

JRH Consulting Engineers, D.P.C.

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January 5, 2023

New York City Office of Environmental Remediation
City Voluntary Cleanup Program
c/o Shaminder Chawla
100 Gold Street, 2nd Floor
New York, NY 10038

Re: [E-Designation # 18EHAZ047K]
179 22nd Street
Brooklyn, NY
Block 643, Lot 1 (Former Lots 2, 3, 4, & 70)
Remedial Action Work Plan (RAWP) Stipulation List

Dear Mr. Chawla:

J.R.H. Consulting Engineers, D.P.C. hereby submits a Remedial Action Plan (RAWP) Stipulation List for the Site to the New York City Office of Environmental Remediation (OER) on behalf of Steven Cheung. This letter serves as an addendum to the RAWP to stipulate additional content, requirements, and procedures that will be followed during the site remediation. The contents of this list are added to the RAWP and will supersede the content in the RAWP where there is a conflict in purpose or intent. The additional requirements/procedures include the following Stipulation List below:

1. The criterion attached in **Appendix 1** will be utilized if additional petroleum containing tank or vessel is identified during the remedial action or subsequent redevelopment excavation activities. All petroleum spills will be reported to the NYSDEC hotline as required by applicable laws and regulations. This contingency plan is designed for heating oil tanks and other small or moderately sized storage vessels. If larger tanks, such as gasoline storage tanks are identified, OER will be notified before this criterion is utilized.
2. A pre-construction meeting is required prior to start of remedial excavation work at the site. A pre-construction meeting will be held at the site and will be attended by OER, the developer or developer representative, the consultant, excavation/general contractor, and if applicable, the soil broker.
3. A Historic Fill Transfer and Disposal Notification Form to each disposal facility and a pre-approval letter from all disposal facilities will be provided to OER prior to any soil/fill material removal from the site. The Historic Fill Transfer and Disposal Notification Form template is attached in **Appendix 2**. Documentation specified in the RAWP - Appendix 3 - Section 1.6 "Materials Disposal Off-Site" will be provided to

OER. If a different disposal facility for the soil/fill material is selected, OER will be notified immediately.

4. Signage for the project will include a sturdy placard mounted in a publically accessible right of way to building and other permits signage will consist of the NYC VCP Information Sheet (attached **Appendix 3**) announcing the remedial action. The Information sheet will be laminated and permanently affixed to the placard.
5. If the site contains hazardous waste that will be excavated and disposed of offsite, OER will work with the development team to seek an exemption for the property from the state Hazardous Waste Program Fee (\$130/ton) and Special Assessment on Hazardous Waste (up to \$27/ton). To qualify for an exemption, the site must be enrolled in the city Voluntary Cleanup Program; hazardous waste must result from remedial action set forth in a cleanup plan approved by OER; and OER must oversee the cleanup. It is the applicant's responsibility to notify the OER Project Manager, copying the supervising Project Manager and OER Deputy Director Shaminder Chawla, before hazardous waste is shipped from the site. Unless the Department of Environmental Conservation is notified before waste is shipped from the site, the project may not receive an exemption from the fee. This exemption does not cover, and the project remains responsible for, a Hazardous Waste Annual Report to be filed with DEC and Quarterly Returns for Special Assessments on Hazardous Waste to be filed with the state Department of Taxation and Finance. **Appendix 4** includes additional information about the exemption from the Hazardous Waste Program Fee and the Special Assessment on Hazardous Waste.
6. Collection and analysis of 5 end-point samples from the bottom of the excavation to evaluate the performance of the remedy with respect to attainment of Track 1 SCOs. A map indicating end-point sampling locations is attached in **Appendix 5**. Samples will be analyzed for contaminants of concern [VOCs, SVOCs, Metals, PCBs, and Pesticides].
7. OER requires parties seeking City Brownfield Incentive Grants to carry insurance. For a cleanup grant, both the excavator and the trucking firm(s) that handle removal of soil must carry or be covered under a commercial general liability (CGL) policy that provides \$1 million per claim in coverage. OER recommends that excavators and truckers also carry contractors pollution liability (CPL) coverage, also providing \$1 million per claim in coverage. The CGL policy, and the CPL policy if obtained, must be in force during the period when the party excavates and disposes of soil. For an investigation grant, an environmental consultant must be a qualified vendor in the BIG program and carry \$1 million of professional liability (PL) coverage. A fact sheet regarding insurance is attached as **Appendix 6**.
8. Monthly reports are required on the project's status and schedule to the OER project manager after RAWP/RAP is approved/NTP issued until Remedial Action Report/Remedial Closure Report is received. This is your (Environmental Consultant's) responsibility to provide this report. If you (environmental consultant) are no longer retained for continuation of project, you are required to notify OER about this. After excavation work is completed, monthly reports are still required and will be provided by

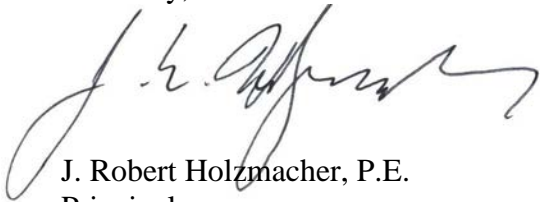
the consultant or owner/developer for the duration of the construction period. Monthly report template is attached in **Appendix 8**.

9. Daily reports will be provided during active excavation work. If no work is performed for extended time period, daily report frequency will be reduced to weekly basis. Daily report template is attached in **Appendix 7**.
10. Trucking log sheets will be utilized as trucks are transported from sites, and completed logs should be attached to the Remedial Action Report (RAR) as an appendix. The goal of this log is to clearly document the destination of material leaving the site, the parties responsible for its transfer, and other pertinent details. The trucking log template is provided in **Appendix 9**.
11. A 20-mil vapor barrier will be installed beneath the structure's slab and along foundation sidewalls. The barrier chosen for this project is manufactured by Vaporblock Plus VBP20. **Appendix 10** provides manufactures specifications and PE/RA certified building plans with the extent of the vapor barrier installation details (penetrations, joints, etc.) with respect to the proposed foundation, footings, etc.
12. An engineered composite site cover will be placed over the entire footprint of the Site. The composite cover system will be comprised of concrete foundation/slabs. Drawings of the composite site cover are provided as **Appendix 11**.
13. Truck route is included in **Appendix 12**.
14. Truck routing to the project site shall only occur according with the approved RAWP. The applicant, applicant's consultant and contractors are responsible for maintaining proper traffic in the vicinity of the site during all field operations, truck loading/unloading, etc.
15. Dewatering will be performed in full compliance with applicable laws, rules and regulations. Dewatering permit will be obtained from NYCDEP prior to construction activities, if applicable.
16. The signed RIR certification page and stamped/signed RAWP certification page is included in **Appendix 13**.
17. Development plans are attached in **Appendix 14**.
18. The proposed future use of the Site will consist of a ten (10) story mixed residential, commercial, and community facility building. This building will have a footprint of 100'-0" x 100'-2", and will occupy the entire site. The cellar occupies the full footprint of the building and will be used as a parking garage with utility rooms and an access ramp to 22nd Street. The site will be excavated to a depth of approximately 12 feet below grade and 16 feet below grade for the elevator pit. The first floor will consist of commercial retail stores and a community facility. The remaining floors will consist of

residential units with balconies. There are a total number of 82 residential units. As part of the development, the former lots were merged into one lot, Lot 1.

19. If there is active SSDS, a post construction meeting is required with consultant, developer and building superintendent.
20. If there is active SSDS, a deed restriction will be placed on the property to document the installation, and continued operation, of the active SSDS. The deed restriction can be removed if OER determines that the active SSDS has achieved its goals and is no longer warranted.
21. Stabilized construction entrance and decontamination area will be constructed. All vehicle will be cleaned on-site to avoid any tracked materials (e.g., soils) spilling on roadways. Also, erosion controls must be installed, if necessary.
22. Applicant, Applicant's consultant and contractors are responsible for obtaining all permits necessary for the performance of the work, as well as, paying all associated fees (e.g., demolition, temporary water connection, dewatering, temporary electric connection, etc.).
23. Applicants and Applicant's consultant shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work. Copy of the Health and Safety Plan (HASP) must be provided to the subcontractor (s). Copy of the HASP should be available at the site at all times.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. R. Holzmacher', with a stylized flourish at the end.

J. Robert Holzmacher, P.E.
Principal

Cc: Zarka Naba, NYCOER

Shaminder Chawla, NYCOER

Appendix 1

Generic Procedures for Management of Underground Storage Tanks Identified under the NYC VCP

Prior to Tank removal, the following procedures should be followed:

- Remove all fluid to its lowest draw-off point.
- Drain and flush piping into the tank.
- Vacuum out the “tank bottom” consisting of water product and sludge.
- Dig down to the top of the tank and expose the upper half.
- Remove the fill tube and disconnect the fill, gauge, product, vent lines and pumps. Cap and plug open ends of lines.
- Temporarily plug all tank openings, complete the excavation, remove the tank and place it in a secure location.
- Render the tank safe and check the tank atmosphere to ensure that petroleum vapors have been satisfactorily purged from the tank.
- Clean tank or remove to storage yard for cleaning.
- If the tank is to be moved, it must be transported by licensed waste transporter. Plug and cap all holes prior to transport leaving a 1/8 inch vent hole located at the top of the tank during transport.
- After cleaning, the tank must be made acceptable for disposal at a scrap yard, cleaning the tanks interior with a high pressure rinse and cutting the tank in several pieces.

During the tank and pipe line removal, the following field observations should be made and recorded:

- A description and photographic documentation of the tank and pipe line condition (pitting, holes, staining, leak points, evidence of repairs, etc.).
- Examination of the excavation floor and sidewalls for physical evidence of contamination (odor, staining, sheen, etc.).
- Periodic field screening (through bucket return) of the floor and sidewalls of the excavation, with a calibrated photoionization detector (PID).

Impacted Soil Excavation Methods

The excavation of the impacted soil will be performed following the removal of the existing tanks. Soil excavation will be performed in accordance with the procedures described under Section 5.5 of Draft DER-10 as follows:

- A description and photographic documentation of the excavation.
- Examination of the excavation floor and sidewalls for physical evidence of contamination (odor, staining, sheen, etc.).
- Periodic field screening (through bucket return) of the floor and sidewalls of the excavation, with calibrated photoionization detector (PID).

Final excavation depth, length, and width will be determined in the field, and will depend on the horizontal and vertical extent of contaminated soils as identified through physical examination (PID response, odor, staining, etc.). Collection of verification samples will be performed to evaluate the success of the removal action as specified in this document.

The following procedure will be used for the excavation of impacted soil (as necessary and appropriate):

- Wear appropriate health and safety equipment as outlined in the Health and Safety Plan.

- Prior to excavation, ensure that the area is clear of utility lines or other obstructions. Lay plastic sheeting on the ground next to the area to be excavated.
- Using a rubber-tired backhoe or track mounted excavator, remove overburden soils and stockpile, or dispose of, separate from the impacted soil.
- If additional UST's are discovered, the NYSDEC will be notified and the best course of action to remove the structure should be determined in the field. This may involve the continued trenching around the perimeter to minimize its disturbance.
- If physically contaminated soil is present (e.g., staining, odors, sheen, PID response, etc.) an attempt will be made to remove it, to the extent not limited by the site boundaries or the bedrock surface. If possible, physically impacted soil will be removed using the backhoe or excavator, segregated from clean soils and overburden, and staged on separated dedicated plastic sheeting or live loaded into trucks from the disposal facility. Removal of the impacted soils will continue until visibly clean material is encountered and monitoring instruments indicate that no contaminants are present.
- Excavated soils which are temporarily stockpiled on-site will be covered with tarp material while disposal options are determined. Tarp will be checked on a daily basis and replaced, repaired or adjusted as needed to provide full coverage. The sheeting will be shaped and secured in such a manner as to drain runoff and direct it toward the interior of the property.

Once the site representative and regulatory personnel are satisfied with the removal effort, verification of confirmatory samples will be collected from the excavation in accordance with DER-10.

Appendix 2
Historic Fill Transfer and Disposal Notification Form

Historic Fill & Soil Disposal Notification Form
New York City Office of Environmental Remediation

Date: [REDACTED]

To operators and representatives of disposal facilities and government regulators:

The New York City Office of Environmental Remediation (OER) operates several environmental remediation regulatory programs in New York City that manage light to moderately contaminated properties that are planned for redevelopment. These projects commonly involve the removal of historical fill and soil from properties for development and other purposes. As with any environmental regulatory program, lawful transport and disposal of historic fill and soil is mandatory. It is also our highest priority.

Disposal facilities, recycling facilities and clean fill facilities (collectively, “receiving facilities”) for historic fill and soil may be located in New York or neighboring states. Our research has indicated that a wide range of facility types and a complex set of regulatory requirements and obligations for a receiving facility operation exist within each jurisdiction. Receiving facilities are required to comply with applicable laws and regulations and may operate under state and local authority via permits, licenses, registrations, agreements and other legal instruments that dictate requirements for the material they can receive. Operating requirements may include adherence to applicable chemical standards, guidance levels, criteria, policy or other bases to determine the suitability for receipt of historical fill or soil at a receiving facility. Such requirements may also specify sample frequency, location, sampling method, chemical analytes, or analytical methods. Receiving facility soil/fill sampling requirements often differ from standard remedial investigation protocol performed in the original environmental study of the property.

Given the variability of data requirements for receiving facilities, the wide range of receiving facility types, and the complexity of regulatory requirements and obligations, OER is seeking to assist government regulators and facility operators and their technical representatives to achieve compliance with regulatory requirements for disposal of historic fill and soil at receiving facilities for projects we administer. Further, we seek to ensure that all of the data and information that is developed in OER’s regulatory programs (for instance, site environmental history and soil chemistry) is available to government regulators and to facility managers when making decisions on suitability for disposal to a receiving facility.

This document provides formal notification from OER of the availability of environmental information regarding the physical and chemical content of historical fill and soil that is proposed for transfer to a disposal, recycling or clean fill facility from a property located at:

[Site address, borough, New York]
[OER Site #]

The above referenced property has undergone regulated environmental investigation and is the subject of remedial action work plan under the authority of OER. All environmental data and information generated during this regulatory process is available online in OER’s Document Repository listed below. Be advised that many properties are also regulated under state environmental law, and additional data may be available from state agencies. OER reserves the right to share this information with applicable state regulators.

[Project-specific EPIC document repository link]

According to New York State DER-10 Technical Guidance for Site Investigation and Remediation, historical fill is non-indigenous fill material deposited on a property to raise its topographic elevation. The origin of historical fill is unknown but it is commonly known to contain ash from wood and coal combustion, slag, clinker, construction debris, dredge spoils, incinerator residue, and demolition debris. Historic fill is a regulated solid waste in the State of New York. Prior to making a determination regarding the suitability of historic fill and/or soil from this property for disposal at this receiving facility, **we strongly recommend that you review all of the data and information available for this property in our Document Repository** listed above. The repository includes:

- A Phase 1 history of use of the property;
- A Remedial Investigation Report for the property which includes:
 - Boring logs that describe physical observations of the historical fill material made by a trained environmental professional;
 - Chemical data for grab samples of historical fill collected during the remedial investigation;
- A Remedial Action Work Plan for the property.

If you have any questions, please contact Horace Zhang at (212) 788-8484 or H Zhang@dep.nyc.gov for more information.

Appendix 3

NYC VCP Signage



NYC Voluntary Cleanup Program

[Property Address]

Site #: [12CVCP063R]

This property is enrolled in the New York City Voluntary Cleanup Program for environmental remediation. This is a voluntary program administered by the NYC Office of Environmental Remediation.

For more information,
log on to: www.nyc.gov/oer

Or scan with smart phone:



If you have questions or would like more information,
please contact:

Shaminder Chawla at (212) 442-3007
or email us at brownfields@cityhall.nyc.gov

Appendix 4

Hazardous Waste Exemptions Fact Sheet



Exemptions from the state Hazardous Waste Program Fee & Special Assessment

If your site is enrolled in the city Voluntary Cleanup Program (VCP) and contains hazardous waste that will be excavated and disposed of offsite, OER can work with your development team to exempt your property from the \$130/ton state Hazardous Waste Program Fee and the Special Assessment on Hazardous Waste.

Exemption from the Hazardous Waste Program Fee

To qualify for an exemption from the Hazardous Waste Program Fee:

1. A site must be enrolled in the city Voluntary Cleanup Program;
2. Hazardous waste must result from remedial action set forth in a cleanup plan approved by OER; and
3. OER must oversee the cleanup.

Process for obtaining a Hazardous Waste Program Fee exemption:

For each VCP site, OER will submit three certifications to the New York State Department of Environmental Conservation (DEC):

1. OER will prepare a Notice of Potential Generation of Hazardous Waste after a soil test shows a site contains hazardous waste. To prepare this Notice, you must provide your OER project manager with:

- the site's EPA generator ID number;
- the date of the soil test confirming hazardous waste;
- the quantity of hazardous waste, in tons, anticipated to be shipped; and
- the anticipated dates for the start and completion of remediation.

For further information, please contact:

Michelle Sarro
Assistant General Counsel
(212) 341-2015
MSarro@dep.nyc.gov

DEC must receive this form **before** hazardous waste is shipped from your site. Otherwise, your claim for an exemption may be denied.

2. After hazardous waste has been removed from the site, you must notify your OER project manager that removal is complete. OER will then distribute a Certification of Hazardous Waste Generation to your project team which, when filled out, documents how the hazardous waste was managed. Once completed, it must be signed by the generator (or site owner) and the site's Qualified Environmental Professional and returned to your OER project manager with a copy to Michelle Sarro, msarro@dep.nyc.gov.

Upon receipt of the Certification of Hazardous Waste Generation, OER will issue a **\$10/ton fee** for services to obtain the exemption from the state Hazardous Waste Program Fee.

3. OER will then issue a Certification of Remedial Action that Generated Hazardous Waste to DEC representing OER's approval of how a site managed its hazardous waste.

DEC will make its determination after receiving the last two certifications. OER will then notify the project of the exemption.

Exemption from the Special Assessment on Hazardous Waste

VCP sites are also eligible for an exemption from the Special Assessment on Hazardous Waste, which can cost projects up to \$27/ton.

It is advised that you assert your interest in obtaining the Special Assessment exemption when you file a TP-550 Quarterly Return for Special Assessments on Hazardous Waste Generated in New York State form with the state Department of Taxation and Finance within 20 days of the end of the calendar quarter in which the waste was generated. In line item 3 on the form, indicate the number of tons of hazardous waste that were generated in New York State under an order of, or agreement or contract with, DEC. For access to the TP-550 form and further instructions see <http://www.tax.ny.gov/bus/haz/hzrdwste.htm>.

Ongoing Obligations

Regardless of the exemptions from the Hazardous Waste Program Fee and Special Assessment on Hazardous Waste, parties must:

- File a Hazardous Waste Annual Report with DEC by March 1 of each year if your site generated 15 tons or more of hazardous waste in the prior calendar year. For details, see <http://www.dec.ny.gov/chemical/8770.html>. To set forth the basis for an exemption from the Hazardous Waste Program Fee, put an X in the Exempt Remedial box in Box H of Section 1 of the Waste Generation and Management (GM) form and in the Comments Box (at the bottom of the form) include "New York City Voluntary Cleanup Program, VCP Site Number_____"; and
- File a TP-550 Quarterly Return for Special Assessments on Hazardous Waste Generated in New York State form with the state Department of Taxation and Finance within 20 days of the end of the calendar quarter in which the waste was generated. For access to the TP-550 form and further instructions see <http://www.tax.ny.gov/bus/haz/hzrdwste.htm>.

Appendix 5
End-Point Sampling Map

Q:\2023 DPC Projects\KangM\23-01 685 4th Ave, Brooklyn OER\CAD\JRH Civil.dwg



4TH AVENUE

683 4TH AVE

679 4TH AVE

186 21ST STREET



1



4



2

5



3



6

187
22ND
STREET

191
22ND
STREET

193
22ND
STREET

22ND STREET

LEGEND



EP-1
ENDPOINT SAMPLE
LOCATIONS

PREPARED BY:



*The Third Generation of Excellence In Water Supply, Water
Resources, Civil and Environmental Engineering*

3555 Veterans Memorial Highway, Suite A, Ronkonkoma, NY 11779
PHONE: (631) 234-2220 FAX: (631) 234-2221 E-MAIL: info@holzmacher.com

TITLE:

EndPoint Sample Location Map

685 4th Avenue
Brooklyn, New York

PROJECT NO.:
KangM 23-01

CHKD:
MFT

APPD:
JRH

DATE:
01/04/23

SCALE:
1:20

DWN:
MFT

NOTES:
-

REV.:
-

FIGURE NO.:

X

Appendix 6

BIG Program Insurance Fact Sheet



FACT SHEET – BIG PROGRAM INSURANCE REQUIREMENTS

Investigation Grants – for a developer or site owner to be eligible for a BIG investigation grant, its environmental consultant(s) must be:

- a Qualified Vendor in the BIG Program; and
- maintain Professional Liability (PL) insurance of \$1M per claim and annual aggregate.

Cleanup Grants – for a developer or site owner to be eligible for a BIG cleanup grant:

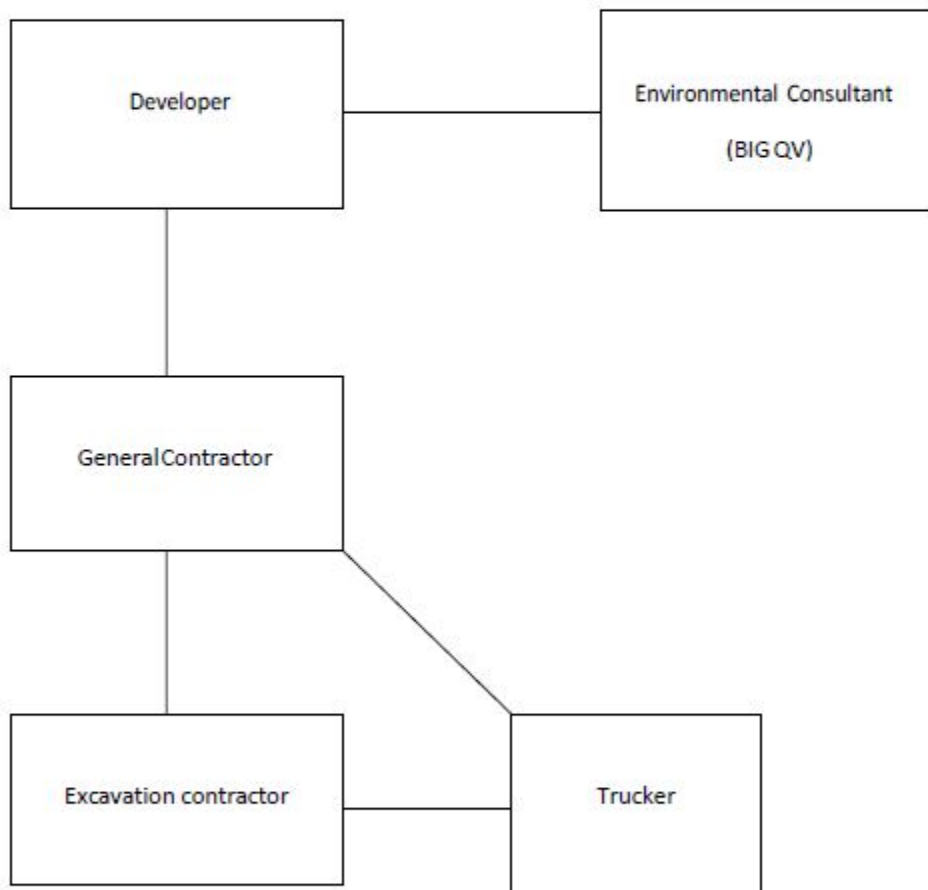
- Its general contractor or excavation/foundation contractor hired to perform remedial work must maintain Commercial General Liability (CGL) insurance of at least \$1M per occurrence and \$2M in the general aggregate. It is recommended that the general contractor or excavation/foundation contractor also maintain a Contractors Pollution Liability policy (CPL) of at least \$1M per occurrence.
- Its subcontractors who are hired by the general contractor etc. to perform remedial work at a site, including soil brokers and truckers, must also maintain a CGL policy in the amount and with the terms set forth above. It is recommended that subcontractors also maintain a CPL policy in the amount and with the terms set forth above.
- The CGL policy must cover the period when the project seeking a BIG grant performed remedial work, including excavation and disposal of soil.
- Its environmental consultant(s) hired to oversee the cleanup must be:
 - a. a BIG Qualified Vendor; and
 - b. maintain Professional Liability (PL) insurance of \$1M per claim and annual aggregate.

If, in the alternative, the developer hires its environmental consultant to perform the cleanup, the environmental consultant must maintain CGL insurance in the amount and with the terms set forth above. It is recommended that the environmental consultant also maintain CPL coverage in the amount and with the terms set forth in the first two bulleted items listed above.

A schematic presenting the contractual relationships described above appears on page 2.

Example of Contractual Relationships for Cleanup Work

The Office of Environmental Remediation's Voluntary Cleanup Plan program requires applicants to identify the parties who are engaged in active remediation of their sites including: the General Contractor hired to remediate and/or the excavation contractor hired to excavate soil from the site and the trucking firm(s) that remove soil from the site for disposal at approved facilities.



The chart above shows contractual relationships that typically exist for projects that are enrolled in the Voluntary Cleanup Program.

Appendix 7
Daily Report Template

Generic Template for Daily Status Report

Instructions

The Daily Status Report submitted to OER should adhere to the following conventions:

- Remove this cover sheet prior to editing.
- Remove all the **red text** and replace with site-specific information.
- Submit the final version as a Word or PDF file.

Daily Status Reports

Daily status 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.

DAILY STATUS REPORT

Prepared By: Enter Your Name Here

WEATHER	Snow		Rain		Overcast		Partly Cloudy	X	Bright Sun	
TEMP.	< 32		32-50		50-70	X	70-85		>85	

VCP Project No.:	16CVCP000M	E-Number Project No.:	16EHAN000M	Date:	01/01/2016
Project Name:	Name or Address				

Consultant: Person(s) Name and Company Name	Safety Officer: Person(s) Name and Company Name
General Contractor: Person(s) Name and Company Name	Site Manager/ Supervisor: Person(s) Name and Company Name
Work Activities Performed (Since Last Report): Provide details about the work activities performed.	
Working In Grid #: A1, B1, C1	
Samples Collected (Since Last Report): No samples collected or provide details	
Air Monitoring (Since Last Report): No air monitoring performed or provide details Prestart Conditions – PID = 0.0 ppm, Dust = 0.000 High Conditions – PID = 0.0 ppm, Dust = 0.000	
Problems Encountered: No problems encountered or provide details	
Planned Activities for the Next Day/ Week: Provide details about the work activities planned for the next day/ week.	

Example:

Facility # Name/ Location Type of Waste Solid <u>Or</u> Liquid	Facility # Name Location Type of Waste Solid <u>Or</u> Liquid	Facility # Name Location Type of Waste Solid <u>Or</u> Liquid	Facility # Name Location Type of Waste Solid <u>Or</u> Liquid	Facility # Name Location Type of Waste Solid <u>Or</u> Liquid	##### ABC Facility New York, NY petroleum soils Solid
(Trucks, Cu.Yds. <u>Or</u> Gallons)	Trucks Cu. Yds. <u>Or</u> Gallons	Trucks Cu. Yds. <u>Or</u> Gallons	Trucks Cu. Yds. <u>Or</u> Gallons	Trucks Cu. Yds. <u>Or</u> Gallons	Trucks Cu. Yds.
Today					5120
Total					25600

NYC Clean Soil Bank		Receiving Facility: Name/ Address (Approved by OER)	
Tracking No.:	16CCSB000		
Today	Trucks 5	Cu. Yds. 25	Total Trucks 120 Cu. Yds. 600

Site Grid Map

Insert the site grid map here

Photo Log

Photo 1 – provide a caption	Insert Photo Here – Photo of the entire site
Photo 2 – provide a caption	Insert Photo Here – Photo of the work activities performed
Photo 3 – provide a caption	Insert Photo Here – Photo of the work activities performed

Appendix 8
Weekly / Monthly Report Template

WEEKLY / MONTHLY STATUS REPORT

Prepared By: Enter Your Name Here

VCP Project No.:	16CVCP000M	E-Number Project No.:	16EHAN000M	Date:	01/01/2016
------------------	------------	-----------------------	------------	-------	------------

Project Name:	Name or Address
<p>Project Updates (Since Last Report): Provide details about the work activities performed.</p>	
<p>Problems Encountered: No problems encountered or provide details</p>	
<p>Planned Activities for the Next three months: Provide details about the future work activities.</p>	

Photo Log

Photo 1 – provide a caption	Insert Photo Here – Photo of the entire site
Photo 2 – provide a caption	Insert Photo Here – Photo of the work activities performed
Photo 3 – provide a caption	Insert Photo Here – Photo of the work activities performed

Appendix 9
Soil Disposal and Trucking Log Sheet

Soil Disposal and Trucking Log Sheet

[illegible]

Appendix 10

Vapor Barrier Specifications

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 VBP20

APPLICATIONS

Radon Barrier	Under-Slab Vapor Retarder
Methane Barrier	Foundation Wall Vapor Retarder
VOC Barrier	

VaporBlock® Plus™
UNDERSLAB VAPOR RETARDER / GAS BARRIER

VAPORBLOCK® PLUS™ VBP20

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/m ²
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	0.0098 Perms grains/(ft ² ·hr·in·Hg)	0.0064 Perms g/(24hr·m ² ·mm Hg)
(AFTER CONDITIONING) PERMS (SAME MEASUREMENT AS ABOVE PERMEANCE)	ASTM E 154 Section 8, E96 Section 11, E96 Section 12, E96 Section 13, E96	0.0079 0.0079 0.0097 0.0113	0.0052 0.0052 0.0064 0.0074
WVTR	ASTM E 96 Procedure B	0.0040 grains/hr·ft ²	0.0028 gm/hr·m ²
RADON DIFFUSION COEFFICIENT	K124/02/95	< 1.1 x 10 ⁻¹³ m ² /s	
METHANE PERMEANCE	ASTM D 1434	< 1.7 x 10 ⁻¹⁰ m ² /d·atm 0.32 GTR (Gas Transmission Rate) ml/m ² ·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.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. Chemical resistance, odor transmission, longevity as well as other performance criteria is not implied or given and actual testing must be performed for applicability in specific applications and/or conditions. RAVEN INDUSTRIES MAKES NO WARRANTIES AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage. Limited Warranty available at www.RavenEFD.com



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www.ravenefd.com
1/11 EFD 1125



Scan QR Code to download
current technical data sheets
via the Raven website.

VaporBlock® Plus™

UNDERSLAB VAPOR RETARDER / GAS BARRIER

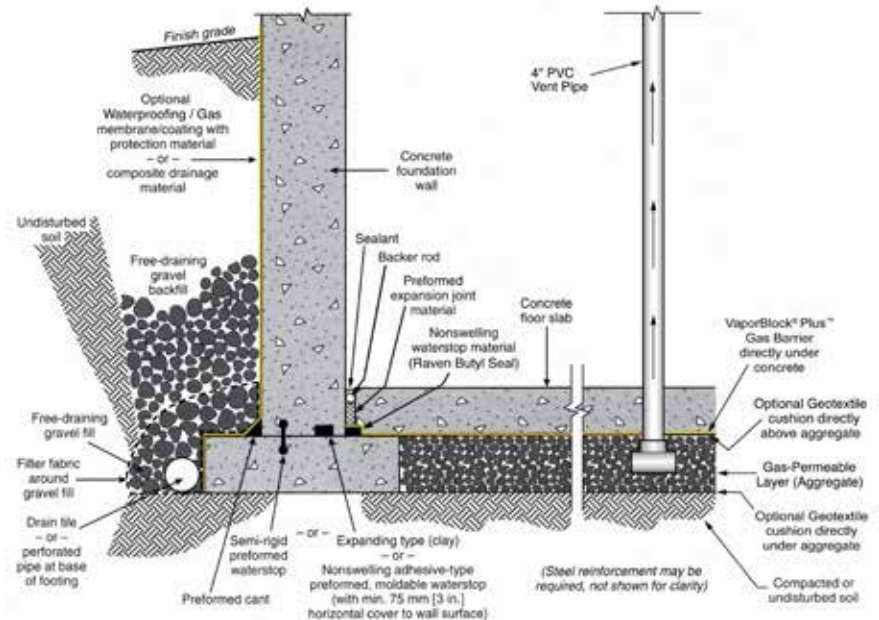
INSTALLATION GUIDELINES

Please Note: Read these instructions thoroughly before installation to ensure proper use of VaporBlock® Plus™. ASTM E 1465, ASTM E 2121 and, ASTM E 1643 also provide valuable information regarding the installation of vapor / gas barriers. When installing this product, contractors shall conform to all applicable local, state and federal regulations and laws pertaining to residential and commercial building construction.

- When VaporBlock Plus gas barrier is used as part of an active control system for radon or other gas, a ventilation system will be required.
- If designed as a passive system, it is recommended to install a ventilation system that could be converted to an active system if needed.

Materials List:

VaporBlock® Plus™ Vapor / Gas Barrier
 VaporBond Plus 4" Foil Seaming Tape
 Butyl Seal 2-Sided Tape
 VaporBoot Plus Pipe Boots 12/Box (recommended)
 VaporBoot Tape (optional)



Elements of a moisture/gas-resistant floor system. General illustration only.
 (Note: This example shows multiple options for waterstop placement.)

VAPORBLOCK® PLUS™ PLACEMENT

- 1.1. Level and tamp or roll granular base as specified. A base for a gas-reduction system may require a 4" to 6" gas permeable layer of clean coarse aggregate as specified by your architectural or structural drawings after installation of the recommended gas collection system. In this situation, a cushion layer consisting of a non-woven geotextile fabric placed directly under VaporBlock® Plus™ will help protect the barrier from damage due to possible sharp coarse aggregate.
- 1.2. Unroll VaporBlock Plus running the longest dimension parallel with the direction of the pour and pull open all folds to full width. (Fig. 1)
- 1.3. Lap VaporBlock Plus over the footings and seal with Raven Butyl Seal tape at the footing-wall connection. Prime concrete surfaces and assure they are dry and clean prior to applying Raven Butyl Seal Tape. Apply even and firm pressure with a rubber roller. Overlap joints a minimum of 6" and seal overlap with Raven VaporBond Tape. When used as a gas

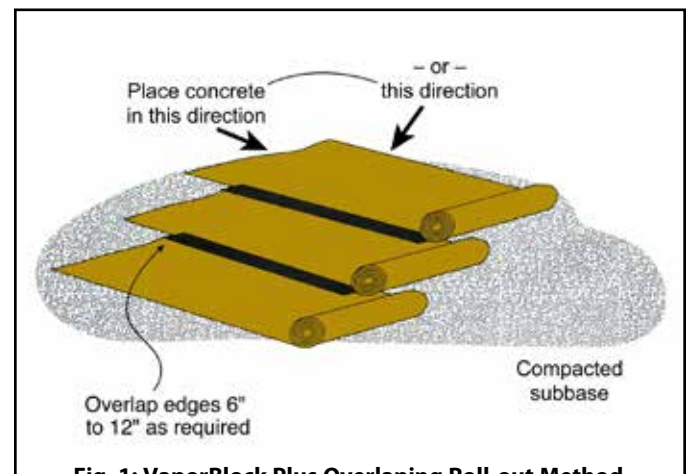


Fig. 1: VaporBlock Plus Overlapping Roll-out Method

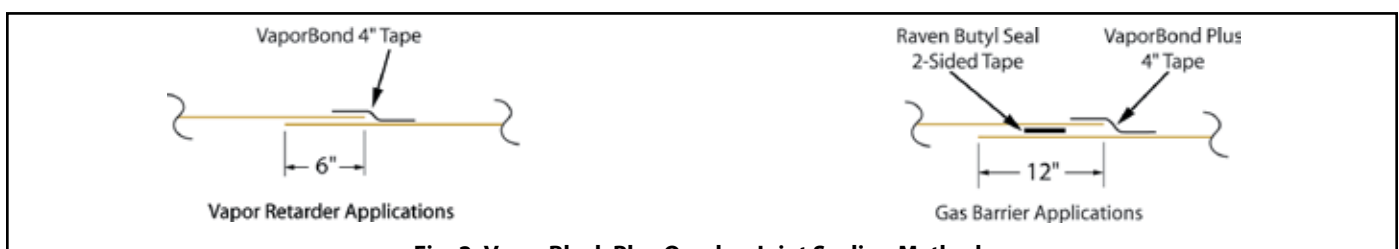


Fig. 2: VaporBlock Plus Overlap Joint Sealing Methods

SINGLE PENETRATION PIPE BOOT INSTALLATION

barrier, overlap joints a minimum of 12" and seal in-between overlap with 2-sided Raven Butyl Seal Tape. Then seal with VaporBond Plus Tape centered on the overlap seam. (Fig. 2)

- 1.4. Seal around all plumbing, conduit, support columns or other penetrations that come through the **VaporBlock Plus** membrane. Pipes four inches or smaller can be sealed with Raven VaporBoot Plus preformed pipe boots. VaporBoot Plus preformed pipe boots are formed in steps for 1", 2", 3" and 4" PVC pipe or IPS size and are sold in units of 12 per box (Fig. 3 & 5).

Pipe boots may also be fabricated from excess **VaporBlock Plus** membrane (Fig. 4 & 6) and sealed with VaporBoot Tape or VaporBond Plus Tape (sold separately).

Reminder Note: All holes or penetrations through the membrane will need a patch cut to a minimum of 12" from the opening in all directions.

To fabricate pipe boots from **VaporBlock Plus** excess material (see Fig. 4 & 6 for A-F):

- A) Cut a square large enough to overlap 12" in all directions.
- B) Mark where to cut opening on the center of the square and cut four to eight slices about 3/8" less than the diameter of the pipe.
- C) Force the square over the pipe leaving the tightly stretched cut area around the bottom of the pipe with approximately a 1/2" of the boot material running vertically up the pipe. *(no more than a 1/2" of stretched boot material is recommended)*
- D) Once boot is positioned, seal the perimeter to the membrane by applying 2-sided Raven Butyl Seal Tape in between the two layers. Secure boot down firmly over the membrane taking care not to have any large folds or creases.
- E) Use VaporBoot Tape or VaporBond Plus Tape to secure the boot to the pipe.

VaporBoot Tape (option) – fold tape in half lengthwise, remove half of the release liner and wrap around the pipe allowing 1" extra for overlap sealing. Peel off the second half of the release liner and work the tape outward gradually forming a complete seal.

VaporBond Plus Tape (option) - Tape completely around pipe overlapping the to get a tight seal against the pipe.

- F) Complete the process by taping over the boot perimeter edge with VaporBond Plus Tape to create a monolithic membrane between the surface of the slab and gas/moisture sources below and at the slab perimeter. (Fig. 4 & 6)

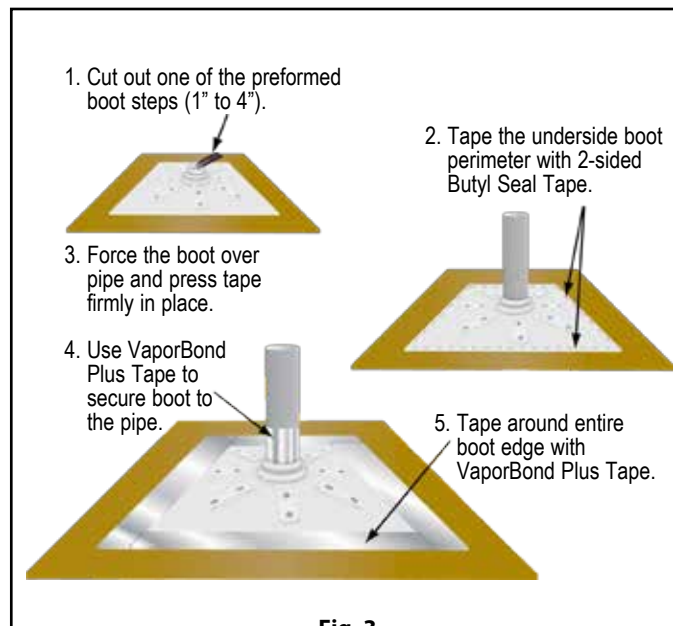


Fig. 3

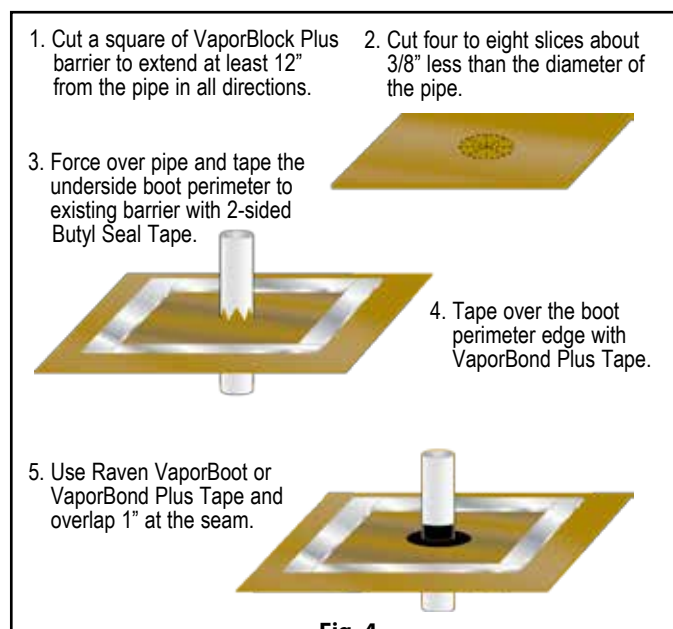


Fig. 4

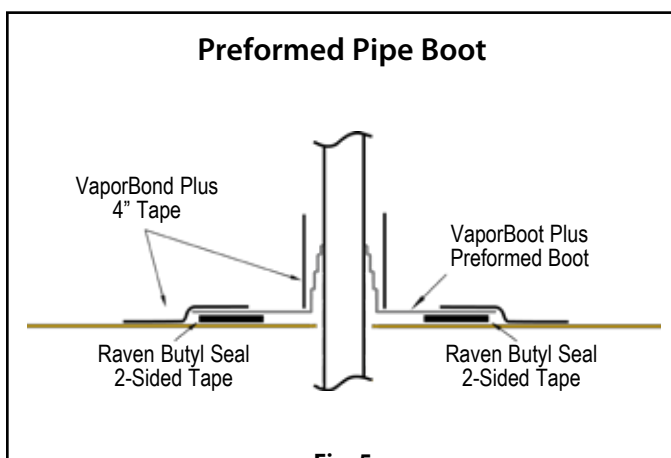


Fig. 5

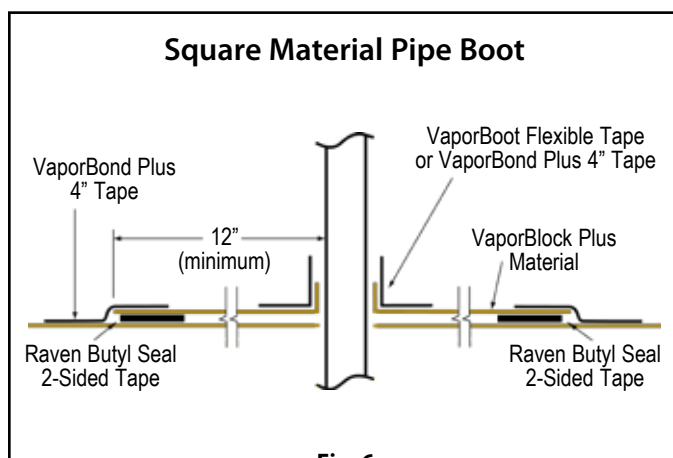


Fig. 6

MULTIPLE PENETRATION PIPE BOOT INSTALLATION

1.5. For side-by-side multiple penetrations;

- A) Cut a patch large enough to overlap 12" in all directions (Fig. 7) of penetrations.
- B) Mark where to cut openings and cut four to eight slices about 3/8" less than the diameter of the penetration for each.
- C) Slide patch material over penetration to achieve a tight fit.
- D) Once patch is positioned, seal the perimeter to the membrane by applying 2-sided Raven Butyl Seal Tape in-between the two layers. (Fig. 8)
- E) After applying Raven Butyl Seal Tape between the patch and membrane, tape around each of the penetrations and the patch with VaporBond Plus 4" foil tape. (Fig. 9) For additional protection apply an acceptable polyurethane elastomeric sealant around the penetrations. (Fig. 10)

- 1.6. Holes or openings through **VaporBlock Plus** are to be repaired by cutting a piece of **VaporBlock Plus** 12" larger in all directions from the opening. Seal the patch to the barrier with 2-sided Raven Butyl Seal Tape and seal the edges of the patch with VaporBond Plus Tape.

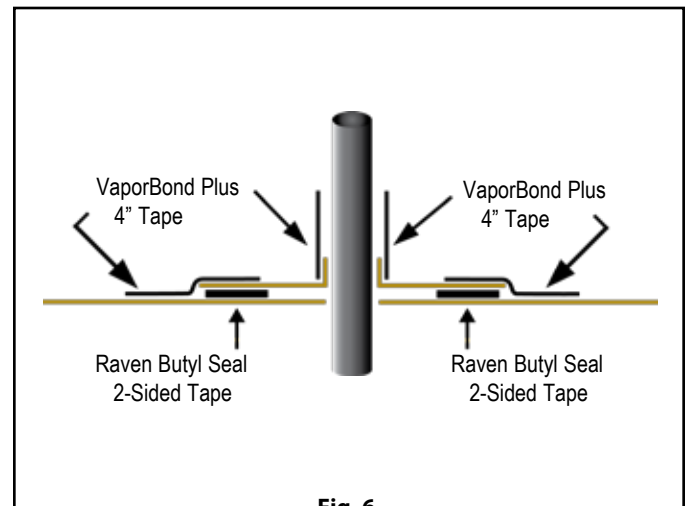


Fig. 6

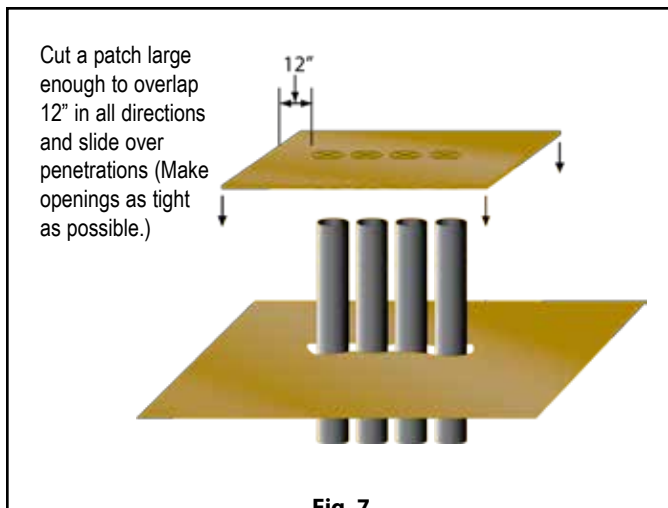


Fig. 7

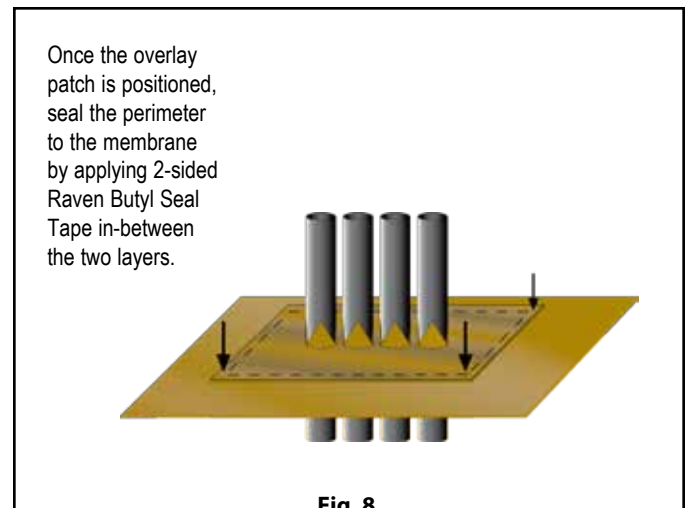


Fig. 8

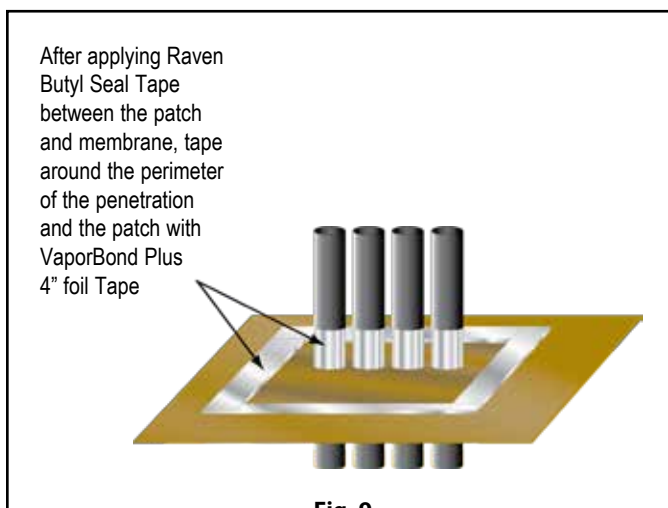


Fig. 9

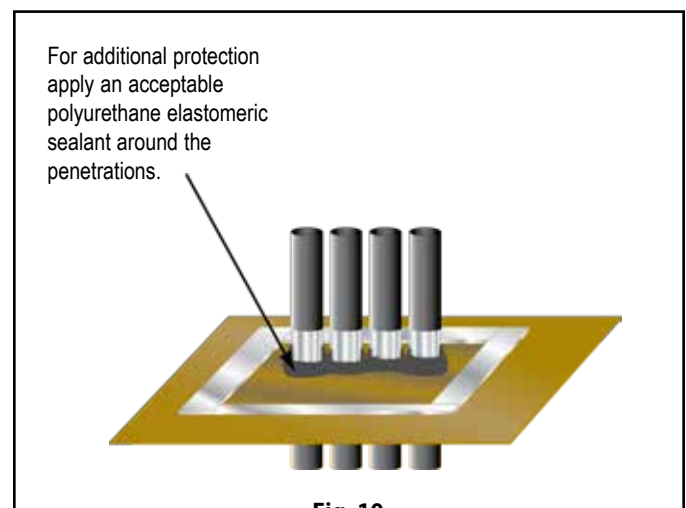


Fig. 10

VAPORBLOCK® PLUS™ PROTECTION

- 2.1. When installing reinforcing steel and utilities, in addition to the placement of concrete, take precaution to protect **VaporBlock Plus**. Carelessness during installation can damage the most puncture-resistant membrane. Sheets of plywood cushioned with geotextile fabric temporarily placed on **VaporBlock Plus** provide for additional protection in high traffic areas including concrete buggies.
- 2.2. Use only brick-type or chair-type reinforcing bar supports to protect **VaporBlock Plus** from puncture.
- 2.3. Avoid driving stakes through **VaporBlock Plus**. If this cannot be avoided, each individual hole must be repaired per section 1.6.
- 2.4. If a cushion or blotter layer is required in the design between **VaporBlock Plus** and the slab, additional care should be given if sharp crushed rock is used. Washed rock will provide less chance of damage during placement. Care must be taken to protect blotter layer from precipitation before concrete is placed.

VaporBlock® Plus™ Gas & Moisture Barrier can be identified on site as gold/white in color printed in black ink with the following logo and classification listing:



VaporBlock® Plus™
Gas & Moisture Barrier



Note: To the best of our knowledge, these are typical installation procedures and are intended as guidelines only. Architectural or structural drawings must be reviewed and followed as well as on a project basis. NO WARRANTIES ARE MADE AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS OR GUIDELINES REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and we disclaim all liability for resulting loss or damage.

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www.VaporBlockPlus.com
8/13 EFD 1127

Appendix 11
Composite Cover System Drawings

Q:\2023 DPC Projects\KangM\23-01 685 4th Ave, Brooklyn OER\CAD\Figure X Composite Cover System Map.dwg



4TH AVENUE

683 4TH AVE

679 4TH AVE

186 21ST STREET

1

4

2

5

3

6

CONCRETE COVER SYSTEM

187
22ND
STREET

191
22ND
STREET

193
22ND
STREET

22ND STREET

LEGEND

CONCRETE COVER SYSTEM

PREPARED BY:



*The Third Generation of Excellence In Water Supply, Water
Resources, Civil and Environmental Engineering*

3555 Veterans Memorial Highway, Suite A, Ronkonkoma, NY 11779
PHONE: (631) 234-2220 FAX: (631) 234-2221 E-MAIL: info@holzmacher.com

TITLE:

Composite Cover System Map

685 4th Avenue
Brooklyn, New York

PROJECT NO.:
KangM 23-01

CHKD:
MFT

APPD:
JRH

DATE:
01/04/23

SCALE:
1:20

DWN:
MFT

NOTES:
-

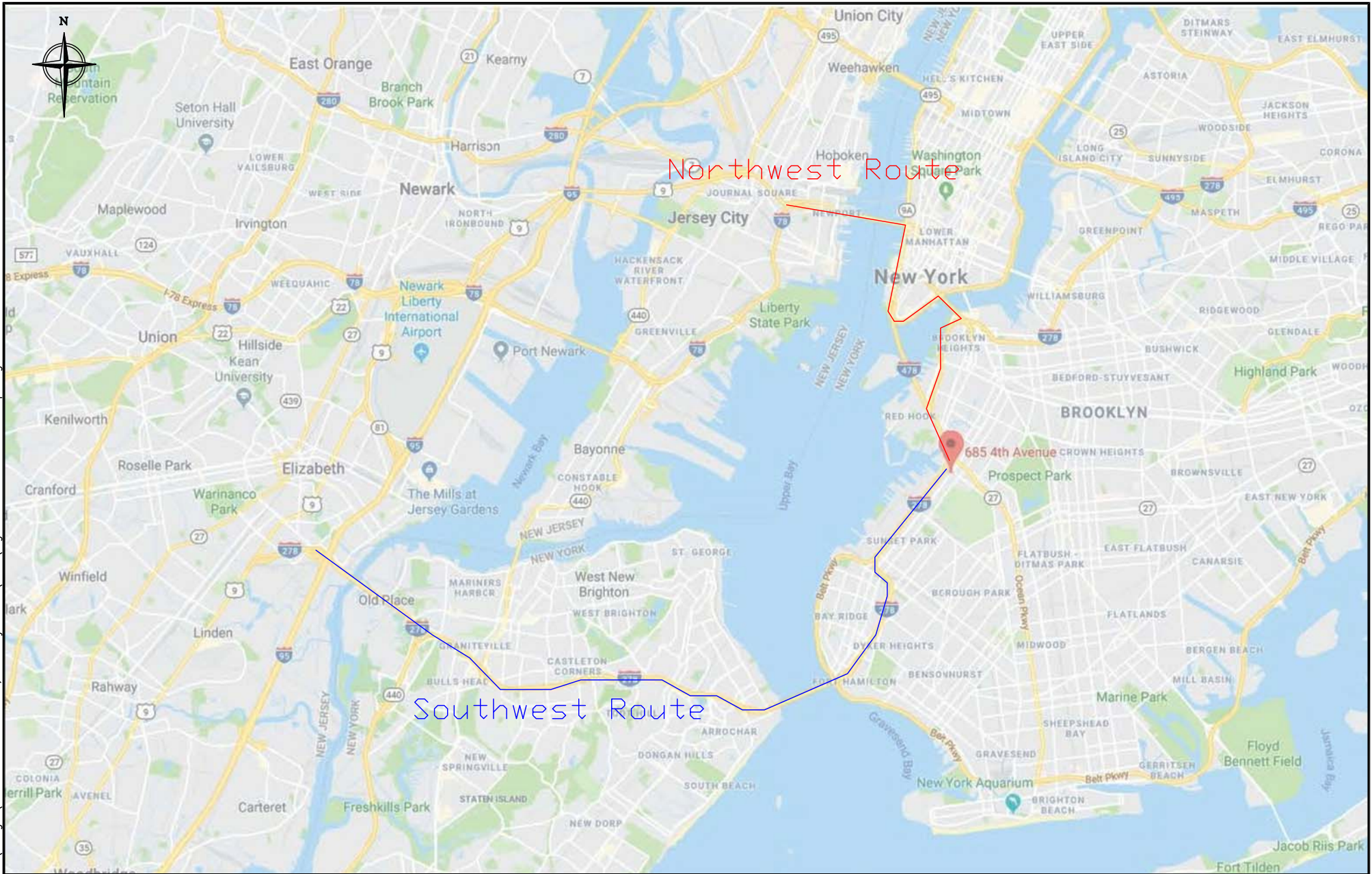
REV.:
-


FIGURE NO.:

X

Appendix 12
Truck Route

Q:\2023 DPC Projects\KangM\23-01 685 4th Ave, Brooklyn_OER\CAD\Figure X Truck Route Map.dwg



<div>PREPARED BY:</div> <div><div>JRH Consulting Engineers, DPC</div></div> <div>The Third Generation of Excellence In Water Supply, Water Resources, Civil and Environmental Engineering</div> <div>3555 Veterans Memorial Highway, Suite A, Ronkonkoma, NY 11779</div> <div>PHONE: (631) 234-2220 FAX: (631) 234-2221 E-MAIL: info@holzmacher.com</div>	<div>TITLE:</div> <div>Truck Route Map</div> <div>685 4th Avenue</div> <div>Brooklyn, New York</div>	PROJECT NO.:	CHKD:	APPD:	DATE:
		KangM 23-01	MFT	JRH	01/04/23
		SCALE:	DWN:	NOTES:	REV.:
		N.T.S.	MFT	-	-
FIGURE NO.:		X			

Appendix 13

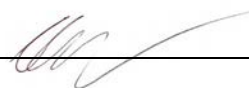
RIR Certification Page & RAWP Certification Page

CERTIFICATION

I, Arthur J. Scheff, am a Qualified Environmental Professional, as defined in RCNY § 43-1402(ar). I have primary direct responsibility for implementation of the Remedial Investigation for the Site 685 4th Avenue Brooklyn Site, (NYC VCP Site No's. 18TMP0017K & 18EH-N047K). I am responsible for the content of this Remedial Investigation Report (RIR), have reviewed its contents and certify that this RIR is accurate to the best of my knowledge and contains all available environmental information and data regarding the property.

Arthur J. Scheff

October 17, 2018



Qualified Environmental Professional

Date

Signature

CERTIFICATION

I, James R. Holzmacher, 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 685 4th Avenue site, site number 18TMP0017K & 18EH-N047K. 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.

James R. Holzmacher

Name

66054

PE License Number

James R. Holzmacher

Signature

2019-01-28

Date



Appendix 14

Development Plans

ZONING CALCULATIONS

ADDRESS: 179, 22ND STREET, BROOKLYN
BLOCK: 643 LOT: 1
MAP: 16D ZONE: R8A / C2-4
SPECIAL ENHANCED COMMERCIAL DISTRICT #1

ZONING USE GROUP: 2 (RESIDENTIAL), 6A (RETAIL OR SERVICE ESTABLISHMENTS)
AND 2B (ACCESSORY PARKING GARAGE), 4 (COMMUNITY FACILITY/AMBULATORY DIAGNOSTIC)
OCCUPANCY GROUP: R-2 (RESIDENTIAL) & M (MERCANTILE) AND S-2 (ACCESSORY PARKING),
B (COMMUNITY FACILITY / AMBULATORY DIAGNOSTIC)

CONSTRUCTION CLASS: I9
NUMBER OF STORIES: 10 STORIES WITH CELLAR
PROPOSED BUILDING HEIGHT: 104'-10"
LOT AREA: 10017.00 S.F.

FLOOR AREA SCHEDULE

ZR 35-31 MAX. FLOOR AREA RATIO PERMITTED FOR ZONING
LOTS CONTAINING RESIDENTIAL AND COMMERCIAL OR
COMMUNITY FACILITY USES SHALL BE BASE FLOOR AREA RATIO
SET FORTH IN SECTION 23-154 FOR THE APPLICABLE DISTRICT.

PROPOSED PROPERTY LOCATED IN BROOKLYN COMMUNITY
DISTRICT 7 - MAP 1 IN APPENDIX F,
(INCLUSIONARY HOUSING AREA) MAP LOCATED ON DWG# Z-102

ZR 23-154(B) RESIDENTIAL - INCLUSIONARY HOUSING DESIGNATED AREA (OPTIONAL)

MAX. BASE F.A.R. PERMITTED FOR R8A = 5.40 (NOT INCLUSIONARY HOUSING)
MAX. FLOOR AREA PERMITTED FOR RESIDENTIAL = 10,017 SF X 5.40 = 54,091.80 SF
PROPOSED RESIDENTIAL AREA = 54,076.35 SF < 54,091.80 SF
PROPOSED RESIDENTIAL FAR = 5.40.....O.K.

23-153 MAX. RESIDENTIAL LOT COVERAGE FOR CORNER LOT = 100%
PERMITTED RESIDENTIAL LOT COVERAGE = 10,017.00 SF X 100% = 10,017.00 SF
PROPOSED RESIDENTIAL LOT COVERAGE = 7,376.48 SF (FL2) < 10,017.00 SF.....O.K.
PROPOSED RESIDENTIAL LOT COVERAGE (IN PERCENTAGE) = 7,376.48 / 10,017.00 = 74% < 100%.....O.K.

ZR 24-11 COMMUNITY FACILITY

MAX. BASE F.A.R. PERMITTED FOR R8A = 6.50
MAX. FLOOR AREA PERMITTED FOR COMMUNITY FACILITY = 10,017 SF X 6.50 = 65,110.50 SF
PROPOSED COMMUNITY FACILITY AREA = 1,109.44 SF < 65,110.50 SF
PROPOSED COMMUNITY FACILITY FAR = 0.11 < 6.50.....O.K.

ZR 33-121 COMMERCIAL MAX. FLOOR AREA

MAX. FAR FOR COMMERCIAL USE = 2.00
PERMITTED COMMERCIAL FLOOR AREA = 10,017.00 X 2.00 = 20,034.00 SF
PROPOSED COMMERCIAL FLOOR AREA = 6,417.20 SF < 20,034.00 SFOK
PROPOSED COMMERCIAL FAR = 0.64 < 2.00OK

TOTAL PROPOSED MIXED-USE FAR: 5.40 + 0.11 + 0.64 = 6.15 < 6.50OK
TOTAL PROPOSED MIXED FLOOR AREA = 61,602.99 SF < 65,110.50 SF.....O.K.



WORK
LOCATION

RESIDENTIAL FLOOR AREA												COMMERCIAL	COMMUNITY FACILITY
FLOOR #	RESIDENTIAL SUITE	UNITS	GROSS	EXTERIOR RECREATION	BICYCLE STORAGE ROOM	50% CORRIDOR	RECESSED AREA/ DRIVEWAY/	PLUMBING CHASE	MECH CHASE	REFUSE ROOM	DEDUCT	NET	NET
CELLAR			9,982.60		729								
1ST FL			9,982.60				1233.60	16.89	30.88	0	1281.37	1,174.59	6,417.20
2ND FL		10	7,376.48			272.73		110.08	26.73	12	421.54	6,954.94	0.00
3RD FL		10	7,376.48			272.73		110.08	42.39	12	437.20	6,939.28	0.00
4TH FL		10	7,376.48			272.73		110.08	42.39	12	437.20	6,939.28	0.00
5TH FL		10	7,376.48			272.73		110.08	42.39	12	437.20	6,939.28	0.00
6TH FL		10	7,376.48			272.73		110.08	42.39	12	437.20	6,939.28	0.00
7TH FL		8	6,152.87			226.37		91.96	40.31	12	370.64	5,782.23	0.00
8TH FL		8	6,152.87			226.37		91.96	40.31	12	370.64	5,782.23	0.00
9TH FL		3	3,640.40			171.17		29.21	46.73	12	259.11	3,381.29	0.00
10TH FL		3	3,497.06			171.17		23.21	46.73	12	253.11	3,243.95	0.00
ROOF BULKHEAD			1,237.46	1,579.12	729								
SUB TOTAL/GROSS		72	77,528.26									54,076.35	6,417.20
PROPOSED FAR												5.40	0.64
													0.11
													6.15

ZR 23-22 DENSITY REGULATIONS

	REQUIRED/ ALLOWED	PROPOSED	ZR SECTION	REMARK
MAX. NUMBER OR DWELLING UNIT	80	72	ZR 23-22	54,076.35 SF / 680 SF = 79.52 = 80 PERMITTED # OF DWELLING UNITS: 72 PROPOSED # OF DWELLING UNITS: 72 < 80 O.K.

ZR 23-40 YARD REGULATIONS

	REQUIRED/ ALLOWED	PROPOSED	ZR SECTION	REMARK
FRONT YARD	0	0	ZR 23-45	NO FRONT YARD IS REQUIRED
SIDE YARD	0	0	ZR 23-462	NO SIDE YARD IS REQUIRED
REAR YARD	30'-0"	50'-0"	ZR 23-47	

ZR 35-51 MODIFICATION OF FRONT YARD REQUIREMENTS

PROPOSED PROPERTY IN R8A IN C2-4, NO FRONT YARD SHALL BE REQUIRED.

ZR 35-52 MODIFICATION OF SIDE YARD REQUIREMENTS

PROPOSED PROPERTY IN R8A IN C2-4, NO SIDE YARD SHALL BE REQUIRED.

ZR 23-621(C) PERMITTED OBSTRUCTIONS (DORMER) ~SEE Z-102

DORMERS SHALL BE ALLOWED AS A PERMITTED OBSTRUCTION, PROVIDED THAT ON ANY #STREET#
FRONTAGE, THE AGGREGATE WIDTH OF ALL DORMERS AT THE MAXIMUM BASE HEIGHT DOES NOT EXCEED
60 PERCENT OF THE WIDTH OF THE #STREET WALL# OF THE HIGHEST #STORY# ENTIRELY BELOW THE
MAXIMUM BASE HEIGHT. FOR EACH FOOT ABOVE THE MAXIMUM BASE HEIGHT, THE AGGREGATE WIDTH OF
ALL DORMERS SHALL BE DECREASED BY ONE PERCENT OF THE #STREET WALL# WIDTH OF THE HIGHEST
#STORY# ENTIRELY BELOW THE MAXIMUM BASE HEIGHT.

ZR 35-22(C) RESIDENTIAL BULK REGULATION IN C1 OR C2 DISTRICTS WHOSE BULK IS GOVERNED BY SURROUNDING RESIDENCE DISTRICT

PROPOSED PROPERTY R8A IN C2-4, THE HEIGHT AND SETBACK REGULATIONS OF SECTION 23-66 SHALL BE MODIFIED BY
THE PROVISIONS OF SECTION 35-65 FOR QUALITY HOUSING BUILDINGS.

ZR 35-60 MODIFICATION OF HEIGHT AND SETBACK REGULATIONS

35-61 APPLICABILITY

IN C1 OR C2 DISTRICTS MAPPED WITHIN R8A, ALL BUILDINGS SHALL COMPLY WITH BULK REGULATIONS FOR QUALITY
HOUSING BUILDINGS SET FORTH IN SECTIONS 23-62 (PERMITTED OBSTRUCTION) AND 23-66 (HEIGHT AND SETBACK
REQUIREMENTS FOR QUALITY HOUSING BUILDINGS), AS MODIFIED BY SECTION 35-65.

35-62 (b) COMMERCIAL DISTRICTS WITH AN R1 THROUGH R5 RESIDENTIAL EQUIVALENT

IN C1 OR C2 DISTRICTS WHEN MAPPED IN R8A SHALL APPLY ALONG "WIDE STREETS", AND ALONG "NARROW STREET"
WITHIN 50 FEET OF THEIR INTERSECTION WITH A "WIDE STREET".

IN C1 OR C2 DISTRICT WHEN MAPPED IN R8A SHALL APPLY ALONG "WIDE STREETS", AND ALONG "NARROW STREET"
WITHIN 50 FEET OF THEIR INTERSECTION WITH A "WIDE STREET".
(1) THE "STREET WALL" SHALL BE LOCATED ON THE "STREET LINE AND EXTEND ALONG THE ENTIRE "STREET" FRONTAGE
OF THE "ZONING LOT" UP TO AT LEAST THE MINIMUM BASE HEIGHT SPECIFIED IN SECTION 35-652 AND 23-662.

ZR 35-65 HEIGHT AND SETBACK REQUIREMENTS FOR QUALITY HOUSING BUILDINGS

IN C2-4, THE "STREET WALL" LOCATION PROVISIONS OF SECTION 35-651 AND THE HEIGHT AND SETBACK PROVISIONS OF
SECTION 35-652 SHALL APPLY TO "QUALITY HOUSING BUILDINGS".

ZR 35-651 STREET WALL LOCATION

IN C2-4, THE "STREET WALL" LOCATION PROVISIONS A SETBACK IS REQUIRED FOR ALL PORTIONS OF BUILDINGS OR OTHER
STRUCTURES" THAT EXCEED THE MAXIMUM BASE HEIGHT SPECIFIED FOR THE APPLICABLE RESIDENTIAL EQUIVALENT IN
THE TABLES IN SECTION 23-662, AND SHALL BE PROVIDED IN ACCORDANCE WITH THE REGULATIONS SET FORTH IN THE
SECTION 23-662 FOR THE APPLICABLE "RESIDENCE DISTRICT".

ZR 35-652 MAXIMUM HEIGHT OF BUILDINGS AND SETBACK REGULATIONS

IN C2-4, THE HEIGHT AND SETBACK REGULATIONS FOR "QUALITY HOUSING BUILDINGS" ARE SET FORTH IN THIS SECTION.
A SETBACK US REQUIRED FOR ALL PORTIONS OF "BUILDINGS OR OTHER STRUCTURES" THAT EXCEED THE MAXIMUM BASE
HEIGHT SPECIFIED FOR THE APPLICABLE RESIDENTIAL EQUIVALENT IN THE TABLES IN SECTION 23-662, SHALL BE
PROVIDED IN ACCORDANCE WITH THE REGULATIONS SET FORTH IN SECTION 23-662 FOR THE APPLICABLE "RESIDENCE
DISTRICT" WITHIN WHICH SUCH "COMMERCIAL DISTRICT" ARE MAPPED.

ZR 23-662 HEIGHT AND SETBACK REGULATIONS

BUILDING SETBACK (R8A)			BUILDING HEIGHT (R8A)			
4TH AVE (WIDE STREET)		ZR SECTION ZR 23-662	MIN. BASE HEIGHT 85'-0" MAX. BLDG. HEIGHT 120'-0"	PERMITTED	PROPOSED	CODE SECTION
REQUIRED	PROPOSED			60'-0" 85'-0" 120'-0"	84'-10" 84'-10" 104'-10"	ZR 23-662
10'-0"	N/A					
BUILDING SETBACK (R8A)			BUILDING HEIGHT (R8A)			
22ND STREET (NARROW STREET)		ZR SECTION ZR 23-662	MIN. BASE HEIGHT 85'-0" MAX. BASE HEIGHT MAX. BLDG. HEIGHT	PERMITTED	PROPOSED	CODE SECTION
REQUIRED	PROPOSED			60'-0" 85'-0" 120'-0"	84'-10" 84'-10" 104'-10"	ZR 23-662
15'-0"	N/A					

(ABOVE MAX. BASE HT. DORMER PROVIDED FACING 4TH AVENUE, REFER TO DWG# Z-102)

ZR 23-693 SPECIAL PROVISIONS APPLYING ADJACENT TO R1 THROUGH R6B DISTRICT

IN THE DISTRICT INDICATED, WITHIN 25' OF R6B, THE MAX. HEIGHT OF THE BUILDING SHALL NOT EXCEED 65'.

PROPOSED BUILDING WITHIN 25' OF R6B DISTRICT ON 22ND STREET SIDE, HEIGHT = 65' O.K.

ZR 23-633 STREET WALL LOCATION

AT LEAST 70 PERCENT OF THE #AGGREGATE WIDTH OF STREET WALLS# SHALL BE LOCATED WITHIN EIGHT FEET OF THE
#STREET LINE# AND EXTEND TO AT LEAST THE MINIMUM BASE HEIGHT SPECIFIED IN THE TABLE IN THIS SECTION OR THE HEIGHT
OF THE #BUILDING#, WHICHEVER IS LESS. THE REMAINING 30 PERCENT OF THE #AGGREGATE WIDTH OF STREET WALLS# MAY BE
RECESSED BEYOND EIGHT FEET OF THE #STREET LINE# PROVIDED ANY SUCH RECESSES DEEPER THAN 10 FEET ALONG A #WIDE
STREET# OR 15 FEET ALONG A #NARROW STREET# ARE LOCATED WITHIN AN "OUTER COURT#"

ZR 28-12 REFUSE STORAGE AND DISPOSAL

THE STORAGE OF REFUSE SHALL OCCUR ENTIRELY WITHIN AN ENCLOSED AREA ON THE #ZONING LOT# AND APPROPRIATE
LOCATIONS WITHIN THE #ZONING LOT# SHALL BE DELINEATED FOR THIS PURPOSE. AT LEAST ONE FOR #RESIDENTIAL USES# AND
AT LEAST ONE FOR #COMMUNITY FACILITY# AND #COMMERCIAL USES#. #RESIDENTIAL# STORAGE AND REMOVAL LOCATIONS
SHALL BE PROVIDED AT THE RATE OF 2.9 CUBIC FEET PER #DWELLING UNIT# OR 1.15 CUBIC FEET PER #ROOMING UNIT#.

A REFUSE DISPOSAL ROOM OF NOT LESS THAN TWELVE SQUARE FEET WITH NO DIMENSION LESS THAN THREE FEET SHALL BE
PROVIDED ON EACH #STORY# THAT HAS ENTRANCES TO #DWELLING UNITS# OR #ROOMING UNITS#. TWELVE SQUARE FEET OF
SUCH REFUSE STORAGE ROOM SHALL BE EXCLUDED FROM THE DEFINITION OF #FLOOR AREA#.

ZR 132-32 TRANSPARENCY REQUIREMENT

(A) TRANSPARENT MATERIALS SHALL OCCUPY AT LEAST 50 PERCENT OF THE SURFACE AREA OF SUCH #GROUND FLOOR LEVEL
STREET WALL# BETWEEN A HEIGHT OF TWO FEET AND 12 FEET, OR THE HEIGHT OF THE GROUND FLOOR CEILING, WHICHEVER IS
HIGHER, AS MEASURED FROM THE ADJOINING SIDEWALK. TRANSPARENT MATERIALS PROVIDED
TO SATISFY SUCH 50 PERCENT REQUIREMENT SHALL:

- (1) NOT BEGIN HIGHER THAN 2 FEET, 6 INCHES, ABOVE THE LEVEL OF THE ADJOINING SIDEWALK, WITH THE EXCEPTION OF
TRANSOM WINDOWS, OR PORTIONS OF WINDOWS SEPARATED BY MULLIONS OR OTHER STRUCTURAL DIVIDERS; AND
- (2) HAVE A MINIMUM WIDTH OF TWO FEET; AND

(B) THE MAXIMUM WIDTH OF A PORTION OF THE #GROUND FLOOR LEVEL STREET WALL# WITHOUT TRANSPARENCY SHALL NOT
EXCEED TEN FEET.

ZR 132-22 MANDATORY GROUND FLOOR USES

(A) MINIMUM PERCENTAGE OF #COMMERCIAL USES# MANDATORY #COMMERCIAL USE# REGULATIONS SHALL APPLY TO AN AREA OF
A #BUILDING'S GROUND FLOOR LEVEL# DEFINED BY AN AGGREGATE WIDTH EQUAL TO AT LEAST 50 PERCENT OF A #BUILDING'S
STREET WALL# ALONG A #DESIGNATED COMMERCIAL STREET# AND A DEPTH EQUAL TO AT LEAST 30 FEET, AS MEASURED FROM THE
#STREET WALL# ALONG THE #DESIGNATED COMMERCIAL STREET#. SUCH AN AREA ON THE #GROUND FLOOR LEVEL# SHALL BE
OCCUPIED BY #COMMERCIAL USES# LISTED IN USE GROUPS 5, 6A, 6C EXCLUDING BANKS AND LOAN OFFICES, 7B, 8A, 8B OR 9A. THE
REMAINING PORTION OF THE #GROUND FLOOR LEVEL# SHALL BE OCCUPIED BY ANY NON-#RESIDENTIAL USE# PERMITTED BY THE
UNDERLYING DISTRICT REGULATIONS, OR BY OTHER #USES# PERMITTED PURSUANT TO PARAGRAPH (C) OF THIS SECTION.

(C) OTHER PERMITTED #USES# IN THE APPLICABLE #SPECIAL ENHANCED COMMERCIAL DISTRICTS#, THE FOLLOWING #USES# SHALL
BE PERMITTED ON THE #GROUND FLOOR LEVEL# OF A #BUILDING# ALONG A #DESIGNATED COMMERCIAL STREET#. ONLY AS
FOLLOWS:

(1) #RESIDENTIAL# LOBBIES, AND AN ASSOCIATED VERTICAL CIRCULATION CORE, SHALL BE PERMITTED ON THE #GROUND
FLOOR LEVEL#, PROVIDED THAT SUCH LOBBIES COMPLY WITH THE MAXIMUM WIDTH PROVISIONS OF PARAGRAPH (C) OF
SECTION 132-24 (MAXIMUM WIDTH RESTRICTIONS). IN ADDITION, THE 30 FOOT DEPTH REQUIREMENT FOR #COMMERCIAL USES#
SET FORTH IN PARAGRAPH (A) OF THIS SECTION, WHERE APPLICABLE, MAY BE ENCLOSED UPON WHERE NECESSARY TO
ACCOMMODATE A VERTICAL CIRCULATION CORE ASSOCIATED WITH SUCH #RESIDENTIAL# LOBBY; AND

(2) #ACCESSORY# OFF-STREET PARKING SPACES AND ENTRANCES AND EXITS SHALL BE PERMITTED ON THE #GROUND FLOOR
LEVEL#, PROVIDED THAT SUCH OFF-STREET PARKING SPACES AND ASSOCIATED ENTRANCES AND EXITS COMPLY WITH THE
PROVISIONS OF SECTION 132-40 (SPECIAL PARKING REGULATIONS).

STREET FRONTAGE

ZR 132-23
FOR #ZONING LOTS# WITH A #LOT WIDTH# OF 50 FEET OR MORE, AS MEASURED ALONG THE #STREET LINE# OF THE
#DESIGNATED COMMERCIAL STREET#, A MINIMUM OF TWO NON-#RESIDENTIAL# ESTABLISHMENTS SHALL BE REQUIRED
FOR EVERY 50 FEET OF #STREET# FRONTAGE.

ZR 25-241/ 36-21/ 25-31 PARKING REQUIREMENTS

	ZR SECTION	REQUIRED	PROPOSED	REMARK
RESIDENTIAL	ZR 25-23 / ZR 25-241	20% (14)	16	72 UNITS X 0.2 = 14.4 (14) SPACES REQUIRED
COMMERCIAL	ZR 117-54 / ZR 36-21	1 PER 1,000SF (10 REQUIRED ~WAIVED)	NONE	(A) #COMMERCIAL USES# IN PARKING REQUIREMENT CATEGORY A OR B, IF THE TOTAL NUMBER OF #ACCESSORY# OFF-STREET PARKING SPACES REQUIRED FOR ALL SUCH #USES# ON THE #ZONING LOT# IS LESS THAN 40, OR 100 IN THE CASE OF C6-1A DISTRICTS.
COMMUNITY FACILITY/ AMBULATORY DIAGNOSTIC	ZR 25-31 ZR 36-21	1 PER 1,000SF (10 REQUIRED ~WAIVED)	NONE	1 PER 1,000 SF REQ'D, PROPOSED CF = 1,109.44 SF

ZR 36-62 LOADING BERTH REQUIREMENTS

	ZR SECTION	REQUIRED	PROPOSED	REMARK
COMMERCIAL	ZR 36-62	FIRST 15,000 SF ~NONE	NONE	TOTAL PROPOSED COMMERCIAL FA: 6,417.20 < 15,000 ~NONE REQUIRED
COMMUNITY FACILITY	ZR 36-62	FIRST 10,000 SF ~NONE	NONE	TOTAL PROPOSED COMMUNITY FACILITY FA: 1,109.44 < 10,000 ~NONE REQUIRED

ZR 25-811 REQUIRED BICYCLE PARKING SPACES

	REQUIRED/ ALLOWED	PROPOSED	ZR SECTION	REMARK
RESIDENTIAL	36	45	ZR 25-811	USE GROUP 2 (1 PER 2 DWELLING UNITS) 72 UNITS (2 = 36 SPACES REQUIRED 45 SPACES PROVIDED AT CELLAR FLOOR.
COMMERCIAL USE GROUP 6A, C	NONE	NONE	ZR 36-711	USE GROUP 6A, C GENERAL RETAIL OR SERVICES (1 PER 10,000 SF) PROPOSED COMMERCIAL FA: 6,417.20 < 10,000 SF ~NO SPACE REQUIRED
COMMUNITY FACILITY USE GROUP 4	NONE	NONE	ZR 36-711	USE GROUP 4 COMMUNITY FACILITY/ AMBULATORY DIAGNOSTIC (1 PER 10,000 SF) PROPOSED COMMERCIAL FA: 1,109.44 < 10,000 SF ~NO SPACE REQUIRED

ZR 26-41 REQUIRED STREET TREE PLANTING

	REQUIRED	PROPOSED ON-SITE PLANTING	PROPOSED PARKS TREE FUND PLANTING	REMARK
4TH AVENUE (100'-2")	4	0	4	ONE TREE PER 25' OF STREET FRONTAGE: 4TH AVE: 100'-2" / 25' = 4.01 (4 TREES) 4TH AVE PROPOSED: 4 TREES (4 TREE FUND) 22ND ST: 100' / 25' = 4 TREES 22ND ST PROPOSED: 4 TREES (2 ON-SITE, 1 EXT'G)
22ND STREET (100')	4	2 ON-SITE 1 EXT'G	1	

ZR 28-00 QUALITY HOUSING PROGRAM

	REQUIRED	PROPOSED	ZR SECTION	REMARK
STREET TREES	8	8	ZR 26-41	1 TREE PER 25'-0" OF STREET FRONTAGE OF THE ZONING LOT 4TH AVENUE: 100'-2" / 25'-0" = 4 TREES (4 TREE PAYMENTS) 22ND STREET: 100'-0" / 25'-0" = 4 TREES (1 EXISTING + 2 ONSITE 1 TREE PAYMENT)
REFUSE STORAGE & DISPOSAL	1/FLOOR	1/FLOOR	ZR 28-12	1 REFUSE DISPOSAL ROOM FOR AT LEAST 9 D.U. PER FLOOR- MAX. 12 SF PER FLOOR EXCLUDED FROM THE FLOOR AREA
LAUNDRY FACILITIES	WASHINE MACHINE 1/20 D.U.	4	ZR 28-13	WASHING MACHINES: 72 / 20 = 3.6 = 4 PROPOSE 4 W.M. IN CELLAR DRYERS: 72 / 40 = 1.8 = 2 PROPOSE 2 DRYERS IN CELLAR
RECREATION SPACE	2.8% OF FLOOR AREA	1,579.12 (OUTDOOR)	ZR 28-21	54,076.35 x 2.8% = 1,514.14 S.F. REQUIRED 1,579.12 S.F. OF RECREATION AREA IS PROVIDED ON ROOF
STANDARDS FOR RECREATION SPACE	225 S.F. (OUTDOOR)	1,579.12 (OUTDOOR)	ZR 28-22	PROPOSED RECREATION AREA = 1,579.12 S.F. > 225 S.F.....O.K. Jeff Goolsby, P.E.
DENSITY PER CORRIDOR	MAX. 10 DWELLING UNITS CORRIDOR IN R8 DISTRICT	10 UNITS PER CORRIDOR (FL2-6) 8 UNITS PER CORRIDOR (FL7-8) 3 UNITS PER CORRIDOR (FL9-10)	ZR 28-31	50% OF CORRIDOR DEDUCTED FROM FLOOR AREA FOR LESS THAN 11 UNITS PER FLOOR

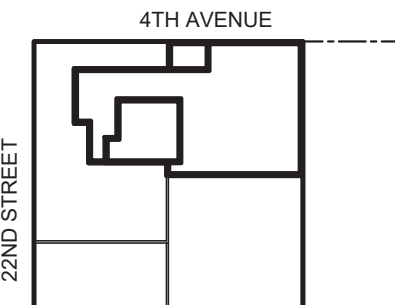
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MICHAEL KANG, RA

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

ZONING CALCULATION

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:

DRAWING BY: JL

CHK BY: MK

DWG No:

Z-101.01

PAGE No: 02 OF 43

DATE: 06/18/2020

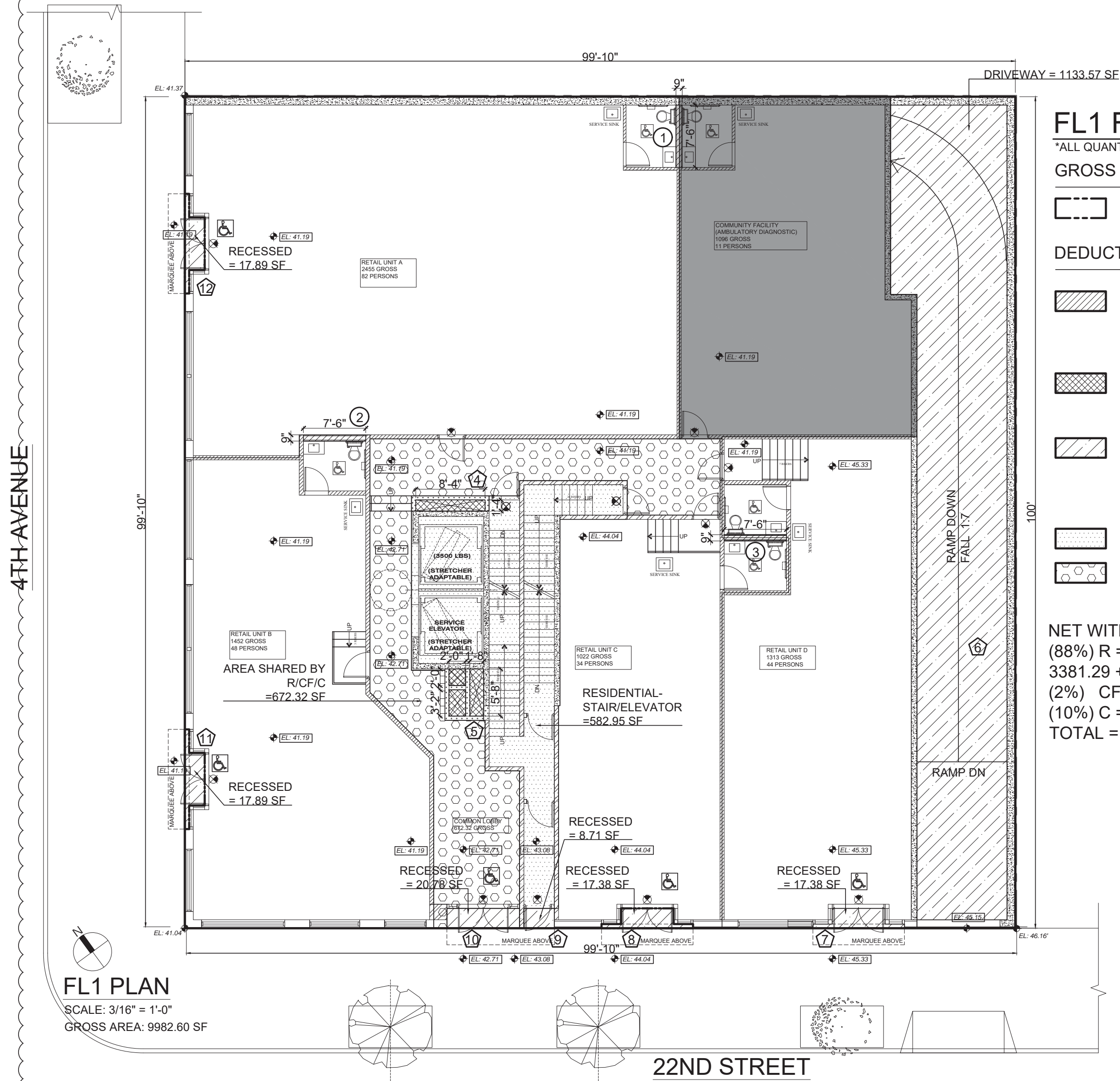
NYC Development Hub



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MICHAEL KANG, RA



FL1 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 9982.60

DEDUCTIBLE AREA: 421.54 TOTAL

PLUMBING CHASE AREA: 16.89 TOTAL

① = 5.63 ② = 5.63 ③ = 5.63

MECHANICAL AREA: 30.88 TOTAL

④ = 11.11 ⑤ = 19.77

DRIVEWAY/ RECESSED AREA: 1233.60 TOTAL

⑥ = 1133.57 ⑦ = 17.38 ⑧ = 17.38

⑨ = 8.71 ⑩ = 20.78 ⑪ = 17.89 ⑫ = 17.89

RESIDENTIAL-STAIR/ELEVATOR AREA = 582.95

CORRIDOR AREA SHARED BY
RESIDENTIAL / CF/ COMMERCIAL = 672.32 SF

NET WITHOUT 1ST FL SHARED AREA:

(88%) R = 582.95 + 6954.94 + (6939.28X4) + (5782.23X2) +
3381.29 + 3243.95 = 53484.71

(2%) CF = 1096

(10%) C = 9982.60-16.89-30.88-1233.60-582.95-672.32-1096 = 6349.96
TOTAL = 60930.67 SF

1ST FLOOR SHARED AREA:

RESIDENTIAL = 672.32 X (88%) = 591.64 SF

CF = 672.32 X (2%) = 13.44 SF

C = 672.32 X (10%) = 67.24 SF

1ST FL.NET -

RESIDENTIAL = 582.95 + 591.64 = 1174.59 SF

CF = 1096 + 13.44 = 1109.44 SF

C = 6349.96 + 67.24 = 6417.20 SF

PROPOSED BUILDING LOCATED IN INCLUSIONARY HOUSING DESIGNATED AREA

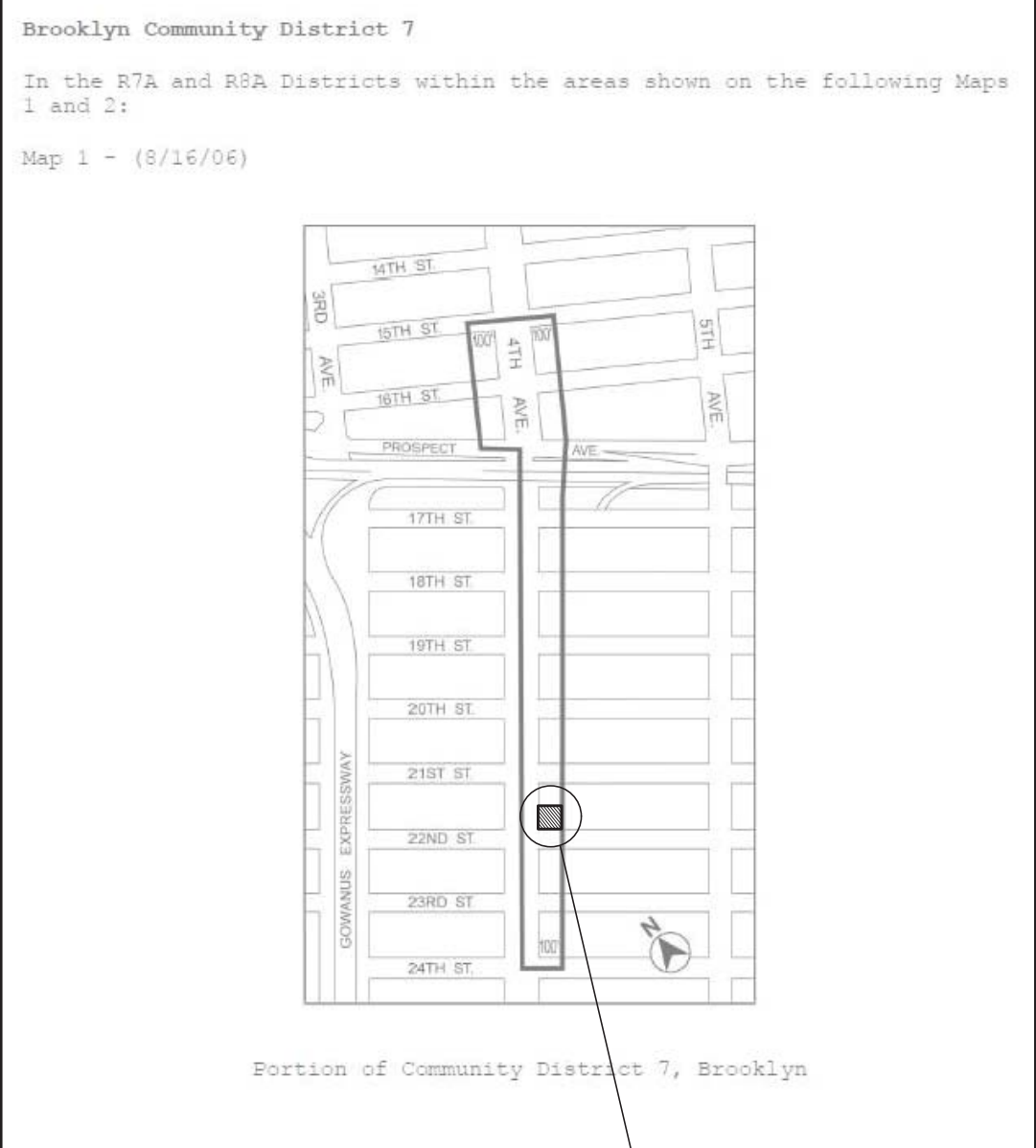
INCLUSIONARY HOUSING AS OPTIONAL

ADDRESS: 179, 22ND STREET BROOKLYN
BLOCK: 643 LOT: 1
MAP: 16d ZONE: R8A / C2-4
SPECIAL ENHANCED COMMERCIAL DISTRICT #1

ZR 23-933 INCLUSIONARY HOUSING DESIGNATED AREAS

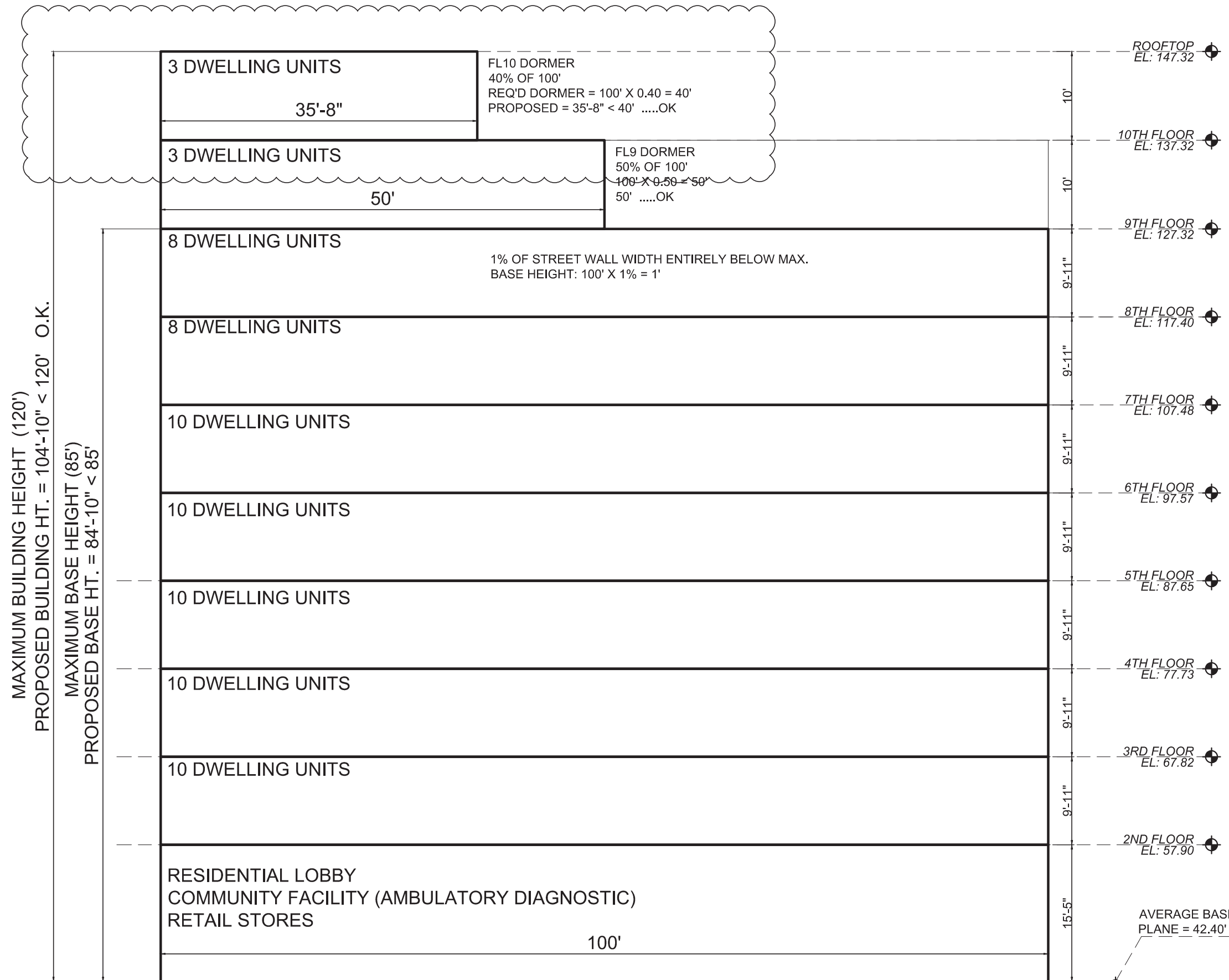
THIS PROPERTY IS MAPPED WITHIN THE SPECIAL ENHANCED COMMERCIAL DISTRICT #1
BROOKLYN COMMUNITY DISTRICT 7
MAP 1

PROPOSED BUILDING WITHOUT INCLUSIONARY HOUSING UNITS.



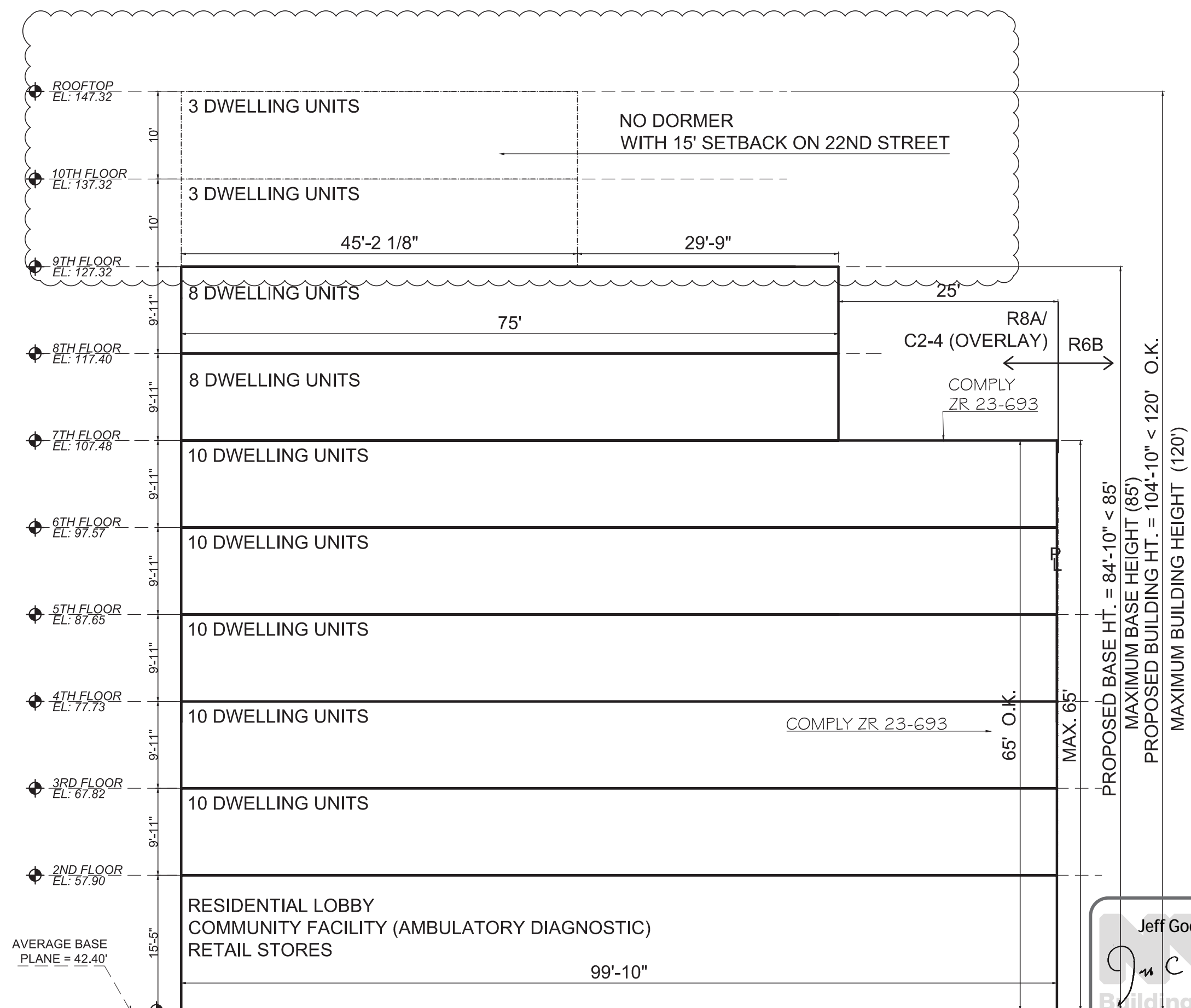
APPENDIX F
BROOKLYN COMMUNITY DISTRICT 7
MAP 1

GENERATING
SITE



4TH AVENUE BULK ELEVATION

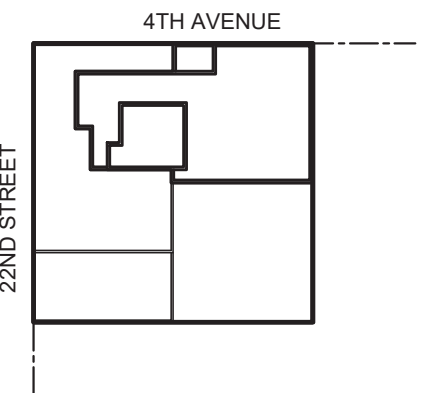
SCALE: NTS



22ND STREET BULK ELEVATION

SCALE: NTS

KEY PLAN



01 03-09-20 PAA
REV.# DATE DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

ZONING DIAGRAMS

SEAL & SIGNATURE DATE: 03/05/2015
PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:



Z-102.01

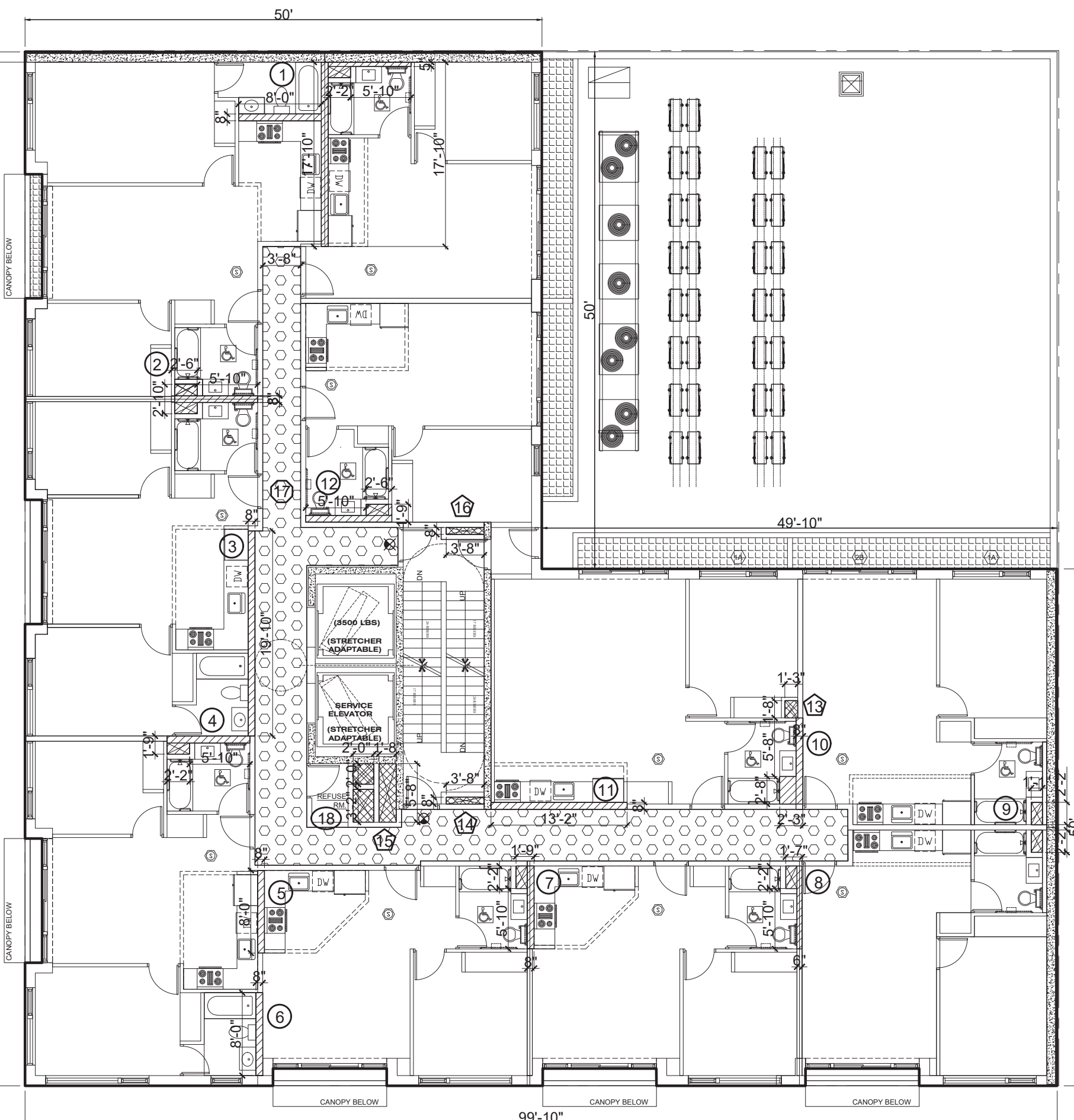
PAGE No: 03 OF 43

Jeff Goolsby, P.E.
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 06/18/2020
NYC Development Hub



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MICHAEL KANG, RA



FL2 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 7376.48 SF
10 UNITS

FL2 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 7376.48

DEDUCTIBLE AREA: 421.54 TOTAL

PLUMBING CHASE AREA: 110.08 TOTAL

- ① = 22.90 ② = 10.02 ③ = 13.22
④ = 7.68 ⑤ = 5.33 ⑥ = 5.33
⑦ = 7.68 ⑧ = 6.35 ⑨ = 4.70
⑩ = 9.83 ⑪ = 8.78 ⑫ = 8.26

MECHANICAL AREA: 42.39 TOTAL

- ⑬ = 2.08 ⑭ = 2.44 ⑮ = 19.77 ⑯ = 2.44

CORRIDOR AREA: 545.45 TOTAL /
272.73 NET (ZR28-41)

- ⑰ = 545.45 / 2 = 272.73

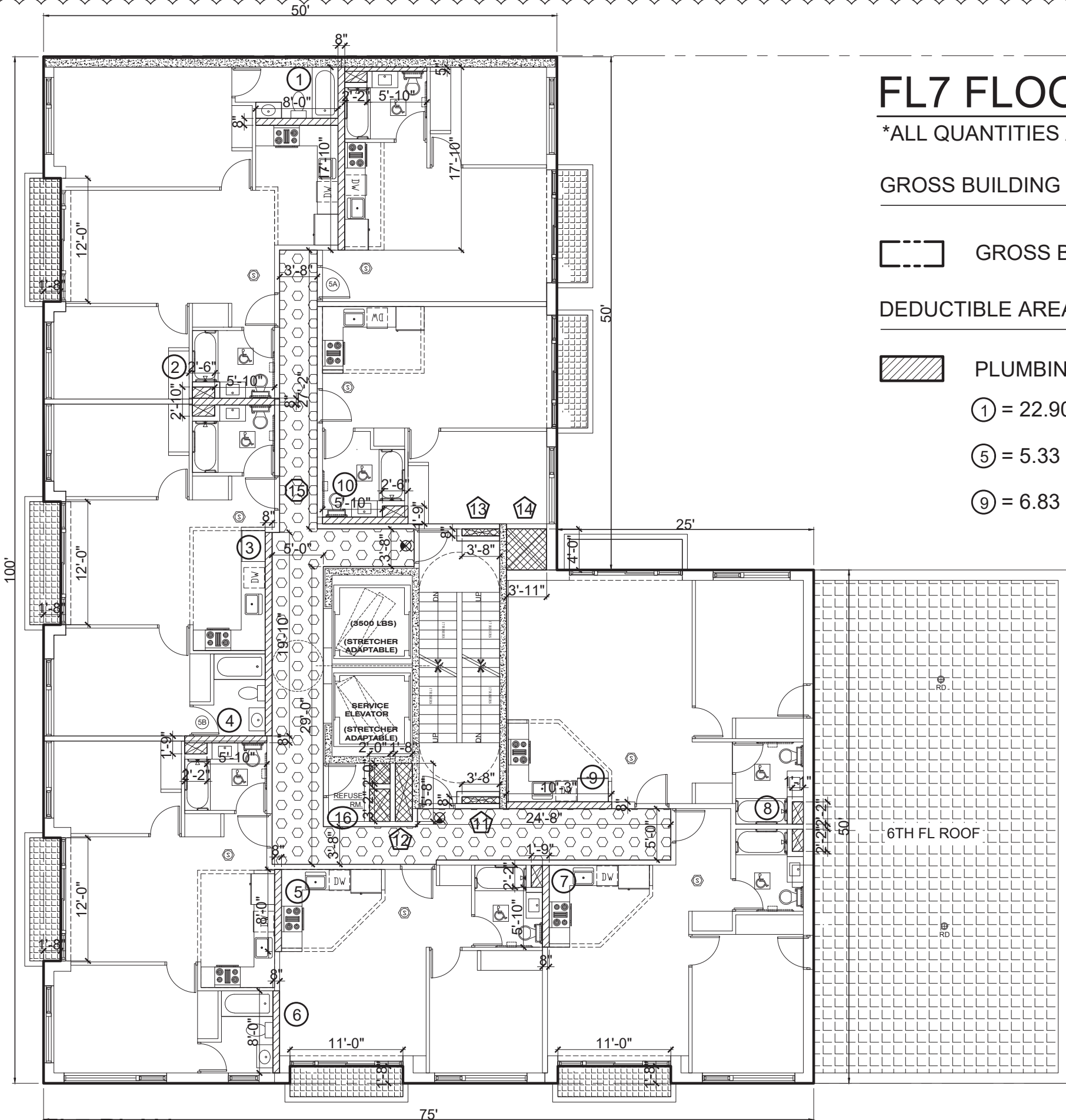
REFUSE ROOM: 12.00 TOTAL (ZR28-23)

- ⑱ = 12.00

NET FLOOR AREA

RESIDENTIAL ZONING FLOOR AREA:
7376.48 - 421.54 = 6954.94 SF

PROPOSED BALCONY
(SEE DIAGRAM ON DWG# Z-104A
FOR ZR 23-132 COMPLIANCE)



FL7 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS

FL7 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 6152.87

DEDUCTIBLE AREA: 370.64 TOTAL

PLUMBING CHASE AREA: 91.96 TOTAL

- ① = 22.90 ② = 10.03 ③ = 13.22 ④ = 7.68
⑤ = 5.33 ⑥ = 5.33 ⑦ = 7.68 ⑧ = 4.70
⑨ = 6.83 ⑩ = 8.26

MECHANICAL AREA: 40.31 TOTAL

- ⑪ = 2.44 ⑫ = 19.77 ⑬ = 2.44 ⑭ = 15.66

CORRIDOR AREA:
452.74 TOTAL / 226.37 NET (ZR28-41)

- ⑮ = 452.74 / 2 = 226.37

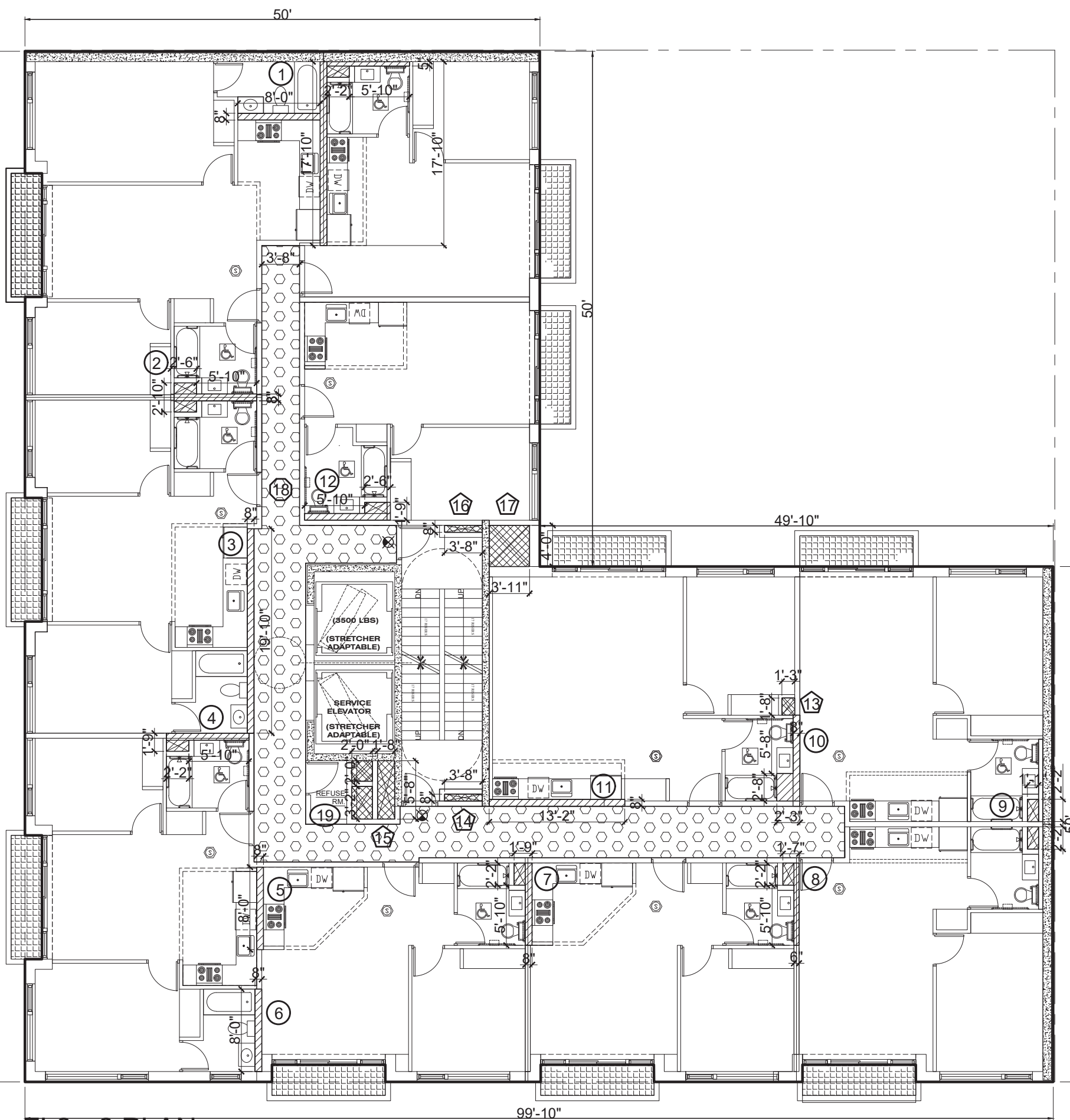
REFUSE ROOM: 12.00 TOTAL (ZR28-23)

- ⑯ = 12.00

NET FLOOR AREA

RESIDENTIAL ZONING FLOOR AREA:
6152.87 - 370.64 = 5782.23 SF

PROPOSED BALCONY
(SEE DIAGRAM ON DWG# Z-104A
FOR ZR 23-132 COMPLIANCE)



FL3 - 6 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 7,376.48 SF
10 UNITS

FL3-6 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 7376.48

DEDUCTIBLE AREA: 437.20 TOTAL

PLUMBING CHASE AREA: 110.08 TOTAL

- ① = 22.90 ② = 10.02 ③ = 13.22
④ = 7.68 ⑤ = 5.33 ⑥ = 5.33
⑦ = 7.68 ⑧ = 6.35 ⑨ = 4.70
⑩ = 9.83 ⑪ = 8.78 ⑫ = 8.26

MECHANICAL AREA: 42.39 TOTAL

- ⑬ = 2.08 ⑭ = 2.44 ⑮ = 19.77 ⑯ = 2.44 ⑰ = 15.66

CORRIDOR AREA: 545.45 TOTAL /
272.73 NET (ZR28-41)

- ⑱ = 545.45 / 2 = 272.73

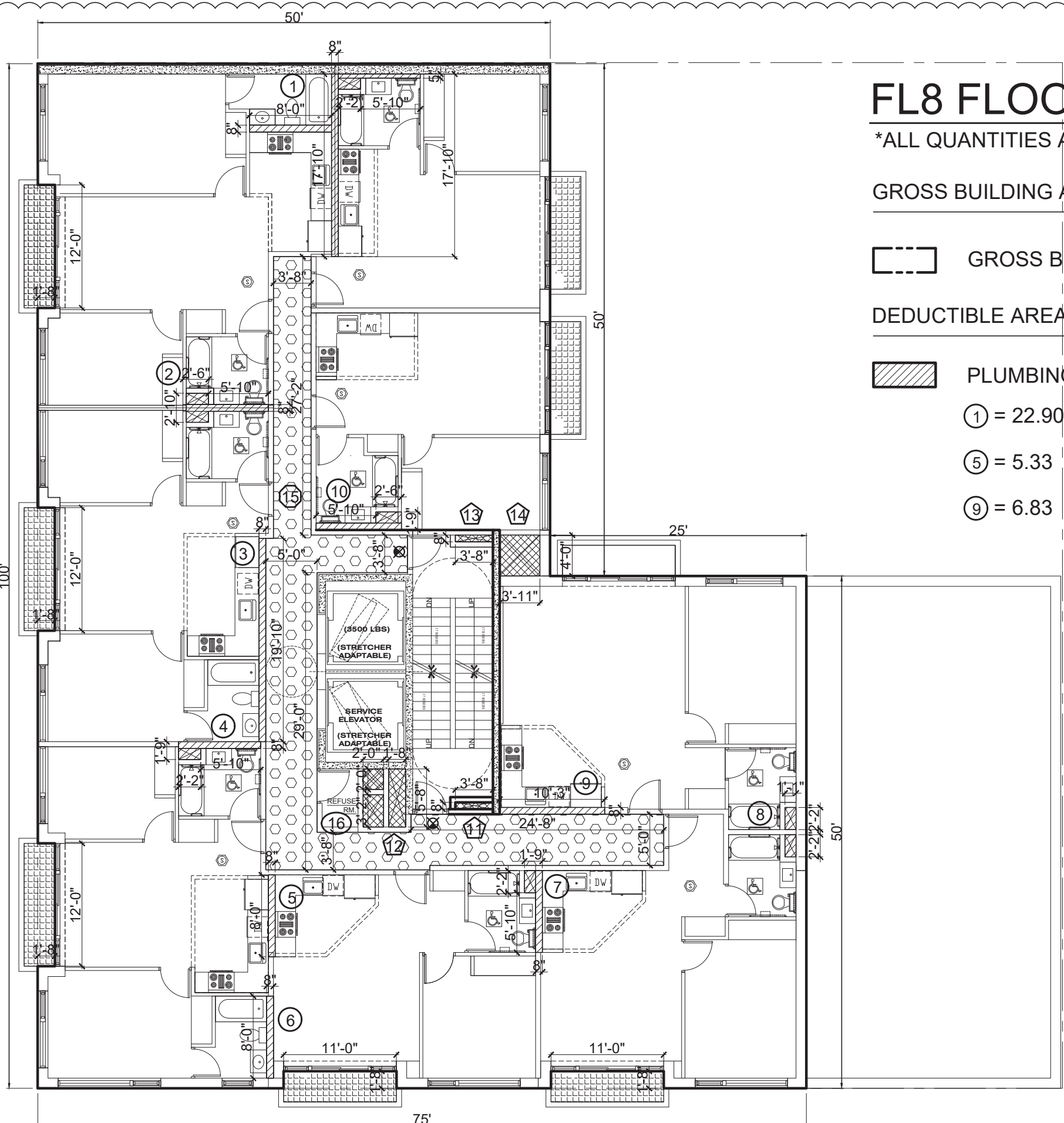
REFUSE ROOM: 12.00 TOTAL (ZR28-23)

- ⑲ = 12.00

NET FLOOR AREA

RESIDENTIAL ZONING FLOOR AREA:
7376.48 - 437.20 = 6939.28 SF

PROPOSED BALCONY
(SEE DIAGRAM ON DWG# Z-104A
FOR ZR 23-132 COMPLIANCE)



FL8 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS

FL8 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 6152.87

DEDUCTIBLE AREA: 370.64 TOTAL

PLUMBING CHASE AREA: 91.96 TOTAL

- ① = 22.90 ② = 10.03 ③ = 13.22 ④ = 7.68
⑤ = 5.33 ⑥ = 5.33 ⑦ = 7.68 ⑧ = 4.70
⑨ = 6.83 ⑩ = 8.26

MECHANICAL AREA: 40.31 TOTAL

- ⑪ = 2.44 ⑫ = 19.77 ⑬ = 2.44 ⑭ = 15.66

CORRIDOR AREA:
452.74 TOTAL / 226.37 NET (ZR28-41)

- ⑮ = 452.74 / 2 = 226.37

REFUSE ROOM: 12.00 TOTAL (ZR28-23)

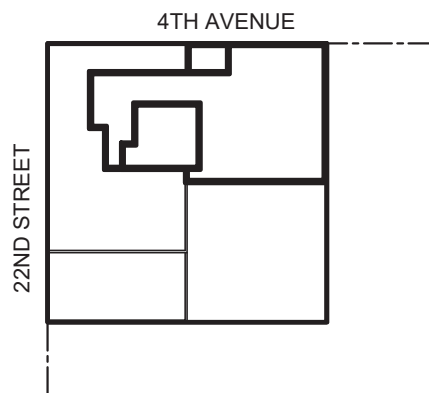
- ⑯ = 12.00

NET FLOOR AREA

RESIDENTIAL ZONING FLOOR AREA:
6152.87 - 370.64 = 5782.23 SF

PROPOSED BALCONY
(SEE DIAGRAM ON DWG# Z-104A
FOR ZR 23-132 COMPLIANCE)

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

ZONING DIAGRAMS

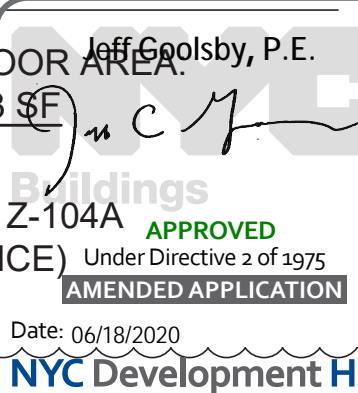
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PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:



Z-103.01

PAGE No: 04 OF 43

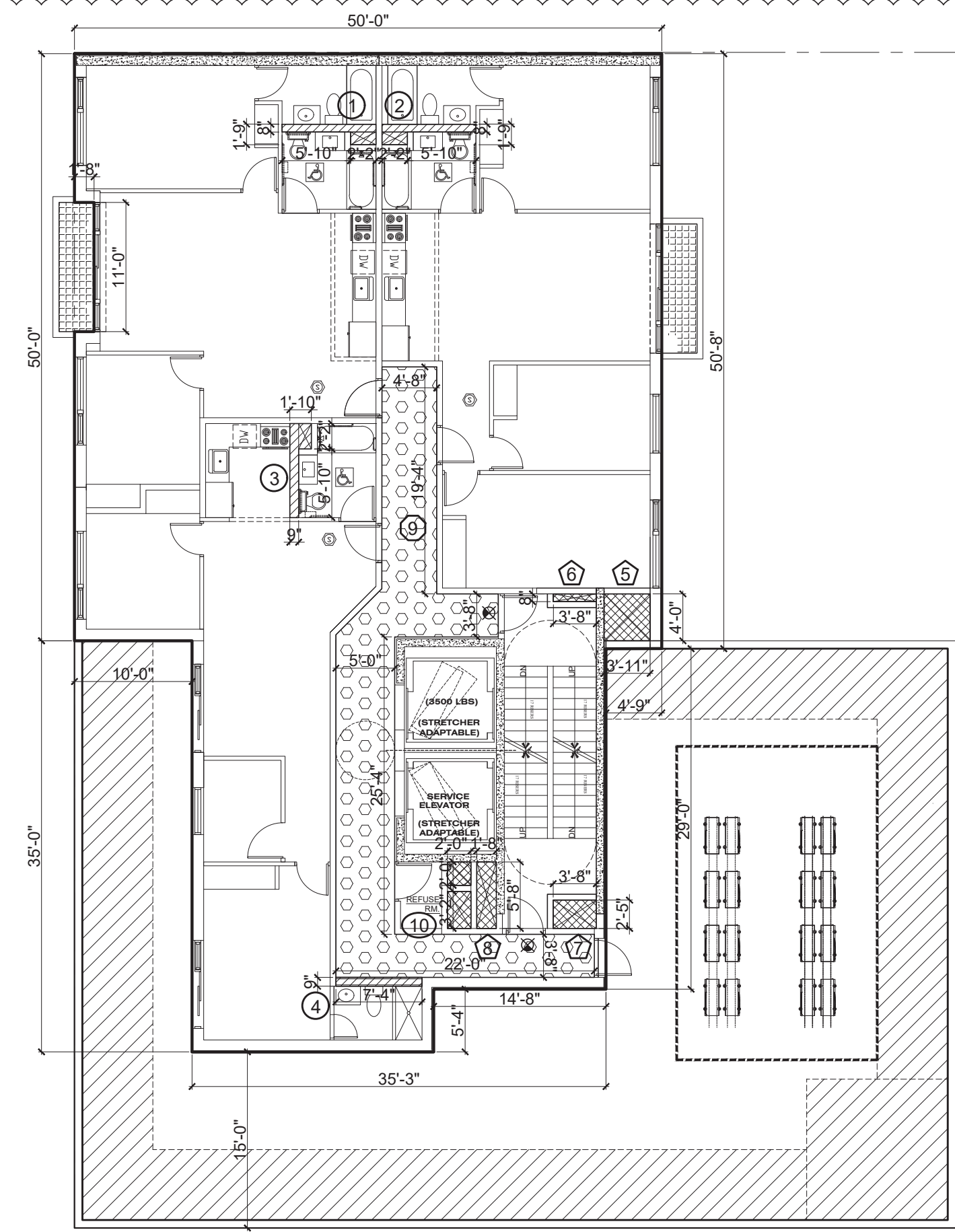




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MICHAEL KANG, RA



FL9 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 3,640.40 SF
3 UNITS

FL9 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 3640.40

DEDUCTIBLE AREA: 259.11 TOTAL

PLUMBING CHASE AREA: 29.21 TOTAL

① = 7.68 ② = 7.68 ③ = 8.35 ④ = 5.5

MECHANICAL AREA: 46.73 TOTAL

⑤ = 15.66 ⑥ = 2.44 ⑦ = 8.86 ⑧ = 19.77

CORRIDOR AREA: 342.33 TOTAL / 171.17 NET (ZR28-41)

⑨ = 342.33 / 2 = 171.17

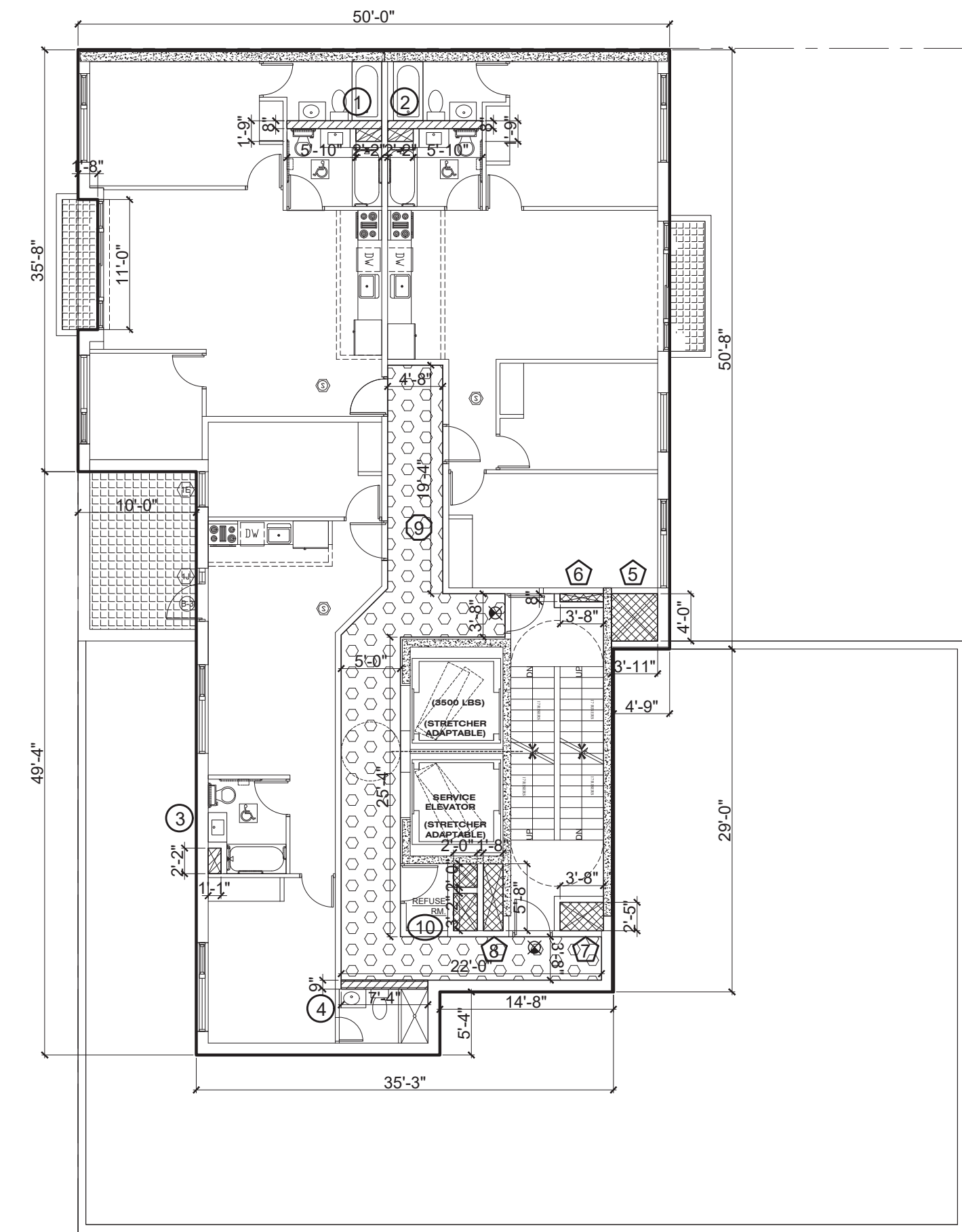
REFUSE ROOM: 12.00 TOTAL (ZR28-23)

⑩ = 12.00

NET FLOOR AREA

RESIDENTIAL ZONING FLOOR AREA:
3640.40 - 259.11 = 3381.29 SF

PROPOSED BALCONY
(SEE DIAGRAM ON DWG# Z-104A
FOR ZR 23-132 COMPLIANCE)



FL10 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 3,497.06 SF
3 UNITS

FL10 FLOOR AREA DIAGRAM

*ALL QUANTITIES ARE MEASURED IN SQUARE FEET

GROSS BUILDING AREA

GROSS BUILDING AREA = 3497.06

DEDUCTIBLE AREA: 253.11 TOTAL

PLUMBING CHASE AREA: 23.21 TOTAL

① = 7.68 ② = 7.68 ③ = 2.35 ④ = 5.5

MECHANICAL AREA: 46.73 TOTAL

⑤ = 15.66 ⑥ = 2.44 ⑦ = 8.86 ⑧ = 19.77

CORRIDOR AREA: 342.33 TOTAL / 171.17 NET (ZR28-41)

⑨ = 342.33 / 2 = 171.17

REFUSE ROOM: 12.00 TOTAL (ZR28-23)

⑩ = 12.00

NET FLOOR AREA

RESIDENTIAL ZONING FLOOR AREA:
3497.06 - 253.11 = 3243.95 SF

PROPOSED BALCONY
(SEE DIAGRAM ON DWG# Z-104A
FOR ZR 23-132 COMPLIANCE)

SECTION BC 403 HIGH-RISE BUILDINGS

403.1 Applicability. High-rise buildings shall comply with Sections 403.2 through 403.8.
Exception: The provisions of this section shall not apply to the following buildings and structures:

1. Air traffic control towers in accordance with Section 412.3.
2. Buildings occupied entirely by Group R-3 classification.
3. Open parking garages in accordance with Section 406.3.
4. Buildings with an occupancy in Group A-5 in accordance with Section 303.1.
5. Low-hazard special industrial occupancies in accordance with Section 303.1.1.
6. Buildings with an occupancy in Group H-1, H-2 or H-3 in accordance with Section 415.

403.2 Construction. The construction of high-rise buildings shall comply with the provisions of Sections 403.2.1 through 403.2.4.

403.2.1 Types of construction. The following modifications to the minimum fire-resistance rating of the building elements in Table 601 shall be as follows:

1. High-rise buildings 420 feet (128 000 mm) or greater in building height shall be constructed of Type I-A construction.
2. For high-rise buildings not greater than 420 feet (128 000 mm) in building height, and constructed to meet the fire-resistance rating requirements of Type II-B or IIA construction, the required fire-resistance rating of columns supporting floors shall be constructed to meet Type I-A construction.

403.2.2 Seismic considerations. For seismic considerations, see Chapter 16.

403.2.3 Structural integrity of exit enclosures and elevator hoistway enclosures. For all high-rise buildings, exit enclosures and elevator hoistway enclosures shall comply with Sections 403.2.3.1 through 403.2.3.4.

403.2.3.1 Wall assembly. The wall assemblies making up the exit enclosures and elevator hoistway enclosures shall meet or exceed Soft Body Impact Classification Level 2 as measured by the test method described in ASTM C 1629/C 1629M.

403.2.3.2 Wall assembly materials. The face of the wall assemblies making up the exit enclosures and elevator hoistway enclosures that are not exposed to the interior of the exit enclosure or elevator hoistway enclosure shall be constructed in accordance with one of the following methods:

1. The wall assembly shall incorporate not less than two layers of impact-resistant construction board each of which meets or exceeds Hard Body Impact Classification Level 2 as measured by the test method described in ASTM C 1629/C 1629M.

2. The wall assembly shall incorporate not less than one layer of impact-resistant construction material that meets or exceeds Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C 1629/C 1629M.

3. The wall assembly incorporates multiple layers of any material, tested in tandem, that meet or exceed Hard Body Impact Classification Level 3 as measured by the test method described in ASTM C 1629/C 1629M.

403.2.3.3 Concrete and masonry walls. Concrete or masonry walls shall be deemed to satisfy the requirements of Sections 403.2.3.1 and 403.2.3.2.

403.2.3.4 Other wall assemblies. Any other wall assembly that provides impact resistance equivalent to that required by Sections 403.2.3.1 and 403.2.3.2 for Hard Body Impact Classification Level 3, as measured by the test method described in ASTM C 1629/C 1629M, shall be permitted.

403.2.4 Sprayed fire-resistant materials (SFRM). The bond strength of the SFRM installed throughout the building shall be in accordance with Table 403.2.4 TABLE 403.2.4

MINIMUM BOND STRENGTH

HEIGHT OF BUILDING a SFRM MINIMUM BOND STRENGTH Up to 420 feet 430 psf
Greater than 420 feet 1,000 psf For SI: 1 foot = 304.8 mm; 1 pound per square foot (psf) = 0.0479 kN/m² a. Above the lowest level of fire department vehicle access.

403.3 Automatic sprinkler system. Buildings and structures shall be equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1. A secondary water supply shall be provided where required by Section 903.3.5.2.

403.3.1 Number of sprinkler risers and system design. Each sprinkler system zone in buildings that are more than 300 feet (9144 m) in building height shall be supplied by a minimum of two risers. Each riser shall supply sprinklers on alternate floors. If more than two risers are provided for a zone, sprinklers on adjacent floors shall not be supplied from the same riser.

403.3.1.1 Riser location. Each sprinkler riser shall be placed in exit enclosures that are remotely located in accordance with Section 1015.2.

403.3.2 Water supply to required fire pumps. Required fire pumps shall be provided with water supplies in accordance with Section 905.2 and NFPA 14 as modified by Appendix C.

403.4 Emergency systems. The detection, alarm and emergency systems of high-rise buildings shall comply with Sections 403.4.1 through 403.4.8.

403.4.1 Smoke detection. Smoke detection shall be provided in accordance with Section 907.2.13.1.

403.4.2 Fire alarm systems. A fire alarm system shall be provided in accordance with Section 907.2.13.1.

403.4.3 Emergency voice/alarm communication systems. An emergency voice/alarm communication system shall be provided in accordance with Section 907.5.2.2.

403.4.4 Emergency responder radio coverage. Emergency responder radio coverage shall be provided in accordance with the New York City Fire Code and Section 907.2.13.2 of this code. 403.4.5 Fire command. A fire command center complying with Section 911 shall be provided in a location approved by the Fire Department.

403.4.6 Post-fire smoke purge. A post-fire smoke purge system shall be installed in accordance with Section 916.

403.4.7 Standby power. A standby power system complying with Section 2702 shall be provided for standby power loads specified in Sections 403.4.7.2 and 403.4.7.3.

403.4.7.1 Special requirements for standby power systems. If the standby system is a generator set inside a building, the system shall be located in a separate room enclosed with 2-hour fire-resistance-rated fire barrier assemblies. System supervision with manual start and transfer features shall be provided at the fire command center.

403.4.7.2 Standby power loads in occupancies other than Group R-2. In buildings of any occupancy group other than Group R-2, the following are classified as standby power loads:

1. Power and lighting for fire command center required by Section 403.4.5;
2. Ventilation and automatic fire detection equipment for smoke proof enclosures;
3. Elevators, in accordance with Section 3003; and
4. Star pressurization systems when provided.

403.4.7.3 Standby power loads in Group R-2 occupancies. Group R-2 occupancies in buildings greater than 125 feet (38 100 mm) in height shall be required to provide a standby power system to support the following loads:

1. Power and lighting for fire command center required by Section 403.4.5;
2. Ventilation and automatic fire detection equipment for smokeproof enclosures;
3. At least one elevator serving all floors, or one elevator per bank where different banks serve different portions of the building; and
4. Star pressurization systems when provided.

403.4.8 Emergency power systems. An emergency power system complying with Section 2702 shall be provided for emergency power loads specified in Sections 403.4.8.1 and 403.4.8.2. Fuel sources for generators shall be in accordance with Section 2702.1.1. 403.4.8.1 Emergency power loads in occupancies other than R-2. In buildings of any occupancy group other than Group R-2, the following are classified as emergency power loads:

1. Exit signs and means of egress illumination required by Chapter 10;
2. Elevator car lighting;
3. Emergency voice/alarm communication systems, including Fire Department in-building Auxiliary Radio Communication systems (ARCS);
4. Automatic fire detection systems;
5. Fire alarm systems; and
6. Electrically powered fire pumps, including manual fire pumps, automatic fire pumps, and sprinkler booster pumps.

403.4.8.2 Emergency power loads in Group R-2 occupancies. Group R-2 occupancies in buildings greater than 125 feet (38 100 mm) in height shall be required to provide an emergency power system to support the following loads:

1. Exit signs and means of egress illumination required by Chapter 10;
2. Emergency voice communication systems; and
3. Electrically powered fire pumps, unless electrical power to the motor is taken ahead of the main from the street side of the house service switch.

403.5 Means of egress and evacuation. The means of egress in high-rise buildings shall comply with Sections 403.5.1 through 403.5.6.

403.5.1 Remoteness of exit stairway enclosures. The required exit stairway enclosures shall be separated by a distance not less than 30 feet (9144 mm) or one-fourth of the length of the maximum overall diagonal dimension of the building or area to be served, whichever is less. The distance shall be measured in a straight line between the nearest points of the exit stairway enclosures. In buildings with three or more exit stairway enclosures, at least two of the exit stairway enclosures shall comply with this section. Stairs sharing any common wall, floors, ceilings, scissor stair assemblies, or other enclosures shall be counted as one exit stairway. Exception: Group R-2 occupancies.

403.5.2 Additional exit stairway. For buildings other than Group R-2 that are more than 420 feet (128 m) in building height, one additional exit stairway meeting the requirements of Sections 1009 and 1022 shall be provided in addition to the minimum number of exits required by Section 1021.1. The total width of any combination of remaining exit stairways with one exit stairway removed shall not be less than the total width required by Section 1005.1. Stairs sharing any common wall, floors, ceilings, scissor stair assemblies, or other enclosures shall not be considered the additional exit stairway required by this section.

Exceptions: An additional exit stairway shall not be required to be installed in any of the following instances:

1. In buildings where all passenger elevators for general public use and all other elevators used for occupant self-evacuation comply with Sections 3008.1 through 3008.11.
2. In buildings where all of the following conditions are met:

2.1. The commissioner has approved a timed egress analysis establishing the egress time it would take for a full building evacuation, utilizing the stairs required by Section 1021.1 and the additional stair that would have been required pursuant to Section 403.5.2;

2.2. The commissioner has approved a timed egress analysis establishing the egress time it would take for a full building evacuation, utilizing the combination of the stairs required by Section 1021.1 and elevators used for occupant self-evacuation as follows:

2.2.1. Such analysis need only utilize a number of designated elevators designed for occupant self-evacuation necessary to demonstrate an evacuation time that is less than the time established in Exception 2.1; and 2.2.2. Every bank of passenger elevators for general public use shall be served by at least one such designated elevator;

2.3. All elevators in the building that either are passenger elevators for general public use or are used for occupant self-evacuation shall comply with Sections 3008.1 through 3008.11. However, the standby power generating equipment required by Section 3008.9 need only be sized to satisfy the loads required to simultaneously operate those elevators identified in the timed egress analysis described in Exception 2.2.

The minimum number of exits required by Section 1021.1 are all at least 25 percent wider than the exit width required by Chapter 10. The increase in the stair width shall not be utilized in the timed egress analyses required by Exceptions 2.1 and 2.2; or

3. Where the application for construction document approval is submitted within 18 months after the date of enactment of the local law that added this section.

403.5.3 Stairway door operation. Doors opening into interior stair enclosures shall not be locked from either side. However, a door locked from the stair side may be permitted provided that such door is equipped with an automatic fail safe system for opening in the event of the activation of any automatic fire detection system, or when any elevator recall is activated, or when any signal is received from the fire command center. Such door shall be deemed as operable from the stair side. Stair reentry signs shall be posted throughout the stairway indicating that reentry is provided only during fire emergencies. Such signs shall be in accordance with Section 1030.4.2.

403.5.3.1 Stairway communication system. A telephone or other two-way communications system connected to an approved constantly attended station shall be provided at not less than every fifth floor in each stairway where the doors to the stairway are locked in accordance with Section 403.5.3.

403.5.4 Smoke proof exit enclosures. Every required exit stairway serving floors more than 75 feet (22 860 mm) above the lowest level of fire department vehicle access shall comply with Sections 903.20 and 1022.9. Exception: For R-2 occupancies, smokeproof enclosures are not required in occupancy Group R-2 unless provided pursuant to Exception 2 of Section 916.1.

403.5.5 Luminous egress path markings. Luminous egress path markings shall be provided in accordance with Section 1024 and Appendix S. Exception: Egress paths serving Group R-2.

403.5.6 Emergency escape and rescue. Emergency escape and rescue openings required by Section 1029 are not required. 403.6 Elevators. Elevator operation and installation shall be in accordance with Chapter 30.

403.6.1 Fire service access elevator. In buildings with an occupied floor more than 120 feet (36 576 mm) above the lowest level of fire department vehicle access, a minimum of one fire service access elevator shall be provided in accordance with Section 3007.

403.6.2 Occupant evacuation elevators. Where installed in accordance with Section 3008, passenger elevators for general public use shall be permitted to be used for occupant self-evacuation.

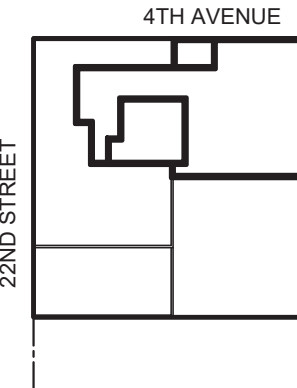
403.6.3 Elevator lobbies. Elevator lobbies shall be provided in accordance with Sections 708.14.1 and 708.14.2.

403.7 Outdoor air intakes. For high-rise buildings, outdoor air intakes serving spaces above the second story and serving spaces greater than 1,000 square feet (93 m²) of floor area shall be located in accordance with Section 401.5 of the New York City Mechanical Code.

Exception: Group R-2 occupancy.

403.8 Open web steel joists. The use of open web steel joists shall be prohibited in high-rise buildings until the commissioner promulgates rules establishing acceptable fireproofing methods.

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

ZONING DIAGRAMS HIGH-RISE BLDG NOTE

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:

Z-104.01

PAGE No: 05 OF 43

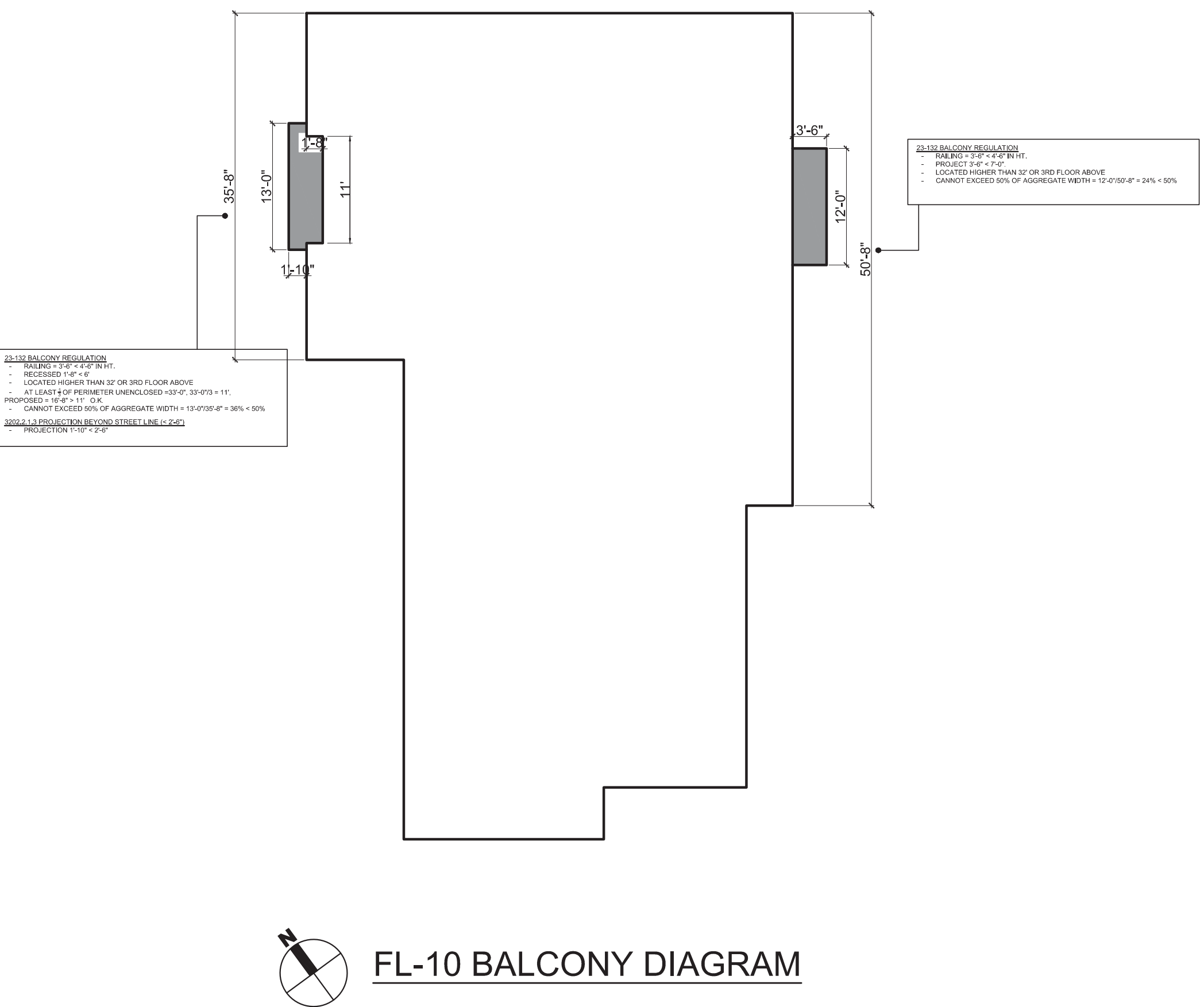
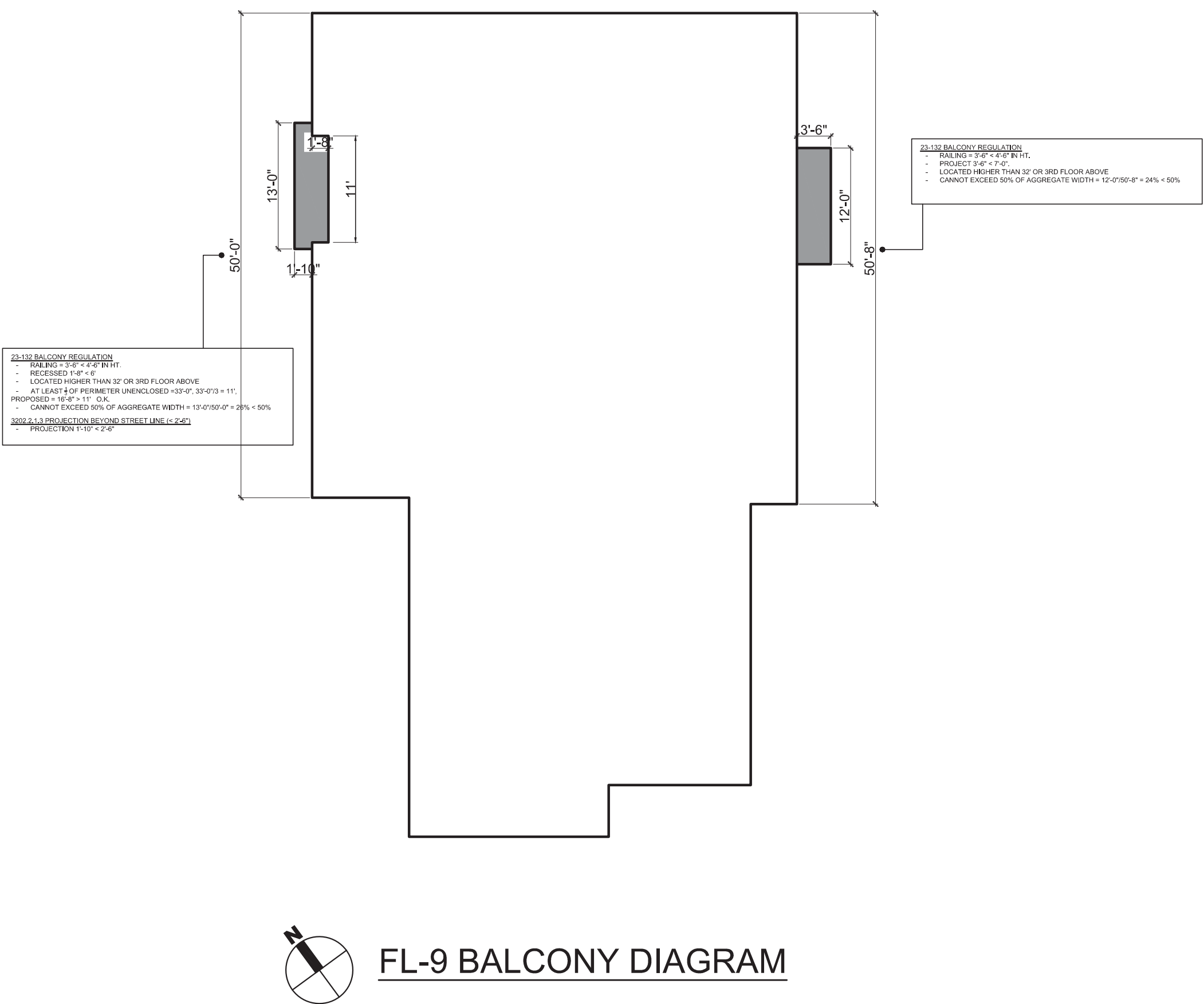
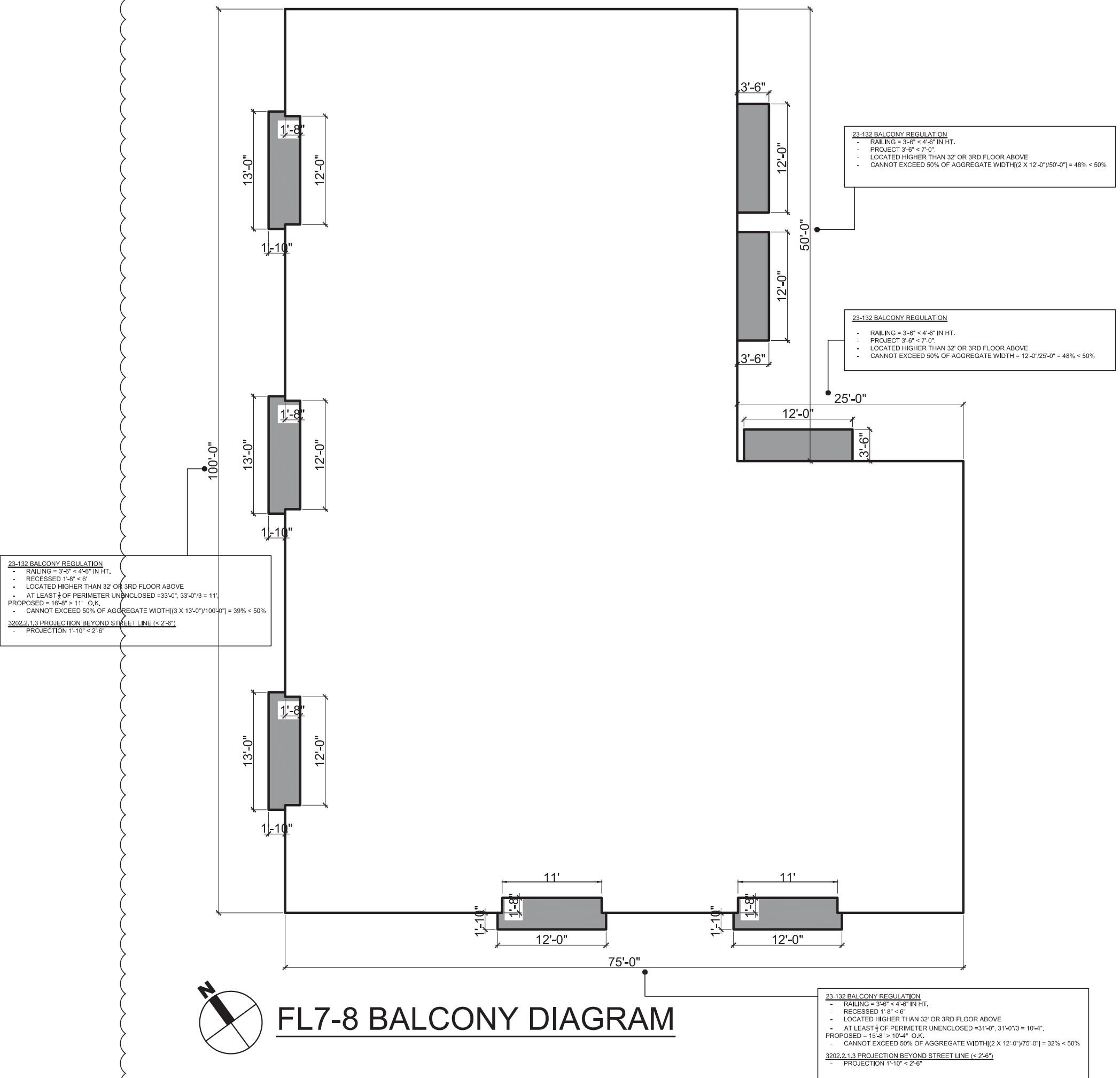
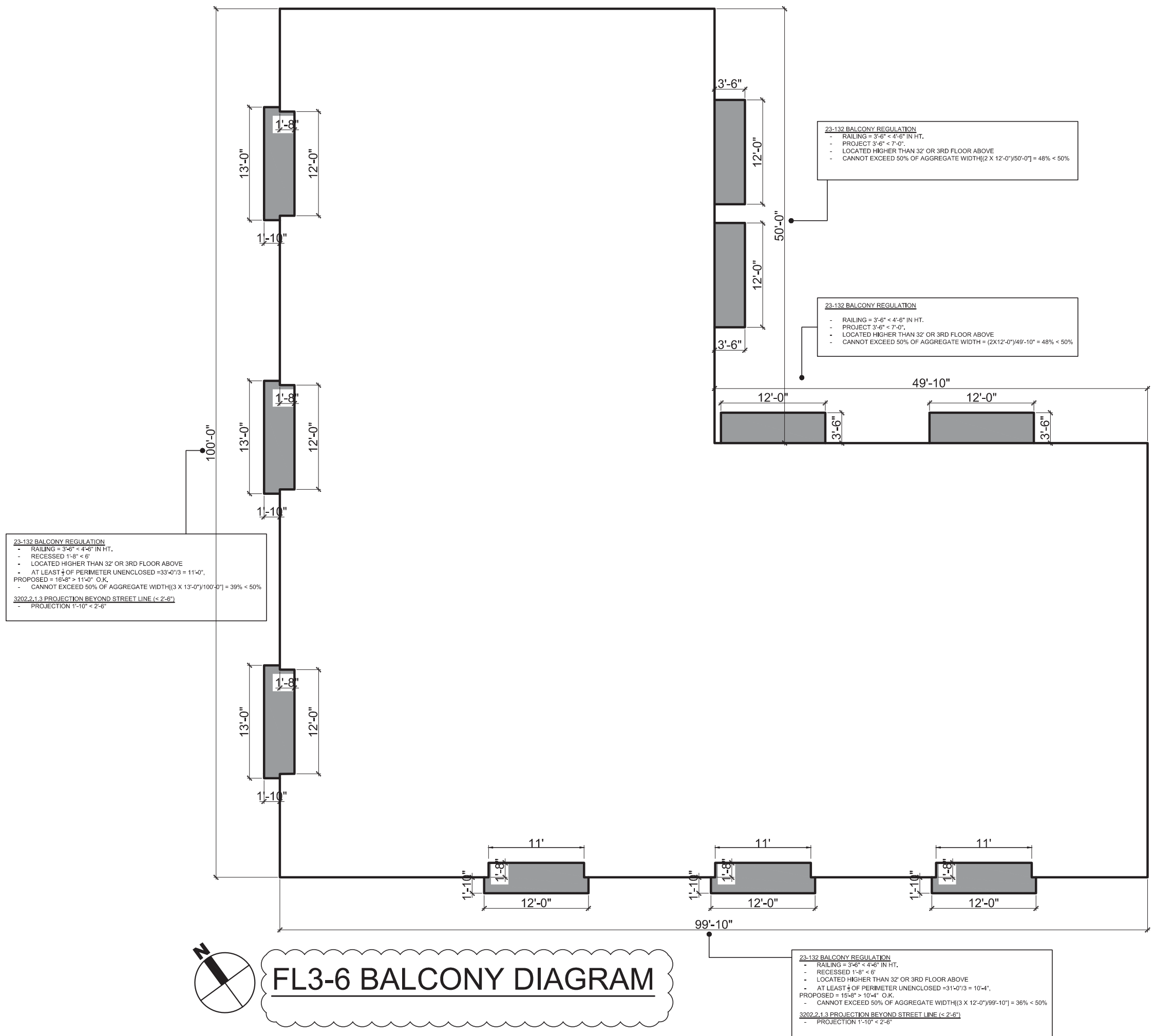




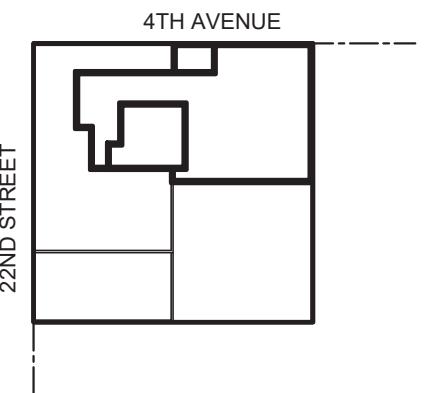
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MICHAEL KANG, RA



KEY PLAN



01	03-09-20	PAA
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PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK
BALCONY DIAGRAMS

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PROJECT No:	
DRAWING BY: JL	
CHK BY: MK	
DWG No:	

Z-104A.01
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Jeff Goolsby, P.E.



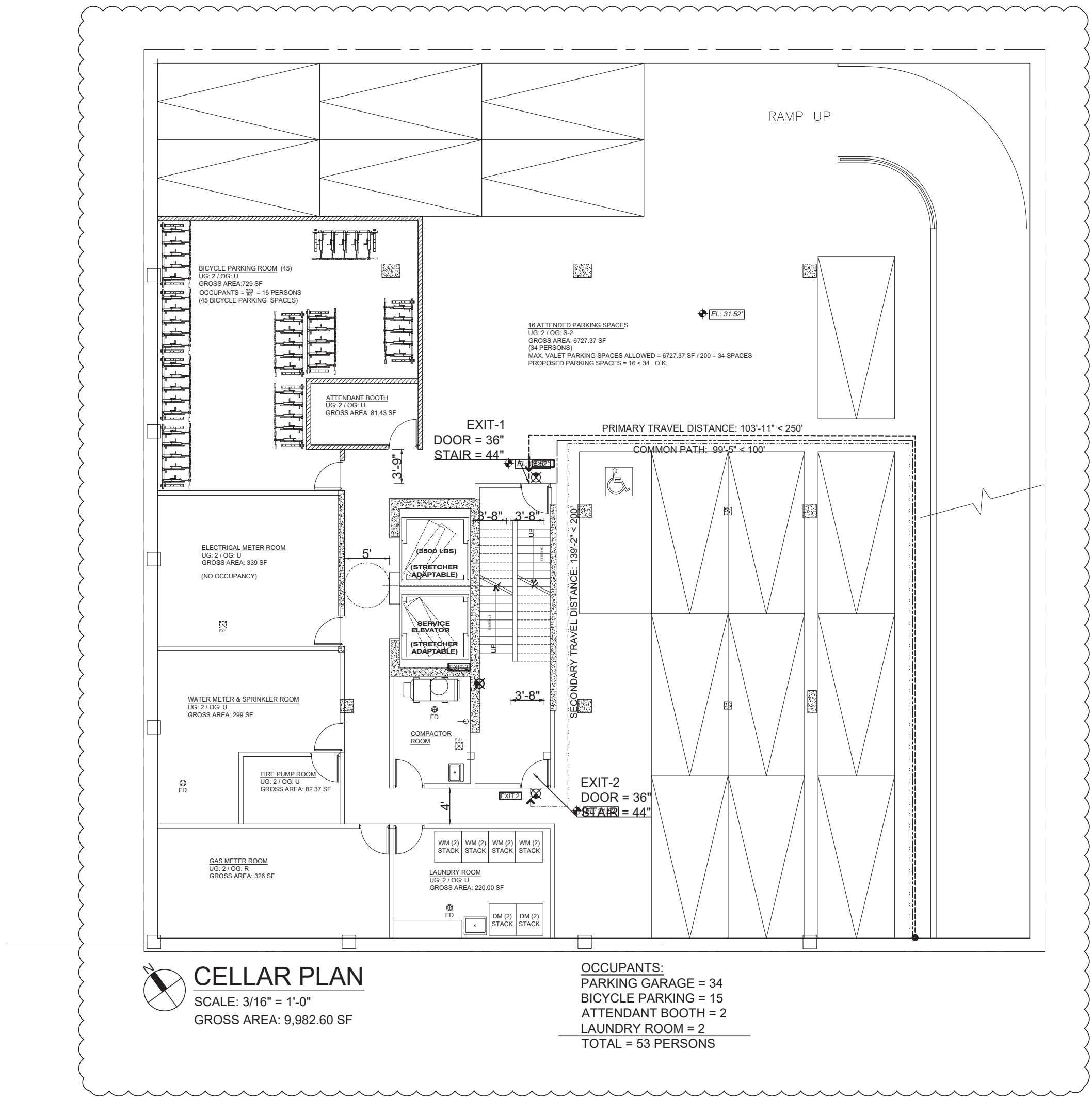
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 06/18/2020
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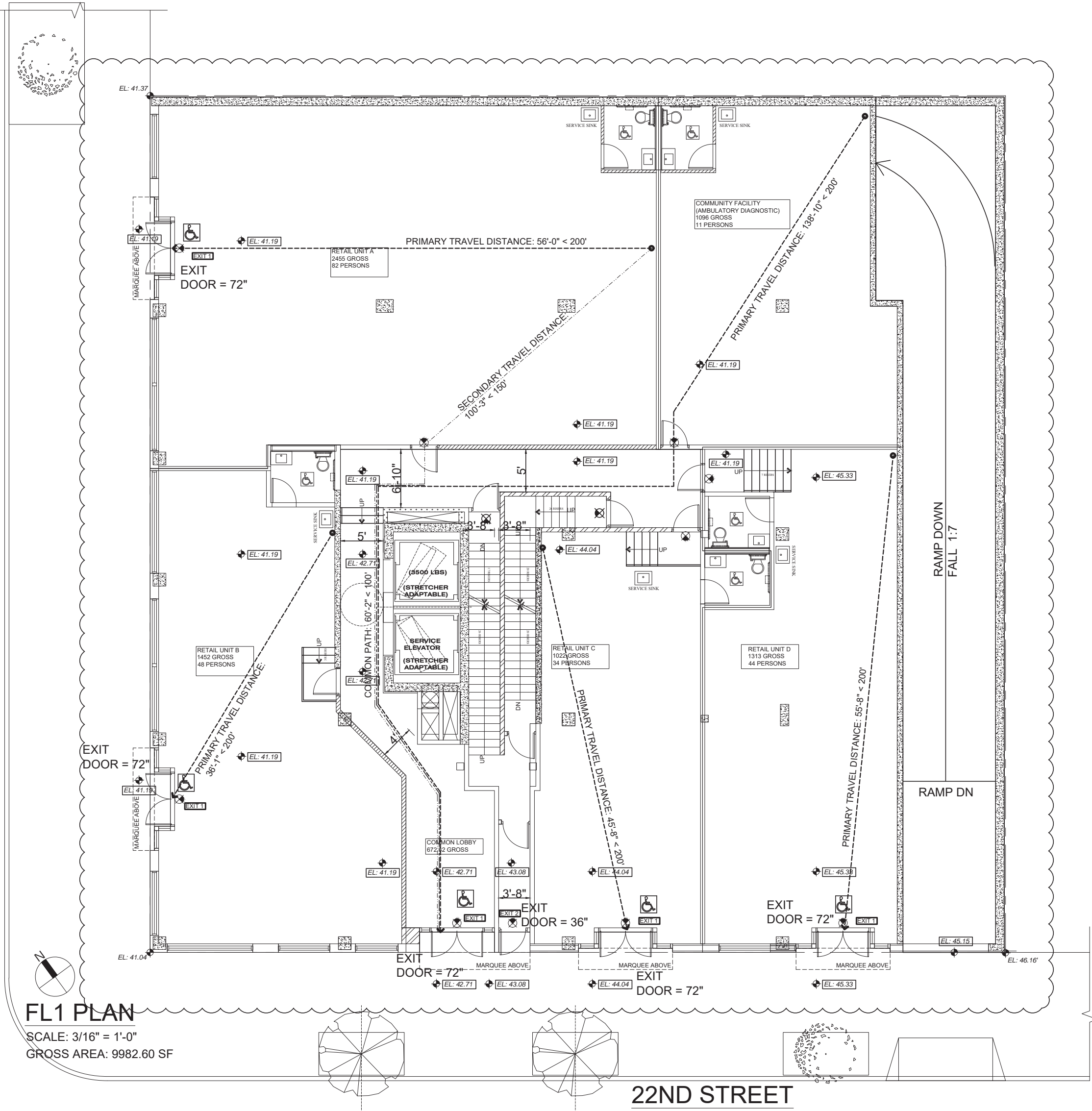


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MICHAEL KANG, RA



4TH AVENUE



22ND STREET

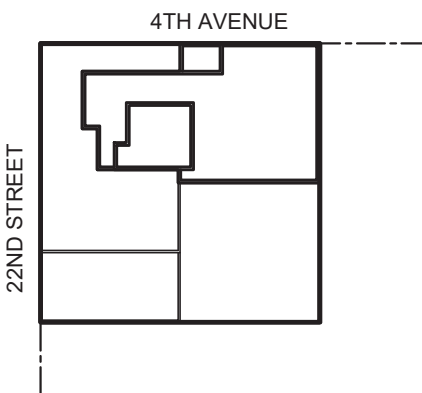
EGRESS CAPACITY PER OCCUPANCY (TABLE 1005.1) FULLY SPRINKLERED

FLOOR NUMBER	OCCUPANCY GROUP	MAX OCCUPANT LOAD	REQUIRED EXIT DOOR WIDTH PER INDEX (0.2)	PROPOSED EXIT DOOR WIDTH	REQUIRED EXIT STAIR WIDTH PER INDEX (0.3)	PROPOSED EXIT STAIR WIDTH
CELLAR	PARKING GARAGE (S-2)	34 PERSONS	53 / 2 EXITS = 27 PERSONS 27 x 0.2 = 5.4" PER DOOR	EXIT-1 DOOR = 36" EXIT-2 DOOR = 36"	53 / 2 EXITS = 27 PERSONS 27 x 0.3 = 8.1" PER DOOR	EXIT-1 STAIR = 44" EXIT-2 STAIR = 44"
	UTILITY ROOMS (U)	19 PERSONS				
FL1	COMMERCIAL RETAIL-A (M)	82 PERSONS	82 / 2 EXITS = 41 PERSONS 41 x 0.2 = 8.2" PER DOOR	EXIT-1 DOOR = 72" EXIT-2 DOOR = 36"		
	COMMERCIAL RETAIL-B (M)	48 PERSONS	48 / 2 EXITS = 24 PERSONS 24 x 0.2 = 4.8" PER DOOR	EXIT-1 DOOR = 72" EXIT-2 DOOR = 36"		
	COMMERCIAL RETAIL-C (M)	34 PERSONS	34 / 2 EXITS = 17 PERSONS 17 x 0.2 = 3.4" PER DOOR	EXIT-1 DOOR = 72" EXIT-2 DOOR = 36"		
	COMMERCIAL RETAIL-D (M)	44 PERSONS	44 / 2 EXITS = 22 PERSONS 22 x 0.2 = 4.4" PER DOOR	EXIT-1 DOOR = 72" EXIT-2 DOOR = 36"		
	COMMUNITY FACILITY AREA (B)	11 PERSONS	11 PERSONS 11 x 0.2 = 2.2" DOOR WIDTH	EXIT-1 DOOR = 36"		
	RESIDENTIAL LOBBY(R-2)	6 PERSONS	6 / 2 EXITS = 3 PERSONS 3 x 0.2 = 0.6" PER DOOR	EXIT-1 DOOR = 72"		
FL2 - FL6	RESIDENTIAL (R-2)	37 PERSONS	37 / 2 EXITS = 18.5 PERSONS 18.5 x 0.2 = 3.7" PER DOOR	EXIT-1 DOOR = 36" EXIT-2 DOOR = 36"	37 / 2 EXITS = 18.5 PERSONS 18.5 x 0.3 = 5.55" PER DOOR	EXIT-1 STAIR = 44" EXIT-2 STAIR = 44"
FL7 - FL8	RESIDENTIAL (R-2)	31 PERSONS	31 / 2 EXITS = 15.5 PERSONS 15.5 x 0.2 = 3.1" PER DOOR	EXIT-1 DOOR = 36" EXIT-2 DOOR = 36"	31 / 2 EXITS = 15.5 PERSONS 15.5 x 0.3 = 4.65" PER DOOR	EXIT-1 STAIR = 44" EXIT-2 STAIR = 44"
FL9	RESIDENTIAL (R-2)	18 PERSONS	18 / 2 EXITS = 9 PERSONS 9 x 0.2 = 1.8" PER DOOR	EXIT-1 DOOR = 36" EXIT-2 DOOR = 36"	18 / 2 EXITS = 9 PERSONS 9 x 0.3 = 2.7" PER DOOR	EXIT-1 STAIR = 44" EXIT-2 STAIR = 44"
FL10	RESIDENTIAL (R-2)	17 PERSONS	17 / 2 EXITS = 8.5 PERSONS 8.5 x 0.2 = 1.7" PER DOOR	EXIT-1 DOOR = 36" EXIT-2 DOOR = 36"	17 / 2 EXITS = 8.5 PERSONS 8.5 x 0.3 = 2.55" PER DOOR	EXIT-1 STAIR = 44" EXIT-2 STAIR = 44"
ROOF	RESIDENTIAL RECREATION AREA (R-2)	10 PERSONS	10 / 2 EXITS = 5 PERSONS 5 x 0.2 = 1.0" PER DOOR	EXIT-1 DOOR = 36" EXIT-2 DOOR = 36"	10 / 2 EXITS = 5 PERSONS 5 x 0.3 = 1.5" PER DOOR	EXIT-1 STAIR = 44" EXIT-2 STAIR = 44"

EXIT ACCESS TRAVEL DISTANCE (TABLE 1015.1) FULLY SPRINKLERED

PERMITTED MAX. TRAVEL DISTANCE	PROPOSED PRIMARY TRAVEL DISTANCE	PERMITTED MAX. COMMON PATH TRAVEL DISTANCE	PROPOSED MAX. COMMON PATH TRAVEL DISTANCE (1014.3)	PERMITTED DEAD END CORRIDOR LENGTH	PROPOSED DEAD END CORRIDOR LENGTH
250'-0"	103'-11"	100'-0"	99'-5"	50'-0"	(N/A)
200'-0"	56'-0"				
200'-0"	36'-1"				
200'-0"	45'-8"				
200'-0"	55'-8"				
200'-0"	138'-10"				
200'-0"	68'-9"	125'-0"	57'-6"	80'-0"	41'-2"
200'-0"	68'-9"	125'-0"	57'-6"	80'-0"	41'-2"
200'-0"	63'-11"	125'-0"	56'-7"	80'-0"	30'-5"
200'-0"	63'-11"	125'-0"	56'-7"	80'-0"	30'-5"
200'-0"	47'-2"	125'-0"	18'-3"		

KEY PLAN



01 03-09-20 PAA
REV.# DATE DESCRIPTION

PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

EGRESS DIAGRAM & CALCULATIONS

SEAL & SIGNATURE
DATE: 03/05/2015
PROJECT No:
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CHK BY: MK
DWG No:
Z-201.01
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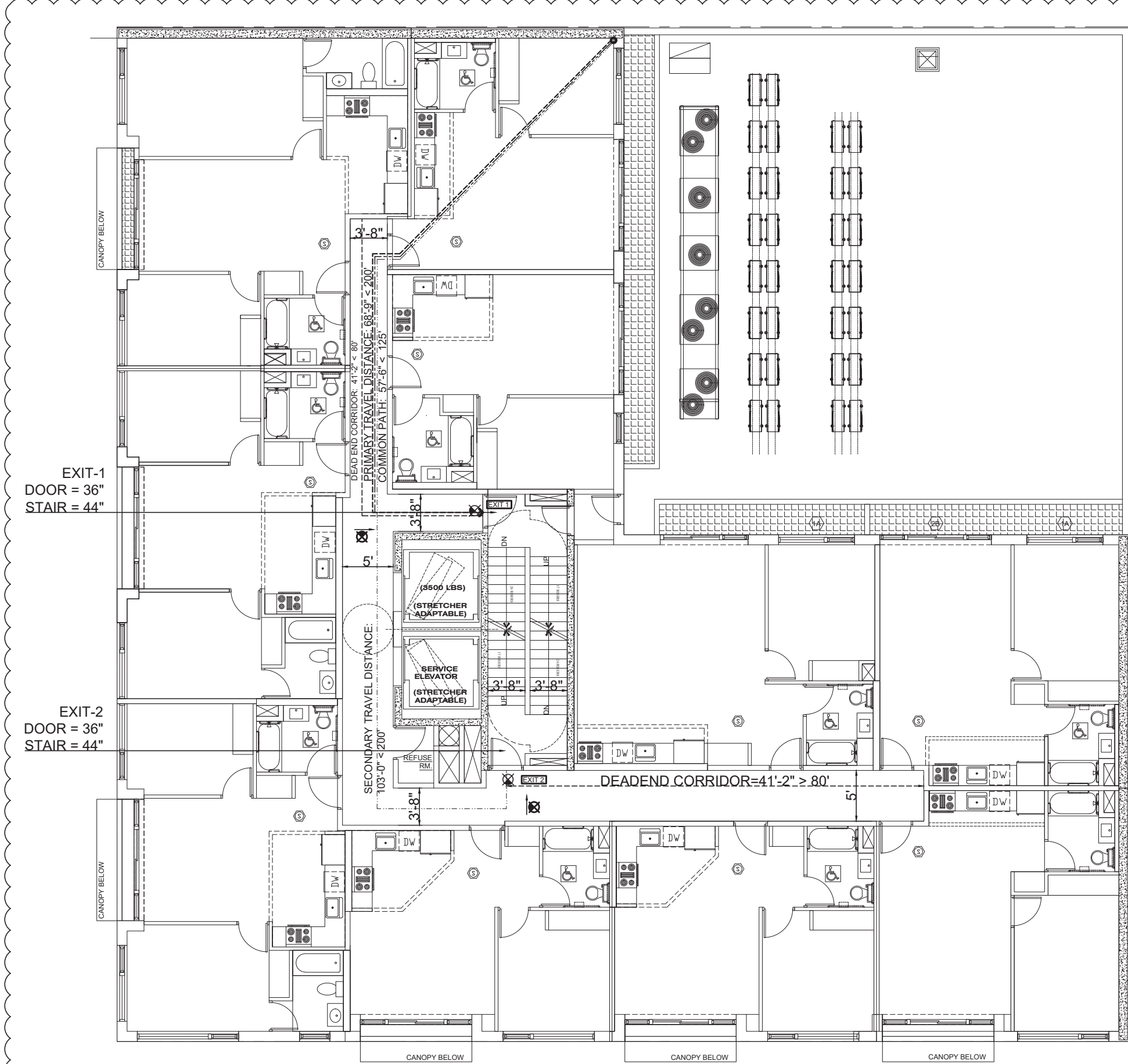
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BUILDINGS
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 06/18/2020
NYC Development Hub



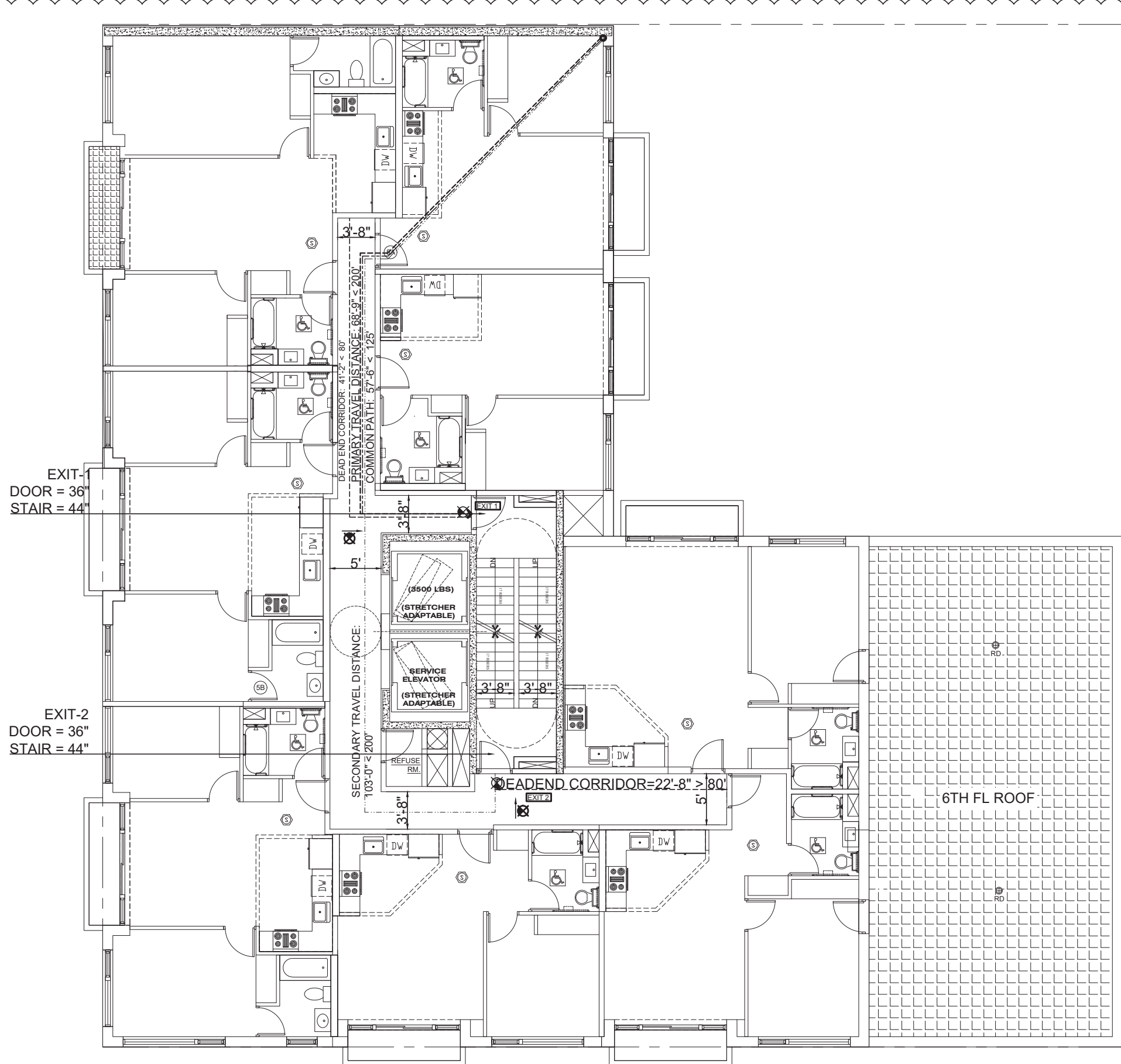


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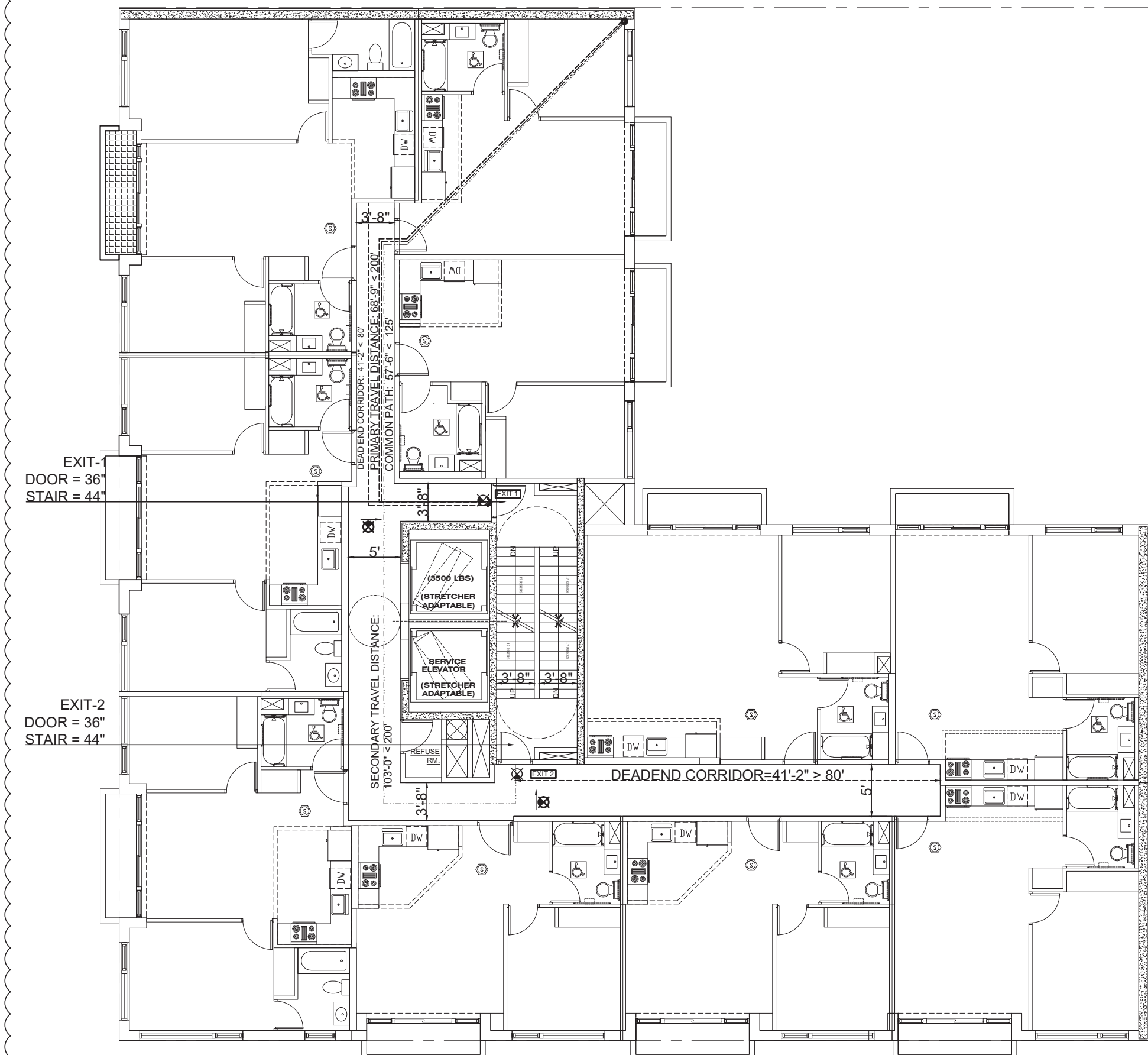
MICHAEL KANG, RA



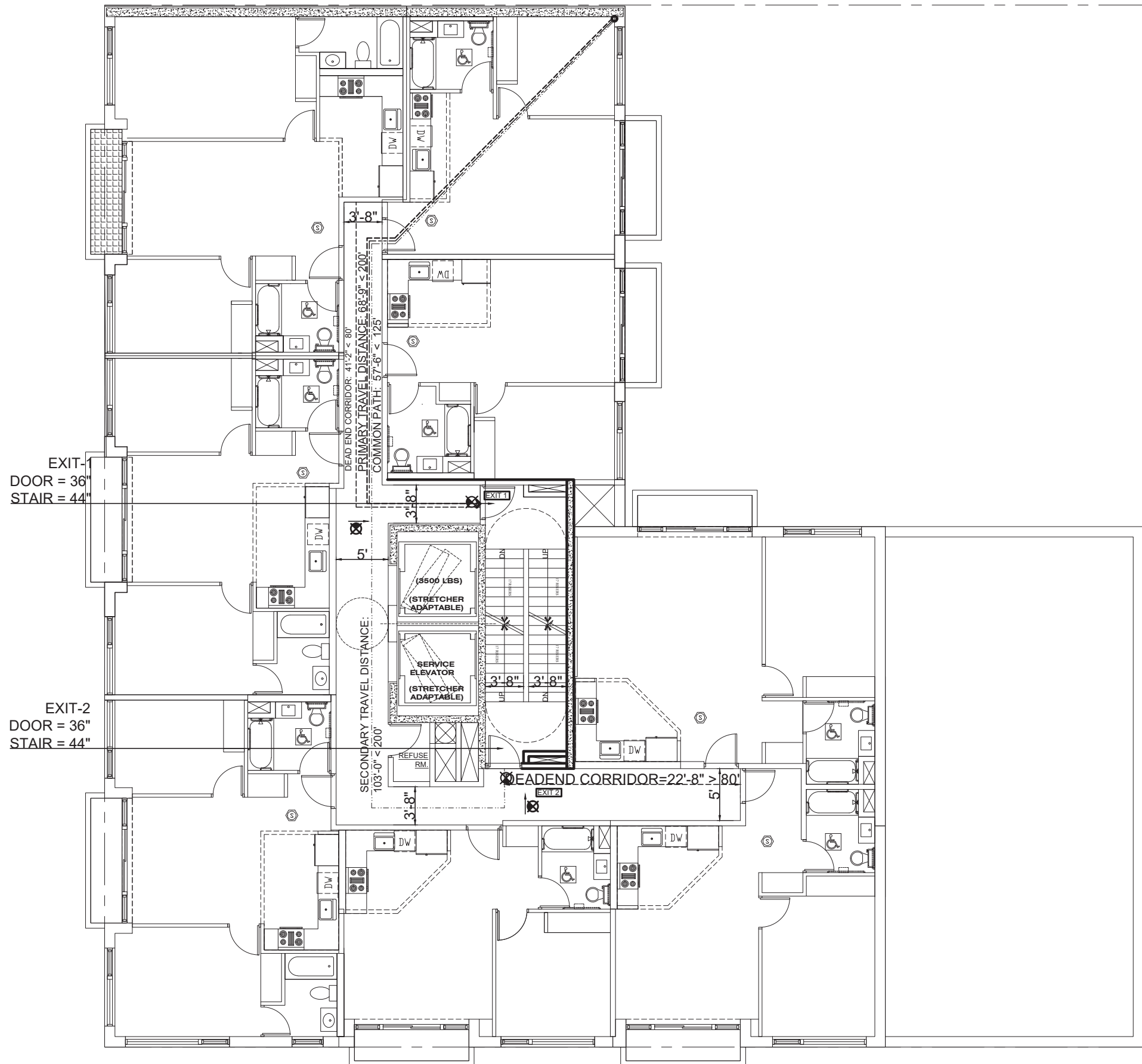
FL2 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 7376.48 SF
10 UNITS
OCCUPANTS:
7376.48 SF / 200 = 37 PERSONS



FL7 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS
OCCUPANTS:
6152.87 SF / 200 = 31 PERSONS

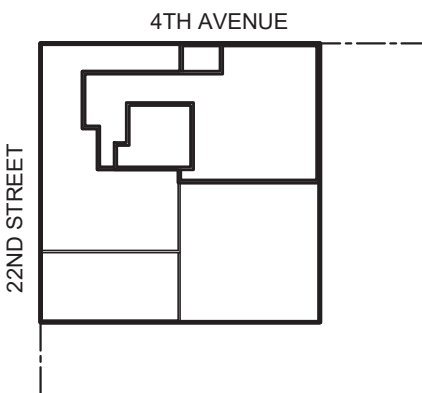


FL3 - 6 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 7,376.48 SF
10 UNITS
OCCUPANTS:
7376.48 SF / 200 = 37 PERSONS



FL8 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS
OCCUPANTS:
6152.87 SF / 200 = 31 PERSONS

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

EGRESS DIAGRAMS

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:

Z-202.01
PAGE No: 08 OF 43

Jeff Goolsby, P.E.

jc

Buildings

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Under Directive 2 of 1975
AMENDED APPLICATION

Date: 06/18/2020

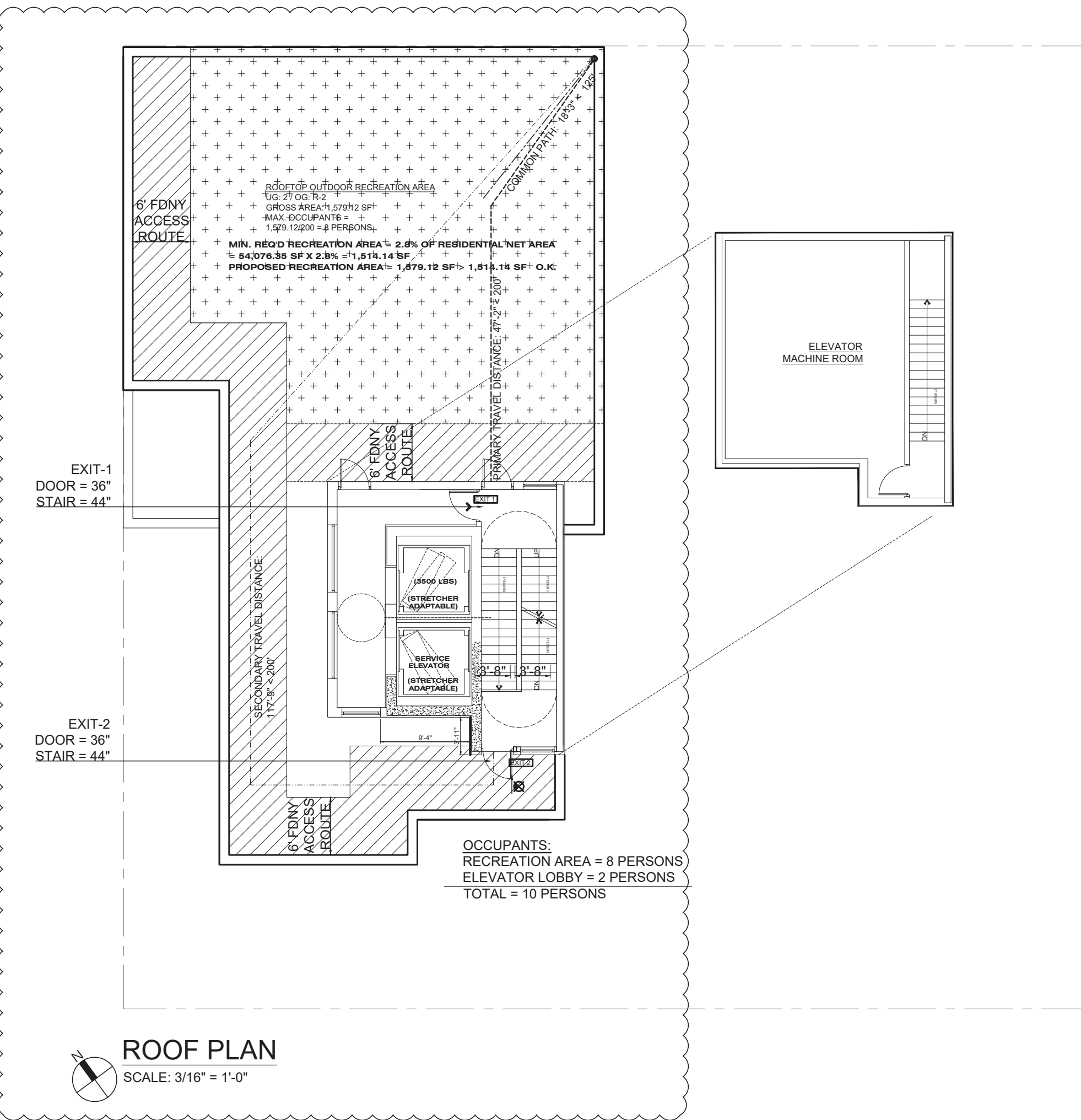
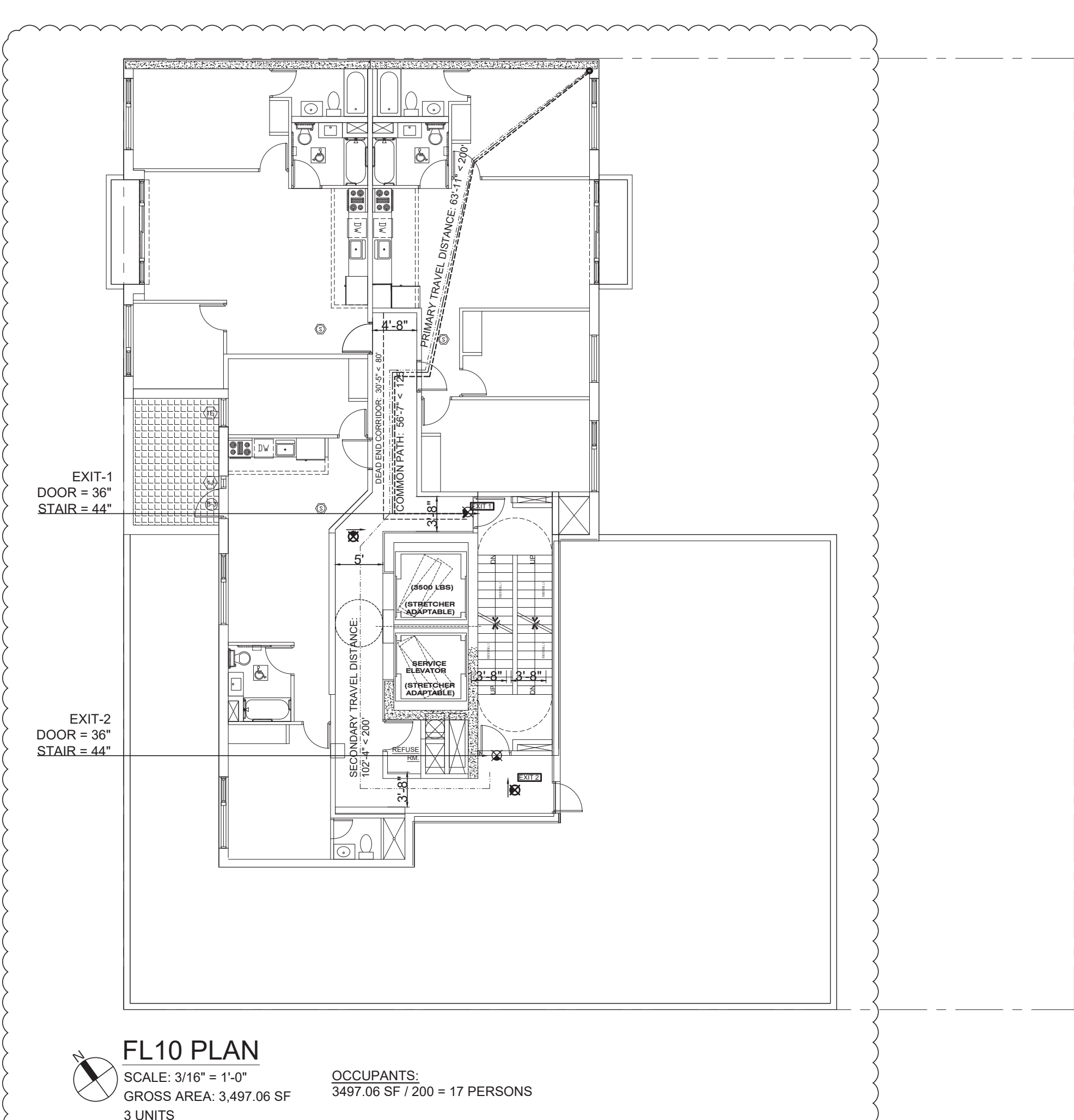
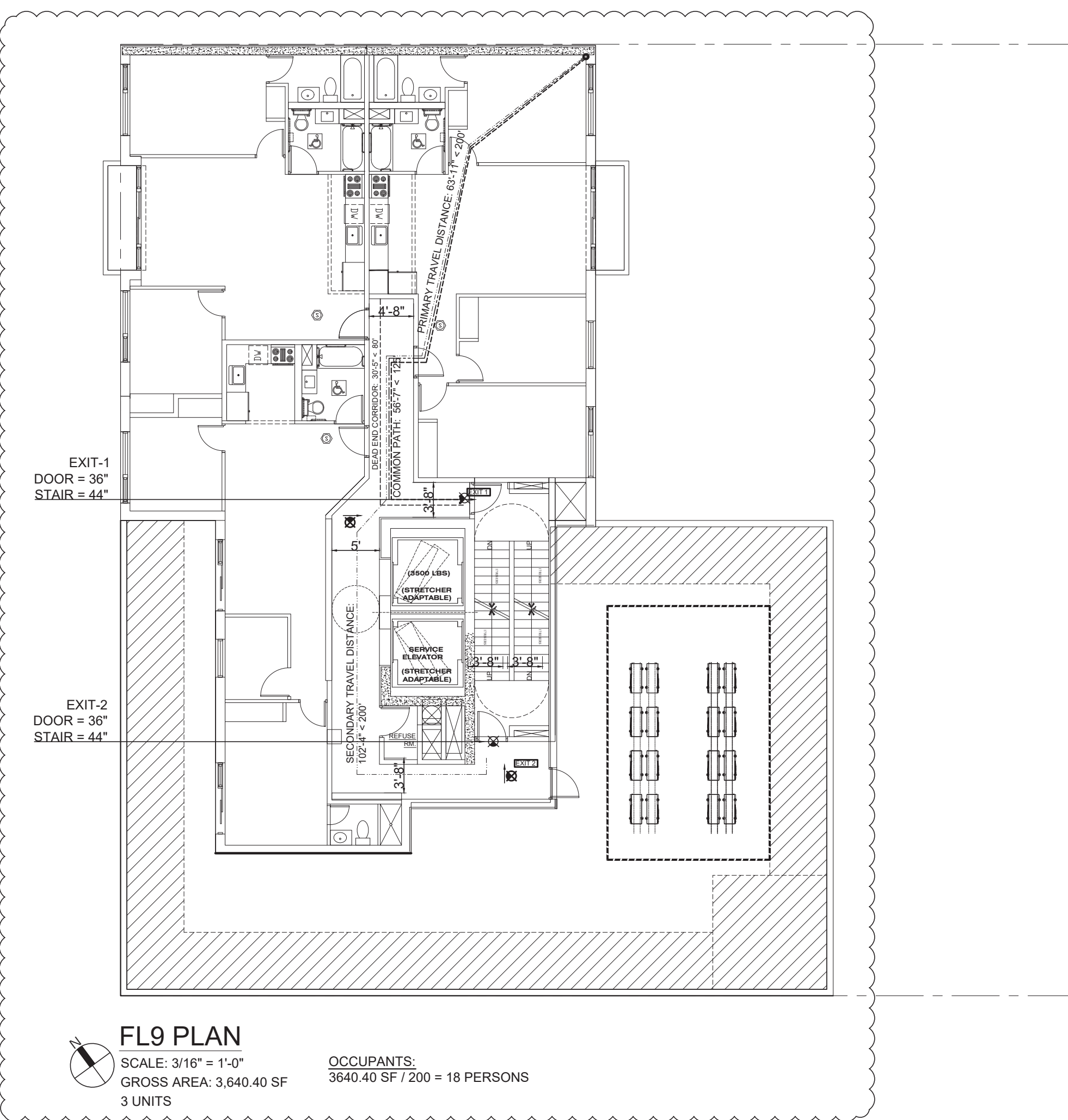
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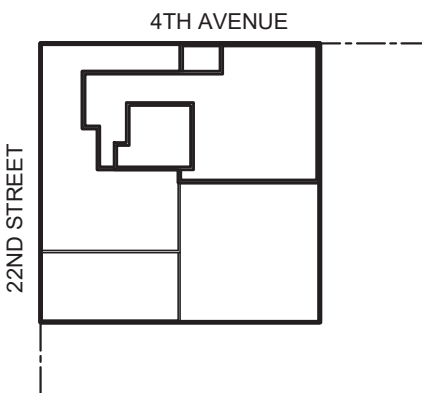


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MICHAEL KANG, RA



KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

EGRESS DIAGRAMS

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	
DRAWING BY: JL	
CHK BY: MK	
DWG No:	
Z-203.01	
PAGE No:	09 OF 43

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APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 06/18/2020
NYC Development Hub

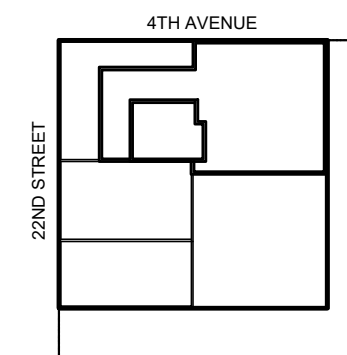




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MICHAEL KANG, RA

KEY PLAN

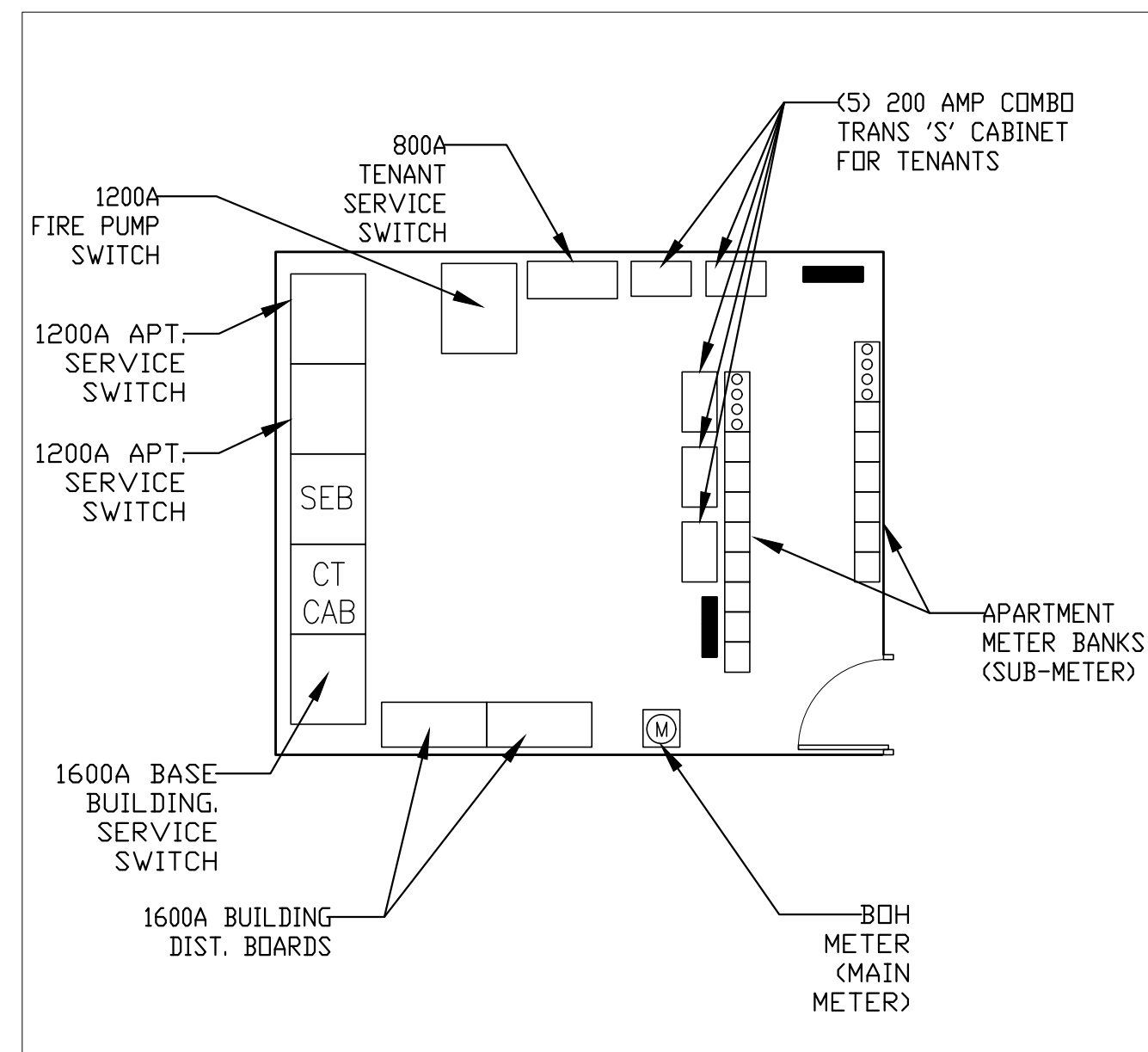
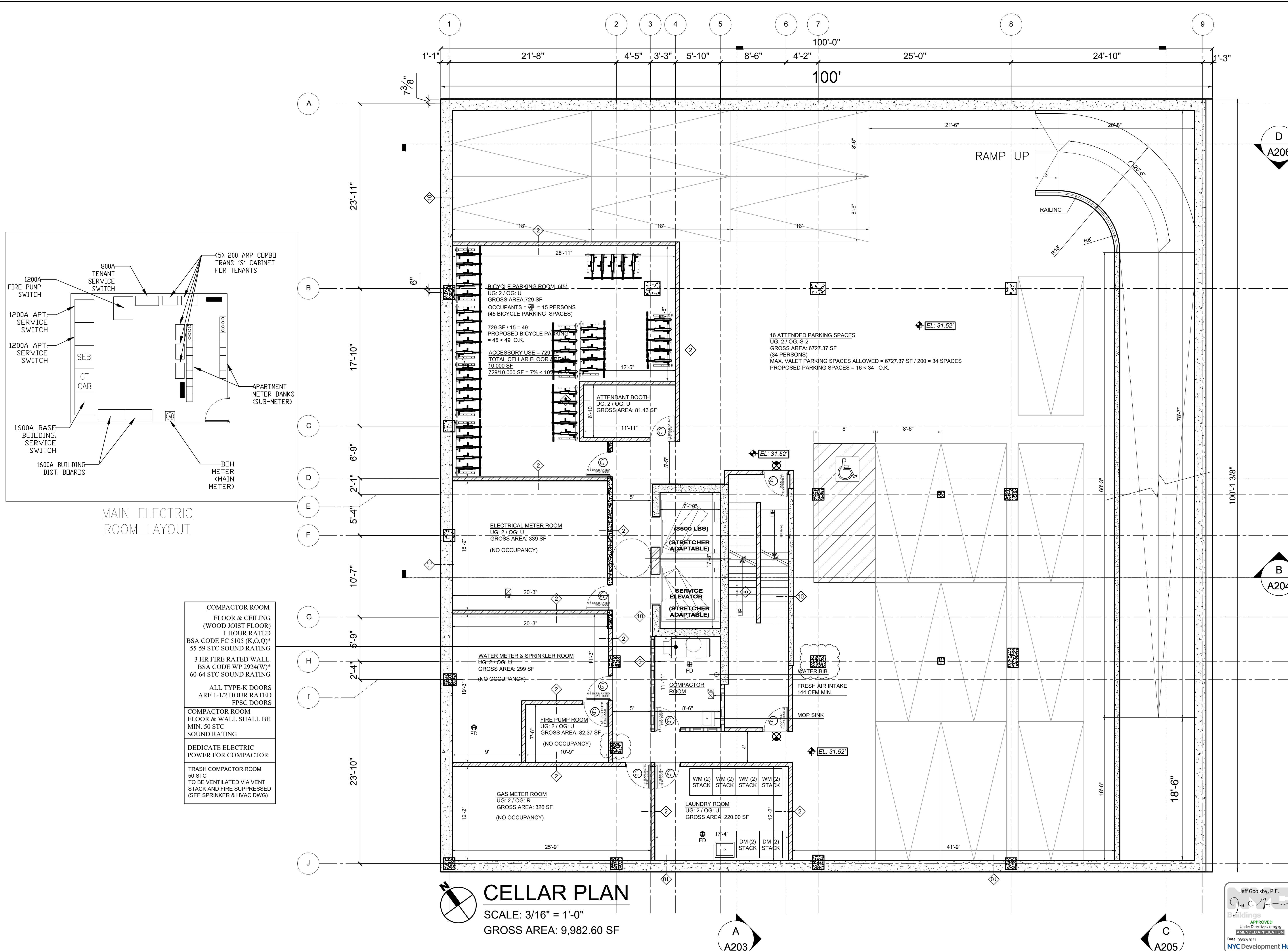
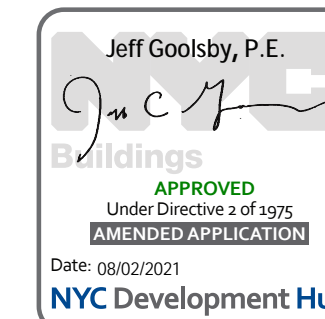
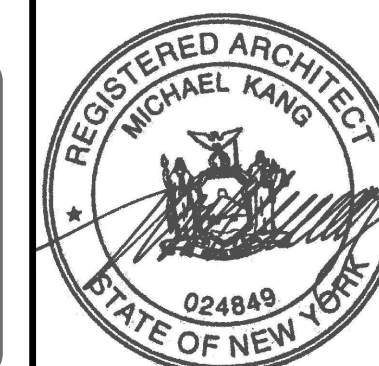


02	07-27-21	PAA
01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

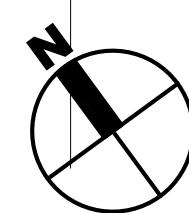
CELLAR FLOOR PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:
A-101.02	PAGE No: 10 OF 43



MAIN ELECTRIC ROOM LAYOUT

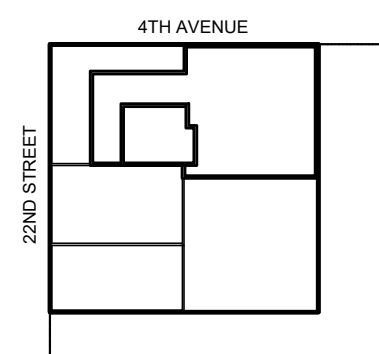
COMPACTOR ROOM
FLOOR & CEILING (WOOD JOIST FLOOR)
1 HOUR RATED
BSA CODE FC 5105 (K.O.Q)*
55-59 STC SOUND RATING
3 HR FIRE RATED WALL,
BSA CODE WP 2924(W)*
60-64 STC SOUND RATING
ALL TYPE-K DOORS
ARE 1-1/2 HOUR RATED
FPSC DOORS
COMPACTOR ROOM
FLOOR & WALL SHALL BE
MIN. 50 STC
SOUND RATING
DEDICATE ELECTRIC
POWER FOR COMPACTOR
TRASH COMPACTOR ROOM
50 STC
TO BE VENTILATED VIA VENT
STACK AND FIRE SUPPRESSED
(SEE SPRINKER & HVAC DWG)



CELLAR PLAN

SCALE: 3/16" = 1'-0"
GROSS AREA: 9,982.60 SF





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REV.#	DATE	DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

FL1 PLAN

SEAL & SIGNATURE

DATE: 03/05/2015

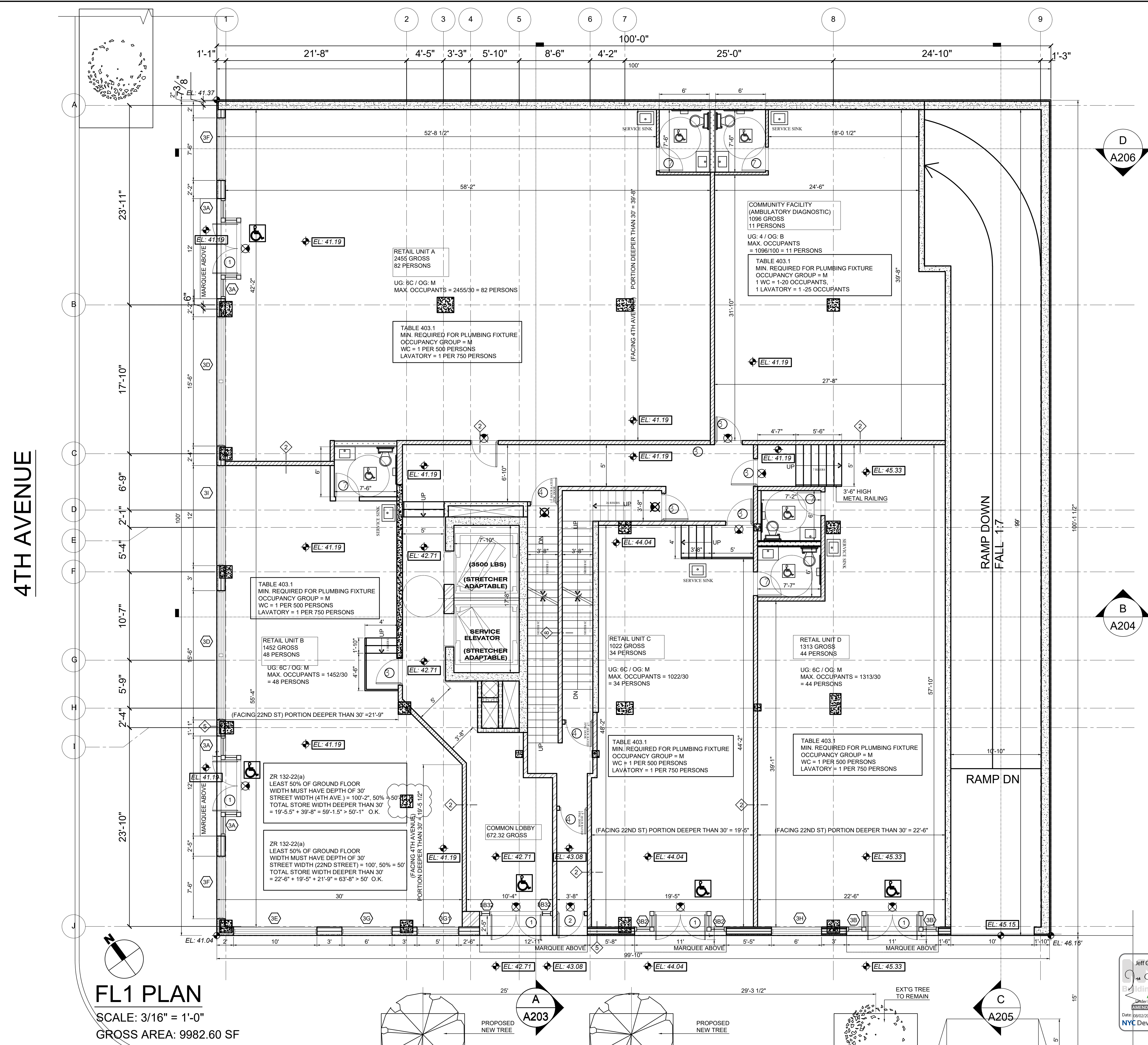
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DRAWING BY:

CHK BY: MK

A-102.02

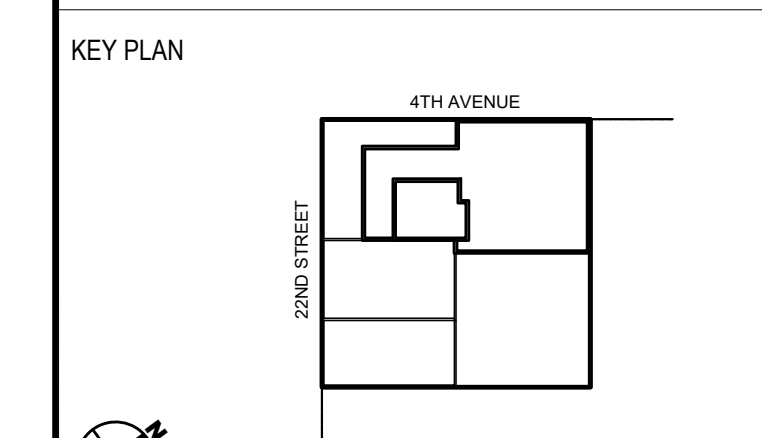
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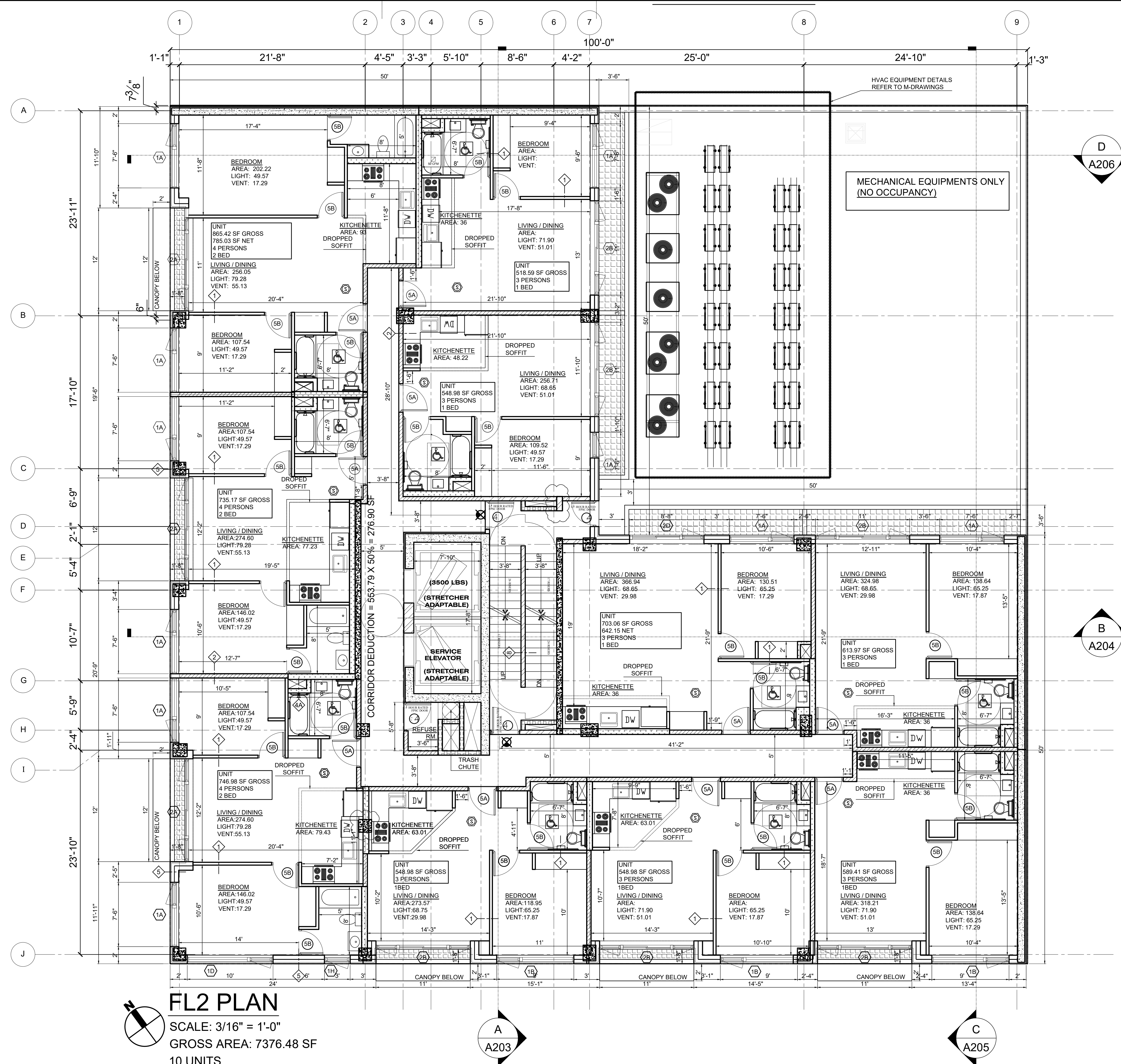
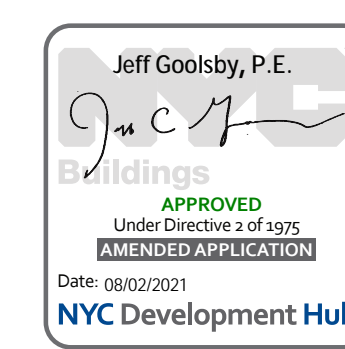
02	07-27-21	PAA
01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

FL2 PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	
DRAWING BY: JL	
CHK BY: MK	
DWG No:	

A-103.02
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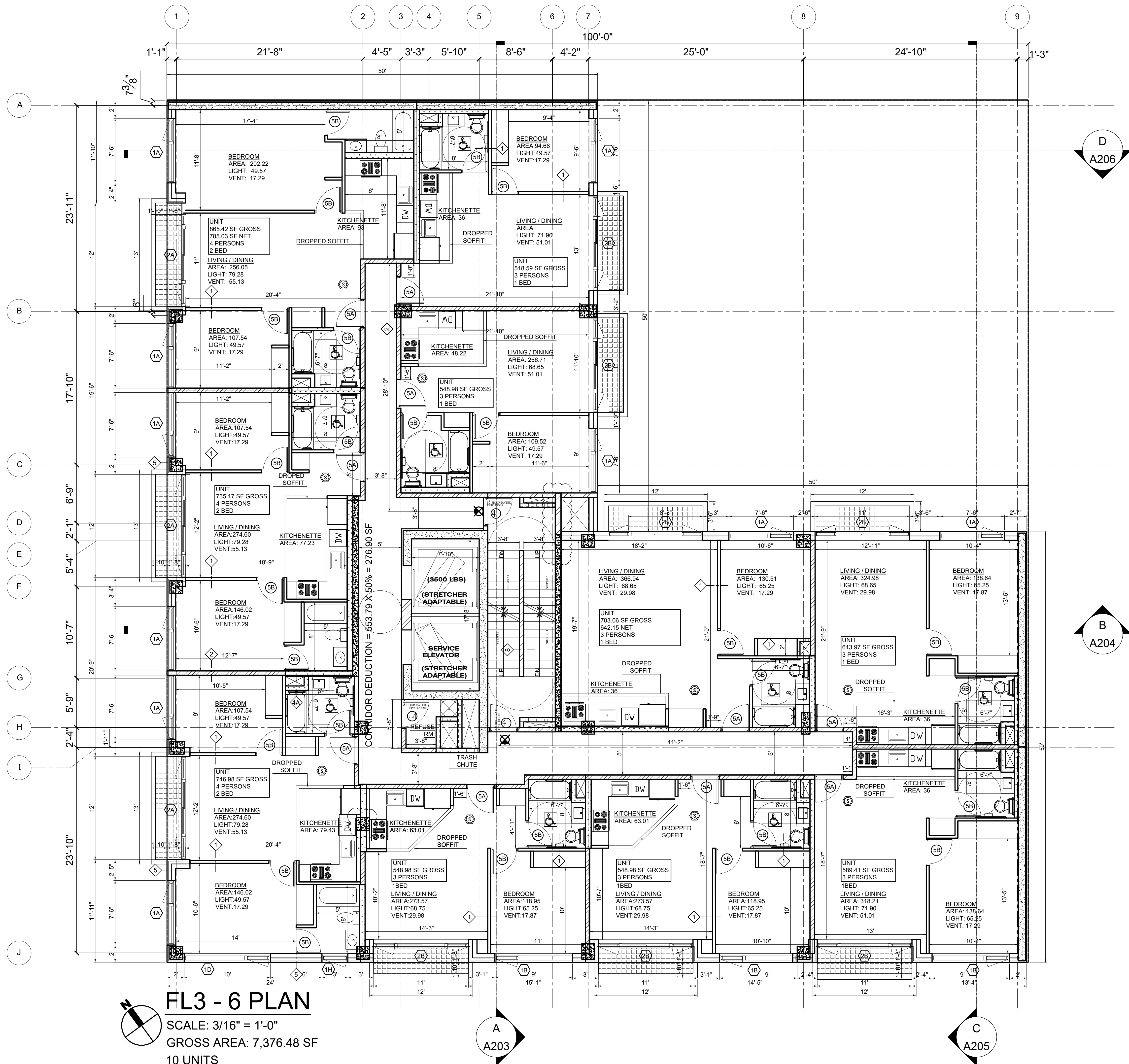


FL2 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 7376.48 SF
10 UNITS



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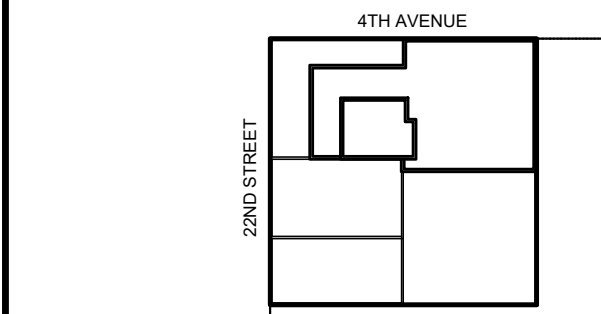


FL3 - 6 PLAN

SCALE: 3/16" = 1'-0"

GROSS AREA: 7,376.48 SF
10 UNITS

KEY PLAN



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01	03-09-20	PAA
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PROJECT

179, 22nd street
BROOKLYN, NEW YORK

FL3-6 PLAN

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:

DRAWING BY: JL

CHK BY: MK

DWG No:

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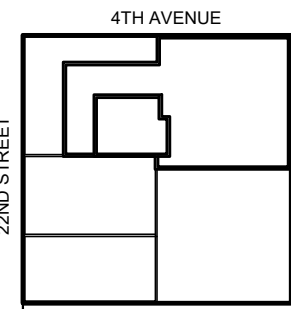
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AMENDED APPLICATION
Date: 09/02/2021
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MICHAEL KANG, RA

KEY PLAN



02	07-27-21	PAA
01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

FL7 PLAN

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:

DRAWING BY: JL

CHK BY: MK

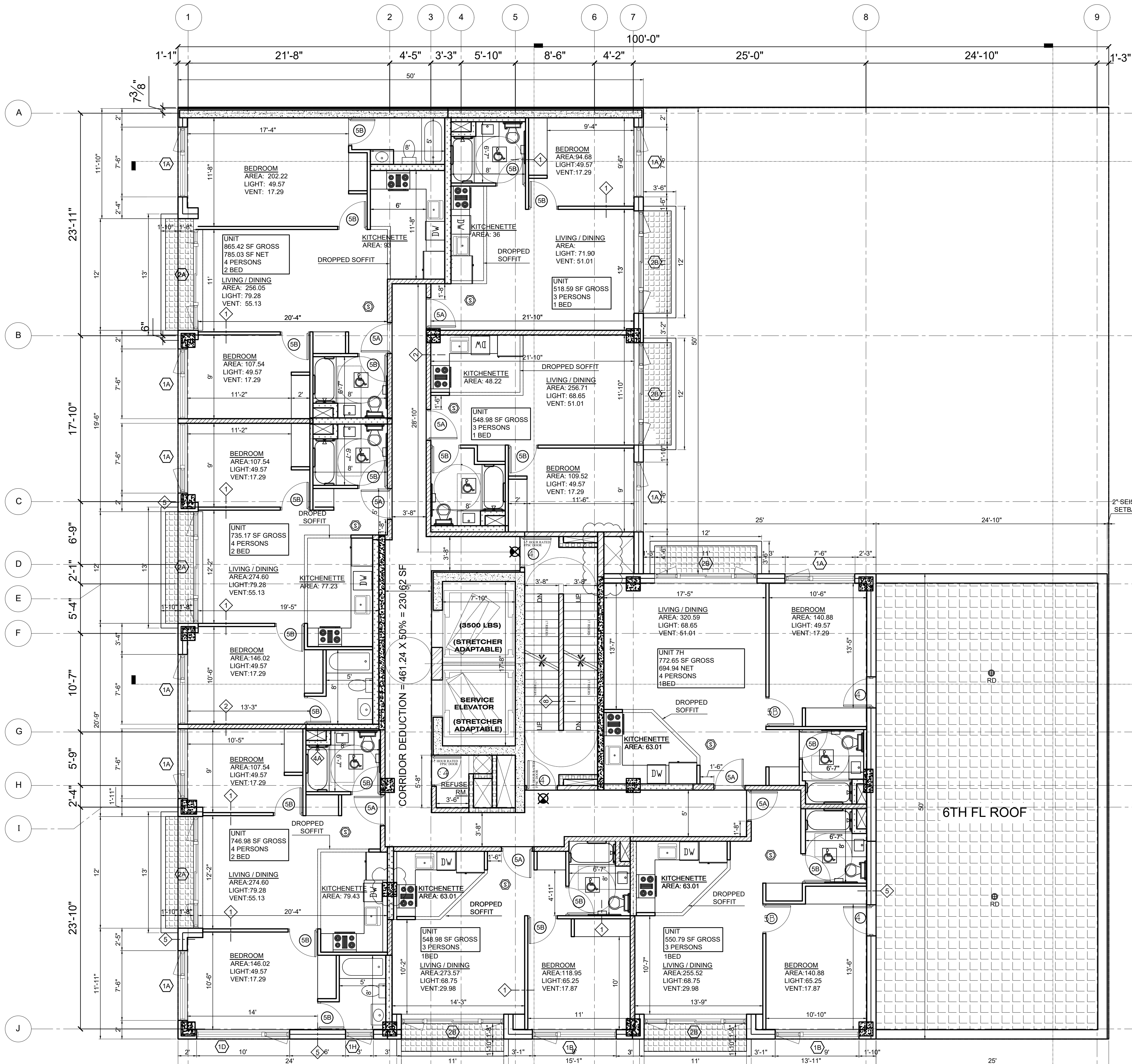
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A-105.02

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AMENDED APPLICATION
Date: 09/02/2021
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FL7 PLAN

SCALE: 3/16" = 1'-0"

GROSS AREA: 6,152.87 SF

8 UNITS

A

A203

C

A205

B

A204

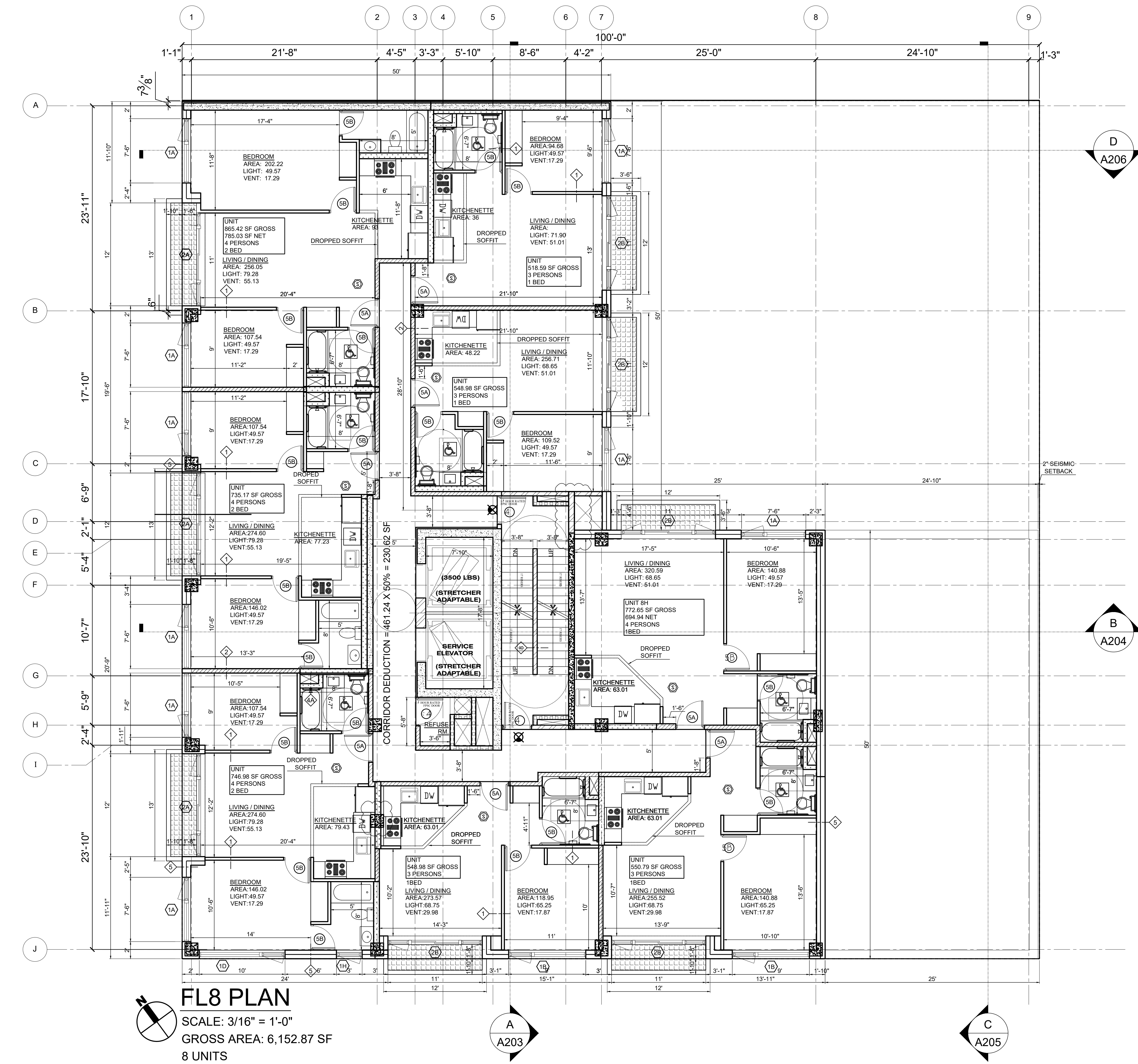
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A206

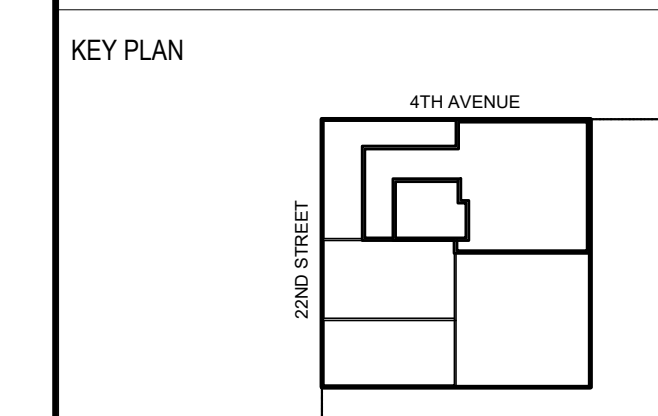


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MICHAEL KANG, RA



FL8 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS



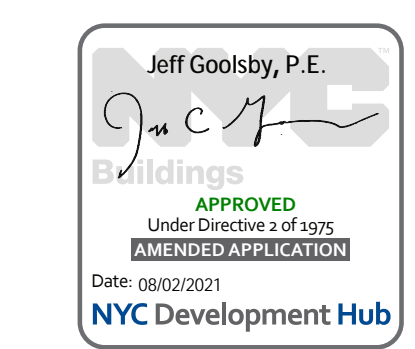
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01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
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FL8 PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	
DRAWING BY: JL	
CHK BY: MK	
DWG No:	

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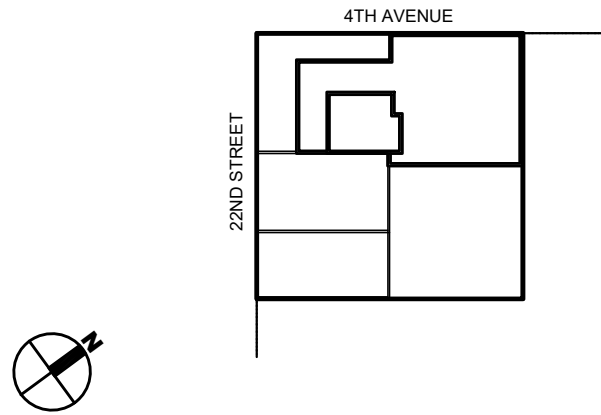




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MICHAEL KANG, RA

KEY PLAN

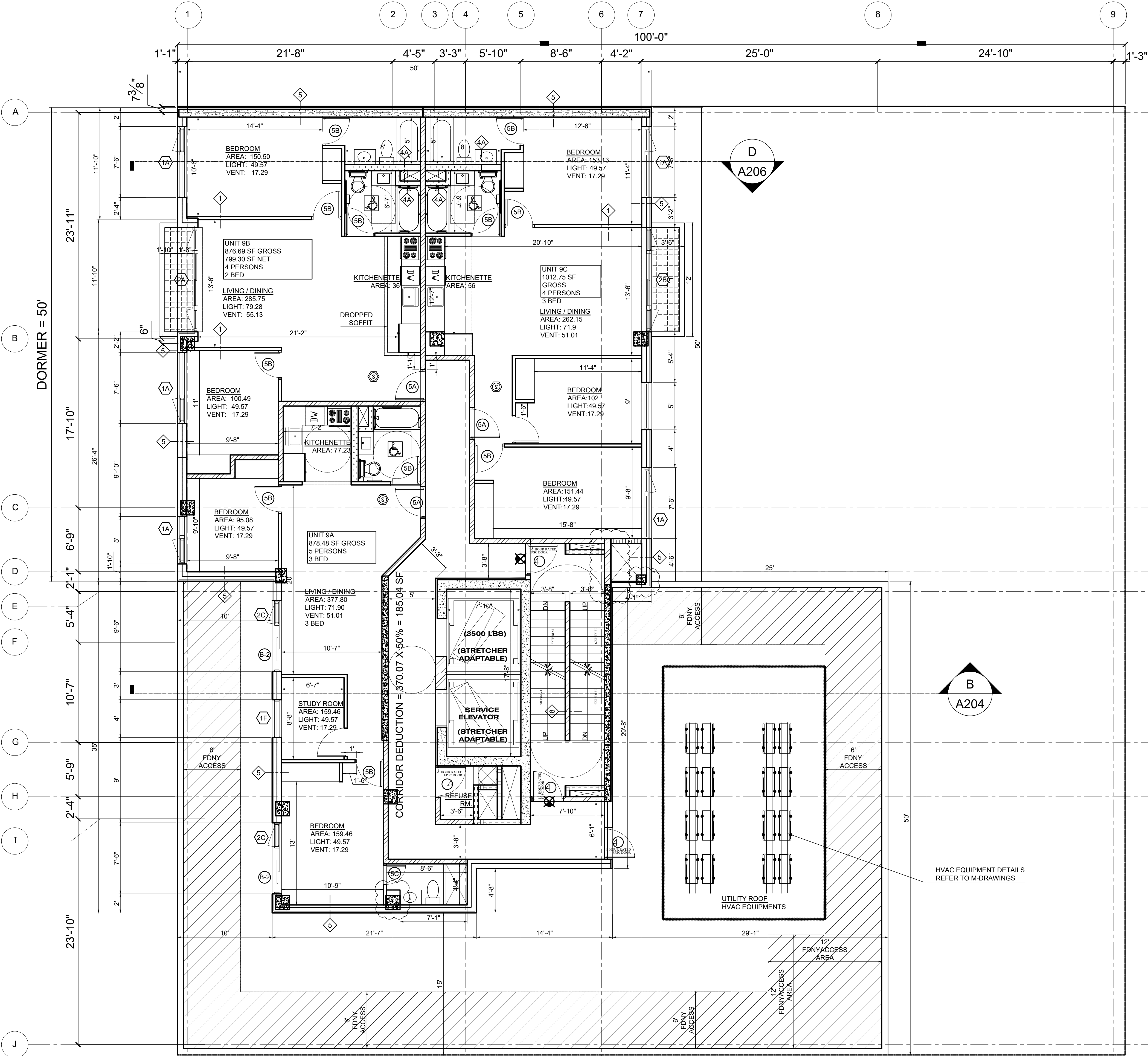


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01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

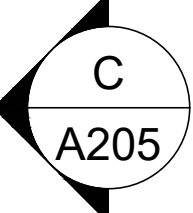
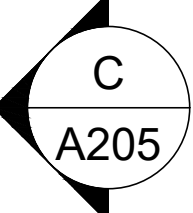
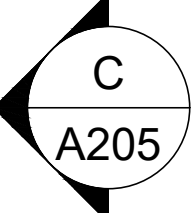
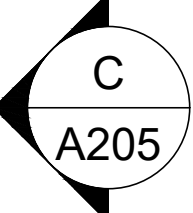
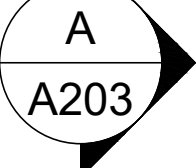
FL9 PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:
REGISTERED ARCHITECT MICHAEL KANG 024849 STATE OF NEW YORK	A-107.02
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FL9 PLAN

SCALE: 3/16" = 1'-0"
GROSS AREA: 3,640.40 SF
3 UNITS

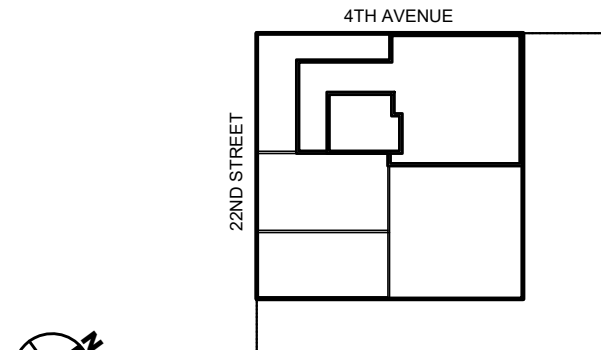




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MICHAEL KANG, RA

KEY PLAN

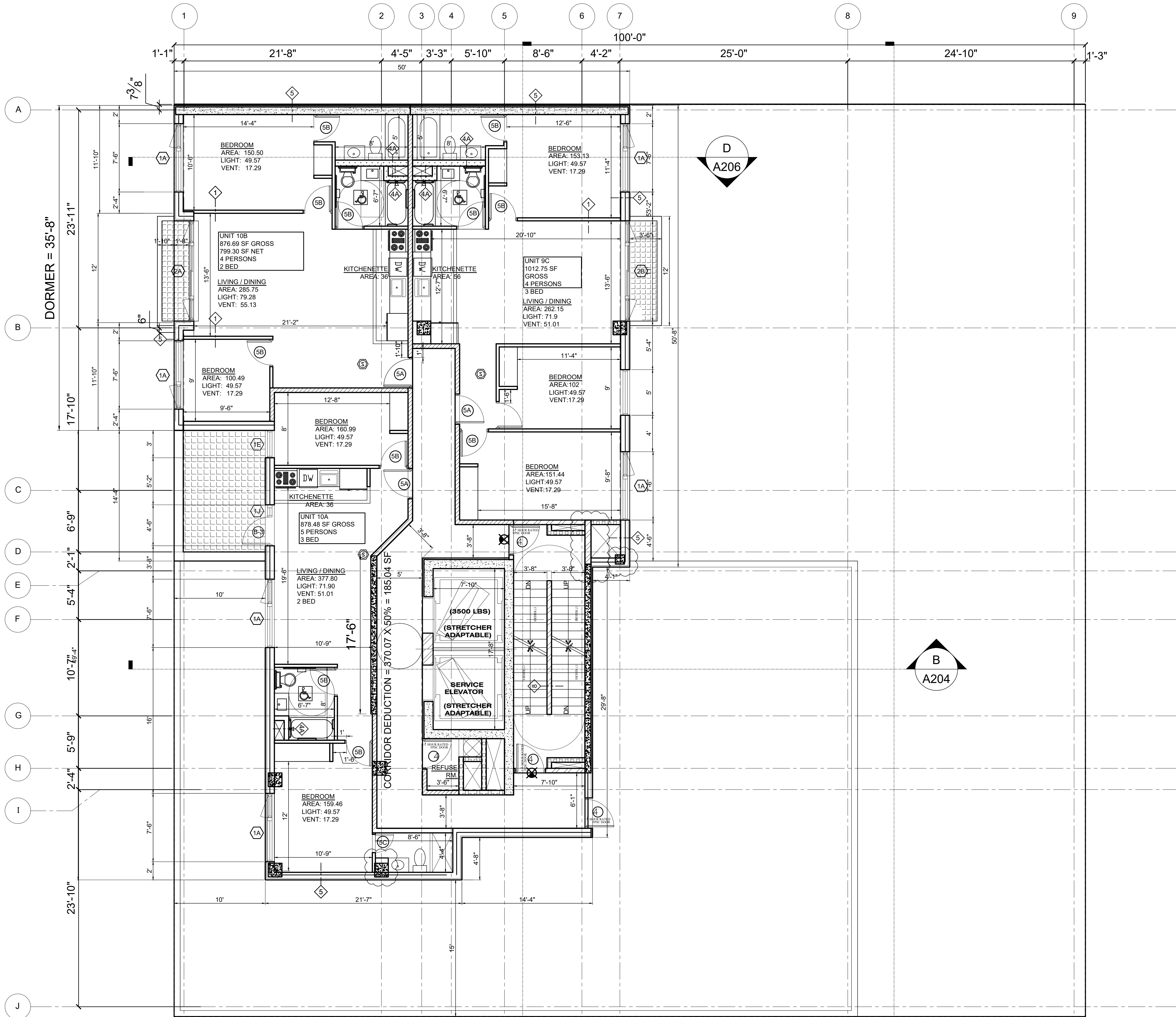


01	07-27-21	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

FL10 PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:
APPROVED Under Directive 2 of 1975 AMENDED APPLICATION Date: 09/02/2021 NYC Development Hub	REGISTERED ARCHITECT MICHAEL KANG 024849 STATE OF NEW YORK
A-107B.01	PAGE No: 17 OF 43



FL10 PLAN

SCALE: 3/16" = 1'-0"
GROSS AREA: 3,497.06 SF
3 UNITS

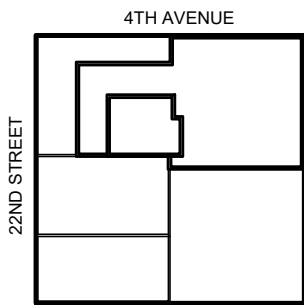




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MICHAEL KANG, RA

KEY PLAN



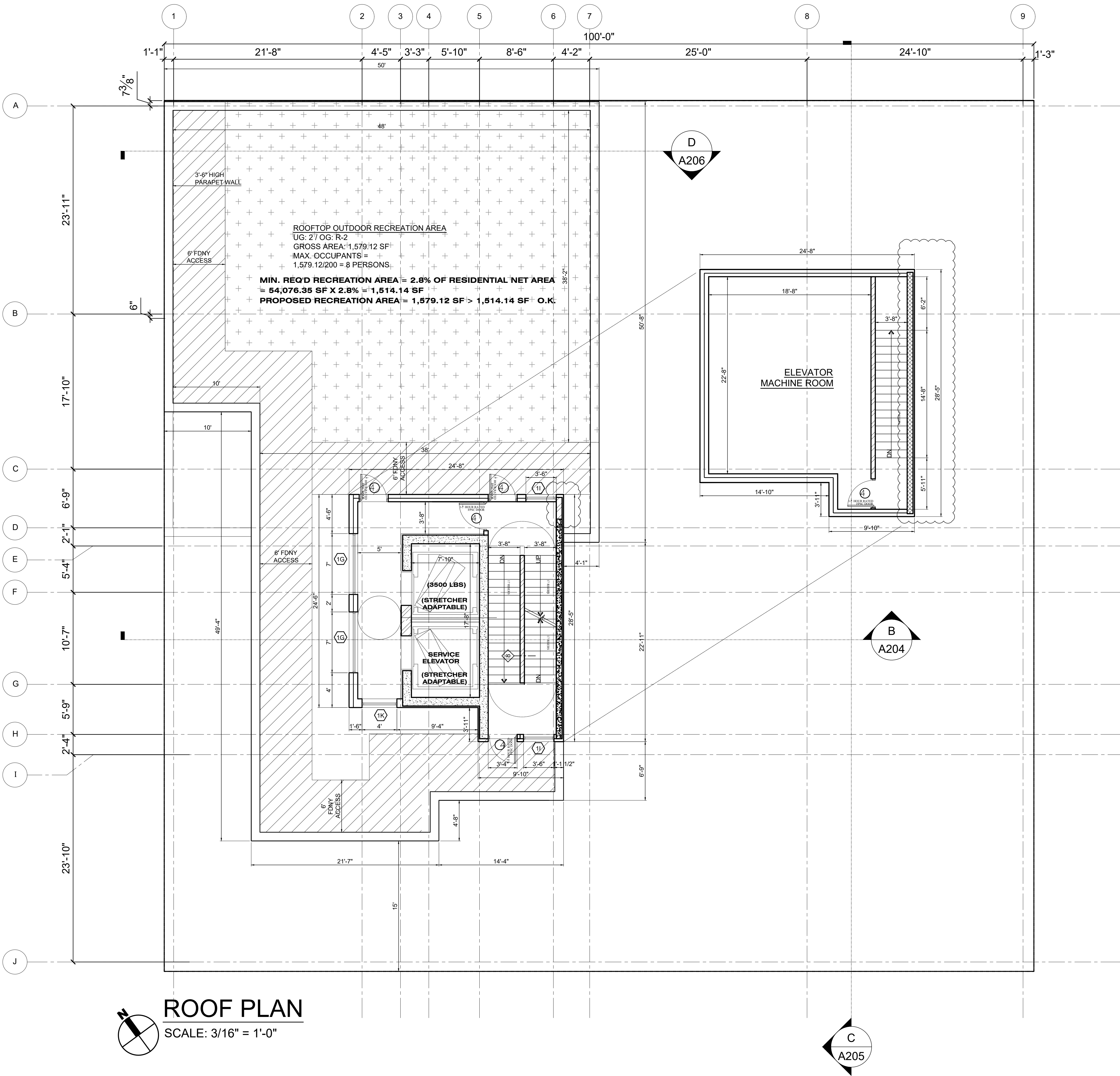
02	07-27-21	PAA
01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

ROOF PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
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CHK BY: MK	
DWG No:	

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ROOF PLAN

SCALE: 3/16" = 1'-0"

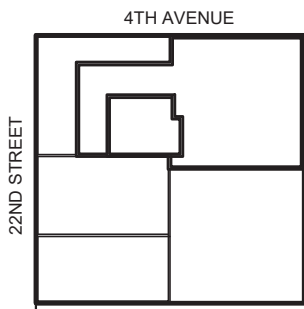


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MICHAEL KANG, RA



KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

WEST ELEVATION
(4TH AVENUE)

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	
DRAWING BY: JL	
CHK BY: MK	
DWG No:	

A-201.01

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Jeff Goolsby

Buildings

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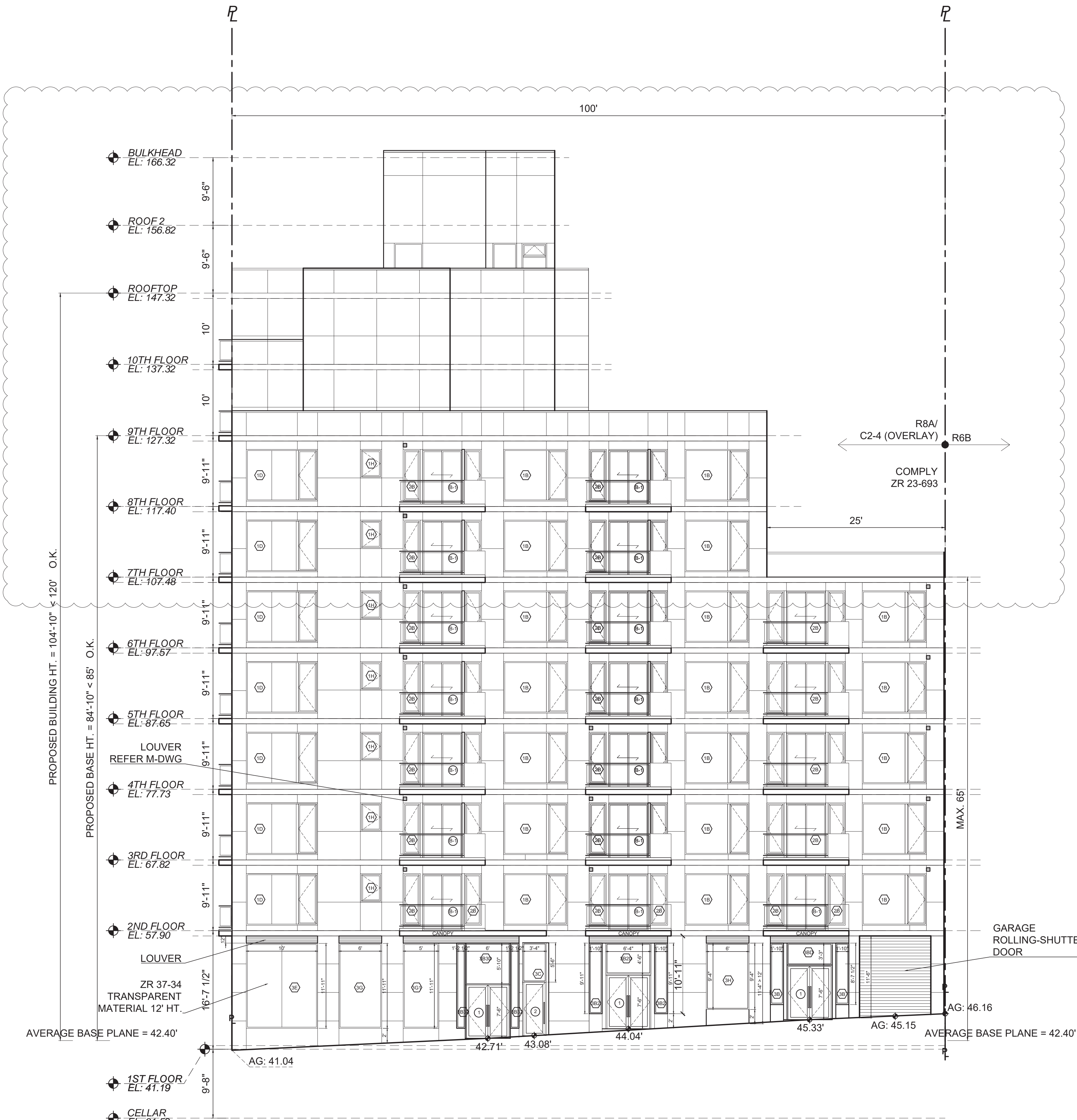
Date: 06/18/2020

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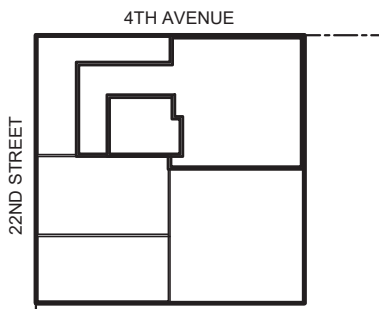
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SOUTH ELEVATION (22ND STREET)

1/8" = 1'-0"

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

SOUTH ELEVATION
(22ND STREET)

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	
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CHK BY: MK	
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jc

Buildings

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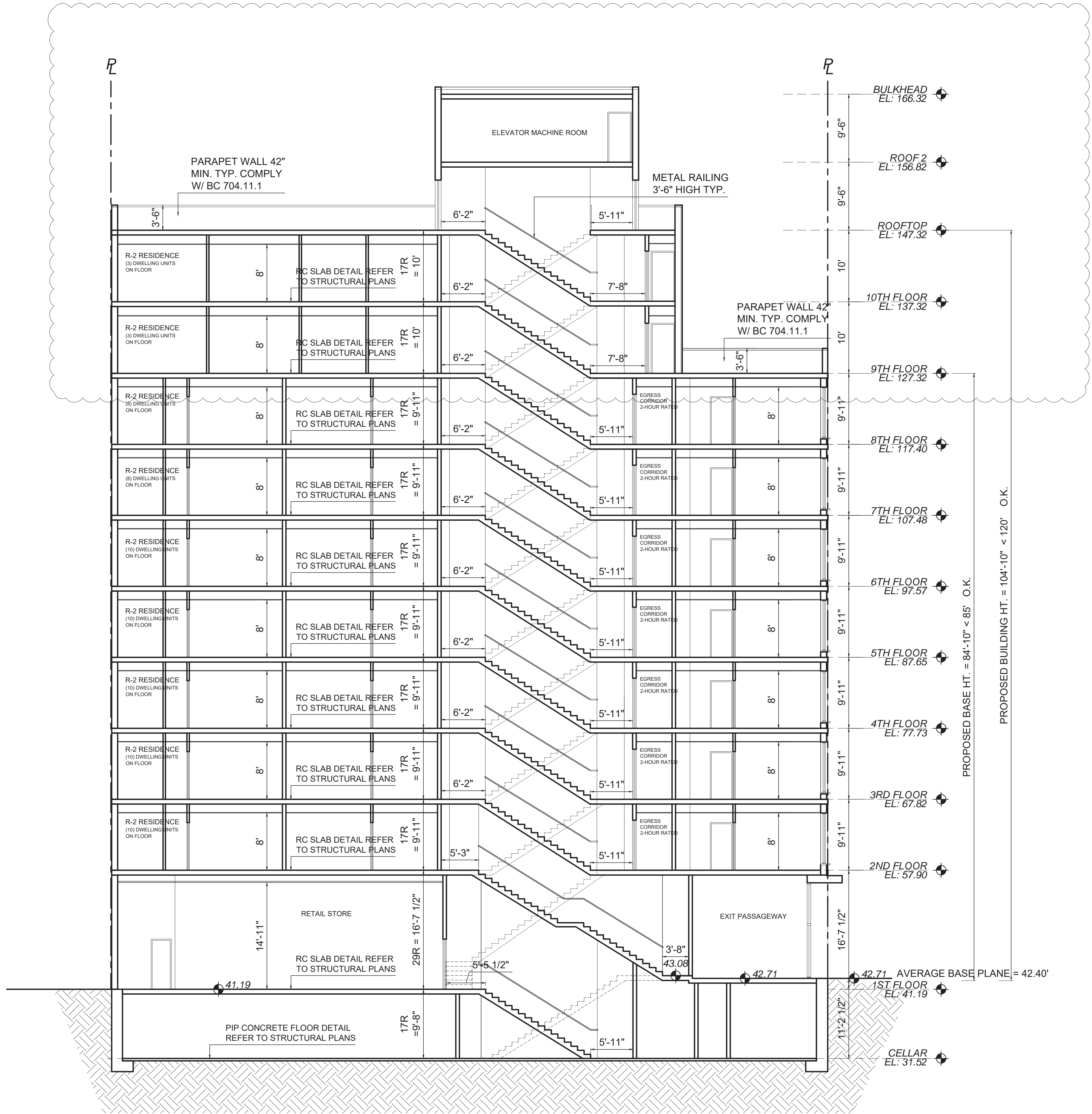


MICHAEL KANG
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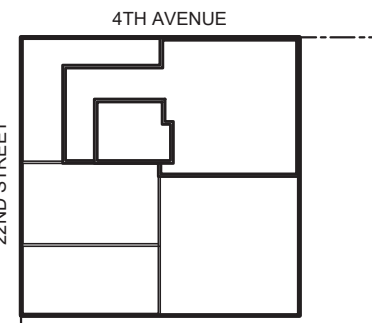
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BUILDING SECTION A
1/8" = 1'-0"

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

BUILDING SECTION A

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:



A-203.01

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Buildings

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AMENDED APPLICATION
Date: 06/18/2020

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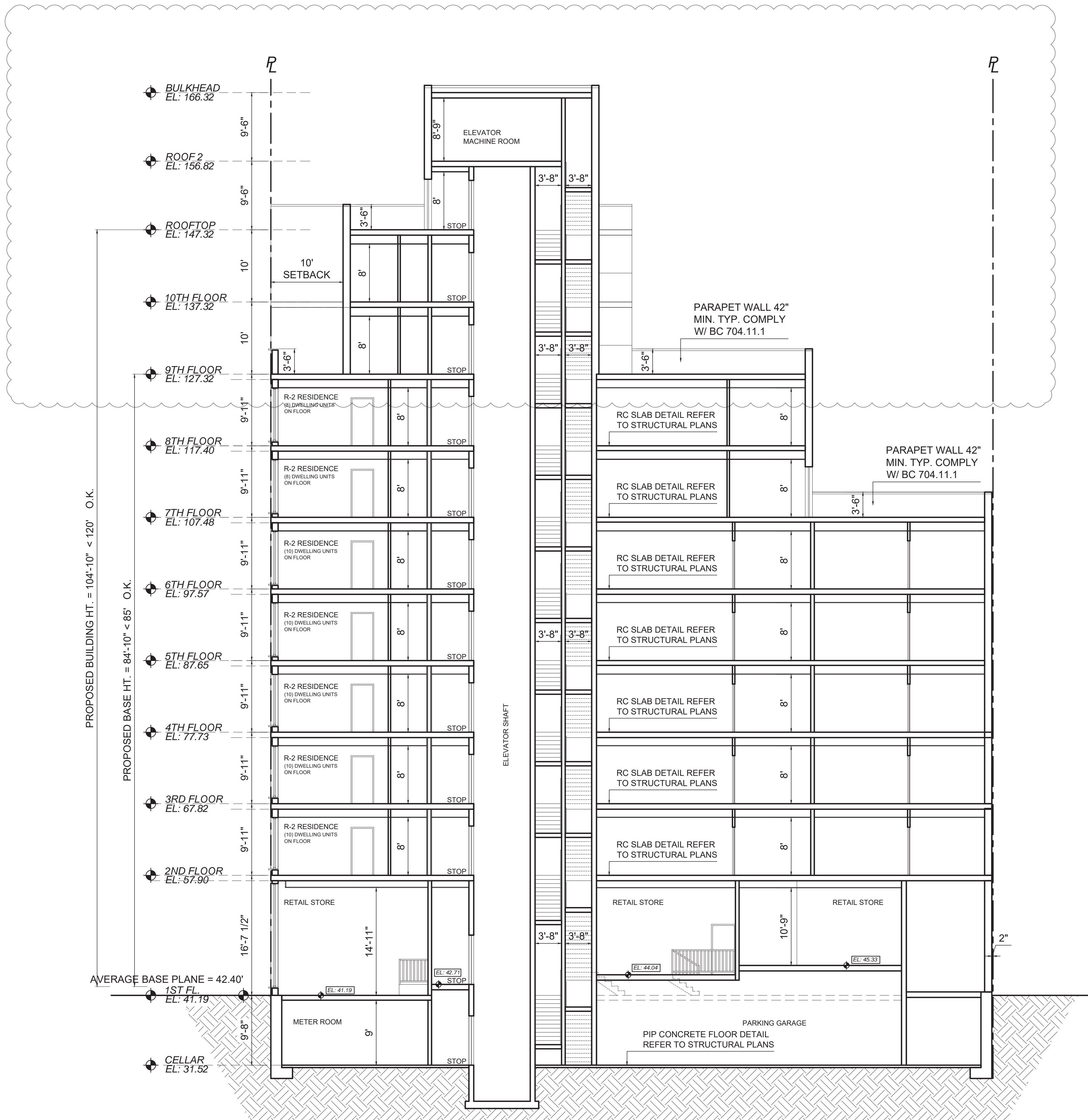


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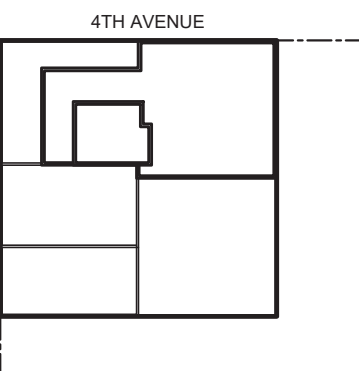
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BUILDING SECTION B
1/8" = 1'-0"

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

BUILDING SECTION B

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
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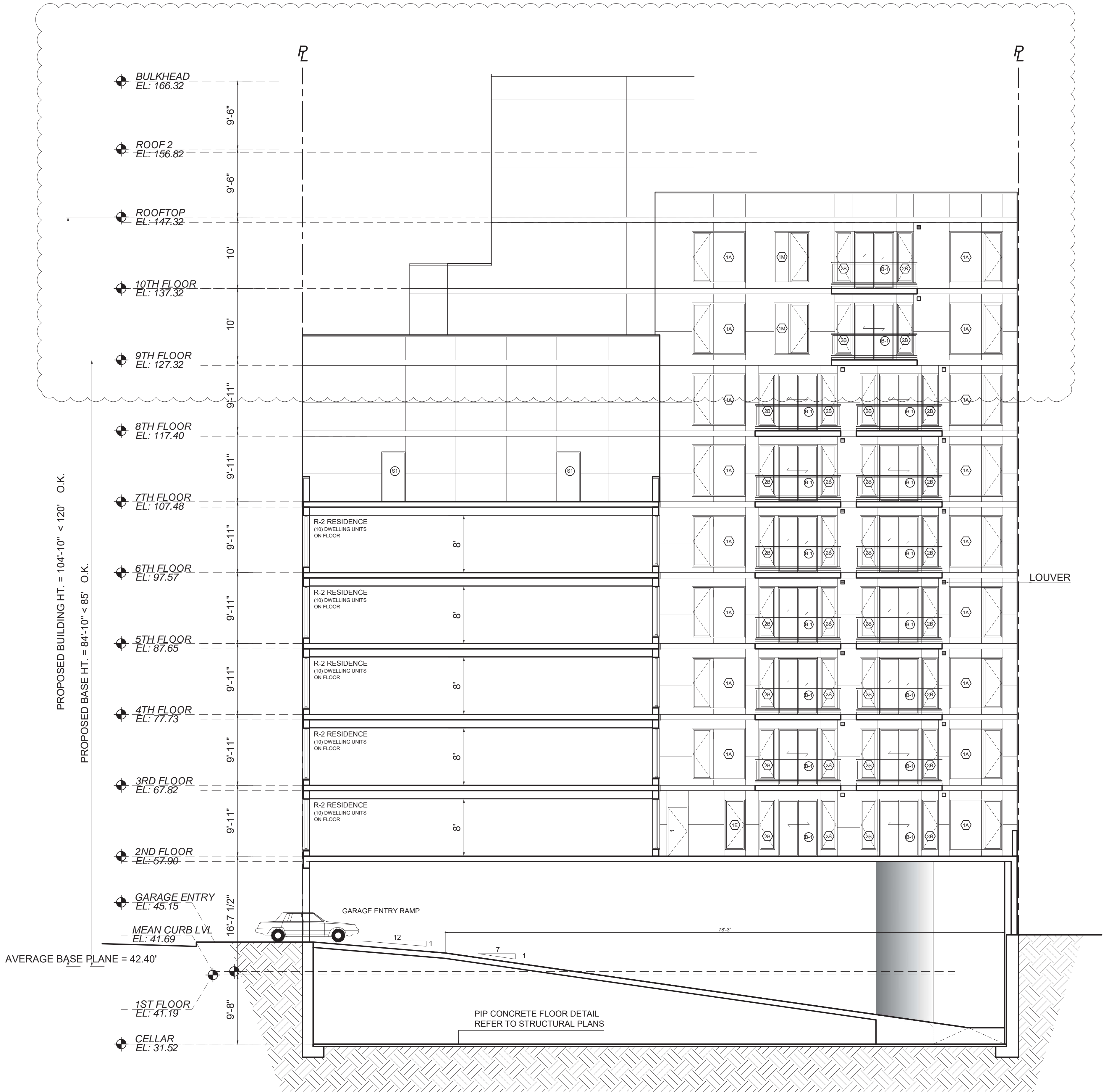


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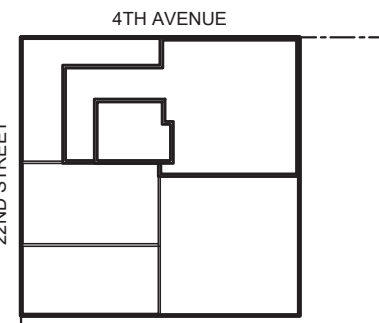
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BUILDING SECTION C /
EAST ELEVATION
1/8" = 1'-0"

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

BUILDING SECTION C /
EAST ELEVATION

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:

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JG
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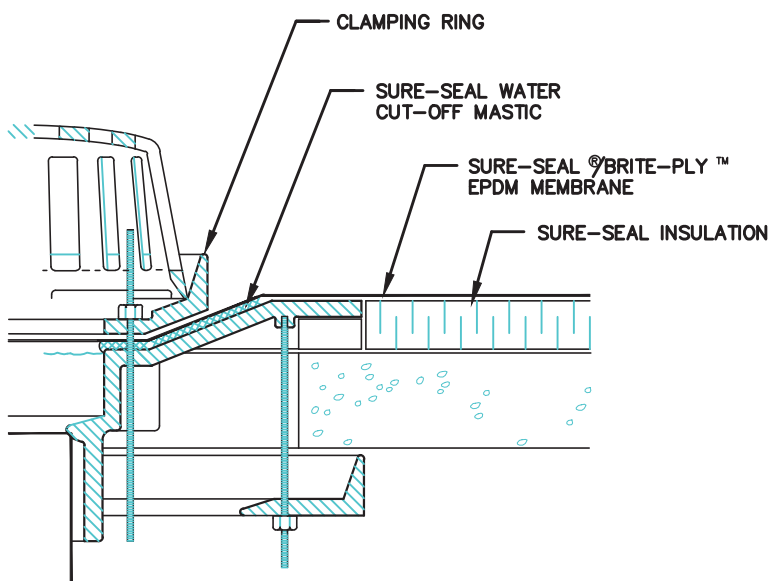
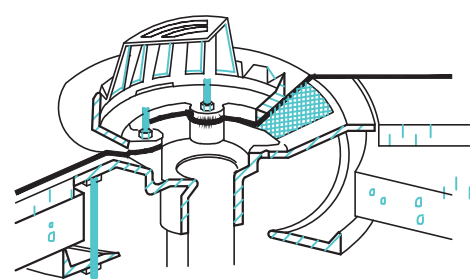
MICHAEL KANG, RA

REMOVE ALL LEAD AND OTHER FLASHING.
ALL BOLTS OR CLAMPS MUST BE IN PLACE
TO PROVIDE CONSTANT COMPRESSION ON
WATER CUT-OFF MASTIC.

CUT THE MEMBRANE SO IT EXTENDS A MINIMUM
OF 1/2 INCH (13 mm) FROM THE ATTACHMENT
POINTS OF THE DRAIN CLAMPING RING.

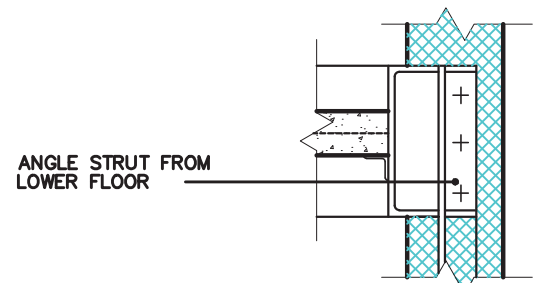
HOLE IN MEMBRANE MUST EXCEED SIZE
OF DRAIN PIPE.

ROOF DRAIN SIZE AND NUMBER OF DRAINS
SHALL BE IN ACCORDANCE WITH LOCAL CODES.

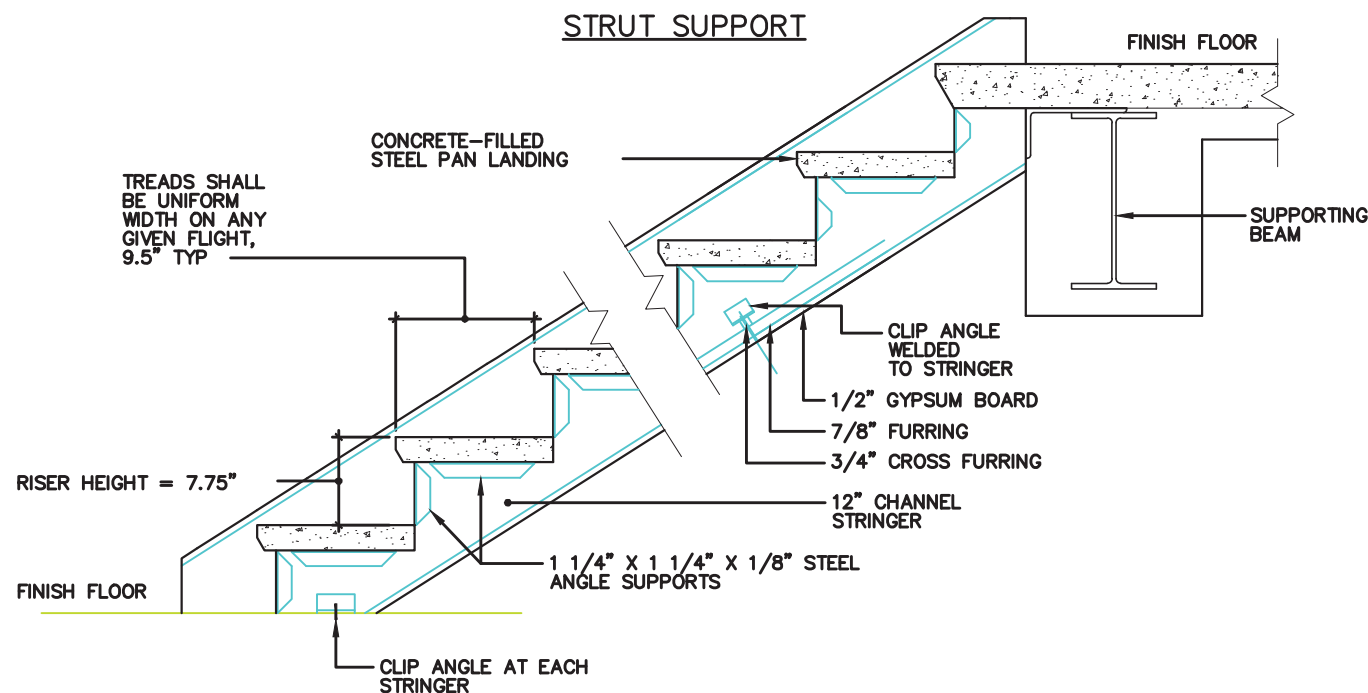


ROOF DRAIN DETAIL

NOT TO SCALE



STRUT SUPPORT

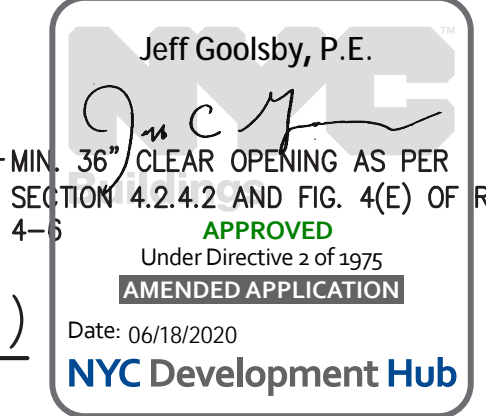
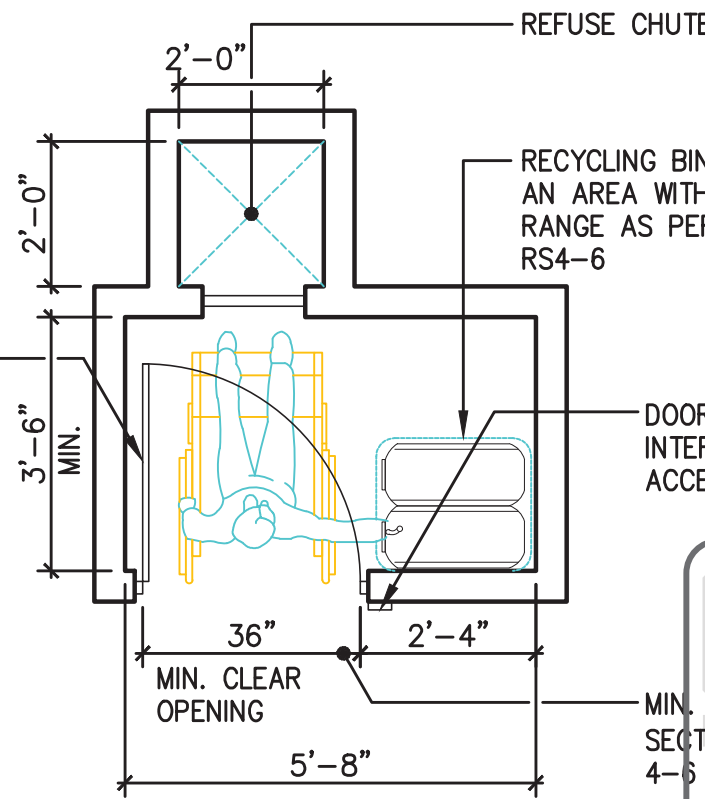


STEEL PAN CONCRETE STAIR (TYP.)

FIRE-RATED 38" DOOR
W/AUTOMATIC DOOR OPENER AND
OCCUPANCY SENSOR** TO MAINTAIN
DOOR 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

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

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



ACCESSIBLE TRASH ROOM DETAIL (TYP.)

NOT TO SCALE

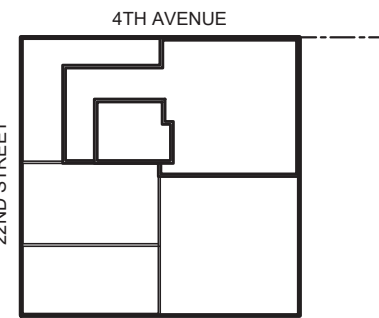
NOTES:

1. REMOVE ALL LEAD AND OTHER
FLASHING BEFORE INSTALLING
FIELD-FABRICATED PIPE SEAL.
2. NAILER REQUIRED AROUND ALL
PIPES GREATER THAN 18 INCHES
(48 cm) IN DIAMETER.
3. UNCOURED ELASTOFORM FLASHING
WRAPPED AROUND PIPE SHALL HAVE
3" (8 cm) MIN. MEMBRANE SPLICE.
4. A HEAT GUN MUST BE USED WHEN
FORMING BRITE-PLY FLASHING.

EXHAUST CHIMNEY DETAIL

NOT TO SCALE

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

BUILDING SECTION D
/ NORTH ELEVATION

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:

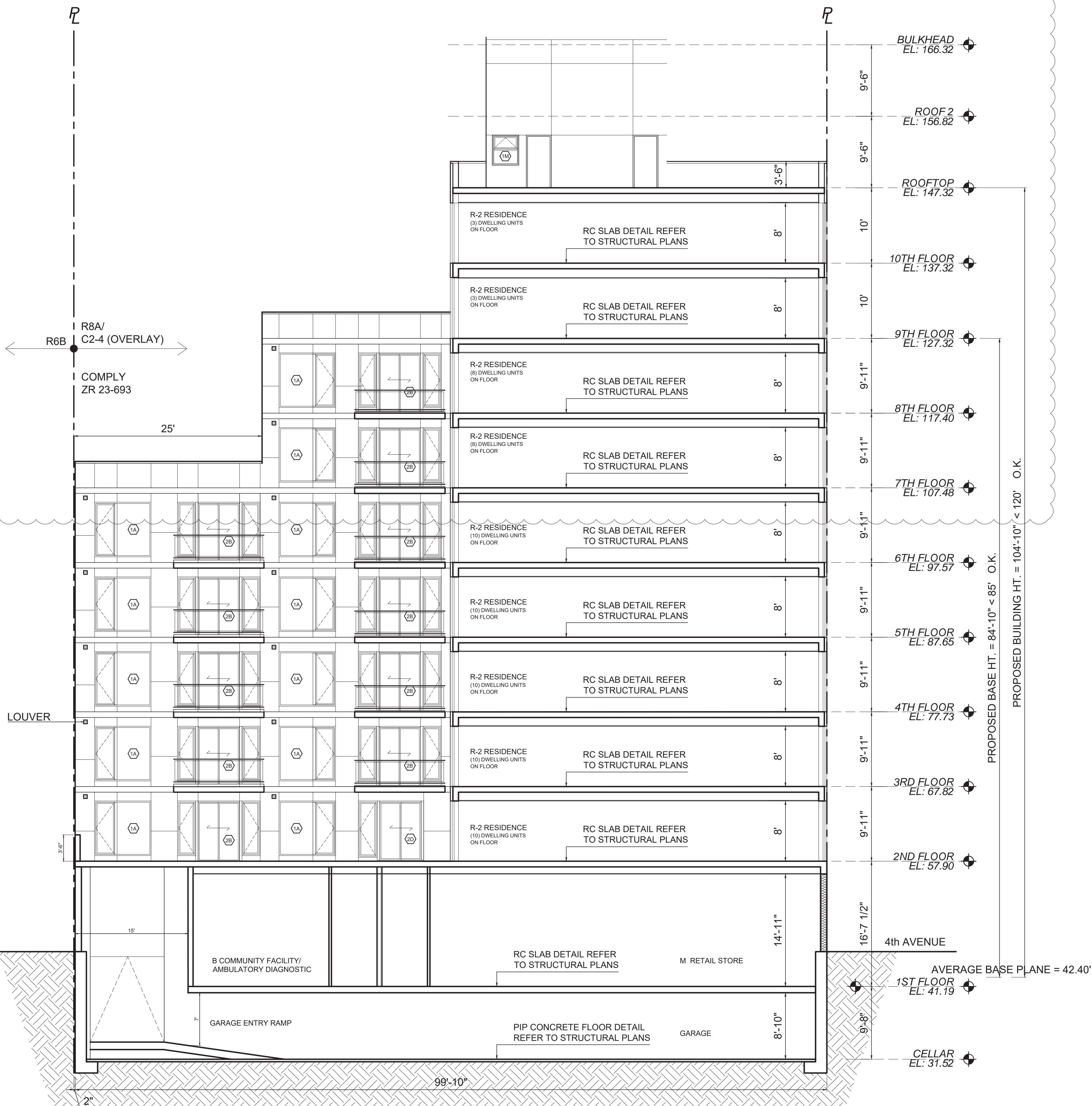


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BUILDING SECTION D /
NORTH ELEVATION

1/8" = 1'-0"





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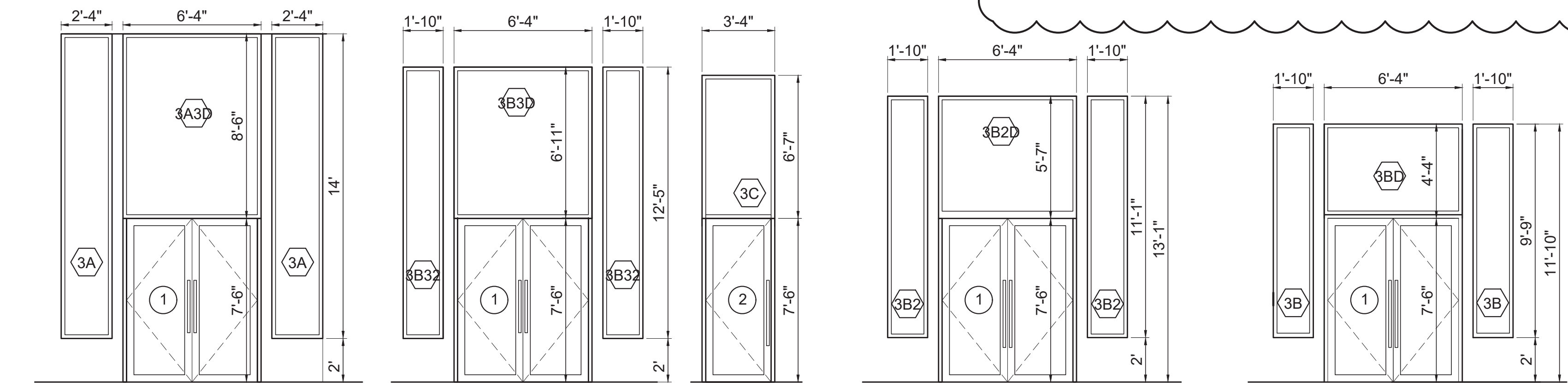
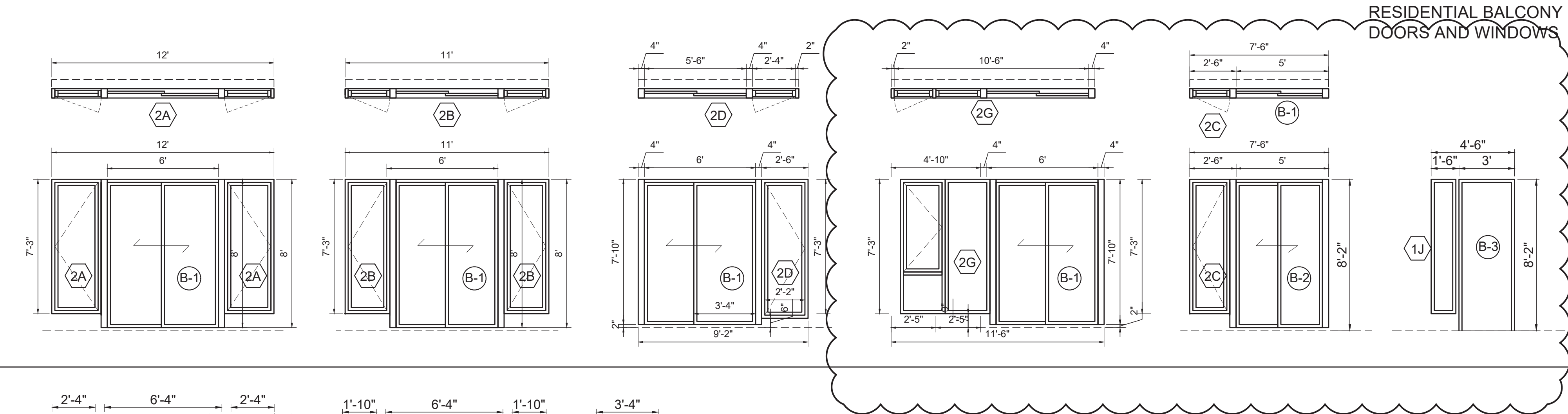
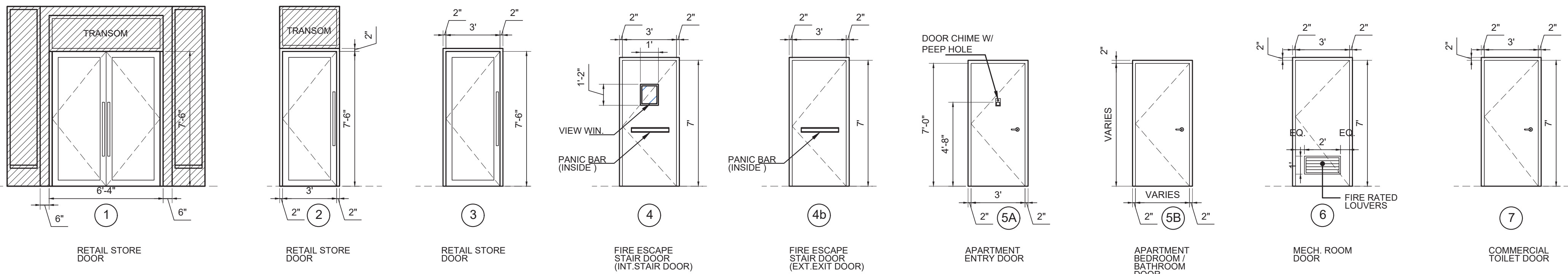
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MICHAEL KANG, RA

DOOR SCHEDULE																	
DOOR NO.	ROOM NAME	DOOR PANEL							FRAME		SADDLE MAT		REMARK	U-FACTOR	SHGC	VT	AIR LEAKAGE
		DIMENSIONS			MATERIAL	FINISH	GLAZING	FIRE RATING	MATERIAL	FINISH							
		WIDTH	HEIGHT	THICKNESS													
1	RETAIL ENTRANCE	6'-4"	7'-6"	-	GLASS / ALUMINUM	SATIN	-	90 MIN	ALUM	-	ALUM	WEATHER STRIP / 1/4" GLASS / THERMAL BREAK / LOCK / CLOSER	0.42	0.27	0.46	<=0.2 CFM/SF	
2	STREET LEVEL EXIT DOOR	3'-0"	7'-6"	-	GLASS / ALUMINUM	SATIN	-	90 MIN	ALUM	-	ALUM	WEATHER STRIP / 1/4" GLASS / THERMAL BREAK / LOCK / CLOSER	0.42	0.27	0.46	<=0.2 CFM/SF	
B1	RESIDENTIAL BALCONY DOORS	(2)3'-0"	8'-0"	-	GLASS / ALUMINUM	SATIN	-	90 MIN	ALUM	-	ALUM	W/ LOCK	0.43	0.30	0.54	<=0.2 CFM/SF	
G	GARAGE ROLLING SHUTTER DOOR	10'-0"	11'-7"	-	STEEL	PAINT	-	90 MIN	STEEL	-	-	NON-INSULATED	0.50	-	-	<=0.2 CFM/SF	
4b	EXTERIOR EXIT DOOR	3'-0"	7'-0"	134"	STEEL	PAINT	-	90 MIN	STEEL	-	-	90 MIN. FPSC	0.42	N/A	N/A	N/A	
3	COMMERCIAL / REC. RM INTERIOR DOOR	3'-0"	7'-6"	-	GLASS / ALUMINUM	SATIN	-	90 MIN	ALUM	-	ALUM	1/4" THK GLASS / LOCK / CLOSER	N/A	N/A		N/A	
3b	COMMERCIAL / REC. RM INTERIOR DOOR	(2)3'-0"	7'-6"	-	GLASS / ALUMINUM	SATIN	-	90 MIN	ALUM	-	ALUM	1/4" THK GLASS / LOCK / CLOSER	N/A	N/A		N/A	
4	BUILDING EGRESS DOOR	3'-0"	7'-0"	-	STEEL	-	-	90 MIN	ALUM	-	ALUM	90 MIN. FPSC / PANIC RELEASE / SIGHT PORTAL	N/A	N/A		N/A	
5a	DWELLING UNIT ENTRY DOOR	3'-0"	8'-0"	-	STEEL	PAINT	-	90 MIN	ALUM	PANT	ALUM	90 MIN. FPSC / LOCK / DOOR BELL / BOLT / LOCK / PEEP HOLE	N/A	N/A		N/A	
5b	DWELLING UNIT INTERIOR DOOR	VARIES V.I.F.	7'-0"	-	SOLID WOOD	PAINT	-	90 MIN	ALUM	PANT	ALUM	W/ LOCK	N/A	N/A		N/A	
6	UTILITY DOOR	3'-0"	7'-0"	134"	STEEL	PAINT	-	90 MIN	ALUM	-	ALUM	90 MIN. FPSC	N/A	N/A		N/A	
7	COMMON RESTROOM DOOR	3'-0"	7'-0"	134"	STEEL	PAINT	-	90 MIN	ALUM	-	ALUM	W/ LOCK	N/A	N/A		N/A	

EXTERIOR DOORS

INTERIOR DOORS



AIR LEAKAGE NOTE (ASHRAE 90.1-2010)

5.4.3 Air Leakage

5.4.3.1 Continuous Air Barrier. The entire building envelope shall be designed and constructed with a continuous air barrier.

Exceptions:

- Semiheated spaces in Climate Zones 1 through 6.
 - Single wythe concrete masonry buildings in climate zone 2B.
- 5.4.3.1.1 Air Barrier Design. The air barrier shall be designed and noted in the following manner:
- all air barrier components of each building envelope assembly shall be clearly identified or otherwise noted on construction documents.
 - The joints, interconnections, and penetrations of the air barrier components, including lighting fixtures, shall be detailed or otherwise noted.
 - the continuous air barrier shall extend over all surfaces of the building envelope (at the lowest floor, exterior walls, and ceiling or roof).
 - the continuous air barrier shall be designed to resist positive and negative pressures from wind, stack effect, and mechanical ventilation.

5.4.3.1.2 Air Barrier Installation. The following areas of the continuous air barrier in the building envelope shall be wrapped, sealed, caulked, gasketed, or taped in an approved manner to minimize air leakage:

- Joints around fenestration and door frames (both manu-factured and site-built)
- Junctions between walls and floors, between walls at building corners, and between walls and roofs or ceilings
- Penetrations through the air barrier in building envelope roofs, walls, and floors
- Building assemblies used as ducts or plenums
- Joints, seams, connections between planes, and other changes in air barrier materials.

5.4.3.1.3 Acceptable Materials and Assemblies.

Continuous air barrier materials and assemblies for the opaque building envelope shall comply with one of the following requirements:

- Materials that have an air permeance not exceeding 0.02 U/s-m² under a pressure differential of 0.02 U/s-m² at 75 Pa when tested in accordance with ASTM E 2178. The following materials meet these requirements:

- PLYWOOD WITH A THICKNESS OF NOT LESS THAN 3/8 INCH (10 MM).
- ORIENTED STRAND BOARD HAVING A THICKNESS OF NOT LESS THAN 3/8 INCH (10 MM).
- EXTRUDED POLYSTYRENE INSULATION BOARD HAVING A THICKNESS OF NOT LESS THAN 1/2 INCH (12.7 MM).
- FOIL-BACK POLYISOCYANURATE INSULATE BOARD HAVING A THICKNESS OF NOT LESS THAN 1/2 INCH (12.7 MM).
- EXTERIOR GYPSUM SHEATHING OR INTERIOR GYPSUM BOARD - MIN. 12MM.
- CEMENT BOARD - MIN. 12MM.
- BUILT-UP ROOFING MEMBRANE.
- MODIFIED BITUMINOUS ROOF MEMBRANE.
- FULLY ADHERED SINGLE-PLY ROOF MEMBRANE.
- A PORTLAND CEMENT/SAND PARGE, STUCCO, OR GYPSUM PLASTER - MIN. 12MM THICK.
- CAST-IN-PLACE AND PRECAST CONCRETE
- SHEET METAL.
- CLOSED-CELL 32 KG/M³ NOMINAL ENSITY SPRAY POLY-URETHANE FOAM - MIN. 25MM.

- Assemblies of materials and components (sealants, tapes, etc.) that have an average air leakage not to exceed 0.2 U/s-m² under a pressure differential of 0.2 U/s-m² at 75 Pa when tested in accordance with ASTM E 2357, ASTM E 1677, ASTM E 1680, or ASTM E283. The following assemblies meet these requirements:

5.4.3.2 Fenestration and Doors.

Air leakage for fenestration and doors shall be determined in accordance with AAMA/WDMA/CSA 101/I.5.2/A440, NFRC 400, or ASTM E283 as specified below.
Air leakage shall be determined by a laboratory accredited by a nationally recognized accreditation organization, such as the National Fenestration Rating Council, and shall be labeled and certified by the manufacturer. Air leakage shall not exceed

- A. 18.3 m3/h-m2 for glazed swinging entrance doors and revolving doors, tested at a pressure of at least 75 Pa in accordance with AAMA/WDMA/CSA 101/I.5.2/A440, NFRC 400, or ASTM E283;
- B. 1.1 m3/h-m2for curtainwall and storefront glazing, tested at a pressure of at least 75 Pa or higher in accordance with NFRC 400 or ASTM E283;
- C. 5.5 m3/h-m2 for unit skylights having condensation weep-age openings, tested at a pressure of at least 75 Pa in accordance with AAMA/WDMA/CSA 101/I.5.2/A440 or NFRC 400, or 9.1 m3/h-m2tested at a pressure of at least 300 Pa in accordance with AAMA/WDMA/CSA 101/I.5.2/A440;
- D. 23.8 m3/h-m2 for non swinging doors intended for vehicular access and maternal transportation, with a minimum opening rate of 0.81 m/sec, tested at a pressure of at least 75 Pa or higher in accordance with ANSI/DASMA 105, NFRC 400, or ASTM E283.
- E. 7.3 m3/h-m2 for other nonswinging opaque doors, glazed sectional garage doors, and upward acting non swinging glazed doors tested at a pressure of at least 75 Pa or higher in accordance with ANSI/DASMA 105, NFRC 400, or ASTM E283; and
- F. 3.7 m3/h-m2 for all other products tested at a pressure of at least 75 Pa in accordance with AAMA/WDMA/CSA 101/I.5.2/A440 or NFRC 400, or 5.5 m3/h-m2 tested at a pressure of at least 300 Pa in accordance with AAMA/WDMA/CSA 101/I.5/A440.

EXCEPTIONS:

- Field-fabricated fenestration and doors
 - Metal coiling doors in semiheated spaces in Cl-mate Zones 1 through 6
 - Products in buildings that comply with a whole building air leakage rate of 7.3 m3/h-m2 under a pressure differential of 2 U/s-m2 at 75Pa when tested in accordance with ASTM E 779
- 5.4.3.3 Loading Dock Weatherseals. In Climate Zones 4 through 8, cargo doors and loading dock doors shall be equipped with weatherseals to restrict infiltration when vehicles are parked in the doorway.

5.4.3.4 Vestibules.

Building entrances that separate con-ditioned space from the exterior shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time. Interior and exterior doors shall have a minimum distance between them of not less than 2.1 m when in the closed position. The floor area of each vestibule shall not exceed the greater of 5 m2 or 2% of the gross conditioned floor area for that level of the building. The exterior envelope of conditioned vestibules shall comply with the requirements for a conditioned space. The interior and exterior envelope of unconditioned vestibules shall comply with the requirements for a semiheated space.

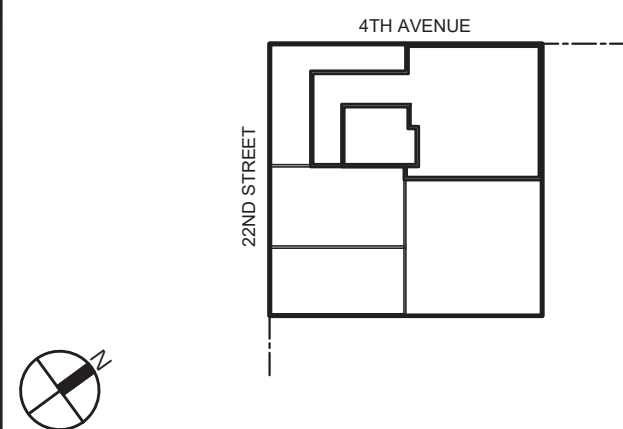
EXCEPTIONS:

- building entrances with revolving doors.
 - doors not intended to be used as a building entrance.
 - doors opening directly from a dwelling unit.
 - building entrances in buildings located in climate zone 1 or 2.
 - Building entrances in buildings that are located in Climate Zone 3, less than four stories above grade, and less than 1000 m2 in gross conditioned floor area
 - Building entrances in buildings that are located in Climate Zone 4, 5, 6, 7, or 8 and are less than 100 m2 in gross conditioned floor area
 - Doors that open directly from a space that is less than 300 m2 in area and is separate from the building entrance.
- Doors that open directly from a space that is less than 300 m2 in area and is separate from the building entrance



TO THE BEST OF MY KNOWLEDGE, THE PROPOSED BUILDING ENVELOPE SHALL COMPLY WITH ASHRAE 90.1-2010 ENERGY CONSERVATION CODE (COMMERCIAL ENERGY EFFICIENCY)

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

DOOR SCHEDULE & TYPICAL DETAILS

SEAL & SIGNATURE

PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:



DATE: 03/05/2015

PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:

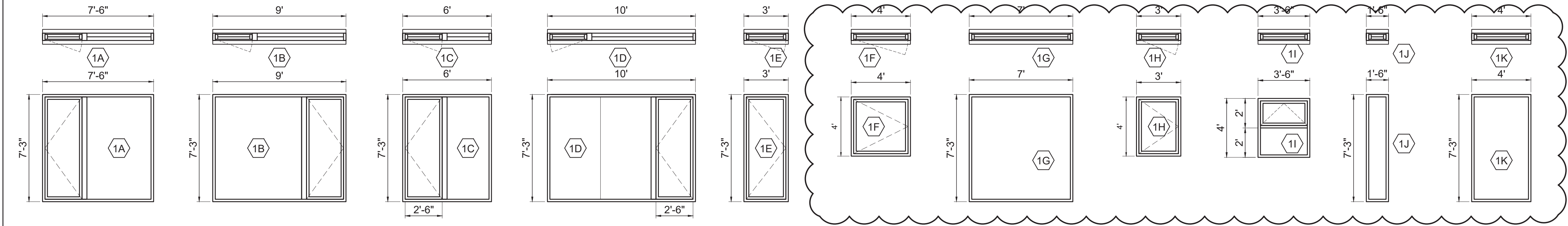
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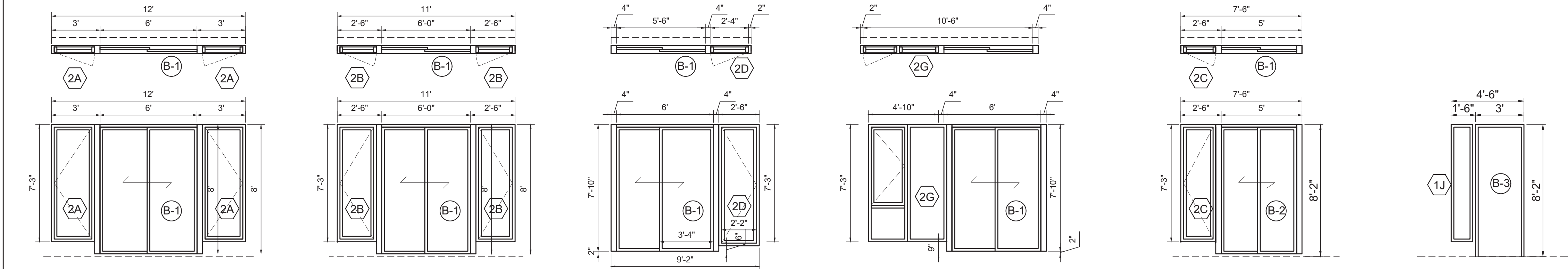
WINDOW SCHEDULE									
WINDOW NO.	DIMENSIONS			FRAME	REMARK	U-FACTOR	SHGC	VT	AIR LEAKAGE
	WIDTH	HEIGHT	GLAZING						
1A	7'-6"	7'-3"	DOUBLE PANE / LOW-E COATING / ARGON INFILL	FIBERGLASS FRAME	PAINT	CASEMENT WINDOWS	0.43	0.19	0.38
1B	9'-0"	7'-3"					0.43	0.19	0.38
1C	6'-0"	7'-3"					0.43	0.19	0.38
1D	10'-0"	7'-3"					0.43	0.19	0.38
1E	3'-0"	7'-3"					0.43	0.19	0.38
1F	4'-0"	4'-0"					0.43	0.19	0.38
1G	7'-0"	7'-3"	DOUBLE PANE / LOW-E COATING / ARGON INFILL	FIBERGLASS FRAME	PAINT	FIXED WINDOW	0.29	0.32	0.56
1H	3'-0"	4'-0"				CASEMENT	0.43	0.19	0.38
1I	3'-6"	4'-0"				CASEMENT	0.43	0.19	0.38
1J	1'-6"	7'-3"				FIXED WINDOW	0.29	0.32	0.56
1K	4'-0"	7'-3"				FIXED WINDOW	0.29	0.32	0.56
2A	3'-0"	7'-3"				RESIDENTIAL CASEMENT WINDOWS	0.43	0.19	0.38
2B	2'-6"	7'-3"					0.43	0.19	0.38
2C	2'-6"	7'-3"					0.43	0.19	0.38
2D	2'-6"	7'-3"					0.43	0.19	0.38
2G	4'-10"	7'-3"					0.43	0.19	0.38
2H	1'-6"	7'-3"				FIXED WINDOW	0.29	0.32	0.56

WINDOW SCHEDULE										
	DIMENSIONS			FRAME		REMARK	U-FACTOR	SHGC	VT	AIR LEAKAGE
WINDOW NO.	WIDTH	HEIGHT	GLAZING	MATERIAL	FINISH					
3A	2'-4"	12'-11"	DOUBLE PANE / ARGON INFILL	ALUMINUM FRAME / THERMAL BREAK	PAINT	STORE FRONT FIXED GLAZING SYSTEM	0.29	0.32	0.56	<=0.2 CFM/SF
3A3D	6'-4"	7'-3"					0.29	0.32	0.56	<=0.2 CFM/SF
3B	1'-10"	8'-9"					0.29	0.32	0.56	<=0.2 CFM/SF
3B2	1'-10"	10'-0"					0.29	0.32	0.56	<=0.2 CFM/SF
3BD	6'-4"	3'-4"					0.29	0.32	0.56	<=0.2 CFM/SF
3B2D	6'-4"	4'-7"					0.29	0.32	0.56	<=0.2 CFM/SF
3B32	1'-2.5"	12'-0"					0.29	0.32	0.56	<=0.2 CFM/SF
3B3D	6'-4"	5'-11"					0.29	0.32	0.56	<=0.2 CFM/SF
3C	3'-4"	5'-7"					0.29	0.32	0.56	<=0.2 CFM/SF
3D	15'-6"	12'-11"					0.29	0.32	0.56	<=0.2 CFM/SF
3E	10'-0"	12'-0"	DOUBLE PANE / ARGON INFILL	ALUMINUM FRAME / THERMAL BREAK	PAINT	STORE FRONT FIXED GLAZING SYSTEM	0.29	0.32	0.56	<=0.2 CFM/SF
3F	7'-6"	12'-11"					0.29	0.32	0.56	<=0.2 CFM/SF
3G	6'-0"	12'-0"					0.29	0.32	0.56	<=0.2 CFM/SF
3GI	5'-0"	12'-0"					0.29	0.32	0.56	<=0.2 CFM/SF
3H	6'-0"	9'-5"					0.29	0.32	0.56	<=0.2 CFM/SF
3I	12'-0"	12'-11"					0.29	0.32	0.56	<=0.2 CFM/SF

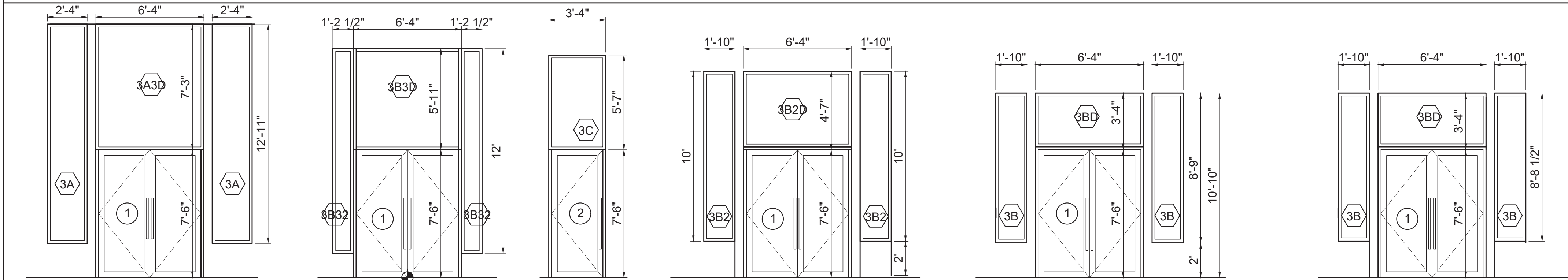
TO THE BEST OF MY KNOWLEDGE, THE PROPOSED BUILDING IN COMPLIANCE WITH ASHRAE 90.1-2010 ENERGY CONSERVATION CODE (COMMERCIAL ENERGY EFFICIENCY)



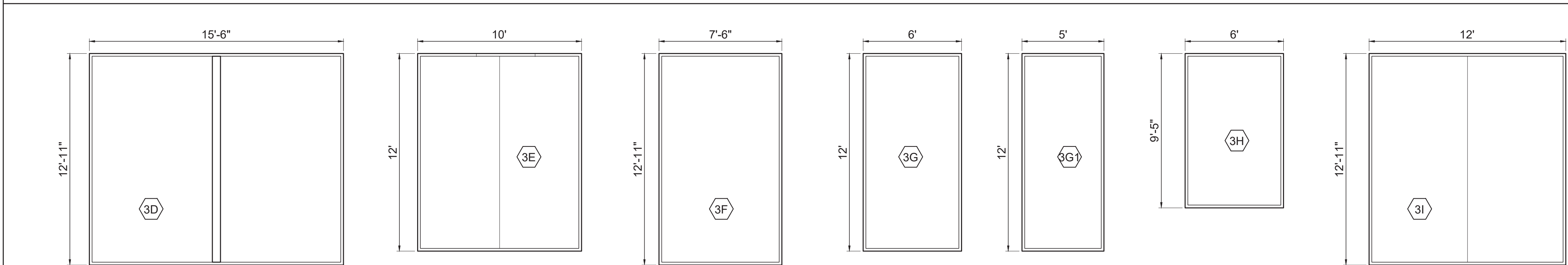
RESIDENTIAL WINDOWS



RESIDENTIAL WINDOWS (BALCONY DOORS / WINDOWS)



COMMERCIAL WINDOWS (STORE FRONT DOORS / WINDOWS)



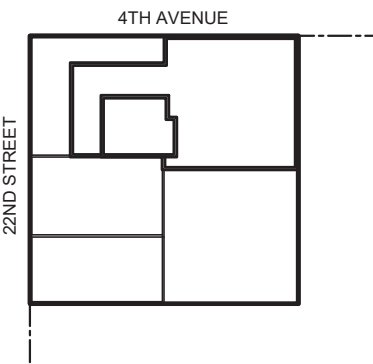
COMMERCIAL WINDOWS (STORE FRONT DOORS / WINDOWS)

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MICHAEL KANG, RA

KEY PLAN



01	03-09-20	PAA
REV. #	DATE	DESCRIPTION

PROJECT
179, 22nd street
BROOKLYN, NEW YORK

WINDOW SCHEDULE

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:
A-303.01	
PAGE No:	27 OF 43



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MICHAEL KANG, RA

179, 22nd street
BROOKLYN, NEW YORK

LIGHTING ENERGY ANALYSIS

SEAL & SIGNATURE DATE: 03/05/2015

PROJECT No:
DRAWING By: JL
CHK By: MK
DWG No:

EN-102.01

PAGE No: 30 OF 43

LIGHTING CONTROL NARRATIVES IN COMPLIANCE with 2010-ASHRAE 90.1 9.4.1.

9.4.1 Lighting Control. Building lighting controls shall be installed to meet the provisions of Sections 9.4.1.1, 9.4.1.2, 9.4.1.3, and 9.4.1.4.

9.4.1.1 Interior Lighting Controls. For each space in the building, all of the lighting control functions indicated in Table 9.4.1.1, or the appropriate space type in column A, and as described below, shall be implemented. All control functions indicated with an "R" are mandatory and shall be implemented in the space. All control functions indicated with an "O" are optional and shall be implemented in the space. If a space type has control functions labeled "N/A" then at least one of those functions shall be implemented. For space types not listed, select a reasonably equivalent type.

Using the Space-by-Space Method for LPD requirements, the space type used for determining control requirements shall be the same space type used to determine the LPD.

a. Local control. There shall be one or more manual lighting controls in the space that controls all of the lighting in the space. Each control device shall control an area (1) no larger than 230m² of the space or (2) 30m² and 60m² no larger than 30m² and 60m² otherwise. The device installed to comply with this provision shall be readily accessible and located so that the occupants can use the controlled lighting when using the control device.

Exception: Remote location of the local control device or device that is permitted for reasons of safety or security when each remote control device has an indicator pilot light as part of or next to the control device and the light is clearly labeled to identify the controlled lighting.

b. Devices that be permitted for reasons of safety or security when each remote control device has an indicator pilot light as part of or next to the control device and the light is clearly labeled to identify the controlled lighting.

Exception: Manual ON is not required where manual ON operation of the general lighting would endanger the safety or security of the room or building occupants.

c. Restricted to partial automatic ON. No more than 50% of the lighting power for the general lighting shall be allowed to be automatically turned on, and none of the remaining lighting shall be automatically turned on.

d. Dimmable lighting control. The general lighting in the space shall be controlled so as to provide at least one reference step down in lighting power or continuous dimming in addition to full ON and full OFF. At least one intermediate step shall be between 50% and 70% (inclusive) of full lighting power.

e. Automatic daylight responsive controls. For sidelighting in any space where the combined rated power of all general lighting completely or partially within the primary daylighted area is 150 W or greater, the general lighting in the primary daylighted area shall be controlled by photocensors.

In any space where the combined rated power of all general lighting completely or partially within the primary and secondary daylighted area is 300 W or greater, the general lighting in the primary daylighted area and secondary daylighted area shall be controlled by photocensors.

The control system shall have the following characteristics:

1. The calibration adjustments shall be readily accessible.
2. As measured, general lighting in the secondary side-lighted area shall be controlled independently of the general lighting in the primary daylighted area.
3. The photocensor shall be installed using electronic dimming or with at least one control point between 50% and 70% of design lighting power, a second control point between 20% and 40% of design lighting power or the lowest dimming level the technology allows, and a third control point that turns off all controlled lighting.

Exception: The following areas are exempted from Section 9.4.1.1 (2):

1. Primary daylighted areas where the top of any window adjacent structure is twice as high above the window as its distance away from the window.
2. Daylighted areas where the total glazing area is less than 10m².
3. Retail spaces.
4. Automatic daylight responsive controls for sidelighting. In any space where the combined rated power for all general lighting completely or partially within daylight areas under skylights and daylight areas under roof monitors is 150 W or greater, general lighting in the daylight area shall be controlled by photocensors having the following characteristics:

1. The calibration adjustments shall be readily accessible.
2. The photocensor shall reduce electric lighting in response to available daylight using continuous dimming or with at least one control point that is between 50% and 70% of design lighting power, a second control point between 20% and 40% of design lighting power or the lowest dimming level the technology allows, and a third control point that turns off all controlled lighting.
3. General lighting in the daylight area shall be controlled together with general lighting in the daylight area under skylights and daylight areas under roof monitors.

Exception: The following areas are exempted from Section 9.4.1.1 (3):

1. Daylight areas under skylights where it is documented that existing adjacent structures or natural obstructions block direct daylight for more than 1500 daylight hours per year between 8 AM and 4 PM.
2. Daylight areas where the skylight visual transmittance (VT) is less than 0.4.
3. In each space within buildings in Climate Zone 5 where the rated power of the general lighting within daylight areas is less than 300 W.

Automatic full OFF full OFF compliance. General lighting power in the space shall be automatically reduced by at least 50% within 30 minutes of all occupants leaving the space. The requirement does not have to be complied with in spaces that meet at least one of the following requirements:

1. The space has an LPD of no more than 0.5 W/m².
2. The space is lighted by HCL.
3. The general lighting power in the space is automatically reduced by at least 30% within 30 minutes of all occupants leaving the space.

Automatic full OFF full OFF compliance. All lighting shall be automatically shut off within 30 minutes of all occupants leaving the space. A control device meeting this requirement shall control no more than 400 m².

Exception: The following lighting is not required to be automatically shut off:

1. General lighting and task lighting in retail and laboratory classrooms.
2. General lighting and task lighting in spaces where automatic shutdown would endanger the safety or security of room or building occupants.
3. Lighting required for 24/7 operation.

1. Scheduled shutdown. All lighting in the space not exempted by Exception (1) to Section 9.4.1.1 shall be automatically shut off during periods when the space is scheduled to be occupied long after 11 a.m. or short after 6 p.m. or both, as determined by the building owner or manager. The control device or system shall provide automatic shutdown response for an area of no more than 400 m² and shall not be required to be implemented in the space where the building owner or manager determines that the automatic shutdown control will not be used for the space.
2. Lighting in spaces where lighting is required for 24/7 continuous operation.
3. Lighting in spaces where automatic shutdown would endanger the safety or security of the room or building occupants.

9.4.1.4 Exterior Lighting Control. Lighting for exterior applications not exempted in Section 9.4.1 shall meet the following requirements:

1. Lighting shall be controlled by a device that automatically turns off the lighting when sufficient daylight is available.
2. In building facades and landscape lighting shall be automatically shut off between midnight and business closing, whichever is later, and 6 a.m. or business opening, whichever is earlier, or between times established by the authority having jurisdiction.
3. Lighting not specified in section 9.4.1.4 (2) and lighting for signage shall be controlled by a device that automatically reduces the connected lighting power by at least 10% during the time period when the lighting is not required.
4. From 12 midnight or within one (1) hour of the end of business operations, whichever is later, and 6 a.m. or business opening, whichever is earlier.
5. During any period when no activity has been detected for a time of no longer than 15 minutes.
6. All time switches shall be capable of timing programming and the time setting along time of power for a period of at least ten hours.

Exception: Lighting for covered walkways, entrances or exits from buildings or parking structures where required for safety, security, or fire adaptation.

1. Lighting that is integral to signage and installed in the signage by the manufacturer.
2. Lighting in spaces where automatic shutdown would endanger the safety or security of the room or building occupants.

9.4.1.5 Exterior Lighting Control. Lighting for exterior applications not exempted in Section 9.4.1 shall meet the following requirements:

1. Lighting shall be controlled by a device that automatically turns off the lighting when sufficient daylight is available.
2. In building facades and landscape lighting shall be automatically shut off between midnight and business closing, whichever is later, and 6 a.m. or business opening, whichever is earlier, or between times established by the authority having jurisdiction.
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Exception: Lighting for covered walkways, entrances or exits from buildings or parking structures where required for safety, security, or fire adaptation.

1. Lighting that is integral to signage and installed in the signage by the manufacturer.
2. Lighting in spaces where automatic shutdown would endanger the safety or security of the room or building occupants.

ASHRAE 90.1-2010 TABLE 9.5.1.

ALLOWABLE INTERIOR LIGHTING WATTAGE

MULTIFAMILY RETAIL 63275 SF X 0.60W = 37965 W
6417 SF X 1.4W = 8984 W

PARKING GARAGE CFF HEALTHCARE CLINIC 8144 SF X 0.25W = 2036 W
1109 SF X 0.87W = 965 W

PROPOSED MULTIFAMILY RESIDENTIAL LIGHTING WATTAGE				TOTAL ALLOWED WATTAGE 63275 SF X 0.6 = 37965 W	
SYMBOL	MANUFACTURER	MODEL	LOCATIONS	QUANTITIES	WATTAGE
	F07	METALUX 48 IN. FLUORESCENT WRAP LIGHT (30 WATTS PER BULB, 120W PER FIXTURE)	UTILITY ROOMS, STAIRS, CORRIDOR	49	1470
	R16	LIGHTOLIER 6" RECESSED LIGHT (23 WATTS)	CORRIDOR	202	4646
	D168 W	INFOR - IP65 - (15 WATTS) WATERPROOF LED LIGHT FOR BATHROOM	BATHROOM	99	1287
	D180	LITEBOX - 6" LED DOWNLIGHT MODULE (14 WATTS INPUT POWER)	DWELLING UNITS	726	10164
	BCS640	PHILIPS 41W SURFACE MOUNTED / SUSPENDED LED FIXTURE	GENERAL LIGHTING	16	656

PROPOSED WATTAGE = 18223 W < 37965 W

PROPOSED RETAIL LIGHTING WATTAGE

SYMBOL	MANUFACTURER	MODEL	LOCATIONS	COMMENTS	QUANTITIES	WATTAGE
	BCS640	PHILIPS 41W SURFACE MOUNTED / SUSPENDED LED FIXTURE	GENERAL LIGHTING		71	2911

PROPOSED WATTAGE = 2911 W < 8984 W

PROPOSED PARKING GARAGE LIGHTING WATTAGE

SYMBOL	MANUFACTURER	MODEL	LOCATIONS	COMMENTS	QUANTITIES	WATTAGE
	BCS640	PHILIPS 41W SURFACE MOUNTED / SUSPENDED LED FIXTURE	GENERAL LIGHTING		25	1025

PROPOSED WATTAGE = 1025 W < 2036 W

PROPOSED CF/ HEALTHCARE CLINIC LIGHTING WATTAGE

SYMBOL	MANUFACTURER	MODEL	LOCATIONS	COMMENTS	QUANTITIES	WATTAGE
	BCS640	PHILIPS 41W SURFACE MOUNTED / SUSPENDED LED FIXTURE	GENERAL LIGHTING		9	369

PROPOSED WATTAGE = 369 W < 965 W

ALLOWED WATTAGE = 37965+8984+2036+965 = 49950 W

PROPOSED WATTAGE = 18223+2911+1025+369 = 22726 W

PROPOSED WATTAGE = 22726 W < 49950 W ...O.K.

ALLOWABLE EXTERIOR LIGHTING WATTAGE

ASHRAE 90.1-2010 TABLE 9.4.2-2

MARQUEE/ ENTRY CANOPY - RETAIL 104 SF X 0.25W = 101 W
MARQUEE/ ENTRY CANOPY - MULTI-FAMILY 26 SF X 0.25W = 6 W
2ND FLOOR TERRACE/PLAZA 2425 SF X 0.14W = 340 W
7TH FLOOR TERRACE/PLAZA 1144 SF X 0.14W = 160 W

9TH FLOOR TERRACE/PLAZA 2457 SF X 0.14W = 344 W
ROOFTOP/PLAZA 1238 SF X 0.14W = 173 W

PROPOSED EXTERIOR LIGHTING WATTAGE				TOTAL ALLOWED WATTAGE 130 SF X 0.25W = 32 W	
SYMBOL	MANUFACTURER	MODEL	LOCATIONS	COMMENTS	WATTAGE
	COOPER INDUSTRIES PD6 6" APERTURE COMMERCIAL RECESSED LED (6.5W)	PD6	ENTRY CANOPY		3+12 = 15
					98

PROPOSED EXTERIOR LIGHTING WATTAGE				TOTAL ALLOWED WATTAGE 7264 SF X 0.14 = 1017 W	
SYMBOL	MANUFACTURER	MODEL	LOCATIONS	COMMENTS	WATTAGE
	P188	BAY VIEW OIL-RUBBED BRONZE 12IN WALL SCONCE (19W/LED)	PLAZA AREA		5+2+4+5 = 16
					304

ALLOWED WATTAGE = 32 + 1017 = 1049 W

PROPOSED WATTAGE = 98 + 304 = 402 W

PROPOSED WATTAGE = 402 W < 1049 W ...O.K.

LIGHTING CONTROLS NARRATIVE

INTERIOR LIGHTING CONTROLS				
CONTROL STRATEGY				
LOCATION:	TYPE OF DEVICES:	INTENT OF CONTROL	ASHRAE 90.1-2013	DRAWING #
LIVING ROOM/ BEDROOM (2ND TO 10TH FL.)	MANUAL LIGHTING CONTROL	MANUAL ON/OFF	9.4.1.1	EN-203 TO EN-208
BATHROOMS (2ND TO 10TH FL.)	MANUAL LIGHTING CONTROL	MANUAL ON/OFF	9.4.1.1	EN-203 TO EN-208
STAIRWAYS (CELLAR TO 10TH FL.)	OCCUPANCY SENSOR	FULL AUTOMATIC - ON CONTROL - 24HR - FOR THE SAFETY OR SECURITY OF BUILDING OCCUPANT	9.4.1.1	EN-201 TO EN-208
MACHINE ROOM (ROOFTOP)	ASTRONOMICAL TIMECLOCK	LOCAL SWITCHES WITH DUAL TECHNOLOGY OCCUPANCY SENSOR-MANUAL ON, AUTOMATIC OFF FOR 50% OF FIXTURE, WITH ASTRONOMICAL TIMECLOCK	9.4.1.1	EN-208
TOILETS (CELLAR)	OCCUPANCY SENSOR	AUTOMATICALLY TURNS LIGHTS ON NOT MORE THAN 50% POWER, WHEN MOTION IS DETECTED AND OFF WITH 20 MINS. OF ALL OCCUPANT LEAVING THE SPACE.	9.4.1.1	EN-208
RETAIL STORE/CF OFFICE (1ST FL.)	DAYLIGHT ZONE CONTROL / MANUAL LIGHTING CONTROL	DIMMING OR SWITCHING OFF LIGHT WHEN SUFFICIENT AMBIENT LIGHT IS PRESENT OR WHEN THE SPACE IS VACANT	9.4.1.1	EN-202
PARKING GARAGE (CELLAR FL.)	OCCUPANCY SENSOR	LOCAL SWITCHES WITH OCCUPANCY SENSOR, OCCUPANCY SENSOR TO REDUCE 75% OF LIGHTING LOAD WITHIN 20 MINUTES OF NO MOTION DETECTED AND AUTOMATICALLY TURN LIGHTS ON FULL POWER WHEN MOTION IS DETECTED.	9.4.1.1	EN-201
METER ROOMS (CELLAR FL.)	OCCUPANCY SENSOR	FULL AUTOMATIC - ON CONTROL - 24HR - FOR THE SAFETY OR SECURITY OF BUILDING OCCUPANT	9.4.1.1	EN-201
EXTERIOR LIGHTING CONTROLS				
LOCATION:	TYPE OF DEVICES:	INTENT OF CONTROL	ASHRAE 90.1-2013	DRAWING #
ROOFTOP BULKHEAD (ROOF)	PHOTO SENSOR AND/ OR AUTOMATIC TIMECLOCK	AUTOMATICALLY TURN OFF THE POWER WHEN DAYLIGHT IS AVAILABLE	9.4.1.4	EN-208
CANOPY (ABOVE 1ST FL. ENTRANCE)	PHOTO SENSOR AND/ OR AUTOMATIC TIMECLOCK	AUTOMATICALLY TURN OFF THE POWER WHEN DAYLIGHT IS AVAILABLE	9.4.1.4	EN-202

SUPPORTING DOCUMENTATION REFERENCE:

INTERIOR LIGHTING LAYOUTS EN-201 ~ EN-208
LIGHTING FIXTURE LEGEND EN-102
LIGHTING CONTROLS NARRATIVES EN-102
PROGRESS INSPECTIONS FOR LIGHTING EN-106



COMcheck Software Version 4.1.1.0 Interior Lighting Compliance Certificate

Project Information
Energy Code: 2014 New York Energy Conser. Constr. Code (by application of 90.1 (2010) Standard)
Project Title: 179, 22nd street
Project Type: New Construction

Construction Site: 179, 22nd street, Brooklyn, NY 11232
Owner/Agent: Steve Chung, Grand Development Realty, LLC, 136-18 39th Ave, Suite 1004, Flushing, NY 11354, 718.353.1603, steve1382001@gmail.com
Designer/Contractor: Michael Kang, MCA Architect, 37-01 Main Street, Suite 3A, Flushing, NY 11354, 718.353.1603, michealkang@yahoo.com

Allowed Interior Lighting Power		Area Category		B Floor Area (ft ²)		C Allowed Watts / ft ²		D Allowed Watts (B X C)	
1-Multifamily	6275					0.60		37965	
2-Retail	8417					1.40		8984	
3-Parking Garage	8144					0.25		2036	
4-Health Care-Clinic	1109					0.87		965	
Total Allowed Watts =				49950					

Proposed Interior Lighting Power
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast

A	B	C	D	E
Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	Lamp/ Fixture	# of Fixtures	Fixture Watt.	(C X D)
1-Multifamily				
D180 (SEE EN-102): Recessed Downlight Canis. LED Other Fixture Unit 16W	1	726	14	10164
D180 (SEE EN-102): Recessed Downlight Canis. LED Other Fixture Unit 16W	1	99	15	1485
R18 (SEE EN-102): Recessed Downlight Canis. LED Other Fixture Unit 18W	1	202	23	4646
F07 (SEE EN-102): Linear Fluorescent Other: Electronic	4	49	30	1470
BCS640 (SEE EN-102): Surface Mounted Lightings: Other:	1	16	41	656
2-Retail				
BCS640 (SEE EN-102): Surface Mounted Lightings: Other:	1	71	41	2911
3-Parking Garage				
BCS640 (SEE EN-102): Surface Mounted Lightings: Other:	1	25	41	1025
4-Health Care-Clinic				
BCS640 (SEE EN-102): Surface Mounted Lightings: Other:	1	9	41	369
Total Proposed Watts =				22726

Project Title: 179, 22nd street
Data File Name: F:\ALL-MKA Project CAD\John\PROJECT_687_4th AVE (Brn)\DOB\2017-09-06-NO INCLUSIONARY Page 6 of 17
Report Date: 03/24/20
HousingEnergyEnergy_687_4th AVE-ASHRAE-93-2020-OLD.cck

Interior Lighting PASSES: Design 55% better than code

Interior Lighting Compliance Statement

Compliance Statement: The proposed interior lighting design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed interior lighting systems have been designed to meet the 90.1 (2010) Standard requirements in COMcheck Version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date



COMcheck Software Version 4.1.1.0 Exterior Lighting Compliance Certificate

Project Information
Energy Code:

COMcheck Software Version 4.1.1.0 Envelope Compliance Certificate

Project Information
 Location: 179, 22nd street
 City: New York, New York
 State: NY
 Zip: 11232
 Project Type: New Construction
 Vertical Glazing / Wall Area: 31%

Building Area
 1-Multifamily - Residential: 63275
 2-Retail - Nonresidential: 6417
 3-Parking Garage - Nonresidential: 8144
 4-Health Care-Clinic - Nonresidential: 1109

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
2ND FLOOR TERRACE (ABOVE RETAIL) - SEE EN-104 Insulation Entirely Above Deck, (Bldg. Use 1 - Multifamily)	2425	---	20.0	0.048	0.048
SLAB OVER UNCONDITIONED SPACE (UNDER 1ST FLOOR SLAB) Concrete Floor (over unconditioned space), (Bldg. Use 3 - Parking Garage)	8838	---	10.0	0.076	0.087
SLAB OVER UNCONDITIONED SPACE (ABOVE DRIVEWAY) RAMP, Concrete Floor (over unconditioned space), (Bldg. Use 3 - Parking Garage)	1145	---	10.0	0.076	0.087
7TH FLOOR TERRACE - SEE EN-104 Insulation Entirely Above Deck, (Bldg. Use 1 - Multifamily)	1144	---	20.0	0.048	0.048
8TH FLOOR TERRACE - SEE EN-104 Insulation Entirely Above Deck, (Bldg. Use 1 - Multifamily)	2457	---	20.0	0.048	0.048
10TH FLOOR TERRACE - SEE EN-104 Insulation Entirely Above Deck, (Bldg. Use 1 - Multifamily)	120	---	20.0	0.048	0.048
ROOF TOP - SEE EN-104 Insulation Entirely Above Deck, (Bldg. Use 1 - Multifamily)	3249	---	20.0	0.048	0.048
NORTH WALL TYPE-1 (METAL PANEL & METAL STUDS) - SEE A-301, EN-104, Steel Framed, 16" o.c., (Bldg. Use 1 - Multifamily)	2741	19.0	10.0	0.052	0.064
CASEMENT WINDOW 1A1B1C2B - SEE EN-104, A-302, Metal Frame Operable, Perf. Specs., Product ID CRYSTAL, SHGC 0.19, PF 0.38, (Bldg. Use 1 - Multifamily)	732	---	---	0.430	0.550

Project Title: 179, 22nd street
 Data Filename: F:\ALL-MKA Project CAD\gho\PROJECT 687_4th AVE (Bldg)\DOB2017-09-06-NO INCLUSIONARY Page 1 of 17
 HOUSING\Energy\energy_687-4th AVE-ASHRAE-032020-OLD.ccx

Assembly	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor
7" Solid Gouted, Medium Density, Furring, Metal, (Bldg. Use 3 - Parking Garage)	1138	---	0.0	0.450	0.579
SOUTH WALL TYPE-1 (METAL PANEL & METAL STUDS) - SEE A-301, EN-104, Steel Framed, 16" o.c., (Bldg. Use 1 - Multifamily)	8315	19.0	10.0	0.052	0.064
CASEMENT WINDOW 1A1B1C2B - SEE EN-104, A-302, Metal Frame Operable, Perf. Specs., Product ID CRYSTAL, SHGC 0.19, PF 0.38, (Bldg. Use 1 - Multifamily)	1902	---	---	0.430	0.550
CASEMENT WINDOW 2B - SEE EN-104, A-302, Metal Frame Operable, Perf. Specs., Product ID CRYSTAL, SHGC 0.19, PF 0.38, (Bldg. Use 1 - Multifamily)	578	---	---	0.430	0.550
BALCONY GLASS SLIDING DOORS - B1 - SEE EN-104, A-302, Glass > 50% glazing/Metal Frame, Non-Entrance Door, Perf. Specs., Product ID CRYSTAL, SHGC 0.30, PF 0.21, VT 0.54, (Bldg. Use 1 - Multifamily)	768	---	---	0.430	0.550
BALCONY GLASS SLIDING DOORS - B1 - SEE EN-104, A-302, Glass > 50% glazing/Metal Frame, Non-Entrance Door, Perf. Specs., Product ID CRYSTAL, SHGC 0.30, PF 0.21, VT 0.54, (Bldg. Use 1 - Multifamily)	144	---	---	0.430	0.550
SOUTH FOUNDATION WALL - Solid Concrete 12" Thickness, Medium Density, Furring, None, Wall H 10.0, Depth B.G. 9.0, (Bldg. Use 3 - Parking Garage)	1205	---	0.0	0.450	0.579
SOUTH - CONCRETE SLAB EDGE - SEE EN-104, Solid Concrete 10" Thickness, Medium Density, Furring, None, (Bldg. Use 1 - Multifamily)	698	---	10.0	0.080	0.090
SOUTH WALL TYPE-1 (METAL PANEL & METAL STUDS) - SEE A-301, EN-104, Steel Framed, 16" o.c., (Bldg. Use 2 - Retail)	1235	19.0	10.0	0.052	0.064
RETAIL STORE FIXED WINDOWS 3B - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	248	---	---	0.290	0.550
RETAIL STORE FIXED WINDOWS 301 - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	88	---	---	0.290	0.550
RETAIL STORE FIXED WINDOWS 3B2 - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	36	---	---	0.290	0.550
RETAIL STORE FIXED WINDOWS 3B3 - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	51	---	---	0.290	0.550
RETAIL STORE FIXED WINDOWS 3B4 - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	29	---	---	0.290	0.550
RETAIL STORE FIXED WINDOWS 3B5 - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	20	---	---	0.290	0.550
RETAIL STORE FIXED WINDOWS 3B6 - SEE EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.32, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	32	---	---	0.290	0.550
RETAIL DOUBLE SWING DOORS 1 - SEE EN-104, A-302, Glass > 50% glazing/Metal Frame, Entrance Door, Perf. Specs., Product ID CRYSTAL, SHGC 0.27, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	49	---	---	0.420	0.850
RETAIL DOUBLE SWING DOORS 1 - SEE EN-104, A-302, Glass > 50% glazing/Metal Frame, Entrance Door, Perf. Specs., Product ID CRYSTAL, SHGC 0.27, PF 0.15, VT 0.46, (Bldg. Use 2 - Retail)	48	---	---	0.420	0.850

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COMcheck Software Version 4.1.1.0 Inspection Checklist

Requirements: 100.0% were addressed directly in the COMcheck software
 Text in the "Comments/Assumptions" column is provided by the user in the COMcheck Requirements screen. For each requirement, the user certifies that a code requirement will be met and how that is documented, or that an exception is being claimed. Where compliance is itemized in a separate table, a reference to that table is provided.

Section & Req-ID	Plan Review	Complies?	Comments/Assumptions
4.2.2.5.4 4.1.1.5.7 [PR1]	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2.8.4 4.2.2.8.1 [PR2]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the electrical system and equipment and document where exceptions to the standard are claimed.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
4.2.2.9.4 [PR4]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
9.7 [PR7]	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section & Req-ID	Footings / Foundation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.5.3.1 [FO1]	Below-grade wall insulation R-value.	R-____	R-____	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [FO2]	Below-grade wall insulation installed per manufacturer's instructions.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.5.3.3 [FO3]	Slab edge insulation R-value.	R-____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	R-____ <input type="checkbox"/> Unheated <input type="checkbox"/> Heated	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.5.3.5 [FO5]	Slab edge insulation depth/thickness.	____ ft	____ ft	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.7.3 [FO7]	Insulation in contact with the ground (see EN-104, A-302, Metal Frame Fixed, Perf. Specs., Product ID CRYSTAL, SHGC 0.19, PF 0.38, (Bldg. Use 1 - Multifamily))			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
6.4.1.4.5 [FO11]	Bottom surface of floor structures incorporating radiant heating installed in accordance with manufacturer's instructions.	R-____	R-____	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply. See the Envelope Assemblies table for values.

Additional Comments/Assumptions:

Section & Req-ID	Framing / Rough-In Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.2 [FR1]	Factory-built fenestration and doors are labeled as meeting air leakage requirements.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [FR4]	Ventilators are installed where building entrances where the conditioned space from the exterior, and meet exterior envelope requirements. Doors have a U-factor of U ≤ 0.35, and are ≥ 7 ft apart.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
5.8.1.4b [FR7]	Vertical fenestration U-Factor.	U-____	U-____	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.4b [FR8]	Slightight fenestration U-Factor.	U-____	U-____	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.4.1 [FR10]	Vertical fenestration SHGC value.	SHGC-____	SHGC-____	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.4.2 [FR11]	Slightight SHGC value.	SHGC-____	SHGC-____	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.3 [FR12]	Fenestration products rated in accordance with NFRC.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.3 [FR13]	Fenestration products are certified as to performance labels or certification provided.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.3.5 [FR14]	U-factor of opaque doors associated with the building thermal envelope meets requirements.	U-____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	U-____ <input type="checkbox"/> Swinging <input type="checkbox"/> Nonswinging	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.3 [FR15]	Continuous air barrier is wrapped, sealed, caulked, gasketed, and/or taped in an approved manner, except in semihatched spaces and in climate zones 1-5.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.

Additional Comments/Assumptions:

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Section & Req-ID	Rough-In Electrical Inspection	Complies?	Comments/Assumptions
5.8.1.2 [EL1]	At least 50% of all 125 volt 15- and 20-Amp receptacles are controlled by an automatic control device.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
5.8.1.1 [EL2]	Automatic controls to shut off all building lighting.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.2 [EL2]	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.3 [EL3]	Parking garage lighting is equipped with required lighting controls and daylight transition zone lighting.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [EL3]	Primary daylighted areas >=350 sq ft are equipped with required lighting controls.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.5 [EL3]	Enclosed spaces with daylight area under skylights and rooftop monitors >=300 sq ft are equipped with required lighting controls.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
5.8.1.7 [EL3]	Automatic lighting controls for exterior lighting installed.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.6 [EL4]	Separate lighting control devices for specific uses installed per approved lighting plans.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.2 [EL5]	Exit signs do not exceed 5 watts per foot.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.3 [EL7]	Exterior grounds lighting over 100 W provides >=80 lm/ft on motion sensor or fixture is exempt from footcandle code or from exterior LFO.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.2 [EL5]	Additional interior lighting power allowed for specific functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

1 High Impact (Tier 1) 2 Medium Impact (Tier 2) 3 Low Impact (Tier 3)

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Section & Req-ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.3 [IN1]	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor permeable wrapping material to minimize air leakage.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.3 [IN2]	R-R-Value. For some ceiling or floor areas, the R-value is shown on the approved lighting plans, demonstrating proposed walls are less than or equal to allowed walls.	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	R-____ <input type="checkbox"/> Above deck <input type="checkbox"/> Metal <input type="checkbox"/> Attic	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2.5 5.8.1.3 [IN3]	Roof insulation installed per manufacturer's instructions. Blown or poured foam RFI insulation is installed only where the ceiling depth is <= 3.12.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.2.5 [IN6]	Above-grade wall insulation R-value.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [IN7]	Above-grade wall insulation installed per manufacturer's instructions.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [IN8]	Floor insulation R-value.	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	R-____ <input type="checkbox"/> Mass <input type="checkbox"/> Metal <input type="checkbox"/> Steel <input type="checkbox"/> Wood	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Envelope Assemblies table for values.
5.8.1.2 [IN9]	Floor insulation installed per manufacturer's instructions.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.1 [IN10]	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.4 [IN11]	Excess air is baffled to deflect air to above the insulation.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.6 [IN17]	Insulation is installed in substantial contact with the inside surface separating conditioned space from unconditioned space.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.6 [IN17]	Recessed equipment installed in building envelope assemblies does not compress the adjacent insulation.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

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Section & Req-ID	Insulation Inspection	Plans Verified Value	Field Verified Value	Complies?	Comments/Assumptions
5.8.1.2 [IN14]	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.1 [IN15]	Attic and mechanical rooms have insulation protected where adjacent to attic or equipment access.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.7.2 [IN15]	Foundation vents do not interfere with insulation.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.8 [IN17]	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement complete if insulation is installed accordingly.			<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.

Additional Comments/Assumptions:

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Section & Req-ID	Final Inspection	Complies?	Comments/Assumptions
5.8.1.3 [FI1]	Weatherstrips installed on all loading dock cargo doors in Climate Zones 4-7.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Exception: Requirement does not apply.
5.8.1.3 [FI2]	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.3 [FI3]	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	Requirement will be met.
5.8.1.3 [FI4]	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed walls are less than or equal to allowed walls.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Interior Lighting fixture schedule for values.
5.8.1.3 [FI5]	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed walls are less than or equal to allowed walls.	<input checked="" type="checkbox"/> Complies <input type="checkbox"/> Does Not <input type="checkbox"/> Not Observable <input type="checkbox"/> Not Applicable	See the Exterior Lighting fixture schedule for values.

Additional Comments/Assumptions:

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Envelope PASSES: Design 6%, better than code

Envelope Compliance Statement

Compliance Statement: The proposed envelope design represented in this document is consistent with the building plans, specifications, and other calculations submitted with this permit application. The proposed envelope systems have been designed to meet the 90.1 (2010) Standard requirements in COMcheck version 4.1.1.0 and to comply with any applicable mandatory requirements listed in the Inspection Checklist.

Name - Title Signature Date

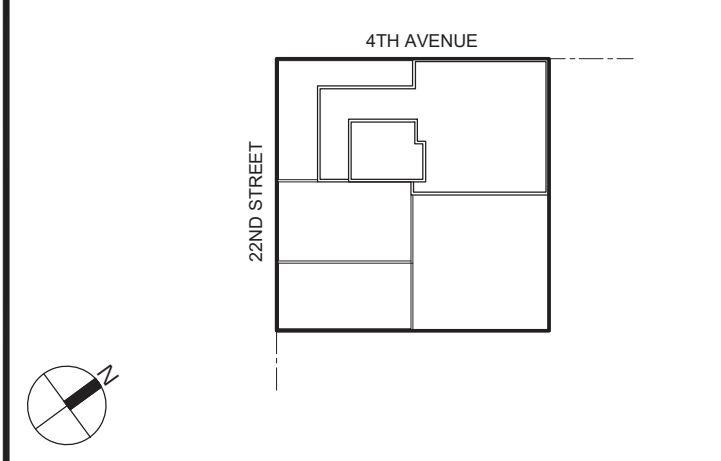
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TO THE BEST OF MY KNOWLEDGE, THE PROPOSED BUILDING IN COMPLIANCE WITH ASHRAE 90.1-2010 ENERGY CONSERVATION CODE (COMMERCIAL ENERGY EFFICIENCY)

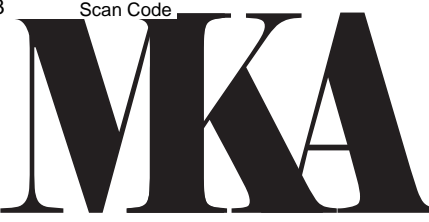
Jeff Goolsby, P.E.
 024849
 DATE: 06/18/2020
 NYC Development Hub

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KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION



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MICHAEL KANG, RA

SEE DRAWING EN-103, EN-104, A-303, A-302 FOR COMPONENT DETAILS, DIMENSIONS AND QUANTITY.

GROSS WALL/ PERIMETER AREAS AND FENESTRATION CALCULATION

ORIENTATION/ ELEVATIONS	AREA TYPE	COMPONENT TYPE/ DESCRIPTION	GROSS AREA/ PERIMETER	FENESTRATION GROSS AREAS	CAVITY INSULATION	CONTINUOUS INSULATION	U-FACTOR	SHGC	V/I	COMMENTS
1 EN-104	WEST RESIDENTIAL	METAL FRAME/ METAL PANEL WALL	7916 S.F.	-	R-19	R-10	-	-	-	
		SLAB AREA	809 S.F.	-	-	R-10	-	-	-	
		BALCONY SURFACE	238 S.F.	-	-	R-10	-	-	-	
		BALCONY RECESSED FLOOR	400 S.F.	-	-	R-10	-	-	-	
		BALCONY RECESSED ABOVE - SOFFIT WALL	400 S.F.	-	-	R-10	-	-	-	
		LOUVER / MECHANICAL PENETRATION	87 S.F.	-	-	-	0.50	-	-	87 S.F./10313 S.F. (TOTAL GROSS WALL) = 0.8% < 1%
		WINDOW 3F/3D/3H - FIXED	-	760 S.F.	-	-	0.29	0.32	0.56	REFER TO WINDOW SCHEDULE ON A-303 FOR SIZE AND AIR LEAKAGE
		WINDOW 3A - FIXED (PF = 0.14)	-	120 S.F.	-	-	0.29	0.32	0.56	
		WINDOW 3A/3D - FIXED (PF=0.24)	-	94 S.F.	-	-	0.29	0.32	0.56	
		WINDOW 1A/2A/2C - CASEMENT	-	2824 S.F.	-	-	0.43	0.19	0.38	
		WINDOW 2A - CASEMENT (PF=0.22)	-	760 S.F.	-	-	0.43	0.19	0.38	REFER TO DOOR SCHEDULE ON A-302 FOR SIZE AND AIR LEAKAGE
		DOOR 1 - SWING DOOR (PF=0.13)	-	96 S.F.	-	-	0.42	0.27	0.46	
		DOOR B1 - BALCONY SLIDING DOOR	-	133 S.F.	-	-	0.43	0.30	0.54	
		DOOR B1 - BALCONY SLIDING DOOR (PF=0.21)	-	1060 S.F.	-	-	0.43	0.30	0.54	
2 EN-104	SOUTH RESIDENTIAL	METAL FRAME/ METAL PANEL WALL	1600 S.F.	-	R-19	R-10	-	-	-	
		BELOW GRADE WALL - 12" SOLID CONCRETE	967 S.F.	-	-	R-0	-	-	-	UNCONDITIONED SPACE
		METAL FRAME/ METAL PANEL WALL	6315 S.F.	-	R-19	R-10	-	-	-	
		SLAB AREA	698 S.F.	-	-	R-10	-	-	-	
		BALCONY SURFACE	160 S.F.	-	-	R-10	-	-	-	
		BALCONY RECESSED FLOOR	400 S.F.	-	-	R-10	-	-	-	
		BALCONY RECESSED ABOVE - SOFFIT WALL	400 S.F.	-	-	R-10	-	-	-	
		LOUVER / MECHANICAL PENETRATION	64 S.F.	-	-	-	0.50	-	-	64 S.F./8860 S.F. (TOTAL GROSS WALL) = 0.7% < 1%
		WINDOW 1D, 1B, 1H, 2B - CASEMENT	-	1902 S.F.	-	-	0.43	0.19	0.38	REFER TO WINDOW SCHEDULE ON A-303 FOR SIZE AND AIR LEAKAGE
		WINDOW 2B - CASEMENT (PF = 0.22)	-	576 S.F.	-	-	0.43	0.19	0.38	
		WINDOW B1 - BALCONY SLIDING DOOR (PF=0.21)	-	768 S.F.	-	-	0.43	0.30	0.54	
		WINDOW B1 - BALCONY SLIDING DOOR	-	144 S.F.	-	-	0.43	0.30	0.54	
		RETAIL STORE	METAL FRAME/ METAL PANEL WALL	1226 S.F.	-	R-19	R-10	-	-	
		WINDOW 3E/3G/3H - FIXED	-	248 S.F.	-	-	0.29	0.32	0.56	REFER TO DOOR SCHEDULE ON A-302 FOR SIZE AND AIR LEAKAGE
		WINDOW 3G1 - FIXED (PF=0.15)	-	88 S.F.	-	-	0.29	0.32	0.56	
		WINDOW 3B2 - FIXED (PF=0.14)	-	36 S.F.	-	-	0.29	0.32	0.56	
		WINDOW 3B3D/3C - FIXED (PF=0.31)	-	51 S.F.	-	-	0.29	0.32	0.56	
3 EN-104	EAST RESIDENTIAL	METAL FRAME/ METAL PANEL WALL	4632 S.F.	-	R-19	R-10	-	-	-	
		SLAB AREA	796 S.F.	-	-	R-10	-	-	-	
		BALCONY SURFACE	140 S.F.	-	-	R-10	-	-	-	
		LOUVER / MECHANICAL PENETRATION	4 S.F.	-	-	-	0.50	-	-	4 S.F./10027 S.F. (TOTAL GROSS WALL) = 0.04% < 1%
		WINDOW 1A/1E/1M/2B - CASEMENT	-	1008 S.F.	-	-	0.43	0.19	0.38	REFER TO WINDOW SCHEDULE ON A-303 FOR SIZE AND AIR LEAKAGE
		WINDOW 2B - CASEMENT (PF = 0.42)	-	504 S.F.	-	-	0.43	0.19	0.38	
		WINDOW B1 - BALCONY SLIDING DOOR (PF=0.39)	-	686 S.F.	-	-	0.43	0.30	0.54	
		WINDOW B1 - BALCONY SLIDING DOOR	-	96 S.F.	-	-	0.43	0.30	0.54	
		RESIDENTIAL	CONCRETE/ METAL PANEL WALL	3178 S.F.	-	R-13	R-10	-	-	
		PARKING/ DRIVEWAY	CONCRETE/ METAL PANEL WALL	1417 S.F.	-	R-13	R-0	-	-	
		BELOW GRADE WALL - 12" SOLID CONCRETE	1138 S.F.	-	-	R-0	-	-	-	UNCONDITIONED SPACE
		RETAIL STORE	METAL FRAME/ METAL PANEL WALL	2741 S.F.	-	R-19	R-10	-	-	
		SLAB AREA	706 S.F.	-	-	R-10	-	-	-	
		BALCONY SURFACE	100 S.F.	-	-	R-10	-	-	-	
4 EN-104	NORTH RESIDENTIAL	LOUVER / MECHANICAL PENETRATION	3 S.F.	-	-	-	0.50	-	-	3 S.F./8865 S.F. (TOTAL GROSS WALL) = 0.03% < 1%
		WINDOW 1A/2B - CASEMENT	-	732 S.F.	-	-	0.43	0.19	0.38	REFER TO WINDOW SCHEDULE ON A-303 FOR SIZE AND AIR LEAKAGE
		WINDOW 2B/2D - CASEMENT (PF = 0.39)	-	342 S.F.	-	-	0.43	0.19	0.38	
		WINDOW B1 - BALCONY SLIDING DOOR (PF=0.42)	-	490 S.F.	-	-	0.43	0.30	0.54	
		WINDOW B1 - BALCONY SLIDING DOOR	-	98 S.F.	-	-	0.43	0.30	0.54	
		RESIDENTIAL	CONCRETE/ METAL PANEL WALL	4131 S.F.	-	R-13	R-10	-	-	
		RETAIL STORE	CONCRETE/ METAL PANEL WALL	616 S.F.	-	R-13	R-10	-	-	
		CF/ HEALTH CARE CLINIC	CONCRETE/ METAL PANEL WALL	628 S.F.	-	R-13	R-10	-	-	
		PARKING/ DRIVEWAY	CONCRETE/ METAL PANEL WALL	174 S.F.	-	R-0	R-10	-	-	
		BELOW GRADE WALL - 12" SOLID CONCRETE	1086 S.F.	-	-	R-0	-	-	-	UNCONDITIONED SPACE
		ROOFTOP TERRACE	3249 S.F.	-	-	R-20	-	-	-	
		10TH FLOOR TERRACE	120 S.F.	-	-	R-20	-	-	-	
		9TH FLOOR TERRACE	2457 S.F.	-	-	R-20	-	-	-	
		7TH FLOOR TERRACE	1144 S.F.	-	-	R-20	-	-	-	
		2ND FLOOR TERRACE	2425 S.F.	-	-	R-20	-	-	-	

CAVITY INSULATION = R13

EAST WALL BETWEEN DRIVEWAY & RETAIL SPACE = 1417 SF

INSULATION ABOVE CEILING OF DRIVEWAY/UNCONDITIONED SPACE
3" INSULATION SPRAY = R10

CEILING ABOVE DRIVEWAY (UNCONDITIONED SPACE) = 1145 SF

TO THE BEST OF MY KNOWLEDGE, THE PROPOSED BUILDING IS IN COMPLIANCE WITH ASHRAE 90.1-2010 ENERGY CONSERVATION CODE (COMMERCIAL ENERGY EFFICIENCY)

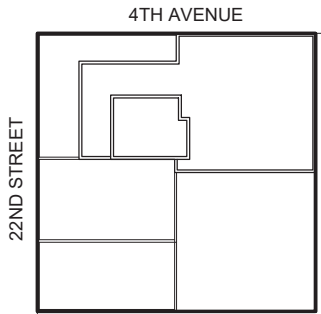
Jeff Goolsby, P.E.

APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION

Date: 06/18/2020

NYC Development Hub

KEY PLAN



01 03-09-20 PAA
REV.# DATE DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

FENESTRATION ANALYSIS

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:

DRAWING BY: JL

CHK BY: MK

DWG No:



EN-104.01

PAGE No: 32 OF 43



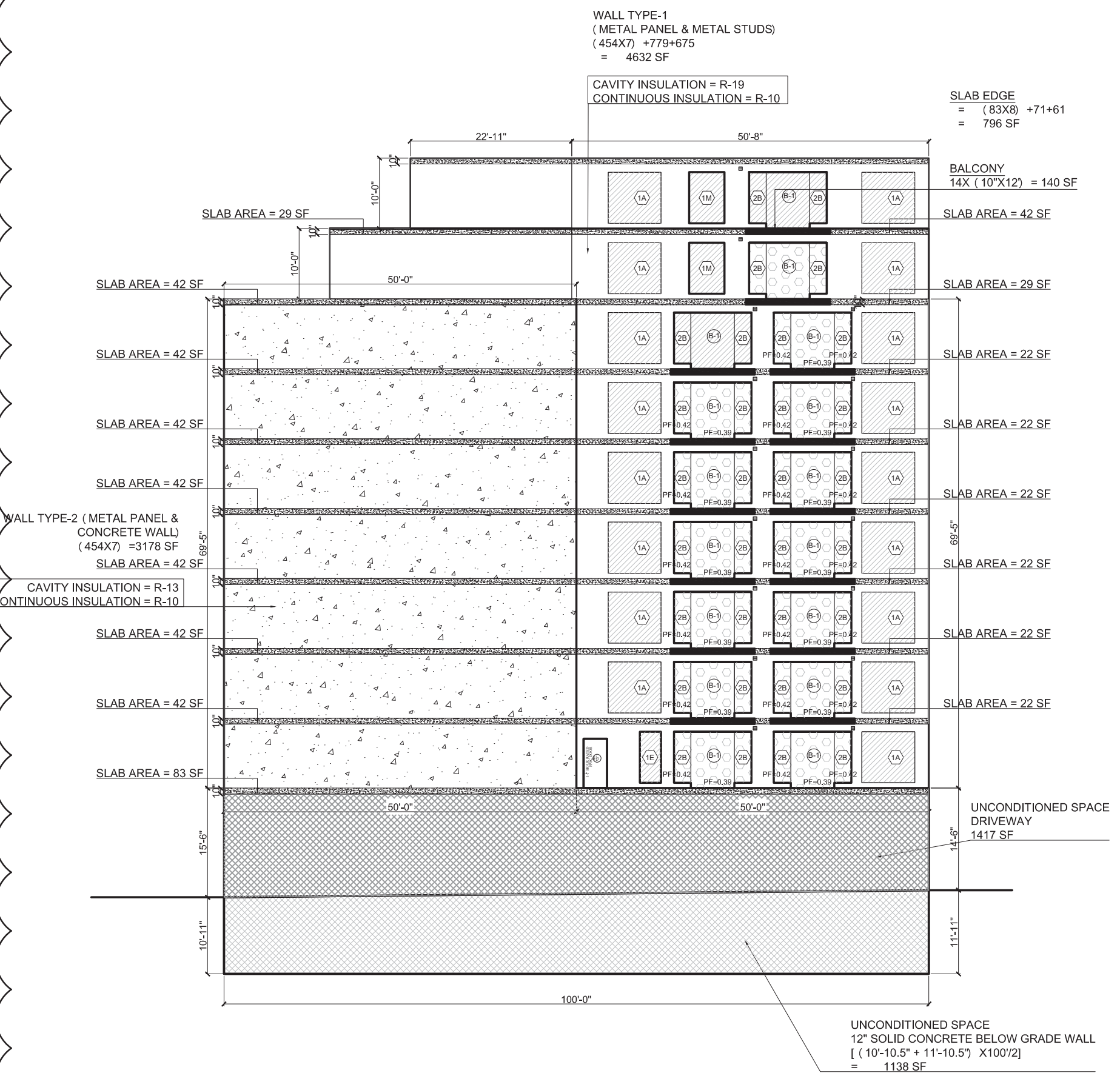
1
EN-104
WEST ELEVATION
(FACING 4TH AVENUE)

LOUVER
MECHANICAL EQUIPMENT PENETRATION AREA = 87 S.F.
GROSS WALL AREA = 10313 SF
87 / 10313 = 0.8% < 1% OPAQUE ABOVE-GRADE WALL AREA.



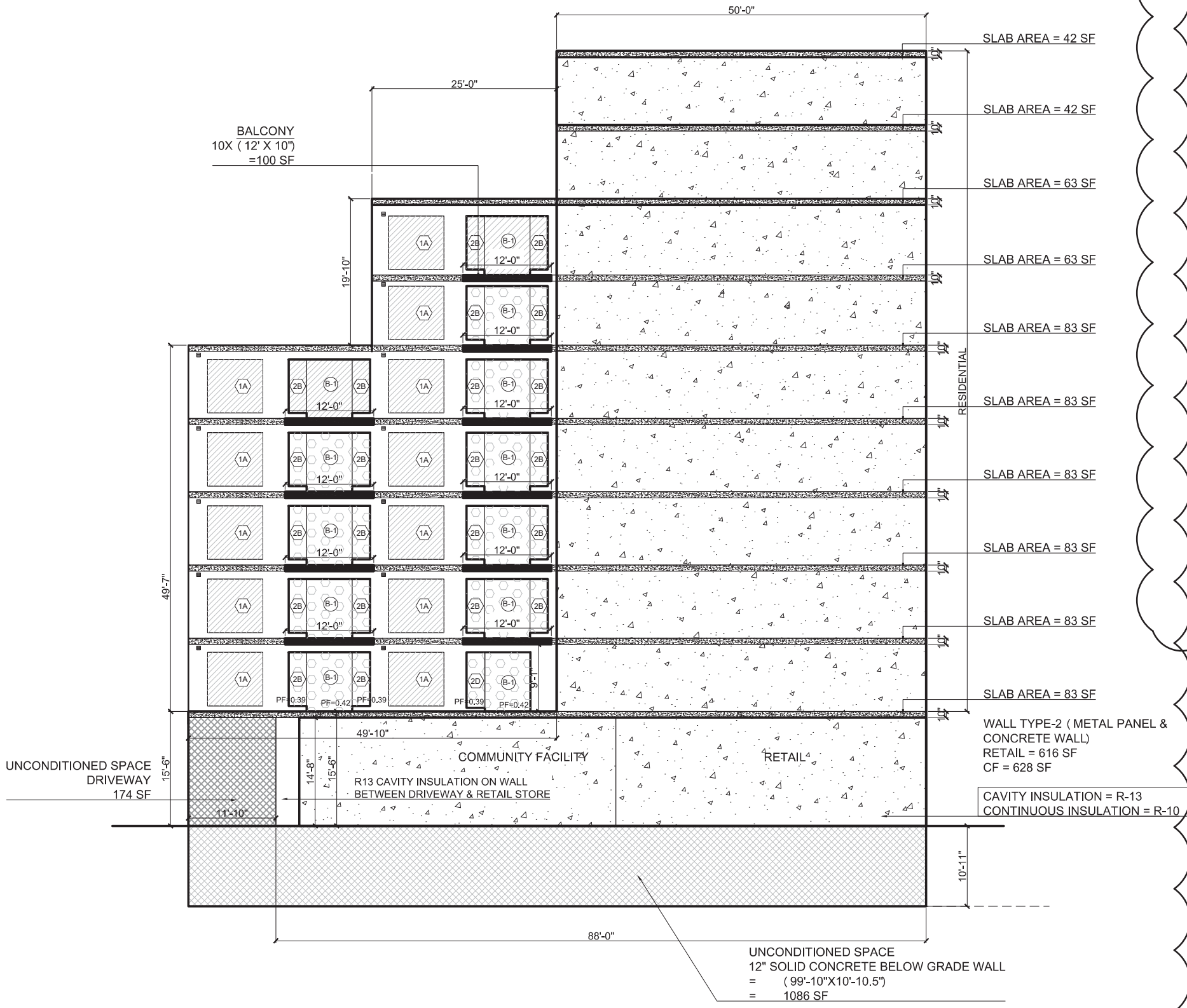
2
EN-104
SOUTH ELEVATION
(FACING 22ND STREET)

LOUVER
MECHANICAL EQUIPMENT PENETRATION AREA = 63.75 S.F.
GROSS WALL AREA = 8860 SF
63.75 / 8860 = 0.7% < 1% OPAQUE ABOVE-GRADE WALL AREA.



3
EN-104
EAST ELEVATION

LOUVER
MECHANICAL EQUIPMENT PENETRATION AREA = 4 S.F.
GROSS WALL AREA = 10027 SF
4 / 10027 = 0.04% < 1% OPAQUE ABOVE-GRADE WALL AREA.



4
EN-104
NORTH ELEVATION

LOUVER
MECHANICAL EQUIPMENT PENETRATION AREA = 3 S.F.
GROSS WALL AREA = 8985 SF
3 / 8985 = 0.03% < 1% OPAQUE ABOVE-GRADE WALL AREA.



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MICHAEL KANG, RA

AIR LEAKAGE NOTE (ASHRAE 90.1-2010)

5.4.3 Air Leakage

5.4.3.1 Continuous Air Barrier. The entire building envelope shall be designed and constructed with a continuous air barrier.

Exceptions:

- Semihatched spaces in Climate Zones 1 through 6.
 - Single wythe concrete masonry buildings in climate zone 2B.
- 5.4.3.1.1 Air Barrier Design. The air barrier shall be designed and noted in the following manner:
- all air barrier components of each building envelope assembly shall be clearly identified or otherwise noted on construction documents.
 - The joints, interconnections, and penetrations of the air barrier components, including lighting fixtures, shall be detailed or otherwise noted.
 - the continuous air barrier shall extend over all surfaces of the building envelope (at the lowest floor, exterior walls, and ceiling or roof).
 - the continuous air barrier shall be designed to resist positive and negative pressures from wind, stack effect, and mechanical ventilation.

5.4.3.1.2 Air Barrier Installation. The following areas of the continuous air barrier in the building envelope shall be wrapped, sealed, caulked, gasketed, or taped in an approved manner to minimize air leakage:

- Joints around fenestration and door frames (both manu-factured and site-built)
- Junctions between walls and floors, between walls at building corners, and between walls and roofs or ceilings.
- Penetrations through the air barrier in building envelope roofs, walls, and floors
- Building assemblies used as ducts or plenums
- Joints, seams, connections between planes, and other changes in air barrier materials.

5.4.3.1.3 Acceptable Materials and Assemblies.

Continuous air barrier materials and assemblies for the opaque building envelope shall comply with one of the following requirements:

- Materials that have an air permeance not exceeding 0.02 U_s/m² under a pressure differential of 0.02 U_s/m² at 75 Pa when tested in accordance with ASTM E 2178. The following materials meet these requirements:
 - PLYWOOD WITH A THICKNESS OF NOT LESS THAN 3/8 INCH (10 MM).
 - ORIENTED STRAND BOARD HAVING A THICKNESS OF NOT LESS THAN 3/8 INCH (10 MM).
 - EXTRUDED POLYSTYRENE INSULATION BOARD HAVING A THICKNESS OF NOT LESS THAN 1/2 INCH (12.7 MM).
 - FOIL-BACK POLYSTYRENE INSULATE BOARD HAVING A THICKNESS OF NOT LESS THAN 1/2 INCH (12.7 MM).
 - EXTERIOR GYPSUM SHEATHING OR INTERIOR GYPSUM BOARD - MIN. 12MM.
 - CEMENT BOARD - MIN. 12MM.
 - BUILT-UP ROOFING MEMBRANE.
 - MODIFIED BITUMINOUS ROOF MEMBRANE.
 - FULLY ADHERED SINGLE-PLY ROOF MEMBRANE.
 - A PORTLAND CEMENT/SAND PARGE, STUCCO, OR GYPSUM PLASTER - MIN. 12MM THICK.
 - CAST-IN-PLACE AND PRECAST CONCRETE
 - SHEET METAL.
 - CLOSED-CELL 32 KG/M³ NOMINAL ENSTY SPRAY POLY-URETHANE FOAM - MIN. 25MM.

b. Assemblies of materials and components (sealants, tapes, etc.) that have an average air leakage not to exceed 0.2 U_s/m² under a pressure differential of 0.2 U_s/m² at 75 Pa when tested in accordance with ASTM E 2357, ASTM E 1677, ASTM E 1680, or ASTM E283. The following assemblies meet these requirements:

5.4.3.2 Fenestration and Doors.
Air leakage for fenestration and doors shall be determined in accordance with AIAA/WDMA/CSA 101/I.S.2/A440, NFRC 400, or ASTM E283 as specified below.
Air leakage shall be determined by a laboratory accredited by a nationally recognized accreditation organization, such as the National Fenestration Rating Council, and shall be labeled and certified by the manufacturer. Air leakage shall not exceed

- A. 1.0,3 m³/h-m² for glazed swinging entrance doors and revolving doors, tested at a pressure of at least 75 Pa in accordance with AIAA/WDMA/CSA 101/I.S.2/A440, NFRC 400, or ASTM E283;
- B. 1.1 m³/h-m² for curtainwall and storefront glazing, tested at a pressure of at least 75 Pa or higher in accordance with NFRC 400 or ASTM E283;
- C. 5.5 m³/h-m² for unit skylights having condensation weep-age openings, tested at a pressure of at least 75 Pa in accordance with AIAA/WDMA/CSA 101/I.S.2/A440 or NFRC 400, or 9.1 m³/h-m² tested at a pressure of at least 300 Pa in accordance with AIAA/WDMA/CSA 101/I.S.2/A440;
- D. 23.0 m³/h-m² for non swinging doors intended for vehicular access and material transportation, with a minimum opening rate of 0.81 m/sec, tested at a pressure of at least 75 Pa or higher in accordance with ANSI/DASMA 105, NFRC 400, or ASTM E283.

E. 7.3 m³/h-m² for other nonswinging opaque doors, glazed sectional garage doors, and upward acting non swinging glazed doors tested at a pressure of at least 75 Pa or higher in accordance with ANSI/DASMA 105, NFRC 400, or ASTM E283; and

F. 3.7 m³/h-m² for all other products tested at a pressure of at least 75 Pa in accordance with AIAA/WDMA/CSA 101/I.S.2/A440 or NFRC 400, or 5.5 m³/h-m² tested at a pressure of at least 300 Pa in accordance with AIAA/WDMA/CSA 101/I.S.2/A440.

EXCEPTIONS:

- Field-fabricated fenestration and doors
 - Metal ceiling doors in semihatched spaces in Climate Zones 1 through 6
 - Products in buildings that comply with a whole building air leakage rate of 7.3 m³/h-m² under a pressure differential of 2 U_s/m² at 75Pa when tested in accordance with ASTM E 779
- 5.4.3.3 Loading Dock Weatherseals. In Climate Zones 4 through 8, cargo doors and loading dock doors shall be equipped with weatherseals to restrict infiltration when vehicles are parked in the doorway.

5.4.3.4 Vestibules.

Building entrances that separate conditioned space from the exterior shall be protected with an enclosed vestibule, with all doors opening into and out of the vestibule equipped with self-closing devices. Vestibules shall be designed so that in passing through the vestibule it is not necessary for the interior and exterior doors to open at the same time. Interior and exterior doors shall have a minimum distance between them of not less than 2.1m when in the closed position. The floor area of each vestibule shall not exceed the greater of 5 m² or 2% of the gross conditioned floor area for that level of the building. The exterior envelope of conditioned vestibules shall comply with the requirements for a conditioned space. The interior and exterior envelope of unconditioned vestibules shall comply with the requirements for a semihatched space.

EXCEPTIONS:

- building entrances with revolving doors.
- doors not intended to be used as a building entrance.
- doors opening directly from a dwelling unit.
- building entrances in buildings located in climate zone 1 or 2.
- Building entrances in buildings that are located in Climate Zone 3, less than four stories above grade, and less than 1000 m² in gross conditioned floor area
- Building entrances in buildings that are located in Climate Zone 4, 5, 6, 7, or 8 and are less than 100 m² in gross conditioned floor area
- Doors that open directly from a space that is less than 300 m² in area and is separate from the building entrance

Doors that open directly from a space that is less than 300 m² in area and is separate from the building entrance

TO THE BEST OF MY KNOWLEDGE, THE PROPOSED BUILDING IN COMPLIANCE WITH ASHRAE 90.1-2010 ENERGY CONSERVATION CODE (COMMERCIAL ENERGY EFFICIENCY)

Jeff Goolsby, P.E.

Under Directive 2 of 1975
AMENDED APPLICATION

Date: 06/18/2020

NYC Development Hub

01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22nd street
BROOKLYN, NEW YORK

THERMAL ENVELOPE

SEAL & SIGNATURE

DATE: 03/05/2015

PROJECT No:

DRAWING BY: JL

CHK BY: MK

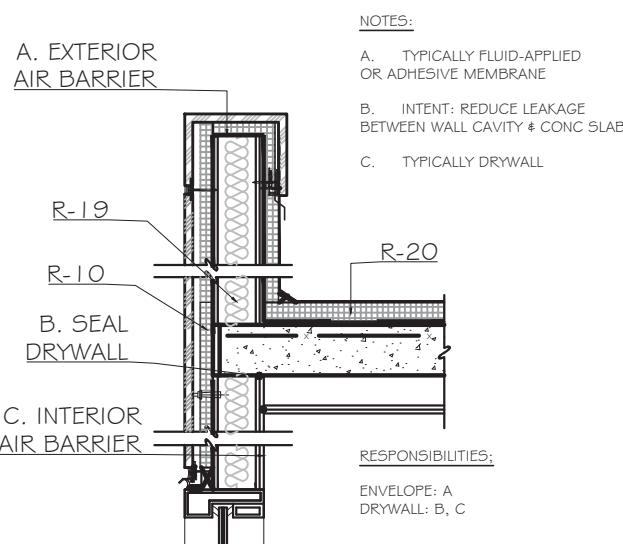
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EN-105.01

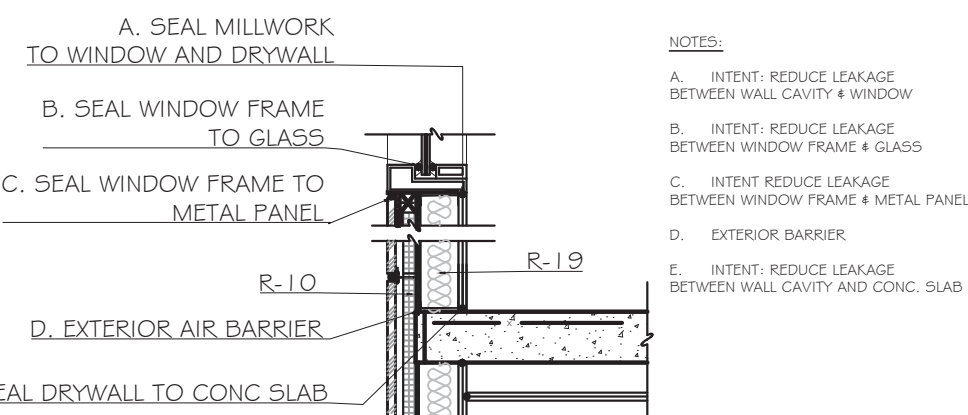
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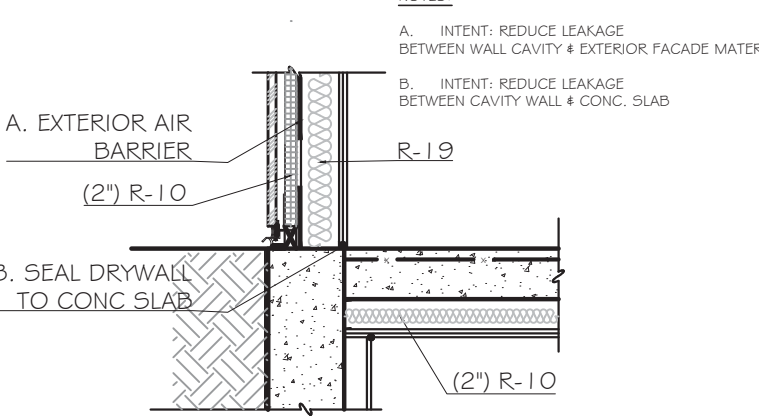
AIR BARRIER CONTINUITY / SEALING DETAILS:



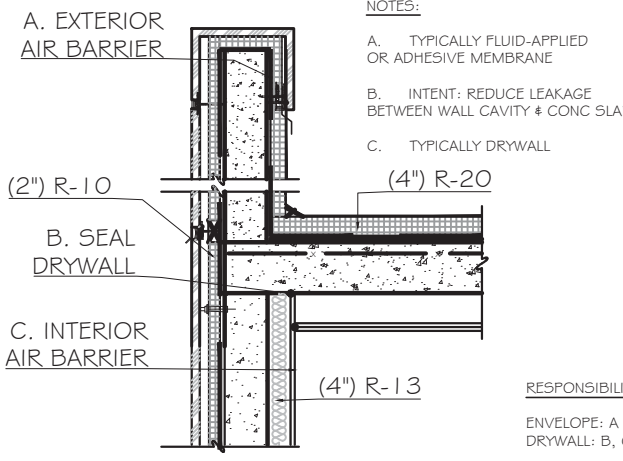
A EN-003 EXTERIOR WALL - PARAPET GRAVEL STOP SIMILAR



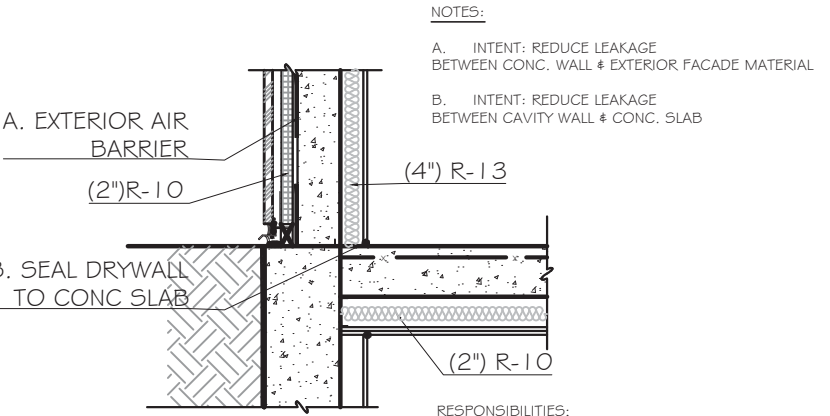
B EN-003 WINDOW SILL (HEAD AND JAMB SIMILAR)



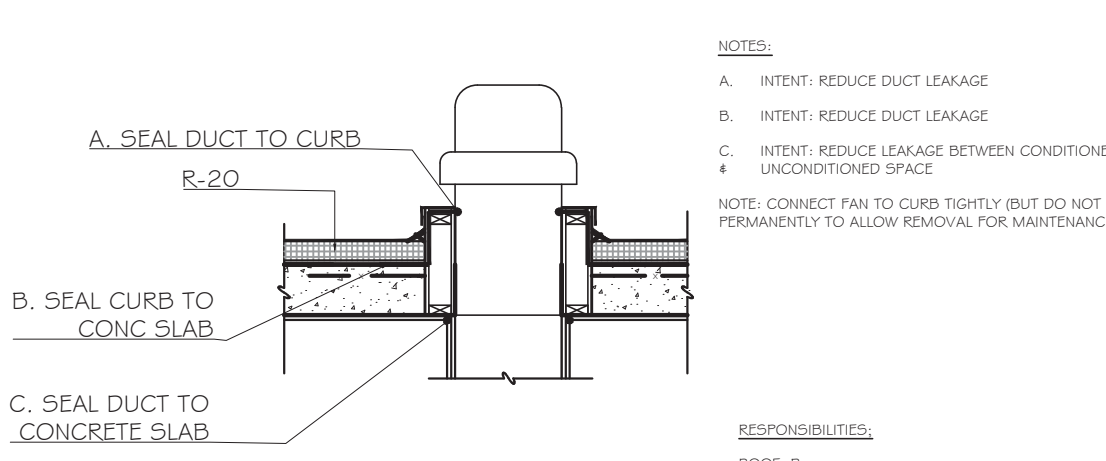
C EN-003 EXTERIOR WALL - BOTTOM



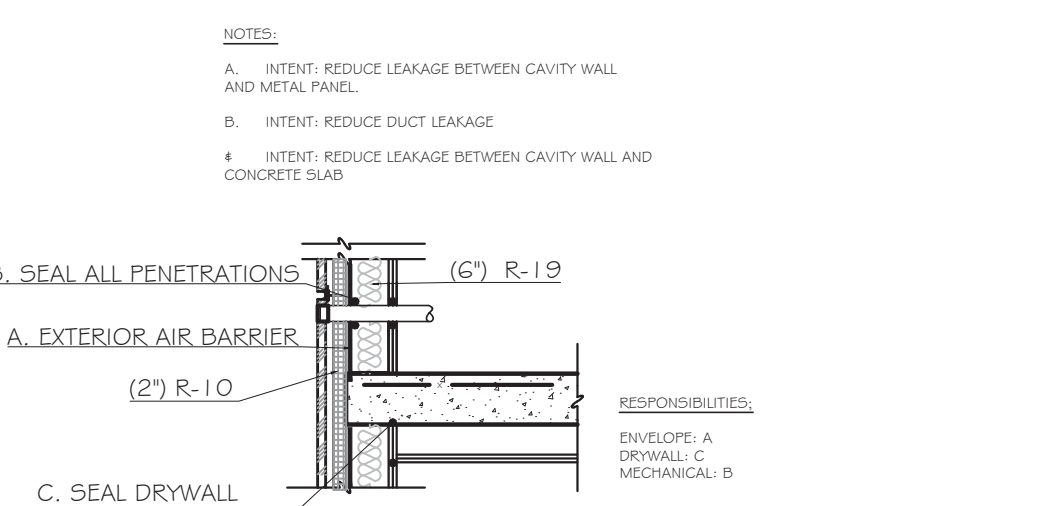
D EN-003 EXTERIOR WALL - PARAPET GRAVEL STOP SIMILAR



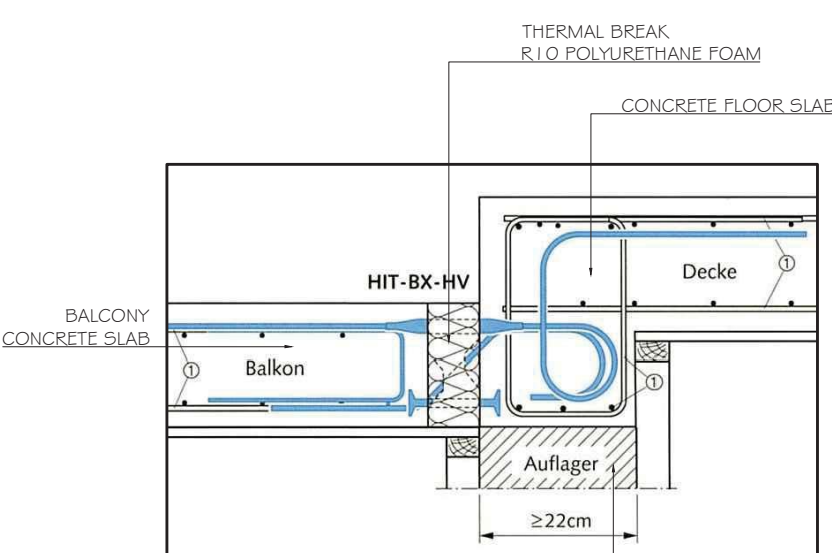
E EN-003 EXTERIOR WALL - BOTTOM



F EN-003 ROOF FAN / (ROOF PENETRATION SIMILAR)

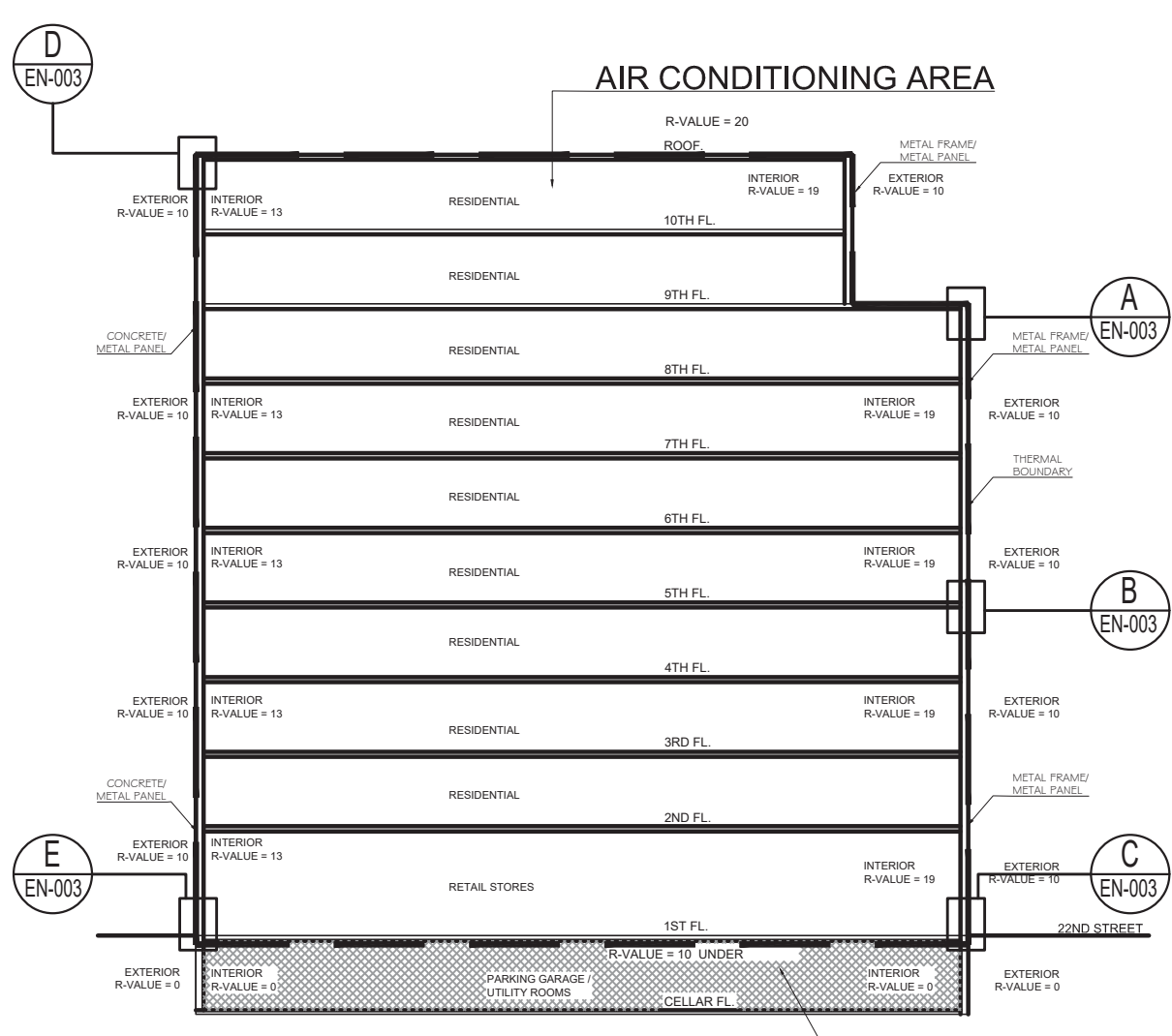


G EN-003 EXTERIOR WALL - (PIPE PENETRATION SIMILAR)



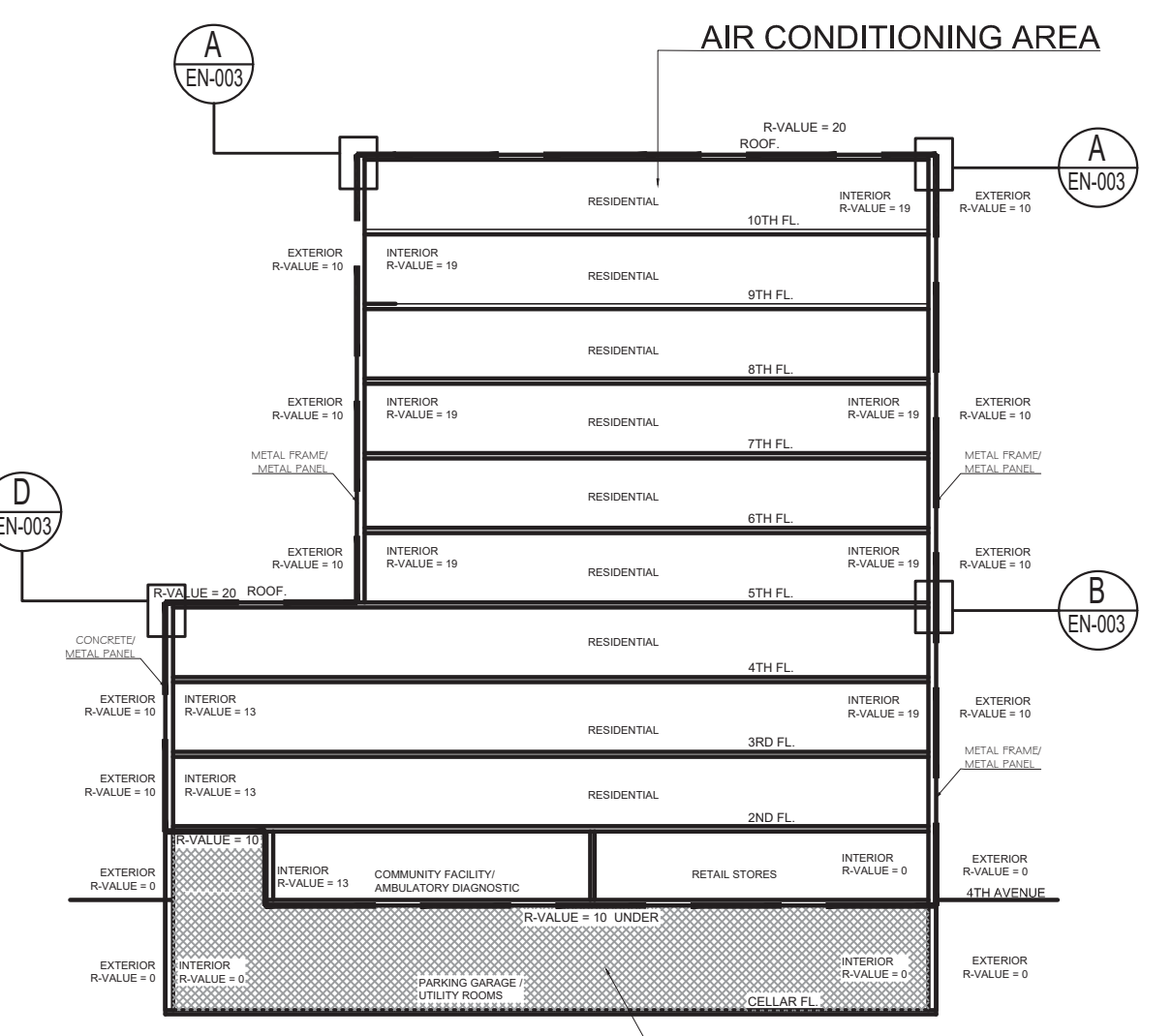
H EN-003 BALCONY - THERMAL BREAK

AIR CONDITIONING AREA



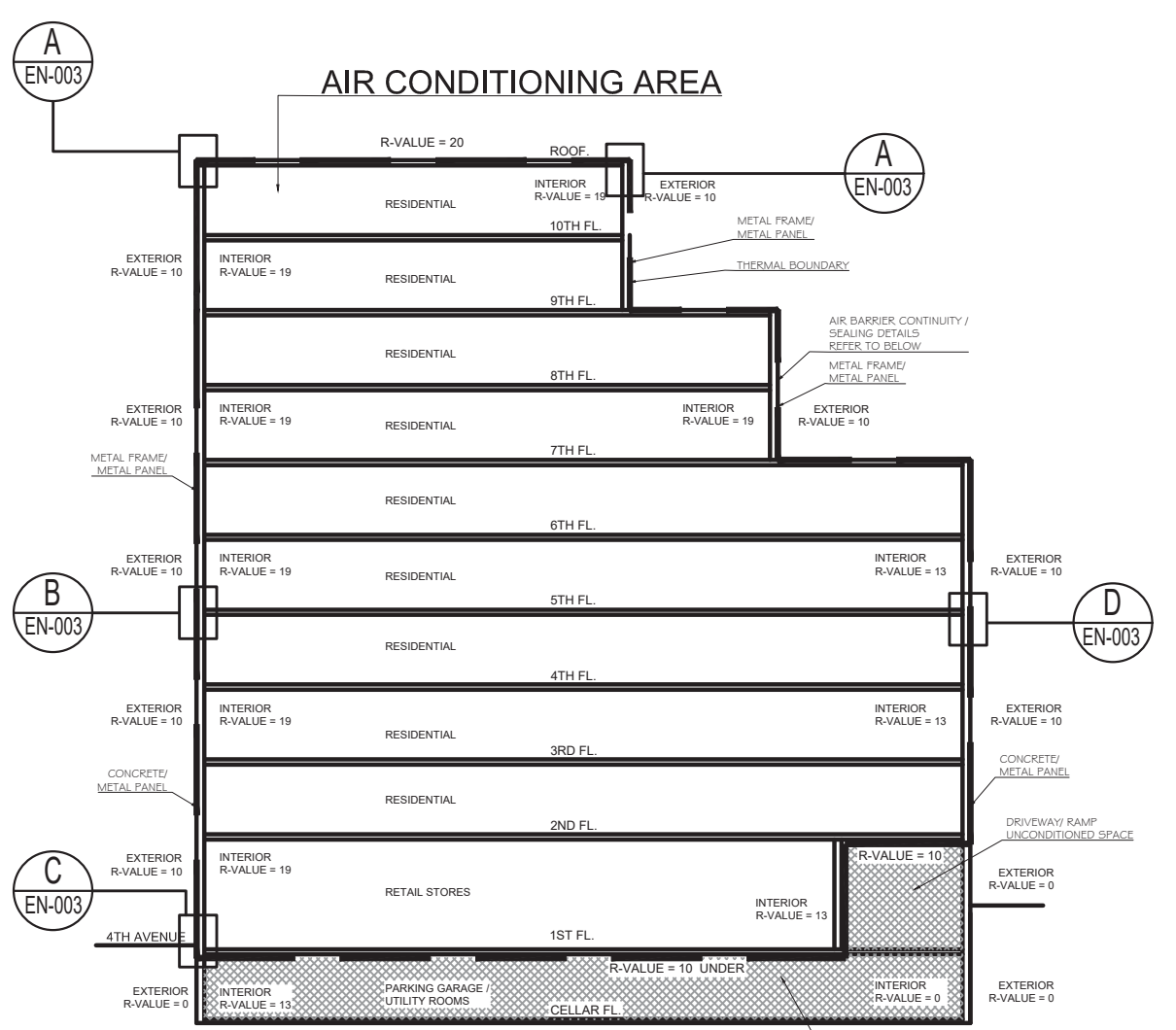
1 EN-105 THERMAL ENVELOPE (WEST ELEVATION)

AIR CONDITIONING AREA



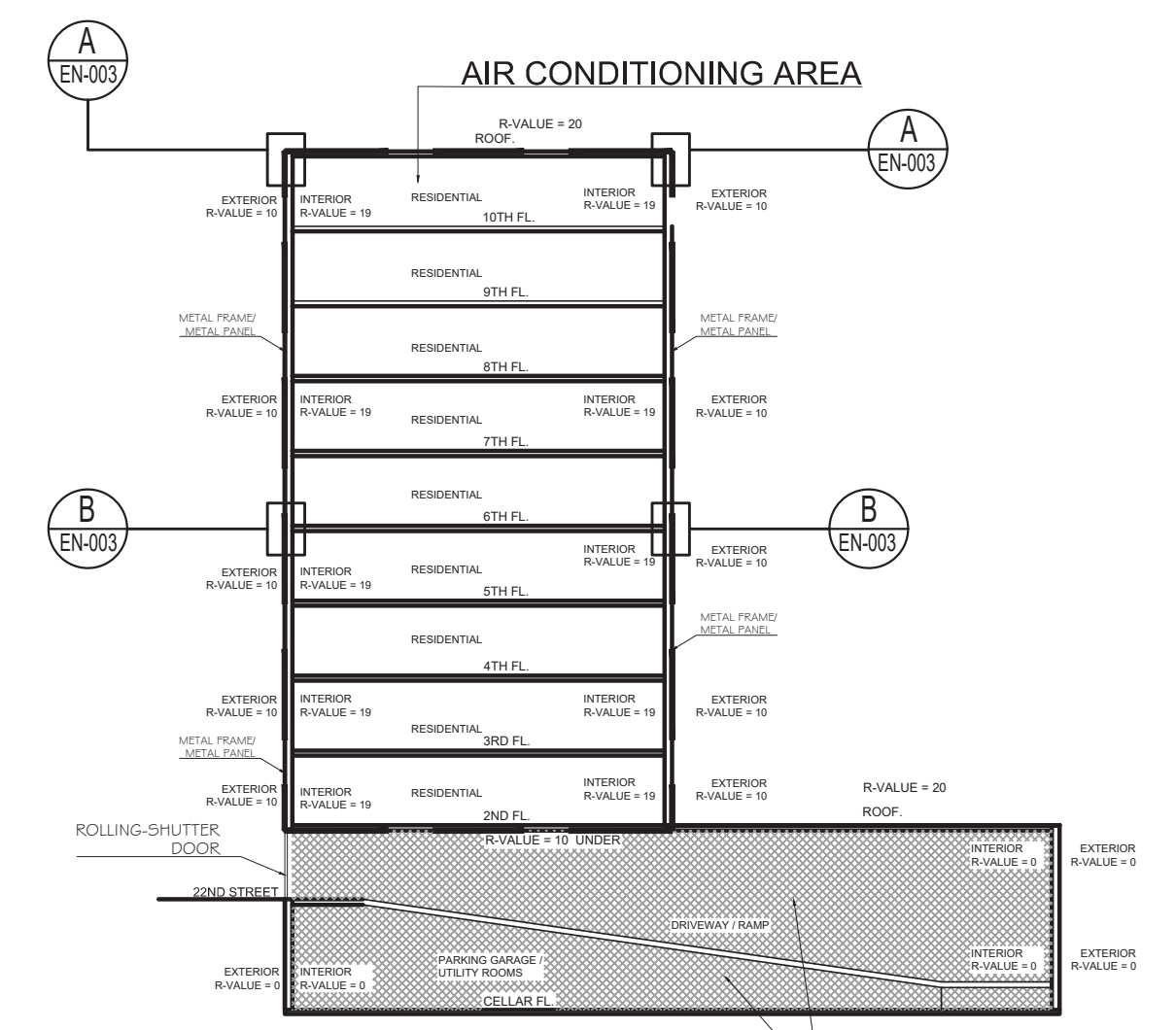
4 EN-105 THERMAL ENVELOPE (NORTH ELEVATION)

AIR CONDITIONING AREA



2 EN-105 THERMAL ENVELOPE (SOUTH ELEVATION)

AIR CONDITIONING AREA



3 EN-105 THERMAL ENVELOPE (EAST ELEVATION)



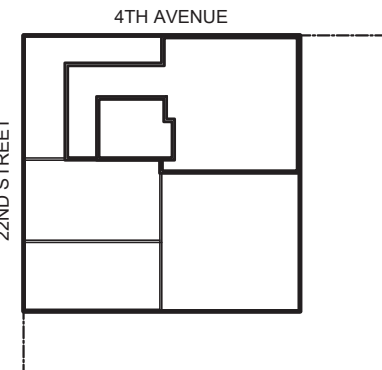
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MICHAEL KANG, RA

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

CELLAR FLOOR LIGHTING PLAN

SEAL & SIGNATURE

DATE: 03/05/2015
PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:



EN-201.01

PAGE No: 35 OF 43

Jeff Goolsby, P.E.

Jeff Goolsby

Buildings

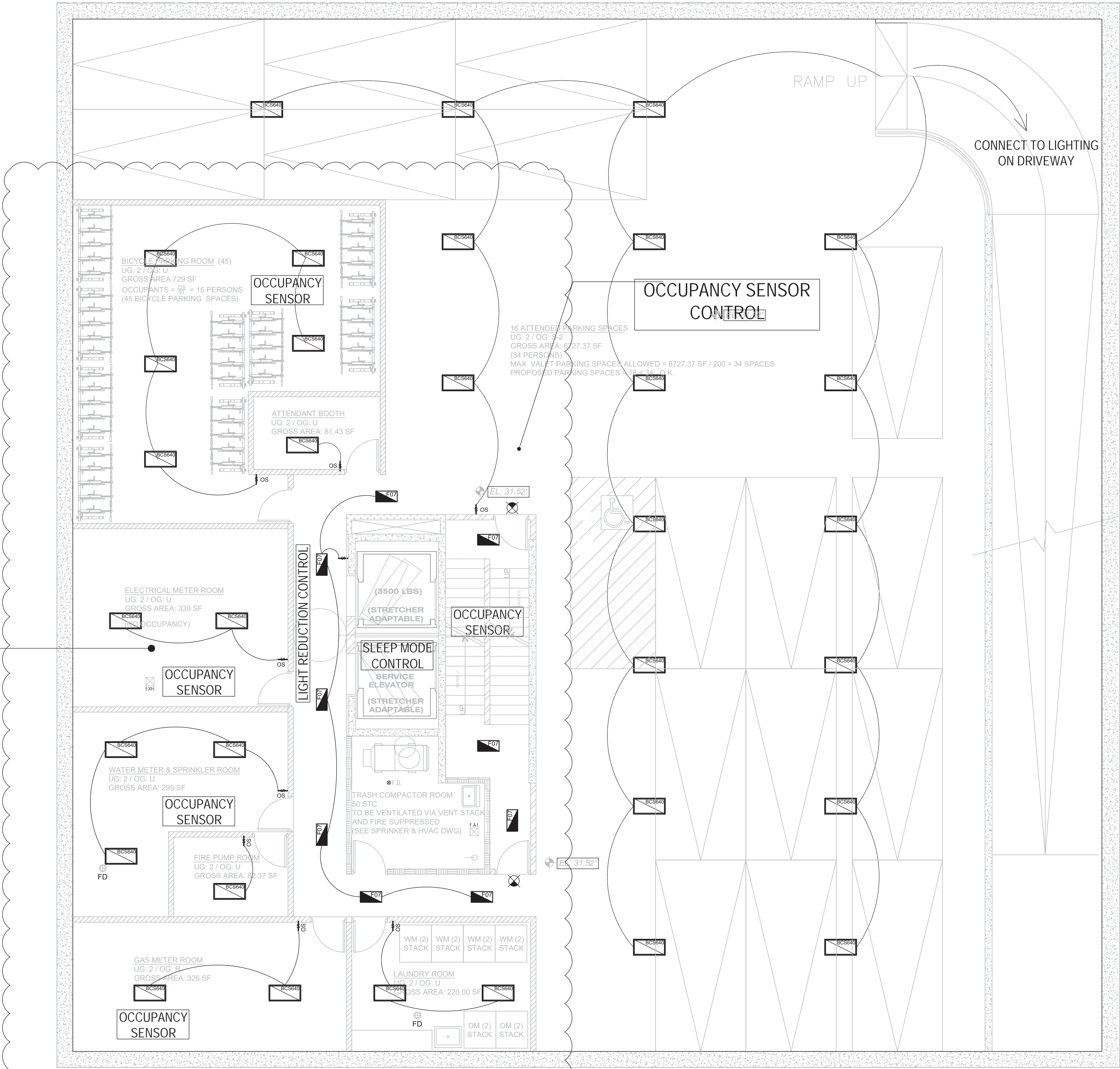
APPROVED

Under Directive 2 of 1975

AMENDED APPLICATION

Date: 06/18/2020

NYC Development Hub



CELLAR PLAN (LIGHTING PLAN)

SCALE: 3/16" = 1'-0"

GROSS AREA: 9,982.60 SF

PARKING GARAGE = 6727.37 SF
BCS640: (18) @ 41W = 738 W
RESIDENTIAL = 3255.23 SF
BCS640: (18) @ 41W = 656 W
F07: (9) @ 30W = 270 W



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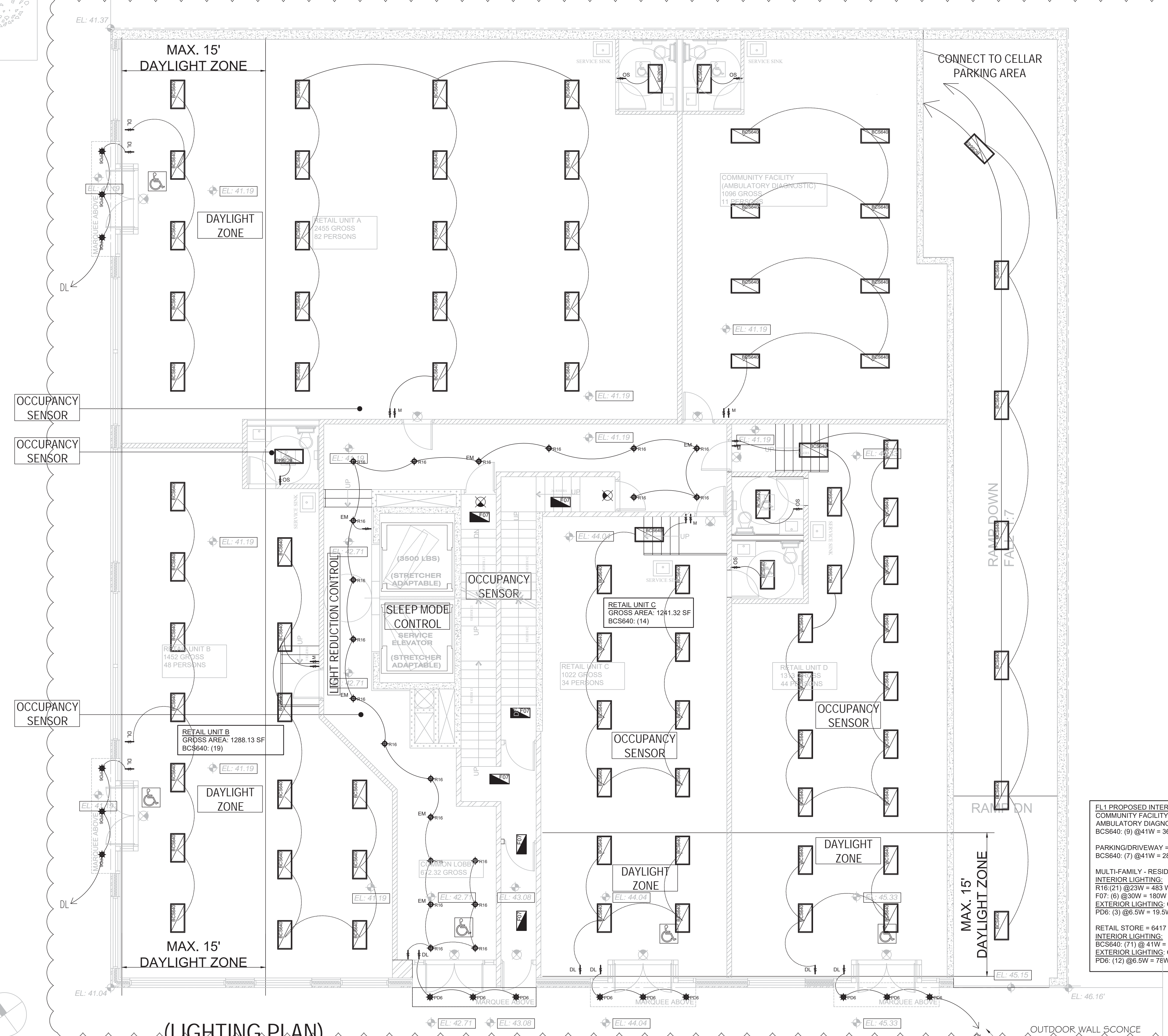
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MICHAEL KANG, RA

4TH AVENUE

FL1 PLAN
SCALE: 3/16" = 1'-0"
GROSS AREA: 9982.60 SF



EL-1 PROPOSED INTERIOR LIGHTING POWER
COMMUNITY FACILITY/
AMBULATORY DIAGNOSTIC = 1109 SF
BCS640: (6) @41W = 369 W

PARKING/DRIVEWAY = 1417 SF
BCS640: (7) @41W = 287 W

MULTI-FAMILY - RESIDENTIAL = 1174.59 SF
INTERIOR LIGHTING:
R16: (21) @23W = 483 W
F07: (6) @30W = 180W
EXTERIOR LIGHTING: CANOPY = 26 SF
PD6: (3) @6.5W = 19.5W

RETAIL STORE = 6417 SF
INTERIOR LIGHTING:
BCS640: (71) @ 41W = 2911 W
EXTERIOR LIGHTING: CANOPY = 104 SF
PD6: (12) @6.5W = 78W

(LIGHTING PLAN)

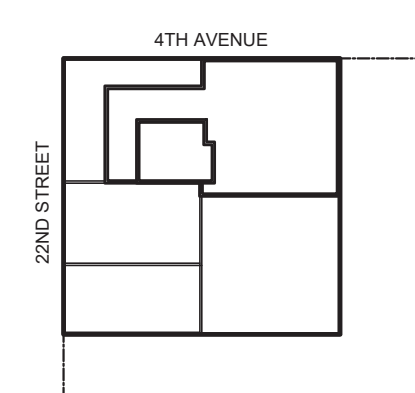
REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

22ND STREET

Jeff Goolsby, P.E.
BUILDINGS
APPROVED
Under Directive 2 of 1975
AMENDED APPLICATION
Date: 06/18/2020
NYC Development Hub

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

1ST FLOOR
LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
	PROJECT No:
	DRAWING BY: JL
	CHK BY: MK
	DWG No:
EN-202.01	
PAGE No: 36 OF 43	

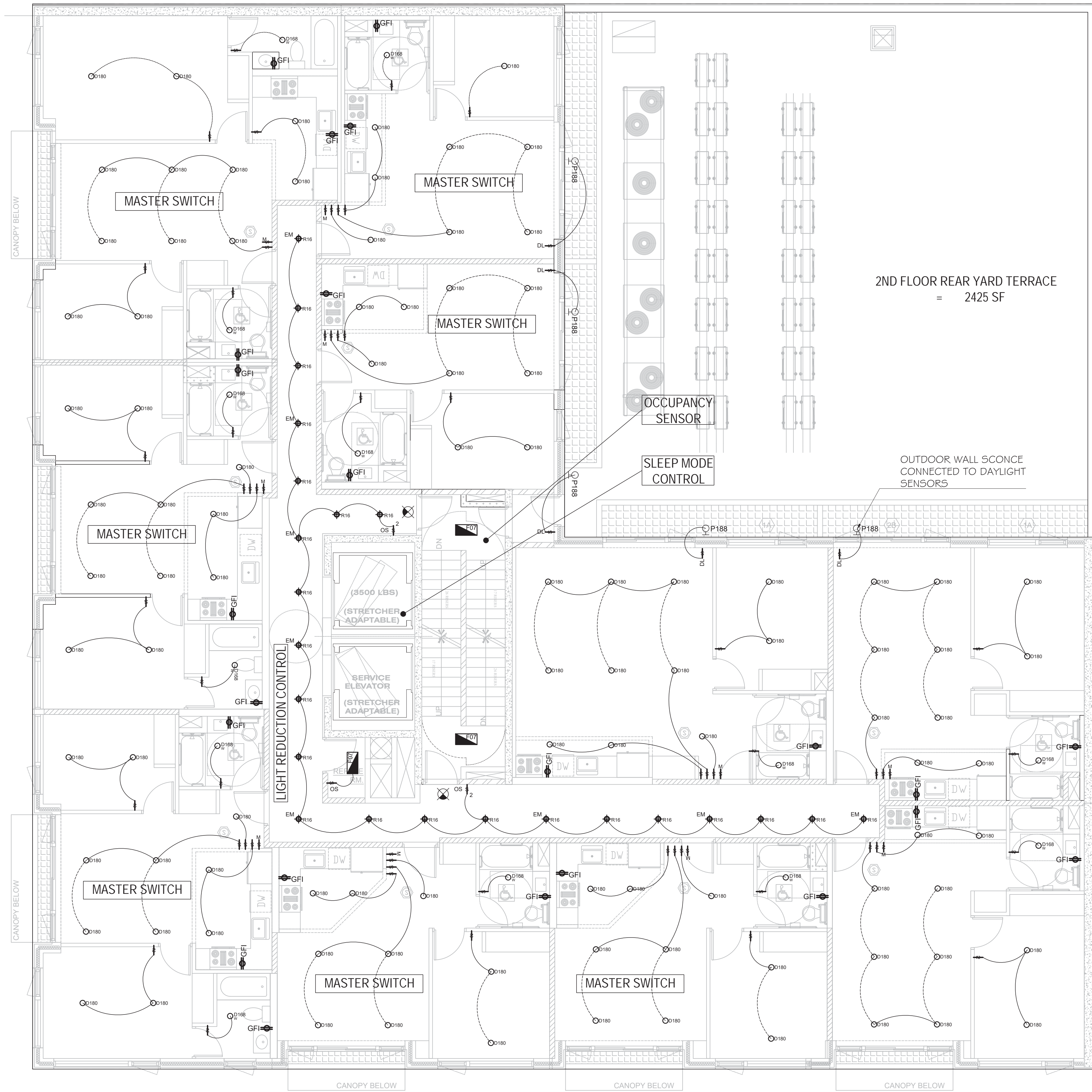


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FL2 PLAN

SCALE: 3/16" = 1'-0"

GROSS AREA: 7376.48 SF

10 UNITS

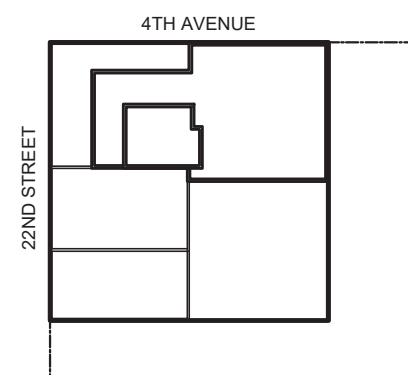
(LIGHTING PLAN)

FL2 PROPOSED INTERIOR LIGHTING POWER
GROSS AREA: 7376.48 SF
MULTIFAMILY
F07: (3) @ 30W = 90W
R16: (23) @ 23W = 529 W
D168: (13) @ 15W = 195W
D180: (100) @ 14W = 1400W
EXTERIOR LIGHTING POWER AREA = 2425 SF
P188: (5) @ 19W = 95W

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

2ND FLOOR LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:



EN-203.01

PAGE No: 37 OF 43



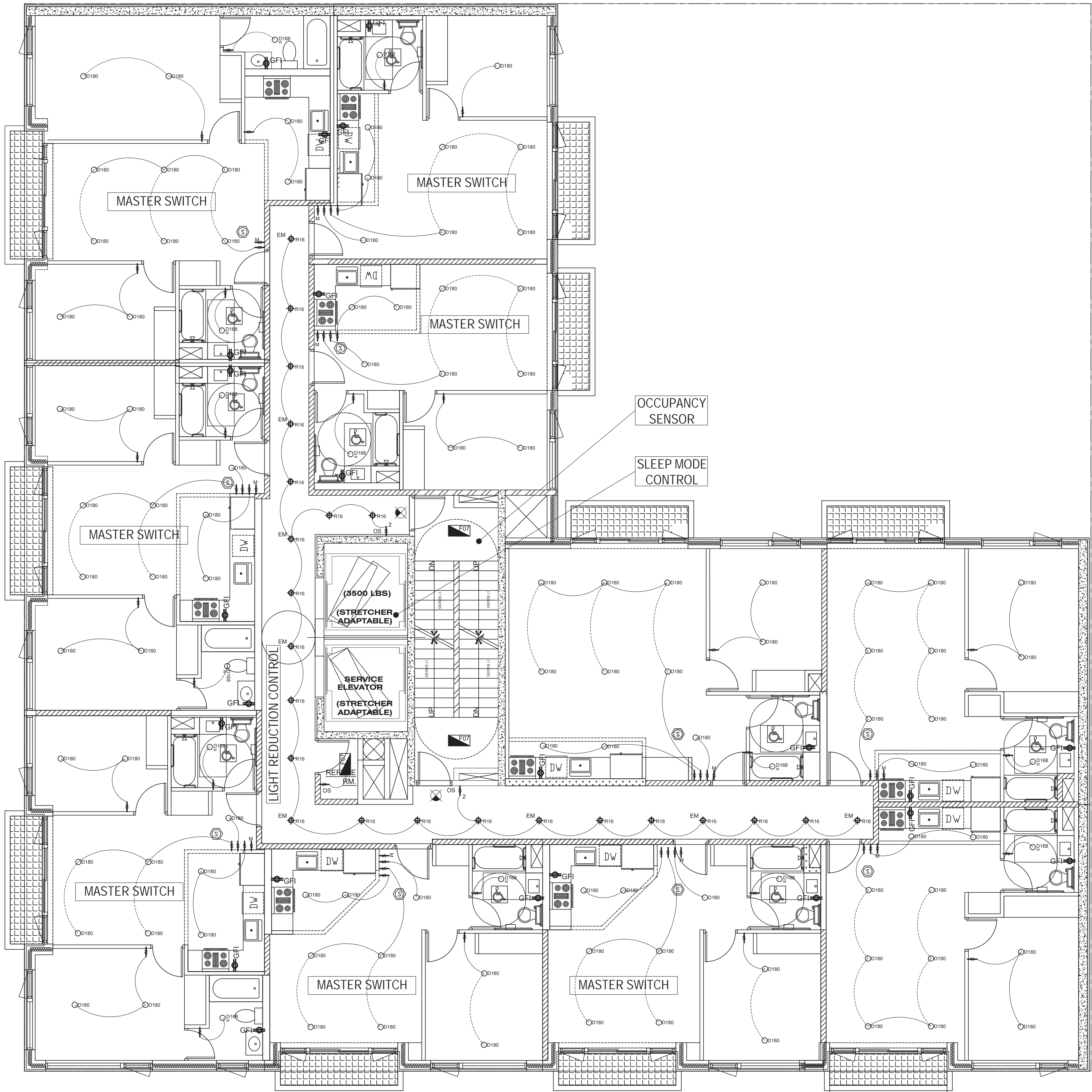


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MICHAEL KANG, RA



FL3 - 6 PLAN (LIGHTING PLAN)

SCALE: 3/16" = 1'-0"

GROSS AREA: 7,376.48 SF

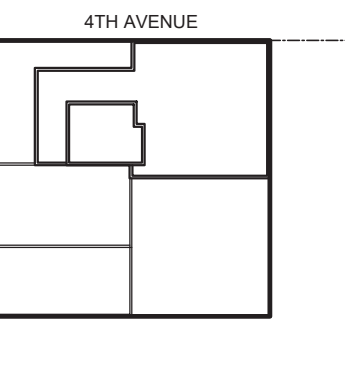
10 UNITS

FL3-6 PROPOSED INTERIOR LIGHTING POWER
GROSS AREA: 7376.48 SF
MULTIFAMILY
F07: (3) @ 30W = 90W
R16: (23) @ 23W = 529 W
D168: (13) @ 15W = 195W
D180: (100) @14W = 1400W

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

3RD - 6TH FLOOR
LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
CHK BY: MK	DWG No:



EN-204.01

PAGE No: 38 OF 43





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MICHAEL KANG, RA



FL7 PLAN (LIGHTING PLAN)

SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS

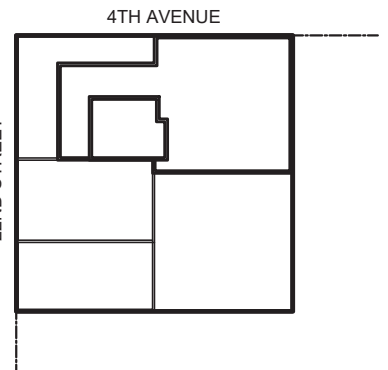
FL7 PROPOSED INTERIOR LIGHTING POWER
GROSS AREA: 6152.87
MULTIFAMILY
F07: (3) @ 30W = 90W
R16: (19) @ 23W = 437 W
D168: (11) @ 15W = 165W
D180: (80) @ 14W = 1120W
EXTERIOR LIGHTING POWER AREA = 1144 SF
P186: (2) @ 19W = 38W

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE



KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

7TH FLOOR
LIGHTING PLAN

SEAL & SIGNATURE



DATE: 03/05/2015

PROJECT No:
DRAWING BY: JL
CHK BY: MK
DWG No:

EN-205.01

PAGE No: 39 OF 43



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FL8 PLAN

SCALE: 3/16" = 1'-0"
GROSS AREA: 6,152.87 SF
8 UNITS

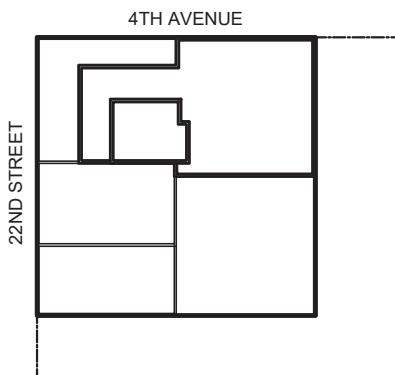
(LIGHTING PLAN)

FL8 PROPOSED INTERIOR LIGHTING POWER
GROSS AREA: 6152.87 SF
MULTIFAMILY
F07: (3) @ 30W = 90W
R16: (19) @ 23W = 437 W
D168: (11) @ 15W = 165W
D180: (80) @ 14W = 1120W

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT

179, 22ND STREET
BROOKLYN, NEW YORK

8TH FLOOR LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	DRAWING BY: JL
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EN-206.01

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Date: 06/18/2020

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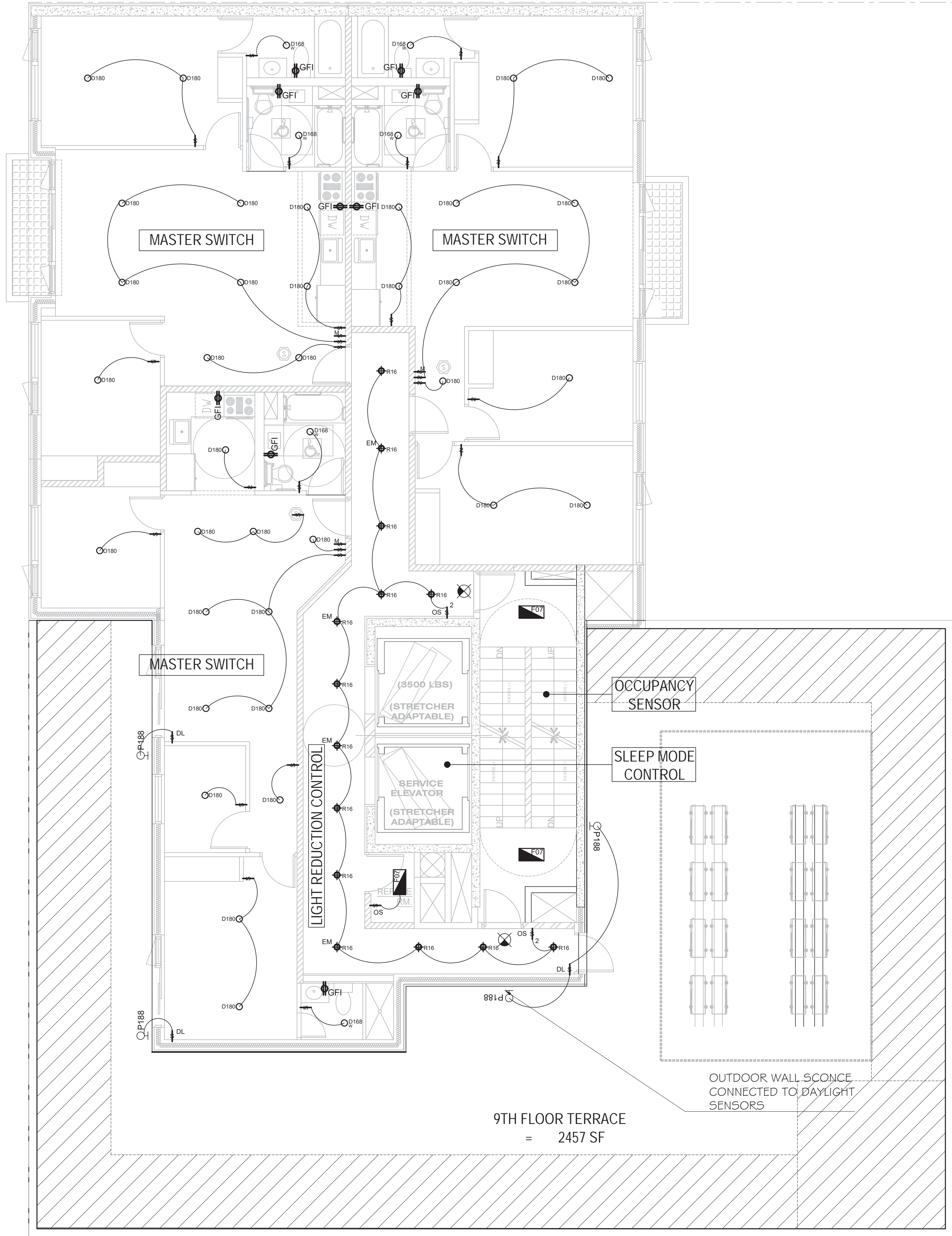


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FL9 PLAN

SCALE: 3/16" = 1'-0"
GROSS AREA: 3,640.40 SF
3 UNITS

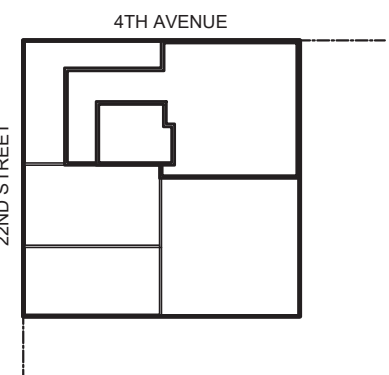
(LIGHTING PLAN)

FL9 PROPOSED INTERIOR LIGHTING POWER
GROSS AREA: 3640.40
MULTIFAMILY
F07: (3) @ 30W = 90W
R16: (14) @ 23W = 322 W
D168: (6) @ 15W = 90W
D180: (34) @ 14W = 476W
EXTERIOR LIGHTING POWER AREA = 2457 SF
P188: (4) @ 19W = 76W

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

KEY PLAN



01	03-09-20	PAA
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PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

9TH FLOOR LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
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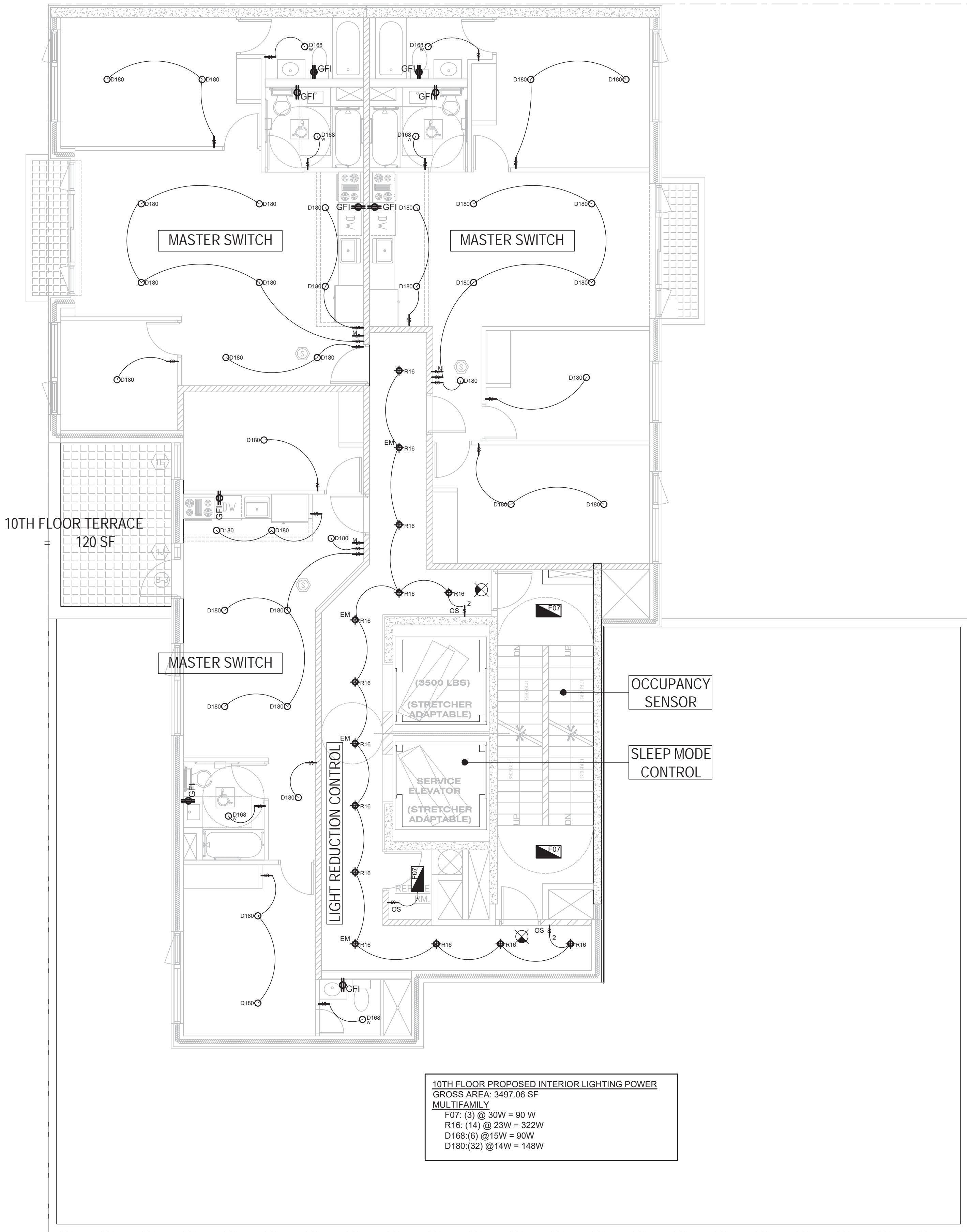


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10TH FLOOR PROPOSED INTERIOR LIGHTING POWER
GROSS AREA: 3497.06 SF
MULTIFAMILY
F07: (3) @ 30W = 90 W
R16: (14) @ 23W = 322W
D168: (6) @ 15W = 90W
D180: (32) @ 14W = 148W

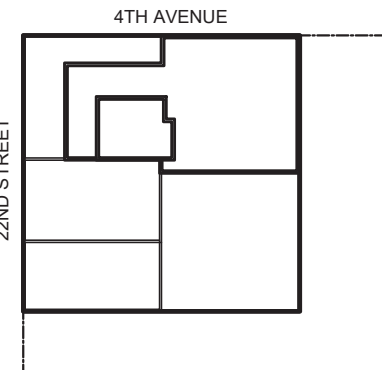
FL10 PLAN (LIGHTING PLAN)

SCALE: 3/16" = 1'-0"
GROSS AREA: 3,497.06 SF
3 UNITS

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

KEY PLAN



01	03-09-20	PAA
REV.#	DATE	DESCRIPTION

PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

10TH FLOOR LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
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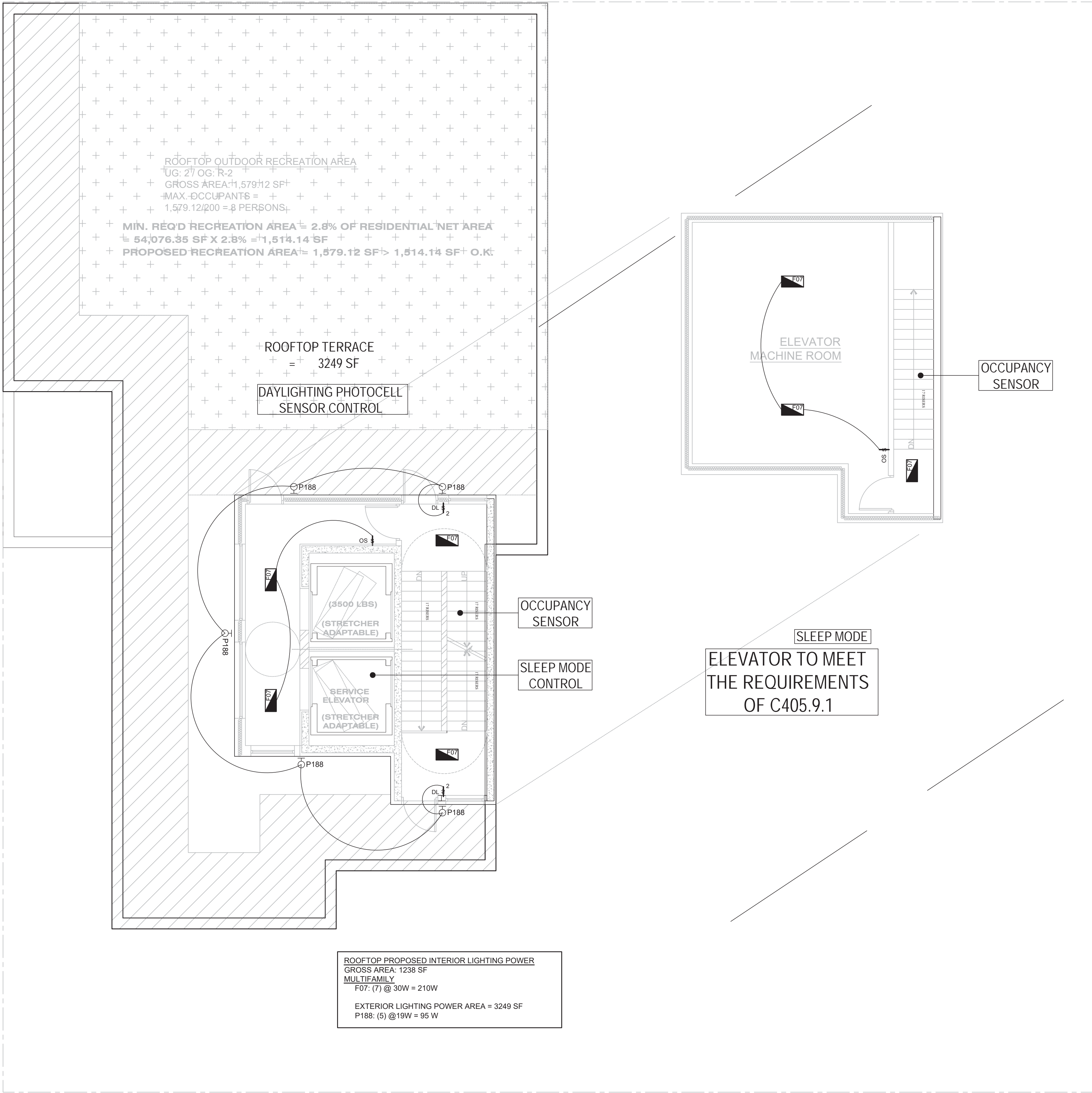


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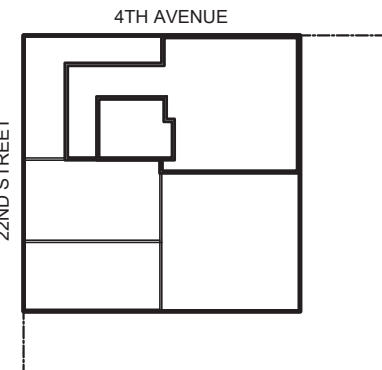


ROOF PLAN (LIGHTING PLAN)
SCALE: 3/16" = 1'-0"

REFER TO EN-102 FOR LIGHTING
SCHEDULE AND LIGHTING CONTROLS
NARRATIVE & STRATEGY

INTERNALLY ILLUMINATED EXIT SIGNS
WITH MAX. OF 5 WATTS PER SIDE

KEY PLAN



REV.#	DATE	DESCRIPTION
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PROJECT
179, 22ND STREET
BROOKLYN, NEW YORK

ROOF BULKHEAD
LIGHTING PLAN

SEAL & SIGNATURE	DATE: 03/05/2015
PROJECT No:	
DRAWING BY: JL	
CHK BY: MK	
DWG No:	



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