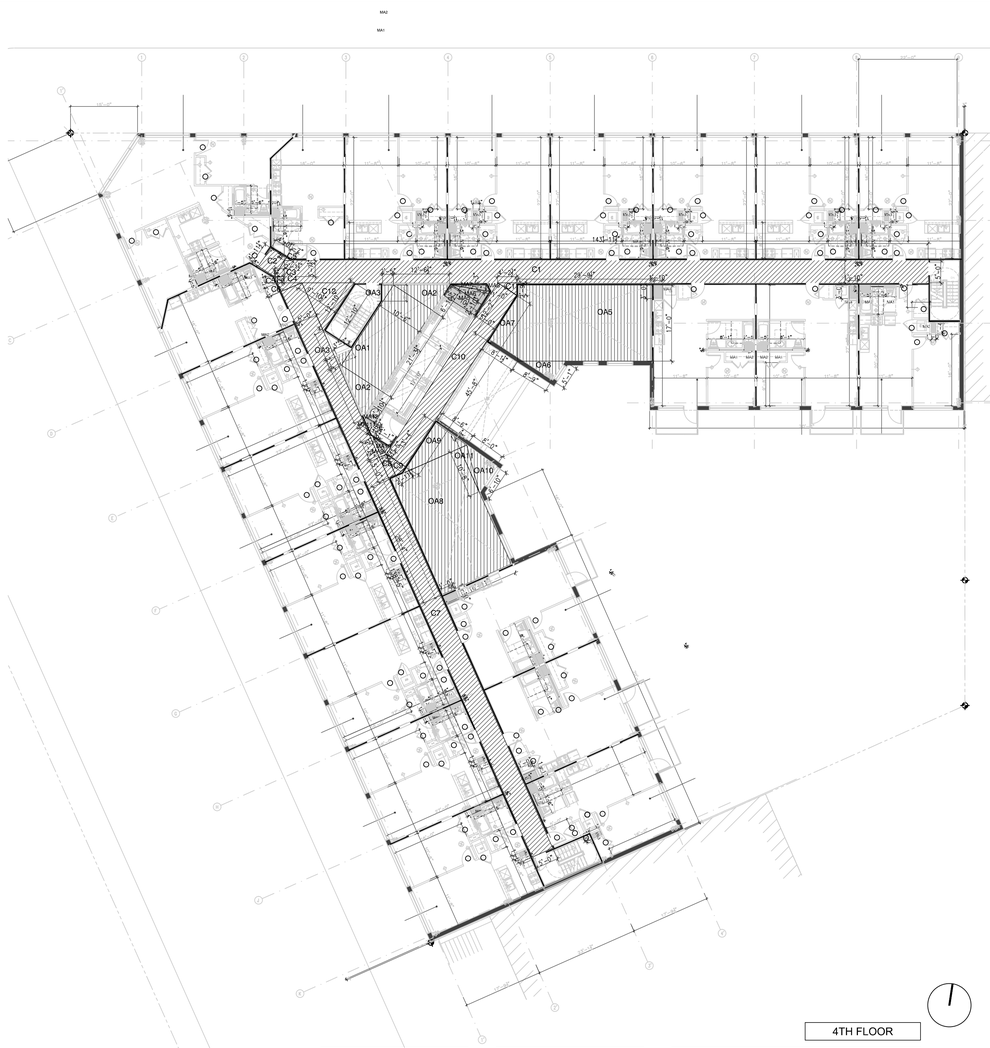
	QUALITY HOUSING DEDUCTIONS : CORRIDOR		
TAG	LENGTH	WIDTH	AREA
CA1	144'-0"	5'-0"	720.0 SQ. FT.
CA2	4'-0"	5'-0"	20.0 SQ. FT.
CA3	3'-8"	2'-3"	4.1 SQ. FT.
CA4	1'-5"	1'-5"	2.0 SQ. FT.
CA5	1'-5"	0'-8"	0.9 SQ. FT.
CA6	5'-0"	2'-0"	5.0 SQ. FT.
CA7	138'-5"	5'-0"	692.1 SQ. FT.
CA8	5'-0"	1'-9"	8.8 SQ. FT.
CA9	3'-0"	5'-0"	7.5 SQ. FT.
CA10	45'-9"	5'-0"	228.8 SQ. FT.
CA11	4'-3"	2'-10"	6.0 SQ. FT.
CA12	12'-10"	9'-10"	63.1 SQ. FT.
CA13	20'-10"	7'-2"	149.3 SQ. FT.
TOTAL			1907.6 SQ. FT.
50% DAYLIGHT IN CORRIDOR			953.8 SQ. FT.

	QUALITY HOUSING DEDUCTIONS: REFUSE ROOM		
TAG	LENGTH	WIDTH	AREA
RA	3'-0"	4'-0"	12.0 SQ. FT.
TOTAL			12.0 SQ. FT.

	QUALITY HOUSING DEDUCTIONS : RECREATION ROOM		
TAG	LENGTH	WIDTH	AREA
R 1	28'-7"	18'-3"	521.6 SQ. FT.
R2	8'-4"	5'-7"	23.3 SQ. FT.
R3	15'-5"	10'-1 1/2"	78.0 SQ. FT.
R4	27'-3 1/2"	18'-3"	498.1 SQ. FT.
R5	17'-5"	9'-6 1/2"	83.1 SQ. FT.
R6	6'-10"	8'-4 1/2"	28.6 SQ. FT.
R7	1'-6"	10'-10 1/2"	8.2 SQ. FT.
TOTAL			1240.9 SQ. FT.

	DEDUCTIONS : BICYCLE STORAGE		
TAG	LENGTH	WIDTH	AREA
OA1	10'-6"	9'-11"	104.1 SQ. FT.
OA2	8'-2"	12'-5"	50.7 SQ. FT.
OA3	3'-0"	2'-0"	3.0 SQ. FT.
OA4	5'-3"	7'-0"	36.8 SQ. FT.
OA5	4'-6"	7'-0"	15.8 SQ. FT.
TOTAL			210.3 SQ. FT.

	MECHANICAL DEDUCTIONS				
TAG	LENGTH	WIDTH	AREA	QUANTITY	TOTAL AREA
MA1	5'-6"	0'-4"	1.8 SQ. FT.	23	42.2 SQ. FT.
MA2	2'-5"	1'-4"	3.2 SQ. FT.	23	74.1 SQ. FT.
MA3	2'-4"	1'-0"	2.3 SQ. FT.	14	32.7 SQ. FT.
MA4	3'-0"	1'-10"	5.5 SQ. FT.	4	22.0 SQ. FT.
MA5	7'-10"	2'-10"	22.2 SQ. FT.	1	22.2 SQ. FT.
MA6	3'-5"	7'-10"	13.4 SQ. FT.	1	13.4 SQ. FT.
MA7	7'-7"	1'-3"	4.7 SQ. FT.	1	4.7 SQ. FT.
MA8	1'-0"	1'-3"	0.6 SQ. FT.	1	0.6 SQ. FT.
MA9	4'-1"	1'-5"	2.9 SQ. FT.	1	2.9 SQ. FT.
MA10	2'-4"	1'-8"	1.8 SQ. FT.	1	1.8 SQ. FT.
MA11	2'-4"	0'-7"	0.7 SQ. FT.	1	0.7 SQ. FT.
TOTAL					217.2 SQ. FT.



4TH FLOOR

	QUALITY HOUSING DEDUCTIONS : CORRIDOR		
TAG	LENGTH	WIDTH	AREA
CA1	144'-0"	5'-0"	720.0 SQ. FT.
CA2	4'-0"	5'-0"	20.0 SQ. FT.
CA3	3'-8"	2'-3"	4.1 SQ. FT.
CA4	1'-5"	1'-5"	2.0 SQ. FT.
CA5	1'-5"	0'-8"	0.9 SQ. FT.
CA6	5'-0"	2'-0"	5.0 SQ. FT.
CA7	138'-5"	5'-0"	692.1 SQ. FT.
CA8	5'-0"	1'-9"	8.8 SQ. FT.
CA9	3'-0"	5'-0"	7.5 SQ. FT.
CA10	45'-9"	5'-0"	228.8 SQ. FT.
CA11	4'-3"	2'-10"	6.0 SQ. FT.
CA12	12'-10"	9'-10"	63.1 SQ. FT.
TOTAL			1758.3 SQ. FT.
50% DAYLIGHT IN CORRIDOR			879.1 SQ. FT.

	QUALITY HOUSING DEDUCTIONS: REFUSE ROOM		
TAG	LENGTH	WIDTH	AREA
RA	3'-0"	4'-0"	12.0 SQ. FT.
TOTAL			12.0 SQ. FT.

	DEDUCTION: FLOOR OPENING		
TAG	LENGTH	WIDTH	AREA
OA1	21'-4"	10'-6"	224.0 SQ. FT.
OA2	6'-10"	10'-6"	71.8 SQ. FT.
OA3	2'-4"	3'-7"	8.4 SQ. FT.
OA 5	29'-9"	17'-0"	505.8 SQ. FT.
OA6	8'-9"	5'-1"	22.2 SQ. FT.
OA7	12'-2"	8'-1"	49.2 SQ. FT.
OA8	28'-4"	16'-11"	479.3 SQ. FT.
OA9	13'-4"	8'-6"	56.7 SQ. FT.
OA10	8'-0"	6'-10"	27.3 SQ. FT.
OA11	1'-8"	10'-8"	8.9 SQ. FT.
TOTAL			1453.5 SQ. FT.

	MECHANICAL DEDUCTIONS				
TAG	LENGTH	WIDTH	AREA	QUANTITY	TOTAL AREA
MA1	5'-6"	0'-4"	1.8 SQ. FT.	23	42.2 SQ. FT.
MA2	2'-5"	1'-4"	3.2 SQ. FT.	23	74.1 SQ. FT.
MA3	2'-4"	1'-0"	2.3 SQ. FT.	14	32.7 SQ. FT.
MA4	3'-0"	1'-10"	5.5 SQ. FT.	4	22.0 SQ. FT.
MA5	7'-10"	2'-10"	22.2 SQ. FT.	1	22.2 SQ. FT.
MA6	3'-5"	7'-10"	13.4 SQ. FT.	1	13.4 SQ. FT.
MA7	7'-7"	1'-3"	4.7 SQ. FT.	1	4.7 SQ. FT.
MA8	1'-0"	1'-3"	0.6 SQ. FT.	1	0.6 SQ. FT.
MA9	4'-1"	1'-5"	2.9 SQ. FT.	1	2.9 SQ. FT.
MA10	2'-4"	1'-8"	1.8 SQ. FT.	1	1.8 SQ. FT.
MA11	2'-4"	0'-7"	0.7 SQ. FT.	1	0.7 SQ. FT.
TOTAL					217.2 SQ. FT.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ZONING DEDUCTION CALCULATIONS
3rd and 4th FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-07-09	sheet no. 16 OF
drawn HW SW	drawing no. Z-010
checked	

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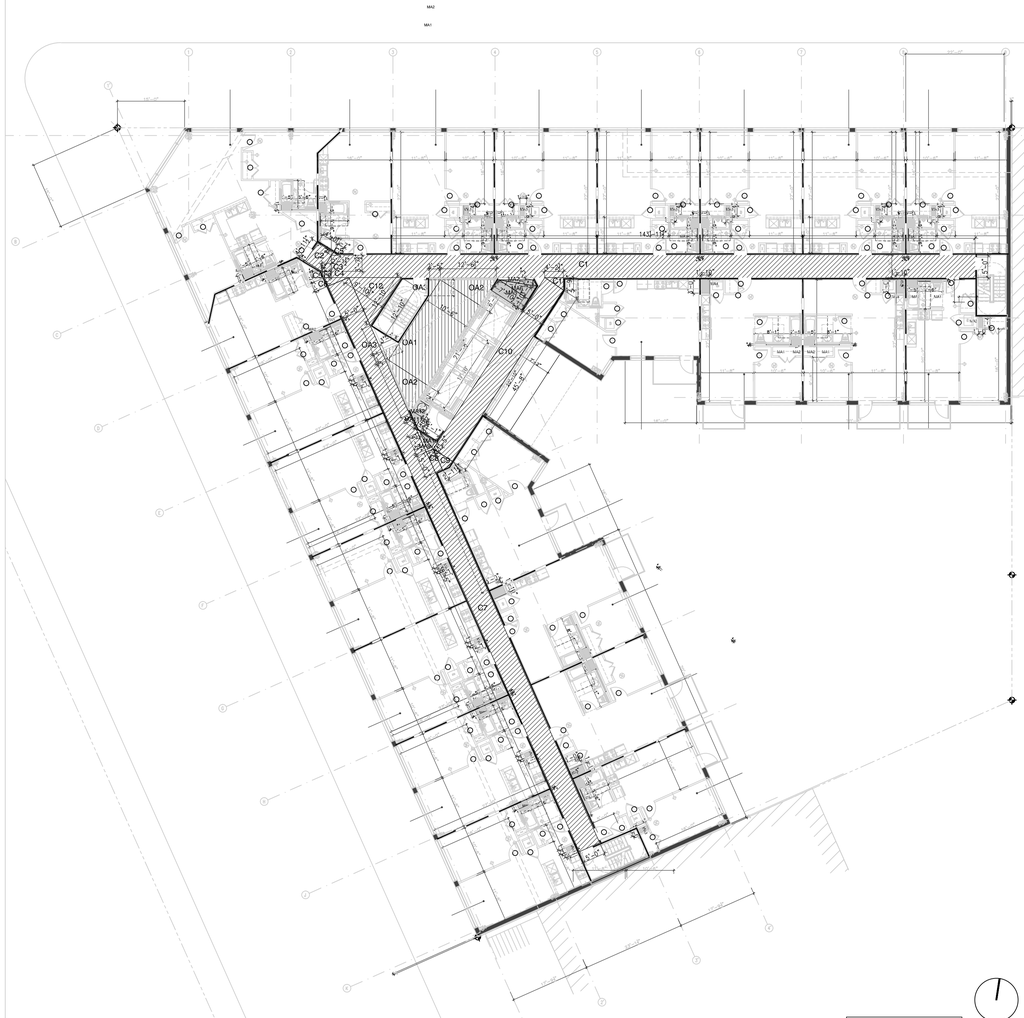

5TH-7TH FLOOR

	QUALITY HOUSING DEDUCTIONS : CORRIDOR		
TAG	LENGTH	WIDTH	AREA
CA1	144'-0"	5'-0"	720.0 SQ. FT.
CA2	4'-0"	5'-0"	20.0 SQ. FT.
CA3	3'-8"	2'-3"	4.1 SQ. FT.
CA4	1'-8"	1'-5"	2.0 SQ. FT.
CA5	1'-5"	0'-8"	0.9 SQ. FT.
CA6	5'-0"	2'-0"	5.0 SQ. FT.
CA7	138'-5"	5'-0"	692.1 SQ. FT.
CA8	5'-0"	1'-9"	8.8 SQ. FT.
CA9	3'-0"	5'-0"	7.5 SQ. FT.
CA10	45'-9"	5'-0"	228.8 SQ. FT.
CA11	4'-3"	2'-10"	6.0 SQ. FT.
CA12	12'-10"	9'-10"	63.1 SQ. FT.
TOTAL			1758.3 SQ. FT.
50% DAYLIGHT IN CORRIDOR			879.1 SQ. FT.

	QUALITY HOUSING DEDUCTIONS: REFUSE ROOM		
TAG	LENGTH	WIDTH	AREA
RA	3'-0"	4'-0"	12.0 SQ. FT.
TOTAL			12.0 SQ. FT.

	DEDUCTION : FLOOR OPENING		
TAG	LENGTH	WIDTH	AREA
OA1	21'-4 1/2"	10'-6"	224.4 SQ. FT.
OA2	6'-10"	10'-6"	71.8 SQ. FT.
OA3	2'-4"	3'-7"	8.4 SQ. FT.
TOTAL			304.5 SQ. FT.

	MECHANICAL DEDUCTIONS				
TAG	LENGTH	WIDTH	AREA	QUANTITY	TOTAL AREA
MA1	5'-6"	0'-4"	1.8 SQ. FT.	23	42.2 SQ. FT.
MA2	2'-5"	1'-4"	3.2 SQ. FT.	23	74.1 SQ. FT.
MA3	2'-4"	1'-0"	2.3 SQ. FT.	14	32.7 SQ. FT.
MA4	3'-0"	1'-10"	5.5 SQ. FT.	4	22.0 SQ. FT.
MA5	7'-10"	2'-10"	22.2 SQ. FT.	1	22.2 SQ. FT.
MA6	3'-5"	7'-10"	13.4 SQ. FT.	1	13.4 SQ. FT.
MA7	7'-7"	1'-3"	4.7 SQ. FT.	1	4.7 SQ. FT.
MA8	1'-0"	1'-3"	0.6 SQ. FT.	1	0.6 SQ. FT.
MA9	4'-1"	1'-5"	2.9 SQ. FT.	1	2.9 SQ. FT.
MA10	2'-4"	1'-8"	1.8 SQ. FT.	1	1.8 SQ. FT.
MA11	2'-4"	0'-7"	0.7 SQ. FT.	1	0.7 SQ. FT.
TOTAL					217.2 SQ. FT.
TOTAL					771.0 SQ. FT.
50% DAYLIGHT IN CORRIDOR					385.5 SQ. FT.

8TH FLOOR

	QUALITY HOUSING DEDUCTIONS : CORRIDOR		
TAG	LENGTH	WIDTH	AREA
CA1	43'-5"	5'-0"	217.1 SQ. FT.
CA2	2'-9"	5'-0"	6.9 SQ. FT.
CA3	2'-8"	5'-0"	6.7 SQ. FT.
CA4	5'-0"	12'-11"	64.6 SQ. FT.
CA5	2'-9"	5'-0"	6.9 SQ. FT.
CA6	5'-0"	2'-8"	6.7 SQ. FT.
CA7	41'-8"	5'-0"	208.3 SQ. FT.
CA8	5'-0"	1'-9"	8.8 SQ. FT.
CA9	3'-0"	5'-0"	7.5 SQ. FT.
CA10	45'-10"	5'-0"	229.2 SQ. FT.
CA11	4'-3"	2'-10"	6.0 SQ. FT.
CA12	2'-4"	2'-1"	2.4 SQ. FT.
TOTAL			771.0 SQ. FT.
50% DAYLIGHT IN CORRIDOR			385.5 SQ. FT.

	QUALITY HOUSING DEDUCTIONS: REFUSE ROOM		
TAG	LENGTH	WIDTH	AREA
RA	3'-0"	4'-0"	12.0 SQ. FT.
TOTAL			12.0 SQ. FT.

	QUALITY HOUSING DEDUCTIONS : RECREATION ROOM		
TAG	LENGTH	WIDTH	AREA
R 1	29'-9"	18'-3"	542.9 SQ. FT.
R2	8'-4"	5'-6"	22.9 SQ. FT.
R3	15'-5"	9'-7"	73.9 SQ. FT.
R4	27'-0"	18'-2 1/2"	491.6 SQ. FT.
R5	17'-5"	9'-6"	82.7 SQ. FT.
R6	6'-10"	8'-4 1/2"	28.6 SQ. FT.
R7	1'-6"	10'-10 1/2"	8.2 SQ. FT.
TOTAL			1250.9 SQ. FT.

	DEDUCTION : FLOOR OPENING		
TAG	LENGTH	WIDTH	AREA
OA1	21'-4 1/2"	10'-6"	224.4 SQ. FT.
OA2	6'-10"	10'-6"	71.8 SQ. FT.
OA3	2'-4"	3'-7"	8.4 SQ. FT.
TOTAL			304.5 SQ. FT.

	MECHANICAL DEDUCTIONS				
TAG	LENGTH	WIDTH	AREA	QUANTITY	TOTAL AREA
MA1	5'-6"	0'-4"	1.8 SQ. FT.	6	11.0 SQ. FT.
MA2	2'-5"	1'-4"	3.2 SQ. FT.	8	25.8 SQ. FT.
MA3	2'-4"	1'-0"	2.3 SQ. FT.	8	18.7 SQ. FT.
MA4	0'-8"	2'-4"	1.6 SQ. FT.	2	3.1 SQ. FT.
MA5	7'-10"	2'-10"	22.2 SQ. FT.	1	22.2 SQ. FT.
MA6	3'-5"	7'-10"	13.4 SQ. FT.	1	13.4 SQ. FT.
MA7	7'-7"	1'-3"	4.7 SQ. FT.	1	4.7 SQ. FT.
MA8	1'-0"	1'-3"	0.6 SQ. FT.	1	0.6 SQ. FT.
MA9	4'-1"	1'-5"	2.9 SQ. FT.	1	2.9 SQ. FT.
MA10	2'-4"	1'-8"	1.8 SQ. FT.	1	1.8 SQ. FT.
MA11	2'-4"	0'-7"	0.7 SQ. FT.	1	0.7 SQ. FT.
MA12	1'-8"	2'-7"	2.2 SQ. FT.	2	4.3 SQ. FT.
TOTAL					109.1 SQ. FT.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL

REGISTERED ARCHITECT KARL FISCHER 021262 STATE OF NEW YORK

project title

NEW DEVELOPMENT

1134 FULTON STREET, BROOKLYN 11216

drawing title

ZONING DEDUCTION CALCULATIONS

5th-7th and 8th FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-07-09	sheet no. 16 OF
drawn HW SW	drawing no. Z-011
checked	

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LIGHT AND AIR CALCULATIONS - 3RD FLOOR

UNIT A	
LIVINGROOM	326 SQ. FT.
REQUIRED MIN. LIGHT 10%	32.6 SQ. FT.
PROPOSED LIGHT	94.6 SQ. FT.
REQUIRED MIN. AIR 5%	16.3
PROPOSED AIR	35.4 SQ. FT.
BEDROOM 1	160 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.0 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.0
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 2	157 SQ. FT.
REQUIRED MIN. LIGHT 10%	15.7 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	7.9
PROPOSED AIR	15.8 SQ. FT.

UNIT B	
LIVINGROOM	209 SQ. FT.
REQUIRED MIN. LIGHT 10%	20.9 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	10.5
PROPOSED AIR	13.0 SQ. FT.

UNIT C	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT D	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT E	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT F	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT G	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT H	
LIVINGROOM	217 SQ. FT.
REQUIRED MIN. LIGHT 10%	21.7 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	10.9
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	15.8 SQ. FT.

UNIT J	
LIVINGROOM	164 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.4 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.2
PROPOSED AIR	22.3 SQ. FT.
BEDROOM 1	140 SQ. FT.
REQUIRED MIN. LIGHT 10%	14.0 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	7.0
PROPOSED AIR	13.0 SQ. FT.

UNIT K	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	22.3 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT L	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	22.3 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT O	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	22.3 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT P	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	22.3 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT Q	
LIVINGROOM	196 SQ. FT.
REQUIRED MIN. LIGHT 10%	19.6 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	9.8
PROPOSED AIR	22.3 SQ. FT.
BEDROOM 1	164 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.4 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.2
PROPOSED AIR	13.0 SQ. FT.

UNIT R	
LIVINGROOM	217 SQ. FT.
REQUIRED MIN. LIGHT 10%	21.7 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	10.9
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	15.8 SQ. FT.

UNIT S	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT T	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT U	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT V	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT W	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	13.0 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	13.0 SQ. FT.

UNIT X	
LIVINGROOM	213 SQ. FT.
REQUIRED MIN. LIGHT 10%	21.3 SQ. FT.
PROPOSED LIGHT	45.2 SQ. FT.
REQUIRED MIN. AIR 5%	10.7
PROPOSED AIR	13.0 SQ. FT.

FULTON STREET (80'-0" WIDE)

1 3rd–4th FLOOR
Z–013 SCALE: 3/32"=1'–0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT KARL FISCHER 082282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
LIGHT AND AIR CALCULATIONS
3RD-4TH FLOOR

dob no

scale 1/16"=1'–0"	project no. 14–76
date 2013–11–12	sheet no. OF
drawn HW	drawing no. Z-013
checked	

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LIGHT AND AIR CALCULATIONS - 4-7 FLOOR

UNIT A

LIVINGROOM		326 SQ. FT.
REQUIRED MIN. LIGHT	10%	32.6 SQ. FT.
PROPOSED LIGHT		94.6 SQ. FT.
REQUIRED MIN. AIR	5%	16.3
PROPOSED AIR		35.4 SQ. FT.
BEDROOM 1		160 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.0 SQ. FT.
PROPOSED LIGHT		62.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.0
PROPOSED AIR		15.8 SQ. FT.
BEDROOM 2		157 SQ. FT.
REQUIRED MIN. LIGHT	10%	15.7 SQ. FT.
PROPOSED LIGHT		62.2 SQ. FT.
REQUIRED MIN. AIR	5%	7.9
PROPOSED AIR		15.8 SQ. FT.

UNIT B

LIVINGROOM		209 SQ. FT.
REQUIRED MIN. LIGHT	10%	20.9 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	10.5
PROPOSED AIR		13.0 SQ. FT.

UNIT C

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT D

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT E

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT F

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT G

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT H

LIVINGROOM		217 SQ. FT.
REQUIRED MIN. LIGHT	10%	21.7 SQ. FT.
PROPOSED LIGHT		62.2 SQ. FT.
REQUIRED MIN. AIR	5%	10.9
PROPOSED AIR		15.8 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		62.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		15.8 SQ. FT.

UNIT J

LIVINGROOM		164 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.4 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.2
PROPOSED AIR		22.3 SQ. FT.
BEDROOM 1		140 SQ. FT.
REQUIRED MIN. LIGHT	10%	14.0 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	7.0
PROPOSED AIR		13.0 SQ. FT.

UNIT K

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		22.3 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT L

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		22.3 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT M

LIVINGROOM		276 SQ. FT.
REQUIRED MIN. LIGHT	10%	27.6 SQ. FT.
PROPOSED LIGHT		60.4 SQ. FT.
REQUIRED MIN. AIR	5%	13.8
PROPOSED AIR		36.5 SQ. FT.
BEDROOM 1		125 SQ. FT.
REQUIRED MIN. LIGHT	10%	12.5 SQ. FT.
PROPOSED LIGHT		16.1 SQ. FT.
REQUIRED MIN. AIR	5%	6.3
PROPOSED AIR		14.2 SQ. FT.

UNIT N

LIVINGROOM		256 SQ. FT.
REQUIRED MIN. LIGHT	10%	25.6 SQ. FT.
PROPOSED LIGHT		60.4 SQ. FT.
REQUIRED MIN. AIR	5%	12.8
PROPOSED AIR		36.5 SQ. FT.
BEDROOM 1		143 SQ. FT.
REQUIRED MIN. LIGHT	10%	14.3 SQ. FT.
PROPOSED LIGHT		16.1 SQ. FT.
REQUIRED MIN. AIR	5%	7.2
PROPOSED AIR		14.2 SQ. FT.

UNIT 0

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		22.3 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT P

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		22.3 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT Q

LIVINGROOM		196 SQ. FT.
REQUIRED MIN. LIGHT	10%	19.6 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	9.8
PROPOSED AIR		22.3 SQ. FT.
BEDROOM 1		164 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.4 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.2
PROPOSED AIR		13.0 SQ. FT.

UNIT R

LIVINGROOM		217 SQ. FT.
REQUIRED MIN. LIGHT	10%	21.7 SQ. FT.
PROPOSED LIGHT		62.2 SQ. FT.
REQUIRED MIN. AIR	5%	10.9
PROPOSED AIR		15.8 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		62.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		15.8 SQ. FT.

UNIT S

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT T

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT U

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT V

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

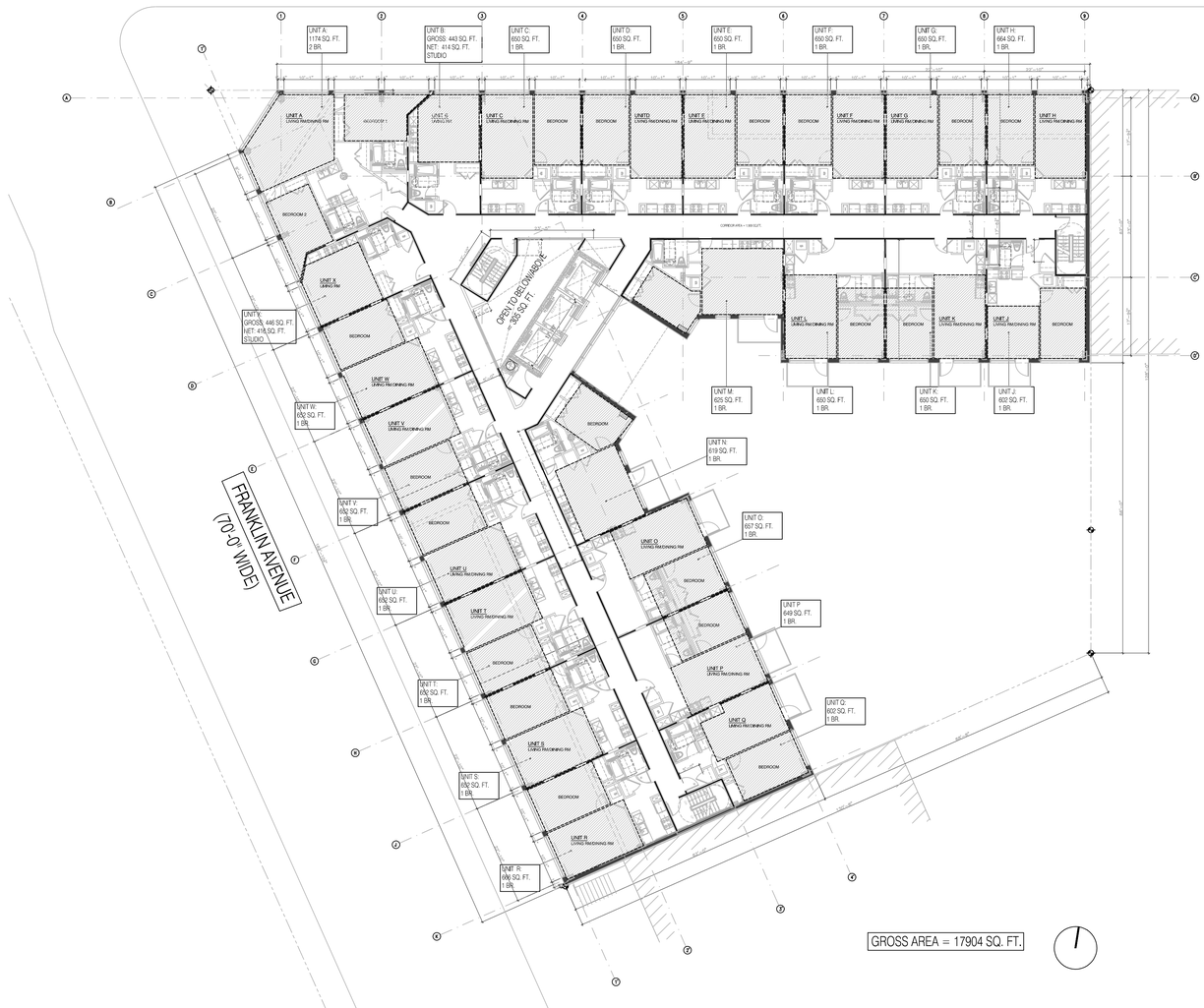
UNIT W

LIVINGROOM		222 SQ. FT.
REQUIRED MIN. LIGHT	10%	22.2 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	11.1
PROPOSED AIR		13.0 SQ. FT.
BEDROOM 1		168 SQ. FT.
REQUIRED MIN. LIGHT	10%	16.8 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	8.4
PROPOSED AIR		13.0 SQ. FT.

UNIT X

LIVINGROOM		213 SQ. FT.
REQUIRED MIN. LIGHT	10%	21.3 SQ. FT.
PROPOSED LIGHT		45.2 SQ. FT.
REQUIRED MIN. AIR	5%	10.7
PROPOSED AIR		13.0 SQ. FT.

FULTON STREET (80'-0" WIDE)



GROSS AREA = 17904 SQ. FT.

1 5TH -7th FLOOR
Z-014 SCALE: 1/16"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
LIGHT AND AIR CALCULATIONS
5th -7th FLOOR

dob no

scale 1/16"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
drawn HW	drawing no. Z-014
checked	

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LIGHT AND AIR CALCULATIONS - 8TH FLOOR

UNIT A	
LIVINGROOM	264 SQ. FT.
REQUIRED MIN. LIGHT 10%	26.4 SQ. FT.
PROPOSED LIGHT	124.4 SQ. FT.
REQUIRED MIN. AIR 5%	13.2
PROPOSED AIR	35.4 SQ. FT.
BEDROOM 1	140 SQ. FT.
REQUIRED MIN. LIGHT 10%	14.0 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	7.0
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 2	95 SQ. FT.
REQUIRED MIN. LIGHT 10%	9.5 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	4.8
PROPOSED AIR	15.8 SQ. FT.

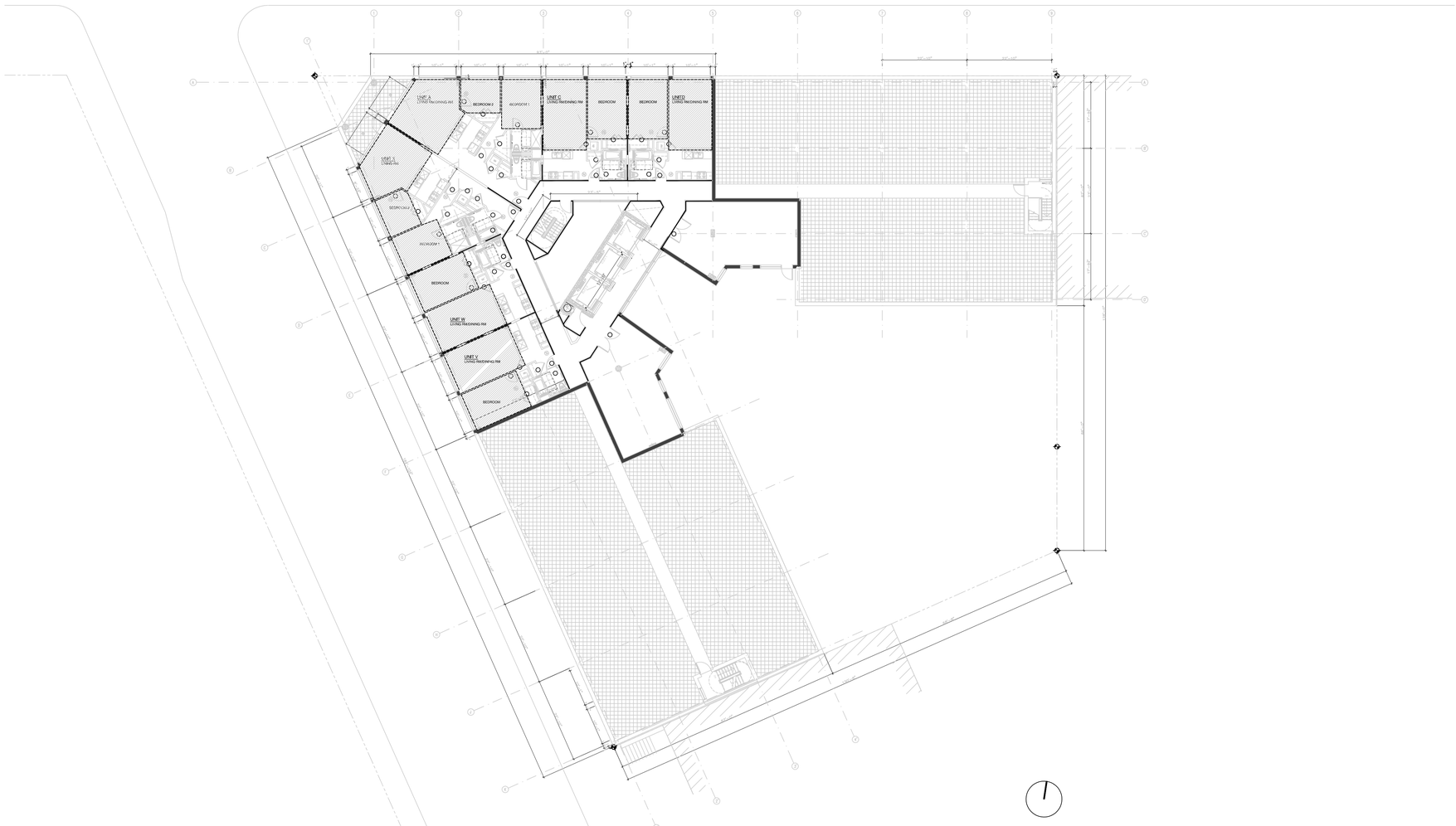
UNIT C	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	15.8 SQ. FT.

UNIT D	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	15.8 SQ. FT.

UNIT V	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	15.8 SQ. FT.

UNIT W	
LIVINGROOM	222 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.2 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	11.1
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	168 SQ. FT.
REQUIRED MIN. LIGHT 10%	16.8 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	8.4
PROPOSED AIR	15.8 SQ. FT.

UNIT X	
LIVINGROOM	227 SQ. FT.
REQUIRED MIN. LIGHT 10%	22.7 SQ. FT.
PROPOSED LIGHT	124.4 SQ. FT.
REQUIRED MIN. AIR 5%	11.4
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 1	141 SQ. FT.
REQUIRED MIN. LIGHT 10%	14.1 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	7.1
PROPOSED AIR	15.8 SQ. FT.
BEDROOM 2	95 SQ. FT.
REQUIRED MIN. LIGHT 10%	9.5 SQ. FT.
PROPOSED LIGHT	62.2 SQ. FT.
REQUIRED MIN. AIR 5%	4.8
PROPOSED AIR	15.8 SQ. FT.



1 8th FLOOR
Z-015 SCALE: 1/16"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

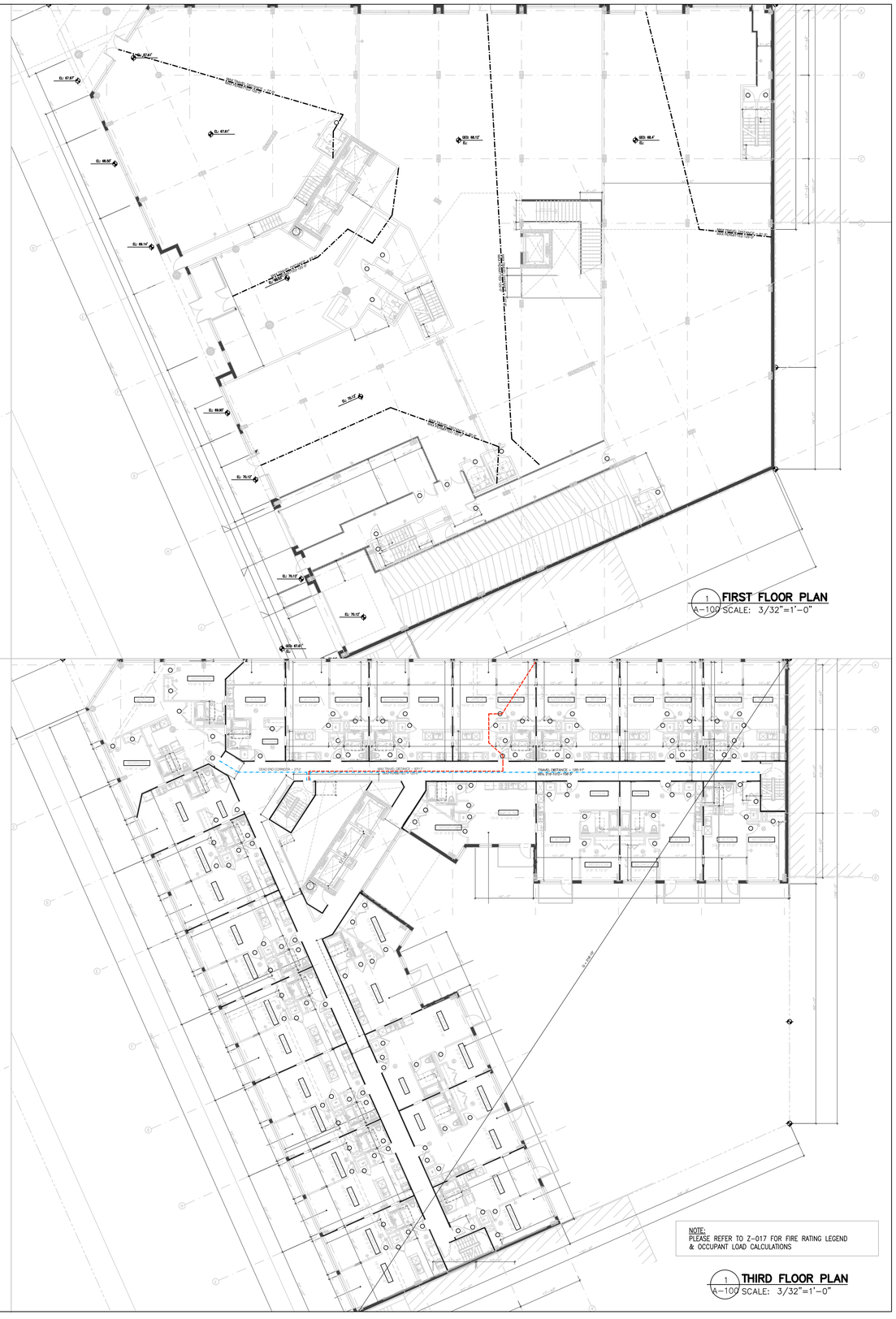
drawing title
LIGHT AND AIR CALCULATIONS
8TH FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
drawn HW	drawing no. Z-015
checked	

1 CELLAR FLOOR PLAN
A-100 SCALE: 3/32"=1'-0"

1 SECOND FLOOR PLAN
A-100 SCALE: 3/32"=1'-0"



1 FIRST FLOOR PLAN
A-100 SCALE: 3/32"=1'-0"

NOTE:
PLEASE REFER TO Z-017 FOR FIRE RATING LEGEND & OCCUPANT LOAD CALCULATIONS

1 THIRD FLOOR PLAN
A-100 SCALE: 3/32"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
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SEAL

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
EGRESS DIAGRAM
CELLAR - THIRD FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
drawn HW	drawing no. Z-016
checked	

1 A-100 **FOURTH-SEVENTH FLOOR PLAN**
SCALE: 3/32"=1'-0"

FLOOR	OCCUPANCY	FLOOR AREA PER OCCUPANCY	FLOOR AREA PER OCCUPANT (SQ. FT.)	OCCUPANT LOAD PER USE PER FLOOR	TOTAL OCCUPANT LOAD PER FLOOR	EXIT CAPACITY (IN INCHES)			
						DOORS (MIN.36") (BC 1008.1.1.1)		STAIRS (MIN.36") (BC 1009.1)	
						REQUIRED	PROVIDED	REQUIRED	PROVIDED
CELLAR	M (COMMERCIAL)	5169	30	172	180	36	72	54	80
	S-1/S-2 (MECH/ST.)	2231	300	8					
1	R-2 (RESIDENTIAL)	1220	200	6	89	17.8	72	26.7	72
	M (COMMERCIAL)	4516.5	60	75					
	S-2 (PARKING)	1560	200	8					
2	S-2 (PARKING)	7785	200	39	39	7.8	72	11.7	72
3	R-2 (RESIDENTIAL)	3875	200	20	20	4	72	6	72
4	R-2 (RESIDENTIAL)	3658	200	19	19	4	72	5.7	72
5	R-2 (RESIDENTIAL)	3048	200	15	15	3	72	4.5	72
6	R-2 (RESIDENTIAL)	2993	200	15	15	3	72	4.5	72

NOTES:

1) AS PER 1004.4 EXITING FROM MULTIPLE LEVELS: WHERE EXITS SERVE MORE THAN ONE FLOOR, ONLY THE OCCUPANT LOAD OF EACH FLOOR CONSIDERED INDIVIDUALLY SHALL BE USED IN COMPUTING THE REQUIRED CAPACITY OF THE EXITS AT THAT FLOOR, PROVIDED THAT THE EXIT SHALL NOT DECREASE IN THE DIRECTION OF EGRESS TRAVEL
2) AS PER 1004.5 EGRESS CONVERGENCE: WHERE MEANS OF EGRESS FROM FLOORS ABOVE AND BELOW CONVERGE AT AN INTERMEDIATE LEVEL, THE CAPACITY OF THE MEANS OF EGRESS FROM THE POINT OF CONVERGENCE SHALL NOT BE LESS THAN SUM OF TWO FLOORS
3) AS PER 1005.1 MULTIPLE MEANS OF EGRESS SHALL BE SIZED SUCH THAT THE LOSS OF ANY ONE MEANS OF EGRESS SHALL NOT REDUCE THE AVAILABLE CAPACITY TO LESS THAN 50% OF THE REQUIRED CAPACITY.

PLAN SYMBOLS - LEGEND

- 1 HR. FIRE RATED WALL SEE WALL TYPES
- 2 HR. FIRE RATED WALL SEE WALL TYPES
- 3 HR. FIRE RATED WALL SEE WALL TYPES
- * INDICATES 3/4 HR. FIRE RATED ULC LABELED DOOR AND PRESSED STEEL FRAME WITH DOOR CLOSER
- ** INDICATES 1 1/2 HR. FIRE RATED ULC LABELED DOOR AND PRESSED STEEL FRAME WITH DOOR CLOSER

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
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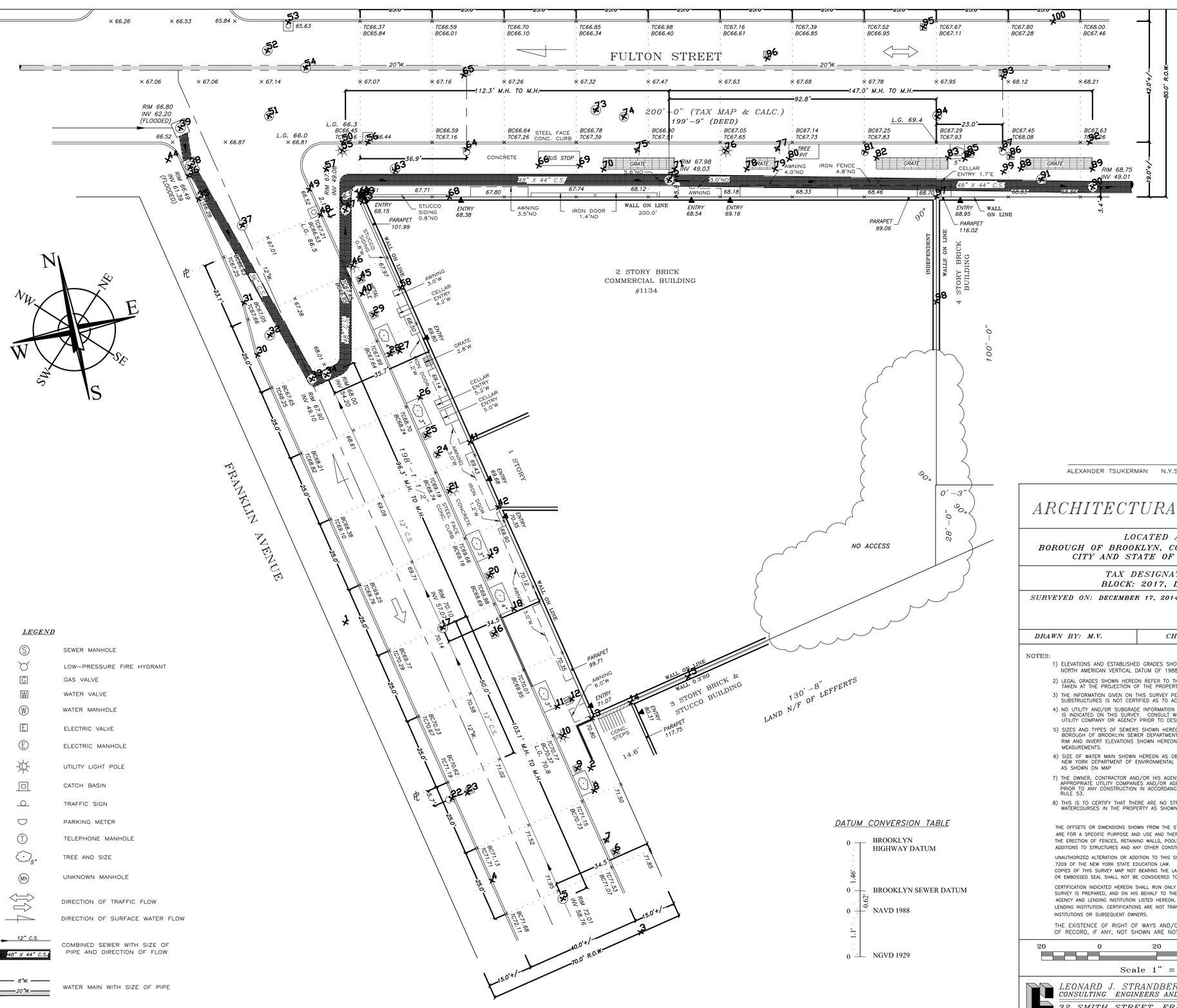
project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
EGRESS DIAGRAM
FOURTH - SEVEN FLOOR

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2013-11-12	sheet no. OF
drawn HW	drawing no. Z-017
checked	



LEGEND

- SEWER MANHOLE
- LOW-PRESSURE FIRE HYDRANT
- GAS VALVE
- WATER VALVE
- WATER MANHOLE
- ELECTRIC VALVE
- ELECTRIC MANHOLE
- UTILITY LIGHT POLE
- CATCH BASIN
- TRAFFIC SIGN
- PARKING METER
- TELEPHONE MANHOLE
- TREE AND SIZE
- UNKNOWN MANHOLE
- DIRECTION OF TRAFFIC FLOW
- DIRECTION OF SURFACE WATER FLOW
- 12" C.S. — COMBINED SEWER WITH SIZE OF PIPE AND DIRECTION OF FLOW (48" X 44" C.S.)
- 8"W. / 20"W. — WATER MAIN WITH SIZE OF PIPE

DATUM CONVERSION TABLE

0	BROOKLYN HIGHWAY DATUM
1.46'	
0	BROOKLYN SEWER DATUM
0.62'	
0	NAVD 1988
1.1'	
0	NGVD 1929

TOTAL AREA OF THE PARCEL= 25753.17 SQ.FT.= 0.59 ACRE

1 SURVEY
SCALE: 1" = 20'-0"

ALEXANDER TSUKERMAN N.Y.S. L.S. №050189

ARCHITECTURAL SURVEY

LOCATED AT:
BOROUGH OF BROOKLYN, COUNTY OF KINGS, CITY AND STATE OF NEW YORK

TAX DESIGNATION:
BLOCK: 2017, LOT: 8

SURVEYED ON: DECEMBER 17, 2014

DRAWN BY: M.V.	*CHECKED BY: A.T.*

NOTES:

1) ELEVATIONS AND ESTABLISHED GRADES SHOWN HEREON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
2) LEGAL GRADES SHOWN HEREON REFER TO THE TOP OF THE CURB TAKEN AT THE PROJECTION OF THE PROPERTY LINES.
3) THE INFORMATION GIVEN ON THIS SURVEY PERTAINING TO UTILITIES AND/OR SUBSTRUCTURES IS NOT CERTIFIED AS TO ACCURACY OR COMPLETENESS.
4) NO UTILITY AND/OR SUBGRADE INFORMATION OTHER THAN SEWER, WATER IS INDICATED ON THIS SURVEY. CONSULT WITH THE APPROPRIATE UTILITY COMPANY OR AGENCY PRIOR TO DESIGNING IMPROVEMENTS.
5) SIZES AND TYPES OF SEWERS SHOWN HEREON AS OBTAINED FROM THE BOROUGH OF BROOKLYN SEWER DEPARTMENT RECORDS. SEWER MANHOLE RIM AND INVERT ELEVATIONS SHOWN HEREON OBTAINED BY FIELD MEASUREMENTS.
6) SIZE OF WATER MAIN SHOWN HEREON AS OBTAINED FROM THE CITY OF NEW YORK DEPARTMENT OF ENVIRONMENTAL PROTECTION RECORDS, AS SHOWN ON MAP
7) THE OWNER, CONTRACTOR AND/OR HIS AGENTS MUST NOTIFY THE APPROPRIATE UTILITY COMPANIES AND/OR AGENCIES AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION IN ACCORDANCE WITH INDUSTRIAL CODE RULE 53.
8) THIS IS TO CERTIFY THAT THERE ARE NO STREAMS NOR NATURAL WATERCOURSES IN THE PROPERTY AS SHOWN ON THIS SURVEY.

THE OFFSETS OR DIMENSIONS SHOWN FROM THE STRUCTURES TO THE PROPERTY LINES ARE FOR A SPECIFIC PURPOSE AND USE AND THEREFORE ARE NOT INTENDED TO GUIDE THE ERECTION OF FENCES, RETAINING WALLS, POOLS, PLANTING AREAS, ADDITIONS TO STRUCTURES AND ANY OTHER CONSTRUCTION.

UNAUTHORIZED ALTERATION OR ADDITION TO THIS SURVEY IS A VIOLATION OF SECTION 7209 OF THE NEW YORK STATE EDUCATION LAW.
COPIES OF THIS SURVEY MAP NOT BEARING THE LAND SURVEYOR'S INKED SEAL OR EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE A VALID TRUE COPY.

CERTIFICATION INDICATED HEREON SHALL RUN ONLY TO THE PERSON FOR WHOM THE SURVEY IS PREPARED, AND ON HIS BEHALF TO THE TITLE COMPANY, GOVERNMENTAL AGENCY AND LENDING INSTITUTION LISTED HEREON, AND TO THE ASSIGNEES OF THE LENDING INSTITUTION. CERTIFICATIONS ARE NOT TRANSFERABLE TO ADDITIONAL INSTITUTIONS OR SUBSEQUENT OWNERS.

THE EXISTENCE OF RIGHT OF WAYS AND/OR EASEMENTS OF RECORD, IF ANY, NOT SHOWN ARE NOT CERTIFIED.

20 0 20 40 60
Scale 1" = 20'

LEONARD J. STRANDBERG AND ASSOCIATES,
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KEY PLAN

BLOCK 2017 LOT: 8

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
SURVEY

dob no

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checked	

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GENERAL NOTES:

1. THE PROPOSED WORK ON THESE DRAWINGS SHALL COMPLY WITH NEW YORK CITY BUILDING CODE REQUIREMENTS, INCLUDING LOCAL LAW #17/95 (EARTHQUAKE CODE).
2. THE GENERAL CONTRACTOR SHALL OBTAIN CONSTRUCTION PERMIT AND PAY ALL REQUIRED FEES TO THE D.O.B. BASED ON THE PROPOSED WORK OF THIS DRAWING FROM NEW YORK CITY BUILDING DEPARTMENT PRIOR TO START OF WORK.
3. ALL ELECTRICAL WORK BEING PERFORMED SHALL BE BY A LICENSED ELECTRICIAN IN ACCORDANCE WITH NEW YORK CITY ELECTRICAL CODE, AND SHALL BE REQUIRED TO OBTAIN ALL REQUIRED SIGN-OFFS AND CERTIFICATE OF COMPLETIONS FROM THE B.E.C.
4. ALL PLUMBING WORK SHALL BE PERFORMED BY A LICENSED PLUMBER IN ACCORDANCE WITH THE NEW YORK CITY BUILDING CODE AND INSPECTION REQUIREMENTS. HE SHALL BE RESPONSIBLE TO OBTAIN ALL REQUIRED PLUMBING SIGN-OFFS AND INSPECTIONS FROM THE DEPARTMENT OF BUILDING'S PLUMBING DIVISION.
5. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL CONDITIONS AND DIMENSIONS ON THE SITE PRIOR TO START OF WORK. HE SHALL NOTIFY THE ARCHITECT/ENGINEER OF RECORD OF ANY DISCREPANCIES AND/OR CHANGE OF LAYOUT BETWEEN THE FIELD CONDITIONS AND THESE DRAWINGS IMMEDIATELY. FAILURE TO DO SO WILL INDICATE THE GENERAL CONTRACTOR'S ACCEPTANCE OF THESE DRAWINGS AND WILLINGNESS TO TAKE FULL RESPONSIBILITY FOR SAID WORK BEING PERFORMED.
6. THE ARCHITECT/ENGINEER OF RECORD HAS NOT BEEN RETAINED TO SUPERVISE THE CONSTRUCTION.
7. THE GENERAL CONTRACTOR SHALL RETAIN THE SERVICES OF A LICENSED ARCHITECT/ENGINEER FOR ALL REQUIRED SPECIAL INSPECTIONS.
8. THE GENERAL CONTRACTOR SHALL OBTAIN SIGN-OFF FROM THE DEPARTMENT OF BUILDINGS AFTER COMPLETION OF WORK.
9. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL BE KNOWLEDGEABLE OF CONDITIONS THEREON. HE SHALL INVESTIGATE, VERIFY AND BE RESPONSIBLE FOR ALL CONDITIONS OF THE PROJECT AND SHALL NOTIFY THE OWNER OF ANY CONDITIONS REQUIRING MODIFICATIONS BEFORE PROCEEDING WITH THE WORK.
10. REFER TO STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS FOR ADDITIONAL GENERAL NOTES, ABBREVIATIONS AND SYMBOLS. ALL NOTES ARE TO BE REVISED AND APPLIED TO RELATED BUILDING COMPONENTS.
11. NOTES APPEAR ON VARIOUS SHEETS FOR DIFFERENT SYSTEMS AND MATERIALS. SHEETS TO BE REVIEWED AND NOTES ON ANY ONE SHEET TO BE APPLIED ON RELATED DRAWINGS AND DETAILS.
12. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO THOSE DETAILED. WHERE SPECIFIED DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, CONSULT THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
13. ALL ELEVATOR OPENINGS SHALL BE CERTIFIED BY THE ELEVATOR SUBCONTRACTOR PRIOR TO FORMING. REQUIRED MODIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR APPROVAL PRIOR TO FORMING.
14. REFER TO CERTIFIED MECHANICAL AND ELECTRICAL CONTRACTOR'S DRAWINGS AND MANUFACTURER'S TEMPLATE DRAWINGS FOR ALL MECHANICAL AND ELECTRICAL EQUIPMENT SUPPORTS, BOLT SETTING TEMPLATES, ISOLATIONS, SPRING ISOLATION, ETC, NOT SHOWN ON THE DRAWINGS.
15. CONTRACTOR TO COORDINATE ALL EQUIPMENT BASE AND HOUSEKEEPING PADS WITH MECHANICAL, PLUMBING AND ELECTRICAL CONTRACTORS. EQUIPMENT BASES AND HOUSEKEEPING PADS TO BE A MINIMUM OF 4" HIGH UNLESS OTHERWISE NOTED.
16. CONCRETE PADS AND MOUNTINGS IN MECHANICAL SPACES SHALL BE COORDINATED WITH ELECTRICAL AND PLUMBING CONTRACTORS.
17. CONTRACTOR TO COORDINATE ALL MECHANICAL AND ELECTRICAL FLOOR AND WALL SLEEVES AND ALL MECHANICAL SHAFTS WITH MECHANICAL, PLUMBING, FIRE-PROTECTION, ELECTRICAL, STRUCTURAL AND ARCHITECTURAL DRAWINGS.
18. PROVIDE ACCESS PANELS AS APPLICABLE AND AS REQUIRED FOR MECHANICAL EQUIPMENT. ALL ACCESS PANELS SHALL BE CONCEALED, AND LOCATIONS SHALL BE REVIEWED WITH THE ARCHITECT PRIOR TO PROCEEDING.
19. PORTABLE FIRE EXTINGUISHERS LOCATED ON THE DRAWINGS SHALL RECEIVE APPROVAL OF FIRE DEPARTMENT PRIOR TO INSTALLATION. (N/A)
20. ALL SPRINKLER HEADS IN ACOUSTICAL TILE SHALL BE INSTALLED CENTERED IN THE ACOUSTICAL TILE.
21. ALL EXTERIOR HANDRAILS AND EXTERIOR EXPOSED METAL SHALL BE GALVANIZED AND PAINTED UNLESS NOTED OTHERWISE.
22. ALL EXTERIOR DOORS SHALL PREVENT AIR LEAKAGE/INFILTRATION AROUND THEIR PERIMETER WHEN IN A CLOSED POSITION.
23. ALL EXTERIOR JOINTS AROUND WINDOW AND DOOR FRAMES, BETWEEN WALLS AND FOUNDATIONS, BETWEEN WALLS AND ROOFS, AND BETWEEN WALLS AND PANELS AT PENETRATION OF UTILITIES THROUGH THE ENVELOPE SHALL BE SEALED, CAULKED OR WEATHER STRIPPED TO PREVENT AIR LEAKAGE/INFILTRATION.
24. ALL EXTERIOR SOFFITS SHALL BE CONSTRUCTED WITH RIGID GALVANIZED METAL FRAME MEMBERS AND SHALL RESIST UPLIFTING WIND LOADS OF 1.5 TIMES THE WIND PRESSURE DIAGRAM.
25. ALL EXTERIOR SOFFITS SHALL BE INSTALLED TO PROVIDE A 'U' VALUE OF 0.09, SHALL HAVE A VAPOR BARRIER AND SHALL BE PROPERLY SEALED AGAINST AIR INFILTRATION.
26. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID MOLECULAR BREAKDOWN.
27. FUTURE TENANT DEVELOPMENT TO BE COVERED UNDER SEPARATE PERMITS.
28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL CONDITIONS AND MATERIALS WITHIN THE PROPOSED CONSTRUCTION AREA. THE CONTRACTOR SHALL DESIGN AND INSTALL ADEQUATE SHORING AND BRACING FOR ALL STRUCTURAL AND REMOVAL TASKS. THE CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR ANY DAMAGE OR INJURIES CAUSED BY OR DURING THE EXECUTION OF WORK.
29. THE CONTRACTOR SHALL REPLACE AND REPAIR MISSING OR BROKEN SIDEWALK, CURB, OR ROADWAY DAMAGED DURING CONSTRUCTION AS DIRECTED BY THE NYC DEPARTMENT OF BUILDINGS, NYC DEPARTMENT OF TRANSPORTATION, OR OTHER AGENCIES.

DIMENSIONING:

1. ALL WALLS ARE ORTHOGONAL TO THE PROPERTY LINES UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE KNOWLEDGEABLE OF WHICH PROPERTY LINE DETERMINES THE ORIENTATION OF EACH WALL, AND SHALL NOTIFY THE ARCHITECT OF ANY CONDITIONS REQUIRING CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
2. PARTITIONS ARE DIMENSIONED TO THE FURNISHED FACE OF THE WALL UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS SHALL HAVE PREFERENCE OVER SCALE.
4. ALL DIMENSIONS SHALL BE VERIFIED IN THE FIELD BEFORE PROCEEDING WITH THE WORK. THE ARCHITECT SHALL BE NOTIFIED OF ANY CORRECTIONS.
5. DOOR OPENINGS ARE GENERALLY DIMENSIONED TO CENTERLINE OF OPENING. DOOR OPENINGS THAT ARE NOT DIMENSIONALLY LOCATED ARE TO BE CENTERED BETWEEN WALLS OR POSITIONED WITH ONE JAMB AGAINST AND ADJACENT WALL OR COLUMN AS SHOWN ON THE PLANS AND/OR DETERMINED FROM THE DETAILS.
6. WHEN UNDIMENSIONED PARTITIONS APPEAR IN CONJUNCTION WITH DOOR OPENINGS, THE DOOR WIDTH AND DOOR FRAME DETAILS DETERMINE THE LOCATION OF THE ADJACENT WALLS AND FRAMES.

PARTITION NOTES:

1. DEFLECTION FOR ALL PARTITIONS SHALL NOT EXCEED 1/240TH OF THE SPAN MAXIMUM FOR TYPICAL GYPSUM PARTITIONS, OR 1/360 FOR WOOD-CLAD PARTITIONS, OR STONE-CLAD PARTITION SYSTEMS.
2. WATER RESISTANT DRYWALL (FOR THE FULL HEIGHT OF THE PARTITION CONSTRUCTION) SHALL BE USED IN TOILETS, SHOWERS, SERVICE ROOMS, ETC. USE STANDARD GYPSUM BOARD FOR CEILING CONSTRUCTION.
3. PENETRATIONS: COORDINATE WITH MECHANICAL CONTRACTOR FOR OPENINGS REQUIRED FOR RETURN AIR IN FULL HEIGHT PARTITIONS.
4. PROVIDE LATERAL BRACING TO STRUCTURE ABOVE FINISHED CEILINGS FOR PARTITIONS EXCEEDING UNSUPPORTED HEIGHTS INDICATED ON DRAWINGS.
5. PROVIDE HORIZONTAL CONTROL JOINTS AT 12'-0' O.C. IN THE VERTICAL DIRECTION UNLESS NOTED OTHERWISE.
6. PROVIDE CONTROL JOINTS IN GYPSUM WALLBOARD CONSTRUCTION SUCH THAT PARTITION OR FURRING RUNS DO NOT EXCEED 30', AND CEILING DIMENSIONS DO NOT EXCEED 50' IN EITHER DIRECTION WITH PERIMETER RELIEF OR 30' WITHOUT PERIMETER RELIEF.
7. PROVIDE VERTICAL CONTROL JOINTS WITH SEALANT IN MASONRY WALLS AS SHOWN IN DRAWINGS WITH MAXIMUM SPACING OF 25'-0'.
8. COMPLETELY SEAL WITH ACOUSTICAL SEALANT HEADS, BASES, AND ENDS, PLUS ALL PENETRATIONS (INCLUDING BUT NOT LIMITED TO MECHANICAL, ELECTRICAL, AND PLUMBING WORK).
9. PROVIDE SOUND BLANKETS AS INDICATED.

SEISMIC/EARTHQUAKE CODE NOTES (BC 1614):

1. EARTHQUAKE LOADS - EVERY BUILDING, STRUCTURE AND PORTION THEREOF SHALL, AT A MINIMUM BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF SEISMIC GROUND MOTIONS.
2. NEW CONCRETE BLOCK WALLS TO HAVE STANDARD LADDER TYPE HORIZONTAL REINFORCEMENT AT 16 INCHES ON CENTER VERTICALLY.
3. PROVIDE BOND BEAM WITH TWO #6 REBARS AT TOP OF EACH FLOOR.
4. NEW CONSTRUCTION HAS BEEN DESIGNED IN COMPLIANCE WITH SEISMIC CODE LOCAL LAW 10/95 RULES AND REGULATIONS.
5. THESE PLANS COMPLY WITH THE SEISMIC CODE REQUIREMENTS OF LOCAL LAW17/95 RULES AND REGULATIONS.

WIND LOADS NOTES (BC-1609):

1. WIND LOADS - THE STRUCTURAL FRAME AND EXTERIOR COMPONENTS OF ALL BUILDINGS, SIGNS, TANKS AND OTHER EXPOSED CONSTRUCTION SHALL BE DESIGNED TO RESIST THE PRESSURES DUE TO WIND. WIND SHALL BE ASSUMED TO ACT FROM ANY DIRECTION. FOR CONTINUOUS FRAMING, THE EFFECTS OF PARTIAL LOADING CONDITIONS SHALL BE CONSIDERED.

BUILDING CLASSIFICATION STATEMENT (BC-106.4):

THE OCCUPANCY GROUP IS R2 AND M, WITH R2 BEING THE DOMINANT OCCUPANCY. THE CONSTRUCTION CLASS IS TYPE IB, NON-COMBUSTIBLE CONSTRUCTION. FULLY SPRINKLERED. STRUCTURAL OCCUPANCY CATEGORY IS II PER TABLE 1604.5. THE BUILDING IS INSIDE THE FIRE DISTRICT. THE HEIGHT OF THE BUILDING IS 84'-8" THE HIGHEST LEVEL OF FIRE DEPARTMENT IS ACCESS 84'-8"; THE GROUND LEVEL IS THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS. THE MULTIPLE DWELLING CLASSIFICATION IS HAEA "HEREAFTER ERECTED CLASS A" APARTMENTS.

THE BUILDING IS NOT A PREFABRICATED OR MODULAR CONSTRUCTION.

OCCUPANCY RESISTANCE RATINGS:

1. CONSTRUCTION: TYPE IB, NON-COMBUSTIBLE CONSTRUCTION - FULLY SPRINKLERED.
2. UNLESS NOTED OTHERWISE ALL COLUMNS, BEAMS AND OTHER STRUCTURAL MEMBERS SHALL HAVE SPRAYED ON FIREPROOFING INSTALLED AT THE REQUIRED THICKNESS AND DENSITY TO ACHIEVE THE THE HOURLY RATINGS AS SET FORTH HEREAFTER. ALL SPRAYED-ON FIREPROOFING SHALL COMPLY WITH SECTION (BC 720): TABLE 720.1, INSPECTION REQUIREMENTS OF THE BUILDING CODE OF NEW YORK CITY.
3. ALL RATED PARTITIONS SHALL RUN PAST STRUCTURAL BEAMS, TO THE UNDERSIDE OF STRUCTURAL SLAB. WHERE THE PARTITIONS TERMINATE TO THE UNDERSIDE OF STRUCTURAL BEAMS, THE STRUCTURAL BEAMS SHALL HAVE ADDITIONAL SPRAYED-ON FIREPROOFING TO ACHIEVE AN AREA SEPARATION RATING EQUAL TO THAT OF THE PARTITION RATING, IF REQUIRED.
4. SPACE BETWEEN SLAB AND EXTERIOR WALL AND ALL OPENINGS IN THE FLOOR SLABS INCLUDING SPACES BETWEEN DUCTS, CONDUIT, PIPING, ETC., (EXCEPT WHEN COMPLETELY ENCLOSED BY FIRE RATED CONSTRUCTION), SHALL BE SAFED-OFF (FILLED) WITH APPROVED SAFING MATERIAL TO MAINTAIN FIRE RATING CONTINUITY OF THE FLOOR CONSTRUCTION. ALL JOINTS OF ANY ELEMENT OF CONSTRUCTION SHALL BE TIGHT AND PREVENT THE PASSAGE OF SMOKE OR FLAME.
5. WHERE MASONRY WALLS AT INTERIOR LOT LINES ARE BROKEN TO ACCOMMODATE STRUCTURE THEREBY REDUCING THE FIRE RATING OF THE WALL AT THE STRUCTURE, THEN THE STRUCTURE SHALL BE FIREPROOFED AT THE REQUIRED WALL RATING.
6. ALL FIRE RESISTIVE (LABELED) FIRE DOORS SHALL HAVE THE APPROPRIATE LABELS AFFIXED TO BOTH DOOR AND FRAME.
7. A FINISH OR FIRE RATING INDICATION ON A WALL SHALL MEAN THE ENTIRE LENGTH OF WALL IS TO BE FINISHED OR FIRE RATED AS INDICATED.
8. ALL PIPING, DUCTS, ETC., THAT PENETRATE FLOOR SLABS SHALL BE INSTALLED IN A MANNER THAT WILL PRESERVE THE FIRE RESISTIVE AND STRUCTURAL INTEGRITY OF THE BUILDING.
9. WHERE INTERIOR FINISH MATERIALS ARE SPACED (FURRED) FROM THEIR SUPPORTING MEMBERS, THE CONCEALED SPACES CREATED SHALL BE FIRE STOPPED AS REQUIRED BY CODE.
10. ALL RATINGS ARE TO COMPLY WITH THE FIRE RESISTANCE RATED CONSTRUCTION CHAPTER 7 OF THE 2008 BUILDING CODE OF THE CITY OF NEW YORK.
11. LINTEL OVER OPENINGS WIDER THAN 4 FEET IN MASONRY WALLS SHALL BE FIRE PROTECTED AS REQUIRED BY SECTION BC 714.2.
12. WHERE PIPES, WIRES, CONDUITS, DUCTS, ETC. PIERCE FIRE PROTECTION OF INDIVIDUALLY ENCASED STRUCTURAL MEMBERS, SUCH PENETRATION SHALL NOT EXCEED 2% OF ANY ONE FACE OF SUCH PROTECTION, AND SHALL BE CLOSED OFF WITH CLOSE FITTING METAL ESCUTCHEONS OR PLATES AND CONCEALED SPACE SHALL BE FIRE STOPPED AT EACH STORY (BC714.3).
13. FIRE BARRIER WALLS SHALL COMPLY WITH PROVISIONS OF BC 706 AND SHALL EXTEND FROM THE TOP OF THE FLOOR/ CEILING ASSEMBLY BELOW TO THE UNDERSIDE OF THE FLOOR ABOVE. THESE WALLS SHALL BE CONTINUOUS THROUGH CONCEALED SPACES IN THE FLOOR AND ROOF CONSTRUCTION. HOLLOW VERTICAL SPACES WITHIN THE FIRE BARRIER WALL SHALL BE FIRESTOPPED AT EVERY FLOOR.
14. FLOOR AND ROOF ASSEMBLIES REQUIRED TO HAVE A FIRE-RESISTANCE RATING SHALL COMPLY WITH SECTION BC 711 OF THE 2008 NYC BUILDING CODE.
15. THROUGH PENETRATIONS AND MEMBRANE PENETRATIONS OF FIRE RATED CONSTRUCTION SHALL COMPLY WITH THE REGULATIONS SET FORTH IN SECTION BC 712, IN ADDITION, DUCTS AND TRANSFER OPENINGS SHALL COMPLY WITH THE REGULATIONS SET FORTH IN SECTION BC 716 AND THE NEW YORK CITY MECHANICAL CODE. SHAFT ENCLOSURES SHALL COMPLY WITH THE REGULATIONS SET FORTH IN BC 707.
16. OPENINGS IN FIRE RATED CONSTRUCTION TO COMPLY WITH SECTION BC 715.
17. CONCEALED SPACES WITHIN PARTITIONS, WALLS, FLOORS, STAIR, FURRING, PIPE SPACES, COLUMN ENCLOSURES, ETC., SHALL BE FIRE STOPPED IN COMPLIANCE WITH REGULATIONS SET FORTH IN SECTION BC 717.

OCCUPANCY: RESIDENTIAL (R2) & COMMERCIAL (M)

18. ALLOWABLE HEIGHT AND BUILDING AREAS LIMITATIONS TABLE 503 OF 2008 NYC BUILDING CODE.

TABLE 503
ALLOWABLE HEIGHT AND BUILDING AREAS[a]
Height limitations shown as stories and feet above grade plane.
Area limitations as determined by the definition of "Area, building," per floor.

		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
		A	B	A	B	A	B	HT	A	B
	Hgt (feet)									
GROUP	Hgt(S)	UL	160[e]	65	55	65	55	65	50	40
A-1	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	17,500	10,500	14,700	5,600	15,000	8,400	5,500
A-2	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	17,500	9,500	14,000	5,600	15,000	8,400	5,500
A-3	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	17,500	9,500	14,000	5,600	15,000	8,400	5,500
A-4	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	17,500	9,500	14,000	5,600	15,000	8,400	5,500
A-5	S	UL	UL	UL	UL	UL	UL	6	UL	UL
	A	UL	UL	UL	UL	UL	UL	UL	UL	UL
B	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	37,500	10,500	28,500	5,600	36,000	8,400	5,500
E	S	UL	UL	4	3	4	3	6	3	2
	A	UL	UL	26,000	10,500	23,500	5,600	25,500	8,400	5,500
F-1	S	UL	6	5	3	5	2	5	3	2
	A	UL	UL	12,500	7,500	7,500	3,000	10,000	3,000	1,000
F-2	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	37,500	10,500	28,500	5,600	30,000	8,400	5,500
H-1	S	1	1	1	1	1	1	1	1	NP
	A	21,000	16,500	11,000	7,500	9,500	7,000	10,500	7,500	NP
H-2[d]	S	UL	3	2	1	2	1	2	1	1
	A	21,000	16,500	11,000	7,500	9,500	7,000	10,500	7,500	3,000
H-3[d]	S	UL	6	4	2	4	2	4	2	1
	A	UL	60,000	26,500	14,000	17,500	13,000	25,000	10,000	5,000
H-4	S	UL	7	5	3	5	3	5	3	2
	A	UL	UL	37,500	17,500	28,500	17,500	36,000	18,000	6,500
H-5	S	3	3	3	3	3	3	3	3	2
	A	UL	UL	37,500	23,000	28,500	19,000	36,000	18,000	9,000
I-1	S	UL	UL	6	NP	4	3	4	NP	NP
	A	UL	UL	19,000	NP	16,500	5,600	18,000	NP	NP
I-2	S	UL	6	4	4	5	3	5	3	NP
	A	UL	UL	7,000	3,500	5,000	1,200	6,500	2,000	NP
I-3	S	UL	4	4	3	4	2	4	3	NP
	A	UL	UL	7,000	3,500	5,000	1,200	6,500	2,000	NP
I-4	S	UL	UL	3	3	3	3	3	2	2
	A	UL	UL	26,500	9,500	23,500	5,600	25,500	8,400	5,500
M	S	UL	UL	6	3	6	3	6	3	2
	A	UL	UL	21,500	7,500	18,500	5,600	14,000	8,400	5,500
R-1	S	UL	UL	6	NP	6	NP	6	NP	NP
	A	UL	UL	UL	NP	24,000	NP	20,500	NP	NP
R-2	S	UL	UL	6	NP	6	3	6	NP	NP
	A	UL	UL	UL	NP	24,000	5,600	20,500	NP	NP
R-3	S	UL	UL	6	3	6	3	6	3	3
	A	UL	UL	17,500	10,500	14,700	5,600	30,000	8,400	5,500
S-1	S	UL	6	5	3	4	3	4	3	2
	A	UL	48,000	12,000	7,500	7,500	7,500	7,500	5,000	1,000
S-2[b,c]	S	UL	UL	6	3	6	4	6	3	2
	A	UL	UL	15,000	10,000	10,000	8,500	10,000	8,400	5,500
U[c]	S	UL	5	4	2	3	2	4	2	1
	A	UL	35,000	19,000	8,500	14,000	8,500	18,000	9,000	5,500

For SI: 1 foot = 304.8 mm, 1 square foot = $0.0929 m^2$.
UL = Unlimited, NP = Not permitted.
Not permitted in Fire District
Not permitted in Fire District without sprinklers
a. See the following sections for general exceptions to Table 503:
1. Section 504.2, Allowable height increase due to automatic sprinkler system installation.
2. Section 506.2, Allowable area increase due to frontage.
3. Section 506.3, Allowable area increase due to automatic sprinkler system installation.
4. Section 507, Unlimited area building.
b. For open parking structures, see Section 406.3.
c. For private garages, see Section 406.1.
d. See Section 415.5 for limitations.
e. Except for Occupancy Groups F-1, H-1 through H-5, I-2, I-3, S-1 and U, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be unlimited in height.

20. REQUIRED SEPARATION OF OCCUPANCIES (HOURS)TABLE 508.3.3 OF 2008 NYC BUILDING CODE.

TABLE 508.3.3
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)[a]

USE	A-1	A-2	A-3	A-4	A-5	B[b]	E	F-1	F-2	H-1	H-2	H-3	H-4	H-5	I-1	I-2	I-3	I-4	M[b]	R-1	R-2	R-3	S-1	S-2	U
A-1	—	2	2	2	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	1
A-2[e]	—	—	2	2	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	1
A-3	—	—	—	2	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	1
A-4	—	—	—	—	2	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	1
A-5	—	—	—	—	—	2	2	3	2	NP	4	3	2	4	2	2	2	2	2	2	2	2	3	2	1
B[b]	—	—	—	—	—	—	2	3	2	NP	2	1	1	1	2	2	2	2	2	2	2	2	3	2	1
E	—	—	—	—	—	—	—	3	2	NP	4	3	2	3	2	2	2	2	2	2	2	2	3	2	1
F-1	—	—	—	—	—	—	—	—	3	NP	2	1	1	1	3	3	3	3	3	3	3	3	3	3	3
F-2	—	—	—	—	—	—	—	—	—	NP	2	1	1	1	2	2	2	2	2	2	2	2	3	2	1
H-1	—	—	—	—	—	—	—	—	—	—	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP	NP
H-2	—	—	—	—	—	—	—	—	—	—	—	1	2	2	4	4	4	4	2	4	4	4	2	2	1
H-3	—	—	—	—	—	—	—	—	—	—	—	—	1	1	4	3	3	3	1	3	3	3	1	1	1
H-4	—	—	—	—	—	—	—	—	—	—	—	—	—	1	4	4	4	4	1	4	4	4	1	1	1
H-5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4	4	4	3	1	4	4	4	1	1	3
I-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	2	2	4	3	2
I-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	2	3	2	1
I-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	2	3	2	1
I-4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	2	3	2	1
M[b]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	2	3	2	1
R-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	2	3	2	1
R-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2	3	2	1
R-3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	2[d]	1[d]
S-1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3	3
S-2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1
U	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

For SI: 1 square foot = $0.0929 m^2$.
NP = Not Permitted.
a. See Section 508.3.3.4 for reductions permitted.
b. Occupancy separation need not be provided for storage areas serving Group B or M if any of the following conditions apply:
1. The storage area is less than 10 percent of the floor area of the story and less than 3000 square feet ($278.7 m^2$).
2. The storage area is provided with an automatic fire-extinguishing system and is less than 3,000 square feet ($278.7 m^2$); or
3. The storage area is less than 1,000 square feet ($92.9 m^2$).
c. Reserved.
d. For private garages and carports, see Section 406.1.4.
e. Commercial kitchens need not be separated from the restaurant seating areas that they serve, provided:
1. The cooking equipment is vented directly to the outdoors; and
2. A draft curtain of noncombustible materials, at least 24 inches (610 mm) down from the ceiling, is provided to separate the cooking facilities from the restaurant seating areas; and
3. Sprinkler heads constructed in accordance with the provisions of this code are provided in the kitchen side of the curtain, within 24 inches (610 mm) of the curtain opening, and any other openings including doors between the kitchen and the seating areas, and spaced not more than 48 inches (1210 mm) on center for each opening that is more than 60 inches (1524 mm) wide.

PARTITION TYPES FIRE RATING AS SPECIFIED ON SHEET A-500

21. FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (HOURS) TABLE 601 OF 2008 NYC BUILDING CODE.

TABLE 601
FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS (hours)

	TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V[i]	
BUILDING ELEMENT	A	B	A[d]	B	A[d]	B	HT	A[d]	B
Structural frame[a] Including columns, girders, trusses	3[b]	2[b]	1	0	1	0	HT	1	0
Bearing walls Exterior[f, g]	3	2	1	0	2	2	2	1	0
Bearing walls Interior	3[b]	2[b]	1	0	1	0	1/HT	1	0
Nonbearing walls and partitions Exterior	See Table 602								
Nonbearing walls and partitions Interior[e]	0	0	0	0	0	0	See Section 602.4.6	0	0
Floor construction[h] Including supporting beams and joists	2	2	1	0	1	0	HT	1	0
Roof construction Including supporting beams and joists	1 1/2	1[c]	1[c]	0[c]	1[c]	0	HT	1[c]	0

For SI: 1 foot = 304.8 mm.
a. The structural frame shall be considered to be the columns and the girders, beams, trusses and spandrels having direct connections to the columns and bracing members designed to carry gravity loads. The members of floor or roof panels which have no connection to the columns shall be considered secondary members and not a part of the structural frame.
b. Roof supports: Fire-resistance ratings of structural frame and bearing walls are permitted to be reduced by 1 hour where supporting a roof only.
c. 1. Except in Factory-Industrial (F-1), Hazardous (H), Mercantile (M) and Moderate-Hazard Storage (S-1) occupancies, fire protection of structural members shall not be required, including protection of roof framing and decking where every part of the roof construction is 20 feet or more above any floor immediately below. Fire-retardant-treated wood members shall be allowed to be used for such unprotected members.
2. Except in Factory-Industrial (F) occupancies subject to regulation under Sections 264(1) and 264(2) of the *New York State Labor Law*, and in Group I-1, R-1, and Group R-2 occupancies, in all occupancies heavy timber shall be allowed where a 1-hour or less fire-resistance rating is required.
3. Except in Factory-Industrial (F) occupancies subject to regulation under Sections 264(1) and 264(2) of the *New York State Labor Law*, and in Group I-1, R-1, and Group R-2 occupancies, in Type I and II construction, fire-retardant–treated wood shall be allowed in buildings including girders and trusses as part of the roof construction when the building is:
i. Type II construction of any height; or
ii. Type I construction two stories or less; or when over two stories, the vertical distance from the upper floor to the roof is 20 feet or more.
d. An approved automatic sprinkler system in accordance with Section 903.3.1.1 shall be allowed to be substituted for 1-hour fire-resistance-rated construction, provided such system is not otherwise required by other provisions of the code or used for an allowable area increase in accordance with Section 506.3 or an allowable height increase in accordance with Section 504.2. The 1-hour substitution for the fire resistance of exterior walls shall not be permitted.
e. Not less than the fire-resistance rating required by other sections of this code.
f. Not less than the fire-resistance rating based on fire separation distance (see Table 602).
g. See footnote (d) of Table 602.
h. See Section 711.3 for additional requirements.
i. Type V construction is not permitted inside fire districts except as provided for in Section D105.1 of Appendix D.

PARTITION TYPES FIRE RATING AS SPECIFIED ON SHEET A-500

20. FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASE ON FIRE SEPARATION DISTANCE TABLE 602 OF 2008 NYC BUILDING CODE.

TABLE 602
FIRE-RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE[a, d, e]

FIRE SEPARATION DISTANCE (feet)	TYPE OF CONSTRUCTION	OCCUPANCY GROUP H	OCCUPANCY GROUP F-1, M, S-1	OCCUPANCY GROUP A, B, E, F-2, I, R[b], S-2, U
< 5[c]	All	3	2	1
≥ 5 to < 10	IA	3	2	1
	Others	2	1	1
≥ 10 to < 30	IA, IB	2	1	1
	IIB, VB	1	0	0
	Others	1	1	1
≥ 30	All	0	0	0

For SI: 1 foot = 304.8 mm.
a. Load-bearing exterior walls shall also comply with the fire-resistance rating requirements of Table 601.
b. Group R-3 and Group U when used as accessory to Group R-3, shall not be required to have a fire-resistance rating where the fire separation distance is 3 feet or more.
c. See Section 705.1.1 for party walls.
d. Inside the fire district, exterior load-bearing walls of Type II buildings shall have a fire-resistance rating not less than prescribed below:
< 5 — 2 hours
> (or equal) 5 and <10 — 2 hours
> (or equal) 10 < 30 — 1 hour
> (or equal) 30 — As per table 602.
e. Inside the fire district, exterior nonload-bearing walls of Type II buildings shall have a fire-resistance rating not less than prescribed below:
< 5 — As per Table 602
> (or equal) 5 and <10 — As per Table 602
> (or equal) 10 < 30 — 1 hour
> (or equal) 30 — As per Table 602.

FIRE RATINGS, FOR EXTERIOR WALLS REQUIRED TO HAVE FIRE RATINGS AS PER THE ABOVE TABLE, ARE SPECIFIED ON WALL SECTIONS, A-502

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
GENERAL NOTES

dob no

scale	project no.
NTS	14-76
date	sheet no. --- OF
drawn HW	drawing no.
checked	G-001.00

EGRESS NOTES:

1. MEANS OF EGRESS ARE TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF BC 1003. THE MEANS OF EGRESS SHALL HAVE A MINIMUM CLEAR HEIGHT OF 7'-6" , EXCEPT OTHERWISE LISTED IN BC 1003.2. PROJECTION OBJECTS SHALL COMPLY WITH THE REQUIREMENTS OF BC 1003.3.1 THROUGH BC 1003.3.4.

2. DOORS, GATES, AND TURNSTILES ARE TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF BC 1008.

3. INTERIOR STAIRS ARE TO COMPLY WITH ALL APPLICABLE REQUIREMENTS OF BC 1009 INCLUDING THE FOLLOWING;

   3.1. THE CLEAR HEADROOM IS TO BE 7'-0" MINIMUM, EXCEPT FOR GROUP R-2 AND R-3 MINIMUM HEADROOM IS TO BE 6'-8" (BC 1009.2).
   3.2. LANDINGS AND PLATFORMS PROVIDED AT THE HEAD AND FOOT OF EACH FLIGHT OF STAIRS ARE TO HAVE A MINIMUM WIDTH, PERPENDICULAR TO THE DIRECTIONS OF TRAVEL, OF AT LEAST THE WIDTH OF THE STAIR. IN AN INTERMEDIATE LANDING IN STRAIGHT-RUN STAIRS, THE DISTANCE BETWEEN RISERS OF THE UPPER AND LOWER FLIGHTS NEED NOT BE MORE THAN 48". (BC 1009.4)
   3.3. THE MAXIMUM VERTICAL RISE OF A SINGLE FLIGHT OF STAIRS BETWEEN FLOORS IS NOT TO EXCEED 12' IN ALL OCCUPANCY GROUPS, EXCEPT GROUP A AND I OCCUPANCIES THE VERTICAL RISE IS NOT TO EXCEED 8'. (BC 1009.6).
   3.4. FOR GROUP R2 AND R3, THE SUM OF TWO RISERS PLUS ONE TREAD EXCLUSIVE OF NOSING SHALL BE NOT LESS THAN 24" NOR MORE THAN 25 1/2" (BC 1009.3).
   3.5. HANDRAILS SHALL BE PROVIDED ON EACH SIDE, EXCEPT THAT AN ENCLOSED EXIT STAIRS LESS THAN 44" WIDE THAT DO NOT SERVE AS AN ACCESSIBLE MEANS OF EGRESS (BC 1009.11). HANDRAIL HEIGHT MEASURED ABOVE STAIR TREAD NOSINGS, OR FINISH SURFACE OF RAMP SLOPE, SHALL BE UNIFORM, NOT LESS THAN 34" AND NOT MORE THAN 38" (BC 1009.11.1). INTERMEDIATE HANDRAILS ARE REQUIRED SO THAT ALL PORTIONS OF THE STAIRWAY WIDTH REQUIRED FOR EGRESS CAPACITY ARE WITHIN 30" OF A HANDRAIL (BC 1009.11.2). HANDRAIL SHALL PROVIDE 1-1/2" CLEAR SPACE BETWEEN A HANDRAIL AND A WALL, OR OTHER SURFACE (BC 1009.11.6).

4. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 2 FOOT-CANDELS AT THE FLOOR LEVEL IN EXITS, AT EXIT DISCHARGES, AND IN PUBLIC CORRIDORS, AND SHALL NOT BE LESS THAN 1 FOOT-CANDLE AT THE FLOOR LEVEL IN EXIT ACCESS COMPONENTS OTHER THAN PUBLIC CORRIDORS. (BC 1006.2).

5. AS PER BC 1006.3 IN EVENT OF POWER SUPPLY FAILURE, AN EMERGENCY ELECTRICAL SYSTEM SHALL AUTOMATICALLY ILLUMINATE EXIT ACCESS CORRIDORS, EXIT PASSAGEWAYS, AND EXIT STAIRWAYS IN BUILDINGS REQUIRED TO HAVE TWO OR MORE MEANS OF EGRESS. THE INSTALLATION OF THE EMERGENCY POWER SYSTEM SHALL BE IN ACCORDANCE WITH SECTION BC 2702.

6. EXITS SHALL BE MARKED BY APPROVED EXIT SIGN READILY VISIBLE FROM ANY DIRECTION OF EGRESS TRAVEL; ACCESS TO EXITS SHALL BE MARKED BY EXITS SIGNS IN CASES WHERE THE PATH OF EGRESS IS NOT IMMEDIATELY VISIBLE TO THE OCCUPANTS. EXIT SIGNS TO BE PROVIDED AS REQUIRED AND AS SPECIFIED IN BC 1011.

7. PROVIDE FLOOR NUMBERING SIGNS AS PER SECTION BC 1019.1.7

8. ELEVATOR IDENTIFICATION AND EMERGENCY SIGNS SHALL BE PROVIDED IN ACCORDANCE WITH SECTION BC 3002.3.

9. ACCESSIBLE SPACES SHALL BE PROVIDED WITH NOT LESS THAN ONE ACCESSIBLE MEANS OF EGRESS; ACCESSIBLE MEANS OF EGRESS SHALL COMPLY WITH THE REQUIREMENTS OF SECTION BC 1007.

10. PENETRATIONS INTO AND OPENINGS THROUGH AN EXIT ENCLOSURE AND PROHIBITED EXCEPT FOR REQUIRED EXIT DOORS, EQUIPMENT, AND DUCTWORK NECESSARY FOR INDEPENDENT PRESSURIZATION, SPRINKLER PIPING, STANDPIPES,ELECTRICAL RACEWAY FOR FIRE DEPT. COMMUNICATION AND THE EXIT ENCLOSURE AS PER SECTION BC 1019.1.2.

11. ALL EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES.

12. MAXIMUM TRAVEL DISTANCE SHALL COMPLY WITH BC 1014.3 :125'-0" with a sprinklered building

13. MIINIMUM NUMBER OF EXITS REQUIRED SHALL COMPLY WITH BC 1018: TABLE 1018.1

14. OCCUPANCY LOAD SHALL COMPLY WITH BC 1004: TABLE 1004.1.2.

15. EGRESS WIDTH PER OCCUPANT SHALL NOT BE LESS THAN THE TOTAL OCCUPANT LOAD SERVED BY THE MEANS OF EGRESS MULTIPLIED BY FACTORS IN BC 1005.1: TABLE 1005.1.

TABLE 1005.1
EGRESS WIDTH PER OCCUPANT SERVED

OCCUPANCY	STAIRWAYS (inches per occupant)	OTHER COMPONENTS (inches per occupant)
Occupancies other than those listed below	0.3	0.2
Hazardous: H-1, H-2, H-3 and H-4	0.7	0.4

FOR EGRESS CHART PLEASE REFER TO PAGE Z-017.

FINISHES AND DETAILS:

1. INTERIOR FINISHES SHALL LIMIT THE ALLOWABLE FLAME SPREAD AND SMOKE DEVELOPMENT BASE ON LOCATION AND OCCUPANCY CLASSIFICATION (BC 801.1).

2. INTERIOR WALL AND CEILING FINISHES SHALL BE CLASSIFIED IN ACCORDANCE WITH ASTM E84 AND SHALL BE USED IN ACCORDANCE WITH BC 803, TABLE 803.5.

3. SMOKE DEVELOPED INDEX SHALL COMPLY WITH BC 803.1.1.

4. ATTACHMENTS AND ADHESIVES FOR INTERIOR FINISH TO HAVE THE SAME FLAME-SPREAD, AND SMOKE DEVELOPED RATING OF THE INTERIOR FINISHES.

5. NO MATERIAL SHALL BE USED IN ANY INTERIOR LOCATION WHICH WILL PRODUCE PRODUCTS MORE TOXIC THAN THOSE GIVEN OFF BY WOOD OR PAPER WHEN DECOMPOSING OR BURNING AS PER BC 803.2.2.

6. COMBUSTIBLE FLOORING MAY BE USED WHEN IN ACCORDANCE WITH BC 804.

7. ALL GLASS PANELS, USED IN WINDOWS, IN DOORS, AS INTERIOR PARTITIONS, ETC., SHALL BE IN COMPLY WITH CHAPTER 24 OF THE 2008 NYC BUILDING CODE.

8. EXCEPT FOR MISCELLANEOUS TRIMS, MOLDINGS, ETC., ALL WOOD USED SHALL BE FIRE-RETARDANT, I.E. COUNTER TOPS, CABINETS, DOORS, ETC.

SMOKE DETECTING DEVICES:

1. SMOKE DETECTING DEVICES SHALL CONFORM TO SECTION 907 OF THE NEW YORK CITY BUILDING CODE AND THE HOUSEHOLD FIRE-WARNING EQUIPMENT PROVISIONS OF NFPA 72.

2. SMOKE ALARMS SHALL BE INSTALLED AND MAINTAINED IN ALL THE FOLLOWING LOCATIONS: ON THE CEILING OR WALL OUTSIDE OF EACH ROOM USED FOR SLEEPING PURPOSES WITHIN 15 FEET OF THE DOOR TO SUCH ROOM; IN EACH ROOM USED FOR SLEEPING PURPOSES; OR IN EACH STORY OF A DWELLING UNIT.

3. REQUIRED SMOKE DETECTING DEVICES SHALL RECEIVE THEIR PRIMARY POWER FROM A DEDICATED BRANCH CIRCUIT OR THE UNSWITCHED PORTION OF A BRANCH CIRCUIT ALSO USED FOR POWER AND LIGHTING AND SHALL BE EQUIPPED WITH A BATTERY BACKUP.

4. SMOKE ALARMS SHALL BE PROVIDED WITH THE CAPABILITY TO SUPPORT VISIBLE ALARM NOTIFICATION APPLIANCES IN ACCORDANCE WITH ICC/ANSI A117.1

5. ALL SMOKE DETECTING DEVICES SHALL BE ACCEPTED PURSUANT TO THE RULES AND REGULATIONS PROMULGATED BY THE COMMISSIONER, APPROVED BY THE BOARD OF STANDARDS AND APPEALS LISTED BY A NATIONALLY RECOGNIZED INDEPENDENT LABORATORY.

6. THE MAINTENANCE AND TESTING SCHEDULES AND PROCEDURES FOR FIRE ALARM AND FIRE DETECTION SYSTEMS SHALL BE IN ACCORDANCE WITH BC 17 AND THE NEW YORK CITY FIRE CODE.

CARBON MONOXIDE DETECTING DEVICES:

1. CARBON MONOXIDE DETECTING DEVICES SHALL CONFORM TO BC 908 OF THE 2008 NEW YORK CITY BUILDING CODE.

2. CARBON MONOXIDE DETECTING DEVICES SHALL BE INSTALLED AND MAINTAINED IN ALL THE FOLLOWING LOCATIONS: ON THE CEILING OR WALL OUTSIDE OF EACH ROOM USED FOR SLEEPING PURPOSES WITHIN 15 FEET OF THE DOOR TO SUCH ROOM; IN EACH ROOM USED FOR SLEEPING PURPOSES; OR IN EACH STORY OF A DWELLING UNIT.

3. REQUIRED CARBON MONOXIDE DETECTING DEVICES SHALL RECEIVE THEIR PRIMARY POWER FROM A DEDICATED BRANCH CIRCUIT OR THE UNSWITCHED PORTION OF A BRANCH CIRCUIT ALSO USED FOR POWER AND LIGHTING AND SHALL BE EQUIPPED WITH A BATTERY BACKUP.

4. CARBON MONOXIDE DETECTING DEVICES SHALL BE PROVIDED WITH THE CAPABILITY TO SUPPORT VISIBLE ALARM NOTIFICATION APPLIANCES IN ACCORDANCE WITH ICC/ANSI A117.1

5. ALL CARBON MONOXIDE DETECTING DEVICES SHALL BE ACCEPTED PURSUANT TO THE RULES AND REGULATIONS PROMULGATED BY THE COMMISSIONER, APPROVED BY THE BOARD OF STANDARDS AND APPEALS LISTED BY A NATIONALLY RECOGNIZED INDEPENDENT LABORATORY.

6. THE INSPECTION, MAINTENANCE AND TESTING SCHEDULES AND PROCEDURES FOR FIRE ALARM AND FIRE DETECTION SYSTEMS SHALL BE IN ACCORDANCE WITH BC 17 AND THE 2008 NEW YORK CITY FIRE CODE.

ACCESSIBILITY:

1. BUILDINGS AND FACILITIES SHALL BE DESIGNED AND CONSTRUCTED TO BE ACCESSIBLE IN ACCORDANCE WITH BC CHAPTER 11, BC APPENDICES E,N & P, AND ICC A117.1 (ACCESSIBLE AND USABLE BUILDING FACILITIES).

2. AN ACCESSIBLE ROUTE SHALL BE PROVIDED TO EACH PORTION OF THE BUILDING, TO ACCESSIBLE BUILDING ENTRANCES CONNECTING ACCESSIBLE PEDESTRIAN WALKWAYS AND THE PUBLIC WAY, AND OTHER WISE COMPLY WITH CHAPTER 4, ACCESSIBLE ROUTES, OF THE ICC A117.7.

3. ALL UNITS SERVED BY AN ELEVATOR IN OCCUPANCY R-2 SHALL BE TYPE B UNITS WITH THE THE ADDITIONAL REQUIREMENTS OF TYPE B UNITS IN R-2 OCCUPANCY PER BC 1107.2. ALL TYPE B UNITS TOILET AND BATHING FACILITIES IN GROUP R-2 MUST COMPLY WITH APPENDIX P OR TYPE A TOILET AND BATHING FACILITIES (BC 1107.2.2). DWELLING UNITS SHALL BE EQUIPPED WITH DOOR WIDTHS AND CLEAR FLOOR SPACES FOR POSSIBLE OCCUPANTS WITH PHYSICAL DISABILITIES. TYPE B UNITS FOR R-2 OCCUPANCY SHALL INCLUDE ADAPTABLE FEATURES AND ABIDE BY REQUIREMENTS SET FORTH FOR ALL APPLICABLE SPACES IN SECTION BC 1107.

4. DOOR CLOSERS SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90 DEGREES, THE TIME REQUIRED TO MOVE THE DOOR SHALL BE 5 SECONDS MINIMUM.

5. OPERABLE PARTS SHALL PLACED WITHIN ONE OR MORE OF THE REACH RANGES SPECIFIED IN SECTION 308 OF THE ICC A117.1 AND BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING OR TWISTING OF THE WRIST AS PER BC 309 OF THE ICC A117.1.

6. BLOCKING FOR THE FUTURE INSTALLATION OF GRAB BARS TO BE PROVIDED IN ALL ACCESSIBLE BATHROOMS AS DESCRIBED IN SECTION 604 OF ICC A117.7.

7. INTERIOR ACCESS, FLOOR SURFACES, ADAPTABLE KITCHENS, ADAPTABLE KITCHENETTES AND ADAPTABLE BATHROOMS SHALL BE PER ICC A117.1

8. ACCESSIBLE MEANS OF EGRESS TO BE PROVIDED AS PER BC 1007.1

ENERGY EFFICIENCY NOTES:

1. BUILDING SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE.

PLUMBING SYSTEM NOTES:

1. THE NEW YORK CITY PLUMBING CODE SHALL GOVERN THE ERECTION, INSTALLATION, ALTERATION, REPAIRS, RELOCATION, REPLACEMENT, ADDITION TO, USE OR MAINTENANCE OF PLUMBING EQUIPMENT AND SYSTEMS. PLUMBING SYSTEMS AND EQUIPMENT SHALL BE CONSTRUCTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NEW YORK CITY PLUMBING CODE.

2. ALL MATERIALS AND EQUIPMENT INSTALLED SHALL BE OF MANUFACTURER AND MODEL APPROVED FOR USE IN NEW YORK CITY, COMPLETE WITH M.E.A. APPROVAL NUMBERS.

3. ALL GAS-FIRED EQUIPMENT AND ACCESSORY EQUIPMENT OR DEVICES TO BE AGA OR MEA APPROVED.

4. PLUMBING CONTRACTOR TO EXAMINE PROPOSED LAYOUT WITH REGARD TO EXISTING FIELD CONDITIONS, AND SHALL NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN ASSUMED FIELD CONDITIONS AND THOSE ENCOUNTERED DURING CONSTRUCTION. PLUMBING CONTRACTOR SHALL INFORM ARCHITECT OF ANY REVISIONS TO PLAN WHICH SHALL BE NECESSARY, BASED ON CONDITIONS UNCOVERED IN THE FIELD, IN ORDER TO INSTALL ALL FIXTURES, EQUIPMENT AND PIPING IN STRICT ACCORDANCE WITH REQUIREMENTS OF THE NEW YORK CITY BUILDING CODE AND/OR AS PER DESIGNS SHOWN IN THE CONTRACT DOCUMENTS.

5. PLUMBING CONTRACTOR SHALL ARRANGE AND OBTAIN INSPECTIONS AND REQUIRED SIGN-OFFS.

MECHANICAL SYSTEM NOTES:

1. MECHANICAL APPLIANCES, EQUIPMENT AND SYSTEMS SHALL BE CONSTRUCTED, INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE NEW YORK CITY MECHANICAL CODE AND THE NEW YORK CITY FUEL GAS CODE. MASONRY CHIMNEYS, FIREPLACES AND BARBECUES SHALL COMPLY WITH THE NEW YORK CITY MECHANICAL CODE AND CHAPTER 21 OF THE 2008 NEW YORK CITY BUILDING CODE.

2. ALL BATHROOM AND TOILET ROOMS TO HAVE MECHANICAL VENTILATION PROVIDING MINIMUM 50 CFM EXHAUST.

3. ALL KITCHENS/KITCHENETTES TO BE PROVIDED WITH MECHANICAL VENTILATION PROVIDING MIN 125 CFM EXHAUST KITCHEN DUCT.

4. DUCT RISERS TO BE FIRE PROTECTED WITH TWO (2) LAYERS TYPE 'X' GYPSUM BOARD ON ALL SIDES, ATTACHED WITH CONSTRUCTION ADHESIVE AND 18GA SIRE TIES @ 4'-0" O.C. (NO SCREWS TO BE USED).

5. WHERE DUCTS PASS THROUGH FLOOR, FLOOR OPENINGS TO BE CUT TIGHT TO DUCT, AND REMAINING GAP BETWEEN DUCT AND FLOOR CONSTRUCTION TO BE FILLED WITH MINERAL WOOL.

6. EACH BATHROOM AND KITCHEN TO BE EQUIPPED WITH ITS OWN INDEPENDENT EXHAUST BLOWER WITH BACKDRAFT DAMPER.

7. EACH BATHROOM AND KITCHEN OUTLET TO BE EQUIPPED WITH A BSA APPROVED FIRE DAMPER.

8. MINIMUM 12'X12' OUTDOOR AIR INTAKE (F.A.I.) with BSA APPROVED FIRE DAMPER TO BE PROVIDED FOR BOILER ROOM.

SPRINKLERS:

1. PER BC 28.2-903.2.7 GROUP R. AN AUTOMATIC SPRINKLER SYSTEM SHALL BE INSTALLED IN GROUP R FIRE AREAS AND THOUGHOUT BUILDINGS WITH A MAIN USE OR DOMINENT OCCUPANCY OF GROUP R.

NOISE CONTROL IN MULTIPLE DWELLING BUILDINGS:

1. NOISE CONTROL IN MULTIPLE DWELLING BUILDINGS TO MEET N.Y.C. BUILDING CODE SECTION BC 1207; ALL SOUND ATTENUATION LOCATIONS AND DETAILS ARE TO BE INDICATED ON THE PLANS AND PARTITION SCHEDULES.

CONTRACTOR SUBMITTALS:

1. CONTRACTOR SHALL PROVIDE THE FOLLOWING FORMS TO THE APPLICANT FOR SUBMITTAL TO THE DEPARTMENT OF BUILDING:
   A. CONCRETE MASONRY FORMS 10H AND 10J
   B. QUALITY OF STEEL AFFIDAVIT FORM 2055

CONTROLLED INSPECTIONS:

THE FOLLOWING ITEMS OF WORK SHALL BE SUBJECT TO CONTROLLED INSPECTION, MADE AND WITNESSED BY OR UNDER THE DIRECT SUPERVISION OF AN ARCHITECT/ENGINEER, RETAINED BY THE OWNER AND ACCEPTABLE TO THE ARCHITECT OF RECORD. TEST REPORTS AND CERTIFICATE OF INSPECTION SHALL BE FILED WITH THE DEPARTMENT OF BUILDING.

SPECIAL INSPECTIONS :

CONCRETE CAST IN PLACE		BC 1704.4
MASONRY		BC 1704.5
SOILS - SITE PREPARATION		BC 1704.7.1
SOILS - FILL PLACEMENT AND IN-PLACE DENSITY		BC 1704.7.2 BC1704.7.3
PILE FOUNDATIONS & DRILLED PIER INSTALLATION	TR 5	BC 1704.8
MECHANICAL SYSTEMS		BC 1704.15
HEATING SYSTEMS		BC 1704.23
FIRESTOP, DRAFTSTOP, AND FIREBLOCK SYSTEMS		BC 1704.25
CONCRETE TEST CYLINDERS	TR2	BC 1905.6
CONCRETE DESIGN MIX	TR3	BC 1905.3
EXCAVATION - SHEETING SHORING AND BRACING		BC 1704.19, BC3304.4.1
ENERGY CODE COMPLIANCE INSPECTIONS	TR8	BC 109.3.5
FIRE RESISTENCE RATED CONSTRUCTION		BC 109.3.4

SPECIAL INSPECTIONS (TR-8):

INSULATION PLACEMENT AND R VALUES	IA2, IIA2
FENESTRATION THERMAL VALUES AND RATINGS	IA3, IIA3
FENESTRATION RATINGS FOR AIR LEAKAGE	IA4, IIA4
FENESTRATION AREAS	IA5, IIA5
AIR SEALING AND INSULATION - VISUAL	IA6, IIA6
DAMPERS INTEGRAL TO BUILDING ENVELOPE	IB2, IIB2
HVAC AND SERVICE WATER HEATING EQUIPMENT	IB3, IIB3
HVAC AND SERVICE WATER HEATING SYSTEM CONTROLS	IB4, IIB4
DUCT PLENUM AND PIPING INSULATION AND SEALING	IB5, IIB5
ELECTRICAL METERING	IC1, IIC1
LIGHTING IN DWELLING UNITS	IC2, IIC2
INTERIOR LIGHTING POWER	IIC3
LIGHTING CONTROL	IIC5
EXIT SIGNS	IIC6
ELECTRICAL MOTORS	IIC8

APPLICATIONS TO BE FILED SEPARATELY:

1. SPRINKLER & STAND PIPES: # 440 170 244
2. FIRE ALARM: # 421 038 530
3. BUILDERS PAVEMENT PLAN: # 440 176 417
4. ELEVATOR

HOUSING MAINTENANCE CODE NOTES

1. DUTIES OF THE OWNER SHALL BE AS PER SECTION D26-10.01 OF H.M.C.
2. DUTIES OF TENANTS SHALL BE AS PER SECTIONS D26-10.03 & 10.05 OF H.M.C.
3. THE OWNER OF THE MULTIPLE DWELLINGS SHALL KEEP THE PREMISES IN GOOD REPAIR.
4. OWNER'S RIGHT OF ACCESS SHALL BE AS PER SECTION D26-10.07 OF H.M.C.
5. INTERIOR OF DWELLING UNIT SHALL BE CLEANED AS PER SECTION D26-11.05 OF H.M.C.
6. THE OWNER SHALL KEEP THE ROOF, YARDS, COURTS & OTHER OPEN SPACES CLEAN & FREE FROM DIRT, FILTH, GARBAGE OR OTHER OFFENSIVE MATERIALS.
7. PAINTING OF PUBLIC PARTS & WITHIN DWELLINGS TO COMPLY WITH SECTION D26-12.01 OF H.M.C.
8. PAINTING OF WINDOW FRAMES TO COMPLY WITH SECTION D26-12.03 OF H.M.C.
9. PREMISES TO BE MAINTAINED & KEPT FREE OF RODENT & INSECT INFESTATION AS PER SECTIONS D26-13.03 & D26-13.05 OF H.M.C.
10. RECEPTACLES FOR COLLECTION OF WASTE MATTER TO BE PROVIDED AS PER SECTION D26-14.03 & D26-14.05 OF H.M.C.
11. SANITARY FACILITIES IN MULTIPLE DWELLINGS & LIGHT & VENTILATION FOR TOILET COMPARTMENTS SHALL BE AS PER SECTIONS D26-31.01, D26-31.03, D26-31.05, D26-31.07, & D26-31.11 OF H.M.C.
12. PROVIDE & MAINTAIN A SUPPLY OF PURE & WHOLESOME WATER SUFFICIENT IN QUANTITY & AT SUFFICIENT PRESSURE TO KEEP ALL PLUMBING FIXTURES ADEQUATELY SUPPLIED FOR THEIR SANITARY MAINTENANCE AS PER SECTIONS D26-15.01 & D26-15.03 OF H.M.C.
13. MAINTAIN & KEEP IN GOOD REPAIR THE PLUMBING & DRAINAGE SYSTEM INCLUDING WATER CLOSETS, TOILETS, SINKS & OTHER FIXTURES AS PER D26-16.01 OF H.M.C.
14. DRAINAGE OF ROOFS, COURTS & YARDS SHALL COMPLY WITH D26-16.03 OF H.M.C.
15. HEAT & HOT WATER REQUIREMENTS AS PER ARTICLE 17 OF H.M.C. CENTRAL HEATING SYSTEM AS PER BUILDING CODES; MINIMUM TEMPERATURES TO BE MAINTAINED AS PER SECT. D26-17.03. CENTRAL HEATING SYSTEM TO BE INSPECTED YEARLY BY QUALIFIED PERSON IN ACCORDANCE WITH SECTION D26-17.05 OF H.M.C. SUPPLY OF HOT WATER AS PER SECTION D26-17.07 OF H.M.C.
16. YEARLY INSPECTIONS OF CENTRAL HEATING PLANT BY QUALIFIED PERSON TO BE MADE AS PER SECTION D26-17.05 OF H.M.C.
17. PROVIDE ELECTRIC LIGHTING EQUIPMENT IN ALL DWELLINGS AS PER SECTIONS D26-19.01 OF H.M.C. AND C26-605AC, C26-1203AC, & SECTION 26 TO 35 OF MDL.
18. PROVIDE & MAINTAIN ELECTRIC LIGHTING FIXTURES IN EVERY PUBLIC HALL, STAIR OR FIRE STAIR, ENTRANCE WAY, COURT, OR YARD IN ACCORDANCE WITH SECTIONS D26-19.03, D26-19.05, & D26-19.07 OF H.M.C.
19. PROPER ELECTRIC LIGHTS TO BE PROVIDED NEAR ENTRANCE WAYS, YARDS & COURTS AS PER SECTION D26-19.07 OF H.M.C., ON SEPARATE CIRCUIT OR CONNECTED TO HOUSE LINE SERVICING PUBLIC HALLS, AND IN ACCORDANCE WITH REQUIREMENTS & APPROVAL OF THE DEPARTMENT OF WATER SUPPLY, GAS & ELECTRICITY.
20. BOARD OF STANDARDS & APPEALS APPROVED TYPE PEEPHOLES APPROXIMATELY 5 FEET ABOVE FINISHED FLOOR TO BE PROVIDED IN ENTRANCE DOORS OF DWELLING UNITS AS PER SECTION D26-20.01 OF H.M.C. & DEPARTMENT RULES & REGULATIONS.
21. ENTRANCE DOORS SHALL BE PROVIDED WITH HEAVY DUTY LATCH SET & A HEAVY DUTY DEAD BOLT OPERABLE WITH A KEY FROM THE OUTSIDE & A THUMB-TURN FROM THE INSIDE; EQUIP DOORS WITH A CHAIN DOOR GUARD SO AS TO PERMIT PARTIAL OPENING AS PER SECTION D26-20.05 OF H.M.C.
22. KEY LOCK IN THE ENTRANCE DOOR TO EACH DWELLING UNIT WITH AT LEAST ONE KEY TO BE PROVIDED BY OWNER AS PER D26-20.05 OF H.M.C.
23. PROPERLY MOUNTED & SECURED POLISHED METAL VIEWING MIRRORS TO BE PROVIDED WITHIN SELF-SERVICE ELEVATORS AS PER SECTION D26-20.03 OF H.M.C. & DEPARTMENT RULES & REGULATIONS.
24. APPROVED TYPE MAIL RECEPTACLES & DIRECTORY OF PERSONS LIVING IN DWELLING TO BE PROVIDED AS PER SECTION D26-21.01 OF H.M.C. & REGULATIONS OF POST OFFICE DEPARTMENT.
25. PROPER FLOOR SIGNS TO BE PROVIDED IN PUBLIC HALL NEAR STAIRS & ELEVATORS & WITHIN STAIR ENCLOSURE AS PER SECTION D26-21.03 OF H.M.C. & DEPARTMENT RULES & REGULATIONS.
26. PROPER STREET NUMBERS PLAINLY VISIBLE FROM THE SIDEWALK IN FRONT OF THE DWELLING TO BE POSTED ON THE DWELLING AS PER SECTION D26-21.05 OF H.M.C. AND RULES & REGULATIONS OF BOROUGH PRESIDENT.
27. A RESIDENT MANAGER RESPONSIBLE FOR OPERATION & MAINTENANCE OF ROOMING UNITS TO BE PROVIDED AS PER SECTION D26-21.09 OF H.M.C.
28. PROPER JANITORIAL SERVICES TO BE PROVIDED AS PER SECTION D26-22.03 OF H.M.C.
29. ALL COMBUSTIBLE MATERIALS WITHIN ONE FOOT OF COOKING APPARATUS TO BE PROPERLY FIRE RETARDED & MINIMUM 2-FOOT CLEARANCE MAINTAINED ABOVE EXPOSED COOKING SURFACE. COMBUSTIBLE MATERIAL BETWEEN 2 FEET & 3 FEET ABOVE EXPOSED COOKING SURFACE TO BE FIRE RETARDED. SECTION D26-32.05 OF H.M.C. & DEPARTMENT RULES & REGULATIONS.
30. MINIMUM ROOM SIZE SHALL BE AS PER D26-33.01 AND MAXIMUM OCCUPANCY SHALL BE AS PER D26-33.03 OF H.M.C.
31. NATURAL LIGHT AND VENTILATION SHALL BE PROVIDED AS PER D26-30.14 AND 30.03 OF HMC.
32. KITCHENS AND KITCHENETTES SHALL BE PROVIDED WITH PROPER FACILITIES, EQUIPMENT, LIGHTING, VENTILATION AND FIRE PROTECTION AS PER D26- 32.01, 32.03, AND 32.05 OF H.M.C.
33. NO KITCHEN SHALL BE OCCUPIED FOR SLEEPING PURPOSES. SECTION D26-33.05 OF H.M.C.
34. MAXIMUM TWO BOARDERS, ROOMERS OR LODGERS PERMITTED TO EACH FAMILY EXCEPT THAT MAXIMUM ONE BOARDER, ROOMER OR LODGER PERMITTED IF LOCATED IN ZONING TO ONE & TWO FAMILY DWELLINGS.
35. OCCUPANCY OF CELLARS AND BASEMENTS SHALL BE AS PER D26-34.01, 34.03, AND 34.05 OF H.M.C.
36. REGISTRATION STATEMENT TO BE FILED AS PER SECTION D26-41.01 & D26-41.03 OF H.M.C.
37. REGISTRATION IDENTIFICATION, SIGN CONTACT (OWNER AND MANAGEMENT), AND DWELLING SERIAL NUMBER TO BE POSTED AS PER SECTION D26-41.15 OF H.M.C.
38. IDENTIFICATION OF MANAGING AGENT OR OWNER TO BE INDICATED ON TENANT'S RENT RECEIPT AS PER SECTION D26-41.17 OF H.M.C.

NOTE:
HOUSING MAINTENANCE CODE NOTES APPLY TO THE OWNER AFTER OCCUPANCY AND ARE NOT SUBJECT TO COMPLIANCE BY CM DURING CONSTRUCTION.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
GENERAL NOTES

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date	sheet no. ---OF
drawn HW	drawing no. G-002.00
checked	

MULTIPLE DWELLING LAW NOTES:

1. LIGHTING AND VENTILATION OF ROOMS SHALL BE AS PER SECTION 31 OF MDL.
2. SIZE OF ROOMS AS PER SECTION 31 OF MDL.
3. ALCOVES SHALL BE AS PER SECTION 32 OF MDL
4. COOKING SPACES SHALL BE AS PER SECTION 33 OF MDL.
5. ROOMS IN BASEMENTS AND CELLARS SHALL BE AS PER SECTION 34 OF MDL.
6. BUILDING ENTRANCE DOORS AND LIGHTS SHALL BE AS PER SECTION 35 OF MDL.
7. WINDOWS AND SKYLIGHTS FOR PUBLIC HALLS AND STAIRS SHALL BE AS PER SECTION 36 OF MDL.
8. ARTIFICIAL HALL LIGHTING SHALL BE AS PER SECTION 37 OF MDL.
9. ENTRANCE HALLS TO BE AS PER SECTION 50 OF MDL.
10. BUILDING ENTRANCE DOORS, LOCKS AND INTERCOM SYSTEM SHALL BE SECTION 50-A OF MDL.
11. ALL SHAFTS, ELEVATORS AND DUMBWAITERS SHALL BE AS PER SECTION 51 OF MDL.
12. APARTMENT PEEPHOLES SHALL BE AS PER SECTION 51-A OF MDL.
13. MIRRORS IN SELF-SERVICE ELEVATORS SHALL BE AS PER SECTION 51-B OF MDL.
14. STAIRS SHALL BE AS PER SECTION 52 OF MDL.
15. FIRE ESCAPES SHALL BE AS PER SECTION 53 OF MDL.
16. WAINSCOTING SHALL BE AS PER SECTION 55 OF MDL.
17. ENTRANCE BOLTS AND MAIL BOXES SHALL BE AS PER SECTION 57 OF MDL.
18. ALL INCOMBUSTIBLE MATERIALS SHALL BE AS PER SECTION 58 OF MDL.
19. PARAPETS AND GUARD RAILINGS SHALL BE AS PER SECTION 62 OF MDL.
20. BELOW GRADE FLOORS SHALL COMPLY AS PER SECTION 63 OF MDL.
21. LIGHTING, GAS METERS, GAS AND OIL APPLIANCES, SHALL BE AS PER SECTION 64 OF MDL.
22. BOILER ROOMS SHALL BE AS PER SECTION 65 OF MDL.
23. WATER SUPPLY SHALL BE AS PER SECTION 75 OF MDL
24. WATER CLOSET AND BATH ACCOMMODATIONS SHALL BE AS PER SECTION 76 OF MDL.
25. PLUMBING AND DRAINAGE SHALL BE AS PER SECTION 77 OF MDL.
26. REPAIRS SHALL BE MADE AS PER SECTION 78 OF MDL.
27. HEAT SHALL BE PROVIDED AS PER SECTION 79 OF MDL.
28. CLEANLINESS SHALL BE AS PER SECTION 80 OF MDL.
29. RECEPTACLES FOR WASTE MATTER SHALL BE AS PER SECTION 81 OF MDL.
30. PRIVACY SHALL BE AS PER SECTION 82 OF MDL.
31. JANITORIAL SERVICES SHALL BE AS PER SECTION 83 OF MDL.
32. CONSTRUCTION STANDARDS FOR THE CONTROL OF NOISE SHALL BE AS PER SECTION 84 OF MDL.

ARTICLE NO. 4:

33. FIRE PROOF CONSTRUCTION AS PER SECT. 101 OF MDL.
34. FIRE PROOF STAIRS AS PER SECT. 102 OF MDL.
35. EGRESS FROM APARTMENTS AS PER SECT. 103 OF MDL.
36. STAIR BULKHEAD AS PER SECT. 104 OF MDL.
37. SEPARATION AND VENTILATION OF FIRE PROOF STAIRS AS PER SECT. 105 OF MDL.
38. CELLAR AND BASEMENT FIRE STAIRS AS PER SECT. 106 OF MDL.
39. PUBLIC HALL AS PER SECT. 107 OF MDL.
40. PARTITIONS AS PER SECT. 108 OF MDL.
41. INTERIOR WATER CLOSETS AND BATHROOMS AS PER SECT. 115 OF MDL.

NEW YORK CITY DEPARTMENT OF HEALTH AND MENTAL HYGIENE
WINDOW GUARD REGULATIONS OF THE CITY OF NY 6-30-91: CHAPTER 12
§12-10: SPECIFICATIONS FOR WINDOW GUARD DOUBLE HUNG WINDOWS.

A. GUARDS SHALL BE CONSTRUCTED OF RIGID METAL, FREE OF SHARP PROJECTIONS, EDGES, OR ROUGH SURFACES.
B. GUARDS SHALL BE CONSTRUCTED AS TO REJECT THE PASSAGE OF A SOLID FIVE(5) INCH SPHERE AT EVERY SPACE AND INTERVAL.
C. GUARDS SHALL BEAR A ONE HUNDRED AND FIFTY POUND (150 LB.) LOAD AT CENTER SPAN WHEN EXTENDED TO MAXIMUM WIDTH. A TEST WITH THE GUARD ATTACHED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION MUST BE PERFORMED, AND THE RESULTS, INCLUDING INFORMATION AS TO TEMPORARY OR PERMANENT DISTORTION, CERTIFIED BY A PROFESSIONAL ENGINEER, OR INDEPENDENT TESTING LABORATORY.
D. 1. ON GUARDS UTILIZING NON-TELESCOPING BARS, THERE SHALL BE A PERMANENT SPOT WELD ON AT LEAST TWO OF THE HORIZONTAL BARS SO AS TO PROVIDE A MINIMUM OF TWO (2) INCHES OVERLAP WHEN THE GUARD IS FULLY EXTENDED.
2. ON TELESCOPING BARS, WHEN THE GUARD IS EXTENDED TO THE MAXIMUM ALLOWABLE WIDTH, THERE SHALL BE A MINIMUM OVERLAP OF FIVE (5) INCHES OR 1/3 OF THE LENGTH OF THE BAR, WHICH EVER IS GREATER.
3. A PERMANENT LABEL SHALL BE AFFIXED ON AT LEAST ONE HORIZONTAL BAR, ON EACH FACING SURFACE. SAID LABEL SHALL READ: **WARNING! EXTENSION OF THIS GUARD BEYOND ___ INCHES IS DANGEROUS AND ILLEGAL.** *INSERT THE NUMBER OF INCHES APPROPRIATE TO THE PARTICULAR MODEL IN THE SPACE.
4. ON TELESCOPING GUARDS, THERE SHALL BE AN ADDITIONAL STILE OR OTHER APPROVED SUPPORT(S), AT THE TELESCOPIC OPENING OF THE OUTER TUBING OF THE BARS, THAT SHALL PREVENT ANY SPREADING OF THE BARS.
E. GUARDS SHALL BE A MINIMUM OF FIFTEEN (15) INCHES HIGH MEASURED ALONG THE VERTICAL STILES.
F. THE CHANNEL STILES SHALL EACH HAVE AT LEAST TWO (2) HOLES FOR PERMANENT WINDOW MOUNTING. IF GUARDS ARE MORE THAN FIFTEEN INCHES (15")IN HEIGHT, ADDITIONAL MOUNTING HOLES ARE REQUIRED TO PROVIDE A MAXIMUM INTERVAL OF EIGHTEEN INCHES (18") BETWEEN MOUNTING HOLES.
G. STOPS.
1. RIGID METAL "L" SHAPED STOPS, TO BE A MINIMUM OF ONE HALF THE WIDTH OF THE WINDOW TRACK AND EACH LEG OF WHICH SHALL MEASURE AT LEAST TWO INCHES, SHALL BE INSTALLED SECURELY WITH TWO (2) SCREWS IN THE UPPER TRACKS OF EACH SIDE OF THE BOTTOM WINDOW TO PREVENT THE LOWER WINDOW FROM BEING RAISED MORE THAN 4 ½ INCHES ABOVE THE LOWEST SECTION OF THE TOP HORIZONTAL BAR OF THE WINDOW GUARD.
2. WHERE "L" SHAPED STOPS CANNOT BE PLACED IN THE WINDOW TRACK WITHOUT INTERFERING WITH THE NORMAL OPERATION OF THE WINDOW, A RIGID METAL STRIP MAY BE SECURELY FASTENED ACROSS THE TRACK OF THE BOTTOM WINDOW TO PREVENT THE LOWER WINDOW FROM BEING RAISED MORE THAN 4 ½ INCHES ABOVE THE LOWEST SECTION OF THE TOP HORIZONTAL BAR OF THE WINDOW GUARD. STRIPS SHALL BE MOUNTED ON EACH OF THE WINDOWS AND SHALL BE SECURED BY TWO (2) SCREWS ON EACH SIDE OF THE WINDOW TRACK.
3. IN SITUATIONS WHERE THE STOPS DESCRIBED IN (1) AND (2) ABOVE CANNOT BE USED, SUCH AS IN BALLAST WINDOWS, RIGID METAL "L" SHAPED STOPS MAYBE SECURELY FASTENED TO THE FRAME OF THE WINDOW TO PREVENT THE LOWER WINDOW FROM BEING RAISED MORE THAN 4 ½ INCHES ABOVE THE LOWEST SECTION OF THE TOP HORIZONTAL BAR OF THE WINDOW GUARD. A STOP SHALL BE SECURELY MOUNTED ONE EACH SIDE OF THE EXTERIOR LOWER WINDOW FRAME AND SHALL BE SECURED BY TWO (2)SCREWS IN EACH STOP.
4. IN SPECIAL SITUATIONS WHERE THE STOPS DESCRIBED IN (1), (2), AND (3)ABOVE CANNOT BE USED, AN APPLICATION MAY BE MADE TO THE WINDOW GUARD POLICY AND ACCEPTANCE BOARD FOR APPROVAL OF AN ALTERNATIVE STOPPING DEVICE.
5. STOPS ARE NOT REQUIRED WHERE APPROVED WINDOW GUARDS ARE INSTALLED THAT ARE OF SUFFICIENT HEIGHT TO PREVENT AN OPENING OF MORE THAN 4 ½ INCHES ABOVE THE LOWEST SECTION OF THE TOP HORIZONTAL BAR OF THE WINDOW GUARD WHEN THE LOWER WINDOW IS RAISED TO IT'S MAXIMUM OPEN POSITION.
H. SCREWS. SCREWS USED TO MOUNT WINDOW GUARDS AND STOPPING DEVICES SHALL BE ONE WAY SHEET METAL SCREWS OR TAMPER RESISTANT SCREWS. TAMPER RESISTANT SCREWS ARE DEFINED AS SCREWS REQUIRING SPECIAL TOOLS FOR THEIR INSTALLATION AND/OR REMOVAL, WHICH TOOLS ARE NOT READILY AVAILABLE IN RETAIL HARDWARE STORES. ALL TAMPER RESISTANT SCREWS MUST BE COUNTER-SUNK FLUSH WITH THE STILE OR STOPPING DEVICE. APPROPRIATE SCREWS SHALL BE:
1. MINIMUM SIZE #10 AND LONG ENOUGH TO PENETRATE ONE (1) INCH INTO A WOODEN WINDOW FRAME, OR
2. OF AN ADEQUATE TYPE, SIZE, AND LENGTH TO BE SECURELY FASTENED TO A METAL WINDOW FRAME. MANUFACTURER SHALL SUPPLY ALL REQUIRED SCREWS WITH GUARDS.
1. THE COATING OF GUARDS SHALL BE UNLEADED. THE STATEMENT FROM THE PAINT MANUFACTURER ATTESTING TO THIS FACT MUST ACCOMPANY APPLICATIONS FOR WINDOW GUARD APPROVAL.
2. CODED MANUFACTURER'S IDENTIFICATION SYMBOL (GUARD MODEL), HEALTH DEPARTMENT APPROVAL NUMBER, AND FABRICATION DATE SYMBOLS (MONTH AND YEAR) SHALL BE IMPRINTED INDELIBLY (DIE STAMPED), ON ONE OF THE END STILES, SO LOCATED AS TO BE READILY VISIBLE WHEN VIEWED FROM WITHIN THE ROOM WHERE THE GUARD HAS BEEN INSTALLED.
3. EACH GUARD SOLD BY A MANUFACTURER SHALL BE SOLD WITH A SELF-CONTAINED ENVELOPE OR PLASTIC BAG CONTAINING:
1. APPROVED INSTALLATION INSTRUCTIONS,
2. "L" SHAPED OR OTHER APPROVED STOPS, AND
3. SPECIFIED SCREWS FOR INSTALLATION OF GUARD AND STOPS. IF WOOD SCREWS ARE SUPPLIED BY THE MANUFACTURER, A WARNING LABEL SHOULD BE INCLUDED STATING THAT FOR METAL INSTALLATIONS, APPROPRIATE TYPE, SIZE, AND LENGTH SCREWS MUST BE SUBSTITUTED. THE WARNING SHALL BE IMPRINTED ON THE PACKAGING CONTAINER.
L. INSTRUCTIONS FOR SAFE INSTALLATION SHOULD BE PROVIDED WITH EACH GUARD BY MANUFACTURER.
1. INSTRUCTIONS SHALL SPECIFY MAXIMUM WINDOW WIDTH FOR WHICH THE GUARD IS INTENDED, AND SHALL CONTAIN THE FOLLOWING PROMINENTLY PRINTED WARNING: **WARNING: USE OF THIS GUARD BEYOND SPECIFIED MAXIMUM WIDTH IS DANGEROUS AND ILLEGAL.**
2. INSTRUCTIONS SHALL PROMINENTLY WARN THAT GUARDS AND STOPS MUST BE INSTALLED ONLY IN SOUND (NON-ROTTING) WINDOW TRACKS.
INSTRUCTIONS SHALL PROMINENTLY SPECIFY: **WINDOW GUARDS MAY NOT BE INSTALLED IN WINDOWS PROVIDING ACCESS TO FIRE ESCAPES.**
3. INSTRUCTIONS SHALL SPECIFY THAT GUARDS BE INSTALLED SO THAT THE BOTTOM HORIZONTAL MEMBERS ARE MOUNTED A MAXIMUM OF 4 ½ INCHES ABOVE THE WINDOWSILL.
INSTRUCTIONS SHALL SPECIFY THE USE OF SUPPLIED "L" SHAPED STOPS TO BE INSTALLED WITH SCREWS PROVIDED, OR ALTERNATIVE APPROVED STOPPING DEVICES ALSO PROVIDED WITH PRESCRIBED SCREWS, TO LIMIT THE OPENING ABOVE THE LOWEST SECTION OF THE TOP HORIZONTAL BAR TO 4 ½ INCHES WHEN THE BOTTOM SASH IS RAISED.

§12-11: SPECIFICATIONS FOR WINDOW GUARDS FOR OTHER THAN DOUBLE HUNG WINDOWS.

A. APPLICATIONS FOR APPROVAL OF WINDOW GUARDS FOR USE IN OTHER THAN DOUBLE HUNG WINDOWS SHALL SPECIFY THE WINDOW TYPE(S) FOR WHICH THE GUARD SUBMITTED IS INTENDED. MOUNTING MATERIALS AND INSTRUCTIONS FOR INSTALLATION FOR EACH SPECIFIC TYPE OF WINDOW MUST BE INCLUDED WITH THE APPLICATION AND MUST BE PROVIDED TO THE CONSUMER WITH THE GUARDS.
B. GUARDS SHALL BE CONSTRUCTED SO AS TO REJECT THE PASSAGE OF A SOLID FIVE (5) INCH SPHERE ARE EVERY SPACE AND INTERVAL.
C. GUARDS INTENDED FOR ENCASEMENTS, SLIDERS, AND OTHER TYPES OR COMBINATIONS WINDOWS IN WHICH THE HEIGHT OF THE OPENINGS ARE NOT SUBJECT TO LIMITATION, MUST BE OF SUCH SIZE AS TO FILL THE ENTIRE APERTURE, AND MUST REJECT PASSAGE OF A SOLID FIVE (5) INCH SPHERE AT EVERY SPACE AND INTERVAL.
1. WHEN APPROVED LIMITING DEVICES ARE UTILIZED IN LIEU OF WINDOW GUARDS, THE SIZE OF ANY UNGUARDED OPENING MAY NOT EXCEED 4 ½ INCHES SO AS TO REJECT PASSAGE OF A SOLID FIVE (5) INCH SPHERE AT EVERY SPACE AND INTERVAL.
2. ON GUARDS UTILIZING NON-TELESCOPING BARS, THERE SHALL BE A PERMANENT SPOT WELD ON AT LEAST TWO (2) OF THE HORIZONTAL BARS SO AS TO PROVIDE A MINIMUM OF TWO (2) INCHES OVERLAP WHEN FULLY EXTENDED.
3. ON TELESCOPING BARS, WHEN THE GUARD IS EXTENDED TO THE MAXIMUM ALLOWABLE WIDTH, THERE SHALL BE A MINIMUM OVERLAP OF FIVE (5) INCHES OR 1/3 OF THE LENGTH OF THE BAR, WHICHEVER IS GREATER.
4. A PERMANENT LABEL SHALL BE AFFIXED ON AT LEAST ONE HORIZONTAL BAR ONE EACH FACING SURFACE. SAID LABEL SHALL READ: **WARNING! EXTENSION OF THIS GUARD BEYOND ___ INCHES IS DANGEROUS AND ILLEGAL.** *INSERT THE NUMBER OF INCHES APPROPRIATE TO THE PARTICULAR MODEL IN THIS SPACE.
5. ON TELESCOPING GUARDS, THERE SHALL BE AN ADDITIONAL STILE OR OTHER APPROVED SUPPORT(S), AT THE TELESCOPING OPENING OF THE OUTER TUBING OF THE BARS, THAT SHALL PREVENT THE SPREADING OF THE BARS.
D. GUARDS SHALL BEAR A ONE HUNDRED AND FIFTY POUND (150LB.) LOAD AT IT'S CENTER SPAN WHEN EXTENDED TO IT'S MAXIMUM WIDTH. A TEST WITH GUARDS ATTACHED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS FOR INSTALLATION MUST BE PERFORMED AND RESULTS CERTIFIED BY A PROFESSIONAL ENGINEER OR INDEPENDENT TESTING LABORATORY. THE INFORMATION SHALL INCLUDE ANY FINDING OF A PERMANENT OR TEMPORARY DISTORTION.
E. EACH CHANNEL STILE SHALL HAVE AT LEAST TWO (2) MOUNTING HOLES. IF GUARD IS MORE THAN 15 INCHES HIGH, ADDITIONAL MOUNTING HOLES ARE REQUIRED TO PROVIDE A MAXIMUM OF 18 INCHES BETWEEN MOUNTING HOLES.
F. COATING OF GUARDS SHALL BE UNLEADED. STATEMENT FROM THE PAINT MANUFACTURER ATTESTING TO THIS FACT SHALL ACCOMPANY THE APPLICATION FOR WINDOW GUARD APPROVAL.
G. CODED MANUFACTURER'S IDENTIFICATION SYMBOL (GUARD MODEL), HEALTH DEPARTMENT APPROVAL NUMBER, AND FABRICATION DATE SYMBOLS (MONTH AND YEAR),SHALL BE IMPRINTED ON ONE OF THE END STILES SO LOCATED AS TO BE READILY VISIBLE WHEN VIEWED FROM WITHIN THE ROOM WHERE THE GUARD HAS BEEN INSTALLED.
H. SLIDING WINDOWS AND VERTICAL PIVOTING WINDOWS MAY USE STOPPING DEVICES IN LIEU OF WINDOW GUARDS AS FOLLOWS:
1. SLIDING WINDOWS. A SOLID METAL BLOCK, MEASURING AT LEAST ONE HALF THE DEPTH OF THE WINDOW TRACK AND ONE HALF THE WIDTH, SHALL BE SECURELY FASTENED BY TWO (2) SCREWS IN THE BOTTOM WINDOW TRACK, AND A SOLID METAL BLOCK OR AN "L" SHAPED METAL STOP SHALL BE SECURELY FASTENED BY TWO (2) SCREWS IN THE UPPER WINDOW TRACK, TO PREVENT THE WINDOW FROM OPENING MORE THAN 4 ½ INCHES.
2. VERTICAL PIVOTING WINDOWS. METAL STOPPING DEVICES SHALL BE SECURELY FASTENED TO THE UPPER AND LOWER WINDOW FRAMES BY TWO (2) SCREWS SO AS TO PREVENT THE WINDOW FROM PIVOTING OPEN MORE THAN 4 ½ INCHES. THE HEIGHT OF THE STOPPING DEVICES SHALL EXTEND NO LESS THAN ONE INCH, NO LESS THAN TWO INCHES BEYOND THE WINDOW FRAME AS NEEDED TO STOP THE WINDOW.
I. FOR TYPES OF NON-DOUBLE HUNG WINDOWS, OTHER THAN THOSE DESCRIBED IN SUBDIVISION (H) AND IN SPECIAL SITUATIONS WHERE THE STOPS DESCRIBED IN SUBDIVISIONS (H) (1) AND (H) (2) CANNOT BE USED, APPLICATION MAY BE MADE TO THE WINDOW GUARD POLICY AND ACCEPTANCE BOARD FOR APPROVAL OF AN ALTERNATE STOPPING DEVICE.
J. SCREWS USED TO MOUNT WINDOW GUARDS AND STOPPING DEVICES SHALL BE ONEWAY METAL, SCREWS OR TAMPER RESISTANT SCREWS. TAMPER RESISTANT SCREWS ARE DEFINED AS SCREWS REQUIRING SPECIAL TOOLS FOR INSTALLATION AND/OR REMOVAL,WHICH TOOLS ARE NOT READILY AVAILABLE IN RETAIL HARDWARE STORES. ALL TAMPER RESISTANT SCREWS SHALL BE COUNTER-SUNK FLUSH WITH THE STILE OR STOPPING DEVICE.
1. APPROPRIATE SCREWS SHALL BE A MINIMUM SIZE #10 AND SHALL BE LONG ENOUGH TO PENETRATE ONE INCH INTO A WOODEN FRAME, OR
2. SHALL BE OF ADEQUATE TYPE, SIZE, AND LENGTH TO BE SECURELY FASTENED TO A METAL WINDOW FRAME. MANUFACTURERS SHALL SUPPLY ALL REQUIRED SCREWS.
K. EACH GUARD SOLD SHALL BE SOLD WITH A SELF-CONTAINED ENVELOPE OR PLASTIC BAG CONTAINING:
1. APPROVED INSTALLATION INSTRUCTIONS,
2. APPROVED STOOPING DEVICES, AND
3. SPECIFIED SCREWS NEEDED FOR INSTALLATION OF THE WINDOW GUARD AND/OR STOPPING DEVICES. IF WOOD SCREWS ARE SUPPLIED BY A MANUFACTURER, A WARNING LABEL OR MESSAGE IMPRINTED ON THE PACKAGING SHALL WARN THAT FOR METAL INSTALLATIONS, APPROPRIATE TYPE, SIZE, AND LENGTH SCREWS MUST BE SUBSTITUTED. THIS WARNING SHALL BE IMPRINTED ON THE PACKAGING CONTAINER.
L. INSTRUCTIONS FOR SAFE INSTALLATION OF WINDOW GUARDS SHALL BE PROVIDED BY THE MANUFACTURER FOR EACH SPECIFIC TYPE OF WINDOW FOR WHICH THEY ARE INTENDED.
1. INSTRUCTIONS SHALL SPECIFY THAT WINDOW GUARDS MAY NOT BE INSTALLED ON WINDOWS PROVIDING ACCESS TO FIRE ESCAPES.
2. INSTRUCTIONS SHALL SPECIFY MAXIMUM WINDOW WIDTH AND HEIGHT FOR WHICH GUARD IS INTENDED, AND SHALL CONTAIN THE FOLLOWING PROMINENTLY PRINTED WORDING: **WARNING! USE OF THIS GUARD BEYOND SPECIFIED MAXIMUM WIDTH IS DANGEROUS AND ILLEGAL!**
3. INSTRUCTIONS SHALL PROMINENTLY WARN THAT GUARDS MUST BE INSTALLED ONLY IN SOUND (NON-ROTTING) MOUNTINGS OR TRACKS.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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SEAL

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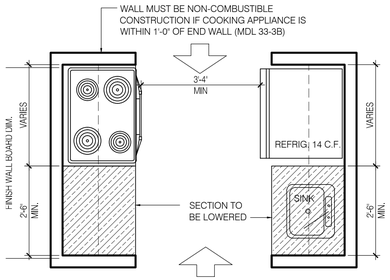
project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

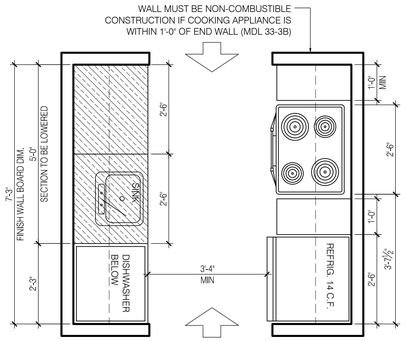
drawing title
GENERAL NOTES

dob no

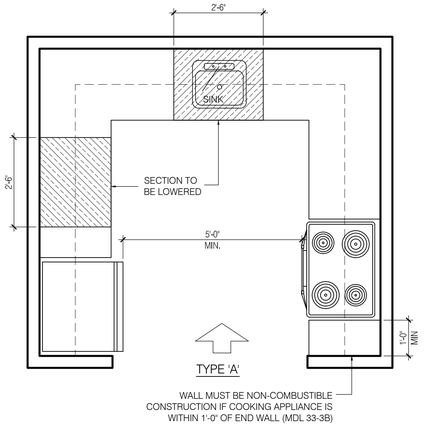
scale NTS	project no. 14-76
date	sheet no. ---OF
drawn HW	drawing no. G-003.00
checked	

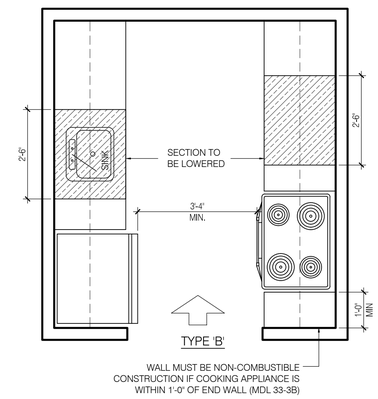


MIN. PERMISSIBLE KITCHEN SIZE

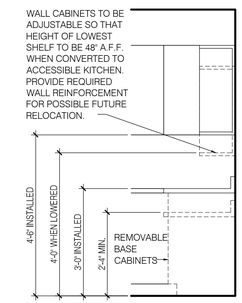


PASS-THROUGH KITCHEN CLEARANCE

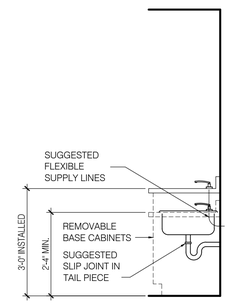




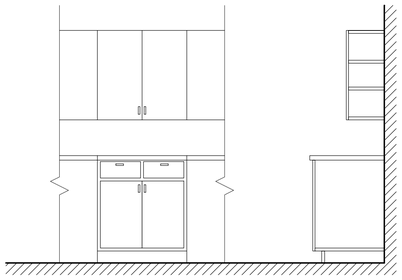
"U" SHAPED KITCHEN CLEARANCE



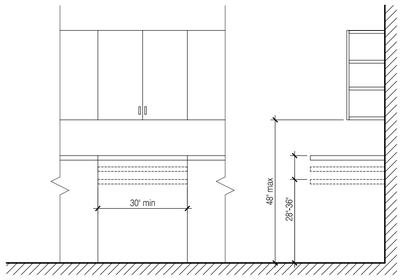
ADAPTABLE KITCHEN LOWERABLE WORK SURFACE
LOWERABLE WALL CABINETS



ADAPTABLE KITCHEN
LOWERABLE SINK COUNTER

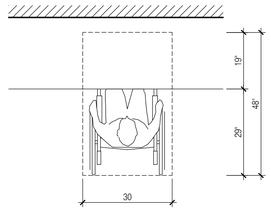


(A) BEFORE REMOVAL OF CABINETS AND BASE

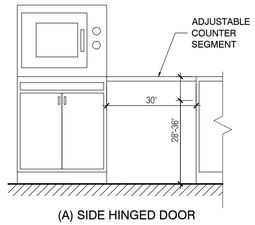


(B) CABINETS AND BASE REMOVED AND HEIGHT ALTERNATIVES

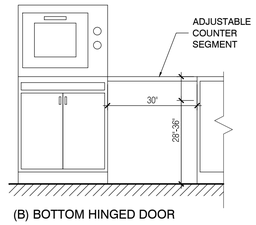
COUNTER WORK SERVICE



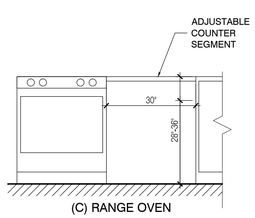
(C) CLEAR FLOOR SPACE UNDER WORK SURFACE



(A) SIDE HINGED DOOR

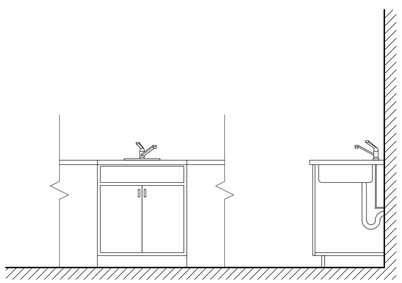


(B) BOTTOM HINGED DOOR

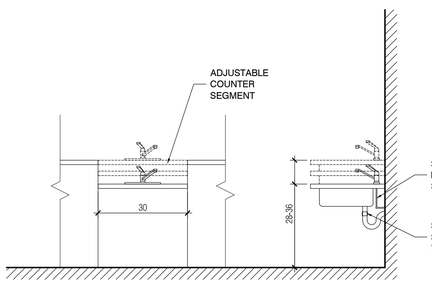


(C) RANGE OVEN

OVENS WITHOUT SELF CLEANING FEATURE

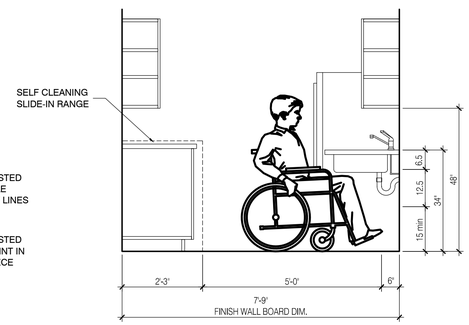


(A) BEFORE REMOVAL OF CABINETS AND BASE



(B) CABINETS AND BASE REMOVED AND HEIGHT ALTERNATIVES

KITCHEN SINK



KITCHEN CLEARANCE DIMENSIONS

ADAPTABLE KITCHENS (CAPABLE OF POSSIBLE FUTURE CONVERSION TO ACCESSIBLE KITCHENS)

GENERAL NOTES:

1. ONE LOWERABLE WORK SURFACE, 30" WIDE, IS REQUIRED, WITH REMOVABLE BASE CABINETS. HEIGHT TO BE ADJUSTABLE BETWEEN 28" AND 36" AFF TO COUNTERTOP.
2. ONE LOWERABLE SINK SURFACE, 30" WIDE, IS REQUIRED, WITH REMOVABLE BASE CABINETS. HEIGHT TO BE ADJUSTABLE BETWEEN 28" AND 36" AFF TO COUNTERTOP.
3. OVENS ARE ASSUMED TO BE SELF-CLEANING TYPE. IF OTHERWISE, PROVIDE A MINIMUM 30" ADJUSTABLE COUNTER SPACE WITH REMOVABLE BASE CABINETS NEXT TO OVEN.
4. A MINIMUM 36" TURNAROUND SPACE UNDER THE COUNTER WITH REMOVABLE BASE CABINETS SHALL BE PROVIDED IN DEEP CLOSED ENDED GALLEY KITCHENS AND OTHER U-SHAPED KITCHENS WHERE THE CLEARANCE BETWEEN CABINETS IS LESS THAN 5'-0". THE MINIMUM CLEARANCE BETWEEN CABINETS SHALL BE 40".
5. 48" A.F.F. WHEN CONVERTED TO ACCESSIBLE KITCHEN. PROVIDE REQUIRED WALL REINFORCEMENT FOR POSSIBLE FUTURE RELOCATION.

GENERAL NOTES:

ACCESSIBLE ROUTE:
A CONTINUOUS UNOBSTRUCTED PATH CONNECTING ALL ACCESSIBLE SPACES AND ROOMS IN A BUILDING THAT CAN BE NEGOTIATED BY ALL CATEGORIES OF PEOPLE HAVING PHYSICAL DISABILITIES.

PORTIONS OF ACCESSIBLE ROUTES WITH SLOPES OF MORE THAN 1:20 ARE RAMPS AND SHALL COMPLY WITH REQUIREMENTS FOR RAMPS.

AN INTERIOR ACCESSIBLE ROUTE SHALL BE PROVIDED FROM THE ENTRANCE OF THE BUILDING TO ALL DWELLING UNITS IN THE BUILDING. ALL DWELLING UNITS ARE TO BE ADAPTABLE.

ADAPTABLE DWELLING UNITS:
DWELLING UNITS WHICH ARE CONSTRUCTED ON AN ACCESSIBLE ROUTE AND EQUIPPED AS SET FORTH IN REFERENCE STANDARD RS 4-6 OF THE NYC BUILDING CODE SO THAT THEY CAN BE CONVERTED TO BE USED, WITH A MINIMUM OF STRUCTURAL CHANGE, BY ALL CATEGORIES OF PERSONS HAVING PHYSICAL DISABILITIES.

ALL DOORS TO BE PROVIDED WITH HANDICAP COMPLIANT HARDWARE AND SADDLES AS PER SEC.4.13, ANSI A117.1. ADAPTABLE DWELLING UNITS SHALL BE EQUIPPED WITH DOOR WIDTHS AND CLEAR FLOOR SPACES FOR POSSIBLE OCCUPANTS WITH PHYSICAL DISABILITIES. ADAPTABLE SPACES WITHIN DWELLING UNITS SHALL INCLUDE KITCHENS AND BATHROOMS AND THEIR RESPECTIVE DOORWAYS.

THE INFORMATION SHOWN ON THIS DRAWING IS FOR GUIDANCE PURPOSES ONLY AND OUTLINE THE MOST COMMON ACCESSIBILITY CRITERIA APPLICABLE TO THIS JOB. THEY DO NOT CONSTITUTE A COMPREHENSIVE DESCRIPTION OF ALL POSSIBLE CRITERIA WHICH ARE GIVEN IN RS 4-6 OF THE NYC BLDG. CODE AND ANSI A1117.1 - 1986 AS MODIFIED BY RS 4-6.

THE GENERAL CONTRACTOR MUST DO ALL WORK IN ACCORDANCE WITH THESE REGULATIONS.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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SEAL

project title
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1134 FULTON STREET, BROOKLYN 11216

drawing title
ADA NOTES & DETAILS

dob no

scale NTS	project no. 14-76
date	sheet no. ---OF
drawn HW	drawing no. G-004.00
checked	

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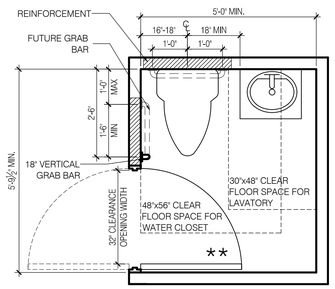
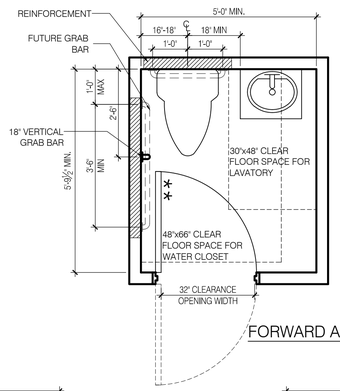
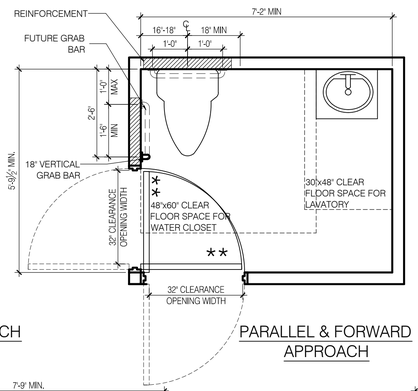


PARALLEL APPROACH



FORWARD APPROACH



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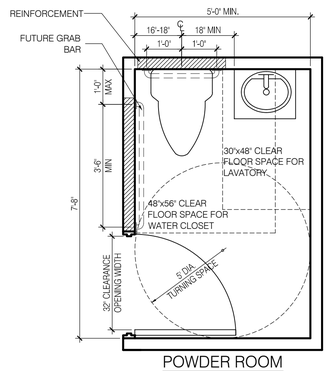
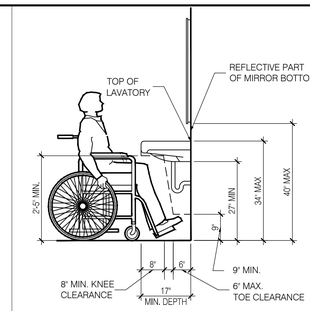
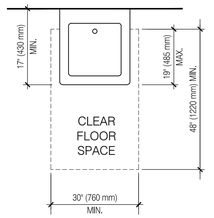


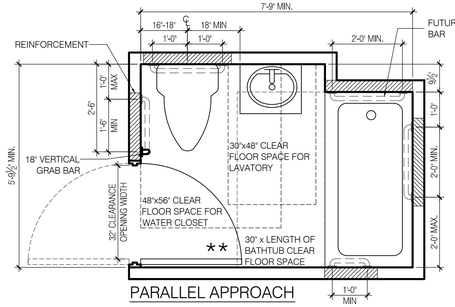
POWDER ROOM



ACCESSIBLE LAVATORY



NOTE:GRAB BAR IN ACCESSIBLE TOILET FACILITY
ALL REINFORCEMENT & GRAB BARS ARE REQUIRED FOR ACCESSIBLE TOILET FACILITY



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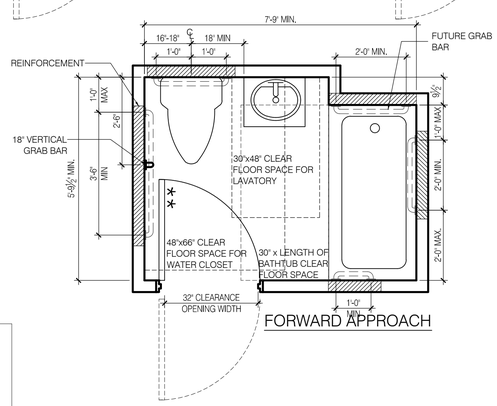
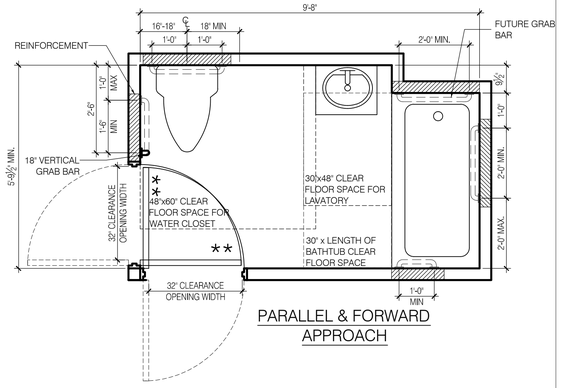
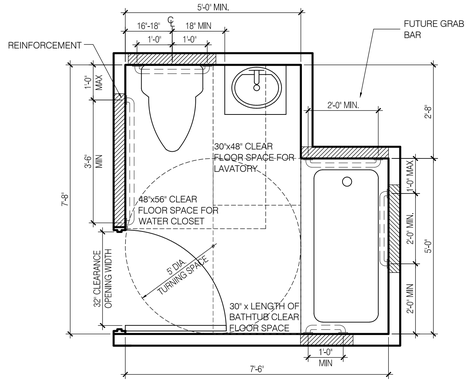


FORWARD APPROACH

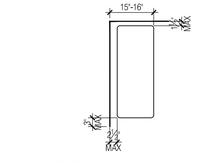


PARALLEL & FORWARD APPROACH

APPENDIX 'P' BATHROOM



TYPE 'A' BATHROOM

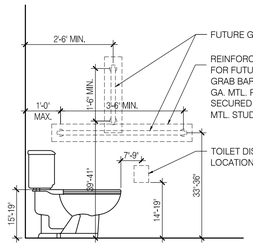


RECTANGULAR SHOWER COMPARTMENT SEAT

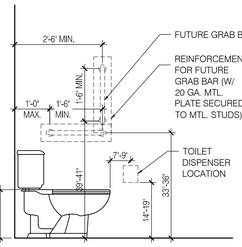
L-SHAPE SHOWER COMPARTMENT SEAT

**NOTE:DOOR SWING - APPENDIX 'P' TOILET & BATHING FACILITY

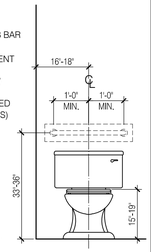
THE DOOR & FRAME ARE PROVIDED WITH MORTISED HINGE & LATCH BLANKS TO PERMIT FUTURE REVERSAL OF THE DOOR ON THE SAME FRAMES USING COMMON HAND TOOLS AND WITHOUT FURTHER ALTERATIONS TO THE DOOR & FRAMES. SUCH FUTURE SWING OF THE DOOR SHALL NOT OBSTRUCT THE MANEUVERING CLEARANCES REQUIRED AT THE DOOR OR DOORWAY.



SIDE WALL - TYPE 'A'

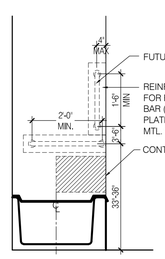


SIDE WALL - TYPE 'B'
(EXCEPTION FOR SIDE WALL THAT CANNOT ACCOMMODATE A 42" GRAB BAR)

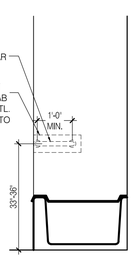


REAR WALL

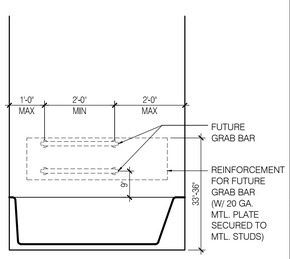
WATER CLOSET



CONTROL END WALL

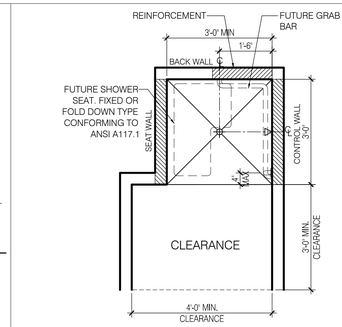


END WALL

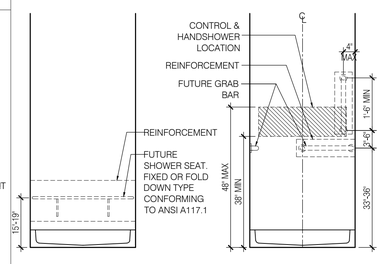


BACK WALL

BATHTUB



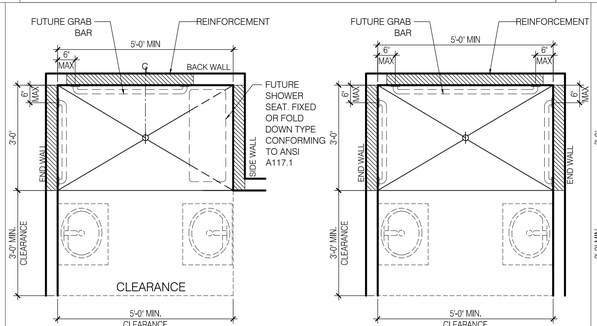
PLAN



SEAT WALL

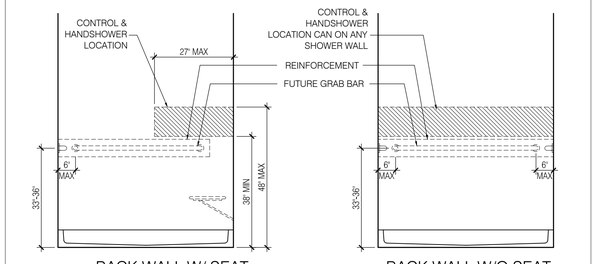
CONTROL WALL

TRANSFER-TYPE SHOWER STALL



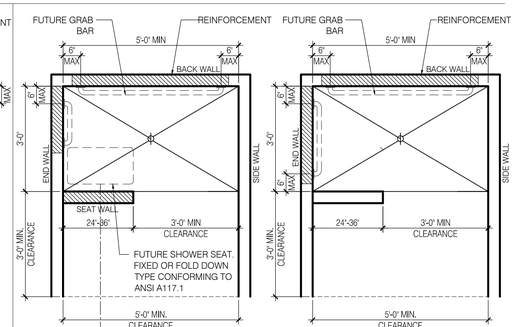
W/ SEAT

W/O SEAT



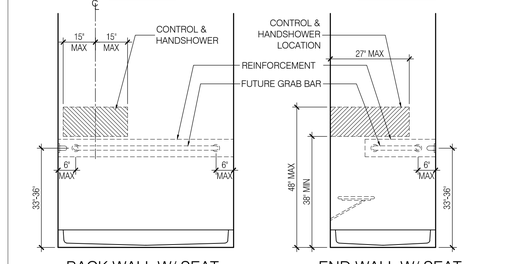
BACK WALL W/ SEAT

BACK WALL W/O SEAT



W/ SEAT

W/O SEAT



BACK WALL W/ SEAT

END WALL W/ SEAT

STANDARD ROLL IN TYPE SHOWER COMPARTMENT

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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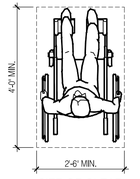
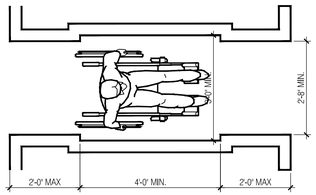
drawing title
ADA NOTES & DETAILS

dob no

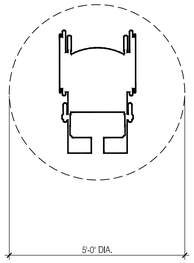
scale NTS	project no. 14-76
date	sheet no. ---OF
drawn HW	drawing no. G-005.00
checked	



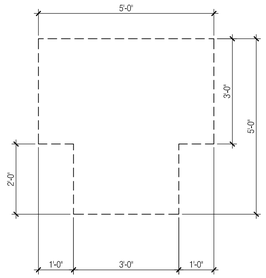
SIZE OF CLEAR FLOOR SPACE



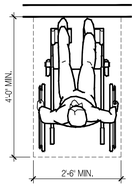
CLEAR WIDTH OF AN ACCESSIBLE ROUTE



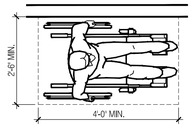
CIRCULAR



T-SHAPE

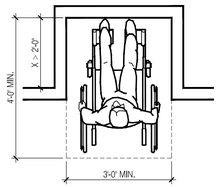


FORWARD

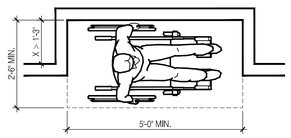


PARALLEL

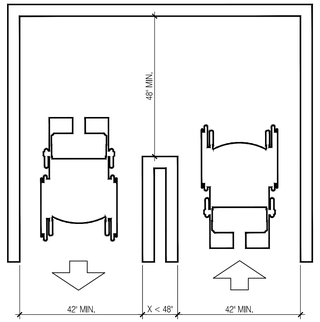
POSITION OF CLEAR FLOOR SPACE



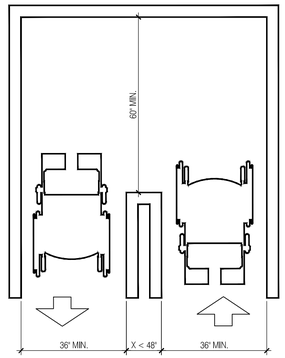
FORWARD APPROACH



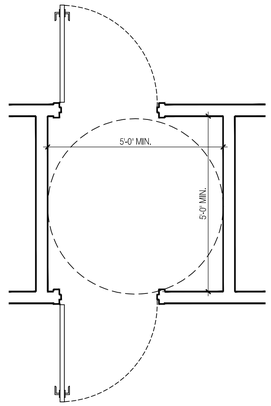
PARALLEL APPROACH

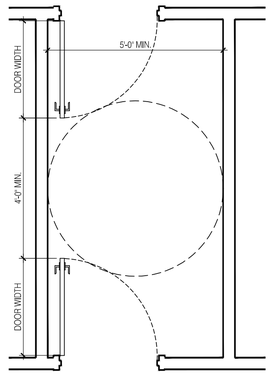


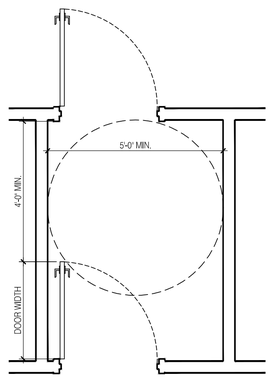
180 DEGREE TURN



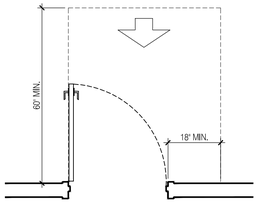
180 DEGREE TURN (EXCEPTION)



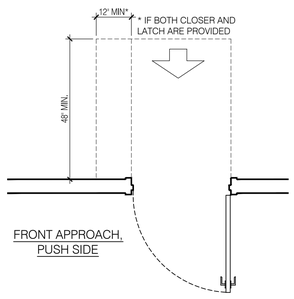




2 DOORS IN A SERIES



FRONT APPROACH, PULL SIDE



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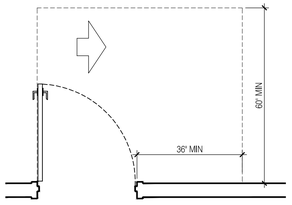
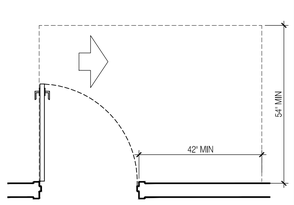


HINGE APPROACH, PULL SIDE



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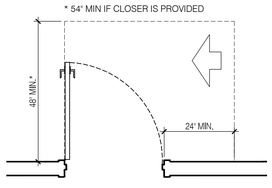
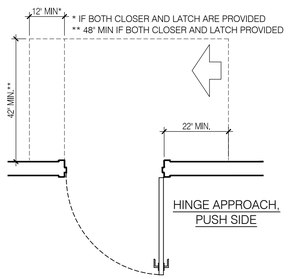
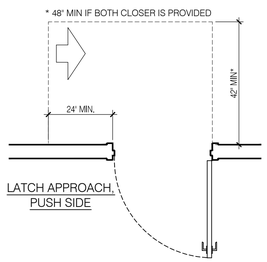


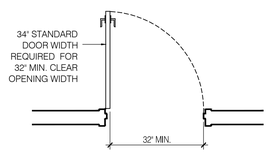
LATCH APPROACH, PULL SIDE



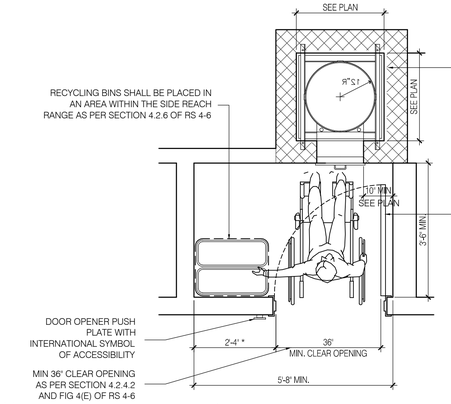
HINGE APPROACH, PUSH SIDE



LATCH APPROACH, PUSH SIDE



CLEAR OPENING WIDTH SWINGING DOOR



** THE OCCUPANCY SENSOR MAY BE:
1. WEIGHT-SENSITIVE FLOOR MAT
2. INFRARED SENSOR
3. OTHER EQUIVALENT TECHNOLOGY

* VARIABLE DIMENSION. MUST BE OF SUFFICIENT SIZE TO ACCOMMODATE 2 DIFFERENT RECYCLING BINS AND BE WITHIN THE SIDE REACH RANGE

REFUSE DISPOSAL ROOM PLAN

NYC DEPARTMENT OF BUILDINGS MEMO DATED JULY 3, 2007

ACCESSIBLE COMMON-USE REFUSE DISPOSAL/STORAGE ROOM

COMMON-USE REFUSE DISPOSAL/STORAGE ROOM THAT ARE REQUIRED TO BE ACCESSIBLE PURSUANT TO ADMINISTRATIVE CODE SECTION 27-292.5(c), SECTION 27-292.10 AND TABLE 4 OF REFERENCE STANDARD RS 4-6 SHALL COMPLY WITH SECTION 4.2 THROUGH 4.32 OF RS 4-6 INCLUDING, BUT NOT LIMITED TO, WHEELCHAIR TURNING SPACE, CLEAR FLOOR OR GROUND SPACE FOR WHEELCHAIRS, AND MANEUVERING CLEARANCES AT THE DOOR (SEE ATTACHED FIGURE 1). AN ALTERNATIVE TO THE STANDARD DESIGN FOR SUCH REFUSE DISPOSAL/STORAGE ROOM HAS BEEN REVIEWED AND FOUND COMPLIANT WITH RS 4-6 (SEE ATTACHED FIGURE 2) PROVIDED IT MEET ALL THE FOLLOWING:

1. THE REFUSE DISPOSAL/STORAGE ROOM SHALL BE DESIGNED SO THAT THE WHEELCHAIR USER CAN ENTER THE ROOM HEAD ON, AND BACK OUT WITHOUT TURNING OR CHANGING DIRECTION.

2. THE REFUSE DISPOSAL/STORAGE ROOM SHALL BE PROVIDED WITH MANEUVERING CLEARANCE INCLUDING A MINIMUM OF 36" CLEAR WIDTH AT THE DOORWAY FOR A FORWARD APPROACH AS PER SECTION 4.2.4.2 AND FIG. 4(e) OF RS 4-6. SUCH CLEAR WIDTH AT THE DOOR SHALL BE MEASURED BETWEEN THE FACE OF THE DOOR AND STOP, WITH THE DOOR OPEN 90 DEGREES. THIS WILL TYPICALLY REQUIRE A 38" WIDE DOOR.

3. THE DOOR OF THE REFUSE DISPOSAL/STORAGE ROOM SHALL COMPLY WITH SECTION 4.13.6 (AMUVERING CLEARANCES AT DOORS) OF RS 4-6 EXCEPT SUCH CLEARANCE IS NOT REQUIRED INSIDE THE REFUSE DISPOSAL/STORAGE ROOM. THRESHOLDS AT THE DOORWAY SHALL COMPLY WITH SECTION 4.13.8 OF RS 4-6.

4. THE DOOR OF THE REFUSE DISPOSAL/STORAGE ROOM SHALL BE A FULL POWERED AUTOMATIC DOOR COMPLYING WITH SECTION 4.13.12 OF RS 4-6 AND ANSI/BHMA A156.10-1985. CONTROLS FOR THE AUTOMATIC DOOR SHALL BE PROVIDED WITHIN THE REACH RANGE PERMITTED IN SECTION 4.2.5 OR 4.2.6 AND SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. ROOM IDENTIFICATION AND SYMBOL OF ACCESSIBILITY SHALL BE PROVIDED NEAR THE CONTROL AND SHALL COMPLY WITH SECTION 4.28 OF RS 4-6.

5. AN OCCUPANCY SENSOR SHALL BE PROVIDED IN THE REFUSE DISPOSAL/STORAGE ROOM TO DETECT THE PRESENCE AND THE ABSENCE OF OCCUPANTS. UPON THE DETECTION OF AN OCCUPANT IN THE ROOM, THE DOOR SHALL BE MAINTAINED IN THE OPEN POSITION DURING THE ENTIRE PERIOD OF OCCUPANCY OF THE ROOM. UPON THE ABSENCE OF AN OCCUPANT IN THE ROOM, THE DOOR SHALL AUTOMATICALLY RETURN TO THE CLOSED POSITION.

6. THE AUTOMATIC DOOR OF THE REFUSE DISPOSAL/STORAGE ROOM SHALL RETURN TO THE CLOSED POSITION IN THE CASE OF POWER FAILURE, UPON THE ACTIVATION OF THE FIR ALARM SYSTEMS (IF A FIRE ALARM SYSTEM IS PROVIDED IN THE BUILDING), OR UPON THE ACTIVATION OF SMOKE DETECTORS.

7. THE REFUSE DISPOSAL/STORAGE ROOM SHALL BE PROVIDED WITH A FIRE-RATED DOOR THAT REMAINS CLOSED DURING PERIODS OF NON USE. THE PLACEMENT OF THE STORAGE BINS AND/OR SHELVES AND THE LOCATION OF THE REFUSE CHUTE ACCESS OPENING SHALL COMPLY WITH THE REACH RANGES OF SECTION 4.2.5 OR 4.2.6 OF RS 4-6.

8. ALL CONTROLS AND OPERATING MECHANISMS SHALL COMPLY WITH SECTION 4.25 OF RS 4-6.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

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SEAL

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NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ADA NOTES & DETAILS

dob no

scale NTS	project no. 14-76
date	sheet no. ***OF
drawn HW	drawing no. G-006.00
checked	

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ICC/ANSI A117.1- 2003 & ASME/ANSI 17.1-2000 NOTES:

407 ELEVATORS

407.1 GENERAL. ELEVATORS SHALL COMPLY WITH SECTION 407 AND ASME A17.1 LISTED IN SECTION 105.2.5. ELEVATORS SHALL BE PASSENGER ELEVATORS AS CLASSIFIED BY ASME A17.1. ELEVATOR OPERATION SHALL BE AUTOMATIC.

407.2.1 CALL CONTROLS. CALL BUTTONS SHALL BE RAISED OR FLUSH. OBJECTS BENEATH HALL CALL BUTTONS SHALL PROTRUDE 1 INCH MAXIMUM. CALL BUTTONS AND KEYPADS SHALL BE LOCATED 15-48" ABOVE THE GROUND MEASURED TO THE CENTER LINE OF THE HIGHEST OPERABLE POINT. CALL BUTTONS SHALL BE .75" INCH MINIMUM IN THE SMALLEST DIMENSION. A CLEAR FLOOR SPACE OF 30" X 48" MINIMUM SHALL BE PROVIDED AT ALL CALL CONTROLS. THE CALL BUTTON THAT DESIGNATES THE UP DIRECTION SHALL BE LOCATED ABOVE THE CALL BUTTON THAT DESIGNATES THE DOWN DIRECTION. CALL BUTTONS SHALL HAVE VISIBLE SIGNALS TO INDICATE WHEN EACH CALL IS REGISTERED AND WHEN EACH CALL IS ANSWERED.

407.2.2 HALL SIGNALS. A VISUAL AND AUDIBLE SIGNAL SHALL BE PROVIDED AT EACH HOISTWAY ENTRANCE TO INDICATE WHICH CAR IS ANSWERING A CALL AND THE CARS' DIRECTION OF TRAVEL. WHERE IN-CAR SIGNALS ARE PROVIDED THEY SHALL BE VISIBLE FROM THE FLOOR AREA ADJACENT TO THE HALL CALL BUTTONS. VISIBLE SIGNAL FIXTURES SHALL BE CENTERED AT 72" MINIMUM ABOVE THE FLOOR. THE VISUAL SIGNAL ELEMENTS SHALL BE 2.5 INCHES MINIMUM MEASURED ALONG THE VERTICAL CENTERLINE OF THE ELEMENT. SIGNALS SHALL BE VISIBLE FROM THE FLOOR AREA ADJACENT TO THE HALL CALL BUTTON. AUDIBLE SIGNALS SHALL SOUND ONCE FOR THE UP DIRECTION AND TWICE FOR THE DOWN DIRECTION AT MAXIMUM FREQUENCY OF 1500 HZ, OR SHALL HAVE VERBAL ANNUCIATORS THAT STATE THE WORD "UP" OR "DOWN" BETWEEN A FREQUENCY OF 300 AND 3,000 HZ. THE AUDIBLE SIGNAL OR VERBAL ANNUCIATOR SHALL BE 10 DBA MINIMUM ABOVE AMBIENT BUT SHALL NOT EXCEED 80 DBA, MEASURED AT THE HALL CALL BUTTON.

407.2.3 HOISTWAY SIGNS. FLOOR DESIGNATIONS SHALL BE PROVIDED IN TACTILE CHARACTERS LOCATED ON BOTH JAMBS OF THE ELEVATOR HOISTWAY ENTRANCES. TACTILE CHARACTERS SHALL BE 2" MINIMUM IN HEIGHT. A TACTILE STAR SHALL BE PROVIDED ON BOTH JAMBS AT THE MAIN ENTRY LEVEL.

407.3.2 ELEVATOR DOORS SHALL BE HORIZONTAL SLIDING TYPE. CAR GATES SHALL BE PROHIBITED. ELEVATOR HOISTWAY AND CAR DOORS SHALL OPEN AND CLOSE AUTOMATICALLY.

407.3.3 REOPENING DEVICE. ELEVATOR DOORS SHALL BE PROVIDED WITH A REOPENING DEVICE COMPLYING WITH SECTION 703.3 OF ANSI A117.1 THAT SHALL STOP AND REOPEN A CAR DOOR AND HOISTWAY DOOR AUTOMATICALLY IF THE DOOR BECOMES OBSTRUCTED BY AN OBJECT OR PERSON. THE REOPENING DEVICE SHALL REMAIN EFFECTIVE FOR 20 SECONDS MINIMUM.

407.3.4 DOOR AND SIGNAL TIMING. THE MINIMUM ACCEPTABLE TIME FROM THE NOTIFICATION THAT A CAR IS ANSWERING A CALL UNTIL THE DOORS OF THAT CAR START TO CLOSE SHALL BE CALCULATED FROM THE FOLLOWING EQUATION:

T = D/(1.5 FT/S) OR T = D/ (455MM/S) = 5 SECONDS MINIMUM.

WHERE T = THE TOTAL TIME IN SECONDS AND D = THE DISTANCE (IN FEET OR MILLIMETERS) FROM THE POINT IN THE LOBBY OR CORRIDOR 60 INCHES DIRECTLY IN FRONT OF THE FARTHEST CALL BUTTON CONTROLLING THAT CAR TO THE CENTERLINE OF THE DOOR.

407.3.5 DOOR DELAY. ELEVATOR DOORS SHALL REMAIN FULLY OPEN IN RESPONSE TO A CAR CALL FOR 3 SECONDS MINIMUM.

407.4.1 CAR DIMENSIONS. INSIDE OF CAR DIMENSIONS SHALL COMPLY WITH TABLE 407.4.1 AS MODIFIED BY BC 3002.4 STATING THE MINIMUM INSIDE DIMENSIONS OF ELEVATOR CARS SHALL ACCOMMODATE A 24' BY 76' HOSPITAL STRETCHER.

407.4.2 FLOOR SURFACES IN ELEVATORS SHALL BE STABLE, FIRM, AND SLIP RESISTANT AND SHALL COMPLY WITH SECTION 302 OF ICC/ANSI A117.1.

407.4.5 ILLUMINATION. THE LEVEL OF ILLUMINATION AT THE CAR CONTROLS, PLATFORM, CAR THRESHOLD AND CAR LANDING SILL SHALL BE A 5 FOOT-CANDLES (54 LUX) MINIMUM.

407.4.6 ELEVATOR CAR CONTROLS. CONTROLS SHALL BE LOCATED 15-48" ABOVE THE GROUND MEASURED TO THE CENTER LINE OF THE HIGHEST OPERABLE POINT. EXCEPTION WHERE THE ELEVATOR SERVES MORE THAN 16 OPENINGS AND A PARALLEL APPROACH TO THE CONTROLS IS PROVIDED, IN WHICH CASE BUTTONS WITH FLOOR DESIGNATIONS SHALL BE PERMITTED TO BE 54 INCHES MAXIMUM ABOVE THE FLOOR.

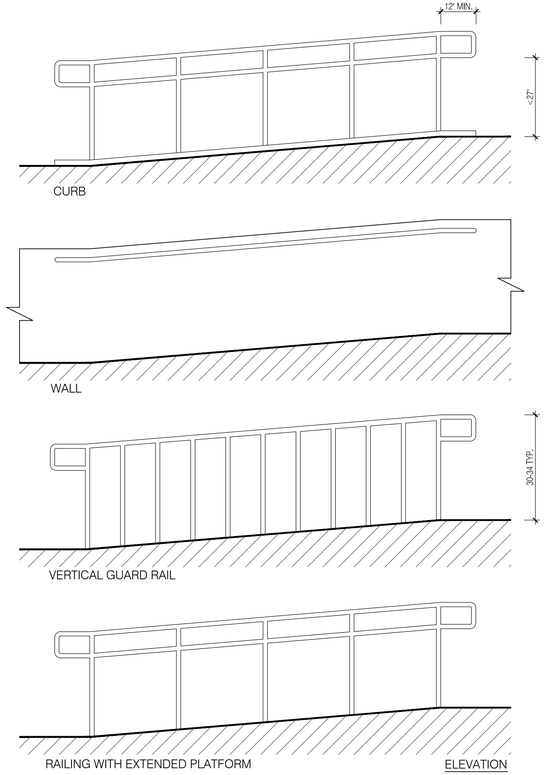
407.4.6.2 CAR CONTROL BUTTONS WITH FLOOR DESIGNATIONS SHALL BE RAISED OR FLUSH, AND 3/4 INCH MINIMUM IN THEIR SMALLEST DIMENSION. BUTTONS SHALL BE ARRANGED IN ASCENDING ORDER. WHEN TWO OR MORE COLUMNS OF BUTTONS ARE PROVIDED THEY SHALL BE READ FROM LEFT TO RIGHT.

407.4.6.4 EMERGENCY CONTROLS. EMERGENCY CONTROL BUTTONS SHALL HAVE THEIR CENTERLINES 35 INCHES MINIMUM ABOVE THE FLOOR. EMERGENCY CONTROLS, INCLUDING THE EMERGENCY ALARM SHALL BE GROUPED AT THE BOTTOM OF THE PANEL.

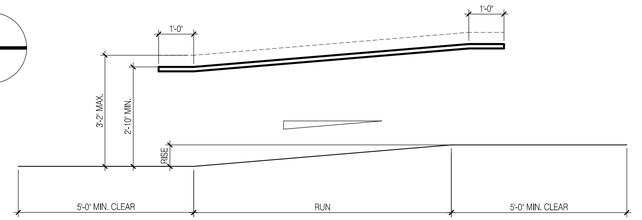
407.4.7 DESIGNATIONS AND INDICATORS OF CAR CONTROLS. CONTROL BUTTONS SHALL BE IDENTIFIED BY TACTILE CHARACTERS COMPLYING WITH SECTION 703.3. TACTILE CHARACTER AND BRAILLE DESIGNATIONS SHALL BE PLACED IMMEDIATELY TO THE LEFT OF THE CONTROL BUTTON TO WHICH THE DESIGNATIONS APPLY. BUTTONS WITH FLOOR DESTINATIONS SHALL BE PROVIDED WITH VISIBLE INDICATORS TO SHOW THAT A CALL HAS BEEN REGISTERED. THE VISIBLE INDICATION SHALL EXTINGUISH WHEN THE CAR ARRIVES AT THE DESIGNATED FLOOR.

407.4.9 CAR POSITION INDICATORS. AUDIBLE AND VISIBLE CAR POSITION INDICATORS SHALL BE PROVIDED IN ELEVATOR CARS. VISIBLE INDICATORS SHALL BE LOCATED ABOVE THE CAR CONTROL PANELS OR ABOVE THE DOOR; CHARACTERS SHALL BE 1/2 INCH HIGH MINIMUM IN HEIGHT. AS THE CAR PASSES A FLOOR AND WHEN A CAR STOPS AT A FLOOR SERVED BY THE ELEVATOR, THE CORRESPONDING CHARACTER SHALL ILLUMINATE. AUDIBLE INDICATORS SHALL SIGNAL AS AN AUTOMATIC VERBAL ANNUNCIATOR THE ANNOUNCES THE FLOOR AT WHICH THE CAR IS ABOUT TO STOP; THE VERBAL ANNOUNCEMENT INDICATING THE FLOOR SHALL BE COMPLETED PRIOR TO THE INITIATION OF THE DOOR OPENING. THE VERBAL ANNUCIATOR SHALL BE 10 DBA MINIMUM ABOVE AMBIENT BUT SHALL NOT EXCEED 80 DBA, MEASURED AT THE ANNUNCIATOR.

407.4.10 EMERGENCY COMMUNICATIONS. EMERGENCY TWO WAY COMMUNICATION SYSTEMS BETWEEN THE ELEVATOR CAR AND A POINT OUTSIDE THE HOISTWAY SHALL COMPLY WITH SECTION 407.4.10 AND ASME/ANSI A17.1 LISTED IN SECTION 105.2.5. THE MIDPOINT OF THE HIGHEST OPERABLE PART OF A TWO WAY COMMUNICATION SYSTEM SHALL NOT EXCEED 48 INCHES; TACTILE CHARACTERS AND SYMBOLS SHALL BE PROVIDED ADJACENT TO THE DEVICE IN COMPLIANCE WITH SECTIONS 703.3 AND 407.4.7.1.3 OF ICC/ANSI A117.1-2003.

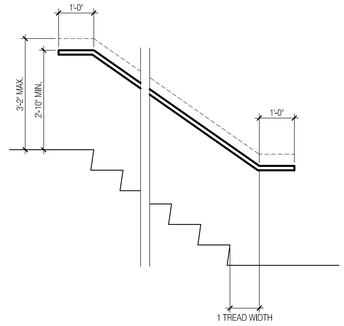


EXAMPLES OF EDGE PROTECTION & HANDRAIL EXTENSIONS

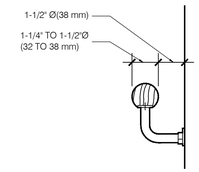


SLOPE	MAXIMUM RISE	MAXIMUM RUN
1:12 TO 1:15	30 INCHES	30 FEET
1:16 TO 1:19	30 INCHES	40 FEET
1:20	30 INCHES	50 FEET

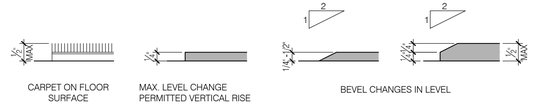
RAMP REQUIREMENTS



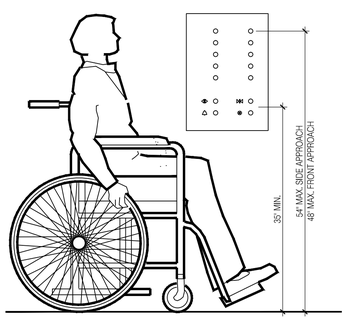
HANDRAIL REQUIREMENTS FOR STAIRS

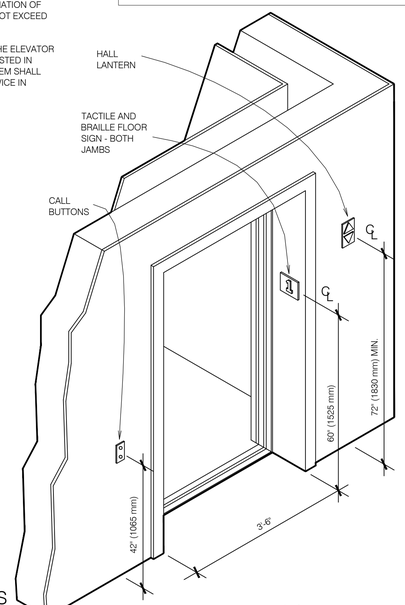


HANDRAIL REQUIREMENTS
(WALL MOUNTED)

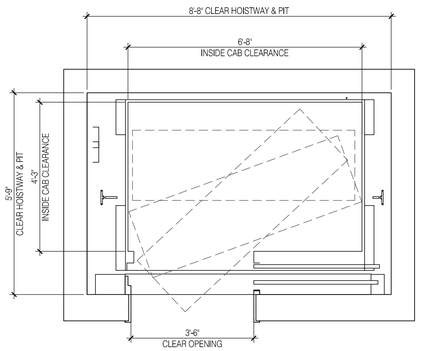


HEIGHT CHANGES AND FLOOR SADDLES





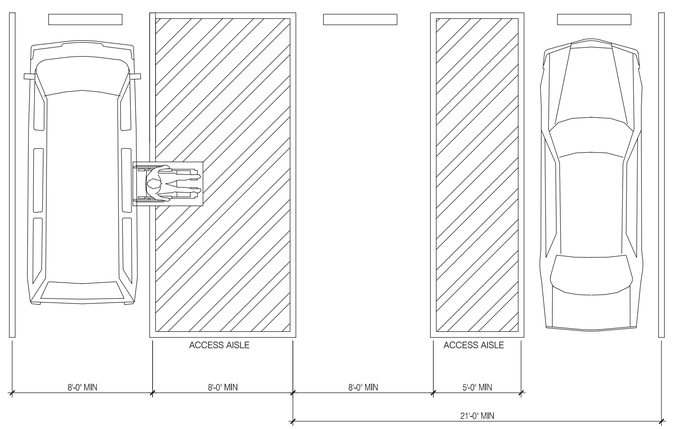
ELEVATOR REQUIREMENTS



STANDARD 2500 LBS. CAPACITY CAR

-76" X 24" STRETCHER SHOWN DOTTED;OK TO MANUEVER (BC 3002)

-ELEVATOR HOISTWAY AND HOISTWAY DOOR ASSEMBLY TO HAVE A 2 HOUR FIRE RATING (BC 3001, BC 3002)



NOTE:
1. PROVIDE AT LEAST (1) 96" WIDE ACCESS AISLE FOR LESS THAN 30 PARKING SPACES.
2. PROVIDE AT LEAST (2) 96" WIDE ACCESS AISLES FOR 30 OR MORE PARKING SPACES.

DIMENSIONS OF PARKING SPACES

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
2		2014/10/23	ISSUED TO D.O.B.
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT KARL FISCHER 087292 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ADA NOTES & DETAILS

dob no

scale NTS	project no. 14-76
date	sheet no. ---OF
drawn HW	drawing no. G-007.00
checked	

COM*check* Software Version 3.9.4

Envelope Compliance Certificate

2010 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: **New Construction**
Project Title : New Development

Construction Site:
26 West street
Brooklyn, NY 11222

Owner/Agent:
Joel Weiss
Empire Management & Construction
286 Broadway Suite 301
Brooklyn, NY 11211
718-599-1105 ext 258
joel@empirebrooklyn.com

Designer/Contractor:
Karl Fischer
Karl Fischer Architect
530 Broadway, 9th Floor
New York, NY 10012
212 219 9733

Section 2: General Information

Building Location (for weather data):	**Kings, New York**
Climate Zone:	**4a**
Building Space Conditioning Type(s):	**Residential**
Vertical Glazing / Wall Area Pct.:	**49%**

Activity Type(s)	Floor Area
Multifamily	101330
Retail	19313
Parking Garage	27134

Section 3: Requirements Checklist

Envelope **TBD**: Glazing exceeds 40% limit

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Orientation: NORTH					
Exterior Wall - Brick- Residential: Steel-Framed, 16" o.c.	6684	21.0	12.0	0.047	0.064
Window1: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: NA, SHGC 0.55 (c)	2759	---	---	0.400	0.550
Exterior WalII -Metal panel-Residential: Concrete Block:8", Solid Grouted,Normal Density , Furring: Metal	8898	21.0	12.0	0.050	0.090
Window1: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: NA, SHGC 0.55 (c)	3968	---	---	0.400	0.550
Window 2: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: na, SHGC 0.55, PF 0.25 (c)	1250	---	---	0.400	0.550
Orientation: EAST					
Exterior Wall -Concrete panels: Wood-Framed, 16" o.c.	5861	21.0	12.0	0.034	0.064
Window1: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: NA, SHGC 0.55 (c)	1539	---	---	0.400	0.550
Window2: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: NA, SHGC 0.55, PF 0.55 (c)	945	---	---	0.400	0.550
Orientation: SOUTH					
Exterior Wall - Concrete panels: Wood-Framed, 16" o.c.	5861	21.0	12.0	0.034	0.064
Window1: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: NA, SHGC 0.55 (c)	1539	---	---	0.400	0.550

Window2: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: NA, SHGC 0.55, PF 0.55 (c)	945	---	---	0.400	0.550
Orientation: WEST					
Exterior Wall-Brick-Residential: Steel-Framed, 16" o.c.	6684	21.0	12.0	0.047	0.064
Window 1: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: na, SHGC 0.55 (c)	2759	---	---	0.400	0.550
Exterior Wall - Metal panel-Residential: Steel-Framed, 16" o.c.	8898	21.0	12.0	0.047	0.064
Window 1: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: na, SHGC 0.55 (c)	3968	---	---	0.400	0.550
Window 2: Metal Frame with Thermal Break, Perf. Type: Other testing/cert. Product ID: na, SHGC 0.55, PF 0.25 (c)	1250	---	---	0.400	0.550
Garage door: Uninsulated Single-Layer Metal, Non-Swinging	270	---	---	0.550	0.500
Orientation: UNSPECIFIED ORIENTATION					
Roof 1: Insulation Entirely Above Deck	10297	---	19.0	0.051	0.048
Roof 2: Insulation Entirely Above Deck	7607	---	19.0	0.051	0.048
Floor - First thru Roof - unexposed: Concrete Floor: Concrete Floor (over unconditioned space)	24987	---	9.0	0.083	0.074

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.

(b) 'Other' components require supporting documentation for proposed U-factors.

(c) Fenestrations product performance must be certified in accordance with NFRC and requires supporting documentation.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- ☒ 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- ☒ 2. Windows, doors, and skylights certified as meeting leakage requirements.
- ☒ 3. Component R-values & U-factors labeled as certified.
- ☐ 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- ☐ 5. 'Other' components have supporting documentation for proposed U-Factors.
- ☒ 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- ☒ 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- ☐ 8. Cargo doors and loading dock doors are weather sealed.
- ☐ 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- ☒ 10. Building entrance doors have a vestibule equipped with self-closing devices.

Exceptions:

- ☐ Building entrances with revolving doors.
- ☐ Doors not intended to be used as a building entrance.
- ☒ Doors that open directly from a space less than 3000 sq. ft. in area.
- ☐ Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
- ☐ Doors opening directly from a sleeping/dwelling unit.

TABULAR ENERGY ANALYSIS (1RCNY §5000-01)
RESIDENTIAL USE
NEW BUILDING
CLIMATE ZONE 4A
NYCECC 2011

ITEM	INSPECTION / TEST	FREQUESNCY (MIN)	REFERENCE STANDARD (SEE ECC CHAPTER 6) OR OTHER CRITERIA	ECC OR OTHER CITATION	THIS INSPECTION REQUIRED YES	THIS INSPECTION REQUIRED NO
IIA	ENVELOPE INSPECTIONS					
IIA2	INSULATION PLACEMENT AND R-VALUES: INSTALLED INSULATION FOR EACH COMPONENT OF THE CONDITIONED SPACE ENVELOPE AND AT JUNCTIONS BETWEEN COMPONENTS SHALL BE VISUALLY INSPECTED TO ENSURE THAT THE R-VALUES ARE MARKED, THAT SUCH R-VALUES CONFORM TO THE R-VALUES IDENTIFIED IN THE CONSTRUCTION DOCUMENTS AND THAT THE INSULATION IS PROPERLY INSTALLED. CERTIFICATIONS FOR UNMARKED INSULATION SHALL BE SIMILARLY VISUALLY INSPECTED.	AS REQUIRED TO VERIFY CONTINUOUS ENCLOSURE WHILE WALLS, CEILINGS AND FLOORS ARE OPEN	APPROVED CONSTRUCTION DOCUMENTS;	303.1, 303.1.1, 303.1.2, 502.1, 502.2; ASHRAE 90.1 -5.5, 5.6 or 11; 5.8.1	●	○
IIA3	FENESTRATION THERMAL VALUES AND PRODUCT RATINGS: U-FACTORS AND SHGC VALUES OF INSTALLED FENESTRATION SHALL BE VISUALLY INSPECTED FOR CONFORMANCE WITH THE U-FACTORS AND SHGC VALUES IDENTIFIED IN THE CONSTRUCTION DRAWINGS BY VERIFYING THE MANUFACTURER'S NFRC LABELS OR, WHERE NOT LABELED, USING THE RATINGS IN ECC TABLES 303.1.3(1), (2) AND (3). WHERE ASHRAE 90.1 IS USED, VISIBLE LIGHT TRANSMITTANCE VALUES SHALL ALSO BE VERIFIED.	AS REQUIRED DURING INSTALLATION	APPROVED CONSTRUCTION DOCUMENTS; NFRC 100, NFRC 200	303.1, 303.1.3, 502.3; ASHRAE 90.1 -5.5; 5.6 OR 11; 5.8.2	●	○
IIA4	FENESTRATION AND DOOR ASSEMBLY PRODUCT RATINGS FOR AIR LEAKAGE: WINDOWS AND SLIDING OR SWINGING DOOR ASSEMBLIES, EXCEPT SITE-BUILT WINDOWS AND/OR DOORS, SHALL BE VISUALLY INSPECTED TO VERIFY THAT INSTALLED ASSEMBLIES ARE LISTED AND LABELED BY THE MANUFACTURER TO THE REFERENCED STANDARD. FOR CURTAIN WALL, STOREFRONT GLAZING, COMMERCIAL ENTRANCE DOORS AND REVOLVING DOORS, THE TESTING REPORTS SHALL BE REVIEWED TO VERIFY THAT THE INSTALLED ASSEMBLY COMPLIES WITH THE STANDARD CITED IN THE APPROVED PLANS.	AS REQUIRED DURING INSTALLATION; PRIOR TO FINAL CONSTRUCTION INSPECTION	NFRC 400, AAMA/NDMA/CSA 101/I.S.2/A440 ASTM E283; ANSI/DASMA 105	502.4; ASHRAE 90.1 -5.4.3.2	●	○
IIA5	FENESTRATION AREAS: DIMENSIONS OF WINDOWS, DOORS AND SKYLIGHTS SHALL BE VERIFIED BY VISUAL INSPECTION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	502.3; ASHRAE 90.1 - 5.5.4, 5.6 OR 11	●	○
IIA6	SEALING: OPENINGS AND PENETRATIONS IN THE BUILDING ENVELOPE, INCLUDING SITE-BUILT FENESTRATION AND DOORS, SHALL BE VISUALLY INSPECTED TO VERIFY THAT A CONTINUOUS AIR BARRIER AROUND THE ENVELOPE FORMS AN AIR-TIGHT ENCLOSURE. THE PROGRESS INSPECTOR SHALL VISUALLY INSPECT TO VERIFY THAT MATERIALS AND/OR ASSEMBLIES HAVE BEEN TESTED AND MEET THE REQUIREMENTS OF THE RESPECTIVE STANDARDS, OR THAT THE BUILDING IS TESTED AND MEETS THE REQUIREMENTS OF THE STANDARD, IN ACCORDANCE WITH THE STANDARD(S) CITED IN THE APPROVED PLANS.	AS REQUIRED DURING CONSTRUCTION	APPROVED CONSTRUCTION DOCUMENTS; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	502.4.3, 502.4.7; ASHRAE 90.1 - 5.4.3.1	●	○
IIA9	BUILDING ENTRANCE VESTIBULES: REQUIRED ENTRANCE VESTIBULES SHALL BE VISUALLY INSPECTED FOR PROPER OPERATION.	PRIOR TO FINAL CONSTRUCTION INSPECTION	APPROVED CONSTRUCTION DOCUMENTS	502.4.6; ASHRAE 90.1 - 5.4.3.4	●	○

NYCECC 2011 COMPLIANCE NOTE

1. " TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THIS APPLICATION IS IN COMPLIANCE WITH THE NYCECC 2011

TR-8 (ENERGY CODE PROGRESS INSPECTION)

1. INSULATION PLACEMENT AND R VALUES: IIA2
2. FENESTRATION THERMAL VALUES AND RATINGS: IIA3
3. FENESTRATION RATINGS FOR AIR LEAKAGE: IIA4
4. FENESTRATION AREA: IIA5
5. AIR SEALING AND INSULATION - VISUAL: IIA6
6. VESTIBULES : IIA9

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT
KARL FISCHER
021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ENERGY COMPLIANCE CERTIFICATE

dob no

scale AS SHOWN	project no. 14-76
date	sheet no. 52 OF
drawn HW	drawing no. EN-008.00
checked	

BLDG ENVELOPE COMPONENT CHART - R-VALUES - WALL - BRICK	
CONSTRUCTION MATERIAL	R-VALUES
BRICK	0.44
1" AIR GAP	1.00
2" THK. T&G EXTRUDED POLYSTYRENE INSULATION	10.00
AIR & WATER BARRIER	0.17
1 LAYER OF 5/8" EXTERIOR GWB	0.67
R-15 MIN. BATT FOIL FACED FIBERGLASS - 5 1/2"	17.27
VAPOR IMPERMEABLE WEATHER MEMBRANE	0.68
1 LAYER OF 5/8" GWB.	0.56
TOTAL CONTINOUS R VALUE	11.61
TOTAL CAVITY R VALUE	19.18
TOTAL R-VALUES	30.79
TOTAL U-VALUES	0.032

1 EN-010.00 BRICK WALL ASSEMBLY
1/2" = 1'-0"

BLDG ENVELOPE COMPONENT CHART - R-VALUES - WALL - METAL PANEL	
CONSTRUCTION MATERIAL	R-VALUES
METAL PANEL	0.61
1" AIR GAP	1.00
2" THK. T&G EXTRUDED POLYSTYRENE INSULATION	10.00
AIR & WATER BARRIER	0.17
1 LAYER OF 5/8" EXTERIOR GWB	0.67
R-15 MIN. BATT FOIL FACED FIBERGLASS - 5 1/2"	17.27
VAPOR IMPERMEABLE WEATHER MEMBRANE	0.68
1 LAYER OF 5/8" GWB.	0.56
TOTAL CONTINOUS R VALUE	11.78
TOTAL CAVITY R VALUE	19.18
TOTAL R-VALUES	30.96
TOTAL U-VALUES	0.032

2 EN-010.00 METAL PANEL ASSEMBLY
1/2" = 1'-0"

BLDG ENVELOPE COMPONENT CHART - R-VALUES - WALL - E.I.F.S.	
CONSTRUCTION MATERIAL	R-VALUES
STO STUCCO FINISH	0.40
EXPANDED GALVANIZED SELF-METAL LATH	0.00
WATER-RESISTIVE BARRIER	0.00
1 1/2" STO INSUL-X TYPE IV XPS INSULATION BOARD	7.50
WATERPROOF AIR BARRIER MEMBRANE	0.17
1 LAYER 5/8" GLASS MAT GYPSUM BOARD	0.67
R-15 MIN. BATT FOIL FACED FIBERGLASS - 5 1/2"	17.27
VAPOR IMPERMEABLE WEATHER MEMBRANE	0.68
1 LAYER OF 5/8" GWB.	0.56
TOTAL CONTINOUS R VALUE	8.07
TOTAL CAVITY R VALUE	19.18
TOTAL R-VALUES	27.25
TOTAL U-VALUES	0.037

3 EN-010.00 EIFS WALL ASSEMBLY
1/2" = 1'-0"

BLDG ENVELOPE COMPONENT CHART - R-VALUES - WALL - STONE	
CONSTRUCTION MATERIAL	R-VALUES
2" STONE - GRANITE	1.66
AIR GAP	1.00
2" THK. T&G EXTRUDED POLYSTYRENE INSULATION	10.00
AIR & WATER BARRIER	0.17
1 LAYER OF 5/8" EXTERIOR GWB	0.67
R-15 MIN. BATT FOIL FACED FIBERGLASS - 5 1/2"	17.27
VAPOR IMPERMEABLE WEATHER MEMBRANE	0.68
1 LAYER OF 5/8" GWB.	0.56
TOTAL CONTINOUS R VALUE	12.83
TOTAL CAVITY R VALUE	19.18
TOTAL R-VALUES	32.01
TOTAL U-VALUES	0.031

4 EN-010.00 STOREFRONT ASSEMBLY - GRANITE
1/2" = 1'-0"

BLDG ENVELOPE COMPONENT CHART - R-VALUES - SLAB - EXPOSED	
CONSTRUCTION MATERIAL	R-VALUES
6" SLAB + 3" WALL = 9" CONCRETE	0.81
TOTAL CONTINOUS R VALUE	0.81
TOTAL R-VALUES	0.81
TOTAL U-VALUES	1.235

BLDG ENVELOPE COMPONENT CHART - R-VALUES - CMU @ LOT LINE	
CONSTRUCTION MATERIAL	R-VALUES
6" CMU	0.95
R-15 MIN. BATT FOIL FACED FIBERGLASS INSULATION - 2 1/2	8.75
1 LAYER OF 5/8" EXTERIOR GWB	0.56
TOTAL CONTINOUS R VALUE	10.26
TOTAL R-VALUES	10.26
TOTAL U-VALUES	0.097

5 EN-010.00 CMU WALL ASSEMBLY@ LOT LINE
1/2" = 1'-0"

ROOF COMPONENT CHART - R-VALUES	
CONSTRUCTION MATERIAL	R-VALUES
2'x2'x2" CONCRETE PAVER	0.20
AIR SPACE	1.00
2 LAYERS (2" EA.) EXTRUDED POLYSTYRENE	16.34
9" CONCRETE SLAB	0.72
TOTAL CONTINOUS R VALUE	18.26
TOTAL R-VALUES	18.26
TOTAL U-VALUES	0.055

6 EN-010.00 TYPICAL ROOF ASSEMBLY
1/2" = 1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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SEAL
REGISTERED ARCHITECT KARL FISCHER NB jpg 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ENERGY COMPLIANCE
---

dob no

scale: NTS	project no. 14-76
date	sheet no. ---- OF
drawn: HW	drawing no. EN-009.00
checked	

FULTON STREET (80'-0" WIDE)

FRANKLIN AVENUE (70'-0" WIDE)

COMMERCIAL STORAGE = 4121 SQ. FT.

RETAIL (COMMERCIAL) = 13549 SQ. FT.

ELEVATOR LOBBY

REFUSE COMPACTOR ROOM = 410 SQ. FT.

LAUNDRY ROOM = 446 SQ. FT.

GAZ METER ROOM = 345 SQ. FT.

SPRINKLY ENTRY ROOM = 346 SQ. FT.

WATER METER ROOM = 350 SQ. FT.

ELECTRICAL METER ROOM = 341 SQ. FT.

RESIDENTIAL ACCESSORY SPACE = 1356 SQ. FT.

RESIDENTIAL GYM = 1171 SQ. FT.

BICYCLE STORAGE = 1339 SQ. FT.

GROSS AREA = 25632 SQ. FT.

1 Z-100 SITE PLAN SCALE: 3/32"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
CELLAR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-101.00
checked	

FULTON STREET (80'-0" WIDE)

FRANKLIN AVENUE (70'-0" WIDE)

GLASS CANOPY ABOVE

COMMERCIAL 1 = 3791 SQ. FT.

COMMERCIAL 2 (FRESH FOOD) = 6657 SQ. FT.

COMMERCIAL 3 = 6026 SQ. FT.

COMMERCIAL 4 = 2307 SQ. FT.

OPEN TO BELOW = 292 SQ. FT.

RESIDENTIAL LOBBY

ELEVATOR LOBBY

MAIL

PACKAGE RM.

CONCIERGE

LOADING BERTH = 630 SQ. FT.

PARKING AREA = 1888 SQ. FT.

RAMP UP

EXISTING CONC. STAIR

3 STORY BRICK & STUCCO BUILDING

4 STORY BRICK BUILDING

GROSS AREA = 24983 SQ. FT.

1 A-102 PLAN
SCALE: 3/32"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
1ST FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-102.00
checked	

FULTON STREET (80'-0" WIDE)

1 PLAN
A-103 SCALE: 3/32"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
2ND FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-103.00
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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
3RD FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-104.00
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1 PLAN
A-105 SCALE: 3/32"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
4TH FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-105.00
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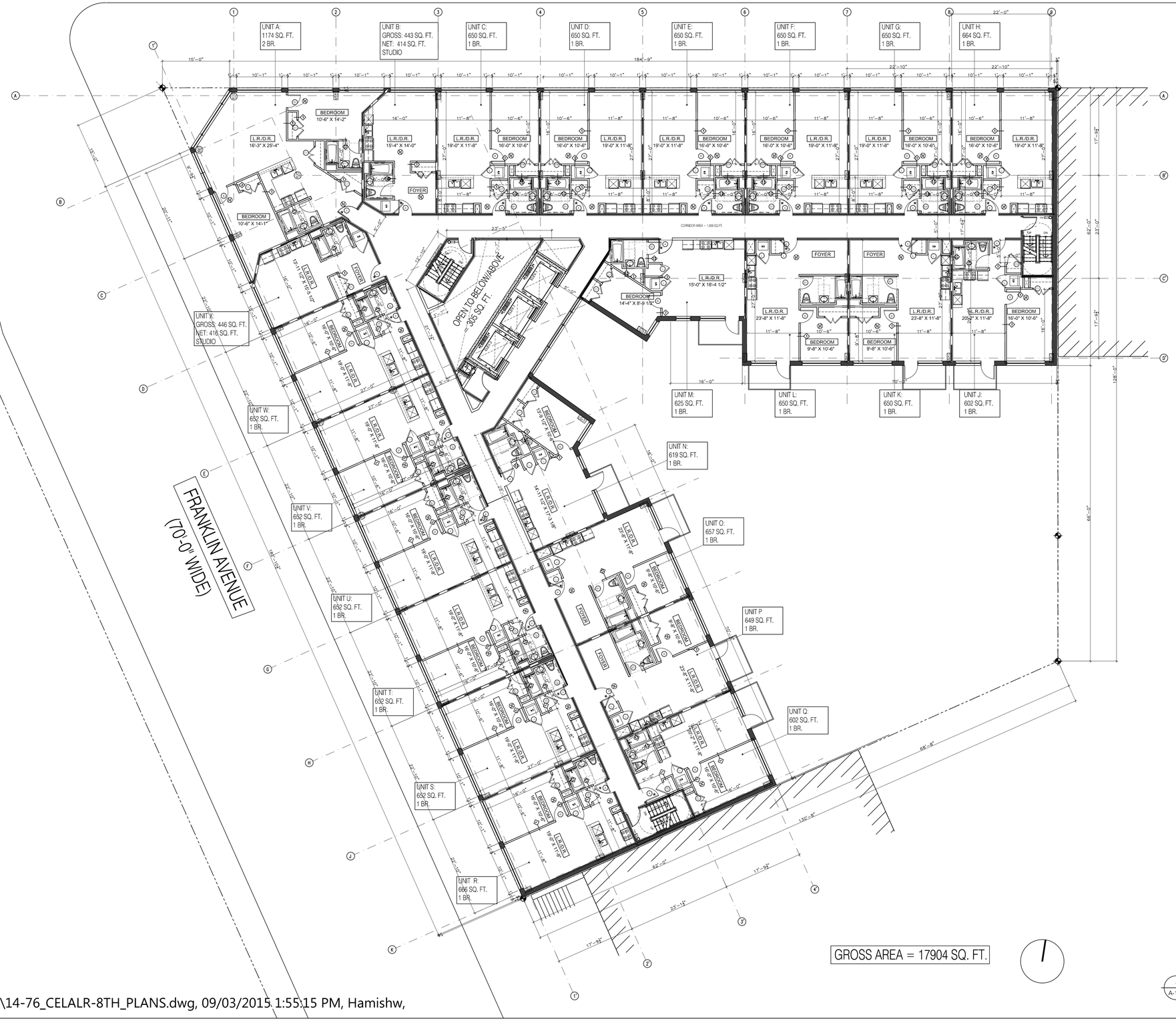
FULTON STREET (80'-0" WIDE)



1 PLAN
A-106 SCALE: 3/32"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
5TH FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-106.00
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KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
6TH FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-107.00
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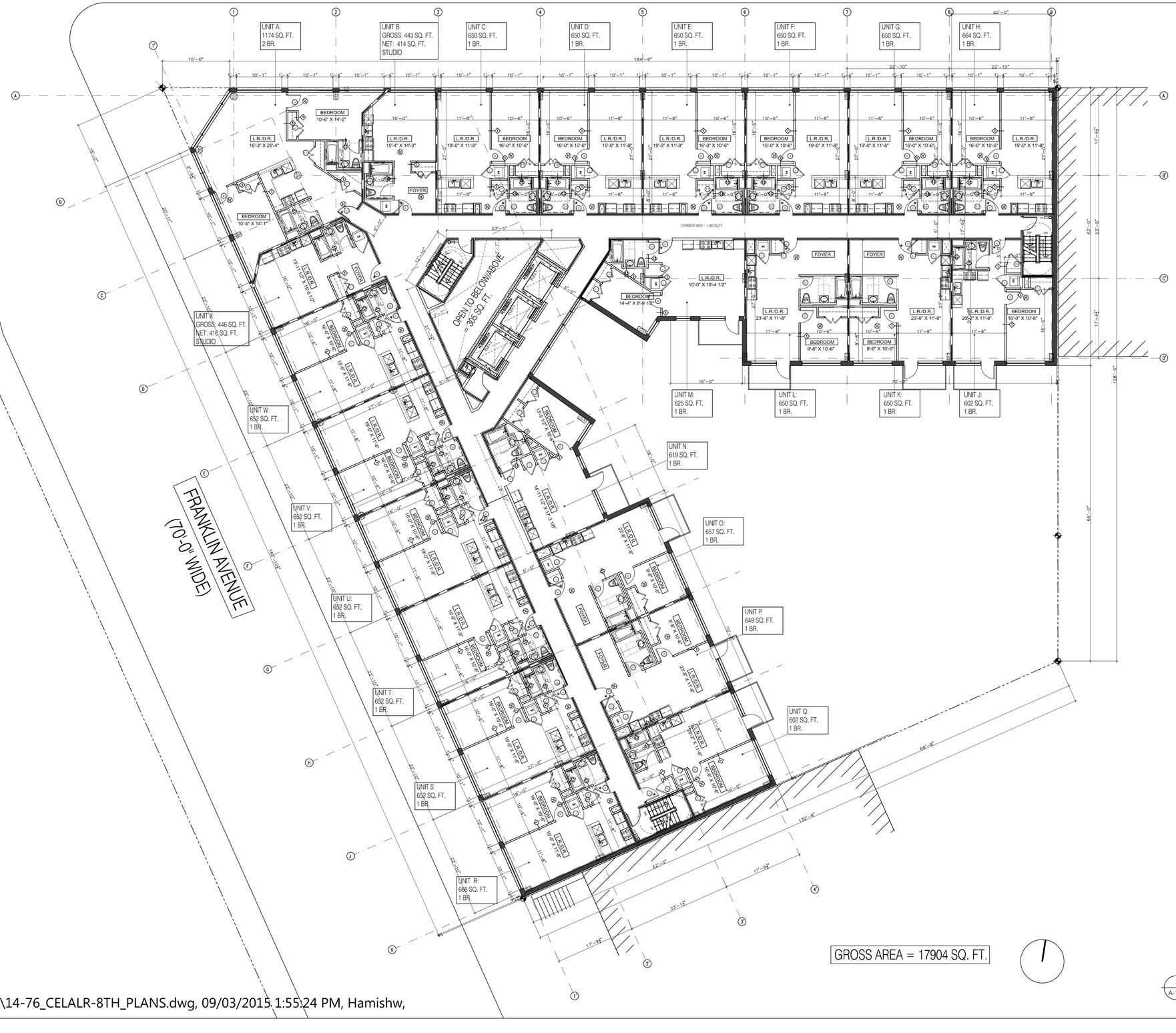
FULTON STREET (80'-0" WIDE)



1 A-108 PLAN SCALE: 3/32"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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project title

NEW DEVELOPMENT

1134 FULTON STREET, BROOKLYN 11216

drawing title

7TH FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-108.00
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1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
8TH FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-108.00
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FULTON STREET (80'-0" WIDE)

1 A-109 PLAN
SCALE: 3/32"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
8TH FLOOR PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-109.00
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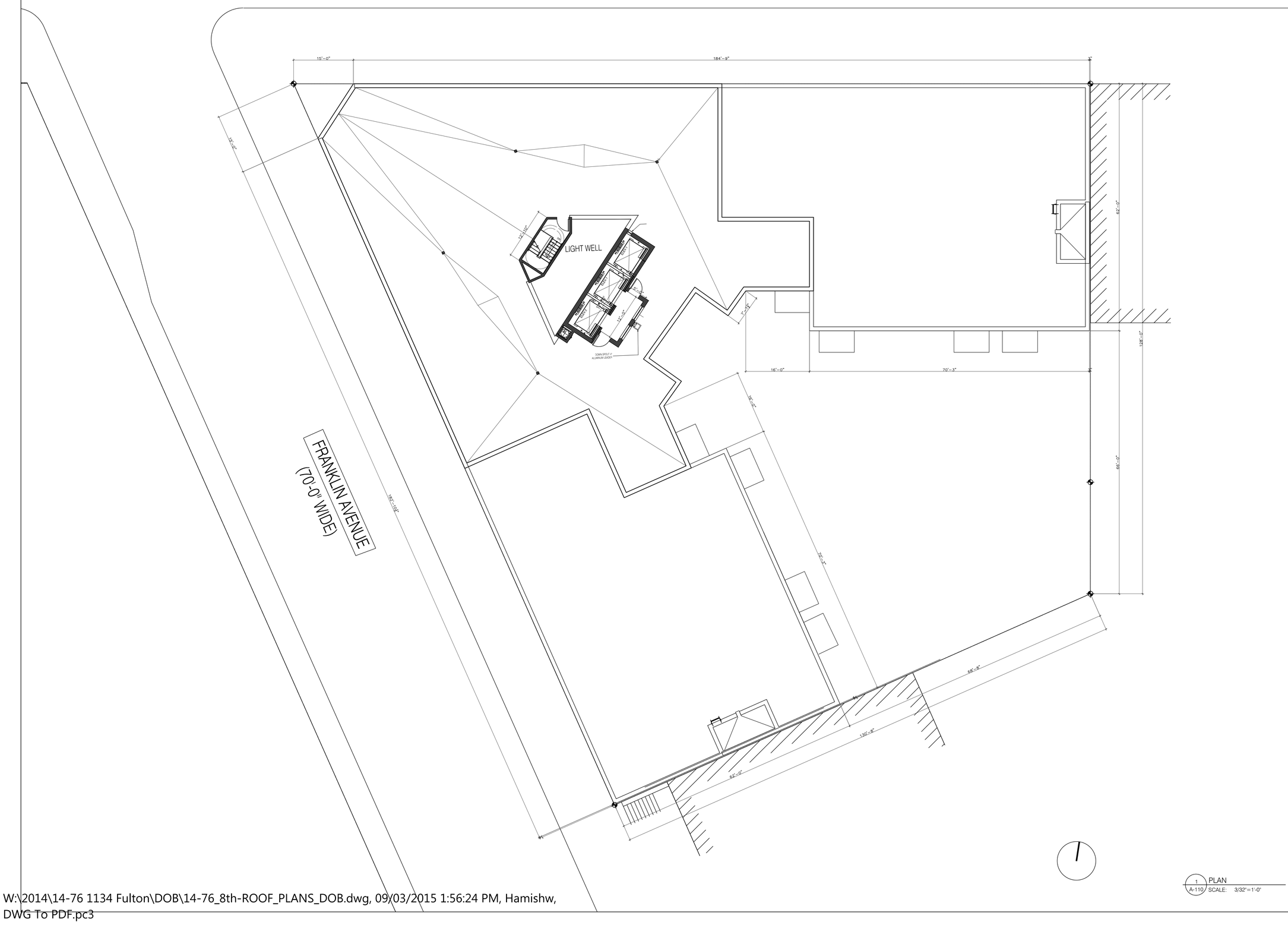
FULTON STREET (80'-0" WIDE)



1 PLAN
A-110 SCALE: 3/32"=1'-0"

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KEY PLAN

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issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ROOF PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-110.00
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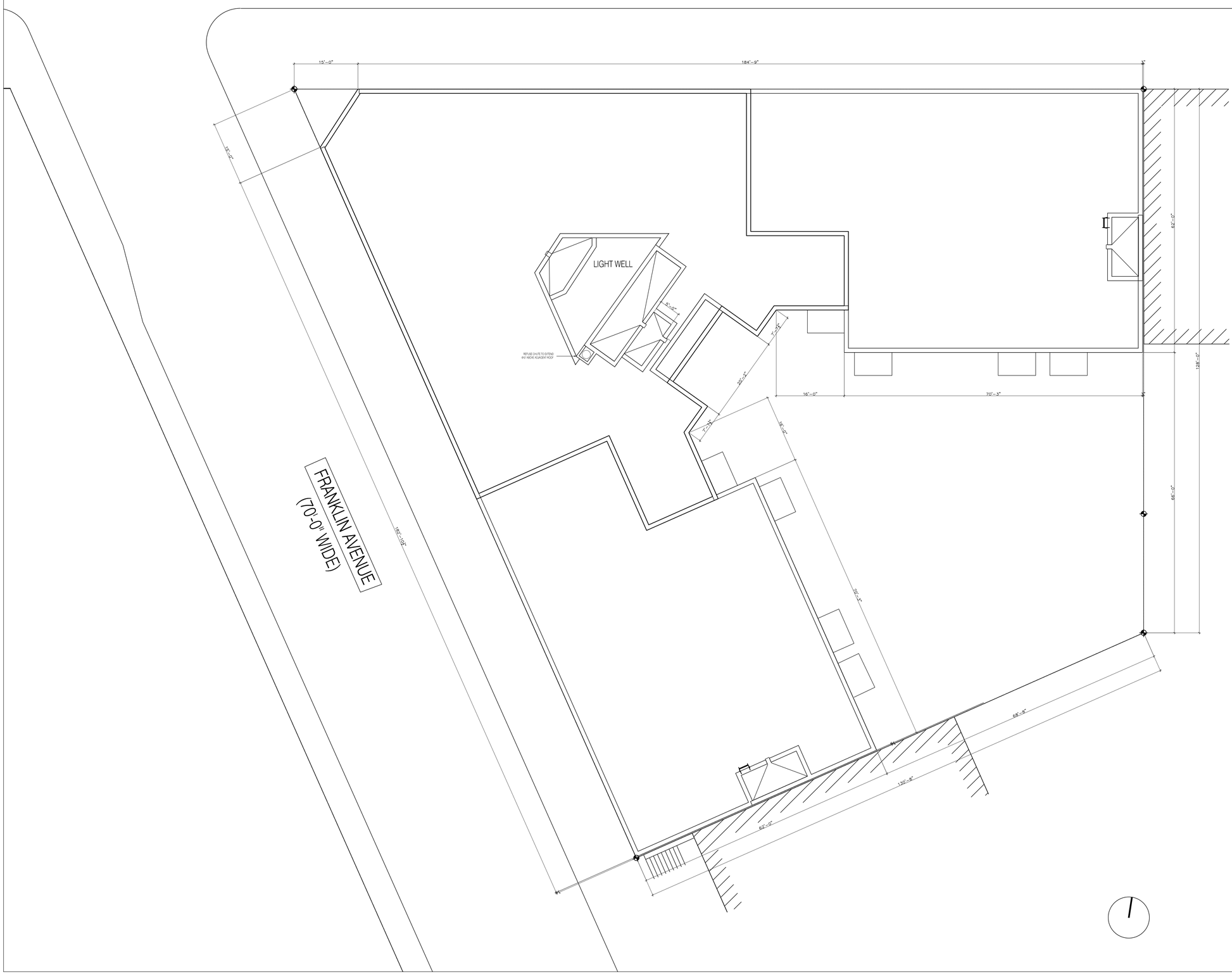
FULTON STREET (80'-0" WIDE)



1 A-111 PLAN
SCALE: 3/32"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
BULKHEAD PLAN

dob no

scale 3/32"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-111.00
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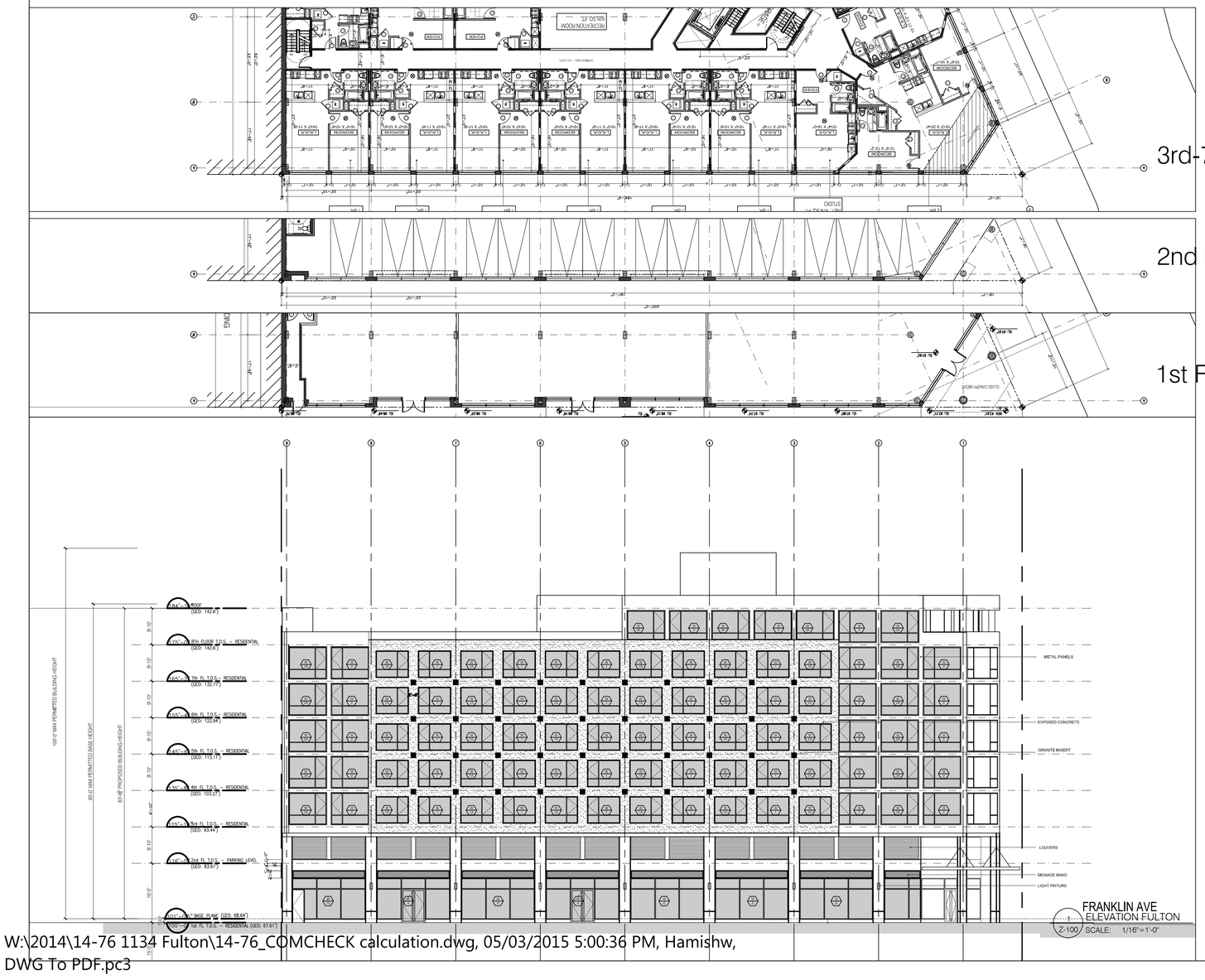

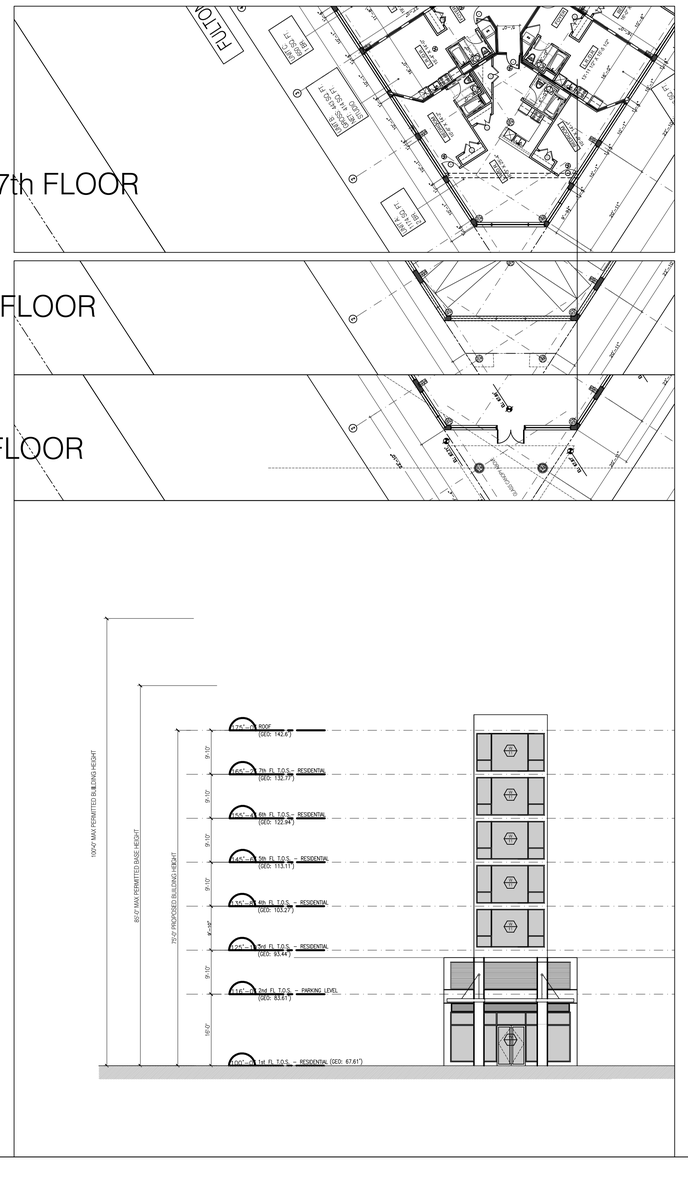

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KEY PLAN

BLOCK 2017 LOT: 8

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SEAL
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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ELEVATION FULTON STREET
D.O.B. SET

dob no

scale 1/16"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-200.00
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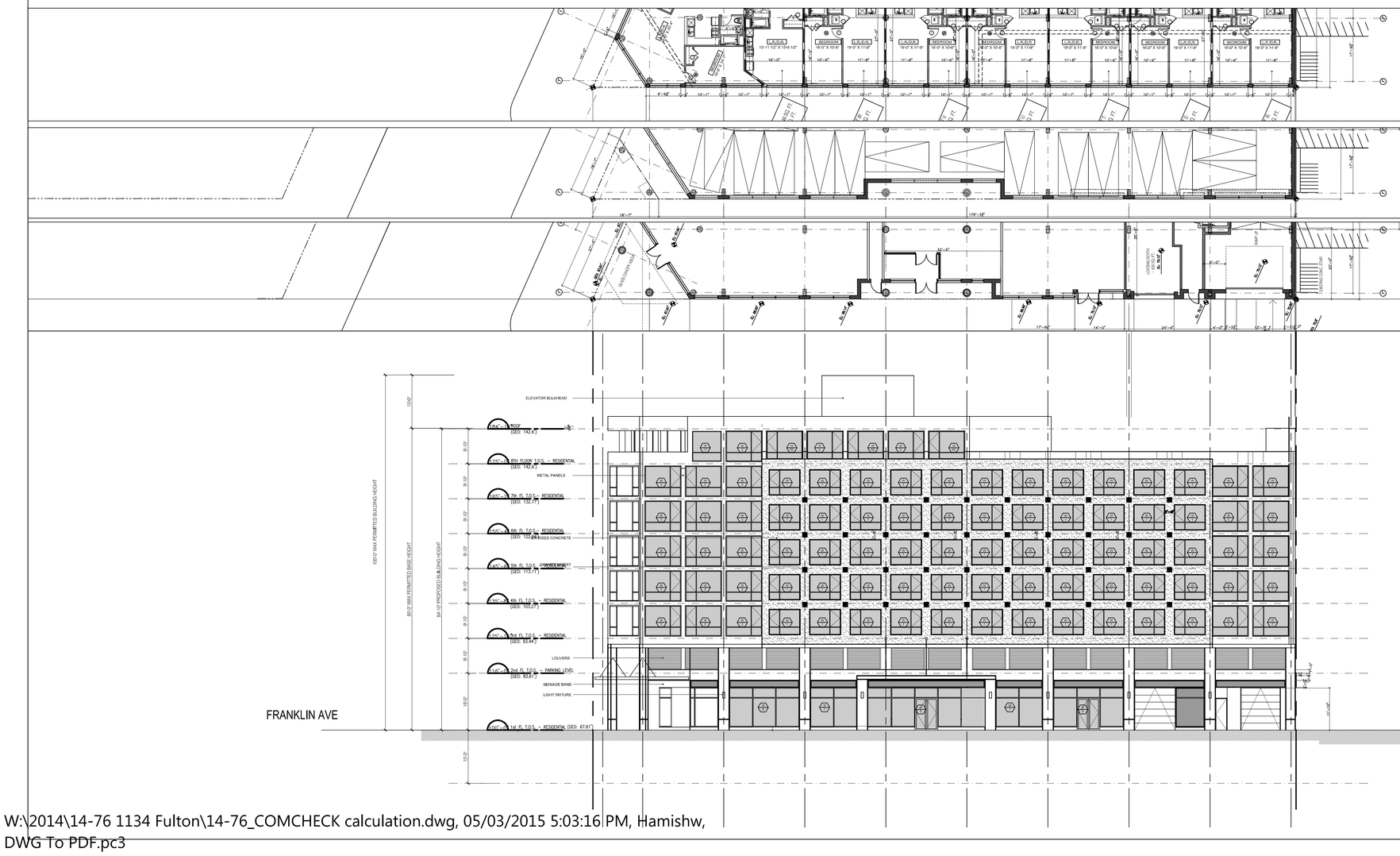

1 ELEVATION FRANKLIN
A-201 SCALE: 1/16"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

MEP. ENGINEER:
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KARL FISCHER
021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
ELEVATION FRANKLIN STREET
D.O.B. SET

dob no

scale 1/16"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-201.00
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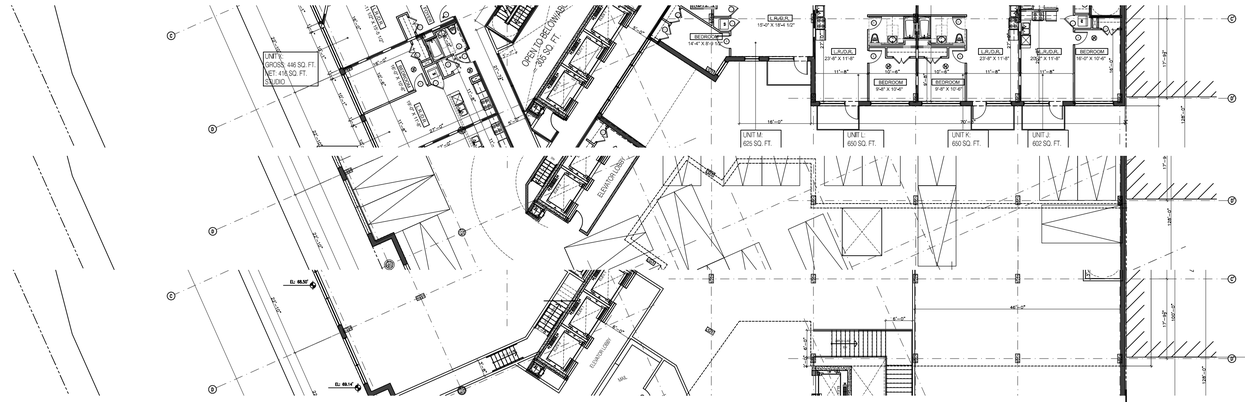
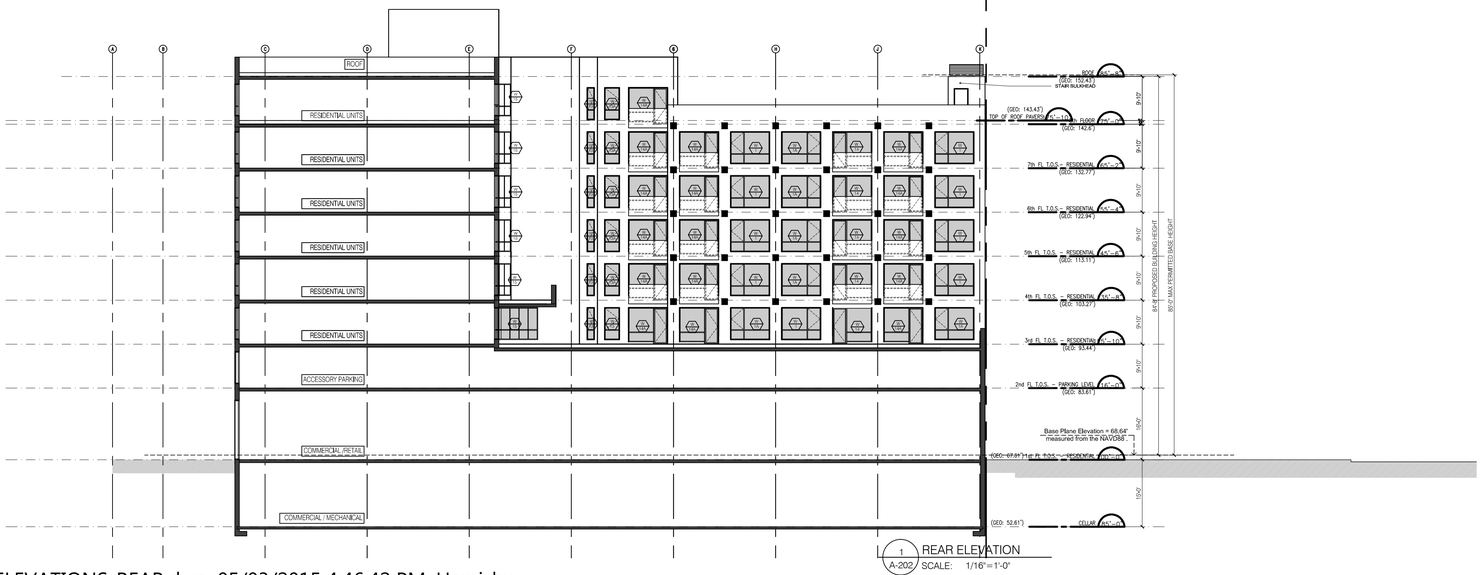


3rd-7th FLOOR

2nd FLOOR

1st FLOOR



1 REAR ELEVATION
A-202 SCALE: 1/16"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
SOUTH ELEVATION - DOB

dob no

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date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-202.00
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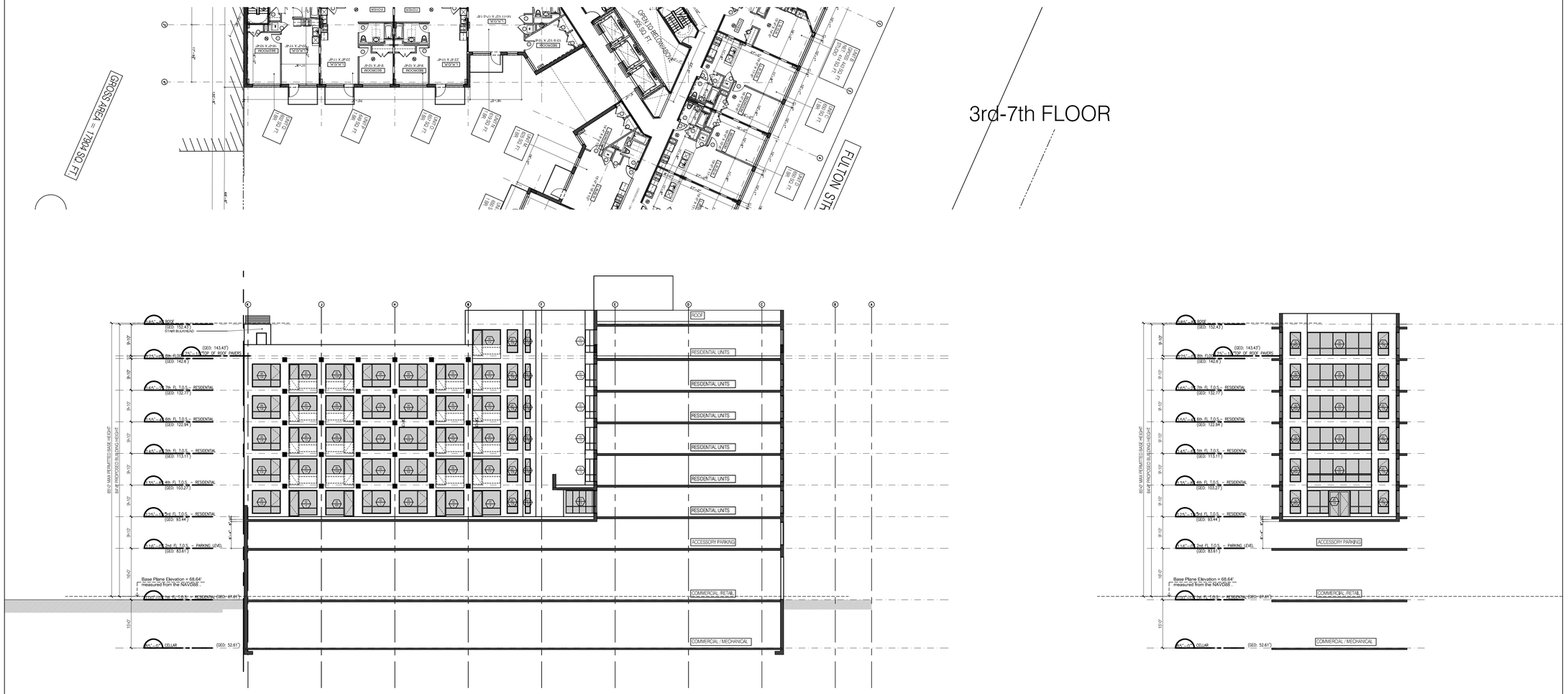

1 A-203 EAST ELEVATION
SCALE: 1/16"=1'-0"

2 A-203 EAST ELEVATION _ELEV.LOBBY
SCALE: 1/16"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
EAST ELEVATION DOB

dob no

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date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-203.00
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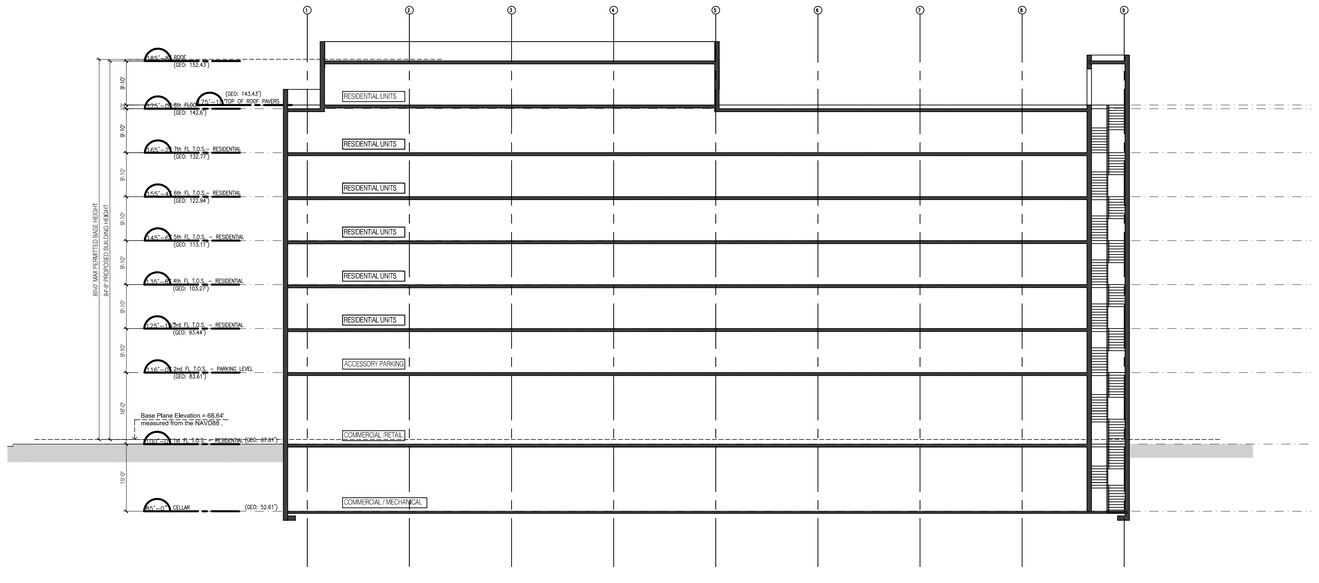

1 / A 300 BUILDING SECTION
SCALE: 1/16"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

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021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
BUILDING SECTION

dob no

scale 1/16"=1'-0"	project no. 14-76
date 2014-10-27	sheet no. OF
drawn HW	drawing no. A-300.00
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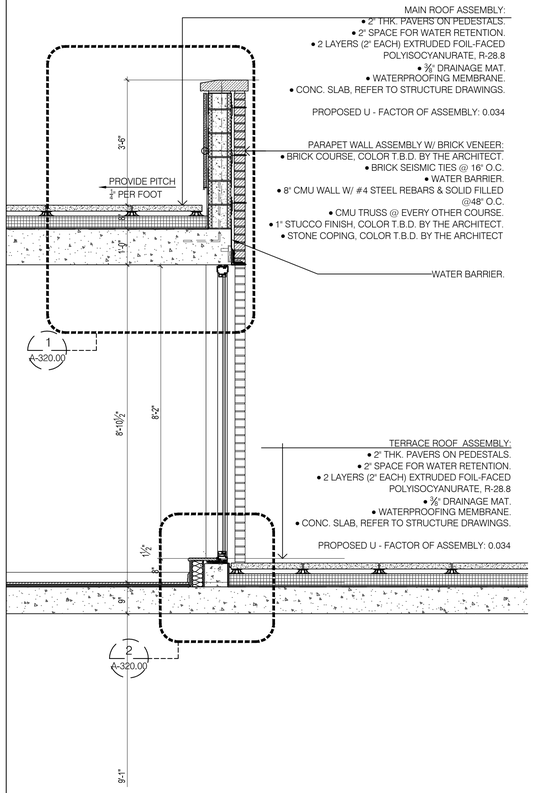

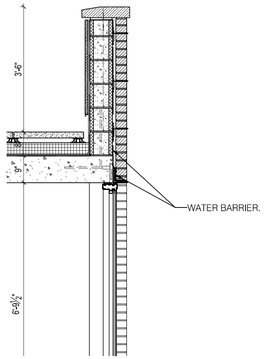

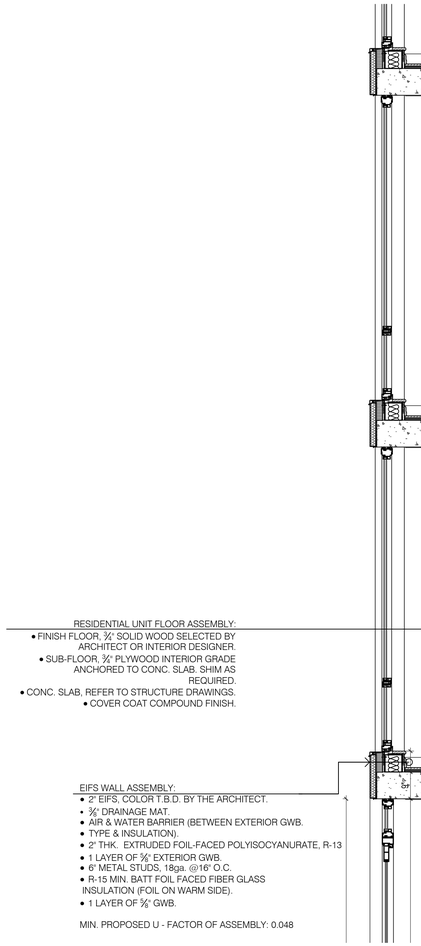

1 A-310.00 **WALL SECTION DETAIL**
1/2"=1'-0"

2 A-310.00 **WALL SECTION DETAIL**
1/2"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

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SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
SECTIONS

dob no

scale 1/2"=1'-0"	project no. 14-76
date 10/2014	sheet no. ---- OF
drawn HW	drawing no. A-310.00
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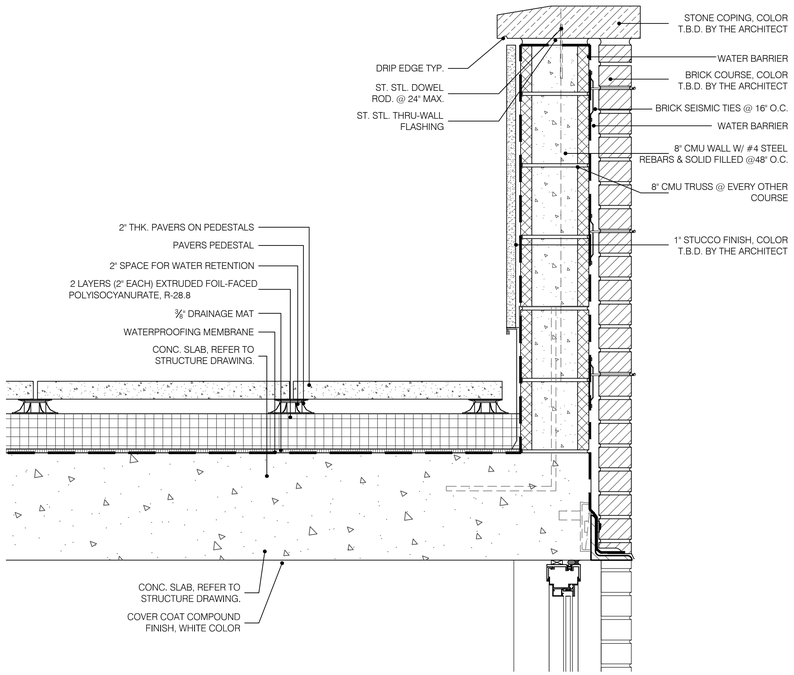
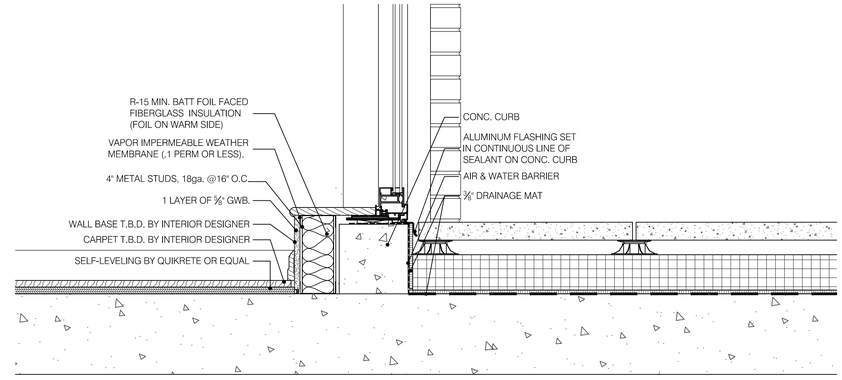
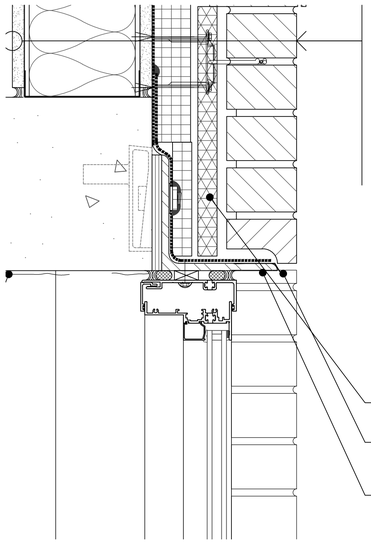


1 A-320.00 **PARAPET AND ROOF DETAIL**
1 1/2"=1'-0"



2 A-320.00 **TERRACE DOOR DETAIL**
1 1/2"=1'-0"



BRICK WALL ASSEMBLY:
- BRICK COURSE, COLOR T.B.D. BY THE ARCHITECT.
- BRICK SEISMIC TIES @16" O.C. VERTICAL.
- 1" MIN. AIR GAP.
- 2" THK. EXTRUDED FOIL-FACED POLYISOCYANURATE, R-14.4
- AIR & WATER BARRIER (BETWEEN EXTERIOR GWB. TYPE & INSULATION).
- 1 LAYER OF ⅝" EXTERIOR GWB.
- 6" METAL STUDS, 18ga. @16" O.C.
- R-13 MIN. BATT FOIL FACED FIBER GLASS INSULATION (FOIL ON WARM SIDE).
- 1 LAYER OF ⅝" GWB.

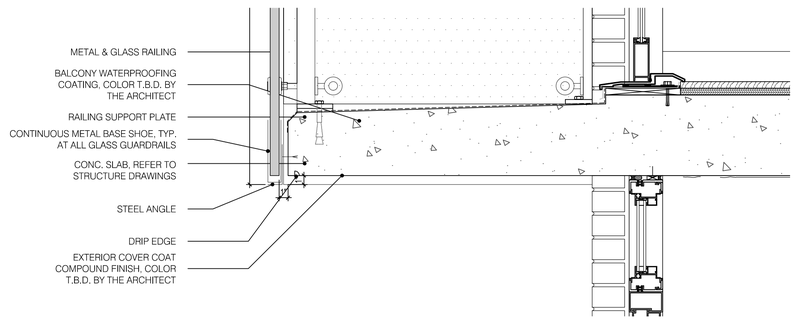
MIN. PROPOSED U - FACTOR OF ASSEMBLY: 0.048

MORTAR NET

METAL DRIP EDGE SET IN SEALANT

GALVANIZED RELIEVING ANGLE; SEE STRUCTURE DRAWINGS

3 A-320.00 **WALL SECTION DETAIL**
1 1/2"=1'-0"



4 A-320.00 **TYPICAL SECTION AT BALCONY**
1 1/2"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
SECTIONS

dob no

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date 10/2014	sheet no. ---- OF
drawn HW	drawing no. A-320.00
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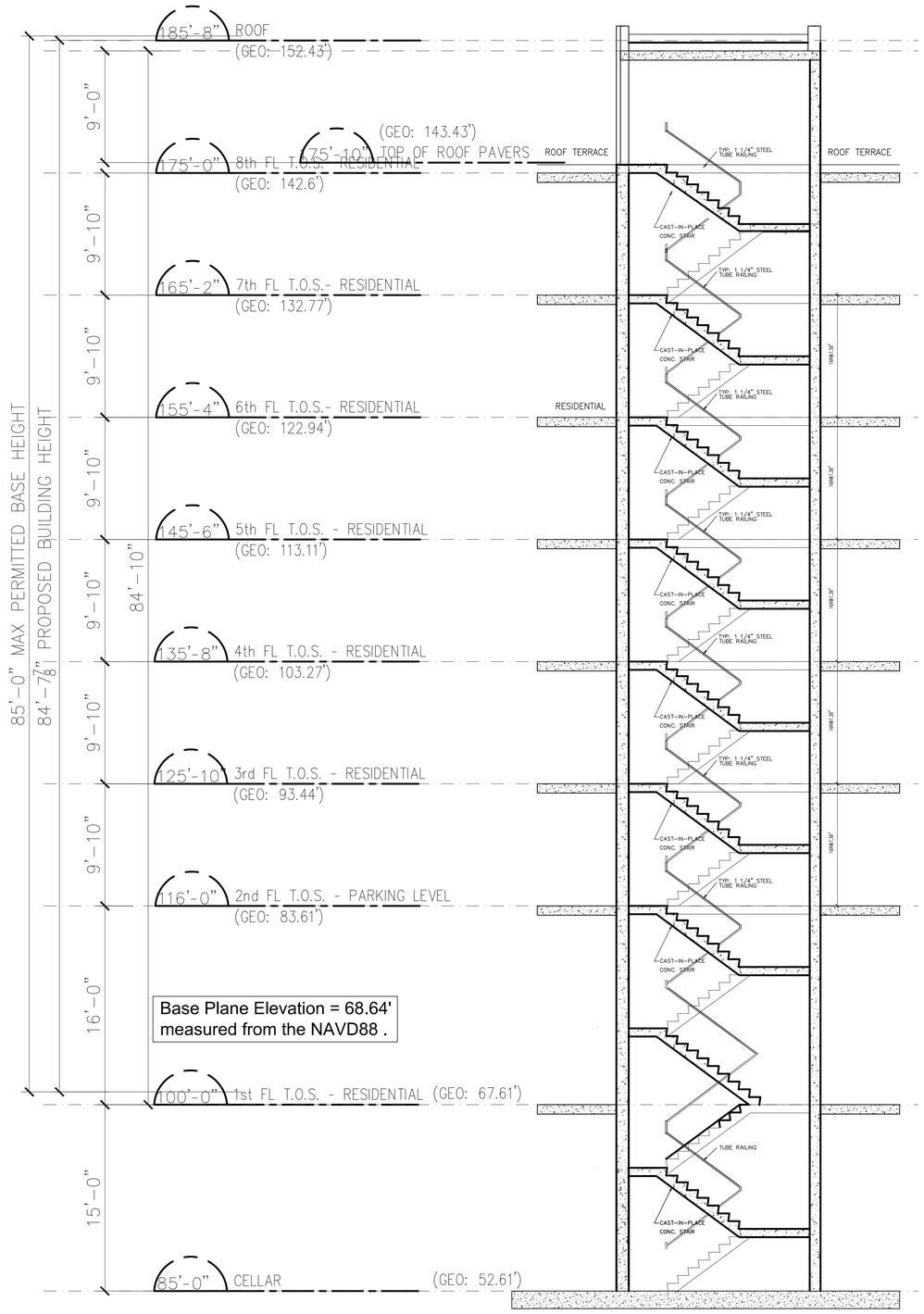

1 STAIR SECTION
A-400 3/16"=1'-0"

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KEY PLAN

BLOCK 2017 LOT: 8

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1		15/03/05	ISSUED TO D.O.B.

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SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
STAIR SECTION

dob no

scale 3/16"=1'-0"	project no. 14-76
date 10/2014	sheet no. X OF
drawn HW	drawing no. A-400.00
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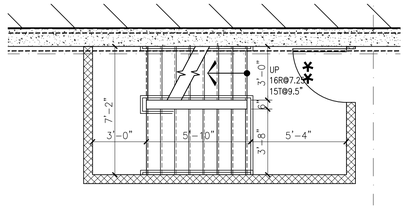
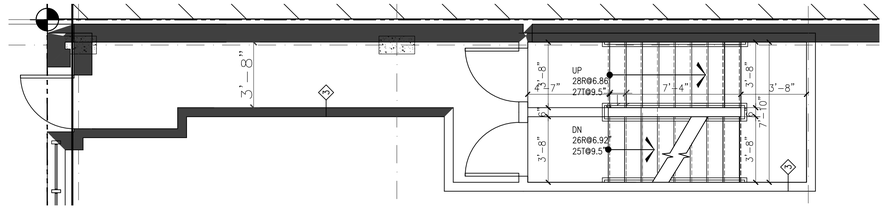
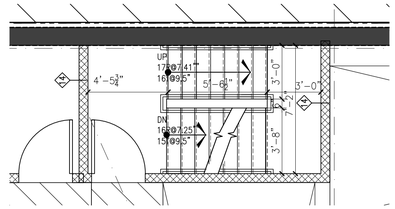


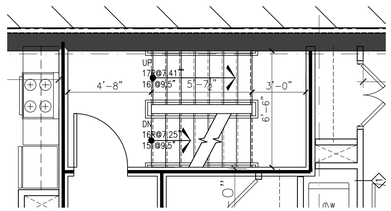
1 A-401 STAIR PLAN @ CELLAR
1/4"=1'-0"



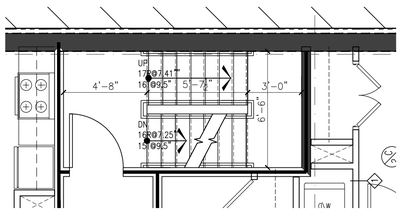
2 A-401 STAIR PLAN @ FIRST FLOOR
1/4"=1'-0"



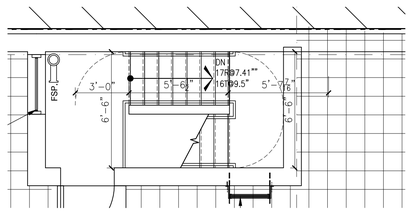
3 A-401 STAIR PLAN @ 2ND FLOOR
1/4"=1'-0"



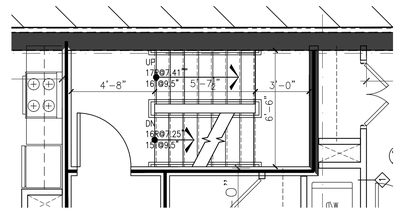
4 A-401 STAIR PLAN @ 3rd FLOOR
1/4"=1'-0"



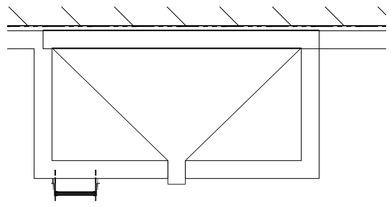
5 A-401 STAIR PLAN @ 4TH FLOOR
1/4"=1'-0"



7 A-401 STAIR PLAN @ 8TH FLOOR FLOOR
1/4"=1'-0"



6 A-401 STAIR PLAN @ 5TH-7TH FLOOR
1/4"=1'-0"



8 A-401 STAIR PLAN @ ROOF FLOOR
1/4"=1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

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SEAL
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KARL FISCHER
021282
STATE OF NEW YORK

project title
NEW DEVELOPMENT
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drawing title
STAIR PLANS

dob no

scale 1/4"=1'-0"	project no. 14-76
date 10/2014	sheet no. X OF
drawn HW	drawing no. A-401.00
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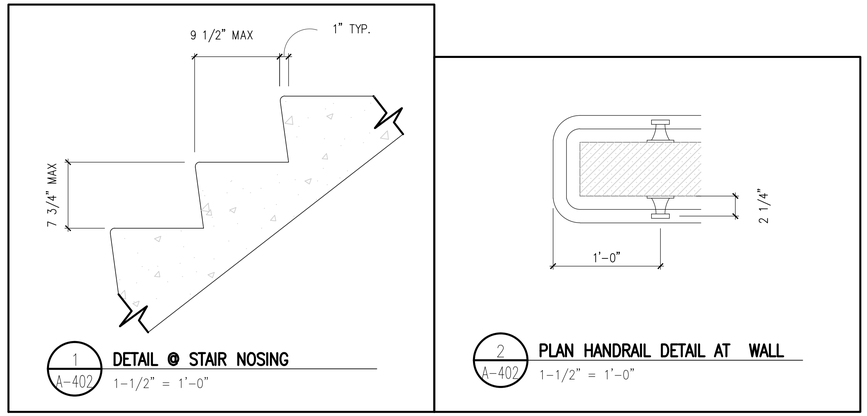
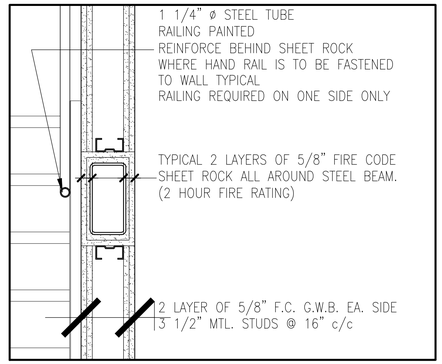
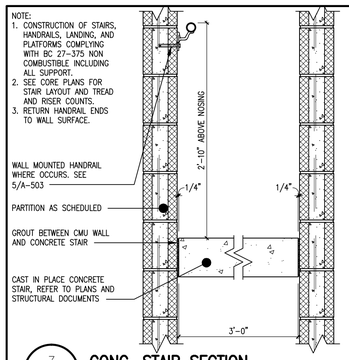


1 / A-402 **DETAIL @ STAIR NOSING**
1-1/2" = 1'-0"

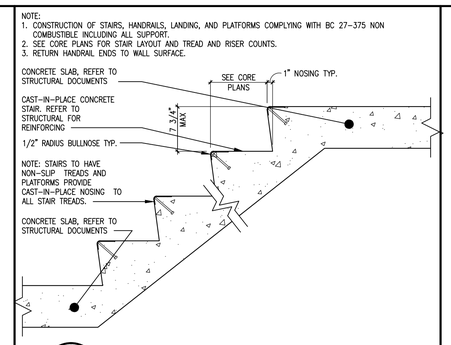
2 / A-402 **PLAN HANDRAIL DETAIL AT WALL**
1-1/2" = 1'-0"



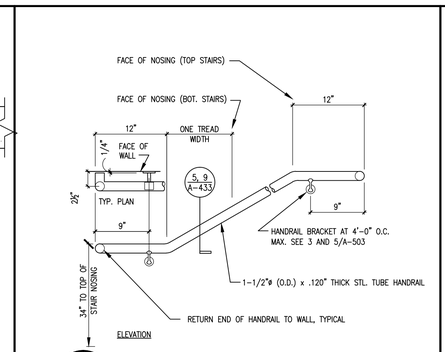
11 / A-402 **TYP. STEEL BEAM SECTION AT CONC. STAIR**
1-1/2" = 1'-0"



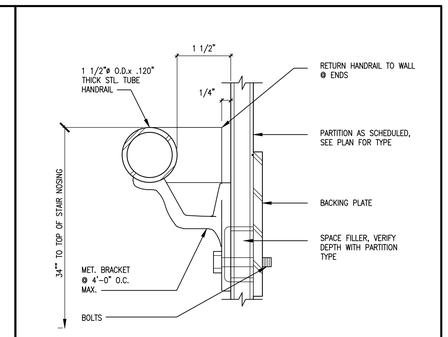
3 / A-402 **CONC. STAIR SECTION**
1/2" = 1'-0"



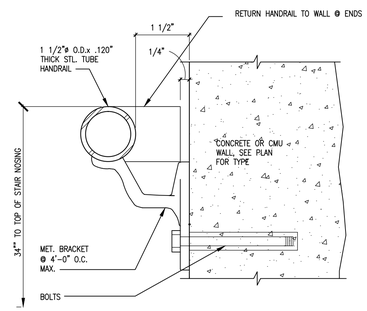
4 / A-402 **TYP. CONC. BASE AND HEAD STAIR**
1" = 1'-0"



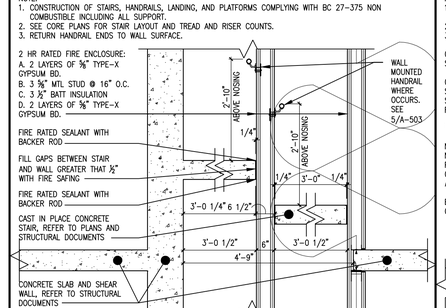
5 / A-402 **TYP WALL MOUNTED STAIR HANDRAIL**
1" = 1'-0"



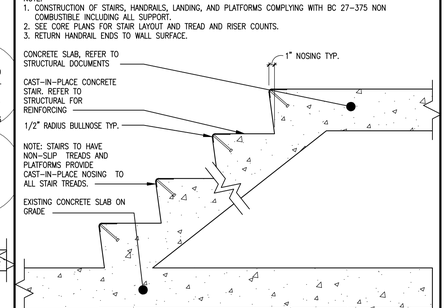
6 / A-402 **HANDRAIL MOUNTING AT STUD WALL**
6" = 1'-0"



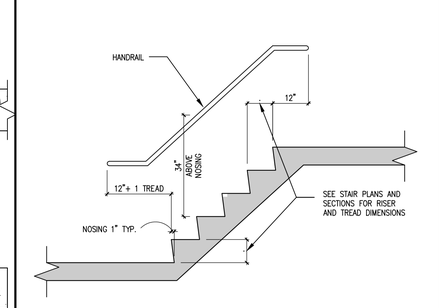
7 / A-402 **HANDRAIL MOUNTING AT CONC. OR CMU WALL**
6" = 1'-0"



8 / A-402 **TYP. CONC. STAIR SECTION**
1/2" = 1'-0"



9 / A-402 **CONC. STAIR BASE AT SLAB ON GRADE**
1" = 1'-0"



10 / A-402 **TYP STAIR & HANDRAIL CONFIGURATION**
1/2" = 1'-0"

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

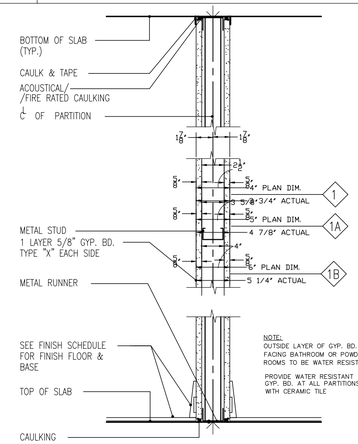
drawing title
STAIR DETAILS

dob no

scale: AS NOTED	project no.: 14-76
date: 10/2014	sheet no.: X OF
drawn: HW	drawing no.: A-402.00
checked:	

W:\2014\14-76 1134 Fulton\14-76_A-402 STAIR DETAILS.dwg, 05/03/2015 4:51:16 PM, Hamishw, DWG To PDF.pc3

1 — 1 HR 39 STC – MEA #81-98-M
INTERIOR PARTITION

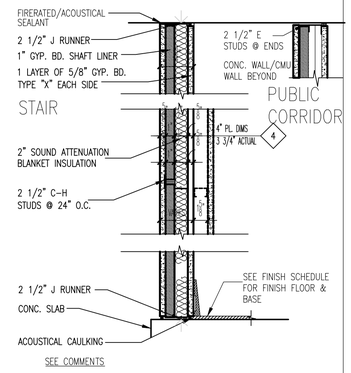


1 PARTITONS WITHTIN APTARTMENTS TO BE AS FOLLOWS: 1 LAYER OF 5/8" GYP. BD. ON EACH SIDE OF 2 1/2" MTL STUDS @ 24" O.C. (12" O.C. @ KITCHEN CABINET LOCATIONS)

1A PARTITONS WITHTIN APTARTMENTS TO BE AS FOLLOWS: 1 LAYER 5/8" GYP. BD. ON EACH SIDE OF 3 5/8" MTL STUDS @ 24" O.C.

1B PARTITIONS AT ELECTRICAL PANEL TO BE AS FOLLOWS; 5/8" GYP. BD. ON EACH SIDE OF 4" MTL STUDS @ 24" O.C.

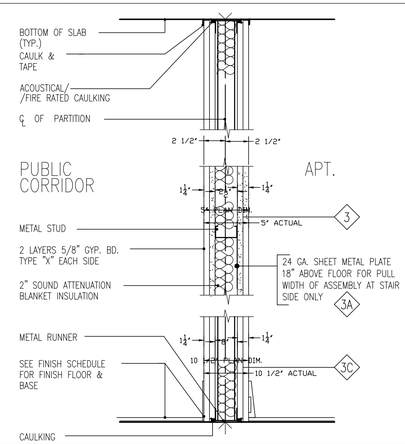
4 — 2 HR. 39 STC – BSA #542-68-SM
CAVITY SHAFTWALL BETWEEN STAIR & CORRIDOR



NOTE: SHAFT WALL BETWEEN STAIRS AND CORRIDORS TYPICAL.

4 SHAFT WALL TO BE AS FOLLOWS: 1 LAYERS OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF A 2 1/2" C-H METAL STUDS @ 24" O.C. WITH 1" GYP. BD. LINER PANEL AND 2" SOUND ATTENUATION BLANKET INSULATION.

3 — 2 HR 51 STC – MEA #81-98-M
PARTITION BETWEEN PUBLIC HALL AND APARTMENTS & APARTMENT AND APARTMENT



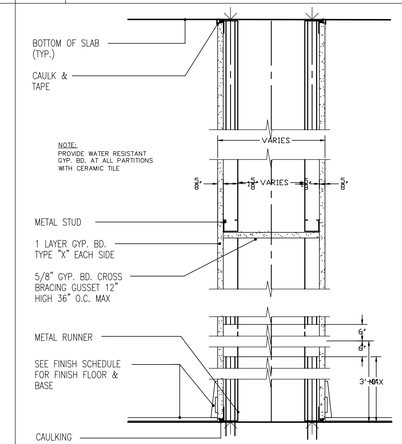
3 PARTITIONS BETWEEN PUBLIC HALL & APARTMENTS TO BE AS FOLLOWS: 2 LAYER OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 2 1/2" METAL STUDS @ 24" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS.

3A PARTITIONS BETWEEN APARTMENTS AND STAIRS, BETWEEN STAIRS AND PUBLIC HALLS TO BE AS FOLLOWS: 2 LAYER OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 2 1/2" METAL STUDS @ 24" O.C.

3B PARTITION 3B SAME AS 3A WITH 3 5/8" METAL STUDS @ 24" O.C.

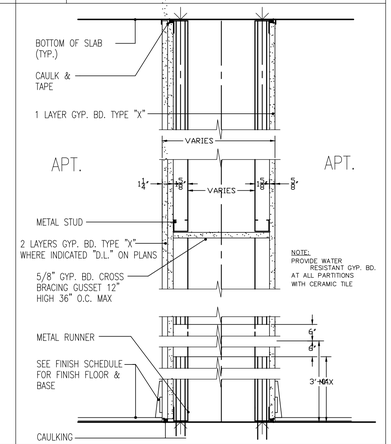
3C PARTITIONS BETWEEN PUBLIC HALL & APARTMENTS TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 8" STEEL STUDS @ 24" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS.

7 — 1 HR. 50 STC – BSA# 173-77-SM
PIPE CHASE WITHIN APARTMENT



7 PIPE CHASE WITHIN APARTMENT TO BE AS FOLLOWS: 1 LAYER OF 5/8 WR GYP. BD. ON 1 5/8" METAL STUDS @ 24" O.C. 1 LAYER OF 5/8" WR GYP. BD. ON 1 5/8" METAL STUDS @ 24" O.C. OPPOSITE SIDE.

8 — 2 HR. 50 STC – BSA #173-77-SM
PIPE CHASE BETWEEN APARTMENTS



8 PIPE CHASE BETWEEN APARTMENTS TO BE AS FOLLOWS: 1 LAYER OF 5/8" WR GYP. BD. TYPE "X" ON 1 5/8" METAL STUDS @ 24" O.C. 2 LAYERS OF 5/8" WR GYP. BD. TYPE "X" ON 1 5/8" METAL STUDS @ 24" O.C. OPPOSITE SIDE.

8A PIPE CHASE BETWEEN APARTMENTS AND PUBLIC CORRIDOR TO BE AS FOLLOWS: TWO LAYERS OF 5/8" WR GYP. BD. TYPE "X" ON 1 5/8" METAL STUDS @ 24" O.C. 2 LAYERS OF 5/8" WR GYP. BD. TYPE "X" ON 1 5/8" METAL STUDS @ 24" O.C. OPPOSITE SIDE.

18 — –
PIPE CHASE @ CORRIDOR OR @ C.M.U. OR CONC. WALL

18 5/8" GYP. BD OVER 1 5/8" METAL STUDS @ 24" O.C. W/ 2" SOUND ATTENUATION BLANKET INSULATION.

6 — 2 HR. 50STC –BSA#542-68-SM
CAVITY SHAFTWALL @ ELEVATORS SHAFTS

6 ELEVATOR SHAFT WALL TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GYP. BD. TYPE "X" ON CORRIDOR SIDE & 1" GYP. BD. LINER PANEL ON SHAFT SIDE OF 2 1/2" C-H METAL STUDS @ 24" O.C. MAX. W/ 2" SOUND ATTENUATION BLANKET INSULATION. OMIT SOUND INSULATION @ DUCT SHAFTS & ELEC, RISER SHAFTS

17 — 3 HR. – MEA #1-74-M
FURRING ON INTERIOR CONCRETE OR C.M.U. WALL

17 5/8" GYP. BD OVER 1 5/8" METAL STUDS @ 24" O.C.

17A 5/8" GYP. BD OVER 7/8" FURRING METAL STUDS @ 24" O.C.

2 — BETWEEN APARTMENTS
1 HR, 50 STC – MEA # 81-98-M

2 PARTITIONS BETWEEN APARTMENTS TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GWB. TYPE 'X' ON ONE SIDE W/ ONE LAYER GWB. TYPE 'X' ON OTHER SIDE OF 3-5/8" METAL STUDS @ 16" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS. (12" O.C. @ KITCHEN CABINET LOCATIONS)

9 — 2 HR.– BSA #898-47-SM
SOLID SHAFTWALL W/ METAL DUCT

9 1" GYP. BD. LINER PANEL LAMINATED TO 1 LAYER 5/8" GYP. BD. TYPE "X" EACH SIDE.

9A SAME AS PARTITION #10 WITH 1 LAYER OF 5/8" W.R. GYP. BD. ON 1 5/8" MTL STUD OVER PARTITION

10 — –
FREE STANDING WALL FURRING

10 5/8" GYP. BD OVER 2 1/2" METAL STUDS @ 24" O.C.

11 — –
INSULATED WALL FURRING

11 5/8" GYP. BD OVER 1 5/8" METAL STUDS @ 24" O.C. W/ 2" SOUND ATTENUATION BLANKET INSULATION.

11A 5/8" GYP. BD OVER 1 5/8" METAL STUDS @ 24" O.C. WITH WATER RESISTANT GYP. BD. ONE SIDE.

5 — –
FURRING AT EXTERIOR WALL

5 5/8" GYP. BD OVER 1 5/8" METAL STUDS @ 24" O.C. W/ 3 1/2" BATT INSULATION.

5A 5/8" GYP. BD OVER 2 1/2" METAL STUDS @ 24" O.C. W/ 3 1/2" BATT INSULATION.

13 — 1 HR 52 STC – MEA# 81-98-M
PARTITION @ BATH

13 PARTITIONS WITHIN APARTMENT BETWEEN APT. & BATHROOM TO BE AS FOLLOWS: 1 LAYER OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 2 1/2" METAL STUDS @ 24" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS.

13A PARTITIONS BETWEEN APARTMENTS AT BATHROOM TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GYP. BD. TYPE "X" ON ONE W/ONE LAYER GYP. BD. TYPE "X" ON OTHER SIDE OF 2 1/2" MTL STUDS @ 24" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS.

13B PARTITIONS BETWEEN APARTMENT BATHROOM & PUBLIC HALL TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 2 1/2" METAL STUDS @ 24" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS.

13 — 1 HR 52 STC – MEA# 81-98-M
PARTITION @ BATH

13C PARTITIONS AT CMU TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 1 5/8" METAL STUDS @ 24" O.C. WITH 2" SOUND ATTENUATION BLANKET INSULATION BETWEEN STUDS.

13D PARTITIONS AT EXTERIOR TO BE AS FOLLOWS: 2 LAYERS OF 5/8" GYP. BD. TYPE "X" ON EACH SIDE OF 3 5/8" METAL STUDS @ 24" O.C. WITH 3 1/2" BATT INSULATION BETWEEN STUDS.

14 — 2 HR 39 STC –#MEA 638-41-SM
CONC. BLOCK PART.

14 6" CONC. BLOCK PART.

14A 8" CONC. BLOCK PART.

14B 8" CONC. BLOCK, 100%FILLED SOLID (3-HR RATING)

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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E-MAIL:KARL@KFARCHITECT.COM

SEAL
REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
PARTITION TYPES

dob no

scale N.T.S.	project no. 14-76
date 2014-04-28	sheet no. 62 OF
drawn HW	drawing no. A-500.00
checked	

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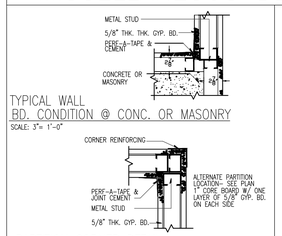
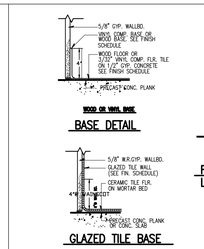
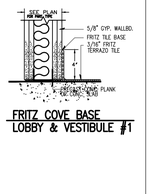
MISCELLANEOUS DETAILS

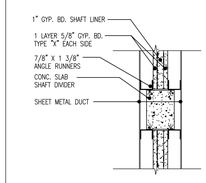


TYPICAL WALL
BD. CONDITION @ CONC. OR MASONRY
SCALE: 3"= 1'-0"

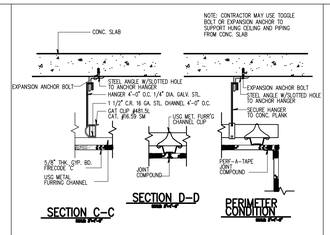
PARTITION CORNER DETAIL
SCALE: 3"= 1'-0"

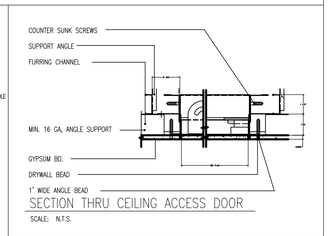




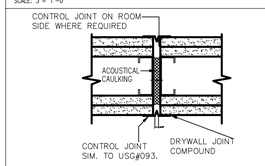


DETAIL @ BACK TO BACK SHEET MET.

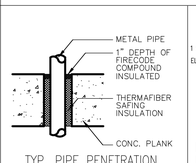




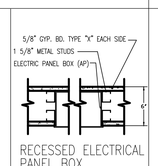
SECTION THRU CEILING ACCESS DOOR
SCALE: N.T.S.



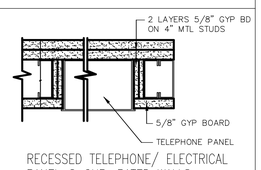
INTERIOR CONTROL JOINT DETAIL



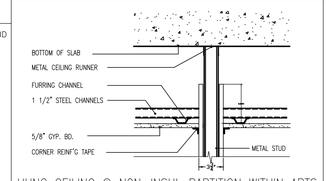
TYP. PIPE PENETRATION
FIRE ASSEMBLY DETAIL



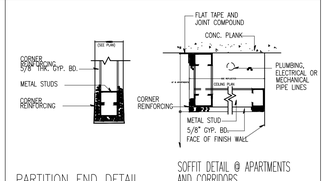
RECESSED ELECTRICAL
PANEL BOX
SCALE: 1 1/2" = 1'-0"



RECESSED TELEPHONE/ ELECTRICAL
PANEL @ 2HR. RATED WALLS

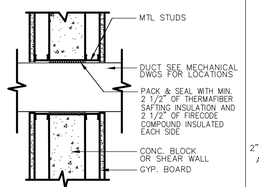


HUNG CEILING @ NON-INSUL PARTITION WITHIN APTS
SCALE: 1 1/2" = 1'-0"

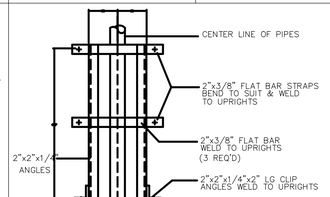


PARTITION END DETAIL
SCALE: 3"= 1'-0"

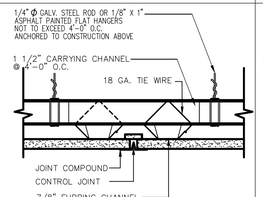
SOFFIT DETAIL @ APARTMENTS
AND CORRIDORS
SCALE: 3"=1'-0"



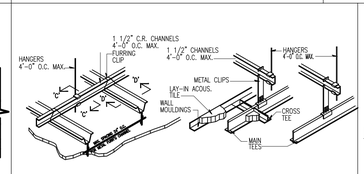
HORIZONTAL DUCT PENETRATIONS



PIPE GUARD AT WALLS AND COLUMNS

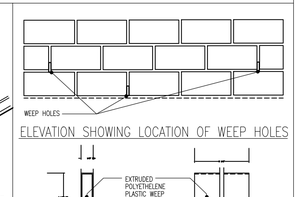


TYP. DRYWALL HUNG. CLG. DETAIL



GYPSUM WALLBOARD HUNG CLG.DETAILS
SEE REFLECTED CEILING PLAN DRAWING A-

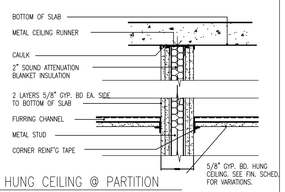
TYP. LAY-IN ACOUSTICAL TILE CLG. DET.
N.T.S.SEE REFLECTED CEILING PLAN DRAWING A-



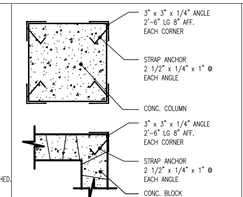
ELEVATION SHOWING LOCATION OF WEEP HOLES

FRONT ELEVATION

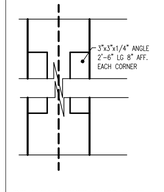
SIDE ELEVATION



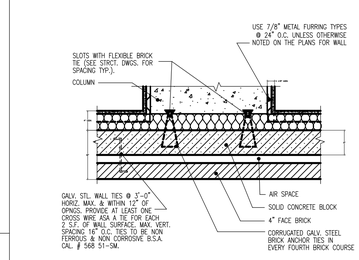
HUNG CEILING @ PARTITION
BETWEEN APTS & BETWEEN APT & CORRIDOR
SCALE: 1 1/2" = 1'-0"



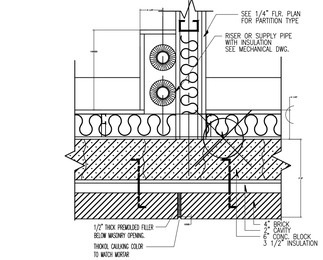
TYP CORNER GUARD DETAIL COL AND CONC. BLOCK



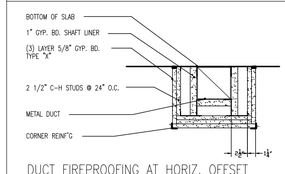
TYP ELEV. CORNER GUARD DETAIL
COL AND CONC. BLOCK (GARAGE)



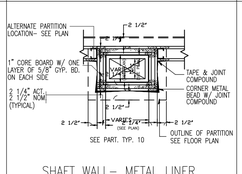
TYPICAL ANCHOR DETAIL
SCALE: N.T.S.



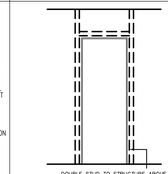
TYPICAL HEATING RISER OR SUPPLY CHASE (BETWEEN APTS.)
EXTERIOR CONTROL JOINT DETAIL
SCALE: 3" = 1'-0"

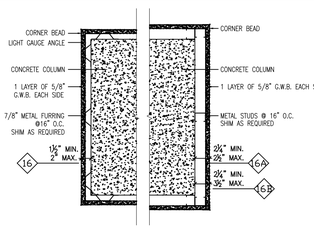


DUCT FIREPROOFING AT HORIZ. OFFSET
SCALE: 1 1/2" = 1'-0" (ALT. DETAIL)



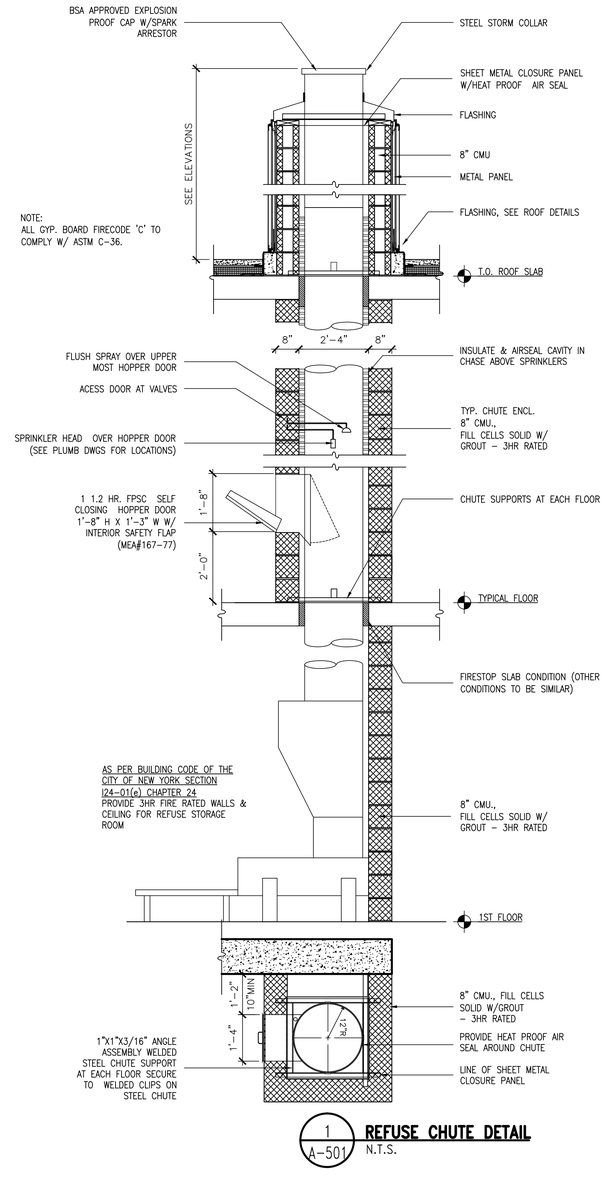
SHAFT WALL- METAL LINER
SCALE: 1 1/2"= 1'-0"





CONCRETE COLUMN - 2 HR, 50 STC - BSA #542-68-SM
SCALE: N.T.S.

SECTION: REFUSE CHUTE DETAIL



1 A-501 **REFUSE CHUTE DETAIL**
N.T.S.

NOTE: COMPACTOR ROOM & REFUSE CHUTE ENCLOSURE:
1. PROVIDE 3HR FIRE RATED WALLS & CIELING FOR REFUSE CHUTE & COMPACTOR ROOM
2. CMU "CONC BLOCK: NOMINAL SIZE 8"x8"x16" TO BE LAID IN FULL BED OF ¾" MORTAR VERTICAL JOINTS STAGGERED.
3. REFUSE CHUTE & COMPACTOR ROOM ENCLOSURE TO HAVE MIN. OF 50 STC RATING.

KEY PLAN

BLOCK 2017 LOT: 8

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SEAL

REGISTERED ARCHITECT KARL FISCHER 009282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
MISCELLANEOUS DETAILS

dob no

scale N.T.S.	project no. 14-76
date 2014-04-28	sheet no. 63 OF
drawn HW	drawing no. A-501.00
checked	

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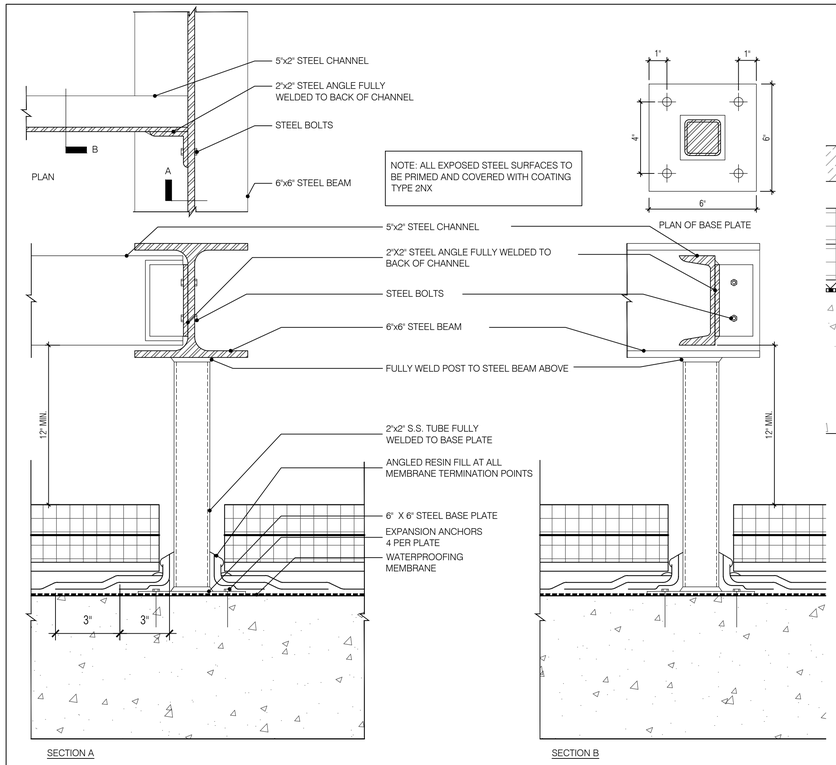
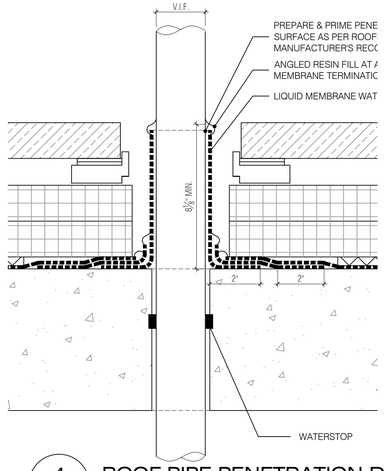
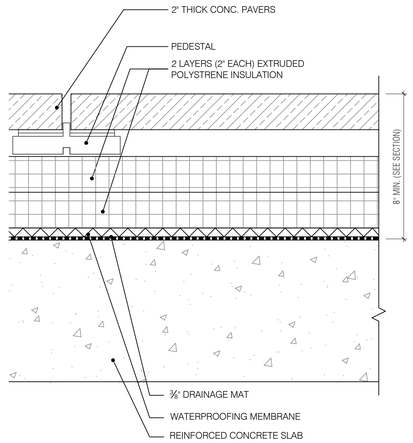
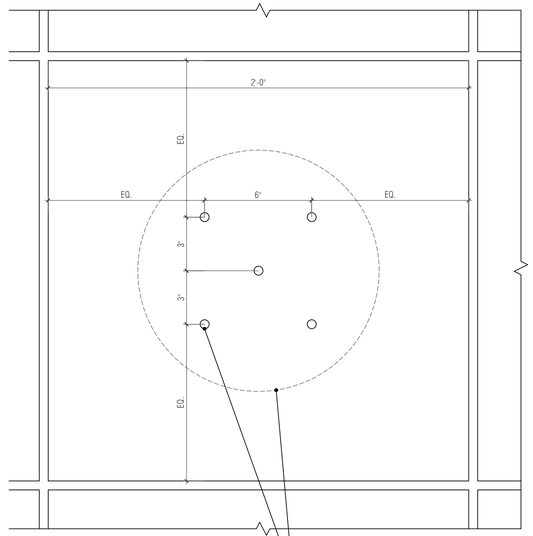




4 A-510.00 **ROOF PIPE PENETRATION DETAIL (TYP.)**

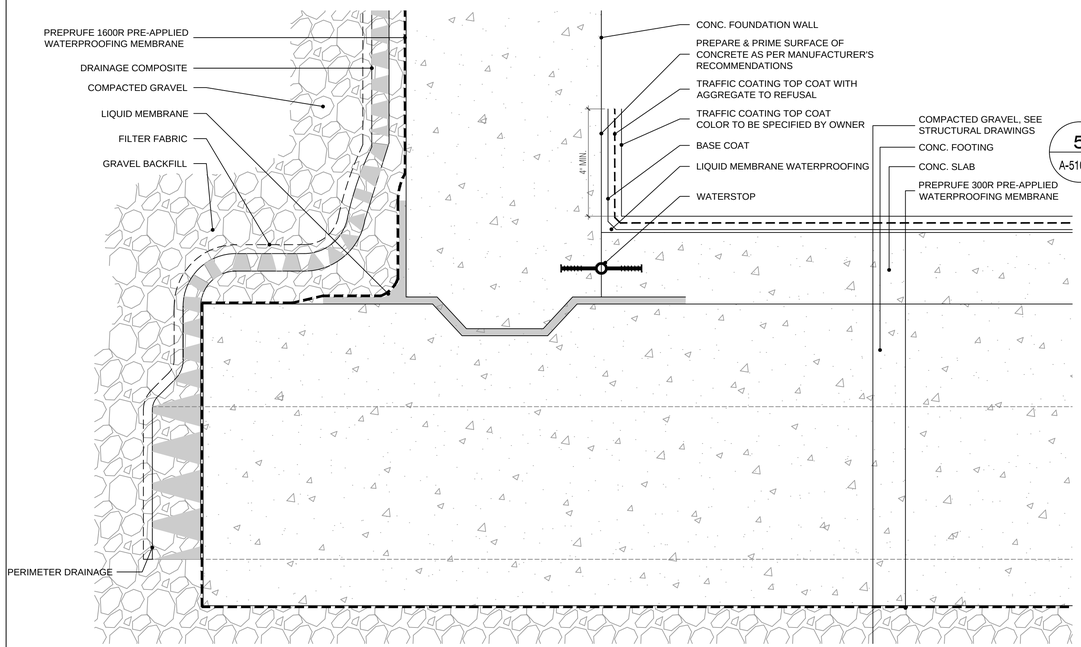
3" = 1'-0"





3 A-510.00 **DUNNAGE PLATFORM DETAIL**

3" = 1'-0"



1 A-510.00 **FLOOR SLAB AT FOOTING LEVEL**

5 A-510.00 **ROOF MEMBRANE & PAVERS ASSEMBLY**

3" = 1'-0"

2 A-510.00 **ROOF DRAIN DETAIL**

3" = 1'-0"

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SEAL

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project title

NEW DEVELOPMENT

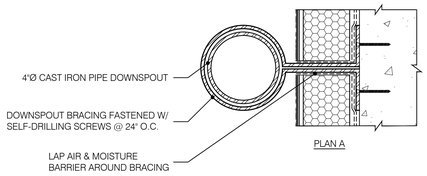
1134 FULTON STREET, BROOKLYN 11216

drawing title

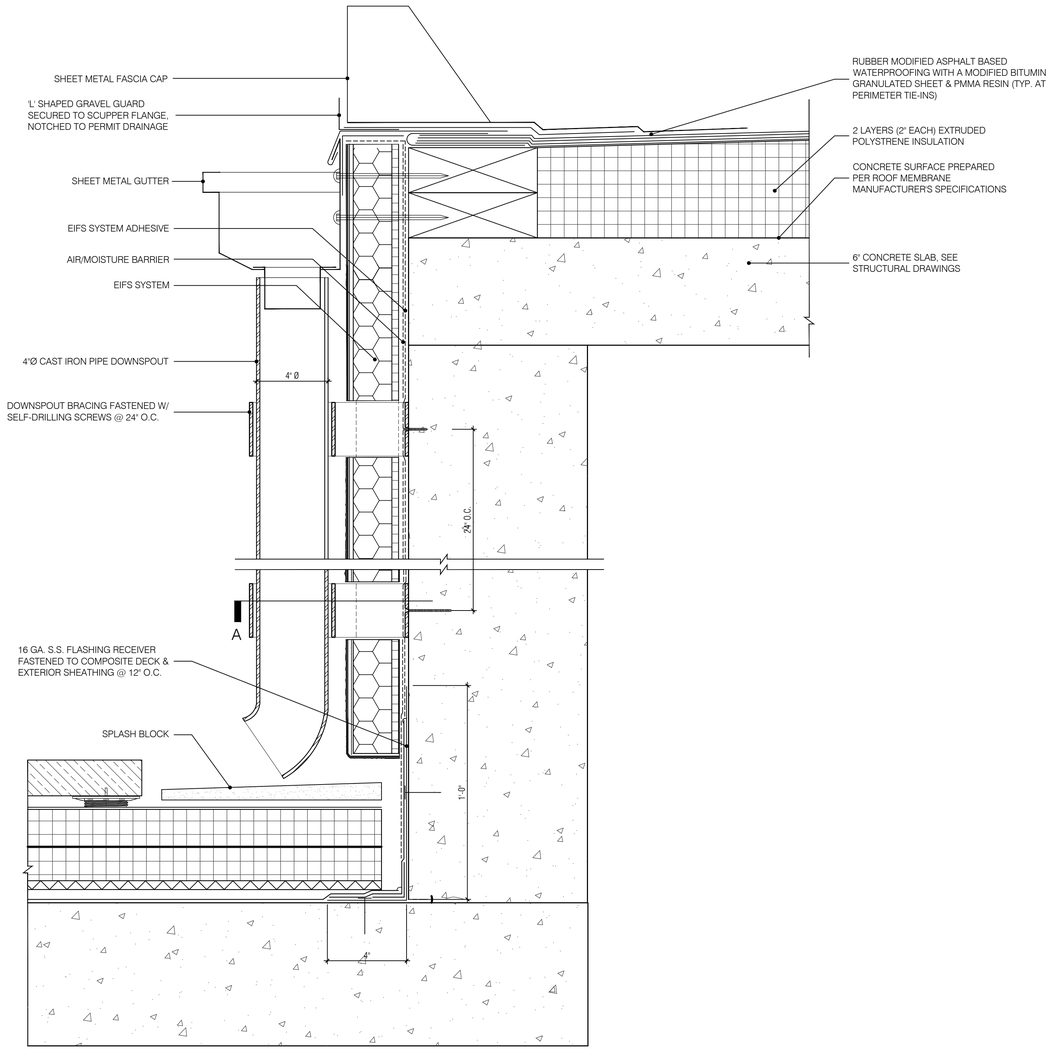
ARCHITECTURAL DETAILS

dob no

scale 3"=1'-0"	project no. 14-76
date 10/2014	sheet no. 64 OF
drawn HW	drawing no. A-510.00
checked	

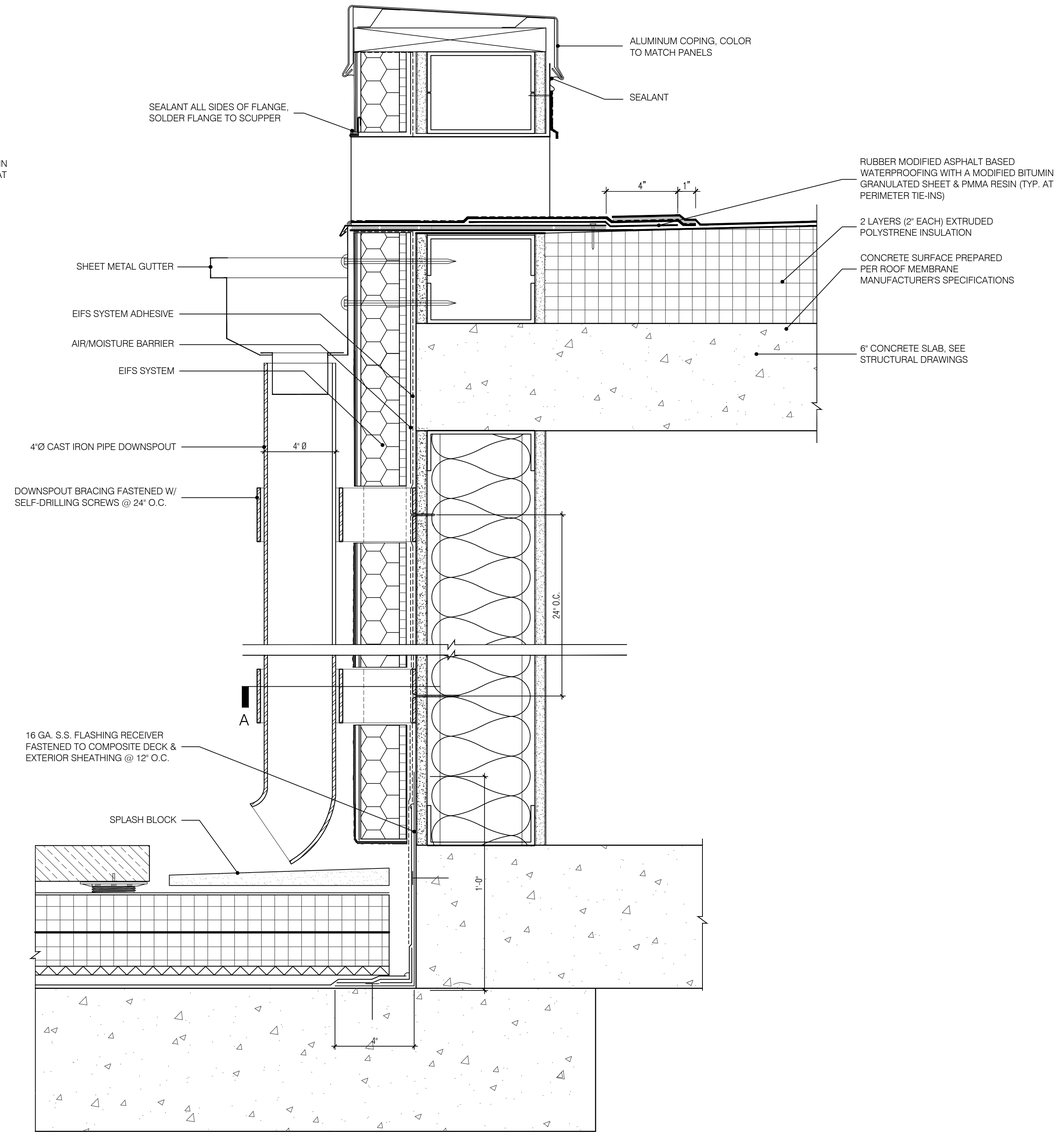


PLAN A



1 A-511.00 ELEVATOR ROOF SCUPPER DETAIL

3" = 1'-0"



2 A-511.00 STAIR BULKHEAD SCUPPER DETAIL

3" = 1'-0"

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drawing title

ARCHITECTURAL DETAILS

dob no

scale 3'=1'-0"	project no. 14-76
date 10/2014	sheet no. 65 OF
drawn HW	drawing no. A-511.00
checked	

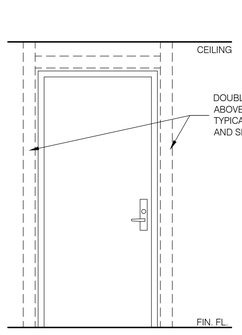
DOORS SCHEDULE

	LOCATION	TAG	SIZE WIDTH	SIZE HEIGHT	SIZE THICKNESS	MATERIAL DOOR	MATERIAL FRAME	MATERIAL SADDLE	DETAIL HEAD	DETAIL JAMB	DETAIL SILL	FIRE RATING	HDWR SET	PROPOSED U-FACTOR	REMARKS
RESIDENTIAL UNITS	**APARTMENT ENTRANCE	A	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			
	**APARTMENT ENTRANCE	AX	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			PROVIDE 4" FRAME HEADER W/ CMU OPENING
	BEDROOM	B	2'-10"	7'-0"	1-3/4"	SC	WD								
	BATHROOM	B1	2'-10"	7'-0"	1-3/4"	SC	WD								
	CLOSET	C	3'-6"	7'-0"	1-3/4"	SC	WD								
	CLOSET	C1	(2)2'-0"	7'-0"	1-3/4"	SC	WD								
	CLOSET	C2	(2)2'-6"	7'-0"	1-3/4"	SC	WD								
	CLOSET	C3	2'-10"	7'-0"	1-3/4"	SC	WD								
	LAUNDRY CLOSET	L	2'-8"	7'-0"	1-3/4"	SC	WD								
	BATHROOM	P	2'-8"	7'-0"	1-3/4"	SC	WD								POCKET DOOR
TYPICAL SERVICE	**STAIR	S	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			
	**STAIR AT BULKHEAD	S1	3'-0"	7'-0"	1-3/4"	HM	HM					3/4 HR			PROVIDE INSULATED DOOR
	**STAIR	S2	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			PROVIDE 4" FRAME HEADER W/ CMU OPENING
	REFUSE ROOM	R	3'-2"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			SEE NOTE (2)
	**COMPACTOR ROOM	R1	(2)3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			PROVIDE 4" FRAME HEADER W/ CMU OPENING
	**STORAGE/ MECHANICAL ROOMS	M	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			PROVIDE 4" FRAME HEADER W/ CMU OPENING
	**STORAGE/ MECHANICAL ROOMS	M1	3'-0"	7'-6"	1-3/4"	HM	HM					1-1/2 HR			PROVIDE 4" FRAME HEADER W/ CMU OPENING
	**COMPACTOR ROOM	M2	(2)3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			PROVIDE 4" FRAME HEADER W/ CMU OPENING
	**COMMUNITY FACILTY	D	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			
	**AMENITY ROOM	K	3'-0"	7'-0"	1-3/4"	HM	HM					1-1/2 HR			PROVIDED 1-1/2 HR FIRE RATED GLASS
	TOILET	T	2'-10"	7'-0"	1-3/4"	HM	HM								
	FIRE PUMP ROOM	E	3'-0"	7'-0"	1-3/4"	HM	HM								PROVIDE 4" FRAME HEADER W/ CMU OPENING
	EXTERIOR EXIT DOOR	E1	3'-3"	7'-0"	1-3/4"	HM	HM								PROVIDE 4" FRAME HEADER W/ CMU OPENING
	EXTERIOR EXIT DOOR	E2	(2)3'-0"	7'-0"	1-3/4"	HM	HM								PROVIDE 4" FRAME HEADER W/ CMU OPENING
	ENTRY DOORS	E3	3'-0"	7'-0"	1-3/4"	GL									
	ENTRY DOORS	E3	(2)3'-0"	7'-0"	1-3/4"	GL									
	EXTERIOR GARAGE DOOR	G	8'-0"	9'-0"	2" MIN.	AL	MTL								OVERHEAD SECTIONAL DOOR W/ ELECTRIC DOOR OPENER

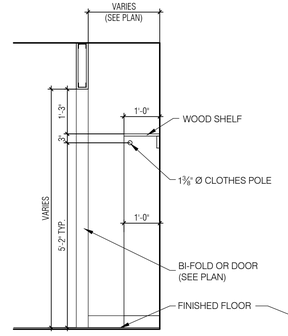
DOORS NOTES:
1. **SELF-CLOSING DOORS.
2. REFUSE ROOM DOORS TO BE MIN. OF 38" WIDE DOORS WITH AUTOMATIC DOOR OPENER AND OCCUPANCY SENSOR TO REMAIN IN OPEN POSITION WHILE THE ROOM IS OCCUPIED. DOOR MUST RETURN TO CLOSED POSITION IF THE ROOM IS NOT OCCUPIED OR IN CASE OF POWER FAILURE.
3. ALL BATHROOM DOORS TO HAVE ½" OF UNDERCUT.
4. DOORS UNDERCUT WILL VARY W/ FLOOR FINISH.
5. ALL DOORS TO BE INSTALLED ON THE SAME HEIGHT ABOVE CONC. SLAB, GC TO VERIFY FLOOR FINISHES.
6. GC TO COORDINATE DOORS SWING WITH FLOOR PLANS.
7. ALL FIRE RATED DOORS TO HAVE F.L.F.D. WITH UL. NO.
8. ALL LOUVERS IN FIRE RATED DOORS TO HAVE F.L.F.D. WITH UL. NO.

SCHEDULE LEGEND:
HM HOLLOW METAL
WD WOOD
SC WOOD, SOLID CORE

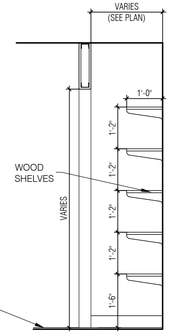
1 A-600.00 — DOOR SCHEDULE
N.T.S.



DOOR FRAMING DETAIL (TYP.)



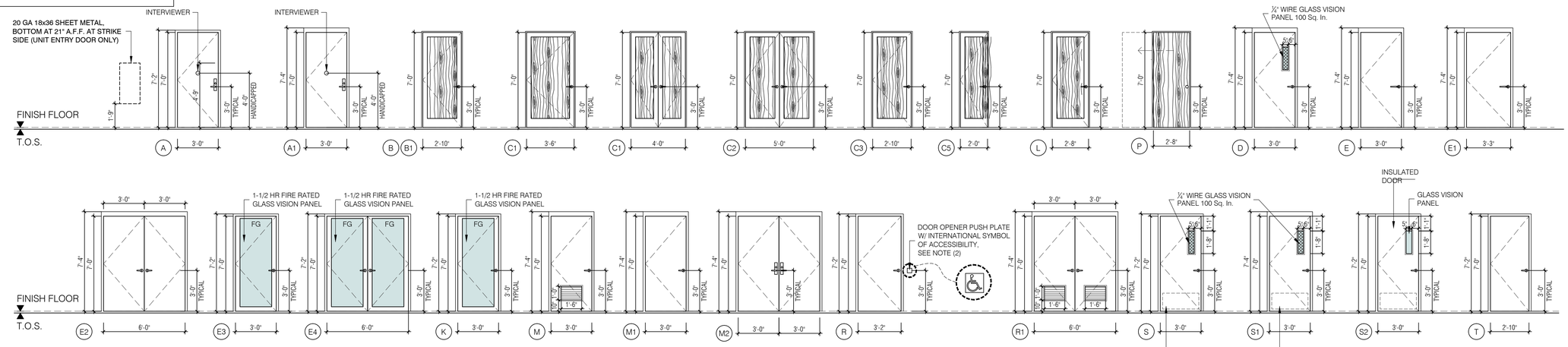
APARTMENT CLOSET & W.I.C. (TYPICAL)



APARTMENT LINEN CLOSET (TYPICAL)

3 A-600.00 — DOOR & CLOSET DETAILS
N.T.S.

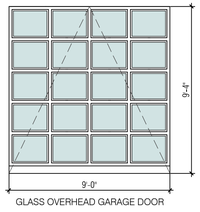
DOOR TYPES



DOORS LEGEND:

(?) DOOR TYPE

GLAZING LEGEND:
TG TEMPERED INSULATED GLAZING
T TEMPERED SINGLE PANE GLAZING
TO TEMPERED OPAQUE INSULATED GLAZING
G SINGLE PANE GLAZING
IG INSULATED GLAZING
OG OPAQUE INSULATED GLAZING
WG WIRED GLASS
FG FIRE RATED GLASS



GLASS OVERHEAD GARAGE DOOR

2 A-600.00 — DOOR ELEVATIONS
1/4" = 1'-0"

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drawing title
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dob no

scale 1/4" = 1'-0"	project no. 14-76
date 10/2014	sheet no. X OF
drawn HW	drawing no. A-600.00
checked	

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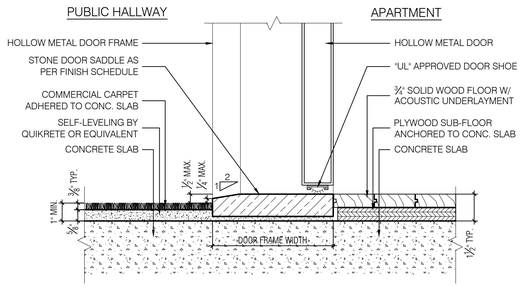

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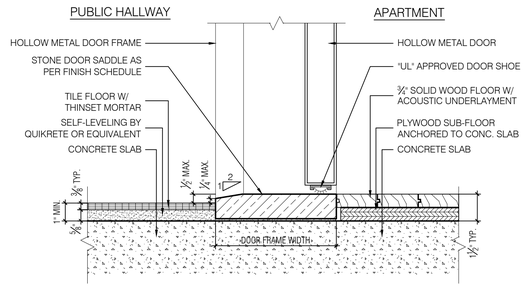

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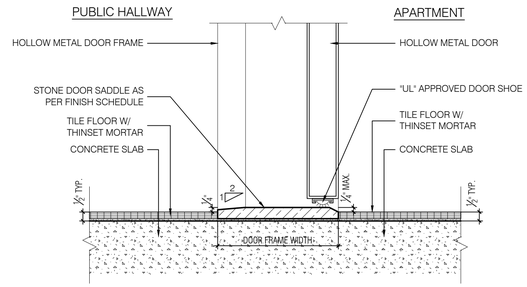

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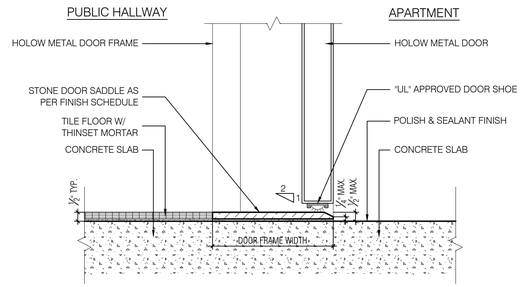

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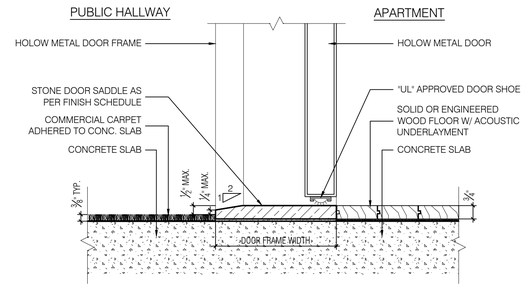

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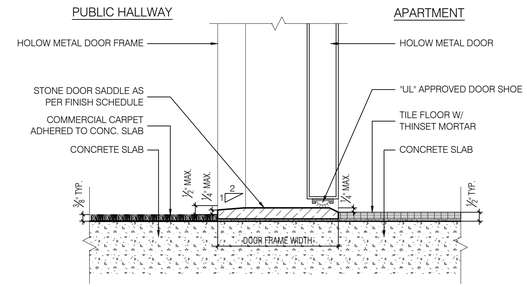

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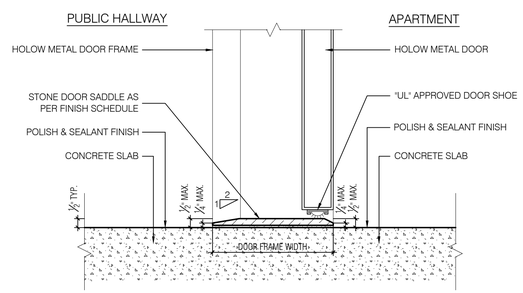

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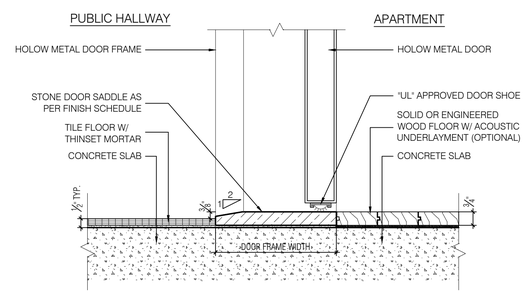

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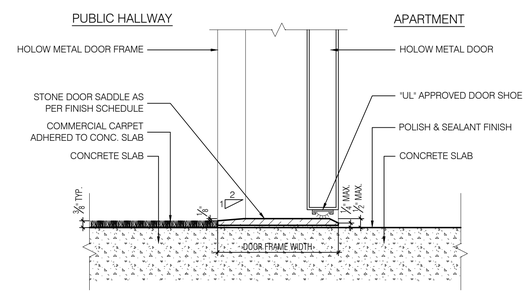

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project title

NEW DEVELOPMENT

1134 FULTON STREET, BROOKLYN 11216

drawing title

DOOR DETAILS

dob no

scale 3' = 1'-0"	project no. 14-76
date 10/2014	sheet no. X OF
drawn HW	drawing no. A-601.00
checked	

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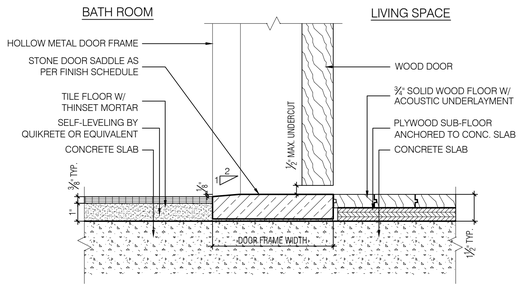
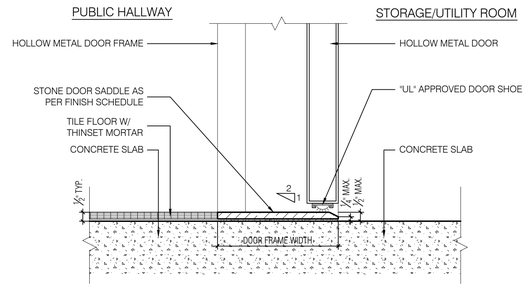
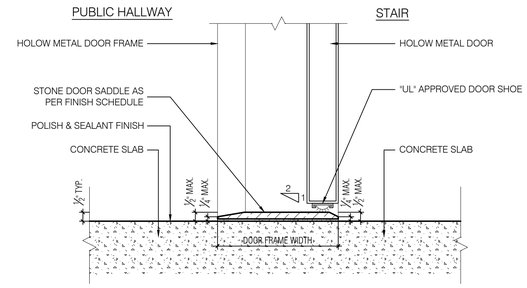


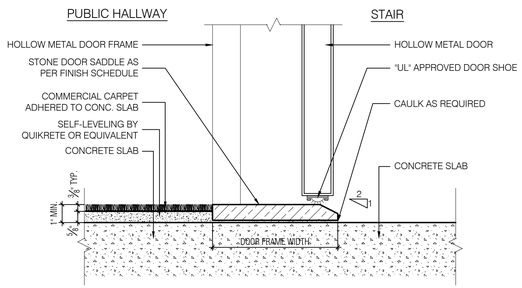
BATH ROOM DOOR



STORAGE/UTILITY ROOM DOOR



STAIR DOOR



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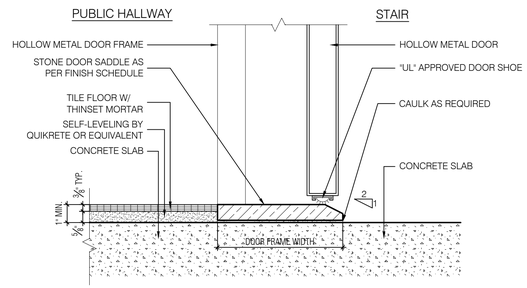

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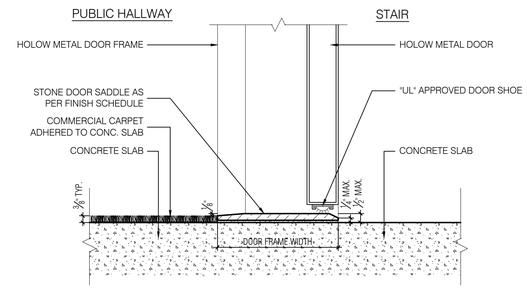

STAIR DOOR

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

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SEAL

REGISTERED ARCHITECT
KARL FISCHER
021282
STATE OF NEW YORK

project title

NEW DEVELOPMENT

1134 FULTON STREET, BROOKLYN 11216

drawing title

DOOR DETAILS

dob no

scale 3' = 1'-0"	project no. 14-76
date 10/2014	sheet no. X OF
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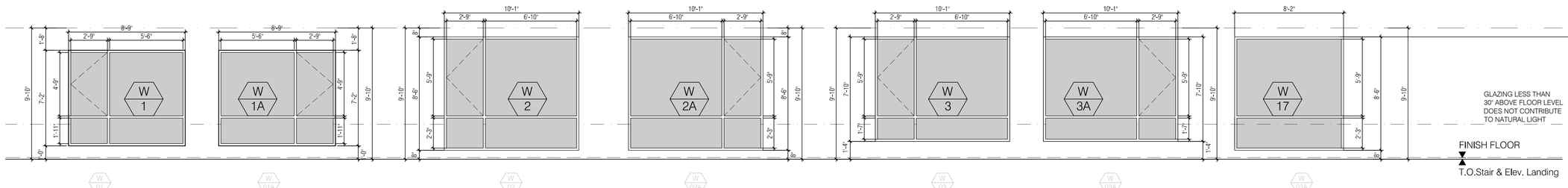
checked	



W 01 — LIGHT PROVIDED = 45 SQ.FT. AIR PROVIDED = 13 SQ.FT.

W 01A — LIGHT PROVIDED = 45.2 SQ.FT. AIR PROVIDED = 13.1 SQ.FT.

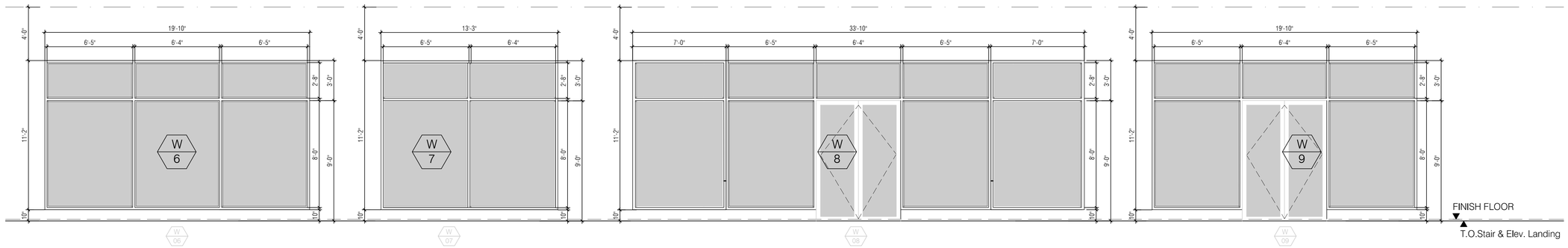
W 02 — LIGHT PROVIDED = 62.2 SQ.FT. AIR PROVIDED = 15.8 SQ.FT.

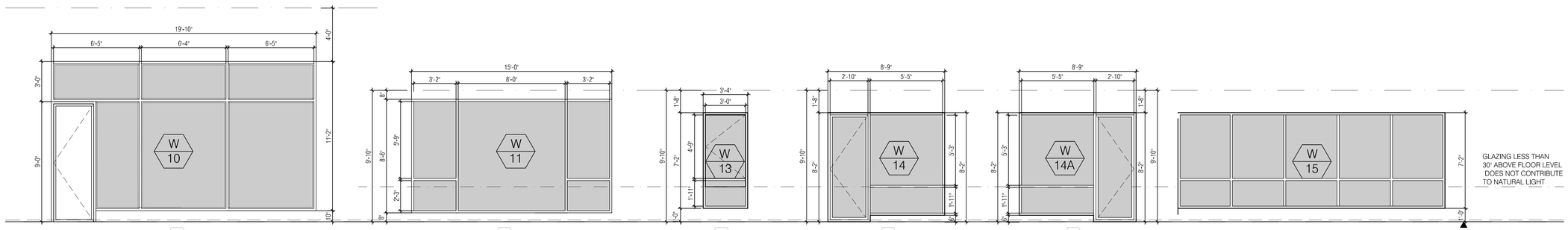
W 02A — LIGHT PROVIDED = 62.2 SQ.FT. AIR PROVIDED = 15.8 SQ.FT.

W 03 — LIGHT PROVIDED = 62.2 SQ.FT. AIR PROVIDED = 15.8 SQ.FT.

W 03A — LIGHT PROVIDED = 62.2 SQ.FT. AIR PROVIDED = 15.8 SQ.FT.

W 03A — LIGHT PROVIDED = 62.2 SQ.FT. AIR PROVIDED = 15.8 SQ.FT.



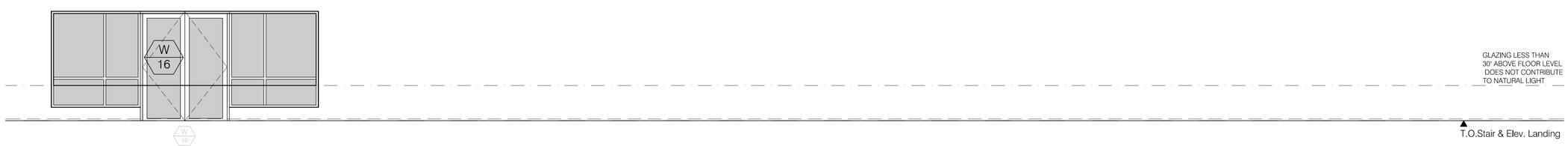


W 10 — LIGHT PROVIDED = 93 SQ.FT. AIR PROVIDED = 18 SQ.FT.

W 11 — LIGHT PROVIDED = 16.1 SQ.FT. AIR PROVIDED = 13.1 SQ.FT.

W 13 — LIGHT PROVIDED = 45.2 SQ.FT. AIR PROVIDED = 22.3 SQ.FT.

W 14 — LIGHT PROVIDED = 45.2 SQ.FT. AIR PROVIDED = 22.3 SQ.FT.



W 16

WINDOW & EXTERIOR DOOR NOTES:

1. ALL WINDOW AND DOOR GLASS TO BE CLEAR NON-TINTED.
2. GC TO COORDINATE WINDOW & DOOR SWINGS WITH FLOOR PLANS.
3. ALL WINDOWS TO BE CONSTRUCTED OF ALUMINUM FRAME WITH THERMAL BREAK, DOUBLE PANE WITH LOW-E, CLEAR, SHGC 0.55, UF 0.31, SEE ENVELOPE COMPLIANCE CERTIFICATE.
4. ALL DOORS TO BE CONSTRUCTED OF ALUMINUM FRAME WITH THERMAL BREAK, DOUBLE PANE WITH LOW-E, CLEAR, SHGC 0.55, UF 0.31, SEE ENVELOPE COMPLIANCE CERTIFICATE.
5. ALL EXTERIOR WINDOWS & DOORS TO COMPLY WITH OER FOR NOISE CONTROL AS REQUIRED FOR E-117 DESIGNATED AREA.
6. PROVIDE DOOR CLOSURE IN THE INSIDE OF ALL DOORS AT 1ST FLOOR & ROOF LEVEL.
7. ALL OPERABLE WINDOWS TO BE IN-SWING

LOT LINE WINDOW NOTES:

1. ALL LOT LINE WINDOWS TO BE PROTECTED WITH SPRINKLER HEAD ON THE OCCUPIED SIDE SPACED NO MORE THAN 6'-0" APART (NOT LESS THAN ONE HEAD PER WINDOW) AND A DISTANCE AWAY FROM THE GLASS TO INSURE COMPLETE GLASS WETTING UPON ACTIVATION, SEE SPRINKLER PLANS.
2. ALL LOT LINE WINDOWS SHALL BE WIRED, LAMINATED OR TEMPERED GLASS.
3. ALL LOT LINE WINDOWS SHALL COMPLY WITH SEC. BC 715.4
4. ALL LOT LINE WINDOW AREAS SHALL COMPLY WITH TABLE 704.8

LEGEND:

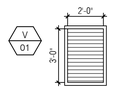
GLAZING LEGEND:

TG	TEMPERED INSULATED GLAZING
T	TEMPERED SINGLE PANE GLAZING
TO	TEMPERED OPAQUE INSULATED GLAZING
G	SINGLE PANE GLAZING
IG	INSULATED GLAZING
OG	OPAQUE INSULATED GLAZING
WG	WIRED GLASS
L	LOUVER (SEE MECH. DRAWINGS)
FG	FIRE RATED GLASS

NOTES:

ECC 502.4.1 AIR LEACKAGE OF WINDOW/DOOR ASSEMBLIES SHALL BE DETERMINED IN ACCORDANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440, OR NFRC 400 BY AN ACCREDITED, INDEPENDENT LABORATORY, AND LABELED AND CERTIFIED BY THE MANUFACTURER AND SHALL NOT EXCEED 0.3 CFM PER SQUARE FOOT (1.5 L/S/M2), AND SWINGING DOORS NO MORE THAN 0.5 CFM PER SQUARE FOOT (2.6 L/S/M2).

ECC 502.4.2 CURTAIN WALL, STOREFRONT GLAZING AND COMMERCIAL-GLAZED SWINGING ENTRANCE DOORS AND REVOLVING DOORS SHALL BE TESTED FOR AIR LEACKAGE AT 1.57 POUNDS PER SQUARE FOOT (PSF) (75 PA) IN ACCORDANCE WITH ASTM E283. FOR CURTAIN WALLS AND STOREFRONT GLAZING, THE MAX. AIR LEACKAGE RATE SHALL BE 0.3 CUBIC FOOT PER MINUTE PER SQUARE FOOT (CFM/FT2) (5.5 M3/HXM2) OF FENESTRATION AREA. FOR COMMERCIAL GLAZED SWINGING ENTRANCE DOORS AND REVOLVING DOORS, THE MAXIMUM AIR LEACKAGE RATE SHALL BE 1.00 CFM/FT2 (18.3 M3/HXM2) OF DOOR AREA WHEN TESTED IN ACCORDANCE WITH ASTM E 283.



LOUVER (VENT AREA) PROVIDED
PER HOISTWAY = 6 SQ. FT.

ELEVATORS "A" & "B" HOISTWAY VENT
HOISTWAY AREA = 17'-8" x 6'-10" = 120.7 SF
VENT AREA CALCULATION = 120.7 x 3½% =4.2 SF
NUMBER OF CABS IN HOISTWAY = 2
MIN. REQUIRED VENT SIZE = 3 SF PER CAB

ELEVATOR HOISTWAY VENT NOTES:

1. HOISTWAY LOUVER VENT TO HAVE BIRD AND INSECT SCREENS.
2. REFER TO FLOOR PLANS & ELEVATIONS FOR LOCATION.
3. REFER TO MECH. PLANS FOR SPECS.

KEY PLAN

BLOCK 2017 LOT: 8

issue	rev	date	description
1		15/03/05	ISSUED TO D.O.B.

ISSUES/REVISIONS

MEP ENGINEER:
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E-MAIL:KARL@KFARCHITECT.COM

SEAL: REGISTERED ARCHITECT KARL FISCHER 021282 STATE OF NEW YORK

project title
NEW DEVELOPMENT
1134 FULTON STREET, BROOKLYN 11216

drawing title
WINDOW ELEVATIONS

dob no

scale 1/4" = 1'-0"	project no. 14-76
date	sheet no. ---- OF
drawn HW	drawing no. A-603.00
checked	

ATTACHMENT B

CITEZEN PARTICIPATION PLAN

ATTACHMENT B
CITIZEN PARTICIPATION PLAN

The NYC Office of Environmental Remediation and Porter Avenue Holdings 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, Porter Avenue Holdings 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, Samantha Morris, who can be contacted about these issues or any others questions, comments or concerns that arise during the remedial process at (212) 341-2082.

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) 341-2077 or by email at

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brownfields@cityhall.nyc.gov.

Repositories. A document repository is maintained in 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:

Bedford Public Library
496 Franklin Avenue, Brooklyn, NY 11238
Telephone Number: 718-623-2134
Hours of Operation:

Mon	10:00AM - 6:00PM
Tue	10:00AM - 6:00PM
Wed	1:00PM - 8:00PM
Thu	10:00AM - 8:00PM
Fri	10:00AM - 6:00PM
Sat	10:00AM - 5:00PM
Sun	closed

Digital Documentation. NYC OER strongly encourages the use of digital documents in repositories as a means of minimizing paper use while also increasing convenience in access and ease of use.

Identify 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

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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 prepared by Porter Avenue Holdings reviewed and approved by OER prior to distribution and mailed by Porter Avenue Holdings. 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. See flow chart on the following page, which identifies when during the NYC VCP public notices are issued: These steps include:

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- **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.

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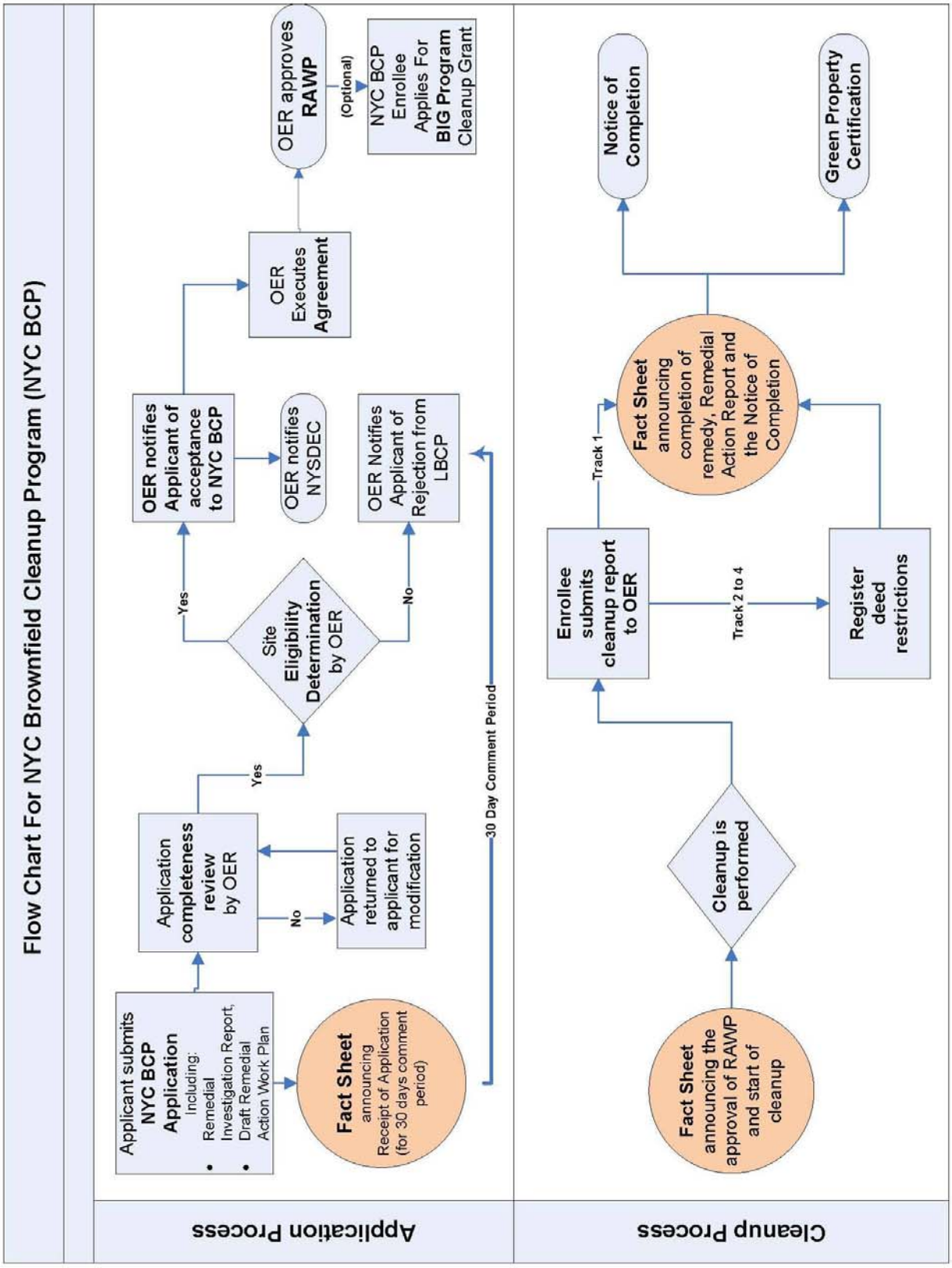

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ATTACHMENT C

SUSTAINABILITY STATEMENT

ATTACHMENT C
SUSTAINABILITY STATEMENT

This Sustainability Statement documents sustainable activities and green remediation efforts planned under this remedial action.

Reuse of Clean, Recyclable Materials. Reuse of clean, locally-derived recyclable materials reduces consumption of non-renewable virgin resources and can provide energy savings and greenhouse gas reduction.

This project intends to use recycled concrete aggregate wherever possible in grading and backfilling the Site. 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.

Reduce Consumption of Virgin and Non-Renewable Resources. Reduced consumption of virgin and non-renewable resources lowers the overall environmental impact of the project on the region by conserving these resources.

The project will reduce the consumption of virgin materials by substituting recycled concrete aggregate for mined gravel and/or sand backfill whenever possible. An estimate of the quantity (in tons) of virgin and non-renewable resources, the use of which will be avoided 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.

Recycled concrete materials and other backfill materials will be locally sourced reducing the energy consumption associated with transporting these materials to the Site. 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

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be reported.

Paperless Voluntary Cleanup Program. Porter Avenue Holdings 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. Porter Avenue Holdings 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.

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ATTACHMENT D

SOIL/MATERIALS MANAGEMENT PLAN

ATTACHMENT D
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 RAR. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Completion.

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.

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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; and
- 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. The outbound truck transport route is

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shown on **Figure 11**.

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 Brooklyn, New York 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 RAR.

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 RAR.

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).

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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 RAR. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be reported in the RAR. 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 established in this plan may be reused on-Site. The soil cleanup objectives for on-Site reuse are listed in Table 1. '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 comparable soil/fill material, 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 RAWP are followed.

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.

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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 **Table 1**.

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:

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- 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 RAWP. The RAR 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.

Source Screening and 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 RAR. 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

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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 Storm-water Pollution Prevention

Applicable laws and regulations pertaining to storm-water pollution prevention will be addressed during the remedial program. Erosion and sediment control measures identified in this RAWP (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

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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

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 the Remedial Action Report.

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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 the Remedial Action Report.

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.

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ATTACHMENT E

SITE-SPECIFIC CONSTRUCTION HEALTH & SAFETY PLAN

1134 FULTON STREET

BROOKLYN, NEW YORK

Block 2017, Lot 8

CONSTRUCTION HEALTH AND SAFETY PLAN

OCTOBER 2015

Prepared By:

EBC

ENVIRONMENTAL BUSINESS CONSULTANTS

1808 Middle Country Road
Ridge, NY 11961

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CONSTRUCTION HEALTH AND SAFETY PLAN
1134 FULTON STREET, BROOKLYN, NY

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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 1134 Fulton Street, Brooklyn, 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 1134 Fulton Street, New York, 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.

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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
Robert Bennett	EBC – Project Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
Robert Bennett	Health & Safety Manager	1808 Middle Country Rd Ridge, NY 11961	(631) 504-6000
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:

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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.

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2.0 SITE BACKGROUND AND SCOPE OF WORK

The Site is located at 1134 Fulton Street in the Bedford Stuyvesant section of the Borough of Brooklyn, New York, and is currently identified as Block 2017, Lot No. 8 on the New York City Tax Map. Figure 1 shows the Site location. The lot is 25,744 square feet in size and has approximately 200 feet of street frontage along both Fulton Street and Franklin Avenue. The Site is currently developed with multiple one and two story commercial (retail) use tenant spaces. According to a Phase I ESA report dated April 2014, the Site was recently occupied by a tax service center, Popeye's fried chicken, a convenient store, an African artisans shop, a soul food restaurant, Key Foods grocery store and a furniture store; however, all but two of these tenant spaces are currently vacant.

The proposed building will include a full cellar, approximately 18,781 square feet (s.f.) of commercial space on the ground floor and approximately 101,140 s.f. of residential space on the second through eighth levels. The proposed building will have a two story portion towards the rear with a common outdoor roof terrace level with the third floor of the building. Seven story portions of the building will be present along Franklin Avenue and Fulton Street and an eight story portion will be present at the intersection of Franklin Avenue and Fulton Street. Because the entire Site consists of a single tax lot, the Site will not need to be sub-divided or merged.

The current zoning designation is R7D with a C2-4 commercial overlay. The proposed use is consistent with existing zoning for the property.

2.1 Previous Investigations

2.1.1 Phase II Subsurface Investigation (EBC 2015)

1. The elevation of the Site is approximately 90 to 100 feet above mean sea level (amsl).
2. Depth to groundwater is approximately 80 to 90 feet below grade surface (bgs).
3. Regional groundwater flow is generally west.
4. The stratigraphy of the Site from the surface down consists of native silt and sand mixtures that extends to depths as great as 12 feet. No evidence of historic fill material was encountered.
5. Soil/fill samples results were compared to NYSDEC Unrestricted Use Soil Cleanup Objectives and Restricted Residential Soil Cleanup Objectives as presented in 6NYCRR Part 375-6.8 and CP51. Data collected during the RI showed that no VOCs, SVOCs or PCBs were detected above Unrestricted Use SCOs. Trace levels of the VOCs, Tetrachloroethene (maximum of 4.3 µg/kg) and Tricholoethene (maximum of 150 µg/kg) were detected in three soil samples each. The pesticide 4,4'-DDE was detected in two separate shallow soil samples at a concentration of 4.3 µg/kg in B4 (0-2') and at a concentration of 8.7 µg/kg in B7 (0-2'). Several metals were detected above Unrestricted Use SCOs in three shallow soil samples. These included Lead (maximum of 485 µg/kg) Copper (maximum of 110 µg/kg), Mercury (maximum of 0.45 µg/kg), and Zinc (maximum of 188 µg/kg). Of these metals, lead and mercury exceeded Restricted Residential Use SCOs. Overall, the soil chemistry is unremarkable and the soil results were consistent with data identified at sites with historic fill material in NYC.
6. Soil vapor results collected during the RI were compared to the compounds listed in Vapor Intrusion Matrices in the New York State Department of Health (NYSDOH) Final

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Guidance for Evaluating Soil Vapor Intrusion, dated October 2006. Data collected during the RI indicated petroleum related VOCs were present at low concentrations. Total concentrations of petroleum-related VOCs (BTEX) ranged from 22.75 µg/m^3 to 194.40 µg/m^3. The chlorinated VOC Trichloroethene (TCE) was detected in all six of the soil gas samples ranging in concentrations from 8.5 µg/m^3 to 1,030 (SG7). Tetrachloroethylene (PCE) also was detected in all six soil gas samples ranging in concentration from 7.39 µg/m^3 (SG2) to 489 µg/m^3 (SG4). Carbon tetrachloride was detected at maximum concentrations of 227 µg/m^3. PCE was also detected in ambient air at 253 µg/m^3. Concentrations of carbon tetrachloride, PCE and TCE are above the monitoring level ranges established within the NYSDOH Final Guidance on Soil Vapor Intrusion.

Summary of the Remedy

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 Track 4 Site-Specific Soil Cleanup Objectives (SCOs);
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas;
5. Delineation of chlorinated volatile organic compound (CVOC) impacted area on the southern portion of the Site by collecting data from two additional soil vapor sample points;
6. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility. A Waste Characterization Report documenting sample procedures, location, analytical results shall be submitted to NYCOER prior to start of remedial action;
7. Excavation and removal of soil/fill exceeding Track 4 Site-Specific SCOs. For development purposes, the entire Site will be excavated to depth of 15 feet. An estimated 1,669 tons of soil will be excavated and removed from this property;
8. 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;
9. 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;
10. Removal of any potential tanks or underground anomalies encountered during Site development will be properly removed;
11. Registration of tanks and reporting petroleum spills (if evidence of a spill/leak is encountered during Site excavation) in compliance with applicable local, State and Federal laws and regulations;
12. Transportation and off-Site disposal of all soil/fill material at 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;
13. Collection and analysis of end-point samples to determine the performance of the remedy

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with respect to attainment of SCOs;

14. Demarcation of residual soil/fill in landscaped areas;
15. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations;
16. Construction and maintenance of an engineered composite cover consisting of a 10-inch thick concrete slab beneath the building, and a 6-inch thick concrete cap in sidewalk and exterior parking areas to prevent human exposure to residual soil/fill remaining at the Site;
17. Installation of a vapor barrier system below the concrete slab underneath the building as well as behind foundation walls of the proposed building. The vapor barrier will consist of the 20-mil Vapor Block 20Plus vapor barrier as manufactured by Ravens Industries, or equivalent system, below the slab throughout the full building area. 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;
18. Installation of an active sub-slab depressurization system (SSDS) consisting of a network of horizontal pipe set in the middle of a gas permeable layer immediately beneath the building slab and vapor barrier system. The active SSDS is an Engineering Control for the remedial action. The remedial engineer will certify in the RAR that the active SSDS was designed and properly installed to establish a vacuum in the gas permeable layer and a negative (decreasing outward) pressure gradient across the building slab to prevent vapor migration into the building;
19. Construction and operation of a Soil Vapor Extraction (SVE) system to address CVOC impacted soils present on the south side of the Site. Depending on the findings from a pilot test, a number of extraction points will be installed along southern portion of the Site;
20. 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;
21. Dewatering in compliance with city, state, and federal laws and regulations. Extracted groundwater, if encountered, 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;
22. Implementation of storm-water pollution prevention measures in compliance with applicable laws and regulations;
23. Submission of a RAP that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, lists any changes from this RAWP, and describes all Engineering and Institutional Controls to be implemented at the Site;
24. Submission of an approved Site Management Plan (SMP) in the Remedial Action Plan (RAP) for long-term management of residual contamination, including plans for operation, maintenance, monitoring, inspection and certification of Engineering and Institutional Controls and reporting at a specified frequency; and,
25. The property will continue to be registered with an E-Designation at the NYC Buildings Department. Establishment of Engineering Controls and Institutional Controls in this RAWP and a requirement that management of these controls must be in compliance with an approved SMP. Institutional Controls will include prohibition of the following: (1)

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vegetable gardening and farming; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER-approval.

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2.2 Redevelopment Plans

The proposed building will include a full cellar, approximately 18,781 square feet (s.f.) of commercial space on the ground floor and approximately 101,140 s.f. of residential space on the second through eighth levels. The proposed building will have a two story portion towards the rear with a common outdoor roof terrace level with the third floor of the building. Seven story portions of the building will be present along Franklin Avenue and Fulton Street and an eight story portion will be present at the intersection of Franklin Avenue and Fulton Street. Because the entire Site consists of a single tax lot, the Site will not need to be sub-divided or merged.

2.3 Description of Remedial Action

Site activities included within the Remedial Action that are included within the scope of this HASP include the following:

- Visual separation of the historic fill and native soil layer while excavating for the new building(s).
- Proper disposal of excavated fill materials at a permitted disposal facility.
- Pre-classified in-situ sampling or excavated stockpile sampling as required to properly classify the materials and at intervals specified by the disposal facility.
- Potential installation of an SVE system.
- Installation of an SSDS below the proposed new building.

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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.

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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: benz(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, indeno(1,2,3-c,d)pyrene, cadmium, chromium, copper, lead, mercury and zinc.

The primary routes of exposure to these contaminants are inhalation, ingestion and absorption.

Appendix C includes information sheets for suspected chemicals that may be encountered at the site.

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.

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3.3.3 Organic Vapors

Elevated levels of VOCs were detected in both soil and soil vapor samples collected during 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.

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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.

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- 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.

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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.

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Organic Vapors (PID)	LEL %	Responses
0-1 ppm above background	0%	• Continue excavating • Level D protection • Continue monitoring every 10 minutes
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).

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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.

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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
Health Professionals NYC	1-718-218-7352
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 — Robert Bennett (631) 504-6000
- Construction Superintendent — To be added
- Site Safety Officer — 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

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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**

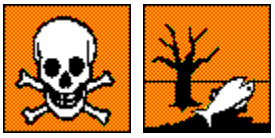
International Chemical Safety Cards

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

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

COAL-TAR PITCH

ICSC: 1415

Pitch

ICSC # 1415
CAS # 65996-93-2
RTECS # GF8655000
EC # 648-055-00-5
March 07, 2002 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Foam, dry powder, carbon dioxide.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT! PREVENT DISPERSION OF DUST!	
•INHALATION	Sneezing. Cough. See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	Closed system and ventilation.	Fresh air, rest.
•SKIN	MAY BE ABSORBED! Redness. Burning sensation.	Protective gloves. Protective clothing.	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	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. (Extra personal protection: A/P2 filter respirator for organic vapour and harmful dust.)	Separated from strong oxidants. Separated from food and feedstuffs	Do not transport with food and feedstuffs. Note: H T symbol R: 45 S: 53-45

SEE IMPORTANT INFORMATION ON BACK

ICSC: 1415

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

COAL-TAR PITCH

ICSC: 1415

I

M

P

PHYSICAL STATE; APPEARANCE:
BLACK TO BROWN PASTE

PHYSICAL DANGERS:

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration

O R T A N T D A T A	**CHEMICAL DANGERS:** The substance decomposes on heating above 400°C producing toxic fumes Reacts with strong oxidants **OCCUPATIONAL EXPOSURE LIMITS:** TLV: (as benzene soluble aerosol for coal tar pitch volatiles) 0.2 mg/m³ as TWA A1 (ACGIH 2001). OSHA PEL: TWA 0.2 mg/m^3 (benzene-soluble fraction) 1910.1002 See Appendix C NIOSH REL: Ca TWA 0.1 mg/m^3 (cyclohexane-extractable fraction) See Appendix A See Appendix C NIOSH IDLH: Ca 80 mg/m^3 See: 65996932 of airborne particles can, however, be reached quickly when dispersed and when heated. **EFFECTS OF SHORT-TERM EXPOSURE:** The substance is irritating to the eyes the skin and the respiratory tract **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact with skin may cause dermatitis and hyperpigmentation of skin. This substance is carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: >250°C Melting point: 30-180°C Density: >1 g/cm3 Solubility in water: at 20°C none Vapour pressure, kPa at 20°C: <0.01 Flash point: >200°C o.c. Auto-ignition temperature: >500°C Octanol/water partition coefficient as log Pow: 6.04
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to soil contamination and aquatic organisms. The substance may cause long-term effects in the aquatic environment. 

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested.

NFPA Code: H0; F1; R0;

ADDITIONAL INFORMATION

ICSC: 1415 **COAL-TAR PITCH**

International Chemical Safety Cards

COAL-TAR PITCH

ICSC: 1415

Pitch

ICSC # 1415
CAS # 65996-93-2
RTECS # GF8655000
EC # 648-055-00-5
March 07, 2002 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Combustible.	NO open flames.	Foam, dry powder, carbon dioxide.
EXPLOSION			
EXPOSURE		AVOID ALL CONTACT! PREVENT DISPERSION OF DUST!	
•INHALATION	Sneezing. Cough. See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	Closed system and ventilation.	Fresh air, rest.
•SKIN	MAY BE ABSORBED! Redness. Burning sensation.	Protective gloves. Protective clothing.	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	See EFFECTS OF LONG-TERM OR REPEATED EXPOSURE.	Do not eat, drink, or smoke during work. Wash hands before eating.	Give plenty of water to drink. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Sweep spilled substance into sealable containers. Carefully collect remainder, then remove to safe place. Do NOT let this chemical enter the environment. (Extra personal protection: A/P2 filter respirator for organic vapour and harmful dust.)	Separated from strong oxidants. Separated from food and feedstuffs	Do not transport with food and feedstuffs. Note: H T symbol R: 45 S: 53-45

SEE IMPORTANT INFORMATION ON BACK

ICSC: 1415

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

COAL-TAR PITCH

ICSC: 1415

I

M

P

PHYSICAL STATE; APPEARANCE:
BLACK TO BROWN PASTE

PHYSICAL DANGERS:

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation and through the skin and by ingestion.

INHALATION RISK:
Evaporation at 20°C is negligible; a harmful concentration

O R T A N T D A T A	**CHEMICAL DANGERS:** The substance decomposes on heating above 400°C producing toxic fumes Reacts with strong oxidants **OCCUPATIONAL EXPOSURE LIMITS:** TLV: (as benzene soluble aerosol for coal tar pitch volatiles) 0.2 mg/m³ as TWA A1 (ACGIH 2001). OSHA PEL: TWA 0.2 mg/m^3 (benzene-soluble fraction) 1910.1002 See Appendix C NIOSH REL: Ca TWA 0.1 mg/m^3 (cyclohexane-extractable fraction) See Appendix A See Appendix C NIOSH IDLH: Ca 80 mg/m^3 See: 65996932 of airborne particles can, however, be reached quickly when dispersed and when heated. **EFFECTS OF SHORT-TERM EXPOSURE:** The substance is irritating to the eyes the skin and the respiratory tract **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:** Repeated or prolonged contact with skin may cause dermatitis and hyperpigmentation of skin. This substance is carcinogenic to humans.
PHYSICAL PROPERTIES	Boiling point: >250°C Melting point: 30-180°C Density: >1 g/cm3 Solubility in water: at 20°C none Vapour pressure, kPa at 20°C: <0.01 Flash point: >200°C o.c. Auto-ignition temperature: >500°C Octanol/water partition coefficient as log Pow: 6.04
ENVIRONMENTAL DATA	This substance may be hazardous to the environment; special attention should be given to soil contamination and aquatic organisms. The substance may cause long-term effects in the aquatic environment. 

N O T E S

Depending on the degree of exposure, periodic medical examination is suggested.

NFPA Code: H0; F1; R0;

ADDITIONAL INFORMATION

ICSC: 1415 **COAL-TAR PITCH**

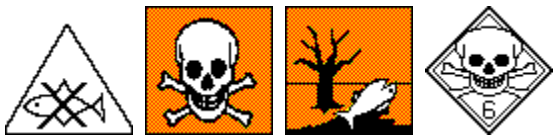
International Chemical Safety Cards

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

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

MAGNESIUM (POWDER)

ICSC: 0289

Mg
Atomic mass: 24.30

ICSC # 0289
CAS # 7439-95-4
RTECS # OM2100000
UN # 1418
EC # 012-001-00-3 (pyrophoric)
April 12, 2000 Peer reviewed

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking. NO contact with moisture, acids, halogens and many other substances.	Special powder, dry sand, NO other agents. NO water.
EXPLOSION	Finely dispersed particles form explosive mixtures in air.	Do NOT expose to friction or shock. Prevent build-up of electrostatic charges (e.g., by grounding).	
EXPOSURE		PREVENT DISPERSION OF DUST!	
•INHALATION	Cough. Laboured breathing. Headache. Dullness. Weakness. Fever or elevated body temperature.		
•SKIN			
•EYES	Redness. Pain.	Safety goggles.	
•INGESTION	Abdominal pain. Diarrhoea.	Do not eat, drink, or smoke during work.	Rinse mouth. Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Do NOT wash away into sewer. Sweep spilled substance into containers. Carefully collect remainder, then remove to safe place. Personal protection: P2 filter respirator for harmful particles.	Fireproof. Separated from strong oxidants, acids. Dry.	Airtight. F symbol R: 15-17 S: 2-7/8-43 UN Hazard Class: 4.3 UN Subsidiary Risks: 4.2 UN Packing Group: ll

SEE IMPORTANT INFORMATION ON BACK

ICSC: 0289

International Chemical Safety Cards

MAGNESIUM (POWDER)

ICSC: 0289

I **M**	**PHYSICAL STATE; APPEARANCE:** GREY POWDER	**ROUTES OF EXPOSURE:** The substance can be absorbed into the body by inhalation.

P O R T A N T D A T A	**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:** The substance may spontaneously ignite on contact with air or moisture producing irritating or toxic fumes Reacts violently with strong oxidants. Reacts violently with many substances causing fire and explosion hazard. Reacts with acids and water forming flammable/explosive gas (hydrogen - see ICSC0001) causing fire and explosion hazard. **OCCUPATIONAL EXPOSURE LIMITS:** TLV not established. MAK not established.	**INHALATION RISK:** Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly. **EFFECTS OF SHORT-TERM EXPOSURE:** Inhalation of fumes may cause metal fume fever. **EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:**
PHYSICAL PROPERTIES	Boiling point: 1100°C Melting point: 651°C Density: 1.7 g/cm³	Solubility in water: none Auto-ignition temperature: 473°C Explosive limits, vol% in air: see Notes
ENVIRONMENTAL DATA		

N O T E S

Burns with an intense flame. In order to prevent eye injury do not look directly at magnesium fires. Reacts violently with fire extinguishing agents such as water, carbon dioxide and powder. Explosive limits, vol% in air: (LEL) 0.03 kg/m^3.

Transport Emergency Card: TEC (R)-43GWS-II+III
NFPA Code: H0; F1; R2;

ADDITIONAL INFORMATION

ICSC: 0289 **MAGNESIUM (POWDER)**

International Chemical Safety Cards

MERCURY

ICSC: 0056

Quicksilver
Liquid silver
Hg
Atomic mass: 200.6

ICSC # 0056
CAS # 7439-97-6
RTECS # OV4550000
UN # 2809
EC # 080-001-00-0
April 22, 2004 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	Risk of fire and explosion.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		STRICT HYGIENE! AVOID EXPOSURE OF (PREGNANT) WOMEN! AVOID EXPOSURE OF ADOLESCENTS AND CHILDREN!	IN ALL CASES CONSULT A DOCTOR!
•INHALATION	Abdominal pain. Cough. Diarrhoea. Shortness of breath. Vomiting. Fever or elevated body temperature.	Local exhaust or breathing protection.	Fresh air, rest. Artificial respiration if indicated. Refer for medical attention.
•SKIN	MAY BE ABSORBED! Redness.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
•EYES		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.	Refer for medical attention.

SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING
Evacuate danger area in case of a large spill! Consult an expert! Ventilation. Collect leaking and spilled liquid in sealable non-metallic containers as far as possible. Do NOT wash away into sewer. Do NOT let this chemical enter the environment. Chemical protection suit including self-contained breathing apparatus.	Provision to contain effluent from fire extinguishing. Separated from food and feedstuffs Well closed.	Special material. Do not transport with food and feedstuffs. T symbol N symbol R: 23-33-50/53 S: 1/2-7-45-60-61 UN Hazard Class: 8 UN Packing Group: III

SEE IMPORTANT INFORMATION ON BACK

International Chemical Safety Cards

MERCURY

ICSC: 0056

IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
ODOURLESS, HEAVY AND MOBILE SILVERY LIQUID METAL.

PHYSICAL DANGERS:

CHEMICAL DANGERS:
Upon heating, toxic fumes are formed. Reacts violently with ammonia and halogens causing fire and explosion hazard. Attacks aluminium and many other metals forming amalgams.

OCCUPATIONAL EXPOSURE LIMITS:
TLV: 0.025 mg/m³ as TWA (skin) A4 BEI issued (ACGIH 2004).
MAK: 0.1 mg/m³ Sh
Peak limitation category: II(8) Carcinogen category: 3B (DFG 2003).
OSHA PEL†: C 0.1 mg/m^3
NIOSH REL: Hg Vapor: TWA 0.05 mg/m^3 skin
Other: C 0.1 mg/m^3 skin
NIOSH IDLH: 10 mg/m^3 (as Hg) See: 7439976

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its vapour and through the skin , also as a vapour!

INHALATION RISK:
A harmful contamination of the air can be reached very quickly on evaporation of this substance at 20°C.

EFFECTS OF SHORT-TERM EXPOSURE:
The substance is irritating to the skin. Inhalation of the vapours may cause pneumonitis. The substance may cause effects on the central nervous systemandkidneys. The effects may be delayed. Medical observation is indicated.

EFFECTS OF LONG-TERM OR REPEATED EXPOSURE:
The substance may have effects on the central nervous system kidneys , resulting in irritability, emotional instability, tremor, mental and memory disturbances, speech disorders. Danger of cumulative effects. Animal tests show that this substance possibly causes toxic effects upon human reproduction.

PHYSICAL PROPERTIES

Boiling point: 357°C
Melting point: -39°C
Relative density (water = 1): 13.5
Solubility in water:
none

Vapour pressure, Pa at 20°C: 0.26
Relative vapour density (air = 1): 6.93
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.009

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms. In the food chain important to humans, bioaccumulation takes place, specifically in fish.

N O T E S

Depending on the degree of exposure, periodic medical examination is indicated. No odour warning if toxic concentrations are present. Do NOT take working clothes home.

Transport Emergency Card: TEC (R)-80GC9-II+III

ADDITIONAL INFORMATION

ICSC: 0056 **MERCURY**

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.)

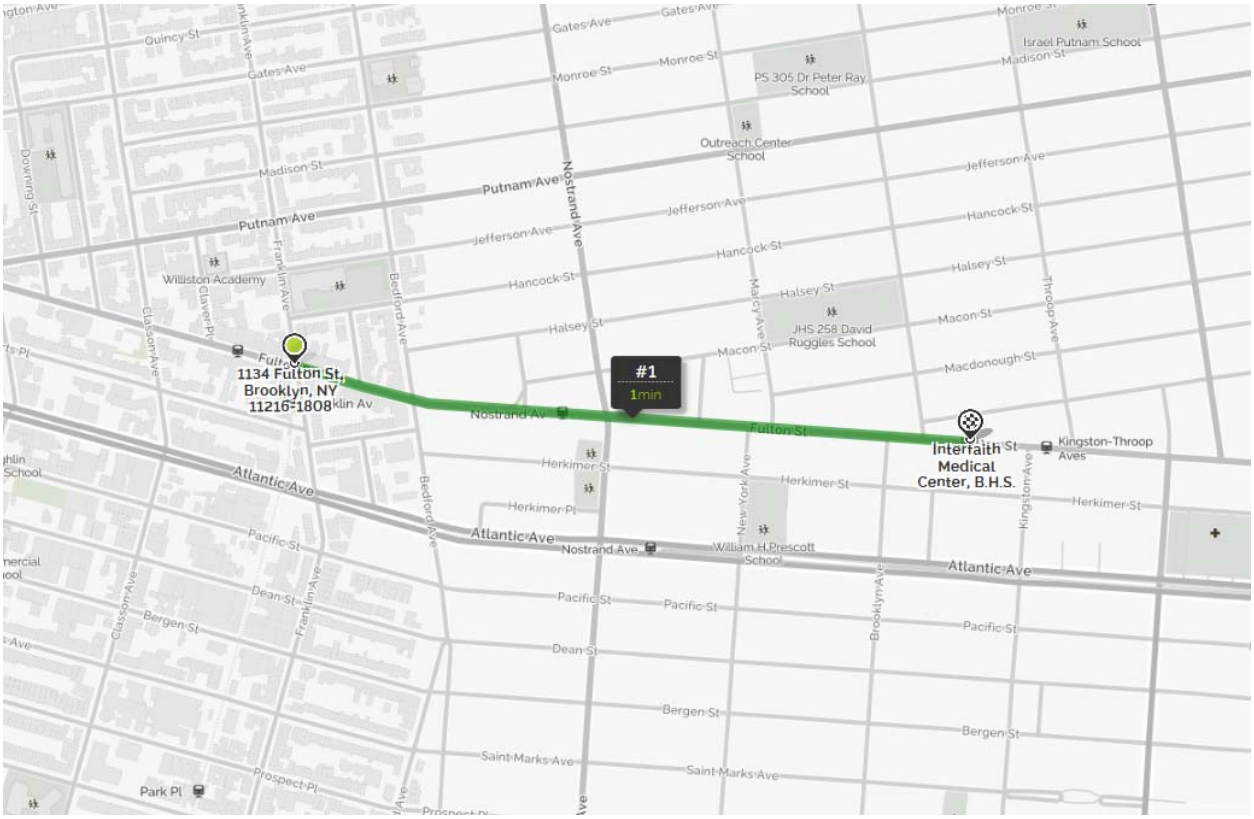
INDICATE STREET NAMES, DESCRIPTION OF VEHICLES, AND NORTH ARROW

HOSPITAL INFORMATION AND MAP

The hospital nearest the site is:

The BROOKLYN HOSPITAL CENTER

INTERFAITH MEDICAL CENTER
1545 Atlantic Avenue, Brooklyn, New York 11213
1.2 Miles – About 7 Minutes



START:
A Site - 1134 Fulton Street, Brooklyn, NY 11216
Head west on Fulton Street towards Franklin Ave (85 ft)

Turn left at the 1st cross street onto Franklin Ave (0.1 mi)

Turn left onto Atlantic Ave (0.4 mi)

Keep right to stay on Atlantic Ave (0.6 mi)

Slight left toward Atlantic Ave (443 ft)

Sharp left onto Atlantic Ave (0.1 mi)

Destination on right

HOSPITAL:
B Interfaith medical Center - 1545 Atlantic Avenue, Brooklyn, NY 11213

ATTACHMENT F

VAPOR BARRIER SPECIFICATIONS

ATTACHMENT F

VAPOR BARRIER DESIGN AND INSTALLATION

A vapor barrier is being recommended for this project as a preventative measure. This section includes the specifications and guidelines for installing a below concrete slab sheet vapor barrier. The vapor barrier will extend throughout the entire slab of both buildings as well as behind the foundation walls of both buildings. 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.

A vapor retarder or barrier, by definition, is a material or assembly of materials that resists vapor diffusion through it. For this project the sheet material will consist of a black high-density polyethylene (HDPE) film, 20 mil thick.

ASTM references for vapor barriers include the following:

1. ASTM E 1745-97 "Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs."

2. ASTM E 1643-98 "Standard Practice for Vapor Barriers."

Materials
The minimum values for the HDPE film will meet the following:

Property	Test Method	Minimum Values
Thickness, mil (mm)	ASTM D 5199	20
Density, g/cm3	ASTM D 1505	0.94
Carbon Black Content, %	ASTM D 1603, mod.	2.0
Tensile Properties (each direction) Strength at Yield, lb/in. (kN/m) Strength at Break, lb/in. (kN/m) Elongation at Yield, % Elongation at Break, %	ASTM D 6693 (1.3" gauge length) (2.0" gauge length)	 22 44 10 500
Tear Resistance, lb (N)	ASTM D 1004	5
Puncture Resistance, lb (N)	ASTM D 4833	26
Notched Constant Tensile Load, hours	ASTM D 5397, app.	400
Oxidative Induction Time, min.	ASTM D 3895	100

The manufacturer of the specified liner is: GSE LINING TECHNOLOGY, INC.

1. All joints in the HDPE sheeting will be sealed with either a tape seal or a weld seal. The tape seal consists of a butyl mastic self-adhering tape, 2 inch (50 mm) wide, compatible with the sheet material.
2. The weld seal consists of an extrudate rod or bead, compatible with sheet material.

Preparation for the installation of the vapor barrier membrane is as follows:

1. Do not install vapor retarder/barrier until items penetrating it are in place.
2. Rake, trim, and tamp surfaces over which membrane is to be installed.
3. Substrates must be regular and smooth with no gaps or voids greater than 0.5 inches (12 mm).
4. The substrate must be free of loose aggregate and sharp protrusions.
5. The substrate does not need to be dry, but standing water must be removed.

Membrane Installation
Place the membrane HDPE film side to the substrate with printed coating side up facing towards the concrete pour. Lay membrane with seams perpendicular to and lapped in direction of concrete pour.

End laps should be staggered to avoid a build-up of layers. Accurately position succeeding sheets to overlap the previous sheet 3 inches (75 mm). Ensure that the underside of the succeeding sheet is clean, dry, and free from contamination before attempting to overlap.

If manufacturer recommends sealing overlaps with tape, proceed with the following steps:

1. Secure overlaps to the bottom sheet with tape.

2. Ensure a continuous bond is achieved without creases and roll firmly with a heavy roller. During cold or damp conditions, the tape adhesive can be gently warmed using a hot air gun or similar to remove moisture or condensation and improve initial adhesion.

3. If manufacturer recommends sealing overlaps by welding, weld overlap seams according to manufacturer's instructions.

4. Penetrations through the membrane such as utility conduits, can be sealed either using the tape and liquid membrane method or the extrusion weld method.

Procedures for sealing penetrations using the tape and seal method include the following:

1. Scribe membrane tight to the penetration.
2. If the membrane is not within 0.5 inches (12 mm) of the penetration, apply tape to cover the gap.
3. Wrap the penetration with tape by positioning the tape 0.5 inches (12 mm) above the membrane.
4. Mix and apply Liquid Membrane around the penetrations using a fillet to provide a watertight seal between the membrane and tape.

Procedures for sealing penetrations using the extrusion weld method include the following:

Scribe membrane tight to the penetration.
5. Perform extrusion weld techniques according to manufacturer's instructions.

Protection
Protect membrane from damage until permanent covering is in place.

Membrane Repair
The membrane can be repaired using either the tape method or the weld method.

The procedure to repair the membrane using the tape method is as follows:

- Repair punctures and tears in membrane using patches of the material and overlapping the puncture or tear a minimum of 12 inches.

- Seal with tape.

The procedure to repair the membrane using the weld method is as follows:

- Repair punctures and tears in membrane using patches of the material and overlapping the puncture or tear a minimum of 6 inches. Seal with extrusion weld.

Inspection
Upon completion of the installation of the membrane, the Contractor shall coordinate an inspection with the Engineer or its designated representative. The membrane shall not be covered until the Contractor receives written approval from the Engineer.

Pouring of Concrete
It is recommended that concrete be poured within 56 days of application of the membrane. Concrete must be placed and compacted carefully to avoid damage to the membrane. Never use a sharp object to consolidate the concrete.

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
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Toll Free: **800-635-3456**
Email: **efdsales@ravenind.com**
www.ravenefd.com

Limited Warranty available at www.RavenEFD.com