MELROSE COMMONS SITE C – SUPPORTIVE HOUSING

BRONX, NEW YORK

Remedial Action Work Plan

NYC VCP Project Number: 17CVCP003X
OER Project Number: 15ENOS474X

Prepared for:

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TABLE OF CONTENTS

LIST OF FIGURES iv
LIST OF APPENDICES iv
LIST OF ACRONYMS v
CERTIFICATION vii
EXECUTIVE SUMMARY 1
NYC VOLUNTARY CLEANUP PROGRAM 5
COMMUNITY PROTECTION STATEMENT 6
REMEDIAL ACTION WORK PLAN 10
1.0 SITE BACKGROUND 10
1.1 SITE LOCATION AND CURRENT USAGE 10
1.2 PROPOSED REDEVELOPMENT PLAN 10
1.3 DESCRIPTION OF SURROUNDING PROPERTY 10
1.4 REMEDIAL INVESTIGATION 10
2.0 REMEDIAL ACTION OBJECTIVES 14
3.0 REMEDIAL ALTERNATIVES ANALYSIS 15
3.1 THRESHOLD CRITERIA 16
3.2 BALANCING CRITERIA 16
3.3 SUMMARY OF PREFERRED REMEDIAL ACTION 22
3.4 SOIL CLEANUP OBJECTIVES AND SOIL/FILL MANAGEMENT 23
3.5 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT 25
4.0 REMEDIAL ACTION MANAGEMENT 29
4.1 PROJECT ORGANIZATION AND OVERSIGHT 29
4.2 SITE SECURITY 29
4.3 WORK HOURS 29
4.4 CONSTRUCTION HEALTH AND SAFETY PLAN 29
4.5 COMMUNITY AIR MONITORING PLAN 30
4.6 AGENCY APPROVALS 31
4.7 SITE PREPARATION 31
4.8 TRAFFIC CONTROL 34
4.9 DEMOBILIZATION 34
4.10 REPORTING AND RECORD KEEPING 35

4.11 COMPLAINT MANAGEMENT 35
4.12 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN 35
5.0 REMEDIAL ACTION REPORT 37
7.0 SCHEDULE 39
CITIZEN PARTICIPATION PLAN 1
SUSTAINABILITY STATEMENT 1
WEEKLY SAFETY REPORT FORM 4
INCIDENT REPORT FORM 6
EMERGENCY SIGNALS 12

LIST OF FIGURES

Figure 1 – Site Location

Figure 2 – Site Plan and Sample Locations

Figure 3 – Surrounding Land Use

Figure 4 – Proposed Excavation Plan

Figure 5 – Site Cover System Plan

Figure 6 – Truck Route

LIST OF APPENDICES

Appendix A – Proposed Development Plans

Appendix B – Citizen Participation Plan

Appendix C – Sustainability Statement

Appendix D – Soil/Materials Management Plan

Appendix E – Manufacturer Specifications for Vapor Barrier

Appendix F – Construction Health and Safety Plan

LIST OF ACRONYMS

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

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

CERTIFICATION

I, Michelle Lapin, am a Professional Engineer licensed in the State of New York. I have primary direct responsibility for implementation of the remedial action for the Melrose Commons Site C – Supportive Housing site, (NYC OER Project Number 15ENOS474CX and NYC VCP Project Number 17CVCP003X).

I, Deborah Shapiro, am a Qualified Environmental Professional as defined in §43-140. I have primary direct responsibility for implementation of the remedial action for the Melrose Commons Site C – Supportive Housing site, (NYC OER Project Number 15ENOS474CX and NYC VCP Project Number 17CVCP003X).

I certify that 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.

Michelle Lapin, P.E.
Name

073934
NYS PE License Number

Signature

7-14-16
Date

Deborah Shapiro, QEP
QEP Name

QEP Signature

7-14-16
Date

EXECUTIVE SUMMARY

Melrose Commons Supportive HDC c/o The Bridge, Inc. is working with the NYC Office of Environmental Remediation (OER) to investigate and remediate a 6,097 square foot site located at 425 East 161st Street in the Bronx, New York (the "Site"). A remedial investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP). The remedial action described in this document provides for the protection of public health and the environment consistent with the intended property use, complies with applicable environmental standards, criteria and guidance and conforms to applicable laws and regulations.

Site Location and Current Usage

The Site is located at 425 East 161st Street in the Bronx, New York and is identified as Block 2383, Lot 39 (formerly Lots 37 and 39) on the New York City Tax Map. Figure 1 shows the Site location. The Site is approximately 6,097 square feet and is bounded by residential properties to the north, East 161st Street to the south, an active construction site (Brownfield Cleanup Program Site No. C203073) to the east, and mixed-use residential and commercial properties to the west. A map of the Site boundary is shown on Figure 2. Currently, the Site is a vacant lot used for construction equipment storage.

Summary of Proposed Redevelopment Plan

The proposed future use of the Site will consist of the excavation of soil for construction of a nine-story supportive housing building with a cellar. The proposed development is anticipated to extend approximately 12 feet below ground surface (bgs) on the southern portion of the Site and approximately 2 feet bgs on the northern portion of the Site. Layout of the proposed Site development is presented on Figure 4. The current zoning designation is R7-2 (medium density apartment houses) with a C1-4 commercial overlay (allows for businesses that serve local retail needs). The proposed use is consistent with existing zoning for the property.

Summary of Environmental Findings

1. Elevation of the Site is generally level and is approximately 28 feet above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level).
2. Groundwater is expected to flow in a southerly direction towards the Harlem River.
3. Depth to bedrock is approximately 12.5 to 15 feet below grade at the Site.
4. The stratigraphy of the Site, from the surface down, generally consisted of fill comprising sand, silt, and gravel with trace amounts of wood, coal ash, and brick from existing grade to approximately five feet below grade, underlain by fill comprising sand, silt, and gravel to the terminus of the borings at bedrock.
5. Soil/fill samples collected during the Phase II were compared to NYSDEC Part 375-6 Unrestricted Use (Track 1) and Restricted Residential Use (Track 2) Soil Cleanup Objectives (SCOs). Soil/fill samples showed concentrations of semi-volatile organic compounds (SVOCs) and metals generally associated with historic fill. No volatile organic compounds (VOCs) or polychlorinated biphenyls (PCBs) were detected above laboratory reporting limits in any of the soil samples analyzed. Six SVOCs including benzo(a)anthracene (max. of 15400 µg/Kg), benzo(a)pyrene (max. of 12,600 µg/Kg), benzo(b)fluoroanthene (max. of 16,000 µg/Kg), chrysene (max. of 15,500 µg/Kg), dibenzo(a,h)anthracene (max. of 3500 µg/Kg), and indeno(1,2,3-cd)pyrene (max. of 8570 µg/Kg) were detected in three shallow soil samples at

concentrations exceeding their respective Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Benzo(k)fluoroanthene and chrysene were also detected exceeding their respective Unrestricted Use SCOs, but below RRSCOs. The detected SVOCs are generally polycyclic aromatic hydrocarbons (PAHs), a class of compounds found in coal tar, coal ash, and other combustion products (as well as some petroleum products and rubber) and commonly found in historic fill. Metals including barium (max. of 1760 mg/Kg) copper (max. of 50.2 mg/Kg), lead (max. of 668 mg/Kg), mercury (max. of 0.27 mg/Kg), and zinc (max. of 827 mg/Kg) were detected in most of the soil samples at concentrations exceeding respective USCOs. Of these metals, barium and lead also exceeded their RRSCOs. Four pesticides including 4,4'-DDD (max. of 11.2 μg/Kg), 4,4'-DDE (max. of 9.6 μg/Kg), 4,4'-DDT (max. of 135 μg/Kg), and dieldrin (max. of 5.5 μg/Kg) were detected at concentrations exceeding respective USCOs, but below respective RRSCOs in the three shallow soil samples. No other pesticides were detected above their respective SCOs. Overall, soil chemistry is similar to sites with historic fill sites in New York City.

6. Bedrock at this property is shallow and groundwater was not encountered above bedrock at the Site.
7. Soil vapor samples collected during the RI were compared to the compounds listed in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion. A review of the soil vapor analytical results indicates that up to 25 VOCs were detected in soil vapor samples SV-1 and SV-2. Additionally, 26 VOCs were detected in ambient air sample AA-1. Soil vapor samples collected during the Phase II showed low concentrations of VOCs. Overall, highest concentrations were detected for ethanol at 207 ug/m^3. PCE was detected at concentrations of 1.4 μg/m^3, below its respective guideline value of 30 μg/m^3. PCE was also detected in ambient air sample AA-1 at a concentration of 3.1 μg/m^3. TCE was not detected in either the soil vapor samples nor the ambient air sample above laboratory reporting limits. There are no directly applicable guidance values for VOCs in soil vapor; however, the results of the soil vapor samples were compared to the NYSDOH Air Guideline Values (AGVs) and decision matrices. No VOCs were detected above NYSDOH AGVs.

Summary of the Remedy

The preferred remedial action alternative is Alternative 2, the Track 4 remedial action. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the Site. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic compounds.
3. Establishment of Track 4 Site-Specific Soil Cleanup Objectives (SSSCOs).
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.

5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).
6. Excavation and removal of soil/fill exceeding Track 4 SSSCOs. Excavation is expected to extend to approximately 12 feet below grade at the location of the proposed building and approximately 2 feet below grade in the northern portion of the Site for a landscaped courtyard. Approximately, 4000 tons of soil/fill will be excavated and removed from this Site.
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a photoionization (PID). Appropriate segregation of excavated media on-site.
8. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of any underground storage tanks (USTs) encountered during soil/fill removal actions.
10. Registration of tanks (if encountered) and reporting of any petroleum spills and appropriate closure of these petroleum spills in compliance with applicable local, state, and federal laws and regulations.
11. Transportation and off-site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-site.
12. Demarcation of residual soil/fill in landscaped areas.
13. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.
14. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations.
15. Dewatering is not expected to be necessary during redevelopment at the Site. If dewatering becomes necessary, however, it will be conducted in compliance with city, state, and federal laws and regulations. Extracted groundwater will be either containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.
16. Implementation of stormwater pollution prevention measures in compliance with applicable laws and regulations.
17. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and lists any changes from this RAWP.
18. Construction of an engineered composite cover system composed of a reinforced concrete slab in the building area and two feet of clean soil/fill in the proposed landscaped area on the

northern portion of the Site. The clean soil/fill layer will be underlain by a demarcation layer such as orange snow fence to indicate the top of the original soil/fill.

19. ECs/ICs, if needed, will be established with a requirement that management of these controls must be in compliance with an approved Soil Management Plan (SMP). ICs will include prohibition of the following: (1) vegetable gardening and farming in residual site soil; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER approval.

COMMUNITY PROTECTION STATEMENT

NYC VOLUNTARY CLEANUP PROGRAM

MELROSE COMMONS SITE C – SUPPORTIVE HOUSING

425 EAST 161ST STREET

NYC VCP SITE NUMBER: 17CVCP003X

Affiliation	Name	Phone	Email address
OER Project Manager	Anna Brooks	212-881-8841	ABrooks@dep.nyc.gov
Site Project Manager	Carole Gordon	212-663-3000 ext. 1378	cgordon@thebridgeny.org
Site Safety Officer	Shira Clement	TBD	sclement@akrf.com
Link to OER Online Document Repository	http://www.nyc.gov/html/oer/html/document-repository/document-repository.shtml		
Link to OER Website	http://www.nyc.gov/html/oer/html/home/home.shtml		

COMMUNITY PROTECTION STATEMENT

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

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

Remedial Investigation and Cleanup Plan

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

Identification of Sensitive Land Uses

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

Qualitative Human Health Exposure Assessment

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

Health and Safety Plan

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

Site Safety Coordinator

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

Worker Training

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

Community Air Monitoring Plan

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

Odor, Dust and Noise Control

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

Quality Assurance

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

Stormwater Management

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

Hours of Operation

The hours for operation of cleanup will comply with the NYC Department of Buildings construction code requirements or according to specific variances issued by that agency. For this cleanup project, the hours of operation will conform to requirements of Department of Buildings and will be conveyed to OER before the start of the remedial action.

Signage

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

Complaint Management

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

Utility Mark-outs

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

Soil and Liquid Disposal

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

Soil Chemical Testing and Screening

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

Stockpile Management

Soil stockpiles will be kept covered with tarps to prevent dust, odors and erosion. Stockpiles will be frequently inspected. Damaged tarp covers will be promptly replaced. Stockpiles will be protected with silt fences. Hay bales will be used, as needed to protect storm water catch basins and other discharge points.

Trucks and Covers

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

Imported Material

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

Equipment Decontamination

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

Housekeeping

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

Truck Routing

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

Final Report

The results of all cleanup work will be fully documented in a final report (called a Remedial Action Report) that will be available for public review online. A link to the online document repository and the

public library with Internet access nearest the Site are listed on the first page of this Community Protection Statement document.

Long-Term Site Management: A certification of continued protectiveness of the cleanup will be required from time to time to show that the approved cleanup is still effective.

REMEDIAL ACTION WORK PLAN

1.0 SITE BACKGROUND

Melrose Commons Supportive HDC c/o The Bridge, Inc. is working with the Office of Environmental Remediation (OER) to investigate and remediate a property located at 425 East 161st Street in the Bronx, New York (the "Site"). A Remedial Investigation (RI) was performed to compile and evaluate data and information necessary to develop this Remedial Action Work Plan (RAWP) in a manner that will render the Site protective of public health and the environment consistent with the contemplated end use. This RAWP establishes remedial action objectives, provides a remedial alternatives analysis that includes consideration of a permanent cleanup, and provides a description of the selected remedial action. The remedial action described in this document provides for the protection of public health and the environment, complies with applicable environmental standards, criteria and guidance and applicable laws and regulations.

1.1 SITE LOCATION AND CURRENT USAGE

The Site is located at 425 East 161st Street in the Bronx, New York and is identified as Block 2383 and Lot 39 (formerly Lots 37 and 39) on the New York City Tax Map. Figure 1 shows the Site location. The Site is approximately 6,097 square feet and is bounded by residential properties to the north, East 161st Street to the south, an active construction site (Brownfield Cleanup Program Site No. C203073) to the east, and mixed-use residential and commercial properties to the west. A map of the site boundary is shown in Figure 2. Currently, the Site is a vacant lot used for construction equipment storage.

1.2 PROPOSED REDEVELOPMENT PLAN

The proposed future use of the Site will consist of the excavation of soil for construction of a nine-story supportive housing building with a cellar. The proposed development is anticipated to extend approximately 12 feet below ground surface (bgs) on the southern portion of the Site and approximately 2 feet bgs on the northern portion of the Site. Layout of the proposed Site development is presented on Figure 4. The current zoning designation is R7-2 (medium density apartment houses) with a C1-4 commercial overlay (allows for businesses that serve local retail needs). The proposed use is consistent with existing zoning for the Site.

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

1.3 DESCRIPTION OF SURROUNDING PROPERTY

The neighborhood surrounding the Site includes a mix of institutional uses (including the campus of Boricua College), residential, commercial, and industrial uses. The Site is abutted to the north by residential properties; to the east by an active construction site at 899 Elton Avenue (Brownfield Cleanup Site No. C203073); to the south by East 161st Street, followed by mixed-use residential and commercial properties; and to the west by mixed-use residential and commercial properties. A dry cleaning facility is located at 413 East 161st Street, approximately 200 feet west of the Site. Figure 3 shows the surrounding land usage.

1.4 REMEDIAL INVESTIGATION

A remedial investigation was performed and the results are documented in a companion document called "*Remedial Investigation Report, Melrose Commons Site C – Supportive Housing*," dated May 2016 (RIR).

1.4.1 Summary of Past Uses of Site and Areas of Concern

A Phase I Environmental Site Assessment (ESA) conducted by AKRF in April 2016 indicated that the Site was vacant until sometime between 1891 and 1951, when it was developed with residential apartment buildings. The Site has been vacant since the demolition of the residential apartment buildings on the western portion of the Site (former Lot 39) by 1981 and on the eastern portion of the Site (former Lot 37) by 1989.

Title records reviewed as part of the Phase I ESA listed the City of New York as the owner, and indicated that the City of New York was granted ownership of the Site by Harry T. Kunken in 1978.

The AOCs identified for this Site include:

1. Historic fill may be present beneath the Site.
2. An anomaly (measuring 7 feet by 8.5 feet) consistent with that of an underground storage tank (UST) or buried aboveground storage tank (AST) , identified on the northern portion of the Site.
3. Historic and present uses of the surrounding area, including auto repair shops, garages with gasoline underground storage tanks (USTs), industrial and manufacturing uses, and a dry cleaner west of the Site. The regulatory database identified proximal facilities that may have affected the Site subsurface including off-site Brownfield Cleanup Program sites (one east-adjacent), off-site closed- and active-status spills, Environmental Restoration Program (ERP) sites, and Petroleum Bulk Storage (PBS) facilities.

1.4.2 Summary of the Work Performed under the Remedial Investigation

On behalf of Melrose Commons Supportive HDC c/o The Bridge, Inc., AKRF performed the following scope of work:

1. Conducted a Site inspection to identify AOCs and physical obstructions (i.e., structures, buildings, etc.);
2. Advanced three soil borings across the entire project Site, and collected six soil samples for chemical analysis from the soil borings to evaluate soil quality; and
3. Installed two soil vapor probes cross the Site and collected two samples for chemical analysis. One ambient air sample was collected concurrently with the soil vapor samples for QA/QC purposes.

1.4.3 Summary of Environmental Findings

1. Elevation of the Site is generally level and is approximately 28 feet above the National Geodetic Vertical Datum of 1929 (an approximation of mean sea level).
2. Groundwater is expected to flow in a southerly direction towards the Harlem River.
3. Depth to bedrock is approximately 12.5 to 15 feet below grade at the Site.
4. The stratigraphy of the Site, from the surface down, generally consisted of fill comprising sand, silt, and gravel with trace amounts of wood, coal ash,

and brick from existing grade to approximately five feet below grade, underlain by fill comprising sand, silt, and gravel to the terminus of the borings at bedrock.

5. Soil/fill samples collected during the Phase II were compared to NYSDEC Part 375-6 Unrestricted Use (Track 1) and Restricted Residential Use (Track 2) Soil Cleanup Objectives (SCOs). Soil/fill samples showed concentrations of semi-volatile organic compounds (SVOCs) and metals generally associated with historic fill. No volatile organic compounds (VOCs) or polychlorinated biphenyls (PCBs) were detected above laboratory reporting limits in any of the soil samples analyzed. Six SVOCs including benzo(a)anthracene (max. of 15400 µg/Kg), benzo(a)pyrene (max. of 12,600 µg/Kg), benzo(b)fluoroanthene (max. of 16,000 µg/Kg), chrysene (max. of 15,500 µg/Kg), dibenzo(a,h)anthracene (max. of 3500 µg/Kg), and indeno(1,2,3-cd)pyrene (max. of 8570 µg/Kg) were detected in three shallow soil samples at concentrations exceeding their respective Restricted Residential Use Soil Cleanup Objectives (RRSCOs). Benzo(k)fluoroanthene and chrysene were also detected exceeding their respective Unrestricted Use SCOs, but below RRSCOs. The detected SVOCs are generally polycyclic aromatic hydrocarbons (PAHs), a class of compounds found in coal tar, coal ash, and other combustion products (as well as some petroleum products and rubber) and commonly found in historic fill. Metals including barium (max. of 1760 mg/Kg) copper (max. of 50.2 mg/Kg), lead (max. of 668 mg/Kg), mercury (max. of 0.27 mg/Kg), and zinc (max. of 827 mg/Kg) were detected in most of the soil samples at concentrations exceeding respective USCOs. Of these metals, barium and lead also exceeded their RRSCOs. Four pesticides including 4,4'-DDD (max. of 11.2 µg/Kg), 4,4'-DDE (max. of 9.6 µg/Kg), 4,4'-DDT (max. of 135 µg/Kg), and dieldrin (max. of 5.5 µg/Kg) were detected at concentrations exceeding respective USCOs, but below respective RRSCOs in the three shallow soil samples. No other pesticides were detected above their respective SCOs. Overall, soil chemistry is similar to sites with historic fill sites in New York City.

6. Bedrock at this property is shallow and groundwater was not encountered above bedrock at the Site.

7. Soil vapor samples collected during the RI were compared to the compounds listed in the New York State Department of Health (NYSDOH) Final Guidance for Evaluating Soil Vapor Intrusion. A review of the soil vapor analytical results indicates that up to 25 VOCs were detected in soil vapor samples SV-1 and SV-2. Additionally, 26 VOCs were detected in ambient air sample AA-1. Soil vapor samples collected during the Phase II showed low concentrations of VOCs. Overall, highest concentrations were detected for ethanol at 207 ug/m^3. PCE was detected at concentrations of 1.4 µg/m^3, below its respective guideline value of 30 µg/m^3. PCE was also detected in ambient air sample AA-1 at a concentration of 3.1 µg/m^3. TCE was not detected in either the soil vapor samples nor the ambient air sample above laboratory reporting limits. There are no directly applicable guidance values for VOCs in soil vapor; however, the results of the soil vapor samples were

compared to the NYSDOH Air Guideline Values (AGVs) and decision matrices. No VOCs were detected above NYSDOH AGVs.

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

2.0 REMEDIAL ACTION OBJECTIVES

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

Soil

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

3.0 REMEDIAL ALTERNATIVES ANALYSIS

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

- Protection of human health and the environment;
- Compliance with SCGs;
- Short-term effectiveness and impacts;
- Long-term effectiveness and permanence;
- Reduction of toxicity, mobility, or volume of contaminated material;
- Implementability;
- Cost effectiveness;
- Community Acceptance;
- Land use; and
- Sustainability.

The following is a detailed description of the alternatives analysis and remedy selection to address impacted media at the Site. As required, a minimum of two remedial alternatives (including a Track 1 scenario) are evaluated, as follows:

Alternative 1:

- Selection of NYSDEC 6NYCRR Part 375 Unrestricted Use (Track 1) Soil Cleanup Objectives (SCOs).
- Removal of all soil/fill exceeding Track 1 Unrestricted Use SCOs throughout the Site and confirmation that Track 1 Unrestricted Use SCOs have been achieved with post-excavation endpoint sampling. Based on the results of the Remedial Investigation, it is expected that this alternative would require excavation of all material across the entire Site to bedrock (approximately 12.5 to 15 feet below grade), including any petroleum storage tanks, fill ports, and vent lines. If soil/fill containing analytes at concentrations above Unrestricted Use SCOs is still present at the base of the excavation after removal of all soil required for construction of the new building's cellar level, additional excavation will be performed to ensure complete removal of soil above bedrock that does not meet Track 1 Unrestricted Use SCOs.
- No Engineering Controls/Institutional Controls (EC/IC) are allowed for a Track 1 cleanup. However, certain construction measures will be undertaken that would serve as ECs in the event that Track 1 Unrestricted Use SCOs are not achieved, including construction of a vapor barrier beneath the basement foundation and behind foundation sidewalls of the new building and installation of a composite (concrete) cover system across the entire site.

Alternative 2:

- Establishment of Site-Specific Track 4 SCOs (SSSCOs).

- Removal of all soil/fill exceeding Track 4 SSSCOs. Based on the results of the RI, this alternative would be achieved by excavating to a depth of two feet across the entire Site and removing any petroleum storage tanks and associated fill port and vent pipes where encountered. As part of development, soil beneath the proposed building foundation will be excavated to a depth of approximately 12 feet below grade. The northern portion of the Site will be excavated to a depth of two feet below grade for a landscaped courtyard.
- Installation of a vapor barrier beneath the basement foundation and behind foundation sidewalls of the new building to prevent potential exposures from soil vapor.
- Placement of a cover system over the entire Site to prevent exposure to remaining soil/fill.
- Establishment of use restrictions including prohibitions on the use of groundwater from the Site; prohibitions of sensitive Site uses, such as in-ground farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without OER approval.

3.1 THRESHOLD CRITERIA

3.1.1 Protection of Human Health and the Environment

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

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

Alternative 2 would achieve comparable protections of human health and the environment by excavation and removal of most of the historic fill at the Site to approximately 12 feet below grade on most of the Site except for a small area on the northern portion that would only be excavated to two feet below grade. Alternative 2 would ensure that remaining soil/fill on-site meets Track 4 SSSCOs.

For both Alternatives, potential exposure to contaminated soil or groundwater during construction would be minimized by implementing a Construction Health and Safety Plan (CHASP), an approved Soil/Materials Management Plan (SMMP) and a Community Air Monitoring Plan (CAMP). Potential contact with contaminated groundwater would be prevented, as its use is prohibited by City laws and regulations and it is not expected to be encountered above bedrock.

3.2 BALANCING CRITERIA

3.2.1 Compliance with Standards, Criteria and Guidance (SCGs)

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

Alternative 1 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to achieve Track 1 Unrestricted Use SCOs and Protection of Groundwater SCOs.

Alternative 2 would achieve compliance with the remedial goals, chemical-specific SCGs and RAOs for soil through removal of soil to meet Track 4 SSSCOs. Health and safety measures contained in the CHASP and CAMP will be implemented during Site redevelopment under this RAWP. For both alternatives, focused attention on means and methods employed during the remedial action would ensure that handling and management of contaminated material would be in compliance with applicable SCGs. These measures will protect on-site workers and the surrounding community from exposure to Site-related contaminants.

3.2.2 Short-term effectiveness and impacts

This evaluation criterion assesses the effects of the alternative during the construction and implementation phase until remedial action objectives are met. Under this criterion, alternatives are evaluated with r espect to their effects on public health and the environment during implementation of the remedial action, including protection of the community, environmental impacts, time until remedial response objectives are achieved, and protection of workers during remedial actions.

Both Alternatives 1 and 2 have similar short-term effectiveness during their respective implementations, as each requires excavation of historic fill material. Both alternatives would result in short-term dust generation impacts associated with excavation, handling, load out of materials, and truck traffic. Short-term impacts could potentially be higher for Alternative 1 if excavation of greater amounts of historical fill material is encountered below the excavation depth of the proposed building and landscaped areas. However, focused attention to means and methods during the remedial action during a Track 1 removal action, including community air monitoring and appropriate truck routing, would minimize or negate the overall impact of these activities.

An additional short-term adverse impact and risk to the community associated with both remedial alternatives is increased truck traffic. Truck traffic will be routed on the most direct course using major thoroughfares where possible and flag persons will be used to protect pedestrians at Site entrances and exits. Truck traffic would be greater for Alternative 1 than for Alternative 2 due to the greater amount of soil that would be excavated and disposed of off-site.

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

3.2.3 Long-term effectiveness and permanence

This evaluation criterion addresses the results of a remedial action in terms of its permanence and quantity/nature of waste or residual contamination remaining at the Site

after response objectives have been met, such as permanence of the remedial alternative, magnitude of remaining contamination, and adequacy of controls to manage contaminant residuals that may remain at the Site.

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

Alternative 2 would provide long-term effectiveness by removing most on-site contamination and attaining Track 4 SSSCOs, installing a composite cover system across the Site, and maintaining use restrictions.

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

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

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

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

Alternative 2 would remove historic fill to approximately 12 feet below grade on most of the Site, except for a small area on the northern portion that would only be excavated to two feet below grade, and any remaining on-site soil beneath the new building and landscaped areas will meet Track 4 Site-Specific SCOs.

Based on the anticipated excavation depth for Alternative 2, Alternative 1 would remove a greater total mass of contaminants from the Site.

3.2.5 Implementability

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

The techniques, materials and equipment to implement both remedial Alternatives 1 and 2 are readily available and have been proven effective in remediating the contaminants

associated with the Site. They use standard materials and services that are well established technology. The reliability of each remedy is also high. There are no special difficulties associated with any of the activities proposed.

3.2.6 Cost effectiveness

This evaluation criterion addresses the cost of alternatives, including capital costs (such as construction costs, equipment costs, and disposal costs, engineering expenses) and site management costs (costs incurred after remedial construction is complete) necessary to ensure the continued effectiveness of a remedial action.

Since historic fill at the Site was found to extend to a depth of at least five feet below grade during the RI, and the proposed redevelopment requires excavation to approximately 12 feet below grade on most of the Site, except for a small area on the northern portion that would only be excavated to two feet below grade for a landscaped courtyard, the costs associated with Alternative 1 would be higher than Alternative 2. Additional costs would include installation of additional shoring/underpinning, disposal of additional soil, and import of clean soil for backfill. However, long-term operation and maintenance costs for Alternative 2 are likely higher than Alternative 1 based on implementation of a SMP as part of Alternative 2.

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

3.2.7 Community Acceptance

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

Based on the overall goals of the remedial program and initial permitting associated with the proposed site development, no adverse community opinion is anticipated for either alternative. This RAWP will be subject to a public review under the NYC VCP and will provide the opportunity for detailed public input on the remedial alternatives and the selected remedy. This public comment will be considered by OER prior to approval of this plan. The Citizen Participation Plan for the project is provided in Appendix 2. Observations here will be supplemented by public comment received on the RAWP.

3.2.8 Land use

This evaluation criterion addresses the proposed use of the Site. This evaluation has considered reasonably anticipated future uses of the Site and takes into account: current use and historical and/or recent development patterns; applicable zoning laws and maps; NYS Department of State's Brownfield Opportunity Areas (BOA) pursuant to section 970-r of the general municipal law; applicable land use plans; proximity to real property currently used for residential use, and to commercial, industrial, agricultural, and/or recreational areas; environmental justice impacts, Federal or State land use designations;

population growth patterns and projections; accessibility to existing infrastructure; proximity of the Site to important cultural resources and natural resources, potential vulnerability of groundwater to contamination that might emanate from the Site, proximity to flood plains, geography and geology; and current Institutional Controls applicable to the Site.

The current, intended, and reasonably anticipated future land use of the Site and its surroundings are compatible with the selected remedy of soil remediation. The proposed future use of the Site includes the construction of a nine-story supportive housing building with a cellar. The proposed building will occupy the southern portion of the Site with a landscaped courtyard on the northern portion of the Site. Excavation is expected to extend to approximately 12 feet below grade at the location of the proposed building and to approximately two feet below grade at the location of the proposed landscaped courtyard. Layout of the proposed site development is presented on Figure 4.

Following remediation, the Site will meet the Track 4 Site-Specific SCOs, which are appropriate for its planned residential use. The reasonably anticipated future use of the Site and its surroundings will be documented by the applicant in the NYC VCP application, which will include the following conclusions:

The proposed redevelopment of the Site is compatible with its current zoning and is consistent with recent development patterns. The surrounding area is developed primarily with residential, commercial, and industrial properties. The development would replace an underutilized site with a modern residential building. The proposed development would create much needed supportive housing, new employment opportunities, living space, and economic and fiscal benefits to the City and State in the form of economic revitalization and tax revenue.

Temporary short-term project impacts are being mitigated through site management controls and truck traffic controls during remediation activities. Following remediation, the Site will meet Track 4 Site-Specific SCOs, which are appropriate for its planned residential use.

The Site is not in close proximity to important cultural resources, including Federal or State historic or heritage sites or Native American religious sites, natural resources, waterways, wildlife refuges, wetlands, or critical habitats of endangered or threatened species. The Site is located in an urban area with limited proximity to fish or wildlife. Both alternatives would prevent any potential exposure pathways of contaminant migration affecting fish or wildlife. Municipal water supply wells are not present in this part of City; therefore, groundwater from the Site cannot affect municipal water supply wells or recharge areas. The Site does not lie in a Federal Emergency Management Agency (FEMA)-designated flood plain. Both alternatives are equally protective of natural resources and cultural resources.

Improvements in the current environmental condition of the Site achieved by both alternatives are also consistent with the City's goals for cleanup of contaminated land and bringing such properties into productive reuse.

3.2.9 Sustainability of the Remedial Action

This criterion evaluates the overall sustainability of the remedial action alternatives and the degree to which sustainable means are employed to implement the remedial action including those that take into consideration NYC's sustainability goals defined in

PlaNYC: A Greener, Greater New York. Sustainability goals may include: maximizing the recycling and reuse of non-virgin materials; reducing the consumption of virgin and non-renewable resources; minimizing energy consumption and greenhouse gas emissions; improving energy efficiency; and promotion of the use of native vegetation and enhancing biodiversity during landscaping associated with Site development.

While Alternative 2 would potentially result in lower energy usage based on reducing the volume of material transported off-site, both remedial alternatives are comparable with respect to the opportunity to achieve sustainable remedial action. The remedial plan would take into consideration the shortest trucking routes during off-site disposal of historic fill and other soils, which would reduce greenhouse gas emissions and conserve energy used to fuel trucks. The New York City Clean Soil Bank program may be utilized for reuse of native soil. To the extent practicable, energy efficient building materials, appliances, and equipment will be utilized to complete the development. A complete list of green remedial activities considered as part of the NYC VCP is included in the Sustainability Statement, included as Appendix 3.

SELECTION OF THE PREFERRED REMEDY

The preferred remedy for the site is Alternative 2, a Track 4 Site Specific Use SCOs. Since new development requires excavation only in areas of new building with cellar, a Track 1 Alternative is not feasible without additional excavations.

The Alternative 2 remedy will remove all soil/fill exceeding Track 4 SSSCOs throughout the Site, which will be confirmed with post-excavation sampling. If soil/fill containing analytes at concentrations above Track 4 SSSCOs is still present at the base or walls of the excavation after removal of all soil required for construction of the new building's cellar level and slab are complete, additional excavation would be performed to ensure complete removal of soil/ fill that does not meet Track 2 Unrestricted Use SCOs.

Engineering Controls are required for a Track 4 cleanup. A concrete slab covering the entire site and vapor barrier membrane would be installed as part of standard building development and are considered part of the remedy. Additional soil vapor management is not required.

Use restrictions will be imposed on the site (including prohibitions on any use higher than Restricted Residential, e.g. the use of groundwater from the Site; prohibitions of restricted Site uses, such as farming or vegetable gardening, to prevent future exposure pathways; and prohibition of a higher level of land use without OER approval).

3.3 SUMMARY OF PREFERRED REMEDIAL ACTION

The preferred remedial action alternative is Alternative 2, the Track 4 remedial action. The preferred remedial action alternative achieves protection of public health and the environment for the intended use of the Site. The preferred remedial action alternative will achieve all of the remedial action objectives established for the project and addresses applicable SCGs. The preferred remedial action alternative is effective in both the short-term and long-term and reduces mobility, toxicity and volume of contaminants. The preferred remedial action alternative is cost effective and implementable and uses standards methods that are well established in the industry.

The proposed remedial action will consist of:

1. Preparation of a Community Protection Statement and performance of all required NYC VCP Citizen Participation activities according to an approved Citizen Participation Plan.
2. Performance of a Community Air Monitoring Program for particulates and volatile organic compounds.
3. Establishment of Track 4 SSSCOs.
4. Site mobilization involving Site security setup, equipment mobilization, utility mark outs and marking & staking excavation areas.
5. Completion of a Waste Characterization Study prior to excavation activities. Waste characterization soil samples will be collected at a frequency dictated by disposal facility(s).
6. Excavation and removal of soil/fill exceeding Track 4 SSSCOs. Excavation is expected to extend to approximately 12 feet below grade at the location of the proposed building and the approximately 2 feet below grade in the northern portion of the Site for a landscaped courtyard.
7. Screening of excavated soil/fill during intrusive work for indications of contamination by visual means, odor, and monitoring with a PID. Appropriate segregation of excavated media on-site.
8. Management of excavated materials including temporarily stockpiling and segregating in accordance with defined material types and to prevent co-mingling of contaminated material and non-contaminated materials.
9. Removal of any USTs that are encountered during soil/fill removal actions.
10. Registration of tanks and reporting of any petroleum spills and appropriate closure of these petroleum spills in compliance with applicable local, State, and Federal laws and regulations.
11. Transportation and off-site disposal of all soil/fill material at permitted facilities in accordance with applicable laws and regulations for handling, transport, and disposal, and this plan. Sampling and analysis of excavated media as required by disposal facilities. Appropriate segregation of excavated media on-site.
12. Demarcation of residual soil/fill in landscaped areas.
13. Import of materials to be used for backfill and cover in compliance with this plan and in accordance with applicable laws and regulations.

14. Performance of all activities required for the remedial action, including permitting requirements and pretreatment requirements, in compliance with applicable laws and regulations.
15. Dewatering is not expected to be necessary during redevelopment at the Site. If dewatering becomes necessary, it will be conducted in compliance with City State, and Federal laws and regulations. Extracted groundwater will either be containerized for off-site licensed or permitted disposal or will be treated under a permit from New York City Department of Environmental Protection (NYCDEP) to meet pretreatment requirements prior to discharge to the sewer system.
16. Implementation of stormwater pollution prevention measures in compliance with applicable laws and regulations.
17. Submission of a Remedial Action Report (RAR) that describes the remedial activities, certifies that the remedial requirements have been achieved, defines the Site boundaries, and lists any changes from this RAWP.
18. Construction of an engineered composite cover system comprised of a reinforced concrete slab in the building area and two feet of clean soil in the proposed landscaped area on the northern portion of the Site. The clean soil/fill layer will be underlain by a demarcation layer such as orange snow fence to indicate the top of the original soil/fill.
19. ECs/ICs if needed will be established with a requirement that management of these controls must be in compliance with an approved Soil Management Plan (SMP). ICs will include prohibition of the following: (1) vegetable gardening and farming in residual site soil; (2) use of groundwater without treatment rendering it safe for the intended use; (3) disturbance of residual contaminated material unless it is conducted in accordance with the SMP; and (4) higher level of land usage without OER approval.

3.4 SOIL CLEANUP OBJECTIVES AND SOIL/FILL MANAGEMENT

Track 4 SSSCOs are proposed for this project. The SCOs for this Site will be NYSDEC Part 375 Section 6.8 Restricted Residential Use SCOs as modified by following Site Specific Use SCOs:

Contaminant	Site-Specific SCOs
Total SVOCs	250 ppm
Lead	1,000 ppm
Barium	800 ppm
Mercury	1.5 ppm

ppm= parts per million

Soil and materials management on-site and off-site, including excavation, handling and disposal, will be conducted in accordance with the Soil/Materials Management Plan in Appendix D. The location of planned excavations is shown on Figure 4.

Discrete contaminant sources (such as hotspots, if any) identified during the remedial action will be identified by GPS or surveyed. This information will be provided in the Remedial Action Report.

4.2.1 Soil/Fill Removal Quantities

Excavation is expected to extend to approximately 12 feet below grade at the location of the proposed building and to approximately two feet below grade in the northern portion of the Site for a landscaped courtyard. The total quantity of soil/fill expected to be excavated and disposed off-site is approximately 2,800 cubic yards.

The proposed disposal locations for Site-derived contaminated materials will be determined after the requisite waste characterization sampling is conducted. Disposal facilities will be reported to OER when they are identified and prior to the start of remedial action.

4.2.2 End-point Sampling

The samples collected during the RI will serve as the end-point samples for the remediation. The soil samples collected during the RI and the waste classification samples were and will be analyzed for the following:

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

Additional analysis during the waste classification sampling may be conducted as well. New York State ELAP certified labs will be used for all sample analyses. All laboratory analytical data will be tabulated in the RAR and will include all data including non-detects and applicable standards and/or guidance values.

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

4.2.4 Quality Assurance/Quality Control

The following QA/QC will be conducted during sampling events:

- Sample collection apparatus
- Sampling methods
- Decontamination methods
- Sample containers
- Holding time
- Preservatives including temperature

- Lab blanks
- Detection levels
- Standards for comparative analysis

4.2.5 Import and Reuse of Soils

Import of soil onto the Site and reuse of soil already on-site will be performed in conformance with the Soil/Materials Management Plan in Appendix D. Imported soil will meet the lower of:

- Track 2 Restricted Residential SCOs (RRSCOs); and
- Groundwater Protection Standards in Part 375-6.8.

The estimated quantity of soil to be imported into the Site area of the proposed landscaped area is 200 cubic yards.

3.5 QUALITATIVE HUMAN HEALTH EXPOSURE ASSESSMENT

The objective of the qualitative exposure assessment is to identify potential receptors and pathways for human exposure to the contaminants of concern (COC) that are present at, or migrating from, the Site. The identification of exposure pathways describes the route that the COC takes to travel from the source to the receptor. An identified pathway indicates that the potential for exposure exists; it does not imply that exposures actually occur.

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

4.3.1 Known and Potential Contaminant Sources

Based on the results of the RIR, the contaminants of concern are:

- Soil: SVOCs and metals detected exceeding RRSCOs.

4.3.2 Nature, Extent, Fate and Transport of Contaminants

- Soil: SVOCs and metals were identified across the Site in shallow samples above UUSCOs and RRSCOs. The metal exceedances are likely attributable to historic fill material, which was observed in each of the soil borings advanced during the Remedial Investigation.

4.3.3 Receptor Populations

On-Site Receptors: The Site is currently a vacant lot used by the east-adjacent construction site for equipment storage. Access to the Site is restricted by a locked, perimeter fence. On-site receptors are limited to trespassers, construction workers from the east-adjacent construction site, Site representatives, and visitors granted access to the

Site. During construction, potential on-site receptors include construction workers, Site representatives, and visitors. Under proposed future conditions, potential on-site receptors include adult and child building residents, workers, and visitors.

Off-Site Receptors: Potential off-site receptors within a 400 foot radius of the Site include: adult and child residents; commercial and construction workers; pedestrians; trespassers; and passerby based on the following:

1. Commercial Businesses (up to 400 foot) – existing and future
2. Residential Buildings (up to 400 foot) – existing and future
3. Building Construction/ Renovation (up to 400 foot) – existing and future
4. Pedestrians, Trespassers, Cyclists (up to 400 foot) – existing and future
5. Schools (up to 400 foot) – existing and future

4.3.4 Potential Routes of Exposure

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

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

4.3.5 Potential Exposure Points

Current Conditions: The Site is currently a vacant lot used by the east-adjacent construction site for equipment storage. Although the Site is fenced and locked, there is a potential exposure pathway from surface soil/fill to trespassers and construction workers from the east-adjacent construction site.

Construction/ Remediation Activities: During the remedial action, onsite workers will come into direct contact with surface and subsurface soils as a result of on-site construction and excavation activities. On-Site construction workers potentially could ingest, inhale or have dermal contact with any exposed impacted soil, and fill. Similarly, off-site receptors could be exposed to dust and vapors from on-site activities. During construction, on-site and off-site exposures to contaminated dust from on-site will be addressed through the Soil/Materials Management Plan, dust controls, and through the implementation of the Community Air-Monitoring Program and a Construction Health and Safety Plan.

Proposed Future Conditions: Under future remediated conditions, all soil in excess of Track 4 SSSCOs will be removed. The Site will be fully capped, limiting potential direct exposure to soil in place. There are no plausible off-site pathways for oral, inhalation, or dermal exposure to contaminants derived from the Site.

4.3.6 Overall Human Health Exposure Assessment

There are potential complete exposure pathways for the current Site condition. There are potential complete exposure pathways that require mitigation during implementation of

the remedy. There are no complete exposure pathways under future conditions after the Site is remediated and developed. This assessment takes into consideration the reasonably anticipated use of the Site, which includes a residential structure. Under current conditions, on-site exposure pathways exist for those with access to the Site and trespassers. During remedial construction, on-site and off-site exposures to contaminated dust from historic fill material will be addressed through dust controls, and through the implementation of the CAMP, the SMMP, and the CHASP. There are no surface waters in close proximity to the Site that could be affected or threatened.

Environmental Media & Exposure Route	Human Exposure Assessment
Direct contact with surface soils (and incidental ingestion)	• People are not coming into contact with surface soil because public access to the Site is restricted by fencing. • Those with access to the Site and trespassers could come into contact with surface soil.
Direct contact with subsurface soils (and incidental ingestion)	• People can come into contact if they complete ground-intrusive work on the site.
Inhalation of soil	• People can come into contact if they complete ground-intrusive work at the Site. Roving air monitoring is performed during earthwork activities to prevent the air quality from being affected by the contamination.

4.0 REMEDIAL ACTION MANAGEMENT

4.1 PROJECT ORGANIZATION AND OVERSIGHT

Principal personnel who will participate in the remedial action are Michelle Lapin, P.E. and Deborah Shapiro, QEP. The Professional Engineer (P.E.) for this project is Michelle Lapin, P.E. and the Qualified Environmental Professionals (QEP) for this project is Deborah Shapiro, QEP.

4.2 SITE SECURITY

The Site will be completely closed from public access by using secured construction fencing. No unauthorized personnel will be able to access the Site. During off hours, the active portions of the Site will be completely enclosed within a locked gate. It is not anticipated that traffic will be disrupted beyond normal contractor vehicle traffic going to and from the Site during construction. Any sidewalk closures that are required during the course of construction/remediation activities will be conducted in accordance with DOT permits.

4.3 WORK HOURS

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

4.4 CONSTRUCTION HEALTH AND SAFETY PLAN

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

All field personnel involved in remedial activities will participate in training required under 29 CFR 1910.120, including 40-hour hazardous waste operator training and annual 8-hour refresher training. Site Safety Officer will be responsible for maintaining workers training records.

Personnel entering any exclusion zone will be trained in the provisions of the HASP and be required to sign an HASP acknowledgment. Site-specific training will be provided to field personnel. Additional safety training may be added depending on the tasks performed. Emergency telephone numbers will be posted at the Site location before any remedial work begins. A safety meeting will be conducted before each shift begins. Topics to be discussed include task hazards and protective measures (physical, chemical, environmental); emergency procedures; PPE levels and other relevant safety topics. Meetings will be documented in a log book or specific form.

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

4.5 COMMUNITY AIR MONITORING PLAN

Real-time air monitoring for VOCs and particulate levels at the perimeter of the exclusion zone or work area will be performed. Continuous monitoring will be performed during major ground intrusive activities and during the handling of contaminated or potentially contaminated media. Major ground intrusive activities include, but are not limited to, soil/waste excavation and handling, test pit excavation or trenching, and the installation of soil borings or monitoring wells. Following the removal of most of the historic fill (approximately five feet below grade), a petition will be sent to OER to only conduct continuous air monitoring if further contamination is encountered.

Periodic monitoring for VOCs will be performed during non-intrusive activities such as the collection of soil samples. Periodic monitoring during sample collection, for instance, will consist of taking a reading upon arrival at a sample location and taking a reading prior to leaving a sample location. Depending upon the proximity of potentially exposed individuals, continuous monitoring may be performed during sampling activities. Examples of such situations include groundwater sampling at wells on the curb of a busy urban street, in the midst of a public park, or adjacent to a school or residence. Exceedances of action levels observed during performance of the Community Air Monitoring Plan (CAMP) will be reported to the OER Project Manager and included in the Daily Report.

5.5.1 VOC Monitoring, Response Levels, and Actions

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

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

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

5.5.2 Particulate Monitoring, Response Levels, and Actions

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

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

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

4.6 AGENCY APPROVALS

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

4.7 SITE PREPARATION

5.7.1 Pre-Construction Meeting

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

5.7.2 Mobilization

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

5.7.3 Utility Marker Layouts, Easement Layouts

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

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

5.7.4 Dewatering

Dewatering is not anticipated during remediation and construction.

5.7.5 Equipment and Material Staging

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

5.7.6 Stabilized Construction Entrance

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

5.7.7 Truck Inspection Station

An outbound-truck inspection station will be set up close to the Site exit. Before exiting the NYC VCP Site, trucks will be required to stop at the truck inspection station and will be examined for evidence of contaminated soil on the undercarriage, body, and wheels. Soil and debris will be removed. Brooms, shovels and potable water will be utilized for the removal of soil from vehicles and equipment, as necessary.

5.7.8 Extreme Storm Preparedness and Response Contingency Plan

Damage from flooding or storm surge can include dislocation of soil and stockpiled materials, dislocation of site structures and construction materials and equipment, and dislocation of support of excavation structures. Damage from wind during an extreme storm event can create unsafe or unstable structures, damage safety structures and cause downed power lines creating dangerous site conditions and loss of power. In the event of

emergency conditions caused by an extreme storm event, the enrollee will undertake the following steps for site preparedness prior to the event and response after the event.

5.7.9 Storm Preparedness

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

5.7.10 Storm Response

At the conclusion of an extreme storm event, as soon as it is safe to access the property, a complete inspection of the Site will be performed. A site inspection report will be submitted to OER at the completion of site inspection and after the site security is assessed. Site conditions will be compared to the inventory of site conditions and material performed prior to the storm event and significant differences will be noted. Damage from storm conditions that result in acute public safety threats, such as downed power lines or imminent collapse of buildings, structures or equipment will be reported to public safety authorities via appropriate means such as calling 911. Petroleum spills will be reported to NYS DEC within 2 hours of identification and consistent with State regulations. Emergency and spill conditions will also be reported to OER. Public safety structures, such as construction security fences will be repaired promptly to eliminate public safety threats. Debris will be collected and removed. Dewatering will be performed in compliance with existing laws and regulations and consistent with emergency notifications, if any, from proper authorities. Eroded areas of soil including unsafe slopes will be stabilized and fortified. Dislocated materials will be collected and appropriately managed. Support of excavation structure will be inspected and fortified as necessary. Contaminated stockpiles will be contained and damaged stockpile covers will be replaced. Stormwater control systems and structures will be inspected and maintained as necessary. If soil or fill materials are discharged off site to adjacent properties, property owners and OER will be notified and corrective measure plan designed to remove and clean dislocated material will be submitted to OER and implemented following approval by OER and granting of Site access by the property owner. Contaminated off-site areas may require characterization based on Site conditions, at the discretion of OER. If on-site petroleum spills are identified, a qualified environmental professional will determine the nature and extent of the spill and report to NYS DEC's spill hotline at DEC 800-457-7362. If the source of the spill is ongoing and can be identified, it should be stopped it this can be done safely. Potential hazards will be addressed immediately, consistent with guidance issued by NYS DEC.

5.7.11 Storm Response Reporting

A site inspection report will be submitted to OER at the completion of site inspection. A n inspection report established by OER is available on OER's website (www.nyc.gov/oer) and will be used for this purpose. Site conditions will be compared to the inventory of Site conditions and material performed prior to the storm event and significant differences will be noted. The Site inspection report will be sent to the OER project manager and will include the site name, address, tax block and lot, site primary and alternate contact name and phone number. Damage and soil release assessment will include: whether the project had stockpiles; whether stockpiles were damaged; photographs of damage and notice of plan for repair; report of whether soil from the Site was dislocated and whether any of the soil left the Site; estimates of the volume of soil that left the Site, nature of impact, and photographs; description of erosion damage; description of equipment damage; description of damage to the remedial program or the construction program, such as damage to the support of excavation; presence of on-site or off-site exposure pathways caused by the storm; presence of petroleum or other spills and status of spill reporting to NYSDEC; description of corrective actions; schedule for corrective actions. This report should be completed and submitted to OER project manager with photographs within 24 hours of the time of safe entry to the property after the storm event.

4.8 TRAFFIC CONTROL

Drivers of trucks leaving the NYC VCP Site with soil/fill will be instructed to proceed without stopping in the vicinity of the Site to prevent neighborhood impacts. The planned route on local roads for trucks leaving the site is shown on Figure 6.

4.9 DEMOBILIZATION

Demobilization will include:

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

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

4.10 REPORTING AND RECORD KEEPING

5.10.1 Daily Reports

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

- Project number and statement of the activities and an update of progress made and locations of work performed;
- Quantities of material imported and exported from the Site;
- Status of on-site soil/fill stockpiles;
- A summary of all citizen complaints, with relevant details (basis of complaint; actions taken; etc.);
- A summary of CAMP excursions, if any; and
- 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.

5.10.2 Record Keeping and Photo Documentation

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

4.11 COMPLAINT MANAGEMENT

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

4.12 DEVIATIONS FROM THE REMEDIAL ACTION WORK PLAN

All changes to the RAWP will be reported to the OER Project Manager and will be documented in daily reports and reported in the Remedial Action Report. The process to be followed if there are any deviations from the RAWP will include a request for approval for the change from OER noting the following:

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

5.0 REMEDIAL ACTION REPORT

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

- Information required by this RAWP;
- As-built drawings for all constructed remedial elements, required certifications, manifests and other written and photographic documentation of remedial work performed under this remedy;
- Description of any changes in the remedial action from the elements provided in this RAWP and associated design documents;
- Tabulated summary of all sampling results and all material characterization results, QA/QC results for other sampling and chemical analysis performed as part of the remedial action;
- Test results or other evidence demonstrating that remedial systems are functioning properly;
- Account of the source area locations and characteristics of all contaminated material removed from the Site including a map showing source areas;
- Account of the disposal destination of all contaminated material removed from the Site. Documentation associated with disposal of all material will include transportation and disposal records, and letters approving receipt of the material;
- Account of the origin and required chemical quality testing for material imported onto the Site; and
- Reports and supporting material will be submitted in digital form and final PDFs will include bookmarks for each appendix.

REMEDIAL ACTION REPORT CERTIFICATION

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

I, Michelle Lapin, am currently a professional engineer licensed by the State of New York. I had primary direct responsibility for implementation of the remedial program for the Melrose Commons Site C – Supportive Housing Site (NYC OER Project Number and NYC VCP Project Number 17CVCP003X).

I, Deborah Shapiro, am a qualified Environmental Professional. I had primary direct responsibility for implementation remedial program for the Melrose Commons Site C – Supportive Housing Site (NYC OER Project Number and NYC VCP Project Number 17CVCP003X).

I certify that the OER-approved Remedial Action Work Plan dated July 14, 2016 was implemented and that all requirements in those documents have been substantively complied with. I certify that contaminated soil, fill, liquids or other material from the property were taken to facilities licensed to accept this material in full compliance with applicable laws and regulations.

Michelle Lapin
Name

073934
NYS PE License Number

Signature

7-14-16
Date

Deborah Shapiro
QEP Name

QEP Signature

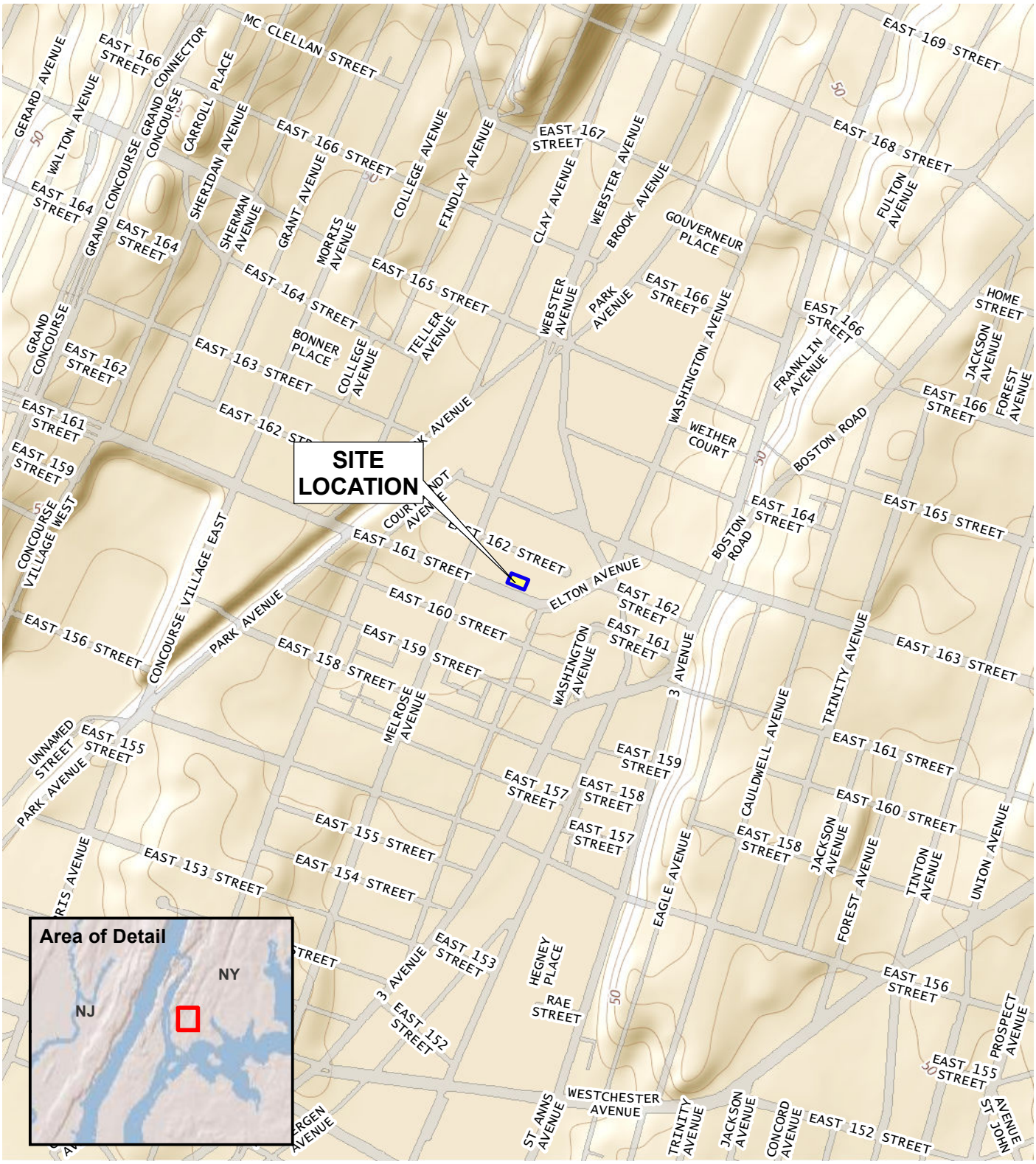
7-14-16
Date

7.0 SCHEDULE

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

Schedule Milestone	Weeks from Remedial Action Start	Duration (weeks)
OER Approval of RAWP	0	1
Fact Sheet 2 announcing start of remedy	0	1
Mobilization	3	1
Remedial Excavation	4	12
Demobilization	16	1
Submit Remedial Action Report	40	22

FIGURES



Source: USGS Topo base map service from The National Map

0 400 800 1,600

SCALE IN FEET

Melrose Commons Site C - Supportive Housing
Block 2383, Lot 39
Bronx, New York

SITE LOCATION

AKRF
Environmental Consultants
440 Park Avenue South, New York, NY 10016

DATE
5/5/2016

PROJECT NO.
11925

FIGURE
1

© 2016 AKRF, Inc. Environmental Consultants M:\AKRF Project Files\11925-Site C Supportive\GIS\11925 Fig 1 Site Location RIR.mxd

SOURCE:
http://gis.nyc.gov/taxmap - Department of Finance, Current Tax Map.

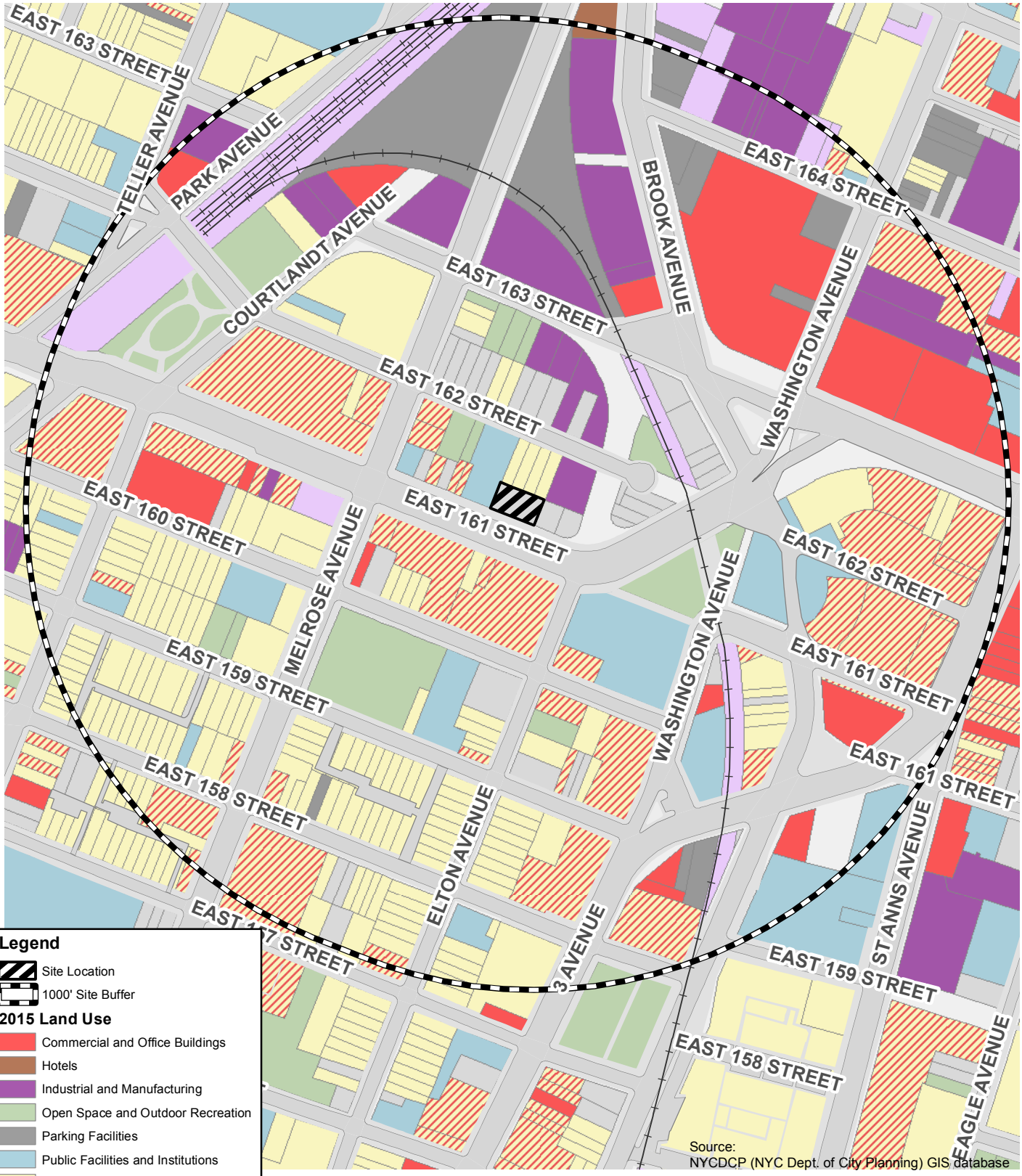
LEGEND:

	PROJECT SITE BOUNDARY
39	LOT NUMBER
	SUBSURFACE ANOMALY
SB-1	SOIL BORING (AKRF, 2014)
SV-1	SOIL VAPOR SAMPLE (AKRF, 2014)
AA-1	AMBIENT AIR SAMPLE (AKRF, 2014)

0 15 30 60
SCALE IN FEET

Melrose Commons Site C - Supportive Housing **Block 2383, Lot 39** Bronx, New York	AKRF	DATE **5/16/2016**
		PROJECT NO. **11925**
SITE PLAN AND SAMPLE LOCATIONS	Environmental Consultants 440 Park Avenue South, New York, N.Y. 10016	FIGURE **2**

©2016 AKRF, Inc. I:\AKRF Project Files\11925-Site C Supportive\CAD\11925 Figs 2 and 5 Site Plan & Sample Locs RIR.dwg last save: mveilleux 5/16/2016 3:58 PM



Legend

- Site Location
- 1000' Site Buffer

2015 Land Use

- Commercial and Office Buildings
- Hotels
- Industrial and Manufacturing
- Open Space and Outdoor Recreation
- Parking Facilities
- Public Facilities and Institutions
- Residential
- Residential with Commercial Below
- Transportation and Utility
- Vacant Land

0 150 300 600

SCALE IN FEET

Melrose Commons Site C - Supportive Housing
Block 2383, Lot 39
Bronx, New York

AKRF
Environmental Consultants
440 Park Avenue South, New York, NY 10016

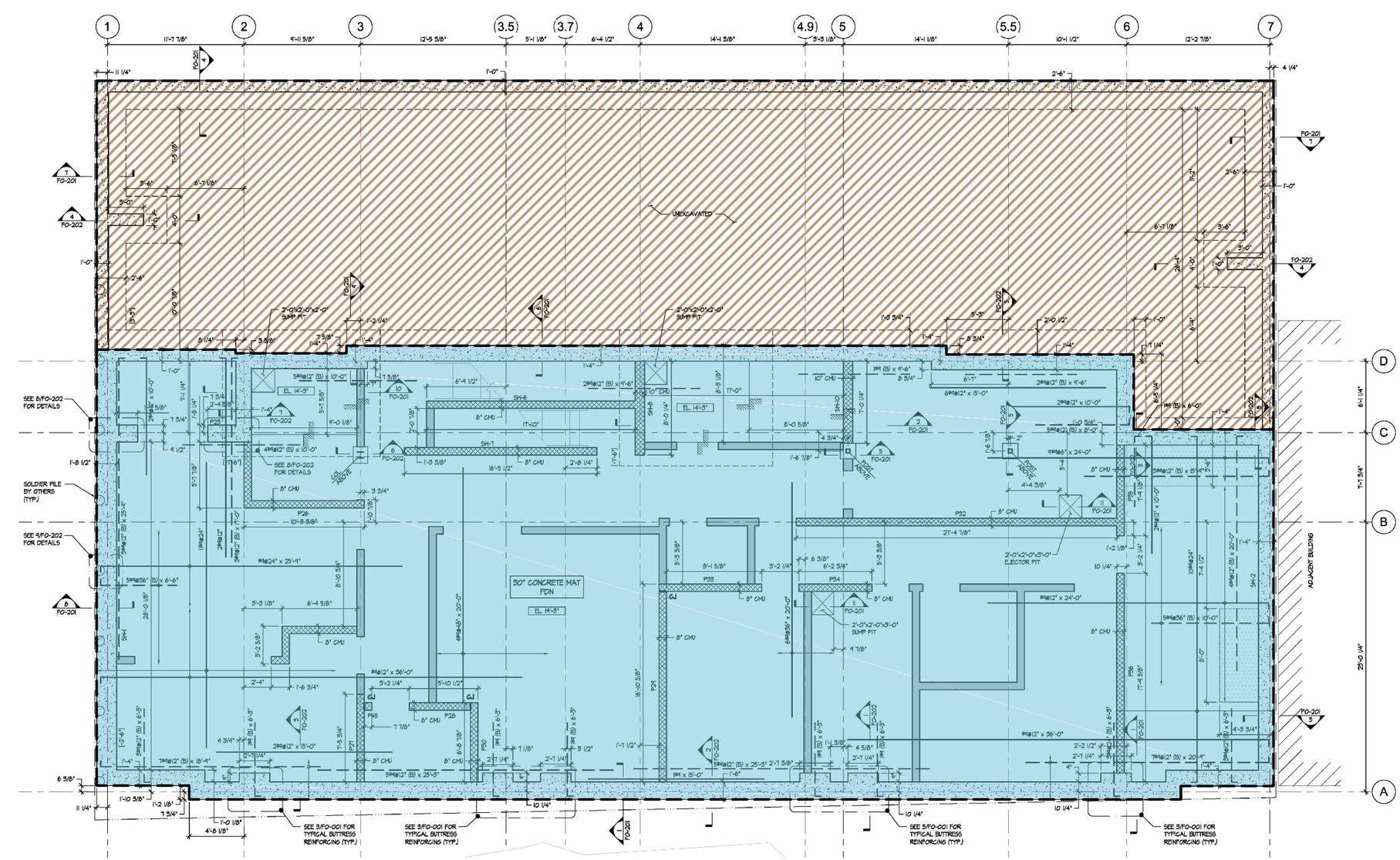
DATE
5/5/2016

PROJECT NO.
11925

FIGURE
3

SURROUNDING LAND USE

© 2016 AKRF, Inc. Environmental Consultants M:\AKRF Project Files\11925-Site C Supportive\GIS\11925 Fig 3 Land Use RIR.mxd



LEGEND:

PROPOSED 2-FOOT EXCAVATION AREA

PROPOSED 12-FOOT EXCAVATION AREA

0 5 10 20

SCALE IN FEET

SOURCE:

The Bridge Mental Health and Housing Solutions, "Foundation and Cellar Plan", DWG no. FO-101.00, Issue Date 12.14.15.

AKRF

Environmental Consultants

440 Park Avenue South, New York, N.Y. 10016

Melrose Commons Site C - Supportive Housing

Block 2383, Lot 39

Bronx, New York

PROPOSED EXCAVATION PLAN

DATE

5/23/2016

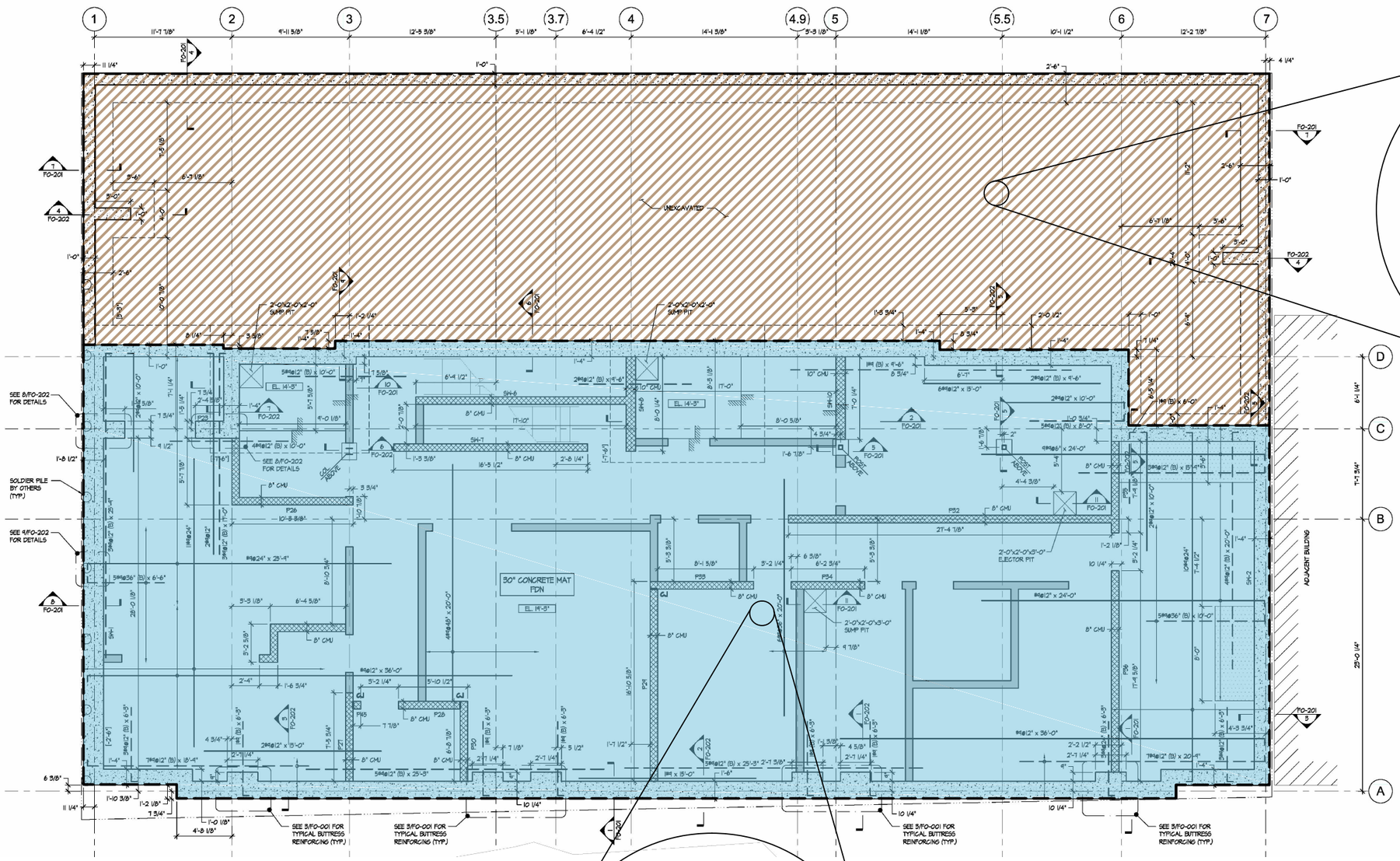
PROJECT NO.

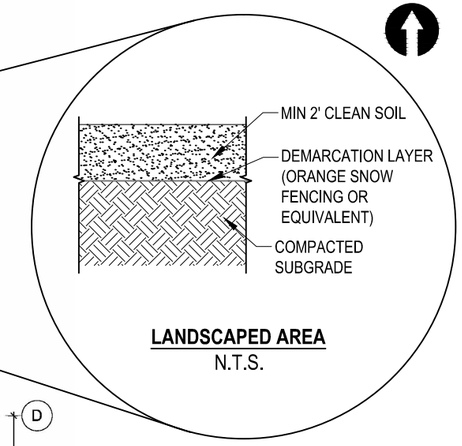
11925

FIGURE

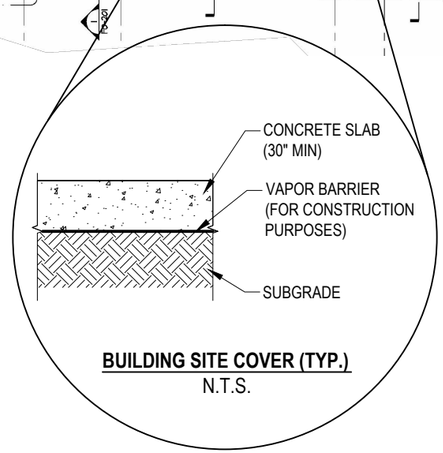
4

©2016 AKRF, Inc. M:\AKRF Project Files\11925-Site C Supportive\CAD\11925 Fig 4 Proposed Excavation Plan RIR.dwg last save: mveilleux 5/23/2016 8:42 AM





LANDSCAPED AREA
N.T.S.



BUILDING SITE COVER (TYP.)
N.T.S.

LEGEND

- PROPOSED LANDSCAPED AREA WITH 2 FOOT CLEAN FILL COVER
- PROPOSED SITE BUILDING WITH BASEMENT

0 5 10 20
SCALE IN FEET

SOURCE:
The Bridge Mental Health and Housing Solutions, "Foundation and Cellar Plan", DWG no. FO-101.00, Issue Date 12.14.15.

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Melrose Commons Site C - Supportive Housing
Block 2383, Lot 39
Bronx, New York

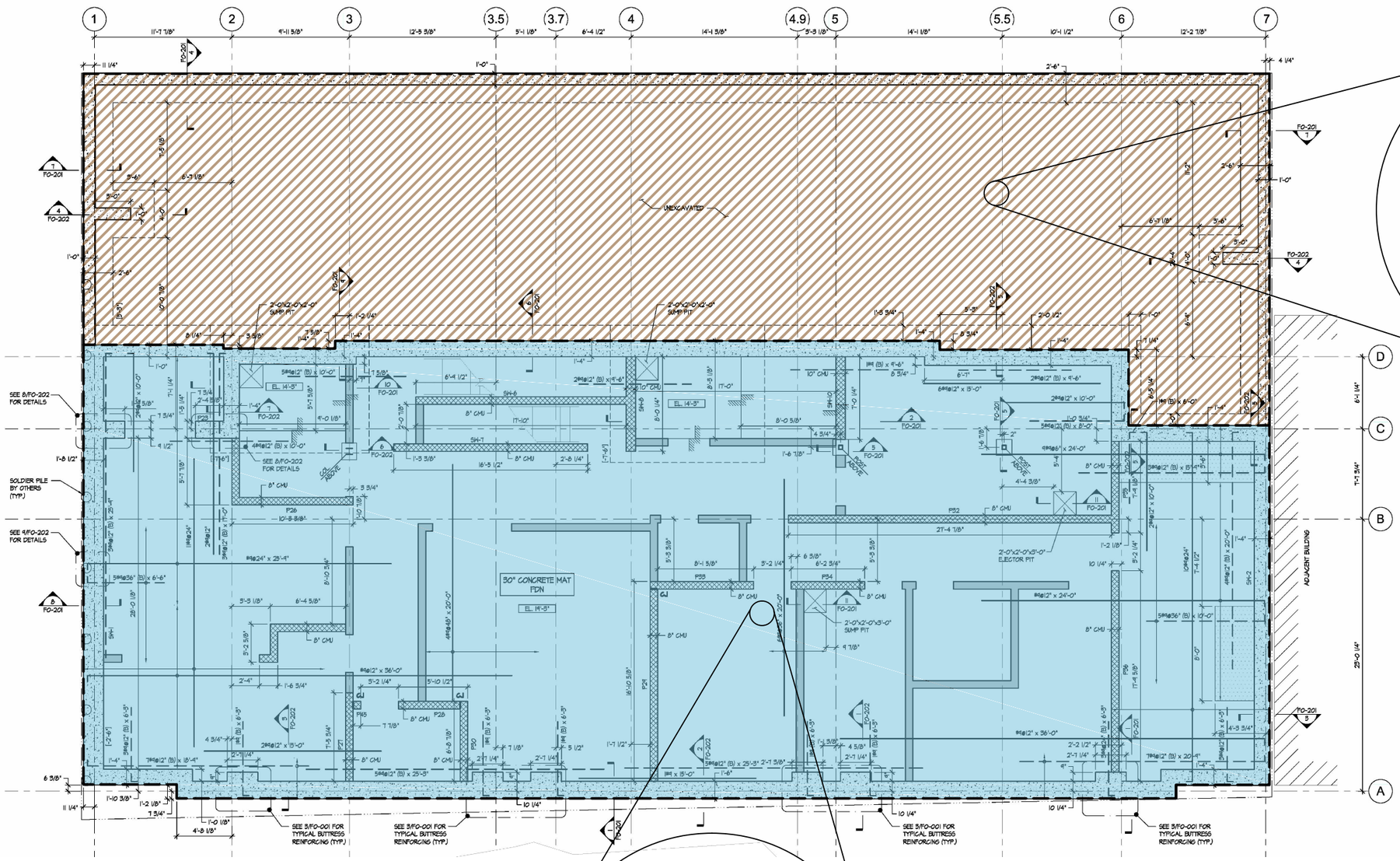
SITE COVER SYSTEM PLAN

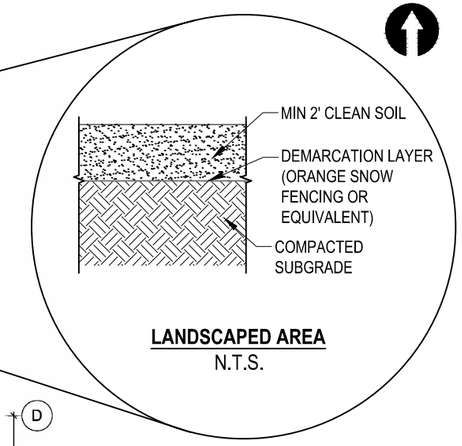
DATE
6/17/2016

PROJECT NO.
11925

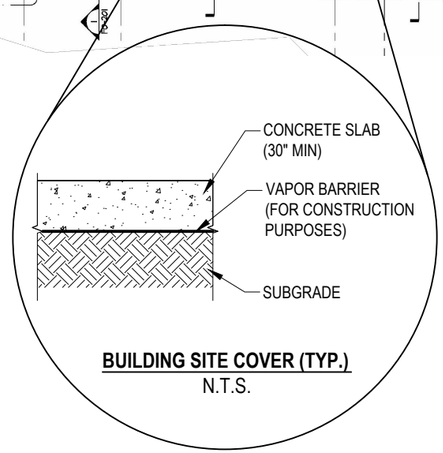
FIGURE
5

©2016 AKRF, Inc. M:\AKRF Project Files\11925-Site C Supportive\CAD\11925 Fig 5 Site Cover System Plan RAWP.dwg last save: mveilleux 6/17/2016 11:00 AM





LANDSCAPED AREA
N.T.S.



BUILDING SITE COVER (TYP.)
N.T.S.

LEGEND

- PROPOSED LANDSCAPED AREA WITH 2 FOOT CLEAN FILL COVER
- PROPOSED SITE BUILDING WITH BASEMENT

0 5 10 20
SCALE IN FEET

SOURCE:
The Bridge Mental Health and Housing Solutions, "Foundation and Cellar Plan", DWG no. FO-101.00, Issue Date 12.14.15.

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Melrose Commons Site C - Supportive Housing
Block 2383, Lot 39
Bronx, New York

SITE COVER SYSTEM PLAN

DATE
6/17/2016

PROJECT NO.
11925

FIGURE
5

©2016 AKRF, Inc. M:\AKRF Project Files\11925-Site C Supportive\CAD\11925 Fig 5 Site Cover System Plan RAWP.dwg last save: mveilleux 6/17/2016 11:00 AM

Legend

- Project Site Location
- Entrance Truck Route from I-87
- Exit Truck Route to I-87

0 500 1,000 Feet

Melrose Commons Site C-Supportive Housing Block 2383, Lot 39
Bronx, New York

TRUCK TRANSPORT ROUTE

AKRF
Environmental Consultants
440 Park Avenue South, New York, N.Y. 10016

DATE
6/15/2016

PROJECT No.
11925

FIGURE
6

©2016 AKRF, Inc. Environmental Consultants O:\Projects\11925 - MELROSE SITE C- SUPPORTIVE HOUSING\11925 Fig 6 Truck Route Map.mxd

APPENDIX A

PROPOSED DEVELOPMENT PLANS

MELROSE COMMONS NORTH - SITE C: SUPPORTIVE HOUSING

59 UNIT SUPPORTIVE HOUSING, THE BRONX, NY. BLOCK 2383, LOT 39

12/14/15 ISSUE FOR BID

Melrose Commons Site C - Supportive Housing

Bronx, NY

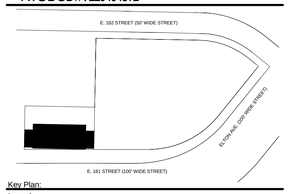
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
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Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Cover Sheet

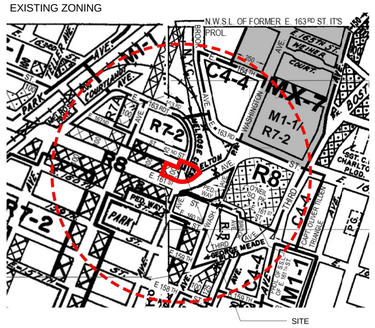
SEAL & SIGNATURE:

PROJECT No: 13007
DRAWING BY: Author
CHK BY: Checker
DWG No: C-001.00
SCALE:

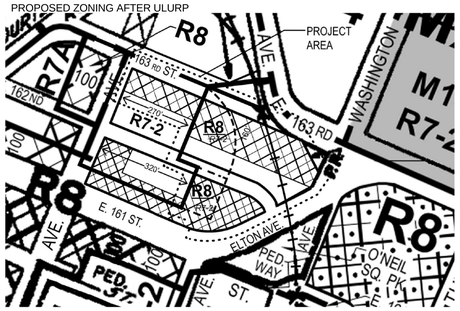
ZONING MAP & SITE INFO

Address: 425 E. 161st St.
Block: 2383
Lot: 19, 39
Lot Area: 36,558 sf
Zoning Map: 6a, 6c
Zoning District: R8 w/ C1-4
Proposed Use: Use Group 3A

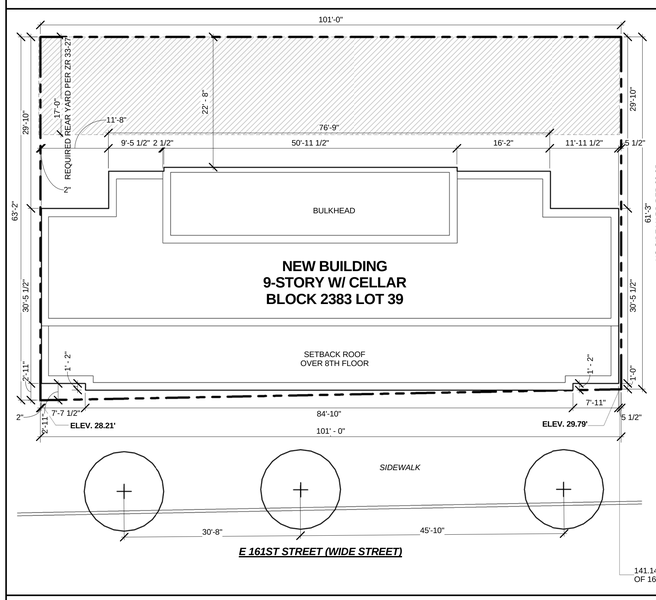
EXISTING ZONING



PROPOSED ZONING AFTER ULURP



PLOT PLAN DIAGRAM



LEGEND

- NEW STREET TREE
- EXISTING STREET TREE
- REAR YARD PER ZR 33-26

ZR 26-41 Street Tree Planting
One street tree, pre-existing or newly planted, shall be provided for every 25 ft of street frontage.

Total Street Frontage = 100.67 ft.
Number of Street Trees required = 100.67ft / 25 ft = 4.00 trees

Number of Street Trees provided = 4
3 Existing, 1 Planted off-site

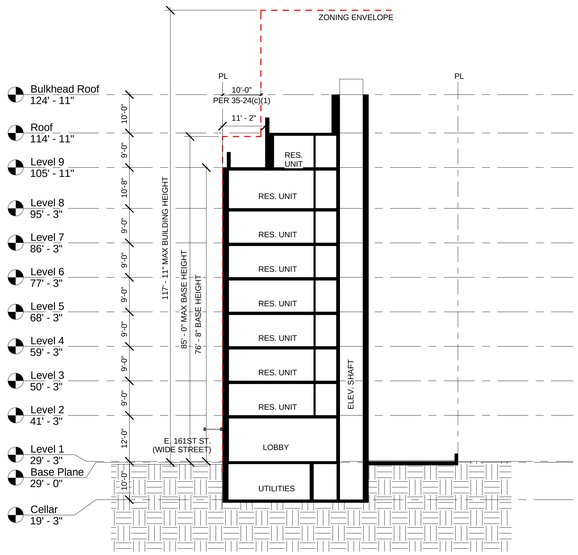
ZR 33-26 Minimum Required Rear Yards
C1 C2 C3 C4 C5 C6 C7 C8
In all districts, as indicated, a #rear yard# with a depth of not less than 20 feet shall be provided at every #rear lot line# on any #zoning lot# except as otherwise procided in Sections 33-27 (Special Provisions for Shallow Interior Lots)

ZR 33-27 Special Provisions for Shallow Interior Lots

70' - 63'-2" = 6'-10" / 2 = **3'-5"**

20' - 3' = 17'-0" Min Required Rear Yard

HEIGHT & SETBACK SECTION DIAGRAMS



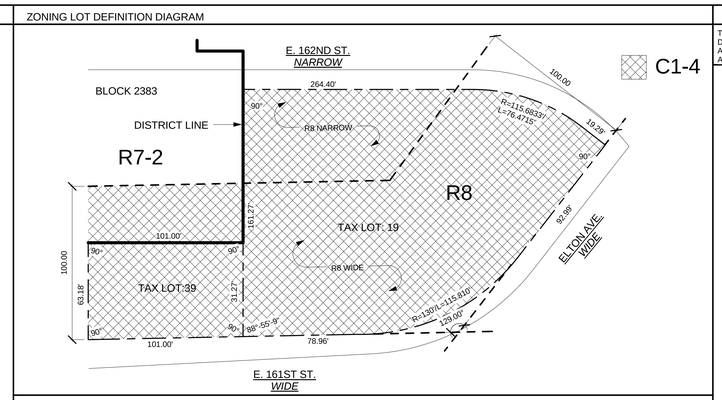
ZR 12-10
Base Plane
The level of a base plane for a building without a street wall shall be determined by the average of the final grade adjoining such building.

BASE PLANE ELEVATION PER ZR12-10:

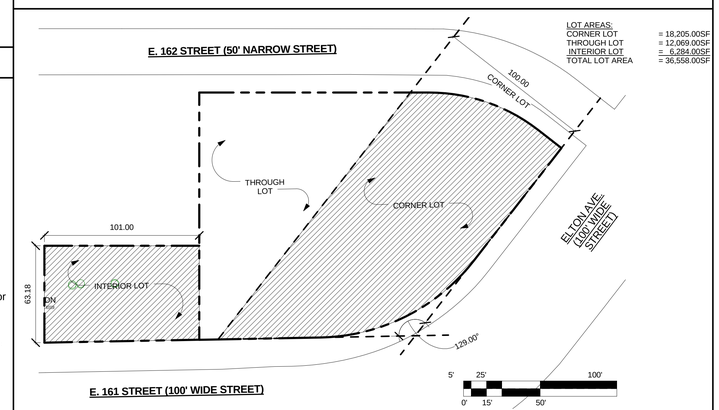
FINAL GRADE @ E. 161ST ST:
28.21' + 29.79' = 58.00'/2 = 29.00' BASE PLANE ELEV.

② Height and Setback Diagram
1/16" = 1'-0"

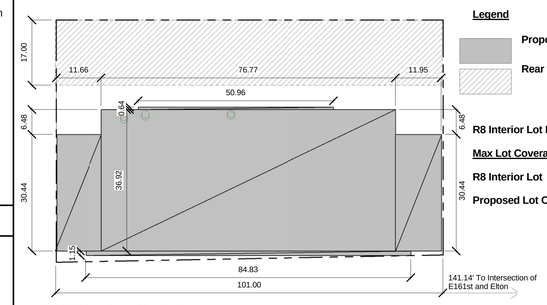
ZONING LOT DEFINITION DIAGRAM



LOT DEFINITION DIAGRAM



LOT COVERAGE/ YARD REQ'T DIAGRAM



Legend

- Proposed Building Footprint
- Rear Yard

R8 Interior Lot Portion = 6,285 sf

Max Lot Coverage:

R8 Interior Lot = 70%

Proposed Lot Coverage in R8:

3,687 / 6,285 = 59%

ZR 33-26 Minimum Required Rear Yards
C1 C2 C3 C4 C5 C6 C7 C8
In all districts, as indicated, a #rear yard# with a depth of not less than 20 feet shall be provided at every #rear lot line# on any #zoning lot# except as otherwise procided in Sections 33-27 (Special Provisions for Shallow Interior Lots)

ZR 33-27 Special Provisions for Shallow Interior Lots

70' - 63'-2" = 6'-10" / 2 = **3'-5"**

20' - 3' = 17'-0" Min Required Rear Yard

ZR 25-11 Lot Coverage Calculations for Interior (Max Lot Coverage 70%)

Lot Area of Interior = 6,285.00 sf
Propose Building Footprint on Interior/Thru Lot
354.91 sf + 2,834.06 sf + 32.38 sf + 97.79 sf + 363.69 sf = 3,687.43 sf

Lot Coverage = Proposed Bldg Footprint / Lot Area =3,687.43 sf / 6,285 sf =**58.60%**

BUILDING SUMMARY - VETERANS BUILDING

Veteran's Housing

Floor	Elev	Community Facility Use Gross Floor Area	Mechanical Deduction	Exterior Wall Deduction	Net Zoning Community Facility Floor Area	Dwelling Units
C	19'-3"	3,687	-3,687	0	0	0
1	29'-3"	3,687	-19	0	3,668	0
2	41'-3"	3,683	-97	0	3,586	7
3	50'-3"	3,683	-97	0	3,586	8
4	59'-3"	3,683	-97	0	3,586	8
5	68'-3"	3,683	-97	0	3,586	8
6	77'-3"	3,683	-97	0	3,586	8
7	86'-3"	3,683	-97	0	3,586	8
8	95'-3"	3,683	-97	0	3,586	8
9	105'-11"	2,272	-53	0	2,219	4
R	114'-11"					
Total		**35,426**	**-4,436**	**0**	**30,990**	**59**

ZONING ANALYSIS - FAMILY AND SUPPORTIVE HOUSING BUILDINGS

THIS PROJECT, LOCATED ON LOT #39 SHARES A SINGLE ZONING LOT WITH ADJACENT LOT #19 AS ILLUSTRATED IN THE ZONING LOT DEFINITION DIAGRAM. THE ZONING TABLE BELOW MAKES REFERENCE TO THIS LOT AND THE COMMUNITY FACILITY BUILDING THAT IS BEING SUBMITTED AS A SEPARATE APPLICATION (APPLICATION #220403882). ALL RELEVANT ZONING INFORMATION FOR THE USES PROPOSED ON LOT #19 AND #39 ARE IDENTIFIED AND ELABORATED ON IN THE ZONING ANALYSIS TABLE BELOW.

	Block	2383
	Lot	19, 39
	Map	6A, 6C
	Zoning District $_1$	R8 (Optional Quality Housing Program)
	Zoning District $_2$	C1-4

	Site Description	Corner Lot	Interior/ Through Lot	Total
	Lot Area	**18184.00**	**18374.00**	**36558.00**

	Use Regulations	Permitted	Proposed
22-10 32-10	Permitted Uses	1, 2, 3, 4, 5, 6, 7, 8, 9 & 14	**2, 3A & 6**
22-13(a)	The number of person employed is central office functions of Community Facilities with sleeping accommodations shall not exceed 50, and the amount of floor area used for such purposes shall not exceed 25% of the total floor area or in R8, R9 or R10 Districts, 25,000 square feet whichever is greater		
	Maximum Number of Employees	50.00	**5.00**
	Maximum Allowable Floor Area For Sleeping Accommodations	25000.00	**1076.00**

	Max Floor Areas Attainable	R8' Wide	R8 Narrow	Max Permitted	Proposed
	Lot Area	**29661.00**	**6897.00**		
23-145	Max. Permitted Residential FAR	7.20	6.02		
33-121	Max. Permitted Commercial FAR	2.00	2.00		
33-121(6) 24-111(b)	Max. Permitted Community Facility FAR (w/ Sleeping accommodations)	6.02	6.02		
	Max Permitted Residential Floor Area	213559.20	41519.94	255079.14	
	Max Permitted Commercial Floor Area	59322.00	13794.00	73116.00	
	Max Permitted Community Facility Floor Area	178559.22	41519.94	220079.16	
	Proposed Residential Floor Area				196652.02
	Proposed Commercial Floor Area				8420.78
	Proposed Community Facility Floor Area				30989.77
	Proposed Overall Floor Area				**236062.57**
	Proposed Residential FAR				**5.38**
	Proposed Commercial FAR				**0.23**
	Proposed Community Facility FAR				**0.85**
	Proposed Overall FAR				**6.46**

	Density	Max Permitted	Proposed
	Residential Portion		
23-22	Gross Area per Dwelling Unit	**740.00**	
35-40	FAR for Density	5.86	
	Max Permitted Residential Floor Area	214230.00	
	Max Dwelling Units Permitted	289.50	
	Proposed Dwelling Units		**199**

	Lot Coverage	Corner Lot	Through Lot	Interior Lot
	Residential Portion			
	Lot Area	**18184.00**	**12089.00**	**NA**
23-145	Maximum Lot Coverage	0.80	0.70	NA
	Max Permitted Residential Building Footprint	14547.20	8462.30	NA
	Proposed Building Coverage	13585.00	7889.00	NA
	Proposed Lot Coverage	**0.75**	**0.65**	
	Community Facility Portion			
	Lot Area	**NA**	**NA**	**6285.00**
23-145	Maximum Lot Coverage	NA	NA	0.70
	Max Permitted Community Facility Building Footprint	NA	NA	4399.50
	Proposed Building Coverage	NA	NA	3686.57
	Proposed Lot Coverage			**0.59**

	Yard Regulations	Min Required	Proposed
	Residential Portion		
23-45	Front Yards	Not Required	**0.00**
23-46	Side Yards	0 or min 8ft	**0.00**
23-531	Excepted Through Lots (b) In R8 districts, for zoning lots containing Quality Housing Buildings, no rear yard regulations shall apply to any zoning lot that includes a through lot portion that is contiguous on one side to two corner lot portions and such zoning lot occupies the entire block frontage of a street.		
	Community Facility Portion		
23-45	Front Yards	Not Required	**0.00**
23-46	Side Yards	0 or min 8ft	**0.00**
23-46, 33-26, 33-27	Rear Yard	17'-0"	20'-0"

	Height Regulations	Min Required	Max Allowed	Proposed
35-22(b)	**Residential Portion**			
35-24(b)(2)	**Street Wall Location** (i) Along East 161st Street, Elton Avenue and a portion of East 162nd Street within 50 feet of intersection with Elton Avenue, 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 of 60 feet. To allow articulation of street walls at the intersection of two street lines, the street wall may be located anywhere within an area bounded by the two street lines and a line connecting such street lines at points 15 feet from their intersection. (ii) Recesses, not to exceed three feet in depth from the street line, shall be permitted on the ground floor where required to provide access to the building. Above a height of 12 feet, up to 30% of the aggregate width of street walls may be recessed beyond the street line, provided any such recesses deeper than 10 feet along wide street or 15 feet along narrow street are located within an outer court. Furthermore, no recesses shall be permitted within 30 feet of the intersection of two street lines.			
	Base Height Regulations	60.00	85.00	**varies**
35-24(c)(1)	**Setback beyond maximum base height**			
	Min Setback along E 162nd Street (Narrow Street)	15.00		**15.00**
35-24	Min Setback along E 161st Street and Elton Avenue (Wide Street)	10.00		**10.00**
Table B	**Maximum Building Height Regulations**		120.00	
23-663 (b)	Required Rear Setback s for Tall buildings in R8 No portion of a building that exceeds the applicable maximum base height shall be nearer to a rear yard line than 10 ft.			**N/A**
	Community Facility Portion			
33-431(a)	**Maximum Height of Front Wall and Required Front Setbacks**			
	Max Height of Front Wall within the initial setback distance	85 ft or 6 stories whichever is less		
35-60	**Modification of height and Setback Regulations**			
35-62	Maximum Height of Front Wall anc Required Front Setbacks In C1 Districts mapped wthin R8 Districts, the maximum height of a front wall within the initial setback distance shall be the maximum height of a front wall permitted in the applicable district for a residential, commercial or community facility building whichever permits the greatest maximum height.			
24-522(a)	**Max Height of Front Wall within the initial setback distance**			
	Max Height of Front Wall within the initial setback distance	85 ft or 9 stories whichever is less		**76.66 ft**
35-24(c)(1)	**Setback beyond maximum base height**			
	Min Setback along E 161st Street and Elton Avenue (Wide Street)	10.00		**10 ft**

	Parking Regulations	Min Required	Proposed
25-25(c)	Requirements where group parking facilities are provided In R8, for public housing developmnts or dwelling units for low income tenants, the minimum required residential accessory parking is 12% of DU.		
	Proposed Dwelling Units 199.00		
	Minimum Required Residential Parking Spaces (199DU x 12%)	23.88	**32.00**
36-21	Parking Requirements for Community Facility Use For Non-Profit institutions with sleeping accommodations	None Required	
	Minimum Required Community Facility Parking Spaces		**0.00**
36-21	Parking Requirements for Commercial Use For General Retail uses	1 per 1,000sf	
	Proposed Commercial Use Floor Area 8420.78		
	Minimum Required Commercial Parking	8.42	8
36-232	Waiver of Requirements for Small Number of Spaces In C1-4, if the number of required accessory off-street parking spaces is less than 40, then the parking requirement shall be waived		
	Commercial Parking Provided		**0**
36-62	Off-Street Loading Regulations Required Loading Berth for General Retail uses in C1 mapped within R8	no requirement for first 25,000 sf	
	Proposed Commercial Use Floor Area 8420.78		
	Minimum Required Loading Berth		**0**

	Bicycle Parking Regulations	Min Required	Proposed
25-80	Residential Enclosed Bicycle Parking Requirement	1 per 2 DU	
25-811	Proposed Dwelling Units 199.00		
	Minimum Required Bicycle Parking Spaces	99.50	
	Proposed Residential Bicycle Parking Spaces		**100**
36-711	Enclosed Bicycle Parking Requirement for Community Facility Use 1 per 10,000 sf		
	Proposed Community Facility Use Floor Area 30989.77		
	Min Required Bicycle Parking	3.10	
36-711 (d)	The bicycle parking requirements shall be waived where the number of required bicycle parking spaces is three or less		
	Total Community Facility Bicycle Parking Provided		**0**
36-711	Enclosed Bicycle Parking Requirement for Commercial (General Retail) Uses	1 per 10,000 sf	
	Proposed Commercial Floor Area 8420.78		
	Min Required Bicycle Parking	0.84	
36-711 (d)	The bicycle parking requirements shall be waived where the number of required bicycle parking spaces is three or less		
	Total Commercial Bicycle Parking Provided		**0**

	Quality Housing Program	Min Required	Proposed
28-21	Size of Dwelling Units		
	Minimum permitted units size	400.00	
	Smallest Unit Size proposed		**542.00**
28-23	Refuse Storage and Disposal Area		
	Minimum Required Enclosed Storage of Refuse	1 per Resid Use and 1 per Commercial Use	**2 on first floor**
	Refuse Disposal Room on each floor with Dwelling Unit	Min 12 sf	**comply**
28-24	Laundry Facilities		
	Minimum 1 Washing Machine for 20 DU's	9.95	**10.00**
	Minimum 1 Dryer for 40 DU's	4.98	**10.00**
28-25	Daylights in Corridors	Not Mandatory	**N/A**
28-30	Required Recreation Space		
	Minimum required Residential Recreation Space 2.8%		
	Residential Recreation Space provided	703.00 indoor 4608.00 outdoor 5311.00	**2.7%**
28-41	Density per Corridor	Not Mandatory	**N/A**

	Street Tree	Min Required	Proposed
23-03	Residential Street Tree Requirements		
26-41	Minimum permitted	1 Per 25ft of street frontage	
	Proposed Street Frontage 532.84ft		
	Min Required	21.31	
			17
23-03	Street Tree Requirements For Community Facility		
26-41	Minimum permitted	1 Per 25ft of street frontage	
	Proposed Street Frontage 101.00ft		
	Min Required	4	
			3

Melrose Commons Site C - Supportive Housing

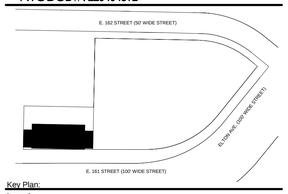
Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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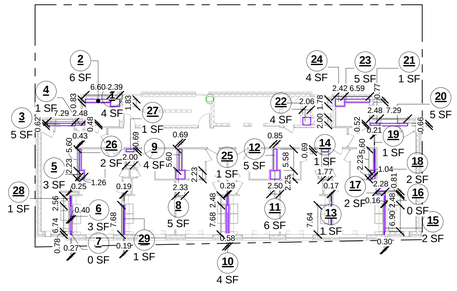
Zoning Analysis

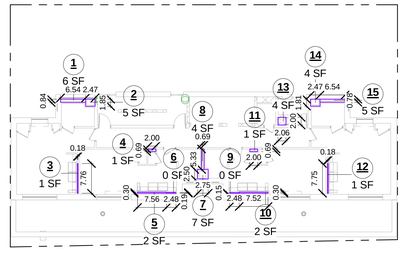
SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	Z-001.00
SCALE: As indicated	2 OF 111

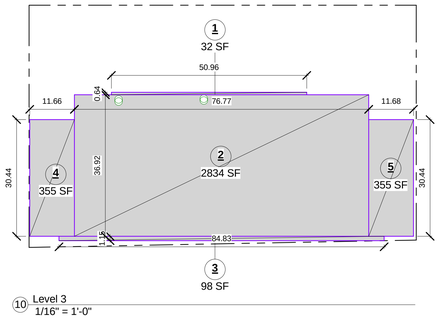


Mechanical Deductions @ 3rd - 8th			
Name	Level	Comments	Area
1	Level 3	2.39 x 1.83	4.37 SF
2	Level 3	6.60 x 0.83	5.50 SF
3	Level 3	0.62 x 7.29	4.54 SF
4	Level 3	2.48 x 0.48	1.18 SF
5	Level 3	5.42 x 0.10	2.81 SF
6	Level 3	6.74 x 0.40	2.69 SF
7	Level 3	0.78 x 0.27	0.21 SF
8	Level 3	2.33 x 2.23	5.20 SF
9	Level 3	5.60 x 0.69	3.84 SF
10	Level 3	7.68 x 0.58	4.48 SF
11	Level 3	2.50 x 2.25	5.59 SF
12	Level 3	5.58 x 0.85	4.79 SF
13	Level 3	7.64 x 0.17	1.27 SF
14	Level 3	0.69 x 1.77	1.23 SF
15	Level 3	6.90 x 0.30	2.09 SF

Mechanical Deductions @ 3rd - 8th			
Name	Level	Comments	Area
16	Level 3	2.48 x 0.16	0.39 SF
17	Level 3	2.28 x 0.81	1.84 SF
18	Level 3	2.23 x 1.04	2.32 SF
19	Level 3	5.60 x 0.21	1.17 SF
20	Level 3	7.29 x 0.66	4.84 SF
21	Level 3	2.48 x 0.52	1.28 SF
22	Level 3	2.06 x 2.00	4.13 SF
23	Level 3	6.59 x 0.77	5.08 SF
24	Level 3	2.42 x 1.78	4.30 SF
25	Level 3	2.48 x 0.29	0.72 SF
26	Level 3	5.60 x 0.43	2.40 SF
27	Level 3	2.00 x 0.69	1.39 SF
28	Level 3	2.56 x 0.25	0.65 SF
29	Level 3	7.68 x 0.19	1.44 SF
			81.77 SF

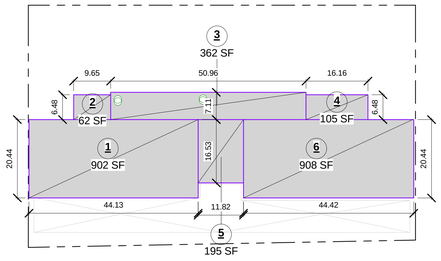


Mechanical Deductions @ 9th Floor		
Name	Comments	Area
1	6.54 x 0.84	5.52 SF
2	2.47 x 1.85	4.59 SF
3	7.76 x 0.18	1.41 SF
4	2.00 x 0.69	1.39 SF
5	7.56 x 0.30	2.26 SF
6	2.48 x 0.19	0.48 SF
7	2.75 x 2.50	6.87 SF
8	5.33 x 0.69	3.65 SF
9	2.48 x 0.15	0.38 SF
10	7.52 x 0.30	2.25 SF
11	2.00 x 0.69	1.39 SF
12	7.75 x 0.18	1.41 SF
13	2.06 x 2.00	4.13 SF
14	2.47 x 1.81	4.48 SF
15	6.54 x 0.87	5.12 SF
		45.33 SF



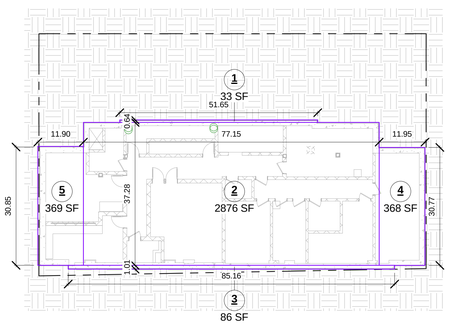
Floor Area Calculations @ 3rd - 8th		
Name	Comments	Area
Level 3		
1	50.96 x 0.64	32.38 SF
2	76.77 x 36.92	2834.04 SF
3	84.83 x 1.15	97.80 SF
4	30.44 x 11.66	354.91 SF
5	30.44 x 11.68	355.39 SF
		3674.51 SF

10 Level 3
1/16" = 1'-0"

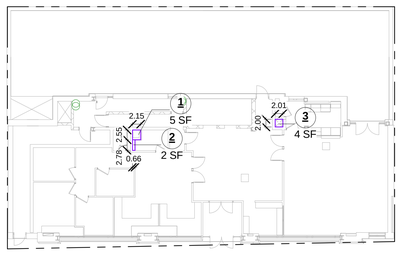


Floor Area Calculations @ 9th Floor		
Name	Comments	Area
Level 9		
1	44.13 x 20.44	902.07 SF
2	9.65 x 6.48	62.48 SF
3	50.96 x 7.11	362.48 SF
4	16.16 x 6.48	104.66 SF
5	11.82 x 16.53	195.38 SF
6	44.42 x 20.44	907.98 SF
		2535.05 SF

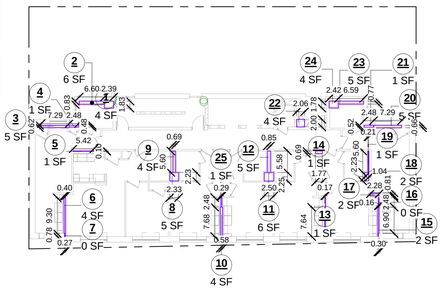
4 Level 9
1/16" = 1'-0"



Zoning Deductions @ Cellar		
Name	Comments	Area
1	51.65 x 0.64	32.82 SF
2	77.15 x 37.28	2876.39 SF
3	85.16 x 1.01	85.77 SF
4	30.77 x 11.95	367.56 SF
5	30.85 x 11.90	369.00 SF
		3731.55 SF

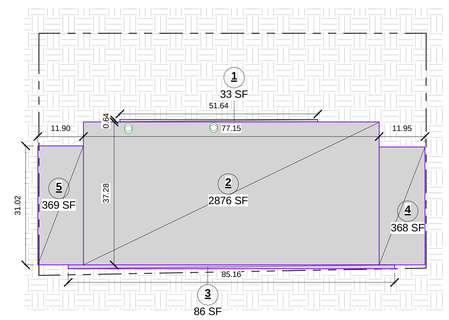


Mechanical Deductions @ Ground Floor		
Name	Comments	Area
1	2.55 x 2.15	5.47 SF
2	2.78 x 0.66	1.82 SF
3	2.01 x 2.00	4.03 SF
		11.32 SF



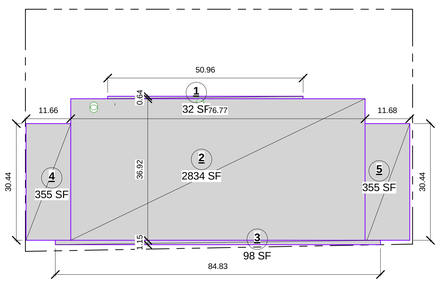
Mechanical Deductions @ 2nd floor			
Name	Comments	Area	
1	2.39 x 1.83	4.37 SF	
2	6.60 x 0.83	5.50 SF	
3	0.62 x 7.29	4.54 SF	
4	2.48 x 0.48	1.18 SF	
5	5.42 x 0.10	0.52 SF	
6	9.30 x .40	3.71 SF	
7	0.78 x 0.27	0.21 SF	
8	2.33 x 2.23	5.20 SF	
9	5.60 x 0.69	3.84 SF	
10	7.68 x 0.58	4.48 SF	
11	2.50 x 2.25	5.59 SF	
12	5.58 x 0.85	4.79 SF	
13	7.64 x 0.17	1.27 SF	
14	0.69 x 1.77	1.23 SF	
15	6.90 x 0.30	2.09 SF	
16	2.48 x 0.16	0.39 SF	
17	2.28 x 0.81	1.84 SF	
18	2.23 x 1.04	2.32 SF	

Mechanical Deductions @ 2nd floor			
Name	Comments	Area	
19	5.60 x 0.21	1.17 SF	
20	7.29 x 0.66	4.84 SF	
21	2.48 x 0.52	1.28 SF	
22	2.06 x 2.00	4.13 SF	
23	6.59 x 0.77	5.08 SF	
24	2.42 x 1.78	4.30 SF	
25	2.48 x 0.29	0.72 SF	
		74.63 SF	



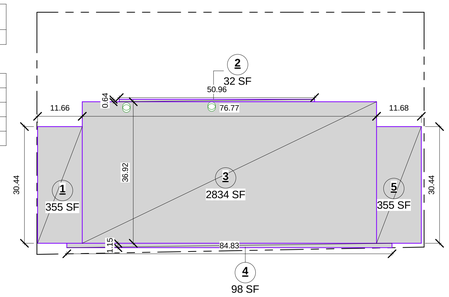
Floor Area Calculations @ Cellar		
Name	Comments	Area
Cellar		
1	51.65 x 0.64	32.81 SF
2	77.15 x 37.27	2876.39 SF
3	85.16 x 1.01	85.77 SF
4	30.77 x 11.95	367.56 SF
5	30.85 x 11.90	369.00 SF
		3731.54 SF

1 Cellar
1/16" = 1'-0"



Floor Area Calculations @ Ground Floor		
Name	Comments	Area
Level 1		
1	5.96 x 0.64	32.38 SF
2	76.77 x 36.92	2834.04 SF
3	84.83 x 1.15	97.80 SF
4	30.44 x 11.66	354.91 SF
5	30.44 x 11.68	355.39 SF
		3674.51 SF

2 Level 1
1/16" = 1'-0"



Floor Area Calculations @ 2nd Floor		
Name	Comments	Area
Level 2		
1	30.44 x 11.66	354.91 SF
2	50.96 x 0.64	32.38 SF
3	76.77 x 36.92	2834.04 SF
4	84.83 x 1.15	97.80 SF
5	30.44 x 11.68	355.39 SF
		3674.51 SF

3 Level 2
1/16" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

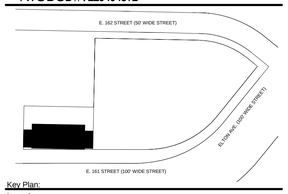
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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DESIGN 2147 LIMITED
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Brooklyn, NY 11222
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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Zoning Mechanical Deductions

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	Z-002.00
SCALE: 1/16" = 1'-0"	3 OF 111

Building Envelope

2011 NYCECC Continuous Air Barrier Requirement

1. Except in unheated structures and as permitted by this section (Chapter 5 Commercial Energy Efficiency), a continuous air barrier shall be installed; sealing all seams, openings, and penetrations of the building and shall be sealed with caulking materials or closed with gasketing systems compatible with the construction materials and location.

2. Joints and seams shall be sealed in the same manner or taped or covered with a moisture vapor-permeable wrapping material. Sealing materials spanning joints between construction materials shall allow for expansion and contraction of the construction materials.

3. Such air barrier shall have all the following characteristics:

A. Continuous throughout the envelope with all joints and seams sealed and with sealed connections between all transitions in planes and changes in materials and at all penetrations.

B. Joined and sealed in a flexible manner to the air barrier component of adjacent assemblies, allowing for the relative movement of these assemblies and components.

C. Installed in accordance with the manufacturer's instructions and in such a manner as to achieve the performance requirements.

D. Penetrations of the continuous air barrier shall be made in a way such that the integrity of the continuous air barrier is maintained.

4. Compliance for continuous air barriers may be demonstrated using anyone of the following three methods:

A. Materials. Using individual materials that have an air permeability not to exceed 0.02 L/s m2 under a pressure differential of 75 Pa [0.004 cfm/ft2 under a pressure differential of 0.3in. water (1.57 lb/ft2)] when tested in accordance with ASTM E 2178.

B. Assemblies. Assemblies of materials and components shall have an average air leakage not to exceed 0.2 L/s m2 under a pressure differential of 75 Pa [0.04 cfm/ft2 under a pressure differential of 0.3 in. water (1.57 lb/ft2) when tested in accordance with ASTM E 2357 or ASTM E 1677. In addition these assemblies must meet the requirement for joints per Section 502.4.3.

C. Building. Testing the completed building and demonstrating that the air leakage rate of the building envelope does not exceed 2.0 L/s·m^2 under a pressure differential of 75 Pa [0.4 cfm/ft2 under a pressure differential of 0.3 in. water (1.57 lb/ft2)] in accordance with ASTM E 779 or an equivalent approved method.

Building Envelope Insulation

1. In all cases where rigid insulation board is to be installed (e.g. below grade, above grade, roof), the insulation shall be tightly adjoined with no gaps between boards and flat against the respective substrate.

2. Interior and cavity insulation must be protected from air intrusion, moisture intrusion, and free of voids, gaps, and compression.

3. Cavity insulation must be in contact with the interior wall surface (e.g. drywall) and completely fill the interior wall cavity.

4. Batt insulation must be installed properly using splices to surround wires, electrical outlet/switch/junction boxes, pipes, and other obstructions within the insulated cavity.

5. Insulation that is intended to be continuous (interior or exterior) must be installed without breaks and at full thickness at all locations.

6. Insulation must be installed such that they achieve RESNET-defined Grade I installation or, alternatively, Grade II for walls with continuous insulation.

7. Metal-framed buildings must have continuous wall insulation.

8. Vapor impermeable air barriers for general coverage should only be specified on the warm side of insulation (i.e. interior side of insulation in predominately heating dominated climates). Vapor permeable air barriers should be specified in other cases.

Recessed Lighting

1. Recessed luminaires installed in the building thermal envelope shall be sealed to limit air leakage between conditioned and unconditioned spaces.

2. All recessed luminaires shall be IC-rated and labeled as meeting ASTM E 283 when tested at 1.57 psf (75 Pa) pressure differential with no more than 2.0 cfm (0.944 L/s) of air movement from the conditioned space to the ceiling cavity.

3. All recessed luminaires shall be sealed with a gasket or caulk between the housing and interior wall or ceiling covering.

Window & Door Air Leakage Ratings

1. Window & Door Assemblies
A. The air leakage of window and sliding or swinging door assemblies that are part of the building envelope shall be determined in accordance with AAMA/WDMA/CSA 101/I.S.2/A440, or NFRC 400 by an accredited, independent laboratory, and labeled and certified by the manufacturer and shall not exceed 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6 L/s/m2).

B. Exception: Site-constructed windows and doors that are weatherstripped or sealed in accordance with Section 502.4.3 of the 2010 Energy Conservation Code of New York State.

2. Curtain Wall, Storefront Glazing & Commercial Entrance Doors
A. Curtain wall, storefront glazing and commercial-glazed swinging entrance doors and revolving doors shall be tested for air leakage at 1.57 pounds per square foot (psf) (75 Pa) in accordance with ASTM E 283.

B. For curtain walls and storefront glazing, the maximum air leakage rate shall be 0.3 cubic foot per minute per square foot (cfm/ft2) (5.5 m3/h × m2) of fenestration area.

C. For commercial glazed swinging entrance doors and revolving doors, the maximum air leakage rate shall be 1.00 cfm/ft2 (18.3 m3/h × m2) of door area when tested in accordance with ASTM E 283.

3. Fenestration Air Leakage (Sliding/Swinging)
A. Windows, skylights and sliding glass doors shall have an air infiltration rate ofno more than 0.3 cfm per square foot (1.5 L/s/m2), and swinging doors no more than 0.5 cfm per square foot (2.6L/s/m2), when tested according to NFRC 400 or AAMA/ WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and listed and labeled by the manufacturer.

B. Exception: Site-built windows, skylights and doors.

Exterior Air Barrier Application

1. Sealant Materials: Sealants shall have an expected life of at least 20 years as applied and be compatible with all substrate materials.

2. Masonry Wall Preparation: Ensure gaps are filled, joints struck, CMU is dry, and all snags are gone.

3. General Coverage (Liquid Membrane): Verify proper thickness of liquid-applied membranes using a wet mil gauge. At a minimum, substrate must not be visible.

4. General Coverage at Adjacent Building Conditions (Liquid Membrane): Where unable to install air barrier on the exterior of the building, a low VOC product shall be installed on the interior at full height (top of plank to bottom of plank at each floor). This shall happen before any interior framing is installed.

5. General Coverage / Transition Membrane Seams: Transition membranes shall be installed and sealed before insulation is installed on top. Seams shall be sealed with mastic type liquid membrane or with compatible sealant.

6. Air Barrier Penetrations: Air barrier penetrations shall be sealed with sealants compatible with all surfaces. Transition membranes shall be used to patch as necessary with seams sealed appropriately

7. Rough Openings (Concrete Masonry Construction) - Windows and Doors:

A. Liquid air barrier shall wrap in at masonry rough openings to be flush with inside edge of window or door frame.

B. Sheet membrane or metal panel enclosure can be used as alternative as long as it is clear the air barrier is continuous and any gaps are sealed with back rod as necessary and sealant compatible with all surfaces.

8. Rough Openings (Steel Stud Construction) - Windows and Doors: Rough opening must be wrapped with sheet membrane all the way inside to be flush with inside edge.

9. Rough Openings - Pipes, Conduits, Ducts, Etc: Gaps shall be filled with backer rod as necessary and sealant compatible with all surfaces. Where smooth surfaces are present, mechanical gasket seals can be used.

10. Rough Openings - Cast Stone Sills: Cast stone sill shall be sealed to sill pan using compatible sealant where not sealed by grout.

11. Rough Openings - Gap at Window Frames: Gaps between window frame (header, jambs, sill) and rough opening shall be sealed on the interior with backer rod as necessary and sealant that is compatible with all surfaces.

Exterior Air Barrier Application Cont.

12. Rough Openings - Gap at Exterior Door Frames: Gaps between door frame (header, jambs, threshold) and rough opening shall be sealed on the interior with backer rod as necessary and sealant that is compatible with all surfaces.

13. Rough Openings - A/C Sleeves:

A.Gaps between A/C sleeves and rough openings shall be sealed on the interior with backer rod as necessary and sealant that is compatible with all surfaces where not sealed by grout.

B.Insulated interior cover with compressible gasket must be provided for A/C sleeves.

14. Plank Edges (Steel Stud Construction) - At plank / exterior sheathing joint:

A.Transition membranes must be installed to span the sheathing / plank edge joint creating a bellows with backer rod. Transition membrane shall extend a minimum of 3" on each adjacent surface or per manufacturer's instructions.

B.Termination seams must be sealed with compatible sealant

15. Plank Edges (Concrete Masonry Construction) - At plank / CMU joint

A.Option 1 - If gap is greater then 1/4" Transition Membrane must be used to seal the gap with minimum 3" over lap

B.Option 2 - If gap is less then 1/4" Liquid Membrane can be used to seal the gap

C.Option 3 - When shelf angles are to be installed, through wall flashing must be draped from above to completely cover the joints at top and bottom edges of the plank and sealed to the shelf angle. The Liquid Membrane shall be installed continuously prior to shelf angle installation

16. Plank Edges - At plank / steel girder joint
A.Through wall flashing must be draped from above to completely cover this joint and the entire face of the girder and sealed to the shelf angle.

B.If the girder is solid and air tight, this detail can be sealed with a transition membrane spanning the top flange and interior underside of the plank if allowed by local code.

17. Steel Columns - Steel / CMU joints: Transition membrane to be installed after fire proofing has been applied, and span steel column and adhered to the adjacent CMU surfaces. Fire proofing may need to be applied thicker to keep the required R-Value.

18. Wall to Roof Connections: Liquid air barrier must be brought up over grout edge part of roof plank and shall be sealed over the plank / grout joint.

19. All Exterior, Stairwell-Corridor, Apartment-Corridor, and any Door separating a space that is vented to the outdoors (Boiler room, meter room, etc)

A.Install weatherstripping with rigid fastener and compressible closed cell foam insert

B. Sample manufacturers
a. Ultrafab Incorporated
b. Pemko Manufacturing Company Inc.
c. Accurate Metal Weather-Strip

Interior Air Tightness (Compartmentalization)

1. Apartment Air Sealing Testing & Verification
A. Apartments shall be sealed to reduce air exchange between the apartment and outside as well as the apartment and other adjacent spaces. Enclosed apartments must be fan pressure tested as an independent unit in accordance with either ASTM E779 2010 or ASTM E1827. The target maximum air leakage rate is 0.3 CFM per square foot of the enclosure bounding the apartment at an induced pressure difference of 50 pascals.

2. Firestopping
A.Ensure all penetrations in plank and CMU are sealed to reduce air infiltration and stack effect.

3. Demising Wall between Units
A.During drywall installation, leave space for demising wall drywall to be nserted.

B.Drywall sequence must take into account sealing the vertical joint of the demising wall drywall to the exterior wall. Use caulk or one component polyurethane foam along vertical joints.

C.Drywall sequence must also take into account sealing the portion of the demising drywall that becomes inaccessible once the perimeter drywall is installed (see figure below). Use a continuous bead of caulk or one component polyurethane foam to seal the inset portion of the drywall to the concrete plank/slab at the ceiling and floor.

D.All notches in drywall made for electrical cable, plumbing braces, etc. to be sealed with one component polyurethane foam or caulk.

4. Party Wall within a Unit
A.During drywall installation, leave space so that perimeter drywall is continuous.

B.Drywall sequence must take into account sealing the gap at the ceiling and floor between the layers of party wall drywall before the party wall is installed. Apply a continuous bead of sealant to all gaps between the drywall, ceiling and floor.

C.All notches in drywall made for electrical cable, plumbing braces, etc. to be sealed with one component polyurethane foam or caulk.

5. Drywall to Concrete Floor Plank Connection Interior Partitions and Exterior Walls
A.During installation of self-leveling compound, ensure that the gap between gypsum board and the concrete floor is completely sealed by the self-leveling compound.

B.Any remaining gaps must be sealed with caulk or foam sealant before baseboard heaters are installed on exterior walls.

C.If gap is 3/8" or less, use caulk. If gap is greater than 3/8", use foam.

6. Drywall to Concrete Ceiling Plank Interior Partitions and Exterior Walls
A. After installation of sheetrock, apply a continuous bead of sealant to the gap between the sheetrock and plank.

B.If installing a dropped ceiling, the concrete plank must be sealed to the drywall before installation of the dropped ceiling.

7. Recessed Medicine Cabinets
A.Seal all joints between gypsum board with tape and joint compound, foam, or caulk so the cavity is completely sealed before installing medicine cabinets.

8. Interior Door Frames (Bathrooms, Closets, Bedrooms, etc.)
A. Seal entire perimeter between door frame and drywall with caulk on both sides of all interior doors.

9. Electrical and Telecommunication Panels
A.Seal entire perimeter gap between panel and drywall using caulk.

B.Installed closed cell neoprene foam tape on the interior side of the panel door. Ensure door tightly seals to panel when closed.

10. Outlet and Electrical Boxes - Exterior and Demising Walls
A.Install Putty Pads
I.http://www.acousticalsolutions.com/firestop-putty-pads3

B.Use insulated, self closing outlet covers instead of conventional outlet covers

C.No outlets to be placed back to back on demising walls.

Interior Air Tightness (Compartmentalization) Cont.

11. A/C Sleeve and Interior Drywall
A. Seal all joints between A/C sleeve and drywall with caulk. If necessary, insert backer rod into gap.

12. Underside of Window Sill to Drywall Connection

B. Seal joint between underside of the window sill and drywall with caulk.

13. HVAC Access Doors
A. Seal all gaps between the drywall and perimeter of the access door frame.

B. Add closed cell neoprene foam tape to an access door that is not originally weather stripped and ensure it closes tightly.

14. Heating Pipe Penetrations
A. Seal all heating pipe penetrations using foam or other sealant product rated for 200°F.

15. Plumbing Penetrations
A. Fill rough opening with gypsum compound, foam or caulk to seal plumbing penetrations before installation of escutcheon.

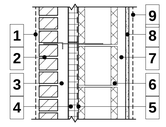
B. Areas include around shower heads, and under bathroom and kitchen sinks including around drain lines.

16. Sprinkler, Gas Line, and Wiring Penetrations
A. Fill opening with gypsum compound, foam or caulk to seal around all penetrations through drywall.

17. Door Latch Hole
A. If a blower test indicates significant leakage at this location, spray one part polyurethane foam above and below latch hole in door frame cavity. Cut away any foam that expands into operating area of the latch hole if necessary.

THERMAL RESISTANCE ASSEMBLY DESIGN

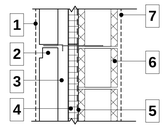
ALL PERTINENT DATE AND DESIGN CRITERIA OF THE NEW YORK STATE ENERGY CONSERVATION CONSTRUCTION CODE AND ALL RULES AND REGULATIONS OF THE NEW YORK CITY ADMINISTRATIVE BUILDING CODE APPLICABLE TO ENERGY CRITERIA DESIGN WILL BE COMPLIED WITH.



A. BRICK ON 8" CMU

1.	15 MPH WIND	R 0.17
2.	3 5/8" BRICK	R 0.44
3.	2" AIR SPACE	R 1.00
4.	2 1/8" CONT. INSULATION	R 12.00
5.	0" AIR & VAPOR BARRIER	R 0.00
6.	7 5/8" CMU	R 1.11
7.	1 5/8" METAL STUD	R 0.00
8.	5/8" GWB	R 0.56
9.	INSIDE AIR FILM	R 0.68

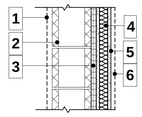
TOTAL RESISTANCE R = 15.96
U= 1/R = 0.063



B. CAST STONE ON 8" CMU

1.	15 MPH WIND	R 0.17
2.	3 5/8" CAST STONE	R 0.80
3.	2" AIR SPACE	R 1.00
4.	2 1/8" CONT. INSULATION	R 12.0
5.	0" AIR & VAPOR BARRIER	R 0.00
6.	7 5/8" CMU	R 1.11
7.	INSIDE AIR FILM	R 0.68

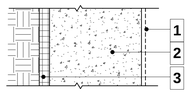
TOTAL RESISTANCE R = 15.76
U= 1/R = 0.063



D. 8" CMU WITH INSULATION @ INTERIOR

1.	15 MPH WIND	R 0.17
2.	7 5/8" CMU	R 1.11
3.	1" RIGID INSULATION	R 6.00
4.	1 5/8"- METAL STUD	R 0.00
5.	FIBER BATT INSULATION	R 8.00
6.	5/8" GWB	R 0.56
7.	INSIDE AIR FILM	R 0.68

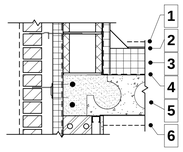
TOTAL RESISTANCE R = 16.52
U=1/R=0.061



E. CONCRETE FOUNDATION WALL

1.	AIR FILM	R 0.68
2.	CONCRETE WALL	R 0.96
3.	2" RIGID INSULATION BOARD	R 10.00

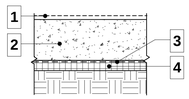
TOTAL RESISTANCE R = 11.64
U=1/R= 0.9



ROOF ASSEMBLY

1.	15 MPH WIND -	R 0.17
2.	ROOFING MEMBRANE	R 0.44
3.	CONT. INSULATION	R 30.00
4.	AIR & VAPOR BARRIER	R 0.00
5.	8" PRECAST PLANK	R 1.11
6.	INSIDE AIR FILM	R 0.68

TOTAL RESISTANCE R = 32.40
U= 1/R = 0.031



SLAB ON GRADE

1.	AIR FILM	R 0.68
2.	8" CONCRETE PLANK	R 0.64
3.	0" AIR & VAPOR BARRIER	R 0.00
4.	2" RIGID INSULATION BOARD	R 10.00

TOTAL RESISTANCE R = 11.32
U=1/R= 0.9

Melrose Commons Site C - Supportive Housing

Bronx, NY

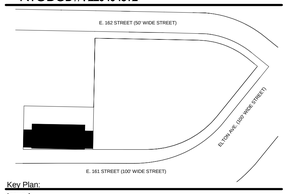
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

Architect:

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Structural Engineer:

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Landscape Architect:

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200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Energy Analysis

SEAL & SIGNATURE:

PROJECT No: 13007
DRAWING BY: Author
CHK BY: Checker
DWG No:

EN-001.00

SCALE: 1" = 1'-0"

Generated by COMcheck-Web Software
Envelope Compliance Certificate

2010 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: **New Construction**
Project Title : Melrose Commons Site C - Supportive Housing

Construction Site:	Owner/Agent:	Designer/Contractor:
425 E. 161st Street Bronx, NY. 10451		Magnusson Architecture and Planning PC 42 West 39th Street 15th Floor New York, NY 10018 212 253 7820

Section 2: General Information

Building Location (for weather data):	**Bronx, New York**
Climate Zone:	**4a**
Building Space Conditioning Type(s):	**Nonresidential, Residential**
Vertical Glazing / Wall Area Pct.:	**14%**

Activity Type(s)	Floor Area
Dormitory	35365

Section 3: Requirements Checklist

Envelope PASSES: Design 7% better than code.

Climate-Specific Requirements:

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
Orientation: NORTH					
A2. -- Brick on 8" CMU w/o Mtl Furring: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	9313	---	12.0	0.070	0.090
Glass Channel: Metal Frame with Thermal Break, Perf. Specs.: Other testing/cert. N/A, SHGC 0.43, Residential (c)	869	---	---	0.410	0.550
S-16 - Storefront Door: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Other testing/cert. NA, SHGC 0.40, Residential (c)	31	---	---	0.420	0.850
SF-17 - Storefront Door: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Other testing/cert. NA, SHGC 0.40, Residential (c)	37	---	---	0.420	0.850
SF-18 - Storefront Door: Glass (> 50% glazing):Metal Frame, Non-Entrance Door, Perf. Specs.: Other testing/cert. NA, SHGC 0.40, Residential (c)	75	---	---	0.420	0.850
B2. - Cast Stone on 10" CMU w/o Mtl Furring: Concrete Block:10", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	46	---	12.0	0.069	0.090
A. - Brick on 8" CMU: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, Residential	3662	0.0	12.0	0.066	0.090
W1A - Window: Metal Frame with Thermal Break, Perf. Specs.: Other testing/cert. NA, SHGC 0.46, Residential (c)	549	---	---	0.450	0.550
	1008	---	10.0	0.083	0.090

Component Name/Description	Gross Area or Perimeter	Cavity R-Value	Cont. R-Value	Proposed U-Factor	Budget U-Factor(a)
E. Concrete Foundation Wall: Solid Concrete, 12in. Thickness,Normal Density , Furring: None, Residential					
Orientation: EAST					
A. - Brick on 8" CMU: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, Residential	915	0.0	12.0	0.066	0.090
W2 - Window: Metal Frame with Thermal Break, Perf. Specs.: Other testing/cert. NA, SHGC 0.46, Residential (c)	32	---	---	0.450	0.550
B2. - Cast Stone on10" CMU w/o Mtl Furring: Concrete Block:10", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	14	---	12.0	0.069	0.090
A2. - Brick on 8" CMU w/o Mtl Furring: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	263	---	12.0	0.070	0.090
A1. - Brick on 10" CMU: Concrete Block:10", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, Residential	19	0.0	12.0	0.066	0.090
D. - 8" CMU with Insulation at Interior: CMU 8" Concrete Block, Partially Grouted, Cells Empty, Furring:Metal,: Other Exterior Wall, Heat capacity 1.0, Residential (b)	2174	---	---	0.061	0.064
E. Concrete Foundation Wall: Solid Concrete, 12in. Thickness,Normal Density , Furring: None, Residential	388	---	10.0	0.083	0.090
Orientation: SOUTH					
A. -Brick on 8" CMU: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, Residential	7393	0.0	12.0	0.066	0.090
W1, W2, W3, W4, W4a - Window: Metal Frame with Thermal Break, Perf. Specs.: Other testing/cert. NA, SHGC 0.46, Residential (c)	2429	---	---	0.450	0.550
SF-09 - Storefront: Metal Frame Curtain Wall/Storefront, Perf. Specs.: Other testing/cert. NA, SHGC 0.32, Residential (c)	51	---	---	0.400	0.500
S -14 - Storefront Door: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Other testing/cert. NA, SHGC 0.40, Residential (c)	24	---	---	0.420	0.850
A1. - Brick on 10" CMU: Concrete Block:10", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, Residential	1026	0.0	12.0	0.066	0.090
SF - 10, SF - 11, SF - 12 - Storefront: Metal Frame Curtain Wall/Storefront, Perf. Specs.: Other testing/cert. NA, SHGC 0.40, Residential (c)	329	---	---	0.420	0.500
S -11 - Storefront Door: Glass (> 50% glazing):Metal Frame, Entrance Door, Perf. Specs.: Other testing/cert. NA, SHGC 0.40, Residential (c)	78	---	---	0.420	0.850
B. - Cast Stone on 6" CMU w/o Mtl Furring: Concrete Block:6", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	124	---	12.0	0.071	0.090
B2. - Cast Stone on 10" CMU w/o Mtl Furring: Concrete Block:10", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	128	---	12.0	0.069	0.090
A2. - Brick on 8" CMU w/o Mtl Furring: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	823	---	12.0	0.070	0.090
R01, R02, R03- DOOR: Uninsulated Double-Layer Metal, Swinging, Residential	71	---	---	0.357	0.700
E. Concrete Foundation Wall: Solid Concrete, 12in. Thickness,Normal Density , Furring: None, Residential	940	---	10.0	0.083	0.090
Orientation: WEST					
A. -Brick on 8" CMU: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: Metal, Residential	3096	0.0	12.0	0.066	0.090
W2 - Window: Metal Frame with Thermal Break, Perf. Specs.: Other testing/cert. NA, SHGC 0.46, Residential (c)	32	---	---	0.450	0.550
B4. - Cast Stone on 8" CMU w/o Mtl Furring: Concrete Block:10", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	145	---	12.0	0.069	0.090
A2. - Brick on 8" CMU w/o Mtl Furring: Concrete Block:8", Partially Grouted, Cells Empty,Normal Density , Furring: None, Residential	290	---	12.0	0.070	0.090
E. Concrete Foundation Wall: Solid Concrete, 12in. Thickness,Normal Density , Furring: None, Residential	388	---	10.0	0.083	0.090
Orientation: UNSPECIFIED ORIENTATION					
Roof 1: Insulation Entirely Above Deck, Residential	3669	---	30.0	0.032	0.048
Interior 5' Slab on Grade: Slab-On-Grade:Unheated, Vertical 4 ft., Residential	3025	---	10.0	---	---

(a) Budget U-factors are used for software baseline calculations ONLY, and are not code requirements.
(b) 'Other' components require supporting documentation for proposed U-factors.
(c) Fenestrations product performance must be certfied in accordance with NFRC and requires supporting documentation.

Air Leakage, Component Certification, and Vapor Retarder Requirements:

- [x] 1. All joints and penetrations are caulked, gasketed or covered with a moisture vapor-permeable wrapping material installed in accordance with the manufacturer's installation instructions.
- [x] 2. Windows, doors, and skylights certified as meeting leakage requirements.
- [x] 3. Component R-values & U-factors labeled as certified.
- [x] 4. No roof insulation is installed on a suspended ceiling with removable ceiling panels.
- [ ] 5. 'Other' components have supporting documentation for proposed U-Factors.
- [x] 6. Insulation installed according to manufacturer's instructions, in substantial contact with the surface being insulated, and in a manner that achieves the rated R-value without compressing the insulation.
- [x] 7. Stair, elevator shaft vents, and other outdoor air intake and exhaust openings in the building envelope are equipped with motorized dampers.
- [ ] 8. Cargo doors and loading dock doors are weather sealed.
- [x] 9. Recessed lighting fixtures installed in the building envelope are Type IC rated as meeting ASTM E283, are sealed with gasket or caulk.
- [x] 10. Building entrance doors have a vestibule equipped with self-closing devices.
  Exceptions:
  - [ ] Building entrances with revolving doors.
  - [ ] Doors not intended to be used as a building entrance.
  - [ ] Doors that open directly from a space less than 3000 sq. ft. in area.
  - [ ] Doors used primarily to facilitate vehicular movement or materials handling and adjacent personnel doors.
  - [ ] Doors opening directly from a sleeping/dwelling unit.

Section 4: 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 system has been designed to meet the 2010 New York Energy Conservation Construction Code requirements in COM*check-Web* and to comply with the mandatory requirements in the Requirements Checklist.

When a Registered Design Professional has stamped and signed this page, they are attesting that to the best of his/her knowledge, belief, and professional judgment, such plans or specifications are in compliance with this Code.

Name - Title Signature Date

REGISTERED ARCHITECT MAGNUS MAGNUSSON 14993 STATE OF NEW YORK

PROFESSIONAL STATEMENT:

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PERSONAL JUDGEMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK CITY, 2011, USING CHAPTER 5.

Lighting Fixture Schedule

Type	Description	Manufacturer	Model Number	Watts and lamp	Ballast
A	WALL MOUNT SCONCE	NUVO	60-907	(1) 18W CFL	Electronic
B	DECORATIVE CEILING MOUNT	SUNLIGHT	49030-SU	15 WATT LED	N/A
C	DECORATIVE CEILING MOUNT	SUNLIGHT	49030-SU	15 WATT LED	N/A
D	WALL MOUNT VANITY LIGHT	SUNPARK	FL3136D-3000K	34 WATT LED	N/A
E	WALL MOUNT SCONCE	SUNPARK	MDF032-126	26 WATT CFL	ELECTRONIC
G2	RECESSED DOWNLIGHT IN ACT	PRECISELED	FL-2X2-34-45WT-4000K-NA-SK	45 WATT LED	N/A
G4	RECESSED DOWNLIGHT IN ACT	PRECISELED	FL-2X2-34-45-4000K-NA-45WT-SK	45 WATT LED	N/A
G-EM	RECESSED DOWNLIGHT IN ACT	PRECISELED	FL-2X2-34-45WT-4000K-NA-SK	45 WATT LED	N/A
J	RECESSED DOWNLIGHT IN ACT - EMERGENCY PACK	DMF	LED10DR430K	10 WATT LED	N/A
K6	RECESSED LINEAR FLUORESCENT	LAMAR	44-1-28-T-G-E5-1-PA	28 WATT T5	ELECTRONIC
K8	RECESSED LINEAR FLUORESCENT	LAMAR	44-1-28-T-G-E5-1-PA	28 WATT T5	ELECTRONIC
K8-EM	RECESSED LINEAR FLUORESCENT - EMERGENCY PACK	LAMAR	44-1-28-T-G-E5-1-PA-EM	28 WATT T5	ELECTRONIC
L	COVE LIGHTING	PHILLIPS	BXC416	32 WATT LED	N/A
R	1X4 SURFACE MOUNT FLUORESCENT	MOBERN	770-232-ELO	(2)32 WATT T5	ELECTRONIC
R-EM	1X4 SURFACE MOUNT FLUORESCENT	MOBERN	770-232-ELO-B1	(2)32 WATT T5	ELECTRONIC
S2	WALL MOUNTED ASYMMETRIC INDIRECT	MOBERN	155-232-W-MV	(2)32 WATT T5	ELECTRONIC
S4	WALL MOUNTED ASYMMETRIC INDIRECT	MOBERN	155-232-W-MV	(2)32 WATT T5	ELECTRONIC
S4-EM	WALL MOUNTED ASYMMETRIC INDIRECT	MOBERN	155-232-W-MV-B1	(2)32 WATT T5	ELECTRONIC
T	ALUMINUM HOOD DOWNLIGHT	KICHLER	16201AZT30	15W LED	N/A
U	EXTERIOR WALL MOUNT WITH MOTION SENSOR	RAB LIGHTING	WP1F26	26 WATT CFL	ELECTRONIC

NOTE:
1. 100% OF THE PERMANENTLY INSTALLED LIGHT FIXTURES SHALL BE PROVIDED WITH HIGH EFFICACY LAMPS.
2. ALL EXTERIOR LIGHTS SHALL BE CONTROLLED BY AN ASTRONOMICAL TIME CLOCK.
3. ALL DWELLING UNITS IS INDIVIDUALLY METERED.

LIGHTING CONTROL NARRATIVE

LIGHTING IN COMMON AREA ROOMS, EXCEPT STAIRWELLS AND CORRIDORS, SHALL BE PROVIDED WITH OCCUPANCY SENSORS WITH MANUAL CONTROL. STAIRWELL LIGHTS SHALL BE PROVIDED WITH INTEGRAL OCCUPANCY SENSORS. CORRIDOR AND LOBBY LIGHTS ARE CONTINUOUSLY ON. EXTERIOR LIGHTS ARE CONTROLLED VIA AN ASTRONOMICAL TIME CLOCK.

COMcheck Software Version 3.9.4
Mechanical Compliance Certificate

2010 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: **New Construction**
Project Title : Melrose Commons - Veterans Housing

Construction Site:	Owner/Agent:	Designer/Contractor:
425 E. 161st Street Bronx, NY. 10451	James Riso The Briarwood Organization 36-35 Bell Blvd Bayside, NY 11361	Sideris Kefalas Engineers P.C. 217-22 Northern Blvd Bayside, NY 11361 718-224-9091

Section 2: General Information

Building Location (for weather data): **Bronx, New York**
Climate Zone: **4a**

Section 3: Mechanical Systems List

Quantity	System Type & Description
1	HVAC System MUA-1 (Single Zone) : Heating: 1 each - Central Furnace, Gas, Capacity = 250 kBtu/h Proposed Efficiency = 80.00% Ec, Required Efficiency = 80.00% Ec Fan System: Unspecified
1	HVAC System PTAC 07 (Single Zone) : Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 17 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Packaged Terminal Unit, Capacity = 8 kBtu/h, Air-Cooled Condenser, Unknown Economizer Proposed Efficiency = 12.00 EER, Required Efficiency = 10.86 EER Fan System: Unspecified
1	HVAC System PTAC 09 (Single Zone) : Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 17 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Packaged Terminal Unit, Capacity = 10 kBtu/h, Air-Cooled Condenser, Unknown Economizer Proposed Efficiency = 12.00 EER, Required Efficiency = 10.43 EER Fan System: Unspecified
1	HVAC System PTAC 13 (Single Zone) : Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 17 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Packaged Terminal Unit, Capacity = 13 kBtu/h, Air-Cooled Condenser, Unknown Economizer Proposed Efficiency = 11.40 EER, Required Efficiency = 9.77 EER Fan System: Unspecified
1	HVAC System PTAC 15 (Single Zone) : Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 19 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Packaged Terminal Unit, Capacity = 14 kBtu/h, Air-Cooled Condenser, Unknown Economizer Proposed Efficiency = 10.50 EER, Required Efficiency = 9.43 EER Fan System: Unspecified
1	HVAC System PTAC 18 (Single Zone) : Heating: 1 each - Hydronic or Steam Coil, Hot Water, Capacity = 19 kBtu/h No minimum efficiency requirement applies Cooling: 1 each - Packaged Terminal Unit, Capacity = 16 kBtu/h, Air-Cooled Condenser, Unknown Economizer Proposed Efficiency = 10.30 EER, Required Efficiency = 9.30 EER

Fan System: Unspecified

Quantity	System Type & Description
1	HVAC System ACCU-COM (Single Zone) : Split System Heat Pump Heating Mode: Capacity = 162 kBtu/h, Proposed Efficiency = 3.49 COP, Required Efficiency = 3.20 COP Cooling Mode: Capacity = 144 kBtu/h, , Air Economizer Proposed Efficiency = 11.80 EER, Required Efficiency = 10.60 EER Fan System: Unspecified
1	HVAC System ACCU-EMR (Single Zone) : Split System Heat Pump Heating Mode: Capacity = 13 kBtu/h, Proposed Efficiency = 11.00 HSPF, Required Efficiency = 7.70 HSPF Cooling Mode: Capacity = 11 kBtu/h, Proposed Efficiency = 21.50 SEER, Required Efficiency = 13.00 SEER Fan System: Unspecified
2	Plant 1 BOILERS: Heating: Hot Water Boiler, Capacity 1000 kBtu/h, Gas Proposed Efficiency: 94.00 % Et, Required Efficiency: 75.00 % Et

Section 4: Requirements Checklist

Requirements Specific To: HVAC System MUA-1 :
- [ ] 1. Equipment minimum efficiency: Central Furnace (Gas): 80.00 % Ec

Requirements Specific To: HVAC System PTAC 07 :
- [ ] 1. Equipment minimum efficiency: Packaged Terminal DX Unit: 10.86 EER
- [ ] 2. Balancing and pressure test connections on all hydronic terminal devices
- [ ] 3. Hot water pumping systems with multiple boilers automatically reduce hot water flow rates proportionately when boilers are not operating

Requirements Specific To: HVAC System PTAC 09 :
- [ ] 1. Equipment minimum efficiency: Packaged Terminal DX Unit: 10.43 EER
- [ ] 2. Balancing and pressure test connections on all hydronic terminal devices
- [ ] 3. Hot water pumping systems with multiple boilers automatically reduce hot water flow rates proportionately when boilers are not operating

Requirements Specific To: HVAC System PTAC 13 :
- [ ] 1. Equipment minimum efficiency: Packaged Terminal DX Unit: 9.77 EER
- [ ] 2. Balancing and pressure test connections on all hydronic terminal devices
- [ ] 3. Hot water pumping systems with multiple boilers automatically reduce hot water flow rates proportionately when boilers are not operating

Requirements Specific To: HVAC System PTAC 15 :
- [ ] 1. Equipment minimum efficiency: Packaged Terminal DX Unit: 9.43 EER
- [ ] 2. Balancing and pressure test connections on all hydronic terminal devices
- [ ] 3. Hot water pumping systems with multiple boilers automatically reduce hot water flow rates proportionately when boilers are not operating

Requirements Specific To: HVAC System PTAC 18 :
- [ ] 1. Equipment minimum efficiency: Packaged Terminal DX Unit: 9.30 EER
- [ ] 2. Balancing and pressure test connections on all hydronic terminal devices
- [ ] 3. Hot water pumping systems with multiple boilers automatically reduce hot water flow rates proportionately when boilers are not operating

Requirements Specific To: HVAC System ACCU-COM :
- [ ] 1. Equipment minimum efficiency: Heat Pump: 3.20 COP 10.60 EER
- [ ] 2. Integrated economizer is required for this location and system.
- [ ] 3. Cooling system provides a means to relieve excess outdoor air during economizer operation.

Requirements Specific To: HVAC System ACCU-EMR :
- [ ] 1. Equipment minimum efficiency: Heat Pump: 7.70 HSPF 13.00 SEER

Requirements Specific To: Plant 1 BOILERS :
- [ ] 1. Equipment minimum efficiency: Boiler Thermal Efficiency 75% Et 80% Ec

- [ ] 2. Newly purchased heating equipment meets the efficiency requirements
  - used equipment must meet 80% Et @ maximum capacity
- [ ] 3. Systems with multiple boilers have automatic controls capable of sequencing boiler operation
- [ ] 4. Hydronic heating systems comprised of a single boiler and >500 kBtu/h input design capacity include either a multistaged or modulating burner

Generic Requirements: Must be met by all systems to which the requirement is applicable:

- [x] 1. Plant equipment and system capacity no greater than needed to meet loads
  Exception(s):
  - [ ] Standby equipment automatically off when primary system is operating
  - [ ] Multiple units controlled to sequence operation as a function of load
- [x] 2. Minimum one temperature control device per system
- [ ] 3. Minimum one humidity control device per installed humidification/dehumidification system
- [x] 4. Load calculations per ASHRAE/ACCA Standard 183.
- [x] 5. Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup
  Exception(s):
  - [ ] Continuously operating zones
- [ ] 6. Outside-air source for ventilation; system capable of reducing OSA to required minimum
- [x] 7. R-5 supply and return air duct insulation in unconditioned spaces
  R-8 supply and return air duct insulation outside the building
  R-8 insulation between ducts and the building exterior when ducts are part of a building assembly
  Exception(s):
  - [ ] Ducts located within equipment
  - [ ] Ducts with interior and exterior temperature difference not exceeding 15°F.
- [x] 8. Mechanical fasteners and sealants used to connect ducts and air distribution equipment
- [x] 9. Ducts sealed - longitudinal seams on rigid ducts; transverse seams on all ducts; UL 181A or 181B tapes and mastics
- [x] 10. Hot water pipe insulation: 1.5 in. for pipes <=1.5 in. and 2 in. for pipes >1.5 in.
  Chilled water/refrigerant/brine pipe insulation: 1.5 in. for pipes <=1.5 in. and 1.5 in. for pipes >1.5 in.
  Steam pipe insulation: 1.5 in. for pipes <=1.5 in. and 3 in. for pipes >1.5 in.
  Exception(s):
  - [ ] Piping within HVAC equipment.
  - [ ] Fluid temperatures between 55 and 105°F.
  - [ ] Fluid not heated or cooled with renewable energy.
  - [ ] Piping within room fan-coil (with AHRI440 rating) and unit ventilators (with AHRI840 rating).
  - [ ] Runouts <4 ft in length.
- [x] 11. Operation and maintenance manual provided to building owner
- [x] 12. Thermostatic controls have 5°F deadband
  Exception(s):
  - [ ] Thermostats requiring manual changeover between heating and cooling
  - [ ] Special occupancy or special applications where wide temperature ranges are not acceptable and are approved by the authority having jurisdiction.
- [x] 13. Hot water distribution systems >= 300 kBtu/h must have one of the following:
  a) controls that reset supply water temperature by 25% of supply/return delta T
  b) mechanical or electrical adjustable-speed pump drive(s)
  c) two-way valves at all heating coils
  d) multiple-stage pumps
  e) other system controls that reduce pump flow by at least 50% based on load
  - calculations required
  Exception(s):
  - [ ] Where the supply temperature reset controls cannot be implemented without causing improper operation of heating, cooling, humidification, or dehumidification systems.
  - [ ] Hydronic systems that use variable flow to reduce pumping energy.
- [x] 14. Balancing devices provided in accordance with IMC 603.17
- [ ] 15. Demand control ventilation (DCV) present for high design occupancy areas (>40 person/1000 ft2 in spaces >500 ft2) and served by systems with any one of 1) an air-side economizer, 2) automatic modulating control of the outdoor air damper, or 3) a design outdoor airflow greater than 3000 cfm.
  Exception(s):
  - [ ] Systems with heat recovery.
  - [ ] Multiple-zone systems without DDC of individual zones communicating with a central control panel.
  - [ ] Systems with a design outdoor airflow less than 1200 cfm.

  - [ ] Spaces where the supply airflow rate minus any makeup or outgoing transfer air requirement is less than 1200 cfm.
- [x] 16. Motorized, automatic shutoff dampers required on exhaust and outdoor air supply openings
  Exception(s):
  - [ ] Gravity dampers acceptable in buildings <3 stories
- [x] 17. Automatic controls for freeze protection systems present
- [x] 18. Three-pipe systems not used
- [ ] 19. Exhaust air heat recovery included for systems 5,000 cfm or greater with more than 70% outside air fraction or specifically exempted
  Exception(s):
  - [ ] Hazardous exhaust systems, commercial kitchen and clothes dryer exhaust systems that the International Mechanical Code prohibits the use of energy recovery systems.
  - [ ] Systems serving spaces that are heated and not cooled to less than 60°F.
  - [ ] Where more than 60 percent of the outdoor heating energy is provided from site-recovered or site solar energy.
  - [ ] Heating systems in climates with less than 3600 HDD.
  - [ ] Cooling systems in climates with a 1 percent cooling design wet-bulb temperature less than 64°F.
  - [ ] Systems requiring dehumidification that employ energy recovery in series with the cooling coil.
  - [ ] Laboratory fume hood exhaust systems that have either a variable air volume system capable of reducing exhaust and makeup air volume to 50 percent or less of design values or, a separate make up air supply meeting the following makeup air requirements: a) at least 75 percent of exhaust flow rate, b) heated to no more than 2°F below room setpoint temperature, c) cooled to no lower than 3°F above room setpoint temperature, d) no humidification added, e) no simultaneous heating and cooling.

Section 5: Compliance Statement

Compliance Statement: The proposed mechanical design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed mechanical systems have been designed to meet the 2010 New York Energy Conservation Construction Code requirements in COMcheck Version 3.9.4 and to comply with the mandatory requirements in the Requirements Checklist.

Chris M. Sideris, P.E. — 03/06/15
Name - Title Signature Date

Section 6: Post Construction Compliance Statement

- [ ] HVAC record drawings of the actual installation, system capacities, calibration information, and performance data for each equipment provided to the owner.
- [ ] HVAC O&M documents for all mechanical equipment and system provided to the owner by the mechanical contractor.
- [ ] Written HVAC balancing and operations report provided to the owner.

The above post construction requirements have been completed.

Principal Mechanical Designer-Name Signature Date

COMcheck Software Version 3.9.4
Interior Lighting Compliance Certificate

2010 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: **New Construction**
Project Title : Melrose Commons - Veterans Housing

Construction Site:	Owner/Agent:	Designer/Contractor:
425 E. 161st Street Bronx, NY. 10451	James Riso The Briarwood Organization 36-35 Bell Blvd Bayside, NY 11361	Sideris Kefalas Engineers P.C. 217-22 Northern Blvd Bayside, NY 11361 718-224-9091

Section 2: Interior Lighting and Power Calculation

A Area Category	B Floor Area (ft2)	C Allowed Watts / ft2	D Allowed Watts (B x C)
Multifamily	14928	0.7	10450
		Total Allowed Watts =	10450

Section 3: Interior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Multifamily (14928 sq.ft.)				
LED 3: Exit Signs: Other:	1	29	3	87
Compact Fluorescent 2: E: Corridor Sconce: Other: Electronic:	1	66	26	1716
Linear Fluorescent 5: S2: Wall Mounted Indirect: Other: Electronic:	2	12	64	768
Linear Fluorescent 6: S4: Wall Mounted Indirect: 48" T8 32W: Electronic:	2	10	64	640
Linear Fluorescent 7: S4-EM: Wall Mounted Indirect: 48" T8 32W: Electronic:	2	22	64	1408
LED 4: G2: 2X2 LED PANEL: Other:	1	32	45	1440
Linear Fluorescent 8: R: 1X4 Fluorescent: 48" T8 32W: Electronic:	2	13	64	832
Linear Fluorescent 9: K8: Corridor Linear Fluorescent: Other: Electronic:	1	2	28	56
Linear Fluorescent 10: R-EM: 1X4 Fluorescent: 48" T8 32W: Electronic:	2	9	64	576
Linear Fluorescent 10: K-EM: Corridor Linear Fluorescent: 48" T8 32W: Electronic:	1	26	28	728
Linear Fluorescent 10: K6: Linear Fluorescent: Other: Electronic:	1	6	28	168
Linear Fluorescent 10: K8-EM: Corridor Linear Fluorescent: Other: Electronic:	1	26	28	728
LED 5: G2-EM: 2X2 LED: Other:	1	6	45	270
LED 6: D: VANITY LIGHTS: Other:	1	2	34	68
LED 7: G4: 2X2 LED: Other:	1	6	45	270
LED 8: J: DOWNLIGHT LED: Other:	1	31	10	310
LED 9: L: Cove Lighting: Other:	1	12	32	384
			Total Proposed Watts =	10449

Section 4: Requirements Checklist

Interior Lighting PASSES: Design 0.1% better than code.

Lighting Wattage:
- [ ] 1. Total proposed watts must be less than or equal to total allowed watts.

Allowed Watts	Proposed Watts	Complies
10450	10449	YES

Controls, Switching, and Wiring:
- [ ] 2. Daylight zones under skylights more than 15 feet from the perimeter have lighting controls separate from daylight zones adjacent to vertical fenestration.
- [ ] 3. Daylight zones have individual lighting controls independent from that of the general area lighting.
  Exceptions:
  - [ ] Contiguous daylight zones spanning no more than two orientations are allowed to be controlled by a single controlling device.
  - [ ] Daylight spaces enclosed by walls or ceiling height partitions and containing two or fewer light fixtures are not required to have a separate switch for general area lighting.
- [ ] 4. Independent controls for each space (switch/occupancy sensor).
  Exceptions:
  - [ ] Areas designated as security or emergency areas that must be continuously illuminated.
  - [ ] Lighting in stairways or corridors that are elements of the means of egress.
- [ ] 5. Master switch at entry to hotel/motel guest room.
- [ ] 6. Individual dwelling units separately metered.
- [ ] 7. Medical task lighting or art/history display lighting claimed to be exempt from compliance has a control device independent of the control of the nonexempt lighting.
- [ ] 8. Each space required to have a manual control also allows for reducing the connected lighting load by at least 50 percent by either controlling all luminaires, dual switching of alternate rows of luminaires, alternate luminaires, or alternate lamps, switching the middle lamp luminaires independently of other lamps, or switching each luminaire or each lamp.
  Exceptions:
  - [ ] Only one luminaire in space.
  - [ ] An occupant-sensing device controls the area.
  - [ ] The area is a corridor, storeroom, restroom, public lobby or sleeping unit.
  - [ ] Areas that use less than 0.6 Watts/sq.ft.
- [ ] 9. Automatic lighting shutoff control in buildings larger than 5,000 sq.ft.
  Exceptions:
  - [ ] Sleeping units, patient care areas; and spaces where automatic shutoff would endanger safety or security.
- [ ] 10. Photocell/astronomical time switch on exterior lights.
  Exceptions:
  - [ ] Lighting intended for 24 hour use.
- [ ] 11. Tandem wired one-lamp and three-lamp ballasted luminaires (No single-lamp ballasts).
  Exceptions:
  - [ ] Electronic high-frequency ballasts; Luminaires on emergency circuits or with no available pair.

Section 5: Compliance Statement

Compliance Statement: The proposed lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2010 New York Energy Conservation Construction Code requirements in COMcheck Version 3.9.4 and to comply with the mandatory requirements in the Requirements Checklist.

Filolaos Kefalas — 7/28/15
Name - Title Signature Date

COMcheck Software Version 3.9.4
Exterior Lighting Compliance Certificate

2010 New York Energy Conservation Construction Code

Section 1: Project Information

Project Type: **New Construction**
Project Title : Melrose Commons - Veterans Housing
Exterior Lighting Zone: **2 (Residentially zoned area)**

Construction Site:	Owner/Agent:	Designer/Contractor:
248 W 108th St New York, NY 10025	James Riso The Briarwood Organization 36-35 Bell Blvd Bayside, NY 11361	Sideris Kefalas Engineers P.C. 217-22 Northern Blvd Bayside, NY 11361 718-224-9091

Section 2: Exterior Lighting Area/Surface Power Calculation

A Exterior Area/Surface	B Quantity	C Allowed Watts / Unit	D Tradable Wattage	E Allowed Watts (B x C)	F Proposed Watts
Emtry Canopy (Entry canopy)	146 ft2	0.25	Yes	37	135
Roof Exterior Lighting (Other door (not main entry))	9 ft of door width	20	Yes	180	364
Landscape (Special feature area)	2370 ft2	0.14	Yes	332	240
Illuminated length of facade wall or surface	281 ft	2.5	No	703	208
			Total Tradable Watts* =	548	739
			Total Allowed Watts =	1251	
			Total Allowed Supplemental Watts** =	600	

* Wattage tradeoffs are only allowed between tradable areas/surfaces.
** A supplemental allowance equal to 600 watts may be applied toward compliance of both non-tradable and tradable areas/surfaces.

Section 3: Exterior Lighting Fixture Schedule

A Fixture ID : Description / Lamp / Wattage Per Lamp / Ballast	B Lamps/ Fixture	C # of Fixtures	D Fixture Watt.	E (C X D)
Emtry Canopy (Entry canopy 146 ft2): Tradable Wattage				
LED 1: T: Canopy Lighting: Other:	1	9	15	135
Roof Exterior Lighting (Other door (not main entry) 9 ft of door width): Tradable Wattage				
Compact Fluorescent 3: U: Ext Wall Mount w/Diffuser: Quad 4-pin 13W: Electronic:	1	14	26	364
Landscape (Special feature area 2370 ft2): Tradable Wattage				
LED 2: A: Landscape Lighting: Other:	1	30	8	240
Illuminated length of facade wall or surface (281 ft): Non-tradable Wattage				
Compact Fluorescent 4: P: 1st Fl Exterior Lighting: Quad 4-pin 13W: Electronic:	1	8	26	208
			Total Tradable Proposed Watts =	739

Section 4: Requirements Checklist

Lighting Wattage:
- [ ] 1. Within each non-tradable area/surface, total proposed watts must be less than or equal to total allowed watts. Across all tradable areas/surfaces, total proposed watts must be less than or equal to total allowed watts.
  Compliance: Passes using supplemental allowance watts.

Controls, Switching, and Wiring:
- [ ] 2. All exemption claims are associated with fixtures that have a control device independent of the control of the nonexempt lighting.
- [ ] 3. Lighting not designated for dusk-to-dawn operation is controlled by either a a photosensor (with time switch), or an astronomical time switch.
- [ ] 4. Lighting designated for dusk-to-dawn operation is controlled by an astronomical time switch or photosensor.
- [ ] 5. All time switches are capable of retaining programming and the time setting during loss of power for a period of at least 10 hours.

Exterior Lighting Efficacy:
- [ ] 6. All exterior building grounds luminaires that operate at greater than 100W have minimum efficacy of 60 lumen/watt.
  Exceptions:
  - [ ] Lighting that has been claimed as exempt and is identified as such in Section 3 table above.
  - [ ] Lighting that is specifically designated as required by a health or life safety statue, ordinance, or regulation.
  - [ ] Emergency lighting that is automatically off during normal building operation.
  - [ ] Lighting that is controlled by motion sensor.

Section 5: Compliance Statement

Compliance Statement: The proposed exterior lighting design represented in this document is consistent with the building plans, specifications and other calculations submitted with this permit application. The proposed lighting system has been designed to meet the 2010 New York Energy Conservation Construction Code requirements in COMcheck Version 3.9.4 and to comply with the mandatory requirements in the Requirements Checklist.

Filolaos Kefalas — 7/28/15
Name - Title Signature Date

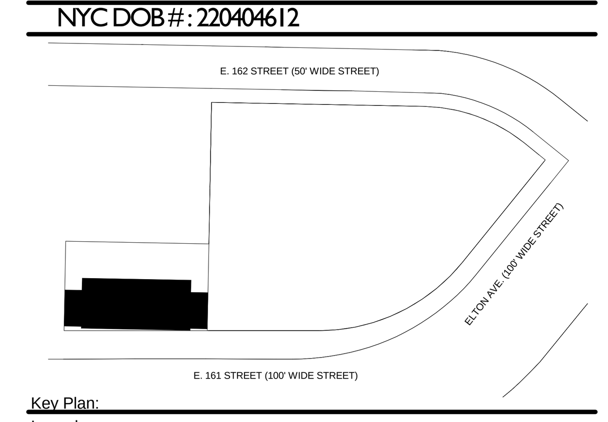
Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:
The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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SIDERIS KEFALAS Engineers, PC
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Filing Representative:
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52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Energy Analysis

SEAL & SIGNATURE:	
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	EN-002.00
SCALE:	5 OF 111

TABLE I – PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – RESIDENTIAL BUILDINGS

	Inspection/Test	Frequency (minimum)	Reference Standard (See ECC Chapter 6) or Other Criteria	ECC or Other Citation
IA	**Envelope Inspections**			
IA1	**Protection of exposed foundation insulation:** Insulation shall be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or the perimeter of slab-on-grade floors.	Prior to backfill	Approved construction documents	303.2.1
IA2	**Insulation placement and R-values:** Installed insulation for each component of the conditioned space envelope and at junctions between components shall be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation shall be similarly visually inspected.	As required to verify continuous enclosure while walls, ceilings and floors are open	Approved construction documents	303.1, 303.1.1, 303.1.2, 402.1, 402.2, 402.4.2.2, Table 402.4.2
IA3	**Fenestration U-factor and product ratings:** U-factors of installed fenestration shall be verified by visual inspection for conformance with the U-factors identified in the construction drawings, either by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables 303.1.3(1) and (2).	As required during installation	Approved construction drawings; NFRC 100	303.1, 303.1.3, 402.1, 402.3, 402.6
IA4	**Fenestration air leakage:** Windows, skylights and sliding glass doors, except site-built windows, skylights and doors, shall be visually inspected to verify that installed assemblies are listed and labeled to the referenced standard.	As required during installation	NFRC 400, AAMA/WDMA/CSA 101/I.S.2/A440	402.4.4
IA5	**Fenestration areas:** Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	402.3
IA6	**Air sealing and insulation – visual inspection:** Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that they are properly sealed, in accordance with Table 402.4.2.	As required during envelope construction	Approved construction documents; ASTM E283; ASTM E84; RCNYS	402.4.1, 402.4.2.2, 402.4.3
IA7	**Air sealing and insulation – testing:** Testing shall be performed in accordance with section ECC 402.4.2.1 and shall be accepted if the building meets the requirements detailed in such section. Test results shall be retained in accordance with the provisions of Title 28.	Prior to final construction inspection	ASHRAE/ASTM E779; ANSI Z65; Approved construction documents	402.4.2.1
IB	**Mechanical and Plumbing Inspections**			
IB1	**Fireplaces:** Provision of combustion air and tight-fitting fireplace doors shall be verified by visual inspection. NOT APPLICABLE	Prior to final construction inspection	Approved construction documents; ANSI Z21.60 (see also MC 904), ANSI Z21.50	303.1.5; BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IB2	**Shutoff dampers:** Not less than 20% of installed automatic or gravity dampers, and a minimum of one of each type, shall be visually inspected and physically tested for proper operation.	Prior to final construction inspection	Approved construction documents	403.5, 403.7, C403
IB3	**HVAC and service water heating equipment:** Heating and cooling equipment shall be verified by visual inspection for proper sizing. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection	ACCA Manual J; Approved construction documents, including energy analysis	403.6, 403.7, 403.9, C403
IB4	**HVAC and service water heating system controls:** System controls shall be inspected to verify that each dwelling is provided with at least one individual programmable thermostat with capabilities as described in ECC 403.1.1, and that such controls are set and operate as specified in ECC 403.1.1. Controls for supplementary electric-resistance heat pumps shall be inspected to verify that such controls prevent supplemental heat operation when the heat pump compressor can meet the heating load. Controls for snow- and ice-melting systems and pools shall be inspected for proper operation. Not less than 20% or one of each control type, whichever is more, shall be inspected. Controls for turning off circulating hot water pumps when not in use shall be inspected for an automatic or manual switch.	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	403.1, 403.4, 403.7, 403.8, 403.9
IB5	**HVAC insulation and sealing:** Installed duct and piping insulation shall be visually inspected to verify correct insulation placement and values. Ducts, air handlers, filter boxes and building cavities used as ducts shall be visually inspected for proper sealing.	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; RCNYS M1601.3.1	403.2.1, 403.2.2, 403.3, 403.4, 403.7; MC 603.9
IB6	**Duct leakage testing:** Where the air handler and/or some ductwork is in unconditioned space, duct-leakage testing shall be performed either after rough-in or post-construction to ensure compliance with ECC 403.2.2. Not less than 20% of such ductwork shall be tested. NOT APPLICABLE	Prior to closing ceilings and walls and prior to final construction inspection	Approved construction documents; ANSI/ASHRAE 152, ASTM E1554 Test Method A	403.2.2, 403.7
IC	**Electrical Power and Lighting Systems**			
IC1	**Electrical energy consumption:** The presence and operation of individual meters or other means of monitoring individual dwelling units shall be verified by visual inspection for all dwelling units.	Prior to final electrical and construction inspection	Approved construction documents	404.2
IC2	**Interior lighting power:** Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	404.1
ID	**Other**			
ID1	**Maintenance information:** Maintenance manuals for equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems shall be inspected for accuracy and completeness. NOT APPLICABLE	Prior to sign-off or issuance of Certificate of Occupancy	Approved construction documents	303.3
ID2	**Permanent certificate:** The installed permanent certificate shall be visually inspected for location, completeness and accuracy. NOT APPLICABLE	Prior to final plumbing, electrical and/or construction inspection as applicable	Approved construction documents	401.3, 1RCNY 5000-01(g)(5)

(2) Commercial buildings. The progress inspections and tests described in Table II shall be performed for buildings regulated by either ECC Chapters C2 through C5 or ASHRAE 90.1 as applicable.

TABLE II – PROGRESS INSPECTIONS FOR ENERGY CODE COMPLIANCE – COMMERCIAL BUILDINGS

	Inspection/Test	Periodic (minimum)	Reference Standard (See ECC Chapter C5) or Other Criteria	ECC or Other Citation
IIA	**Envelope Inspections**			
IIA1	**Protection of exposed foundation insulation:** Insulation shall be visually inspected to verify proper protection where applied to the exterior of basement or cellar walls, crawl-space walls and/or the perimeter of slab-on-grade floors.	As required during foundation work and prior to backfill	Approved construction documents	C303.2.1; ASHRAE 90.1 – 5.8.1.7
IIA2	**Insulation placement and R-values:** Installed insulation for each component of the conditioned space envelope and at junctions between components shall be visually inspected to ensure that the R-values are marked, that such R-values conform to the R-values identified in the construction documents and that the insulation is properly installed. Certifications for unmarked insulation shall be similarly visually inspected.	As required to verify continuous enclosure while walls, ceilings and floors are open	Approved construction documents	C303.1, C303.1.1, C303.1.2, C402.1, C402.2; ASHRAE 90.1 –5.5, 5.6 or 11; 5.8.1
IIA3	**Fenestration U-factor and product ratings:** U-factors, SHGC and VT values of installed fenestration shall be visually inspected for conformance with the U-factors, SHGC and VT values identified in the construction drawings by verifying the manufacturer's NFRC labels or, where not labeled, using the ratings in ECC Tables C303.1.3(1), (2) and (3).	As required during installation	Approved construction documents; NFRC 100, NFRC 200	C303.1, C303.1.3, C402.3; ASHRAE 90.1 –5.5; 5.6 or 11; 5.8.2
IIA4	**Fenestration air leakage:** Windows and sliding or swinging door assemblies, except site-built windows and/or doors, shall be visually inspected to verify that installed assemblies are listed and labeled by the manufacturer to the referenced standard. For curtain wall, storefront glazing, commercial entrance doors and revolving doors, the testing reports shall be reviewed to verify that the installed assembly complies with the standard cited in the approved plans.	As required during installation; prior to final construction inspection	NFRC 400, AAMA/WDMA/CSA 101/I.S.2/A440 ASTM E283; ANSI/DASMA 105	C402.4.3; ASHRAE 90.1 –5.4.3.2
IIA5	**Fenestration areas:** Dimensions of windows, doors and skylights shall be verified by visual inspection.	Prior to final construction inspection	Approved construction documents	C402.3; ASHRAE 90.1 – 5.5.4.2, 5.6 or 11
IIA6	**Air sealing and insulation – visual inspection:** Openings and penetrations in the building envelope, including site-built fenestration and doors, shall be visually inspected to verify that a continuous air barrier around the envelope forms an air-tight enclosure. The progress inspector shall visually inspect to verify that materials and/or assemblies have been tested and meet the requirements of the respective standards, or that the building is tested and meets the requirements of the standard, in accordance with the standard(s) cited in the approved plans.	As required during construction	Approved construction documents; ASTM E2178, ASTM E2357, ASTM E1677, ASTM E779, ASTM E283.	C402.4; ASHRAE 90.1 – 5.4.3.1
IIA7	**Projection factors:** Where the energy analysis utilized a projection factor > 0, the projection dimensions of overhangs, eaves or permanently attached shading devices shall be verified for conformance with approved plans by visual inspection. NOT APPLICABLE	Prior to final construction inspection	Approved construction documents, including energy analysis	C402.3; ASHRAE 90.1 – 5.5.4, 5.6 or 11
IIA8	**Loading dock weatherseals:** Weatherseals at loading docks shall be visually verified. NOT APPLICABLE	Prior to final construction inspection	Approved construction documents	C402.4.6; ASHRAE 90.1 – 5.4.3.3
IIA9	**Vestibules:** Required entrance vestibules shall be visually inspected for proper operation.	Prior to final construction inspection	Approved construction documents	C402.4.7; ASHRAE 90.1 – 5.4.3.4
IIB	**Mechanical and Service Water Heating Inspections**			
IIB1	**Fireplaces:** Provision of combustion air and tight-fitting fireplace doors shall be verified by visual inspection. NOT APPLICABLE	Prior to final construction inspection	Approved construction documents; ANSI Z21.60 (see also MC 904), ANSI Z21.50	C402.2.9; BC 2111; MC Chapters 7, 8, 9; FGC Chapter 6
IIB2	**Shutoff dampers:** Dampers for stair and elevator shaft vents and other outdoor air intakes and exhaust openings integral to the building envelope shall be visually inspected to verify that such dampers, except where permitted to be gravity dampers, comply with approved construction drawings. Manufacturer's literature shall be reviewed to verify that the product has been tested and found to meet the standard.	As required during installation	Approved construction documents; AMCA 500D	C403.2.4.4; ASHRAE 90.1 – 6.4.3.4
IIB3	**HVAC and service water heating equipment:** Equipment sizing, efficiencies and other performance factors of all major equipment units, as determined by the applicant of record, and no less than 15% of minor equipment units, shall be verified by visual inspection and, where necessary, review of manufacturer's data. Pool heaters and covers shall be verified by visual inspection.	Prior to final plumbing and construction inspection	Approved construction documents	C403.2, C404.2, C404.7, C406.2; ASHRAE 90.1 – 6.3, 6.4.1, 6.4.2, 6.8; 7.4, 7.8
IIB4	**HVAC and service water heating system controls:** No less than 20% of each type of required controls and economizers shall be verified by visual inspection and tested for functionality and proper operation. Such controls shall include, but are not limited to: ▪ Thermostatic ▪ Set point overlap restriction ▪ Off-hour ▪ Shutoff damper ▪ Snow-melt system ▪ Demand control systems ▪ Outdoor heating systems ▪ Zones ▪ Economizers ▪ Air systems ▪ Variable air volume fan ▪ Single Zone Cooling Systems ▪ Hydronic systems ▪ Heat rejection equipment fan speed ▪ Complex mechanical systems serving multiple zones ▪ Ventilation ▪ Energy recovery systems ▪ Hot gas bypass limitation ▪ Temperature ▪ Service water heating ▪ Hot water system ▪ Pool heater and time switches ▪ Exhaust hoods ▪ Radiant heating systems. ▪ HVAC Control in Group R-1 Sleeping Rooms **Controls with seasonally dependent functionality:** Controls whose complete operation cannot be demonstrated due to prevailing weather conditions typical of the season during which progress inspections will be performed shall be permitted to be signed off for the purpose of a Temporary Certificate of Occupancy with only a visual inspection, provided, however, that the progress inspector shall perform a supplemental inspection where the controls are visually inspected and tested for functionality and proper operation during the next immediate season thereafter. The owner shall provide full access to the progress inspector within two weeks of the progress inspector's request for such access to perform the progress inspection. For such supplemental inspections, the Department shall be notified by the approved progress inspection agency of any unresolved deficiencies in the installed work within 180 days of such supplemental inspection.	After installation and prior to final electrical and construction inspection, except that for controls with seasonally dependent functionality, such testing shall be performed before sign-off for issuance of a Final Certificate of Occupancy	Approved construction documents, including control system narratives; ASHRAE Guideline 1: The HVAC Commissioning Process where applicable	C403.2.4, C403.2.5.1, C403.2.11, C403.3, C403.4, C404.3, C404.6, C404.7; ASHRAE 90.1 – 6.3, 6.4, 6.5, 7.4.4, 7.4.5
IIB5	**HVAC insulation and sealing:** Installed duct and piping insulation shall be visually inspected to verify proper insulation placement and values. Joints, longitudinal and transverse seams and connections in ductwork shall be visually inspected for proper sealing.	After installation and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA Duct Construction Standards, Metal and Flexible	C403.2.7, C403.2.8, C404.5, MC 603.9; ASHRAE 90.1 – 6.3, 6.4.4, 6.8.2, 6.8.3; 7.4.3
IIB6	**Duct leakage testing:** For duct systems designed to operate at static pressures in excess of 3 inches w.g. (746 Pa), representative sections, as determined by the progress inspector, totaling at least 25% of the duct area, per ECC C403.2.7.1.3, shall be tested to verify that actual air leakage is below allowable amounts. NOT APPLICABLE	After installation and sealing and prior to closing shafts, ceilings and walls	Approved construction documents; SMACNA HVAC Air Duct Leakage Test Manual	C403.2.7.1.3; ASHRAE 90.1 – 6.4.4.2.2
IIC	**Electrical Power and Lighting Systems**			
IIC1	**Electrical energy consumption:** The presence and operation of individual meters or other means of monitoring individual apartments shall be verified by visual inspection for all apartments and where required in a covered tenant space.	Prior to final electrical and construction inspection	Approved construction documents	C405.7
IIC2	**Lighting in dwelling units:** Lamps in permanently installed lighting fixtures shall be visually inspected to verify compliance with high-efficacy requirements.	Prior to final electrical and construction inspection	Approved construction documents	C405.1; ASHRAE 90.1 – 9.1.1
IIC3	**Interior lighting power:** Installed lighting shall be verified for compliance with the lighting power allowance by visual inspection of fixtures, lamps, ballasts and transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.5, C406.3; ASHRAE 90.1 –9.1, 9.2, 9.5, 9.6; 1RCNY §101-07(c)(3)(v)(C)4
IIC4	**Exterior lighting power:** Installed lighting shall be verified for compliance with source efficacy and/or the lighting power allowance by visual inspection of fixtures, lamps, ballasts and relevant transformers.	Prior to final electrical and construction inspection	Approved construction documents	C405.6; ASHRAE 90.1 – 9.4.3; 1RCNY §101-07(c)(3)(v)(C)4
IIC5	**Lighting controls:** Each type of required lighting controls, including: ▪ occupant sensors ▪ manual interior lighting controls ▪ light-reduction controls ▪ automatic lighting shut-off ▪ daylight zone controls ▪ sleeping unit controls ▪ exterior lighting controls shall be verified by visual inspection and tested for functionality and proper operation.	Prior to final electrical and construction inspection	Approved construction documents, including control system narratives	C405.2; ASHRAE 90.1 – 9.4.1 (as modified by section ECC A102)
IIC6	**Exit signs:** Installed exit signs shall be visually inspected to verify that the label indicates that they do not exceed maximum permitted wattage.	Prior to final electrical and construction inspection	Approved construction documents	C405.4; ASHRAE 90.1 – 9.4.2
IIC7	**Electric motors (including but not limited to fan motors):** Where required by the construction documents for energy code compliance, motor listing or labels shall be visually inspected to verify that they comply with the respective energy requirements in the construction documents.	Prior to final electrical and construction inspection	Approved construction documents	C403.2.10; ASHRAE 90.1 – 10.4
IID	**Other**			
IID1	**Maintenance information:** Maintenance manuals for mechanical, service hot water and electrical equipment and systems requiring preventive maintenance shall be reviewed for applicability to installed equipment and systems before such manuals are provided to the owner. Labels required for such equipment or systems shall be inspected for accuracy and completeness.	Prior to sign-off or issuance of Final Certificate of Occupancy	Approved construction documents, including electrical drawings where applicable; ASHRAE Guideline 4: Preparation of Operating and Maintenance Documentation for Building Systems	C303.3, C408.2.5.2; ASHRAE 90.1 – 4.2.2.3, 6.7.2.2, 8.7.2, 9.7.2.2

(i) Energy Analysis of Constructed Conditions. In accordance with Section 28-104.3 of the Administrative Code and section ECC 103.4, if constructed work differs from the last-approved full energy analysis, an as-built energy analysis shall be submitted to the Department, listing the actual values used in the building for

Code. Such energy analysis shall be signed and sealed by a registered design professional. The progress inspector shall certify that to the best of his or her knowledge and belief the building as built complies with such signed and sealed energy analysis and construction drawings for energy code compliance; where no trade-offs have been used among disciplines, more than one registered design professional may sign and seal the elements of the energy analysis. The energy analysis shall be approved or accepted by the Department prior to sign-off.

Melrose Commons Site C - Supportive Housing

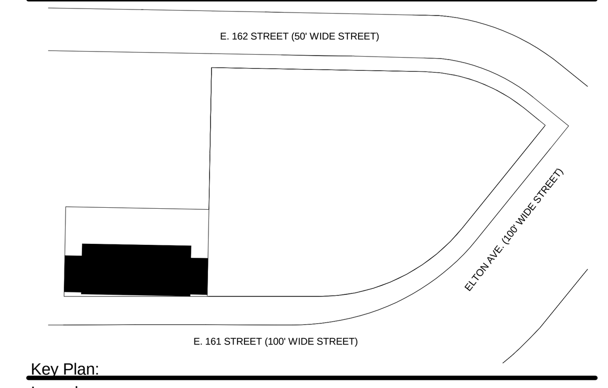
Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

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Filing Representative:
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52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340
DESIGN 2147 LIMITED

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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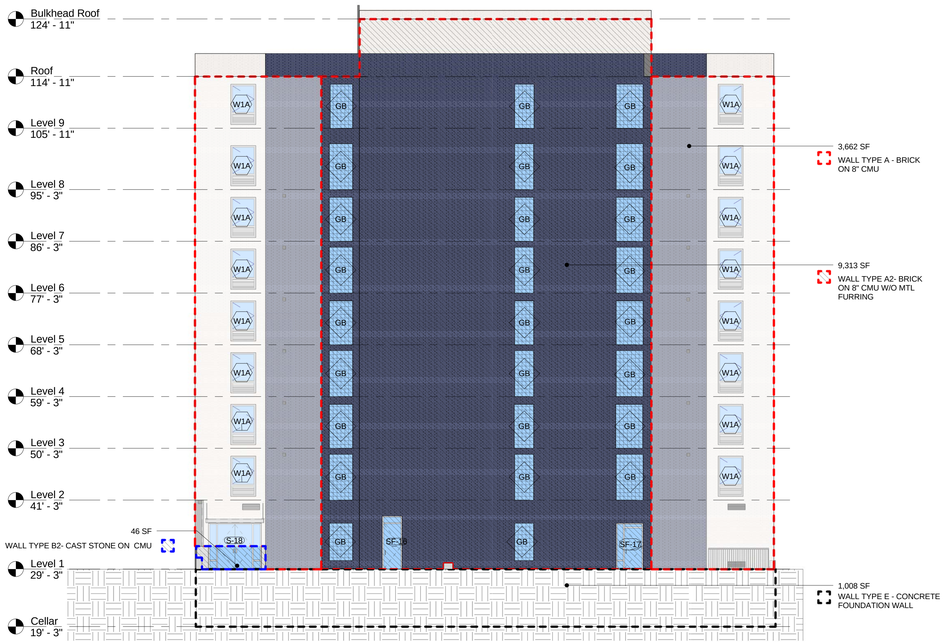
Energy Analysis

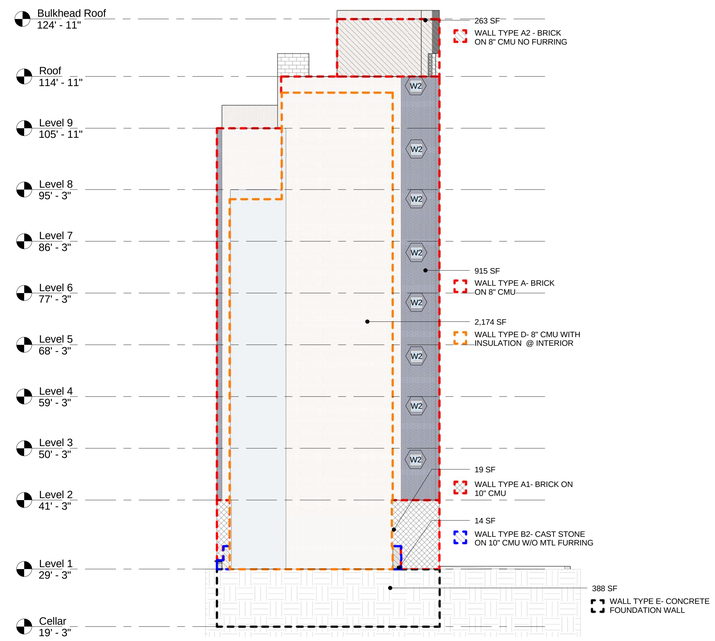
SEAL & SIGNATURE:

PROJECT No: 13007
DRAWING BY: Author
CHK BY: Checker
DWG No:
EN-003.00
SCALE:



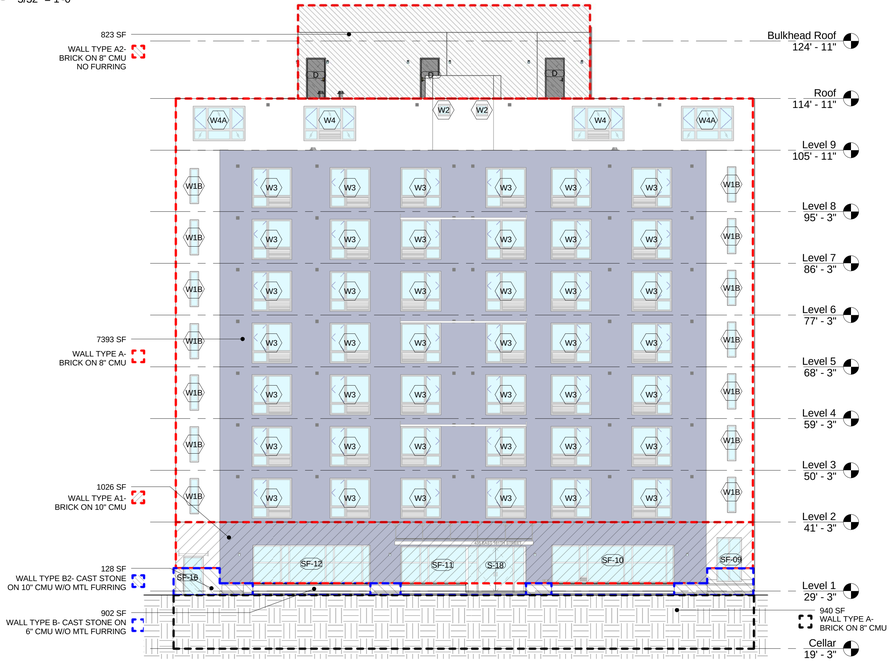
OPAGUE		FENESTRATION			
TYPE	TOTAL GROSS AREA	TYPE	GROSS AREA PER ITEM	QTY.	TOTAL GROSS AREA
A	3662 SF	W1A	34.3 SF	16	548.8 SF
A2	9313 SF	SF-16	31.0 SF	1	31.0 SF
B	46 SF	SF-17	37.0 SF	1	37.0 SF
E	1008 SF	SF-18	75.0 SF	1	75.0 SF
		CHANNEL GLASS (CG)	NA	26	869 SF

2 North Elevation COMcheck Analysis
3/32" = 1'-0"



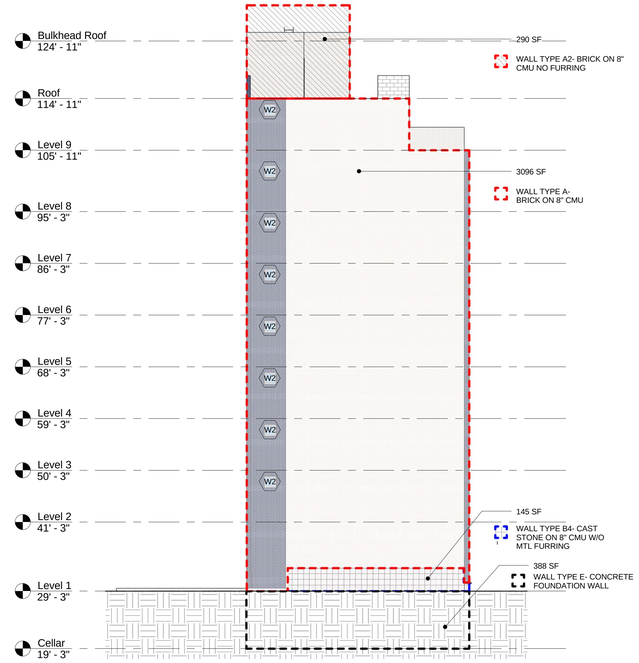
OPAGUE		FENESTRATION			
TYPE	TOTAL GROSS AREA	TYPE	GROSS AREA PER ITEM	QTY.	TOTAL GROSS AREA
A	915 SF	W2	4.0 SF	8	32 SF
A1	19 SF				
A2	263 SF				
B2	14 SF				
D	2174 SF				
E	388 SF				

3 East Elevation COMcheck Analysis
3/32" = 1'-0"



OPAGUE		FENESTRATION				
TYPE	TOTAL GROSS AREA	TYPE	GROSS AREA PER ITEM	QTY.	TOTAL GROSS AREA	
A	7393 SF	W2	4.0 SF	2	8.0 SF	2429 SF
A1	1026 SF	W3	49.0 SF	42	2058.0 SF	
A2	823 SF	W4	54.0 SF	2	108.0 SF	
B	124 SF	W4a	54.0 SF	2	108.0 SF	
B2	128 SF	W5	10.5 SF	14	147 SF	
E	940 SF	SF-09	51.4 SF	1	51.4 SF	329 SF
		SF-10	131.5 SF	1	131.5 SF	
		SF-11	68.1 SF	1	68.1SF	
		SF-12	129.5 SF	1	129.5 SF	
		S-11	78.1 SF	1	78.1 SF	
		S-14	23.9 SF	1	23.9 SF	

1 South Elevation COMcheck Analysis
3/32" = 1'-0"



OPAGUE		FENESTRATION			
TYPE	TOTAL GROSS AREA	TYPE	GROSS AREA PER ITEM	QTY.	TOTAL GROSS AREA
A	3096 SF	W2	4.0 SF	8	32 SF
A2	290 SF				
B4	145 SF				
E	388 SF				

4 West Elevation COMcheck Analysis
3/32" = 1'-0"

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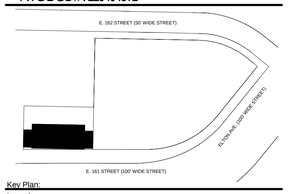

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Energy Analysis

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DRAWING BY:	Author
CHK BY:	Checker
DWG No:	EN-004.00
SCALE: 3/32" = 1'-0"	7 OF 111

ABBREVIATIONS

AB ANCHOR BOLT
ABV ABOVE
AC AIR CONDITIONING
ACM ASBESTOS CONTAINING MATERIAL
ACOUS ACOUSTICAL
ACP ACOUSTICAL CEILING PANEL
ACT ACOUSTICAL CEILING TILE
AD AREA DRAIN/ACCESS DOOR
ADD ADDENDUM
ADDL ADDITIONAL
ADH ADHESIVE
ADJ ADJUSTABLE
ADJC ADJACENT
AFF ABOVE FINISH FLOOR
AGGR AGGREGATE
AL/ALUM ALUMINUM
ALT ALTERNATE
ANOD ANODIZED (ANODIC COATING)
AP ACCESS PANEL
APPROX APPROXIMATE(LY)
APT APARTMENT
ARCH ARCHITECT(URAL)
ASC ABOVE SUSPENDED CEILING
ASPH ASPHALT(IC)
AST ASSISTANT
ASST ASTRAGAL
AUTO AUTOMATIC
AUX AUXILARY
AV AUDIO/VISUAL
AVG AVERAGE

BC BOTTOM/BACK OF CURB
BD BOARD
BTWN BETWEEN
BIT BITUMINOUS
BLDG BUILDING
BLK BLOCK
BLKG BLOCKING
BLKHD BULKHEAD
BLW BELOW
BM BEAM/BENCHMARK
BOT BOTTOM
BP BASE PLATE
BR BED ROOM
BRG BEARING
BRNZ BRONZE
BS BOTH SIDES
BSMT BASEMENT
BUR BUILT-UP ROOF
BW BOTH WAYS

C COURSES
C/C CENTER TO CENTER
CAB CABINET
CB CATCH BASIN
CCTV CLOSED CIRCUIT TELEVISION
CEM CEMENT
CER CERAMIC
CG CORNER GUARD
CHAM CHAMFER
CHAN CHANNEL
CHKBD CHALKBOARD
CHK PL CHECKER PLATE
CI CAST IRON
CIP CAST IN PLACE
CJ CONTROL/CONSTRUCTION JOINT
CL CENTER LINE/CLEARANCE
CLG CEILING
CLL CONTRACT LIMIT LINE
CLR CLEAR(ANCE)
CLO CLOSET
CLOS CLOSURE
CM CENTIMETER
CMT CERAMIC MOSAIC TILE
CMU CONCRETE MASONRY UNIT
CNTR COUNTER/CENTER
CO CLEANOUT
COL COLUMN
COMB COMBINATION/COMBUSTIBLE
COMP COMPRESS(ION)(ED)/COMPOSITE
CONC CONCRETE
CONF CONFERENCE
CONN CONNECTION
CONSTR CONSTRUCTION
CONT CONTINUOUS(ATION)
CONTR CONTRACT(OR)
COORD COORDINATE
CORR CORRIDOR
CPT CARPET
CSK COUNTERSUNK
CSWK CASEWORK
CT CERAMIC TILE
CTP CERAMIC TILE PAVER
CTR CENTER
CTV CABLE TELEVISION
CU CUBIC
CUB CUBICLE
CUH CABINET UNIT HEATER
CW COLD WATER
CWT CERAMIC WALL TILE

DBL DOUBLE
DEG DEGREE(S)
DEMO DEMOLISHED, DEMOLITION
DEP DEPRESSED
DEPT DEPARTMENT
DET DETAIL
DF DRINKING FOUNTAIN
DH DOUBLE HUNG
DIA DIAMETER
DIAG DIAGONAL
DIM DIMENSION
DISP DISPENSER
DSIT DISTANCE
DIV DIVISION/DIVIDER
DMPFG DAMPPROOFING
DMPR DAMPER
DMPS DEMOUNTABLE MTL PARTITION SYSTEM
DMT DEMOUNTABLE
DN DOWN
DO DOOR OPENING
DOM DOMESTIC
DR DOOR/DINING ROOM
DS DOWNSPOUT
DSP DRY STANDPIPE
DW DISHWASHER
DWL DOWEL
DWTR DUMBWAITER
DWG DRAWING
DWR DRAWER

E EAST
EA EACH
EB EXPANSION BOLT
EF EACH FACE
EFS EXTERIOR FINISH SYSTEM
EG END GUARD
EHD ELECTRICAL HAND DRYER
EIFS EXTERIOR INSULATION & FINISH SYSTEM
EJ EXPANSION JOINT
EL ELEVATION
ELAST ELASTROMETRIC
ELEC ELECTRIC(AL)
ELEV ELEVATOR
EMER EMERGENCY
EMR ELEVATOR MACHINE ROOM
ENAM ENAMEL(ED)
ENCL ENCLOSE(URE)
ENGR ENGINEER
ENTR ENTRANCE
EP ELECTRICAL PANEL
EPCMU EPOXY PAINTED CMU
EPCONC EPOXY PAINTED CONCRETE
EPDM ETHYLENE PROPYLENE DIENE MONOMER
EPFL EPOXY FLOORING
EPGWB EPOXY PAINTED GYPSUM BOARD
EPNT EPOXY PAINT
EQ EQUAL
EQUIP EQUIPMENT
ESC EXCAVATED(ION)
ESCAL ESCALATOR
EST ESTIMATE(D)
ETC ET CETERA
EW EACH WAY
EWC ELECTRICAL WATER COOLER
EXAM EXAMINING(ATION)
EXH EXHAUST
EXIST EXISTING
EXP EXPANSION/EXPOSED
EXP BT EXPANSION BOLT
EXP JT EXPANSION JOINT
EXT EXTERIOR

FA FIRE ALARM
FAB FABRIC/FABRICATOR(ATE)
FB FACE BRICK
FBO FURNISH BY OTHERS
FC FOOTCANDLE
FCO FLOOR CLEANOUT
FCU FAN COIL UNIT
FD FLOOR DRAIN
FDC FIRE DEPARTMENT CONNECTION
FDN FOUNDATION
FDPR FIRE DAMPER
FDV FIRE DEPARTMENT VALVE
FDVC FIRE DEPARTMENT VALVE CABINET
FE FIRE EXTINGUISHER
FEC FIRE EXTINGUISHER CABINET
F/F FACE TO FACE
FF FACTORY FINISH(ED)
FFE FINISH FLOOR ELEVATION
FFL FINISH FLOOR LINE
FGL FIBERGLASS
FH FIRE HOSE
FHC FIRE HYDRANT/FUME HOOD
FHEC FIRE HOSE & EXTINGUISHER CABINET
FHMS FLAT HEAD MACHINE SCREW
FHR FIRE HOSE RACK
FHV FIRE HOSE VALVE
FHWS FLAT HEAD WOOD SCREW
FIN FINISH(ED)
FL FLOOR/FLOOR LINE
FLDG FOLDING
FLEX FLEXIBLE
FLR FLOOR(ING)
FLR REG FLOOR REGISTER
FLR SK FLOOR SINK
FLUOR FLUORESCENT
FMBD FORMBOARD
FN FENCE
FOB FACE OF BUILDING
FOF FACE OF FINISH
FOS FACE OF STUD
FP FIRE PROTECTION
FPL FIRE PLACE
FPRF FIREPROOFING
FR FIRE RATING/FRAME
FR MIR FRAMED MIRROR
FRT FIRE RETARDANT
FS FULL SIZE/FLOOR SINK
FSH FIRE SPRINKLER HEAD
FSP FIRE STANDPIPE
FT FOOT/FEET
FTC FINNED TUBE CONVECTOR
FTG FOOTING
FTR FINNED TUBE RADIATION(OR)
FURN FURNITURE
FURR FURRING
FUT FUTURE
FVC FIRE VALVE CABINET
FXD FIXED

G GAS
GA GAGE
GAL GALLON
GALV GALVANIZED
GB GRAB BAR
GEN GENERATOR
GENL GENERAL
GF GROUND FACE
GFI GROUND FAULT INTERRUPTER
GL GLASS, GLAZING
GLAM GLUE LAMINATED
GLZ GLAZING
GMU GLASS MASONRY UNIT
GND GROUND
GOVT GOVERNMENT
GR GRADE(ING)/GUARD RAIL
GRTG GRATING
GSKT GASKET
GT GROUT
GV GRAVITY VENT
GYP GYPSUM
GWB GYPSUM WALL BOARD
GWT GLAZED WALL TILE

H HIGH
HB HOSE BIBB
HC HOLLOW CORE/HANDICAP(PED)/ HOSE CABINET
HCW HOT & COLD WATER
HD HAND DRYER/HEAD/HEAVY DUTY
HDBD HARDBOARD
HDR HEADER
HDWD HARDWOOD
HDWR HARDWARE
HEX HEXAGONAL
HGR HANGER
HT HEIGHT
HM HOLLOW METAL
HO HOLD-OPEN
HORIZ HORIZONTAL
HP HORSEPOWER/HIGH POINT
HR HOUR/HANDRAIL
HS HIGH STRENGTH
HTG HEATING
HTR HEATER
HVAC HEATING, VENTILATING, AIR CONDITIONING
HVY HEAVY
HW HOT WATER
HWY HIGHWAY

ID INSIDE DIAMETER
IG INSULATED GLASS
IN INCH
IND INDUSTRIAL
INCAND INCANDESCENT
INCL INCLUDE(S)
INCIN INCINERATOR
INFO INFORMATION
INSTL INSTALLATION
INSTR INSTRUMENT
INSUL INSULATION
INTER INTERSECTION/INTERMEDIATE
INTERCOM INTERCOMMUNICATION
INT INTERIOR
INV INVERT
IMP INSULATED METAL PANEL
IPS INSIDE PIPE SIZE
ISO ISOMETRIC/POLYISOCYANURATE

JAN JANITOR
JB JUNCTION BOX
JC JANITOR'S CLOSET
JCT JUNCTION
JST JOIST
JT JOINT

K KIP (1000LBS)/KILOMETER
KB KNEE BRACE
KD KILN DRIED/KNOCK DOWN
KIT KITCHEN
KO KNOCK OUT
KOP KNOCK OUT PANEL
KPL KICK PLATE

L LEFT
LAB LABORATORY
LAD LADDER
LAM LAMINATION
LAV LAVATORY
LB POUND
LBL LABEL
LBR LUMBER
LCD LINEAR CEILING DIFFUSER
LD LINEAR DIFFUSER/LOAD
LDG LANDING
LDR LEADER
LF LINEAR FOOT/LINEAL FOOT
LG LENGTH/LONG
LH LEFT HAND
LHR LEFT HAND REVERSE
LHRB LEFT HAND REVERSE BEVEL
LIB LIBRARY
LIN LINEAR
LIQ LIQUID
LKR LOCKER
LL LIVE LOAD
LNTL LINTEL
LP LIGHT POLE/LIGHTPROOF/ LOW POINT
LPC LAMINATED PLASTIC COVER
LR LIVING ROOM
LRG LARGE
LT LIGHT(ING)
LW LIGHTWEIGHT
LTG LIGHTING
LV LOW VOLTAGE
LVL LEVEL(ER)
LVR LOUVER

M METER
MACH MACHINE
MAINT MAINTENANCE
MAS MASONRY
MATL MATERIAL
MATV MASTER ANTENNA TELEVISION
MAX MAXIMUM
MBR MASTER BEDROOM/MEMBER
MC MEDICINE CABINET
MCC MOTOR CONTROL CENTER
MDF MEDIUM DENSITY FIBERBOARD
MECH MECHANICAL
MED MEDIUM/MEDICINE
MEJ MASONRY EXPANSION JOINT
MEMB MEMBRANE
MER MECHANICAL EQUIPMENT ROOM
MEZZ MEZZANINE
MFB MINERAL FIBER BOARD
MFG MANUFACTURING
MFR MANUFACTURER
MGR MANAGER
MH MANHOLE
MI MALLEABLE IRON/MILE
MIC MICROPHONE
MIN MINIMUM/MINUTE
MIR MIRROR
MISC MISCELLANEOUS
ML METAL LATH
MLDG MOLDING
MLP METAL LATH & PLASTER
MLWK MILLWORK
MM MILLIMETER
MO MASONRY OPENING
MOD MODULE(AR)/MODIFIED
MOV MOVABLE
MP METAL PANEL
MRB MINERAL FIBER BOARD
MRGWB MOISTURE RESISTANT GYPSUM WALL BOARD
MT MARBLE TILE
MTD MOUNTED
MTG MEETING
MTL METAL
MTR MORTAR
MULL MULLION
MULT MULTIPLE

N NORTH
NA NOT APPLICABLE
NAT NATURAL
NIC NOT IN CONTRACT
NO NUMBER
NOM NOMINAL
NRC NOISE REDUCTION COEFFICIENT
NS NONSLIP
NTS NOT TO SCALE

O/O OUT TO OUT
OA OUTSIDE AIR/OVERALL
OBS OBSCURE
OC ON CENTER
OCC OCCUPANCY
OD OUTSIDE DIAMETER
OFD OVERFLOW DRAIN
OF OUTSIDE FACE
OFF OFFICE
OH OPPOSITE HAND
OPNG OPENING
OPP OPPOSITE
ORIG ORIGINAL
OVHD OVERHEAD
OXY OXYGEN
OZ OUNCE

P POLE
PA PUBLIC ADDRESS
PAR PARAGRAPH
PB PANIC BAR/PULL BOX/ PUSHBUTTON
PBD PARTICLEBOARD
PC PARTLAND CEMENT/PULL CHAIN/ PRECAST
PCF POUNDS PER CUBIC FOOT
PCMU PAINTED CONCRETE MASONRY UNIT
PCONC PAINTED CONCRETE
PED PEDESTAL
PERF PERFORATED
PERIM PERIMETER
PERP PERPENDICULAR
PFB PREFABRICATE(D)
PG PLATE GLASS
PGBD PEG BOARD
PGWB PAINTED GYPSUM WALL BOARD
PH() PHASE
PDK PACKAGE
PL PLATE/PROPERTY LINE
PLAM PLASTIC LAMINATE
PLAS PLASTER
PLAT PLATFORM
PLBG PLUMBING
PLF POUND PER LINEAR FOOT
PLYWD PLYWOOD
PNEU PNEUMATIC
PNL PANEL
PNT PAINT(ED)
POL POLISH(ED)
PORT PORTABLE
PP PUSH PLATE
\PR PAIR/PRINTER
PRCST PRECAST
PRESS PRESSURE
PRF PREFORMED
PREFAB PREFABRICATED
PREFIN PREFINISHED
PRELIM PRELIMINARY
PREP PREPARATION
PRKG PARKING
PROD PRODUCT
PROJ PROJECT/PROJECTION
PROP PROPERTY
PSF POUNDS PER SQUARE FOOT
PSI POUNDS PER SQUARE INCH
PSTL PAINTED STEEL
PT POINT
PTD PAPER TOWEL DISPENSER
PTN PARTITION
PTR PAPER TOWEL RECEPTACLE
PVC POLYVINYL CHLORIDE
PVF POLYVINYL IDINE FLUORIDE
PVR PAVER
PVG PAVING
PVMT PAVEMENT
PWR POWER

R RADIUS/RISER
R&S ROD & SHELF
RAD RADIATOR/RADIUS
RAG RETURN AIR GRILLE
RCWY RACEWAY
RD ROOF DRAIN/ROAD
RECEP RECEPTACLE/RECEPTION
RECIRC RECIRCULATION
RECT RECTANGLE
RECV'D RECEIVED
REF REFERENCE
REFR REFRIGERATOR
REG REGULATOR/REGLET/REGISTER
REINF REINFORCE(D)(ING)(MENT)
REM REMOVE(ABLE)
REQD REQUIRED
RESIL RESILIENT
RET RETURN
REV REVISION(S)/REVISED
RFG ROOFING
RFH ROOF HATCH
RFL REFLECT(ED)(IVE)(OR)
RH RIGHT HAND
RHB RECESSED HOSE BIBB
RHMS ROUND HEAD MACHINE SCREW
RHR RIGHT HAND REVERSE
RHRB RIGHT HAND REVERSE BEVEL
RHWS ROUND HEAD WOOD SCREW
RLG RAILING
RM ROOM
RND ROUND
RO ROUGH OPENING
ROW RIGHT OF WAY
RPM REVOLUTIONS PER MINUTE
RR RAILROAD
RS RESILIENT SHEET
RT RESILIENT TILE
RTN RETURN
RVS REVERSE
RWC RAIN WATER CONDUCTOR
RWD REDWOOD

S SOUTH
S&V STAIN & VARNISH
SAB SOUND ATTENUATING BATT
SAHC SEALED & HARDENED CONCRETE
SALB SALVAGE
SAN SANITARY
SB SPLASH BLOCK
SC SOLID CORE
SCHED SCHEDULE
SCN SCREEN
SCONC SEALED CONCRETE
SCW SOLID CORE WOOD
SD SOAP DISPENSER
SDL SADDLE
SEC SECOND
SECT SECTION
SF SQUARE FEET
SFP SPRAYED ON FIREPROOFING
SGFT STRUCTURAL GLAZED FACING TILE
SGL SINGLE
SHR SHOWER
SHT SHEET(ING)
SHTHG SHEATHING
SHV SHELVES(ING)
SIM SIMILAR
SK SINK
SL SLAB
SLV SLEEVE
SM SHEET METAL
SND SANITARY NAPKIN DISPENSER
SDR SANITARY NAPKIN RECEPTACLE
SNT SEALANT
SP SOUNDPROOF/STANDPIPE/ SHEAR PLATE
SPC SPACE/SPECIAL
SPEC SPECIFICATION
SPKLR SPRINKLER
SPKR SPEAKER
SPL SPECIAL
SQ SQUARE
SSK SERVICE SINK
SS/SST STAINLESS STEEL
ST STREET
STA STATION
STAG STAGGERED
STC SOUND TRANSMISSION CLASS

STD STANDARD
STG SEATING
STL STEEL
STOR STORAGE
STR STRAIGHT
STRL STRUCTURAL
STRUCT STRUCTURAL
SUBFL SUBFLOOR(ING)
SUP SUPPLY
SUPP SUPPORT
SUPPL SUPPLEMENT
SURF SURFACE
SUSP SUSPENDED
SVIN SHEET VINYL
SW SIDEWALK/SWITCH
SWBD SWITCHBOARD
SWR SEWER
SYM SYMBOL
SYMM SYMMETRY(ICAL)
SYNTH SYNTHETIC
SYS SYSTEM

T TREAD
T/ TOP OF
T&B TOP & BOTTOM
T&G TONGUE & GROOVE
TB TOWEL BAR
TB-XX TEST BORING-XX
TC TOP OF CURB
TD TOWEL DISPENSER/TRENCH DRAIN
TDR TOWEL DISPENSER & RECEPTACLE
TECH TECHNICAL
TEL TELEPHONE
TEMP TEMPERATURE/TEMPORARY
TERR TERRAZZO
TERM TERMINAL
TG TEMPERED GLASS
THERM THERMAL
THK THICKNESS
THRES THRESHOLD
THRU THROUGH
TJ TELEPHONE JACK
TKBD TACKBOARD
TMPD TEMPERED
TOC TOP OF CONCRETE/TOP OF CURB
TOF TOP OF FOOTING
TOIL TOILET
TOL TOLERANCE
TOS TOP OF SLAB/TOP OF STEEL
TOT TOTAL
TOW TOP OF WALL
TP TOP OF PAVEMENT
TPD TOILET PAPER DISPENSER
TPH TOILET PAPER HOLDER
TPTN TOILET PARTITION
TR TRANSOM
TRANS TRANSPARENT
TRK TRACK
TV TELEVISION
TYP TYPICAL

U UP
UB UNDERSIDE OF BEAM
UC UNDERCUT
UG UNDERGROUND
UH UNIT HEATER
UL UNDERWRITERS LABORATORIES, INC.
UNEX UNEXCAVATED
UNFIN UNFINISHED
UNIF UNIFORM
UNIV UNIVERSAL
UON UNLESS OTHERWISE NOTED
UR URINAL
US UNDERSIDE OF SLAB
UTIL UTILITY
UV ULTRAVIOLET

V VOLT/VINYL
VAR VARIABLE/VARNISH/VARIES
VB VAPOR BARRIER
VCT VINYL COMPOSITION TILE
VEH VEHICLE
VEL VELOCITY
VENT VENTILATOR
VERT VERTICAL
VEST VESTIBULE
VG VERTICAL GRAIN
VIT VINYL IMPREGNATED TACKBOARD
VJ V-JOINT (E.I.F.S.)
VNR VENEER
VOL VOLUME
VP VAPOR PROOF
VWB VINYL WALL BASE
VWC VINYL WALL COVERING

W WEST
W/ WITH
W/O WITHOUT
W/W WALL TO WALL
WB WALL BUMPER
WC WATER CLOSET
WCG WALL COVERING
WD WIDTH/WOOD
WDIM WINDOW DIMENSION
WDW WINDOW
WF WIDE FLANGE BEAM
WG WALL GRILLE
WGL WIRE GLASS
WH WALL HUNG/WATER HYDRANT
WI WROUGHT IRON
WL WATERLINE
WM WIRE MESH
WMP WIRE MESH PARTITION
WO WINDOW OPENING
WP WATERPROOFING/WORK POINT
WR WASTE RECEPTACLE/ WATER RESISTANT
WS WATER STOP/WEATHER STRIPPING
WSCT WAINSCOT
WT WEIGHT
WWB WOOD WALL BASE
WWF WELDED WIRE FABRIC

X TIMES
XPS EXTRUDED POLYSTYRENE

YD YARD DRAIN

ARCHITECTURAL

Sheet Number	Sheet Name
C-001.00	Cover Sheet
Z-001.00	Zoning Analysis
Z-002.00	Zoning Mechanical Deductions
EN-001.00	Energy Analysis
EN-002.00	Energy Analysis
EN-003.00	Energy Analysis
EN-004.00	Energy Analysis
A-001.00	Drawing Index, Abbreviations, and Symbols
A-002.00	General Notes and DOB Notes
A-003.00	Code Conformance Notes
A-004.00	Accessibility Notes
A-005.00	Air Sealing Strategies and Details
A-006.00	Site Survey "For Information Only"
A-007.00	FEMA Flood Map
A-010.00	Site Plan
A-100.00	Cellar Floor Plan
A-101.00	1st Floor Plan
A-102.00	2nd Floor Plan
A-103.00	3rd-8th Floor Plan
A-104.00	9th Floor Plan
A-105.00	Roof Plan
A-106.00	Bulkhead Floor Plan
A-201.00	East & South Elevations
A-202.00	West & North Elevations
A-301.00	Building Sections
A-350.00	Wall Sections-South Cellar-7th
A-351.00	Wall Sections-South 8th-Bulkhead
A-352.00	Wall Sections-North
A-353.00	Wall Sections-West
A-354.00	Wall Sections- East
A-355.00	Wall Sections- South
A-360.00	Wall Details
A-361.00	Wall Details
A-362.00	Wall Details
A-401.00	Roofing + Miscellaneous Details
A-404.00	Canopy Plan, Section, Details
A-501.00	Stair A & B Plans & Sections
A-510.00	Miscellaneous Stairs, Stair and Ramp Details
A-520.00	Elevator Plans, Sections, Details
A-540.00	Typical Apartment Layouts
A-550.00	Kitchen Plans, Elevations and Details
A-560.00	Bathroom Plans, Elevations and Details
A-561.00	Bathroom Plans, Elevations and Details
A-570.00	Lobby Plans, Sections,Details
A-571.00	Miscellaneous Interior Details
A-600.00	Partition Types and Details
A-601.00	Door Types and Schedule
A-602.00	Door Details
A-603.00	Window Types and Details
A-604.00	Storefront Types & Detail
A-605.00	Signage Details
A-610.00	Appliance, Plumbing and Finish Schedules
A-611.00	Cellar Finish Floor Plan
A-612.00	1st Finish Floor Plan
A-613.00	2nd Finish Floor Plan
A-614.00	3rd-8th Finish Floor Plan
A-615.00	9th Finish Floor Plan
A-700.00	Cellar Reflected Ceiling Plan
A-701.00	1st Floor Reflected Ceiling Plan
A-702.00	2nd Floor Reflected Ceiling Plan
A-703.00	3rd- 7th Floor Reflected Ceiling Plans
A-704.00	8th Floor Reflected Ceiling Plans
A-705.00	9th & Roof Floor Reflected Ceiling Plan

LANDSCAPE

Sheet Number	Sheet Name
L-000.00	General Notes
L-100.00	Materials & Layout Plans
L-200.00	Grading, Irrigation & Lighting Plans
L-300.00	Planting Plan & Schedule Lower Levels
L-400.00	Roof Plans
L-500.00	Details
L-501.00	Details

CIVIL

Sheet Number	Sheet Name
BPP-001.00	BPP - Site Location and Key Plan
BPP-100.00	BPP - Sidewalk Detail
BPP-101.00	BPP - Sidewalk Details
BPP-102.00	BPP - Notes & Details

SUPPORT OF EXCAVATION

Sheet Number	Sheet Name
SOE-100.00	General Notes and Plot Plan
SOE-101.00	Excavation Plan
SOE-102.00	Sections
SOE-103.00	Section, Details and Notes

FOUNDATION AND STRUCTURAL

Sheet Number	Sheet Name
S-001.00	General Notes and Design Criteria
FO-001.00	Foundation Notes and Details
FO-101.00	Foundation and Cellar Plan
FO-201.00	Foundation Sections 1
FO-202.00	Foundation Sections 2
S-002.00	Typical Details 1
S-003.00	Typical Details 2
S-004.00	Typical Details 3
S-005.00	Typical Details 4
S-101.00	1st Floor Framing Plan
S-102.00	2nd Floor Framing Plan
S-103.00	3rd Thru 8th Floor Framing Plan
S-104.00	9th Floor Framing Plan
S-105.00	Roof Framing Plan
S-106.00	Bulkhead Framing Plan
S-201.00	Sections
S-301.00	Schedules
S-401.00	Shear Wall Details 1

MECHANICAL

Sheet Number	Sheet Name
M-050.00	Mechanical Cover Sheet
M-100.00	Cellar Mechanical Plan
M-101.00	1st Floor Mechanical Plan
M-102.00	2nd Floor Mechanical Plan
M-103.00	3rd Thru 8th Floor Mechanical Plan
M-104.00	9th Floor Mechanical Plan
M-105.00	Roof Mechanical Plan
M-150.00	Boiler Room Detailed Plans
M-151.00	Boiler Piping Diagram
M-152.00	Boiler Equipment Specifications
M-200.00	Heating System Riser Diagram
M-210.00	Ventilation Riser Diagram
M-300.00	Mechanical Schedules
M-301.00	Mechanical Schedules
M-400.00	Mechanical Details
M-401.00	Mechanical Details
M-402.00	Mechanical Details
M-403.00	Mechanical Details

PLUMBING

Sheet Number	Sheet Name
P-050.00	Plumbing Cover Page
P-100.00	Cellar Plumbing Plan
P-101.00	1st Floor Plumbing Plan
P-102.00	2nd Floor Plumbing Plan
P-103.00	3rd Through 8th Floor Plumbing Plan
P-104.00	9th Floor Plumbing Plan
P-105.00	Roof Plumbing Plan
P-200.00	Sanitary Riser Diagram
P-201.00	Sanitary Riser Diagram
P-210.00	Domestic Water Riser Diagram
P-211.00	Domestic Water Riser Diagram
P-220.00	Gas & Storm Riser Diagram
P-300.00	Plumbing Details
P-301.00	Plumbing Details
P-302.00	Plumbing Details

ELECTRICAL

Sheet Number	Sheet Name
E-100.00	Cellar Electrical Plan
E-101.00	1st Floor Electrical Plan
E-102.00	2nd Floor Electrical Plan
E-103.00	3rd Thru 8th Floor Electrical Plan
E-104.00	9th Floor Electrical Plan
E-105.00	Roof Electrical Plan
E-150.00	Boiler plans
E-200.00	Electrical Riser Diagram
E-201.00	Low Voltage Riser Diagram
E-202.00	Intercom Riser Diagram
E-300.00	Panel Schedules
E-400.00	Electrical Notes & Details

FIRE PROTECTION

Sheet Number	Sheet Name
P-050.00	Plumbing Cover Page
P-100.00	Cellar Plumbing Plan
P-101.00	1st Floor Plumbing Plan
P-102.00	2nd Floor Plumbing Plan
P-103.00	3rd Thru 8th Floor Plumbing Plan
P-104.00	9th Floor Plumbing Plan
P-105.00	Roof Fire Plumbing Plan
P-200.00	Sanitary Riser Diagram
P-201.00	Sanitary Riser Diagram
P-210.00	Domestic Water Riser Diagram
P-211.00	Domestic Water Riser Diagram
P-220.00	Gas and Storm Riser Diagram
P-300.00	Plumbing Deting
P-301.00	Plumbing Deting
P-302.00	Plumbing Deting

FIRE ALARM

Sheet Number	Sheet Name
FA-001.00	Fire Alarm Notes And Plot Plan
FA-100.00	Cellar Fire Alarm Plan
FA-101.00	1st Floor Fire Alarm Plan
FA-102.00	2nd Floor Fire Alarm Plan
FA-103.00	3rd Thru 8th Floor Fire Alarm Plan
FA-104.00	9th Floor Fire Alarm Plan
FA-105.00	Roof Fire Alarm Plan
FA-106.00	Fire Alarm Riser Diagram

PHOTOVOLTAIC

Sheet Number	Sheet Name
PV-101	PRELIMINARY DESIGN

SITE DRAINAGE

Sheet Number	Sheet Name
SD-1	SITE CONNECTION PROPOSAL

LEGEND + SYMBOLS

MATERIAL LEGEND

EARTH/COMPACT FILL
CONCRETE
CONCRETE MASONRY UNIT (CMU)
BRICK
METAL
WOOD BLOCKING
GLASS
BATT INSULATION
RIGID INSULATION

SYMBOLS

BUILDING SECTION TAG
SIM
1 — SECTION DETAIL NUMBER
A101 — DRAWING SHEET NUMBER

BUILDING ELEVATION TAG
1 — SECTION DETAIL NUMBER
A101 — DRAWING SHEET NUMBER

WALL SECTION TAG
SIM
1 — SECTION DETAIL NUMBER
A101 — DRAWING SHEET NUMBER

ENLARGED DETAIL TAG
SIM
1 — SECTION DETAIL NUMBER
A101 — DRAWING SHEET NUMBER

INTERIOR ELEVATION TAG
1 — SECTION DETAIL NUMBER
A101 — DRAWING SHEET NUMBER

SYMBOLS

W02 — WINDOW SCHEDULE TAG
SEE WINDOW SCHEDULE FOR DETAILED INFORMATION

K3 — BATHROOM / KITCHEN TAG
SEE BATHROOM / KITCHEN SCHEDULE FOR ADDITIONAL INFORMATION

1004 — DOOR TYPE, SEE DOOR SCHEDULE SHEET

3A — PARTITION TYPE TAG

S-02 — STOREFRONT TYPE TAG

SD CO — CARBON MONOXIDE AND SMOKE DETECTOR,
SEE REFLECTED CEILING PLANS

EXIT SIGN SYMBOL

HANDICAPPED SYMBOL
FD. FLOOR DRAIN
RD. ROOF DRAIN
1 — REVISION TAG
17.32' 17.29' — ELEVATION CHANGE SYMBOL
8'-0" — CEILING ELEVATION
℄ — CENTER LINE SYMBOL

Melrose Commons Site C - Supportive Housing

Bronx, NY

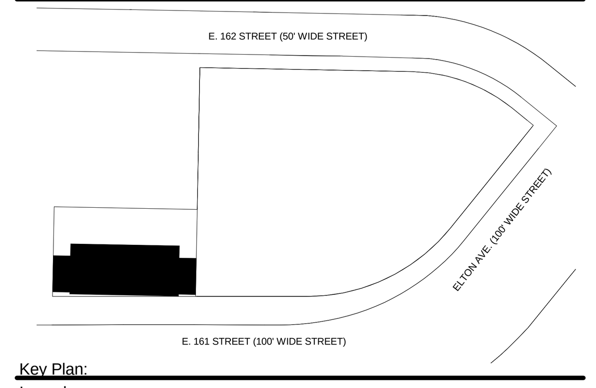
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Drawing Index, Abbreviations, and Symbols

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-001.00
SCALE: 1/2" = 1'-0"	8 OF 111

NYC BUILDING CODE- DOB NOTES

UNLESS OTHERWISE NOTED, ALL REFERENCED SECTIONS ARE FROM TITLE 27, CHAPTER 1 OF THE NYC BUILDING CODE. HMC = NYC HOUSING MAINTENANCE CODE

1. THESE NOTES ARE PART OF THE PLANS AND SPECIFICATIONS AND ARE TO BE COMPLIED WITH IN ALL RESPECTS. MORE RESTRICTIVE NOTES APPEARING ELSEWHERE IN THE CONTRACT DOCUMENTS OR REFERRED TO SECTIONS ARE TO TAKE PRECEDENCE OVER THE FOLLOWING:

2. THE BUILDING OWNER SHALL BE RESPONSIBLE FOR THE SAFE MAINTENANCE OF THE BUILDING AND ITS FACILITIES PER SECTIONS 28-301.1

3. ALL MATERIALS, ASSEMBLIES, FORMS AND METHODS OF CONSTRUCTION CONFORM TO THE REQUIREMENTS CHAPTER 12 THROUGH 31 OF THE B.C. AND ARTICLE BC 113

4. MECHANICAL VENTILATION WORK SHALL CONFORM TO THE 2008 MECHANICAL CODE NYC.

5. PLUMBING MATERIALS AND FIXTURES SHALL CONFORM TO THE 2008 PLUMBING CODE NYC AND GAS PIPING AND WORK SHALL CONFORM TO THE 2008 FUEL GAS CODE NYC.

6. ELECTRICAL WORK SHALL CONFORM TO THE NYC ELECTRICAL CODE AND BE DONE BY A LICENSED ELECTRICIAN.

7. DIFFERENT TENANT SPACES SHALL BE SEPARATED FROM EACH OTHER BY FIRE SEPARATIONS HAVING FIRE RESISTANCE RATING LISTED IN TABLE 508.3.3 AND TABLE 508.2 BUT NO LESS THAN ONE (1) HOUR PER SECTION BC-509.9

8. DUCTS, PIPES, AND CONDUITS PASSING THROUGH RATED CONSTRUCTION SHALL COMPLY WITH SECTION BC 712

9. INTERIOR FINISHES SHALL COMPLY WITH SECTION BC 801 REGARDING THEIR FLAME SPREAD RATING AND SMOKE DEVELOPED RATING.

10. ALL GRADE ELEVATIONS SHALL BE REFERRED TO US COAST AND GEODETIC SURVEY MEAN SEA LEVEL DATUM OF NINETEEN HUNDRED TWENTY-NINE (1929) PER SECTION 28-104.7.6.

11. AS PER SECTION BC 105.11, CONTRACTOR SHALL POST AT THE JOBSITE A PERMIT CARD BEARING THE DOB PERMIT NUMBER AND THE DOB APPLICATION NUMBER PRIOR TO THE COMMENCEMENT OF ANY WORK FOR WHICH A PERMIT HAS BEEN ISSUED.

12. AS PER SECTION BC 3304, AT LEAST 24 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE COMMISSIONER OF DOB BEFORE THE COMMENCEMENT OF ANY WORK FOR WHICH A PERMIT HAS BEEN ISSUED. THE PERSON RESPONSIBLE FOR ANY CONTROLLED INSPECTIONS SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO THE COMMENCEMENT OF THE WORK FOR WHICH SUCH INSPECTIONS ARE REQUIRED.

13. AT LEAST TEN DAYS PRIOR WRITTEN NOTICE SHALL BE GIVEN TO OWNERS OF ADJOINING LOTS, BUILDINGS, AND SERVICE FACILITIES WHICH MAY BE AFFECTED BY PROPOSED DEMOLITION OR REMOVAL WORK BEFORE ISSUANCE OF A PERMIT FOR THAT WORK PER SECTION BC 3304.3.2, AND SAID WORK SHALL BE PERFORMED PER SECTION BC 3304.K

14. AN ACCURATE AND COMPLETE LOT SURVEY MADE BY A LICENSED SURVEYOR SHALL BE SUBMITTED WITH THE APPLICATION FOR THE CERTIFICATE OF OCCUPANCY AND SHALL INDICATE THE REQUIRED INFORMATION PER SECTION 28-118.0

15. SOIL INVESTIGATIONS SHALL COMPLY WITH SUBCHAPTER 11, ARTICLE 2. AND WITH SECTIONS BC 1801 AND 1802,1802.5 TEST PITS MAY BE SUBSTITUTED
FOR BORINGS PER SECTION BC 1802.5.2

16. ALL FOUNDATION WORK SHALL BEAR ON SOIL HAVING ADEQUATE BEARING CAPACITY TO SUPPORT THE TOTAL IMPOSED LOAD AND BE PROPORTIONED TO LIMIT SETTLEMENTS TO MAGNITUDES THAT WILL NOT CAUSE DAMAGE TO THE PROPOSED CONSTRUCTION OR TO EXISTING ADJACENT OR NEARBY BUILDINGS PER SECTION BC 1804

17. THE DEPTH OF FOUNDATIONS SHALL COMPLY WITH SECTION BC 1805.2. BOTTOM SURFACE OF ANY FOOTING, PIER, PILE CAP OR OTHER FOUNDATION CONSTRUCTION OTHER THAN GRADE BEAMS SHALL BE AT LEAST FOUR (4) FEET MIN. BELOW THE LOWEST LEVEL OF THE ADJOINING GROUND OR PAVEMENT THAT IS EXPOSED TO FROST EXCEPT AS LISTED IN SECTION BC 1805.2. GRADE BEAMS SHALL BE A MIN. OF EIGHTEEN (18) INCHES BELOW THE SAME PREVIOUSLY MENTIONED LEVEL.

18. CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19 AND BC 1901.

19. MASONRY WORK SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 21 BC 2101.

20. PRE-CAST AND PRE-STRESSED CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF SECTION BC 1917.3

21. STEEL MATERIALS DESIGN AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF CHAPTER 22.

22. STRUCTURAL MEMBERS REQUIRING FIRE PROTECTION PER TABLE 601 SHALL BE FIRE PROTECTED PER SECTION BC 703, LINTELS FIRE PROTECTED PER SECTION BC 703.

23. CHIMNEYS AND GAS VENTS SHALL CONFORM TO CHAPTER 28. GAS VENTS SHALL BE BSA APPROVED AND COMPLY WITH CHAPTER 29 OF THE ABOVE AND BE ENCLOSED WITH CONSTRUCTION HAVING A FIRE RESISTANCE RATING FUEL GAS CODE AND COMPLYING WITH CHAPTER 5 OF THE 2008 FUEL GAS CODE 2008.

24. BOILER CONSTRUCTION, INSTALLATION, MAINTENANCE AND OPERATION SHALL COMPLY WITH SECTION 631 OF FUEL GAS CODE 2008 AND MC 1001

25. GAS FIRED EQUIPMENT CONSTRUCTION, AND INSTALLATION SHALL COMPLY WITH SECTION FGC 304. COMBUSTION AIR SHALL BE PROVIDED PER SECTION 27-8079 (B). FLUE DAMPERS SHALL CONFORM TO SECTION MC 803.6 2008.

26. BATHROOMS AND TOILET ROOMS WITHOUT WINDOWS SHALL BE VENTILATED MECHANICALLY PER SECTION MC 401, MC 401.5.2, MC 407.

27. INTERIOR STAIRS SHALL COMPLY WITH SECTION BC 1009.3 THE SUM OF TWO RISERS PLUS ONE TREAD (EXCLUSIVE OF NOSING) SHALL BE NOT LESS THAN 24" NOR MORE THAN 25 1/2". LANDINGS AND PLATFORMS SHALL BE PROVIDED AT THE HEAD AND FOOT OF EACH FLIGHT OF STAIRS. HAND RAILS SHALL BE PROVIDED AS PER SECTION BC 1009.11 AND LOCAL LAW 58/87.

NYC BUILDING CODE- DOB NOTES (cont'd)

28. FIRE-STOPPING MATERIALS SHALL BE NON-COMBUSTIBLE MATERIALS IN CONCEALED SPACES OF FIRE DIVISION, AND WHEN IN CONTACT WITH FIREPLACES, FLUES AND CHIMNEYS. FIRE-STOPPING SHALL BE PLACED AROUND DUCTS AND PIPES AT EVERY FLOOR LEVEL WHERE THEY ARE NOT ENCLOSED IN RATED CONSTRUCTION REQUIRED FOR SHAFT ENCLOSURES. ALL FIRE-STOPPING SHALL COMPLY WITH SECTION BC 712.

29. ROOF COVERINGS SHALL COMPLY WITH SECTION BC 1505. REFER TO RS 5-9 FOR FIRE RESISTANCE CLASSIFICATION OF ROOFING MATERIALS.

30. LOT GRADING WHEN PITCH OF GRADE DOES NOT EXCEED 5%, ALL UNPAVED AREAS TO BE SEEDED UNLESS OTHERWISE NOTED. WHEN PITCH OF GRADE EXCEEDS 5%, ALL UNPAVED AREAS TO BE SODDED UNLESS OTHERWISE NOTED. THE GRADING WILL BE DESIGNED SO AS NOT TO RESULT IN PONDING OR UNSTABLE GRADES IN THE SURROUNDING AREA.

31. THE STREET ON WHICH THE BUILDING(S) FRONTS, IS OR WILL BE IMPROVED TO THE EXTENT THAT THE WATER MAIN, SEWER(S), GAS SERVICE, ELECTRIC SERVICE, ROADWAY PAVEMENT, SIDEWALK AND CURB WILL BE INSTALLED. SIDEWALK AND ROADWAY CONSTRUCTION REQUIRE A SEPARATE APPROVAL/PERMIT FROM THE DEPT. OF HIGHWAYS PRIOR TO THE START OF THAT WORK.

32. HEATING SYSTEM SHALL BE ADEQUATE TO CONFORM TO H.M.C. SECTIONS 27-2028 AND 27-2029 AND SHALL MEET THE REQUIREMENTS OF THE N.Y.S. ENERGY CONSERVATION CODE. THE MORE STRINGENT SHALL APPLY.

33. ARTIFICIAL LIGHT SHALL BE PROVIDED IN COMPLIANCE WITH SUBCHAPTER 12, ARTICLE 4 AND PER H.M.C. SECTION 27-2037.

34. SAFETY OF THE PUBLIC AND PROPERTY DURING CONSTRUCTION OPERATIONS SHALL BE PROVIDED AND COMPLY WITH THE PROVISIONS OF CHAPTER 33.

35. BUILDINGS CLASSIFIED AS R-2 OCCUPANCY GROUP SHALL COMPLY WITH THE SEISMIC CODE REQUIREMENTS OF LOCAL LAW 17/95.

36. WHERE PIPES, WIRES, CONDUITS, DUCTS, ETC., PIERCE FIRE PROTECTION OF INDIVIDUALLY ENCASED STRUCTURAL MEMBERS, SUCH PENETRATION SHALL NOT EXCEED 2% OF ANY ONE FACE OF SUCH PARTITION, AND SHALL BE CLOSED OFF WITH CLOSE FITTING METAL ESCUTCHEONS OR PLATES, PER SECTION BC 712.

37. LINTELS SUPPORTING MASONRY WALLS OVER 4 FEET IN WIDTH, SHALL BE FIRE PROTECTED WITH MATERIALS HAVING THE REQUIRED FIRE RESISTANCE RATING OF THE WALL SUPPLIED BC 714.

38. OPENING PROTECTIVES INCLUDING FRAMES, SELF-CLOSING DEVICES AND HARDWARE SHALL COMPLY WITH ASTM E-152-1966 "STANDARD METHODS OF FIRE TEST OF DOOR ASSEMBLIES" ANSI NFPA 257 IN ACCORDANCE WITH NFPA NO. 8O-1967 "INSTALLATION OF FIRE DOORS AND WINDOWS". OPENING PROTECTIVES SHALL BE LABELED, CERTIFYING PERFORMANCE RATING. PER SECTION BC 715.3.5 AND 715.3.5.1

39. DUCTS, PIPES AND CONDUITS PASSING THROUGH RATED CONSTRUCTED SHALL HAVE SPACES NOT EXCEEDING 1/2" PACKED WITH "THERMOFIBER" OR MINERAL WOOL AND CLOSED OFF WITH CLOSE FITTING METAL ESCUTCHEONS. AGGREGATED NET AREA OF SUCH OPENING SHALL NOT EXEED 25 SQ. IN. IN ANY 100 SQ. FT. OF WALL OR FLOOR AREA UNLESS PROTECTED BY RATED SELF-ENCLOSING DEVICES PER SECTION BC 712

40. ALL EXITS SHALL BE KEPT READILY ACCESSIBLE AND UNOBSTRUCTED AT ALL TIMES, BC 1001.3 AND NYC FIRE CODE.

41. TREADS, STRINGERS, AND LANDINGS SHALL BE BUILT OF OR SURFACED WITH NONSKID MATERIALS.

42. FINISH FLOORING IN ALL EXITS SHALL BE OF NON-COMBUSTIBLE MATERIALS, PER TABLE 803.5.

43. ILLUMINATION OF AT LEAST 5 FOOT CANDLES MEASURED AT THE FLOOR LEVEL SHALL BE MAINTAINED CONTINUOUSLY IN EXITS AND THEIR ACCESS FACILITIES, PER SECTION BC 1006.1

44. EXIT LIGHTING SHALL BE ON CIRCUITS THAT ARE SEPARATE FROM ANY OTHER CIRCUITS, TAKEN OFF AHEAD OF THE MAIN SWITCH.

45. WHERE REQUIRED, LOCATION OF EVERY EXIT ON EVERY FLOOR SHALL BE CLEARLY INDICATED BY EXIT SIGNS, PLACED, IF REQUIRED, AT AN ANGLE WITH THE EXIT OPENING. INSTALL DIRECTIONAL SIGNS, TO SERVE AS GUIDE FROM ALL PORTIONS OF THE CORRIDOR OR FLOOR, SIGNS SHALL BE ON SEPARATE CIRCUITS, TAKEN OFF AHEAD OF THE MAIN SWITCH PER SECTION BC 1026.

46. EXIT SIGNS SHALL BE INTERNALLY LIGHTED, HAVING AN INITIAL BRIGHTNESS OF THE LETTERS OF AT LEAST 25 FEET LAMBERT. LETTERS SHALL BE RED, THE BACKGROUND SHALL BE WHITE, LETTERS SHALL BE BLOCK LETTERING, AT LEAST 4-1/2" HIGH, WITH 9/16" STROKES, PER SECTION BC 1011AND ICC A117.1

47. ALL OPERABLE WINDOWS SHALL BE EQUIPPED WITH SASH LOCKS DESIGNED TO BE OPERABLE FROM THE INSIDE ONLY.

48. CORRIDORS AND EXIT PASSAGEWAYS SHALL HAVE A MINIMUM CLEAR HEIGHT OF 7'-6" FOR AT LEAST 75% OF THE FLOOR AREA WITH NO POINT LESS 7'-0" IN HEIGHT. PROJECTION BELOW THE CEILING SHALL NOT OBSTRUCT FULL VIEW OF EXIT SIGNS BC 1003.2.

49. CONDUITS IN FIRE-RATED PARTITIONS WILL NOT EXCEED 3/4" DIAMETER. OUTLETS IN SUCH PARTITIONS SHALL BE BACKED UP WITH APPROVED MATERIALS.

50. NO CONDUITS, PIPES MEDICINE CABINETS, ETC. SHALL ENCROACH UPON FIRE RATED PARTITIONS ENCLOSING PUBLIC CORRIDORS, STAIRS, ELEVATOR SHAFTS OR VENT SHAFTS.

51. EXIT DOORS SHALL BE READILY OPERABLE AT ALL TIMES FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE. DOORS OPENING INTO INTERIOR ENCLOSED STAIR SHALL NOT BE LOCKED FROM EITHER SIDE EXPECT THAT DOORS MAY BE LOCKED TO PREVENT ACCESS TO THE STAIR FROM THE OUTDOORS AT THE STREET LEVEL.

52. ALL WIRE GLASS IN RATED DOORS AND WINDOWS WILL BE OF A TYPE AS PER BC 715.4 THROUGH 715.4.6.

53. ALL CLEANING OF WINDOWS WILL BE IN CONFORMITY WITH THE STATE LABOR LAW & WINDOW CLEANING CODE.

54. ELEVATOR DESIGN & INSTALLATION SHALL CONFORM W/CHAPTER 30, SEE 3001.1, 3001.2, AND 3001.3 AND ASME A17.1-2000 AND CHAPTER K-1.

55. SUSPENDED CEILINGS SHALL COMPLY WITH APPENDIX R, WITH METAL HANGERS, PURLINS AND RUNNERS AS REQUIRED.

56. ALL DOORS TO REQUIRED EXIT STAIRS SHALL BE 3'-0" WIDE EXCEPT IF OTHERWISE NOTED.

NYC BUILDING CODE- DOB NOTES (cont'd)

57. DOORS AND ASSEMBLIES SHALL HAVE THE FOLLOWING FIRE RESISTIVE RATINGS PER SECTION BC 715: DOORS TO STAIRS 1-1/2 HOUR, EXCEPT WHERE OTHERWISE NOTED, DOORS TO ELEVATORS SHAFT 1-1/2 HOUR.

58. CONCRETE BLOCK SHALL BE TYPE APPROVED CERTIFICATION TO ARCHITECT. 1903 BC.

59. 24 HOUR ILLUMINATION TO BE PROVIDED ADJACENT TO THE MAILBOXES.

60. ELEVATOR SHAFTS SHALL BE ENCLOSED WITH 2 HOUR FIRE RATING IN ACCORDANCE WITH NEW YORK CITY BUILDING CODE, B707.

61. INTERIOR REQUIRED (FIRE) STAIRS SHALL BE ENCLOSED WITH 2 HOUR FIRE RATING IN ACCORDANCE WITH NEW YORK CITY BUILDING CODE, BC 707.

62. ALL VENT DUCT SHAFTS SHALL BE ENCLOSED WITH 2 HOUR ENCLOSURE, NO DUCT VENTS TO PASS THROUGH STAIR ENCLOSURES. 1-1/2 HOUR AUTOMATIC CLOSING FIRE DAMPERS TO BE INSTALLED IN VENT DUCTS WHEN THEY PIERCE PUBLIC CORRIDORS.

63. STANDPIPE WILL BE INSTALLED IN ACCORDANCE WITH BC Q 106, THE NYC FIRCE CODE AND BC 905. SEPARATE STANDPIPE APPLICATION WILL BE FILED.

64. NO WORK TO BE DONE BEYOND BUILDING LINES WITHOUT APPROVAL OF THE NYC DEPT. OF TRANSPORTATION.

65. SIDEWALKS TO BE LAID IN ACCORDANCE WITH RULES OF THE NYC DEPARTMENT OF TRANSPORTATION.

66. ALL PAVED WALKS, SURFACES, AND AREAWAYS TO BE DRAINED ADEQUATELY WITHIN THE SITE.

67. VENTILATION OF EACH REQUIRED STAIR EXTENDING TO THE ROOF SHALL CONFORM WITH SECTION MC 311.

68. MASONRY MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF BC 2104. THE DESIGN OF MASONRY WALLS IS PREDICATED UPON ANALYSIS OF STRESSES AS PER 2101.2. ALL MASONRY LOAD BEARING AND NON-LOAD BEARING WALLS TO BE BONDED IN ACCORDANCE WITH BC 1405.

69. WALLS TO BE ANCHORED AS PER BC 405.5.

70. PIPE SPACE AND WALL FURRINGS SHALL CONSIST OF METAL CHANNELS AND 5/8" GYPSUM WALLBOARD EXCEPT AS OTHERWISE SHOWN.

71. A MINIMUM CEILING HEIGHT OF 8'-0" SHALL BE MAINTAINED IN ALL LIVING ROOMS.

72. WALLS, PARTITIONS AND FLOOR-CEILING CONSTRUCTION SEPARATING DWELLING UNITS FROM EACH OTHER OR FROM PUBLIC CORRIDORS OR STAIRS SHALL HAVE SOUND TRANSMISSION CLASS MINIMUM RATING OF 50 FOR AIRBORNE NOISE SECTION BC 1207. APARTMENT ENTRANCE DOORS SHALL HAVE SOUND TRANSMISSION CLASS MINIMUM RATING OF 35 FOR AIRBORNE NOISE.

73. A REFUSE COLLECTION ROOM IN COMPLIANCE WITH SECTION BC 1213 AND 27-837 AND RULES OF THE DEPARTMENT OF BUILDINGS SHALL BE PROVIDED FOR REFUSE REDUCTION SYSTEM WHICH UTILIZES METHODS OTHER THAN BURNING. SUCH ROOM SHALL BE USED FOR NO OTHER PURPOSE AND SHALL BE SEPARATED FROM ALL OTHER OCCUPANCIES BY 3 HOUR FIRE RATED PARTITIONS. DOORS INTO SUCH SPACES SHALL BE F.P.S.C. 1-1/2 HOUR FIRE RATED. REFUSE COLLECTION ROOM SHALL BE SPRINKLERED. THE COMPACTING MACHINE SHALL BE LOCATED WITHIN THE REFUSE ROOM (SEE 81 NYS MDL, SEE 2021 NYC AMC).

74. SIGNS OVER HOPPER DOORS SHALL BE PROVIDED AS PER CODE AND RULES. INTAKE HOPPER DOORS AT REFUSE CHUTE SHALL HAVE B.S.A. APPROVAL 73-58 SM AND M.E.A. APPROVAL 2-69-E.

75. COMPACTING EQUIPMENT SHALL MEET THE CRITERIA OF THE ENVIROMENTAL PROTECTION ADMINISTRATION AND BE APPROVED PER SECTION BC 1213.2 ALSO ALL REQUIREMENTS OF ANY OTHER AUTHORITY HAVING JURISDICTION.

A. REFUSE CHUTE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS AND ANY OTHER AUTHORITY HAVING JURISDICTION, B.S.A. OR M.E.A. APPROVED.

B. REFUSE CHUTES TO BE PREFABRICATED #16 GAUGE ALUMINIZED STEEL, 2'-0" OUTSIDE DIAMETER. SLAB OPENING TO BE 2'-4" DIAMETER. CHUTE SHALL HAVE SOUND DEADENING APPLIED TO THE EXTERIOR AT THE FACTORY. CHUTE SHALL BE SUPPORTED AT EACH FLOOR ON SOUND VIBRATION PADS AS PER MANUFACTURER'S APPROVED TYPE DETAIL. PROVIDE SPRINKLER AND SANITIZING UNIT AT REFUSE CHUTES.

76. LAUNDRY MACHINES ARE AN ACCESSORY USE FOR TENANTS OF THE BUILDING ONLY AND WILL NOT BE USED FOR BUSINESS PURPOSES. MACHINES TO BE AGA TYPE.

77. EXTERIOR MECHANICAL EQUIPMENT IN A YARD OR COURT OR ON A ROOF OR WHERE THE EQUIPMENT OPENS TO THE EXTERIOR OF THE BUILDING SHALL CONFORM WITH BC 1204 AND BC 2801.

78. EQUIPMENT USE PERMITS, INSPECTIONS, AND TESTS
PERMITS WILL BE OBTAINED FOR USE OF THE FOLLOWING EQUIPMENT:

A. AIR CONDITIONING AND VENTILATION SYSTEMS - NYC FIRE CODE.
B. ELEVATORS. (CHAPTER 30)

79. EQUIPMENT REQUIRING USE PERMITS SHALL BE INSPECTED AND TESTED TO DETERMINE PROPER FUNCTIONING AND COMPLIANCE WITH THE BUILDING CODE AND OTHER APPLICABLE LAWS AND REGULATIONS. ALL INSPECTIONS AND TESTS SHALL BE CONDUCTED IN ACCORDANCE WITH THE REQUIRED INSPECTION AND TEST PROCEDURES. SIGNED COPIES OF REQUIRED INSPECTIONS AND TEST REPORTS SHALL BE FILED WITH THE DEPARTMENT OF BUILDINGS AND FORM PART OF THE PAPERS ACCOMPANYING THE PERMIT APPLICATION. IN THE CASE OF HEATING SYSTEM, A SIGNED STATEMENT BY THE ARCHITECT OR ENGINEER SHALL BE SUBMITTED WITH THE PERMIT APPLICATION, STATING THAT THE SYSTEM HAS BEEN OPERATING AND FUNCTIONS SATISFACTORILY, AND THAT TO THE BEST OF KNOWLEDGE AND BELIEF, THE SYSTEM MEETS THE CODE TEMPERATURE REQUIREMENT.

GENERAL NOTES

* ALL WORK SHALL COMPLY WITH THE NEW YORK CITY BUILDING CODE AND ALL APPLICABLE LAWS.

1. ALL DRAWINGS, SPECIFICATIONS, AND COPIES THEREOF FURNISHED BY THE ARCHITECT ARE AND SHALL REMAIN PROPERTY OF THE ARCHITECT. THEY ARE NOT TO BE USED ON THIS OR ANY OTHER PROJECT UNLESS WRITTEN PERMISSION IS GIVEN BY THE ARCHITECT.

2. THE CONTRACTOR IS TO VISIT JOB SITE PRIOR TO START OF WORK SO THAT HE MAY DETERMINE THE DIFFICULTIES HE MAY ENCOUNTER DURING CONSTRUCTION. HE IS TO VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND REPORT ALL DISCREPANCIES TO THE ARCHITECT IMMEDIATELY FOR RESOLUTION BEFORE START OF WORK AND DURING ITS PROGRESS.

3. CONTRACTOR SHALL OBTAIN ALL PERMITS REQUIRED PRIOR TO THE START OF WORK AND AGENCY APPROVALS/ SIGNOFF REQUIRED TO INDICATE THAT THE WORK WAS DONE IN AN ACCEPTABLE MANNER. HE SHALL ALSO SECURE AGENCY LETTERS OF SATISFACTORY COMPLETION AND A CERTIFICATE OF OCCUPANCY FOR THE BUILDING.

4. ALL TRADE CONTRACTORS AND THEIR SUBS ARE SOLEY RESPONSIBLE FOR CONSTRUCTION SAFETY AND SHALL HOLD THE OWNER, ARCHITECT, AND OTHER ASSIGNED REPRESENTATIVES HARMLESS.

5. (1) THE ARCHTIECT WILL BECOME GENERALLY FAMILIAR WITH AND KEEP THE OWNER INFORMED ABOUT THE PROGRESS AND QUALITY OF THE PORTION OF THE WORK COMPLETED,
(2) ARCHITECT WILL ENDEAVOR TO GUARD THE OWNER AGAINST DEFECTS AND DEFICIENCIES IN THE WORK,
(3) ARCHITECT WILL DETERMINE IN GENERAL IF THE WORK IS BEING PERFORMED IN A MANNER INDICATING THAT THE WORK, WHEN FULLY COMPLETED, WILL BE IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
HOWEVER, THE ARCHITECT SHALL NOT BE REQUIRED TO MAKE EXHAUSTIVE OR CONTINUOUS ON-SITE INSPECTIONS OR CHECK THE QUALITY OR QUANTITY OF THE WORK. THE ARCHITECT SHALL NEITHER HAVE CONTROL OVER OR CHARGE OF, NOR BE RESPONSIBLE FOR, THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENVES OR PROCEDURES OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, SINCE THESE ARE SOLELY THE CONTRACTOR'S RIGHTS AND RESPONSIBILITIES UNDER THE CONTRACT DOCUMENTS.

6. THE INTENT OF THE CONTRACT DOCUMENTS IS TO INCLUDE ALL ITEMS NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK BY THE CONTRACTOR. THE CONTRACT DOCUMENTS ARE COMPLEMENTARY, AND WHAT IS REQUIRED BY ONE SHALL BE AS BINDING AS IF REQUIRED BY ALL; PERFORMANCE BY THE CONTRACTOR SHALL BE REQUIRED ONLY TO THE EXTENT CONSISTENT WITH THE CONTRACT DOCUMENTS AND REASONABLY INFERABLE FROM THEM AS BEING NECESSARY TO PRODUCE THE INTENDED RESULTS.

7. SUPPLEMENTARY DRAWINGS: BEFORE AND DURING CONSTRUCTION, M.A.P. WILL RESERVE THE RIGHT TO ISSUE REVISED DRAWINGS AND SUPPLEMENTARY DRAWINGS AND SKETCHES CONTAINING ADDITIONAL INFORMATION. THE PURPOSE OF THESE DRAWINGS IS TO PROVIDE ADDITIONAL CLARIFICATION AND NECESSARY DETAILS.

8. THE CONTRACTOR AND/OR SUBCONTRACTORS SHALL COORDINATE THE EXECUTION OF THEIR WORK WITH THAT OF OTHER TRADES SO AS NOT TO IMPEDE THEIR PROGRESS OR CREATE CONFLICTS. AS DIRECTED BY OWNER, THE CONTRACTOR SHALL ADJUST ALL CONDITIONS ARISING FROM HIS FAILURE TO PERFORM IN ACCORDANCE WITH THIS PART. ALL ADJUSTMENTS MADE FOR THE REASONS STATED HEREIN SHALL BE AT THE CONTRACTOR SOLE EXPENSE.

9. WRITTEN DIMENSIONS HAVE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS. ALL WORK SHALL BE BUILT BY DIMENSIONS. LARGE SCALED DETAILS HAVE PRECEDENCE OVER SMALL SCALED DRAWINGS.

10. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF THE DESIGN MANUAL AND THE CAPITAL PROGRAMS MANUAL OF THE N.Y. STATE DIVISION OF HOUSING AND COMMUNITY RENEWAL

Melrose Commons Site C - Supportive Housing

Bronx, NY

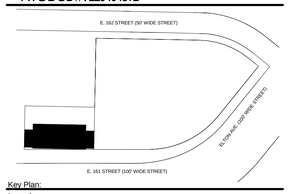
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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General Notes and DOB Notes

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-002.00
SCALE:	

MULTIPLE DWELLING NOTES

* BUILDING SHALL COMPLY WITH ALL APPLICABLE PROVISIONS OF ART. 3 MULTIPLE DWELLING LAW (MDL)

1. ROOMS IN BASEMENT TO COMPLY WITH SEC. 34 (6) MDL, CEILING HEIGHTS TO COMPLY WITH SEC. 34 (1) (b) MDL.

2. SOUNDPROOFING BETWEEN APTS AND PUBLIC HALL SHALL COMPLY W/SEC. 84 MDL.

3. COOKING SPACES TO COMPLY WITH SECTION 33 MDL CEILINGS AND WALLS TO BE FIRE RETARDED. MAINTAIN 2'-6" MIN CLEARANCES ABOVE GAS RANGE. PROTECT ALL COMBUSTIBLE MATERIALS WITHIN 1'-0" OF COOKING APPARATUS AS PER SEC. 33 MDL.

4. MAXIMUM FLOOR AREA FOR KITCHENETTES SHALL BE 59 SQ. FT. ALL KITCHENETTES AND KITCHENS SHALL COMPLY WITH SEC. 33 MDL.

5. ALL GAS APPLIANCES TO COMPLY WITH SEC. 64 MDL AND LOCAL LAW 124/55.

6. PROVIDE FRONT, COURT, AND REAR LIGHTING AS PER SEC. 26 (7) (c) AND 35 MDL.

7. ALL BUILDING ENTRANCE DOORS MUST BE SELF-CLOSING AND HAVE SELF-LOCKING DEVICES AND INTERCOMMUNICATION SYSTEM AS PER SEC. 50 (A) MDL.

8. MAIN ENTRANCE DOOR SHALL HAVE NOT LESS THAN FIVE(5) SQ.FT. OF GLAZED SURFACE AS PER SEC. 35 MDL.

9. TRASH COMPACTOR CHUTE TO COMPLY WITH SEC. 51 MDL, TO HAVE FIREPROOF ENCLOSURE AND FIREPROOF DOORS AND SELF CLOSING ASSEMBLIES.

10. PEEP HOLES TO COMPLY WITH SEC. 51 (a) MDL.

11. MAIL RECEPTACLES TO COMPLY WITH SEC. 57 MDL.

12. PARAPETS AND GUARD RAILS TO COMPPLY WITH SEC. 62 (1) MDL.

13. LIGHTING, GAS METERS AND APPLIANCES ON PREMISES SHALL COMPLY WITH SEC. 64 MDL. NO GAS METERS PERMITTED IN BOILER ROOM.

14. BOILER ROOMS TO COMPLY WITH SEC. 65 MDL. BOILER RMS. SHALL BE ENCLOSED IN FIREPROOF WALLS AND ALL OPENINGS TO HAVE FIREPROOF AND SELF CLOSING DOORS AND ASSEMBLIES.

15. SMOKE DETECTORS TO COMPLY WITH SEC. 68 MDL.

16. WATER CLOSETS TO COMPLY WITH SEC. 68 MDL. ALL BATHROOMS SHALL HAVE CERAMIC TILE FLOORS AND 6" MIN CERAMIC TILE SANITARY COVE BASE AT PERIMETER AND WATER RESISTENT GYP BD FINISH ON WALLS. BATHROOMS TO BE VENTED MECHANICALLY AS PER SEC. 76 MDL WITH 4 AIR CHANGES PER HOUR, NO NUISANCE NOISE OR VIBRATION SHALL BE CREATED BY VENTILATING MOTORS.

17. PLUMBING AND DRAINAGE TO COMPLY WITH SEC. 77 MDL.

HOUSING MAINTENANCE NOTES

* HMC REFERS TO NYC HOUSING MAINTENANCE CODE, 1999 EDITION.

1. CENTRAL HEAT TO BE PROVIDED AS PER HMC SECTIONS 27-2028 THROUGH 27-2033.

2. WATER SUPPLY SHALL COMPLY WITH HMC SECTIONS 27-2024 AND 27-2025.

3. SUPPLY OF HOT WATER TO COMPLY WITH SEC. 27-2031 HMC.

4. PROVIDE MAIL SERVICE AS PER SEC. 27-2047 HMC.

5. FLOOR SIGNS SHALL BE POSTED AND MAINTAINED PER SEC. 27-204 HMC.

6. STREET NUMBER SHALL BE POSTED AND MAINTAINED PER SEC. 27-2049 HMC.

7. BUILDING TO BE REGISTERED AS PER HMC SECTIONS 27-2097 THROUGH 27-2107. REGISTRATION SIGN SHALL BE POSTED AS PER SECTION 27-2022.

8. NIGHT LIGHTING IN PUBLIC HALLS AND STAIRS OF DWELLING TO COMPLY WITH SEC.27-2039 HMC.

9. PROVIDE KEY LOCKS FOR ALL APARTMENT DOORS, HEAVY DUTY DEAD BOLT, THUMB TURN INSIDE LATCH SET AND CHAIN GUARD AS PER SEC. 27-2013 HMC.

10. PROVIDE BSA APPROVED PEEP HOLES IN ENTRANCE DOORS TO EACH DWELLING UNIT AS PER SEC. 27-2041 HMC.

11. PROVIDE PAINTING OF PUBLIC PARTS WITHIN DWELLINGS AS PER SEC. 27-2013 HMC.

12. RECEPTACLES FOR COLLECTION OF WASTES TO BE PROVIDED AS PER SECTIONS 27-2021 AND 27-2022 HMC.

13. DRAINAGE OF ROOFS, COURTS, AND YARDS TO COMPLY WITH SEC. 27-2027 HMC.

14. ELECTRIC LIGHTING FIXTURES OR OUTLETS FOR LIGHTING FIXTURES SHALL BE INSTALLED AND MAINTAINED FOR EVERY ROOM AND PUBLIC HALL PER SECTIONS 27-2037 THROUGH 27-2039 HMC.

15. PROVIDE ARTIFICIAL EXTERIOR LIGHTING AT ALL EXTERIOR ENTRANCE WAYS AND IN YARDS AND COURTS TO BE INSTALLED AND MAINTAINED PER SEC. 27-2040 HMC.

16. COMPLY WITH LL 29/89 FOR LOW FLOW FIXTURES

17. INSTALL AND MAINTAIN SMOKE DETECTORS AS PER SEC. 27-2045 HMC.

18. NATURAL LIGHT AND VENTILATION SHALL BE PROVIDED IN ALL LIVING ROOMS IN MULTIPLE DWELLINGS PER SECTIONS 27-2057 AND 27-2058 HMC.

19. SANITARY FACILITIES SHALL BE PROVIDED IN EVERY APARTMENT PER SEC. 27-2066 HMC.

20. KITCHENS AND KITCHENETTES SHALL CONFORM TO SECTIONS 27-2070, 27-2071, AND 27-2072 HMC.

21. LIVING ROOMS IN MULTIPLE DWELLINGS SHALL BE SIZED CONFORMING TO SEC. 27-2074 HMC.

22. CLEANING OF ROOF, YARDS, COURTS AND OTHER OPEN SPACES SHALL COMPLY WITH SEC. 27-2010 HMC.

23. THE BUILDING OWNER SHALL MAINTAIN THE SANITARY AND STORM DRAINAGE SYSTEMS AND EQUIPMENT PER SECTIONS 27-2026 AND 27-2027 HMC.

SMOKE/ CARBON MONOXIDE DETECTOR NOTES

1. COMBINATION SMOKE/ CARBON MONOXIDE DETECTING DEVICES SHALL CONFORM TO SUBCHAPTER 17, ARTICLE 6 OF THE NYC BUILDING CODE.

2. DWELLING UNITS SHALL BE EQUIPPED WITH AN APPROVED 120 VOLT COMBINATION SMOKE/ CARBON MONOXIDE DETECTION DEVICE RECEIVING ITS PRIMARY POWER FROM THE BUILDING WIRING WITH NO SWITCH IN CIRCUIT OTHER THAN THE OVER CIRCUIT PROTECTING THE BRANCH CIRCUIT AS PER SECTION 27-980 WITH 9 VOLT BATTERY BACK-UP.

3. SUCH COMBINATION SMOKE/ CARBON MONOXIDE DETECTORS SHALL BE EITHER THE IONIZATION CHAMBER TYPE OR THE PHOTOELECTRIC TYPE AS PER SECTION 27-981.

4. ALL COMBINATION SMOKE/ CARBON MONXIDE DETECTORS MUST BE INSTALLED WITHIN 15 FEET AND CENTRALLY LOCATED AT ENTRANCE OF ANY SLEEPING ROOM WALL OR CEILING MOUNTED AND INDICATED ON PLANS AS PER NFPA # 74-1980 AND LOCAL LAW 7/2004.

5. DETECTOR SHALL BE MEA APPROVED AS MANUFACTURED BY BRK ELECTRONICS CATALOG NUMBER SC6120B WITH EVEREADY MODEL 522 OR DURACELL MN1604 BATTERIES.

6. SMOKE DETECTORS & CARBON MONOXIDE DETECTORS WILL BE INSTALLED IN ALL SLEEPING ROOMS AND WITHIN 15FT OUTSIDE A SLEEPING ROOM.

SMOKE DETECTORS & CARBON MONOXIDE DETECTORS WITHIN AN APARTMENT UNIT TO BE INTERCONNECTED.

CHAPTER 12: INTERIOR ENVIRONMENT

BC 1203.1 - BUILDINGS SHALL BE PROVIDED WITH NATURAL VENTILATION IN ACCORDANCE WITH SECTION 1203.4, AND/OR MECHANICAL VENTILATION IN ACCORDANCE WITH THE NEW YORK CITY MECHANICAL CODE. ALL HABITABLE SPACES SHALL BE PROVIDED WITH NATURAL VENTILATION IN ACCORDANCE WITH SECTINO 1203.4.

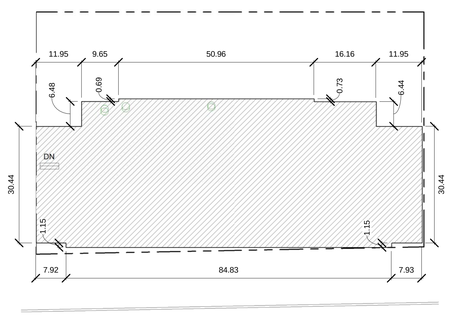
BC 1203.4.1.2.1 - THE MINIMUM OPENABLE AREA TO THE OUTDOOTS SHALL BE 5 PERCENT OF THE FLOOR AREA OF THE HABITABLE SPACE BEING VENTILATED. EVERY OPENING PROVIDED REQUIRED NATURAL VENTILATION SHALL BE AT LEAST 12 SQUARE FEET (1.1 SQUARE METERS) OF GLAZED AREA, PROVIDING A MINIMUM OF 6 SQUARE FEET OF OPENABLE AREA).

BC 1205.1 - EVERY ROOM AND SPACE IN EVERY BUILDING SHALL BE PROVIDED WITH ARTIFICIAL LIGHT IN ACCORDACE WITH SECTION 1205.3. EVERY HABITABLE ROOM AND SPACE SHALL ALSO BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS IN ACCORDANCE WITH SECTION 1205.2.

BULKHEAD AREA DIAGRAM

FIRE DEPARTMENT ACCESS

(FROM CHAPTER 5, SECTION 503.3.1 Frontage)



E 161ST STREET (WIDE STREET)

1 FDNY ACCESS DIAGRAM
1/16" = 1'-0"

-TOTAL BUILDING PERIMITER: 7.92' + 1.15' + 84.83' + 1.15' + 7.93' + 30.27' + 11.96' + 6.48' + 16.16' + 1.00' + 27.49' + 1.00' + 33.12' + 6.48' + 11.95' + 30.27' = ***279.16'***

-STREET FRONTAGE % CALCULATION: 102.98'/279.16' = ***36.89% > 8.0%***

WORK FILED UNDER SEPARATE APPLICATIONS

1. SPRINKLER/ STANDPIPE : APPLICATION #220429196
2. BUILDER'S PAVEMENT PLAN: APPLICATION #220427768
3. FIRE PROTECTION PLAN: APPLICATION #220455077
4. BACKFLOW PREVENTION DEVICE: APPLICATION #14053297
5. ELEVATOR/AND/DUMBWAITER (to be filed as elevator application)
6. SCP AND HCP SEWERS : APPLICATION #

CONSTRUCTION CLASSIFICATION

TYPE I NON-COMBUSTIBLE (FROM TABLE 601 & TABLE 602) CONSTRUCTION ELEMENT	**CLASS 1-B RATING IN HOURS**
STRUCTUAL FRAME	2
BEARING WALLS EXTERIOR INTERIOR	2 2
NONBEARING WALLS AND PARTITIONS EXTERIOR	1
NONBEARING WALLS AND PARTITIONS INTERIOR	0
FLOOR CONSTRUCTION INCLUDING SUPPORTING BEAMS AND JOISTS	2
ROOF CONSTRUCTION	1
FIRE SEPARATION (FROM TABLE 508.3.3) FIRE SEPARATION BETWEEN E AND R-2 TENANCIES FIRE SEPARATION BETWEEN B AND R-2 TENANCIES FIRE SEPARATION BETWEEN R-2 TENANCIES	 2 2 2

* PARTITION TYPE SHOWN AS 2 HR TO ACHIEVE REQUIRED STC RATING

OCCUPANCY CLASSIFICATION

(FROM CHAPTER 3 AND TABLE 508.2 & TABLE 508.3.3)

OCCUPANCY SCHEDULE	OCCUPANCY GROUP	FIRE INDEX
RESIDENTIAL	**R-2**	**2**
OFFICES/CONFERENCE ROOM	B	2
TENANT COMMON ROOM	A-3	2
TENANT STORAGE/BICYCLE STORAGE	INCIDENTAL ROOM	1
TRASH COMPACTOR ROOM	INCIDENTAL ROOM	3
TRASH COLLECTION ROOM	INCIDENTAL ROOM	3
MECHANICAL ROOM	INCIDENTAL ROOM	1
WATER PUMP ROOM(S)	INCIDENTAL ROOM	1
ELECTRICAL SERVICE ROOM	INCIDENTAL ROOM	1
GAS METER ROOM	INCIDENTAL ROOM	1
LAUNDRY	INCIDENTAL ROOM	1*

* PARTITION TYPE SHOWN AS 2 HR TO ACHIEVE REQUIRED STC RATING

NOTE:

-PER CHAPTER 5 AND TABLE 503, ALLOWABLE HEIGHT AND BUILDING AREAS IS UNLIMITED FOR CONSTRUCTION TYPE I-B.
-BUILDING FULLY SPRINKLERED W/ NFPA-13 AUTOMATIC SPRINKLER SYSTEM

NET FLOOR AREA / OCCUPANCY ANALYSIS

(FROM TABLE 1004.1.2)

	(SF)	OCCUPANT LOAD (FLOOR AREA PER OCCUPANT PER TABLE 1004.1.2)
R-2 OCCUPANCY (200 GROSS SF WITHIN DWELLING UNITS)		
CELLAR	2,493	0
1ST FLOOR	1,691	0
2ND FLOOR	3,653	18.3
3RD FLOOR	3,653	18.3
4TH FLOOR	3,653	18.3
5TH FLOOR	3,653	18.3
6TH FLOOR	3,653	18.3
7TH FLOOR	3,653	18.3
8TH FLOOR	3,653	18.3
9TH FLOOR	2,521	12.6
INCIDENTAL USE AREAS (300 GROSS SF PER PERSON FOR ACCESSORY STORAGE AREAS, TRASH COLLECTION ROOM MECH. AND EQUIPMENT RMS.)		
CELLAR	1,174	3.9
A-3 OCCUPANCY (15 NET SF PER PERSON - UNCONCENTRATED TABLE AND CHAIRS - FOR TENANT COMMON ROOM)		
1ST FLOOR	791	52.73
B OCCUPANCY (100 GROSS SF PER PERSON - BUSINESS AREAS)		
1ST FLOOR	1,115	11.15

EGRESS

EXIT AND ACCESS REQUIREMENTS PART I

OCCUPANCY GROUP OF BUILDING OR SPACE	GROUP DESIGNATION	MAXIMUM EXIT ACCESS TRAVEL DISTANCE (FT) TABLE 1015.1		CORRIDORS	
		UNSPRINKLERED	SPRINKLERED	MIN. WIDTH (IN.) SECTION 1016.2	MAX. DEAD END (LENGTH IN FT) SECTION 1016.3
RESIDENTIAL ASSEMBLY * BUSINESS	R-2 A-3 B	150 100 * * 200	200 150 * * 300	36 44 44	80 50 50

* BASED ON BC 1014, TABLE 1014.1 - SPACES IN OCCUPANCY A WITH A MAXIMUM OCCUPANT LOAD 74 SHALL BE PROVIDED WITH ONE MEANS OF EGRESS
* * BASED ON BC 1024.7, TABLE 1024.7

EXIT AND ACCESS REQUIREMENTS PART II

FLOOR	COMBINED OCCUPANT LOADS	GROUP DESIGNATION	REQUIRED WIDTHS IN INCH (TABLE 1005.1)		WIDTHS PROVIDED	
			STAIRWAYS (0.3" PER OCCUPANT SERVED)	OTHER EGRESS COMPONENTS (0.2" PER OCCUPANT SERVED) *	STAIRWAYS	OTHER EGRESS COMPONENTS
9TH	5	R-2	1.5	1.0	36	36
8TH	7	R-2	2.1	1.4	36	36
7TH	10	R-2	3	2	36	36
6TH	10	R-2	3	2	36	36
5TH	10	R-2	3	2	36	36
4TH	10	R-2	3	2	36	36
3RD	10	R-2	3	2	36	36
2ND	10	R-2	3	2	36	36
1ST	69.42	A-3, B	20.83	13.88	36	72
1ST - REAR YARD	150	R-2	NA	144	NA	144
CELLAR	5.6	I	1.68	1.12	36	36

* BC 1016.2 CORRIDOR WIDTHS NOT LESS THAN 44 INCHES

SPECIAL INSPECTIONS

ALL METHODS AND CONSTRUCTION COMPONENTS / ASSEMBLIES REQUIRING SPECIAL INSPECTION SHALL BE INSPECTED AND TESTED WHEN REQUIRED TO VERIFY COMPLIANCE WITH THE BUILDING CODE. ALL REQUIRED SPECIAL INSPECTIONS AND TESTS SHALL BE CONDUCTED BY OR SUPERVISED BY AN ARCHITECT OR PROF. ENGINEER AUTHORIZED BY THE DEPARTMENT OF BUILDINGS ON BEHALF OF THE OWNER AND AS IDENTIFIED BY THE DESIGN ARCHITECT OF RECORD. ALL SPECIAL INSPECTIONS AND TESTS SHALL BE RECORDED AND MADE AVAILABLE TO THE DEPT. OF BUILDINGS FOR AT LEAST 6 YEARS.

INSPECTION	SECTION
Structural steel – welding	BC 1704.3.1
Structural steel – erection and bolting	BC 1704.3.2, BC 1704.3.3
Concrete cast-in-place	BC 1704.4
Concrete - precast	BC 1704.4
Masonry	BC 1704.05
Soils – site preparation	BC 1704.7.1
Soils – fill placement and in place density	BC 1704.7.2, BC 1704.7.3
Soils - Investigations (Borings/Test Pits)	BC 1704.7.4
Sprayed Fire-Resistant Materials	BC 1704.11
Exterior Insulation Finish System (EIFS)	BC 1704.12
Mechanical Systems	BC 1704.15
Excavation sheeting shoring bracing	BC 1704.19, BC 3304.4.1
Site Storm Drainage Disposal and Detention System Installation	BC 1704.20
Firestop draftstop and fireblock systems	BC 1704.25
Concrete Test Cylinders	BC 1905.6
Concrete Design Mix	BC 1905.3

PROGRESS INSPECTIONS

INSPECTION	SECTION
REQUIRED PROGRESS INSPECTION	
- FOOTING & FOUNDATIONS	BC 109.3.1
- ENERGY CODE COMPLIANCE	BC 109.3.5
- FIRE-RESISTIVE RATED CONSTRUCTION	BC 109.3.4
FINAL INSPECTION	28-116.2.4.2, BC 109.5 & DIRECTIVE 14 of 1975

SEE EN-003.00 FOR NYCECC 2010 RELATED INSPECTIONS

Melrose Commons Site C - Supportive Housing

Bronx, NY

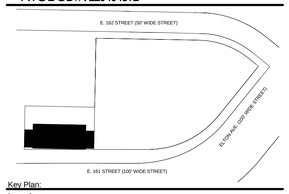
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Do Not Scale Plans
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Code Conformance Notes

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-003.00
SCALE: 1/16" = 1'-0"	10 OF 111

EARTHQUAKE CODE NOTES

BUILDING TO COMPLY WITH 17/1995 & INDICATE REQUIRED SEPARATION BETWEEN NEW BUILDINGS SEISMIC PROVISIONS:

A. 2" ELASTROMERIC SIESMIC JOINT FILLER

SEISMIC LOAD PROVISIONS PER NYCBC (UBCBC)

ITEM	DESCRIPTION/MAGNITUDE	
1. SEISMIC ZONE (2A)	Z = 0.15	NYCBC TABLE NO.23-I
2. SITE (SOIL) COEFFICIENT	S = 1.0	NYCBC TABLE NO.23-J
3. IMPORTANCE FACTOR (STANDARD OCCUPANCY STRUCTURE)	I = 1.00	NYCBC TABLE NO.23-L
4. BASIC STRUCTURAL SYSTEM	BUILDING FRAME SYSTEM, CONCENTRIC BRACED STEEL FRAME	NYCBC TABLE NO.23-O NYCBC TABLE NO.23-O
5. COEFFICIENT Rw	Rw = 8.0	NYCBC TABLE NO.23-O
6. ANALYSIS PROCEDURE	EQUIVALENT STATIC LATERAL FORCE	UBC 2334 (b)

ACCESSIBILITY REQUIREMENTS

PROJECT IS IN COMPLIANCE WITH THE REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT (ADA) AND FAIR HOUSING AMENDMENTS ACT (FHAA), AS WELL AS ALL STATE AND LOCAL ACCESSIBILITY REQUIREMENTS AS LISTED BELOW:

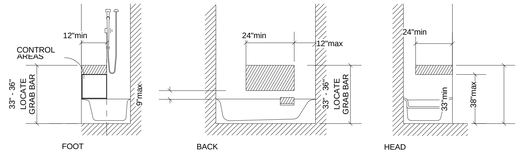
-NYC BUILDING CODE CHAPTER 11: ACCESSIBILITY, APPENDIX P-R2 OCCUPANCY TOILET AND BATHING FACILITIES REQUIREMENTS AND
-REFERENCED STANDARD ICC/ANSI.1-2003: ACCESSIBLITY AND USABLE BUILDINGS AND FACILITIES.

ACCESSIBILITY REQUIREMENTS

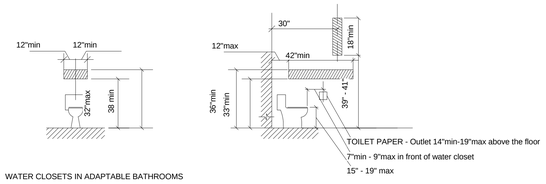
4CADD-10 VERSATILE 4C MAILBOX ALUMINUM CABINETS WITH (10) TENANT DOORS,(2) 15" PARCEL LOCKERS (1) 4C MASTER SIZE DOOR PREPARED FOR POSTAL LOCK

1 Mailbox- Elevation
1/4" = 1'-0"

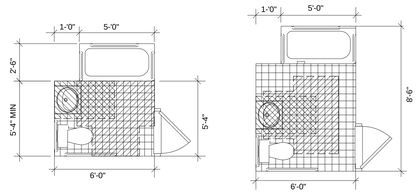
R-2 OCCUPANCY TOILET AND BATHING FACILITIES REQUIREMENTS



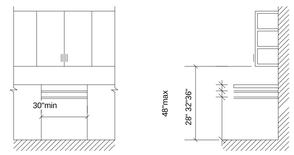
LOCATION OF GRAB BARS AND CONTROLS OF ADAPTABLE BATHTUBS



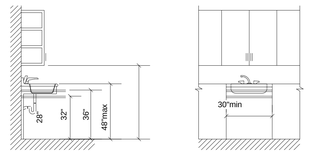
WATER CLOSETS IN ADAPTABLE BATHROOMS



R-2 OCCUPANCY KITCHENS



MINIMUM ADJUSTABLE KITCHEN COUNTER WORK SURFACE



MINIMUM ADJUSTABLE COUNTER AT KITCHEN SINK

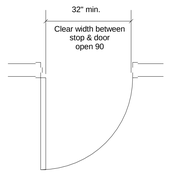
NOTES:

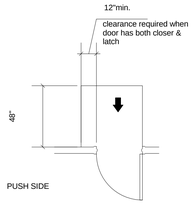
1. BASE CABINETS TO BE REMOVABLE FOR KITCHEN COUNTER HEIGHT ALTERNATIVES.

2. HATCHED AREAS TO BE REINFORCED TO RECEIVE GRAB BARS.

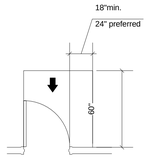
3. SEE KITCHEN AND BATHROOM ENLARGED PLANS AND ELEVATIONS SHEETS FOR FURTHER INFORMATION.

MANEUVERING CLEARANCES AT DOORS





PUSH SIDE



PULL SIDE

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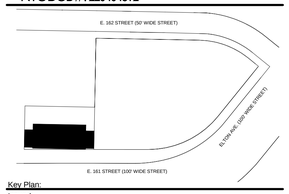

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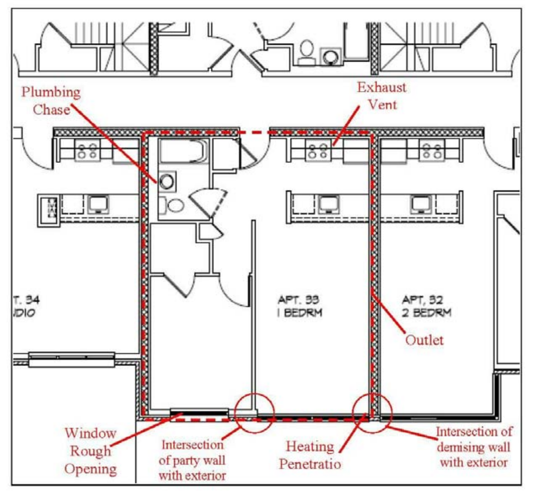
SWA Air Sealing Strategies -- DRAFT



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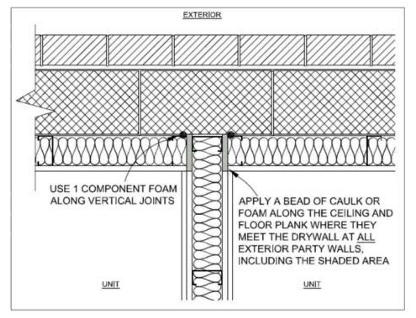
Demising Wall between Units- Plan View



- During drywall installation, leave space for demising wall drywall to be inserted.
- Drywall sequence must take into account sealing the vertical joint of the demising wall drywall to the exterior wall. Use caulk or one component polyurethane foam along vertical joints.
- Drywall sequence must also take into account sealing the portion of the demising drywall that becomes inaccessible once the perimeter drywall is installed (see figure below). Use a continuous bead of caulk or one component polyurethane foam to seal the inset portion of the drywall to the concrete plank/slab at the ceiling and floor.
- All notches in drywall made for electrical cable, plumbing braces, etc. to be sealed with one component polyurethane foam or caulk.

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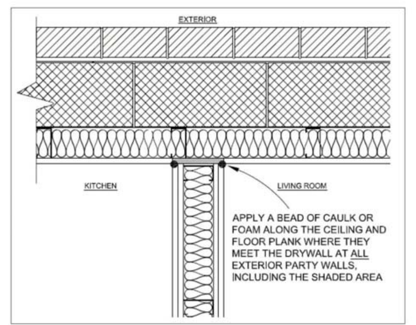
Party Wall within a Unit



- During drywall installation, leave space so that perimeter drywall is continuous.
- Drywall sequence must take into account sealing the gap at the ceiling and floor between the layers of party wall drywall before the party wall is installed. Apply a continuous bead of sealant to all gaps between the drywall, ceiling and floor.
- All notches in drywall made for electrical cable, plumbing braces, etc. to be sealed with one component polyurethane foam or caulk.

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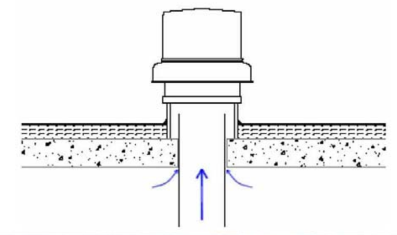
Roof Curb Sealing



- Use RCD #8 Low-VOC mastic or equivalent and install according to manufacturer's requirement (Do not apply mastic if ambient temperature is below 38° F).

- Stage of Construction: Before installation of roof curbs
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

Transverse Joint Sealing

- Use RCD #8 Low-VOC mastic or equivalent and install according to manufacturer's requirement (Do not apply mastic if ambient temperature is below 38° F).
- Apply mastic continuously at all transverse joints.
- Apply mastic to the exposed part of the male fitting after the fitting collar or crimped end is fully started into the duct, but before it is pushed to the bead stop.
- Once applied, push fitting to the bead stop. Then mechanically fasten the joint with sheet metal screws or rivets.
- Next apply mastic to the outside of joint in a minimum 2 ½" wide band covering the screws or rivets and joint gap.

- Stage of Construction: During duct construction
- Responsible Trade: Mechanical Contractor

Prepared by Steven Winter Associates, Inc.

VENTILATION DUCT AIR VERIFICATION
Exhaust Risers and Corridor Supply Ductwork

SWA Duct Tightness Testing
Two Purposes:
1. **Quantify Duct Air Tightness**
2. **Identify Overlooked Air Leakage Locations**

Testing of a Sample of Risers after all Take-offs are installed, but before sheetrock

After roof fan start-up, SWA will also test ventilation system exhaust CFM balancing.

Prepared by Steven Winter Associates, Inc.

Take-off Duct Sealing

- Use RCD #8 Low-VOC mastic or equivalent and install according to manufacturer's requirement (Do not apply mastic if ambient temperature is below 38° F).
- Apply mastic continuously around all joints between take-off ducts and shafts.
- Apply mastic to the outside of joints in a minimum 2 ½" wide band covering the screws or rivets and joint gap.

- Stage of Construction: During duct construction
- Responsible Trade: Mechanical contractor

Prepared by Steven Winter Associates, Inc.

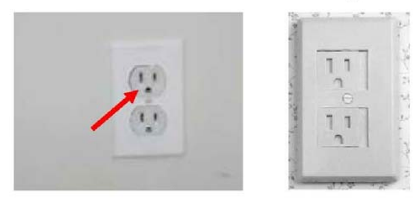
Rough Opening around Window Frame

- Seal rough opening with **ONE** continuous bead (ie. ¼") of one-component (low expansion) polyurethane foam. Do not fill entire gap between masonry and window frame.
- If necessary insert backer rod into gap.

- Stage of Construction: Window Installation
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

Outlet / Electrical Box – Exterior and Demising Walls



- Alternative 1: Use Cardinal Outlet covers instead of conventional outlet covers. http://www.energyfederation.org/consumer/default.php/cPath/21_1272_61

- Stage of Construction: Finishes
- Responsible Trade: Electrician

- Alternative 2: Seal electrical boxes, prior to drywall but after BX cable has been installed, with one component polyurethane foam or brush on mastic.
- Caulk outlet plate to sheetrock

Prepared by Steven Winter Associates, Inc.

Drywall to Concrete Plank Floor Connection
Exterior Walls and All Interior Partitions

- Coordinate with gypsum board installation so that gap between bottom of gypsum board and concrete plan can be completely sealed by self leveling compound.
  - Poor depth for drytek is 1/16" to 1 ¼"
    http://www.drytek.com/products/csi/csi_7400.pdf
- Seal remaining gap, if any, with 1-component polyurethane foam sealant or silicone latex caulk

- Stage of Construction: During installation of self-leveling compound
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

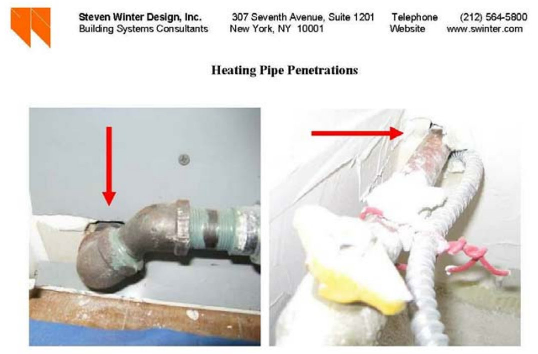
Electrical Panel

- Install closed cell neoprene foam tape between panel and drywall and around access door.

- Stage of Construction: Finishes
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

Heating Pipe Penetrations



- Alternative #1: At gypsum board penetration wrap copper heating pipewith 3/8" AP/Armaflex Pipe Insulation or equivalent expanded closed cell foam (rated for 220 °F).

http://www.armacell.com/www/armacell/armacell.nsf/ansHTMLSeitenLookUp/USA-TI_Frame?OpenDocument

- Seal gap between AP/Armaflex Pipe Insulation and gypsum board with silicone caulk.
- Where caulk is exposed to view, protect adjacent surfaces from damage and from sealant material and tool caulk flush with and in same plane as wallboard surface. Caulk beads shall be 1/4" to 3/8" diameter.

- Alternative #2: Use one component polyurethane foam or other sealant product rated for 200 degrees Fahrenheit.

- Stage of Construction: Anytime after hot water baseboard is installed
- Responsible Trade: _______________

Plumbing / Sprinkler Pipe Penetrations

Prepared by Steven Winter Associates, Inc.

- Alternative 1: Before installation of escutcheon, fill rough opening with Gypsum compound such as Durabond90
  - http://www.usg.com/navigate.do?resource=/USG_Marketing_Content/usg.com/web_files/products/prod_details/SHEETROCK_Brand_Durabond_Joint_Compound.htm
- Alternative 2: Before installation of escutcheon, fill rough opening with one component expanding foam

- Stage of Construction: After drywall, before interior finishes
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

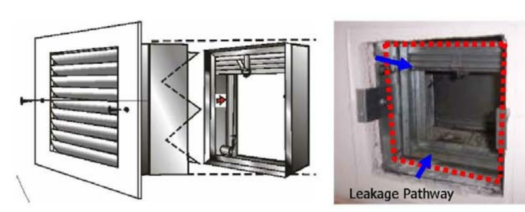
Drywall to Concrete Ceiling Plank Connection
Exterior Walls and Interior Partitions

- Apply a continuous bead of silicone caulk (TREMCO or equivalent) to gap between sheetrock and plank.

- Stage of Construction: Anytime after installation of sheetrock
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

Gap Between Take-off Duct and Drywall



Assuming a 1/16" gap along perimeter (red):

8 x 8 duct → 2.0 square inches of leakage area per exhaust grille

6 x 6 duct → 1.5 square inches of leakage area per exhaust grille

Prepared by Steven Winter Associates, Inc.

HVAC Access Doors

- Install silicone caulk (TREMCO or equivalent) to seal perimeter of frame to drywall.
- Alternative 1: Specify an access door with closed cell neoprene foam tape around perimeter of the frame against which the hatch closes.
- Alternative 2: Add closed cell neoprene foam tape to an access door that is not originally weather stripped.

- Stage of Construction: Finishes
- Responsible Trade: _______________

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Door Latch Hole

- *If* a blower door test indicates significant leakage at this location:
- Spray one part polyurethane foam above and below latch hole in door frame cavity.
- If necessary cut away any foam that expands into operating area of the latch hole

- Stage of Construction: Finishes
- Responsible Trade: _______________

Prepared by Steven Winter Associates, Inc.

APARTMENT AIR SEALING VERIFICATION

SWA Blower Door Testing
Two Purposes:
1. **Quantify Apartment Air Tightness**
2. **Identify Overlooked Air Leakage Locations**

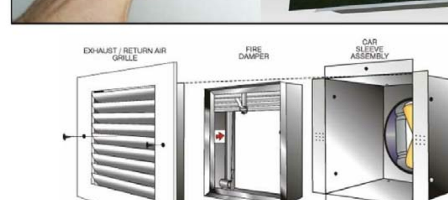
Testing at Two Stages of Construction:
1. **Near Completion (1-2 Apartments)**
2. **Prior to TCO (Sample of 10% of Apartments)**

Prepared by Steven Winter Associates, Inc.

Firestop all Penetrations in Plank and CMU!

Prepared by Steven Winter Associates, Inc.

Take Off to Sheetrock Sealing – Alternative 1



Prepared by Steven Winter Associates, Inc.

Take Off to Sheetrock Sealing – Alternative 2

Take Off to Sheetrock Sealing – Alternative 3

Prepared by Steven Winter Associates, Inc.

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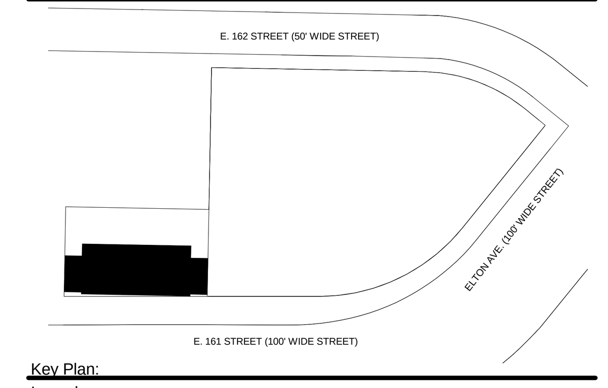

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Air Sealing Strategies and Details

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	DWG No:	A-005.00
	SCALE:	12 OF 111

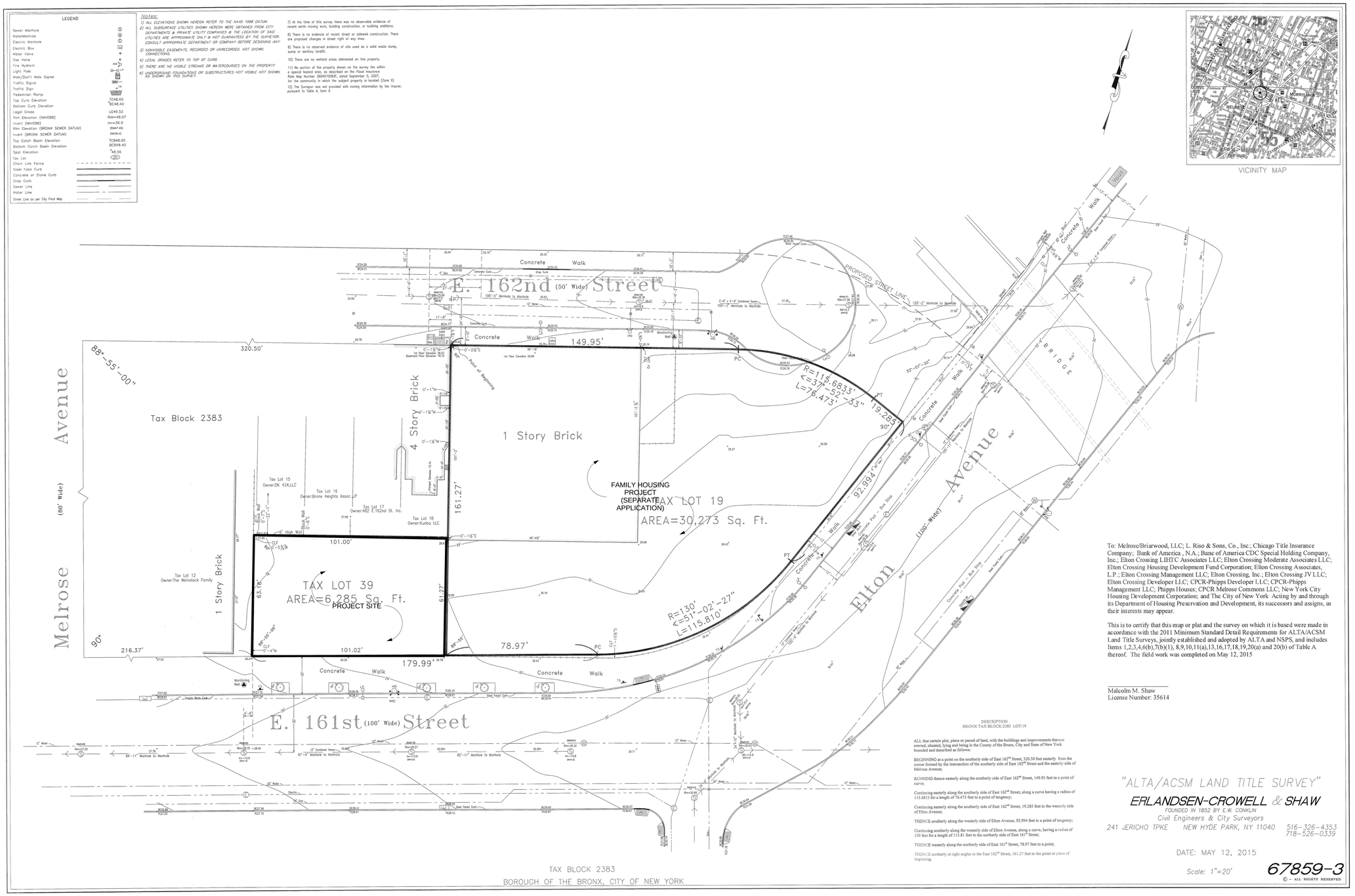
LEGEND

Sewer Manhole	S
Waterkanhole	W
Electric Manhole	E
Electric Box	E
Water Valve	W
Gas Valve	G
Fire Hydrant	HYD
Light Pole	0'-0"
Walk/Don't Walk Signal	PB
Traffic Signal	SIGNAL
Traffic Sign	15
Pedestrian Ramp	RAMP
Top Curb Elevation	TC48.65
Bottom Curb Elevation	BC48.40
Legal Grade	LG49.52
Rim Elevation (NAVD88)	RIM=48.97
Invert (NAVD88)	INV=36.9
Rim Elevation (BRONX SEWER DATUM)	(RIM=51.46)
Invert (BRONX SEWER DATUM)	(INV35.4)
Top Catch Basin Elevation	TC848.65
Bottom Catch Basin Elevation	BC848.40
Spot Elevation	48.56
Tax Lot	39
Chain Link Fence	
Steel Face Curb	
Concrete or Stone Curb	
Drop Curb	
Sewer Line	
Water Line	
Street Line as per City Final Map	

Notes:

1) ALL ELEVATIONS SHOWN HEREON REFER TO THE NAVD 1988 DATUM.
2) ALL SUBSURFACE UTILITIES SHOWN HEREON WERE OBTAINED FROM CITY DEPARTMENTS & PRIVATE UTILITY COMPANIES & THE LOCATION OF SAID UTILITIES ARE APPROXIMATE ONLY & NOT GUARANTEED BY THE SURVEYOR. CONSULT APPROPRIATE DEPARTMENT OR COMPANY BEFORE DESIGNING ANY
3) HONVISIBLE EASEMENTS, RECORDED OR UNRECORDED, NOT SHOWN. CONNECTIONS.
4) LEGAL GRADES REFER TO TOP OF CURB.
5) THERE ARE NO VISIBLE STREAMS OR WATERCOURSES ON THE PROPERTY.
6) UNDERGROUND FOUNDATIONS OR SUBSTRUCTURES NOT VISIBLE NOT SHOWN. AS SHOWN ON THIS SURVEY.
7) At the time of this survey there was no observable evidence of recent earth moving work, building construction, or building additions.
8) There is no evidence of recent street or sidewalk construction. There are proposed changes in street right of way lines.
9) There is no observed evidence of site used as a solid waste dump, sump or sanitary landfill.
10) There are no wetland areas delineated on this property.
11) No portion of the property shown on the survey lies within a special hazard area, as described on the Flood Insurance Rate Map Number 3604970053F, dated September 5, 2007, for the community in which the subject property is located (Zone X)
12) The Surveyor was not provided with zoning information by the insurer, pursuant to Table A, Item 6

VICINITY MAP



To: Melrose/Briarwood, LLC; L. Riso & Sons, Co., Inc.; Chicago Title Insurance Company; Bank of America , N.A.; Banc of America CDC Special Holding Company, Inc.; Elton Crossing LIHTC Associates LLC; Elton Crossing Moderate Associates LLC; Elton Crossing Housing Development Fund Corporation; Elton Crossing Associates, L.P.; Elton Crossing Management LLC; Elton Crossing, Inc.; Elton Crossing JV LLC; Elton Crossing Developer LLC; CPCR-Phipps Developer LLC; CPCR-Phipps Management LLC; Phipps Houses; CPCR Melrose Commons LLC; New York City Housing Development Corporation; and The City of New York Acting by and through its Department of Housing Preservation and Development, its successors and assigns, as their interests may appear.

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2011 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items 1,2,3,4,6(b),7(b)(1), 8,9,10,11(a),13,16,17,18,19,20(a) and 20(b) of Table A thereof. The field work was completed on May 12, 2015

Malcolm M. Shaw
License Number: 35614

DESCRIPTION
BRONX TAX BLOCK:2383 LOT:19

ALL that certain plot, piece or parcel of land, with the buildings and improvements thereon erected, situated, lying and being in the County of the Bronx, City and State of New York bounded and described as follows:

BEGINNING at a point on the southerly side of East 162nd Street, 320.50 feet easterly from the corner formed by the intersection of the southerly side of East 162nd Street and the easterly side of Melrose Avenue;

RUNNING thence easterly along the southerly side of East 162nd Street, 149.95 feet to a point of curve;

Continuing easterly along the southerly side of East 162nd Street, along a curve having a radius of 115.6833 fee a length of 76.473 feet to a point of tangency;

Continuing easterly along the southerly side of East 162nd Street, 19.285 feet to the westerly side of Elton Avenue;

THENCE southerly along the westerly side of Elton Avenue, 92.994 feet to a point of tangency;

Continuing southerly along the westerly side of Elton Avenue, along a curve, having a radius of 130 feet for a length of 115.81 feet to the southerly side of East 161st Street;

THENCE westerly along the northerly side of East 161st Street, 78.97 feet to a point;

THENCE northerly at right angles to the East 162nd Street, 161.27 feet to the point or place of beginning.

"ALTA/ACSM LAND TITLE SURVEY"

ERLANDSEN-CROWELL & SHAW
FOUNDED IN 1852 BY E.W. CONKLIN
Civil Engineers & City Surveyors
241 JERICHO TPKE NEW HYDE PARK, NY 11040 516-326-4353 718-526-0339

DATE: MAY 12, 2015

Scale: 1"=20'

67859-3

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TAX BLOCK 2383
BOROUGH OF THE BRONX, CITY OF NEW YORK

Melrose Commons Site C - Supportive Housing

Bronx, NY

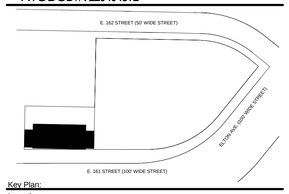
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

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Revisions:

Architect:

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Tel (212) 253 7820 Fax (212) 253 1276

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Filing Representative:

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Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

©COPYRIGHT 2015 Magnusson Architecture and Planning PC

Site Survey "For Information Only"

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-006.00
SCALE:	

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations (BFEs) shown on this map apply only landward of 0.0 National Geodetic Vertical Datum of 1929 (NGVD 29). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was New York State Plane FIPSZONE 3104. The **horizontal datum** was NAD 83, GRS80 spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the National Geodetic Vertical Datum of 1929. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3182
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713-3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by the Department of Information Technology and Telecommunication, City of New York (DoITT). This information was derived from digital orthophotos produced at a scale of 1:1,200 with 2-foot pixel resolution from photography dated 2004.

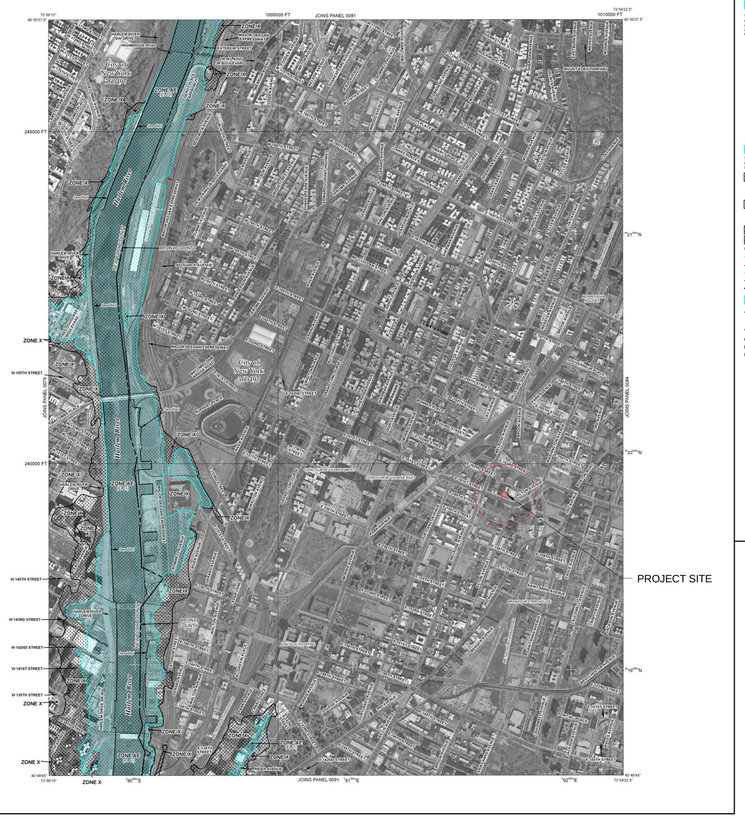
Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for surveyed streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map showing the layout of map panels for this jurisdiction.

Contact the **FEMA Map Service Center** at 1-800-358-9616 for information on available products associated with this FIRM. Available products may include previously issued Letters of Map Change, a Flood Insurance Study report, and/or digital versions of this map. The FEMA Map Service Center may also be reached by Fax at 1-800-358-9620 and its website at http://msc.fema.gov.

If you have **questions about this map** or questions concerning the National Flood Insurance Program in general, please call **1-877-FEMA MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A	No Base Flood Elevations determined.
ZONE AE	Base Flood Elevations determined.
ZONE AH	Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
ZONE AO	Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
ZONE AR	Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
ZONE A99	Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
ZONE V	Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
ZONE VE	Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X — Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Limit of Moderate Wave Action

513 — Base Flood Elevation line and value; elevation in feet*

(EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988

Cross section line

Transect line

97°07'45", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

7750000FT — 1000-meter Universal Transverse Mercator grid values, zone 18

600000 FT — 5000-foot grid values: New York State Plane coordinate system, Long Island zone (FIPSZONE 3104), Lambert Conformal Conic projection

DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)

• M1.5 — River Mile

MAP REPOSITORY
Refer to listing of Map Repositories on Map Index

INITIAL NFIP MAP DATE
June 25, 1974

FLOOD INSURANCE RATE MAP REVISIONS
June 17, 1978

FLOOD INSURANCE RATE MAP EFFECTIVE
November 16, 1983

FLOOD INSURANCE RATE MAP REVISIONS
September 3, 2007 - to change Special Flood Hazard Areas, to reflect updated topographic information, and to update map format

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'
250 0 250 500 1000 FEET
150 0 150 300 METERS

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0083F

FIRM
FLOOD INSURANCE RATE MAP

CITY OF
NEW YORK,
NEW YORK
BRONX, RICHMOND, NEW YORK, QUEENS, AND KINGS COUNTIES

PANEL 83 OF 457

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
NEW YORK, CITY OF	360497	0083	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
3604970083F

MAP REVISED
SEPTEMBER 5, 2007

Federal Emergency Management Agency

FEMA REVISED 2007- ZONE X

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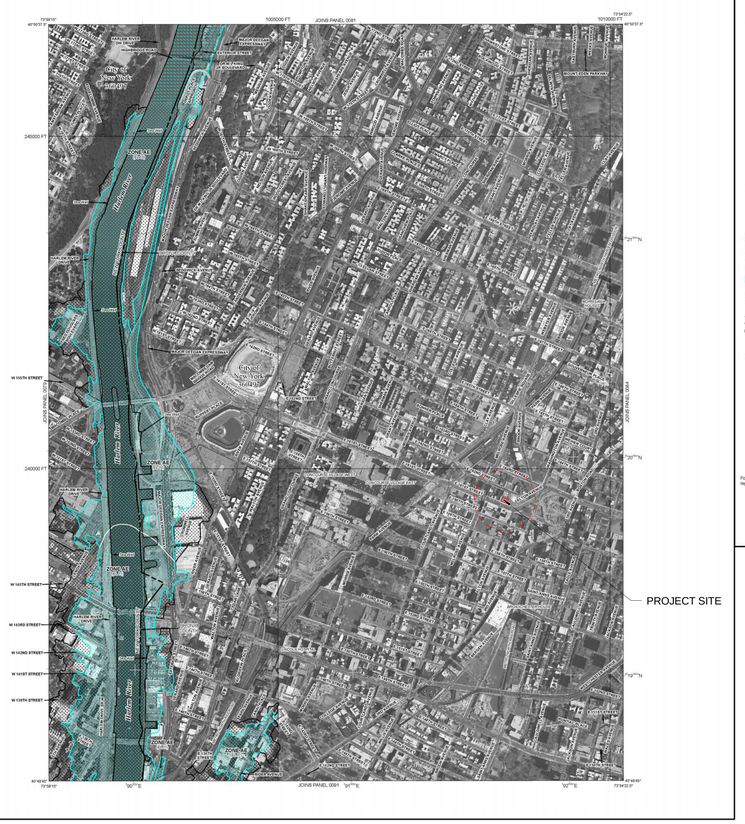

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PANEL 0083G

FIRM
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CITY OF
NEW YORK
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BRONX, RICHMOND, NEW YORK, QUEENS, AND KINGS COUNTIES

PANEL 83 OF 457

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
NEW YORK, CITY OF	360497	0083	G

PRELIMINARY
DECEMBER 5, 2013

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MAP NUMBER
3604970083G

MAP REVISED

Federal Emergency Management Agency

FEMA PRELIMINARY 2013- ZONE X
PER PRELIMINARY BASE FLOOD ELEVATION MAP, PROJECT SITE IS NOT LOCATED WITHIN THE FLOOD ZONE.

Melrose Commons Site C - Supportive Housing

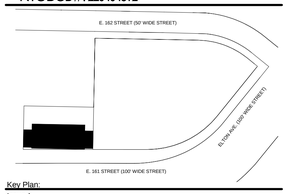
Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
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SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard,
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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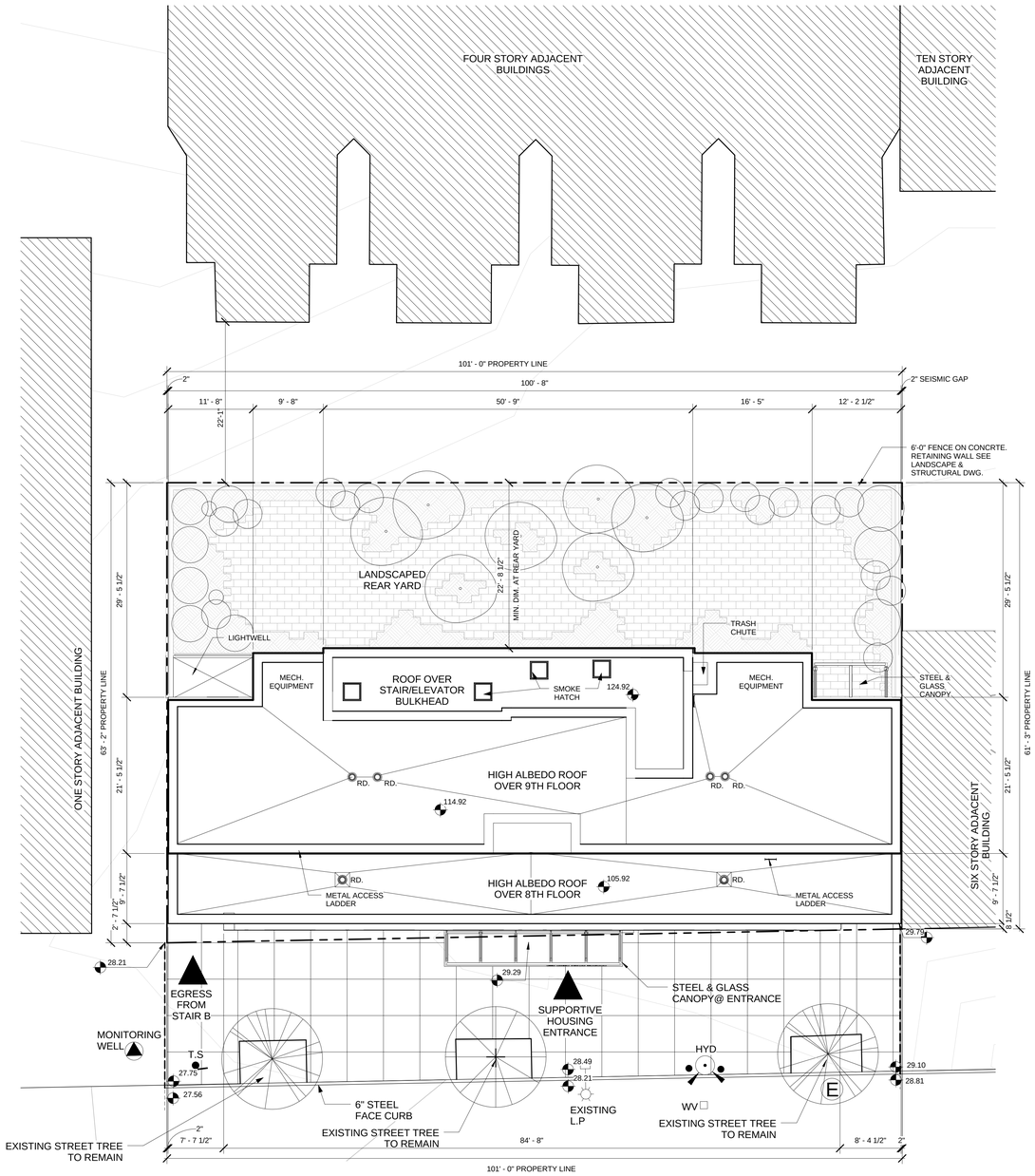
FEMA Flood Map

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-007.00
SCALE: 1" = 40'-0"	14 OF 111



1 SITE PLAN
1/8" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

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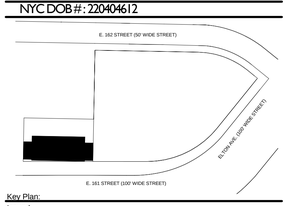

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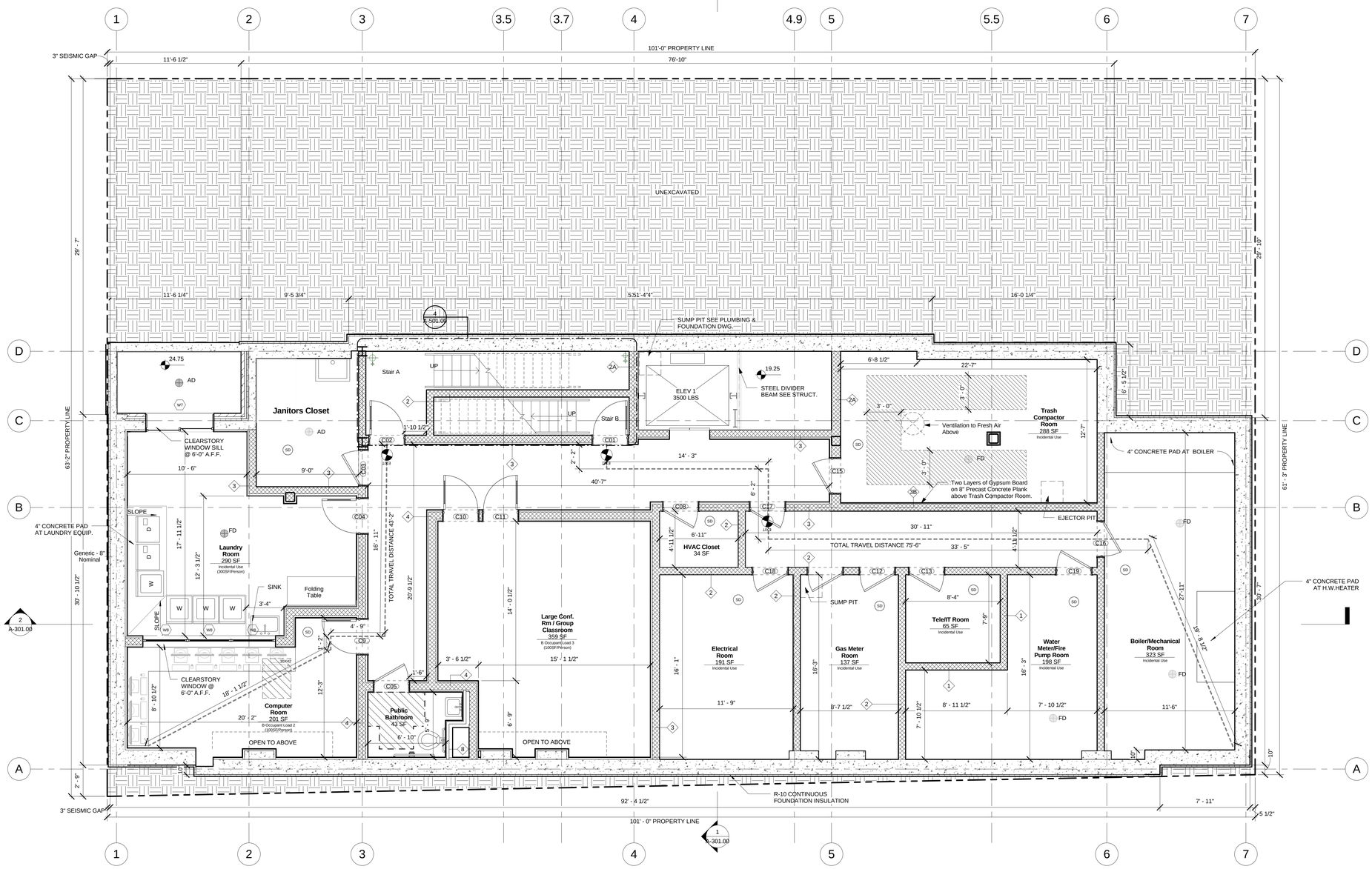
Site Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-010.00
SCALE: 1/8" = 1'-0"	15 OF 111



1 Cellar
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

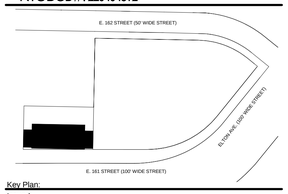
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

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New York, NY 10001

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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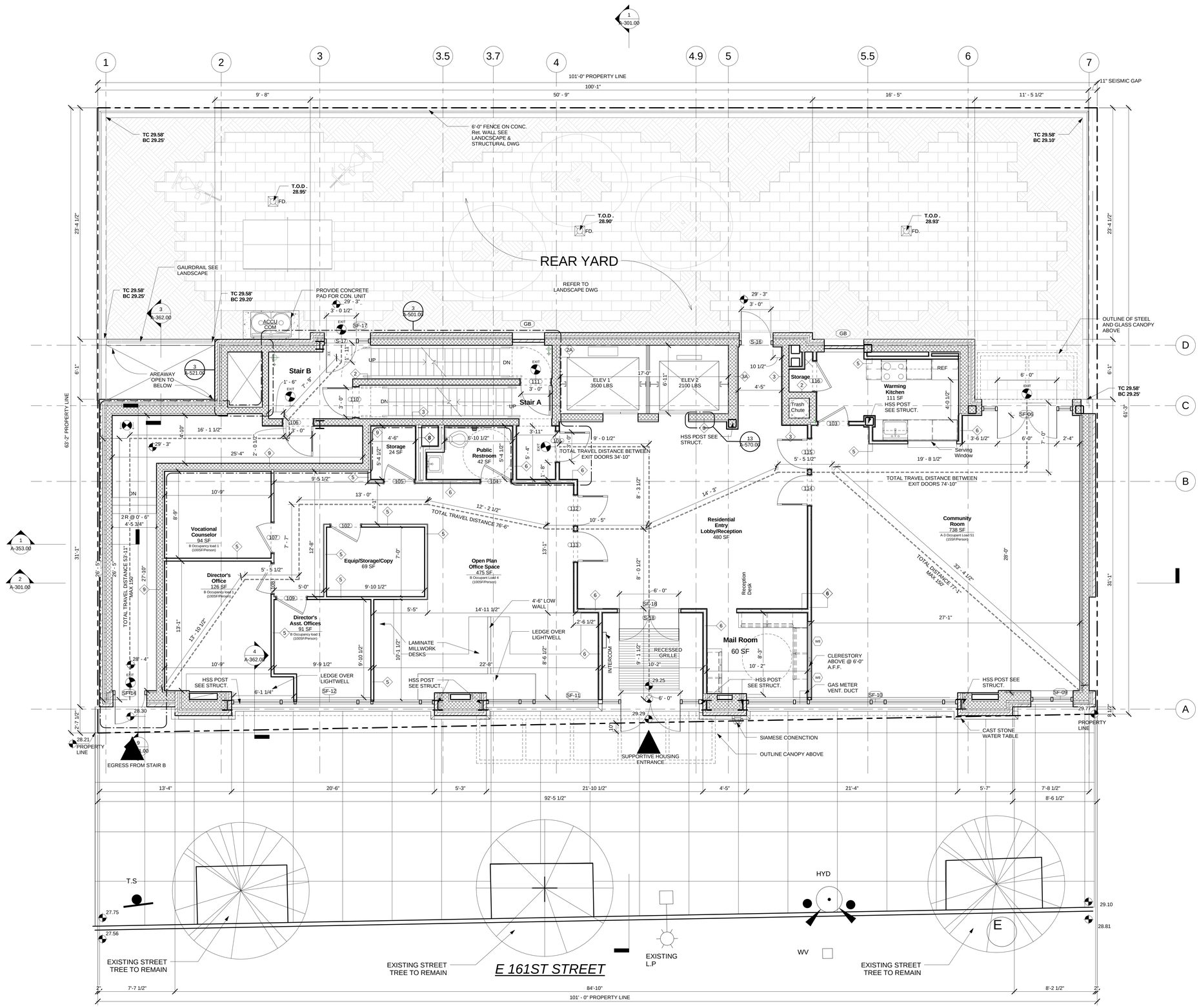
Cellar Floor Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-100.00
SCALE: 1/4" = 1'-0"	16 OF 111



1 Level 1
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

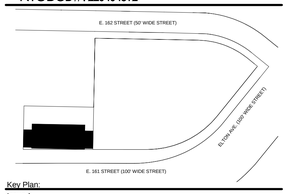
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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1st Floor Plan

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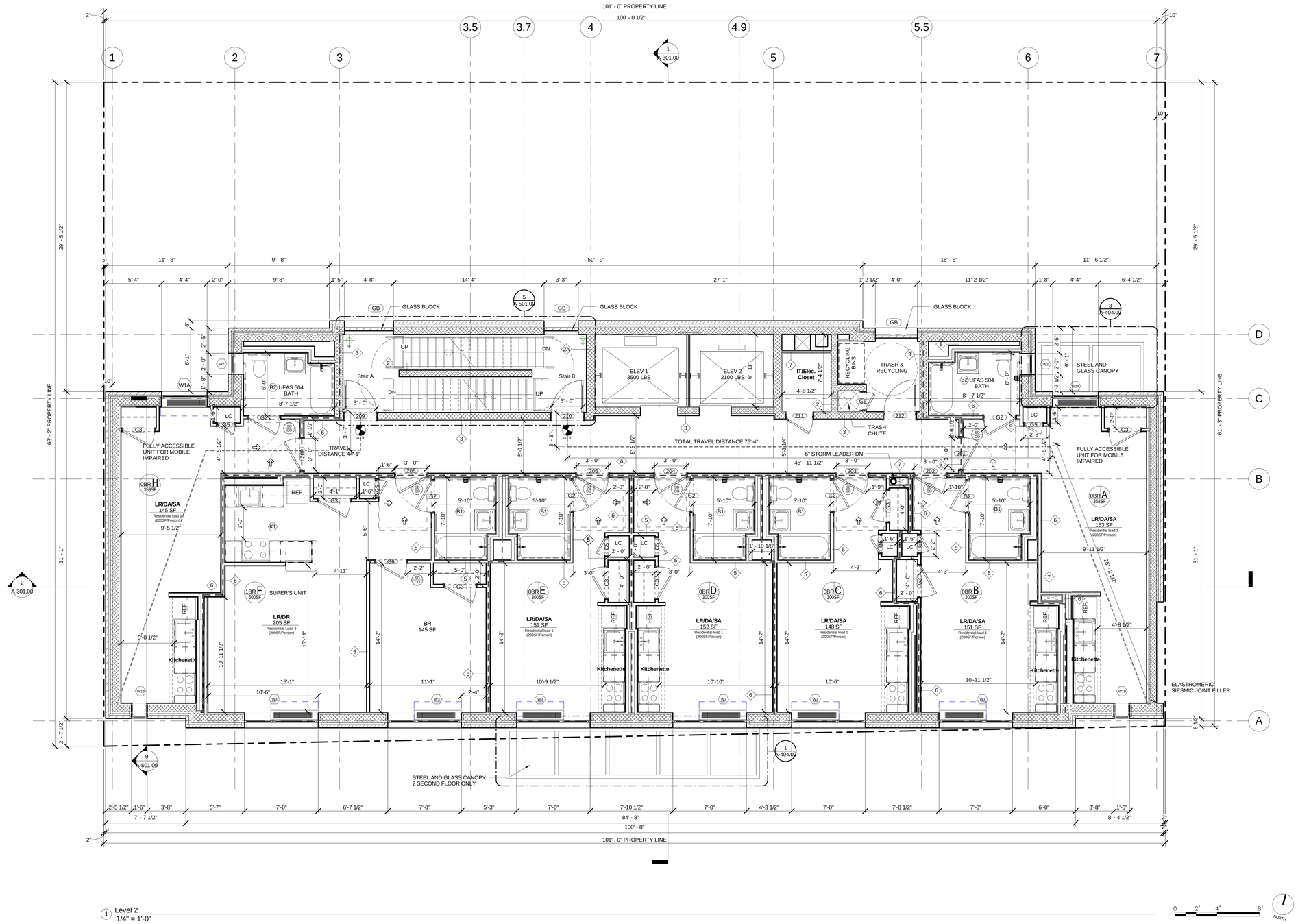
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-101.00
SCALE: 1/4" = 1'-0"	17 OF 111



1 Level 2
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

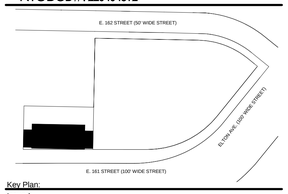
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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2nd Floor Plan

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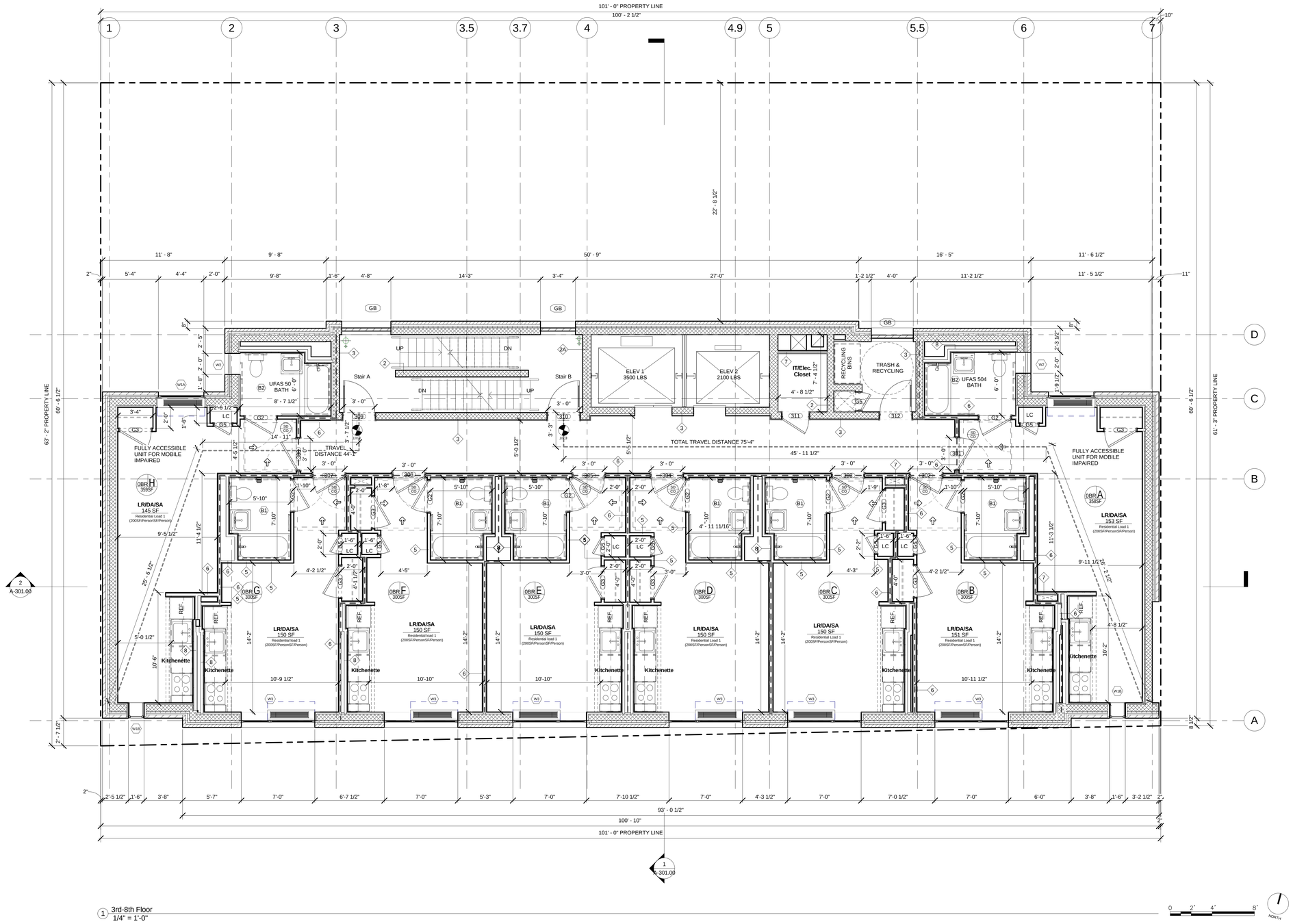
DWG No:	A-102.00
SCALE: 1/4" = 1'-0"	18 OF 111



1 3rd-8th Floor
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

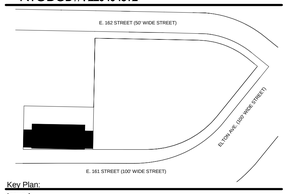
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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3rd-8th Floor Plan

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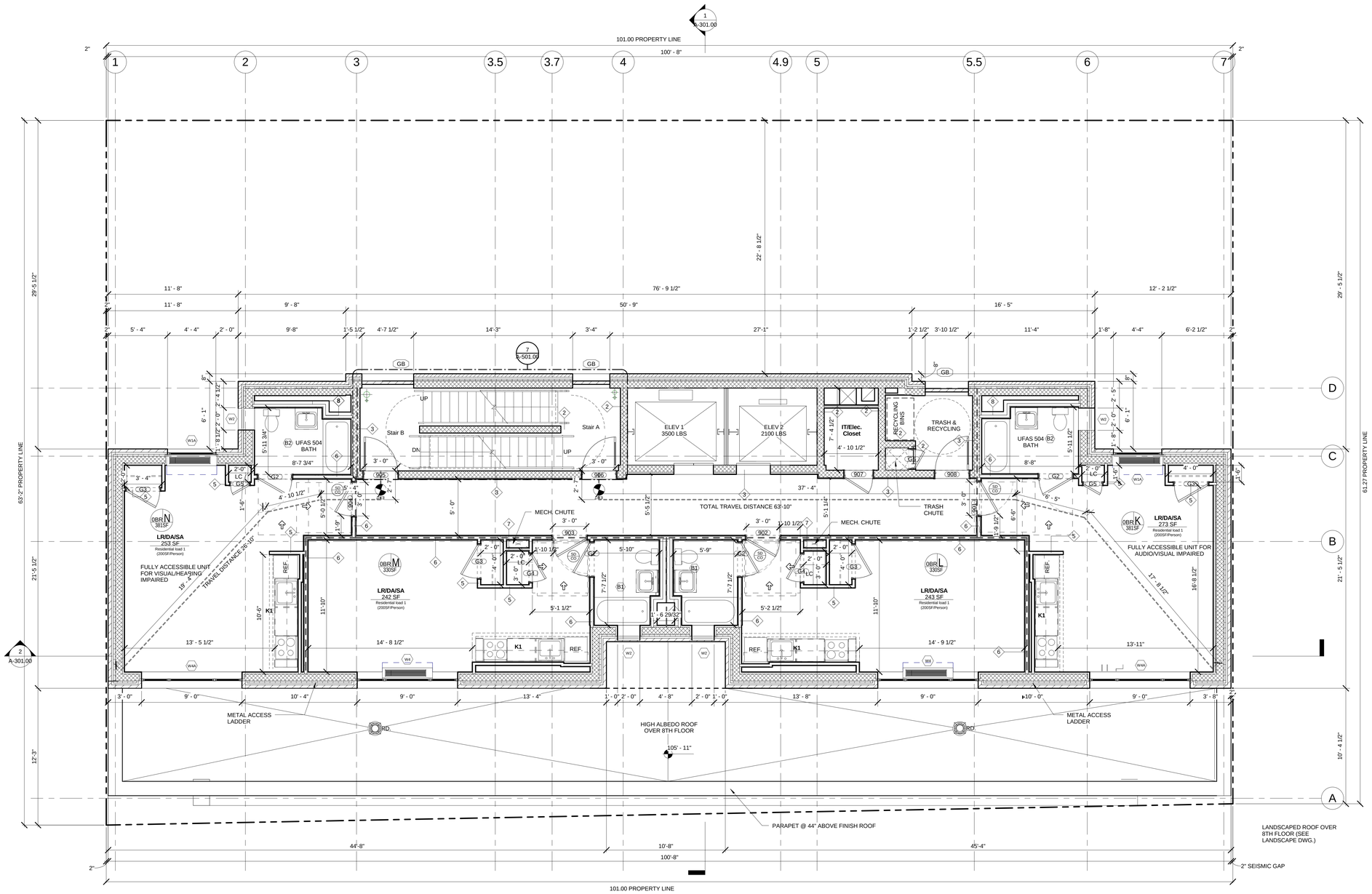
DWG No:	A-103.00
SCALE: 1/4" = 1'-0"	19 OF 111



1 Level 9
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

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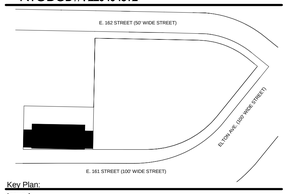
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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7	12.14.15	ISSUE FOR BID

Revisions:

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9th Floor Plan

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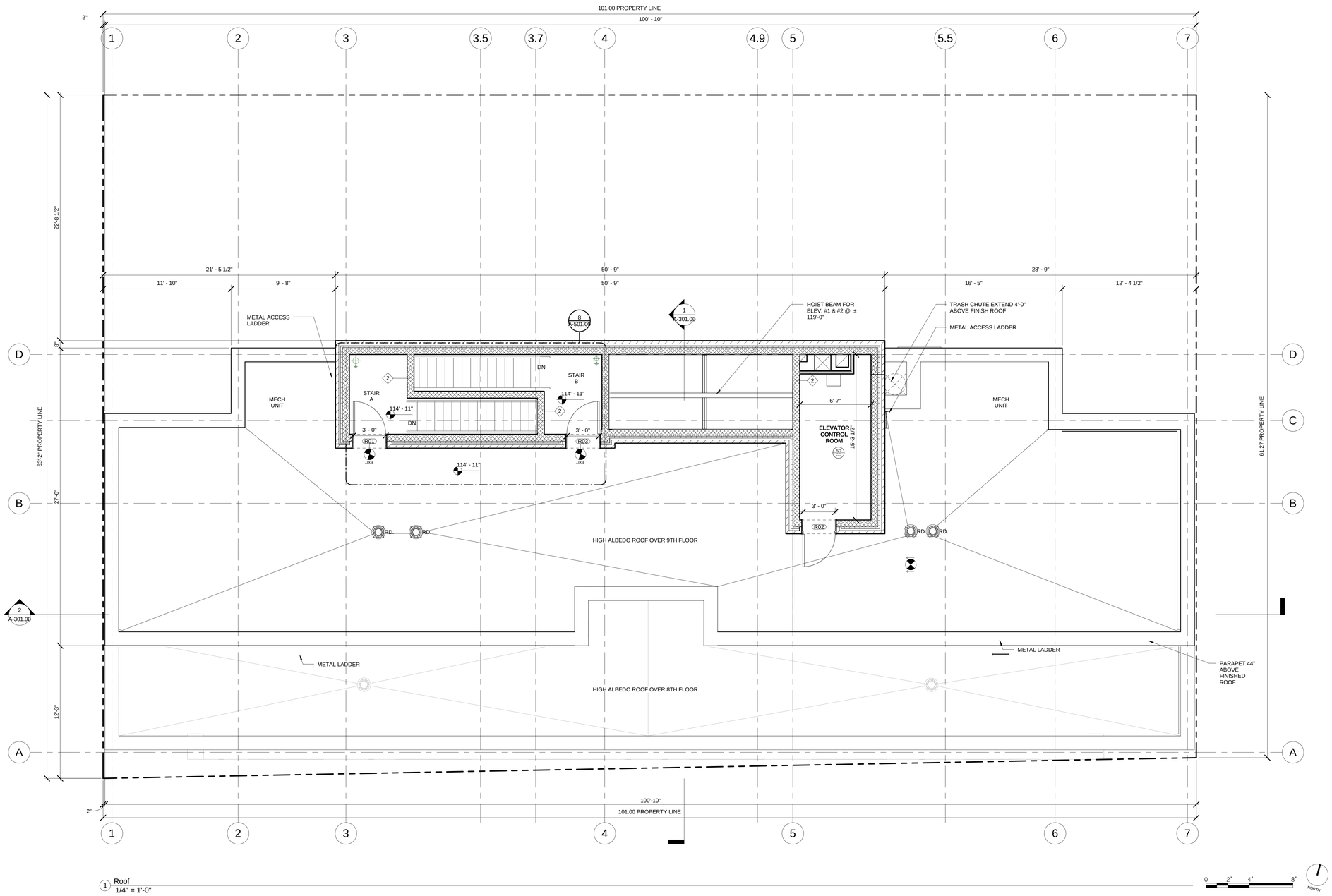
DWG No:	A-104.00
SCALE: 1/4" = 1'-0"	20 OF 111



1 Roof
1/4" = 1'-0"

0 2' 4' 8'

NORTH

Melrose Commons Site C - Supportive Housing

Bronx, NY

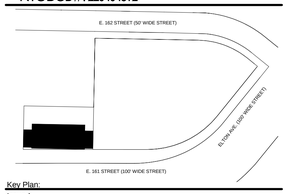
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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New York, NY 10001

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Client Representative:

Filing Representative:

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Brooklyn, NY 11222
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Roof Plan

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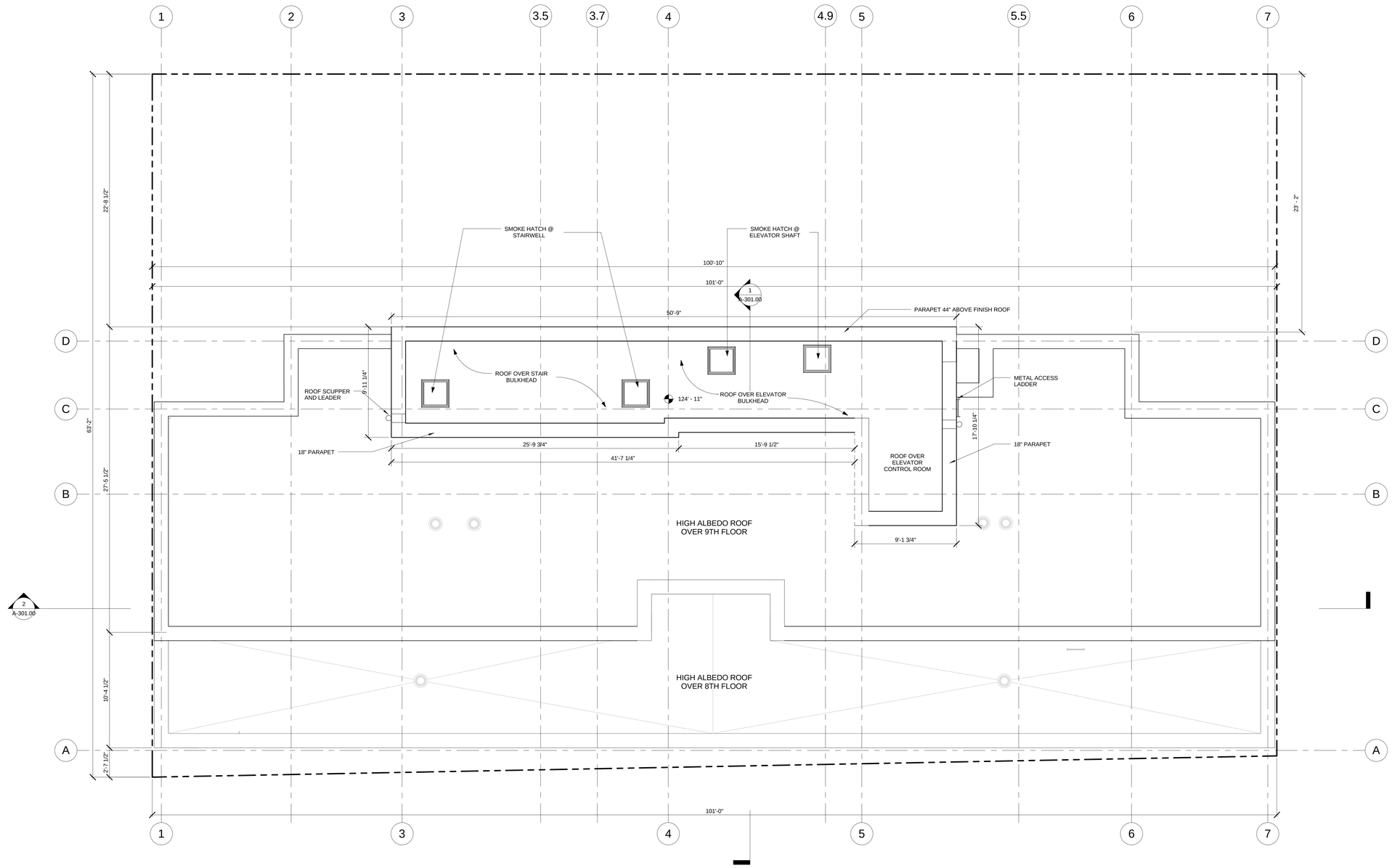
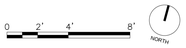
DWG No:	A-105.00
SCALE: 1/4" = 1'-0"	21 OF 111



1 Bulkhead Roof
1/4" = 1'-0"



Melrose Commons Site C - Supportive Housing

Bronx, NY

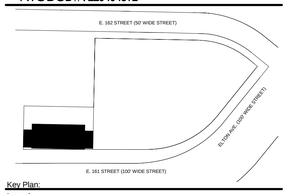
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Filing Representative:

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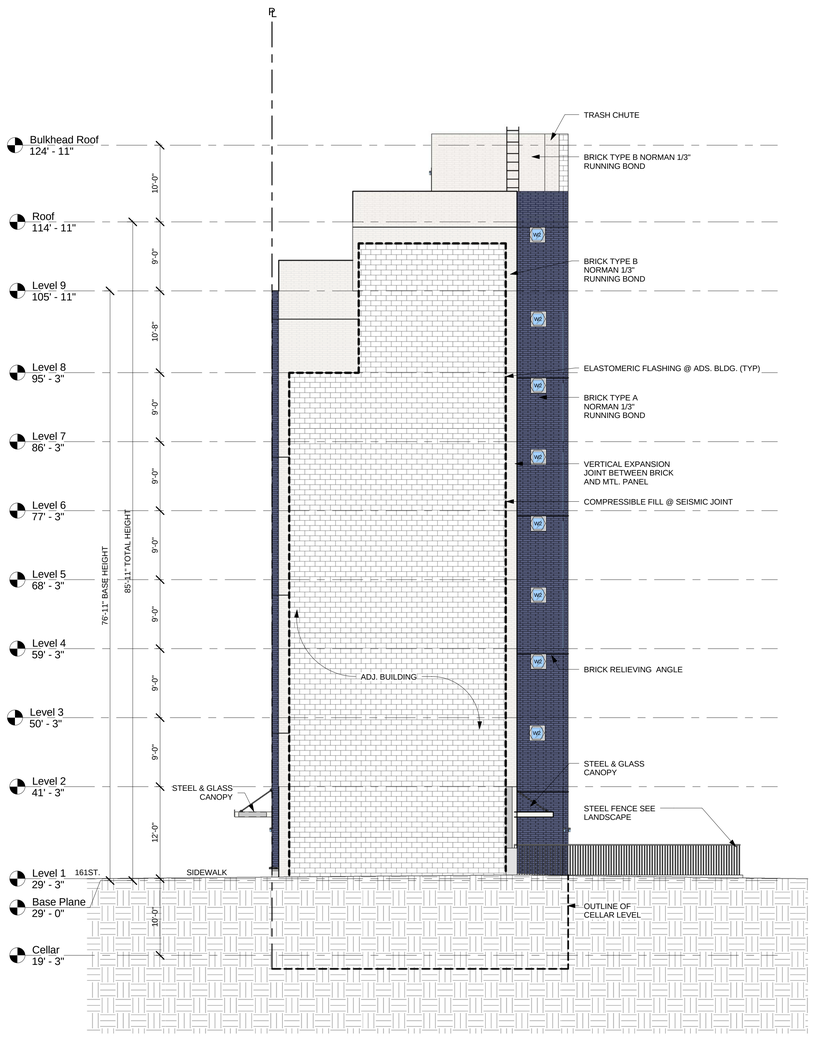
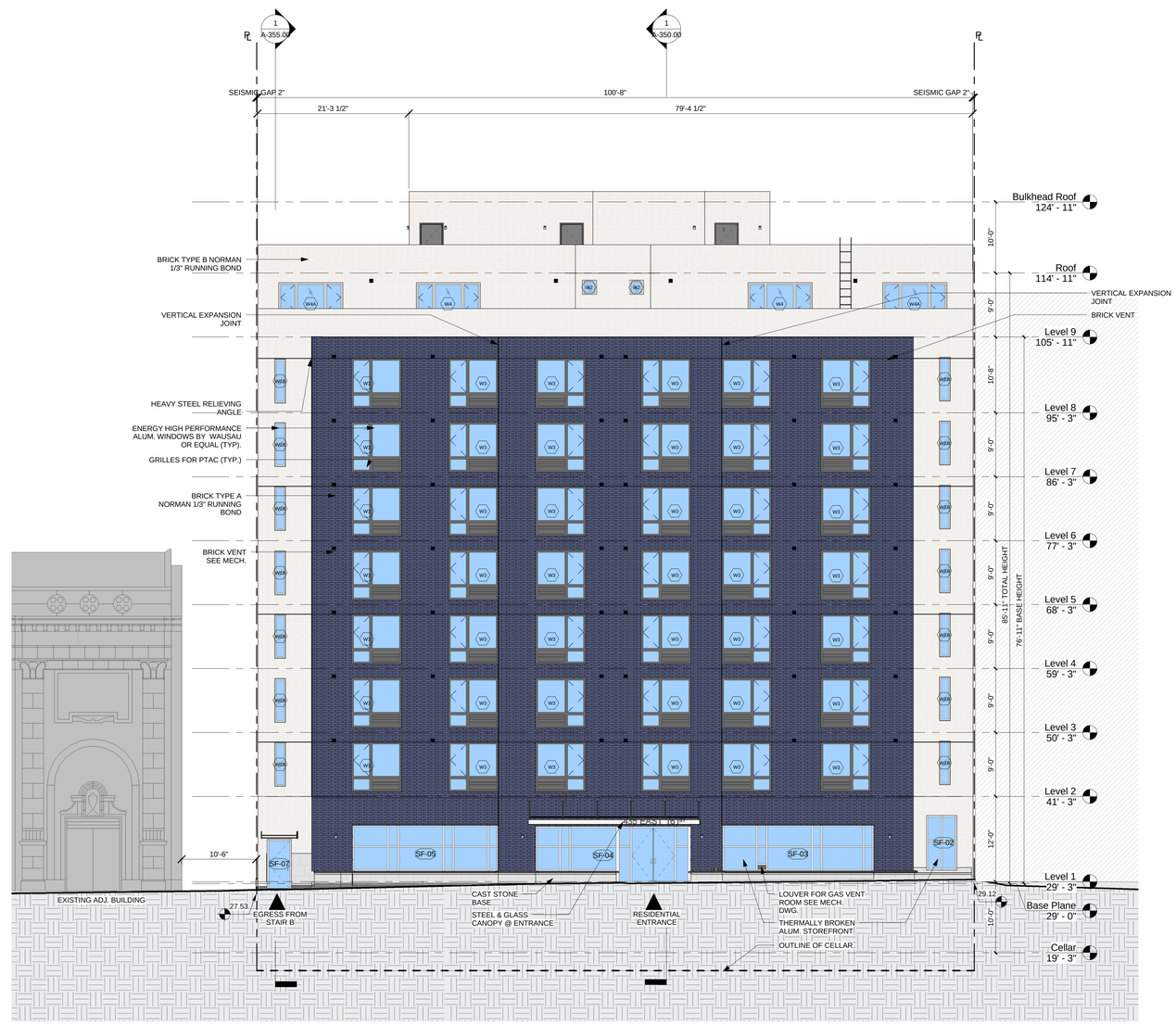
Bulkhead Floor Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-106.00
SCALE: 1/4" = 1'-0"	22 OF 111



2 EAST ELEVATION
1/8" = 1'-0"



1 SOUTH ELEVATION
1/8" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

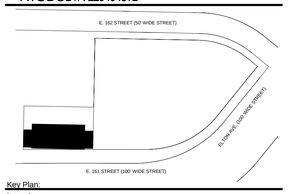
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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East & South Elevations

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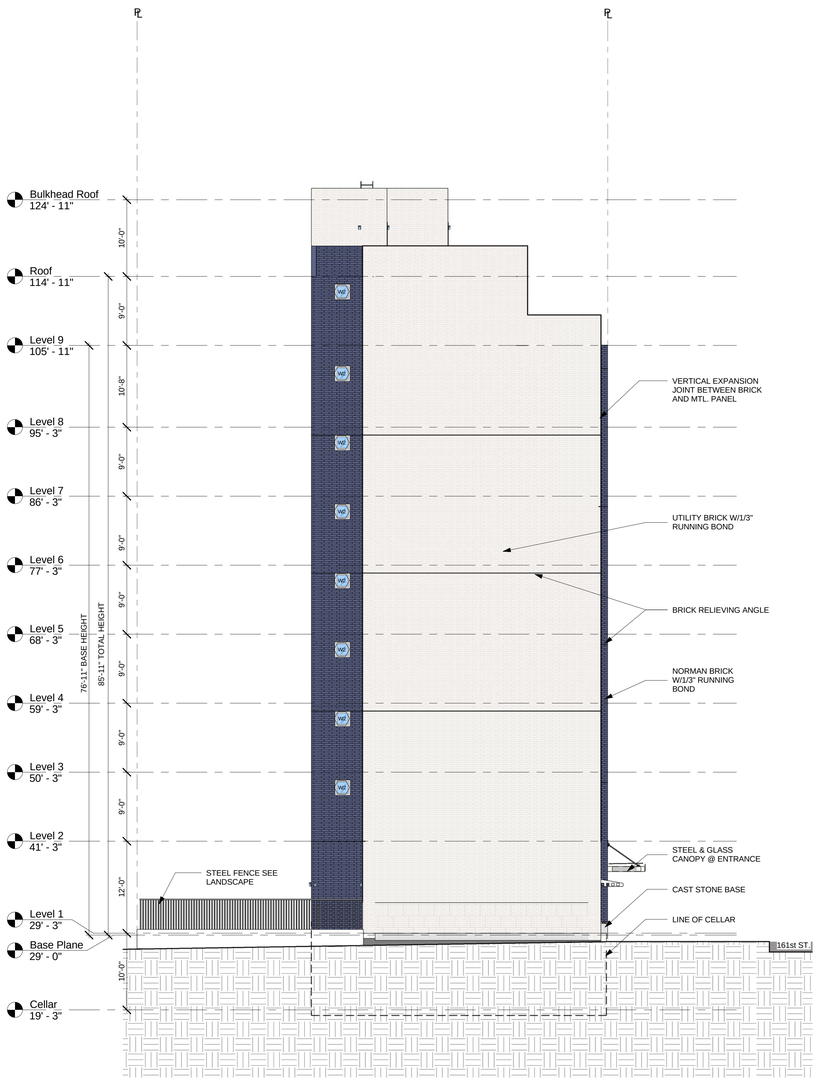
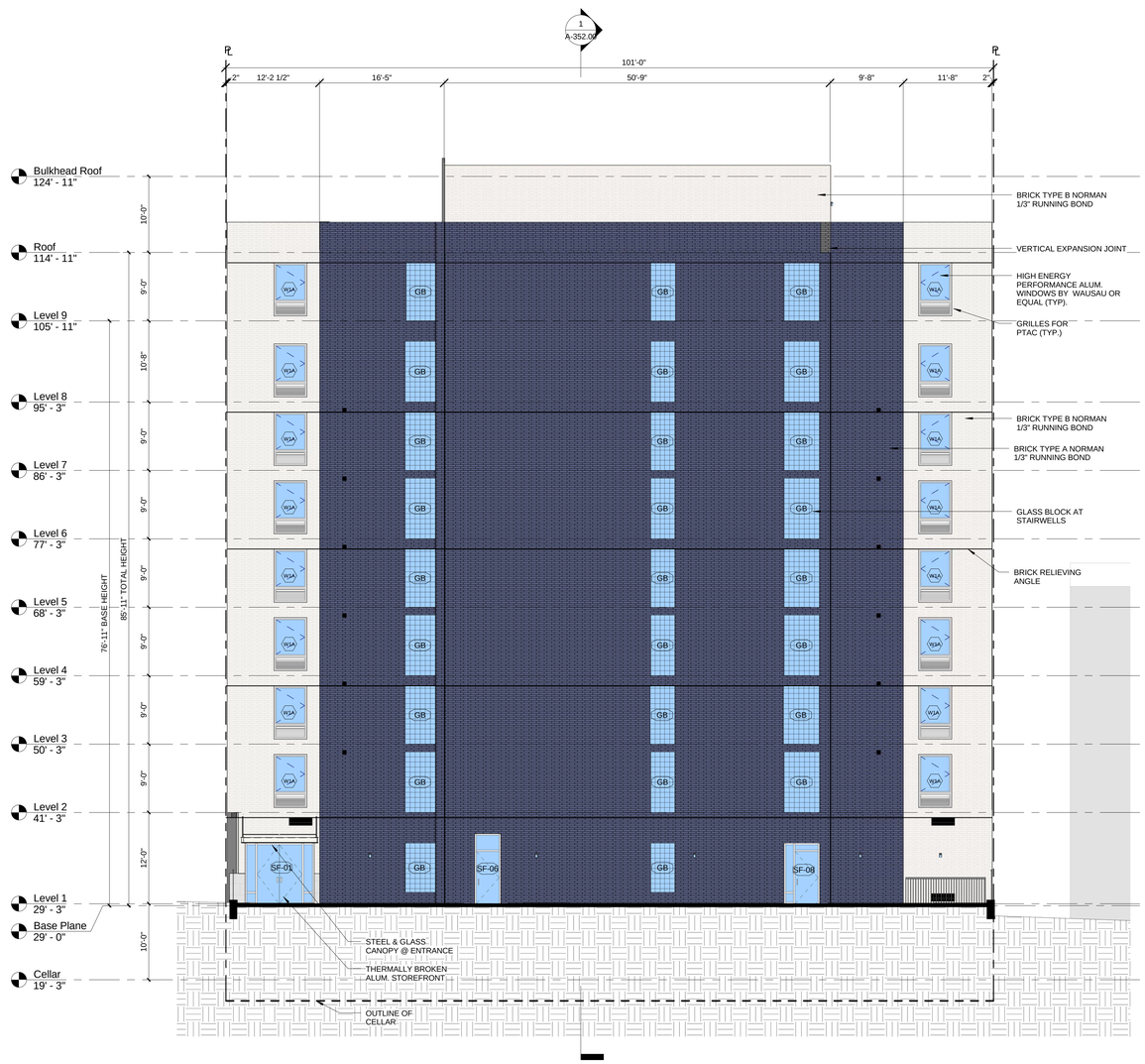
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-200.00
SCALE: 1/8" = 1'-0"	23 OF 111



2 WEST ELEVATION
1/8" = 1'-0"



1 NORTH (REAR) ELEVATION
1/8" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

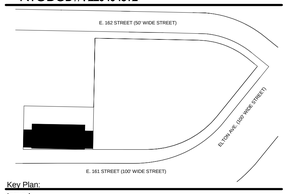
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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West & North Elevations

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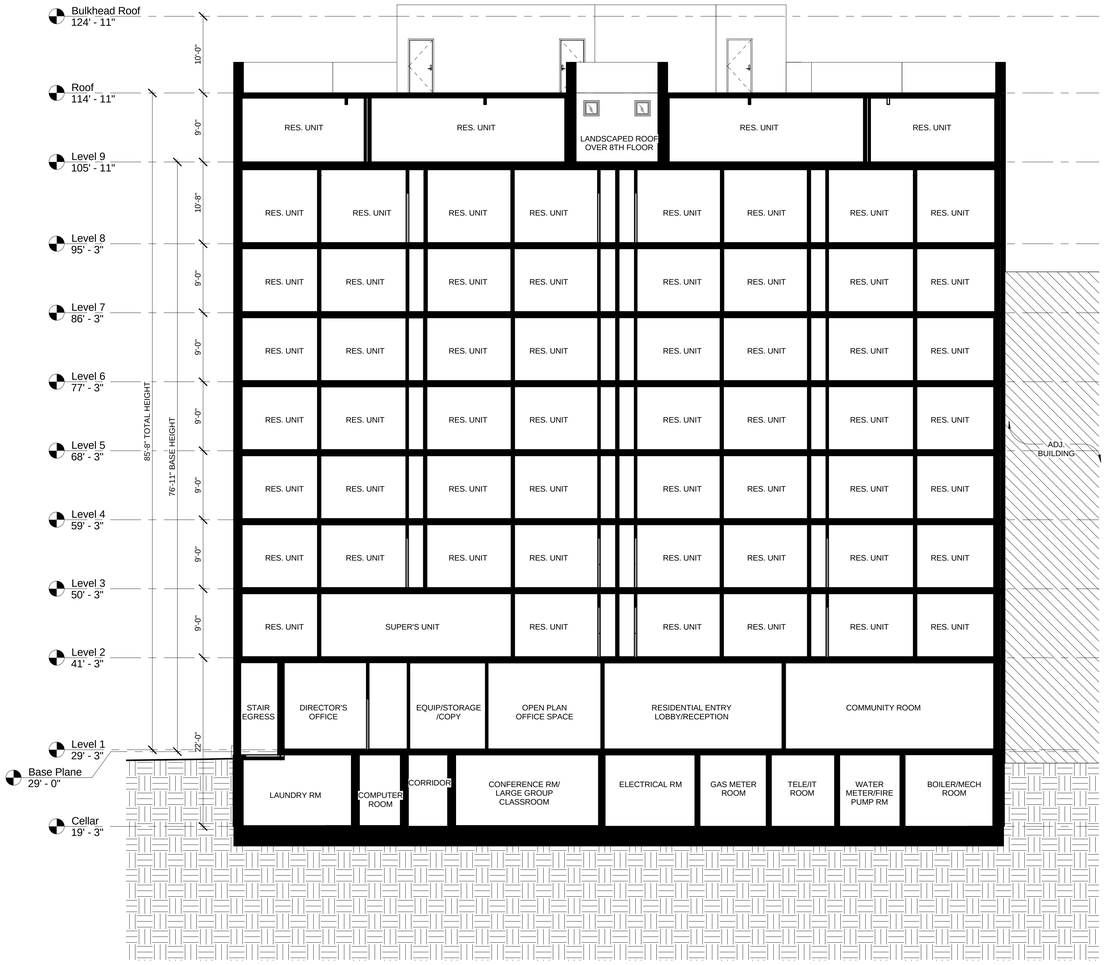
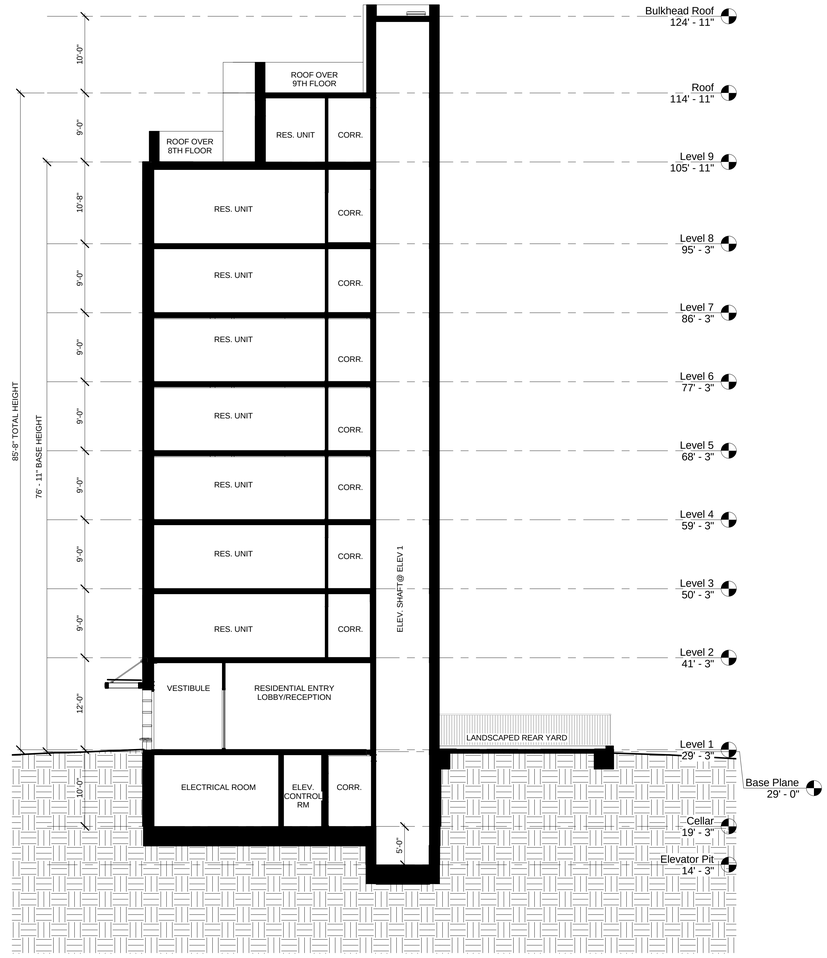
CHK BY:	Checker
DWG No:	A-201.00
SCALE: 1/8" = 1'-0"	24 OF 111



2 Longitudinal Building Section
1/8" = 1'-0"



1 Transverse Building Section
1/8" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

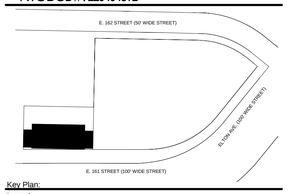
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

Architect:

MAP
Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
New York, NY 10001

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard.
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
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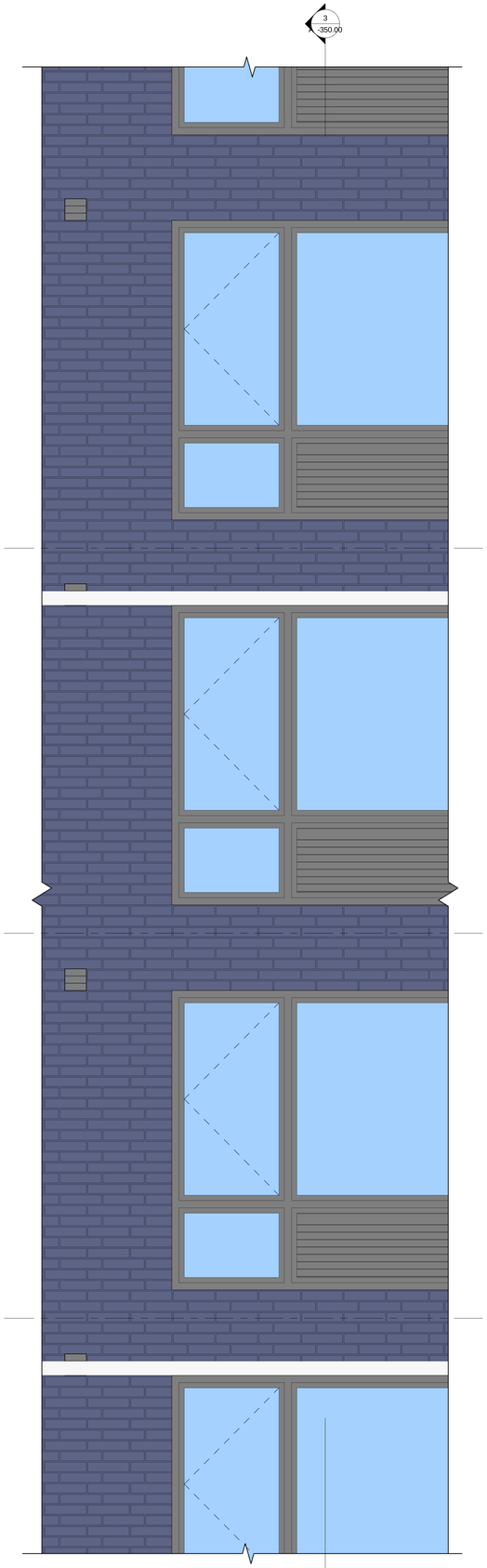
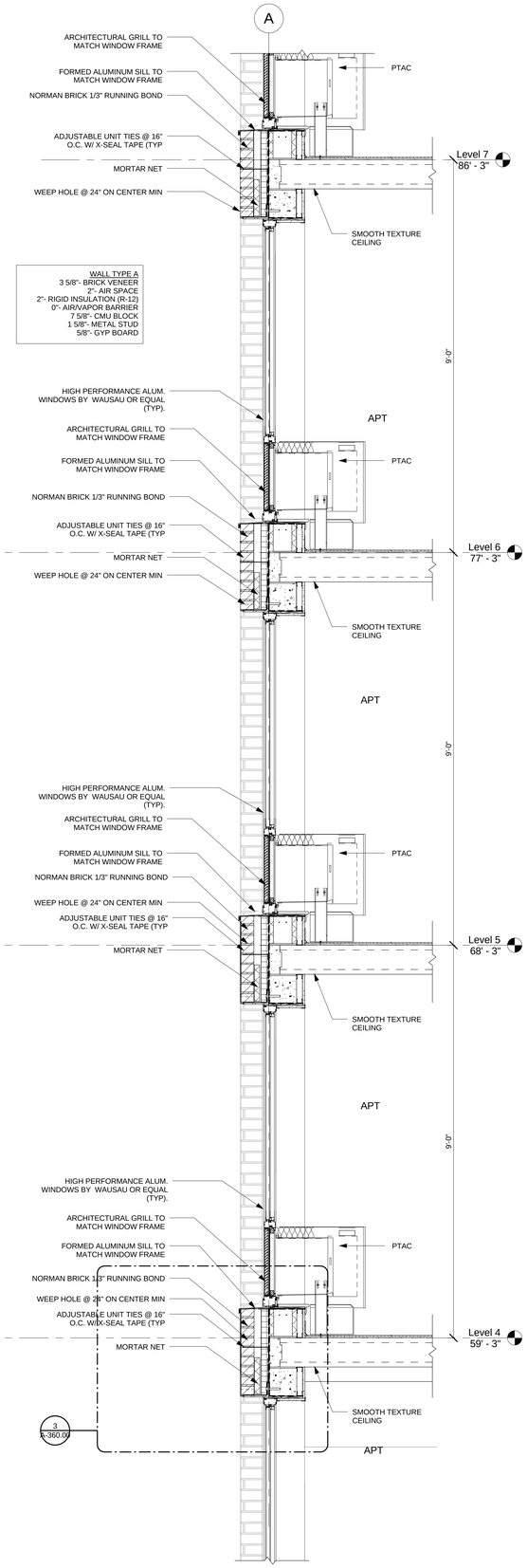
Building Sections

SEAL & SIGNATURE:

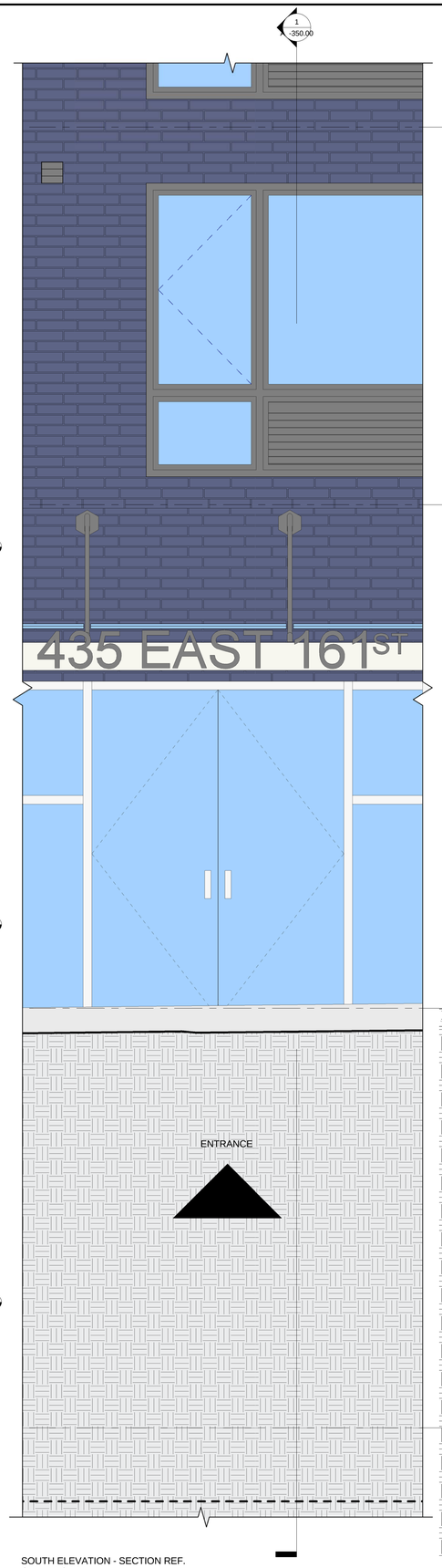
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-301.00
SCALE: 1/8" = 1'-0"	27 OF 111



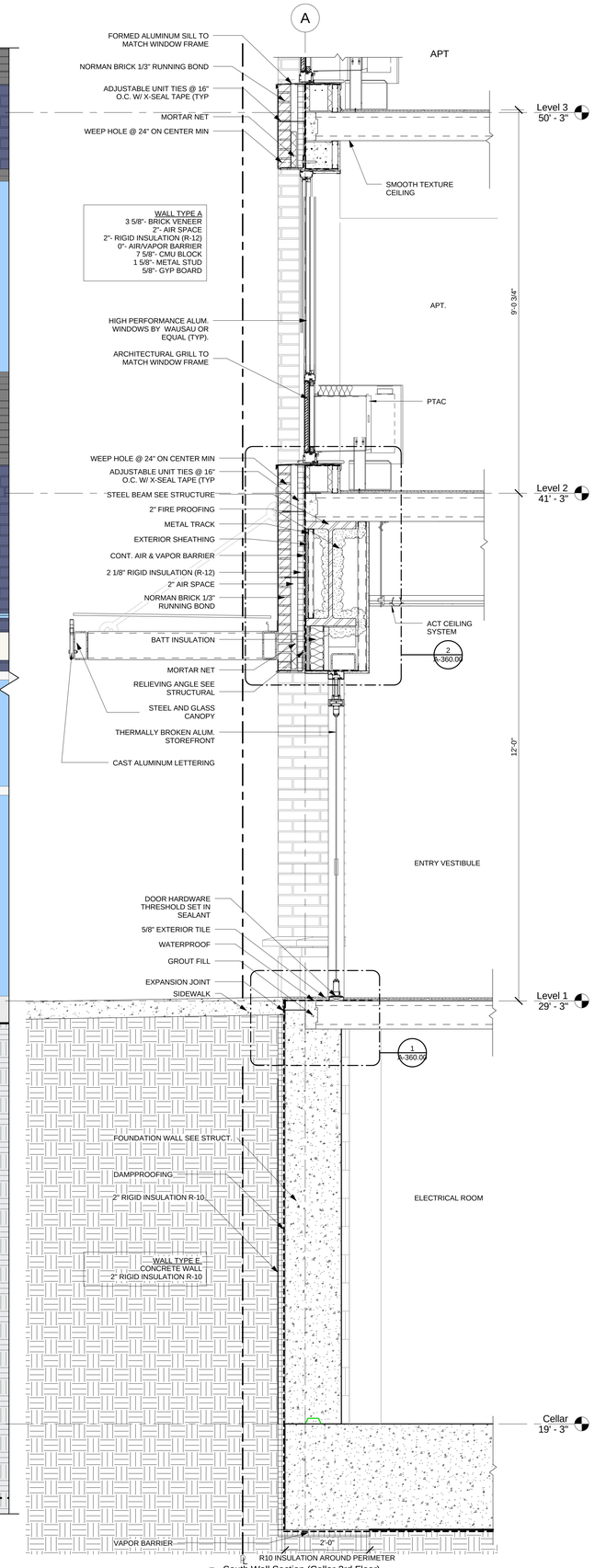
SOUTH ELEVATION - SECTION REF. 3RD FL-7TH FL
3/4" = 1'-0"



South Wall Section (3rd Floor-7th Floor)
3/4" = 1'-0"



SOUTH ELEVATION - SECTION REF. CELLAR-3RD FL
3/4" = 1'-0"



South Wall Section (Cellar-3rd Floor)
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

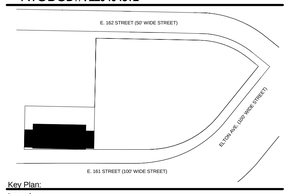
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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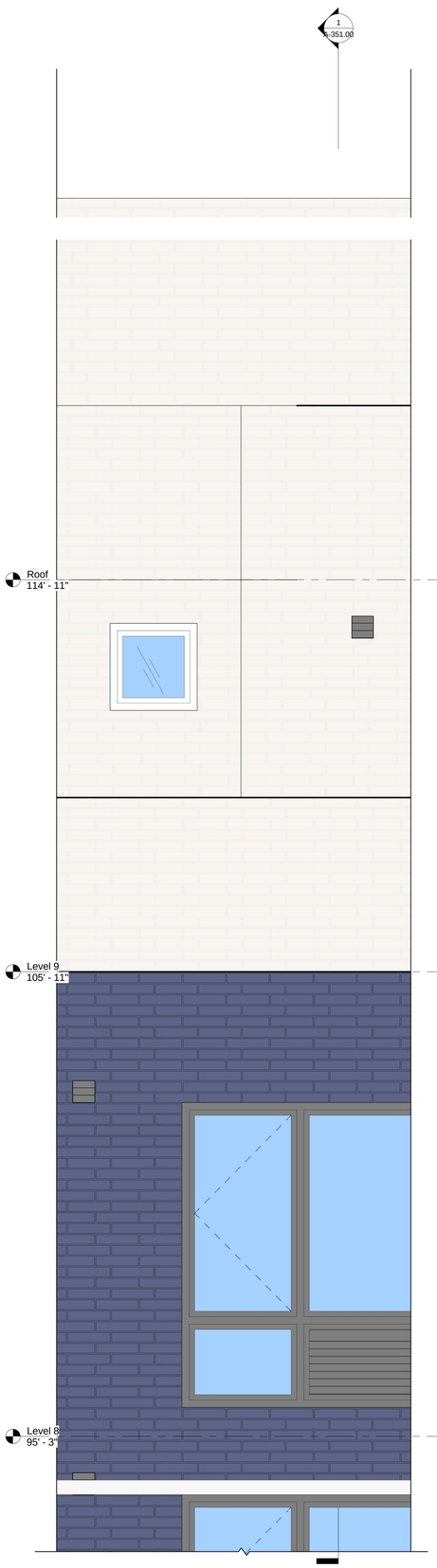
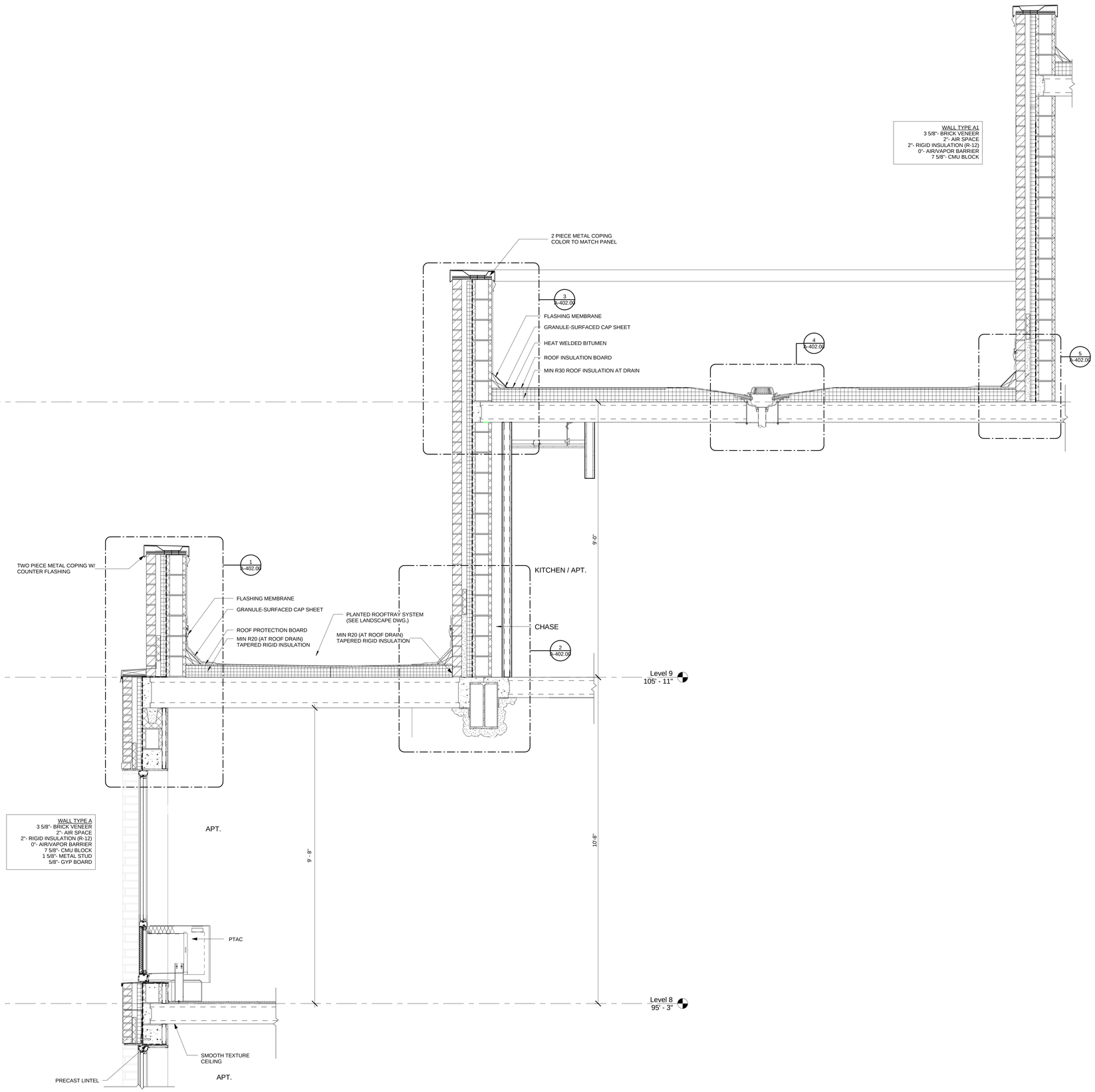
Wall Sections-South Cellar-7th

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-350.00
SCALE: 3/4" = 1'-0"	28 OF 111



2 South Elevation - Section Ref.
3/4" = 1'-0"



1 South Wall Section (8th Floor- Bulkhead)
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

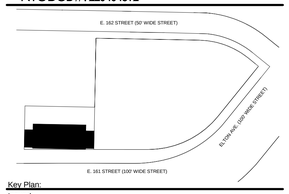
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

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7	12.14.15	ISSUE FOR BID

Revisions:

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MEP Engineer:

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Filing Representative:

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Brooklyn, NY 11222
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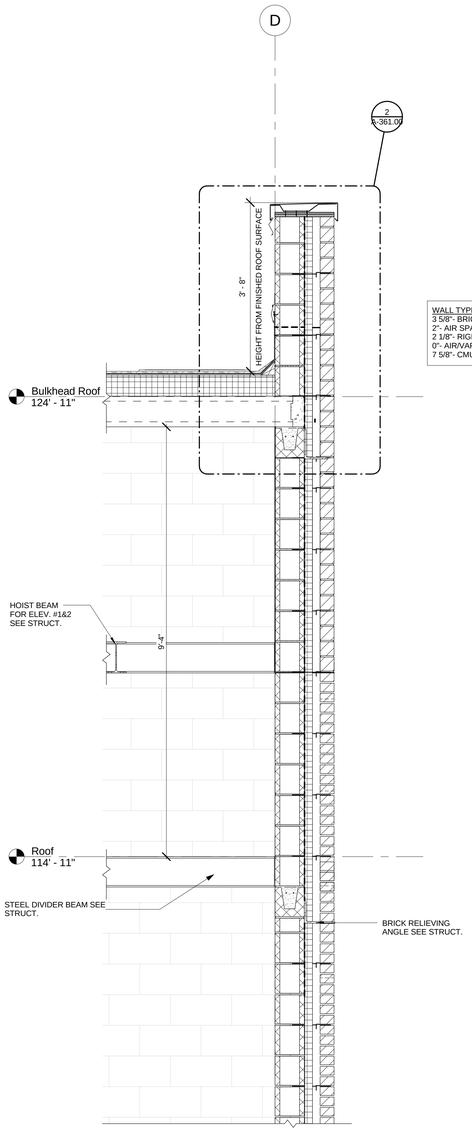
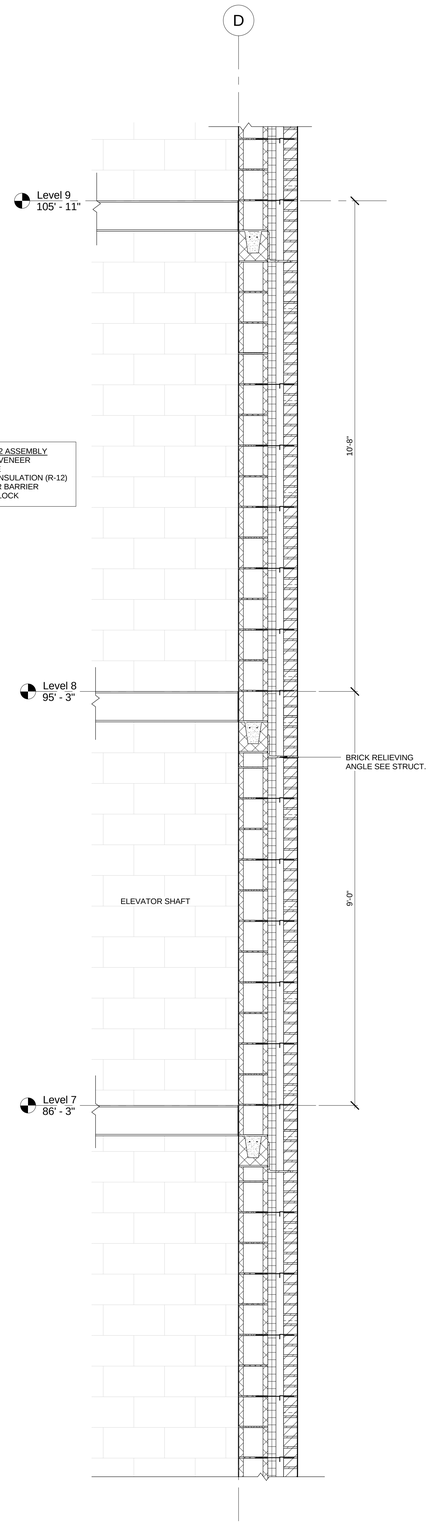
Wall Sections-South 8th-Bulkhead

SEAL & SIGNATURE:

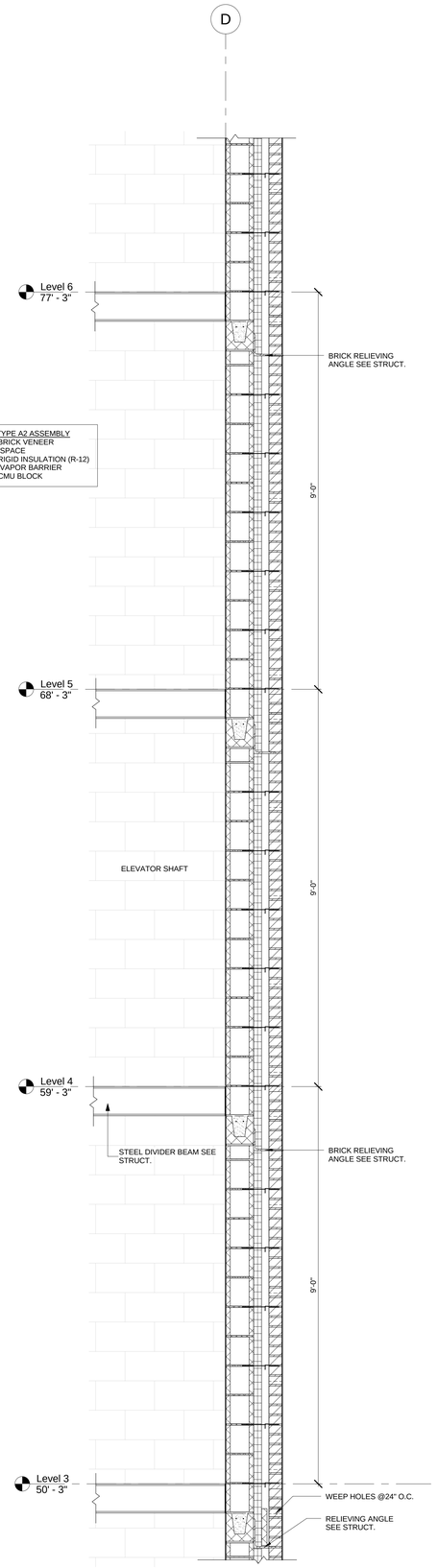
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-351.00
SCALE: 3/4" = 1'-0"	29 OF 111



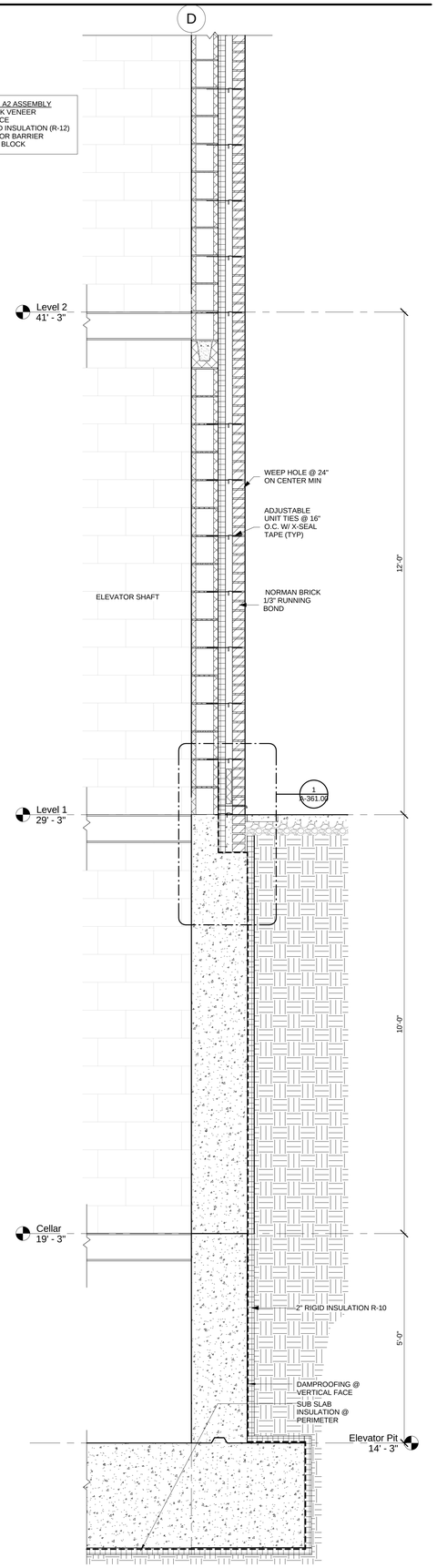
4 North Wall Section (Roof-Bulkhead)
3/4" = 1'-0"



3 North Wall Section (7th Floor-Roof)
3/4" = 1'-0"



2 North Wall Section (3rd Floor-7th Floor)
3/4" = 1'-0"



1 North Wall Section (Cellar-3rd Floor)
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

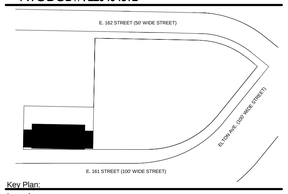
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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7	12.14.15	ISSUE FOR BID

Revisions:

Architect:

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Structural Engineer:

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New York, NY 10001

MEP Engineer:

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Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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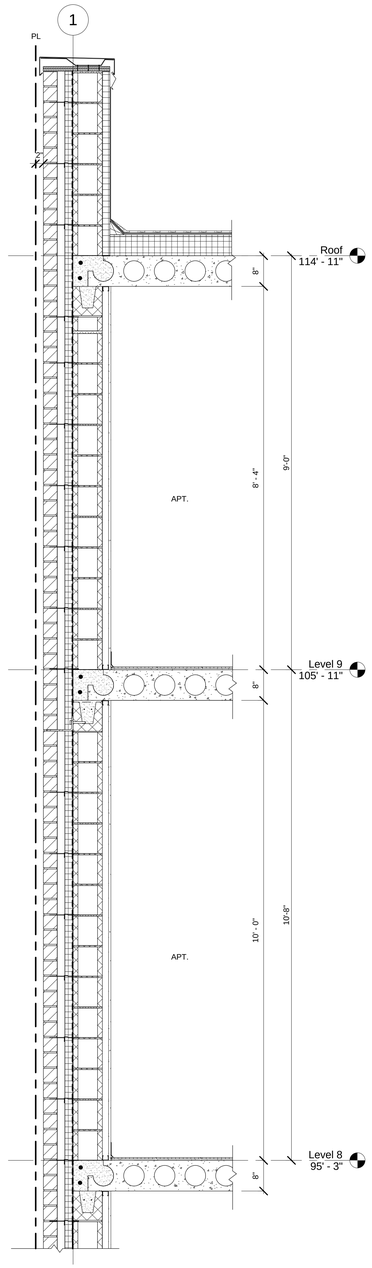
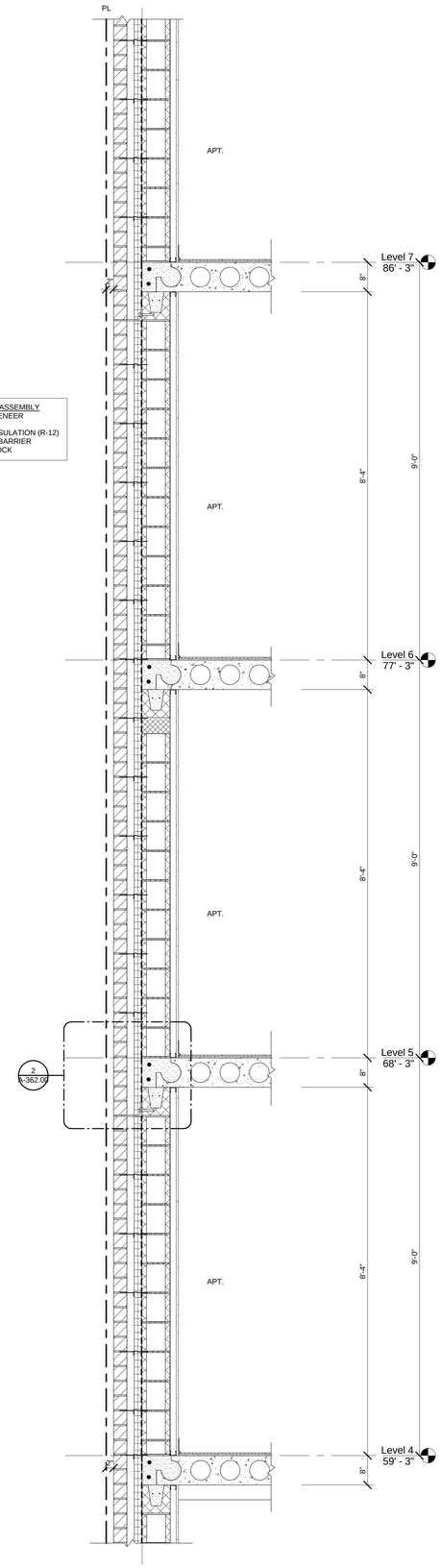
Wall Sections-North

SEAL & SIGNATURE:

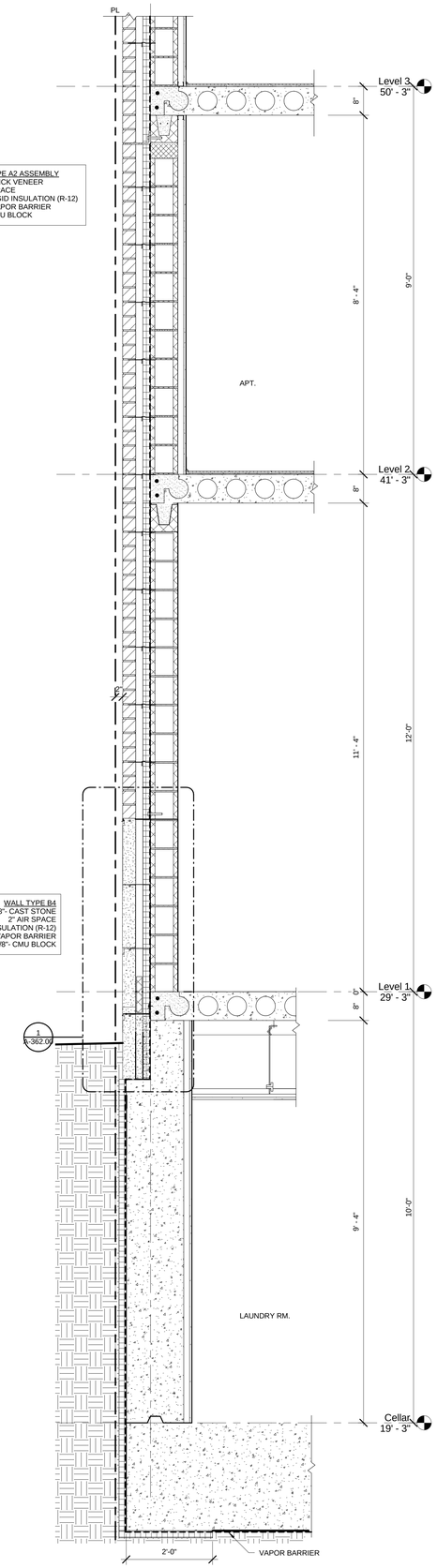
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-352.00
SCALE: 3/4" = 1'-0"	30 OF 111



3 West Wall Section (7th Floor- Roof)
3/4" = 1'-0"



2 West Wall Section (3rd Floor- 7th Floor)
3/4" = 1'-0"



1 West Wall Section (Cellar- 3rd Floor)
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

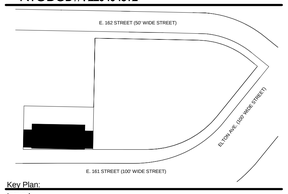
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Revisions:

Architect:

Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

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Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

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Brooklyn, NY 11222
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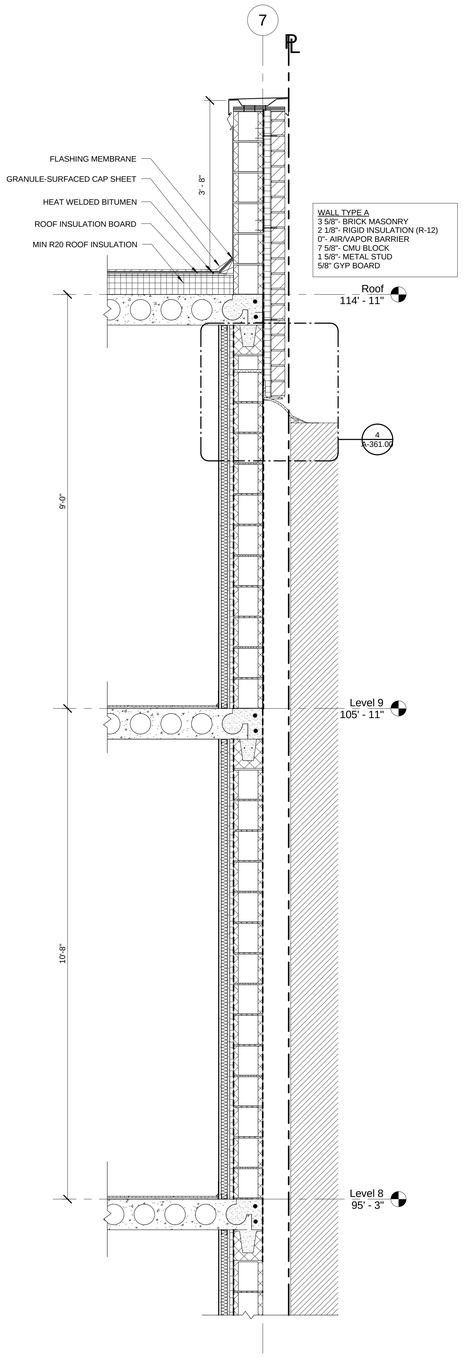
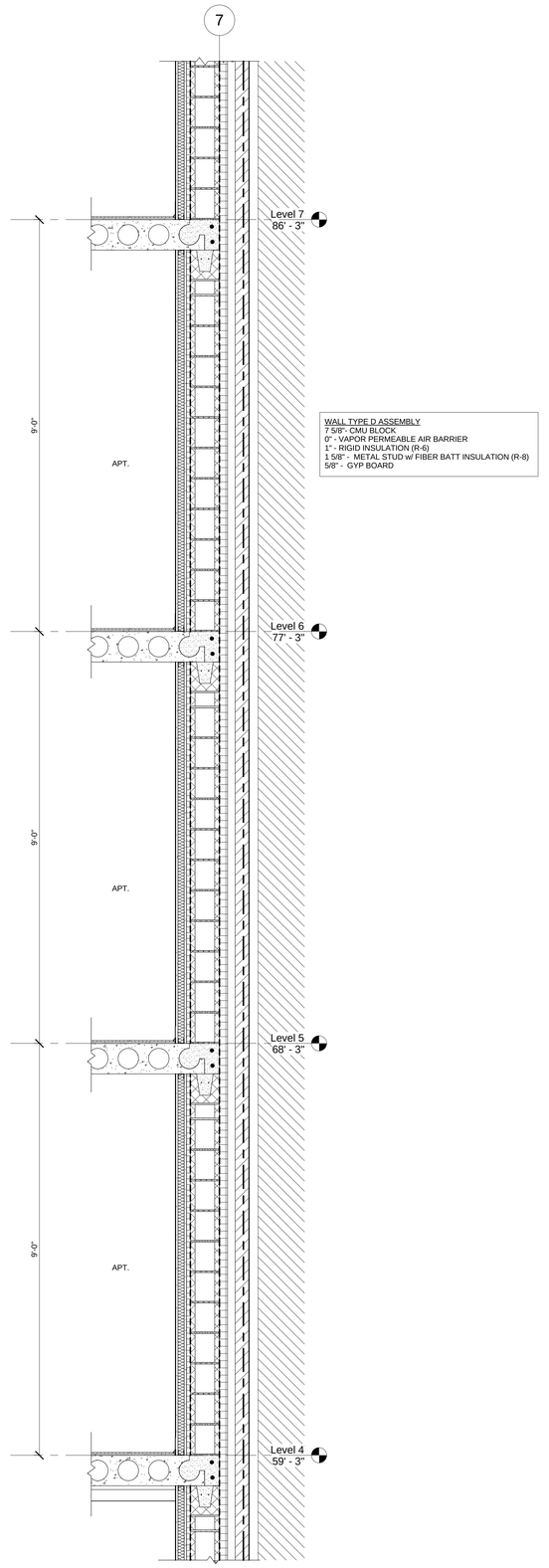
Wall Sections-West

SEAL & SIGNATURE:

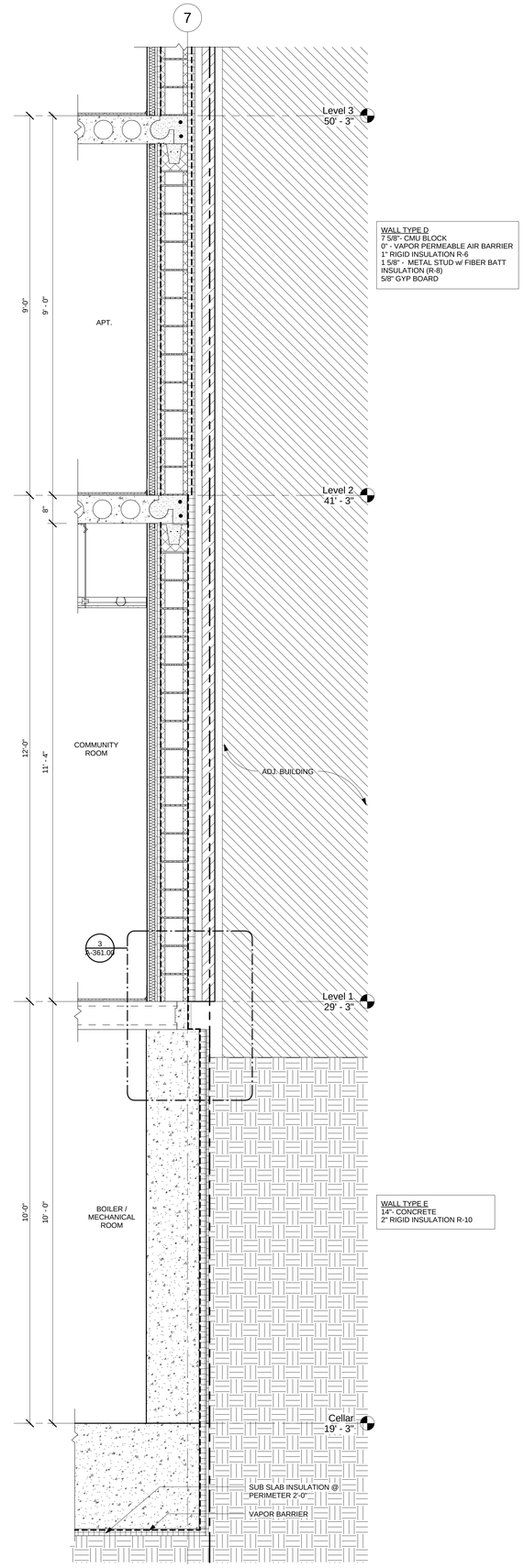
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-353.00
SCALE: 3/4" = 1'-0"	31 OF 111



3 East Wall Section (7th Floor- Roof)
3/4" = 1'-0"



2 East Wall Section (3rd Floor- 7th Floor)
3/4" = 1'-0"



1 East Wall Section (Cellar- 3rd Floor)
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

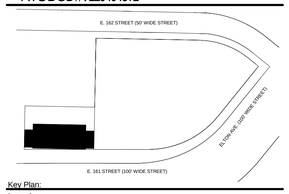
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Filing Representative:

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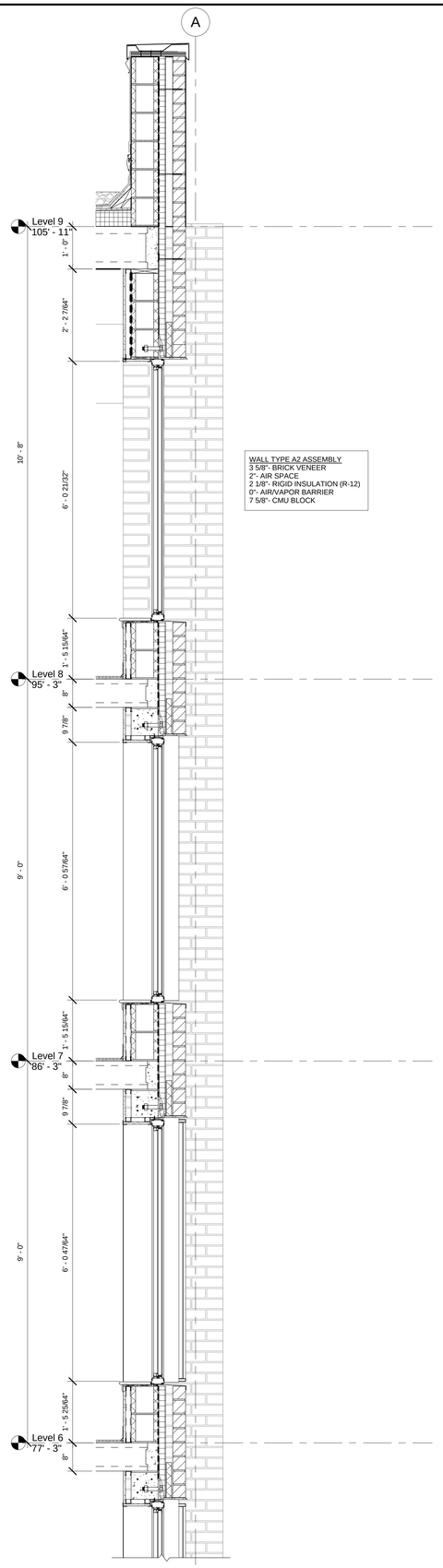
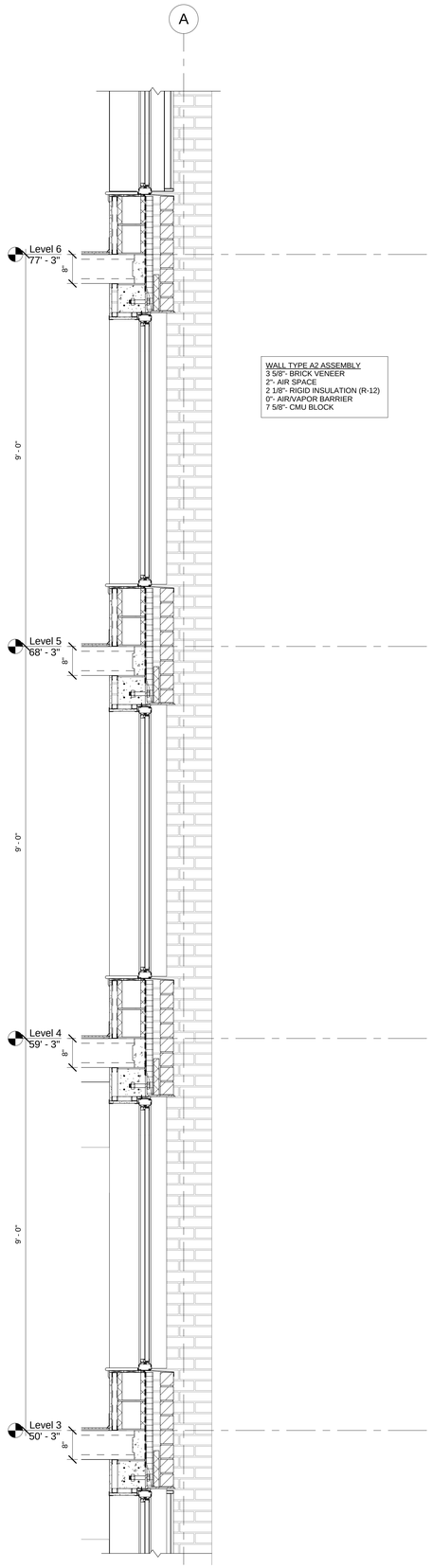
Wall Sections- East

SEAL & SIGNATURE:

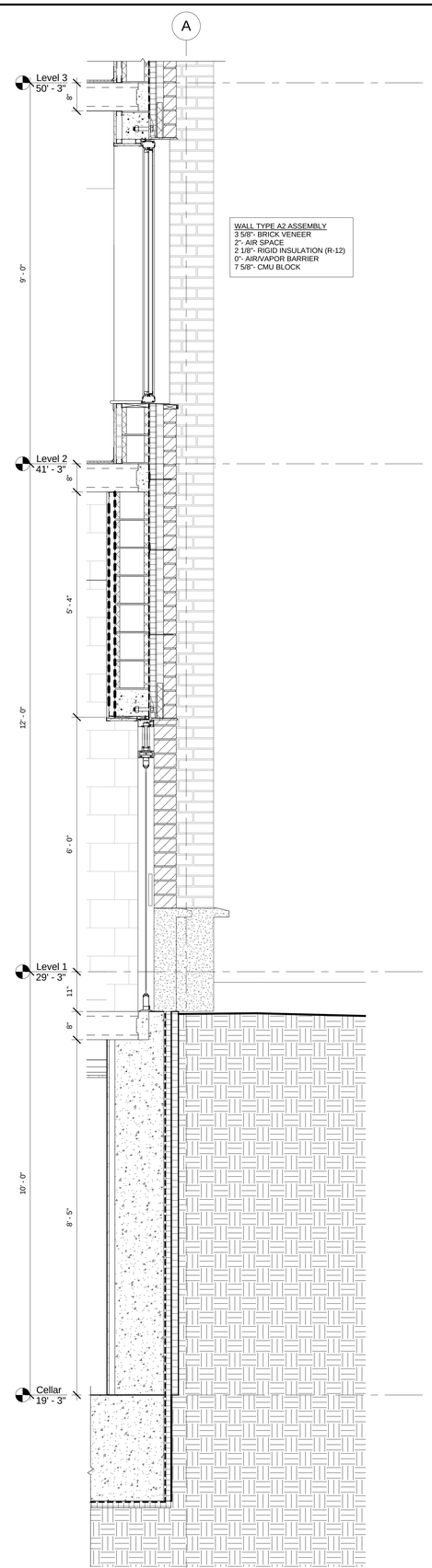
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-354.00
SCALE: 3/4" = 1'-0"	32 OF 111



3 South @ Metal Panel Wall -6th- Roof
3/4" = 1'-0"



2 South @ Brick Wall -3rd-6th
3/4" = 1'-0"



1 South @ Brick Wall -Cellar-3rd
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

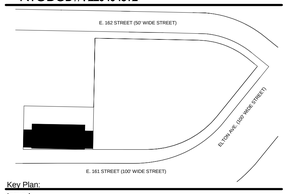
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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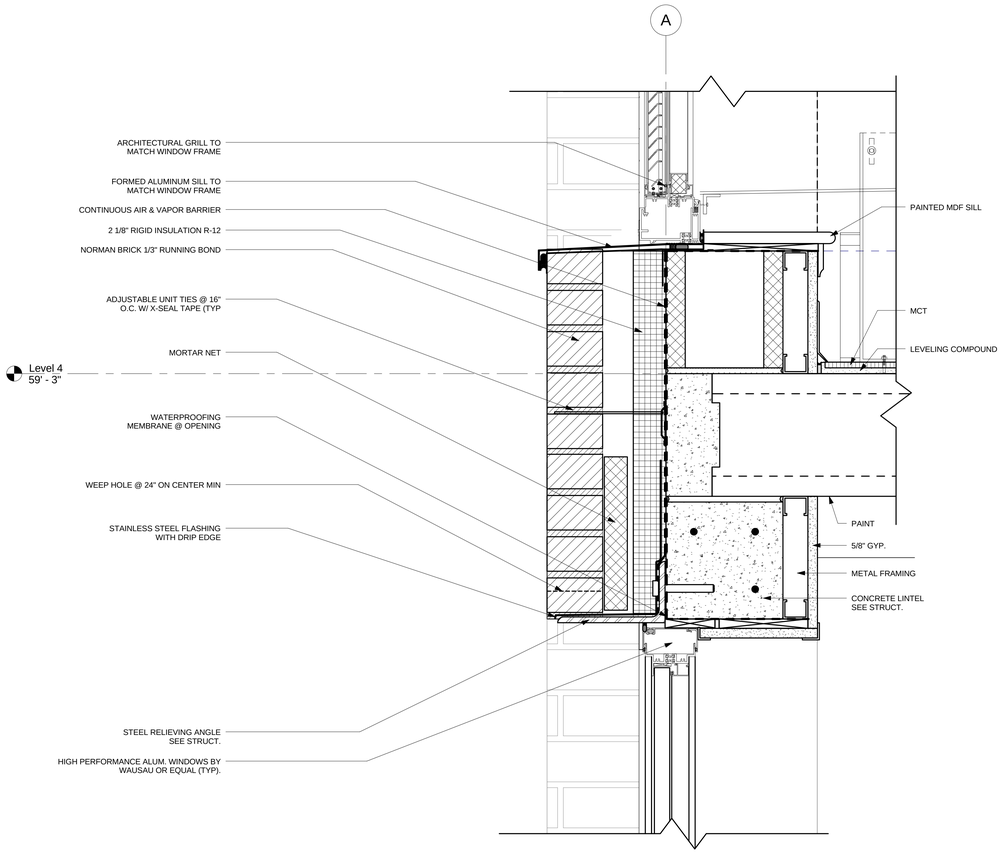
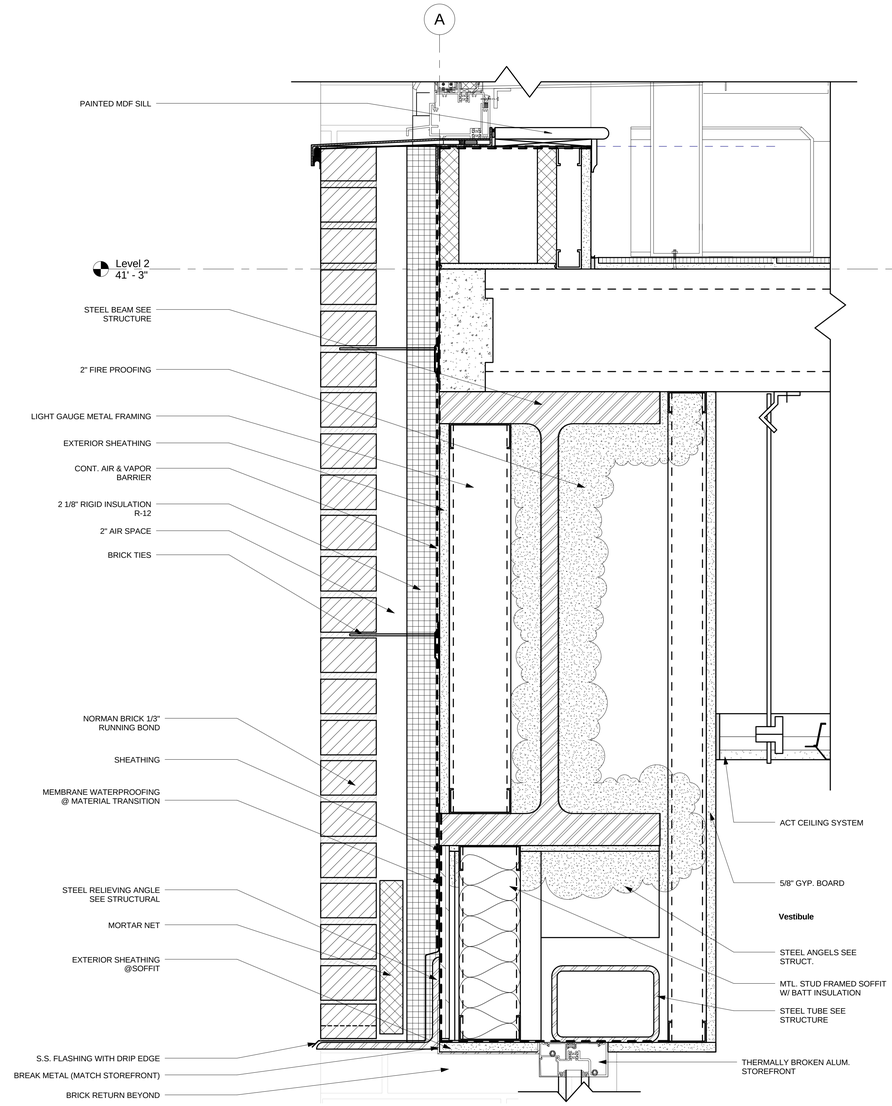
Wall Sections- South

SEAL & SIGNATURE:

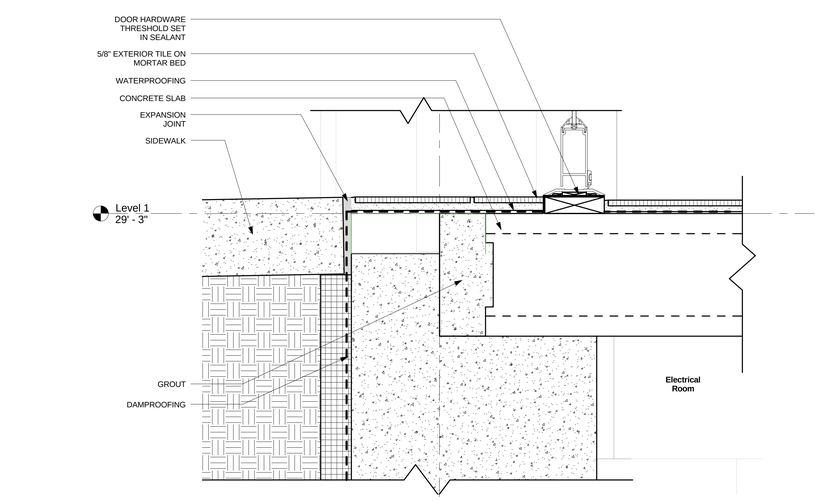
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-355.00
SCALE: 3/4" = 1'-0"	33 OF 111



3 South Wall Detail Head to Sill Connection
3" = 1'-0"



2 South Wall Detail at Head Connetion of Residential Entrance
3" = 1'-0"



1 South Wall Detail Through Residential Entrance @ Sidewalk
3" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

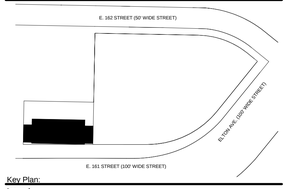
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

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6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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Landscape Architect:

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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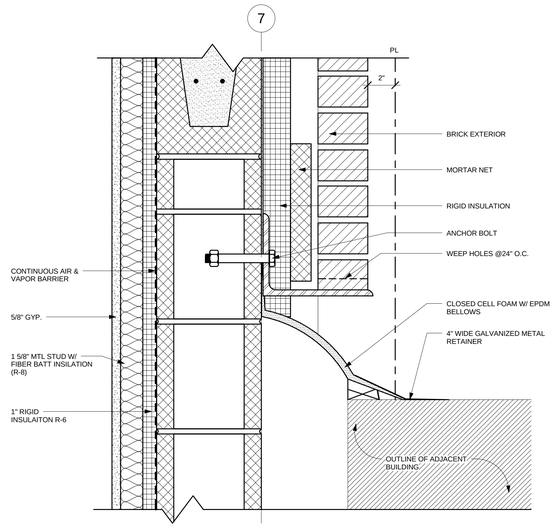
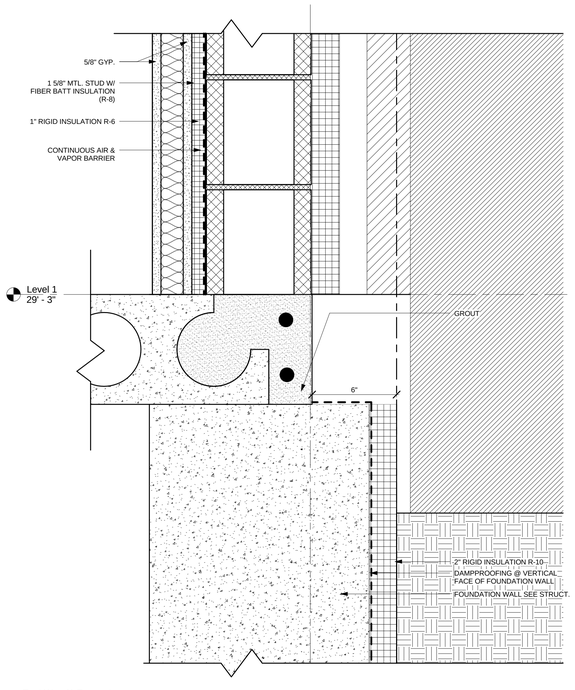
Wall Details

SEAL & SIGNATURE:

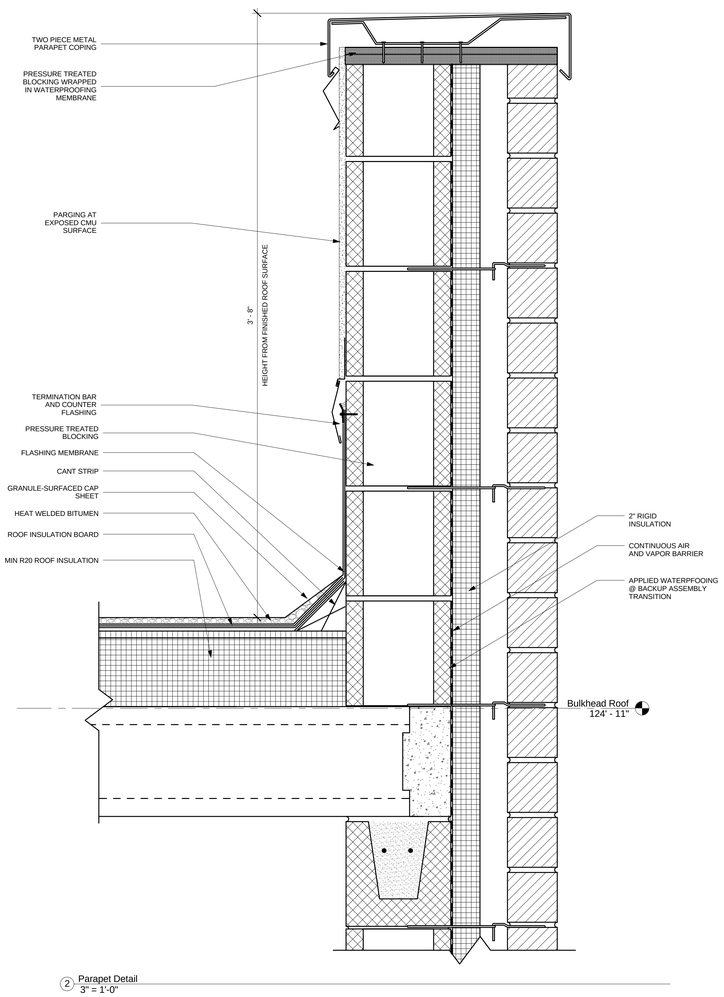
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-360.00
SCALE: 3" = 1'-0"	34 OF 111



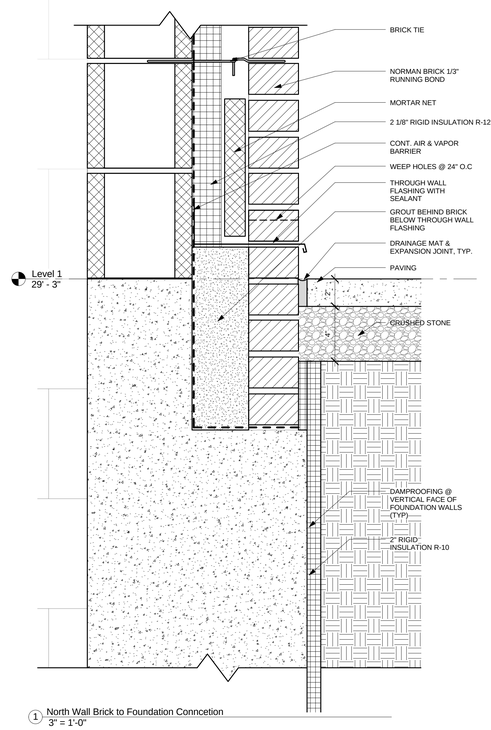
4 East Wall Connection @ Adjacent Building
3" = 1'-0"



3 East Wall @ Foundation
3" = 1'-0"



2 Parapet Detail
3" = 1'-0"



1 North Wall Brick to Foundation Conncetion
3" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

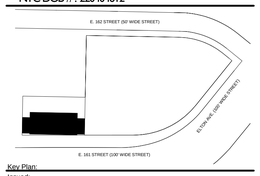
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 22040612



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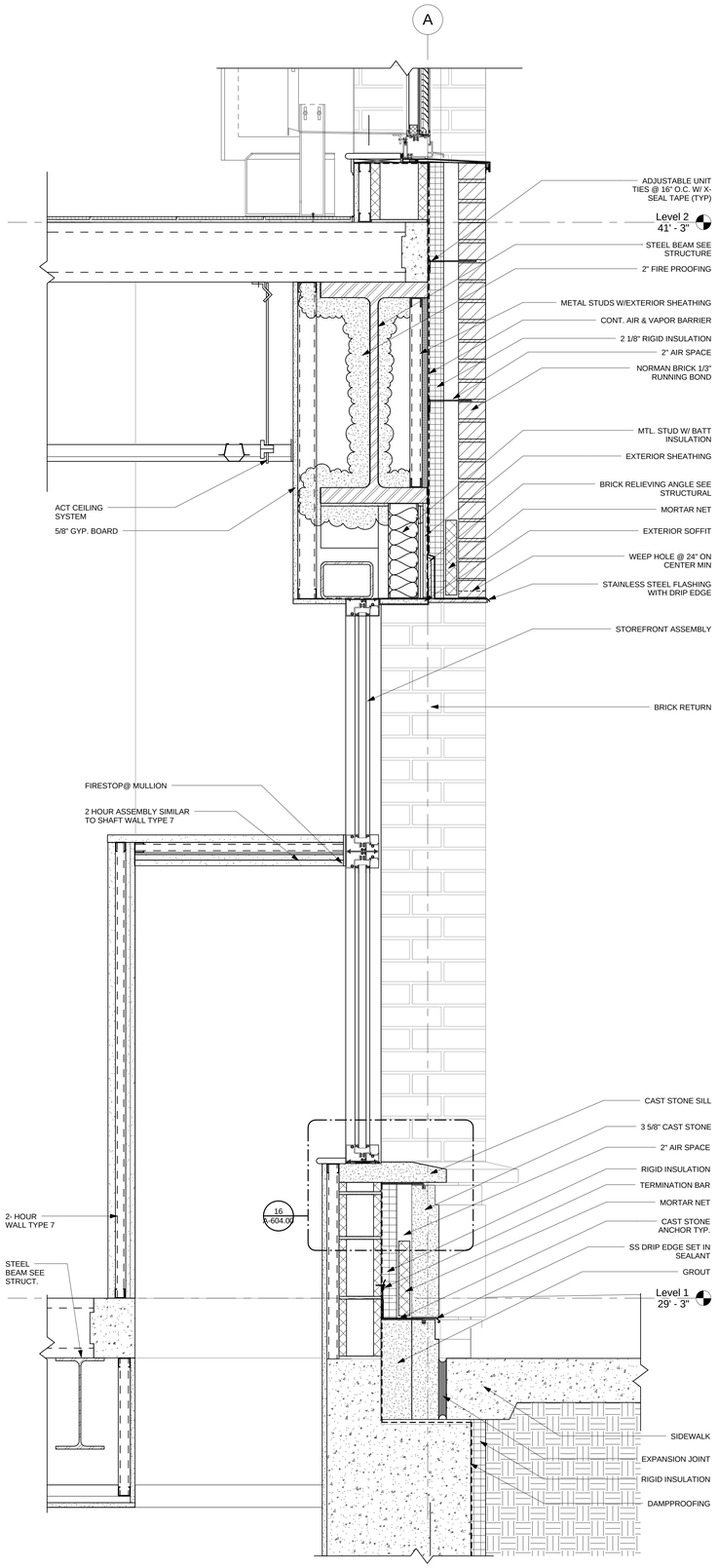
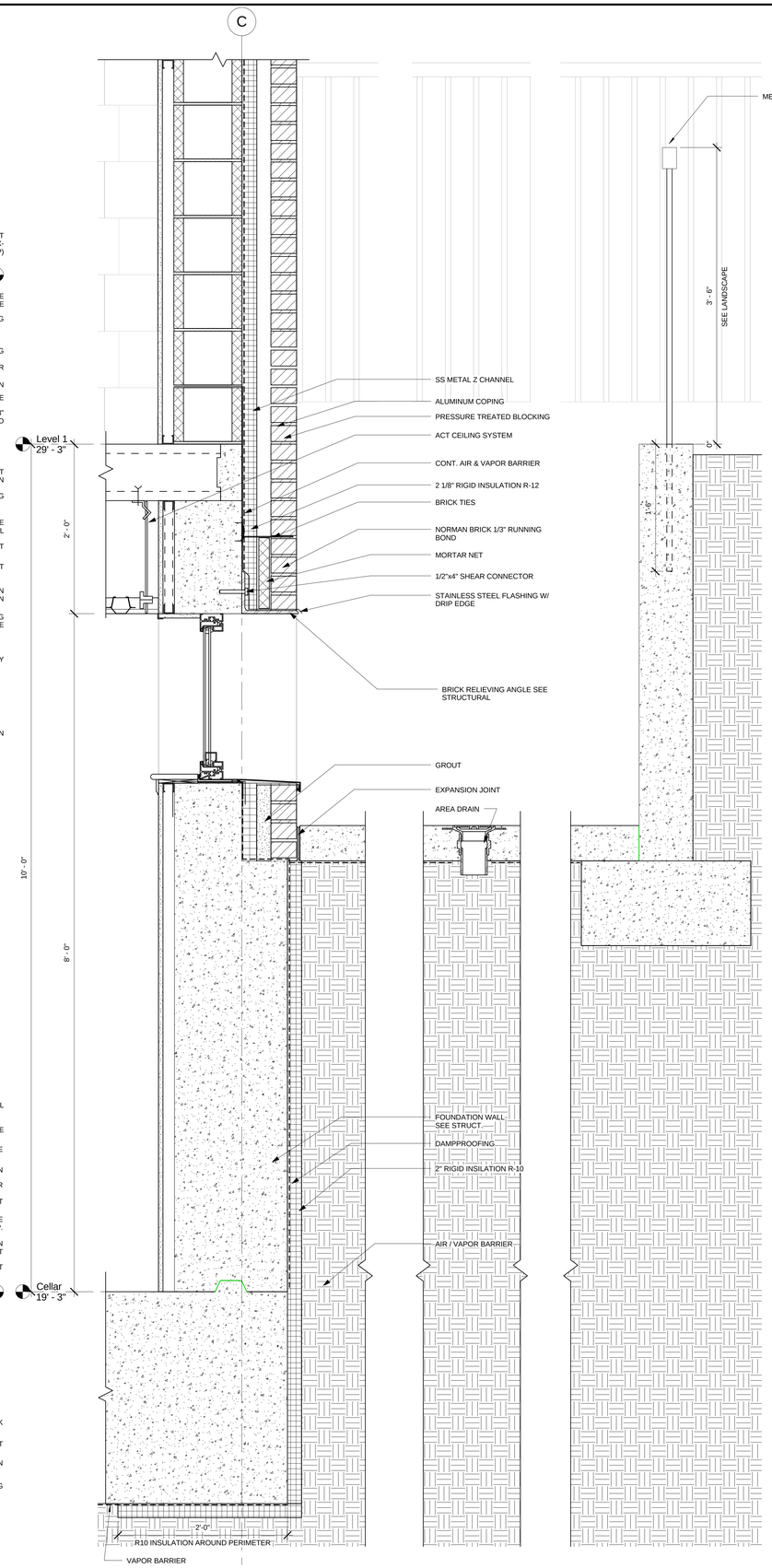
Wall Details

SEAL & SIGNATURE:

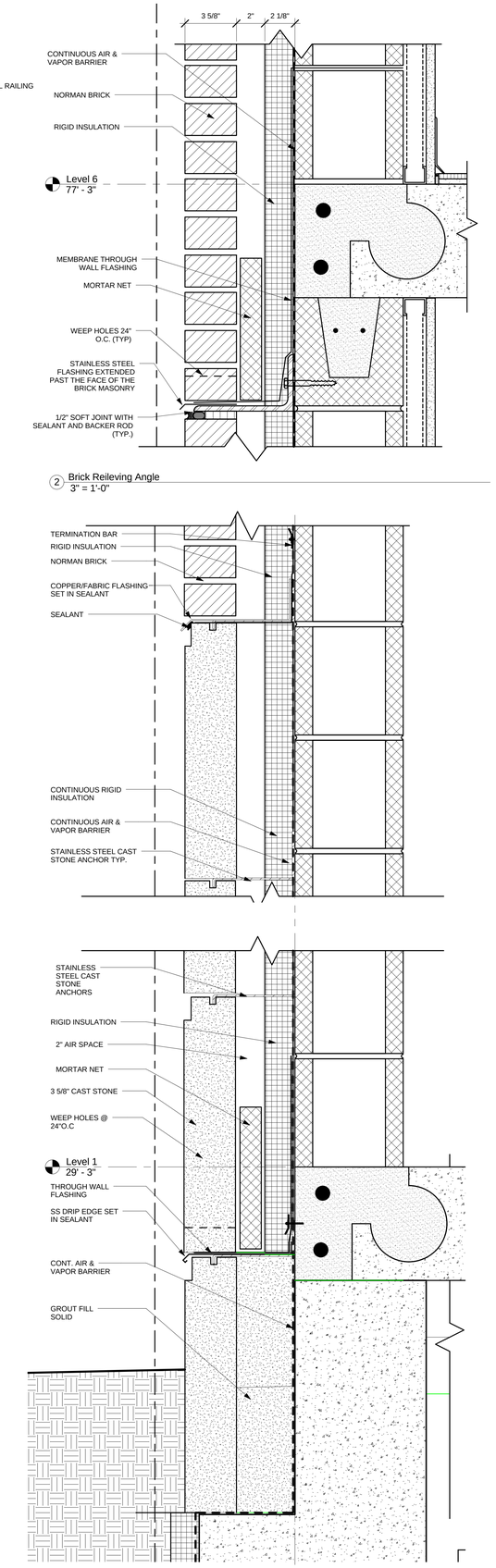
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-361.00
SCALE: 3" = 1'-0"	35 OF 111



4 Lightwell @ Office space
1 1/2" = 1'-0"



3 Lightwell @ Rear Yard
1 1/2" = 1'-0"



2 Brick Reileving Angle
3" = 1'-0"

1 Wall Detail at Foundation- West
3" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

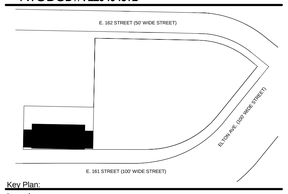
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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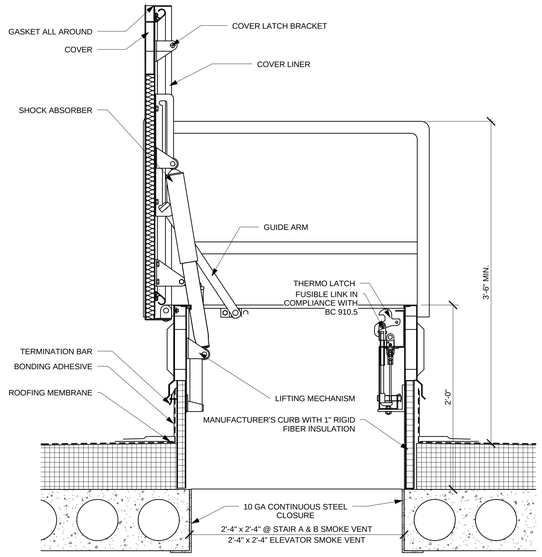
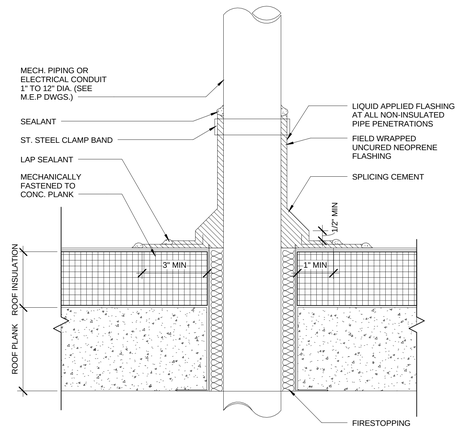
Wall Details

SEAL & SIGNATURE:

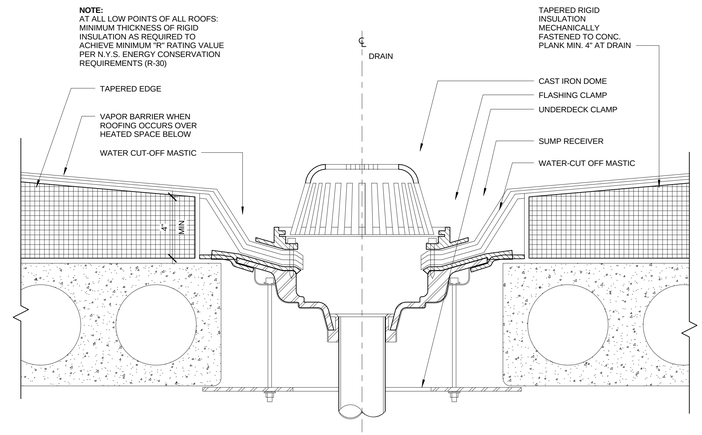
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-362.00
SCALE: As indicated	36 OF 111



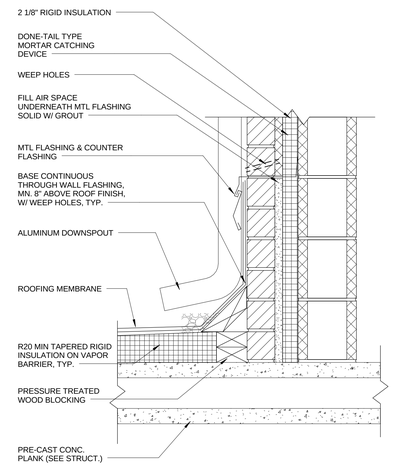
8 VENTILATION HATCH DETAIL
1 1/2" = 1'-0"



7 INSULATED PIPE PENETRATION
3" = 1'-0"

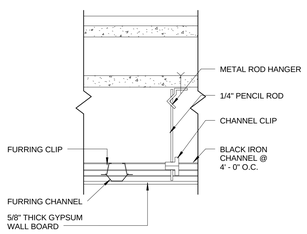


6 ROOF DRAIN- PLANK
3" = 1'-0"

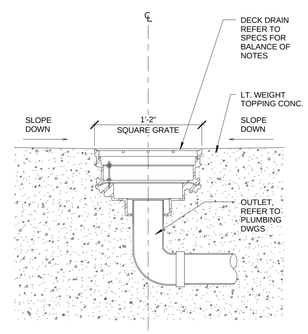


DOWNSPOUT

3 DOWNSPOUT
1 1/2" = 1'-0"

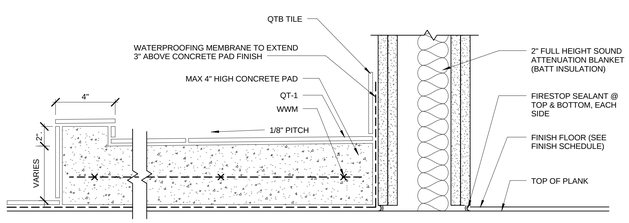


5 SUSPENDED GYPSUM BOARD CEILING
1 1/2" = 1'-0"

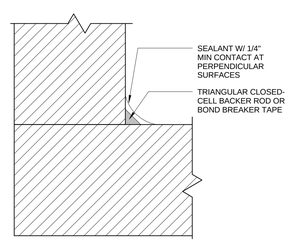


FLOOR DRAIN

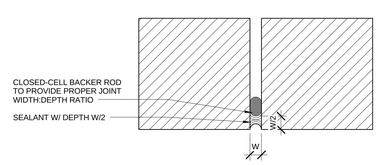
4 FLOOR DRAIN
1 1/2" = 1'-0"



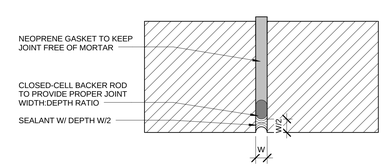
2 Laundry Room Pad
3" = 1'-0"



TYPICAL FILLET JOINT



TYPICAL HOURGLASS JOINT



VERTICAL EXPANSION JOINT

1 Masonry Joint Details
6" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

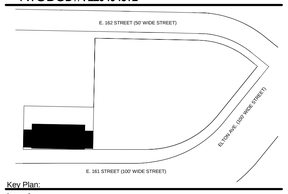
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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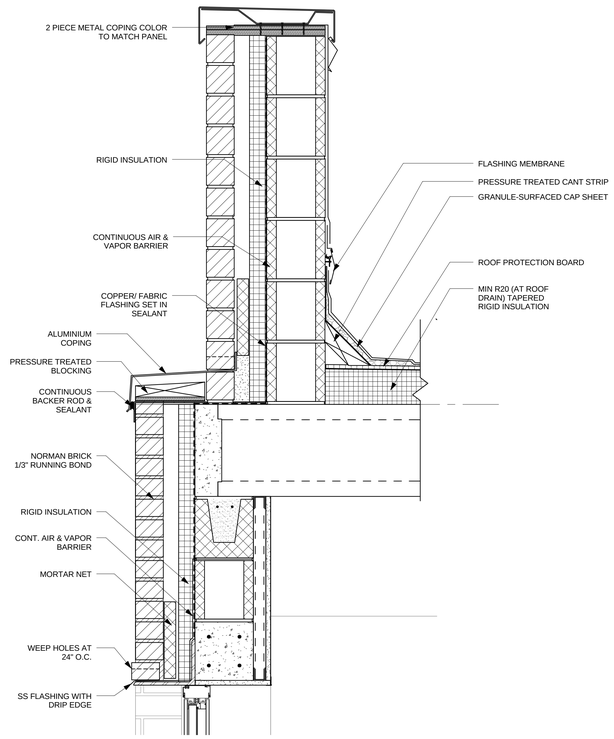
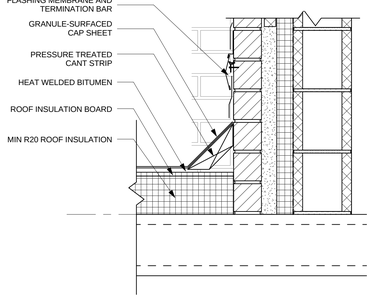
Roofing + Miscellaneous Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-401.00
SCALE: As indicated	37 OF 111



2 Parapet Detail at 9th Floor
1 1/2" = 1'-0"



1 Detail Roof Pavers to Wall Conncetion
1 1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

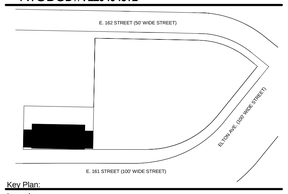
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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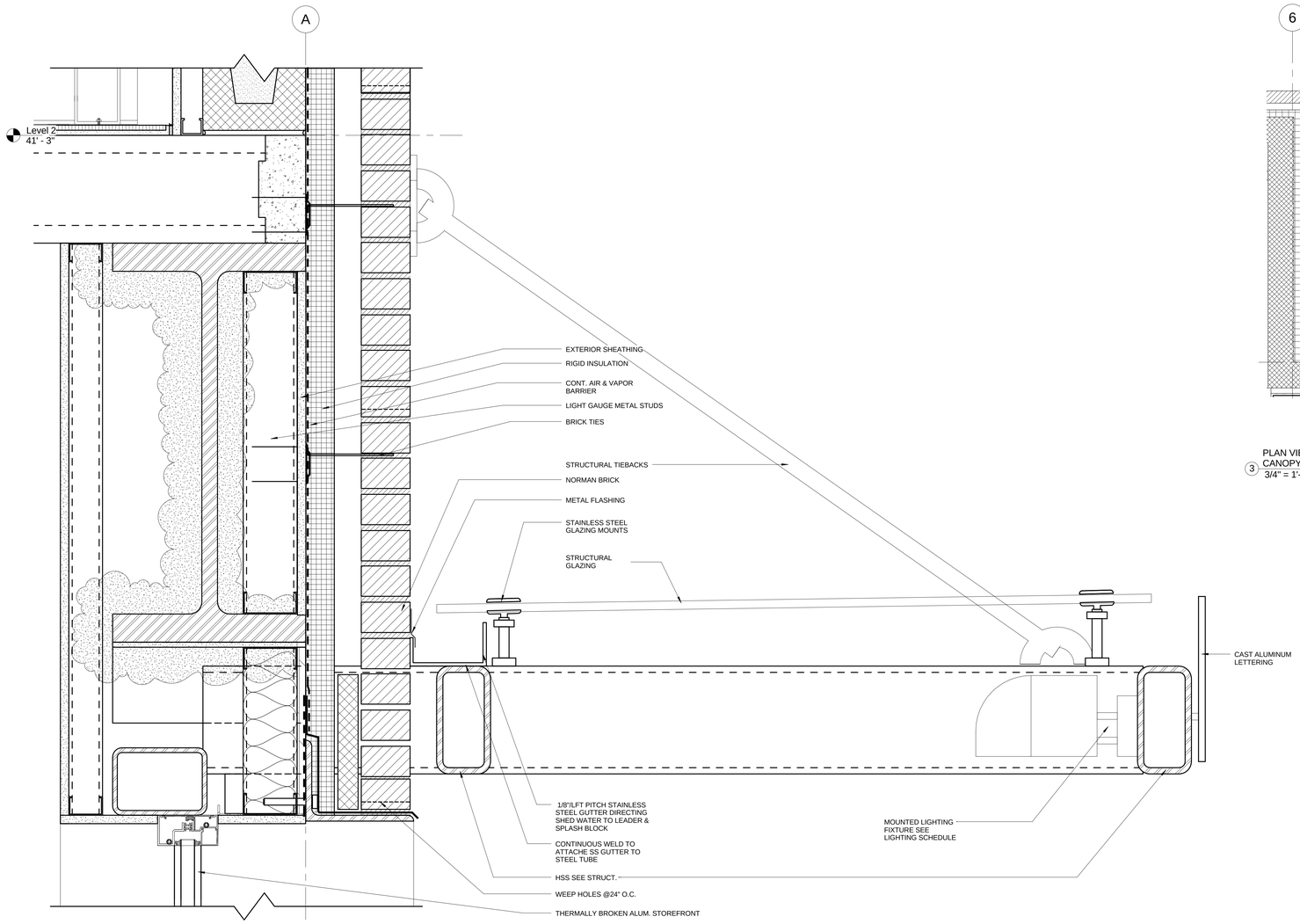
Roofing + Miscellaneous Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-402.00
SCALE:	1 1/2" = 1'-0"



2 Detail 2
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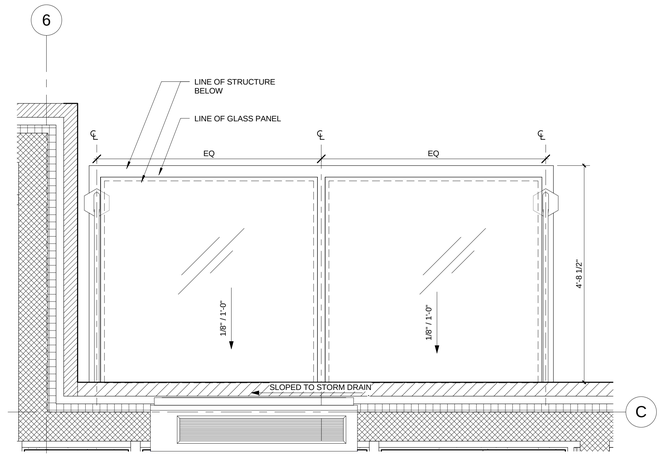
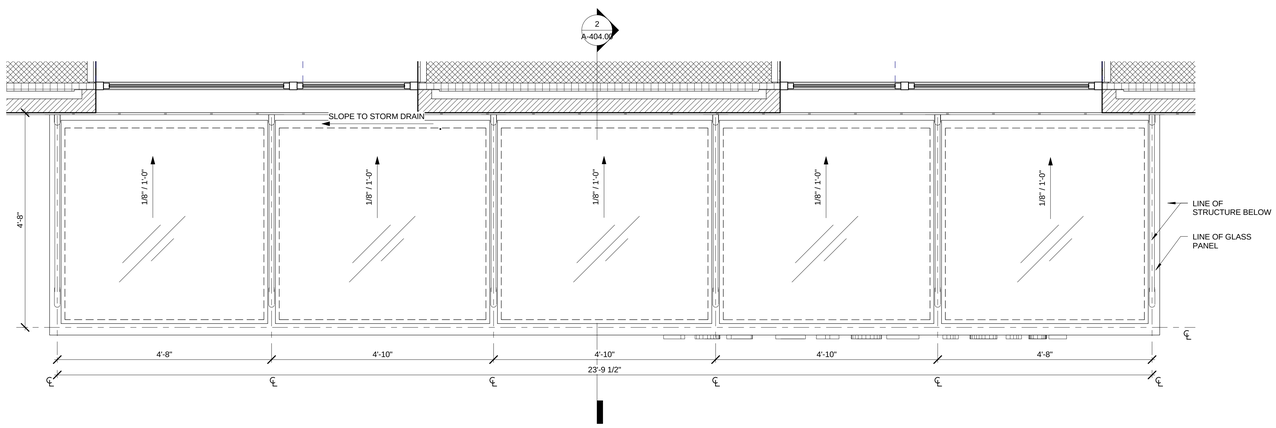


3 PLAN VIEW @ REAR YARD EAST CANOPY
3/4" = 1'-0"



1 PLAN VIEW @ SOUTH CANOPY
3/4" = 1'-0"

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BLOCK: 2383 LOT: 39

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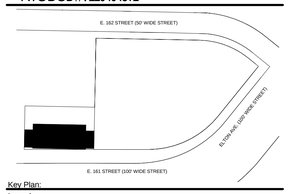

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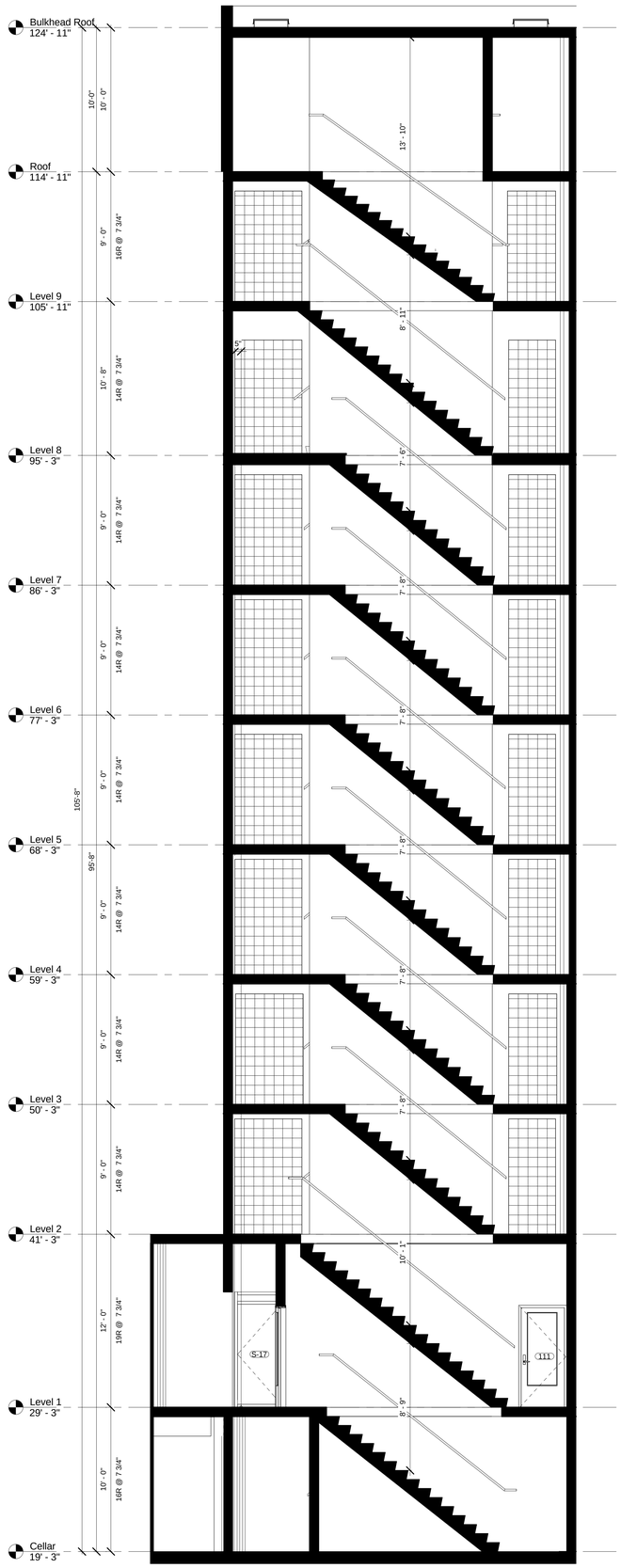
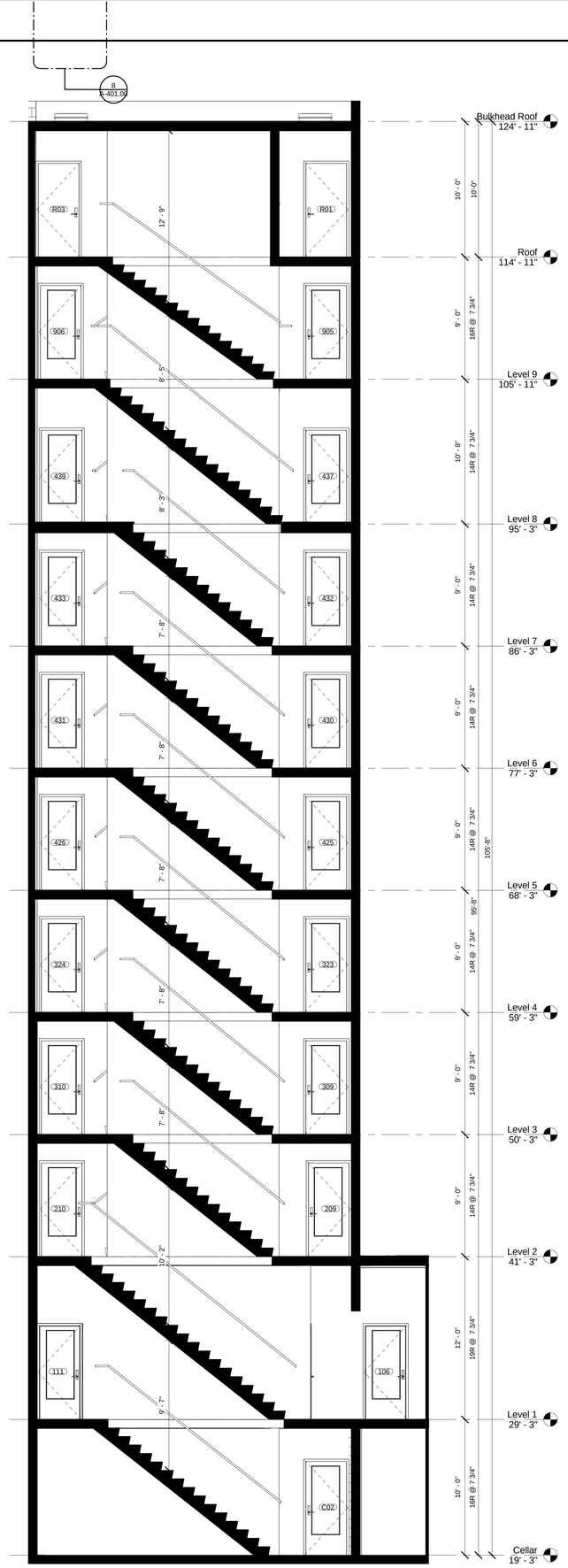
Canopy Plan, Section, Details

SEAL & SIGNATURE:

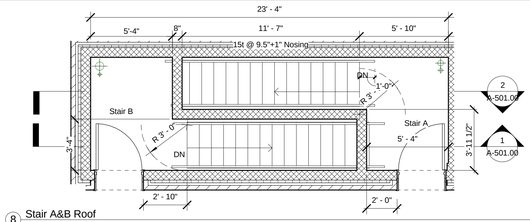
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-404.00
SCALE: As indicated	38 OF 111



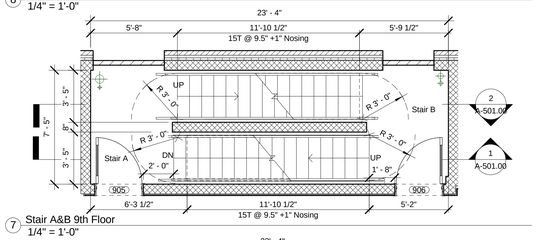
1 Stair A Section
1/4" = 1'-0"



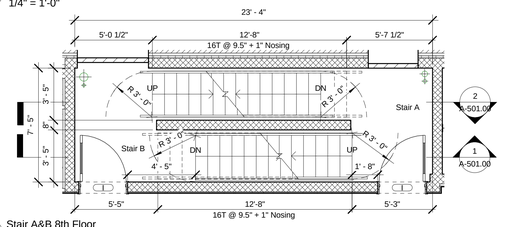
2 Stair B Section
1/4" = 1'-0"



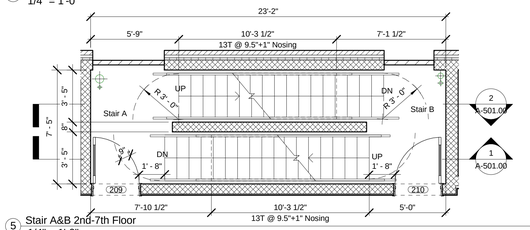
8 Stair A&B Roof
1/4" = 1'-0"



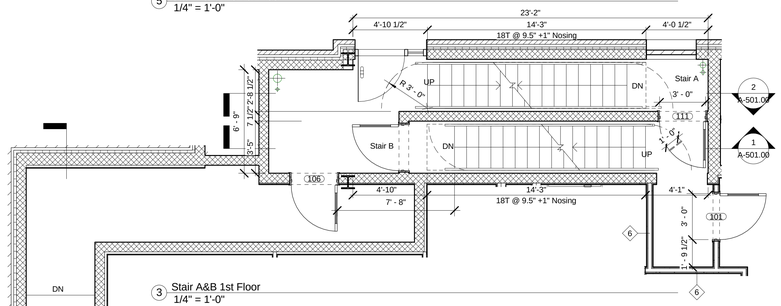
7 Stair A&B 9th Floor
1/4" = 1'-0"



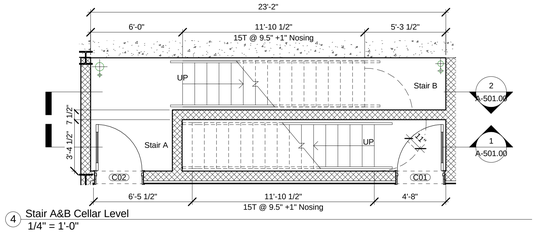
6 Stair A&B 8th Floor
1/4" = 1'-0"



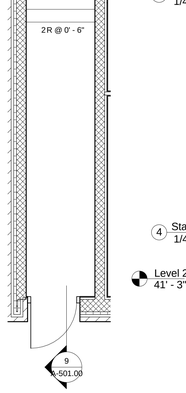
5 Stair A&B 2nd-7th Floor
1/4" = 1'-0"

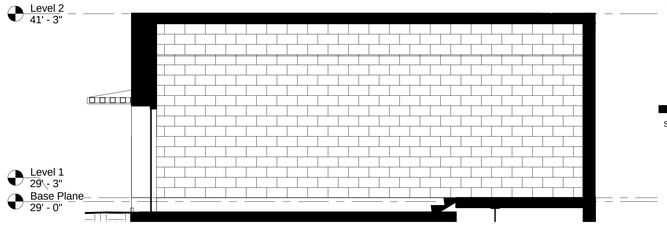


3 Stair A&B 1st Floor
1/4" = 1'-0"



4 Stair A&B Cellar Level
1/4" = 1'-0"





9 Section @ Path to Egress
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

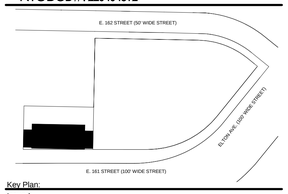
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

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3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

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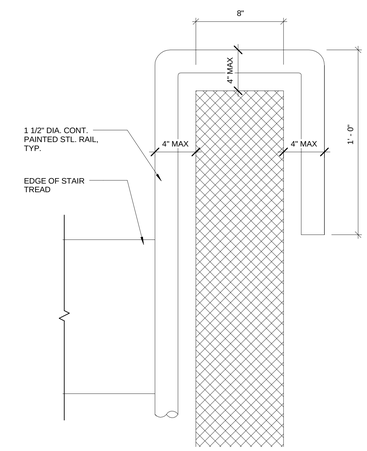
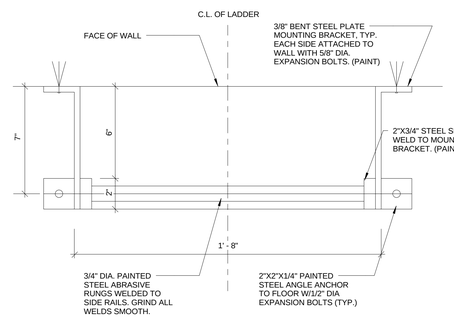
Stair A & B Plans & Sections

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-501.00
SCALE: 1/4" = 1'-0"	39 OF 111

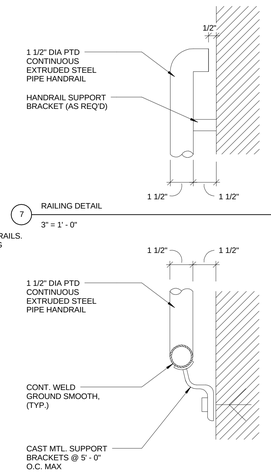


9 RAILING DETAIL
3" = 1' - 0"



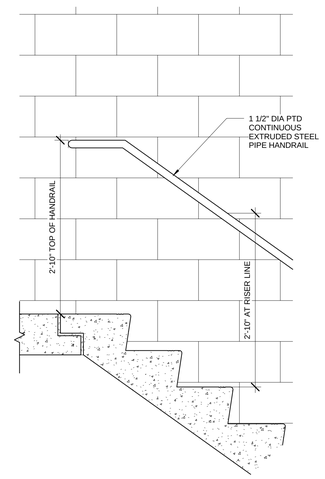
VERIFY EXACT LENGTH (IN FIELD)

8 RAILING DETAIL
3" = 1' - 0"

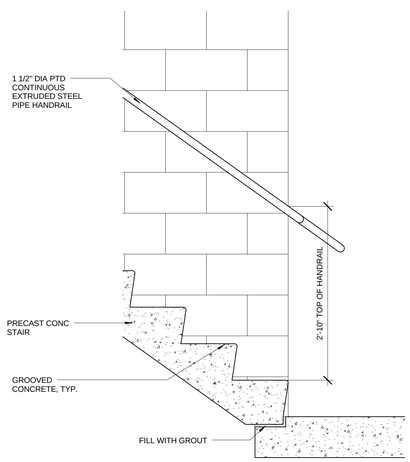


7 RAILING DETAIL
3" = 1' - 0"

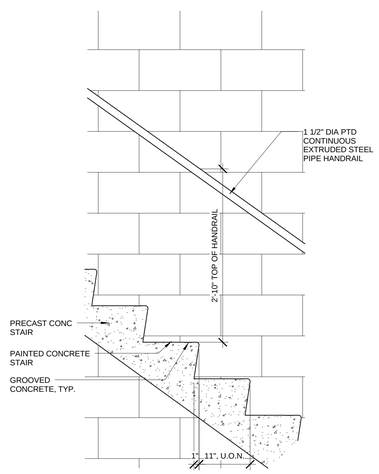
6 RAILING DETAIL
3" = 1' - 0"



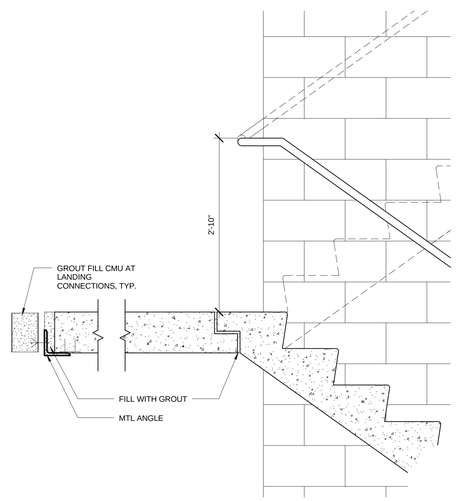
5 DETAIL @ TOP LANDING
1" = 1' - 0"



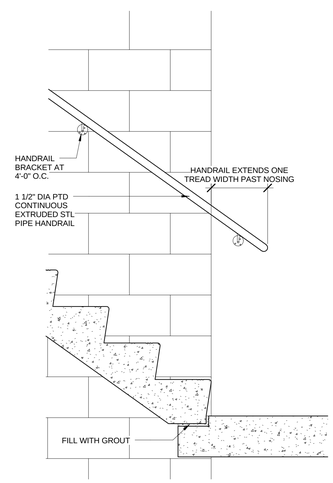
4 DETAIL @ INTERIM LANDING
1" = 1' - 0"



3 DETAIL @ MIDRUN RAILING
1" = 1' - 0"



2 RAILING RETURN DETAIL
1" = 1' - 0"



1 DETAIL @ BOTTOM LANDING
1" = 1' - 0"

2 Stair Detail
1" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

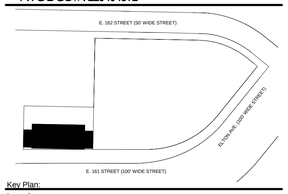
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Miscellaneous Stairs, Stair and Ramp Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-510.00
SCALE: 1" = 1'-0"	40 OF 111

ICC/ANSI A117.1-2003

407.4.6 Elevator Car Controls. Where provided, elevator car controls shall comply with Sections 407.4.6 and 309.

EXCEPTION: In existing elevators, where a new car operating panel complying with Section 407.4.6 is provided, existing car operating panels shall not be required to comply with Section 407.4.6.

407.4.6.1 Location. Controls shall be located within one of the reach ranges specified in Section 308.

308 Reach Ranges

308.1 General. Reach ranges shall comply with Section 308.

308.2 Forward Reach.

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor.

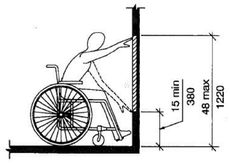


Fig. 308.2.1
Unobstructed Forward Reach

308.3 Side Reach.

308.3.1 Unobstructed. Where a clear floor space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the floor.

EXCEPTION: Existing elements shall be permitted at 54 inches (1370 mm) maximum above the floor.

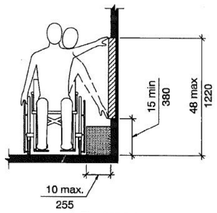


Fig. 308.3.1
Unobstructed Side Reach

ELEVATOR DETAILS WILL BE IN COMPLIANCE WITH THE FOLLOWING SECTIONS OF ICC/ANSI A117.1-2003:

407 ELEVATORS:

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

ANSI 407.2 - ELEVATOR LANDING REQUIREMENTS
ANSI 407.3 - ELEVATOR DOOR REQUIREMENTS
ANSI 407.4 - ELEVATOR CAR REQUIREMENTS

ELEVATOR LANDING CONTROL HEIGHT (PER SECTION 407.2)

ICC/ANSI A117.1-2003

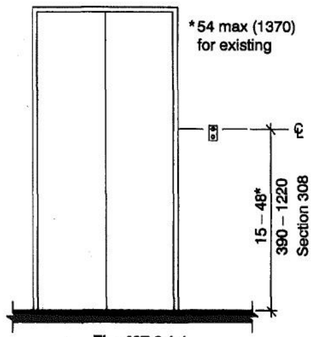


Fig. 407.2.1.1
Height of Elevator Call Buttons

ELEVATOR CARS (PER SECTION 407.4)

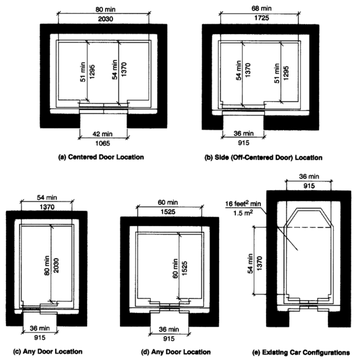
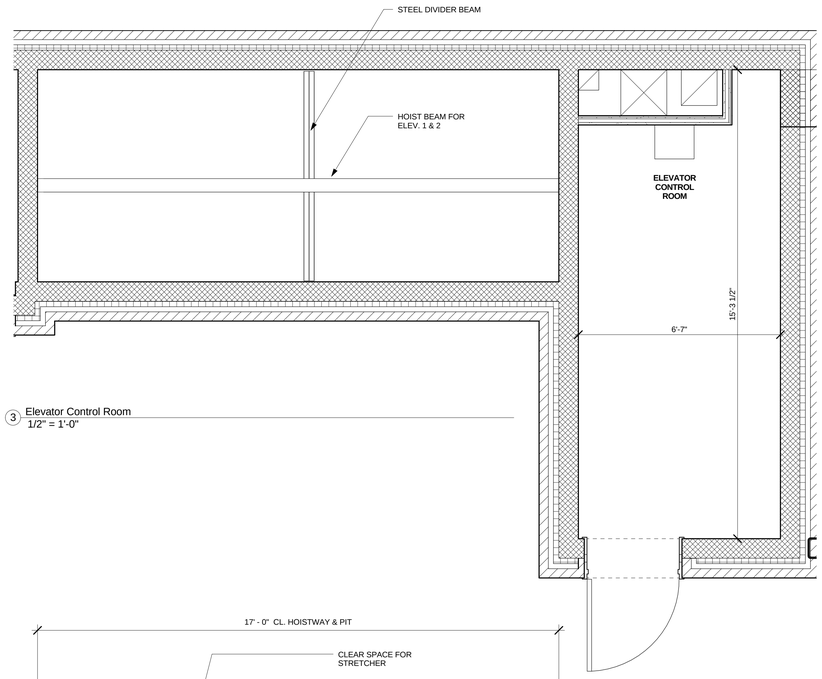
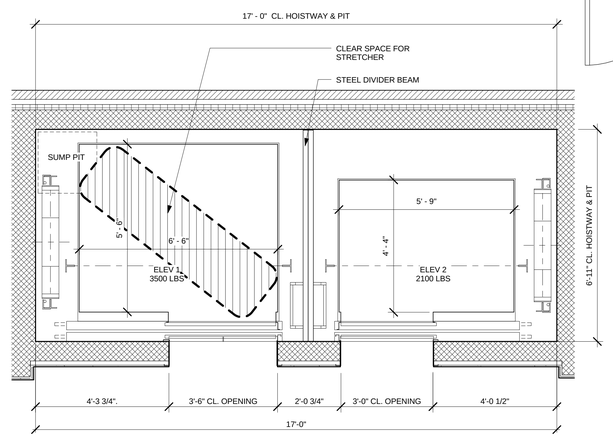


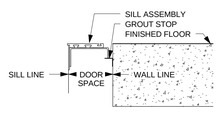
Fig. 407.4.1
Inside Dimensions of Elevator Cars



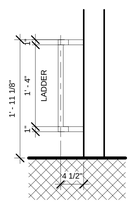
3 Elevator Control Room
1/2" = 1'-0"



1 Elevator Plan - Typical Floor
1/2" = 1'-0"

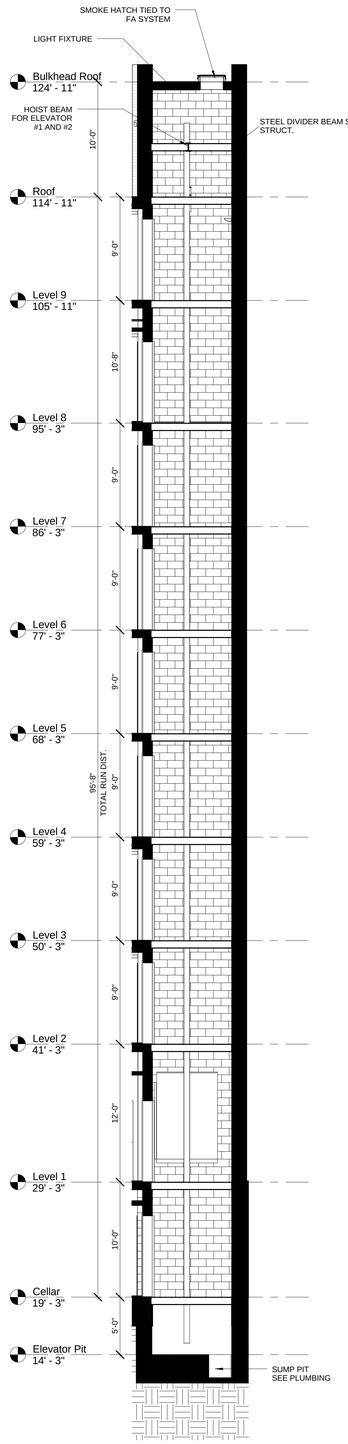


5 Elevator Sill Support Detail
1" = 1'-0"



LADDER DETAIL

4 Plan View ladder detail
1" = 1'-0"



2 Elevator Section 1
3/16" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

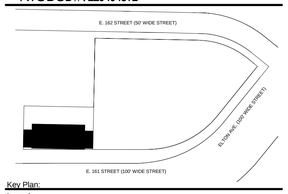
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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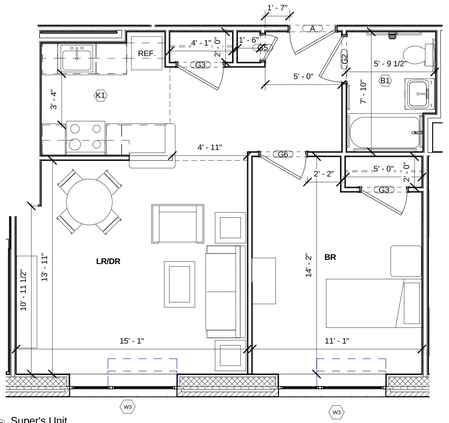
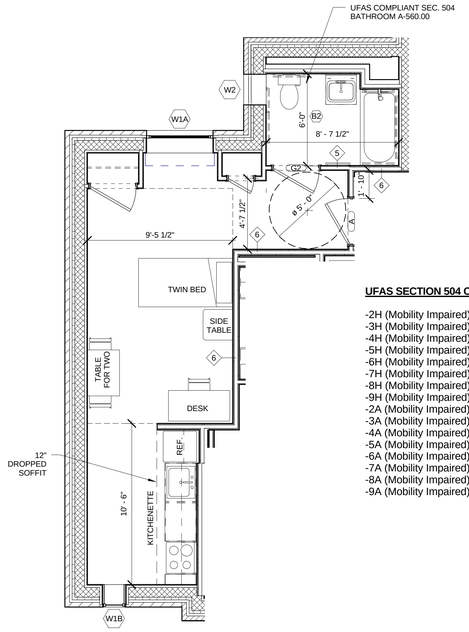
Elevator Plans, Sections, Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-520.00
SCALE: As indicated	41 OF 111



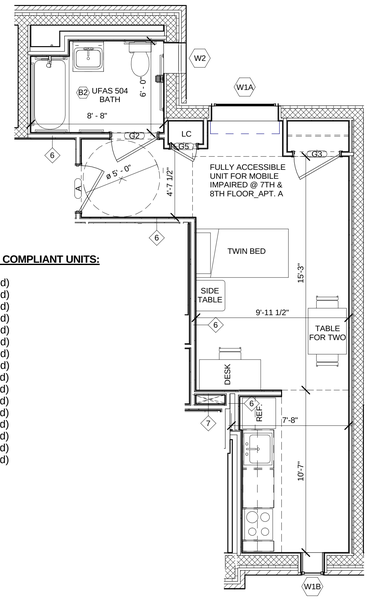
13 Super's Unit
1/4" = 1'-0"



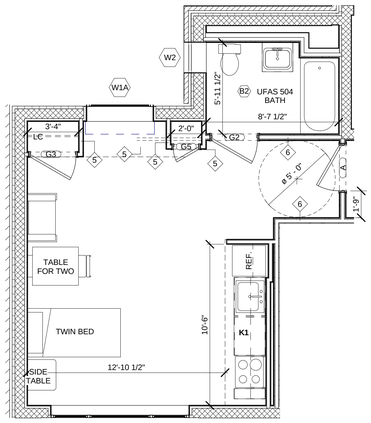
UFAS SECTION 504 COMPLIANT UNITS:

-2H (Mobility Impaired)
-3H (Mobility Impaired)
-4H (Mobility Impaired)
-5H (Mobility Impaired)
-6H (Mobility Impaired)
-7H (Mobility Impaired)
-8H (Mobility Impaired)
-9H (Mobility Impaired)
-2A (Mobility Impaired)
-3A (Mobility Impaired)
-4A (Mobility Impaired)
-5A (Mobility Impaired)
-6A (Mobility Impaired)
-7A (Mobility Impaired)
-8A (Mobility Impaired)
-9A (Mobility Impaired)

12 UNIT TYPE H - SECTION 504
1/4" = 1'-0"



11 UNIT TYPE A
1/4" = 1'-0"



10 UNIT TYPE N
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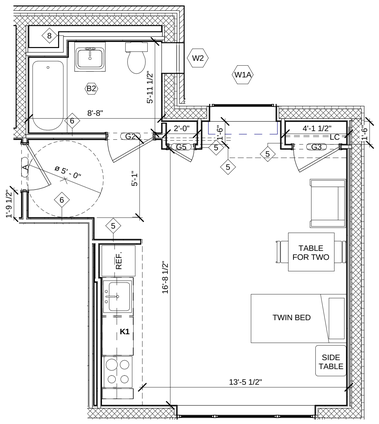
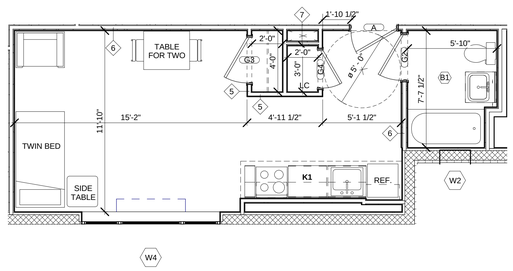


9 UNIT TYPE K
1/4" = 1'-0"



8 UNIT TYPE M
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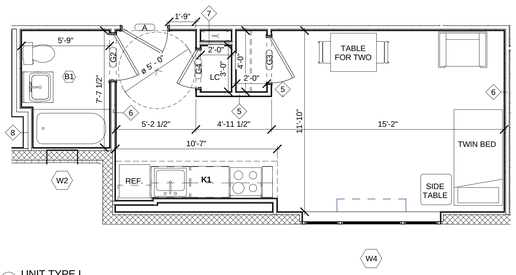
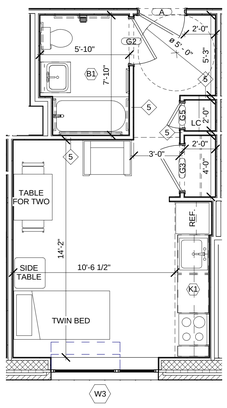


7 UNIT TYPE L
1/4" = 1'-0"



6 UNIT TYPE E
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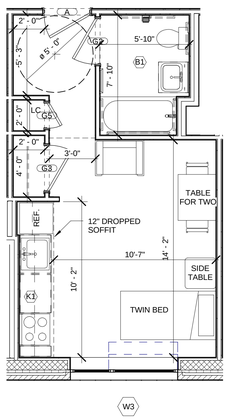
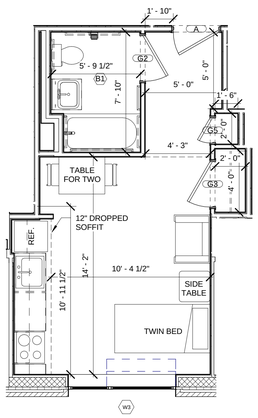
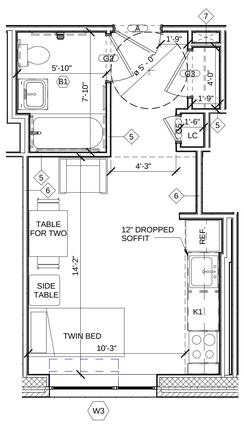


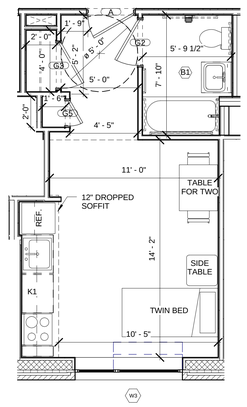
5 UNIT TYPE D
1/4" = 1'-0"



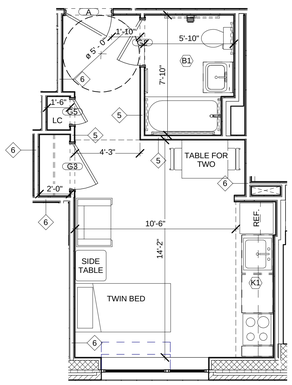
2 UNIT TYPE G
1/4" = 1'-0"



3 UNIT TYPE C
1/4" = 1'-0"



4 UNIT TYPE F
1/4" = 1'-0"



1 UNIT TYPE B
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

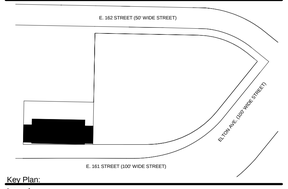
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

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2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
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7	12.14.15	ISSUE FOR BID

Revisions:

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Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
New York, NY 10001

MEP Engineer:

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Bayside, New York 11361
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200 Park Avenue South, Suite 1401
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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
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Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Typical Apartment Layouts

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-540.00
SCALE: 1/4" = 1'-0"	42 OF 111

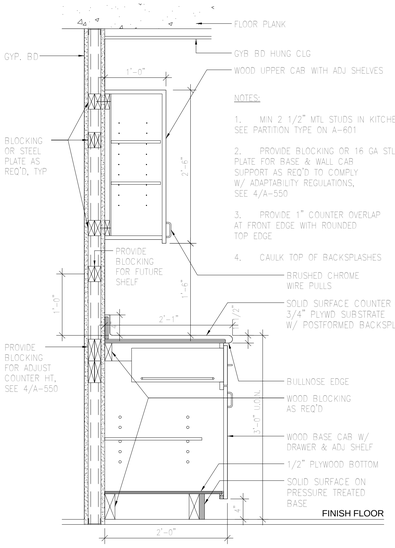
KITCHEN NOTES:

HC ADAPTABLE KITCHEN NOTES:

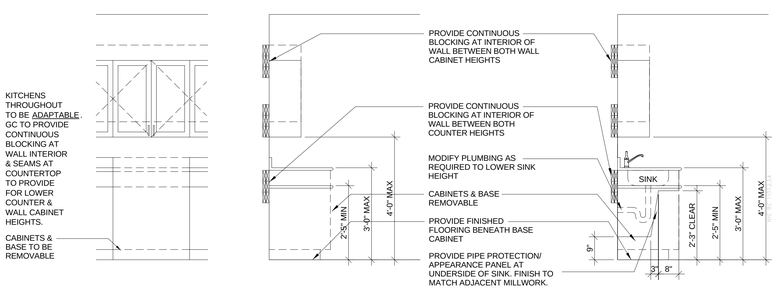
1. ALL KITCHENS TO BE ADAPTABLE PER 2008 NYC BUILDING CODE AND THE FEDERAL FAIR HOUSING ACT.
2. THE KITCHEN SINK COUNTERTOP AND ADDITIONAL COUNTERTOP WORK AREA SHALL BE INSTALLED ON CONCEALED FASTENERS AND BRACKETS AS REQUIRED TO PROVIDE ADJUSTABLE COUNTER HEIGHT. GC IS RESPONSIBLE TO PROPER INSTALLATION AND STRUCTURAL INTEGRITY OF ALL MILLWORK/COUNTERTOPS.
3. THE COUNTERTOPS AND SINK SHALL BE ADJUSTABLE TO BETWEEN 29" AND 36" AFF. AND SET AT 36" AFF. UNTIL KITCHEN IS ADAPTED.
4. INSTALL FINISH FLOORING BELOW ALL CABINETS THAT ARE TO BE REMOVABLE FOR ADAPTABILITY.
5. THE SINK BASE CABINET AND ADDITIONAL CABINETS AS REQUIRED SHALL BE MODIFIED TO BE REMOVABLE IF NEEDED AT A FUTURE DATE.
6. PROVIDE A REMOVABLE PANEL (IN A FINISH TO MATCH THE CABINETRY) TO CONCEAL THE SINK PLUMBING AND PROVIDE PROTECTION FROM HOT PIPES.
7. THE UPPER WALL CABINETS SHALL BE INSTALLED WITH LOWER EDGE OF CABINET AT 4'-6" AFF UON. PROVIDE CONTINUOUS BLOCKING SO THAT WHEN UNIT IS ADAPTED FOR HC USE, ALL WALL CABINETS EXCEPT OVER RANGE AND REFRIGERATOR MAY BE LOWEREDANYWHERE BETWEEN 4'-0" TO 3'- 9" AFF.
8. PLUMBING FOR KITCHEN SINK TO BE INSTALLED TO ACCOMMODATE LOWEST ACCESSIBLE SINK HEIGHT.

NOTES:

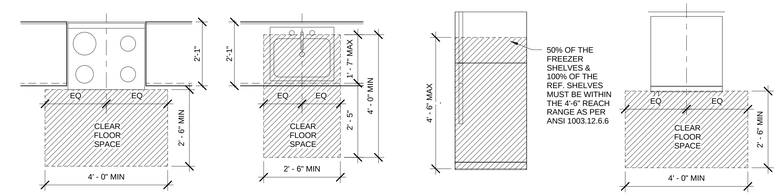
1. REFRIGERATOR MUST HAVE AUTOMATIC DEFROSTING FOR FREEZER.
2. RANGE CONTROLS TO BE FRONT MOUNTED.
3. IF RANGE HOOD IS PROVIDED, AN ACCESSIBLE SWITCH MUST BE PROVIDED.
4. OVEN TO BE SELF-CLEANING.



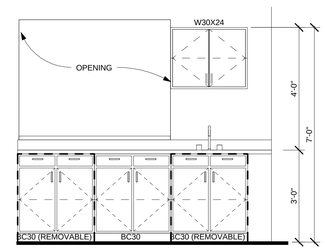
6 KITCHEN DETAILS
1" = 1'-0"



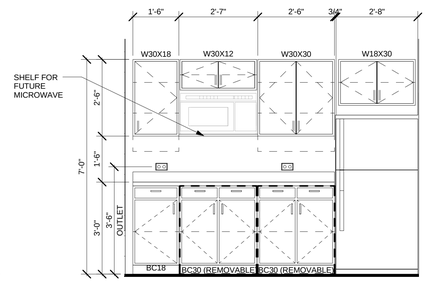
5 KITCHEN ADAPTABILITY DIAGRAM
1/2" = 1'-0"



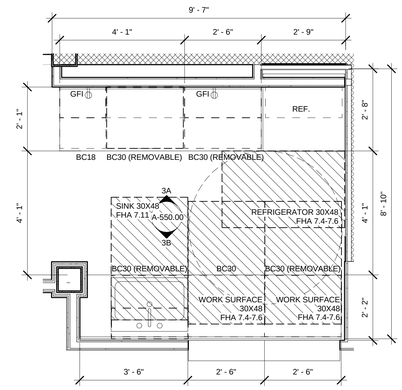
CLEAR FLOOR SPACE DIAGRAM
1/2" = 1'-0"



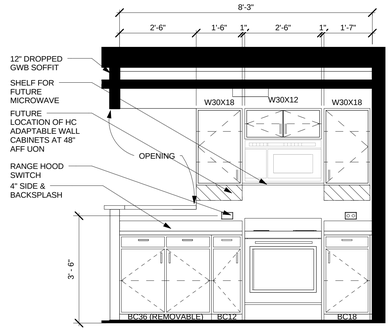
3B Elevation 3 - B
1/2" = 1'-0"



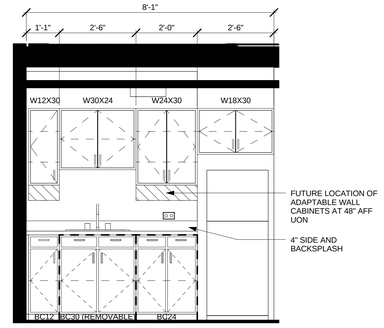
3A Elevation 3 - A
1/2" = 1'-0"



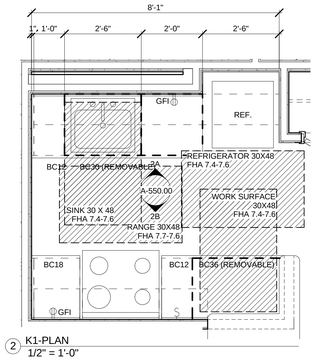
WARMING KITCHEN-@ COMMUNITY ROOM
3 1/2" = 1'-0"



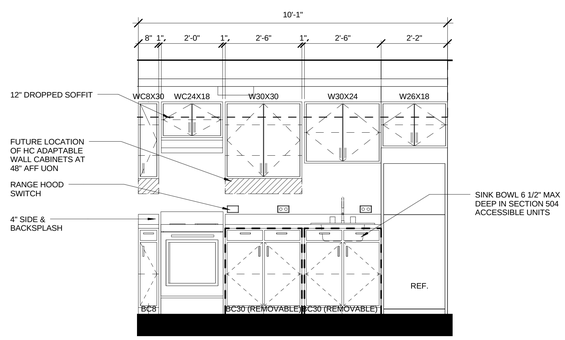
2B Elevation 2 - C
1/2" = 1'-0"



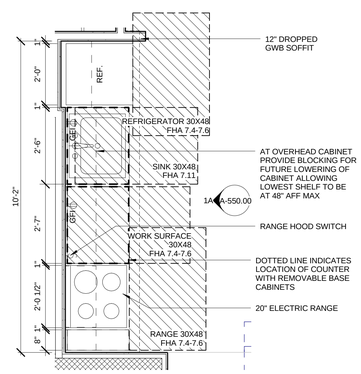
2A Elevation 2 - A
1/2" = 1'-0"



2 K1-PLAN
1/2" = 1'-0"



1A KITCHENETTE - ELEVATION 1A
1/2" = 1'-0"



1 KITCHENETTE - PLAN
1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

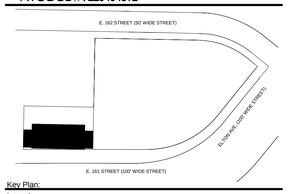
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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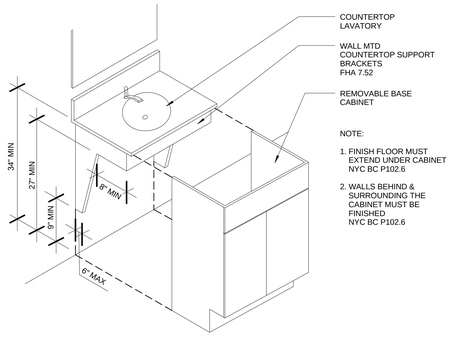
Kitchen Plans, Elevations and Details

SEAL & SIGNATURE:

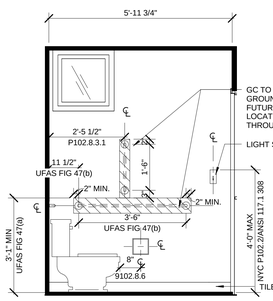
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-550.00
SCALE: As indicated	43 OF 111

RESIDENTIAL BATHROOM NOTES

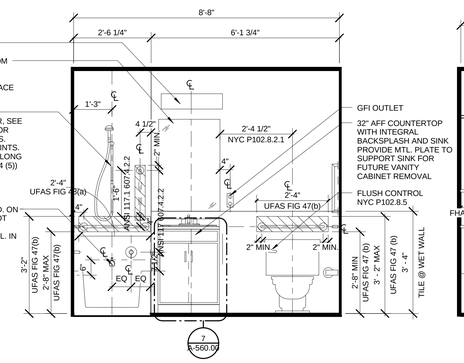
1. ALL RESIDENTIAL BATHROOMS TO BE ADAPTABLE PER NYC BUILDING CODE (NYC BC) & THE FEDERAL FAIR HOUSING ACT (FHA).
2. THE VANITY COUNTERTOP SHALL BE INSTALLED ON CONCEALED FASTENERS & BRACKETS. GC IS RESPONSIBLE FOR PROPER INSTALLATION & STRUCTURAL INTEGRITY OF ALL MILLWORK/ COUNTERTOPS.
3. EXTEND WALL FINISHES BEHIND THE VANITY CABINET THAT IS TO BE REMOVABLE FOR ADAPTABILITY.
4. INSTALL FINISH FLOORING BELOW THE VANITY CABINET THAT IS TO BE REMOVABLE FOR ADAPTABILITY.
5. IN ADAPTED BATHROOMS, PROVIDE AN INSULATED PIPE COVER TO CONCEAL THE SINK PLUMBING & PROVIDE PROTECTION FROM HOT PIPES.
6. PROVIDE CONTINUOUS BLOCKING AT INDICATED AREAS SO THAT WHEN UNIT IS ADAPTED FOR H.C. USE, GRAB BARS CAN BE INSTALLED ANYWHERE BTWN 2'-9" TO 3'-0" A.F.F.
7. PLUMBING FOR VANITY SINK TO BE INSTALLED TO ACCOMMODATE KNEE CLEARANCES & LOWEST ACCESSIBLE SINK HEIGHT.
8. TUBS TO HAVE SLIP RESISTANT BOTTOMS.
9. PROVIDE GRAB BARS THAT CAN SUSTAIN A HORIZONTAL OR VERTICAL POINT LOAD OF 250 LBS.



7 BATHROOM VANITY DETAIL
1" = 1'-0"



2D B2 - ELEVATION 2D
1/2" = 1'-0"



2C B2 - ELEVATION 2C
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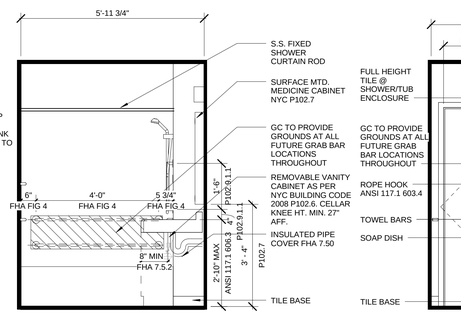
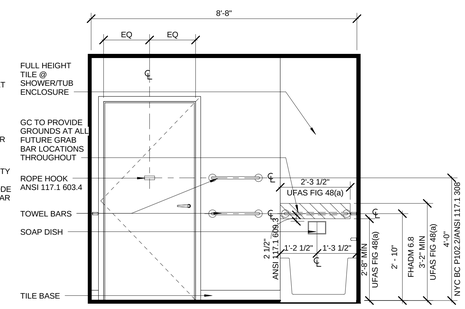
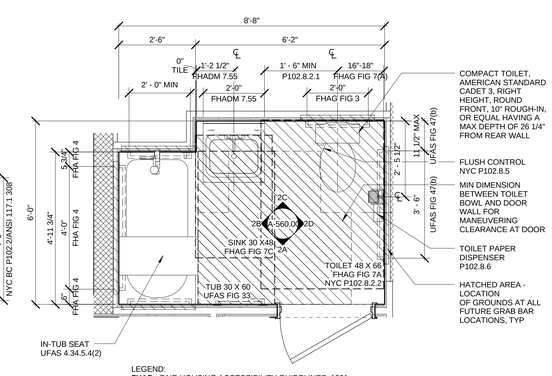


2B B2 - ELEVATION 2B
1/2" = 1'-0"

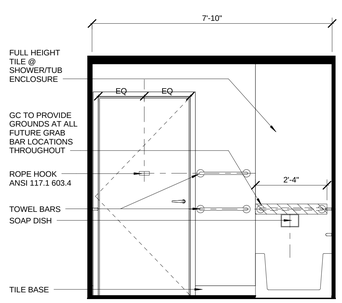


2A B2 - ELEVATION 2A
1/2" = 1'-0"

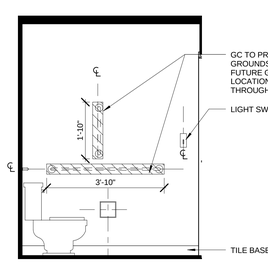


LEGEND:
FHAG - FAIR HOUSING ACCESSIBILITY GUIDELINES, 1991
FHADM - FAIR HOUSING ACT DESIGN MANUAL, REVISED 1998
P - NYC BUILDING CODE APPENDIX P
UFAS - UNIFORM FEDERAL ACCESSIBILITY STANDARDS

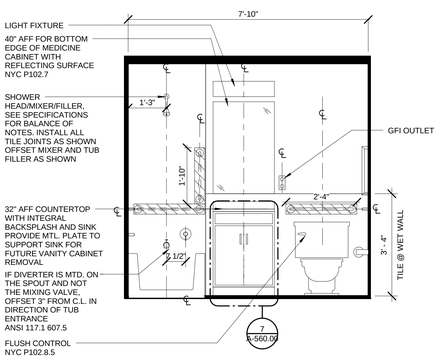
2 B2 - PLAN - UFAS SECTION 504
1/2" = 1'-0"



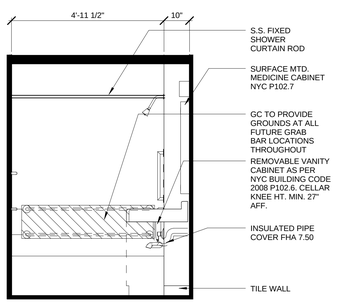
1D B1 - ELEVATION 1D
1/2" = 1'-0"



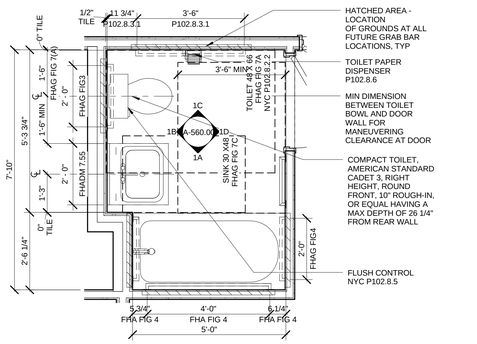
1C B1 - ELEVATION 1C
1/2" = 1'-0"



1B B1 - ELEVATION 1B
1/2" = 1'-0"



1A B1 - ELEVATION 1A
1/2" = 1'-0"



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FHADM - FAIR HOUSING ACT DESIGN MANUAL, REVISED 1998
P - NYC BUILDING CODE APPENDIX P

1 B1 - PLAN
1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

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MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
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BLOCK: 2383 LOT: 39

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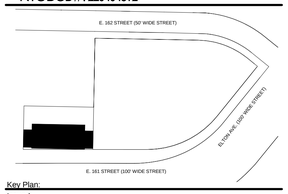

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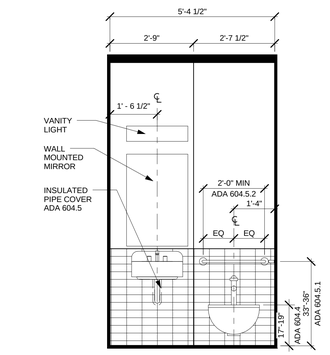
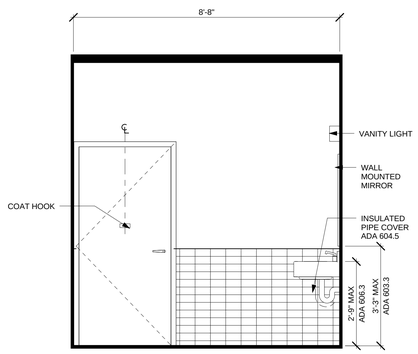
Bathroom Plans, Elevations and Details

SEAL & SIGNATURE:

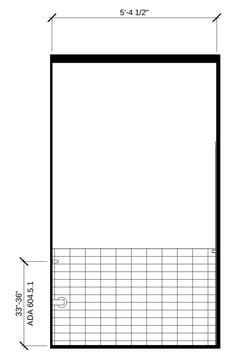
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-560.00
SCALE: As indicated	44 OF 111



4D Elevation 4 - d
1/2" = 1'-0"



4C Elevation 4 - c
1/2" = 1'-0"



4B Elevation 4 - b
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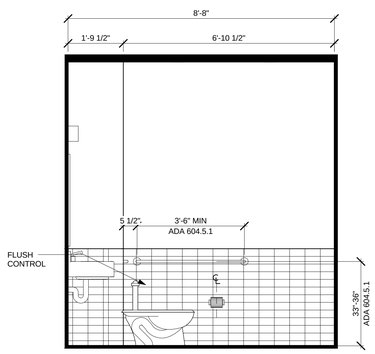

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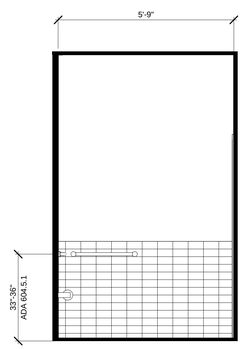

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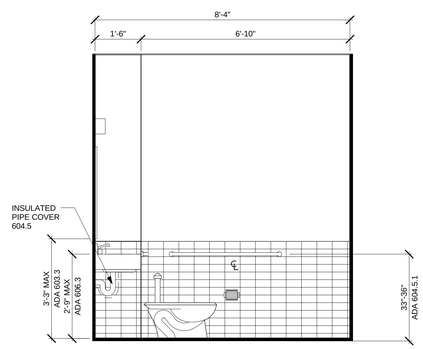

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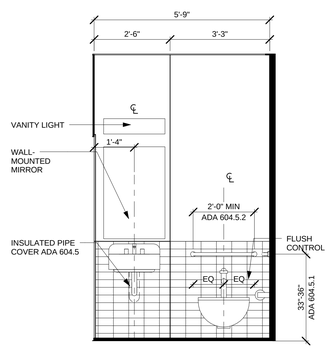

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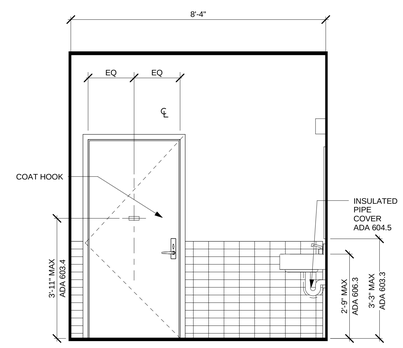
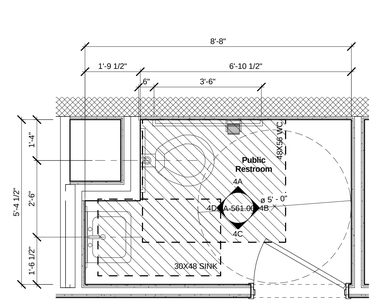
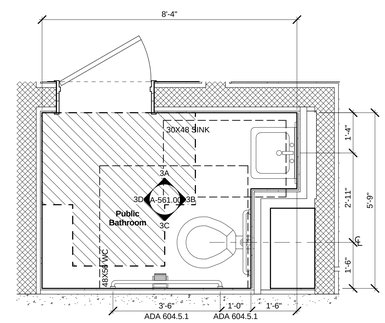


3A Elevation 3 - a
1/2" = 1'-0"



4 Public Restroom @ Ground Flr
1/2" = 1'-0"



3 Public Bathroom @ Cellar
1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

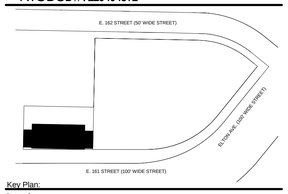
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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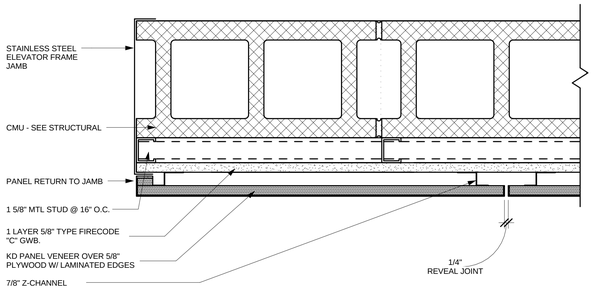
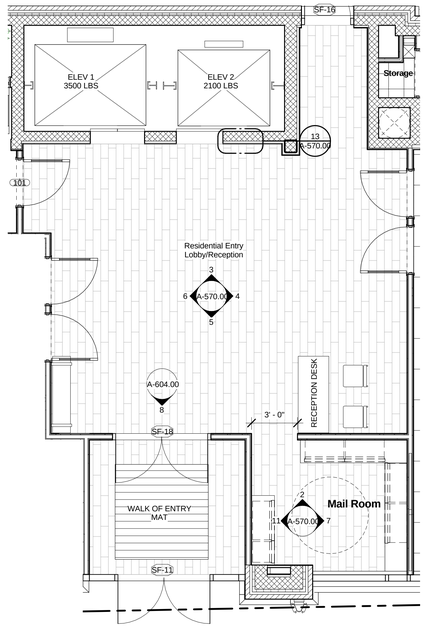
Bathroom Plans, Elevations and Details

SEAL & SIGNATURE:

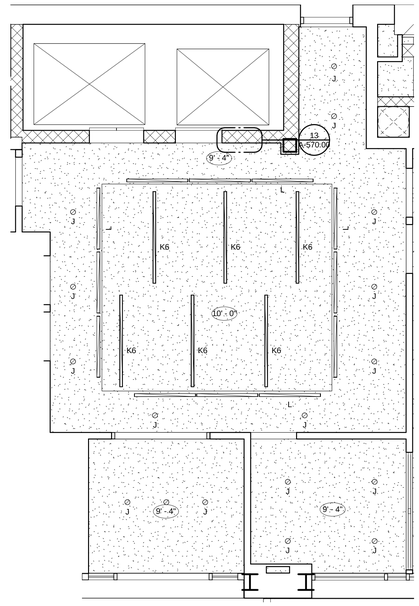
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-561.00
SCALE: 1/2" = 1'-0"	45 OF 111



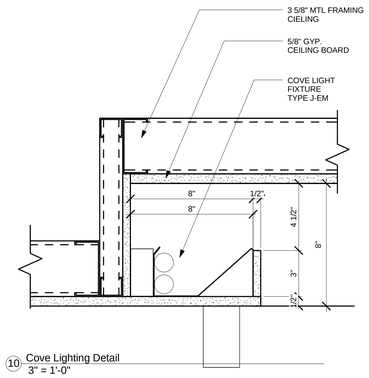
13 Detail 3
3" = 1'-0"



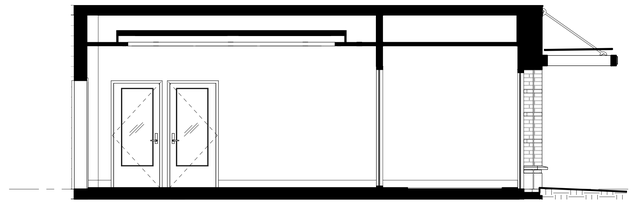
1 Lobby Floor Plan
1/4" = 1'-0"



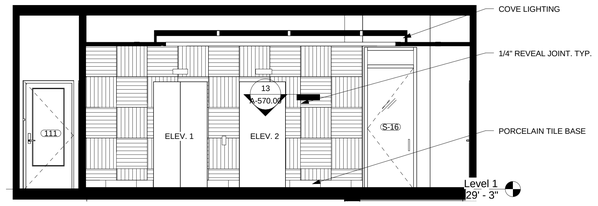
8 Reflected Ceiling Lobby
1/4" = 1'-0"



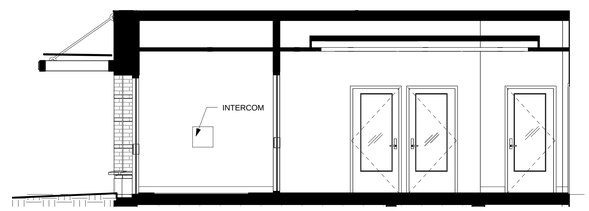
10 Cove Lighting Detail
3" = 1'-0"



4 Elevation 1 - b
1/4" = 1'-0"



3 Elevation 1 - a
1/4" = 1'-0"



6 Elevation 1 - d
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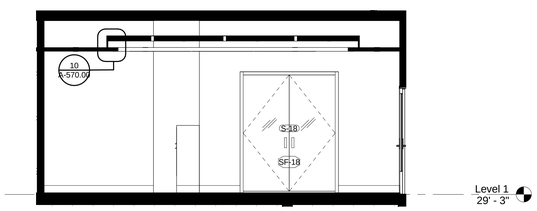
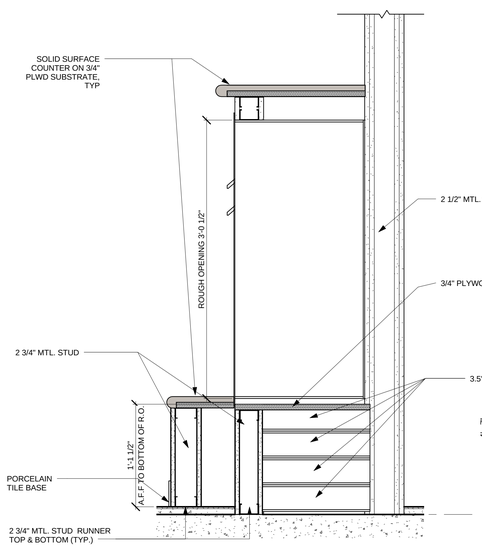
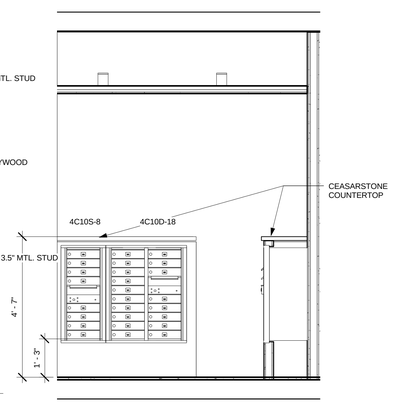


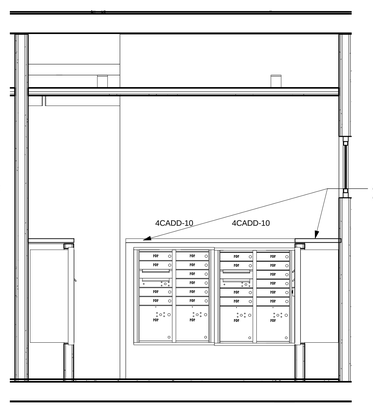
5 Elevation 1 - c
1/4" = 1'-0"



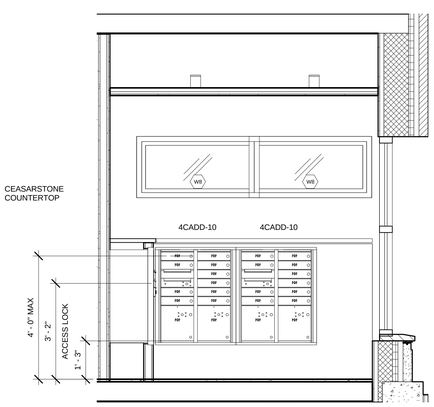
12 Mailbox Section
1 1/2" = 1'-0"



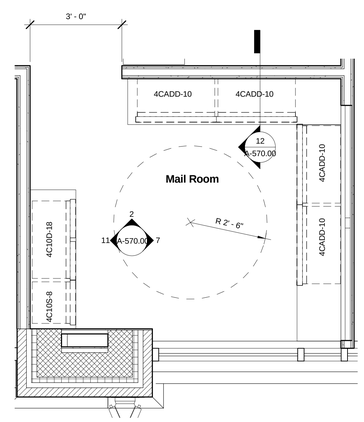
11 1 - c
1/2" = 1'-0"



2 Mailbox Elevation 2
1/2" = 1'-0"



7 Mailbox Elevation 1
1/2" = 1'-0"



9 Mail Room
1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

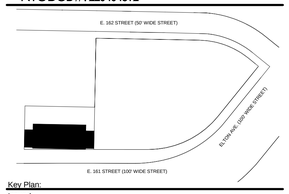
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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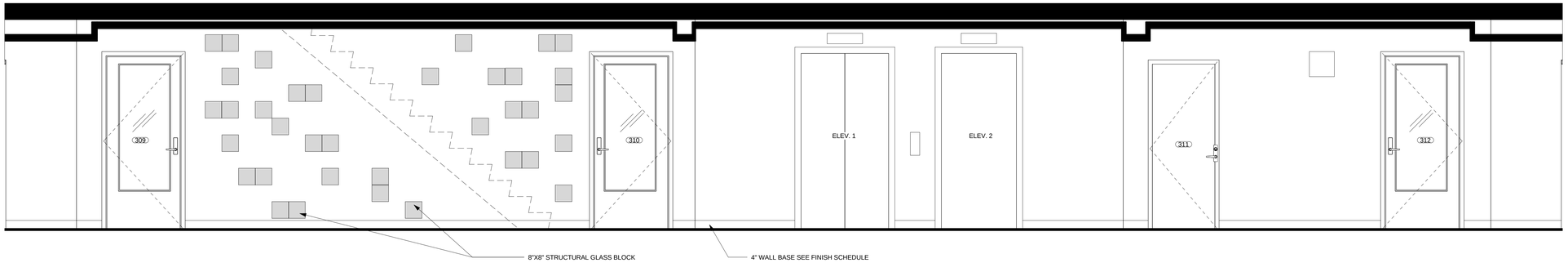
Lobby Plans, Sections,Details

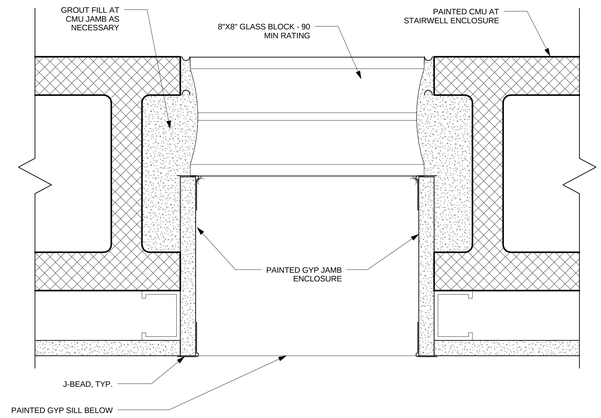
SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-570.00
SCALE: As indicated	46 OF 111



1 Interior Elevation @ Residential Corridor
1/2" = 1'-0"

STAIRWELL INTERIOR



2 Glass Block Detail - Corridor Wall
6" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

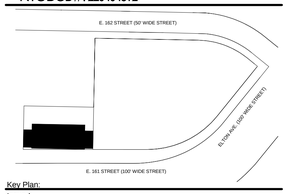
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
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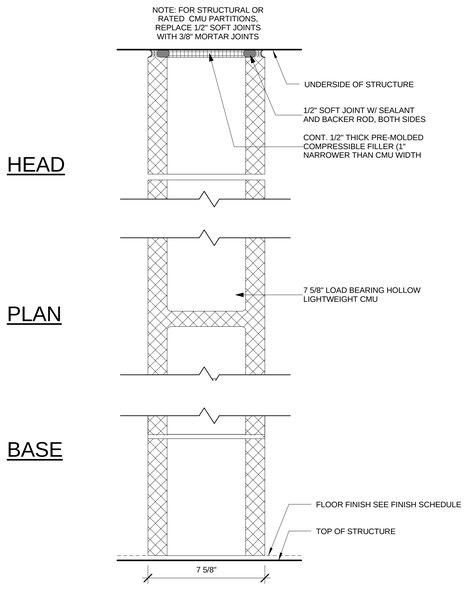
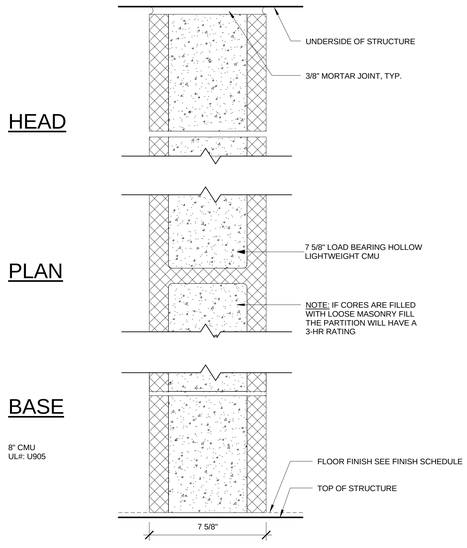
Miscellaneous Interior Details

SEAL & SIGNATURE:

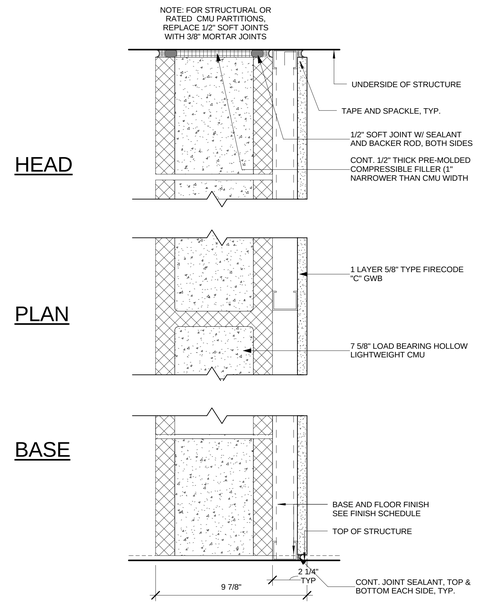
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-571.00
SCALE: As indicated	



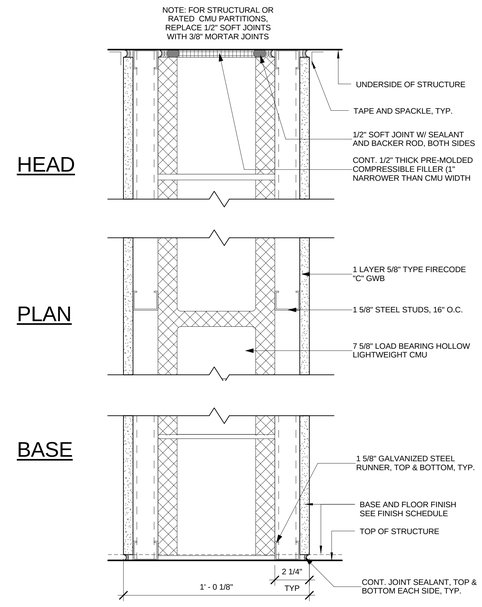
1 CMU PARTITION



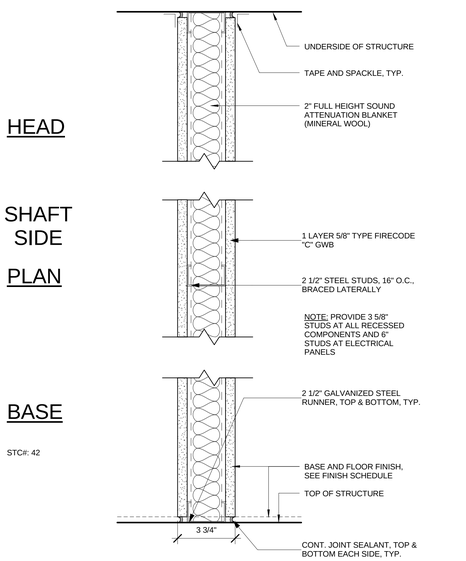
2 CMU PARTITION - 2HR RATING



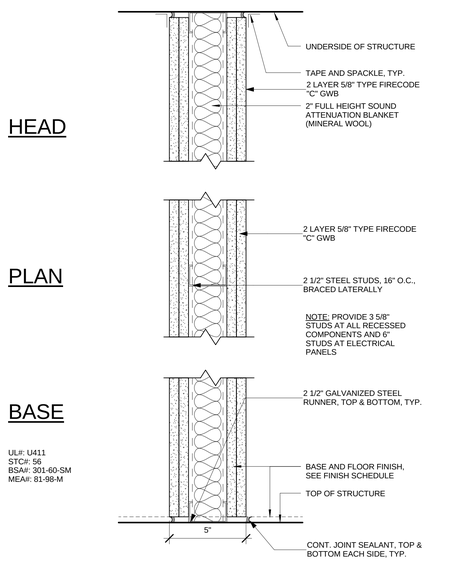
3 GWB FURRING ON 1 SIDE CMU - 3HR RATING



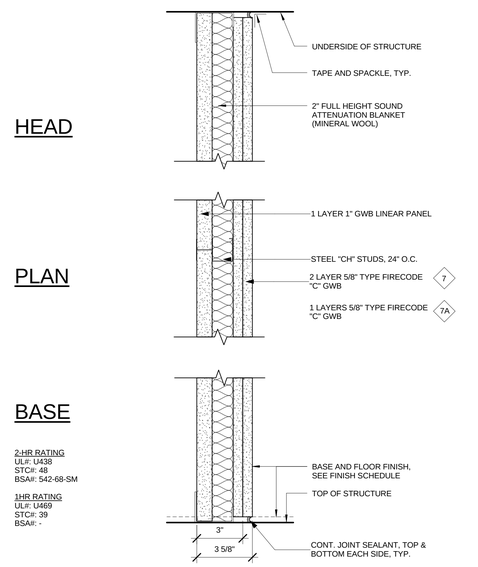
4 GWB FURRING ON CMU - 2 SIDE



5 STEEL PARTITION - NO RATING

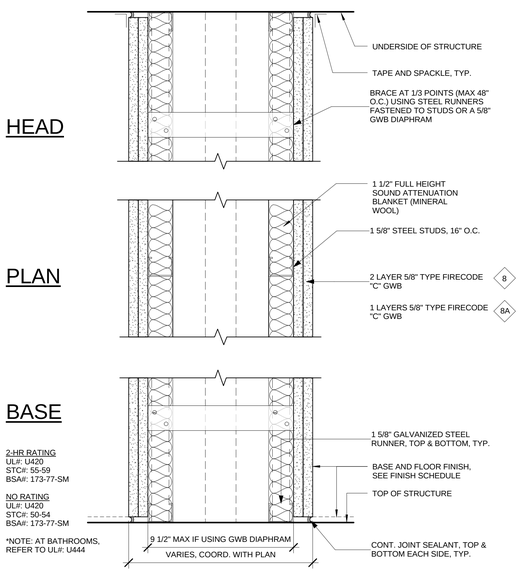


6 STEEL PARTITION - 2HR RATING



7 SHAFT WALL - 2HR RATING

7A SHAFT WALL - 1HR RATING



8 CHASE WALL - 2HR RATING

8A CHASE WALL - NO RATING

Melrose Commons Site C - Supportive Housing

Bronx, NY

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MENTAL HEALTH AND HOUSING SOLUTIONS

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BLOCK: 2383 LOT: 39

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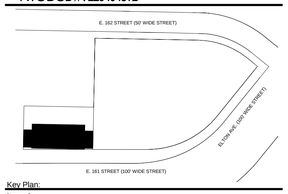

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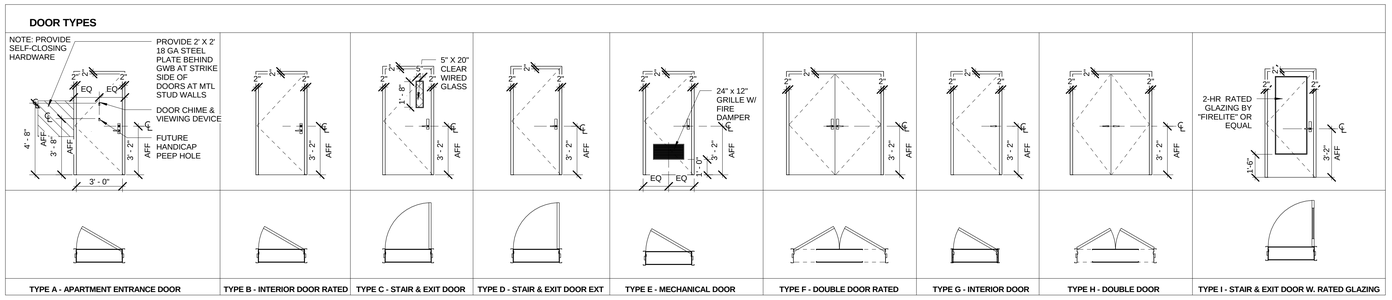
Partition Types and Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-600.00
SCALE: 3" = 1'-0"	47 OF 111

DOOR TYPES



Door Schedule

Mark	Location	Door Type	Dimensions Width	Dimensions Height	Dimensions Thickness	Saddle Type	Fire Rating	Hardware Type	Comments
Cellar									
117	GAS METER ROOM	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C01	STAIR B	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
C02	STAIR A	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
C03	REFUSE/RECYCLING HOIST	B	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C04	LAUNDRY	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
C05	BATHROOM	B	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C08	HVAC CLOSET	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C9	COMP. RM.	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
C10	CONF. RM.	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
C11	CONF. RM.	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
C12	GAS METER ROOM	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C13	TELE/IT ROOM	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C15	TRASH COMPACTOR	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C16	BOILER/MECHANICAL ROOM	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C17	TRASH COMPACTOR	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C18	ELECTRICAL ROOM	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
C19	WATER METER/FIRE PUMP ROOM	E	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
Level 1									
		S-18	6' - 0"	7' - 7"					
101	STAIR A1	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
102	EQUIP/STOR/COPY	G1	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
103	WARMING KITCHEN	G1	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
104	RESTROOM	G2	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
105	STORAGE	G1	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
106	STAIR B	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
107	VOCATIONAL COUNSELOR	G1	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
108	DIRECTOR'S OFFICE	G1	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
109	ASST. DIRECTOR'S OFFICE	G1	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
110		I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
111	STAIR A	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
112	OFFICE / LOBBY	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
113	OFFICE / LOBBY	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
114	COMM. RM. / LOBBY	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
115	COMM. RM. / LOBBY	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
116	STORAGE	G3	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
Level 2									
	BATHROOM	G2	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	CLOSET	G3	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	LINEN CLOSET	G5	1' - 8"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	BEDROOM	G6	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
200	TRASH CHUTE	G5	1' - 8"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
201	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		

Door Schedule

Mark	Location	Door Type	Dimensions Width	Dimensions Height	Dimensions Thickness	Saddle Type	Fire Rating	Hardware Type	Comments
202	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
203 3 - 8	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
204	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
205	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
206	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
208	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
209	STAIR A	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
210	STAIR B	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
211	IT/ELEC CLOSET	B2	2' - 6"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
212	TRASH & RECYCLING	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
Level 3									
	BATHROOM	G2	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	CLOSET	G3	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	LINEN CLOSET	G5	1' - 8"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
301	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
302	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
303	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
304	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
305	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
306	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
307	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
308	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
309	STAIR A	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
310	STAIR B	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
311	IT/ELEC CLOSET	B2	2' - 6"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
312	TRASH & RECYCLING	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
Level 9									
	BATHROOM	G2	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	CLOSET	G3	3' - 0"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
	LINEN CLOSET	G4	2' - 6"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
900	TRASH CHUTE	G5	1' - 8"	6' - 8"	0' - 1 3/4"	S1	NO RATING		
901	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
902	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
903	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
904	APARTMENT ENTRY	A	3' - 0"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
905	STAIR A	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
906	STAIR B	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
907	IT/ELEC CLOSET	B2	2' - 6"	6' - 8"	0' - 1 3/4"	S1	1 1/2 HR.		
908	TRASH & RECYCLING	I	3' - 0"	7' - 0"	0' - 1 3/4"	I	1 1/2 HR.		
Roof									
R01	STAIR A	D	3' - 0"	7' - 0"	0' - 1 3/4"	S1	1 1/2 HR.		
R02	ELEVATOR CONTROL ROOM	D	3' - 0"	7' - 0"	0' - 1 3/4"	S1	1 1/2 HR.		
R03	STAIR B	D	3' - 0"	7' - 0"	0' - 1 3/4"	S1	1 1/2 HR.		

DOOR NOTES:

1. ALL SADDLE & TRANSITION STRIPS TO BE ADA COMPLIANT.
2. ALL BUILDING ENTRANCE DOORS AND OTHER EXTERIOR EXIT DOORS AND ASSOCIATED HARDWARE SHALL COMPLY FULLY WITH NYC BC 2008 SECTION 1008.4.1 AND 1008.4.2.
2. ALL GLASS AT FIRE RATED DOORS TO BE 1/4" TEMPERED GLASS WITH WIRE MESH.
3. ALL WOOD BLOCKING AT CMU TO BE PRESSURE TREATED.
4. PAINT ALL 6 SIDES OF DOORS. SEE FINISH SCHEDULE FOR COLOR.
5. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
6. HEIGHT OF ALL EXTERIOR DOORS TO BE COORDINATED WITH EXTERIOR SIDEWALK ELEVATIONS. DOOR HEAD HEIGHTS TO BE CONSISTENT AT BUILDING PERIMETER.
7. SEE SPECIFICATION FOR HARDWARE SETS.
8. REFER TO MECHANICAL DRAWINGS FOR LOUVER SIZES IN TYPE E
9. WEATHER STRIPPING SHOULD BE INSTALLED AT ALL APARTMENT ENTRANCEDOORS, STAIRWELL DOORS, AND TRASH ROOM DOORS.

Storefront Door Schedule

Mark	Location	Width	Height	Hardware	Comments
Level 1					
S-06	OUTDOOR TERRACE @ GROUND LEVEL	6' - 0"	7' - 9 1/2"	HEAVY DUTY LOCKSET	
S-11	SUPPORTIVE HOUSING ENTRANCE	6' - 0"	7' - 9 1/2"	HEAVY DUTY LOCKSET	
S-14	EGRESS FROM STAIR B	3' - 0"	6' - 8 1/2"	HEAVY DUTY LOCKSET	
S-16	OUTDOOR TERRACE @ GROUND LEVEL	3' - 0"	7' - 11"	HEAVY DUTY LOCKSET	
S-17	OUTDOOR TERRACE @ GROUND LEVEL	3' - 0 1/2"	6' - 11 1/2"	HEAVY DUTY LOCKSET	
Level 2					
S-29	LINEN CLOSET	1' - 8"	6' - 8"		
S-30	CLOSET	3' - 0"	6' - 8"		
Level 3					
S-23	LINEN CLOSET	1' - 8"	6' - 8"		
S-25	LINEN CLOSET	1' - 8"	6' - 8"		
S-26	CLOSET	3' - 0"	6' - 8"		
S-27	CLOSET	3' - 0"	6' - 8"		

Melrose Commons Site C - Supportive Housing

Bronx, NY

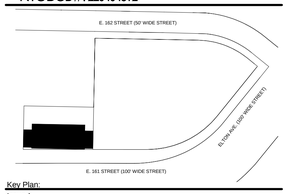
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

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5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

Revisions:

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Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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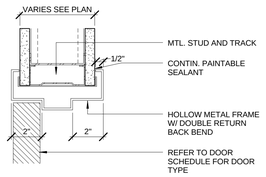
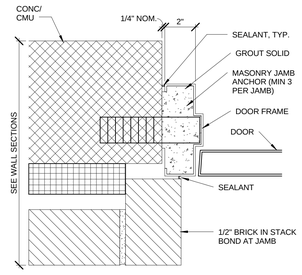
Door Types and Schedule

SEAL & SIGNATURE:

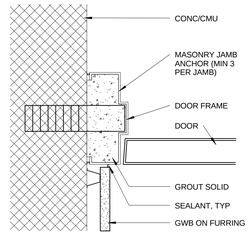
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-601.00
SCALE: 1/4" = 1'-0"	48 OF 111



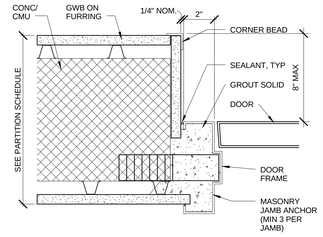
F10 FRAME TYPE AT GYPSUM WALL ASSEMBLY
3" - 1' - 0"



F7 FRAME TYPE AT BRICK WALL
3" - 1' - 0"



F6 FRAME TYPE
3" - 1' - 0"



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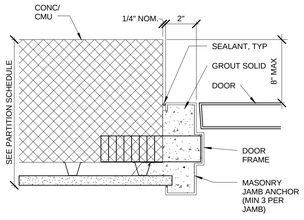

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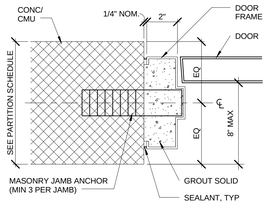

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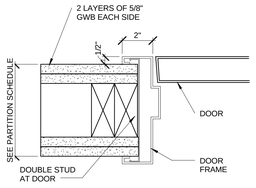

F2 FRAME TYPE
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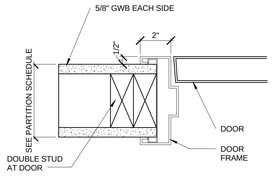
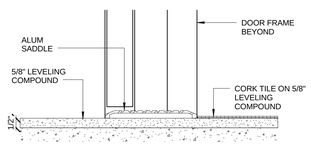
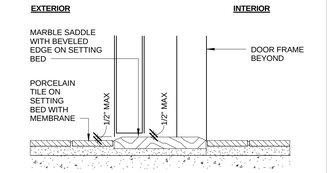


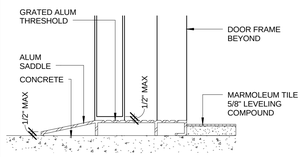
F1 FRAME TYPE
3" - 1' - 0"



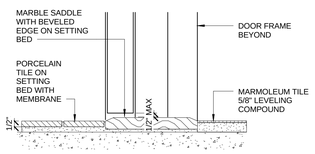
S9 SADDLE TYPE CONCRETE TO CORK
3" - 1' - 0"



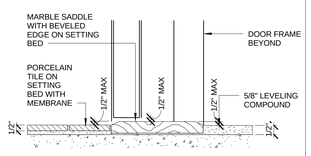
S8 SADDLE TYPE PORCELAIN TILE TO PORCELAIN TILE
3" - 1' - 0"



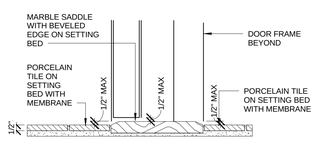
S7 SADDLE TYPE CONCRETE TO MARMOLEUM
3" - 1' - 0"



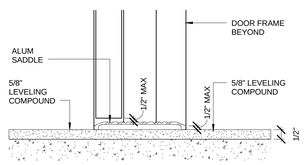
S6 SADDLE TYPE PORCELAIN TO MARMOLEUM
3" - 1' - 0"



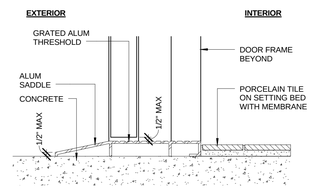
S5 SADDLE TYPE SELF LEVELING COMPOUND TO PORCELAIN TILE
3" - 1' - 0"



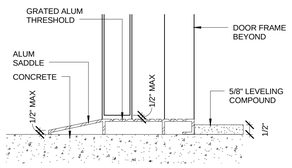
S4 SADDLE TYPE PORCELAIN TILE TO PORCELAIN TILE
3" - 1' - 0"



S3 SADDLE TYPE CONCRETE TO CONCRETE
3" - 1' - 0"



S2 SADDLE TYPE CONCRETE TO PORCELAIN TILE
3" - 1' - 0"



S1 SADDLE TYPE CONCRETE TO CONCRETE
3" - 1' - 0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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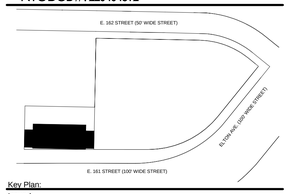
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Revisions:

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Filing Representative:

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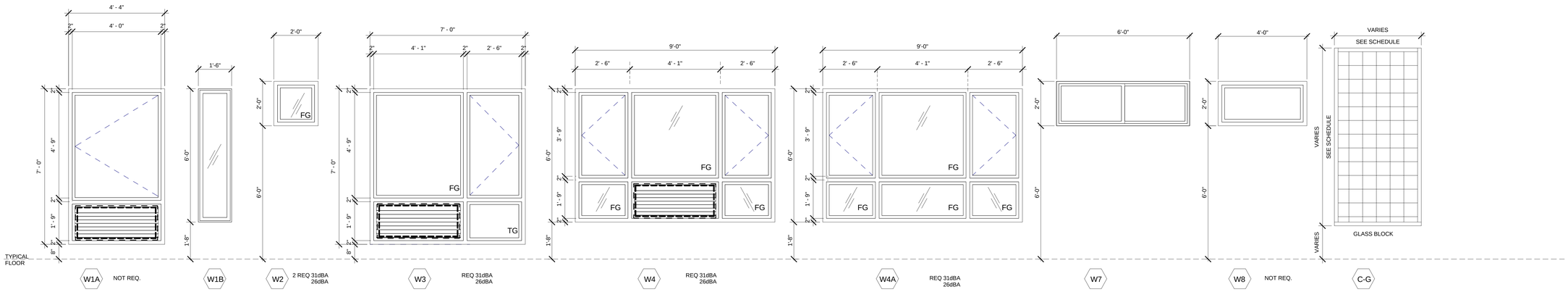
Door Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-602.00
SCALE: 3" = 1'-0"	49 OF 111



Window Legend
1/2" = 1'-0"

Window Schedule

Type	Family and Type	Width	Height	Sill Height	OITC Required	OITC Provided
W1A	Single-Casement (w PTAC): 4'-4" x 7'-0" - PTAC	4' - 4"	7' - 0"	0' - 8"	NA	NA
W1B	Fixed: 18" x 74"	1' - 6"	6' - 2"		31 dBA	34 dBA
W2	Single-Casement 2: 2'-0" x 2'-0"	2' - 0"	2' - 0"		31 dBA	34 dBA
W3	Double-Casement (w PTAC)1: Double-Casement (w PTAC)	7' - 0"	7' - 0"	0' - 8"	31 dBA	34 dBA
W4	Triple-Casement (w PTAC): 6'-0" x 9'-0" - PTAC	9' - 0"	6' - 0"	1' - 8"	31 dBA	34 dBA
W4A	Triple-Casement (w PTAC): 6'-0" x 9'-0" - Glass	9' - 0"	6' - 0"	1' - 8"	31 dBA	34 dBA
W6	Skylight: 28" x 28"	2' - 4"	2' - 4"	-	NA	NA
W7	Slider with Trim: 36" x 24"	6' - 0"	2' - 0"	6' - 0"	NA	NA
W8	Single-Fixed: 4'-0" x 2'-0"	4' - 0"	2' - 0"	6' - 0"	NA	NA

Grand total: 104

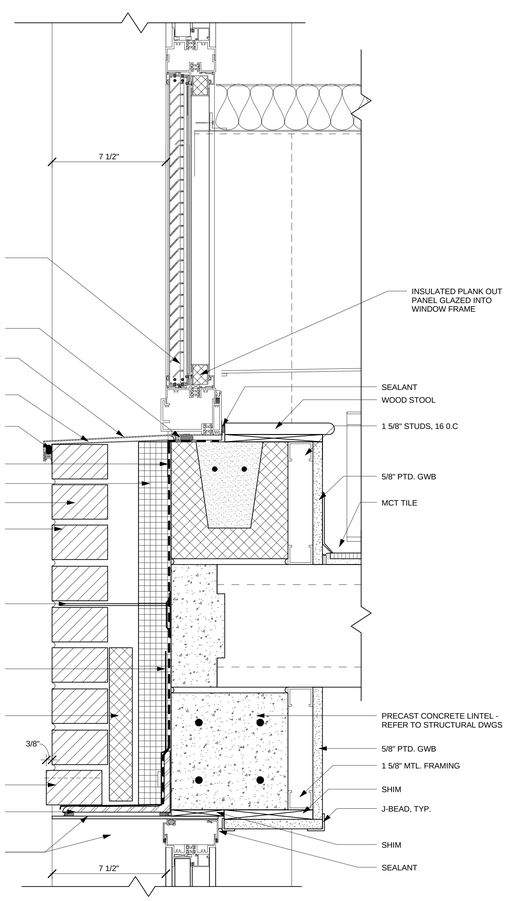
NOTE:
ALL WINDOWS TO MEET
SHGC VALUE: 0.46
U VALUE: 0.45

Glass Block Schedule

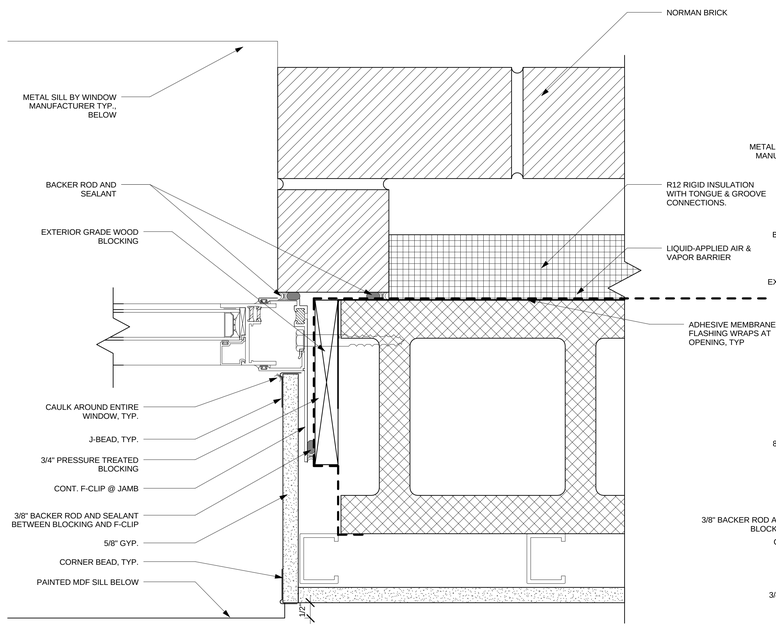
Mark	Type	Length x Height	Sill	Comments	Area
GB	4" Glass Block	3'-3" x 8'-0"	18"		21 SF
GB	4" Glass Block	3'-3" x 8'-0"	-		50 SF
GB	4" Glass Block	3'-3" x 8'-0"	-		104 SF
GB	4" Glass Block	3'-3" x 8'-0"	-		51 SF
GB	4" Glass Block	4'-0" x 8'-0"	-		30 SF
GB	4" Glass Block	4'-0" x 8'-0"	-		92 SF
GB	4" Glass Block	4'-0" x 8'-0"	-		128 SF
GB	4" Glass Block	4'-0" x 8'-0"	18"		26 SF
GB	4" Glass Block	4'-8" x 8'-0"	-		143 SF
GB	4" Glass Block	4'-8" x 8'-0"	-		149 SF

Grand total: 26 793 SF

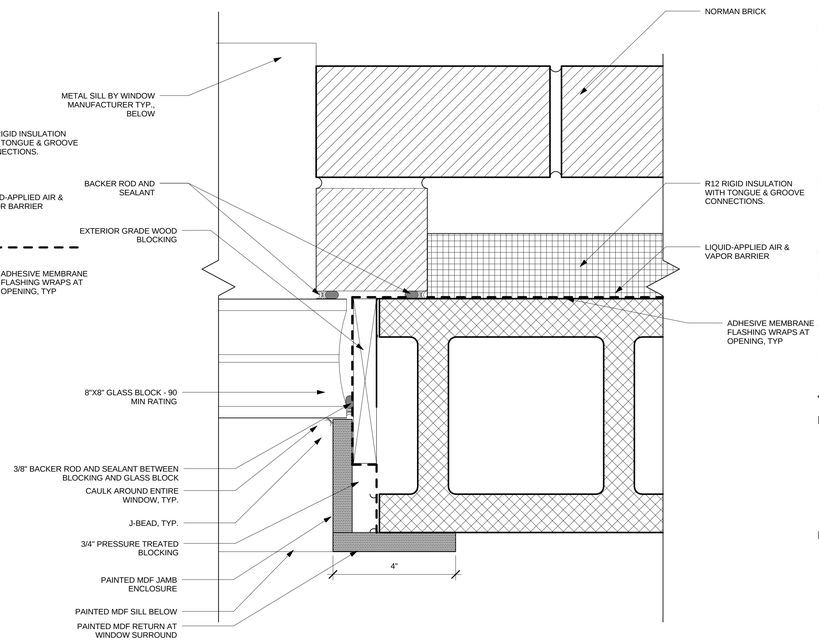
NOTE:
ALL GLASS BLOCKS TO MEET:
SHGC VALUE: 0.43
U VALUE: 0.41



1 Window Head + Sill Detail @ Brick
3" = 1'-0"



3 Window Jamb Detail @ Brick
6" = 1'-0"



2 Glass Block Jamb Detail
6" = 1'-0"

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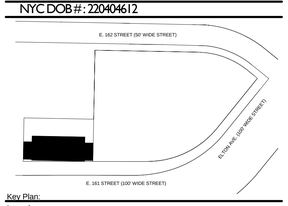
NYC DOB #: 220404612



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Revisions:

Architect:

MAP
Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
New York, NY 10001

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard,
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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Window Types and Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-603.00
SCALE: As indicated	50 OF 111

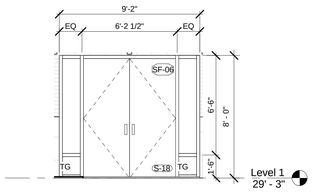
Storefront Schedule			
Mark	Function	Fire Rating	Comments
SF-06	Exterior		
SF-09	Exterior		
SF-10	Exterior		
SF-11	Exterior		
SF-12	Exterior		
SF-14	Exterior		
SF-16	Exterior		
SF-17	Exterior		
SF-18	Interior	1 HR	

Grand total: 9

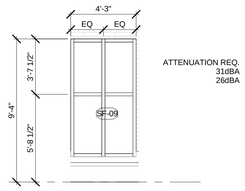
NOTE:
ALL STOREFRONT TO MEET
SHGC VALUE 0.40
U VALUE: 0.42

STOREFRONT NOTES:

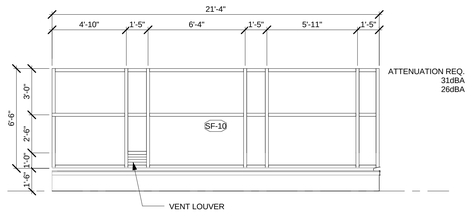
1. ALL STOREFRONTS TO BE FULLY THERMALLY BROKEN SYSTEMS.
2. SEE SPECIFICATIONS FOR HARDWARE SETS.
3. ALL EXTERIOR STOREFRONT GLASS BELOW 18" TO BE TEMPERED.
4. ALL WOOD BLOCKING AT CMU TO BE PRESSURE TREATED.
5. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
6. HEIGHT OF ALL EXTERIOR DOORS TO BE COORDINATED WITH EXTERIOR SIDEWALK ELEVATIONS. DOOR HEAD HEIGHTS TO BE CONSISTENT AT BUILDING PERIMETER.
8. REFER TO SPECIFICATIONS FOR DOOR HARDWARE
9. ALL SADDLES & TRANSITION STRIPS TO BE ADA COMPLIANT.



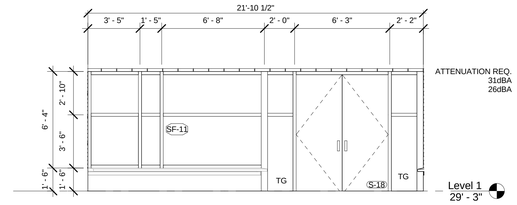
1 SF-01
1/4" = 1'-0"



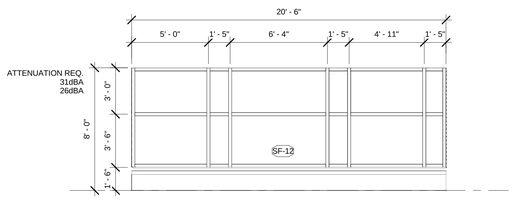
2 SF-02
1/4" = 1'-0"



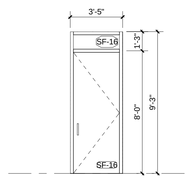
3 SF-03
1/4" = 1'-0"



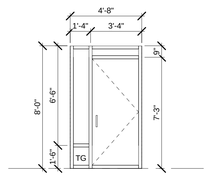
4 SF-04
1/4" = 1'-0"



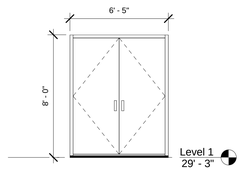
5 SF-05
1/4" = 1'-0"



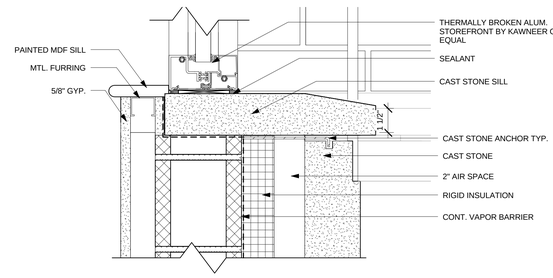
6 SF-06
1/4" = 1'-0"



7 SF-17
1/4" = 1'-0"



8 SF-08-Interior
1/4" = 1'-0"



16 Callout of Section at Light well
3" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

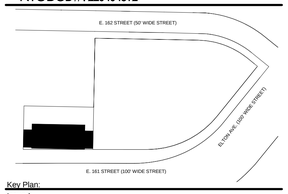
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
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Revisions:

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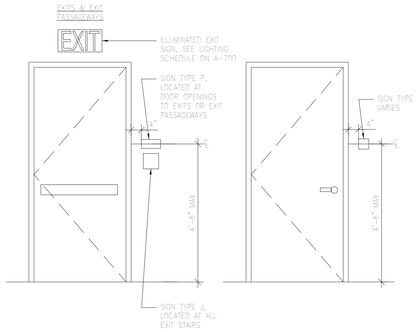
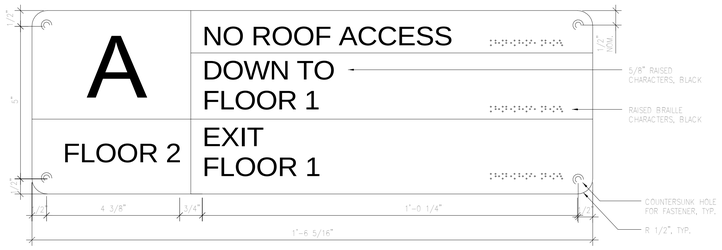
Storefront Types & Detail

SEAL & SIGNATURE:

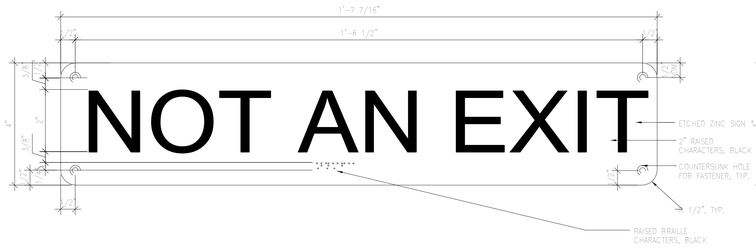
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-604.00
SCALE: As indicated	51 OF 111



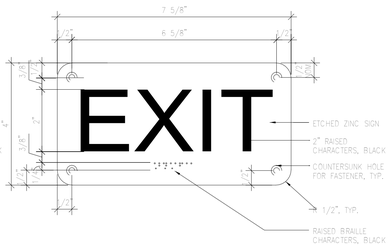
16 SIGN MOUNTING DIAGRAMS
1/2" = 1'-0"



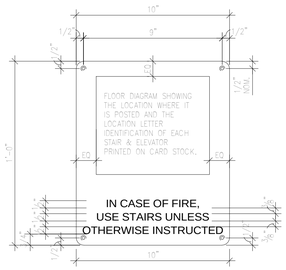
Q SIGN TYPE M
6" = 1'-0"
STAIRDOOR
STAIR SIDE OF DOOR



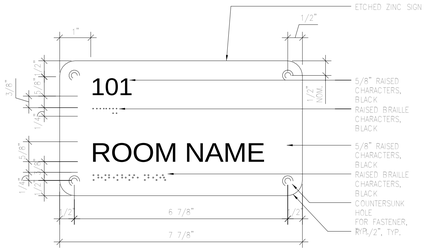
M SIGN TYPE M
6" = 1'-0"
AT EXTERIOR DOORS
NOT SERVING AS AN EXIT



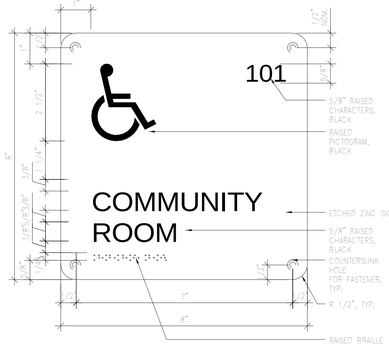
L SIGN TYPE L
6" = 1'-0"
DOOR OPENINGS TO EXITS
OR EXIT PASSAGEWAYS



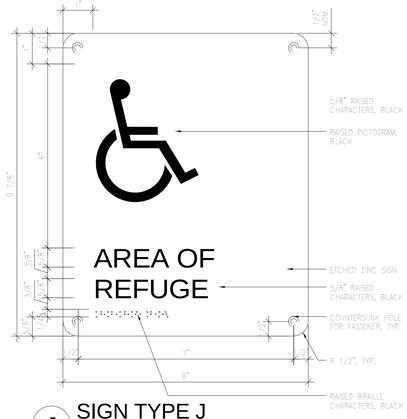
P SIGN TYPE P
3" = 1'-0"
NEXT TO ELEVATORS



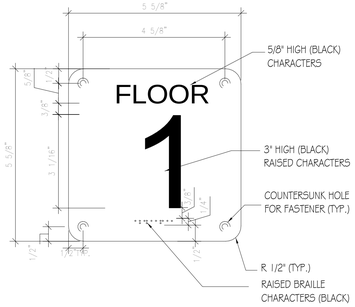
N SIGN TYPE N
6" = 1'-0"
SIDE OF DOOR



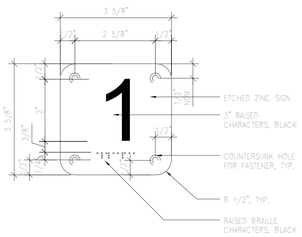
K SIGN TYPE K
6" = 1'-0"
COMMUNITY ROOM



J SIGN TYPE J
6" = 1'-0"
REFUGE AREAS

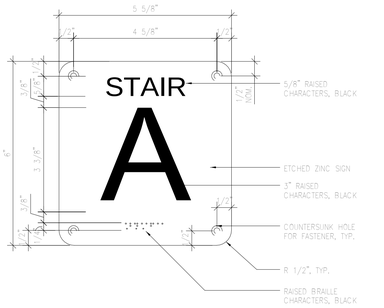


H SIGN TYPE H
6" = 1'-0"
STAIRWELLS

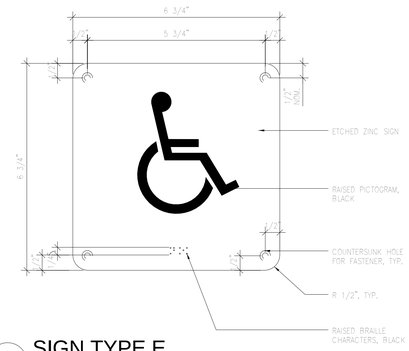


G SIGN TYPE G
6" = 1'-0"
ELEVATOR DOOR
JAMBS, BOTH SIDES

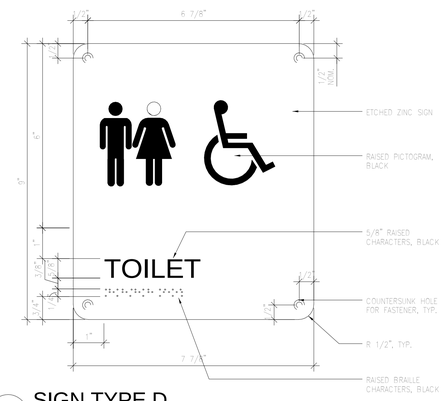
LOCATE @ 5'-0" A.F.F.IN A POSITION THAT IS READILY VISIBLE WHEN DOORS ARE IN OPEN AND LOSED POSITIONS



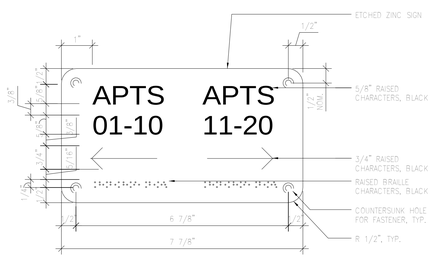
F SIGN TYPE F
6" = 1'-0"
STAIR DOORS
CORRIDOR SIDE OF THE DOOR



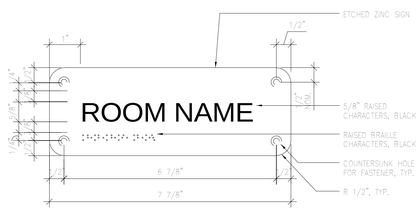
E SIGN TYPE E
6" = 1'-0"
AT PUBLIC LAVATORIES



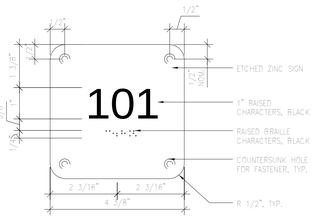
D SIGN TYPE D
6" = 1'-0"
PUBLIC LAVATORIES



C SIGN TYPE C
LOCATE OPPOSITE ELEVATOR @ 5'-0" A.F.F.



B SIGN TYPE B
6" = 1'-0"



A SIGN TYPE A
6" = 1'-0"
APT ENTRY DOORS

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

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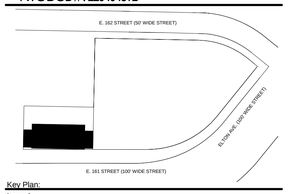
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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NUMBER	DATE	DESCRIPTION
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Signage Details

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-605.00
SCALE: 12" = 1'-0"	52 OF 111

NOTE: SEE EN-002 FOR LIGHT FIXTURE SCHEDULE

APPLIANCE SCHEDULE

Type Mark	Color	Energy Star	ADA	Size	Manufacturer	Model	Comments
					Florence Manufacturing		
ELECTRIC RANGE	WHITE	Yes	Yes	24" X 24"	GE APPLIANCES	RA720KWH	
ELECTRIC RANGE	WHITE			30" X 26"	APPLIANCES	JBS15M	
LAUNDRY MACHINE	WHITE	Yes	Yes	37" x 30"	MAYTAG	MHN31PR	
RANGE HOOD	WHITE	Yes	No	18" X 24"	BROAN	41000 SERIES	
REFRIGERATOR	WHITE	Yes	Yes	24" X 26"	FRIGIDAIRE	FFET1022QW	
REFRIGERATOR	WHITE	Yes	Yes	32" X 30"	GE APPLIANCES	GTH18KBX	

PLUMBING FIXTURE SCHEDULE

Fixture	Finish	Flow Rate	ADA	Size	Manufacturer	Model	Comments
APARTMENT UNIT							
BATH- GRAB BAR	STAINLESS STEEL	-	Yes	1 1/4" DIA.	KOHLER	K-10540	
BATH- MEDICINE CABINET	-	-		18" X 36"	BASCO	WM331PEW	
BATH- SHOWER HEAD	CHROME	1.5 GPM	Yes	-	GROHE	27265 00E	WATERSENSE LABEL
BATH- TOILET	WHITE	1.1 GPF	Yes	17" HIGH	PROFLO	PF1403TWH	WATERSENSE LABEL
BATH- TOILET PAPER HOLDER	CHROME	-		-	KOHLER	K-13434	
BATH- TOWEL BAR	CHROME	-		18"	KOHLER	PURIST K-14435	
BATH- TUB	WHITE	-	Yes	30" X 60"	BOOTZ	SYNIRON 1 PORCELAIN ENAMEL R-011-2382; L-011-2383	
BATH- TUB SPOUT	CHROME	-	Yes	-	GROHE	13274	
BATH- TUB TRIM	CHROME	-	Yes	-	GROHE	19457	
BATH- VANITY FAUCET	CHROME	0.5 GPM @ 80 PSI	Yes	-	GROHE	20225	
BATH- VANITY SINK	WHITE	-		22" X 17"	KOHLER	K-2991	
KITCHEN- FAUCET	CHROME	1.5 GPM	Yes	-	AMERICAN STANDARD	4175.05.F15	
KITCHEN- SINK	SATIN FINISH	1.5 GPM	Yes	22" X 25"	DAYTON	D12522	
APARTMENT UNIT-SECTION 504							
BATH- GRAB BAR	STAINLESS STEEL	-	Yes	1 1/4" DIA.	KOHLER	K-10540	
BATH- HAND SHOWER	CHROME	1.5 GPM	Yes	-	GROHE	27265	
BATH- MEDICINE CABINET	-	-		18" X 36"	BASCO	WM331PEW	
BATH- TOILET	WHITE	1.1 GPF	Yes	17" HIGH	PROFLO	PF1403TWH	
BATH- TOILET PAPER HOLDER	CHROME	-		-	KOHLER	K-13434	
BATH- TOWEL BAR	CHROME	-		18"	KOHLER	PURIST K-14435	
BATH- TUB	WHITE	-	Yes	30" X 60"	BOOTZ	SYNIRON 1 PORCELAIN ENAMEL R-011-2382; L-011-2383	
BATH- TUB SPOUT	CHROME	-	Yes	-	GROHE	13274	
BATH- TUB TRIM	CHROME	-		-	GROHE	19181	

PLUMBING FIXTURE SCHEDULE

Fixture	Finish	Flow Rate	ADA	Size	Manufacturer	Model	Comments
BATH- VANITY FAUCET	CHROME	1.5 GPM		-	GROHE	20225	
BATH- VANITY SINK	WHITE	-	Yes	22" X 17"	KOHLER	K-2991	
KITCHEN- FAUCET	CHROME	1.5 GPM	Yes	-	AMERICAN STANDARD	4175.05.F15	
KITCHEN- SINK	SATIN FINISH	1.5 GPM		22" X 25"	DAYTON	D12522	
COMMON AREAS							
LAUNDRY- FAUCET		1.5 GPM			GROHE	20225	
LAUNDRY- SINK	STAINLESS STEEL	-		-			
PUBLIC BATHROOM- FLUSHOMETER	CHROME	1.1 GPF		-	AMERICAN STANDARD	6065.761.002	
PUBLIC BATHROOM- GRAB BAR	STAINLESS STEEL	-	Yes	1 1/4" DIA.	KOHLER	K-10540	
PUBLIC BATHROOM- TOILET	WHITE	-	Yes	16.5" HIGH	AMERICAN STANDARD	MADERA™ FloWise® FLUSHOMETER TOILET SYSTEM	
PUBLIC BATHROOM- TOILET PAPER HOLDER							
PUBLIC BATHTOOM- LAVATORY							

Finish Schedule

Location	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
Cellar				
Boiler/Mechanical Room	CONC/PNT-7	NA	PNT-1	PNT-5
Computer Room	MCT-2	RB-2	PNT-2	PNT-2/ACT
Corridor	MCT-2	RB-2	PNT-2	PNT-2
Electrical Room	CONC/PNT-7	NA	PNT-1	PNT-5
Gas Meter Room	CONC/PNT-7	NA	PNT-1	PNT-5
HVAC Closet	CONC/PNT-7	NA	PNT-1	PNT-5
Janitors Closet	CONC/PNT-7	NA	PNT-1	PNT-5
Large Conf. Rm / Group Classroom	MCT-2	RB-3	PNT-2	PNT-2/ACT
Laundry Room	PT-1	PTB-1	PNT-11	PNT-2/ACT
Public Bathroom	PT-2	PT-2	PNT-11	PNT-2
Refuse/Recycling Dumbwaiter	CONC/PNT-7	NA	PNT-1	PNT-5
Stair A	CONC/PNT-7	NA	PNT-1	PNT-5
Stair B	CONC/PNT-7	NA	PNT-1	PNT-5
Tele/IT Room	CONC/PNT-7	NA	PNT-1	PNT-5
Trash Compactor Room	CONC/PNT-7	NA	PNT-1	PNT-5
Water Meter/Fire Pump Room	CONC/PNT-7	NA	PNT-1	PNT-5
Level 1				
Community Room	MCT-1/MCT-2	RB-1	PNT-11	PNT-2
Director's Asst. Offices	PT-5	PTB-5	PNT-2	ACT
Director's Office	PT-5	PTB-5	PNT-2	ACT
Egress Corridor Stair B	PT-5	PTB-5	PNT-2	PNT-5
Equip/Storage/Copy	PT-5	PTB-5	PNT-2	ACT
Landscape Rear Yard	-	-	-	-
Mail Room	PT-5	PTB-5	PNT-2	PNT-2
Open Plan Office Space	PT-5	PTB-5	PNT-2	PNT-2
Public Restroom	PT-2	PTB-2	PNT-2	PNT-2
Residential Entry Lobby/Reception	PT-5/PT-6	PTB-5/PTB-6	PNT-2	ACT
Stair A	CONC/PNT-7	NA	PNT-1	PNT-5
Stair B	CONC/PNT-7	NA	PNT-1	PNT-5
Storage	PT-5/PT-6	PTB-5/PTB-6	PNT-2	PNT-2
Vestibule	PT-5/PT-6	PTB-5/PTB-6	PNT-2	ACT
Vocational Counselor	PT-5/PT-6	PTB-5/PTB-6	PNT-2	ACT
Warming Kitchen	PT-1	PTB-1	PNT-2	PNT-2
Level 2				
B1	PT-2	PT-2/PNT-1	PTB-2	PNT-5
B2	PT-2	PT-2/PNT-1	PTB-2	PNT-5
BR	MCT-1	RB-1	PTB-2	PNT-5
Corridor	MCT-2	RB-3	PTB-2	PNT-5
IT/Elec. Closet	CONC/PNT-7	NA	PNT-1	PNT-2
K1	MCT-1	RB-1	PTB-2	PNT-2

Finish Schedule

Location	Floor Finish	Base Finish	Wall Finish	Ceiling Finish
LR/DA/SA	MCT-1	RB-1	PTB-2	PNT-5
LR/DR	MCT-1	RB-1	PTB-2	PNT-5
Trash & Recycling	CONC/PNT-7	NA	PNT-1	PNT-5
Level 3				
B1	PT-2	PT-2/PNT-1	PTB-2	PNT-2
B2	PT-2	PT-2/PNT-1	PTB-2	PNT-2
Corridor	MCT-2	RB-3	PNT-2	PNT-2
IT/Elec. Closet	CONC/PNT-7	NA	PNT-1	PNT-2
Kitchenette	MCT-1	RB-1	PTB-2	PNT-2
LR/DA/SA	MCT-1	RB-1	PTB-2	PNT-5
Trash & Recycling	CONC/PNT-7	NA	PNT-1	PNT-5
Level 9				
B1	PT-2	PT-2/PNT-1	PTB-2	PNT-2
B2	PT-2	PT-2/PNT-1	PTB-2	PNT-2
Corridor	MCT-2	RB-3	PNT-2	PNT-2
IT/Elec. Closet	CONC/PNT-7	NA	PNT-1	PNT-2
K1	MCT-1	RB-1	PTB-2	PNT-2
Kitchenette	MCT-1	RB-1	PTB-2	PNT-2
LR/DA/SA	MCT-1	RB-1	PTB-2	PNT-5
Trash & Recycling	CONC/PNT-7	NA	PNT-1	PNT-5
Roof				
ELEVATOR CONTROL ROOM	CONC/PNT-7	NA	PNT-1	PNT-5

Finish Specifications

Name	Color/Finish	Size	Manufacturer
PAINT			
PNT-1	TBD / SEMIGLOSS	-	BENJAMIN MOORE REGAL
PNT-2	TBD	-	BENJAMIN MOORE ECO SPEC
PNT-3	TBD	-	BENJAMIN MOORE ECO SPEC
PNT-4	TBD / FLAT	-	BENJAMIN MOORE ECO SPEC
PNT-5	STRUCTO-LITE	-	USG
PNT-6	TBD / EGGSHELL	-	BENJAMIN MOORE
PNT-7	TBD / SEMIGLOSS	-	BENJAMIN MOORE ECO SPEC
PNT-8	TBD / SEMIGLOSS	-	BENJAMIN MOORE ECO SPEC
PNT-9	TBD / SEMIGLOSS	-	BENJAMIN MOORE ECO SPEC
PNT-10	TBD / SEMIGLOSS	-	BENJAMIN MOORE ECO SPEC
PNT-11	TBD / EGGSHELL	-	BENJAMIN MOORE ECO SPEC
PORCELAIN TILE			
PT-1	SUEDE GREY - B906	12"X12"	DAL-TILE - COLOR SCHEME GLAZED PORCELAIN
PT-2	DESERT GREY - B905	12"x12"	DAL-TILE - COLOR SCHEME GLAZED PORCELAIN
PT-3	DESERT GREY - D014	2"X2"	DAL-TILE - COLORBODY PORCELAIN MOSAIC
PT-4	ARCTIC WHITE - 0190	3"X6"	DAL-TILE - SEMIGLOSS
PT-5	NERO - P406	VARIES	DAL-TILE UNITY COLORBODY PORCELAIN
PTB-1	MATCH PT-1	4" HIGH	DAL-TILE
PTB-2	MATCH PT-2	4" HIGH	DAL-TILE
PTB-5	MATCH PT-5	4" HIGH	DAL-TILE
RESILIENT TILE			
MCT-1	ATMOSPHERE - T3601	12"X24"	ARMSTRONG STRIATIONS BBT
MCT-2	TWILIGHT - T3606	12"x24"	ARMSTRONG MIGRATIONS BBT
RB-1	TO MATCH MCT-1	4" HIGH	ARMSTRONG
RB-2	TO MATCH MCT-2	4" HIGH	ARMSTRONG
SOLID SURFACE			
SS-1	STORM GRANITE - G602	-	LG HI-MACS

Melrose Commons Site C - Supportive Housing

Bronx, NY

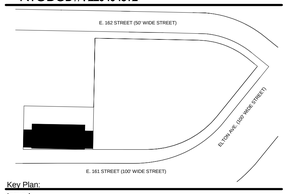
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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7	12.14.15	ISSUE FOR BID

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Tel (718) 383-9340

Do Not Scale Plans
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Appliance, Plumbing and Finish Schedules

SEAL & SIGNATURE:

PROJECT No: 13007
DRAWING BY: Author
CHK BY: Checker
DWG No:

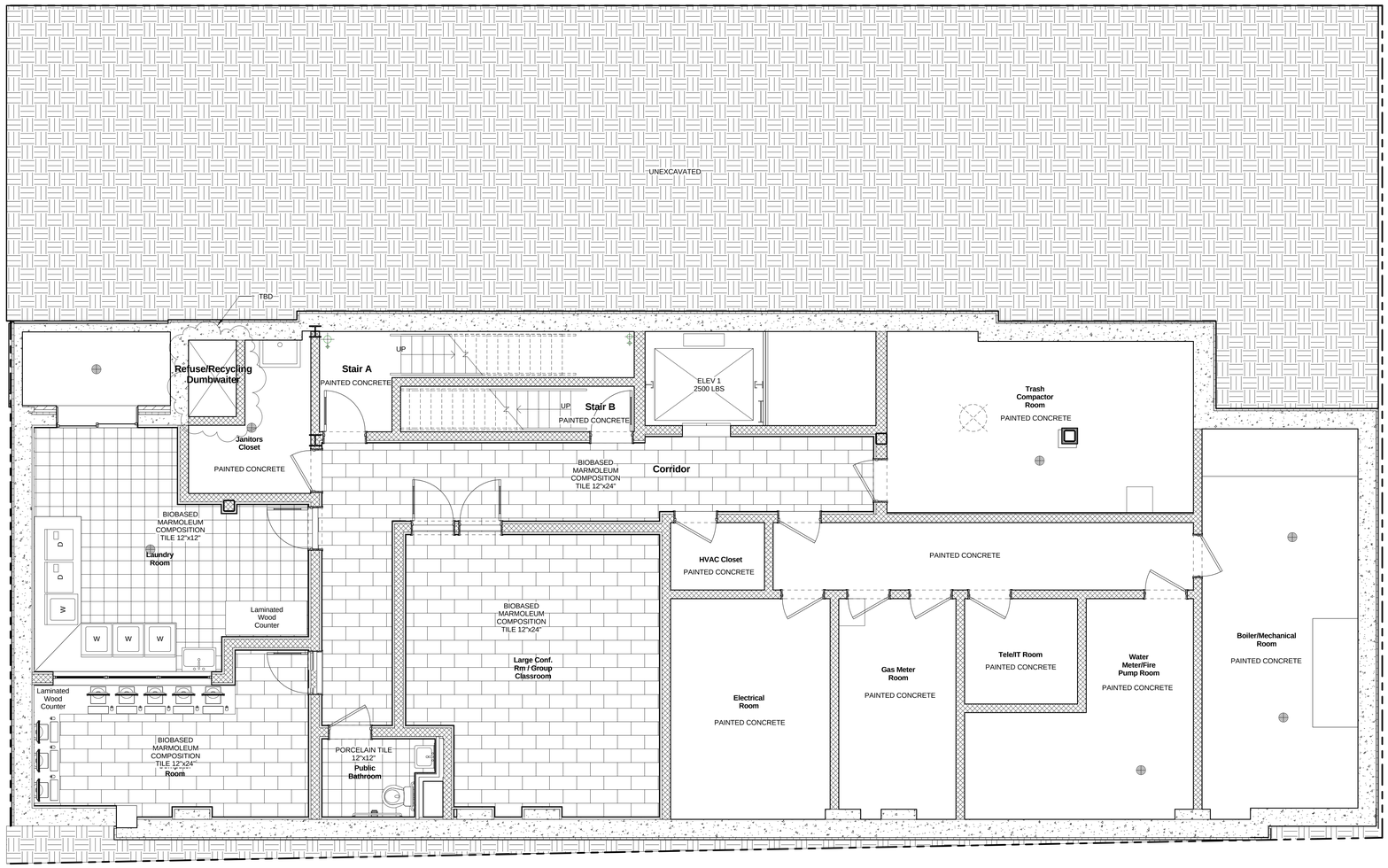
A-610.00

SCALE:

FINISH LEGEND

- CONCRETE TILE
- WOOD FLOOR
- CARPET TILE
- RECESSED MAT
- PORCELAIN TILE PT-1
- PORCELAIN TILE PT-2
- MARMOLEUM M-1
- MARMOLEUM M-2 (ACCENT COLOR)
- PAINTED CONCRETE

NOTE: REFER TO A-610.00 FOR COLOR/FINISH & MANUFACTURER INFORMATION



1 Cellar- Finish Floor Plan
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

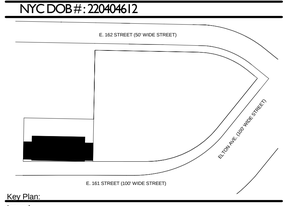
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Revisions:

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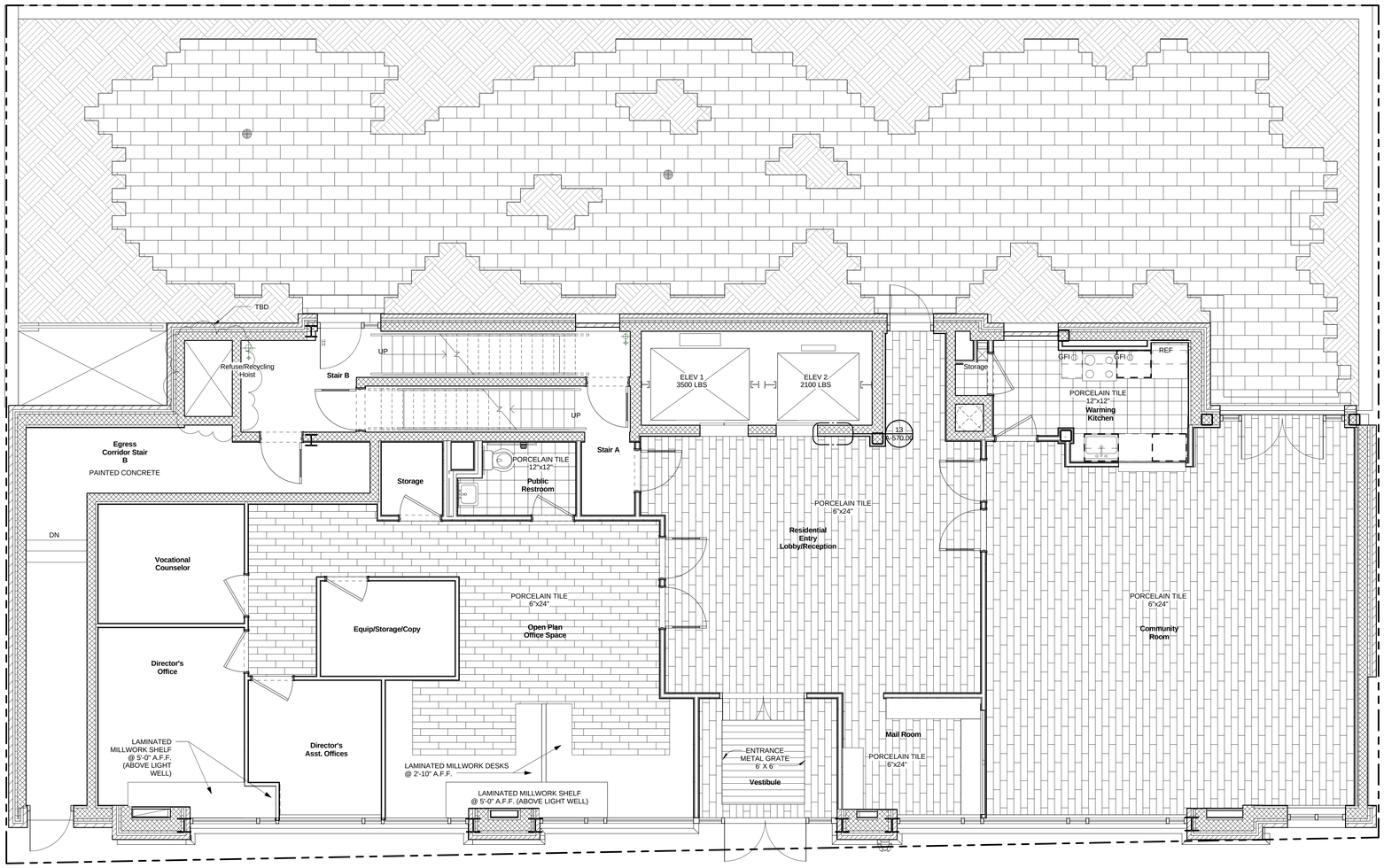
Cellar Finish Floor Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-611.00
SCALE:	As indicated



1 1st Floor- Finish Floor Plan
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

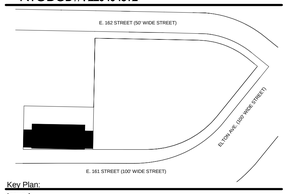
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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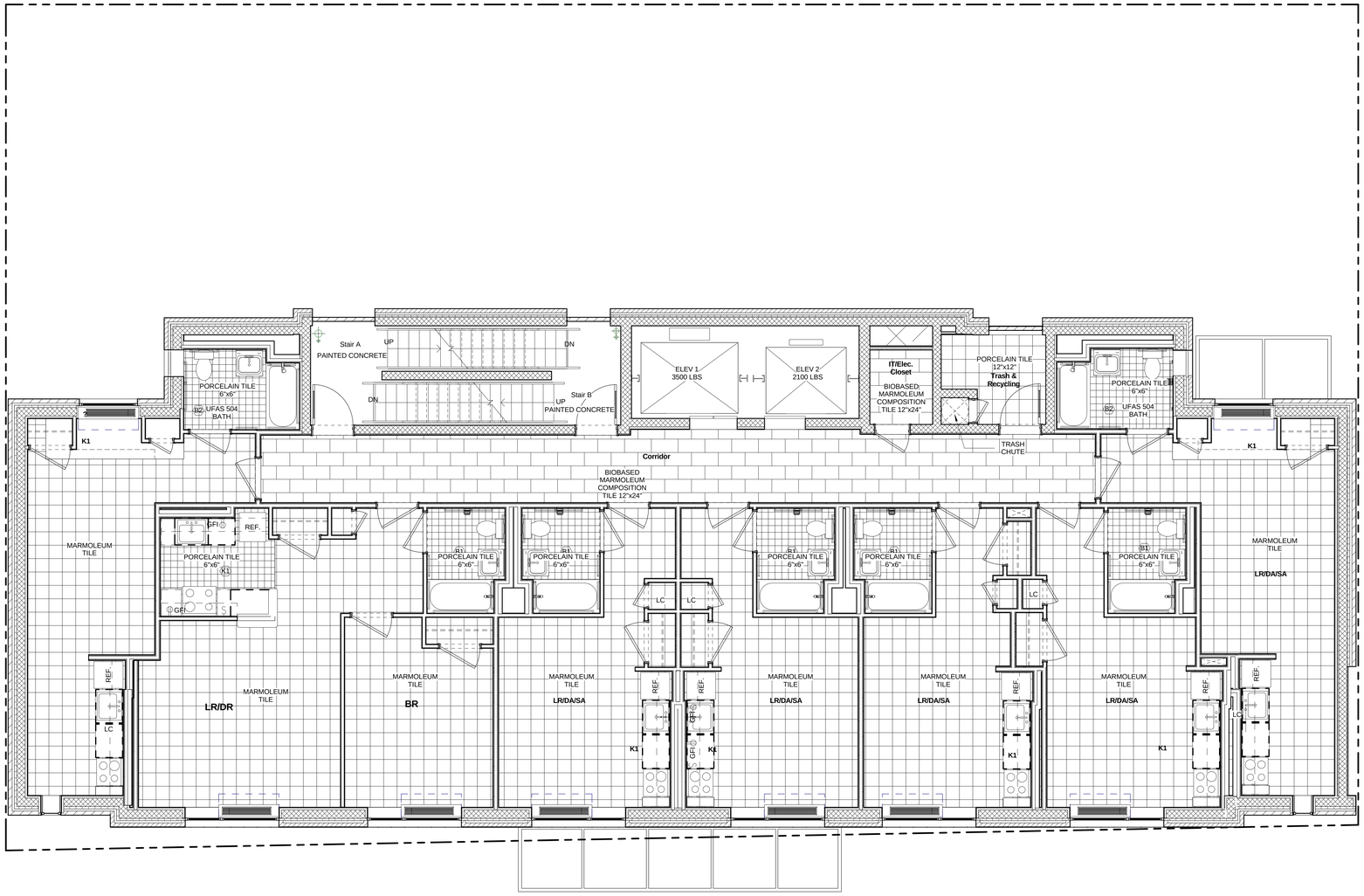
1st Finish Floor Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-612.00
SCALE:	1/4" = 1'-0"



1 2nd Floor- Finish Floor Plan
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

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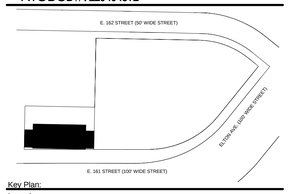
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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2nd Finish Floor Plan

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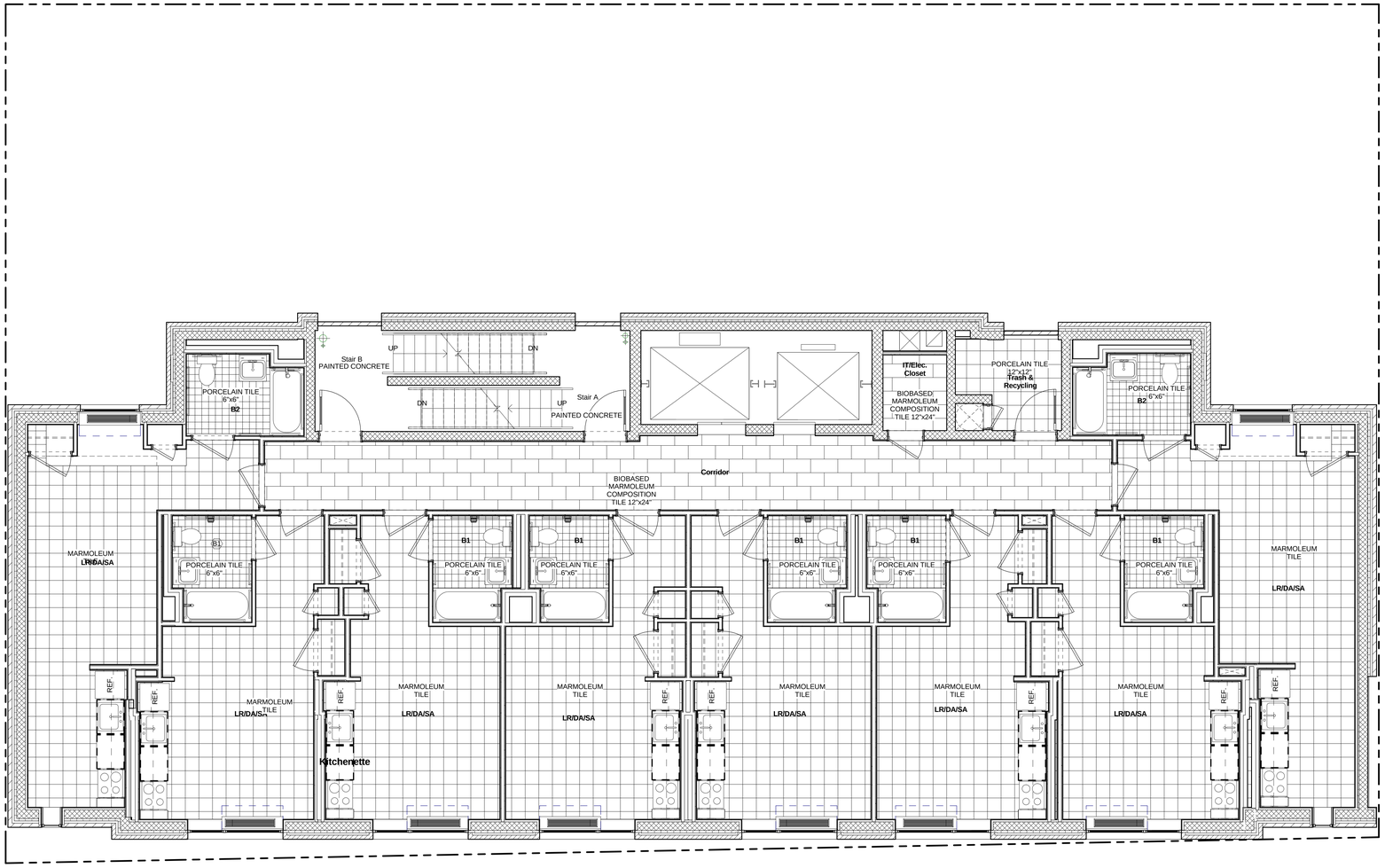
SCALE:	1/4" = 1'-0"



1 3rd-8th Floor- Finish Floor Plan
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

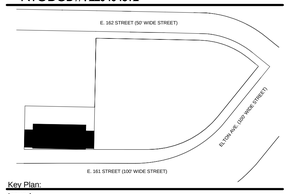
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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3rd-8th Finish Floor Plan

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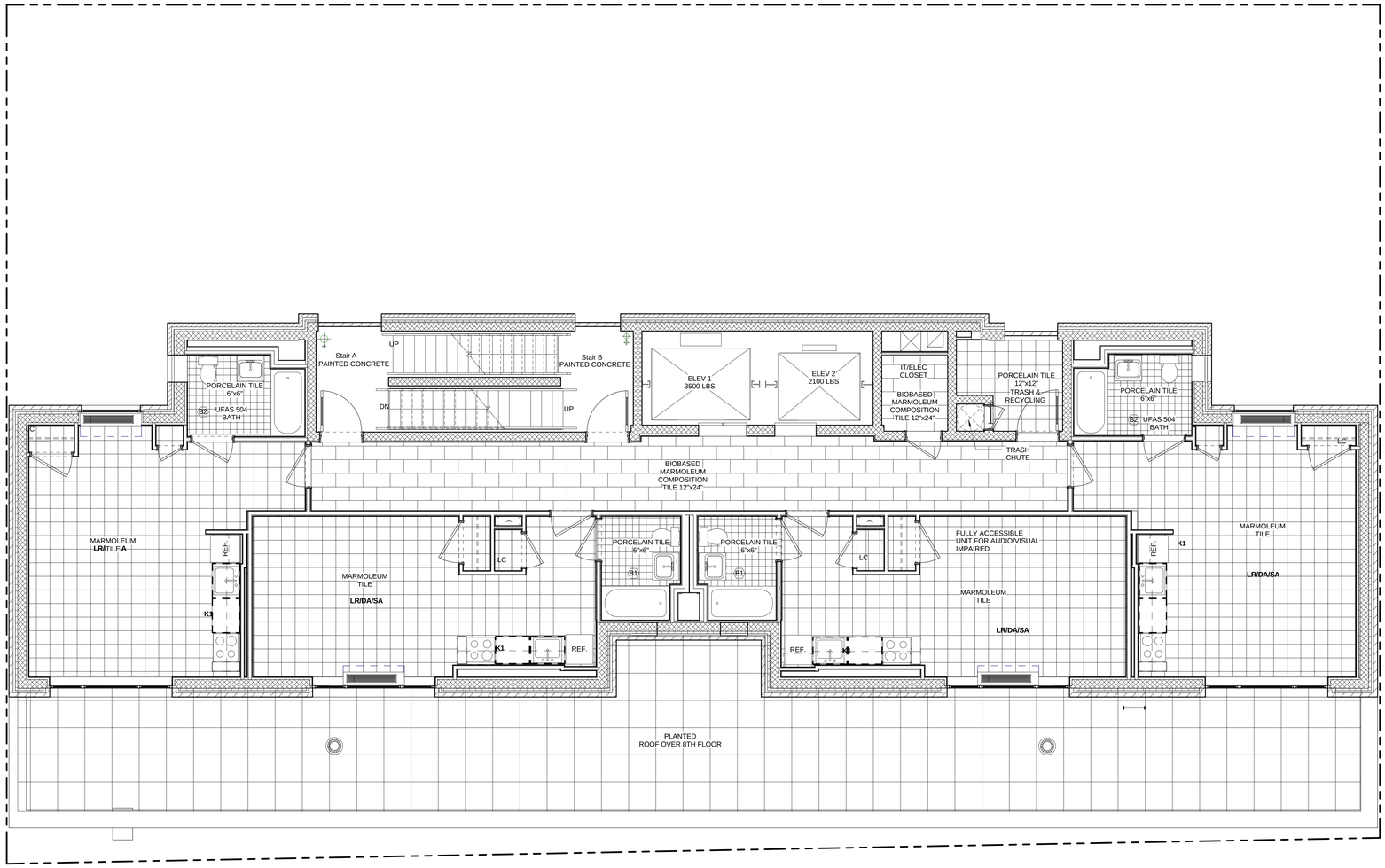
SCALE:	1/4" = 1'-0"



1 9th Floor- Finish Floor Plan
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

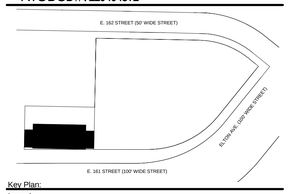
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Revisions:

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9th Finish Floor Plan

SEAL & SIGNATURE:

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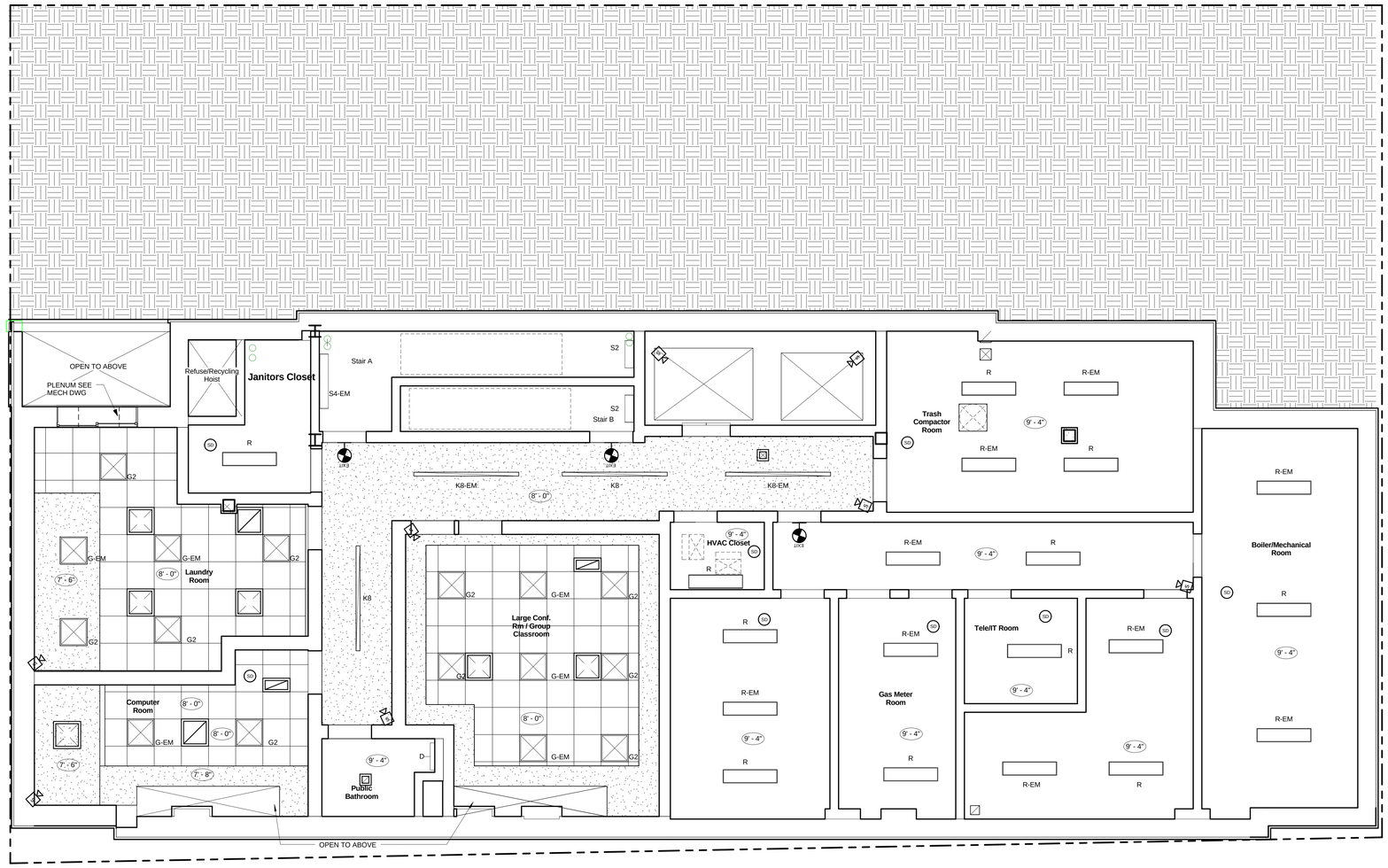
DWG No:	A-615.00
SCALE:	1/4" = 1'-0"



1 Cellar
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

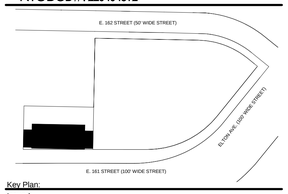
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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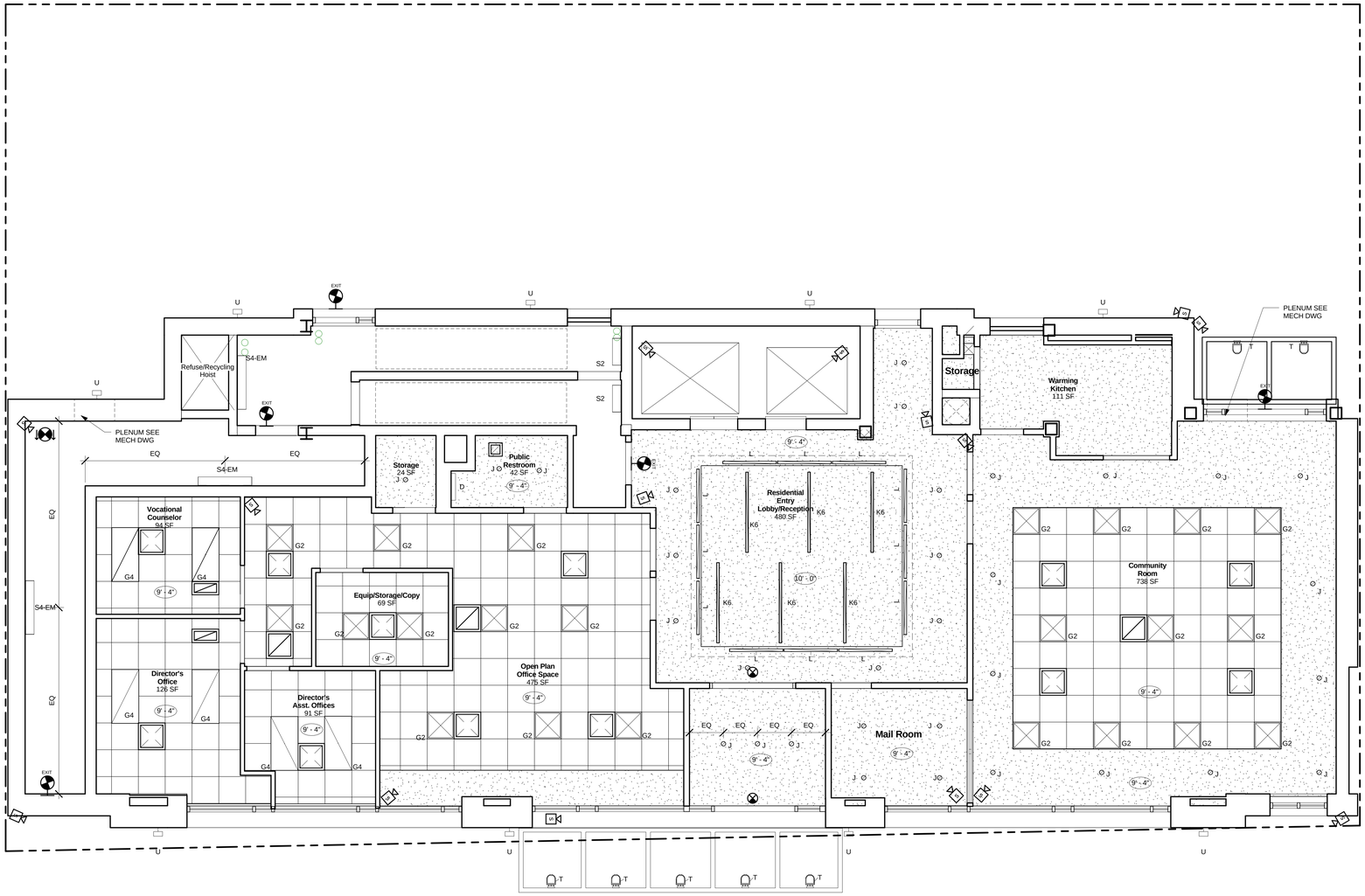
Cellar Reflected Ceiling Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-700.00
SCALE: 1/4" = 1'-0"	54 OF 111



1 Level 1
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

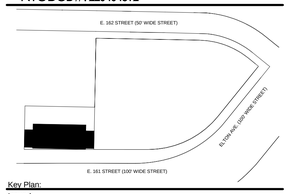
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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Filing Representative:
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Brooklyn, NY 11222
Tel (718) 383-9340

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1st Floor Reflected Ceiling Plan

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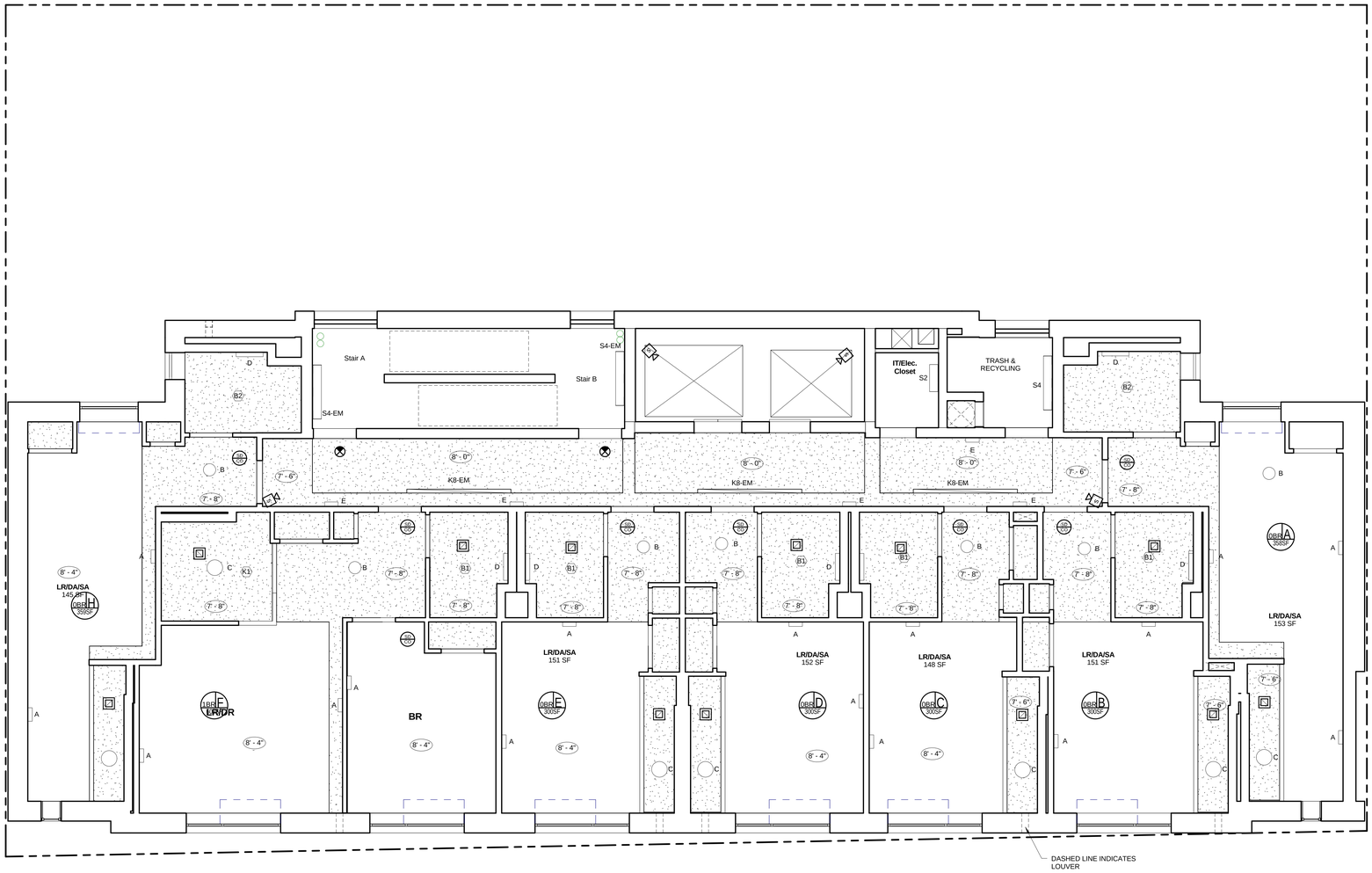
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-701.00
SCALE: 1/4" = 1'-0"	55 OF 111



1 Level 2
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

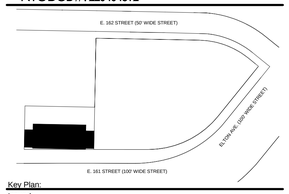
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING SET
4	08.27.14	DOB INITIAL FILING
5	02.28.15	CD SET FOR HPD
6	11.30.15	DOB APPROVAL
7	12.14.15	ISSUE FOR BID

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Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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2nd Floor Reflected Ceiling Plan

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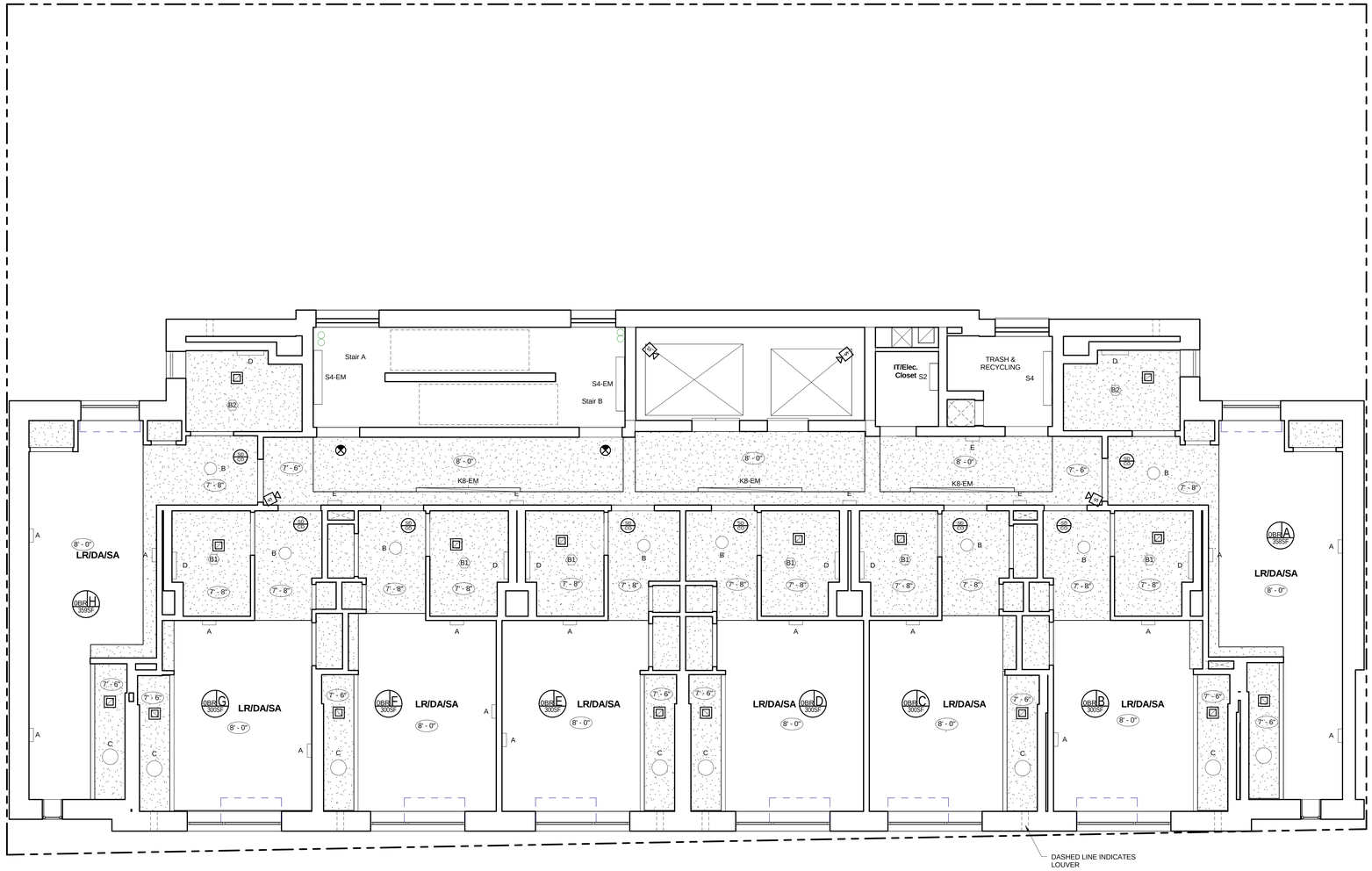
PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-702.00
SCALE: 1/4" = 1'-0"	56 OF 111



1 Level 3 -7
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

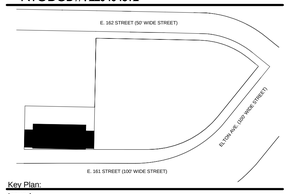
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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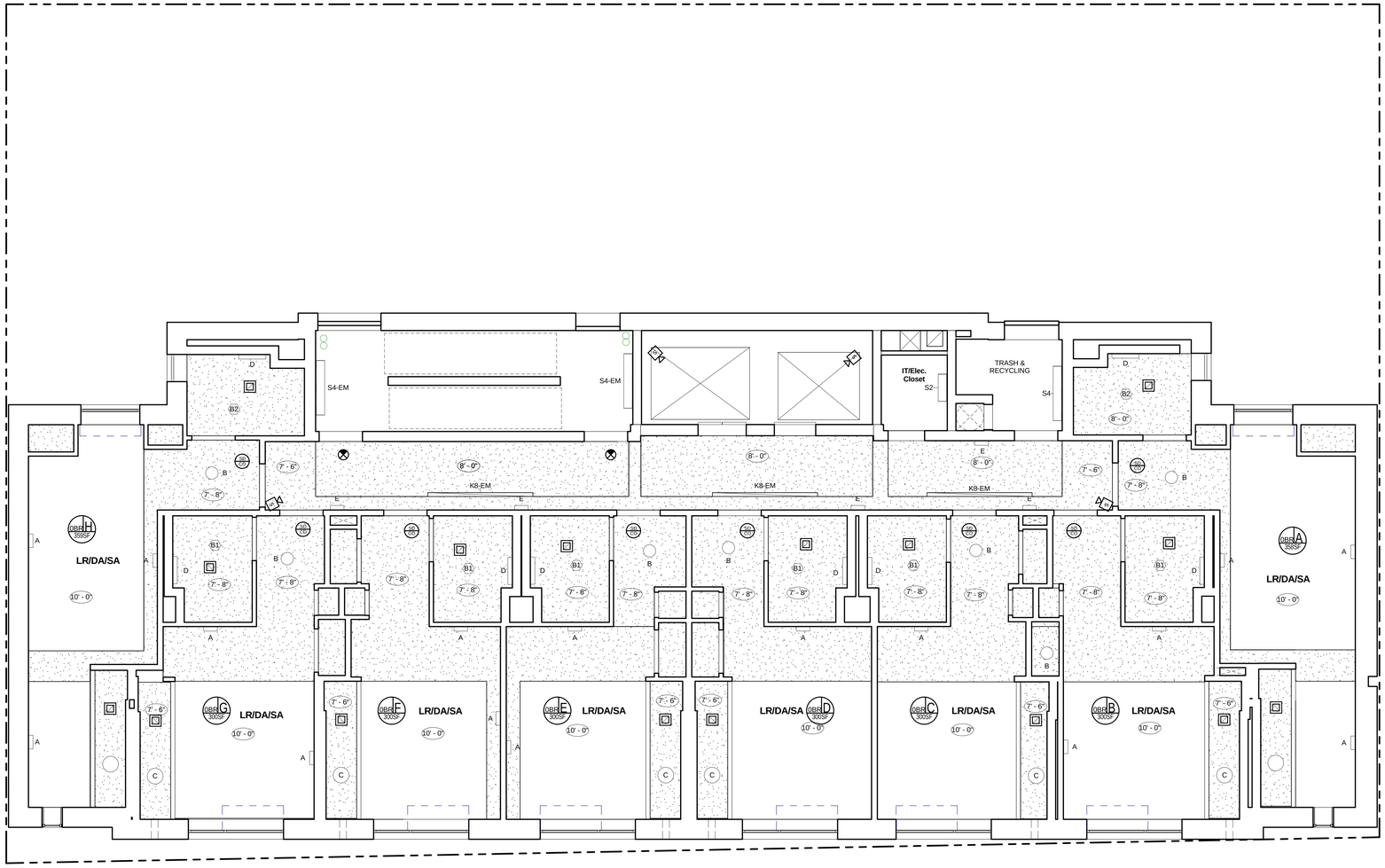
3rd- 7th Floor Reflected Ceiling Plans

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-703.00
SCALE: 1/4" = 1'-0"	57 OF 111



1 Level 8
1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

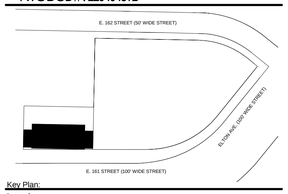
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 39

NYC DOB #: 220404612



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8th Floor Reflected Ceiling Plans

SEAL & SIGNATURE:

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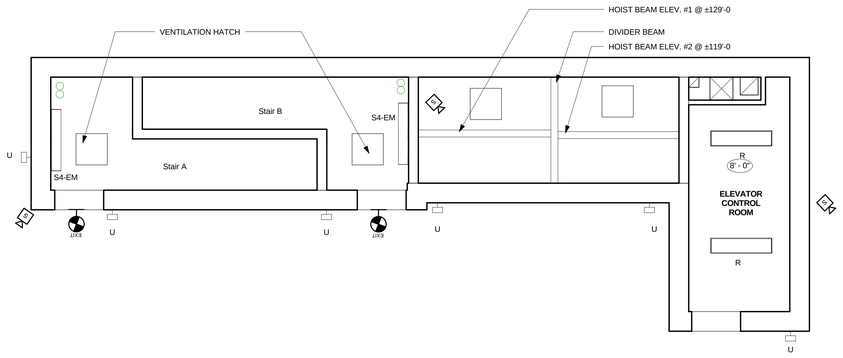
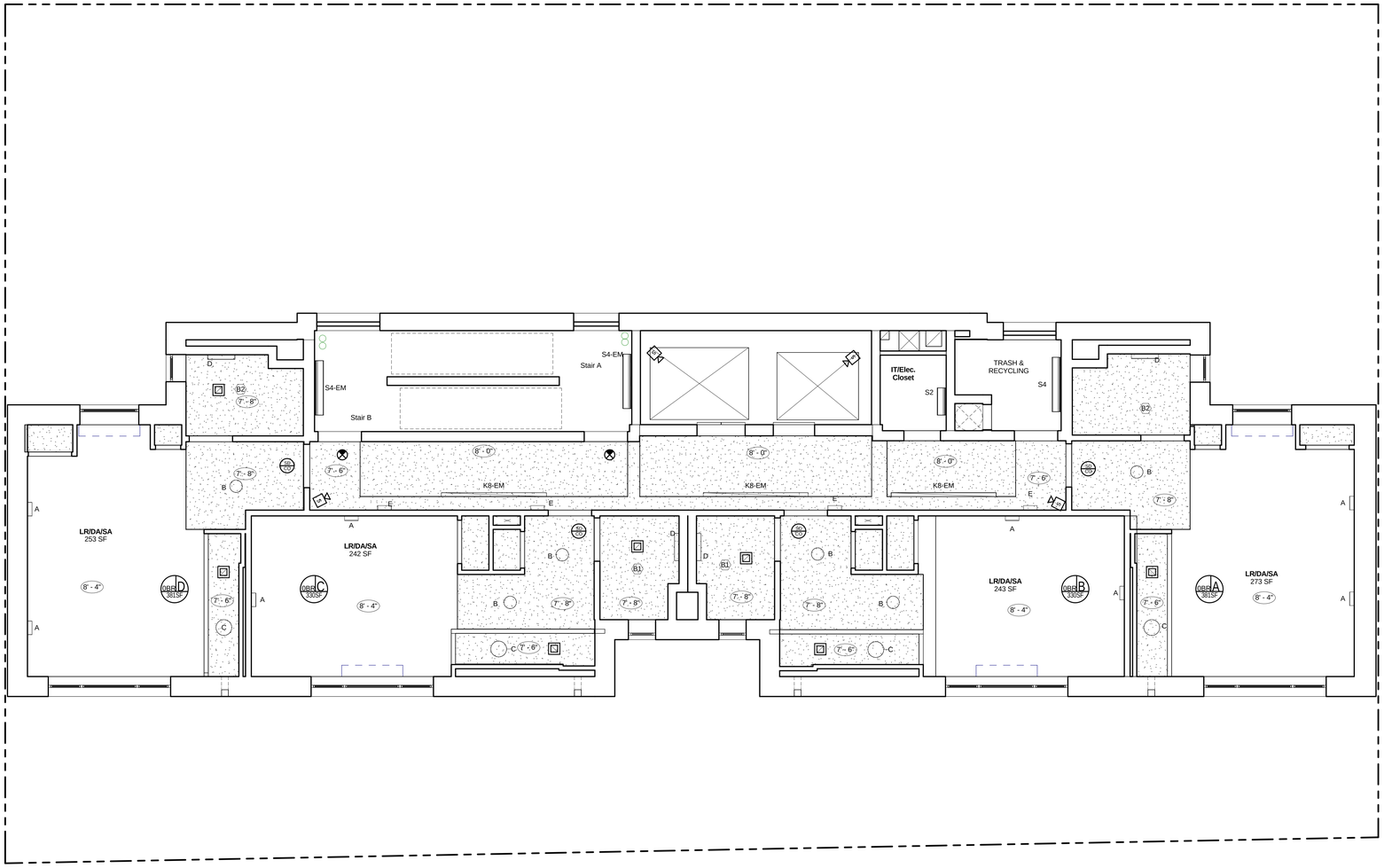
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-704.00
SCALE: 1/4" = 1'-0"	58 OF 111



2 Roof
1/4" = 1'-0"



1 Level 9
1/4" = 1'-0"

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Bronx, NY

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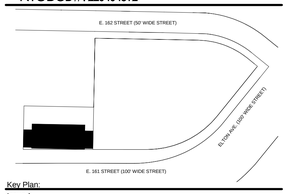

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9th & Roof Floor Reflected Ceiling Plan

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	Author
CHK BY:	Checker
DWG No:	A-705.00
SCALE: 1/4" = 1'-0"	59 OF 111

GENERAL NOTES

1. CONTRACTOR SHALL NOTIFY THE NYC ONE-CALL SYSTEM AT 1-800-272-4480 PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL NOTIFY THE NY STATE ONE-CALL SYSTEM AT 1-800-962-7962 PRIOR TO CONSTRUCTION.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING STRUCTURES, PAVEMENT, WALLS AND PLANTINGS TO REMAIN DURING CONSTRUCTION, AND FOR THE DURATION OF THE PROJECT. ANY STRUCTURES FOUND TO BE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AT THE DISCRETION OF THE OWNER'S REPRESENTATIVE TO THE COMPLETE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT NO COST TO THE OWNER.
4. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN SAFE ACCESS TO ALL BUILDING ENTRANCES AT ALL TIMES DURING THE CONSTRUCTION PERIOD.
5. DIMENSIONS AND LOCATIONS OF EXISTING ABOVE AND BELOW GROUND STRUCTURES SHOWN IN THESE CONTRACT DOCUMENTS ARE ACCORDING TO THE BEST INFORMATION AVAILABLE AT THE TIME. THE CONTRACTOR SHALL VERIFY THE LOCATIONS AND DIMENSIONS OF ALL STRUCTURES AFFECTED BY THE WORK AS FOUND IN THE FIELD PRIOR TO THE COMMENCEMENT OF WORK. IF ANY DISCREPANCIES/INTERFERENCES EXIST BEFORE ENTERING INTO CONTRACT WITH THE OWNER THE CONTRACTOR SHALL IMMEDIATELY BRING THIS TO TO THE LANDSCAPE ARCHITECTS' ATTENTION. FAILURE TO PROVIDE THE AFOREMENTIONED NOTIFICATIONS SHALL RESULT IN THE CONTRACTOR BEING HELD RESPONSIBLE TO COMPLETE ALL WORK TO MEET THE INTENT OF THE CONTRACT DOCUMENTS WITH NOW ADDITIONAL EXPENSE (EXTRA) BEING INCURRED BY THE OWNER.
6. ALL CONSTRUCTION OPERATIONS SHALL BE MANAGED IN STRICT ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND INCURRING THE COST OF ALL REQUIRED PERMITS, INSPECTIONS, CERTIFICATES, ETC.
8. ANY MATERIALS DELIVERED OR WORK PERFORMED, CONTRARY TO THE DRAWINGS AND SPECIFICATIONS AND APPROVED SHOP DRAWINGS, SHALL BE REMOVED BY THE CONTRACTOR AT HIS OWN EXPENSE, AND THE SAME SHALL BE REPLACED WITH OTHER MATERIALS OR WORK SATISFACTORY TO THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL ALSO ASSUME THE COST OF REPLACING THE WORK WHICH MAY BE DISTURBED.
9. THE CONTRACTOR SHALL KEEP THE OWNERS REPRESENTATIVE INFORMED OF THE PROGRESS OF HIS WORK. NO WORK SHALL BE CLOSED OR COVERED UNTIL IT HAS BEEN DULY INSPECTED AND APPROVED. SHOULD UNINSPECTED WORK BE COVERED, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, UNCOVER ALL SUCH WORK SO THAT IT CAN BE PROPERLY INSPECTED AND AFTER SUCH INSPECTION, HE SHALL PROPERLY REPAIR AND REPLACE ALL WORK INTERFERED WITH.
10. ALL WORK SHALL BE SUBJECT TO FINAL INSPECTION BY THE LANDSCAPE ARCHITECT AND ACCEPTANCE BY THE OWNERS REPRESENTATIVE.
11. THE PREMISES AND THE JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD. REMOVE CRATES, CARTONS AND OTHER FLAMMABLE WASTE MATERIALS OR TRASH FROM THE WORK AREAS AT THE END OF EACH WORKING DAY.
12. PROTECT OWNER'S PROPERTY, EQUIPMENT, RESIDENTS, AND EMPLOYEES FROM INJURY AND DAMAGE.
13. THE PROJECT HAS BEEN DESIGNED AND DETAILED FOR THE SPECIFIC MATERIALS AND EQUIPMENT SPECIFIED. NO SUBSTITUTIONS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT AND OWNER. IF THE SPECIFIED MATERIAL IS NOT AVAILABLE, THE CONTRACTOR SHALL PROPOSE AN ALTERNATE MATERIAL AND SHALL PROVIDE DRAWINGS, SAMPLES, SPECIFICATIONS, MANUFACTURER'S LITERATURE, PERFORMANCE DATE, ETC. IN ORDER THAT THE LANDSCAPE ARCHITECT CAN EVALUATE THE PROPOSED SUBSTITUTION. IF THE SUBSTITUTION AFFECTS A CORRELATED FUNCTION, ADJACENT CONSTRUCTION, OR THE WORK OF ANY OTHER SUBCONTRACTOR OR TRADE, THE NECESSARY CHANGES AND MODIFICATIONS TO THE AFFECTED WORK SHALL BE ACCOMPLISHED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER. NO REQUESTS FOR SUBSTITUTES WILL BE ENTERTAINED BY THE LANDSCAPE ARCHITECT DUE TO CONTRACTOR'S FAILURE TO ORDER MATERIALS IN A TIMELY MANNER.
14. COORDINATION OF ALL WORK UNDER THIS CONTRACT SHALL BE MAINTAINED BY THE CONTRACTOR TO ENSURE THE QUALITY AND TIMELY COMPLETION OF THE WORK.

RESPONSIBILITY CLAUSE

1. PRIOR TO SUBMITTING A BID, EACH CONTRACTOR SHALL VISIT THE SITE OF THE PROPOSED WORK TO FULLY ACQUAINT THEMSELVES WITH THE CONDITIONS AS THEY EXIST. THE CONTRACTOR SHALL ACCEPT THE CONDITIONS AS THEY EXIST. THE CONTRACTOR SHALL INCLUDE ALL WORK SHOWN, SPECIFIED AND IMPLIED IN THE DRAWINGS AND SPECIFICATIONS IN THEIR BID TO DO A COMPLETE JOB TO THE SATISFACTION OF THE OWNER.
2. THE OWNER DOES NOT ASSUME RESPONSIBILITY FOR THE ACCURACY OF LAYOUTS AND OTHER DATA SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL VERIFY ALL MEASUREMENTS, LAYOUTS AND THE EXACT CONDITIONS OF THE SITE.
3. THE CONTRACTOR SHALL ACCEPT FULL RESPONSIBILITY FOR THE PROPER PROTECTION OF EXISTING STRUCTURES, PARTICULARLY EXISTING PAVEMENTS, UTILITIES, WALLS AND PLANTINGS WHICH ARE TO REMAIN DURING CONSTRUCTION AND FOR THE LIFE OF THE CONTRACT. ANY STRUCTURES FOUND TO BE DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED OR REPLACED AT THE DISCRETION OF THE OWNER'S INSPECTOR TO THE COMPLETE SATISFACTION OF THE OWNER AND AT THE CONTRACTOR'S EXPENSE.
4. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FACT THAT, DUE TO THE NATURE OF SITE RECONSTRUCTION PROJECTS, THE EXACT EXTENT OF RECONSTRUCTION WORK CAN NOT ALWAYS BE ACCURATELY DETERMINED PRIOR TO THE COMMENCEMENT OF WORK. ACTUAL FIELD CONDITIONS MAY REQUIRE MODIFICATIONS TO CONSTRUCTION DETAILS AND WORK QUANTITIES. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH FIELD CONDITIONS AS DISCOVERED.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE TYPE, SIZE, WEIGHT AND RELATED OPERATIONAL PARAMETERS OF EQUIPMENT THAT MAY BE SAFELY USED THROUGH THE COURSE OF THE WORK.
6. CONTRACTOR TO PROVIDE ONE YEAR WARRANTY FOR ALL THE INSTALLATION FROM THE DATE OF FINAL COMPLETION. WARRANTY WILL INCLUDE REPAIR OR REPLACEMENT IN KIND FOR ANY DAMAGED INSTALLATION OR MATERIAL DUE TO NORMAL WEAR & TEAR

UTILITY NOTES

1. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ANY AND ALL EXISTING UNDERGROUND UTILITIES IN THE VICINITY OF THE CONTRACTOR'S WORK. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF SUPPORT AND PROTECTION DURING CONSTRUCTION WHEN IT IS INDICATED THAT THESE UTILITIES ARE TO REMAIN IN PLACE.
2. THE CONTRACTOR SHALL CONSULT THE ENGINEER IMMEDIATELY FOR DIRECTIONS BEFORE PROCEEDING FURTHER WITH WORK IN AN AREA SHOULD UNCHARTED OR INCORRECTLY CHARTED EXISTING PIPE OR OTHER UTILITIES BE UNCOVERED. COOPERATE WITH THE OWNER AND THE UTILITY COMPANIES IN KEEPING RESPECTIVE SERVICES AND FACILITIES IN OPERATION. REPAIR DAMAGED UTILITIES TO THE SATISFACTION OF THE UTILITY OWNER.
3. DO NOT INTERRUPT EXISTING UTILITIES SERVICING FACILITIES OCCUPIED AND USED BY THE OWNER OR OTHERS DURING OCCUPIED HOURS EXCEPT WHEN SUCH INTERRUPTIONS HAVE BEEN AUTHORIZED IN WRITING BY THE OWNER OR ENGINEER. INTERRUPTIONS SHALL OCCUR ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICE HAS BEEN PROVIDED.

DEMOLITION AND REMOVAL NOTES

1. THE CONTRACTOR SHALL INDEPENDENTLY FIELD VERIFY AND LOCATE FACILITIES, STRUCTURES AND UTILITIES DESIGNATED TO BE REMOVED OR PROTECTED.
2. ANY DISCREPANCIES BETWEEN WHAT IS SHOWN ON THE CONTRACT DRAWINGS AND FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO COMMENCING WORK IN THAT AREA.
3. PROTECT ALL EXISTING SIDEWALKS, CURB CUTS, GRANITE BLOCK TO REMAIN, TREES, LIGHTS AND SIAMESE CONNECTIONS. ANY DAMAGE TO THESE ELEMENTS SHALL BE RESTORED BY THE CONTRACTOR AT HIS OWN EXPENSE TO THEIR ORIGINAL CONDITION.
4. ALL MATERIALS, CONSTRUCTION METHODS AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE LAWS, RULES AND CODES OF THE CITY OF NEW YORK.
5. THE CONTRACTOR SHALL BE REQUIRED TO LEGALLY DISPOSE OF ALL DEBRIS AND REMOVED MATERIALS AWAY FROM THE SITE.
6. PEDESTRIANS SHALL BE PROTECTED FROM EXCAVATION AND WORK AREAS AT ALL TIMES. PROVIDE SUITABLE BARRIERS AS REQUIRED. DO NOT BLOCK WALKS WITH STORAGE OF CONSTRUCTION EQUIPMENT OF MATERIALS.
7. WHENEVER THE CONTRACTOR REQUIRES PUBLIC ACCESS AREAS TO BE TEMPORARILY CLOSED THE CONTRACTOR SHALL NOTIFY THE OWNERS REPRESENTATIVE AT LEAST 72 HOURS BEFORE AND OBTAIN WRITTEN APPROVAL FROM THE OWNER'S REPRESENTATIVE.
8. CLEANING OF ROADWAYS: CONTRACTOR SHALL KEEP THE TRAVELED WAY FREE OF FOREIGN OBJECTS SUCH AS SPILLED EARTH, ROCK, TIMBER, AND OTHER ITEMS THAT MAY FALL FROM TRANSPORTING VEHICLES. MATERIALS SPILLED BY OR DROPPED FROM THE UNDERCARRIAGE OF ANY CARRYING VEHICLE USED IN CONTRACTOR'S HAULING OPERATIONS ALONG OR ACROSS ANY PUBLIC TRAVELED WAY SHALL BE REMOVED IMMEDIATELY.
9. WHENEVER THE CONTRACT REQUIRES MATERIALS TO BE REMOVED AND DISPOSED OF, THE COST OF DISPOSAL AND TRANSPORTATION TO A PERMITTED REPOSITORY SHALL BE INCLUDED IN THE BID PRICE.
10. THE CONTRACTOR SHALL KEEP THE WORKSITE FREE FROM DEBRIS AND ACCUMULATED REFUSE AND SHALL HAVE SOLE RESPONSIBILITY FOR PROTECTING ALL DANGEROUS AREAS FROM ENTRY BY UNAUTHORIZED PARTIES. PUBLICLY ACCESSIBLE AREAS WILL BE LEFT BROOM CLEAN AT THE END OF EACH WORKING DAY.
11. SPECIFIC LOCATIONS OF CONSTRUCTION FENCES, GATES, AND ENTRANCES SHALL BE COORDINATED WITH THE OWNERS REPRESENTATIVE.

LANDSCAPE NOTES

1. THE CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES. THE QUANTITY OF PLANT MATERIALS THAT THE CONTRACTOR SHALL BE RESPONSIBLE FOR SHALL BE THE GREATER NUMBER AS SHOWN ON THE PLANS OR CALLED FOR IN THE PLANTING SCHEDULE.
2. ALL PROPOSALS FOR SUBSTITUTIONS OF PLANT MATERIAL MUST BE APPROVED BY THE LANDSCAPE ARCHITECT IN WRITING.
3. ALL TREE AND SHRUB PLANTING SHALL BE ACCOMPLISHED WITHIN THE PLANTING SEASON LIMITATIONS LISTED IN THE PLANTING SCHEDULE. THE PLANTING SCHEDULE INDICATES TREES WHICH ARE A FALL PLANTING HAZARD AND THEREFORE SHALL ONLY BE PLANTED IN THE SPRING SEASON.
4. CONTRACTOR SHALL NOTIFY THE NYC ONE-CALL SYSTEM AT 1-800-272-4480 PRIOR TO CONSTRUCTION.
5. CONTRACTOR SHALL NOTIFY THE NY STATE ONE-CALL SYSTEM AT 1-800-962-7962 PRIOR TO CONSTRUCTION.
6. PRIOR TO THE START OF PLANTING OPERATIONS THE CONTRACTOR SHALL STAKE OUT THE LOCATIONS OF ALL PLANTS FOR APPROVAL BY THE LANDSCAPE ARCHITECT.
7. ALL PLANTS SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS AND THE SPECIFICATIONS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE PLANTING AND THE ON-SITE WATER AVAILABILITY. WATER, IF NOT AVAILABLE SHALL BE FURNISHED BY THE CONTRACTOR. ALL HOSES AND EQUIPMENT REQUIRED FOR WATERING SHALL BE FURNISHED BY THE CONTRACTOR AS NEEDED.
9. THE CONTRACTOR SHALL WARRANT ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION.
10. TREE STAKES ARE TO BE REMOVED BY THE CONTRACTOR NOT LESS THAN ONE YEAR AFTER PLANTING OF NEW TREES AND PRIOR TO THE FINAL ACCEPTANCE OF THE WORK.
11. LANDSCAPE ARCHITECT MAINTAINS THE AUTHORITY TO REJECT ANY PLANT MATERIAL AFTER IT ARRIVES ON SITE THAT DOES NOT MEET THE REQUIREMENT S OF THE PLANTING SCHEDULE.
12. CONTRACTOR TO PROVIDE IRRIGATION FOR ALL THE PLANTERS. PROVIDE ELECTRONIC IRRIGATION SYSTEM WITH TIMER AND RAIN SENSOR TO ADEQUATELY IRRIGATE ALL PLANTERS
13. CONTRACTOR TO REFER TO PLANTING SPECIFICATIONS FOR ALL PLANTING DETAILS

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO THE START OF WORK. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION OR RESOLUTION PRIOR TO THE START OF SITE CONSTRUCTION.
2. MARK OR FLAG ALL SITE ELEMENTS TO BE CONSTRUCTED IN THE FIELD FOR APPROVAL BY LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
3. ANY ALTERATIONS TO THIS DESIGN THAT ARE MADE IN THE FIELD DURING CONSTRUCTION SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL.
4. DRAWINGS ARE NOT TO BE SCALED. USE DIMENSIONS ONLY. ALL DIMENSIONS ON THE DRAWINGS MUST BE VERIFIED AT THE SITE BY THE CONTRACTOR BEFORE ORDERING ANY MATERIAL OR DOING ANY WORK. ANY DISCREPANCIES IN THE DRAWING AND SPECIFICATIONS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT. NO CHANGE IN DRAWINGS OR SPECIFICATIONS IS PERMISSIBLE WITHOUT WRITTEN CONSENT OF THE LANDSCAPE ARCHITECT.
5. THE CONTRACTOR SHALL FURNISH MOCK-UPS AND MATERIAL SAMPLES AS LISTED IN THE SPECIFICATIONS

INDEX OF DRAWINGS

L-000 GENERAL NOTES
L-100 MATERIALS & LAYOUT PLANS
L-200 GRADING, IRRIGATION & LIGHTING PLANS
L-300 PLANTING PLAN & SCHEDULE LOWER LEVELS
L-400 ROOF PLAN
L-500 DETAILS
L-501 DETAILS

Melrose Commons Site C - Supportive Housing

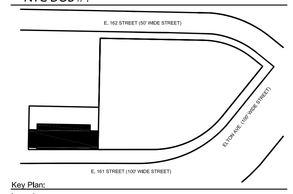
Bronx, NY

Owner:

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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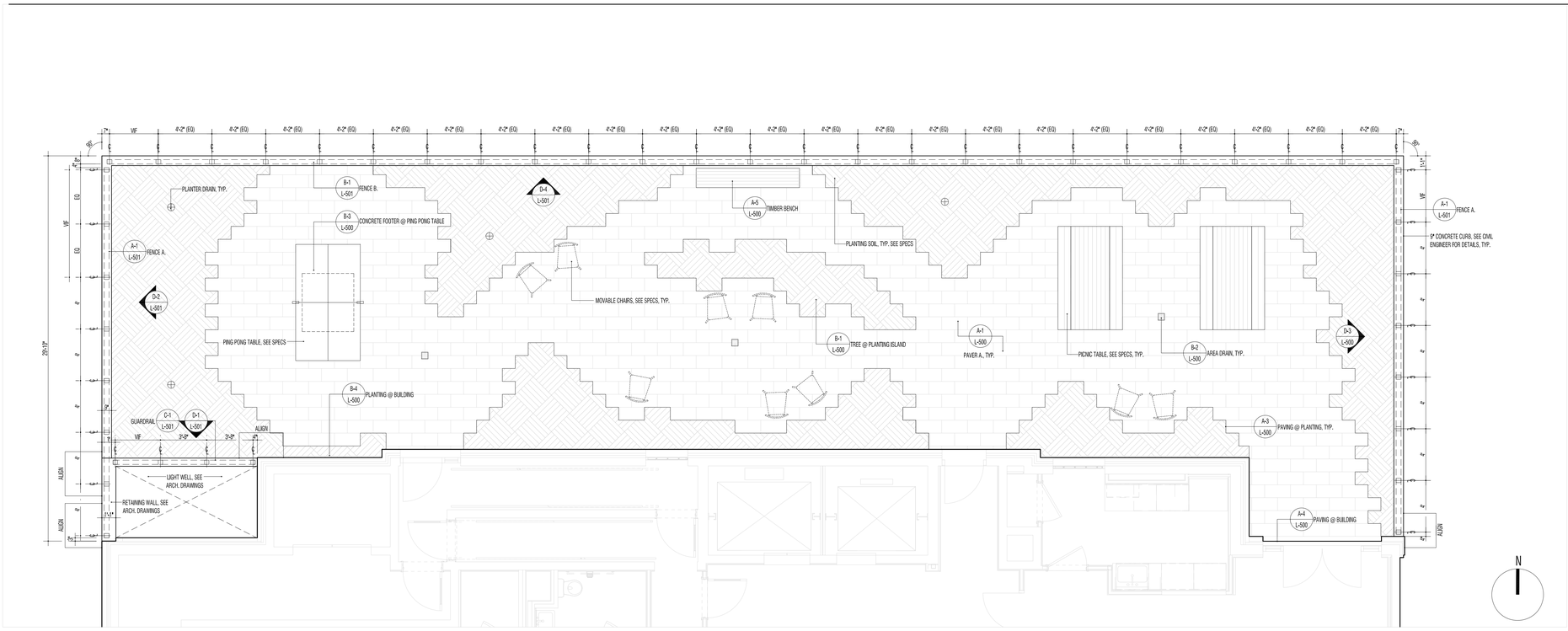
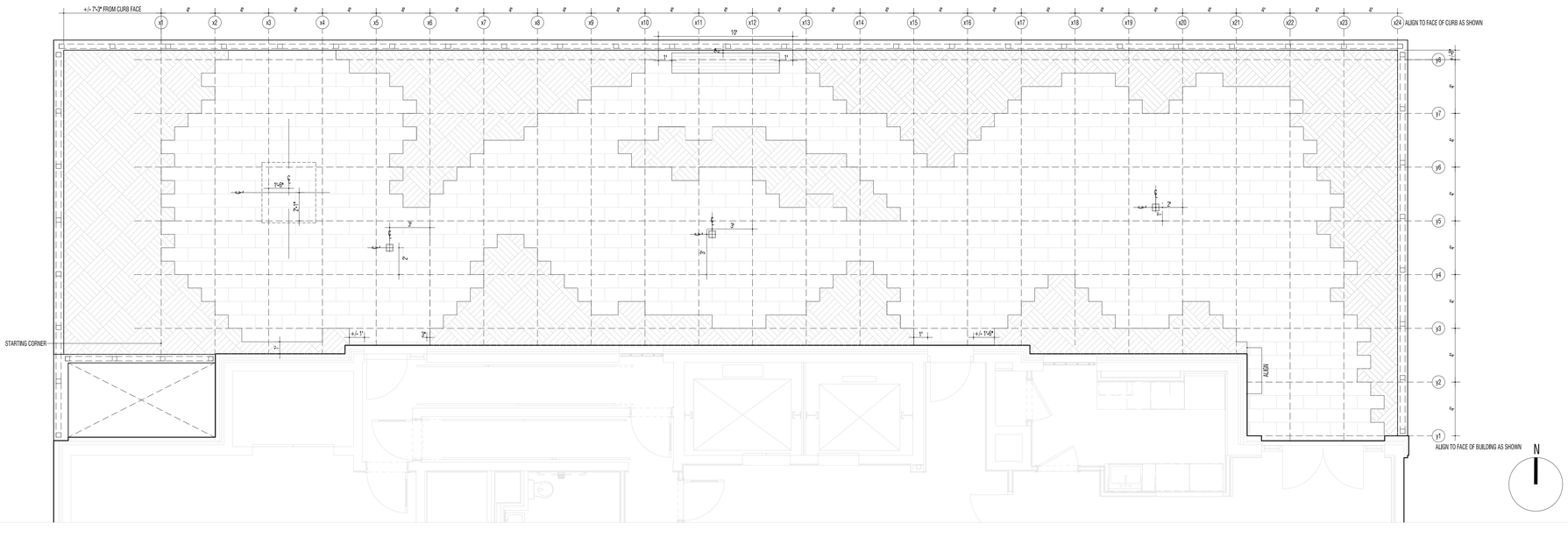
PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-000
SCALE: NTS	



02 MATERIALS PLAN & FENCE LAYOUT

1/4" = 1'-0"

NOTES:
1. LAY PAVING IN RUNNING BOND PATTERN & ACHIEVE LAYOUT WITH FULL PAVERS UNLESS OTHERWISE NOTED
2. CONTRACTOR TO PROVIDE LA w/ PAVING LAYOUT SHOP DRAWING, INCLUDING EDGE SUPPORT LAYOUT, FOR APPROVAL BY LA PRIOR TO INSTALLATION
3. FINAL PAVING LAYOUT TO BE MOCKED UP FULL SCALE IN FIELD FOR REVIEW BY LA PRIOR TO INSTALLATION
4. BEGIN PAVING LAYOUT FROM SOUTHWEST CORNER



01 PAVING LAYOUT PLAN

1/4" = 1'-0"

LEGEND

- PERMEABLE PAVING
- PLANTING SOIL
- CONCRETE WALL
- LANDSCAPE EDGE
- TIMBER FENCE
- TIMBER GUARDRAIL
- AREA DRAIN
- AREA DRAIN
- PICNIC TABLE, SEE SPECS
- MOVABLE CHAIRS, SEE SPECS
- PING PONG TABLE, SEE SPECS

LEGEND

- PERMEABLE PAVING
- CONCRETE WALL
- LANDSCAPE EDGE
- TIMBER FENCE
- TIMBER GUARDRAIL
- AREA DRAIN
- CONCRETE FOOTERS FOR SITE FURNISHINGS
- X'-XX" DIMENSION LINE

Melrose Commons Site C - Supportive Housing

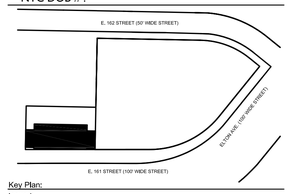
Bronx, NY

Owner:

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING
4	02.27.15	ISSUE FOR BID
5	10.20.15	ISSUE FOR CONSTRUCTION

Revisions:

Architect:

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Structural Engineer:

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New York, NY 10001

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SIDERIS KEFALAS Engineers, PC
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Bayside, New York 11361
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Landscape Architect:

TERRAIN-NYC
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New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
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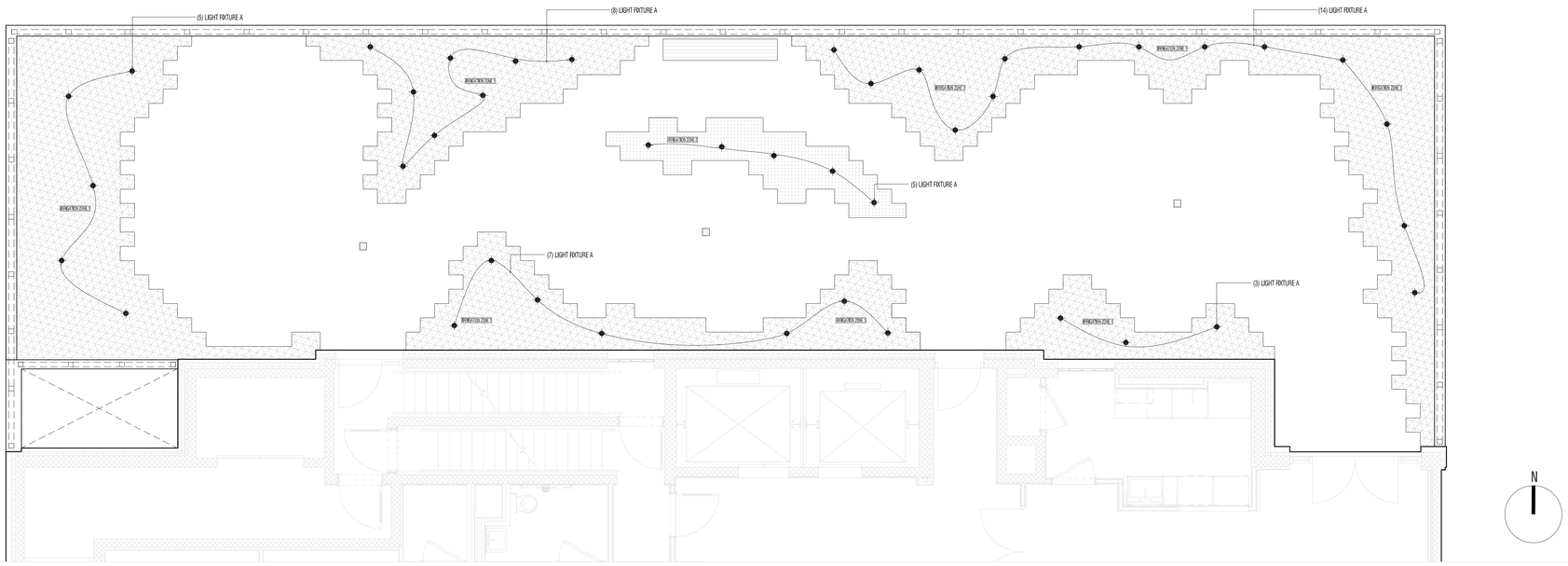
MATERIALS & LAYOUT PLANS

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-100
SCALE:	1/4" = 1'-0"

MELROSE COMMONS SITE C SUPPORTIVE LIGHTING SCHEDULE AT LOWER LEVELS				
FIXTURE	FIXTURE CODE	LOCATION	QUANTITY	PRODUCT CATALOG CODE
Aurora Light SL20 Sumatra	LIGHT FIXTURE TYPE A	see plans	42	SL20-33-60-JB3-S-H-NAT



02 LIGHTING & IRRIGATION PLAN

1/4" = 1'-0"

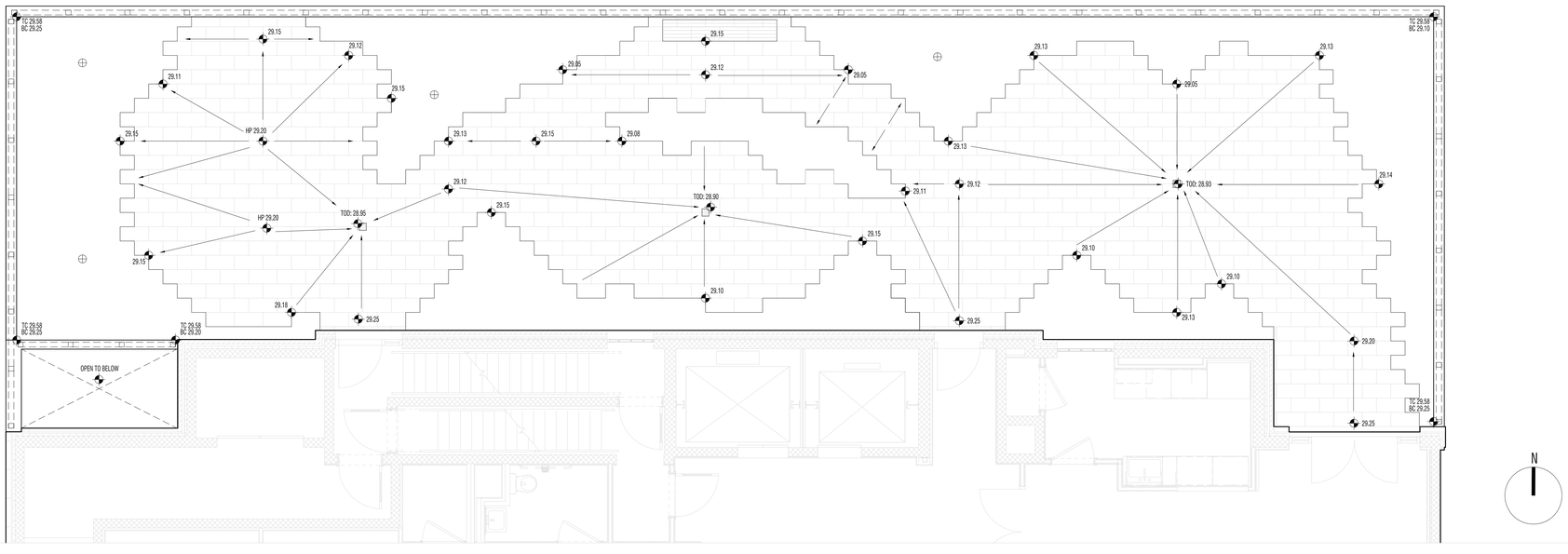
LEGEND

- IRRIGATION ZONE 1
- IRRIGATION ZONE 2
- LIGHT FIXTURE A

NOTES:

1. LOCATION OF IRRIGATION LINES TO BE DETERMINED w/IRRIGATION CONSULTANT & LANDSCAPE ARCHITECT

2. LOCATION OF EXTERIOR GFI & HOSE BIB TO BE DETERMINED BY OWNER & L.A.



01 GRADING PLAN

1/4" = 1'-0"

LEGEND

- XX.XX — SPOT ELEVATION
- 1.50% — SLOPE
- TD XX.XX — TOP OF DRAIN
- AREA DRAIN
- PLANTER DRAIN
- TC XX.XX — TOP OF CURB
- BC XX.XX — BOTTOM OF CURB
- TW XX.XX — TOP OF WALL
- BW XX.XX — BOTTOM OF WALL

Melrose Commons Site C - Supportive Housing

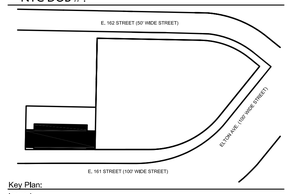
Bronx, NY

Owner:

248 W. 108th St,
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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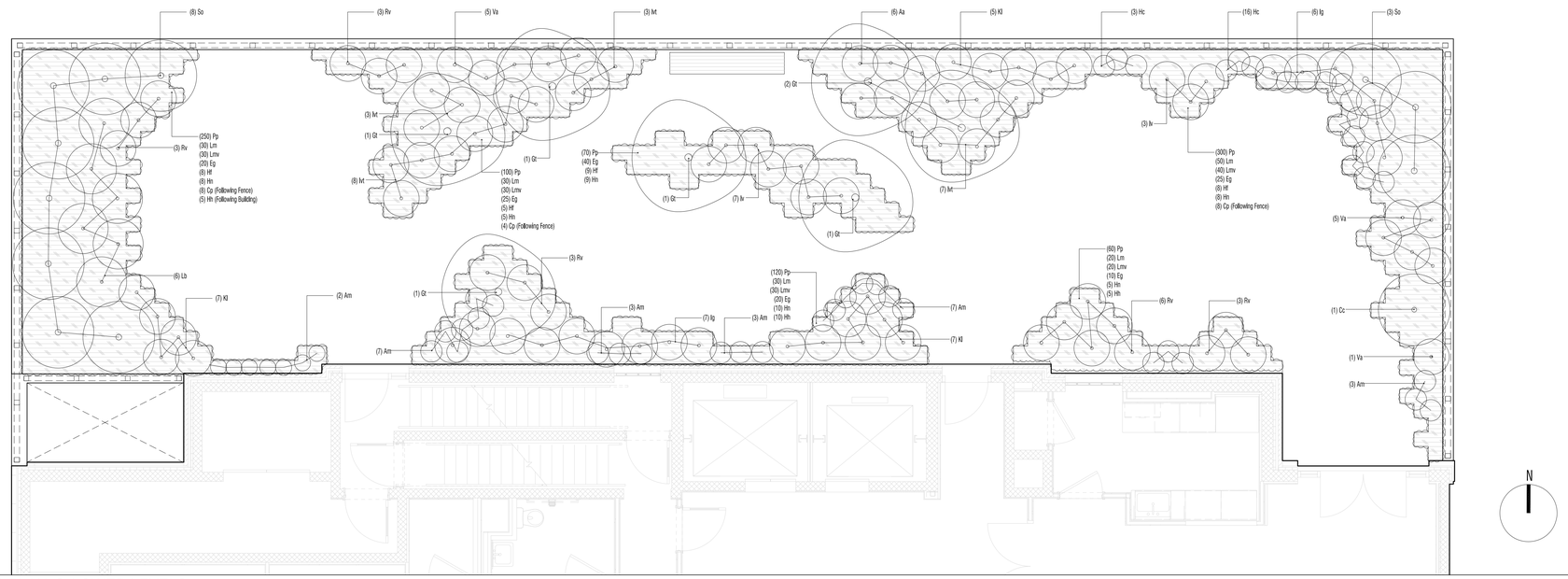
GRADING, IRRIGATION & LIGHTING PLANS

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-200
SCALE: 1/4" = 1'-0"	



02 PLANTING PLAN @ LOWER LEVELS
1/4"=1'-0"

LEGEND

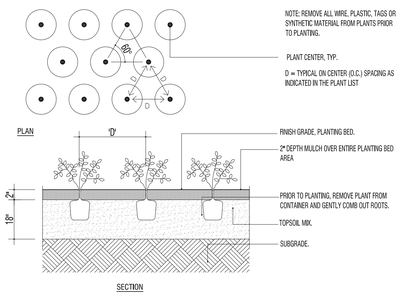
TREE

SHRUB

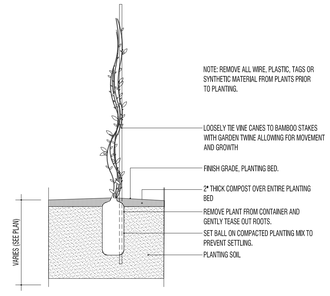
GROUNDCOVER & PERRENIALS

PLANTING SCHEDULE 20150227								
TREES								
SYM	**BOTANICAL NAME**	**COMMON NAME**	**QTY**	**SIZE**	**ROOT**	**SPACING**	**LIGHT/SOIL**	**CHARACTERISTICS**
Ob	Styrax obassia	Fragrant Snowbell	8	1.5" Cal	B&B	As Noted	part shade	LA to tag in field
Gt	Gleditsia triacanthos 'skyline'	Honey Locust	7	2.5-3" Cal	B&B	As Noted	part shade	LA to tag in field
SHRUBS								
SYM	**BOTANICAL NAME**	**COMMON NAME**	**QTY**	**SIZE**	**ROOT**	**SPACING**	**LIGHT/SOIL**	**CHARACTERISTICS**
Aa	Aronia arbutifolia	Red Chokeberry	6	3-4' Ht	B&B	as noted	part shade	LA to tag in field
Ig	Ilex glabra 'shamrock'	Inkberry	17	2'-3' Ht	B&B	as noted	part shade	LA to tag in field
Iv	Itea virginica	Virginia Sweetspire	10	2-3' Ht	Cont.	as noted	part shade	LA to tag in field
Im	Ilex verticillata 'Red sprite'	Winterberry	21	7 Gal	Cont.	as noted	part shade	LA to tag in field
Kl	Kalmia latifolia	Mountain Laurel	17	3-4' Ht	Cont.	as noted	part shade	LA to tag in field
Lb	Liriodendron benzoin	Spicebush	6	3-4' Ht	B&B	as noted	part shade	LA to tag in field
Rv	Rhododendron viscosum	Swamp Azalea	18	2-3' Ht	B&B	as noted	part shade	LA to tag in field
Va	Viburnum acerifolium	Mapleleaf Viburnum	11	3-4' Ht	B&B	as noted	part shade	LA to tag in field
PERENNIALS								
SYM	**BOTANICAL NAME**	**COMMON NAME**	**QTY**	**SIZE**	**ROOT**	**SPACING**	**LIGHT/SOIL**	**CHARACTERISTICS**
Am	Alchemilla mollis	Lady's Mantle	30	2 Gal	Cont.	15" OC	part-full shade	Match Specimens
Hc	Hypericum calcynium	Golden St. John's Wort	19	2 Gal	Cont.	15" OC	part-full shade	Match Specimens
GROUNDCOVERS								
SYM	**BOTANICAL NAME**	**COMMON NAME**	**QTY**	**SIZE**	**ROOT**	**SPACING**	**LIGHT/SOIL**	**CHARACTERISTICS**
Eg	Epimedium grandiflora	Barrenwort	140	2 Gal	Cont.	15" OC	part-full shade	Match Specimens
Hf	Helleborus foetidus	Stinking Hellebore	30	2 Gal	Cont.	15" O.C.	part-full shade	Match Specimens
Hn	Helleborus niger	Christmas Rose	45	2 Gal	Cont.	15" O.C.	part-full shade	Match Specimens
Lm	Liriope muscari	Lilyturf	160	1 Gal	Cont.	12" O.C.	part-full shade	Match Specimens
Lmv	Liriope muscari 'varigata'	Variegated Lilyturf	150	1 Gal	Cont.	12" O.C.	part-full shade	Match Specimens
Pp	Pachysandra procumbens	Allegany spurge	900	4" Pot	Pot	6" O.C.	part-full shade	Match Specimens
VINES								
SYM	**BOTANICAL NAME**	**COMMON NAME**	**QTY**	**SIZE**	**ROOT**	**SPACING**	**LIGHT/SOIL**	**CHARACTERISTICS**
Cm	Clematis 'pink champagne'	Pink Champagne Clematis	20	5 Gal	Cont.	30" OC	part-full shade	Min 3 leaders / trained to 5'-0" Ht
Hh	Helix hedera	English Ivy	20	5 Gal	Cont.	30" OC	part-full shade	Min 3 leaders / trained to 5'-0" Ht

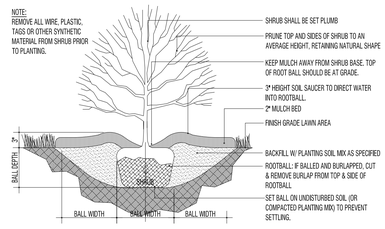
01 PLANTING SCHEDULE @ LOWER LEVELS
NTS



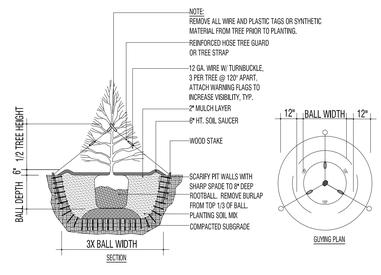
C-2 PERENNIAL PLANTING
1"=1'-0"



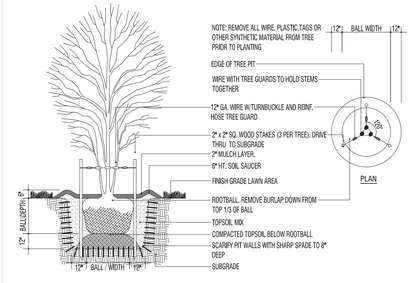
B-2 VINE PLANTING
1"=1'-0"



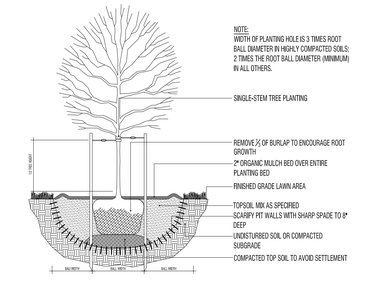
A-2 SHRUB PLANTING
1"=1'-0"



C-1 EVERGREEN TREE PLANTING
1/4"=1'



B-1 MULTISTEM TREE PLANTING
1/4"=1'



A-1 DECIDOUS TREE PLANTING
1/4"=1'

Melrose Commons Site C - Supportive Housing

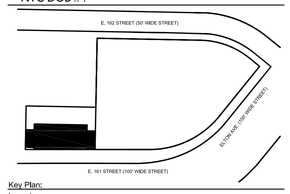
Bronx, NY

Owner:

248 W. 108th St,
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Landscape Architect:

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Client Representative:

Filing Representative:

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Tel (718) 383-9340

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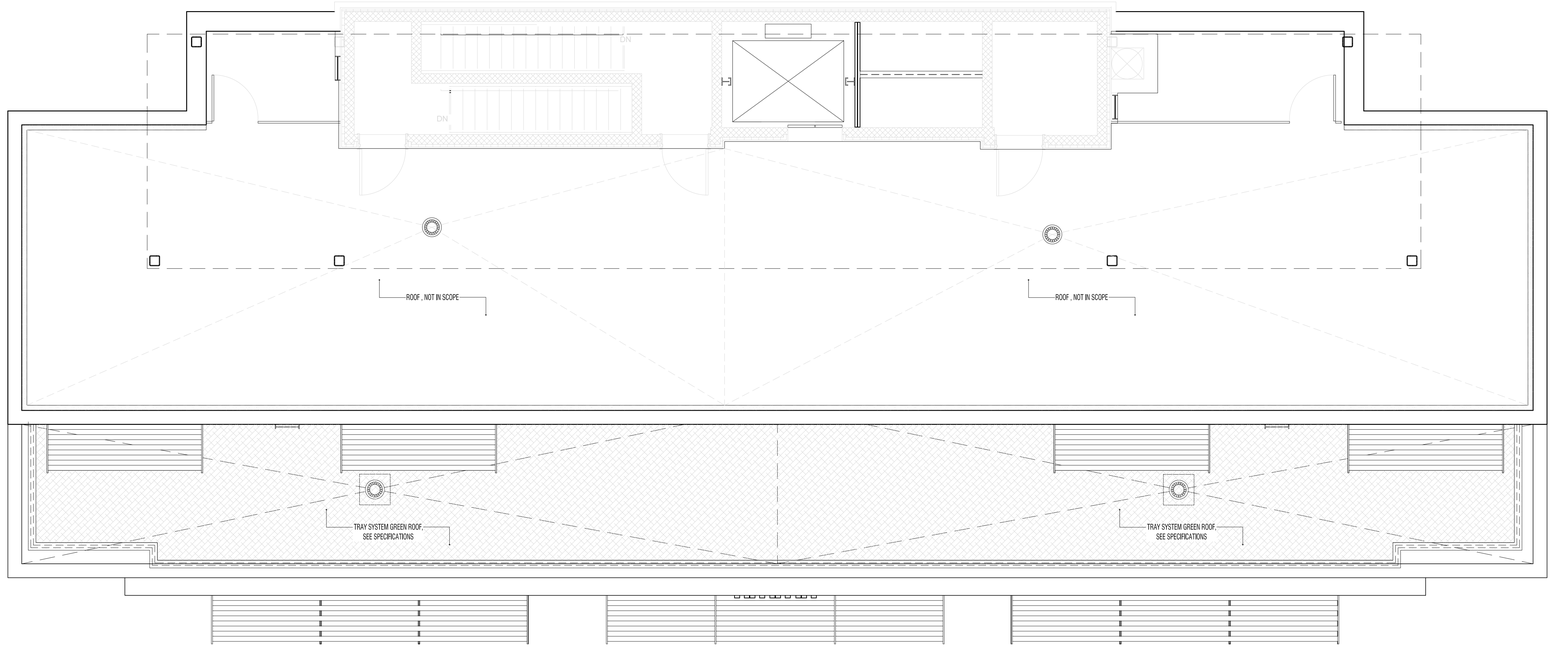
PLANTING PLAN & SCHEDULE @ LOWER LEVELS

SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-300
SCALE: AS NOTED	



01 ROOF MATERIALS & IRRIGATION PLAN

1/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

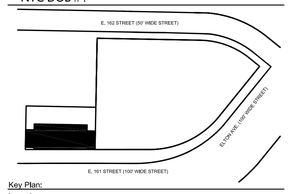
Bronx, NY

Owner:

248 W. 108th St,
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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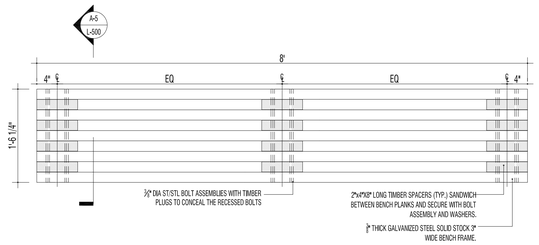
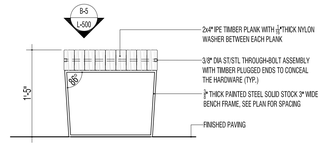
ROOF PLANS

SEAL & SIGNATURE:

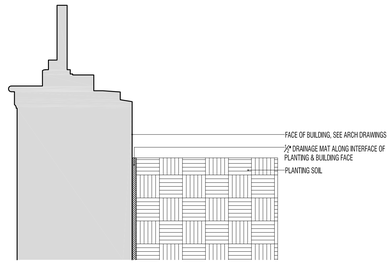
PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-400
SCALE:	1/4" = 1'-0"



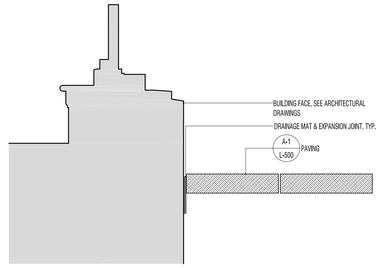
B-5 TIMBER BENCH PLAN
1"=1'-0"



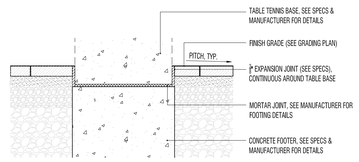
A-5 TIMBER BENCH
1"=1'-0"



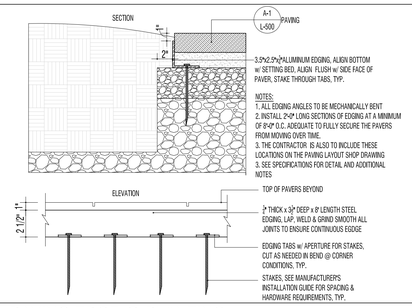
B-4 PLANTING @ BUILDING
1"=1'-0"



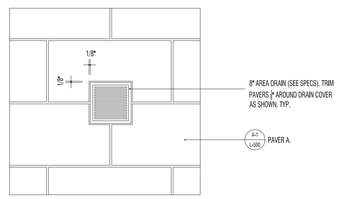
A-4 PAVING @ BUILDING
1-1/2"=1'-0"



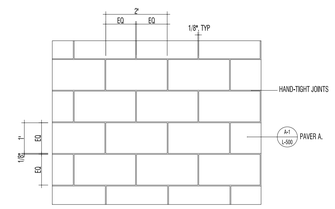
B-3 TABLE TENNIS FOOTER
1"=1'-0"



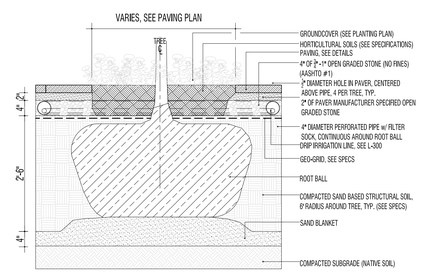
A-3 PAVING EDGE @ PLANTING
1 1/2"=1'-0"



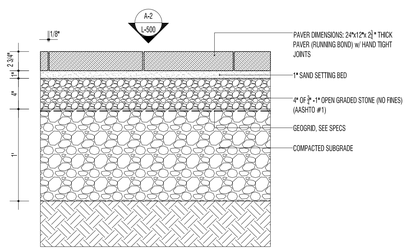
B-2 AREA DRAIN PART PLAN
1"=1'-0"



A-2 PAVER A. PLAN
1/2"=1'-0"



B-1 TREE IN PLANTING ISLAND
3/4"=1'-0"



A-1 PAVER A.
1-1/2"=1'-0"

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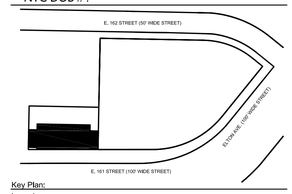

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New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
New York, NY 10001

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard.
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filling Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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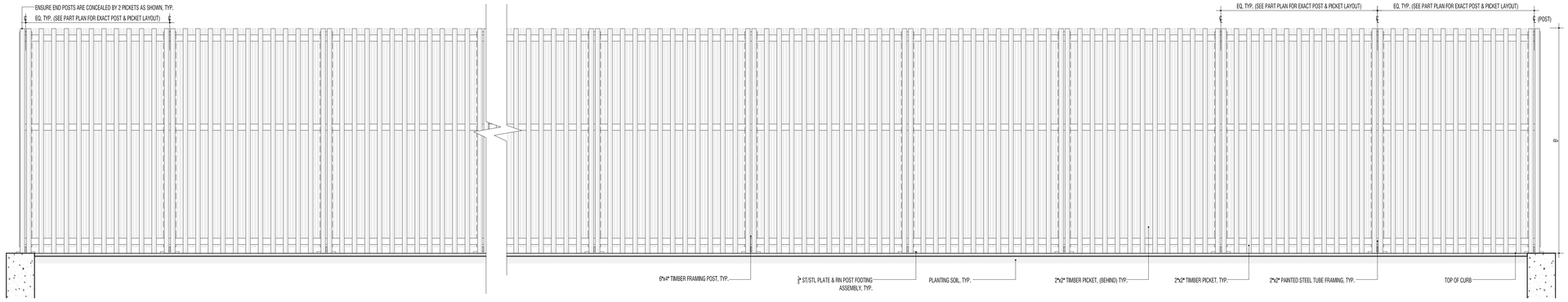
DETAILS

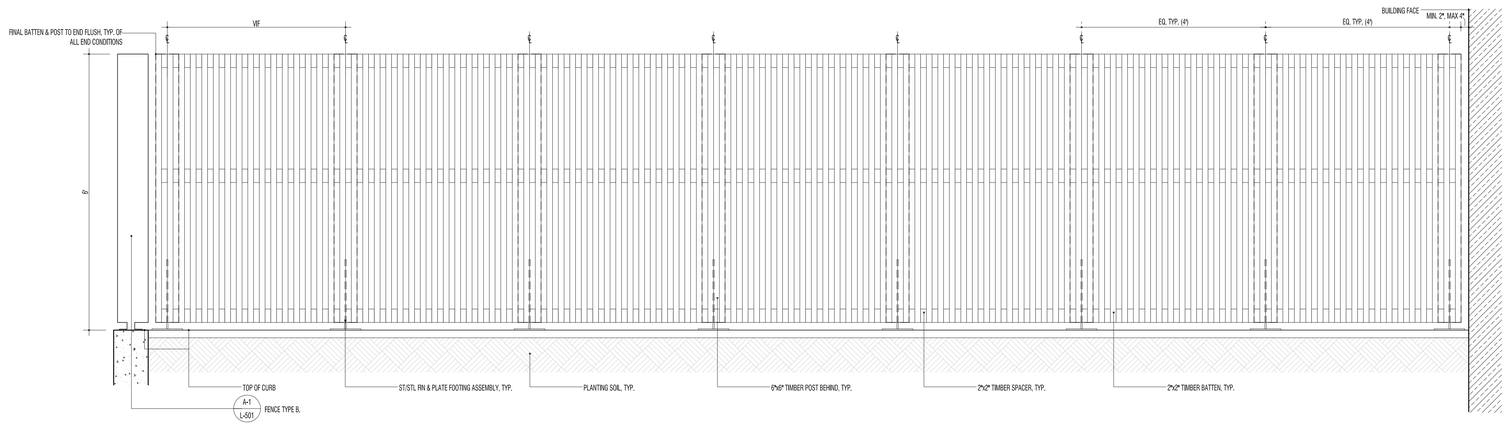
SEAL & SIGNATURE:

PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-500
SCALE: VARIES	



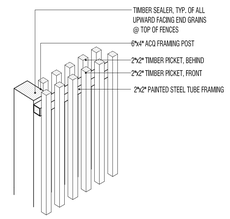
D-4 NORTH FENCE ELEVATION

3/4"=1'-0"



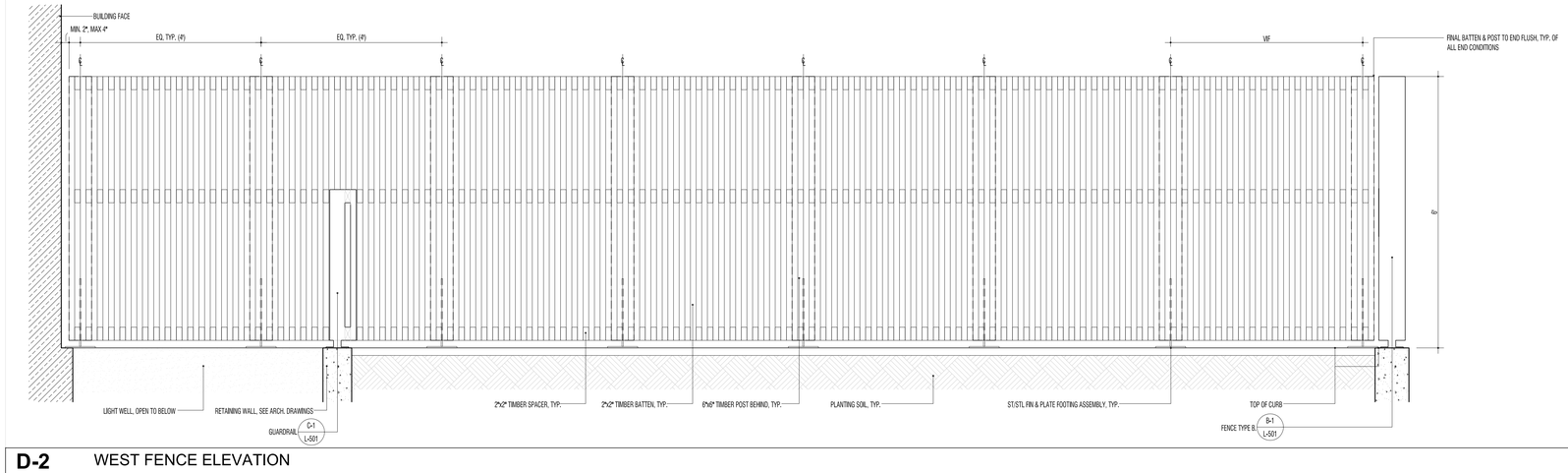
D-3 EAST FENCE ELEVATION

1"=1'-0"



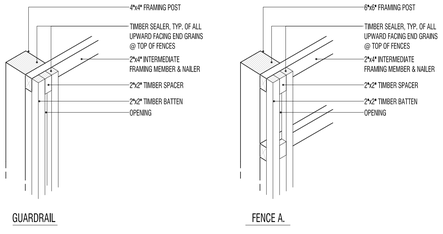
A-3 FENCE B. AXON

3/4"=1'-0"



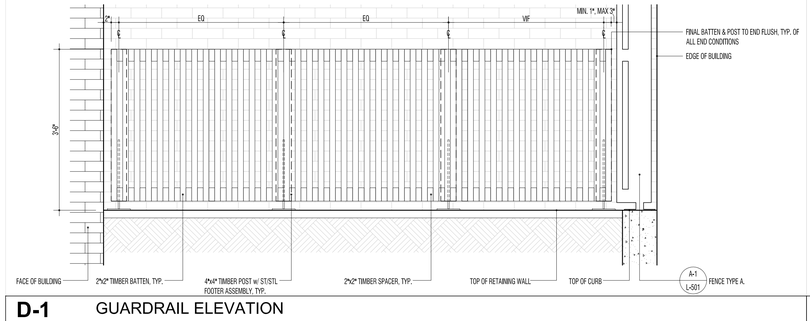
D-2 WEST FENCE ELEVATION

3/4"=1'-0"



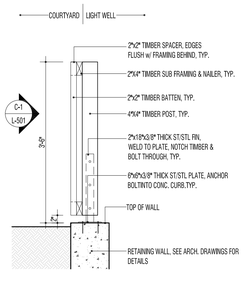
A-2 FENCE A. & GUARDRAIL AXON

3/4"=1'-0"



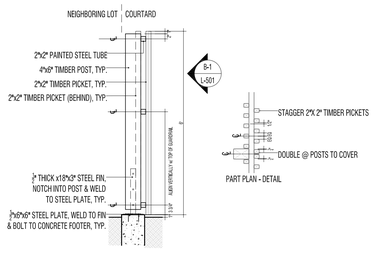
D-1 GUARDRAIL ELEVATION

1"=1'-0"



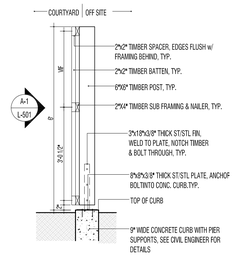
C-1 GUARDRAIL

3/4"=1'-0"



B-1 FENCE TYPE B.

1/2"=1'-0"



A-1 FENCE TYPE A.

1/2"=1'-0"

Melrose Commons Site C - Supportive Housing

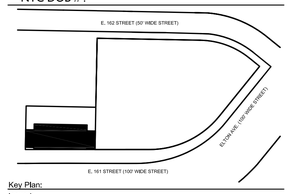
Bronx, NY

Owner:

248 W. 108th St,
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	08.15.14	50% CD PRICING
4	02.27.15	ISSUE FOR BID
5	10.20.15	ISSUE FOR CONSTRUCTION

Revisions:

Architect:

Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
New York, NY 10001

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard.
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

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200 Park Avenue South, Suite 1401
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Client Representative:

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52 Diamond St.
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Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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DETAILS

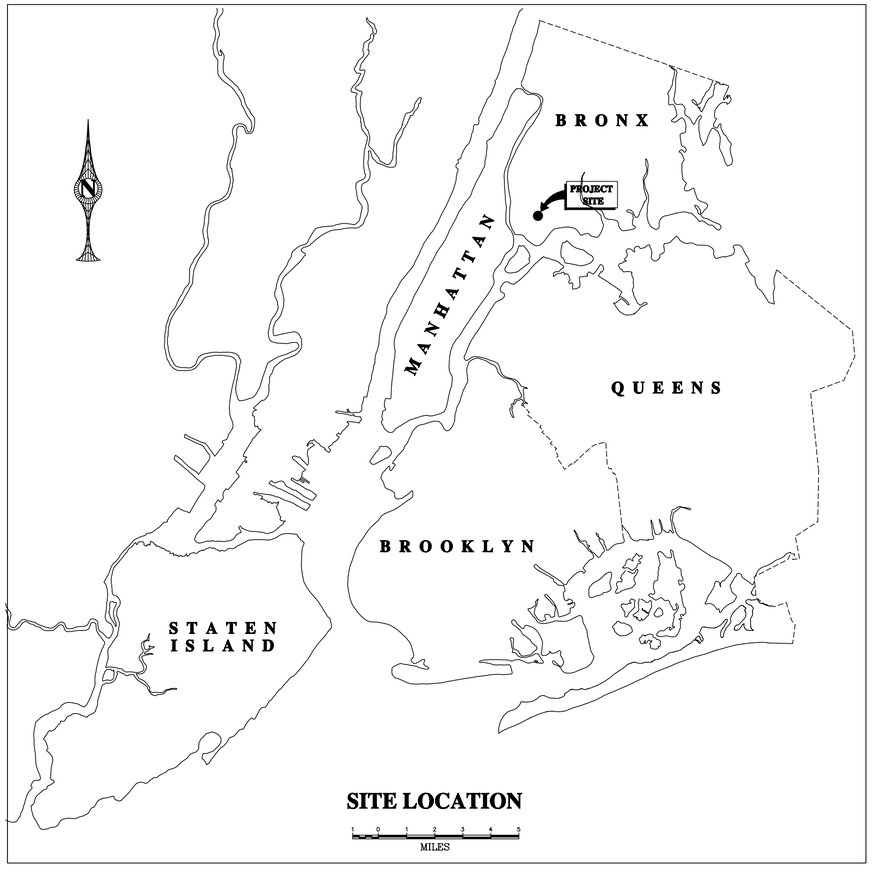
SEAL & SIGNATURE:

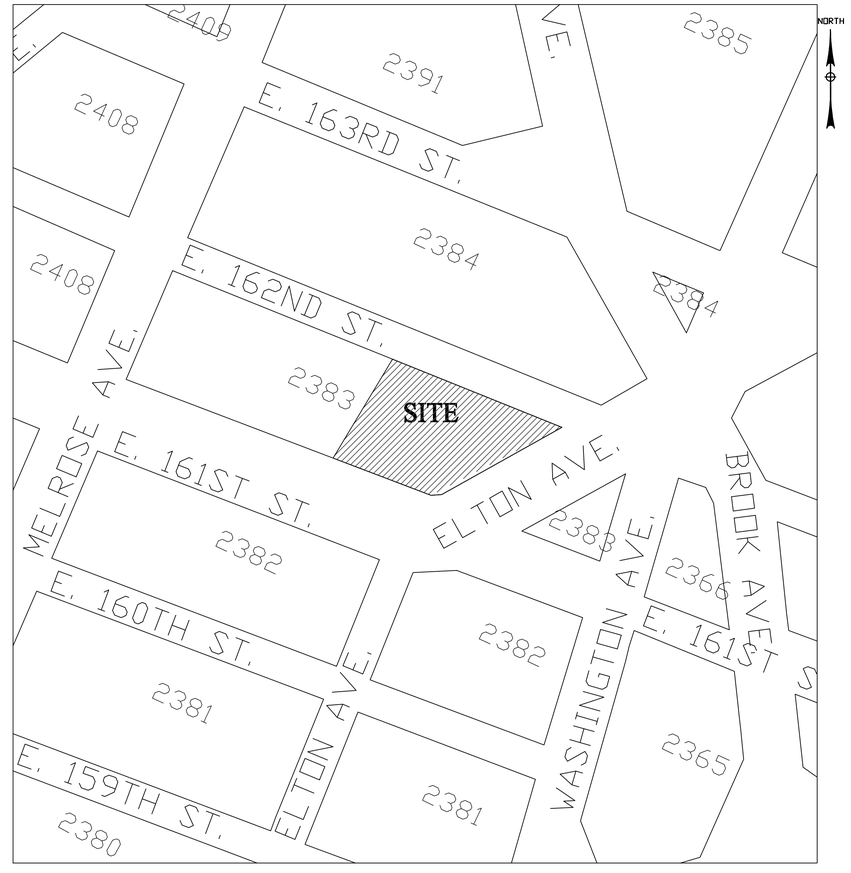
PROJECT No:	13007
DRAWING BY:	SG
CHK BY:	ST
DWG No:	L-501
SCALE: VARIES	

DOT APPROVAL OF DESIGN ELEMENTS
For self-certified projects only

Item requiring DOT approval	Approved by	Date

MELROSE COMMONS - SITE C





KEY PLAN
SCALE: 1"=100'

NEW YORK CITY
DEPARTMENT OF TRANSPORTATION

BUILDERS PAVEMENT PLAN

PROJECT DATA

Block: 2383 Lot(s): 19

Zoning: R8, C1-4 Zoning Map No.: 6a

Street Address: Melrose Commons - Site C
East 162nd Street

Owner: Phipps Houses

Address: 902 Broadway, 13th Floor, New York, NY 10010

Plan prepared by:

Galli Engineering, P.C.
35 PINELAWN ROAD, SUITE 209E
MELVILLE, NEW YORK 11747
PH: 1-631-271-9292 FAX: 1-631-271-9345

Seal

Signature

WAIVERS

DOT requirement waived	As per/Date
1)	
2)	
3)	
4)	

NOTES

GENERAL REQUIREMENTS

1. ALL DESIGNS, MATERIALS, CONSTRUCTION METHODS AND WORKMANSHIP SHALL COMPLY WITH THE FOLLOWING PUBLICATIONS OF THE BUREAU OF HIGHWAYS: STANDARD SPECIFICATIONS, STANDARD DETAILS OF CONSTRUCTION; RULES OF THE BUREAU OF HIGHWAY OPERATIONS; GUIDELINES FOR THE DESIGN INFRASTRUCTURE COMPONENTS.
2. ALL NON STANDARD MATERIALS AND CONSTRUCTION PROCEDURES SHALL BE SPECIFICALLY APPROVED IN WRITING BY THE DOT.
3. ANY WORK NOT COMPLYING WITH THE REQUIREMENTS OF THE DOT SHALL BE REMOVED AND REPLACED.
4. THIS PLAN SHALL BE VALID FOR THE ISSUANCE OF CONSTRUCTION PERMITS FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL OR SELF-CERTIFICATION, AS APPLICABLE.
5. ALL SIDEWALK AND STREET AREAS CONSTRUCTED UNDER THIS PLAN SHALL REMAIN OPEN TO THE PUBLIC AT ALL TIMES.

ISSUANCE OF PERMITS

6. NO SIDEWALK, CURB OR ROADWAY WORK SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH HIGHWAY SUPERINTENDENT. APPLICATION SHALL BE MADE THREE DAYS BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL HAVE ALL REQUIRED INSURANCE COVERAGE ON FILE.
7. NO WORK ON DRAINAGE STRUCTURES SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH OFFICE OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.
8. ANY VAULT WORK AT THE SITE SHALL BE DONE AS PER THE APPLICABLE RULES OF THE DOT AND THE DEPT. OF BUILDINGS.

CONSTRUCTION ACTIVITY

9. A CONSTRUCTION PLAN SHOWING MAINTENANCE AND PROTECTION OF TRAFFIC, INCLUDING PLACEMENT OF SIDEWALK BRIDGES, BARRIERS AND SIGNAGE, SHALL BE SUBMITTED TO THE BOROUGH HIGHWAY OFFICE BEFORE CONSTRUCTION BEGINS.
10. NO SIDEWALK SHALL BE CLOSED WITHOUT A PERMIT. PEDESTRIAN AND TRAFFIC SAFETY SHALL BE PROTECTED AT ALL TIMES. ROADWAY CLOSINGS SHALL BE AS DIRECTED.
11. THE SITE SHALL BE MAINTAINED IN A CLEAN AND SAFE CONDITION.

FINAL SIGN-OFF

12. PERMITS SHALL BE PRESENTED FROM ALL PUBLIC AGENCIES AND UTILITIES HAVING OWNERSHIP OF STRUCTURES RELOCATED OR REMOVED DURING CONSTRUCTION
13. ALL PAVEMENT MARKINGS INCLUDING THERMOPLASTIC LANE DIVIDERS, REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN KIND TO THE BUREAU OF TRAFFIC STDS.
14. ALL EXISTING CATCH BASINS ON SITE SHALL BE CLEANED AND MADE OPERABLE.
15. ALL DAMAGE CAUSED BY CONSTRUCTION ON THIS PROJECT OUTSIDE THE PROJECT LIMITS SHALL BE REPAIRED AS DIRECTED.
16. THE ROADWAY SHALL BE PAVED TO THE REQUIREMENTS OF THE DOT AND AS DIRECTED.

PROFESSIONAL CERTIFICATION

(Optional)

I am submitting this plan under professional certification in compliance with all applicable requirements.

Signature ____ Date ____/____/____

DOT APPROVAL NOT REQUIRED

DOT APPROVAL

Proposed and existing work shown here reviewed for compliance with all applicable rules and requirements by:

Plan Examiner

Approval for issuance of work permits granted by:

Chief / Builders Pavement Section ____ Date ____/____/____

LIST OF ESTIMATED QUANTITIES

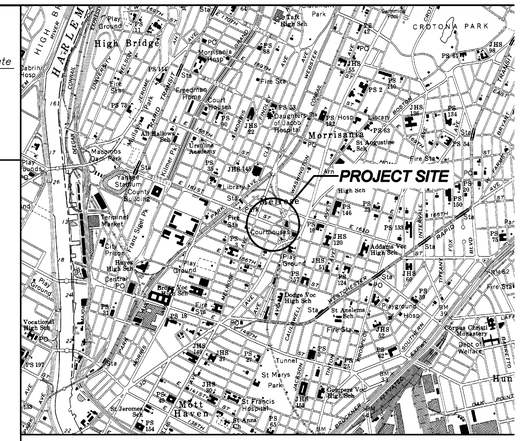
New Curb	101	Lin. ft.
New Sidewalk	2,020	Sq. ft.
New Roadway	56	Sq. yds.
New Trees*	0	Each
New CBs	0	Each
New DIP	0	Lin. ft.
New Manholes	0	Each

* TREE PLANTING PERMITS WILL BE FILED SEPARATELY TO THE NEW YORK CITY DEPARTMENT OF PARKS & RECREATION.

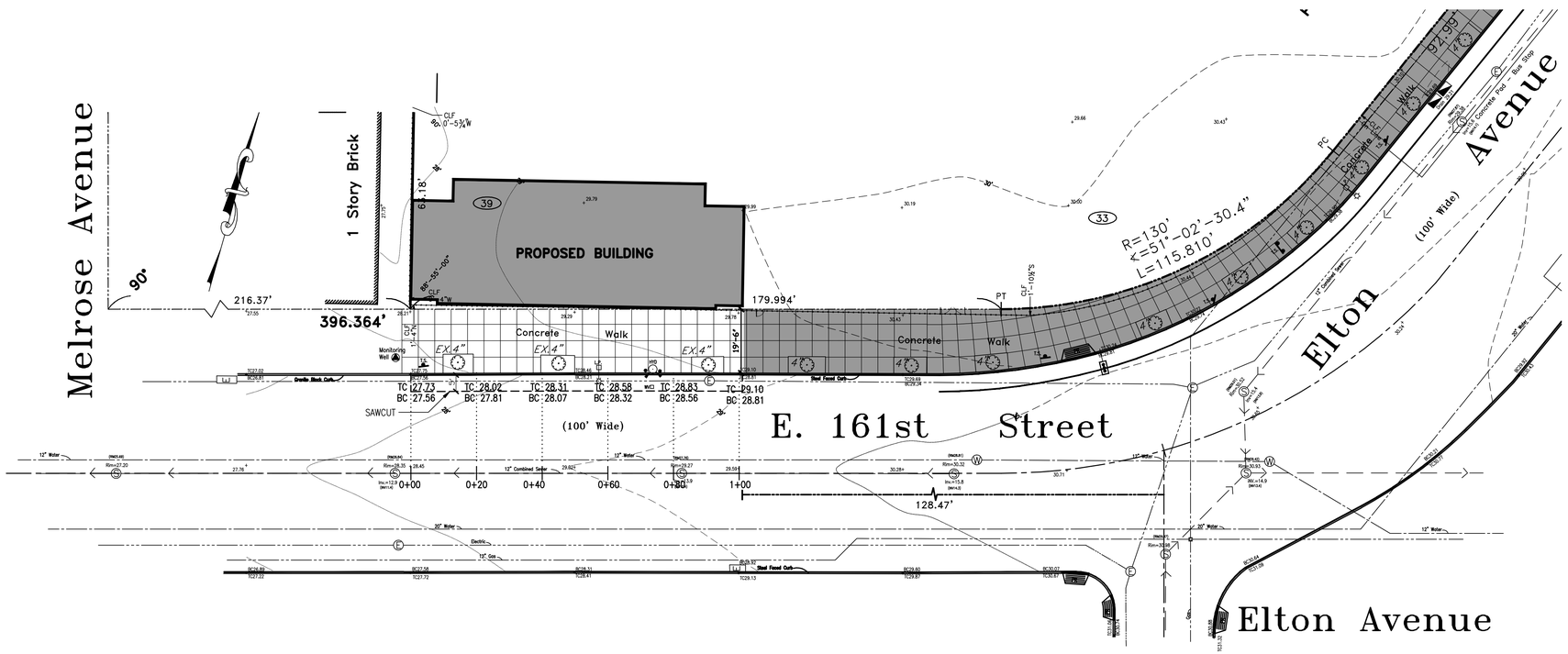
Date: 4/24/2015	DOB Ref. No.: -	BPP - 001.00

DOT APPROVAL OF DESIGN ELEMENTS
For self-certified projects only

Item requiring DOT approval	Approved by	Date



LOCATION MAP



NOTES

GENERAL REQUIREMENTS

ALL DESIGNS, MATERIALS, CONSTRUCTION METHODS AND WORKMANSHIP SHALL COMPLY WITH THE FOLLOWING PUBLICATIONS OF THE BUREAU OF HIGHWAYS: STANDARD SPECIFICATIONS, STANDARD DETAILS OF CONSTRUCTION; RULES OF THE BUREAU OF HIGHWAY OPERATIONS; GUIDELINES FOR THE DESIGN OF INFRASTRUCTURE COMPONENTS.

ALL NON-STANDARD MATERIALS AND CONSTRUCTION PROCEDURES SHALL BE SPECIFICALLY APPROVED IN WRITING BY THE DOT.

ANY WORK NOT COMPLYING WITH THE REQUIREMENTS OF THE DOT SHALL BE REMOVED AND REPLACED.

THIS PLAN SHALL BE VALID FOR THE ISSUANCE OF CONSTRUCTION PERMITS FOR A PERIOD OF ONE YEAR FROM THE DATE OF APPROVAL OR SELF-CERTIFICATION, AS APPLICABLE.

ALL SIDEWALK AND STREET AREAS CONSTRUCTED UNDER THIS PLAN SHALL REMAIN OPEN TO THE PUBLIC AT ALL TIMES.

ISSUANCE OF PERMITS

NO SIDEWALK, CURB OR ROADWAY WORK SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH HIGHWAY SUPERINTENDANT. APPLICATION SHALL BE MADE THREE DAYS BEFORE STATING CONSTRUCTION. THE CONTRACTOR SHALL HAVE ALL REQUIRED INSURANCE COVERAGE ON FILE.

NO WORK ON DRAINAGE STRUCTURES SHALL BE DONE WITHOUT A PERMIT FROM THE BOROUGH OFFICE OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

ANY VAULT WORK AT THE SITE SHALL BE DONE AS PER THE APPLICABLE RULES OF THE DOT AND THE DEPT. OF BUILDINGS.

CONSTRUCTION ACTIVITY

A CONSTRUCTION PLAN SHOWING MAINTENANCE AND PROTECTION OF TRAFFIC, INCLUDING PLACEMENT OF SIDEWALK BRIDGES, BARRIERS AND SIGNAGE, SHALL BE SUBMITTED OT THE BOROUGH HIGHWAY OFFICE BEFORE CONSTRUCTION BEGINS.

NO SIDEWALK SHALL BE CLOSED WITHOUT A PERMIT. PEDESTRIAN AND TRAFFIC SAFETY SHALL BE PROTECTED AT ALL TIMES. ROADWAY CLOSINGS SHALL BE AS DIRECTED.

THE SITE SHALL BE MAINTAINED IN A CLEAN AND SAFE CONDITION.

FINAL SIGN-OFF

PERMITS SHALL BE PRESENTED FROM ALL PUBLIC AGENCIES AND UTILITIES HAVING OWNERSHIP OF STRUCTURES RELOCATED OR REMOVED DURING CONSTRUCTION.

ALL PAVEMENT MARKINGS INCLUDING THERMOPLASTIC LANE DIVIDERS, REMOVED DURING CONSTRUCTION SHALL BE REPLACED IN KIND TO THE BUREAU OF TRAFFIC STDS.

ALL EXISTING CATCH BASINS ON SITE SHALL BE CLEANED AND MADE OPERABLE.

ALL DAMAGE CAUSED BY CONSTRUCTION ON THIS PROJECT OUTSIDE THE PROJECT LIMITS SHALL BE REPAIRED AS DIRECTED.

THE ROADWAY SHALL BE PAVED TO THE REQUIREMENTS OF THE DOT AND AS DIRECTED.

Note: NB Application Number 220404612

LEGEND

Sewer Manhole	S
WaterManhole	W
Electric Manhole	E
Electric Box	Lu
Water Valve	
Gas Valve	
Fire Hydrant	HYD
Light Pole	L.P.
Walk/Don't Walk Signal	WALK / DON'T WALK
Traffic Signal	
Traffic Sign	T.S.
Pedestrian Ramp	PR
Top Curb Elevation	TC48.65
Bottom Curb Elevation	BC48.40
Legal Grade	LG49.52
Rim Elevation (NAVD88)	RIM=48.97
Invert (NAVD88)	Inv=36.9
Rim Elevation (BRONX SEWER DATUM)	(RIM47.46)
Invert (BRONX SEWER DATUM)	(INV35.4)
Top Catch Basin Elevation	TCB48.65
Bottom Catch Basin Elevation	BCB48.40
Spot Elevation	+48.56
Tax Lot	20
Chain Link Fence	
Steel Face Curb	
Concrete or Stone Curb	
Drop Curb	
Sewer Line	
Water Line	
Street Line as per City Final Map	

Notes:

1) ALL ELEVATIONS SHOWN HEREON REFER TO THE NAVD 1988 DATUM.
2) ALL SUBSURFACE UTILITIES SHOWN HEREON WERE OBTAINED FROM CITY DEPARTMENTS & PRIVATE UTILITY COMPANIES & THE LOCATION OF SAID UTILITIES ARE APPROXIMATE ONLY & NOT GUARANTEED BY THE SURVEYOR. CONSULT APPROPRIATE DEPARTMENT OR COMPANY BEFORE DESIGNING ANY CONNECTIONS.
3) NONVISIBLE EASEMENTS, RECORDED OR UNRECORDED, NOT SHOWN.
4) LEGAL GRADES REFER TO TOP OF CURB.
5) THERE ARE NO VISIBLE STREAMS OR WATERCOURSES ON THE PROPERTY
6) UNDERGROUND FOUNDATIONS OR SUBSTRUCTURES NOT VISIBLE NOT SHOWN, AS SHOWN ON THIS SURVEY.

PROFESSIONAL CERTIFICATION

I am submitting this plan under professional certification in compliance with all applicable requirements.

Signature _____ Date ___/___/___

DOB APPROVAL NOT REQUIRED

DOB APPROVAL

Proposed and existing work shown here reviewed for compliance with all applicable rules and requirements by

Plan Examiner _____

Approved for issuance of work permits granted by:

Chief/Builders Pavement Section _____ Date ___/___/___

UNAUTHORIZED ALTERATION OF, OR ADDITION TO PLANS OR DOCUMENTS BEARING THE SEAL OF A LICENSED PROFESSIONAL ENGINEER IS A VIOLATION OF SECTION 7209, SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

ANY ALTERATION TO THIS DOCUMENT MUST BE DONE BY A PERSON ACTING UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL IN ACCORDANCE WITH THE STATE EDUCATION LAW.

COPIES OF THIS DOCUMENT NOT MARKED WITH AN ORIGINAL OF THE PROFESSIONAL ENGINEERS INKED SEAL OR HIS EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE VALID TRUE COPIES.

REV.	DATE	DESCRIPTION	BY

JOB NO. 0739-09-001

DRAWN AXC

CHECKED WH

APPROVED RDG

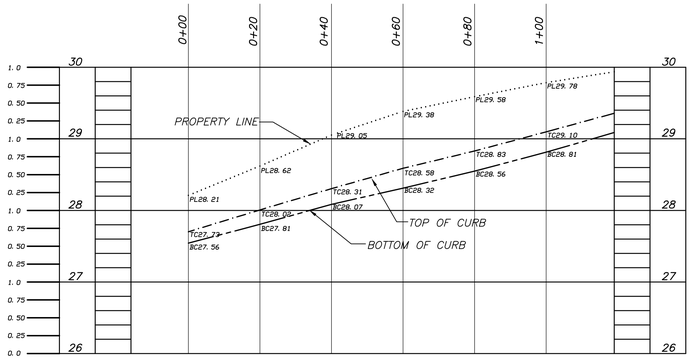
SEAL

MELROSE COMMONS SITE C - SUPPORTIVE
E. 161st Street and Elton Avenue, Bronx, N.Y.

BUILDERS PAVEMENT PLAN SIDEWALK DETAIL

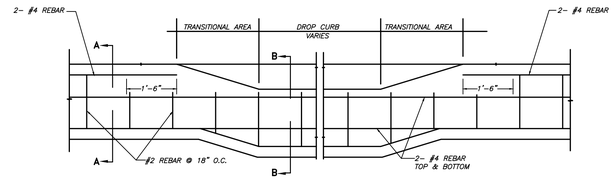
Galli Engineering, P.C.
35 PINELAWN ROAD, SUITE 209E
MELVILLE, NEW YORK 11747
PH: 1-631-271-9292 FAX: 1-631-271-9345

SCALE	DATE	SHEET NO.	NYCDOB NUMBER
1"=20'	04/24/15	2 of 4	BPP-100.00

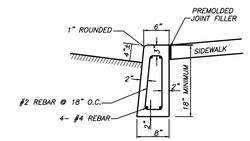


PROFILE OF EAST 161ST STREET

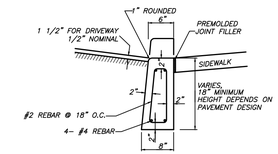
SCALE: VERTICAL: 1" = 1'-0"
HORIZONTAL: 1" = 20'



CURB ELEVATION VIEW
(NOT TO SCALE)



SECTION A-A
(NOT TO SCALE)



SECTION B-B
(NOT TO SCALE)

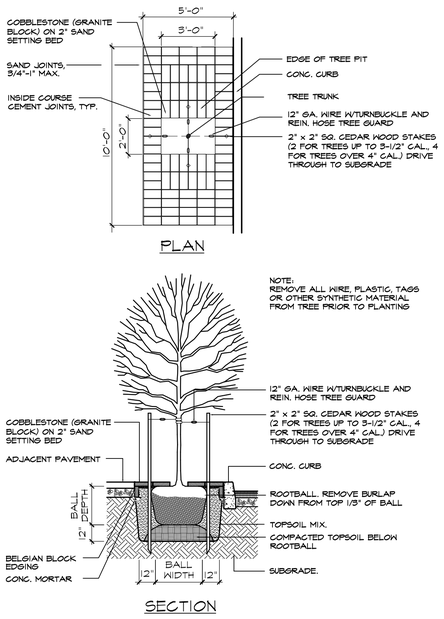
GENERAL NOTES:

1. ALL UNSUITABLE MATERIAL SHALL BE REMOVED PRIOR TO COMPACTING SUB-BASE.
2. ALL POLES, HYDRANTS, ETC. SHALL BE PLACED WITHIN THE SEEDED SIDEWALK AREA. THE FACES OF SUCH POLES, HYDRANTS, ETC. SHALL NOT BE MORE THAN 1'-0" FROM THE EDGE OF THE TRAVEL WAY OR FACE OF CURB.
3. ALL UTILITIES SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF SUB-BASE.
4. ALL MATERIALS SHALL CONFORM TO SPECIFICATIONS FOR THE ITEMS SHOWN.
5. FIELD COMPACTION OF ASPHALT SHALL BE 95% OF DESIGN DENSITY. A LABORATORY SPECIMEN MADE IN THE PROPORTIONS OF THE JOB MIX FORMULA FOR EACH CLASS MIX COMPACTED 75 ON EACH FACE OF A 2 1/2" THICK SPECIMEN BY A STANDARD MARSHALL HAMMER SHALL BE AS THE STANDARD FOR DENSITY COMPARISON.
6. ASPHALT SURFACE SHALL HAVE A COMPRESSIVE STRENGTH OF 100 P.S.I.
7. C.B.R. VALUE OF 6" GRANULAR SUB-BASE SHALL BE 80.
8. C.B.R. VALUE OF SUB-BASE SHALL BE 20.

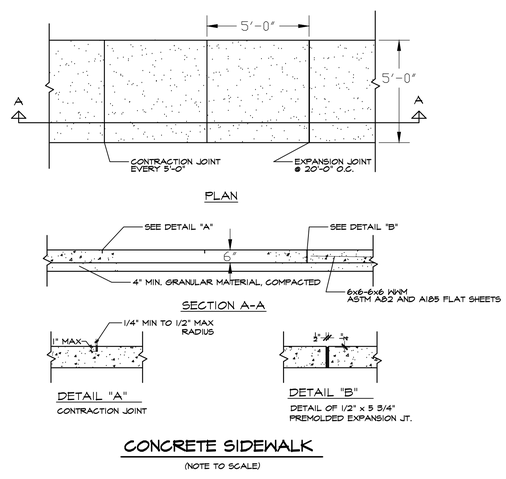
NOTES:

1. CONCRETE SHALL BE CLASS A-40, 4,000 PSI AS PER SECTION 3.05 OF HIGHWAY STANDARDS SPECIFICATIONS.
2. STEEL REINFORCEMENT SHALL BE AS PER ASTM A 615. SEE PROVISION 24, PAGE AA19 OF ADDENDUM NO. 1 TO STANDARD SPECIFICATION.
3. THE SLOPE OF THE TOP OF CURB SHALL CONFORM TO SLOPE OF THE SIDEWALK IN ALL CASES.
4. EXPANSION JOINTS IN CURB SHALL NOT EXCEED 20'-0" O.C.
5. THE EXPANSION JOINTS OF THE CURB SHOULD LINE UP WITH THE EXPANSION JOINTS IN THE SIDEWALK.

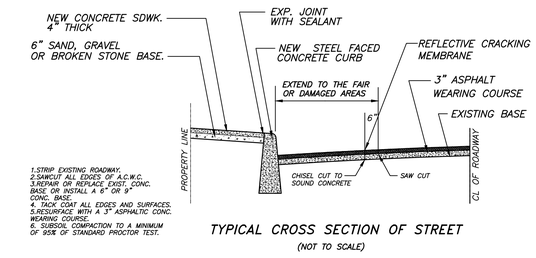
CURBCUT DETAIL
DOT REF. DETAIL H-1015-R79
(NOT TO SCALE)



TREE PLANTING DETAIL
(NOTE TO SCALE)



CONCRETE SIDEWALK
(NOTE TO SCALE)



TYPICAL CROSS SECTION OF STREET
(NOT TO SCALE)

NOTE:

EXPANSION JOINTS SHALL BE PLACED APPROX. 20' APART, IN LINE WITH JOINTS IN CURB AND AT THE PROPERTY OR LOT LINE AND SHALL BE 1/2" WIDE AND SHALL BE FILLED WITH PREFORMED JOINT FILLER TO WITHIN 1" OF THE SIDEWALK SURFACE. THE TOP 1" SHALL BE SEALED WITH POURED JOINT FILLER. THE EXPANSION JOINT, WITH FILLER SHALL EXTEND CONTINUOUSLY FROM THE BACK OF THE CURB TO THE BUILDING LINE AND A JOINT MUST ALSO SEPARATE THE SIDEWALK FROM THE CURB.

PROFESSIONAL CERTIFICATION

I am submitting this plan under professional certification in compliance with all applicable requirements.

Signature _____ Date ___/___/___

DOB APPROVAL NOT REQUIRED

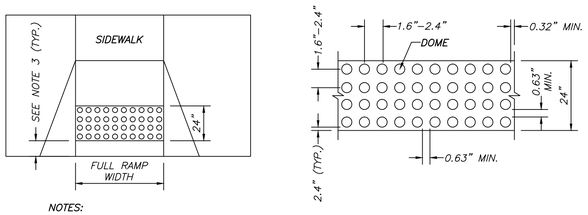
DOB APPROVAL

Proposed and existing work shown here reviewed for compliance with all applicable rules and requirements by

Plan Examiner _____

Approved for issuance of work permits granted by:

Chief/Builders Pavement Section _____ Date ___/___/___



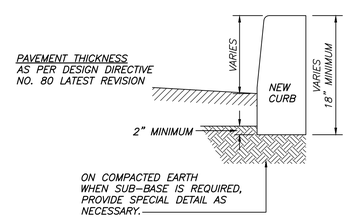
NOTES:

1. PEDESTRIAN RAMP SHALL BE CONSTRUCTED IN ACCORDANCE WITH LATEST NYCDOT STANDARDS AND REQUIREMENTS (H-1011-R09/06)
2. THE SIZE OF THE DETECTABLE EARNING FIELD SHALL BE 24" IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP OR FLUSH SURFACE, EXCLUSIVE OF SIDE FLARES.
3. DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD NEAREST TO THE ROADWAY OR STREET SURFACE IS 6" TO 9" FROM THE EDGE OF THE ROADWAY/STREET, OR FROM THE FRONT OF THE DROPPED CURB, WHERE A DROPPED CURB CONTINUES ACROSS THE BOTTOM OF THE SIDEWALK CURB RAMP.

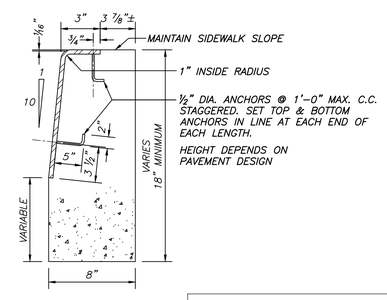
PEDESTRIAN RAMP DETECTABLE WARNINGS
(NOT TO SCALE)

NOTES:

1. EXPANSION JOINTS IN THE STEEL CURB FACING AND CONCRETE BACKING SHALL BE AT A MAXIMUM SPACING OF 24 FEET.
2. THE EXPANSION JOINTS OF THE CURB AND STEEL CURB FACING SHALL LINE UP WITH THE EXPANSION JOINTS OF THE CONCRETE SIDEWALKS.
3. NO PIECE OF STEEL CURB FACING HAVING LESS THAN TWO (2) WELDED DOWELS MAY BE INSTALLED UNLESS IT IS WELDED TO THE ADJACENT STEEL CURB FACING.
4. ½" DIA. x 5" HEADED ANCHOR STUDS (GRANULAR OR SOLID FLUX FILLED) MAY BE SUBSTITUTED.
5. STRUCTURAL STEEL AS PER BOARD OF STD. SPECS 20-S-35 TYPE A-1 (ASTM DESIGNATION A36)
6. SURFACE TO BE PAINTED SHALL BE THOROUGHLY CLEANED AND THEN PAINTED IN ACCORDANCE WITH D.O.T. SPECIFICATIONS, LATEST REVISION.
7. WHERE TWO (2) PIECES OF STEEL CURB FACING ARE JOINED BUT NOT WELDED, TWO (2) ONE-HALF (1/2) INCH RODS, TWENTY-FOUR (24) INCHES LONG SHALL BE INSERTED INTO THE CONCRETE BACKING, ONE-HALF (1/2) THE LENGTH AT EACH SIDEOF THE JOINT.
8. CONCRETE TO BE CLASS B-32, AIR ENTRAINED.
9. CORNER CURB: VERTICAL FACE WILL BE ACCEPTABLE FOR CORNER CURBS PROVIDING THE ENDS ARE WARPED TO FORM A TRANSITION WITH ADJACENT BATTERED FACE CURBS.



TYPICAL SECTION
(NOT TO SCALE)



DETAIL
(NOT TO SCALE)

STEEL FACED CURB DETAIL
DOT REF. DETAIL H-1010-R79
(NOT TO SCALE)

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COPIES OF THIS DOCUMENT NOT MARKED WITH AN ORIGINAL OF THE PROFESSIONAL ENGINEERS INKED SEAL OR HIS EMBOSSED SEAL SHALL NOT BE CONSIDERED TO BE VALID TRUE COPIES.

REV.	DATE	DESCRIPTION	BY

JOB NO. 0739-09-001

DRAWN AXC

CHECKED WH

APPROVED RDG

SEAL

MELROSE COMMONS
SITE C - SUPPORTIVE
E. 161st Street and Elton Avenue, Bronx, N.Y.

BUILDERS PAVEMENT PLAN
SIDEWALK DETAIL

Galli Engineering, P.C.
35 PINELAWN ROAD, SUITE 209E
MELVILLE, NEW YORK 11747
PH: 1-631-271-9292 FAX: 1-631-271-9345

SCALE	DATE	SHEET NO.	NYCDOB NUMBER
1"=20'	04/24/15	3 of 4	BPP-101.00

1. ELEVATIONS ARE BASED ON THE NORTH AMERICAN VERTICAL DATUM (NAVD88) WHICH IS 1.10 FEET ABOVE THE UNITED STATES COAST AND GEODETIC SURVEY DATUM MEAN SEA LEVEL, SANDY HOOK, NEW JERSEY.

2. UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES, WHETHER FUNCTIONAL OR ABANDONED, WITHIN THE PROJECT AREA ARE SHOWN.

3. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF DESIGN ELEMENTS AND LOCATIONS OF EXISTING ELEMENTS. IMMEDIATELY INFORM THE ARCHITECT AND CONSTRUCTION MANAGER ABOUT ANY DIMENSIONAL DISCREPANCIES OR POTENTIAL CONFLICTS.

4. MATERIALS, CONSTRUCTION METHODS AND WORKMANSHIP FOR STANDARD DETAILS SHALL CONFORM WITH STANDARD DETAILS AND SPECIFICATIONS OF NEW YORK STATE DEPARTMENT OF TRANSPORTATION AND/OR THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION BUREAU OF HIGHWAY OPERATIONS (LATEST EDITION) AVAILABLE AT 40 WORTH STREET, ROOM 824.

5. PROVIDE ONE-QUARTER (1/4) INCH EXPANSION JOINTS WITH PREFORMED FILLER AND SEALANT IN ACCORDANCE WITH THE NEW YORK CITY DEPARTMENT OF TRANSPORTATION STANDARDS. CONTRACTOR TO SUBMIT LOCATIONS OF EXPANSION JOINTS FOR ARCHITECTS APPROVAL.

6. EXPANSION JOINTS FOR ALL CURBS SHALL BE ONE-HALF (1/2) INCH WIDTH FILLED WITH PREMOLDED JOINT FILLER AND JOINT SEALANT. EXPANSION JOINTS FOR CURBS SHALL LINE UP WITH THE PROPOSED LOCATION OF EXPANSION JOINTS IN NEW ABUTTING CONC. SIDEWALK. FILLERS SHALL COMPLETELY FILL THE JOINT AND SHALL BE CUT FLUSH WITH ALL CURB SURFACES.

7. ALL EXISTING MANHOLES, VALVE BOXES AND OTHER HARDWARE SHALL BE ADJUSTED TO FINISH GRADES AS NECESSARY.

8. ALL EXISTING HYDRANTS AND CATCH BASINS WITHIN THE WORK LIMITS SHALL BE MADE OPERABLE PER THE LATEST NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS AND REQUIREMENTS.

DRAINAGE NOTES :

1. ALL CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS AND REQUIREMENTS. ALL NEW CATCH BASIN CONNECTIONS SHALL BE MADE TO THE EXISTING SEWERS AT MANHOLES AND SHALL CONSIST OF 12" DUCTILE IRON PIPE CLASS 56, "PUSH-ON" JOINTS LAID ON BROKEN STONE.

2. ALL EXISTING NON-STANDARD BASINS WITHIN THE PROJECT LIMITS SHALL BE REPLACED OR MODIFIED TO CONFORM WITH THE LATEST NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION STANDARDS AND REQUIREMENTS.

3. ALL EXISTING BASINS, INLETS, AND DRAINAGE STRUCTURES TO BE ABANDONED SHALL BE BULKHEADED AND CUT DOWN TO TWO (2) FEET BELOW SUBGRADE, HOLES PUNCHED IN BOTTOM SLAB AND FILLED WITH COMPACTED CLEAN SAND. BASIN CONNECTIONS TO BE ABANDONED SHALL BE PLUGGED AT BOTH ENDS.

4. ALL DAMAGED MANHOLES DAMAGED BY THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR, AS DIRECTED BY THE ENGINEER, AT NO COST TO THE CITY.

5. PRIOR TO INSTALLATION OF THE DRAINAGE FACILITIES PROPOSED UNDER THIS PLAN, PERMITS ARE TO BE OBTAINED FROM THE LOCAL SEWER RECORDS OFFICE OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (D.E.P.). CONSTRUCTION INSPECTION IS TO BE REQUESTED AT LEAST 24 HOURS IN ADVANCE FROM THE HOUSE CONNECTION INSPECTION UNIT OF THE D.E.P. DIVISION OF SEWER REGULATION AND CONTROL.

6. TREE PLANTING SHALL BE IN ACCORDANCE WITH THE NEW YORK CITY PARKS AND RECREATION (NYCDPR) STANDARDS AND REQUIREMENTS.

7. PROPOSED TREE PLANTING PERMITS WILL BE FILED SEPARATELY TO THE NEW YORK CITY DEPARTMENT OF PARKS AND RECREATION FOR APPROVAL.

LEGEND :

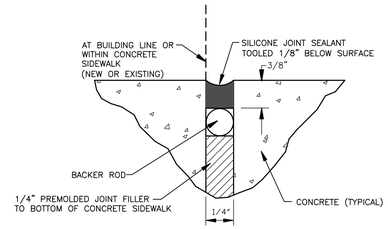
- (E) EXISTING ELECTRIC MANHOLE COVER
- (S) EXISTING SEWER MANHOLE COVER
- EXISTING STREET LIGHT
- EXISTING CATCH BASIN
- PL PROPERTY LINE
- TC TOP OF CURB
- BC BOTTOM OF CURB
- SIGN TRAFFIC SIGN POST
- FIRE HYDRANT
- WV WATER VALVE
- PROPOSED PROPERTY LINE
- EXISTING PROPERTY LINE
- PROPOSED TOP OF CURB
- EXISTING TOP OF CURB
- PROPOSED BOTTOM OF CURB
- EXISTING BOTTOM OF CURB
- PROPOSED TREE IN 5'X10' TREE PIT

NOTES:

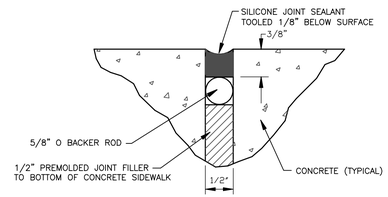
1. ALL UTILITIES, VALVES, AND FEATURES TO BE RESET TO MATCH PROPOSED GRADES AS NEEDED.

2. ENTRANCE DOORS SWING WILL NOT BE PROJECTED BEYOND THE PROPERTY LINE MORE THEN 18".

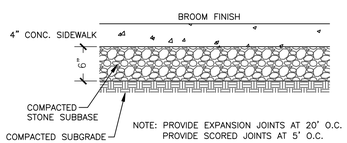
3. ALL NEW SIDEWALK SHOWN ON PLAN IS NON-DISTINCTIVE SIDEWALK WITH A CONCRETE SLAB PATTERN OF 5'x5' AND CONCRETE COLOR SHALL BE ORIGINAL.



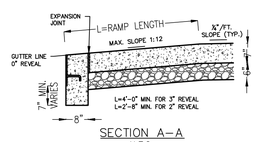
1 1/4" EXPANSION JOINT DETAIL
SCALE: N.T.S.



2 1/2" CURB EXPANSION JOINT DETAIL

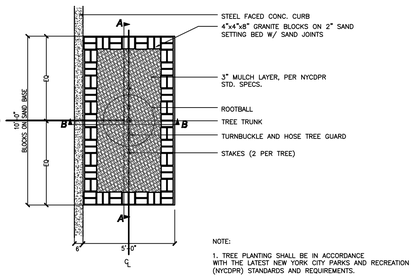


4 SIDEWALK ON GRADE
SCALE: N.T.S.



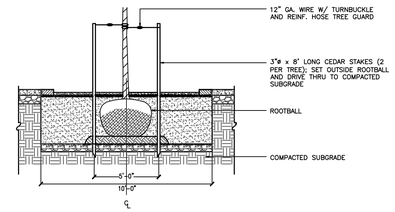
SECTION A–A
N.T.S.

5 SIDEWALK PEDESTRIAN RAMP
SCALE: N.T.S.

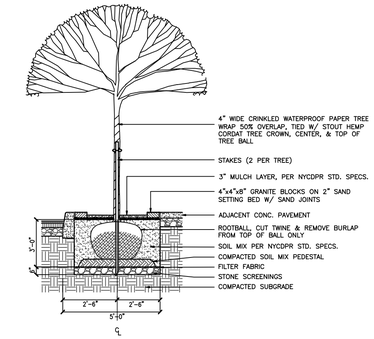


NOTE:
1. TREE PLANTING SHALL BE IN ACCORDANCE WITH THE LATEST NEW YORK CITY PARKS AND RECREATION (NYCDPR) STANDARDS AND REQUIREMENTS.

PLAN

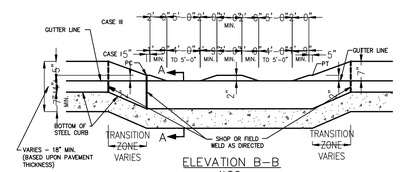


SECTION A-A



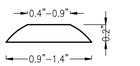
SECTION B-B

3 TREE PLANTING DETAIL
SCALE: N.T.S.

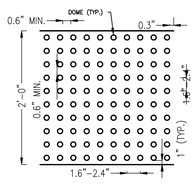


NOTES

1. REFER TO H-1010 (LATEST REVISION) FOR STEEL FACED CURB TYPE D.
2. ALL MATERIALS AND CONSTRUCTION METHODS USED SHALL CONFORM TO SECTIONS #4.08/4.09/4.13/4.13DE OF THE STANDARD SPECIFICATIONS; LATEST EDITION, AS AMENDED.
3. WHEN INSTALLING PEDESTRIAN RAMPS IN OTHER THAN PRE-ENGINEERED CAPITAL RECONSTRUCTION PROJECTS, ALLOWANCE SHALL BE MADE FOR EXISTING CONDITIONS PROVIDED THAT THE SLOPE OF THE RAMP SHALL NOT EXCEED 1:12 AND THE ZERO INCH REVEAL IS OBTAINED. TO INSURE THAT SOUND ENGINEERING JUDGMENT IS USED IN MEETING EXISTING CONDITIONS, ANY AND ALL VARIATIONS FROM THE DETAILS OF CONSTRUCTION HEREIN SHOWN MUST HAVE THE JOINT APPROVAL OF THE COMMISSIONER.
4. CASE II PLAN SHALL BE USED ONLY WHERE EXPLICITLY DIRECTED BY THE ENGINEER AND APPROVED BY THE COMISSIONER PRIOR TO DESIGN/INSTALLATION.
5. SURFACE OF ALL PEDESTRIAN RAMPS SHALL BE STABLE, FIRM AND SLIP RESISTANT. CONCRETE RAMP SURFACE SHALL HAVE A COARSE BROOM FINISH RUNNING PERPENDICULAR TO THE SLOPE, EXCLUSIVE OF THE DETECTABLE WARNING FIELDS.
6. LANDINGS BETWEEN THE PROPERTY LINE AND THE BACK EDGE OF RAMPS SHALL HAVE A MINIMUM CLEAR DIMENSION OF 5 FT. BY 5 FT. SQUARE. HOWEVER, WHERE CASE I RAMPS ARE USED THE MINIMUM CLEAR DIMENSION SHALL BE 4 FT. BY 4 FT. SQUARE. THE MAXIMUM CROSS SLOPE AT LANDINGS IS 1/4" PER FOOT IN ANY DIRECTION. LANDINGS MAY OVERLAP WITH ADJACENT LANDINGS OR A SINGLE LANDING MAY SERVE MULTIPLE CURB RAMPS.
7. ALL EXPOSED STEEL SURFACES SHALL BE GROUND SMOOTH.
8. ON FULL WIDTH SIDEWALKS, EXPANSION JOINTS TO BE PLACED AT BUILDING FACES AND STRUCTURES, AS WELL AS AT BACK FACE OF CURB.
9. ALL DIMENSIONS AND NOTES SHALL BE APPLICABLE TO GRANITE CURB INSTALLATIONS AND/OR CONCRETE CURB INSTALLATIONS.
10. THE DETAILS PROVIDED ARE NOT DRAWN TO SCALE. THE QUANTITY OF DOMES DEPICTED ON THE DETECTABLE WARNING FIELD (THE DOMES AND THE ENTIRE 2 FT. WIDE SURFACE) IS FOR ILLUSTRATION ONLY.
11. THE SIZE OF THE DETECTABLE WARNING FIELD SHALL BE 2 FT. IN THE DIRECTION OF TRAVEL AND SHALL EXTEND THE FULL WIDTH OF THE CURB RAMP AS SHOWN, EXCLUSIVE OF SIDE FLARES.
12. DETECTABLE WARNINGS SHALL BE LOCATED SO THAT THE EDGE OF THE WARNING FIELD NEAREST TO THE ROADWAY OR STREET SURFACE IS 0" TO 3" FROM THE BACK OF CURB AS SHOWN.
13. DOMES SHALL BE ALIGNED ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF TRAVEL.
14. THE DETECTABLE WARNING FIELD SHALL BE THE COLOR SPECIFIED IN THE CONTRACT DOCUMENTS OR SHALL VISUALLY CONTRAST WITH THE ADJOINING CURB RAMP, OR OTHER ADJACENT WALKWAY SURFACES WHERE THERE IS NO CURB RAMP. EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT AS DEFINED IN THE AMERICANS WITH DISABILITES ACCESSIBILITY GUIDELINES (ADAAG).
15. PAVEMENT LINES FOR DETECTABLE WARNING UNITS ARE THE 2FT. DIMENSION SHOWN IN THE DETAILS EXTENDING THE FULL WIDTH OF THE CURB RAMP.
16. WHEN STREET FURNITURE (LAMP POSTS, TRAFFIC SIGNAL POSTS, UTILITY POSTS, HYDRANTS, ETC.) INTERFERES WITH THE CONSTRUCTION OF A SIDE FLARE ADJACENT TO A NON-WALKING (GRASS) AREA, SAID SIDE FLARE SHALL BE REPLACED WITH A CONCRETE CURB, AS DIRECTED BY THE ENGINEER, PROVIDED THE INTERFERENCE CAN BE AVOIDED AND LEFT IN PLACE.



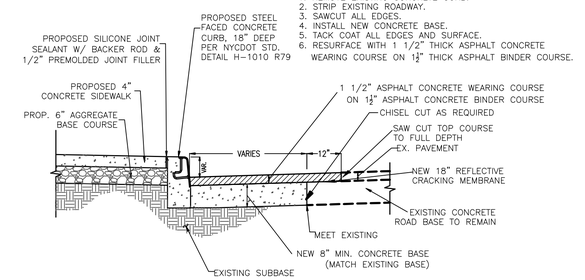
DOME SECTION



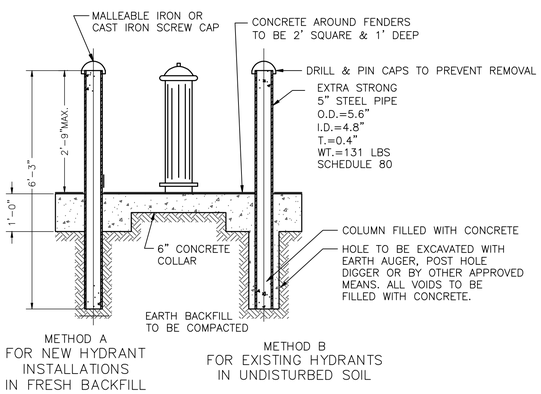
DOME SPACING

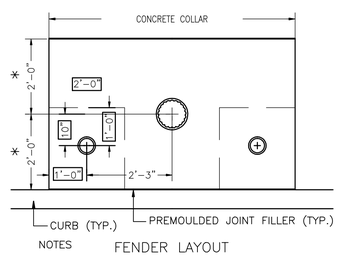
DETECTABLE WARNING SURFACE DETAILS

NOTES:
1. REMOVE EXISTING CONCRETE CURB.
2. STRIP EXISTING ROADWAY.
3. SAWCUT ALL EDGES.
4. INSTALL NEW CONCRETE BASE.
5. TACK COAT ALL EDGES AND SURFACE.
6. RESURFACE WITH 1 1/2" THICK ASPHALT CONCRETE WEARING COURSE ON 1½" THICK ASPHALT BINDER COURSE.



6 TYPICAL SIDEWALK & ROADWAY RESTORATION DETAIL
SCALE: N.T.S.



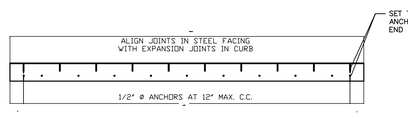


FENDER LAYOUT

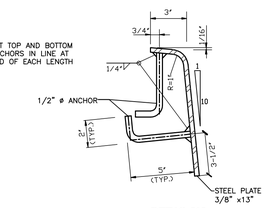
NOTES

1. DIMENSIONS SHOWN THUS 10" ARE TYPICAL DIMENSIONS.
2. DIMENSIONS MARKED WITH AN ARE MINIMUM DIMENSIONS.
3. CONCRETE COLLARS SHALL BE INSTALLED TO BE FLUSH WITH ADJACENT PAVEMENT.
4. ALL PARTS OF HYDRANT FENDER SHALL BE CLEANED OF SCALE, RUST AND DIRT AND BE COATED ON THE OUTSIDE WITH ONE COAT OF RED LEAD AND AND ONE COAT OF BLACK ASPHALT PAINT BELOW THE GROUND AND ONE COAT OF ALUMINUM PAINT ABOVE THE GROUND.
5. FIRE HYDRANT FENDERS SHOULD RECIEVE DECORATIVE CAPS AND SHALL BE PAINTED BLACK. SEE STANDARD NYCDEP (WATER SUPPLY) DRAWING 49500-Z FOR DETAILS.

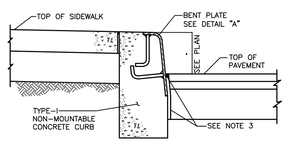
7 STANDARD STEEL HYDRANT FENDER DETAIL
SCALE: N.T.S.



ELEVATION - STEEL FACING



DETAIL "A"



NOTES:

1. 1/2"ø X 5" LONG HEADED ANCHOR STUDS (GRANULAR OR SOLID FLUX FILLED) MAY BE SUBSTITUTED FOR ANCHORS SHOWN.
2. STEEL PLATE SHALL MEET ASTM A-36.
3. PROVIDE 1/2" X 1/2" JOINT SEALANT AND 1/2" PREMOLDED JOINT FILLER WHEN CONCRETE CURB IS PLACED AGAINST RIGID PAVEMENT.

8 TYPICAL STEEL FACED CONCRETE CURB DETAIL
SCALE: N.T.S.

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PROFESSIONAL CERTIFICATION

I am submitting this plan under professional certification in compliance with all applicable requirements.

Signature — Date

DOB APPROVAL NOT REQUIRED

DOB APPROVAL

Proposed and existing work shown here reviewed for compliance with all applicable rules and requirements by

Plan Examiner

Approved for issuance of work permits granted by:

Chief/Builders Pavement Section — Date

REV.	DATE	DESCRIPTION	BY

JOB NO. 0739-09-001

DRAWN AXC

CHECKED WH

APPROVED RDG

SEAL

MELROSE COMMONS SITE C - SUPPORTIVE
E. 161st Street and Elton Avenue, Bronx, N.Y.

NOTES & DETAILS

Galli Engineering, P.C.
35 PINELAWN ROAD, SUITE 209E
MELVILLE, NEW YORK 11747
PH: 1-631-271-9292 FAX: 1-631-271-9345

SCALE	DATE	SHEET NO.	NYCDOB NUMBER
1"=20'	04/24/15	4 of 4	BPP-102.00

GENERAL NOTES:

1. WORK MUST CONFORM TO THE REQUIREMENT OF THE 2014 NEW YORK CITY BUILDING CODE, FIRE DEPARTMENT REGULATIONS AND ALL APPLICABLE LAWS,UTILITY COMPANY REQUIREMENTS AND THE BEST TRADE PRACTICES AS WELL AS THE PROJECT SAFETY PLAN AND PROGRAM AND CONTRACT DOCUMENTS.

2. BEFORE COMMENCING WORK, THE CONTRACTOR SHALL FILE THE REQUIRED CERTIFICATE OF INSURANCE WITH THE DEPARTMENT OF BUILDINGS, OBTAIN ALL REQUIRED PERMITS FROM ALL APPLICABLE NYC AGENCIES, AND APPLY ALL FEES REQUIRED BY GOVERNING NEW YORK CITY AGENCIES.

3. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO COMMENCING WORK, AND SHALL REPORT ANY DISCREPANCIES BETWEEN DRAWING AND FIELD CONDITION TO THE PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT AND SHALL BE NOTIFIED IN WRITING PRIOR TO COMMENCING WORK.

4. MINOR DETAILS OR DIMENSIONS NOT USUALLY SHOWN OR SPECIFIED, BUT NECESSARY FOR PROPER REPAIRS OF ANY PART OF THE WORK SHALL BE INCLUDED AS IF THEY WERE INDICATED IN THE DRAWING AND THE CONSTRUCTION MANAGER AND APPLICABLE PROFESSIONAL ENGINEER OR REGISTERED ARCHITECT SHALL BE NOTIFIED IN WRITING PRIOR TO COMMENCING WORK.

5. THE CONTRACTOR SHALL COORDINATE ALL WORK PROCEDURES WITH REQUIREMENTS OF LOCAL AUTHORITIES AND BUILDING MANAGEMENT.

6. THE CONTRACTOR SHALL TAKE, AND BE RESPONSIBLE FOR, ALL MEASUREMENTS REQUIRED FOR PROPER EXECUTION OF THE WORK. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS AT THE WORK SITE SO THAT ALL WORK WILL BE PROPERLY JOINED TO THE EXISTING WORK. BEFORE COMMENCING WORK, HE SHALL EXAMINE ALL EXISTING WORK ON WHICH HIS WORK IS IN ANY WAY DEPENDENT FOR PERFECT WORKMANSHIP ACCORDING TO THE INTENT OF THESE SPECIFICATIONS AND SHALL REPORT TO THE ENGINEER ANY CONDITIONS WHICH WILL PREVENT HIM FROM PERFORMING HIS WORK IN A FIRST CLASS MANNER.

7. AT LEAST 24 HOURS WRITTEN NOTICE SHALL BE GIVEN TO THE DEPARTMENT OF BUILDINGS BEFORE THE COMMENCEMENT OF ANY WORK FOR WHICH A WORK PERMIT HAS BEEN OBTAINED. ENGINEER SHALL BE NOTIFIED IN WRITING AT LEAST 24 HOURS BEFORE ANY REPAIR WORK COMMENCES.

8. WHEN PERMISSION TO ENTER ADJOINING PROPERTY HAS BEEN OBTAINED, A PHYSICAL EXAMINATION OF SUCH PROPERTY SHALL BE CONDUCTED BY THE PERSON INITIATING THE CONSTRUCTION OPERATIONS PRIOR TO COMMENCEMENT OF OPERATIONS.

9. QUALIFIED ENGINEER SHALL BE ON SITE FOR CONTROLLED INSPECTION THROUGHOUT THE ENTIRE CONSTRUCTION OF UNDEPINNING/EXCAVATION AS PER NYC BUILDING CODE 1704.7.1 TO 1704.7.3.

MONITORING AND INSPECTION:

1. SURVEY MONITORING POINTS ON THE SPECIFIED LOCATIONS HAVE TO BE SET UP TO MONITOR ITS MOVEMENT IN BOTH DIRECTIONS, I.E. VERTICAL AND HORIZONTAL. IF ¼" MOVEMENT IS DETECTED IN EITHER DIRECTION, THE CONSTRUCTION MANAGER AND THE ENGINEER ON SITE SHALL BE INFORMED IMMEDIATELY FOR FURTHER INVESTIGATION AND PREVENTIVE WORK SHALL BE IMPLEMENTED. IF ½" MOVEMENT IS DETECTED IN EITHER DIRECTION, THE CONSTRUCTION ENGINEER AND ENGINEER ON SITE SHALL BE INFORMED AND ALL RELATED UNDERPINNING WORK SHALL BE STOPPED IMMEDIATELY. SUCH WORK CAN BE RESUMED ONCE REMEDIAL MEASURE IS IN PLACE.

2. UNTIL THE FOUNDATION WALL IS PERMANENTLY BRACED BY THE NEW INTERIOR STEEL FRAME (OR CONCRETE STRUCTURE) ONE READINGS MINIMUM HAVE TO BE TAKEN PER WEEK AND SUBMITTED TO LMW ENGINEERING GROUP FOR REVIEW.

3. DURING THE INSTALLATION OF THE BRACING SYSTEM, AN ENGINEER FROM LMW ENGINEERING GROUP WILL BE ON SITE CONDUCTING AN INSPECTION TO ENSURE THAT ALL NECESSARY PRECAUTIONS ARE TAKEN AND ESTABLISHED CONSTRUCTION SEQUENCE IS FOLLOWED. IT SHOULD BE NOTED THAT SUCH INSPECTION DOES NOT RELIEF THE CONTRACTOR FROM ITS RESPONSIBILITIES OF PROTECTING THE INTEGRITY OF THE FOUNDATION, AND SAFETY OF THE PERSONNEL WORKING AROUND IT.

SOLDIER PILE NOTES:

1. SOLDIER BEAMS TO BE INSTALLED EITHER BY IMPACT DRIVING OR BY DRILLING METHOD.

2. ALL THE PILES SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON CONTRACTORS DRAWINGS.

3. LAYOUT PILE LOCATION BY GENERAL CONTRACTOR (SURVEYED IN PLACE)

4. UTILITY IDENTIFICATION AND EXPLORATION AS NECESSARY BY GENERAL CONTRACTOR.

5. PLACE SOLDIER PILES ACCORDING TO SIZE, LENGTH AND UP TO TIP ELEVATION AS INDICATED ON DRAWINGS.

EXCAVATION NOTES:

1. ANY EXCAVATION DEEPER THAN 5' SHALL BE RETAINED BY A SOIL RETENTION SYSTEM AS PER BUILDING CODE 3304.4.1 THE INSTALLATION, MAINTENANCE AND REMOVAL (WHERE REQUIRED) SHALL BE THE COMPLETE AND SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND MINIMIZE SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE AND OUTSIDE THE PROJECT LIMITS. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY CONSTRUCTION TECHNIQUES OR MOVEMENTS OF THE SOIL RETENTION SYSTEM IS THE RESPONSIBILITY OF THE CONTRACTOR. THE DESIGN OF THE SOIL RETENTION SYSTEM WILL BE PROVIDED BY THE OWNER. THE CONTRACTOR WILL ASSIST THE OWNER IN THE APPROVAL PROCESS FOR THE RETENTION SYSTEM IF SO REQUIRED. THE CONTRACTOR SHALL PROVIDE ALL CONTROLLED SPECIAL INSPECTIONS REQUIRED BY THE STATE AND NEW YORK CITY BUILDING CODE (1704.7.1 THROUGH 1704.7.3) RELATING TO THE RETENTION SYSTEM.

2. THE CONTRACTOR SHALL COORDINATE ALL ELEMENTS OF THE SOIL RETENTION SYSTEM WITH ALL ELEMENTS OF THE PERMANENT BUILDING.

3. PRIOR TO ANY EXCAVATION OR INSTALLATION OF ELEMENTS OF THE SOIL RETENTION SYSTEM, THE CONTRACTOR SHALL ESTABLISH SURVEY POINTS AROUND THE PERIMETER OF THE AREA TO BE EXCAVATED AND OTHER POINTS UP TO 200 FEET BEYOND THE PERIMETER. THESE POINTS SHALL BE SURVEYED FOR VERTICAL AND HORIZONTAL MOVEMENT AT FREQUENT INTERVALS DURING ACTUAL EXCAVATION AND CONTINUING DURING EACH SUBSEQUENT PHASE OF THE WORK AND SUBMITTED TO THE ARCHITECT FOR INFORMATION

4. CONTRACTOR SHALL INSTALL PROTECTION FENCE AND GUARDRAILS AROUND THE PERIMETER OF EXCAVATION SITE FOLLOWING SAFETY ZONE PLANS IN ACCORDANCE TO NYCBC 3304.4, 3304.5.

5. ALL EXCAVATION SHALL BE BASED ON ENGINEERED DRAWINGS PREPARED BY THE CONTRACTOR INCLUDING PLANS AND SECTIONS OF EXCAVATION SEQUENCES. THE EXCAVATION SEQUENCES SHALL BE CONTROLLED TO MATCH THE REQUIREMENTS OF THE DESIGN OF THE SOIL RETENTION SYSTEM AND TO PERMIT MONITORING OF WALL AND GROUND MOVEMENTS.

6. THE GENERAL EXCAVATION ACROSS THE SITE SHALL NOT EXTEND DEEPER THAN THE SLAB-ON-GRADE SUBGRADE ELEVATION. THE EXCAVATIONS FOR FOOTINGS, GRADE BEAMS, PILE CAPS, MATS, PITS, SLABS, ETC. SHALL BE EXCAVATED ON AN INDIVIDUAL, LOCALIZED BASIS DOWN FROM THE SLAB-ON-GRADE SUBGRADE LEVEL.

7. ALL EXCAVATION BELOW THE SLAB LEVEL REQUIRED FOR PITS SHALL BE RETAINED BY LOCALIZED SOIL RETENTION SYSTEMS AS MAY BE NECESSARY BASED ON A DESIGN USING APPROPRIATED EARTH AND HYDRAULIC PRESSURES AND OTHER CONSTRUCTION LOADINGS.

8. THE CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION (MAT/SHEET COVERINGS) FOR ALL EXCAVATION SLOPES TO PROTECT SLOPES FROM INSTABILITY AND DETERIORATION DUE TO RAIN, WIND OR SNOW/ICE.

9. THE CONTRACTOR SHALL PROVIDE SURFACE DRAINAGE CHANNELS AND SUMPS AND SUMP PUMPS TO PROTECT ALL EXCAVATIONS FROM FLOODING AS PER NYCBC 3304.2 AND 3304.8. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF THE SUBGRADE WILL BE CAUSE FOR COMPLETE RE PREPARATION AND APPROVAL OF THE SUBGRADE.

10. PROVIDE A DRAINAGE PANEL AGAINST THE OUTSIDE FACE OF THE FOUNDATION WALL AT LOCATIONS INDICATED ON THE ARCHITECTURAL DRAWINGS.

11. THE OWNER'S SOIL TESTING LABORATORY SHALL REVIEW AND MONITOR THE EXCAVATION, DEWATERING AND SOIL RETENTION SYSTEMS. THE CONTRACTOR SHALL PROVIDE, INSTALL AND SURVEY: (A) VERTICAL AND HORIZONTAL MOVEMENTS OF THE TOP OF THE SOIL RETENTION SYSTEM: AND (B) BENCH MARKS ADJACENT TO AND AWAY FROM THE SITE PERIMETER FOR VERTICAL AND HORIZONTAL MOVEMENTS.

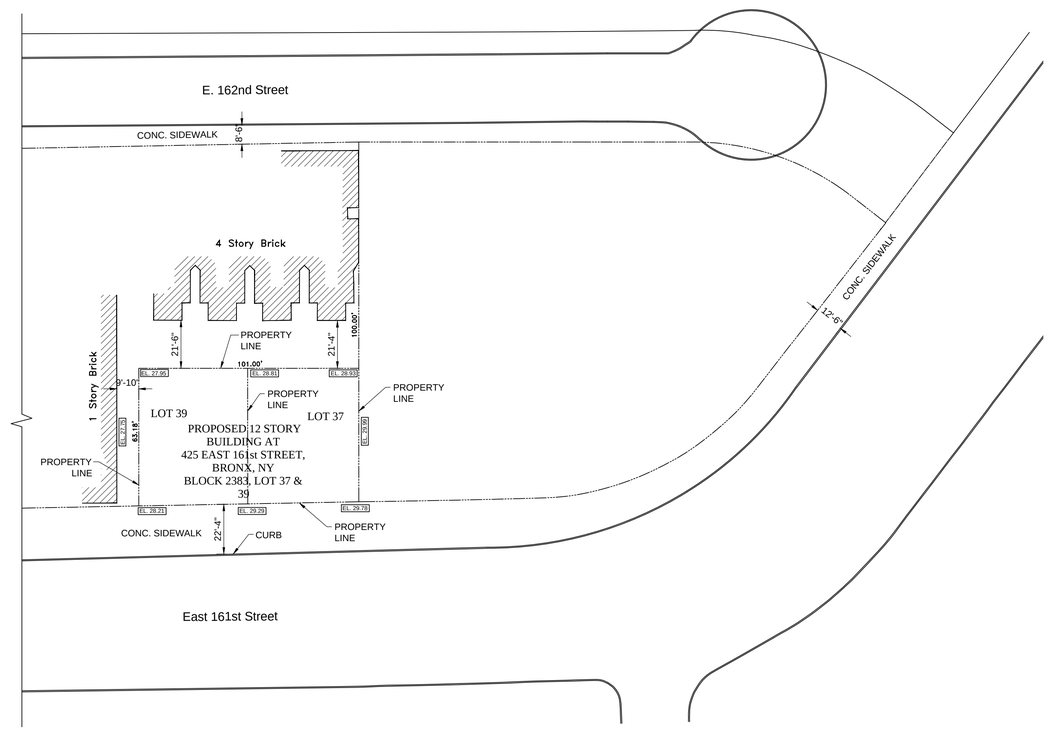
12. CONTRACTOR SHALL PROVIDE A NOTIFICATION TO THE NEW YORK CITY DEPARTMENT OF BUILDING AND ADJACENT BUILDING OWNERS PRIOR TO COMMENCING WORK IN ACCORDANCE TO NYCBC 3304.3, 3304.3.2.

13. WHEN EXCAVATION IS WITHIN 200 FEET OF ANY SUBWAY, TUNNEL ETC, AN APPROVAL AND PERMIT SHALL BE OBTAINED FROM THE NEW YORK CITY ENVIRONMENTAL PROTECTION OR FROM THE NEW YORK CITY TRANSIT AUTHORITY AS PER NYCBC 3304.3.3.

14. SEE SURVEY, PLUMBING AND ELECTRICAL DRAWINGS FOR UNDERFLOOR UTILITY AND GROUNDING REQUIREMENTS.

SPECIAL INSPECTION
AS PER BUILDING CODE

	SPECIAL INSPECTIONS	CODE/SECTION
	Structural Steel - Welding	BC 1704.3.1
	Structural Steel - Erection & Bolting	BC 1704.3.2, BC 1704.3.3
	Structural Cold-Formed Steel	BC 1704.3.4
	Concrete-Cast-in-Place	BC 1704.4
	Concrete - Precast	BC 1704.4
	Concrete - Prestressed	BC 1704.4
	Concrete Test Cylinders*	BC 1905.6
	Concrete Design Mix	BC 1905.3
	Masonry	BC 1704.5
	Wood - Off-Site fabrication of Structural Elements	BC 1704.6
	Wood - Installation of High-Load Diaphragms	BC 1704.6.1
	Wood - Installation of Metal-Plate-Connected to Trusses	BC 1704.6.3
	Wood - Installation of Prefabricated I-Joists	BC 1704.6.4
	Soils - Site Preparation	BC 1704.7.1
	Soils - Fill placement & In-Place Density	BC 1704.7.2, BC 1704.7.3
	Pile Foundations and Drilled Pier Installation	BC 1704.8
	Pier Foundations	BC 1704.9
	Sprayed Fire-Resistant Materials	BC 1704.11
	Structural Safety - Structural Stability	BC 1704.19
X	Excavation - Sheeting, Shoring, and Bracing	BC 1704.19, BC 3304.4.1



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

LIST OF DRAWINGS:

SOE-100 GENERAL NOTES AND PLOT PLAN
SOE-101 EXCAVATION PLAN
SOE-102 SECTIONS
SOE-103 SECTION, DETAILS AND NOTES

SPECIAL NOTE:

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGEMENT, THIS APPLICATION IS IN COMPLIANCE WITH NYCECC, ENERGY ANALYSIS IS FILED UNDER NB 110353750

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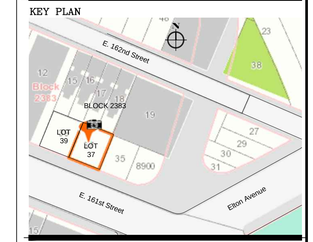
ARCHITECT:

CONTRACTOR:

KEY PLAN



No.	Revision Comment	Date

SCALE: 1/32" = 1'

PROJECT:

SUPPORT OF EXCAVATION
9 STORY BUILDING AT
425 EAST 161st STREET,
BRONX, NY
BLOCK 2383, LOT 37 & 39

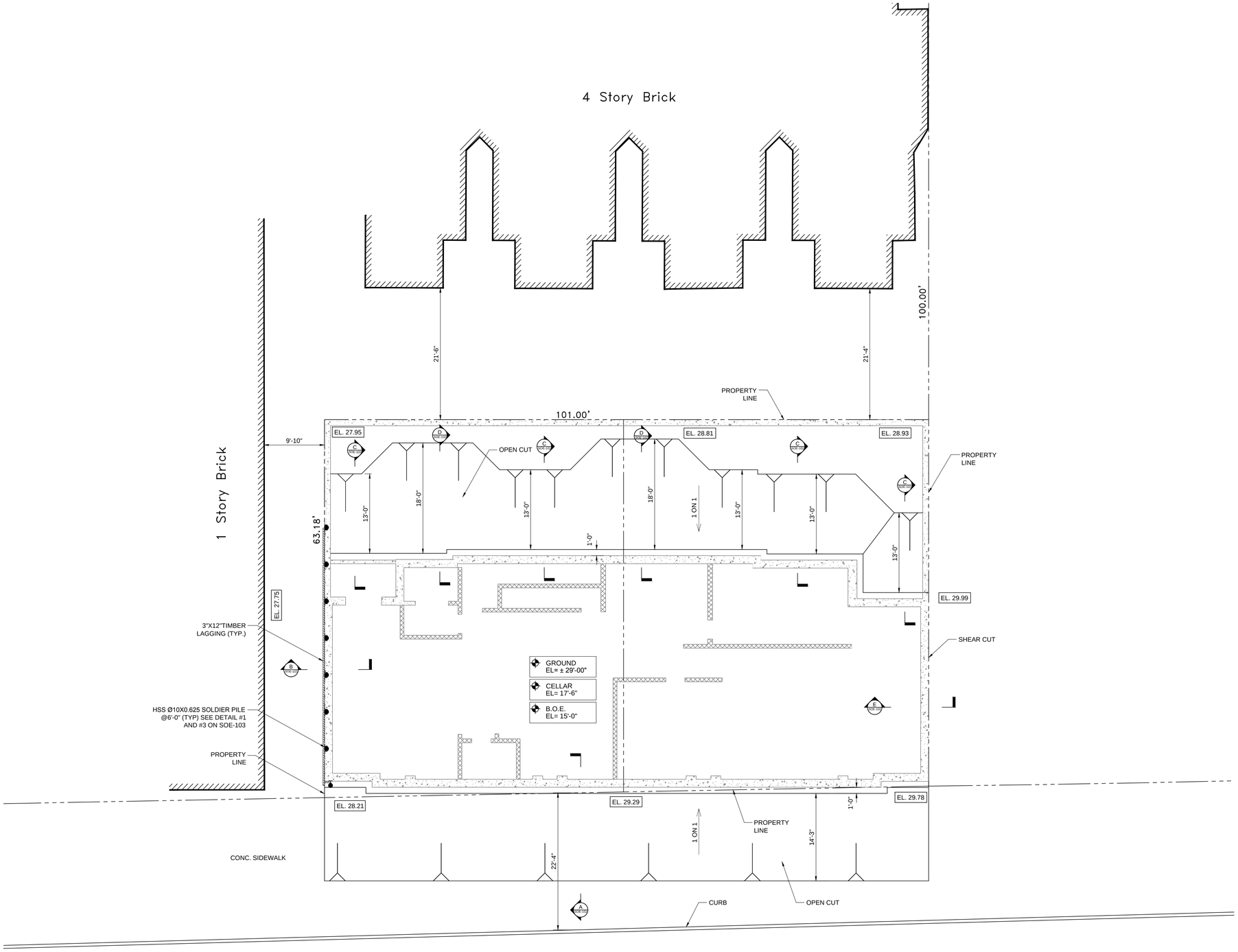
DRAWING TITLE:

GENERAL NOTES AND PLOT PLAN

SEAL & SIGNATURE

STATE OF NEW YORK · JIEMING WANG · 074354 · LICENSED PROFESSIONAL ENGINEER

DATE:	02-18-2015
PROJECT NO.:	15-4122
DRAWING BY.:	R.U.
CHK. BY:	J.W.
DWG. NO.:	SOE-100.00
CADD FILE NO.:	1 OF 4



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

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ARCHITECT:

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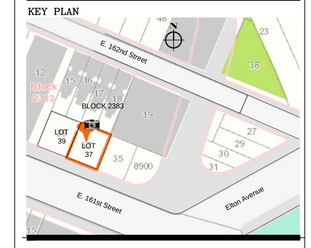

No.	Revision Comment	Date

SCALE: 1/8" = 1'

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SUPPORT OF EXCAVATION
9 STORY BUILDING AT
425 EAST 161st STREET,
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BLOCK 2383, LOT 37 & 39

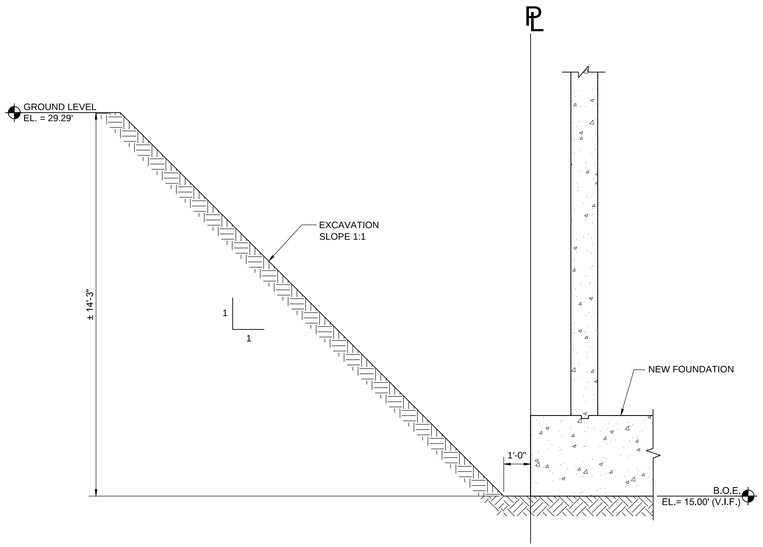
DRAWING TITLE:

EXCAVATION PLAN

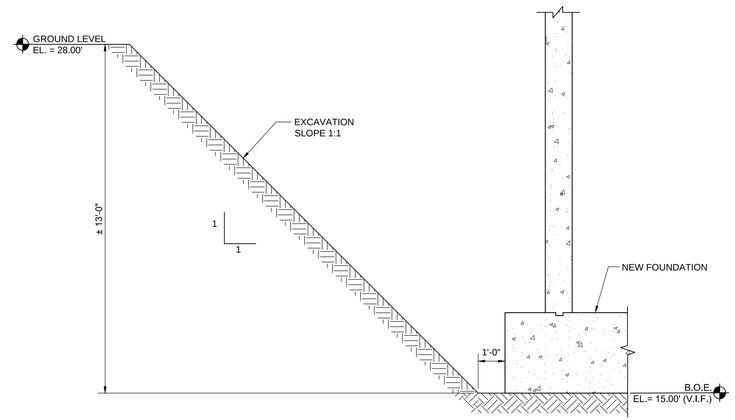
SEAL & SIGNATURE

STATE OF NEW YORK · JIEMING WANG · 074354 · LICENSED PROFESSIONAL ENGINEER

DATE:	02-18-2015
PROJECT NO.:	15-4122
DRAWING BY.:	R.U.
CHK. BY:	J.W.
DWG. NO.:	SOE-101.00
CADD FILE NO.:	2 OF 4



A SOE-103 EXCAVATION SECTION A-A



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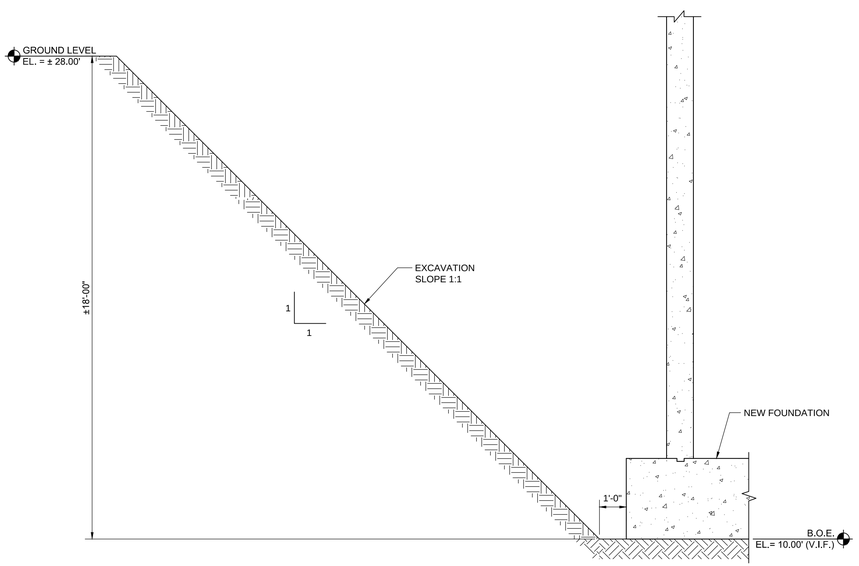
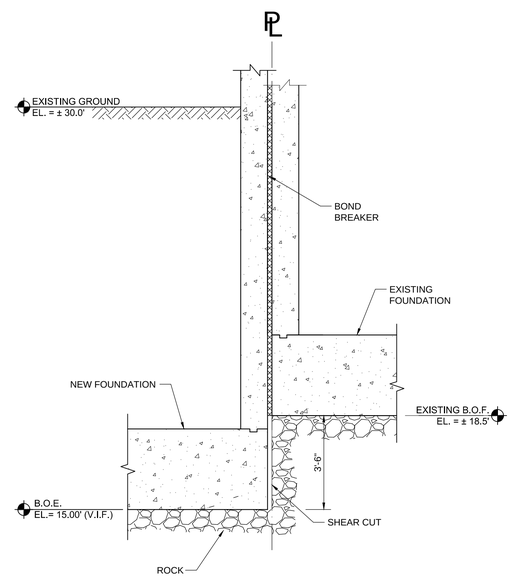


D SOE-103 EXCAVATION SECTION D-D



E SOE-102 EXCAVATION SECTION E-E

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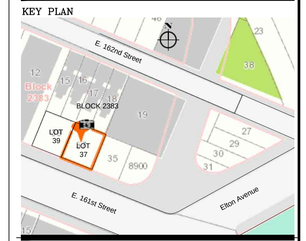
ARCHITECT:

CONTRACTOR:

KEY PLAN



No.	Revision Comment	Date

SCALE: 3/8"= 1'

PROJECT:

SUPPORT OF EXCAVATION
9 STORY BUILDING AT
425 EAST 161st STREET,
BRONX, NY
BLOCK 2383, LOT 37 & 39

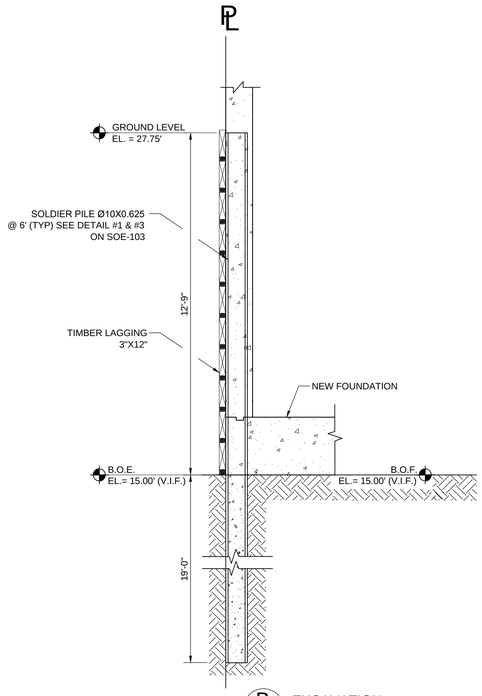
DRAWING TITLE:

SECTIONS

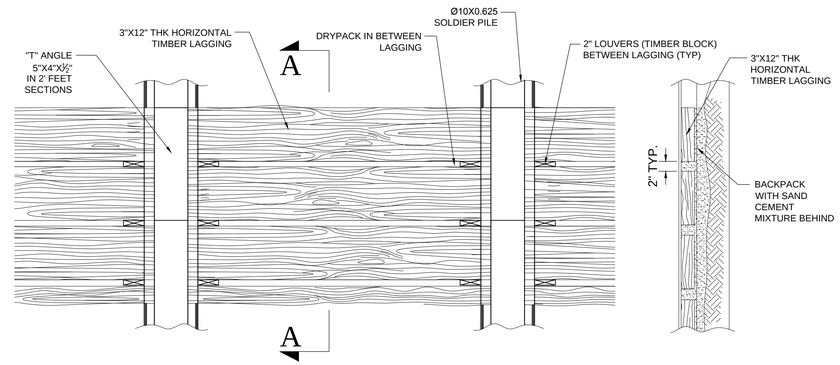
SEAL & SIGNATURE

STATE OF NEW YORK · JIEMING WANG · 074354 · LICENSED PROFESSIONAL ENGINEER

DATE:	02-18-2015
PROJECT NO.:	15-4122
DRAWING BY.:	R.U..
CHK. BY:	J.W.
DWG. NO.:	SOE-102.00
CADD FILE NO.:	3 OF 4

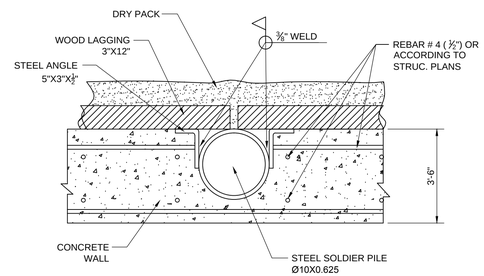


B SOE-103 EXCAVATION SECTION B-B

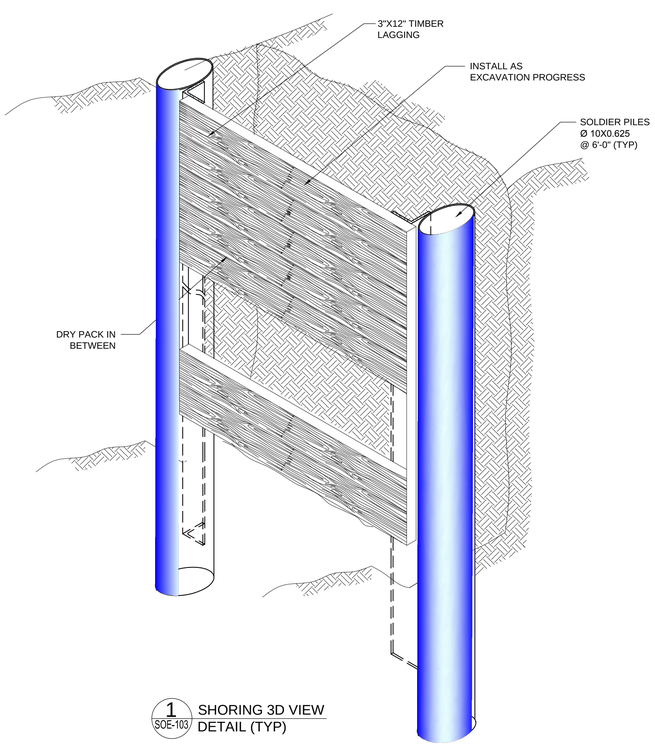


2 SOE-103 SHORING LAGGING DETAIL SECTION (TYP)

SECTION A-A



3 SOE-103 SOLIDER PILES DETAIL



1 SOE-103 SHORING 3D VIEW DETAIL (TYP)

SOLDIER PILE INSTALLATION NOTES:

1. ALL PILES SHALL BE INSTALLED AT LOCATIONS AS SHOWN ON CONTRACT DRAWINGS.
2. LAYOUT OF PILE LOCATION BY GC. (SURVEYED IN PLACE).
3. UTILITY IDENTIFICATION AND EXPLORATION AS NECESSARY BY GC.
4. THE DIAMETER OF THE CUTTING SHOE OF THE CAISING SHALL NOT EXCEED THE OUTER DIAMETER OF THE CAISING BY 1/4-INCH.
5. "GROUT" TO BE MIXTURE OF SAND AND CEMENT-GROUT TO ATTAIN SPECIFIED STRENGTH.
6. A SET OF SIX 2-INCH BY 2-INCH CUBES OF GROUT SHALL BE TAKEN EACH DAY DURING WHICH MINIPILES ARE GROUTED. CUBES SHALL BE THEN TESTED BY AN INDEPENDENT TESTING LABORATORY IN ACCORDANCE WITH THE CONSTRUCT SPECS.

SOLDIER PILE INSTALLATION PROCEDURE:

1. MOBILIZATION TO SITE.
2. SET UP RIG ON PROPER LOCATION AND PLUMB MAST.
3. DRILL IN PILES USING DUPLEX DRILLING METHODS. FLUSH WITH WATER ONLY.
   NOTE: OUTSIDE CAISING TO BE ADVANCED 2- DIAMETERS OR 2 FOOT MIN, PRIOR TO CLEANING.
4. SPECIFIED CAISING IS DRILLED-IN, TO THE TIP ELEVATION OF THE SOLDIER PILE AS INDICATED ON DRAWINGS.
5. FLUSH HOLE CLEAN OF SPOILS. IF PILE TIP IS BELOW THE GWT. FLUID LEVEL INSIDE CAISING TO BE MAINTAINED AT THE TOP OF THE PILE DURING CLEAN OUT. A BUCKET OR AUGER MAY BE USED TO CLEAN HOLE. [AIR MAY BE USED IN COMPACTED TILL OR ROCK.]
6. PLACE SOLDIER PILE INSIDE CAISING UP TO TIP ELEVATION AS INDICATED ON DRAWINGS.
7. PLACE ¾ -INCH DIAMETER PVC GROUT TUBE TO WITHIN 2-FEET OF BOTTOM OF CAISING. AND GROUT THE PILE FROM THE BOTTOM-UP SURROUNDING THE SOLDIER PILE WITH A MIXTURE OF CEMENT AND SAND FOLLOWING THE RATIOS MENTIONED ON THE DRAWINGS. CONTINUE GROUTING TILL GOOD GROUT FLOWS OUT THE TOP OF THE PILE.
8. THE INSTALLATION OF ADDITIONAL PILES IN THE SAME CAP SHALL NOT BE INSTALLED TILL GROUT HAS CURED FOR AT LEAST 24 HOURS.

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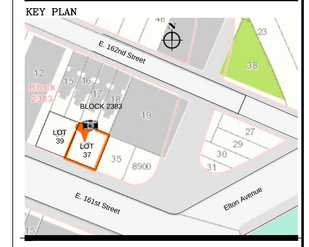
ARCHITECT:

CONTRACTOR:

KEY PLAN



No.	Revision Comment	Date

SCALE: 3/8"= 1'

PROJECT:

SUPPORT OF EXCAVATION
9 STORY BUILDING AT
425 EAST 161st STREET,
BRONX, NY
BLOCK 2383, LOT 37 & 39

DRAWING TITLE:

SECTION ,DETAILS
AND NOTES

SEAL & SIGNATURE

STATE OF NEW YORK · JIEMING WANG · 074354 · LICENSED PROFESSIONAL ENGINEER

DATE:	02-18-2015
PROJECT NO.:	15-4122
DRAWING BY.:	R.U..
CHK. BY:	J.W.
DWG. NO.:	SOE-103.00
CADD FILE NO.:	4 OF 4

ABBREVIATIONS

@ = AT
ADJ. = ADJUSTABLE
ADD'L = ADDITIONAL
ALN. = ALIGN
ALT. = ALTERNATE
ARCH. = ARCHITECTURAL
B, BOT. = BOTTOM
B.F. = BRACED FRAME
B.P. = BASE PLATE, BEARING PLATE
BH. = BULKHEAD
BLDG. = BUILDING
BM. = BEAM
BRDG. = BRIDGING
BRNG. = BEARING
BSMT. = BASEMENT
℄, CL. = CENTRE LINE
C.A. = COLUMN ABOVE
C.B. = COLUMN BELOW
C.J. = CONSTRUCTION JOINT, CONTROL JOINT
CANT. = CANTILEVER
CLR. = CLEARANCE, CLEAR
COL. = COLUMN
CONC. = CONCRETE
CONN. = CONNECTION
CONST. = CONSTRUCTION
CONT. = CONTINUOUS
Φ, DIA. = DIAMETER
D.L. = DEAD LOAD
DET. = DETAIL
DIAG. = DIAGONAL
DIM. = DIMENSION
DWG(S). = DRAWING(S)
DWL(S). = DOWEL(S)
E.E. = EACH END
E.F. = EACH FACE
E.J. = EXPANSION JOINT
E.M.R. = ELEVATOR MACHINE ROOM
E.S. = EACH SIDE
E.W. = EACH WAY
EA. = EACH
EL. = ELEVATION
ELEV. = ELEVATOR
ELECT. = ELECTRICAL
Em = EMBEDMENT LENGTH IN MASONRY
EMBED. = EMBEDMENT
EQ. = EQUAL
EXIST. = EXISTING
EXP. = EXPANSION
EXT. = EXTERIOR
E-W = EAST-WEST
F.F. = FAR FACE
FDN. = FOUNDATION
FIN. = FINISHED
FL. = FLOOR
FT. = FOOT
FTG. = FOOTING
FT-K = FOOT-KIP
GA. = GAUGE
GALV. = GALVANIZED
GEN. = GENERAL
H.S.C. = HORIZONTALLY SLOTTED CONNECTION
HORIZ. = HORIZONTAL
I.F. = INSIDE FACE
IN. = INCH
INT. = INTERIOR

JT. = JOINT
K, KIP = 1000 LBS
KLF = KIP(S) PER FOOT
KSF = KIP(S) PER SQUARE FOOT
KSI = KIP(S) PER SQUARE INCH
L.L. = LIVE LOAD
L.L.H. = LONG LEG HORIZONTAL
L.L.V. = LONG LEG VERTICAL
Ldc = COMPRESSION DEVELOPMENT LENGTH
Ldt = TENSION DEVELOPMENT LENGTH
Lsc = COMPRESSION SPLICE LENGTH
Lst = TENSION SPLICE LENGTH
LB(S). = POUND(S)
LG. = LONG
M.C. = MOMENT CONNECTION
M.D. = METAL DECK
MACH. = MACHINE
MAX. = MAXIMUM
MECH. = MECHANICAL
MEZZ. = MEZZANINE
MIN. = MINIMUM
MISC. = MISCELLANEOUS
MOM. = MOMENT
N.I.C. = NOT IN CONTRACT
N.F. = NEAR FACE
N.S. = NON-SHRINK
N.T.S. = NOT TO SCALE
NO. = NUMBER
N-S = NORTH-SOUTH
O.C. = CENTRE TO CENTRE
O.F. = OUTSIDE FACE
O.W.S.J. = OPEN WEB STEEL JOIST
OPNG. = OPENING
P.C. = PRECAST, PILE CAP
℘, PL. = PLATE
PLF = POUND(S) PER FOOT
PROJ. = PROJECTION
PSF = POUND(S) PER SQUARE FOOT
PSI = POUND(S) PER SQUARE INCH
R = RADIUS
RM. = ROOM
REF. = REFERENCE
REINF. = REINFORCE, REINFORCEMENT
REQ'D. = REQUIRED
REV. = REVISION, REVISED
R/W = REINFORCE WITH
S.F. = SQUARE FOOT
S.L.H. = SHORT LEG HORIZONTAL
S.L.V. = SHORT LEG VERTICAL
S.O.G. = SLAB ON GRADE
SECT. = SECTION
SL. = SLAB, SLOPE
Sm = SPLICE LENGTH IN MASONRY
SPEC(S). = SPECIFICATION(S)
SQ. = SQUARE
STD. = STANDARD
STL. = STEEL
T = TOP
T.O.S. = TOP OF SLAB
TEMP. = TEMPORARY
THK. = THICKNESS
TYP. = TYPICAL
U.O.N. = UNLESS OTHERWISE NOTED
VERT. = VERTICAL
W.P. = WATERPROOFING
W.W.F. = WELDED WIRE FABRIC
WF. = WIDE FLANGE
WD. = WOOD

BUILDING DESIGN INFORMATION SUMMARY 2008 NEW YORK CITY BUILDING CODE

NO.	TOPIC	CODE SECTION
1.	SNOW LOADING CRITERIA	GROUND SNOW LOAD, P_g = 25 psf
		FLAT-ROOF SNOW LOAD, P_f = 20 psf
		SNOW EXPOSURE FACTOR, C_e = 1.1
		SNOW IMPORTANCE FACTOR, I_s = 1.0
		THERMAL EXPOSURE FACTOR, C_t = 1.0
2.	SEISMIC LOADING CRITERIA	SEISMIC IMPORTANCE FACTOR, I = 1.0
		SEISMIC OCCUPANCY CATEGORY = I
		Ss = 0.365 S1 = 0.071
		SITE CLASS = C
		SHORT PERIOD DESIGN SPECTRAL RESPONSE, SDS = 0.292 g
		ONE SECOND DESIGN SPECTRAL RESPONSE, SD1 = 0.080 g
		SEISMIC DESIGN CATEGORY = B
		BASIC SEISMIC FORCE RESISTING SYSTEM = INTERACTIVE
		DESIGN SEISMIC BASE SHEAR, V = 93 kips
		SEISMIC RESPONSE COEFFICIENT, Cs = 0.0180
		RESPONSE MODIFICATION FACTOR, R = 3.5
		ANALYSIS METHOD USED = EQUIVALENT LATERAL FORCE
		USE GROUP = I
3.	WIND LOADING CRITERIA	BASIC WIND SPEED (3 SECOND GUST) = 98 mph
		WIND IMPORTANCE FACTOR = 1.0
		OCCUPANCY CATEGORY = II
		WIND EXPOSURE CATEGORY = B
		INTERNAL PRESSURE COEFFICENT GC_{pi} = +/- 0.18
		COMPONENTS & CLADDING DESIGN WIND PRESSURE: ZONE 4 = + 32 psf / - 32 psf; ZONE 5 = + 32 psf / - 51 psf

DRAWING INDEX

GENERAL NOTES	
S-001.00	GENERAL NOTES AND DESIGN CRITERIA
FOUNDATION	
FO-001.00	FOUNDATION NOTES AND DETAILS
FO-101.00	FOUNDATION AND CELLAR PLAN
FO-201.00	FOUNDATION SECTIONS 1
FO-202.00	FOUNDATION SECTIONS 2
TYPICAL DETAILS	
S-002.00	TYPICAL DETAILS 1
S-003.00	TYPICAL DETAILS 2
S-004.00	TYPICAL DETAILS 3
S-005.00	TYPICAL DETAILS 4
FRAMING PLANS	
S-101.00	1ST FLOOR FRAMING PLAN
S-102.00	2ND FLOOR FRAMING PLAN
S-103.00	3RD THRU 8TH FLOOR FRAMING PLAN
S-104.00	9TH FLOOR FRAMING PLAN
S-105.00	ROOF FRAMING PLAN
S-106.00	BULKHEAD FRAMING PLAN
NON-TYPICAL SECTIONS AND DETAILS	
S-201.00	SECTIONS
SCHEDULES	
S-301.00	SCHEDULES
LATERAL STABILITY SYSTEMS	
S-401.00	SHEAR WALL DETAILS 1

GENERAL NOTES:

1. THE STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH THE ARCHITECTURAL AND MECHANICAL DRAWINGS AND SPECIFICATIONS.
2. THE 2008 EDITION OF THE NYC BUILDING CODE, AND APPLICABLE EDITIONS OF THE FOLLOWING CODES AND STANDARDS SHALL APPLY:
   A. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES - AISC.
   B. AISC - SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS - ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN.
   C. BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE - ACI 318
   D. PCI DESIGN HANDBOOK BY PRESTRESSED CONCRETE INSTITUTE.
   E. MNL 116-MANUAL FOR QUALITY CONTROL FOR PLANTS AND PRODUCTION OF PRECAST CONCRETE PRODUCTS.
   F. BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES - ACI 530, ALLOWABLE STRESS DESIGN.
   G. SPECIFICATIONS FOR MASONRY STRUCTURES - ACI 530.1

   IN CASE OF CONFLICT, THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
3. FIELD MEASUREMENTS SHALL BE TAKEN AT THE SITE BY THE CONTRACTOR TO VERIFY AND SUPPLEMENT ALL DIMENSIONS AND ADDITIONS AFFECTED BY EXISTING WORK OR NEW WORK THAT HAS ALREADY BEEN INSTALLED. ANY DISCREPANCIES FROM THE INFORMATION SHOWN ON PLANS SHALL BE REPORTED TO AND COORDINATED WITH THE ARCHITECT.
4. BEFORE COMMENCEMENT OF ANY WORK AND/OR FABRICATION, THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT FOR HIS APPROVAL CONCRETE MIX DESIGNS FOR EACH TYPE OF CONCRETE TO BE USED, MILL REPORTS FOR STEEL, STRUCTURAL PENETRATIONS AND SHOP DRAWINGS FOR ALL STRUCTURAL TRADES AND OTHER DOCUMENTS AS REQUIRED PER PROJECT SPECIFICATIONS.
5. SUBMIT SHOP DRAWINGS SHOWING REINFORCEMENT PROPERLY POSITIONED IN CONCRETE WORK. (SEE SPECIFICATIONS)
6. THE CONTRACTOR SHALL ADEQUATELY BRACE, SHORE, AND SUPPORT THE STRUCTURE DURING THE ENTIRE CONSTRUCTION PERIOD. SUCH PROTECTION SHALL BE DESIGNED, INSPECTED AND FILED WITH DOB BY A QUALIFIED PROFESSIONAL ENGINEER.
7. MEMBERS WITH SIZES INDICATED ON THE DRAWINGS ARE NEW UNLESS OTHERWISE NOTED (UON).
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL ROOF, FLOOR AND WALL PENETRATIONS, PATCHING, REPAIRING AND FLASHING AS REQUIRED.
9. UNLESS OTHERWISE RECOMMENDED BY THE GEOTECHNICAL ENGINEER'S REPORT, SLABS ON GRADE SHALL BE SUPPORTED BY A COMPACTED POROUS FILL AT LEAST 6 INCHES THICK. AT INTERIOR SLABS A VAPOR BARRIER AT LEAST 15 MILS THICK SHALL BE PLACED BETWEEN THE SLAB AND THE POROUS FILL. THE POROUS FILL SHALL, IN TURN, BE SUPPORTED BY EITHER CLEAN, INORGANIC ORIGINAL SOIL OR A COMPACTED FILL WITH A MODIFIED PROCTOR DENSITY OF 90.

CAST-IN-PLACE CONCRETE NOTES:

1. CONCRETE TYPES
   A. SIDEWALK - 4,000 PSI AIR ENTRAINED STONE CONCRETE.
   B. SLABS ON GRADE (OTHER THAN SIDEWALKS) - 4,000 PSI STONE CONCRETE.
   C. FOUNDATION WALL, FOOTINGS & MAT FOUNDATION - 5,000 PSI STONE CONCRETE.
   D. NON-STRUCTURAL FILL - 3,000 PSI LIGHT WEIGHT CONCRETE.
2. BAR REINFORCEMENT SHALL CONFORM TO ASTM A-615, GRADE 60.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185 WITH A MINIMUM ULTIMATE TENSILE STRENGTH OF 70,000 PSI.
4. CONCRETE SHALL BE CAST MONOLITHICALLY EXCEPT WHERE OTHERWISE SHOWN.
5. REINFORCEMENT MARKED "CONT." (CONTINUOUS) SHALL BE LAPPED A PROPER DISTANCE AT SPLICES AND CORNERS AND SHALL BE HOOKED OR EXTENDED A PROPER DISTANCE AT NON-CONTINUOUS ENDS AS PER SPLICE AND DEVELOPMENT LENGTH REQUIREMENTS SHOWN ON THE DRAWINGS. ALL HORIZONTAL WALL REINFORCING SHALL BE CONTINUOUS.
6. REINFORCEMENT SHALL BE CONTINUOUS THROUGH ALL CONSTRUCTION JOINTS UNLESS OTHERWISE SHOWN ON DRAWINGS. THE CONTRACTOR SHALL LOCATE CONSTRUCTION JOINTS AT POINTS OF MINIMUM SHEAR.
7. SPLICES FOR MAIN REINFORCEMENT IN SHEAR WALLS SHALL BE TENSION SPLICES UNLESS OTHERWISE NOTED.
8. REINFORCING BARS SHALL HAVE THE FOLLOWING CONCRETE PROTECTION:

CONCRETE CAST AGAINST EARTH	-	3"
EXPOSED TO EARTH OR WEATHER	-	2"
SLABS AND WALLS NOT EXPOSED	-	3/4" OR BAR DIAMETER
BEAMS AND GIRDERS NOT EXPOSED	-	1-1/2"
COLUMNS	-	1-1/2" TO TIES

9. MAXIMUM LENGTH OF CONCRETE POUR (DISTANCE BETWEEN CONSTRUCTION JOINTS) SHALL BE 50 FEET DURING JUNE, JULY, AUGUST AND SEPTEMBER AND 75 FEET DURING THE REST OF THE YEAR.
10. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND LOCATIONS OF ALL OPENINGS, PIPE SLEEVES, ANCHOR BOLTS, ETC. AS REQUIRED BY TRADES BEFORE CONCRETE IS POURED.
11. THE CONTRACTOR SHALL PROVIDE SLAB BOLSTERS, HIGH CHAIRS AND ALL ACCESSORIES REQUIRED FOR PROPER PLACEMENT OF WIRE MESH AND REINFORCING AS PER A.C.I. & C.R.S.I. STANDARDS. LOCATION OF CONSTRUCTION JOINTS IF REQUIRED SHALL BE SUBJECT TO THE APPROVAL OF THE ARCHITECT.
12. CONCRETE MAY BE CONVEYED BY PUMPING. PUMPING METHODS SHALL COMPLY WITH REQUIREMENTS ESTABLISHED BY A.C.I. COMMITTEE 304, PLACING CONCRETE PUMPING METHODS.
13. PRIOR TO PLACING CONCRETE, ALL REINFORCEMENT SHALL BE FREE OF LOOSE FLAKY RUST, MUD, OIL OR OTHER COATING THAT WILL DESTROY, REDUCE OR HAMPER FULL BOND CAPACITY.
14. REINFORCEMENT IN EXPOSED AREAS INCLUDING BUT NOT LIMITED TO BALCONIES, CONCRETE EYEBROWS AND ROOF PARKING DECKS SHALL BE EPOXY COATED IN CONFORMANCE WITH ASTM A-175.
15. CONTROL AND EXPANSION JOINTS SHALL BE PROVIDED TO MINIMIZE CRACKING AS PER ARCHITECTURAL AS WELL AS STRUCTURAL REQUIREMENTS AND IN ACCORDANCE WITH STANDARD PRACTICES ACCEPTED IN THE INDUSTRY.

MASONRY NOTES:

1. UNLESS OTHERWISE NOTED, MASONRY WALL CONSTRUCTION SHOW ON STRUCTURAL DRAWINGS SHALL CONFORM TO THE FOLLOWING:
   A. UNITS SHALL BE 16" MEDIUM WEIGHT AGGREGATE CONCRETE HOLLOW UNITS AT LEAST 55% SOLID CONFORMING TO ASTM C-90, GRADE N1, WITH COMPRESSIVE STRENGTHS AS FOLLOWS:

      CELLAR TO 2ND f'm = 4,000 PSI
      3RD TO ROOF f'm = 3,000 PSI

   B. MORTAR SHALL BE TYPE M IN CONFORMANCE WITH ASTM C270
   C. GROUT SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI FOR CELLAR THRU 2ND AND 3,000 PSI FOR 3RD THRU ROOF CONFORMING TO ASTM C476.
2. GROUT SOLID ALL CELLS CONTAINING VERTICAL REINFORCEMENT BARS.
3. ALL VERTICAL REINFORCEMENT BARS SHALL BE CENTERED IN THE CELL IN BOTH DIRECTIONS UNLESS OTHERWISE NOTED.
4. REINFORCE MASONRY WALLS HORIZONTALLY @ 16" O.C. WITH STANDARD TWO WIRES MASONRY WALL REINFORCEMENT, 9 GAUGE RODS.
5. THE FOLLOWING SHALL BE PROVIDED IN PARAPET WALLS:
   A. ALL CELLS AND ALL JOINTS IN SOLID, CAVITY OR MASONRY BONDED HOLLOW WALL CONSTRUCTION SHALL BE FILLED SOLID WITH GROUT AND MORTAR.
   B. HORIZONTAL WIRE REINFORCEMENT SHALL BE PROVIDED AT VERTICAL INTERVALS NOT GREATER THAN 12".
   C. HORIZONTAL REINFORCEMENT SHALL EXTEND AROUND THE CORNER FOR AT LEAST 4 FT. IN BOTH DIRECTIONS AND SPLICES SHALL BE LAPPED AT LEAST 6".
   D. NON-REINFORCED PARAPET WALLS SHALL BE NOT LESS THAN 8" IN THICKNESS AND THEIR HEIGHT SHALL NOT EXCEED THREE TIMES THEIR THICKNESS.
6. HORIZONTAL REINFORCEMENT SHALL BE CONTINUOUS THROUGH CORNERS, INTERSECTIONS, AND PILASTERS IN BRICK AND C.M.U.
7. BONDING OF MASONRY UNITS SHALL BE CONTINUED THROUGH CORNERS, INTERSECTIONS, AND PILASTERS IN BRICK AND C.M.U.
8. VERTICAL REINFORCEMENT CONSISTING OF 1 - #4 SHALL BE PROVIDED AT BOTH SIDES OF ALL OPENINGS FULL HEIGHT OF WALL UNLESS OTHERWISE NOTED (UON).
9. IN ADDITION TO REINFORCEMENT SHOWN ON PLAN, PROVIDE ADDITIONAL 1 - #4 VERTICAL REINFORCEMENT FROM FLOOR TO FLOOR AT:
   A. EACH CORNER OF WALL.
   B. ALL ENDS OF WALLS.
   C. NEXT TO EXPANSION JOINTS.
10. 1 - #4 CONTINUOUS REINFORCEMENT SHALL BE PLACED AT TOP AND BOTTOM OF ALL WALL OPENINGS AND SHALL EXTEND 24" MINIMUM OR 40 BAR DIAMETERS PAST EACH SIDE OF THE OPENINGS.
11. 1 - #4 HORIZONTAL REINFORCEMENT SHALL BE PLACED CONTINUOUSLY AT THE TOP OF ALL C.M.U. WALLS AT EACH FLOOR, ROOF AND PARAPET WALL.
12. WALLS SHALL BE LAID UP TO A HEIGHT NOT TO EXCEED 4'-8". PLACE REINFORCEMENT BARS AND EXTEND THEM A SPLICE LENGTH ABOVE LIFT. GROUT WALL TO A LEVEL 1 1/2" FROM TOP OF MASONRY, FORMING A GROUT KEY, BEFORE PROCEDING WITH NEXT LIFT.
13. OPENINGS FOR ROUND DUCTS, PIPING AND ELECTRICAL CONDUIT BETWEEN 4 AND 12 INCHES IN DIAMETER SHALL BE SLEEVED WITH SCHEDULE 40 STEEL PIPE. NO OPENING SHALL BE PLACED IN REINFORCED GROUTED CELLS.
14. GROUT SOLID TOP TWO COURSES OF C.M.U. DIRECTLY UNDER BEARING POINTS, UNLESS OTHERWISE SHOWN.
15. HORIZONTAL AND VERTICAL CONTROL AND EXPANSION JOINTS IN FACE BRICK SHALL BE LOCATED AS PER ARCHITECTURAL DRAWINGS.
16. EXPOSED STEEL, STEEL LINTELS OR STEEL WITHIN 4" OF WEATHERING FACE OF MASONRY SHALL BE GALVANIZED.
17. ALL LINTELS SHALL BEAR 8" AT EACH JAMB, UNLESS OTHERWISE INDICATED. FULL CONTACT BETWEEN LINTEL AND SUPPORTING MASONRY SHALL BE PROVIDED.

STRUCTURAL STEEL NOTES:

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING UNLESS OTHERWISE NOTED (UON):
   A. WIDE FLANGE AND TEE SHAPES - ASTM A992 GRADE 50
   B. CHANNELS, S SHAPES, ANGLES, PLATES AND BARS - ASTM A36
   C. ROUND HSS SHAPES - ASTM A53 GRADE B
   D. SQUARE & RECTANGULAR HSS SHAPES - ASTM A500 GRADE B
   E. HP SHAPES - ASTM A572 GRADE 50
   F. BAR REINFORCEMENT SUBJECT TO WELDING - ASTM A-706
2. SHOP CONNECTIONS SHALL BE WELDED OR BOLTED. FIELD CONNECTIONS SHALL BE BOLTED UNLESS SPECIFICALLY SHOWN OTHERWISE ON STRUCTURAL DRAWINGS.
3. UNLESS OTHERWISE NOTED, ALL BOLTING SHALL CONFORM TO THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", LATEST EDITION. A307 BOLTS SHALL BE PERMITTED IF SPECIFICALLY APPROVED BY THE ENGINEER.
4. UNLESS OTHERWISE NOTED, BOLTED CONNECTIONS SHALL UTILIZE ASTM A325 OR A490 BOLTS. BOLTS SHALL BE 3/4 INCH DIAMETER MINIMUM. BOLTED SIMPLE SHEAR CONNECTIONS SHALL UTILIZE HIGH STRENGTH BOLTS IN BEARING TYPE CONNECTIONS AND SHALL BE INSTALLED "SNUG TIGHT" UON. BOLTED MOMENT CONNECTIONS, SPLICE CONNECTIONS AND BRACING CONNECTIONS SHALL UTILIZE HIGH STRENGTH BOLTS IN SLIP CRITICAL CONNECTIONS.
5. ALL WELDING ELECTRODES SHALL BE LOW HYDROGEN, AS REQUIRED BY AWS "STRUCTURAL WELDING CODE" AND "CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION" TO SATISFY BASE-TO-FILLER METAL COMBINATION CRITERIA. ALL FILLER METAL SHALL HAVE A MINIMUM CVN TOUGHNESS OF 20 FT. LBS. AT MINUS 20 DEGREES F.
6. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS "CODE FOR ARC AND GAS WELDING IN BUILDING CONSTRUCTION", LATEST EDITION. WELDER CERTIFICATES SHALL BE SUBMITTED TO GACE BEFORE COMMENCEMENT OF WORK.
7. MINIMUM SIZE OF FILLET WELDS SHALL BE 1/4" MIN. FOR FIELD WELDS AND AS REQUIRED PER AISC SPECIFICATION RELATIVE TO BASE METAL THICKNESS FOR SHOP WELDS.
8. ALL DETAILING, FABRICATION AND ERECTION SHALL CONFORM TO AISC "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN" AND AISC "CODE OF STANDARD PRACTICE", LATEST EDITIONS.
9. CONNECTIONS OF ALL BEAMS AND GIRDERS SHALL BE DESIGNED FOR 125 PERCENT OF REACTIONS INDICATED ON STRUCTURAL DRAWINGS. ALL OTHER CONNECTIONS SHALL BE DESIGNED FOR THE FULL CAPACITY OF THE MEMBERS UNLESS OTHERWISE NOTED.
10. KNIFE CONNECTIONS SHALL NOT BE PERMITTED UNLESS SPECIFICALLY REQUESTED BY A CONTRACTOR AND APPROVED BY STRUCTURAL ENGINEER PRIOR TO SHOP DRAWING APPROVAL. CONTRACTOR'S BIDS SHALL BE SUBMITTED BASED ON THE KNIFE CONNECTIONS NOT ALLOWED. SPECIFIC KNIFE CONNECTION DETAILS SHALL BE SUBMITTED FOR APPROVAL AT THE TIME WHEN TYPICAL DETAILS AND ERECTION PLANS ARE SUBMITTED. THE DETAILS SHALL BE ACCOMPANIED BY CALCULATIONS SIGNED AND SEALED BY PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE PROJECT IS TO BE BUILT. CALCULATIONS SHALL DEMONSTRATE THAT THE WELDS ARE NOT OVERSTRESSED DUE TO SECONDARY STRESSES DUE TO BOLT TIGHTENING, PRYING ACTION, ETC.
11. INSPECTION AND TESTING OF WELDS AND BOLTS SHALL BE AS FOLLOWS:
    A. A TESTING AGENCY ACCEPTABLE TO THE ENGINEER OF RECORD SHALL BE EMPLOYED BY THE OWNER TO PERFORM ALL SHOP AND FIELD INSPECTIONS AND TESTING OUTLINED BELOW.
    B. ALL WORK SHALL BE SCHEDULED BY THE CONTRACTOR TO ALLOW THE BELOW SHOP AND FIELD TESTING TO BE COMPLETED.
    C. ALL WELDS SHALL BE VISUALLY INSPECTED. FIFTEEN (15) PERCENT OF RANDOMLY SELECTED FILLET, PLUG AND SLOT WELDS SHALL BE MEASURED.
    D. FIFTEEN (15) PERCENT OF RANDOMLY SELECTED FILLET WELDS IN BEAM AND GIRDER SHEAR CONNECTION PLATES, ANGLES, ETC. SHALL BE CHECKED BY MAGNETIC PARTICLE METHOD. ONLY THE FINAL PASS SHALL BE CHECKED.
    E. ULTRASONICALLY TEST 100 PERCENT OF ALL FULL PENETRATION WELDS. WELD PREPARATION OF 100 PERCENT OF WELDS SHALL BE INSPECTED.
    F. ALL BOLTS SHALL BE VISUALLY INSPECTED.
    G. ALL SLIP CRITICAL BOLTS SHALL BE CHECKED FOR PROPER TENSIONING USING THE "DIRECT TENSION INDICATOR" METHOD. MEASURE WITH FEELER GAUGES AT LEAST 15% OF BOLTS IN EACH CONNECTION, BUT NOT LESS THAN TWO BOLTS PER CONNECTION.
    H. A MINIMUM OF 15 PERCENT OF BOLTS, BUT NOT LESS THAN TWO BOLTS IN EACH BEARING TYPE CONNECTION SHALL BE CHECKED FOR A "SNUG TIGHT" CONDITION.
    I. IN CASE MULTIPLE DEFECTS HAVE BEEN DETECTED, THE ABOVE EXTENT OF INSPECTION SHALL BE INCREASED AT DISCRETION OF STRUCTURAL ENGINEER OF RECORD.
12. THE CONTRACTOR SHALL SUBMIT TO THE ARCHITECT, FOR REVIEW, ENGINEERED DRAWINGS SHOWING SHOP FABRICATION DETAILS, FIELD ASSEMBLY DETAILS AND ERECTION DIAGRAMS FOR ALL STRUCTURAL STEEL. PIECE DETAILING SHALL NOT BE STARTED PRIOR TO APPROVAL OF ERECTION DRAWINGS AND JOB STANDARDS.
13. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL CONNECTIONS SHALL BE DESIGNED AND DETAILED BY A PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF NEW YORK HIRED BY THE CONTRACTOR. CALCULATIONS SHALL BEAR THE SEAL AND SIGNATURE OF THIS ENGINEER AND SHALL BE SUBMITTED FOR REVIEW BY STRUCTURAL ENGINEER OF RECORD, IF REQUESTED.
14. DETAILING SHALL BE PERFORMED USING APPROPRIATE ENGINEERING DESIGN PRINCIPLES AND ACCEPTED INDUSTRY STANDARDS, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. DETAILER SHALL BE AWARE THAT THE DETAILS AND SECTIONS SHOWN ON THE STRUCTURAL DRAWINGS ARE CONCEPTUAL ONLY AND DO NOT INDICATE THE REQUIRED NUMBER OF BOLTS, WELD SIZES, AND OTHER INFORMATION REQUIRED TO BE SHOWN ON THE SHOP DRAWINGS, UNLESS SPECIFICALLY NOTED.
15. ALL STAIR AND OTHER MISCELLANEOUS STEEL STRUCTURES SHALL BE DESIGNED AND DETAILED BY AN ENGINEER EMPLOYED BY THE CONTRACTOR. DRAWINGS AND CALCULATIONS SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF NEW YORK.
16. EXISTING STRUCTURAL STEEL SHALL BE REMOVED ONLY WITH ARCHITECT'S (OR HIS REPRESENTATIVE) APPROVAL. NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES OR FOR ANY OTHER REASON SHALL BE PERMITTED UNLESS APPROVED BY THE ARCHITECT OR BY THE ARCHITECT'S REPRESENTATIVE.
17. NO STRUCTURAL STEEL TO RECEIVE FIREPROOFING SHALL BE PAINTED. ALL STEEL SHALL BE CLEANED IN THE FIELD OF ALL RUST, LOOSE MILL SCALE AND OTHER FOREIGN MATERIALS PRIOR TO THE APPLICATION OF FIREPROOFING.
18. ALL STEEL EXPOSED TO WEATHER SHALL BE HOT-DIPPED GALVANIZED. THIS INCLUDES ALL STEEL LINTELS, RELIEVING ANGLES, HANGERS, ETC.
19. ALL BEAMS SHALL BE FABRICATED AND ERECTED WITH NATURAL CAMBER UP.
20. SHEAR STUDS SHALL BE HEADED SHEAR CONNECTORS AS MANUFACTURED AND INSTALLED BY NELSON STUD WELDING, OR EQUAL APPROVED. SHEAR STUD INSTALLATION SHALL BE INSPECTED BY AN APPROVED TESTING AGENCY IN OWNER'S DIRECT EMPLOY. THREE (3) BEND TESTS SHALL BE PERFORMED AT THE BEGINNING OF CONSTRUCTION. AFTERWARDS, 20 PERCENT (MINIMUM) OF SHEAR STUDS SHALL BE INSPECTED BY "RING TEST" AND MEASURED. ALL STUD WELDING SHALL BE INSPECTED VISUALLY.

POST INSTALLED ANCHORS

1. ANCHOR CAPACITY SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY THE ANCHOR MANUFACTURER OR OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD ("ENGINEER").
2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS SHALL BE APPROVED IN WRITING BY THE ENGINEER PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS SHALL BE EVALUATED BY THEIR HAVING AN INTERNATIONAL CODE COUNCIL EVALUATION SERVICE REPORT (ICC ESR) SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE FOR SEISMIC USES, LOAD RESISTANCE, INSTALLATION CATEGORY, AND AVAILABILITY OF COMPREHENSIVE INSTALLATION INSTRUCTIONS. ADHESIVE ANCHOR EVALUATION SHALL CONSIDER EFFECTS OF CREEP, IN-SERVICE TEMPERATURE AND INSTALLATION TEMPERATURE.
3. ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER INSTRUCTIONS INCLUDED IN THE ANCHOR PACKAGING.
4. OVERHEAD ADHESIVE ANCHORS MUST BE INSTALLED USING THE HILTI PROFI SYSTEM OR OTHER MANUFACTURER'S EQUAL OR BETTER SYSTEM, IF APPROVED BY THE ENGINEER IN ADVANCE.
5. THE CONTRACTOR SHALL ARRANGE ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ONSITE INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. THE ENGINEER MUST RECEIVE DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL WHO INSTALL ANCHORS ARE TRAINED PRIOR TO THE COMMENCEMENT OF THEIR INSTALLATION.
6. ANCHOR CAPACITY IS DEPENDENT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO THE EDGE OF CONCRETE. ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH SPACING AND EDGE DISTANCES INDICATED ON THE STRUCTURAL DRAWINGS.
7. REINFORCING BARS OR OTHER ELEMENTS EMBEDED IN THE EXISTING CONCRETE STRUCTURE MAY CONFLICT WITH SPECIFIC ANCHOR LOCATIONS. UNLESS NOTED ON THE DRAWINGS THAT THE BARS, ETC. CAN BE CUT, THE CONTRACTOR SHALL REVIEW THE EXISTING STRUCTURAL DRAWINGS AND SHALL UNDERTAKE TO LOCATE THE POSITION OF THE EMBEDED BARS, ETC. BY GROUND PENETRATING RADAR (GPR), X-RAY, CHIPPING OR OTHER MEANS.
8. CONTINUOUS OR PERIODIC SPECIAL INSPECTIONS FOR POST INSTALLED ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 4.4 OF THE INDIVIDUAL INTERNATIONAL CODE COUNCIL- EVALUATION SERVICE (ICC- ES) REPORT FOR THE INDIVIDUAL ANCHOR. THE CONTRACTOR SHALL GIVE THE SPECIAL INSPECTOR SUFFICIENT ADVANCE NOTICE TO ALLOW ENOUGH TIME FOR PROPER INSPECTION OF HOLE PREPARATION, ANCHOR INSTALLATION, TIGHTENINING, ETC. ANCHORS INSTALLED WITHOUT INSPECTION AT ALL THESE PHASES SHALL BE REJECTED AND WILL HAVE TO BE REPLACED AT CONTRACTOR'S EXPENSE.

ALLOWANCES:

1. BIDDERS SHALL PROVIDE A SEPARATE PRICE FOR 5 TONS OF ADDITIONAL REINFORCING STEEL (ASTM A-615) & 9 CUBIC YARDS OF CONCRETE (F'C = 5000 PSI) TO BE USED ON THE PROJECT AS PER THE DIRECTION OF THE ARCHITECT. THE VALUE OF THE UNEXPENDED BALANCE OF THESE MATERIALS SHALL BE REFUNDED TO THE OWNER.
2. BIDDERS SHALL PROVIDE A SEPARATE PRICE FOR 10 TONS OF ADDITIONAL STRUCTURAL STEEL (ASTM A992-50) TO BE USED ON THE PROJECT AS PER THE DIRECTION OF THE ARCHITECT. THIS STEEL WILL BE ADDED AS NEEDED PRIOR TO OR DURING THE SHOP DRAWING REVIEW PHASE. THE VALUE OF THE UNEXPENDED BALANCE OF THIS STEEL SHALL BE REFUNDED TO THE OWNER.

SPECIAL INSPECTION NOTES:

THE FOLLOWING IS A PARTIAL LIST OF SPECIAL INSPECTION ITEM(S) RELATED TO STRUCTURAL WORK SHOWN ON GACE DRAWINGS AS REQUIRED BY NYC BUILDING CODE. THE CONTRACTOR IS OBLIGATED TO NOTIFY THE INSPECTOR AT LEAST 72 HOURS BEFORE INSTALLATION OF SUCH ITEMS SO THAT PROPER INSPECTION CAN BE MADE. IN NO CASE SHALL SUCH ITEMS BE INSTALLED OR CONSTRUCTED WITHOUT COMPLETE APPROVAL OF THE INSPECTOR. UNAPPROVED INSTALLATION IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE.

1. STRUCTURAL STEEL - WELDING
2. STRUCTURAL STEEL - ERECTION & BOLTING
3. CONCRETE - CAST IN PLACE
4. CONCRETE - PRECAST
5. CONCRETE - TEST CYLINDERS
6. CONCRETE DESIGN MIX
7. MASONRY
8. POST INSTALLED ANCHORS (BB# 2014-018, 2014-019)

THE FOLLOWING IS A PARTIAL LIST OF SPECIAL INSPECTION ITEM(S) RELATED TO THE STRUCTURAL WORK AS REQUIRED BY NYC BUILDING CODE. THE WORK IS NOT SHOWN ON GACE DRAWINGS AND GACE IS NOT THE DESIGN APPLICANT FOR THESE ITEMS. GACE SHALL TAKE NO RESPONSIBILITY FOR THE DESIGN AND/OR CONSTRUCTION OF SUCH ITEMS AND ANY RELATED WORK. THE CONTRACTOR IS OBLIGATED TO NOTIFY THE INSPECTOR AT LEAST 72 HOURS BEFORE INSTALLATION OF SUCH ITEMS SO THAT PROPER INSPECTION CAN BE MADE. IN NO CASE SHALL SUCH ITEMS BE INSTALLED OR CONSTRUCTED WITHOUT COMPLETE APPROVAL OF THE INSPECTOR. UNAPPROVED INSTALLATION IS SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S SOLE EXPENSE.

1. SOILS - SITE PREPARATION
2. SOILS - FILL PLACEMENT & IN-PLACE DENSITY
3. SOILS - INVESTIGATION (BORINGS/TEST PITS)
4. SPRAYED FIRE-RESISTANT MATERIALS
5. EXCAVATION - SHEETING, SHORING, AND BRACING

ALL SPECIAL INSPECTIONS SHALL BE PERFORMED BASED ON APPROVED SHOP DRAWINGS. INSPECTIONS PERFORMED BASED ON UNAPPROVED DRAWINGS SHALL BE CONSIDERED INVALID AND SHALL BE REJECTED.

BIDDER'S WARRANTY:

BY THE ACT OF SUBMITTING A BID FOR THE PROPOSED CONTRACT, THE BIDDER WARRANTS THAT:

1. THE BIDDER AND ALL SUBCONTRACTORS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND OTHER CONSTRUCTION CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM AMBIGUITIES AND SUFFICIENT FOR THE CONTRACTOR TO BID, FABRICATE, AND INSTALL THE WORK ON TIME, FURTHER THAT,
2. THE BIDDER AND ALL WORKMEN, EMPLOYEES AND SUBCONTRACTORS HE INTENDS TO USE ARE SKILLED AND EXPERIENCED IN THE TYPE OF CONSTRUCTION REPRESENTED BY THE CONSTRUCTION CONTRACT DOCUMENTS BID UPON; FURTHER THAT,
3. NEITHER THE BIDDER NOR ANY OF HIS EMPLOYEES, AGENTS INTENDED SUPPLIERS OR SUBCONTRACTORS HAVE RELIED UPON ANY VERBAL REPRESENTATIONS, ALLEGEDLY AUTHORIZED OR UNAUTHORIZED FROM THE OWNER, HIS EMPLOYEES OR AGENTS INCLUDING ARCHITECTS, ENGINEERS OR CONSULTANTS, IN ASSEMBLING THE BID FIGURE; AND FURTHER THAT, THE BID FIGURE IS BASED SOLELY UPON THE CONSTRUCTION CONTRACT DOCUMENTS AND PROPERLY ISSUED WRITTEN ADDENDA AND NOT UPON ANY OTHER WRITTEN REPRESENTATION.
4. THE BIDDER ALSO WARRANTS THAT HE HAS CAREFULLY EXAMINED THE SITE OF THE WORK AND THAT FROM HIS OWN INVESTIGATIONS HE HAS SATISFIED HIMSELF AS TO THE NATURE AND LOCATION OF THE WORK AND THE CHARACTER, QUALITY, QUANTITIES OF MATERIALS AND DIFFICULTIES TO BE ENCOUNTERED, THE KIND AND EXTENT OF EQUIPMENT AND OTHER FACILITIES NEEDED FOR THE PERFORMANCE OF THE WORK, THE GENERAL AND LOCAL CONDITIONS, AND OTHER ITEMS WHICH MAY, IN ANY WAY, AFFECT THE WORK OR ITS PERFORMANCE.

SHOP DRAWING REVIEW NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING, PREPARING AND DELIVERING ALL SHOP DRAWINGS AND OTHER SUBMITTALS ("SUBMITTALS") REQUIRED BY THE CONTRACT DOCUMENTS IN A TIMELY MANNER. ALL MATERIAL SHALL BE DELIVERED GRADUALLY SO AS TO AVOID SUBMISSION OF LARGE NUMBER OF SUBMITTALS NOT ALLOWING THE ENGINEER TIMELY REVIEW.
2. THE STRUCTURAL ENGINEER OF RECORD ("ENGINEER") SHALL REVIEW SUBMITTALS PERTINENT TO STRUCTURAL DESIGN (SHOP DRAWINGS AND OTHER PERTINENT DOCUMENTS SUCH AS MATERIAL, PRODUCT, ASSEMBLY INFORMATION, ENGINEERING CALCULATIONS, ETC.) SUBMITTED BY THE CONTRACTOR. THE ENGINEER SHALL COMMENT ON THE SUBMITTALS AND APPROVE OR DISAPPROVE WITH COMMENTS, AS APPROPRIATE, FOR GENERAL CONFORMANCE WITH THE INFORMATION GIVEN AND THE DESIGN CONCEPT EXPRESSED IN THE CONTRACT DOCUMENTS. REVIEW OF SUCH SUBMITTALS SHALL NOT BE FOR THE PURPOSE OF DETERMINING THE ACCURACY AND COMPLETENESS OF OTHER INFORMATION SUCH AS DIMENSIONS, QUANTITIES, INSTALATION OR PERFORMANCE OF EQUIPMENT OR SYSTEMS, ETC. WHICH SHALL BE THE CONTRACTOR'S RESPONSIBILITY. ENGINEER'S REVIEW SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO ACCURATELY AND COMPLETELY INTERPRET THE CONTRACT DOCUMENTS.
3. IF REQUIRED BY SPECIFICATIONS, SHOP DRAWINGS AND OTHER DOCUMENTS SHALL BEAR THE SEAL AND SIGNATURE OF A PROFESSIONAL ENGINEER LICENSED IN THE STATE WHERE THE PROJECT IS TO BE CONSTRUCTED.
4. BEFORE SUBMITTING A SHOP DRAWING OR ANY OTHER DOCUMENT TO THE ENGINEER, THE CONTRACTOR SHALL REVIEW AND APPROVE EACH SUCH SUBMITTAL FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS. EVERY COPY OF EACH SUBMITTAL SHALL BEAR THE CONTRACTOR'S REVIEW STAMP SHOWING THAT THEY HAVE BEEN REVIEWED AND APPROVED. THE ENGINEER SHALL RETURN WITHOUT REVIEW MATERIAL WHICH HAS NOT BEEN APPROVED BY THE CONTRACTOR.
5. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATIONS OF CONSTRUCTION, SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERETO, INCLUDING REFLECTION OF EXISTING FIELD CONDITIONS. APPROVAL OF ANY SUBMITTAL BY THE ENGINEER SHALL NOT BE CONSTRUED AS ACCEPTANCE OF ANY OF THE FOREMENTIONED ASPECTS OF CONTRACTOR'S WORK.
6. THE ENGINEER SHALL ASSUME THAT NO SUBMITTED SHOP DRAWING OR OTHER DOCUMENT COMPRISES A VARIATION FROM THE CONTRACT UNLESS THE CONTRACTOR ADVISES THE ENGINEER OTHERWISE IN WRITING. THE CONTRACTOR SHALL NOT PROCEED WITH ANY WORK RELATED TO SUCH VARIATION BEFORE RECEIPT OF ENGINEER'S WRITTEN ACCEPTANCE.
7. IN CASE RESUBMISSION OF SHOP DRAWINGS, CALCULATIONS AND OTHER WRITTEN SUBMITTALS INCLUDING ADDITIONS, DELETIONS OR CORRECTIONS THE CONTRACTOR SHALL CIRCLE OR OTHERWISE IDENTIFY ALL CHANGES FROM THE PRIOR ISSUE. ALL MATERIAL SUBMITTED EACH CHANGE CLEARLY IDENTIFIED SHALL BE RETURNED WITHOUT REVIEW FOR RESUBMISSION.
8. THE RETURNED SHOP DRAWINGS AND OTHER SUBMITTALS SHALL BE STAMPED BY THE ENGINEER. THE STAMP SHALL DENOTE REVIEW STATUS WHICH MAY OR MAY NOT REQUIRE FURTHER RESUBMISSION AS PER THE FOLLOWING:

STATUS:		RESUBMISSION:
A	NO EXCEPTION TAKEN	NOT REQUIRED
N	EXCEPTIONS NOTED	REQUIRED FOR RECORD ONLY
NR	EXCEPTIONS NOTED, REVISE & RESUBMIT	REQUIRED
RR	REJECTED	REQUIRED

9. CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS AND OTHER REVIEWED DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS OR FROM HIS RESPONSIBILITY FOR ERRORS AND OMMISSIONS ON SUCH DRAWINGS AND/OR OTHER DOCUMENTS. DRAWINGS AND DOCUMENTS RETURNED WITH 'NO EXCEPTION TAKEN' OF A PARTICULAR ITEM SHALL NOT BE INTERPRETED AS 'NO EXCEPTION TAKEN' OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT.
10. THE CONTRACTOR SHALL PERFORM NO PORTION OF THE WORK REQUIRING SUBMISSION AND REVIEW OF SHOP DRAWINGS OR OTHER MATERIAL UNTIL THE RESPECTIVE SUBMITTAL HAS BEEN APPROVED BY THE ENGINEER. SUCH WORK SHALL BE PERFORMED IN ACCORDANCE ONLY WITH THE SUBMITTALS MARKED "NO EXCEPTION TAKEN" OR "EXCEPTIONS NOTED". THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND BEAR ALL THE COSTS WHICH MAY RESULT FROM ORDERING OF ANY MATERIAL OR FROM PROCEEDING WITH ANY PART OF THE WORK PRIOR TO THE RECEIPT OF APPROVED RESPECTIVE SUBMITTALS.

Melrose Commons Site C - Supportive Housing

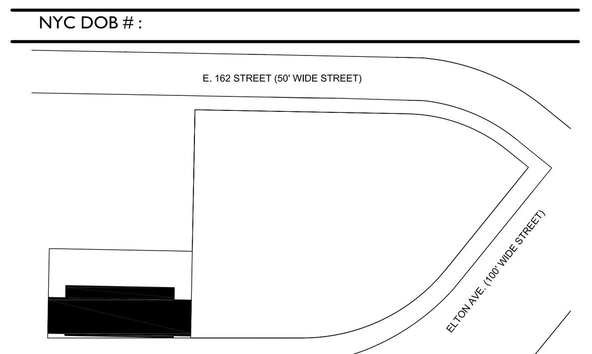
Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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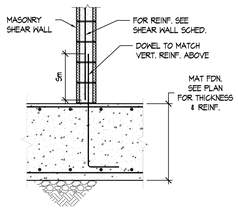
GENERAL NOTES AND DESIGN CRITERIA

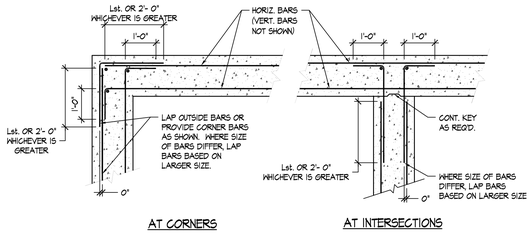
SEAL & SIGNATURE:

PROJECT No:	B4050.00
DRAWING BY:	JPG
CHK BY:	MM
DWG No:	S-001.00
SCALE: AS NOTED	PAGE No: 60 of 111



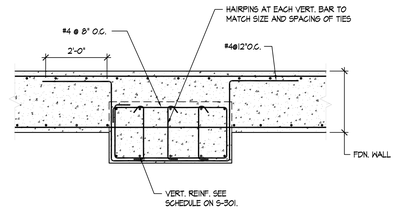
1 TYPICAL MASONRY SHEAR WALL ON MAT FOUNDATION

1/2" = 1'-0"



2 TYPICAL HORIZONTAL REINFORCING FOR CONCRETE WALLS AND GRADE BEAMS (PLAN)

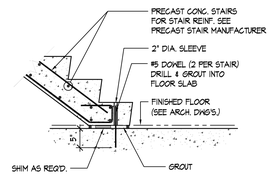
1/2" = 1'-0"



3 TYPICAL COLUMN BUTTRESS PLAN

1/2" = 1'-0"

NOTE: FOR BALANCE OF WALL REINFORCEMENT & OTHER INFO, SEE TYPICAL WALL SECTIONS BUTTRESS DETAIL AND SCHEDULE ON S-301.



4 TYPICAL STAIR AT CELLAR SLAB

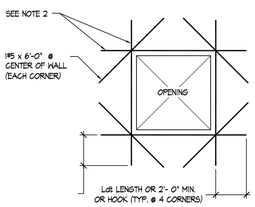
3/4" = 1'-0"

FOUNDATION NOTES:

1. FOUNDATION DESIGN HAS BEEN BASED ON GEOTECHNICAL REPORT PREPARED BY TECTONIC DATED FEBRUARY 7TH, 2014 A COPY OF THIS REPORT SHALL BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
2. ALL EARTHWORK, SUBGRADE PREPARATION AND FOUNDATION WORK SHALL BE DONE ACCORDING TO THE GEOTECHNICAL REPORT AND UNDER SUPERVISION OF LICENSED GEOTECHNICAL ENGINEER IN OWNER'S DIRECT EMPLOY.
3. ALL SPREAD FOOTINGS AND MAT FOUNDATIONS SHALL BEAR ON UNDISTURBED SOIL WITH A MINIMUM BEARING CAPACITY OF 3 TONS PER SQUARE FOOT. IF MATERIAL OF THIS CAPACITY IS NOT FOUND AT THE ELEVATIONS INDICATED, THE FOOTINGS SHALL BE LOWERED AT THE DIRECTION OF THE LICENSED GEOTECHNICAL ENGINEER IN OWNER'S DIRECT EMPLOY.
4. MAKE NO EXCAVATION TO THE FULL DEPTH INDICATED WHEN FREEZING TEMPERATURES MAY BE EXPECTED UNLESS THE FOOTINGS OR SLABS CAN BE PLACED IMMEDIATELY AFTER THE EXCAVATION HAS BEEN COMPLETED. PROTECT THE BOTTOM OF EXCAVATION FROM FROST IF PLACING OF CONCRETE IS DELAYED. SHOULD PROTECTION FAIL, REMOVE FROZEN MATERIALS AND REPLACE WITH CONCRETE OR GRAVEL FILL.
5. WALLS SHALL BE TEMPORARILY BRACED AGAINST EARTH PRESSURE AND OTHER FORCES UNTIL SLABS, BEAMS AND OTHER MEMBERS DESIGNED TO BRACE THE FINISHED STRUCTURE HAVE BEEN IN PLACE AND HAVE ATTAINED REQUIRED CONCRETE ULTIMATE STRENGTH.
6. THE SUBGRADE SHALL BE PROOFROLLED WITH A MINIMUM OF 6 PASSES OF A SMOOTH DRUM VIBRATING ROLLER WITH A MINIMUM 10 TON STATIC WEIGHT, OR APPROVED EQUIPMENT HAVING SIMILAR ENERGY. ANY MAN-MADE MATERIALS OR DEBRIS, OR ANY UNSTABLE AREAS THAT CANNOT BE STABILIZED BY ADDITIONAL COMPACTION SHALL BE EXCAVATED TO COMPETENT MATERIAL AND THE AREA BACKFILLED WITH COMPACTED STRUCTURAL FILL. PROOF-ROLLING SHALL NOT BE PERFORMED WHEN THE SUBGRADE IS WET, MUDDY, OR FROZEN.

EXCAVATION NOTES:

1. SHEETING, SHORING AND BRACING SHALL BE DESIGNED BY A QUALIFIED PROFESSIONAL ENGINEER EXPERIENCED IN THIS TYPE OF WORK, EMPLOYED BY THE OWNER. THIS ENGINEER, WHOM WE SHALL CALL THE "SPECIALTY STRUCTURAL ENGINEER" (SSE) SHALL BE RESPONSIBLE FOR INSPECTION OF THIS WORK AS REQUIRED BY THE PERTINENT BUILDING CODE.
2. THE SSE SHALL SUBMIT SHEETING, SHORING AND BRACING DRAWINGS TO THE ARCHITECT FOR REVIEW OF EFFECT ON THE FOUNDATIONS AND STRUCTURE DESIGNED BY THIS OFFICE. SUCH DRAWINGS SHALL BE SUBMITTED PRIOR TO FILING OF THE STRUCTURAL DRAWINGS BY THE OFFICE FOR APPROVAL BY DOB.
3. SHEETING, SHORING AND BRACING SHALL BE SHOWN ON PLANS AND DETAILED BY SSE. THE SSE SHALL FILE SUCH PLANS AND OBTAIN APPROVAL FROM THE DEPARTMENT OF BUILDINGS AS PART OF THE FILING FOR THE FOUNDATION PERMIT.

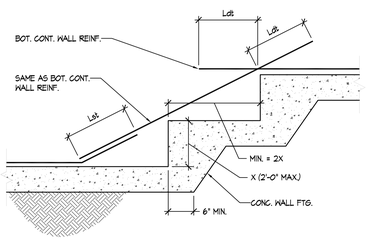


5 TYPICAL OPENING IN CONCRETE WALL

1/2" = 1'-0"

NOTES:

1. HOOK ALL INTERRUPTED CONTINUOUS BARS.
2. PLACE ONE-HALF OF REINFORCING BAR AREA INTERRUPTED BY OPENING IN THE SAME FACE AT BOTH SIDES OF OPENING. TWO #5 EACH SIDE MIN.
3. Ldt = TENSION DEVELOPMENT LENGTH AS PER SCHEDULE ON S-002.

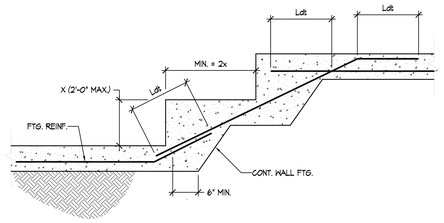


6 TYPICAL STEPPED WALL

1/2" = 1'-0"

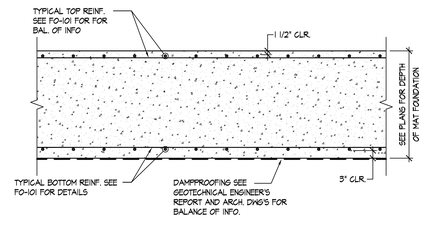
NOTES: 1. Ldt INDICATES TENSION DEVELOPMENT LENGTH. SEE SCHEDULE.

2. Lst INDICATES TENSION SPLICE LENGTH. SEE SCHEDULE.



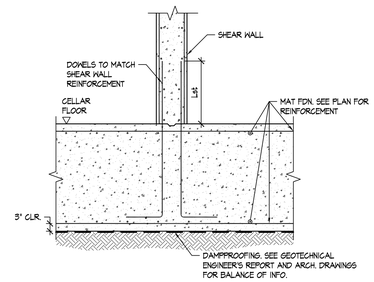
7 TYPICAL STEPPED FOOTING

1/2" = 1'-0"



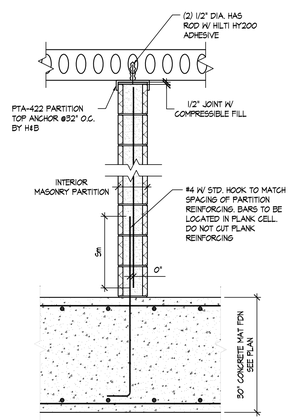
8 TYPICAL MAT FOUNDATION REINFORCEMENT PLACEMENT

1/2" = 1'-0"



9 TYPICAL SHEAR WALL ON MAT

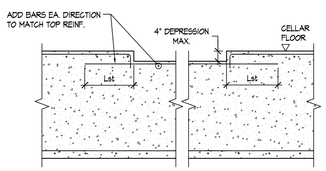
1/2" = 1'-0"



10 TYPICAL NON-BEARING MASONRY MAT FDN

3/4" = 1'-0"

NOTE: AT EXTERIOR WALLS, PROVIDE PTA-422 @18" O.C.



11 DEPRESSION AT MAT

1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

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Owner:

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BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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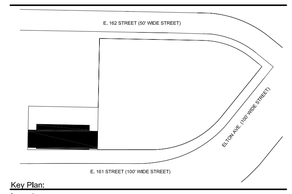

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Filing Representative:

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Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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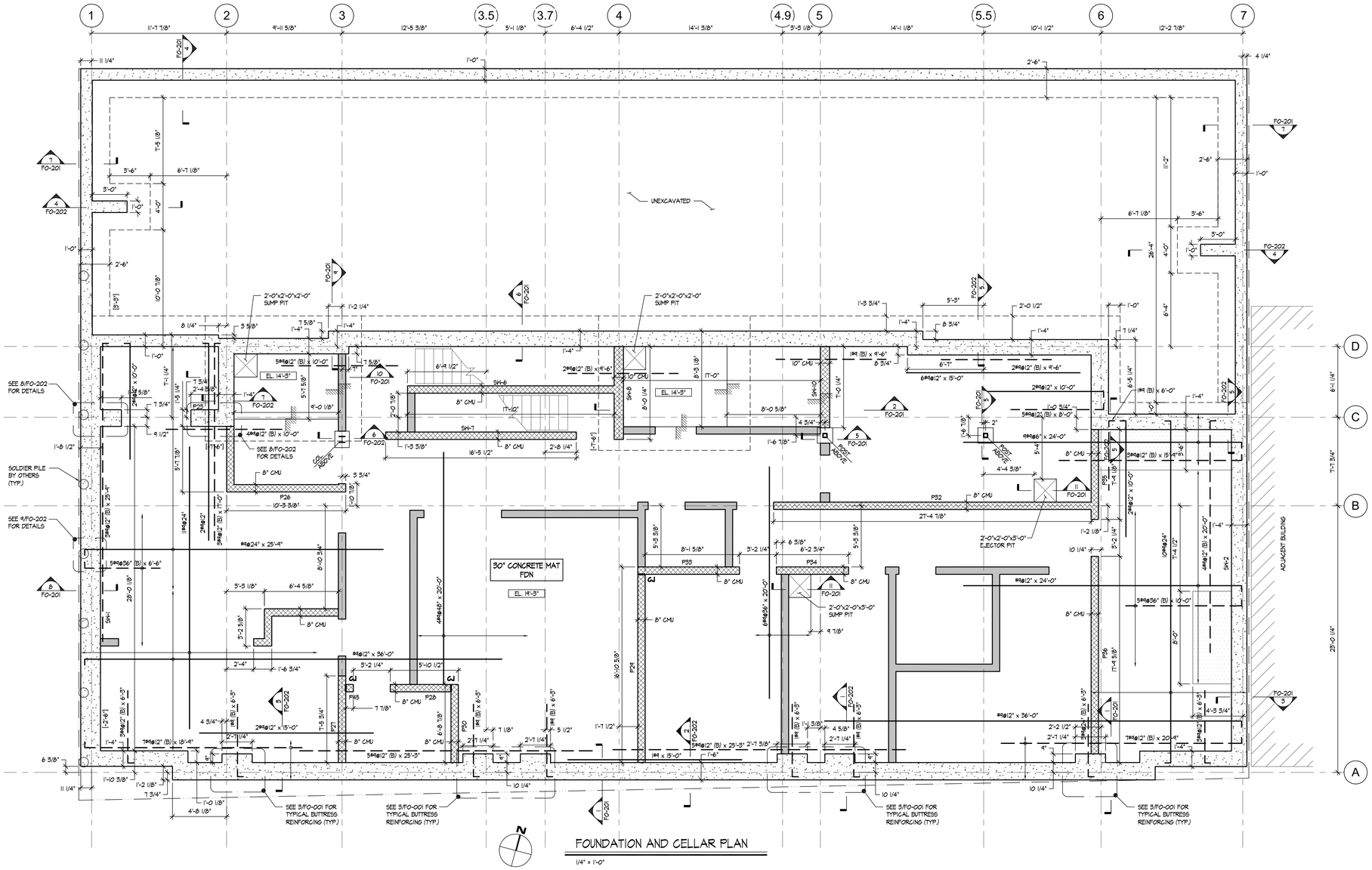
FOUNDATION NOTES AND DETAILS

SEAL & SIGNATURE:

PROJECT No:	B4050.00
DRAWING BY:	JPG
CHK BY:	MM
DWG No:	FO-001.00
SCALE: AS NOTED	PAGE No: 61 of 111



FOUNDATION AND CELLAR PLAN

1/4" = 1'-0"

NOTES:

1. TOP OF CELLAR SLAB ELEVATION SHOWN AS EL. +X'-XX" PER NAVD 88 DATUM ELEVATION.
2. BOTTOM OF FOUNDATION ELEVATIONS ARE DENOTED AS [-X'-XX"] WITH RESPECT TO CELLAR SLAB EL. +14'-3".
3. TOP AND BOTTOM REINFORCING BARS SHOWN ON PLAN TO BE PLACED IN ADDITION TO TYPICAL CONTINUOUS REINFORCEMENT AS FOLLOWS

   30" MAT
   - #8@12" O.C. EA. WAY BOTTOM
   - #11@12" O.C. NORTH / SOUTH TOP
   - #8@12" O.C. EAST / WEST TOP
5. PLACE EAST/WEST REINFORCING IN THE OUTERMOST LAYER
6. DENOTES ADDITIONAL TOP BARS.
   DENOTES ADDITIONAL BOTTOM BARS
7. SW-X — DENOTES 8" LOAD BEARING C.M.U. WALL UNLESS OTHERWISE NOTED. PROVIDE #5 VERTICAL EACH END & #4 @ 4'-0" VERTICAL FIELD UNLESS OTHERWISE NOTED IN SHEAR WALL SCHEDULE. GROUT CORE SOLID UNLESS OTHERWISE NOTED ON PLAN.
8. SW-X — DENOTES CONCRETE SHEAR WALL. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
9. FOR ALL MECHANICAL PADS SEE DETAIL 16/S-004. SEE MEP DRAWINGS FOR ALL LOCATIONS AND PAD THICKNESS.
10. CJ — DENOTES MASONRY CONTROL JOINT. SEE DETAIL 3/S-401.
11. ALL FOUNDATIONS TO HAVE A CONCRETE COMPRESSIVE STRENGTH OF 5,000PSI.
12. DENOTES ARCHITECTURAL PARTITION WALL WITH WEIGHT OF 500 PLF. SEE ARCH. DRAWINGS FOR DETAILS AND 10/FO-001.

4' 0' 4' 8'
GRAPHIC SCALE

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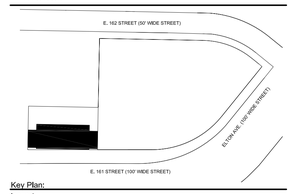

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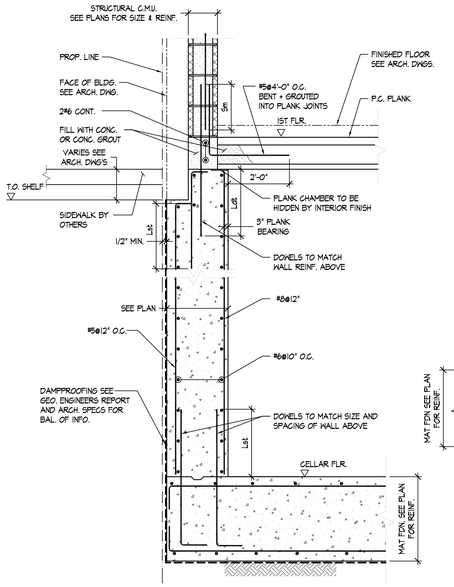
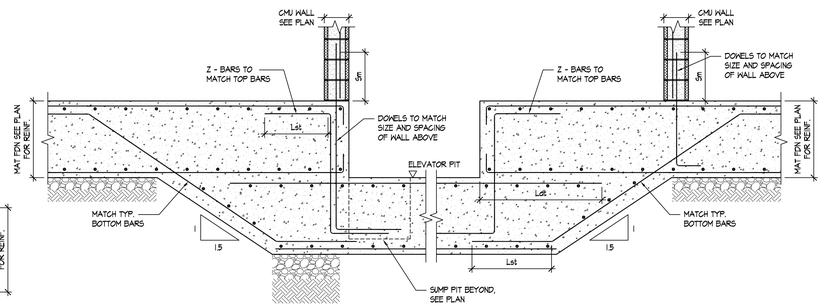
SCALE: AS NOTED	PAGE No: 62 of 111



1 SECTION
1/2" = 1'-0"



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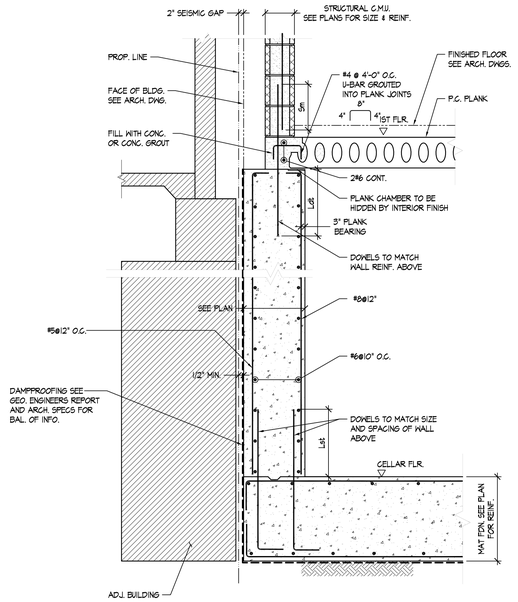

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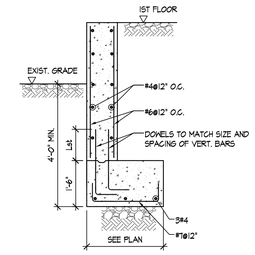

4 SECTION
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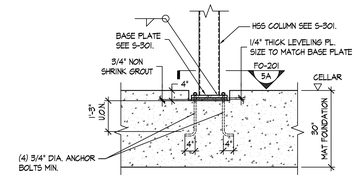
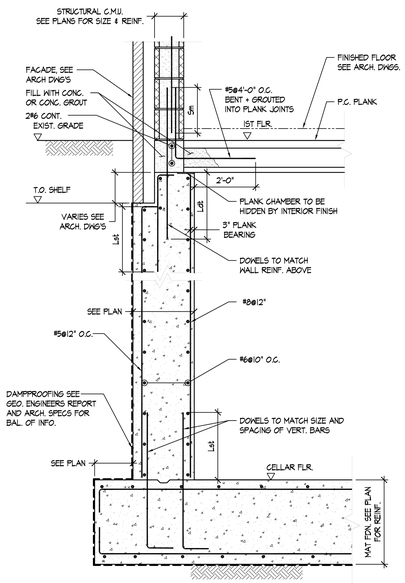
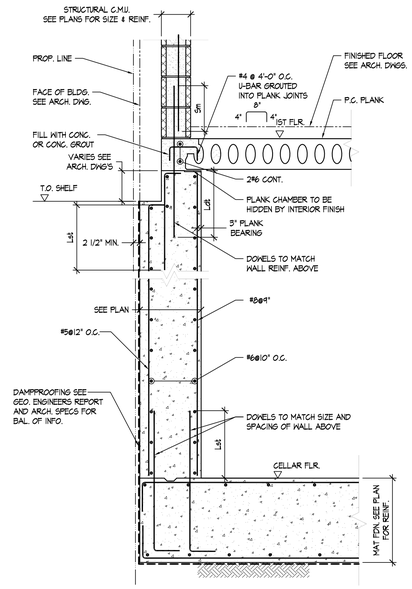


5 SECTION
1/2" = 1'-0"



6 SECTION
1/2" = 1'-0"

7 SECTION
1/2" = 1'-0"



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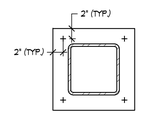

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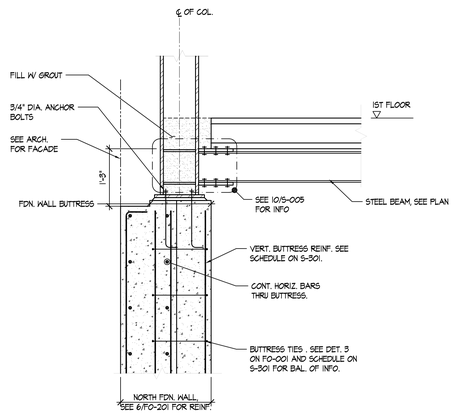

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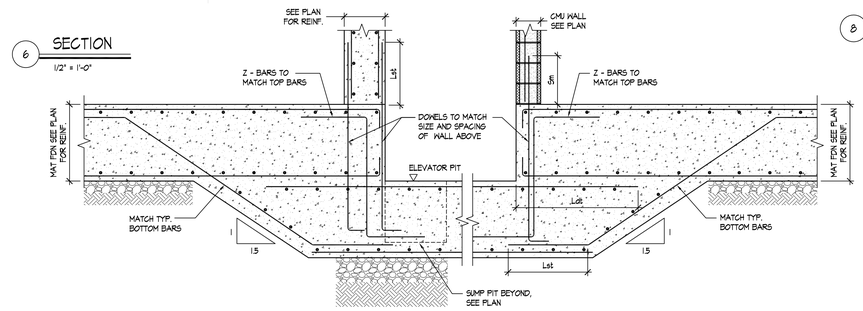

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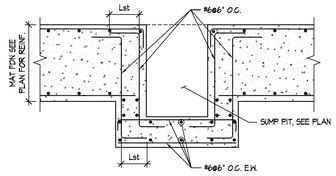

11 SECTION
1/2" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
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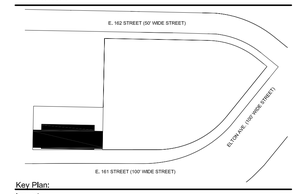
BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Revisions:

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FOUNDATION SECTIONS 1

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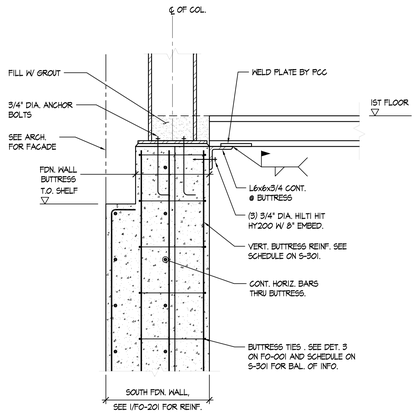
SCALE: AS NOTED	PAGE No: 63 of 111



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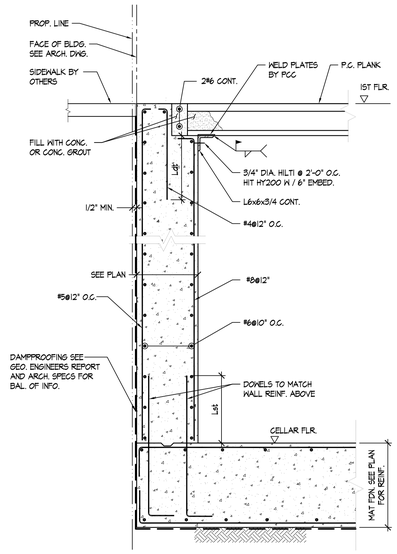

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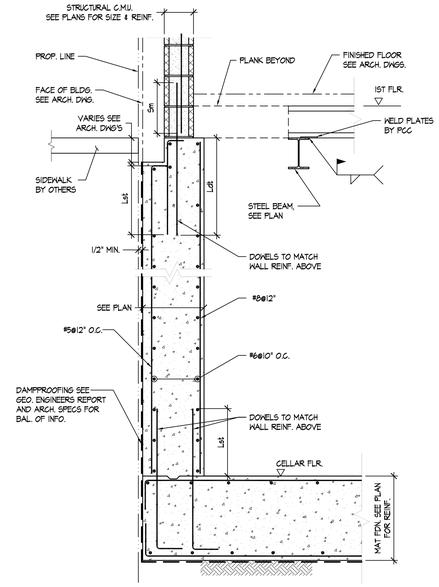

3 SECTION AT LIGHT WELL
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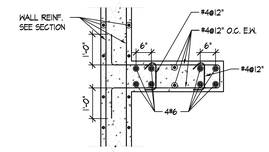

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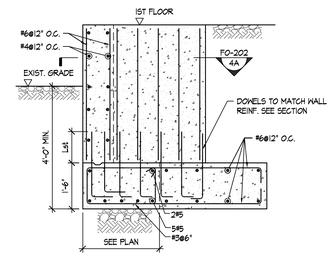
1/2" = 1'-0"



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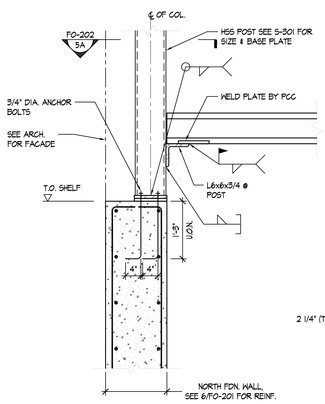
1/2" = 1'-0"



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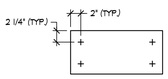
3/4" = 1'-0"



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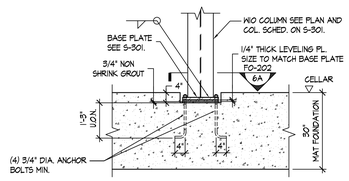
1" = 1'-0"



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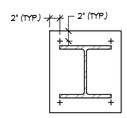

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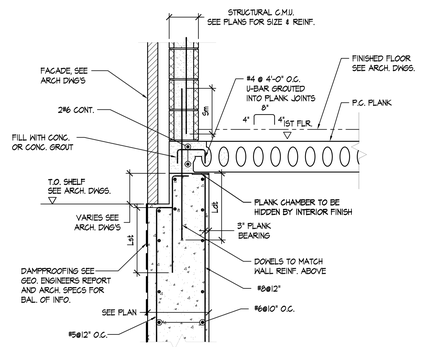

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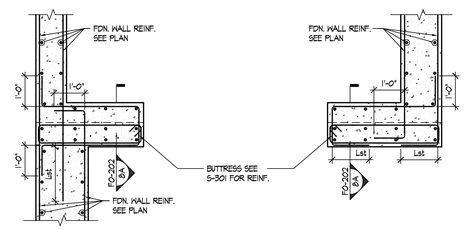
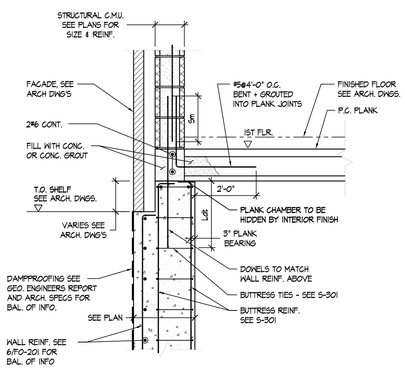


8 BUTTRESS CI + DI DETAILING
1/2" = 1'-0"



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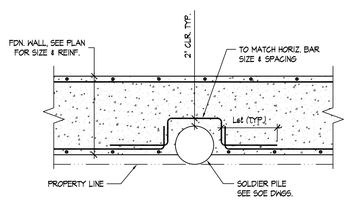

9 TYPICAL SOLDIER PILE PLAN DETAIL
3/4" = 1'-0"

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Bronx, NY

Owner:

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MENTAL HEALTH AND HOUSING SOLUTIONS

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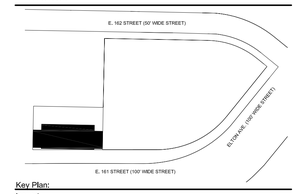
NYC DOB # :



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Revisions:

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FOUNDATION SECTIONS 2

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SCALE: AS NOTED	PAGE No: 64 of 111

LOADING SCHEDULE

LEVEL	OCCUPANCY	DEAD LOAD										LIVE LOAD	TOTAL
		30" MAT SLAB	8" PLANK	12" PLANK	METAL DECK	STEEL	CLNG.	FIN.	PART.	RFG. & INSUL.	TOTAL		
CELLAR	PUBLIC	375	-	-	-	-	-	5	12	-	342	100	442
	MECHANICAL	375	-	-	-	-	-	5	12	-	342	75	467
1ST	LOBBY	-	63	-	-	-	5	5	12	-	85	100	185
	OFFICE	-	63	-	-	-	5	5	12	-	85	100	185
2ND - 8TH	APARTMENTS	-	63	-	-	-	5	5	12	-	85	40	125
9TH	APARTMENTS	-	63	-	-	-	5	5	12	-	85	40	125
ROOF	PUBLIC TERRACE / GREEN HOUSE	-	63	-	-	-	5	25	-	10	103	100	203
	MECHANICAL	-	63	-	-	-	5	5	-	10	83	75	158
BULKHEAD	ROOF	-	63	-	-	-	5	10	-	10	103	30	133

NOTES: 1. PARTITION: 8" HOLLOW LIGHT WEIGHT C.M.U.

2. REINFORCE 8" C.M.U. PARTITION 675 PLF, LOCATION SHOWN ON DRAWINGS.

3. EXTERIOR WALLS: 8" CMU - 53 PSF, 4" BRICK - 45 PSF

MASONRY EMBEDMENT AND SPLICE LENGTH

BAR/ WIRE SIZE	f'm = 4,000 PSI AND 3,000 PSI	
	EMBEDMENT LENGTH (Em) IN.	SPLICE LENGTH (Sm) IN.
W1.7	6	8
W2.1	6	8
W2.8	7	10
#3	14	15
#4	18	18
#5	23	22
#6	27	41
#7	32	56
#8	36	80
#9	41	103
#10	45	MECHANICAL SPLICES
#11	50	

NOTES:

1. EPOXY-COATED BARS SHALL BE INCREASESD BY 50 PERCENT.
2. ASSUMING BAR SPACING IS AT 8" O.C. MINIMUM.
3. STEEL YIELD STRENGTH F_y = 60,000 PSI.

LAP SPLICE LENGTHS FOR CONCRETE 'Ls' (in.)

SIZE	f_y (ksi)	4000 psi			5000 psi		
		TENSION		COMP.	TENSION		COMP.
		TYP.	TOP		TYP.	TOP	
#3	60	18	24	12	17	22	12
#4	60	25	32	15	22	29	15
#5	60	31	40	19	28	36	19
#6	60	46	60	23	42	54	23
#7	60	54	70	27	49	63	27
#8	60	62	80	30	56	72	30
#9	60	70	91	34	63	81	34
#10	60	79	102	39	71	92	39
#11	75	109	142	62	98	127	53
#14	75	MECHANICAL SPLICES ONLY					
#18	75						
#20	80						

STRAIGHT BAR DEVELOPMENT LENGTHS FOR CONCRETE 'Ld' (in.)

SIZE	f_y (ksi)	4000 psi			5000 psi		
		TENSION		COMP.	TENSION		COMP.
		TYP.	TOP		TYP.	TOP	
#3	60	14	18	8	13	17	8
#4	60	19	25	9	17	22	9
#5	60	24	31	12	21	29	11
#6	60	36	47	14	32	42	13
#7	60	42	54	17	38	49	15
#8	60	48	62	19	43	56	17
#9	60	54	70	21	48	63	19
#10	60	61	79	24	54	71	22
#11	75	84	109	34	75	98	24
#14	75	101	131	41	90	117	29
#18	75	134	174	54	120	156	39
#20	80	159	206	64	142	184	45

HOOKED BAR TENSION DEVELOPMENT LENGTHS FOR CONCRETE 'Ldh' (in.)

SIZE	f_y (ksi)	4000 psi	5000 psi
#3	60	8	7
#4	60	10	9
#5	60	12	11
#6	60	15	13
#7	60	17	15
#8	60	19	17
#9	60	22	20
#10	60	25	22
#11	75	34	30
#14	NOT PERMITTED		
#18			
#20			

NOTES:

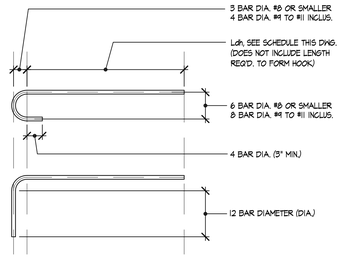
1. THESE DEVELOPMENT AND SPLICE LENGTHS ARE COMPUTED FOR UNCOATED BARS IN ELEMENTS OF NORMAL WEIGHT CONCRETE WITH A MIN. CLEAR COVER OF 1 BAR DIAMETER, AND A MIN. CLEAR SPACING OF 1 BAR DIAMETER IN BEAMS AND COLUMNS, AND 2 TIMES THE BAR DIAMETER IN OTHER ELEMENTS.

2. THESE DEVELOPMENT AND SPLICE LENGTHS SHALL BE MULTIPLIED BY ALL OF THE APPLICABLE FACTORS THAT FOLLOW:

   REINFORCING WITH COVER OR SPACING LESS THAN THAT SPECIFIED IN NOTE 1 ..... x1.30
   EPOXY-COATED REINFORCING (FOR TYP. REINF.) x1.50
   EPOXY-COATED REINFORCING (FOR TOP REINF.) x1.51
   REINFORCING PLACED IN LIGHTWEIGHT CONCRETE x1.30

3. 'Ld' CAN BE USED AS ACI CLASS A SPLICE.
   'Ls' CAN BE USED AS ACI CLASS B SPLICE.

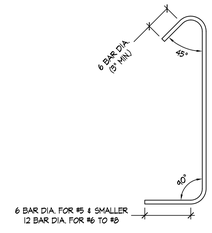
4. USE TOP CONDITION FOR ANY HORIZONTAL BARS WITH MORE THAN 12 INCH OF FRESH CONCRETE BELOW.



1 TYPICAL STANDARD HOOK

3/4" = 1'-0"

NOTE: FOR DEVELOPMENT LENGTH Ldh SEE SCHEDULE



2 TYPICAL TIE HOOK (HAIR PIN)

3/4" = 1'-0"

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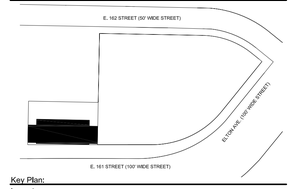

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TYPICAL DETAILS 1

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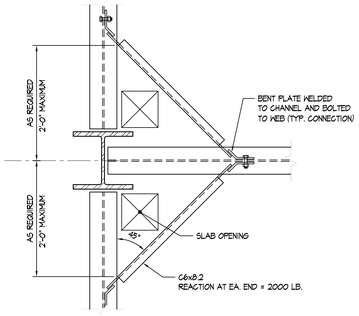
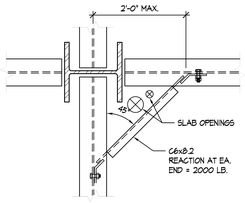
SCALE: AS NOTED	PAGE No: 65 of 111



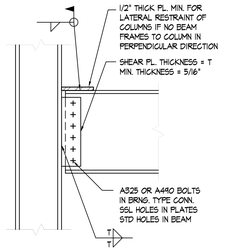
AT EXTERIOR COLUMNS WHERE REQUIRED



AT INTERIOR COLUMNS WHERE REQUIRED

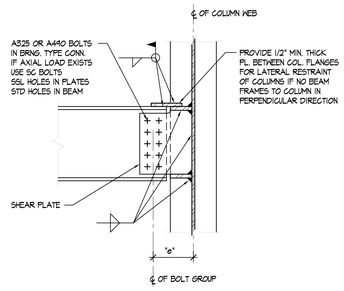
1 TYPICAL METAL DECK SUPPORTS @ COLUMNS

3/4" = 1'-0"



2 TYPICAL BEAM TO COLUMN FLANGE SHEAR CONNECTION

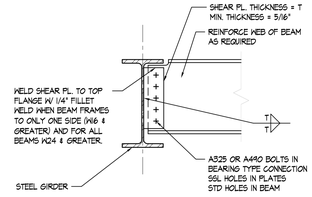
3/4" = 1'-0"



3 TYPICAL BEAM TO COLUMN WEB SHEAR CONNECTION

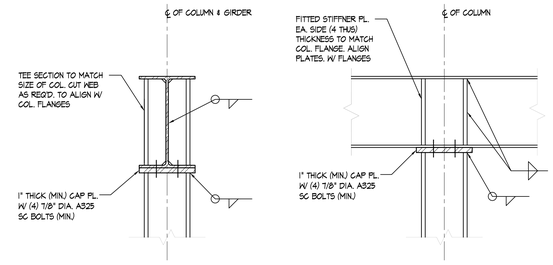
3/4" = 1'-0"

NOTE: DESIGN CONNECTION FOR ECCENTRICITY "e"



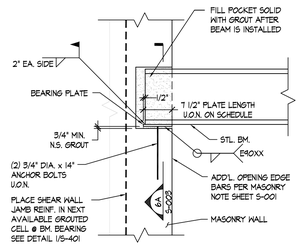
4 TYPICAL BEAM TO GIRDER CONNECTION

3/4" = 1'-0"



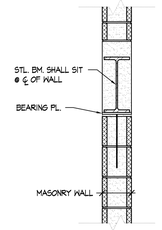
5 BEAM ON TOP OF COLUMN

3/4" = 1'-0"



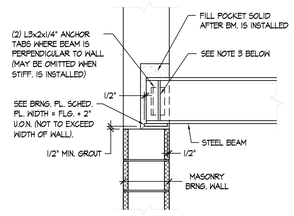
6 TYPICAL BEARING DETAIL OF STEEL BEAM PARALLEL TO MASONRY WALL

3/4" = 1'-0"



6A SECTION

3/4" = 1'-0"



7 TYPICAL STEEL BEAM BEARING ON MASONRY WALL

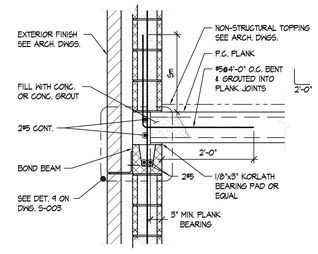
3/4" = 1'-0"

NOTES:

1. BEARING PLATES SHALL BE CENTERED ABOUT THE BEAM SUPPORTED, AND ORIENTED SUCH THAT THE THIRD DIMENSION IS PERPENDICULAR TO THE WEB OF THE BEAM.
2. BEAMS SHALL BE EXTENDED OVER THE BEARING PLATE SO THAT THE PLATE DOES NOT EXTEND MORE THAN 2" BEYOND THE END OF THE BEAM.
3. BEAMS BEARING ON PLATES SHALL BE REINFORCED WITH 1/4" STIFFENER PLATES @ 8" O.C. OVER BEARING PLATES.

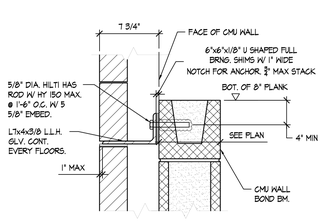
BEARING PLATE SCHEDULE

BEARING PLATE NO.	BEARING PLATE SIZE
BP-1	1"x5"x10"
BP-2	1.875"x1.625"x16"
BP-3	0.5"x4"x7"
BP-4	0.875"x5"x7"
BP-5	1.375"x1.625"x14"
BP-6	1"x14"x8"
BP-7	0.875"x6"x8"
BP-8	1"x7"x15.5"
BP-9	1"x7.5"x7"



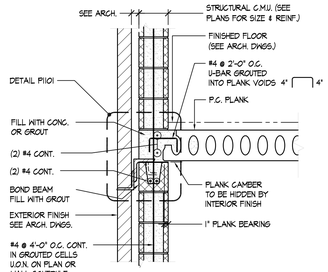
8 TYPICAL EXTERIOR BEARING WALL

3/4" = 1'-0"



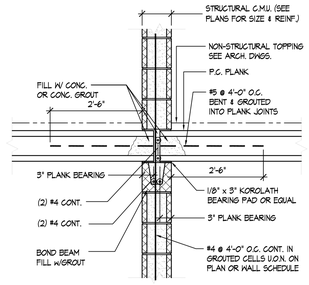
9 TYPICAL RELIEVING ANGLE

1 1/2" = 1'-0"



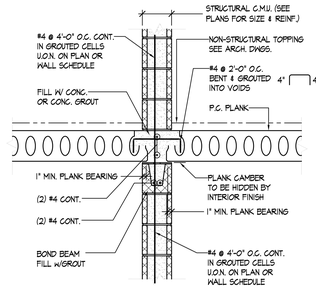
10 TYPICAL EXTERIOR SIDE LAP

3/4" = 1'-0"



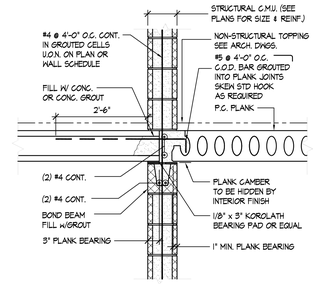
11 TYPICAL INTERIOR BEARING WALL

3/4" = 1'-0"



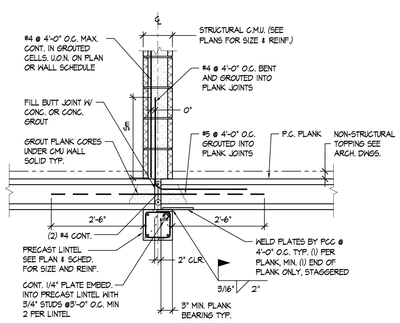
12 TYPICAL INTERIOR SIDE LAP

3/4" = 1'-0"



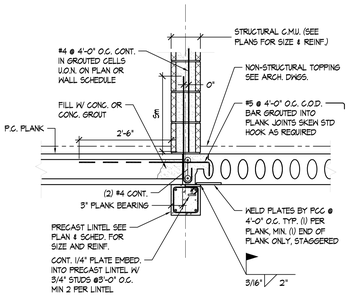
13 TYPICAL INTERIOR CHANGE OF DIRECTION

3/4" = 1'-0"



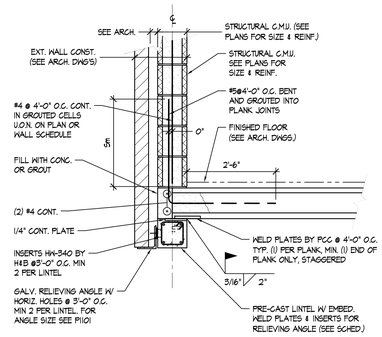
14 TYPICAL INTERIOR WALL AT OPENINGS WITH PRECAST LINTELS

3/4" = 1'-0"



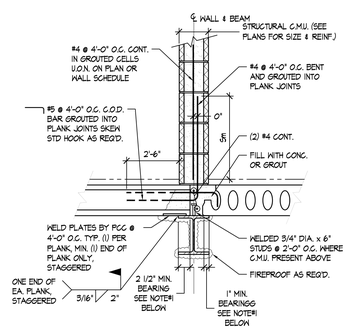
15 TYPICAL INTERIOR CHANGE OF DIRECTION AT OPENINGS WITH PRECAST LINTELS

3/4" = 1'-0"



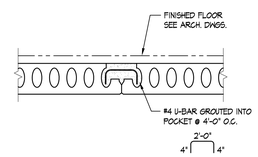
16 TYPICAL END BEARING ON PRECAST LINTEL @ EXTERIOR

3/4" = 1'-0"



17 CHANGE OF PLANK DIRECTION @ STEEL BEAM

3/4" = 1'-0"



18 TYPICAL SIDE LAP

3/4" = 1'-0"

NOTES:

1. FOR OTHER AREA, SEE PLANK MANUFACTURER'S RECOMMENDATION.

Melrose Commons Site C - Supportive Housing

Bronx, NY

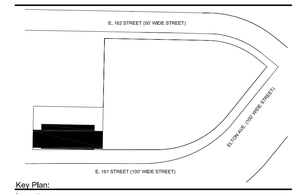
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	06.20.14	100% DD SET
2	08.14.14	50% CD SET
3	08.22.14	D.O.B. SUBMISSION
4	02.27.15	ISSUE FOR BID
5	11.30.15	D.O.B. APPROVAL SET
6	12.14.15	ISSUE FOR BID

Revisions:

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Bayside, New York 11361
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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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TYPICAL DETAILS 2

SEAL & SIGNATURE:

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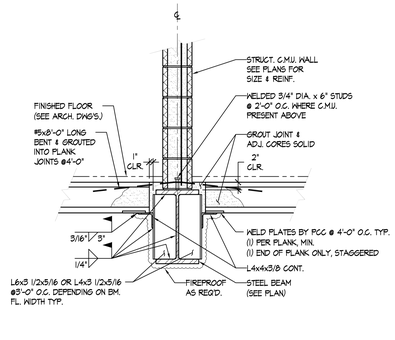
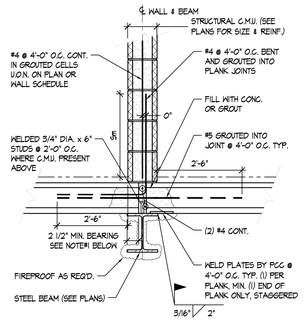
DRAWING BY:	JPG
CHK BY:	MM
DWG No:	S-003.00
SCALE: AS NOTED	PAGE No: 66 of 111



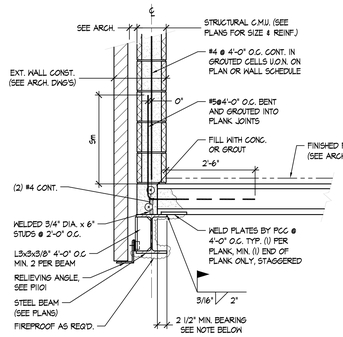
1 TYPICAL INTERIOR END BEARING @ UPSET STEEL BEAM

3/4" = 1'-0"



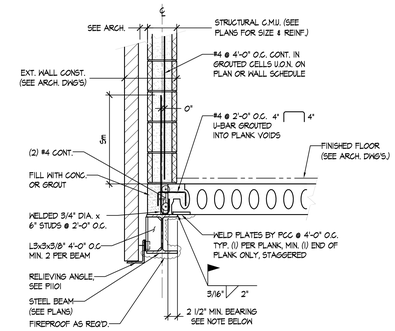
2 PLANK END BEARING ON INTERIOR STEEL BEAM

3/4" = 1'-0"



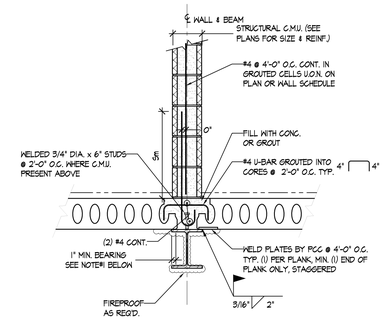
3 PLANK END BEARING ON EXTERIOR STEEL BEAM

3/4" = 1'-0"



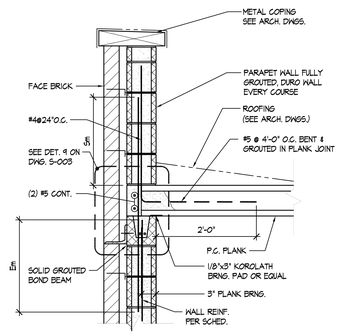
4 SIDE BEARING ON EXTERIOR STEEL BEAM

3/4" = 1'-0"



5 PLANK SIDE BEARING ON INTERIOR STEEL BEAM

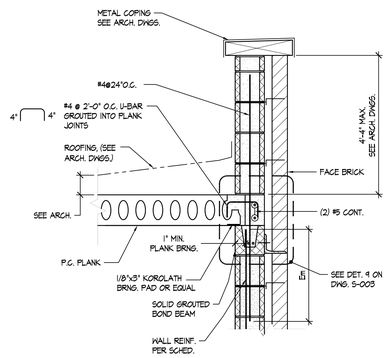
3/4" = 1'-0"



6 TYPICAL MASONRY PARAPET

3/4" = 1'-0"

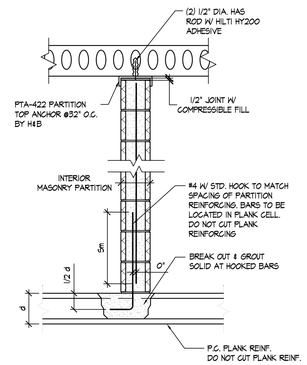
NOTE: SEE DETAIL 4 ON S-002 FOR BALANCE OF INFO.



7 TYPICAL MASONRY PARAPET SIDE LAP

3/4" = 1'-0"

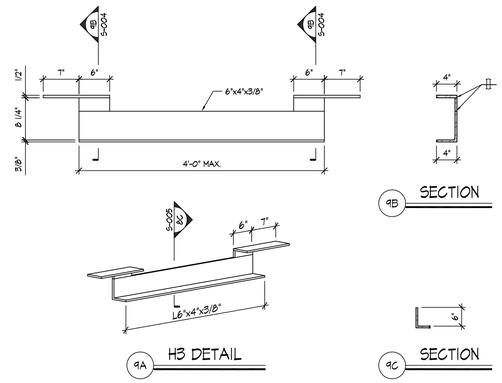
NOTE: SEE DETAIL 4 ON S-002 FOR BALANCE OF INFO.



8 TYPICAL NON-BEARING MASONRY ON PLANK

3/4" = 1'-0"

NOTE: AT EXTERIOR WALLS, PROVIDE PTA-422 @18" O.C.



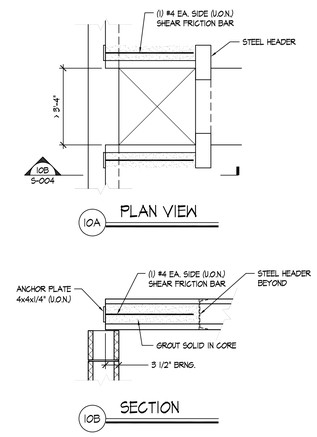
9A H3 DETAIL

9B SECTION

9C SECTION

9 STANDARD 8" HEADER AT PLANK OPENING DESIGNED BY PLANK MANUFACTURER

N.T.S.



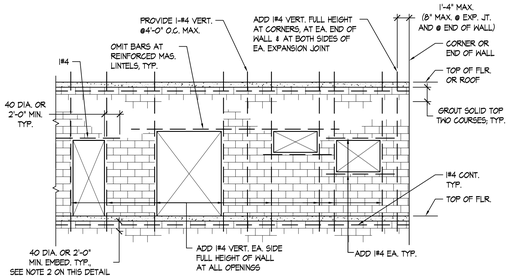
10A PLAN VIEW

10B SECTION

10 SHEAR ENHANCEMENT BAR

3/4" = 1'-0"

NOTE: THIS DETAIL SHALL BE DESIGNED BY PRECAST MANUFACTURER'S LICENSED ENGINEER

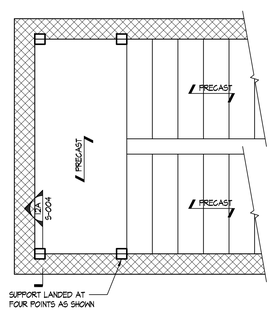


11 TYPICAL MINIMUM REINFORCING IN CMU STRUCTURAL WALLS

1/8" = 1'-0"

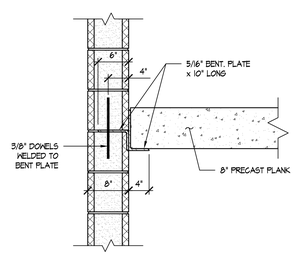
NOTES:

1. FOR TYPICAL JOINT REINFORCING SEE GENERAL NOTES AND SPECIFICATIONS.
2. FOR ALL WALLS LABELED ON PLAN THUS SW-XX, SEE SHEAR WALL SCHEDULE AND NOTES ON S-401 FOR BALANCE OF REINFORCEMENT & INFORMATION.
3. PROVIDE MINIMUM OF CONTINUOUS 4#4 VERTICAL IN ISOLATED PIERS OF LENGTH EQUAL TO OR LESS THAN 4'-0" FOR 8" CMU, 5'-0" FOR 10" CMU AND 6'-0" FOR 12" CMU.



12 PLAN AT STAIR'S INTERMEDIATE LANDING

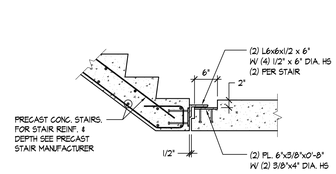
1/2" = 1'-0"



12A SECTION

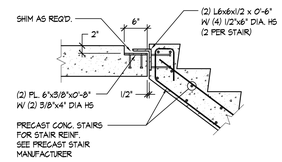
1" = 1'-0"

NOTE: FILL VOIDS IN CMU ABOVE AND BELOW BENT PLATE



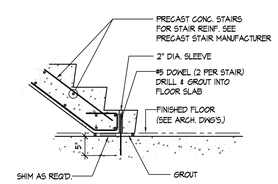
13 STAIR LANDING UP (HALF FLIGHT STAIRS/ 9 RISERS MAX)

3/4" = 1'-0"



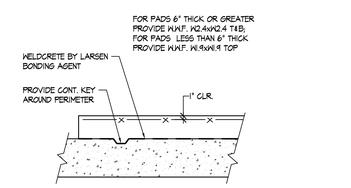
14 STAIR LANDING DOWN (HALF FLIGHT STAIRS/ 9 RISERS MAX)

3/4" = 1'-0"



15 TYPICAL STAIR AT SLAB

3/4" = 1'-0"



16 TYPICAL CONCRETE PAD

3/4" = 1'-0"

NOTE: SEE MEP DRAWINGS FOR REQUIRED PAD LOCATIONS.

Melrose Commons Site C - Supportive Housing

Bronx, NY

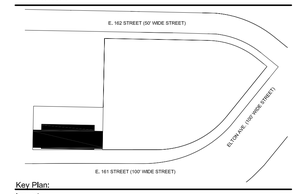
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	06.20.14	100% DD SET
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4	02.27.15	ISSUE FOR BID
5	11.30.15	D.O.B. APPROVAL SET
6	12.14.15	ISSUE FOR BID

Revisions:

Architect:

Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE consulting engineers dpc
105 Madison Avenue, 6th Floor, New York, New York 10016
t: 212.545.7878 f:212.545.8222 www.gace.net

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard,
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filling Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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TYPICAL DETAILS 3

SEAL & SIGNATURE:

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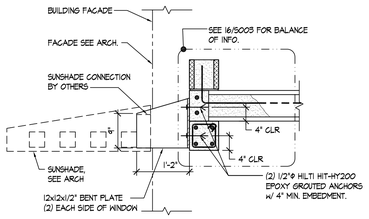
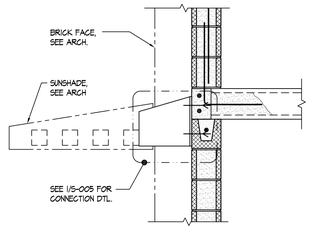
DRAWING BY:	JPG
CHK BY:	MM
DWG No:	S-004.00
SCALE: AS NOTED	PAGE No: 67 of 111



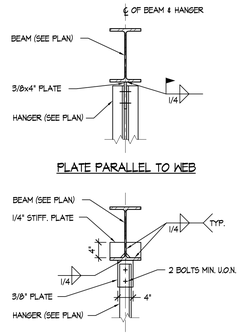
1 TYPICAL DETAIL AT SUNSHADE CONNECTION

3/4" = 1'-0"



2 TYPICAL SUNSHADE AT PIER

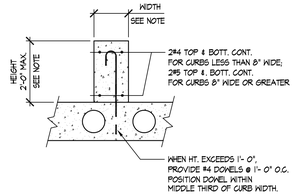
3/4" = 1'-0"



3 TYPICAL HANGER CONNECTION

3/4" = 1'-0"

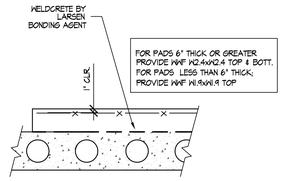
NOTE: SIZE OF PLATES, WORKING WELDS AND NUMBER OF BOLTS SHALL BE DESIGNED INDIVIDUALLY IF HANGER LOAD IS IN EXCESS OF 10,000 LBS.



4A CONCRETE CURB DETAIL

3/4" = 1'-0"

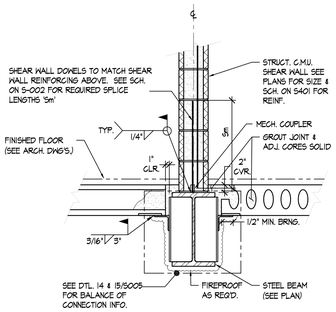
NOTE: FOR CURB HEIGHT & WIDTH SEE ARCH. DWGS.



4B CONCRETE PAD DETAIL

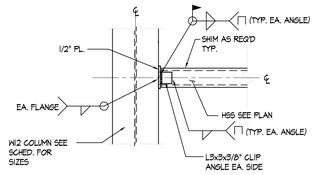
3/4" = 1'-0"

NOTE: FOR CURB HEIGHT & WIDTH SEE ARCH. DWGS.



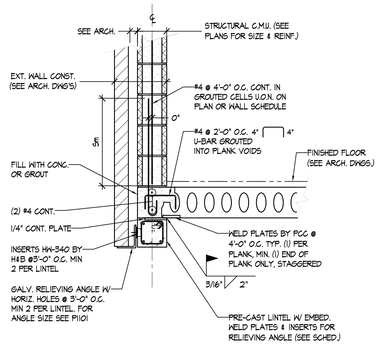
5 TYPICAL MASONRY SHEAR WALL TO STEEL BEAM CONNECTION

3/4" = 1'-0"



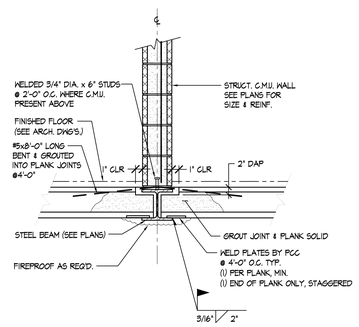
6 TYP. HSS TO COLUMN AT STOREFRONT

3/4" = 1'-0"



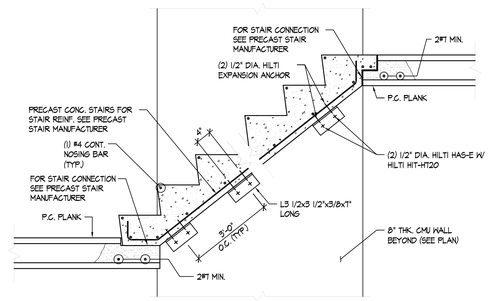
7 TYPICAL END BEARING ON PRECAST LINTEL @ EXTERIOR SIDE LAP

3/4" = 1'-0"



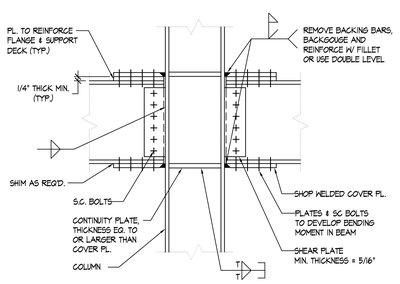
8 TYPICAL INTERIOR END BEARING @ UPSET STEEL BEAM

3/4" = 1'-0"



9 TYPICAL STAIR BRACING DETAIL

3/4" = 1'-0"

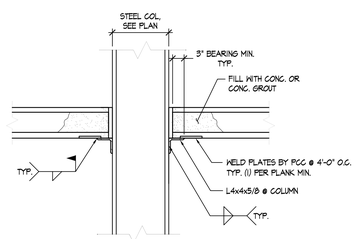


10 TYPICAL MOMENT CONNECTION AT COLUMN FLANGE

3/4" = 1'-0"

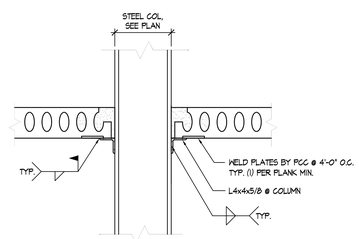
NOTES:

1. MOMENT CONNECTION SHELL DEVELOP FULL PLASTIC MOMENT CAPACITY OF BEAM U.O.N.
2. FOR UPSET BEAMS, PROVIDE CONNECTION THAT PROVIDES SUFFICIENT CLEARANCE TO TOP OF SLAB.



11 TYPICAL COLUMN TO PLANK CONNECTION

3/4" = 1'-0"



12 TYPICAL COLUMN TO PLANK CONNECTION

3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

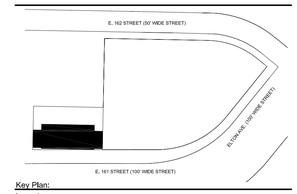
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

246 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Revisions:

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Filing Representative:

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Tel (718) 383-9340

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TYPICAL DETAILS 4

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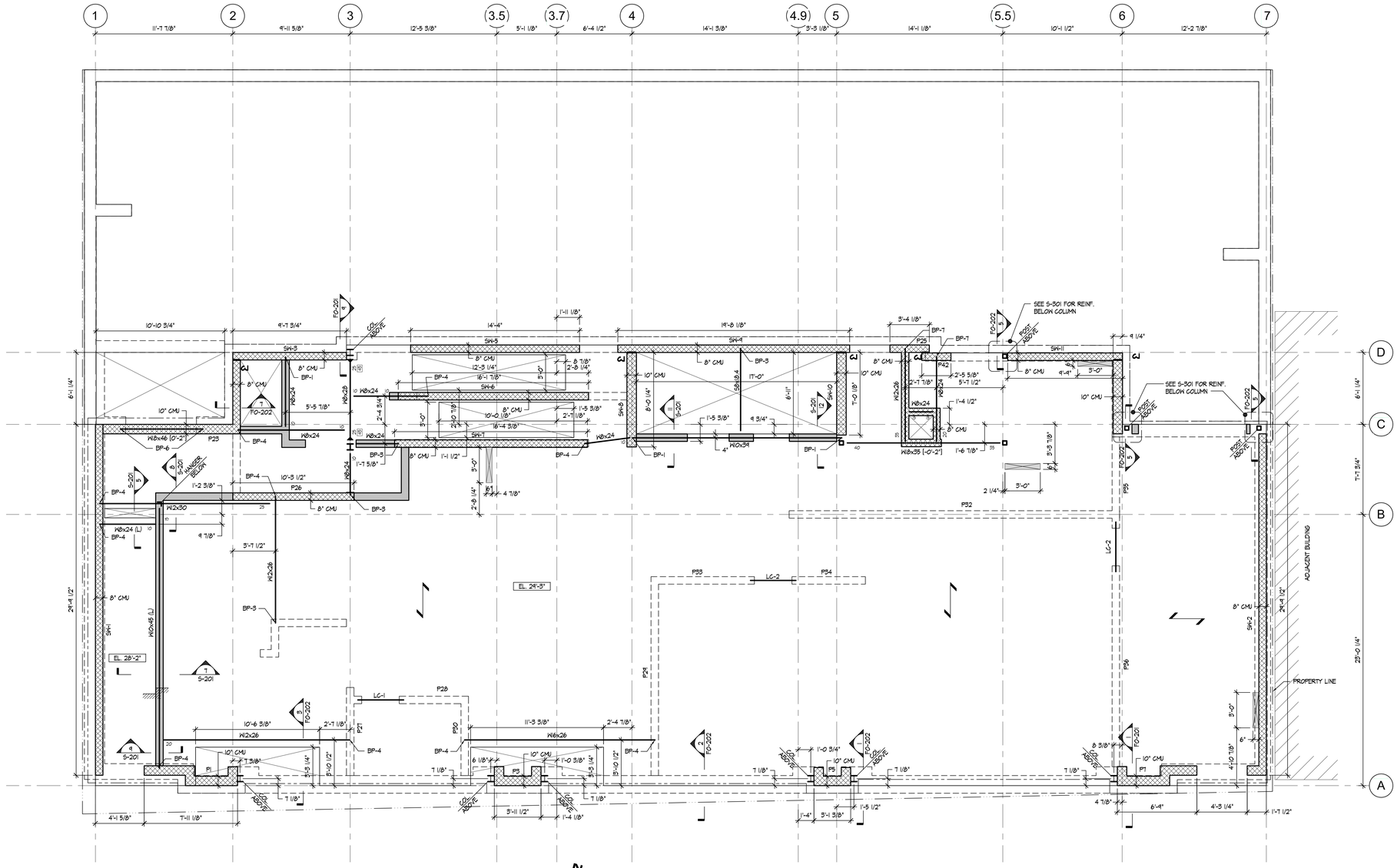
DWG No:	S-005.00
SCALE: AS NOTED	PAGE No: 68 of 111



1ST FLOOR FRAMING PLAN

1/4" = 1'-0"

NOTES:

1. DENOTES 8" PRECAST PLANK SPAN DIRECTION UNLESS OTHERWISE NOTED.
2. DENOTES 8" LOAD BEARING C.M.U. WALL UNLESS OTHERWISE NOTED. PROVIDE #5 VERTICAL EACH END & #4 @ 4'-0" VERTICAL FIELD UNLESS OTHERWISE NOTED IN SHEAR WALL SCHEDULE. GROUT CORES SOLID UNLESS OTHERWISE NOTED ON PLAN.
3. DENOTES WALL BELOW.
4. TOP OF STEEL AT BOTTOM OF PLANK UNLESS NOTED [±X'-X"] RELATIVE TO TOP OF PLANK.
5. LC-X DENOTES PRECAST CONCRETE LINTEL. SEE SCHEDULE FOR SIZE AND REINFORCEMENT. TOP OF LINTEL AT UNDER SIDE OF PLANK UNLESS OTHERWISE NOTED.
6. ALL PLANK OPENINGS SHOWN ARE SCHEMATIC AND MUST BE COORDINATED WITH MEP FOR EXACT SIZE AND LOCATION.
7. PROVIDE BEARING PLATES AT STEEL BEAM SUPPORTS PER DETAIL 6 AND 7 ON S-003.
8. PX DENOTES CMU PIER. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
9. SW-X DENOTES CMU SHEAR WALL. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
10. TOP OF PLANK ELEVATION SHOWN AS +X'-X" PER NAVD 88 DATUM ELEVATION.
11. DENOTES MASONRY CONTROL JOINT. SEE DETAIL 3/S-401.
12. (L) DENOTES TOP OF STEEL ELEVATION TO BE [-1'-4"] RELATIVE TO TOP OF PLANK EL. 29'-3".
13. DENOTES ARCHITECTURAL PARTITION WALL WITH WEIGHT OF 600 PLF. SEE ARCH. DRAWINGS FOR DETAILS AND 8/S-004.
14. DENOTES MOMENT CONNECTION DESIGN FOR FULL MOMENT CAPACITY OF THE BEAM UNLESS OTHERWISE NOTED AS XX SERVICE MOMENT IN K-FT.
15. DENOTES SLEEVE OPENINGS. ALL SLEEVE OPENINGS SHALL BE COORDINATED WITH MEP DRAWINGS FOR SIZE AND LOCATIONS. NO STANDS IN PRECAST PLANK SHALL BE CUT AT THE FIELD UNTIL APPROVED BY ENGINEER OF RECORD.
16. LAY-UP CORNERS IN RUNNING BOND UNLESS OTHERWISE NOTED ON PLAN BY A CONTROL JOINT.

4' 0' 4' 8'

GRAPHIC SCALE

Melrose Commons Site C - Supportive Housing

Bronx, NY

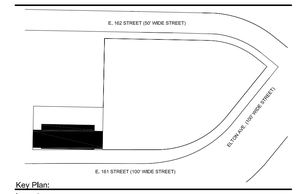
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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1ST FLOOR FRAMING PLAN

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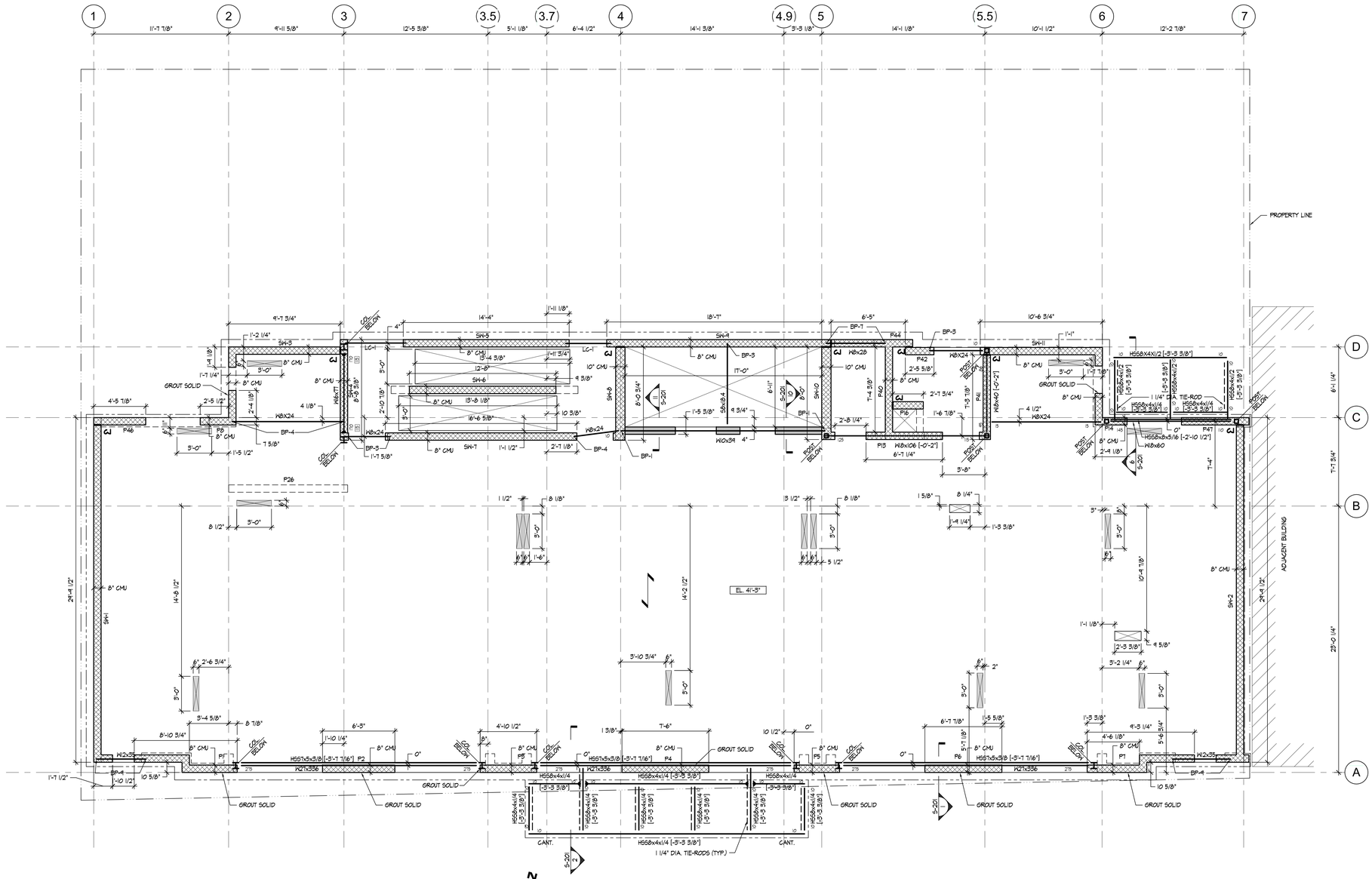
DWG No:	S-101.00
SCALE: AS NOTED	PAGE No: 69 of 111



2ND FLOOR FRAMING PLAN

1/4" = 1'-0"

NOTES:

1. DENOTES 8" PRECAST PLANK SPAN DIRECTION UNLESS OTHERWISE NOTED.
2. DENOTES 8" LOAD BEARING C.M.U. WALL UNLESS OTHERWISE NOTED. PROVIDE #5 VERTICAL EACH END & #4 @ 4'-0" VERTICAL FIELD UNLESS OTHERWISE NOTED IN SHEAR WALL SCHEDULE. GROUT CORES AT 16" O.C. UNLESS OTHERWISE NOTED ON PLAN.
3. DENOTES WALL BELOW.
4. TOP OF STEEL AT BOTTOM OF PLANK UNLESS NOTED [±X'-X"] RELATIVE TO TOP OF PLANK.
5. LG-X — DENOTES PRECAST CONCRETE LINTEL. SEE SCHEDULE FOR SIZE AND REINFORCEMENT. TOP OF LINTEL AT UNDER SIDE OF PLANK UNLESS OTHERWISE NOTED.
6. ALL PLANK OPENINGS SHOWN ARE SCHEMATIC AND MUST BE COORDINATED WITH MEP FOR EXACT SIZE AND LOCATION.
7. PROVIDE BEARING PLATES AT STEEL BEAM SUPPORTS PER DETAIL 6 AND 7 ON S-003.
8. PX — DENOTES CMU PIER. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
9. SW-X — DENOTES CMU SHEAR WALL. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
10. TOP OF PLANK ELEVATION SHOWN AS +X'-X" PER NAVD 88 DATUM ELEVATION.
11. CJ — DENOTES MASONRY CONTROL JOINT. SEE DETAIL 3/S-401.
12. DENOTES MOMENT CONNECTION.
13. DENOTES SLEEVE OPENINGS. ALL SLEEVE OPENINGS SHALL BE COORDINATED WITH MEP DRAWINGS FOR SIZE AND LOCATIONS. NO STANDS IN PRECAST PLANK SHALL BE CUT AT THE FIELD UNTIL APPROVED BY ENGINEER OF RECORD.
14. DENOTES ARCHITECTURAL WALL. SEE ARCH. DRAWINGS FOR DETAILS AND 8/S-004.
15. DENOTES MOMENT CONNECTION DESIGN FOR FULL MOMENT CAPACITY OF THE BEAM UNLESS OTHERWISE NOTED AS XX SERVICE MOMENT IN K-FT.
16. LAY-UP CORNERS IN RUNNING BOND UNLESS OTHERWISE NOTED ON PLAN BY A CONTROL JOINT.

4' 0' 4' 8'
GRAPHIC SCALE

Melrose Commons Site C - Supportive Housing

Bronx, NY

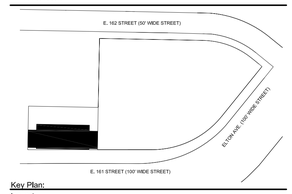
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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2ND FLOOR FRAMING PLAN

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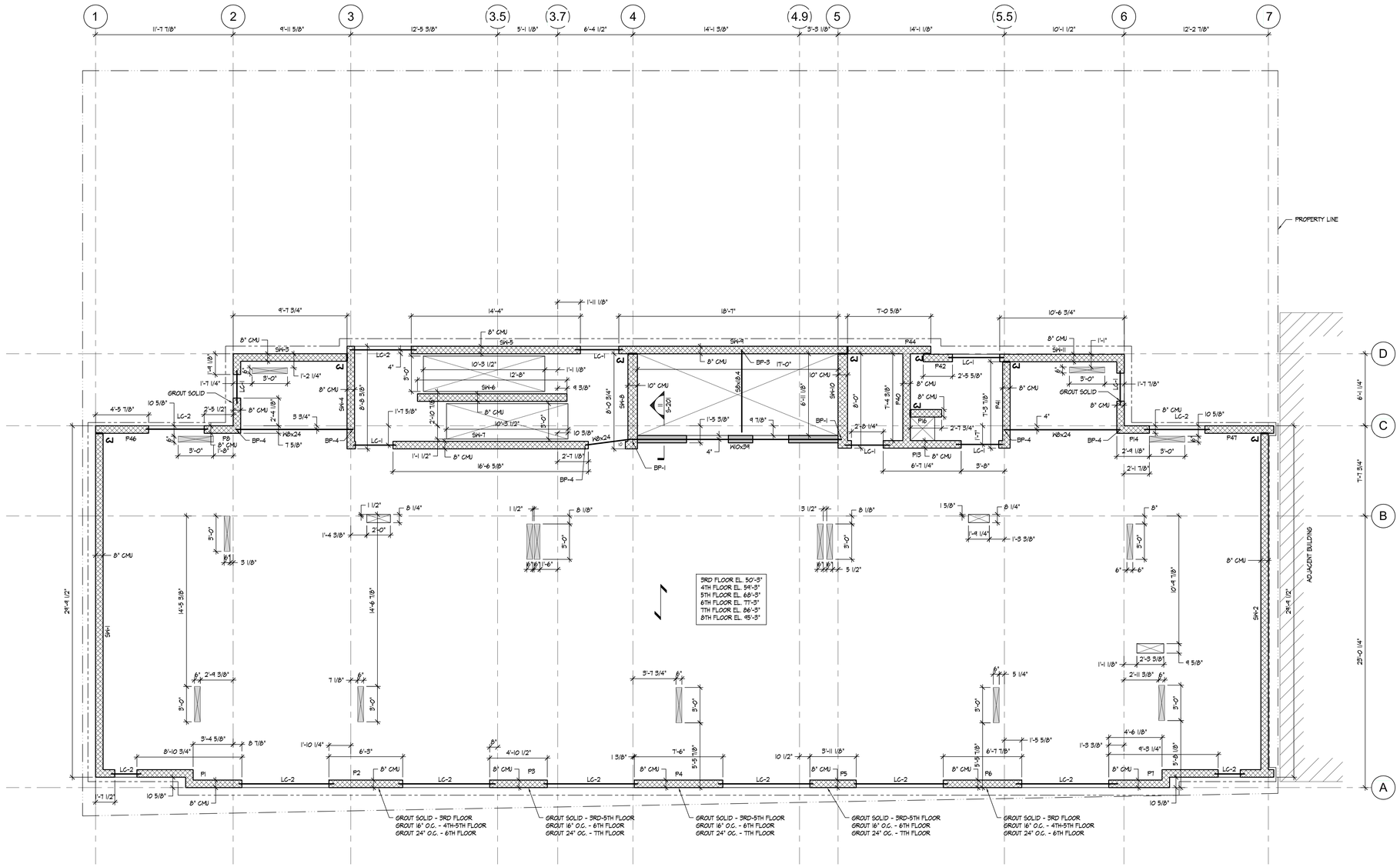
DWG No:	S-102.00
SCALE: AS NOTED	PAGE No: 70 of 111



3RD THRU 8TH FLOOR FRAMING PLAN

1/4" = 1'-0"

NOTES:

1. DENOTES 8" PRECAST PLANK SPAN DIRECTION UNLESS OTHERWISE NOTED.
2. DENOTES 8" LOAD BEARING C.M.U. WALL UNLESS OTHERWISE NOTED. PROVIDE #5 VERTICAL EACH END & #4 @ 4'-0" VERTICAL FIELD UNLESS OTHERWISE NOTED IN SHEAR WALL SCHEDULE. GROUT CORES AT 16" O.C. FOR 3RD FLOOR, 24" O.C. FOR 4TH - 5TH FLOOR, 32" O.C. FOR 6TH - 7TH FLOOR AND 40" O.C. FOR 8TH FLOOR UNLESS OTHERWISE NOTED ON PLAN.
3. DENOTES WALL BELOW.
4. TOP OF STEEL AT BOTTOM OF PLANK UNLESS NOTED [±X'-X"] RELATIVE TO TOP OF PLANK.
5. LC-X DENOTES PRECAST CONCRETE LINTEL. SEE SCHEDULE FOR SIZE AND REINFORCEMENT. TOP OF LINTEL AT UNDER SIDE OF PLANK UNLESS OTHERWISE NOTED.
6. ALL PLANK OPENINGS SHOWN ARE SCHEMATIC AND MUST BE COORDINATED WITH MEP FOR EXACT SIZE AND LOCATION.
7. PROVIDE BEARING PLATES AT STEEL BEAM SUPPORTS PER DETAIL 6 AND 7 ON S-003.
8. PX DENOTES CMU PIER. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
9. SW-X DENOTES CMU SHEAR WALL. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
10. TOP OF PLANK ELEVATION SHOWN AS +X'-X" PER NAVD 88 DATUM ELEVATION.
11. CJ DENOTES MASONRY CONTROL JOINT. SEE DETAIL 3/S-401.
12. DENOTES SLEEVE OPENINGS. ALL SLEEVE OPENINGS SHALL BE COORDINATED WITH MEP DRAWINGS FOR SIZE AND LOCATIONS. NO STANDS IN PRECAST PLANK SHALL BE CUT AT THE FIELD UNTIL APPROVED BY ENGINEER OF RECORD.
13. DENOTES ARCHITECTURAL PARTITION WALL WITH WEIGHT OF 450 PLF FOR 3RD - 7TH FLOOR AND 550 PLF FOR 8TH FLOOR. SEE ARCH. DRAWINGS FOR DETAILS AND 8/S-004.
14. LAY-UP CORNERS IN RUNNING BOND UNLESS OTHERWISE NOTED ON PLAN BY A CONTROL JOINT.

4' 0' 4' 8'
GRAPHIC SCALE

Melrose Commons Site C - Supportive Housing

Bronx, NY

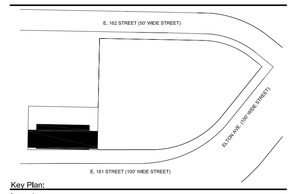
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

246 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Revisions:

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Tel (718) 383-9340

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3RD THRU 8TH FLOOR FRAMING PLAN

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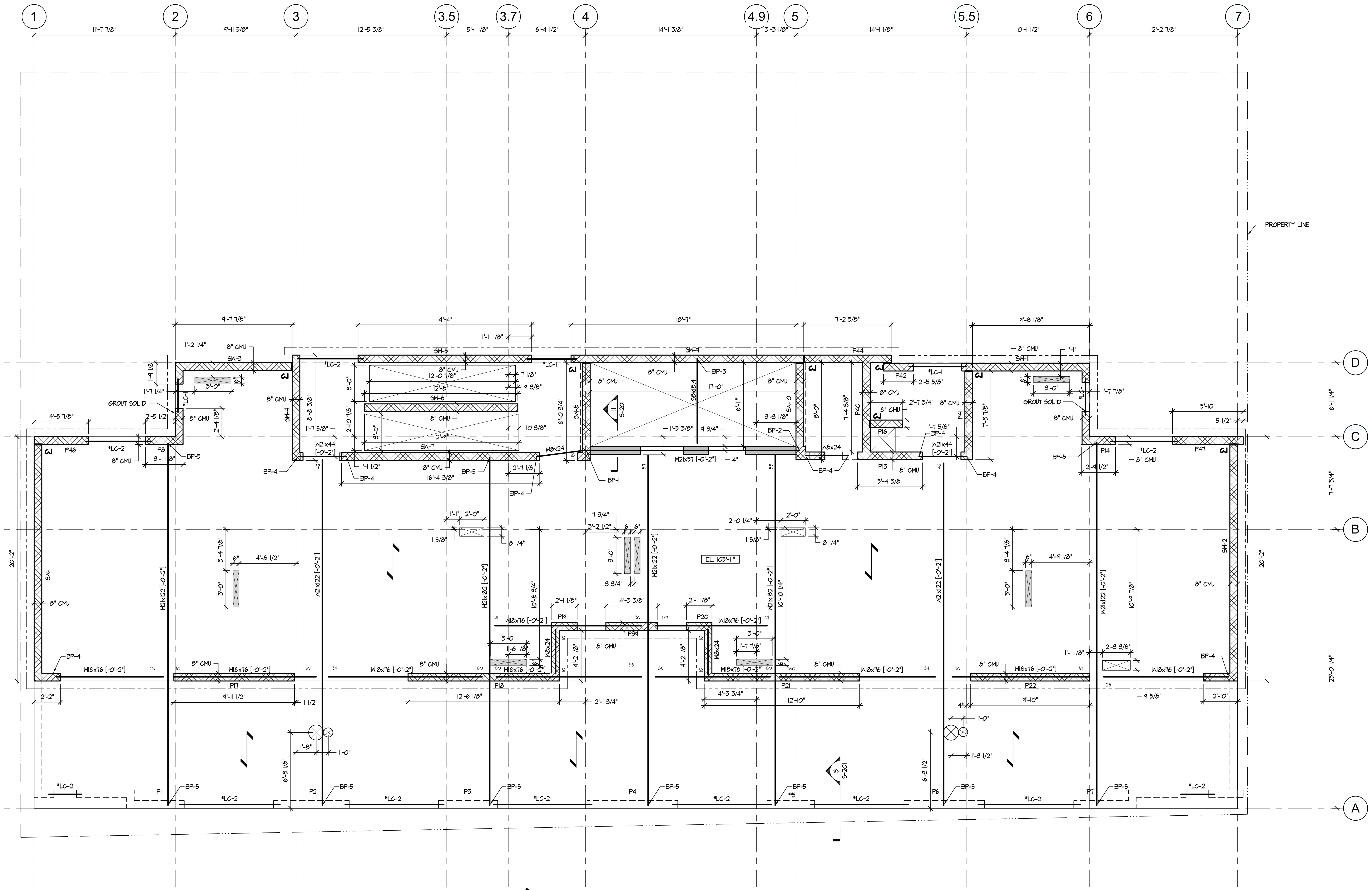

9TH FLOOR FRAMING PLAN

1/4" = 1'-0"

NOTES:

1. DENOTES 8" PRECAST PLANK SPAN DIRECTION UNLESS OTHERWISE NOTED.
2. DENOTES 8" LOAD BEARING C.M.U. WALL UNLESS OTHERWISE NOTED. PROVIDE 1#5 VERTICAL EACH END & #4 @ 4'-0" VERTICAL FIELD UNLESS OTHERWISE NOTED IN SHEAR WALL SCHEDULE. GROUT CORES AT 40" O.C. UNLESS OTHERWISE NOTED ON PLAN.
3. DENOTES WALL BELOW.
4. TOP OF STEEL AT BOTTOM OF PLANK UNLESS NOTED [±X'-X"] RELATIVE TO TOP OF PLANK.
5. LC-X DENOTES PRECAST CONCRETE LINTEL. SEE SCHEDULE FOR SIZE AND REINFORCEMENT. TOP OF LINTEL AT UNDER SIDE OF PLANK UNLESS OTHERWISE NOTED.
6. ALL PLANK OPENINGS SHOWN ARE SCHEMATIC AND MUST BE COORDINATED WITH MEP FOR EXACT SIZE AND LOCATION.
7. PROVIDE BEARING PLATES AT STEEL BEAM SUPPORTS PER DETAIL 6 AND 7 ON S-003.
8. PX DENOTES CMU PIER. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
9. SW-X DENOTES CMU SHEAR WALL. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
10. TOP OF PLANK ELEVATION SHOWN AS +X'-X" PER NAVD 88 DATUM ELEVATION.
11. CJ DENOTES MASONRY CONTROL JOINT. SEE DETAIL 3/S-401.
12. DENOTES SLEEVE OPENINGS. ALL SLEEVE OPENINGS SHALL BE COORDINATED WITH MEP DRAWINGS FOR SIZE AND LOCATIONS. NO STANDS IN PRECAST PLANK SHALL BE CUT AT THE FIELD UNTIL APPROVED BY ENGINEER OF RECORD.
13. * DENOTES TOP OF PRECAST LINTEL TO BE 28" BELOW TOP OF PLANK. SEE ARCH. DRAWINGS FOR ELEVATION.
14. DENOTES ARCHITECTURAL PARTITION WALL WITH WEIGHT OF 450 PLF. SEE ARCH. DRAWINGS FOR DETAILS AND 8/S-004.
15. LAY-UP CORNERS IN RUNNING BOND UNLESS OTHERWISE NOTED ON PLAN BY A CONTROL JOINT.

4' 0' 4' 8'

GRAPHIC SCALE

Melrose Commons Site C - Supportive Housing

Bronx, NY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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New York, NY 10025

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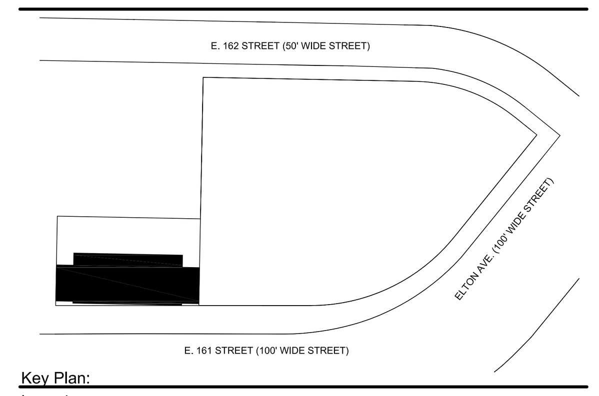

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FILOLAOS T. KEFALAS, P.E.
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9TH FLOOR FRAMING PLAN

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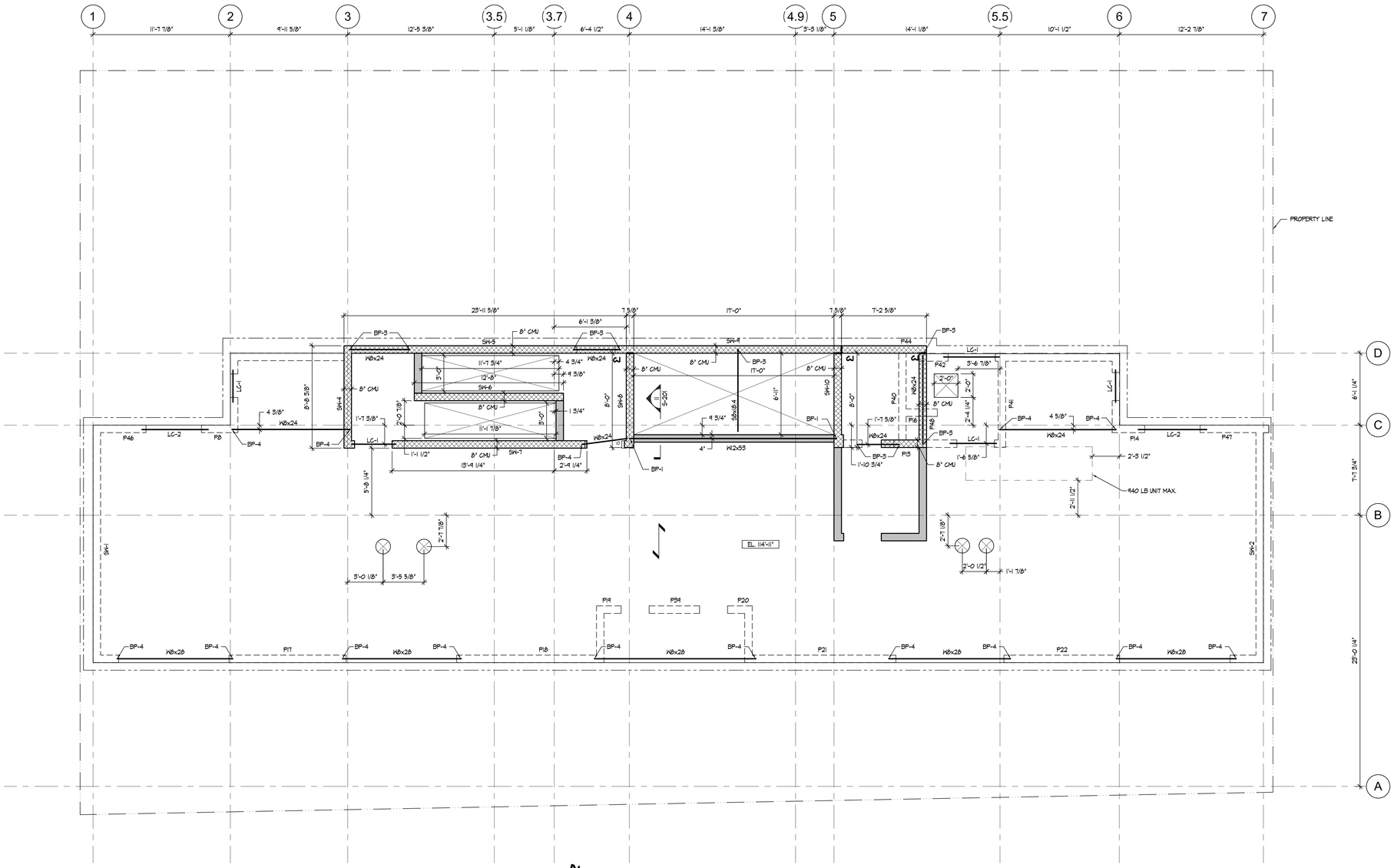


N

ROOF FRAMING PLAN

1/4" = 1'-0"

NOTES:

1. DENOTES 8" PRECAST PLANK SPAN DIRECTION UNLESS OTHERWISE NOTED.
2. DENOTES 8" LOAD BEARING C.M.U. WALL UNLESS OTHERWISE NOTED. PROVIDE #5 VERTICAL EACH END & #4 @ 4'-0" VERTICAL FIELD UNLESS OTHERWISE NOTED IN SHEAR WALL SCHEDULE. GROUT CORES AT 40" O.C. UNLESS OTHERWISE NOTED ON PLAN.
3. DENOTES WALL BELOW.
   TOP OF STEEL AT BOTTOM OF PLANK UNLESS NOTED [±X'-X"] RELATIVE TO TOP OF PLANK.
4. LC-X DENOTES PRECAST CONCRETE LINTEL. SEE SCHEDULE FOR SIZE AND REINFORCEMENT. TOP OF LINTEL AT INDER SIDE OF PLANK UNLESS OTHERWISE NOTED.
5. ALL PLANK OPENINGS SHOWN ARE SCHEMATIC AND MUST BE COORDINATED WITH MEP FOR EXACT SIZE AND LOCATION.
6. PROVIDE BEARING PLATES AT STEEL BEAM SUPPORTS PER DETAIL 6 AND 7 ON S-003.
7. SW-X DENOTES CMU SHEAR WALL. SEE SCHEDULE ON S-401 FOR REINFORCEMENT.
8. TOP OF PLANK ELEVATION SHOWN AS +X'-X" PER NAVD 88 DATUM ELEVATION.
9. CJ DENOTES MASONRY CONTROL JOINT. SEE DETAIL 3/S-401.
10. DENOTES ARCHITECTURAL PARTITION WALL WITH WEIGHT OF 800 PLF. SEE ARCH. DRAWINGS FOR DETAILS AND 8/S-004.
11. LAY-UP CORNERS IN RUNNING BOND UNLESS OTHERWISE NOTED ON PLAN BY A CONTROL JOINT.

4' 0' 4' 8'

GRAPHIC SCALE

Melrose Commons Site C - Supportive Housing

Bronx, NY

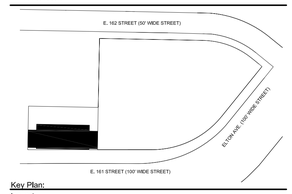
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

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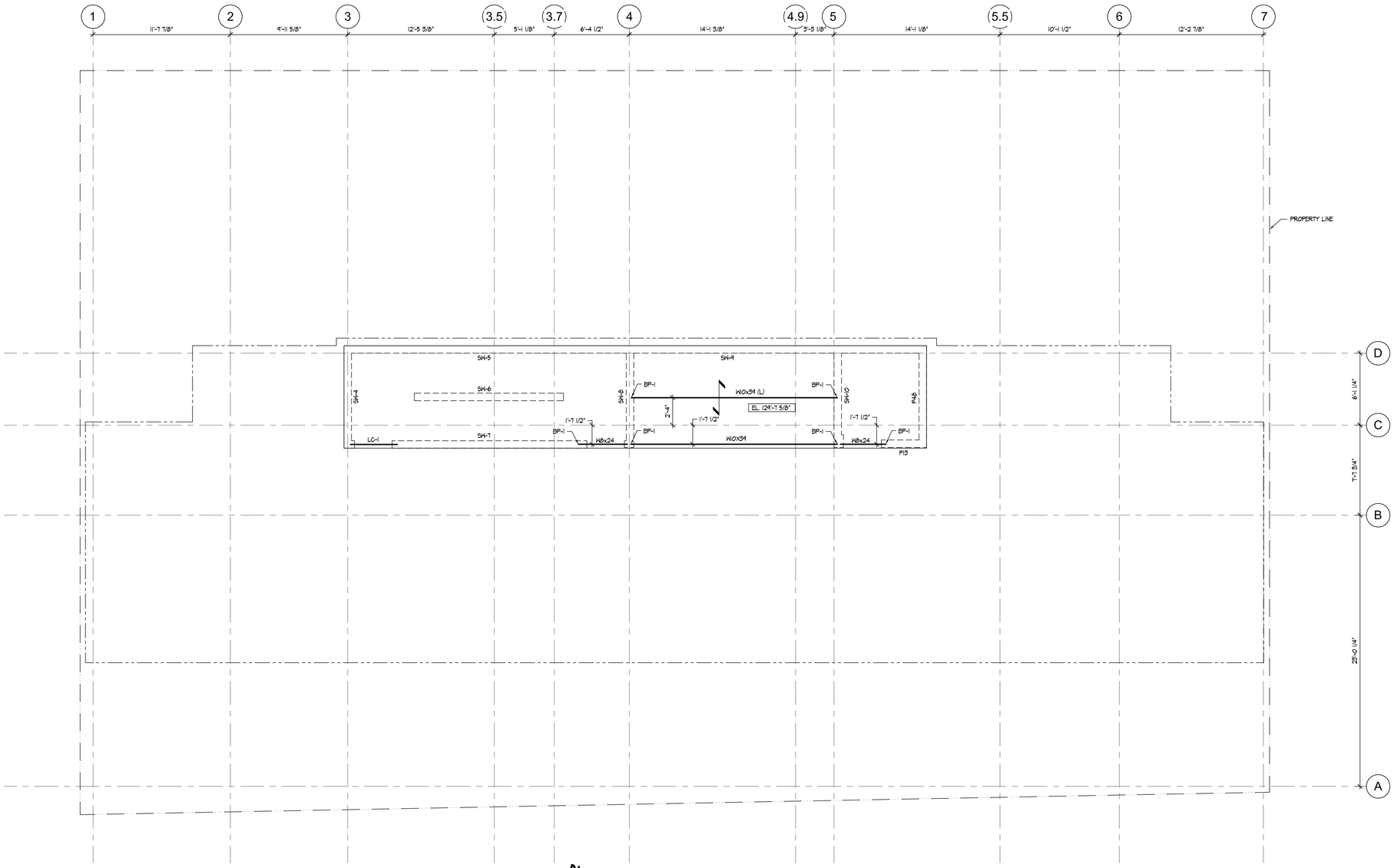
ROOF FRAMING PLAN

SEAL & SIGNATURE:

PROJECT No:	B4050.00
DRAWING BY:	JPG
CHK BY:	MM
DWG No:	S-105.00
SCALE: AS NOTED	PAGE No: 73 of 111



N

BULKHEAD FRAMING PLAN

1/4" = 1'-0"

NOTES:

1. DENOTES 8" PRECAST PLANK SPAN DIRECTION UNLESS OTHERWISE NOTED.
2. DENOTES WALL BELOW.

   TOP OF STEEL AT BOTTOM OF PLANK UNLESS NOTED [±X'-X"] RELATIVE TO TOP OF PLANK.
3. LC-X DENOTES PRECAST CONCRETE LINTEL. SEE SCHEDULE FOR SIZE AND REINFORCEMENT. TOP OF LINTEL AT UNDER SIDE OF PLANK UNLESS OTHERWISE NOTED.
4. TOP OF PLANK ELEVATION SHOWN AS +X'-X" PER NAVD 88 DATUM ELEVATION.
5. (L) DENOTES TOP OF STEEL ELEVATION TO BE [-10'-7 5/8"] RELATIVE TO TOP OF PLANK.

4' 0' 4' 8'

GRAPHIC SCALE

Melrose Commons Site C - Supportive Housing

Bronx, NY

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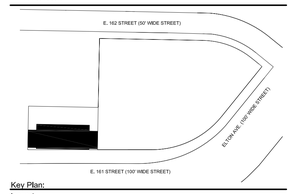

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BULKHEAD FRAMING PLAN

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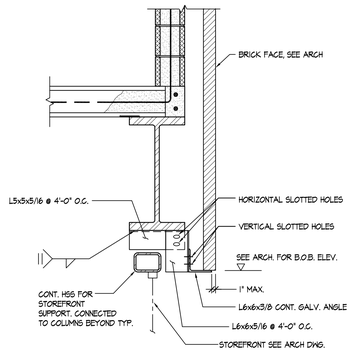
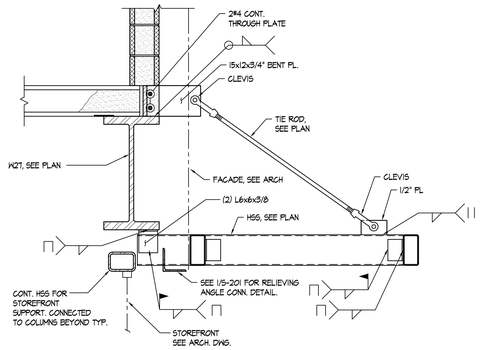
SCALE: AS NOTED	PAGE No: 74 of 111



1 SECTION
3/4" = 1'-0"
NOTE: SEE 3/S-004 FOR BALANCE OF INFO.



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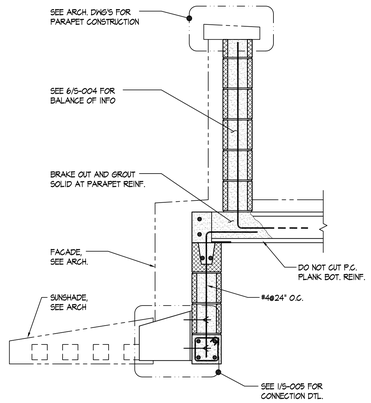
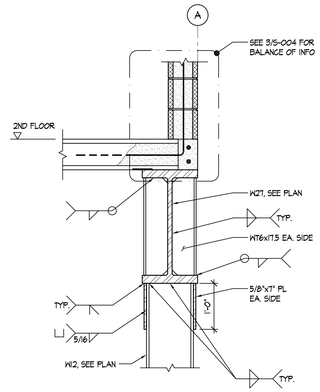
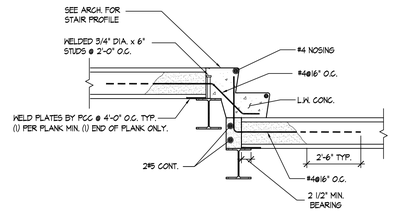
3/4" = 1'-0"



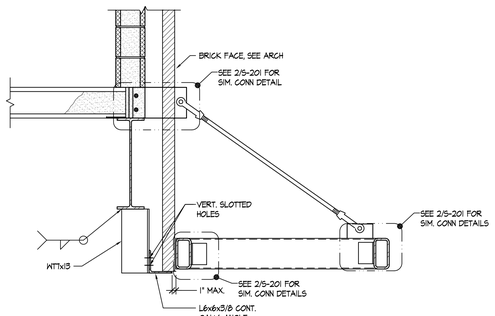
3 SECTION
3/4" = 1'-0"



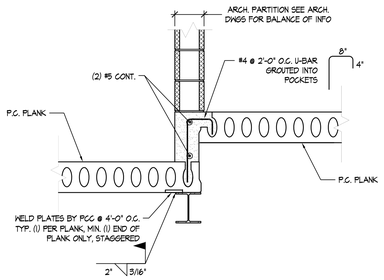
4 COLUMN CONNECTIONS @ 2ND FLOOR TXFR BEAMS
3/4" = 1'-0"



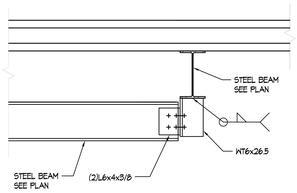
5 SECTION
3/4" = 1'-0"



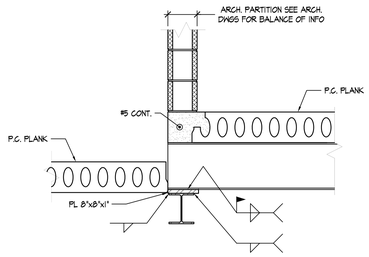
6 SECTION
3/4" = 1'-0"
NOTE: SEE 3/S-004 FOR BALANCE OF INFO.



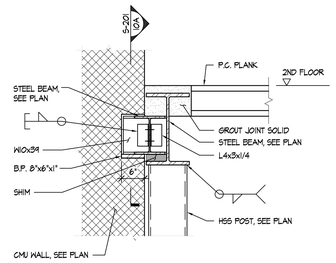
7 SECTION
3/4" = 1'-0"



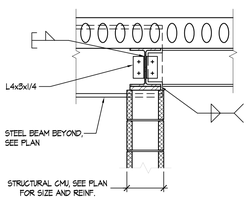
8 SECTION
3/4" = 1'-0"



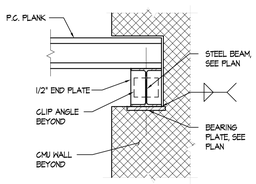
9 SECTION
3/4" = 1'-0"



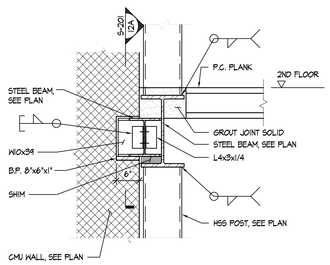
10 SECTION
3/4" = 1'-0"
NOTE: PLANK SUPPORT NOT SHOWN FOR CLARITY.



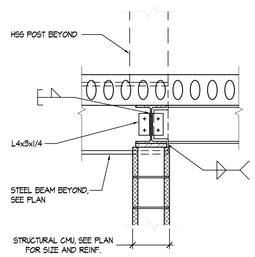
10A SECTION
3/4" = 1'-0"



11 SECTION
3/4" = 1'-0"



12 SECTION
3/4" = 1'-0"



12A SECTION
3/4" = 1'-0"

Melrose Commons Site C - Supportive Housing

Bronx, NY

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MENTAL HEALTH AND HOUSING SOLUTIONS

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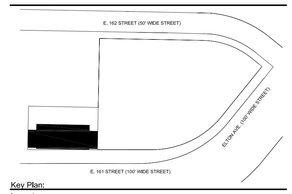

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SECTIONS

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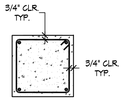
SCALE: AS NOTED	PAGE No: 75 of 111

PRECAST CONCRETE LINTEL SCHEDULE AT BEARING WALLS

TYPE	DESCRIPTION	NOMINAL SIZE (IN) BxD	TOP BARS	BOTTOM BARS	STIRRUP
LC-1	FOR EXTERIOR WALL OPENING OF 5'-0" WIDE OR LESS & FOR DOOR OPENING OF 4'-0" WIDE OR LESS	8xD	2#4	2#5	#3@5" O.C.
LC-2	FOR EXTERIOR WALL OPENING BETWEEN 5'-1" TO 7'-0" & FOR DOOR OPENING BETWEEN 4'-1" TO 6'-8"	8xD	2#5	2#6	#3@5" O.C.

NOTES:

1. GROUT SOLID 2 CORSES OF C.M.U. WALL BELOW BEARING.
2. PROVIDE MINIMUM 8" BEARING AT EACH END OF LINTEL.
3. FOR TYPICAL PRECAST CONCRETE LINTEL, SEE DETAIL DRAWING S003.
4. PROVIDE 180° DEGREE HOOK AT EACH END OF BOTTOM BAR FOR LC-1 & LC-2.
5. CONCRETE COMPRESSIVE STRENGTH = 5,000 PSI.



1 TYPICAL PRECAST CONCRETE LINTEL

1 1/2" = 1'-0"

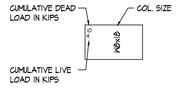
NOTE: LINTELS TO BE MANUFACTURED UNDER PLANT CONTROL CONDITIONS.

COLUMN SCHEDULE

COLUMN / FLOOR	FLOOR HEIGHT	A2	A3.5	A3.7	A4.9	A5	A6	C1	C2	C3	C5	C5.5	C6	C7	D3	D5.5	COLUMN / FLOOR
2ND	9'-0"																2ND
1ST	12'-0"	8.8 40 W12x72	8.8 40 W12x72	8.8 40 W12x72	8.8 40 W12x72	8.8 40 W12x72	8.8 40 W12x72			2ND 8.8 40 W10x60	8.8 40 HSS10x10x5/16	8.8 40 HSS10x10x5/8	8.8 20 HSS8x8x1/4	8.8 20 HSS8x8x1/4	8.8 20 W10x60	8.8 20 HSS8x8x1/4	1ST
CELLAR	10'-0"									2ND 8.8 40 W10x60	1ST 8.8 40 HSS10x10x5/16	1ST 8.8 40 HSS10x10x5/8					CELLAR
PIER (P) OR BUTTRESS (B)		(B) 3½x7½ 6#11	(B) 3½x7½ 6#11	(B) 3½x7½ 6#11	(B) 3½x7½ 6#11	(B) 3½x7½ 6#11	(B) 3½x7½ 6#11	(B) 30x16 6#8	(B) 30x16 6#8				(B) 8x16 4#10	(B) 8x16 4#10	(B) 14x16 4#10	(B) 8x16 4#10	PIER (P) OR BUTTRESS (B)
BASE PLATE (T x W x H)		1 3/8"x18"x18"	1 3/8"x18"x18"	1 3/8"x18"x18"	1 3/8"x18"x18"	1 3/8"x18"x18"	1 3/8"x18"x18"			1 "x14"x16"	1 1/2"x16"x16"	1 1/2"x16"x16"	1 1/4"x8 1/2"x16"	1 1/4"x8 1/2"x16"	1 "x14"x16"	1 1/4"x8 1/2"x16"	BASE PLATE (T x W x H)
FLOOR / COLUMN	FLOOR HEIGHT	A2	A3.5	A3.7	A4.9	A5	A6	C1	C2	C3	C5	C5.5	C6	C7	D3	D5.5	FLOOR / COLUMN

NOTES:

1. COLUMN SCHEDULE KEY:



2. COLUMN LOADS ARE SERVICE LOADS.
3. SEE DET. 2 & 3 ON S-301 FOR CONC. PIER & BUTTRESS TIE REINF.

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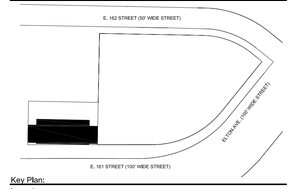

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SCHEDULES

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SCALE: AS NOTED	PAGE No: 76 of 111

SW - 1 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	1#4@16"	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	1#4@16"	4#6@8"	
3RD FLOOR	8" CMU	#4@48"	1#4@16"	4#6@8"	
2ND FLOOR	8" CMU	#4@48"	1#4@16"	8#6@8"	
1ST FLOOR	8" CMU	#4@48"	1#4@16"	8#6@8"	
CELLAR	CONC.				SEE 8/FO-201

SW - 2 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	1#4@16"	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	1#4@16"	4#6@8"	
3RD FLOOR	8" CMU	#4@48"	1#4@16"	4#6@8"	
2ND FLOOR	8" CMU	#4@48"	1#4@16"	8#6@8"	
1ST FLOOR	8" CMU	#4@48"	1#4@16"	8#6@8"	
CELLAR	CONC.				SEE 3/FO-201

SW - 3 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 6/FO-201

SW - 4 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR					
CELLAR					

SW - 5 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 6/FO-201

SW - 6 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 1/FO-201

SW - 7 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	8" CMU	#4@48"	1#4@16"	3#6@8"	

SW - 8 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	5#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	5#6@8"	
4TH FLOOR	10" CMU	#4@48"	TYPE I	5#6@8"	
3RD FLOOR	10" CMU	#4@48"	TYPE I	5#6@8"	
2ND FLOOR	10" CMU	#4@48"	TYPE I	5#6@8"	
1ST FLOOR	10" CMU	#4@48"	TYPE I	5#6@8"	
CELLAR	10" CMU	#4@48"	TYPE I	5#6@8"	

SW - 9 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 6/FO-201

SW - 10 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	4#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	4#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	4#6@8"	
4TH FLOOR	10" CMU	#4@48"	TYPE I	5#10@8"	
3RD FLOOR	10" CMU	#4@48"	TYPE I	5#10@8"	
2ND FLOOR	10" CMU	#4@48"	TYPE I	5#10@8"	
1ST FLOOR	10" CMU	#4@48"	TYPE I	5#10@8"	
CELLAR	10" CMU	#4@48"	TYPE I	5#10@8"	

SW - 11 REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 6/FO-201

P1 - REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	10" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.	#4@12"	#4@9"	4#6	SEE SEC 2/S-401

P2 - REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR					
CELLAR					

P3 - REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	10" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 1/FO-201

P4 - REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	4#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	4#6@8"	
1ST FLOOR					
CELLAR					

P5 - REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	10" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 1/FO-201

P6 - REINFORCEMENT SCHEDULE

FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR					
CELLAR					

P7 - REINFORCEMENT SCHEDULE

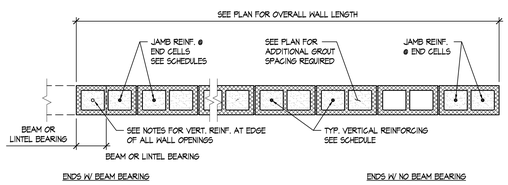
FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD					
ROOF					
9TH FLOOR					
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	
1ST FLOOR	10" CMU	#4@48"	TYPE I	3#6@8"	
CELLAR	CONC.				SEE 1/FO-201

NOTES:

1. SEE PLANS FOR LOCATIONS OF SHEAR WALL.
2. PROVIDE TYPICAL HORIZONTAL REINF. (TYPE I) EVERY OTHER COURSE WITH STANDARD 3 WIRE MASONRY WALL REINF. 9 GAGE (U.O.N.)
3. TYPICAL PLACEMENT OF JAMB STEEL IS ONE REBAR PER FULLY GROUTED CELL (U.O.N.)
4. DOWELS UP FROM CONC. SHEAR WALL TO MATCH REBAR SHOWN ON MASONRY WALL ABOVE. SEE DETAIL 1 ON FO-001 AND DETAIL 2 ON S-401 FOR BALANCE OF INFORMATION.
5. ADDITIONAL JAMB REINF. SHOWN ARE PER EACH END OF SHEAR WALL
6. FILL ALL CORES CONTAINING VERTICAL STEEL WITH GROUT.
7. SPLICE LENGTHS OF REBARS IN MASONRY IS DENOTED ON SCHEDULE ON S-002.
8. SEE GENERAL NOTES ON S-001 FOR STANDARD JOINT REINFORCEMENT
9. SEE S-401 FOR CONCRETE SHEARWALL DETAILS.
10. ALL HORIZONTAL SHEARWALL REINFORCING #3 BAR AND LARGER REQUIRE A BOND BEAM FOR INSTALLATION. SEE DETAIL 3 ON S-401.
11. LOCATE JAMB REINFORCEMENT IN THE NEXT AVAILABLE GROUTED CELL WHERE STEEL BEAMS AND/OR STEEL/CONCRETE LINTELS BEAR AT THE END OF THE SHEAR WALL. SEE DETAIL 6 & 7 ON S-003 AND 1 ON S-401 FOR BALANCE OF INFO.

PIERS NOT MARKED ON ABOVE SHCEDULE

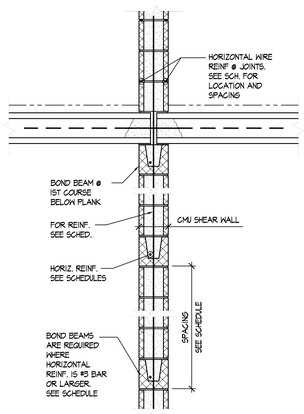
FLOOR	WALL TYPE	TYPICAL REINFORCEMENT VERT. BARS	TYPICAL REINFORCEMENT HORIZ. BARS	ADDITIONAL JAMB REINF.	COMMENTS
BULKHEAD	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
ROOF	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
9TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
8TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
7TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
6TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
5TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
4TH FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
3RD FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
2ND FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
1ST FLOOR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING
CELLAR	8" CMU	#4@48"	TYPE I	3#6@8"	SEE PLAN FOR GROUT SPACING



NOTE: SEE PLAN NOTES AND SCHEDULES FOR GROUT SPACING

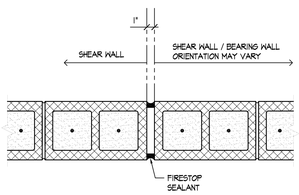
1 TYPICAL CMU SHEAR WALL STEEL LAYOUT

3/4" = 1'-0"



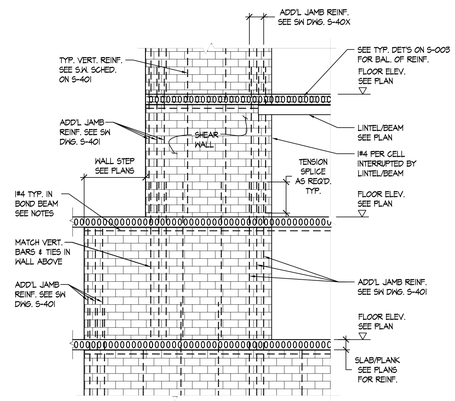
2 SECTION

3/4" = 1'-0"



3 TYPICAL CMU WALL JOINT

1 1/2" = 1'-0"



4 ELEVATION OF STEPPED MASONRY SHEAR WALL

N.T.S.

Melrose Commons Site C - Supportive Housing

Bronx, NY

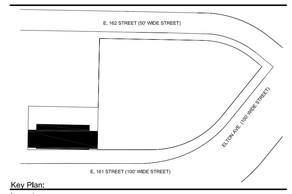
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	06.20.14	100% DD SET
2	08.14.14	50% CD SET
3	08.22.14	D.O.B. SUBMISSION
4	02.27.15	ISSUE FOR BID
5	11.30.15	D.O.B. APPROVAL SET
6	12.14.15	ISSUE FOR BID

Revisions:

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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SHEAR WALL DETAILS 1

SEAL & SIGNATURE:

PROJECT No:	B4050.00
DRAWING BY:	JPG
CHK BY:	MM
DWG No:	S-401.00
SCALE: AS NOTED	PAGE No: 77 of 111

MECHANICAL LEGEND and ABBREVIATIONS

A.D.	ACCESS DOOR
CFM	CUBIC FT/MIN. AIR
S.A.	SUPPLY AIR
R.A.	RETURN AIR
O.A. O.S.A.	OUTSIDE AIR
M.U.A.U	MAKE-UP AIR UNIT
C.D.	CEILING DIFFUSER
R.A.G.	RETURN AIR GRILLE
R.A.R.	RETURN AIR REGISTER
S.W.R.	SIDE WALL REGISTER
E.G.	EXHAUST GRILLE
M.V.D.	MANUAL VOLUME DAMPER
B.D.D.	BACK DRAFT DAMPER
C.O.	CLEAN OUT
A.P.	ACCESS PANEL
WGT.	WEIGHT
C.B.	CIRCUIT BREAKER
D.S.	DISCONNECT SWITCH
F.D.	FIRE DAMPER OR FLOOR DRAIN OR FIRE DEPT.
U.T.R.	UP THRU ROOF
D.T.R.	DOWN THRU ROOF
W/	WITH
EXIST.	EXISTING
V.V.T.	VOLUME VARIABLE TEMPERATURE
P.O.C.	NEW POINT OF CONNECTION
(L)	LINED DUCT
TYP.	TYPICAL
GA.	GAUGE
HR.	HOUR
R.O.	ROUGH OPENING
H.P.	HORSE POWER OR HIGH PRESSURE
S.P.	STATIC PRESSURE OR SECONDARY PIPING
O.B.D.	OPPOSED BLADE DAMPER
P.L.	PLENUM
C.P.	A/C UNIT CONTROL PANEL
A.F.F.	ABOVE FINISHED FLOOR
	SUPPLY AIR DUCT
	RETURN AIR DUCT
	SUPPLY DUCTWORK GOING UP
	RETURN OR EXHAUST DUCTWORK GOING UP
	SUPPLY DUCTWORK GOING DOWN
	RETURN OR EXHAUST DUCTWORK GOING DOWN
OR	FLEXIBLE CONNECTION
	SUPPLY DUCTWORK GOING UP
	RETURN OR EXHAUST DUCTWORK GOING UP
	RETURN OR EXHAUST DUCTWORK GOING UP
	RETURN OR EXHAUST DUCTWORK GOING DOWN
8x5	NEW SHEETMETAL DUCTWORK
	CEILING MOUNTED SUPPLY AIR DIFFUSER WITH OPPOSED BLADE DAMPER
	CEILING MOUNTED RETURN AIR REGISTER WITH OPPOSED BLADE DAMPER
	PIPE OR ROUND DUCT GOING UP
	PIPE OR ROUND PIPE GOING DOWN
	GATE VALVE
	GLOBE VALVE
	"Y" STRAINER
	CHECK VALVE
	ANGLE VALVE
	COCK GAS VALVE
	BALL VALVE
VD	VOLUME DAMPER
FD	FIRE DAMPER
M	MOTORIZED DAMPER
SD	SMOKE DETECTOR
	TEMPERATURE INDICATOR
	PRESSURE INDICATOR

T	THERMOSTAT
	CENTRIFUGAL FAN OR PUMP
	MUSHROOM TYPE FAN ON ROOF
	MUSHROOM TYPE FAN ON WALL
U.H.	UNIT HEATER
D.H.W. HTR.	DOMESTIC HOT WATER HEATER
R.T.U.	ROOF TOP UNIT
A.H.A.P.	AS HIGH AS POSSIBLE
A.C.	AIR CONDITIONING
A.C.U.	AIR CONDITIONING UNIT
A.C.C.U.	AIR COOLED CONDENSING UNIT
H.V.A.C.	HEATING VENTILATING AND AIR CONDITIONING
P.T.A.C.	PACKAGE TERMINAL AIR CONDITIONING UNIT
C.T.	COOLING TOWER
CWS&R	COLD WATER SUPPLY & RETURN
C.W.	COLD WATER
CHWS&R	CHILLED WATER SUPPLY & RETURN
H.W.	HOT WATER
HWS&R	HOT WATER SUPPLY AND RETURN
D. OR DR.	DRAIN
HTG.	HEATING
A.V.	AIR VENT
V.	VENT
EXH.	EXHAUST
L.H.	LOW PRESSURE OR LOW POINT
LBS.	POUNDS
G.P.M.	GALONS PER MINUTE
X-TANK	EXPANSION TANK
T.D.H.	TOTAL DYNAMIC HEAD
R.P.M.	ROTATION PER MINUTE
B.O.P.	BOTTOM OF PIPE
B.O.S.	BOTTOM OF STEEL
T.O.P.	TOP OF PIPE
° F	DEGREES FAHRENHEIT
RH	RELATIVE HUMIDITY
C.V.	CONTROL VALVE
E.F.	EXHAUST FAN
S.E.F.	SMOKE EXHAUST FAN
E.S.P.	EXTERNAL STATIC PRESSURE
BTUH	BRITISH THERMAL UNIT PER HOUR
MBH	THOUSAND OF BTU PER HOUR
N.A.	NOT APPLICABLE
EVAP.	EVAPORATOR
D.B.	DRY BULB
W.B.	WET BULB
IN.	INCHES
H 0	WATER
DWG.	DRAWING
Ø	DIAMETER
W.M.S.	WIRE MESH SCREEN
C.P.	CONDENSATE PUMP OR CONDENSATER RETURN PUMP
S.P.	SUMP PUMP
A.S.M.E.	AMERICAN SOCIETY OF MECHANICAL ENGINEERING
MIX.	MIXING
V.C.	VACUUM BREAKER
V.A.V.	VARIABLE AIR VOLUME
R.V.	RELIEF VALVE
H.W.P.	HOT WATER PUMP
R.O.	ROOF OPENING
W.G.	WATER GAUGE
W.C.	WATER COLUMN
B.H.	BOTTOM HORIZONTAL
B.A.U.	BOTTOM ANGULAR UP
U.B.	UP BLAST
T.A.U.	TOP ANGULAR UP
T.A.D.	TOP ANGULAR DOWN
D.B.	DOWN BLAST
B.A.D.	BOTTOM ANGULAR DOWN
O.V.	OUTLET VELOCITY
P.S.I.	POUNDS PER SQUARE INCH
C.O.D.	CONTINUATION ON DWG.
P.C.	PLUMBING CONTRACTOR
G.C.	GENERAL CONRATCTOR
X B.I.S.W.	BACKWARD INCLINED BLADES CENTRIFUGAL FAN OF SINGLE WIDTH AND OF WHEEL DIAMETER X
X F.C.S.W.	FORWARD CURVED BLADES CENTRIFUGAL FAN OF SINGLE WIDTH AND OF WHEEL DIAMETER X
X A.F.D.W.	CENTRIFUGAL FAN WITH AIR FOIL BLADES DOUBLE WIDTH AND OF WHEEL DIAMETER X
X D.W.D.I.	DOUBLE WIDTH AND DOUBLE INLET CENTRIFUGAL FAN OF WHEEL DIAMETER X
SR X	SUPPLY AND RETURN HOT WATER RISER

MECHANICAL GENERAL NOTES

1. GENERAL NOTES, SYMBOL LIST AND DETAILS ARE APPLICABLE TO ALL HVAC DRAWINGS..
2. DRAWINGS ARE DIAGRAMMATIC. DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN THE FIELD. RELOCATE EXISTING WORK THAT INTERFERES WITH WORK OF THIS CONTRACT.
3. COORDINATE THIS WORK WITH THAT OF OTHER TRADES.
4. DIMENSIONS SHOWN ON PLAN ARE HORIZONTAL. DIMENSIONS SHOWN IN ELEVATION ARE VERTICAL EXCEPT IN RESPECT TO STRUCTURAL STEEL, DIMENSIONS ARE MEASURED PERPENDICULAR TO FLANGE.
5. NEITHER ACCURACY NOR COMPLETION OF SERVICES AND UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING SERVICES AND UTILITIES IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
6. MANUFACTURERS MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.
7. PRODUCT INSTALLATION SHALL ADHERE TO MANUFACTURERS RECOMMENDATIONS.
8. PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
9. PROVIDE HANGERS, INSERTS, ANCHORS, SUPPLEMENTAL STEEL & SUPPORTS AS REQUIRED TO SUPPORT DUCTWORK, PIPING AND EQUIPMENT FROM STRUCTURE.
10. SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERING WITH EXISTING OPERATIONS IN THE FACILITY.
11. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS. MECHANICAL CONTRACTOR TO NOTIFY OWNER PRIOR TO STARTING WORK TO VERIFY COMPLIANCE WITH BOND AND WARRANTY OF EXISTING ROOF.
12. RUN DUCTS AND PIPING CONCEALED, UNLESS OTHERWISE SPECIFIED AND CLEAR OF CEILING INSERTS.
13. INSTALL THERMOSTATS 4'-6" ABOVE FINISHED FLOOR OR AS DIRECTED OTHERWISE BY ARCHITECT.
14. STRUCTURAL WIELDING SHALL BE CONTINUOUS 1/4" FILLET UNLESS REQUIRED OTHERWISE.

AIR SYSTEMS

15. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATIONS OF AIR DEVICES.
16. INTERNAL AIRFLOW DIMENSIONS ARE SHOWN FOR DUCTS. INCREASE DUCT SIZE AS NECESSARY FOR INTERNAL INSULATION TO MAINTAIN FREE FLOW AREA INDICATED.
17. USE FLAT TRANSVERSE SEAM FOR DUCT WORK WHERE SPACE AVAILABLE DICTATES.
18. DIFFUSER SIZES SHOWN ARE NECK SIZES. REGISTERS AND GRILLE SIZES ARE NOMINAL.
19. PROVIDE VOLUME DAMPERS OR OTHER APPROVED BALANCING DEVICES AT DUCT BRANCHES AND RUN OUTS, AND AT REGISTER GRILLE AND DIFFUSER NECKS IN SUPPLY, RETURN AND EXHAUST DUCTWORK WHETHER OR NOT SHOWN.
20. DUCTWORK DOWNSTREAM OF ALL VAV AND FAN POWERED VAV BOXES SHALL BE ACOUSTICALLY LINED WITH 1" ACOUSTICAL LINING FOR A MINIMUM OF 15 FEET.
21. PROVIDE 36" CLEARANCE IN FRONT OF ALL ELECTRIC CONTROL PANELS PER N.E.C. AND MFG. REQUIREMENTS.
22. PROVIDE DUCT TRANSITIONS FROM VAV BOX INLET/OUTLET DUCT WORK AT SIZES INDICATED TO VAV BOX INLET/OUTLET UNIT CONNECTIONS.
23. VAV DUCT INLET SIZE SHALL BE AS SCHEDULED OR AS INDICATED ON THE FLOOR PLANS. PROVIDE TRANSITION FROM DUCT SIZE INDICATED ON THE FLOOR PLANS TO SCHEDULED SIZE MINIMUM 2'-0" FROM VAV BOX INLETS.

PIPING SYSTEMS

24. PITCH PIPING 1-INCH IN 20-FEET, IN DIRECTION OF FLOW.
25. PROVIDE TRAPS IN CONDENSATE LINES THAT EXTEND OVER 2-FEET.
26. **TOTAL DUCT LEAKAGE FOR IN-UNIT SYSTEMS SHALL BE LESS OR EQUAL TO 8 CFM FOR 25 PEOPLE PER 100 SQ. FEET OF CONDITIONED FLOOR AREA. SAMPLING PROCEDURES AND TOLERANCES ARE DESCRIBED IN THE T&V WORKSHEETS.AS AN ALTERNATIVE TO MEETING TOTAL DUCT LEAKAGES REQUIREMENTS POST-CONSTRUCTION , TOTAL DUCT LEAKAGE MEASURED AT ROUGH-IN, LESS OR EQUAL TO 4 CFM FOR 25 PEOPLE PER 100 SQ. FEET OF CONDITIONED FLOOR AREA WITH AIR HANDLER AND ALL DUCTWORK INSTALLED, IS ACCEPTED.**

DOB MECHANICAL CODE NOTES

1. ALL WORK SHALL COMPLY WITH THE APPLICABLE SECTIONS OF THE BUILDING CODE, CITY OF NEW YORK, EFFECTIVE JULY 1, 2008 INCLUSIVE OF ALL AMENDMENTS AND RULES AND REGULATIONS OF THE DEPARTMENT OF BUILDINGS TO DATE.
2. MATERIALS AND EQUIPMENT SUBJECT TO SPECIAL INSPECTION:
   A. MECHANICAL VENTILATION, AIR CONDITIONING AND REFRIGERATION
      1) INSPECTION AND TESTS OF THE REQUIRED VENTILATION SYSTEMS AS PER NYC MC CHAPTER 4
      2) INSPECTION AND TESTS OF THE REFRIGERATION SYSTEMS AS PER NYC MC, CHAPTER 11, SECTION 1109.
   B. HIGH PRESSURE STEAM PIPING PER THE RULES AND REGULATIONS PERTAINING TO HIGH PRESSURE STEAM PIPING.
3. THE FOLLOWING WORK ITEMS, COMPONENTS, MATERIALS, CAPACITIES, ETC. SHALL COMPLY WITH THE FOLLOWING CODE CHAPTER AND SUB-SECTION OF THE NYC MECHANICAL CODE:

STANDARDS OF HEATING	CHAPTER 3, SECTION 312
HEATING CAPACITY	CHAPTER 3, SECTION 312
NOISE CONTROL	CHAPTER 9, SECTION 926
NOISE CRITERIA LEVELS AND TEST PROCEDURES	CHAPTER 9, SECTION 926
DUCT CONSTRUCTION SUPPORTS, AIR INTAKES, EXHAUSTS AND RELIEFS	CHAPTER 5, 6, 7, and 8
SEGREGATION OF AIR SUPPLY FOR CORRIDORS AND MEANS OF EGRESS AND DIFFERENT OCCUPANCY GROUPS	CHAPTER 6
AIR FILTERS, FANS, AIR COOLING AND HEATING EQUIPMENT	CHAPTER 6
ELECTRIC WIRING	NYC ELECTRIC CODE

4. MINIMUM TEMPERATURE TO BE MAINTAINED IN OCCUPIED SPACES DURING HEATING SEASON: 70° F WHEN 15° F OUTSIDE WITH 15 MPH WIND BLOWING.
5. THE OUTDOOR AIR VENTILATION RATE FOR ALL AREAS SHALL COMPLY WITH THE MINIMUM CRITERIA SET FORTH IN CHAPTER 4, TABLE 403.3.
6. ALL TOILET AND BATHROOMS SHALL BE VENTILATED IN ACCORDANCE WITH CHAPTER 4, TABLE 403.3.
7. UPON COMPLETION OF THIS VENTILATION SYSTEM A TEST SHALL BE CONDUCTED IN THE PRESENCE OF AND UNDER THE DIRECT SUPERVISION OF A LICENSED PROFESSIONAL ENGINEER (OR REGISTERED ARCHITECT) QUALIFIED TO CONDUCT SUCH TESTS. FOR SYSTEMS OF LESS THAN 5,000 CFM THE INSPECTION MAY BE BY A PERSON HAVING NOT LESS THAN FIVE YEARS EXPERIENCE SUPERVISING THE INSTALLATION OF VENTILATING SYSTEMS. THE CONTRACTOR WILL BE REQUIRED TO RETAIN THE SERVICE OF THE PROPER PERSON TO CONDUCT THE TEST. THE TESTS SHALL SHOW COMPLIANCE WITH THE CODE REQUIREMENTS FOR VENTILATION AND THE PROPER FUNCTIONING OF ALL SMOKE DETECTION, FIRE PROTECTION AND OPERATING DEVICES BEFORE THE SYSTEM IS ACCEPTED.
   THE LICENSED PROFESSIONAL ENGINEER (OR REGISTERED ARCHITECT) WHO CONDUCTS THE TESTS SHALL FILE A CERTIFICATE AS TO WHETHER THE SYSTEM COMPLIES WITH THE APPLICABLE LAWS. HE SHALL ALSO FILE A REPORT OF THE TEST. THE TEST REPORT SHALL BE PRODUCED IN A MANNER SATISFACTORY TO THE COMMISSIONER OF BUILDINGS.
8. A STATEMENT SHALL BE FILED BY THE OWNER OR TENANT IN POSSESSION THAT THE VENTILATING SYSTEMS WILL BE KEPT IN CONTINUOUS OPERATION AT ALL TIMES DURING THE NORMAL OCCUPANCY OF THE BUILDING AS REQUIRED BY CODE.
9. ALL VENTILATING AND AIR CONDITIONING DUCTWORK, BOTH LOW AND HIGH VELOCITY, TO BE CONSTRUCTED IN ACCORDANCE WITH THE DUCT MANUALS OF SMACNA.
10. DUCT SUPPORT SHALL BE IN COMPLIANCE WITH NYC MECHANICAL CODE CHAPTER 6, SECTION 603.
11. FIRE DAMPERS SHALL BE PROVIDED AT ALL OUTDOOR AIR INTAKES AS PER NYC MECHANICAL CODE CHAPTER 4, SECTION 401.5.1 AND ALL DUCTS PENETRATING FIRE-RATED PARTITIONS AS PER NYC MECHANICAL CODE CHAPTER 6.
12. ALL FIRE DAMPERS SHALL BE APPROVED NY THE *NYC BOARD OF STANDARDS AND APPEALS* AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH UL 555 (STANDARD FOR FIRE DAMPERS AND CEILING DAMPERS, 3rd EDITION).
13. SMOKE DETECTORS AND SMOKE DAMPERS SHALL BE INSTALLED AS REQUIRED IN NYC MECHANICAL CODE CHAPTER 4, SECTION 401.5.1 AND CHAPTER 5. DAMPER OPERATION SHALL CONFORM WITH CHAPTER 5 AND 6.
14. ALL SMOKE DAMPERS SHALL BE APPROVED NY THE *NYC BOARD OF STANDARDS AND APPEALS* AND SHALL BE MANUFACTURED AND INSTALLED IN ACCORDANCE WITH UL 555S-1983 (STANDARD FOR LEAKAGE RATED DAMPERS FOR USE IN SMOKE CONTROL SYSTEMS, 1st EDITION).
15. REFER TO ARCHITECTURAL DRAWINGS FOR FIRE-RATED PARTITION LOCATIONS AND RATED CONSTRUCTION.
16. TESTS OF SOUND POWER LEVELS OF MECHANICAL EQUIPMENT SHALL BE CONDUCTED AND RESULTS SUBMITTED AS REQUIRED BY THE NYC MECHANICAL CODE CHAPTER 9, SECTION 926; NOISE CRITERIA LEVELS AND TEST PROCEDURES FOR SOUND POWER LEVEL SHALL COMPLY WITH NYC MECHANICAL CODE CHAPTER 9, SECTION 926.

NYCECC COMPLIANCE NOTES

PER 2011 NYC ENERGY CONSERVATION CODE:

SECTION 502.4.4: OUTDOOR AIR INTAKES AND EXHAUST OPENINGS SHALL BE EQUIPPED WITH A CLASS I MOTORIZED , LEAKAGE RATED DAMPER (WITH A MAXIMUM LEAKAGE RATE OF 4 CFM PER SQUARE FOOT AT 1.0 INCH WATER GAUGE WHEN TESTED IN ACCORDANCE WITH AMCA 500D).

SECTION 503.2.1: **CALCULATION OF HEATING AND COOLING LOADS**
THE CALCULATION OF HEATING AND COOLING DESIGN LOADS HAS BEEN DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN THE ASHRAE/ACCA 183.

SECTION 503.2.2: **EQUIPMENT AND SYSTEM SIZING**
HEATING AND COOLING EQUIPMENT AND SYSTEM CAPACITY DOES NOT EXCEED THE CALCULATED DESIGN LOADS REFERRED TO ABOVE.

SECTION 503.2.3: **HVAC EQUIPMENT PERFORMANCE REQUIREMENTS**
THE HVAC EQUIPMENT PERFORMANCE AND MINIMUM EFFICIENCY ARE DETAILED IN THE MECHANICAL COM CHECK (REFER TO DRAWING EN-010).

SECTION 503.2.4: **HVAC SYSTEM CONTROLS**
EACH HEATING AND COOLING SYSTEM SHALL BE PROVIDED WITH THERMOSTATIC CONTROLS; REFER TO THE FLOOR PLANS FOR LOCATIONS.

SECTION 503.2.4.1: **THERMOSTATIC CONTROLS**
EACH HEATING AND COOLING ZONE SHALL BE CONTROLLED BY INDIVIDUAL THERMOSTATIC CONTROLS; REFER TO THE FLOOR PLANS FOR LOCATIONS.

SECTION 503.2.4.1.1: **HEAT PUMP SUPPLEMENTARY HEAT**
HEAT PUMPS WITH SUPPLEMENTARY ELECTRIC RESISTANCE HEAT SHALL HAVE CONTROLS THAT PREVENT SUPPLEMENTARY HEAT OPERATION WHEN THE HEAT PUMP CAN MEET THE HEATING LOAD.

SECTION 503.2.4.2: **SET POINT OVERLAP RESTRICTION**
FOR HEATING AND COOLING APPLICATION THE ZONE THERMOSTATIC CONTROLS SHALL PROVIDE A TEMPERATURE RANGE OR DEADBAND OF AT LEAST 5° F WITHIN WHICH THE SUPPLY OF HEAT AND COOLING ENERGY TO THE ZONE IS CAPABLE OF BEING SHUT OFF OR REDUCED TO A MINIMUM.

SECTION 503.2.4.3. **OFF-HOUR CONTROLS**
EACH ZONE SHALL BE PROVIDED WITH THERMOSTATIC SETBACK CONTROLS THAT ARE CONTROLLED BY A PROGRAMMABLE CONTROL SYSTEM.

SECTION 503.2.4.3.1: **THERMOSTATIC SETBACK CAPABILITIES**
THERMOSTATIC SETBACK CONTROLS SHALL HAVE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES DOWN TO 55° F OR UP TO 85° F.

SECTION 503.2.4.3.2: **AUTOMATIC SETBACK AND SHUTDOWN CAPABILITIES**
PROGRAMMABLE CONTROLS SHALL BE CAPABLE OF STARTING AND STOPPING THE SYSTEM FOR SEVEN DIFFERENT DAILY SCHEDULES PER WEEK AND RETAINING THEIR PROGRAMMING AND TIME SETTING DURING A LOSS OF POWER (FOR AT LEAST 10 HOURS). IN ADDITION, THE CONTROLS SHALL HAVE A MANUAL OVER-RIDE THAT ALLOWS TEMPORARY OPERATION OF THE SYSTEM FOR UP TO 2 HOURS.

SECTION 503.2.4.3.4: **SHUTOFF DAMPER CONTROLS**
BOTH OUTDOOR AIR SUPPLY AND EXHAUST DUCTS SHALL BE EQUIPPED WITH MOTORIZED DAMPERS THAT WILL AUTOMATICALLY SHUT WHEN THE SYSTEM SPACES SERVED ARE NOT IN USE.

SECTION 503.2.4.3.5. **SNOW MELT SYSTEM CONTROLS** - NOT APPLICABLE TO THIS PROJECT

SECTION 503.2.7: **DUCT AND PLENUM INSULATION AND SEALING**
ALL SUPPLY AND RETURN AIR DUCTS SHALL BE INSULATED WITH A MINIMUM OF R-5 INSULATION WHEN LOCATED IN UNCONDITIONED SPACES AND WITH A MINIMUM OF R-8 INSULATION WHEN LOCATED OUTSIDE THE BUILDING. ALL DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH NYC MECHANICAL CODE, SECTION 603.9.

SECTION 503.2.7.1: **DUCT CONSTRUCTION**
ALL DUCTWORK SHALL BE CONSTRUCTED AND ERECTED IN ACCORDANCE WITH NYC MECHANICAL CODE.

SECTION 503.2.7.1.1: **LOW-PRESSURE DUCT SYSTEMS** (UP TO 2-INCHES W.G.)
ALL LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS AND CONNECTIONS OF SUPPLY AND RETURN DUCTWORK OPERATING AT A STATIC PRESSURE LESS THAN OR EQUAL TO 2-INCHES W.G. SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS OR MASTICS INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS; TAPE IS NOT ACCEPTABLE.

SECTION 503.2.7.1.2: **MEDIUM-PRESSURE DUCT SYSTEMS** (FROM 2 TO 3-INCHES W.G.) - NOT APPLICABLE TO THIS PROJECT

SECTION 503.2.7.1.3: **HIGH-PRESSURE DUCT SYSTEMS** (GREATER THAN 3-INCHES W.G.) - NOT APPLICABLE TO THIS PROJECT

SECTION 503.2.8: **PIPING INSULATION**
ALL PIPING SERVING AS PART OF A HEATING OR COOLING SYSTEM SHALL BE THERMALLY INSULATED IN ACCORDANCE WITH THE FOLLOWING:

	PIPE OF LESS THAN OR EQUAL TO 1.5"	PIPE OF GREATER THAN 1.5"
STEAM PIPING	1-1/2" THICK	3" THICK
HOT WATER PIPING	1-1/2" THICK	2" THICK
CHILLED WATER PIPING	1-1/2" THICK	1-1/2" THICK
REFRIGERANT PIPING	1-1/2" THICK	1-1/2" THICK

INSULATION SHALL BE EQUAL TO "JOHNS MANVILLE" *MICRO-LOCK*, MINERAL FIBER, PREFORMED PIPE INSULATION. THIS IS INCLUSIVE OF ALL RUN-OUTS.

503.2.9.1 AIR SYSTEM BALANCING
EACH SUPPLY AIR OUTLET AND ZONE TERMINAL DEVICE SHALL BE EQUIPPED WITH MEANS FOR AIR BALANCING IN ACCORDANCE WITH THE REQUIREMENTS OF NYC MECHANICAL CODE, CHAPTER 6. DISCHARGE DAMPERS ARE PROHIBITED ON CONSTANT VOLUME FANS AND VARIABLE VOLUME FANS WITH MOTORS 10 HP AND LARGER.

503.2.9.2 HYDRONIC SYSTEM BALANCING - NOT APPLICABLE TO THIS PROJECT

503.2.9.3 MANUALS
OPERATING AND MAINTENANCE MANUALS SHALL BE PROVIDED TO THE BUILDING OWNER BY THE MECHANICAL CONTRACTOR IN ACCORDANCE WITH THE REQUIREMENTS OF THE NYC ENERGY CONSERVATION CODE, SECTION 503.2.9.3.

ENERGY CODE COMPLIANCE STATEMENT

TO THE BEST OF MY KNOWLEDGE, BELIEF AND PROFESSIONAL JUDGMENT, THESE PLANS AND SPECIFICATIONS ARE IN COMPLIANCE WITH THE 2011 NEW YORK CITY ENERGY CONSERVATION CODE.

NYCECC MECHANICAL COMPLIANCE

NYCECC CITATION	PROVISION	ITEM DESCRIPTION	PROPOSED DESIGN VALUE	CODE PRESCRIPTIVE VALUE	SUPPORTING DOCUMENTATION
503.2	**MANDATORY PROVISIONS**				
503.2.1	CALCULATION OF HEATING AND COOLING LOADS	MINIMUM AND MAXIMUM TEMPERATURE FOR INTERIOR DESIGN LOAD CALCULATIONS	DESIGN LOADS SHALL BE DETERMINED IN ACCORDANCE WITH THE PROCEDURES DESCRIBED IN ASHRAE/ACCA 183.	ASHRAE/ACCA 183, ASHRAE HVAC SYSTEMS AND EQUIPMENT HANDBOOK, CHAPTER 3 ENERGY CODE	SIGNED AND SEALED STATEMENT FROM ENGINEER CERTIFYING COMPLIANCE WITH ENERGY CODE.
503.2.2	EQUIPMENT AND SYSTEM SIZING	HEATING AND COOLING EQUIPMENT SHALL NOT EXCEED CALCULATED LOADS	SPECIFIED EQUIPMENT SIZED WITHIN LOAD CALCULATION LIMITS	HEATING AND COOLING EQUIPMENT SHALL NOT EXCEED CALCULATED LOADS	SIGNED AND SEALED STATEMENT FROM ENGINEER CERTIFYING COMPLIANCE WITH ENERGY CODE.

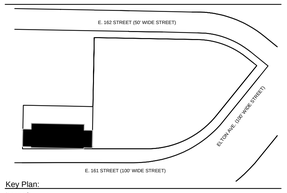
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	06.20.14	Design Development
4	08.22.14	50% CD SET
5	02.26.15	BID SET/ HPD
6	02.26.15	SPRINKLER DOB ISSUANCE
7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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MECHANICAL COVER SHEET

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: PNP
CHK BY: CMS/FTK
DWG No:

M-050.00

SCALE: AS NOTED

MECH HEATING/COOLING LOAD

- LOAD SIZING CALCULATIONS THAT REFLECT THE DESIGN:
  INSTALLED CAPACITY CANNOT EXCEED DESIGN BY MORE THAN 20%,EXCEPT WHEN SMALLER SIZES ARE NOT AVAILABLE
- HEATING LOADS SHALL BE CALCULATED, EQUIPMENT CAPACITY SHALL BE SELECTED , AND DUCT SYSTEM SHALL BE SIZED ACCORDING TO THE LATEST EDITION OF ACCA MANUAL J,S & D , RESPECTIVELY , ASHRAE 2009 HANDBOOK OF FUNDAMENTALS , OR A SUBSTANTIVELY EQUIVALENT PROCEDURE.INDOOR TEMPERATURES SHALL BE 70°F FOR HEATING .OUTDOOR TEMPERATURES SHALL BE THE 99.0% DESIGN TEMPERATURE, AS PUBLISHED BY THE ASHRAE HANDBOOK OF FUNDAMENTALS .
- COOLING LOADS SHALL BE CALCULATED, EQUIPMENT CAPACITY SHALL BE SELECTED , AND DUCT SYSTEM SHALL BE SIZED ACCORDING TO THE LATEST EDITION OF ACCA MANUAL J, S & D , RESPECTIVELY, ASHRAE 2009 HANDBOOK OF FUNDAMENTALS , OR A SUBSTANTIVELY EQUIVALENT PROCEDURE.INDOOR TEMPERATURES SHALL BE 75° FOR COOLING , OUTDOOR TEMPERATURES SHALL BE THE 1.0% DESIGN TEMPERATURE, AS PUBLISHED BY THE ASHRAE HANDBOOK OF FUNDAMENTALS .

MECH MAINTENANCE INFO

MAINTENANCE INSTRUCTIONS SHALL BE FURNISHED FOR EQUIPMENT AND SYSTEMS THAT REQURIE PREVENTATIVE MAINTENANCE. REQUIRED REGULAR MAINTENANCE ACTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. THE LABEL SHALL INCLUDE THE TITLE OR PUBLICATION NUMBER FOR THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF PRODUCT.

A COMPREHENSIVE OPERATING AND MAINTENANCE MANUAL MUST BE PROVIDED TO THE BUILDING OWNER BY THE MECHANICAL CONTRACTOR. THE MANUAL SHALL INCLUDE, AT MINIMUM, THE FOLLOWING:

A. EQUIPMENT CAPACITY (INPUT AND OUTPUT) AND REQUIRED MAINTENANCE ACTIONS.
B. EQUIPMENT OPERATION AND MAINTENANCE MANUALS.
C. HVAC SYSTEM CONTROL MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS, AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD DETERMINED SET POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS, AT CONTROL DEVICES, OR FOR DIGITAL CONTROL SYSTEMS, IN THE PROGRAMMING COMMENTS.
D. A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE.

MECH CENTRAL SYSTEM NOTES

1. STAIR AND ELEVATOR SHAFT VENTS AND THE OTHER MECGANICAL OUTDOOR AIR INTAKES AND EXHAUST OPENINGS INTEGRAL TO THE BUILDING ENVELOPE SHALL BE EQUIPPED WITH NOT LESS THAN A CLASS 1 MOTORIZED, LEAKAGE RATED DAMPER WITH A MAXIMUM LEAKAGE RATE OF 4 CFM PER SQUARE FOOT AT 1.0-INCH WATER GAUGE (WG) WHEN TESTED IN ACCORDANCE WITH AMCA 500D.
2. ALL ROOF FAN CURBS SHALL BE SEALED BEFORE INSTALLATION OF ROOF CURB. SEAL ALL GAPS BETWEEN DUCTWORK AND ROOF CONSTRUCTION WITH SUITABLE MATERIAL FOR GAP DIMENSION.
3. CENTRAL SUPPLY AIR AND EXHAUST AIR DUCTS SHALL BE TESTED BY STEVEN WINTER ASSOCIATES (SWA) AFTER ALL TAK-OFFS ARE INSTALLED, BUT BEFORE ENCLOSED WITH DRYWALL. MECHANICAL CONTRACTOR SHALL COORDINATE SCHEDULING OF TEST WITH SWA (212-564-5800)
4. CENTRAL SUPPLY AIR AND EXHAUST AIR DUCT LEAKAGE SHALL BE NO MORE THAN 10 CFM/FLOOR/REGISTER INCLUSIVE OF ROOF CURB, TAKE-OFFS, SEAMS AND JOINTS, ETC.
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   DUCT LOCATED WITHIN UNCONDITIONED SPACE: R-6 INSULATION VALUE
   DUCT LOCATED OUTSIDE OF THE BUILDING: R-8 INSULATION VALUE
   DUCT LOCATED WITHIN BUILDING ENVELOPE ASSEMBLY: R-8 INSULATION VALUE
6. ALL DUCTWORK SHALL BE SEALED WITH MASTIC PER THE FOLLOWING:
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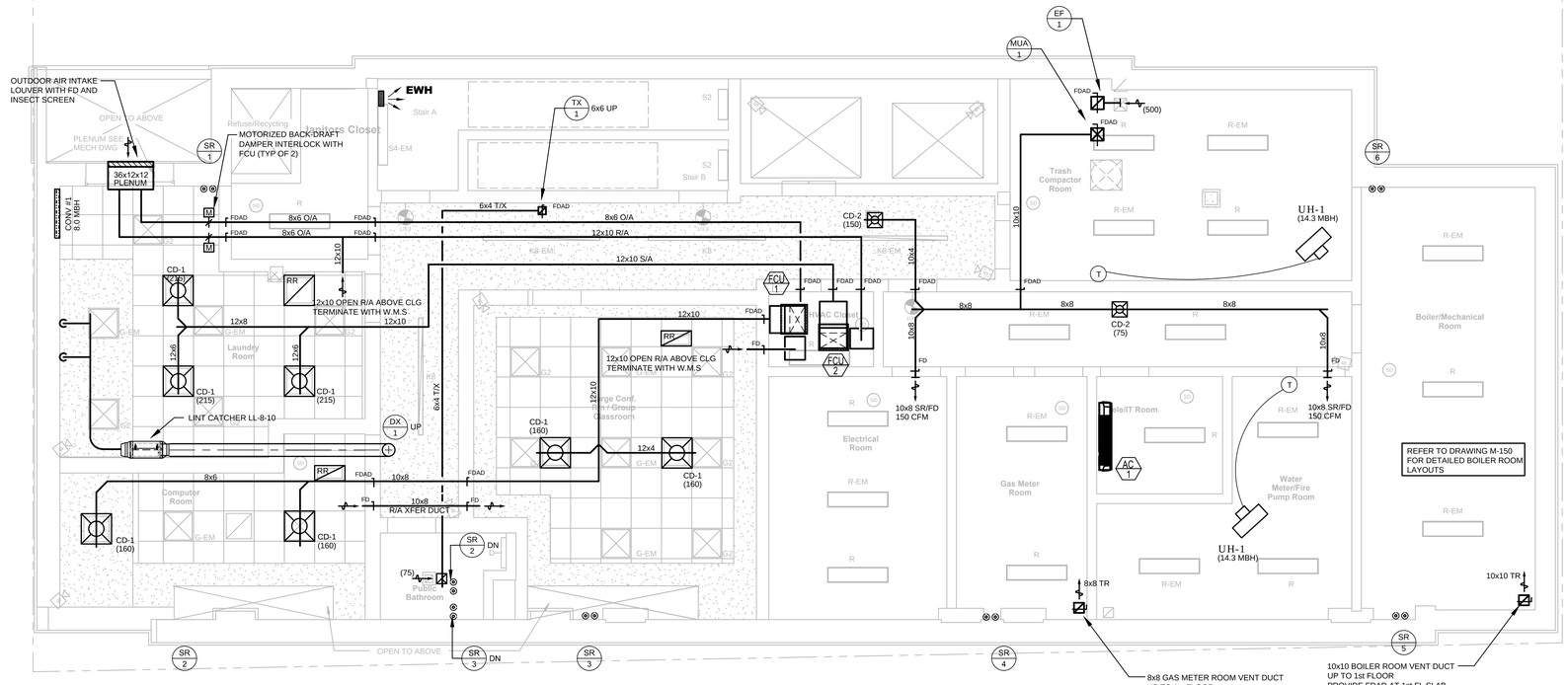
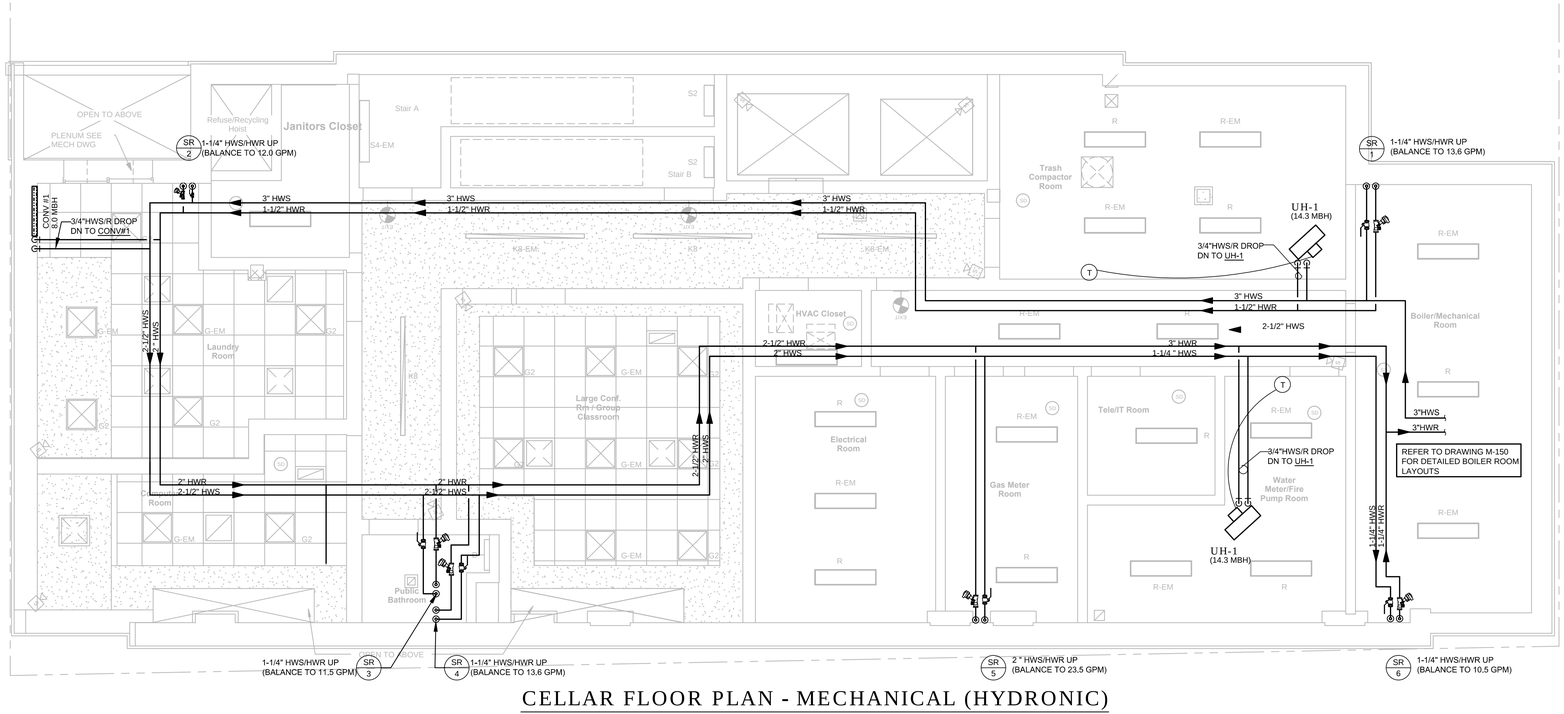


CELLAR FLOOR PLAN - MECHANICAL(DUCTWORK)

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



CELLAR FLOOR PLAN - MECHANICAL (HYDRONIC)

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

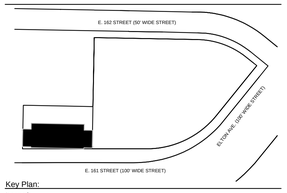
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

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CELLAR MECHANICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-100.00

SCALE: AS NOTED

MECH HEATING/COOLING LOAD

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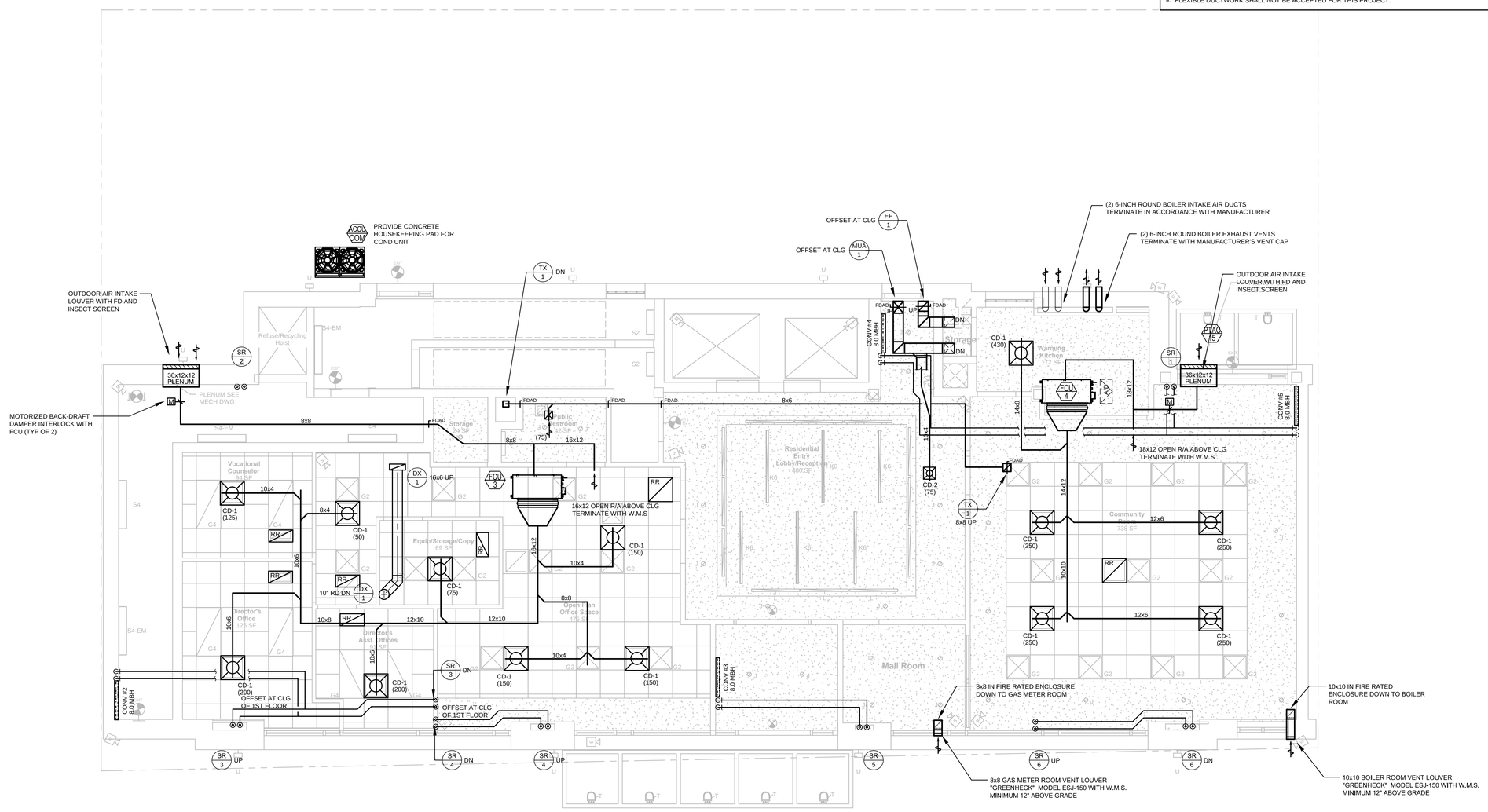


FIRST FLOOR PLAN - MECHANICAL

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

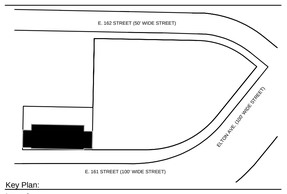
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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FIRST FLOOR MECHANICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-101.00

SCALE: AS NOTED

MECH HEATING/COOLING LOAD

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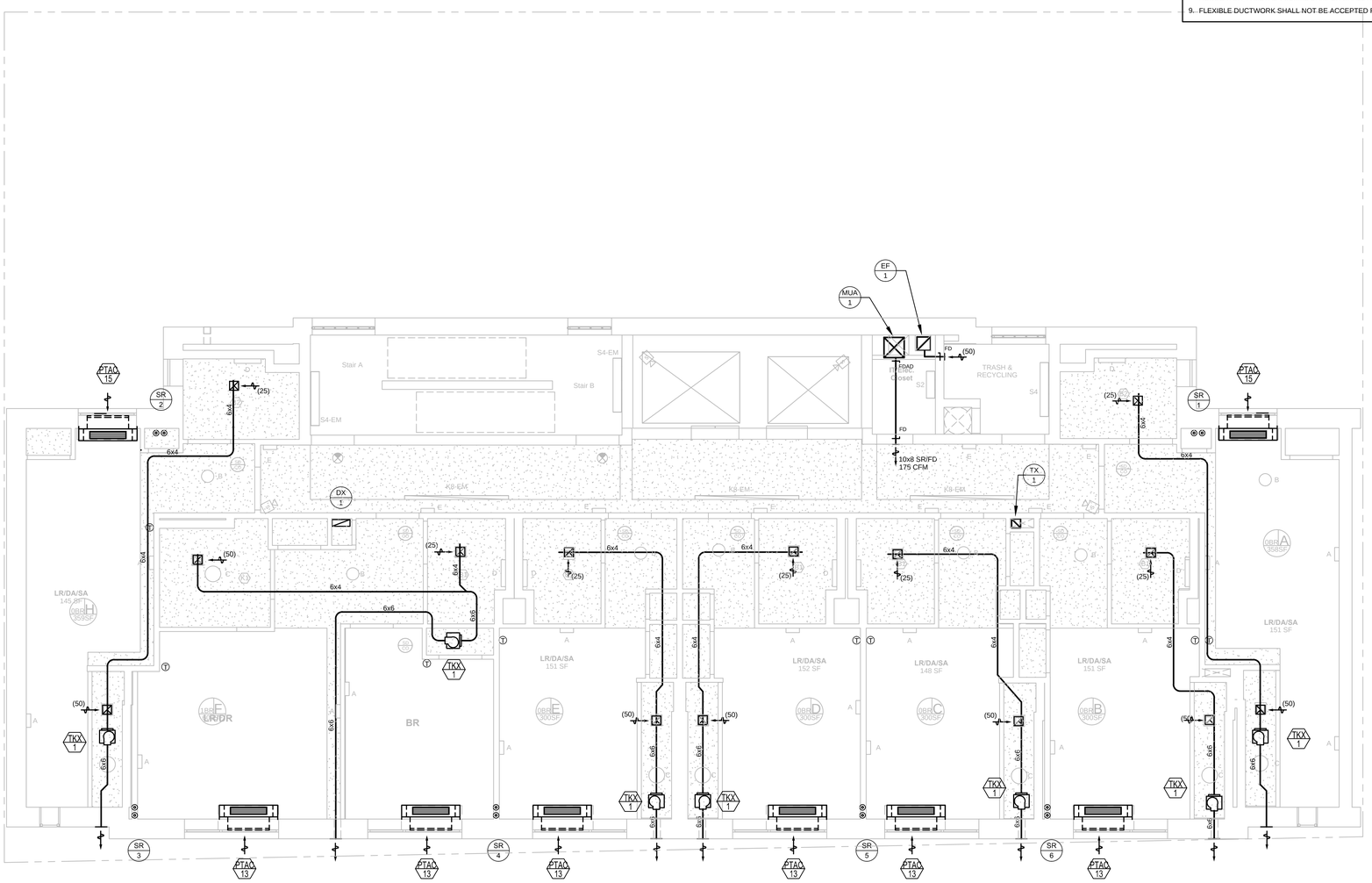

SECOND FLOOR PLAN - MECHANICAL

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

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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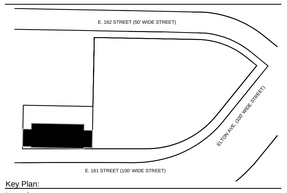

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DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-102.00

SCALE: AS NOTED

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2. ALL ROOF FAN CURBS SHALL BE SEALED BEFORE INSTALLATION OF ROOF CURB. SEAL ALL GAPS BETWEEN DUCTWORK AND ROOF CONSTRUCTION WITH SUITABLE MATERIAL FOR GAP DIMENSION.
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4. CENTRAL SUPPLY AIR AND EXHAUST AIR DUCT LEAKAGE SHALL BE NO MORE THAN 10 CFM/FLOOR/REGISTER INCLUSIVE OF ROOF CURB, TAKE-OFFS, SEAMS AND JOINTS, ETC.
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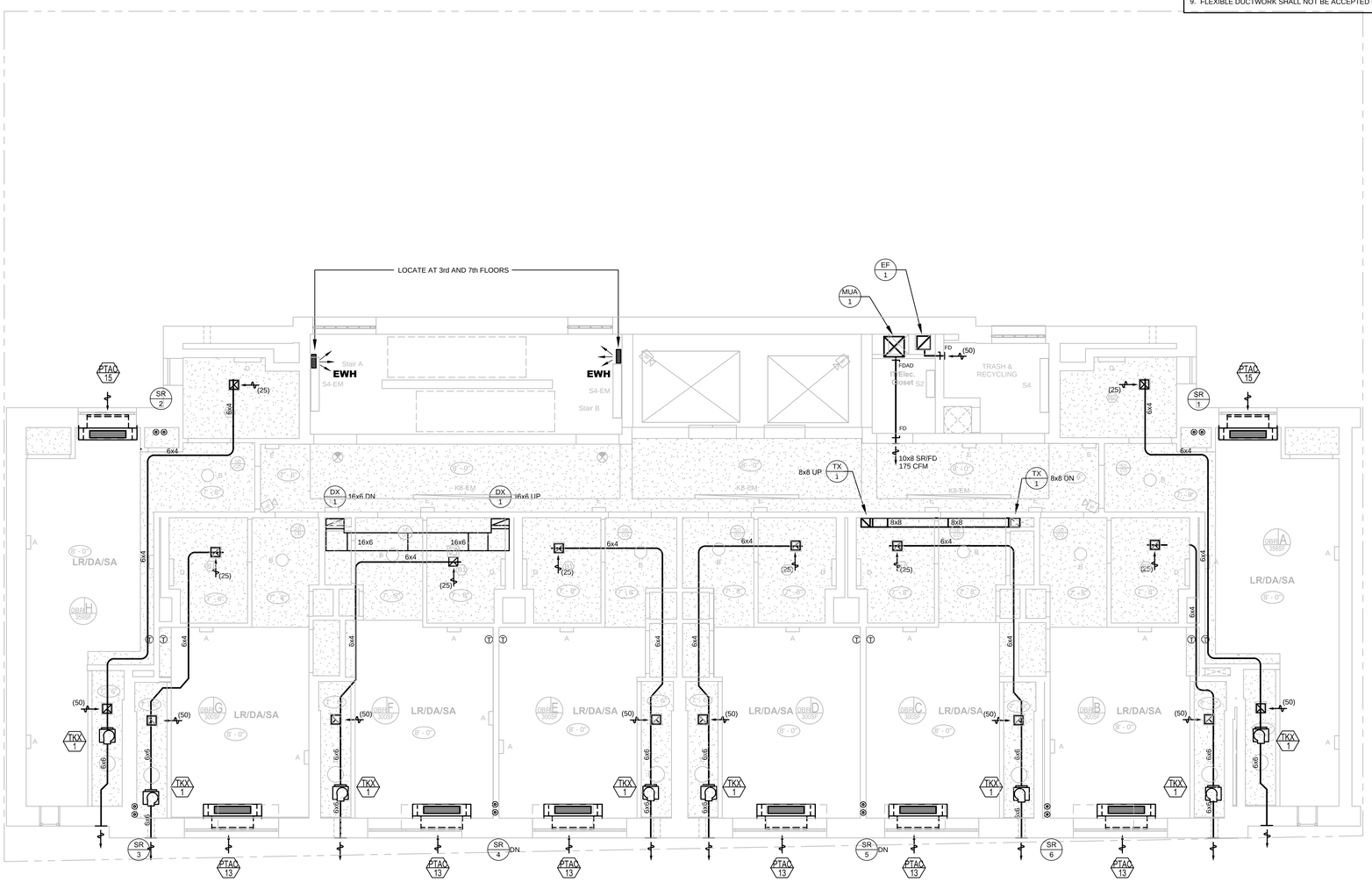

THIRD THRU SEVENTH FLOOR PLAN - MECHANICAL

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

ALL OFFSETS OCCUR AT EIGHTH FLOOR CLG

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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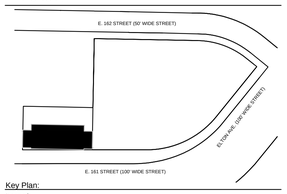

Key Plan:

Issued:

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Revisions:

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Landscape Architect:

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
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Brooklyn, NY 11222
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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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THIRD THRU SEVENTH FLOOR MECHANICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-103.00

SCALE: AS NOTED

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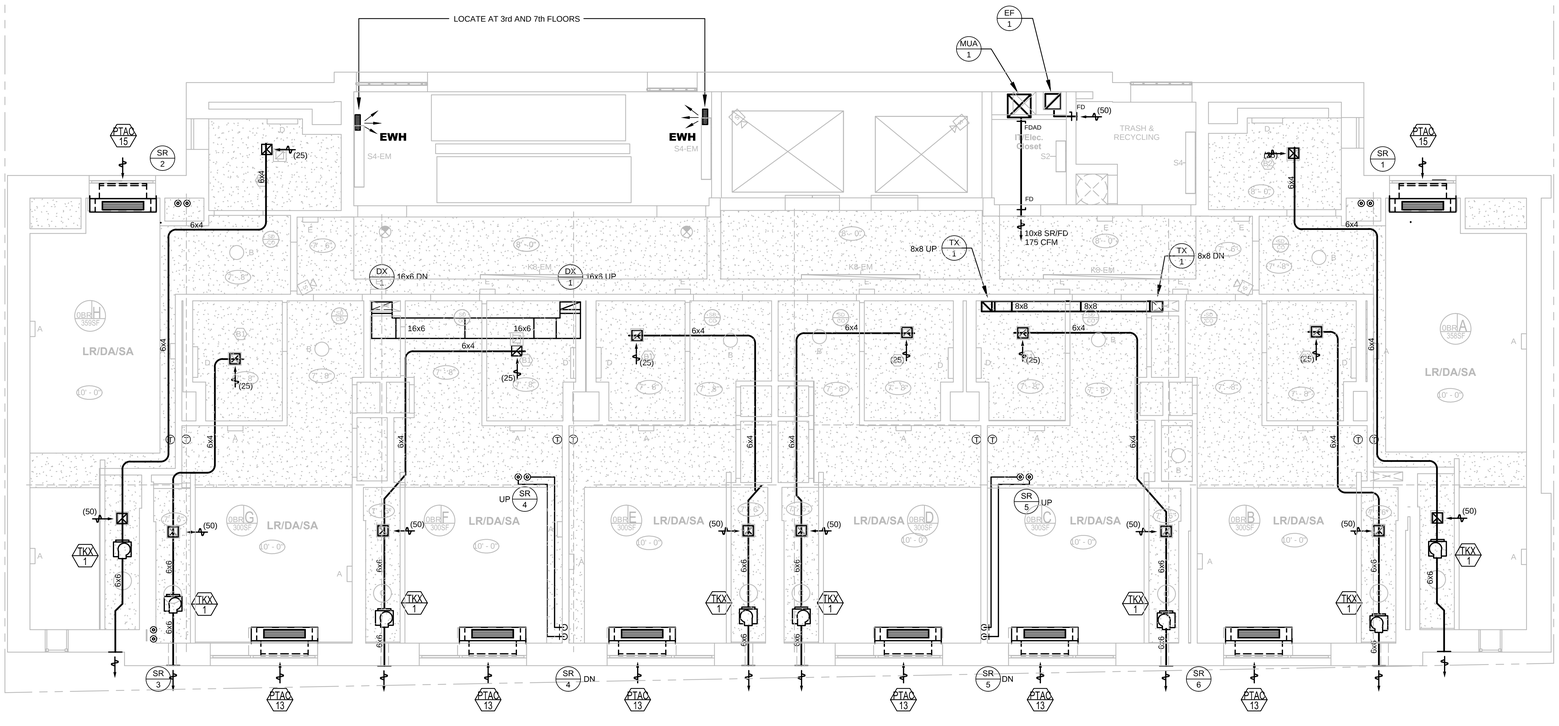

EIGHTH FLOOR PLAN - MECHANICAL

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

ALL OFFSETS OCCUR AT EIGHTH FLOOR CLG

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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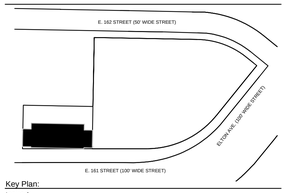

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EIGHTH FLOOR MECHANICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-104.00

SCALE: AS NOTED

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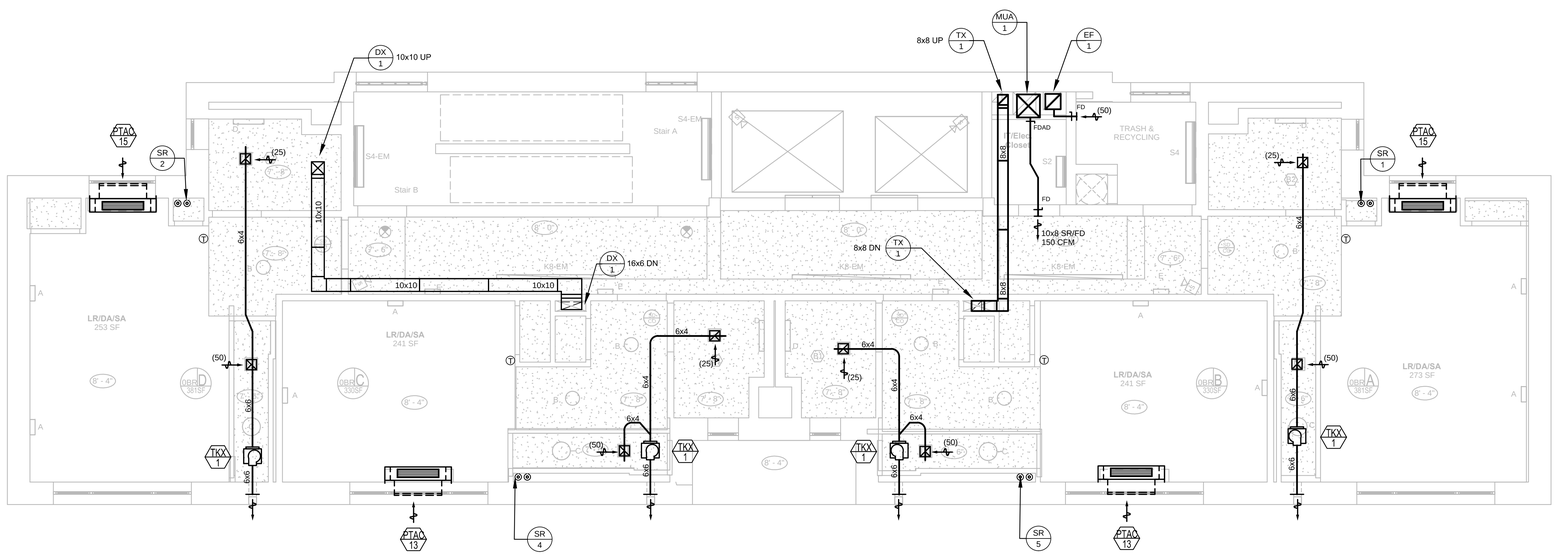

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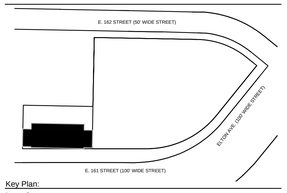

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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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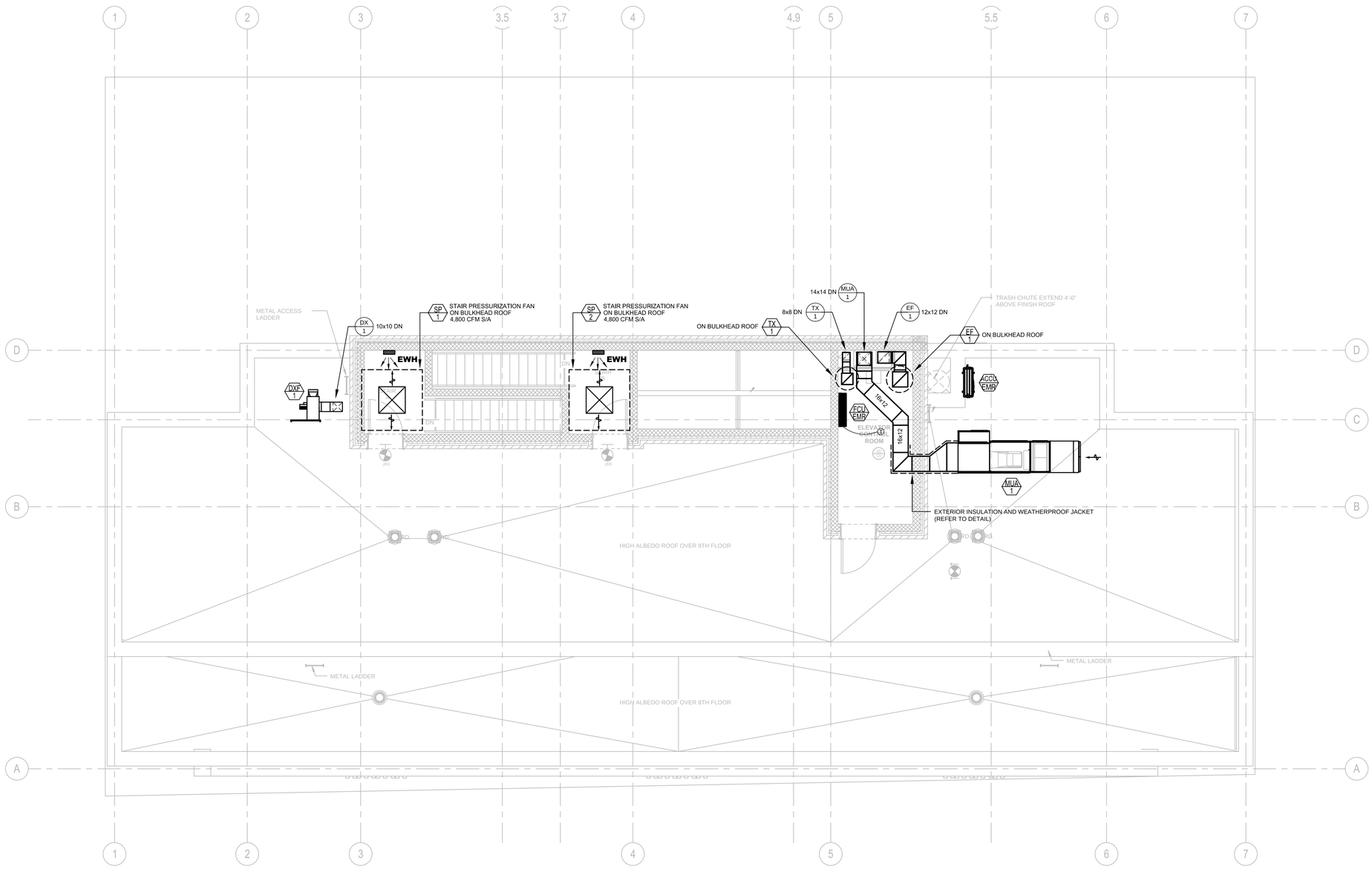
NINTH FLOOR MECHANICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-105.00

SCALE: AS NOTED



ROOF PLAN - MECHANICAL

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

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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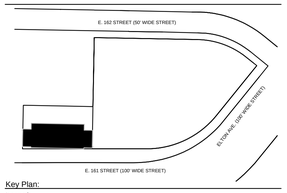

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DRAWING BY: ??
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M-106.00
SCALE: AS NOTED
85 OF 111

BASIC BOILER ROOM REQUIREMENTS
(GAS FIRED BOILERS)

1. BOILER ROOM DOORS MUST BE FIRE RATED SELF CLOSING AND SWING OUT FROM BOILER ROOM. NOT REQUIRED FOR SEALED COMBUSTION BOILERS.
2. A LABELED EMERGENCY SWITCH MUST BE INSTALLED AT EACH BOILER ROOM DOOR. FOR OPEN BASEMENTS, SWITCH AT STAIRS IS PERMITTED.
3. BOILER ROOM CEILING AND WALLS MUST BE ENCLOSED.PLANS MUST SHOW BOILER MAKE, MODEL AND HEAT INPUT; BOILER ROOM SWING AND EMERGENCY SWITCH; FRESH AIR LOCATION AND SIZE; CHIMNEY LOCATION MATERIAL AND SIZE.
4. CLEANOUTS REQUIRED AT BASE OF CHIMNEY.
5. CHIMNEY OR GAS VENT MUST TERMINATE 2' ABOVE PARAPET WALL AND 10' AWAY FROM HIGHER WALLS.
6. DIRECT VENT BOILERS MAY HORIZONTALLY VENT 7' ABOVE PRIVATE SIDEWALKS AND DRIVEWAYS, 4' BELOW OPERABLE WINDOWS, 4' TO THE SIDE OF OPERABLE WINDOWS, 3' ABOVE FORCED AIR INTAKES WITHIN 10', 3' ABOVE GRADE, 1' ABOVE DOORS, AND 3' FROM INSIDE CORNERS OF BUILDINGS. THEY MAY NOT HORIZONTALLY VENT A PUBLIC SIDEWALK (4' BUFFER REQUIRED). MAXIMUM OF 350,000 BTU/HR HEAT INPUT FOR DEVICES VENTING WITHIN A 10' RADIUS. VENTING INTO ALLEYWAYS, SMALL COURTS, UNDER OVERHANGS AND TERRACES, OR HEAT INPUT OVER 350,000 BTU/HR WILL BE HANDLED ON A CASE BY CASE BASIS. ANY HEAT INPUT IS PERMITTED AT ROOF LINE OR TOP OF HIGHEST FLOOR.
7. FRESH AIR INTAKE MUST BE DIRECTLY FROM OUTDOORS. DUCTED COMBUSTION AIR SUPPLY MUST HAVE A FIRE DAMPER OR HAVE FIRE PROOF COVERING TO OUTDOORS. DIRECT VENTED DEVICES ARE EXEMPT.
8. MOTORIZED FRESH AIR DAMPERS MUST HAVE AN EXTERNAL INTERLOCK SWITCH WITH ALL BOILERS.
9. MECHANICAL FRESH AIR SUPPLY MUST HAVE A FLOW SWITCH AND BE INTERLOCKED WITH ALL COMBUSTION DEVICES.
10. GAS ONLY BOILERS WITH HEAT INPUT UNDER 2 MILLION BTU/HR MUST HAVE A CHIMNEY CAP.
11. MUST INSULATE ALL NEW HEATING AND DOMESTIC HOT WATER PIPING IN THE BOILER ROOM.
12. PROVIDE FLOOR DRAIN OR INDIRECT WASTE WATER PIPE REQUIRED FOR RELIEF VALVE DISCHARGE, BOILER DRAINS, BACK-FLOW DISCHARGE, ETC.
13. BOILERS MUST REST ON CONCRETE BASE, FILLED CONCRETE BLOCKS OR BRICK BASE.
14. MUST HAVE ISOLATION VALVES ON HEATING PIPING LINES FOR ALL BOILERS.
15. MUST HAVE TWO LOW WATER CUTOFFS FOR EVERY STEAM BOILER WITH HEAT INPUT 350,000 BTU/HR AND GREATER. ONE MUST BE A MANUAL RESET TYPE. ONE MUST BE A MECHANICAL TYPE.
16. NO BAND IRON FOR STRAPS, MUST HAVE HANGERS OR RODS FOR HEATING LINES OR FLUES.
17. BLOW DOWN PIPING ON DOMESTIC WATER RELIEF LINES MUST BE COPPER OR BRASS.
18. COLD WATER FEEDS MUST BE PIPED INTO THE RETURN PIPING MINIMUM 2' FROM BOILER.
19. ALL NATURAL DRAFT GAS BOILERS WITH HEAT INPUT OVER 350,000 BTU/HR GOING INTO A COMMON CHIMNEY MUST HAVE SPILL SWITCHES INTERLOCKED IN SERIES.
20. ALL GAS FIRED BOILERS WITH BAROMETRIC DAMPERS MUST SWING BOTH WAYS AND SPILL SWITCHED MOUNTED ON THE BOTTOM OF THE DAMPER.
21. ALL NATURAL DRAFT BOILERS IN INDIVIDUAL DWELLING UNITS MUST HAVE CO/SMOKE DETECTOR WIRED IN SERIES TO SHUT DOWN BOILERS IF ACTIVATED.

TENANT SAFETY NOTES

1. CONSTRUCTION WORK WILL BE CONFINED TO THE APARTMENT INTERIOR, AND WILL NOT CREATE DUST, DIRT, OR OTHER SUCH INCONVENIENCES TO OTHER APARTMENT UNITS WITHIN THE BUILDING.
2. CONSTRUCTION OPERATIONS WILL NOT BLOCK HALLWAYS OR MEANS OF EGRESS FOR TENANTS OF THE BUILDING.
3. CONSTRUCTION OPERATIONS WILL NOT INVOLVE INTERRUPTION OF HEATING, WATER, OR ELECTRICAL SERVICES TO OTHER TENANTS OF THE BUILDING.
4. CONSTRUCTION OPERATIONS WILL BE CONFINED TO NORMAL WORKING HOURS: 8 A.M. TO 5 P.M., MONDAYS THROUGH FRIDAYS, EXCEPT LEGAL HOLIDAYS.

1. **EGRESS:** AT ALL TIMES IN THE COURSE OF CONSTRUCTION PROVISION SHALL BE MADE FOR ADEQUATE EGRESS AS REQUIRED BY THIS CODE AND THE TENANT PROTECTION PLAN SHALL IDENTIFY THE EGRESS THAT WILL BE PROVIDED. REQUIRED EGRESS SHALL NOT BE OBSTRUCTED AT ANY TIME EXCEPT WHERE APPROVED BY THE COMMISSIONER.

2. **FIRE SAFETY:** ALL NECESSARY LAWS AND CONTROLS, INCLUDING THOSE WITH RESPECT TO OCCUPIED DWELLINGS, AS WELL AS ADDITIONAL SAFETY MEASURES NECESSITATED BY THE CONSTRUCTION SHALL BE STRICTLY OBSERVED.

3. **HEALTH REQUIREMENTS:** SPECIFICATION OF METHODS TO BE USED FOR CONTROL OF DUST, DISPOSAL OF CONSTRUCTION DEBRIS, PEST CONTROL AND MAINTENANCE OF SANITARY FACILITIES, AND LIMITATION OF NOISE TO ACCEPTABLE LEVELS SHALL BE INCLUDED.

3.1 THERE SHALL BE INCLUDED A STATEMENT OF COMPLIANCE WITH APPLICABLE PROVISIONS OF LAW RELATING TO LEAD AND ASBESTOS.

4. **COMPLIANCE WITH HOUSING STANDARDS**: THE REQUIREMENTS OF THE NEW YORK CITY HOUSING MAINTENANCE CODE, AND, WHERE APPLICABLE, THE NEW YORK STATE MULTIPLE DWELLING LAW SHALL BE STRICTLY OBSERVED.

5. **STRUCTURAL SAFETY:** NO STRUCTURAL WORK SHALL BE DONE THAT MAY ENDANGER THE OCCUPANTS.

6. **NOISE RESTRICTIONS:** WHERE HOURS OF THE DAY OR THE DAYS OF THE WEEK IN WHICH CONSTRUCTION WORK MAY BE UNDERTAKEN ARE LIMITED PURSUANT TO THE NEW YORK CITY NOISE CONTROL CODE, SUCH LIMITATIONS SHALL BE STATED.

THE ABOVE NOTES ARE IN COMPLIANCE WITH SECTION 28-104.8.4 OF NYC B.C.

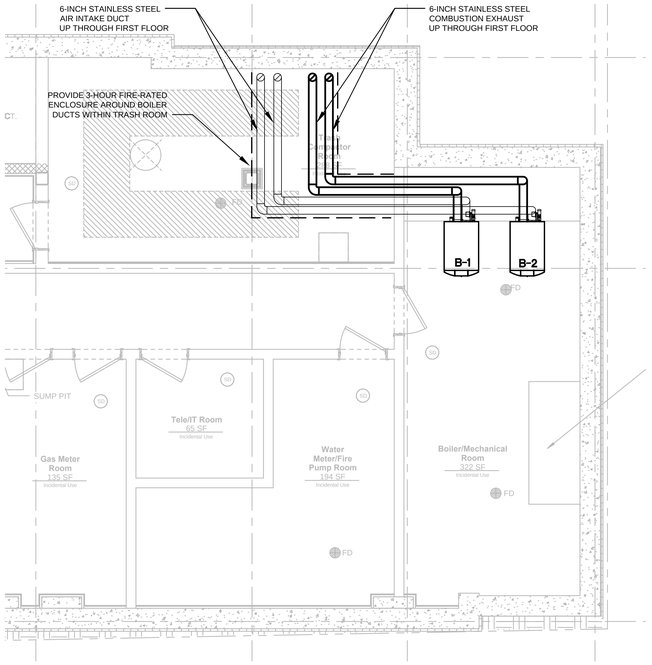
GAS VENT PRODUCT SPECIFICATION

CATEGORY I, II, III, or IV APPLIANCES

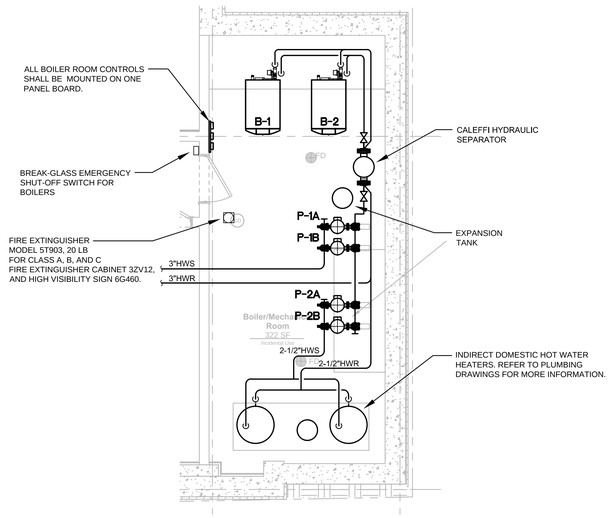
A. Secure Seal by Security Chimneys International shall be manufactured from AL29-4C stainless steel, a superferritic stainless steel specifically designed for extreme resistance to chlorine ion pitting, crevice corrosion, and stress corrosion induced by the generation of corrosive condensates by partially or fully condensing natural gas or propane fired heating appliances. Please contact Rathe Associates at 631-822-1200.
B. The system components, supports and terminations shall be the product of one manufacturer, shall be fully factory fabricated, shall be laboratory tested and listed by Intertek Testing Services (ETL) for use with building heating equipment, burning gas as described in NFPA 54 and be listed to UL 1738 and UL 641. The system, when sealed, shall maintain airtight integrity at pressures up to 35"W.C. and be listed for an internal static pressure of 6"W.C. at 550°F.
C. The complete vent system shall be fabricated as follows
   1. Inner Wall Material
      - Sizes 3 inch to 9 inch diameter: 0.015" thick, AL29-4C stainless steel or equivalent.
      - Sizes 10 inch to 16 inch diameter: 0.020" thick, AL29-4C stainless steel or equivalent.
      - Sizes 18 inch to 24 inch diameter: 0.024" thick, AL29-4C stainless steel or equivalent.
   2. Outer Wall Material
      - Sizes 3 inch to 9 inch diameter: 0.015" thick, 441 stainless steel or equivalent.
      - Sizes 10 inch to 16 inch diameter: 0.020" thick, 441 stainless steel or equivalent.
      - Sizes 18 inch to 24 inch diameter: 0.024" thick, 441 stainless steel or equivalent.
   3. Insulation
      - 1.0 inch annular air space between walls
   4. Venting shall have the following clearances to combustibles.

      Double Wall Secure Seal SSD (Minimum Clearance Fully Enclosed, four sides):
      - Sizes 3 inches to 12 inches diameter:
      - Maximum flue gas temperature 550°F; 570°F for L-Vent
      - 1 inch vertical; 2 inch vertical for L-Vent
      - Sizes 14 inches to 24 inches diameter:
      - Maximum flue gas temperature 550°F; 570°F for L-Vent
      - 1 inch vertical; 2 inch vertical for L-Vent

      Double Wall Secure Seal SSD (Minimum Clearance Unenclosed, two sides max):
      - Sizes 3 inches to 12 inches diameter:
      - Maximum flue gas temperature 550°F; 570°F for L-Vent
      - 1 inch horizontal, 1 inch vertical; 2 inch horizontal, 2 inch vertical for L-Vent
      - Sizes 14 inches to 24 inches diameter:
      - Maximum flue gas temperature 550°F; 570°F for L-Vent
      - 3 inch horizontal, 1 inch vertical; 3 inch horizontal, 2 inch vertical for L-Vent
D. The complete vent system, from appliance outlet to termination, shall be designed to eliminate on-site welding through the use of a slip fit, rigid connection with reinforcing ribs, built in mechanical locking clips and a Viton® O-ring. Silicone gaskets and silicone caulking at section joints are not acceptable due to adverse reactions with carbonic acid. Flanged connections are not acceptable.
E. The vent system manufacturer shall certify that the shop drawings' proposed exhaust system complies with the appliance manufacturers' written requirements and that the installation will safely exhaust the connected equipment. Draft calculations shall be based upon the appliance manufacturers' written requirements. The draft calculation shall be based upon ASHRAE's Chimney Design Equation and submitted with the appliance manufacturers' requirements for review and approval by the engineer.



BOILER EQUIPMENT VENTING PLAN
SCALE: 1/4" = 1'-0"



BOILER ROOM PIPING PLAN
SCALE: 1/4" = 1'-0"

BOILER RM PLAN NOTES

1. PROVIDE 4-INCH HIGH CONCRETE HOUSEKEEPING PADS FOR BOILERS, PUMPS AND DOMESTIC HW EQUIPMENT. CONCRETE PAD SHALL EXTEND 4-INCHES BEYOND BOILER FOOTPRINT ON ALL SIDES. VERIFY ALL DIMENSIONS IN THE FIELD AFTER EQUIPMENT PURCHASE.

2. ALL PUMPS IN BOILER ROOM SHALL BE SUPPORTED FROM THE FLOOR WITH SPRING TYPE VIBRATION HANGERS. FOR PUMP VALVING AND PIPING REFER TO DETAILS ON DRAWING M-152.

3. EACH BOILER SHALL BE INSTALLED COMPLETED WITH ACID NEUTRALIZER ON CONDENSATE DISCHARGE.

D.A.R. FILING

THIS MECHANICAL CONTRACTOR IS RESPONSIBLE FOR ALL FILINGS, CALCULATIONS, FEES, ETC. RELATING TO THE N.Y.C. DEPARTMENT OF AIR RESOURCES.

BOILER EQUIPMENT PLACEMENT

1. BOILER ROOM EQUIPMENT LAYOUT IS SCHEMATIC ONLY.
2. MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PLACEMENT IN EACH ROOM.
3. BOILER MANUFACTURER'S REPRESENTATIVE SHALL CERTIFY ALL AS-BUILT CLEARANCES FOR SERVICE, WARRANTY AND COMPLIANCE WITH MEA APPROVAL.

SEQUENCE OF OPERATION

BOILERS SEQUENCE OF OPERATION

1. THE BOILERS SHOULD START ONLY ON A CALL FOR HEAT FROM A TANK AQUA-STAT, ROOM THERMOSTAT, ZONE VALVE END SWITCH OR OTHER SPACE TEMPERATURE CONTROL DEVICE.
2. UPON A CALL FOR HEAT,
(A) THE INTERNAL PUMP WILL START. (PUMP IS OPTIONALLY MOUNTED ON UNIT.)
(B) THE BLOWER WILL BEGIN A 15 SECOND PRE-PURGE.
3. FOLLOWING THE PRE-PURGE CYCLE THE HOT SURFACE IGNITER WILL HEAT AND WILL BEGIN A TRIAL FOR IGNITION.
4. THE GAS VALVE WILL THEN BE ENERGIZED AND LOW FIRE (20% OF FULL FIRE) IGNITION WILL OCCUR. THE BOILER WILL REMAIN IN A LOW-FIRE START-UP PERIOD FOR 15 SECONDS.
5. AFTER THE LOW-FIRE START TIME IS OVER, THE BOILER WILL BE IN NORMAL OPERATION FIRING RATE AND WILL MODULATE BASED ON THE HEATING LOAD VIA THE TEMPERATURE CONTROLLER SETTINGS AND READINGS.
6. WHEN THE CALL FOR HEAT IS COMPLETE, OR THE BOILER REACHES ITS SETPOINT TEMPERATURE, THE GAS VALVE WILL CLOSE, AND THE FAN WILL CONTINUE TO RUN FOR ITS 30 SECOND POST-PURGE. IF A PUMP TIME DELAY IS USED, THE PUMP WILL CONTINUE TO RUN FOR THE SPECIFIED AMOUNT OF TIME (ADJUSTABLE FROM 0.1 TO 10 MINUTES).

SYSTEM PUMPS SEQUENCE OF OPERATION

1. WHEN OUTDOOR AIR TEMPERATURE DROPS BELOW STARTING TEMPERATURE (AT AND BELOW 60°F), THE "TEKMAR-132" PUMP SEQUENCER WILL ACTIVATE PUMPS 1A OR 1B, 2A OR 2B, AND 3A OR 3B.
2. IF FLOW-PROVING SWITCH CLOSES, INDICATING PUMPS ARE OPERATIONAL, A SIGNAL IS SENT TO THE PUMP SEQUENCING CONTROLLER.
   a. IF FLOW IS NOT PROVEN, CONTACTS ON PUMP CONTROLLER WILL CLOSE INDICATING WHICH PUMP FAILED AND SWITCH OVER TO THE STAND BY PUMP.
   b. IF BOTH PUMPS ARE IN FAILURE MODE, THE CONTROL PANEL WILL INDICATE PUMP FAILURES.
   c. EVERY SEVEN DAYS THE LEAD PUMP WILL AUTOMATICALLY SWITCH OVER TO BECOME THE STAND BY PUMP IN ORDER TO HAVE EVEN RUN TIME ON EACH PUMP.
3. BUILDING CONTROL SYSTEM WILL START BOILER 1 THROUGH BOILER4 DEPENDING ON THE LEAD LAG SCHEDULE. THE CONTROL WILL RAISE BOILER WATER TEMPERATURE (MAXIMUM 180°F AND MINIMUM 140°F) BASED ON OUTDOOR TEMPERATURE RESET SCHEDULE.

BOILER SCHEDULE

BOILER DESIGNATION NUMBER			APARTMENTS B1 THROUGH B2 (PER EACH BOILER)
SERVICE ADDRESS			
LOCATION			BOILER ROOM IN CELLAR
MANUFACTURER			LAARS
MODEL No.			NTH 1000 (NEOTHERM)
BOILER	CAPACITY	BOILER INPUT, BTU/HR	1,000,000
		HIGH FIRE OUTPUT, BTU/HR	942,000
		NET I-B-R OUTPUT, BTU/HR	NOT APPLICABLE FOR CONDENSING BOILERS
	MAXIMUM WORKING PRESSURE		160
	BOILER WEIGHT, LB		620
BURNER	MANUFACTURER		LAARS
	GAS	FIRING RATE (CFH)	1,000
		TYPE OF GAS	NATURAL
	PILOT TYPE		DIRECT SPARK IGNITION
BOILER MOUNTED PUMP			LAARS PUMP KIT
BOILER ELECTRICAL DATA			120-VOLT, 20 AMP
RELIEF VALVE (No. and size)			75 PSIG
GAS TRANE (FURNISHED WITH BOILER)			MODULATION DOWN TO 10% OF FULL FIRE (10:1 TURNDOWN)

BOILER SELECTION CHECK

BUILDING HEAT LOAD (1.5 GPM PER ONE PTAC=1.5x60 = 90 GPM)	900,000 BTU/HR	
PIPING AND PICK-UP FACTOR (15%) PER ASHRAE	135,000 BTU/HR	
TOTAL BUILDING HEATING DESIGN LOAD	1,035,000 BTU/HR	
TOTAL BUILDING DOM HW DESIGN LOAD = 650,000 BTU/HR PER ASHRAE FIG 27 OF CHAPTER 50 (2011 HVAC APPLICATIONS) THEREFORE: RECOVERY DEMAND LOAD = 650,000 x 0.65 = 422,500 BTU/HR	422,500 BTU/HR	
TOTAL ESTIMATED HEAT/DOM HW LOAD	1,457,500 BTU/HR	
PER ASHRAE CHAPTER 27 BOILER SELECTION IS BASED UPON TOTAL CONNECTED LOAD FOR 2 BOILERS	1,457,500 BTU/HR x 65% = 947,375 BTU/HR	
SPECIFIED BOILER CAPACITY EACH (HIGH FIRE OUTPUT)	942,000 BTU/HR	
SPECIFIED BOILER PLANT TOTAL CAPACITY (HIGH FIRE OUTPUT)	2 x 942,000 BTU/HR	1,884,000 BTU/HR
SECONDARY LOOP CAPACITY: MINIMUM OF ±1.5 GPM/PTACx60 = 90 GPM PLUS RADS		100 GPM
DOMESTIC HOT WATER HEATER (BOILER SIDE) CAPACITY: MINIMUM OF 650,000:10,000 = 65 GPM		65 GPM

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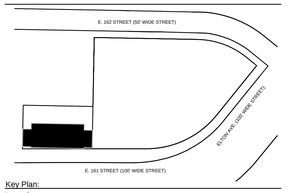

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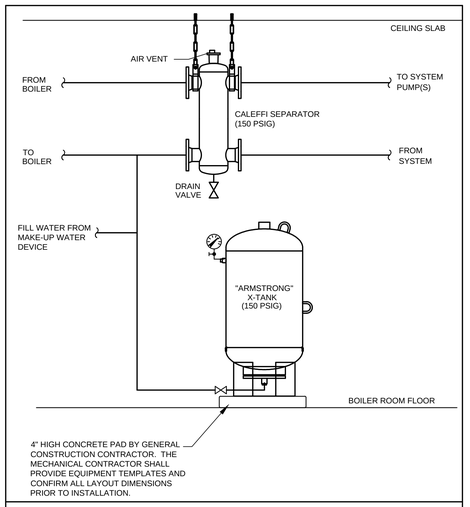
BOILER ROOM DETAILED PLANS

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: PNP
CHK BY: CMS/FTK
DWG No:

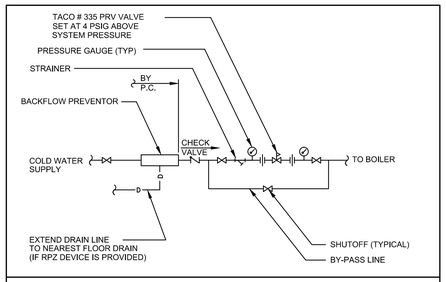
M-150.00

SCALE: AS NOTED



AIR SEPARATOR/EXPANSION TANK DETAIL

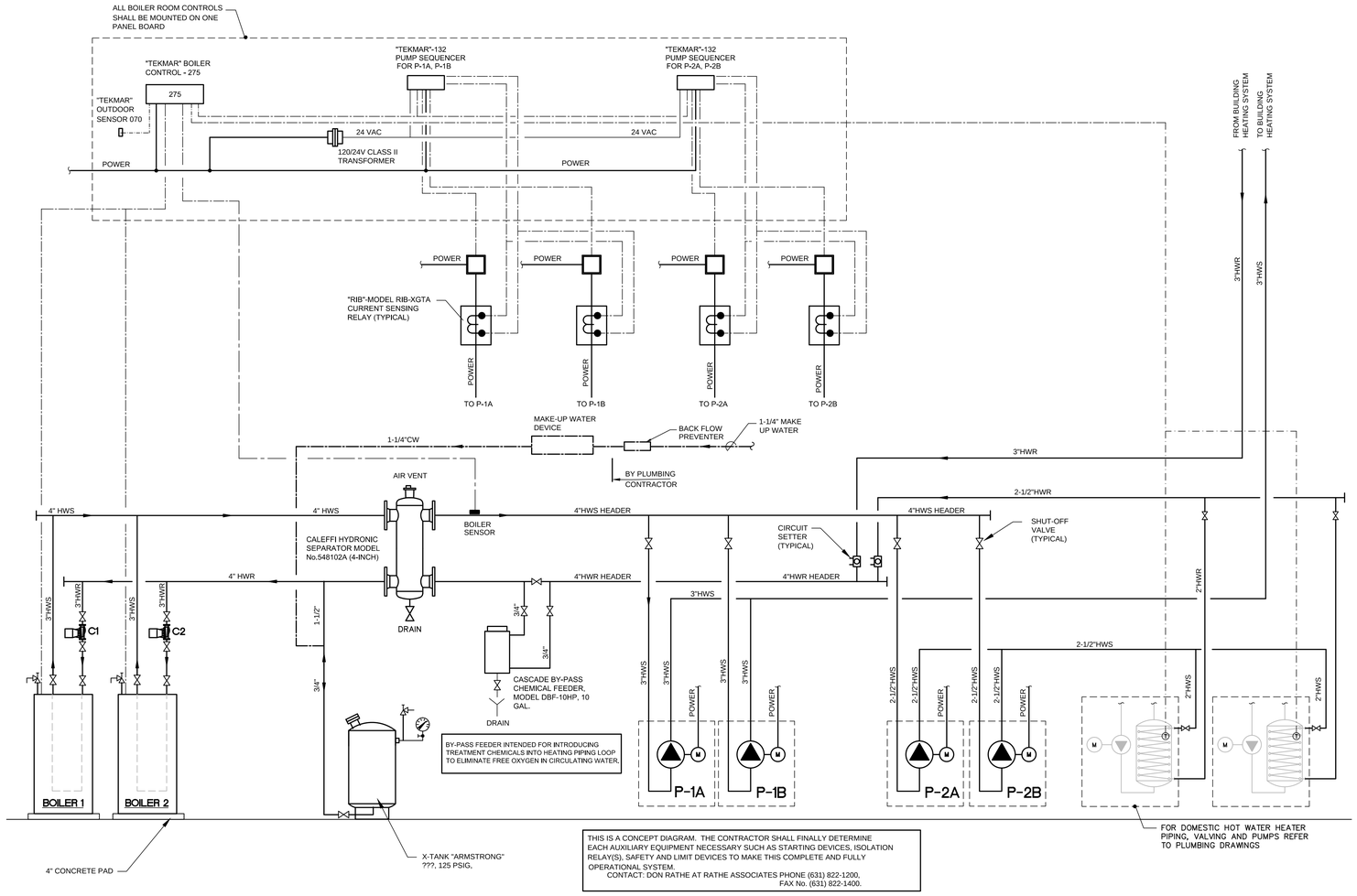
NOT TO SCALE



BACKFLOW PREVENTOR: IF BOILER IS GREATER THAN 350 MBH PROVIDE REDUCED PRESSURE ZONE DEVICE. IF BOILER IS LESS THAN 350 MBH PROVIDE DOUBLE CHECK VALVE ASSEMBLY.

COLD WATER MAKE-UP DETAIL

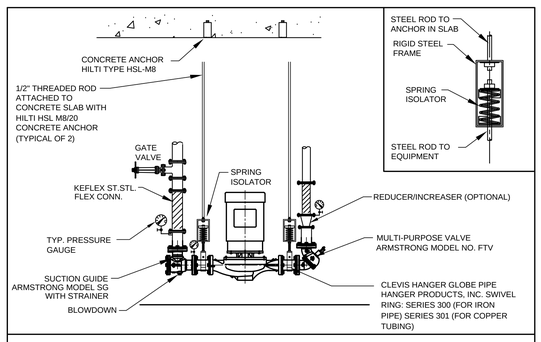
NOT TO SCALE



THIS IS A CONCEPT DIAGRAM. THE CONTRACTOR SHALL FINALLY DETERMINE EACH AUXILIARY EQUIPMENT NECESSARY SUCH AS STARTING DEVICES, ISOLATION RELAY(S), SAFETY AND LIMIT DEVICES TO MAKE THIS COMPLETE AND FULLY OPERATIONAL SYSTEM.
CONTACT: DON RATHE AT RATHE ASSOCIATES PHONE (631) 822-1200, FAX No. (631) 822-1400.

BOILER ROOM HOT WATER PIPING DIAGRAM

SCHEMATIC ONLY



VERTICAL IN-LINE PUMP HUNGING DETAIL

NOT TO SCALE

PUMP SCHEDULE

PUMP TAG	SERVICE	GPM	TDH FT.	TYPE	R.P.M.	H.P.	ELECTRICAL DATA	ARMSTRONG MODEL NO.	MOTOR CONTROL	REMARKS
C-1	BOILER CIRCULATOR	96	8.8	IN LINE	3275	0.4	120V-1Ø-60HZ	E30.2 CI	BOILER ON-BOARD PUMP CONTACTS	
C-2	BOILER CIRCULATOR	96	8.8	IN LINE	3275	0.4	120V-1Ø-60HZ	E30.2 CI	BOILER ON-BOARD PUMP CONTACTS	
P-1A	APARTMENT HEATING SYSTEM LOOP	144	75	IN LINE	2741	5	208V-3Ø-60HZ	4300 0206-005.0	INTEGRAL IVS 102 VFD CONTROLLER	LEAD PUMP VERTICAL IN-LINE PUMP
P-1B	APARTMENT HEATING SYSTEM LOOP	144	75	IN LINE	2741	5	208V-3Ø-60HZ	4300 0206-005.0	INTEGRAL IVS 102 VFD CONTROLLER	STAND-BY PUMP VERTICAL IN-LINE PUMP
P-2A	TURBOMAX'S HEATING LOOP	54	20	IN LINE	1750	0.5	120V-1Ø-60HZ	H-H53-0.5		LEAD PUMP VERTICAL IN-LINE PUMP
P-2B	TURBOMAX'S HEATING LOOP	54	20	IN LINE	1750	0.5	120V-1Ø-60HZ	H-H53-0.5		STAND-BY PUMP VERTICAL IN-LINE PUMP

NOTES:
1. ALL PUMPS BRONZE FITTED.
2. ALL PUMPS MUST BE EQUIPPED WITH PREMIUM EFFICIENCY ELECTRICAL MOTORS.
3. COORDINATE WITH RATHE ASSOCIATES (631) 822-1200 FOR FINAL PUMP SELECTION.
4. EACH PUMP SHALL RECEIVE AN ARMSTRONG "FLO-TREX" MODEL FTV VALVE.
5. EACH PUMP SHALL RECEIVE AN ARMSTRONG SUCTION GUIDE MODEL SG.

Owner:

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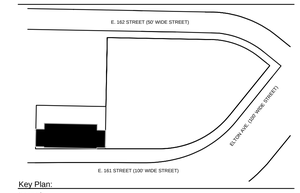
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

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4	08.22.14	50% CD SET
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7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
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9	12.14.15	ISSUE FOR BID

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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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BOILER PIPING DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: PNP
CHK BY: CMS/FTK
DWG No:

M-151.00

SCALE: AS NOTED

CLEANING AND START-UP PROCEDURES

3.04 CLEANING AND START-UP PROCEDURES – CLOSED LOOP WATER SYSTEMS (CHILLED, HEATING SYSTEMS)

3.04.01 CLEANING AND FLUSHING PROCEDURE

A. DRAIN SYSTEM AFTER HYDRO-TESTING.
B. REFILL SYSTEM, CLOSE OFF ANY 1" OR SMALLER LINES (SUCH AS COILS), AND ISOLATE HEAT EXCHANGERS, CHILLERS AND BOILERS. FILL THE REST OF THE SYSTEM WITH WATER. CIRCULATE FOR ONE HOUR. ENSURE THAT ALL VALVES (EXCEPT THOSE SUPPLYING SMALLER LEGS) ARE OPEN AND THAT NO DEAD LEGS ARE PRESENT.
C. ADD THE CLEANING SOLUTION (LIQUID ALKALINE CLEANER) PER CERTIFIED WATER TREATMENT SYSTEM CONTRACTOR OR PER MECHANICAL ENGINEER'S DIRECTIONS.
D. RECIRCULATE FOR AT LEAST 8 HOURS, PREFERABLY OVERNIGHT AND AS CLOSE TO FULL FLOW AS POSSIBLE; RUN NUMBER OF PUMPS EXPECTED DURING PEAK LOAD OPERATION. IF POSSIBLE, HEAT SYSTEM TO 120°F DURING CIRCULATION. THE FILTER FEEDER MUST BE INSTALLED, WITH A FILTER INSTALLED, AND OPERATING DURING THIS STEP.
E. BLEED AND FEED THE ENTIRE SYSTEM IMMEDIATELY AFTER THE CIRCULATION PUMPS HAVE BEEN STOPPED. ADD WATER AT THE NORMAL FEED WATER LOCATION; BLEED FROM THE FARTHEST POINT IN THE SYSTEM. FOR EXAMPLE, MAKEUP WATER IN THE BASEMENT AND BLEED IN THE PENTHOUSE. CONTINUE THE BLEED AND FEED PROCESS UNTIL THE FLOWING PARAMETERS ARE MET:
1. TOTAL DISSOLVED SOLIDS: <500 US/CM
2. PH: <7.8
3. SOLUBLE IRON: <0.5 PPM AS FE (OPTIONAL)
4. COLOR: NO VISIBLE COLOR OR SUSPENDED SOILS
WATER TREATMENT COMPANY SHALL PROVIDE TESTING SERVICES AND/OR EQUIPMENT. WATER TREATMENT SYSTEMS ENGINEER MUST SIGN OFF ON WATER QUALITY BEFORE PROCEEDING.
F. REMOVE, INSPECT AND CLEAN ALL STRAINERS LOCATED IN THE DISTRIBUTION PIPING.
G. FILL THE ENTIRE SYSTEM WITH WATER AND BLEED OUT ANY ENTRAINED AIR. RE-CIRCULATE FOR ONE HOUR.
H. TEST THE SYSTEM TO ENSURE CLEANLINESS AND STABILITY. REQUIRED WATER QUALITY IS AS FOLLOWS:
1. TOTAL DISSOLVED SOLIDS: <500 US/CM
2. PH: <8.0
3. SOLUBLE IRON: <0.5 PPM AS FE (OPTIONAL)
4. COLOR: NO VISIBLE COLOR OR SUSPENDED SOILS
WATER TREATMENT COMPANY SHALL PROVIDE TESTING SERVICES AND/OR EQUIPMENT. WATER TREATMENT SYSTEMS ENGINEER MUST ACCEPT AND SIGN OFF ON WATER QUALITY BEFORE PROCEEDING.
I. OPEN ALL VALVES ONCE WATER QUALITY IS ACCEPTABLE IN THE ABOVE STEPS.
J. FILL ENTIRE SYSTEM, INCLUDING HEAT EXCHANGERS, CHILLER(S), BOILER(S) AND COILS.
K. REPEAT STEPS D-H FOR THE ENTIRE CLOSED LOOP SYSTEM(S) IF WATER QUALITY PARAMETERS ARE NOT MET.

3.04.02 FINAL TREATMENT PROCEDURE

A. ADD SUFFICIENT INHIBITOR TREATMENT IMMEDIATELY FOLLOWING FLUSHING AND CLEANING OF THE CLOSED LOOP SYSTEM(S) PER WATER TREATMENT ENGINEER'S DIRECTIONS.
B. SYSTEM CIRCULATION SHOULD BE MAINTAINED FOR AT LEAST TWO WEEKS AFTER COMPLETION OF START-UP PROCEDURES TO PROMOTE INHIBITOR EFFECTIVENESS.
C. IF A SYSTEM MUST BE DRAINED FOR ANY REASON, IT SHALL BE TREATED IMMEDIATELY UPON BEING REFILLED. CONTACT THE WATER TREATMENT COMPANY FOR WATER TREATMENT CHEMICALS IMMEDIATELY IF THIS SHOULD HAPPEN.

3.05 DOCUMENTATION

A. DOCUMENT FLUSHING PROCEDURE ON THE CHECKLIST AND RETURN TO THE MECHANICAL ENGINEER.

CALEFFI HYDRONIC SEPARATOR

HYDRONIC SEPARATOR. ANSI FLANGED CONNECTIONS 4". EPOXY RESIN PAINTED STEEL BODY.
TEMPERATURE RANGE OF 32 - 220°F (0 -105°C) WITH INSULATION.
MAXIMUM WORKING PRESSURE 150 PSI (10 BAR).
SUPPLIED WITH:
AUTOMATIC AIR VENT WITH 3/8" F OUTLET CONNECTION AND BRASS BODY. BRASS BODY SHUT-OFF VALVE FOR AIR VENT. DRAIN VALVE BRASS BODY WITH 1 1/2" OR 2" F CONNECTION. RIGID CLOSED CELL EXPANDED POLYURETHANE FOAM SHELL INSULATION WITH EXTERNAL EMBOSSED ALUMINUM COVER. SIZES 5", 6", 8", 10", AND 12" ARE ASME TAGGED AND REGISTERED WITH THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS, WITHOUT INSULATION AND TEMPERATURE RANGE OF 32 - 250°F (0 -120°C).

THE HYDRONIC SEPARATOR CREATES A ZONE WITH A LOW PRESSURE LOSS, WHICH ENABLES THE PRIMARY AND SECONDARY CIRCUITS CONNECTED TO IT TO BE HYDRAULICALLY INDEPENDENT OF EACH OTHER; THE FLOW IN ONE CIRCUIT DOES NOT CREATE A FLOW IN THE OTHER.

FUNCTION
THIS DEVICE CONSISTS OF SEVERAL DIFFERENT FUNCTIONAL COMPONENTS, EACH OF WHICH MEETS SPECIFIC REQUIREMENTS, TYPICAL OF THE CIRCUITS USED IN HEATING AND AIR-CONDITIONING SYSTEMS.
· HYDRONIC SEPARATOR
TO KEEP CONNECTED HYDRONIC CIRCUITS TOTALLY INDEPENDENT FROM EACH OTHER.
· DIRT REMOVER TO PERMIT THE SEPARATION AND COLLECTION OF ANY IMPURITIES PRESENT IN THE CIRCUITS. PROVIDED WITH A VALVED CONNECTION WITH DISCHARGE PIPING.
· AUTOMATIC AIR VENT VALVE
FOR AUTOMATIC VENTING OF ANY AIR CONTAINED IN THE CIRCUITS.
PROVIDED WITH A VALVED CONNECTION FOR MAINTENANCE PURPOSES.

OPERATING PRINCIPLE
WHEN A SINGLE SYSTEM CONTAINS A PRIMARY PRODUCTION CIRCUIT, WITH ITS OWN PUMP, AND A SECONDARY USER CIRCUIT, WITH ONE OR MORE DISTRIBUTIONS PUMPS, OPERATING CONDITIONS MAY ARISE IN THE SYSTEM WHEREBY THE PUMPS INTERACT, CREATING ABNORMAL VARIATIONS IN CIRCUIT FLOW RATES AND PRESSURES.
THE HYDRONIC SEPARATOR CREATES A ZONE WITH A LOW PRESSURE LOSS, WHICH ENABLES THE PRIMARY AND SECONDARY CIRCUITS CONNECTED TO IT TO BE HYDRAULICALLY INDEPENDENT OF EACH OTHER; THE FLOW IN ONE CIRCUIT DOES NOT CREATE A FLOW IN THE OTHER IF THE PRESSURE LOSS IN THE COMMON SECTION IS NEGLIGIBLE.
THREE POSSIBLE HYDRONIC BALANCE SITUATIONS ARE SHOWN BELOW.
IN THIS CASE, THE FLOW RATE IN THE RESPECTIVE CIRCUITS DEPENDS EXCLUSIVELY ON THE FLOW RATE CHARACTERISTICS OF THE PUMPS, PREVENTING RECIPROCAL INFLUENCE CAUSED BY CONNECTION IN SERIES.
THEREFORE, USING A DEVICE WITH THESE CHARACTERISTICS MEANS THAT THE FLOW IN THE SECONDARY CIRCUIT ONLY CIRCULATES WHEN THE RELEVANT PUMP IS ON, PERMITTING THE SYSTEM TO MEET THE SPECIFIC LOAD REQUIREMENTS AT THAT TIME.

WHEN THE SECONDARY PUMP IS OFF, THERE IS NO CIRCULATION IN THE SECONDARY CIRCUIT; THE WHOLE FLOW RATE PRODUCED BY THE PRIMARY PUMP IS BY-PASSED THROUGH THE SEPARATOR.
WITH THE HYDRONIC SEPARATOR, IT IS THUS POSSIBLE TO HAVE A PRIMARY PRODUCTION CIRCUIT WITH A CONSTANT FLOW RATE AND A SECONDARY DISTRIBUTION CIRCUIT WITH A VARIABLE FLOW RATE; THESE OPERATING CONDITIONS ARE TYPICAL OF MODERN HEATING AND COOLING SYSTEMS.

"NEOTHERM" BOILER SPECIFICATIONS

CONTRACTOR SHALL SUPPLY AND INSTALL TWO LAARS MODEL NO. NTH-1000 MODULATING BOILER(S).
THE BOILER SHALL BE A LAARS NEOTHERM, RATED AT THE INPUT AND OUTPUT SHOWN ON THE SCHEDULE. THE BOILER SHALL MODULATE 20-100% OF FULL FIRE. THE UNIT(S) SHALL BE DESIGN-CERTIFIED TO COMPLY WITH THE CURRENT EDITION OF THE HARMONIZED ANSI Z21.13 / CSA 4.9 STANDARD FOR GAS-FIRED LOW PRESSURE STEAM AND HOT WATER BOILERS. THE UNIT(S) SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE ASME BOILER & PRESSURE
VESSEL CODE, SECTION IV REQUIREMENTS FOR 160 PSI (1103 KPA) MAXIMUM WORKING PRESSURE, AND SHALL BEAR THE ASME "H" STAMP AND BE LISTED BY THE NATIONAL BOARD. THE UNIT(S) SHALL BE CONSTRUCTED TO COMPLY WITH THE EFFICIENCY REQUIREMENTS OF THE LATEST EDITION OF ASHRAE STANDARD 90.1. THE BOILER SHALL BE EQUIPPED WITH AN ASME CERTIFIED PRESSURE RELIEF VALVE SET AT 75PSI 517 (KPA). OPTIONAL PRESSURE RELIEF VALVES WITH SETTINGS OF 30PSI (207KPA), 50PSI (345 KPA), 60PSI (413 KPA), 125PSI (861 KPA) OR 150PSI (1034 KPA) SHALL BE AVAILABLE.
THE BOILER SHALL BE LISTED WITH AHRI (AIR CONDITIONING, HEATING AND REFRIGERATION INSTITUTE). THE BOILER SHALL HAVE A MINIMUM THERMAL EFFICIENCY OF 95.7%, AND A MINIMUM COMBUSTION EFFICIENCY OF 95.7%.
THE WATER TUBE HEAT EXCHANGER SHALL BE STAINLESS STEEL, RATED FOR 160 PSI (1103 KPA) WORKING PRESSURE. THE HEAT EXCHANGER SHALL BE A LOW WATER VOLUME DESIGN, WELDED CONSTRUCTION, WITH NO GASKETS, O-RINGS OR BOLTS IN THE HEADER. HEAT EXCHANGER SHALL BE ACCESSIBLE FOR VISUAL INSPECTION AND CLEANING OF ALL INTERNAL SURFACES. THE BOILER SHALL BE FULLY CONDENSING DESIGN WITH BUILT-IN CONDENSATE DRAIN AND TRAP. THE HEAT EXCHANGER SHALL HAVE A LIMITED TEN-YEAR WARRANTY.
EACH BOILER SHALL BE FULLY TEST FIRED, (WITH WATER, GAS, AND VENTING CONNECTED), AND ALL SAFETY COMPONENTS TESTED, AT THE FACTORY.
THE BOILER SHALL BE SEALED COMBUSTION, AND REMOVAL OF JACKET PANELS SHALL NOT AFFECT THE COMBUSTION SEAL.
THE BOILER JACKET SHALL BE A UNITIZED SHELL FINISHED WITH ACRYLIC THERMO-SET PAINT BAKED AT NOT LESS THAN 325°F (163°C). THE FRAME SHALL BE CONSTRUCTED OF GALVANIZED STEEL FOR STRENGTH AND PROTECTION. CHAMBER SHALL INCLUDE A SIGHT GLASS FOR VIEWING FLAME. BOILER SHALL BE CERTIFIED FOR ZERO CLEARANCE TO COMBUSTIBLE SURFACES.
ALL WATER, GAS, VENT AND AIR CONNECTIONS SHALL BE ON THE TOP OF THE BOILER, AND THE TOP JACKET PANELS SHALL BE SPLIT, SUCH THAT THEY ARE REMOVABLE WITHOUT DISCONNECTING THE WATER, GAS, VENT OR AIR PIPES.
BOILER SHALL OPERATE ON 4-13" W.C. GAS PRESSURE, AND SHALL NEED NO COMPONENT CHANGES TO OPERATE AT HIGH ALTITUDE, UP TO 10,000 FEET.
THE BOILER SHALL USE A PREMIX BURNER WITH A STAINLESS STEEL WOVEN METAL FIBER WRAP, AND A NEGATIVE PRESSURE GAS VALVE TO BURN CLEANLY, WITH NOX EMISSIONS NOT EXCEEDING 10PPM. THE BOILER SHALL MEET THE EMISSIONS REQUIREMENTS OF SCAQMD 2012.
THE BOILER SHALL BE DESIGNED FOR VERTICAL OR HORIZONTAL CATEGORY IV VENTING, UP TO 40 EQUIVALENT FEET, WITH 4" DIAMETER PVC, CPVC OR STAINLESS STEEL VENT MATERIAL, OR UP TO 100 EQUIVALENT FEET, WITH 6" DIAMETER PVC, CPVC OR STAINLESS STEEL VENT MATERIAL. AIR MAY BE TAKEN FROM THE ROOM, OR DUCTED DIRECTLY TO THE BOILER USING UP TO 40 EQUIVALENT FEET OF 4" DIAMETER ABS, PVC, CPVC OR GALVANIZED PIPE, OR UP TO 100 EQUIVALENT FEET OF 6" DIAMETER OF ABS, PVC, CPVC OR GALVANIZED PIPE . THE BOILER SHALL BE SHIPPED WITH PVC SIDEWALL VENT AND AIR TERMINALS, FOR USE WITH HORIZONTAL SYSTEMS. THE UNIT SHALL NOT REQUIRE A STARTER SECTION OF CPVC ON THE VENT SYSTEM.
UNIT SHALL BE 120VAC, SINGLE PHASE, LESS THAN 6 AMPS FOR CONNECTION TO A 15A BREAKER. THE CONTROL CIRCUIT SHALL BE 24VAC.
THE BOILER CONTROL SHALL BE AN INTEGRATED ELECTRONIC PID TEMPERATURE AND IGNITION CONTROL WITH LCD AND TOUCHPAD AND SHALL CONTROL THE BOILER OPERATION AND FIRING RATE. THE CONTROL SHALL HAVE THREE MENU STRUCTURES FOR USER MODE, SET-UP MODE, AND DIAGNOSTIC MODEL. THE BOILER DISPLAY SHALL BE VISIBLE WITHOUT THE REMOVAL OF ANY JACKET PANELS OR CONTROL PANELS.
WHEN A DISPLAY OR CONTROL IS FIELD-REPLACED, THE DEVICE SHALL HAVE THE ABILITY TO READ PARAMETER SETPOINTS FROM THE ORIGINAL SET-UP, SO THE SYSTEM DOES NOT HAVE TO BE RE-PROGRAMMED.
THE CONTROL SHALL HAVE THE ABILITY TO CONTROL THE BOILER PUMP, SYSTEM PUMP, AND INDIRECT DOMESTIC WATER PUMP, EACH WITH DELAY FEATURES. THE CONTROL SHALL BE ABLE TO CASCADE AND LEAD-LAG WITH OTHER NEOTHERM CONTROLLERS, WITHOUT ADDITIONAL SYSTEM CONTROLLERS. AN OPTIONAL DISPLAY THAT IS FULL-COLOR, HIGH DEFINITION LCD WITH TOUCH-SCREEN SHALL BE AVAILABLE, TO ALLOW FOR ADDITIONAL COMMUNICATION PORTS.
THE CONTROL SHALL HAVE THE ABILITY TO INTEGRATE INDIRECT DOMESTIC WATER HEATING WITH THE BOILER SYSTEM. THE CONTROL SHALL HAVE DOMESTIC HOT WATER PRIORITY, AND SHALL HAVE THE ABILITY TO RECOGNIZE A DOMESTIC WATER SENSOR OR CLOSURE FROM A TANK STAT ON THE SAME TERMINALS. THE BOILER SHALL BE SHIPPED WITH THE DOMESTIC WATER HEATER SENSOR, AS STANDARD EQUIPMENT.
THE CONTROL SHALL HAVE BUILT-IN OUTDOOR RESET FEATURE WITH CUSTOMIZABLE RESET CURVES, BASED ON THE OUTDOOR TEMPERATURE AND DESIRED SYSTEM WATER TEMPERATURE. THE BOILER SHALL BE SHIPPED WITH THE OUTDOOR RESET SENSOR, AS STANDARD EQUIPMENT.
THE CONTROL SHALL HAVE THE ABILITY TO ACCEPT A 4-20MA OR 0-10VDC INPUT CONNECTION FROM AN EXTERNAL CONTROL OR BUILDING AUTOMATION SYSTEM, TO MODULATE THE FLAME. THE CONTROL SHALL HAVE DRY ALARM CONTACTS FOR IGNITION FAILURE.
THE CONTROL SHALL MONITOR FLUE GAS TEMPERATURE AND SHALL STOP THE BOILER FROM FIRING IF TEMPERATURE IS EXCESSIVE.
THE CONTROL SHALL HAVE A DISPLAY BUTTON THAT ALLOWS A USER TO CHOOSE ONE OF SIX MENUS, INCLUDING: LOGIN; DISPLAY SETUP; QUICK START; ADVANCED SETUP; TEST; DIAGNOSTICS. THE DISPLAY BUTTON SHALL BE ACTIVE AT ALL TIMES, REGARDLESS OF WHAT MENU THE CONTROL IS SHOWING.
LOGIN SHALL ALLOW AN INSTALLER TO ADJUST PASSWORD-PROTECTED PARAMETERS.
A DISPLAY SETUP MENU SHALL ALLOW THE USER TO ADJUST THE LCD CONTRAST, AND TO CUSTOMIZE THE DISPLAY'S HOMESCREEN. THE USER SHALL BE ABLE TO CHOOSE FIVE OF THE FOLLOWING PARAMETERS TO DISPLAY ON THE HOMESCREEN – SYSTEM SETPOINT, OPERATING TEMPERATURE, OUTLET TEMPERATURE, OUTLET TEMPERATURE, INLET TEMPERATURE, OUTDOOR TEMPERATURE, BOILER TEMPERATURE RISE (DELTA T), LEAD-LAG OPERATING TEMPERATURE, LEAD-LAG SYSTEM SETPOINT, FAN SPEED, FLAME SIGNAL, FIRING RATE, DOMESTIC WATER TEMPERATURE, STACK TEMPERATURE, AND 4-20MA INPUT LEVEL. THE HOMESCREEN SHALL ALSO INDICATE THE BOILER NAME, WHAT FIRING STATE THE BOILER IS IN, IF THERE IS A DEMAND ON THE BOILER, IF THE SYSTEM IS IN PASSWORD-LEVEL STATUS, AND SHALL SHOW ANY HOLDS, ALERTS, OR LOCKOUTS THAT ARE PRESENT. THE HOMESCREEN SHALL BE ACCESSIBLE AT ANY TIME BY PRESSING A HOMESCREEN BUTTON ON THE DISPLAY.
A QUICK START MENU SHALL PRESENT ONLY THE SELECT FEW PARAMETERS THAT ARE NEEDED FOR A SIMPLE, SINGLE BOILER INSTALLATION.
THE ADVANCED SETUP MENU SHALL GIVE THE INSTALLER ACCESS TO ALL ADJUSTABLE PARAMETERS, FOR MORE COMPLEX INSTALLATIONS, INCLUDING; ALL LEAD-LAG SET UP PARAMETERS, BOILER HIGH LIMIT, BOILER TEMPERATURE SETPOINT AND ON/OFF DIFFERENTIALS, DOMESTIC WATER TEMPERATURE SETPOINT AND ON/OFF DIFFERENTIALS, DOMESTIC WATER PRIORITY TIME, BOILER STACK TEMPERATURE LIMIT, PUMP DELAY AND EXERCISE VALUES FOR ALL PUMPS CONTROLLED, PID PARAMETERS, OUTDOOR RESET SELECTION, LOW BOILER SETPOINT TEMPERATURE (FOR OUTDOOR RESET OPERATION), BOILER TEMPERATURE AT HIGH OUTDOOR TEMPERATURE (FOR OUTDOOR RESET OPERATION), BOILER SETPOINT AT LOW OUTDOOR TEMPERATURE (FOR OUTDOOR RESET OPERATION), WARM WEATHER SHUTDOWN, AUTOMATIC REMOTE SIGNAL DETECTION, ANTI-SHORTCYCLE FEATURE ADJUSTMENT, AND °F OR °C DISPLAY.
THE CONTROL SHALL HAVE A TEST MENU THAT ALLOWS THE USER TO FORCE THE BOILER INTO MINIMUM OR MAXIMUM FIRING RATE FOR 10 MINUTES, FOR SET-UP PURPOSES. THE TEST MENU SHALL ALSO ALLOW THE BURNER TO BE TURNED ON OR OFF, AND THE PUMPS TO BE SET TO ON OR AUTO, FOR TESTING PURPOSES. THE CONTROL SHALL SHOW A COUNT-DOWN TIMER, ENABLING THE USER TO SEE HOW MUCH TIME IS LEFT FOR THE TEST SEGMENT.
A DIAGNOSTICS MENU SHALL ALLOW THE USER TO SEE ANALOG INPUTS, DIGITAL INPUTS, AND THE HISTORY OF ALERTS AND LOCKOUTS. ANALOG INPUTS SHALL INCLUDE –OUTLET TEMPERATURE, INLET TEMPERATURE, TEMPERATURE RISE (DELTA T), DOMESTIC WATER TEMPERATURE, STACK TEMPERATURE, OUTDOOR TEMPERATURE, FAN SPEED,FLAME SIGNAL, FIRING RATE, 4-20MA INPUT LEVEL, AND SYSTEM SENSOR TEMPERATURE. DIGITAL INPUTS SHALL INCLUDE – MAIN VALVE STATE, ALARM STATUS, DEMAND STATUS, SAFETY CHAIN STATUS, AND INTERLOCK STATUS. THE CONTROL SHALL DISPLAY INFORMATION ABOUT HOLDS, ALERTS, AND ERRORS IN BOTH TEXT FORM, AND WITH CODES NUMBERS FOR FURTHER ANALYSIS.
STANDARD FEATURES SHALL INCLUDE:

- HIGH CONDENSING EFFICIENCY
- MODULATION DOWN TO 20% OF FULL FIRE (5:1 TURNDOWN)
- SEALED COMBUSTION CHAMBER
- PRE-MIX STAINLESS STEEL BURNER
- LOW NOX SYSTEM EXCEEDS THE MOST STRINGENT REGULATIONS FOR AIR QUALITY - 10 PPM NOX
- HORIZONTAL OR VERTICAL DIRECT VENT
- HORIZONTAL VENT AND AIR TERMINALS
- VENT AND AIR PIPE LENGTHS OF UP TO 100 EQUIVALENT FEET (EACH)
- BUILT-IN CONDENSATE TRAP
- VENT TEMPERATURE CUTOFF FEATURE
- DIRECT SPARK IGNITION SYSTEM
- INDIRECT WATER HEATER PRIORITY
- SENSOR FOR INDIRECT DOMESTIC WATER TANK
- 160 PSI MAXIMUM WORKING PRESSURE
- STAINLESS STEEL HEAT EXCHANGER WITH WELDED CONSTRUCTION (NO GASKETS)
- ASME "H" STAMP
- 75 PSI (517 KPA) ASME RATED PRESSURE RELIEF VALVE
- WATER FLOW SWITCH
- TEMPERATURE & PRESSURE GAUGE
- DRAIN VALVE
- MULTIPLE PUMP CONTROL FOR BOILER PUMP, SYSTEM PUMP AND INDIRECT DOMESTIC WATER PUMP, EACH WITH DELAY
- ELECTRONIC PID MODULATING CONTROL
- LARGE USER-INTERFACE AND DISPLAY
- ALARM OUTPUT
- ACCEPTS EXTERNAL (4-20MA OR 0-10V) MODULATION CONTROL
- OUTDOOR RESET
- OUTDOOR AIR TEMPERATURE SENSOR
- ON/OFF TOGGLE SWITCH
- MANUAL RESET HIGH LIMIT
- BURNER SITE GLASS
- ZERO CLEARANCE TO COMBUSTIBLE SURFACES
- 10-YEAR LIMITED WARRANTY

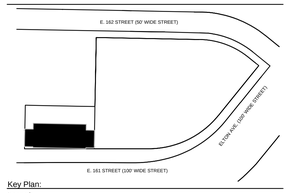
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

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Do Not Scale Plans
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BOILER EQUIPMENT SPECIFICATIONS

SEAL & SIGNATURE:

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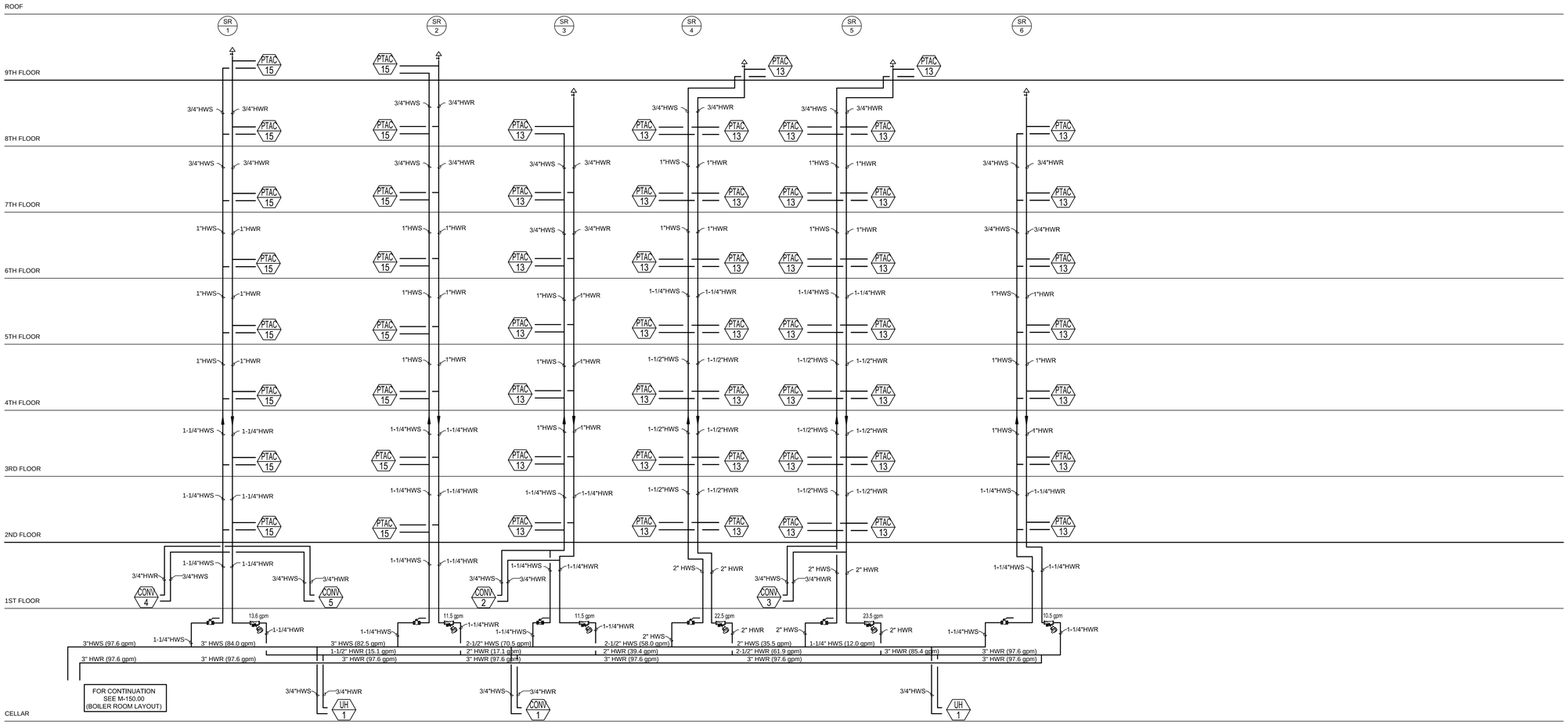
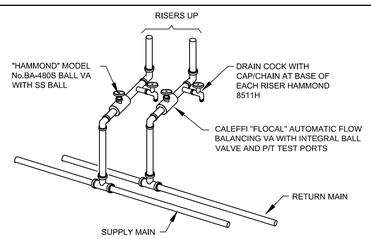
DWG No:
M-152.00
SCALE: AS NOTED



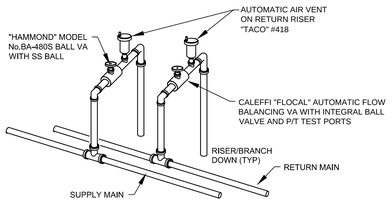
HEATING SYSTEM RISER DIAGRAM

SCHEMATIC ONLY



RISER CONNECTION TO MAIN DETAIL

NOT TO SCALE

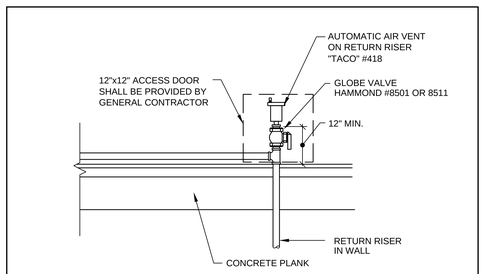


RISER CONNECTION TO MAIN DETAIL

NOT TO SCALE

HEATING SYSTEM RISER NOTES

1. THIS IS A REVERSE-RETURN PIPING ARRANGEMENT. DEVIATION WILL CAUSE AN UN-BALANCED SYSTEM AND THIS MECHANICAL CONTRACTOR SHALL BEAR FULL RESPONSIBILITY AND BE HELD LIABLE FOR THE CONSEQUENCES.
2. THIS HEATING SYSTEM SHALL BE COMPRISED OF 100% COPPER TUBE AND FITTINGS. COPPER TUBE SHALL BE TYPE "L". A MIXED METAL SYSTEM IS NOT ACCEPTABLE.
3. PTAC UNIT INSTALLATION INSTRUCTIONS SHALL BE STRICTLY FOLLOWED. THE PTAC UNIT SHALL BE SEALED TO THE EXTERIOR LOUVER WITH A METHOD ACCEPTABLE TO THE MANUFACTURER AND THE ENGINEER. PROPER PITCH SHALL BE PROVIDED TO ALLOW FOR CONDENSATE DRAINAGE. PROPER ALIGNMENT OF THE PTAC DRAINAGE WEEP HOLES AND THE EXTERIOR LOUVER DRAINAGE HOLES SHALL BE COORDINATED IN THE FIELD.
4. HOT WATER SUPPLY AND RETURN RUN-OUTS TO PTAC UNITS SHALL BE MINIMUM OF 3/4" ID COPPER TUBING. ALL PTAC RUN-OUTS SHALL BE RECEIVE 1.5-INCH THICK INSULATION PER NYC ENERGY CODE.
5. HOT WATER SUPPLY AND RETURN RISERS SHALL BE INSULATED PER THE FOLLOWING:
   PIPES LESS THAN OR EQUAL TO 1.5" IN DIAMETER: 1.5-INCH THICK INSULATION
   PIPES GREATER THAN 1.5" IN DIAMETER: 2-INCH THICK INSULATION
6. HOT WATER SUPPLY AND RETURN RISERS SLEEVES/CORE DRILLED HOLES SHALL BE MADE OF A SUFFICIENT DIAMETER SO THAT THE INSULATION CAN BE RUN CONTINUOUSLY AND NOT INTERRUPTED BY THE FLOOR CONSTRUCTION.
7. PROVIDE AN ACCESS DOOR AT EACH AIR VENT LOCATION AT RISER TOP; MINIMUM ACCESS DOOR DIMENSIONS SHALL BE 12-INCH BY 12-INCH.
8. REFER TO PTAC DETAIL FOR REQUIRED VALVING ARRANGEMENT.
9. PROVIDE RISER SUPPORT CLAMPS AT EACH FLOOR. REFER TO DETAIL.



AUTOMATIC AIR VENT AT RISER DETAIL

NOT TO SCALE

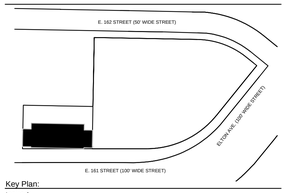
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	06.20.14	Design Development
4	08.22.14	50% CD SET
5	02.26.15	BID SET/ HPD
6	02.26.15	SPRINKLER DOB ISSUANCE
7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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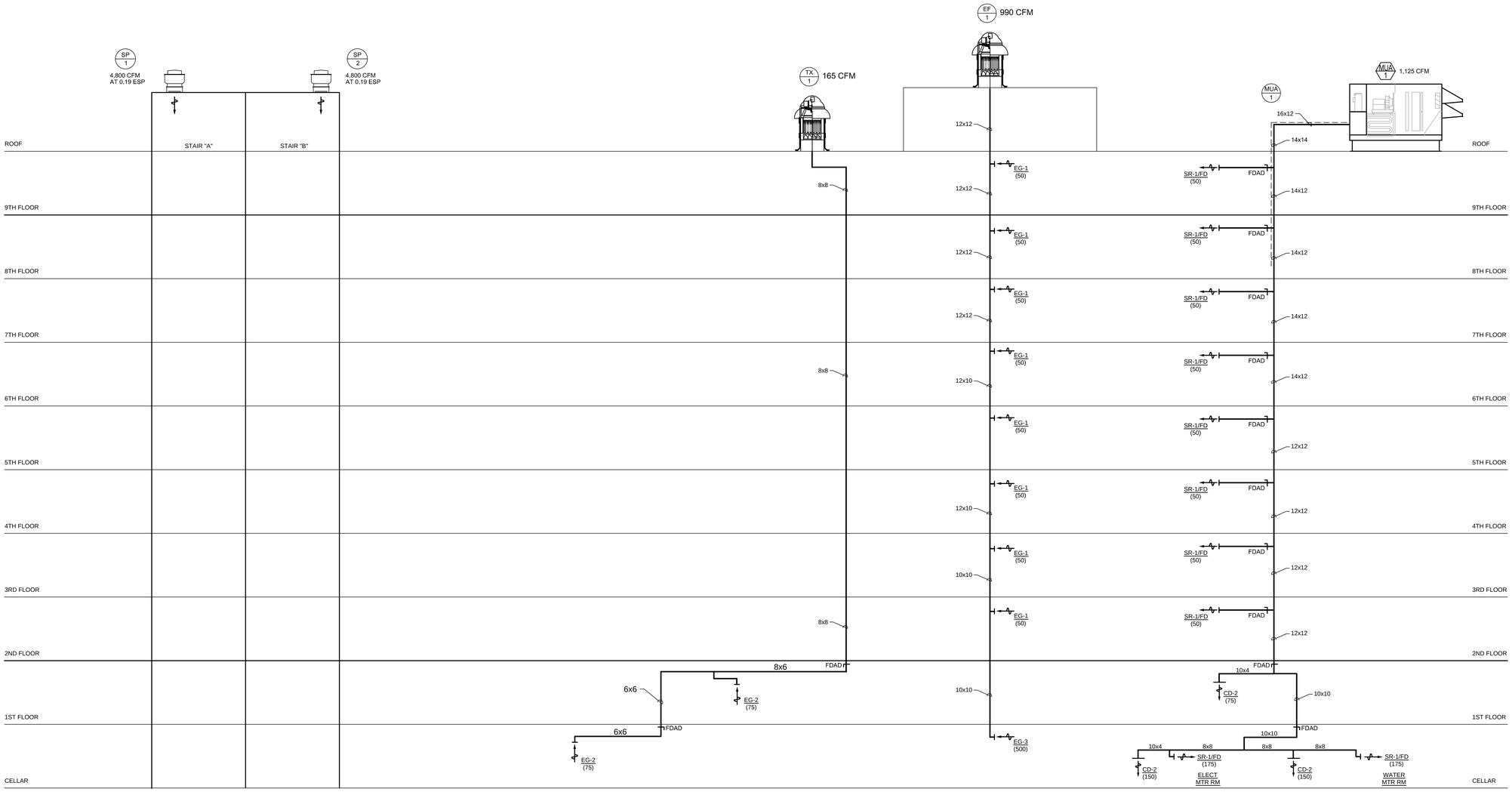
HEATING SYSTEM RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: PNP
CHK BY: CMS/FTK
DWG No:

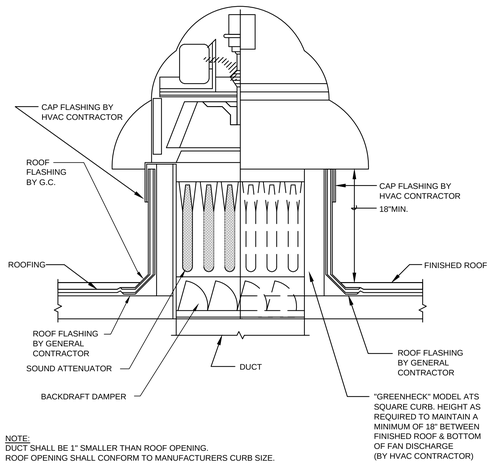
M-200.00

SCALE: AS NOTED



VENTILATION RISER DIAGRAM

SCHEMATIC ONLY



NOTE:
DUCT SHALL BE 1" SMALLER THAN ROOF OPENING.
ROOF OPENING SHALL CONFORM TO MANUFACTURERS CURB SIZE.

ROOF MOUNTED EXHAUST FAN DETAIL

NOT TO SCALE

VENTILATION RISER NOTES

1. EACH EXHAUST AND SUPPLY RISER AND RISER OFFSET SHALL BE ENCLOSED IN 2-HOUR FIRE-RATED CONSTRUCTION - REFER TO ARCHITECTURAL DRAWINGS FOR REQUIRED DETAILS.
2. HORIZONTAL BRANCH DUCTS SHALL BE FIRE-RATED WITH FIRE WRAP MATERIAL EQUAL TO THERMAL CERAMICS FIREMASTER FASTWRAP (NYC MEA # 413-02-M), FOIL SCRIM ENCAPSULATED BLANKET INSULATION MATERIAL APPLIED DIRECTLY TO METAL DUCTS.
3. EACH SUPPLY AND EXHAUST REGISTER SHALL HAVE AN ALDES "CAR" AIR VOLUME REGULATOR, A METAL VOLUME DAMPER SHALL NOT BE ACCEPTED.
4. ALL VENTILATION DUCTWORK JOINTS (BOTH RISERS AND BRANCHES) SHALL BE SEALED WITH APPROVED MASTIC TO PROVIDE DUCT SEALING PER NYC ENERGY CODE. DUCT TAPE SHALL NOT BE ACCEPTABLE.
5. PROVIDE ACOUSTICAL LINING FOR FIRST 20-FEET DOWN FROM EACH EXHAUST FAN FOR THE GENERAL EXHAUST AND CORRIDOR VENTILATION AIR SUPPLY SYSTEMS.
6. ALL DUCTWORK SHALL BE SEALED WITH MASTIC PER THE FOLLOWING:
   TRANSVERSE JOINTS: APPLY 2-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE EXPOSED PART OF THE MALE FITTING. FULLY SEAL THE JOINT AND MECHANICALLY FASTEN WITH SHEET METAL SCREWS. AFTER ASSEMBLY APPLY 2.5-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE OUTSIDE OF THE JOINT COVERING ALL SCREWS AND THE JOINT ITSELF.
   TAKE-OFF JOINTS: AFTER ASSEMBLY APPLY 2-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE OUTSIDE OF THE TAKE-OFF JOINT COVERING ALL SCREWS AND THE JOINT ITSELF.
   SEAMS: APPLY 2-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE OUTSIDE OF ALL DUCT SEAMS
7. ALL DUCTWORK SHALL BE SEALED WITH MASTIC PER THE FOLLOWING:
   TRANSVERSE JOINTS: APPLY 2-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE EXPOSED PART OF THE MALE FITTING. FULLY SEAL THE JOINT AND MECHANICALLY FASTEN WITH SHEET METAL SCREWS. AFTER ASSEMBLY APPLY 2.5-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE OUTSIDE OF THE JOINT COVERING ALL SCREWS AND THE JOINT ITSELF.
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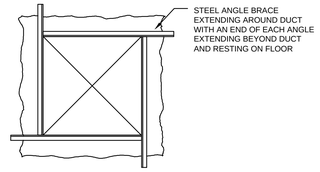
   SEAMS: APPLY 2-INCH WIDE BAND OF MASTIC 20-30 MILS THICK TO THE OUTSIDE OF ALL DUCT SEAMS.
8. MASTIC SHALL BE LOW-VOC OR EQUIVALENT, UL-181 COMPLIANT MATERIAL AND INSTALLED ACCORDING TO MANUFACTURER'S REQUIREMENT. DO NOT APPLY MASTIC IN CONDITIONS BELOW RECOMMENDED TEMPERATURE RANGE.
9. FLEXIBLE DUCTWORK SHALL NOT BE ACCEPTED FOR THIS PROJECT.
10. ALL ROOF FAN CURBS SHALL BE SEALED BEFORE INSTALLATION OF ROOF CURB. SEAL ALL GAPS BETWEEN DUCTWORK AND ROOF CONSTRUCTION WITH SUITABLE MATERIAL FOR GAP DIMENSION.
11. CENTRAL SUPPLY AIR AND EXHAUST AIR DUCT LEAKAGE SHALL BE NO MORE THAN 10 CFM/FLOOR/REGISTER INCLUSIVE OF ROOF CURB, TAKE-OFFS, SEAMS AND JOINTS, ETC.
12. AFTER ROOF FAN START-UP, ALL FANS SHALL BE ADJUSTED TO ACHIEVE 0.2-0.3-INCH WATER COLUMN (WC) STATIC PRESSURE AT THE REGISTER FARTHEST FROM THE FAN.



FOR DUCTS UP TO 30" USE 1 X 1 X 1/8" ANGLE
FOR DUCTS FROM 30" - 60" USE 1-1/4 X 1-1/4 X 1/8" ANGLE
FOR DUCTS ABOVE 60" USE 1-1/2" X 1-1/2" X 1/8" ANGLE

VERTICAL DUCT SUPPORT DETAIL

NOT TO SCALE

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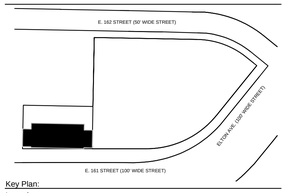

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VENTILATION RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: PNP
CHK BY: CMS/FTK
DWG No:

M-210.00

SCALE: AS NOTED

MAKE UP AIR UNIT SCHEDULE

UNIT DESIGNATION	SUPPLY AIR (CFM)	OUTDOOR AIR (CFM)	E.S.P. (IN. W.G.)	BLOWER (HP)	HEATING CAPACITY		HEATING EFFICIENCY		TEMPERATURE RISE (°F)	COOLING CAPACITY		COOLING EER		ELECTRICAL DATA			WEIGHT (LBS)	GREENHECK MODEL No.	REMARKS
					INPUT(MBH)	OUTPUT(MBH)	REQUIRED	ACTUAL		TOTAL (MBH)	SENSIBLE (MBH)	REQUIRED	ACTUAL	VOLTS/PHASE	MCA	MOCP			
MUA-1	1,125	1,125	1.0	0.75	150.0	120.0	80%	80%	85.1	N/A	N/A	---	---	208/3	6.3	15	877	IGX-108-H12	SIDE DISCHARGE

DESIGN CONDITIONS: SUMMER 89 DB F, 73 WB F; WINTER 15 DB F

PROVIDE COMPLETE WITH THE FOLLOWING:
- UL\cUL 1995 COMPLIANT
- WEATHERHOOD: DOWNTURNED HOOD
- SUPPLY FILTERS - 2" PLEATED MERV8 (4-20x20x2)
- PERIMETER ROOF CURB
- OUTDOOR AIR DAMPER - MOTORIZED LOW LEAKAGE
- REMOTE PROGRAMMABLE THERMOSTAT HEAT/COOL/OFF WITH DUCT AND OUTDOOR AIR TEMPERATURE SENSORS (PER DETAIL)
- PERMATECTOR EXTERIOR PAINTED COATING
- MICROPROCESSOR CONTROLS
- SUPPLY FAN CONTROLS - CONSTANT VOLUME (ON/OFF)
- ROOM SENSING - TEMP
- DIRTY FILTER SENSOR: FINAL
- PHASE AND BROWN OUT PROTECTION
- AIRFLOW MONITORING OUTDOOR
- BRANCH CIRCUIT FUSING
- 120-VOLT, NEMA 3R OUTLET (LOOSE)
- FACTORY MOUNTED UNIT DISCONNECT SWITCH
- SHORT-CIRCUIT CURRENT - 5kA

UNIT STANDARD FEATURES:
- EXTERIOR HOUSING OF GALVANIZED STEEL; CORROSION RESISTANT FASTENERS
- DIRECT-DRIVE AIRFOIL PLENUM BLOWERS WITH FACTORY MOUNTED VFD; BALL BEARING MOTORS
- INTERNALLY LINED WITH GALVANIZED STEEL METAL CREATING A DOUBLE WALL
- INSULATED WITH 2-INCH 1.5 LB (R8) DENSITY INSULATION
- INTERNALLY MOUNTED CONTROL CENTER WITH MOTOR STARTERS, 24-VOLT VAC CONTROL TRANSFORMER, CONTROL CIRCUIT FUSING
- POWER VENTED INDIRECT GAS HEATING; DIRECT SPARK IGNITION
- TUBULAR HEAT EXCHANGER, 409 STAINLESS STEEL HEAT EXCHANGER TUBES

EXHAUST FAN SCHEDULE

DESIGNATION	SERVICE	CFM	SONE RATING	S.P. (IN WG)	RPM	HP	ELECTRICAL DATA	ROOF OPENING	APPROX WEIGHT	NOTES/OPTIONS	MANUFACTURER	MODEL NO.	OPERATION
TKX-1	UNIFIED KITCHEN/TOILET EXHAUST	75	1.0	0.4	1569	37 W	115/1/60	N.A.	14	SEE BELOW FOR IIN-LINE FAN OPTIONS	PANASONIC	FV-10NLF1	24 HOURS/7 DAYS PER WEEK
EF-1	COMPACTOR ROOM AND REFUSE CLOSETS	990	14.0	1.0	1683	1/2	115/1/60	18.5 x 18.5	145	SEE BELOW FOR EF FAN OPTIONS	GREENHECK	G-143HP-VG	24 HOURS/7 DAYS PER WEEK
TX-1	TOILET EXHUAST	165	12.4	1.0	1508	1/2	115/1/60	14.5 x 14.5	52	SEE BELOW FOR TX FAN OPTIONS	GREENHECK	G-123-VG	24 HOURS/7 DAYS PER WEEK
SP-1	STAIR "A" - STAIR PRESSURIZATION	4,800	17.6	0.19	1322	2	208/3/60	28 x 28	388	SEE BELOW FOR SP FAN OPTIONS	GREENHECK	TCBRS-1-18-20	INTERMITTENT
SP-2	STAIR "B" - STAIR PRESSURIZATION	4,800	17.6	0.19	1322	2	208/3/60	28 x 28	388	SEE BELOW FOR SP FAN OPTIONS	GREENHECK	TCBRS-1-18-20	INTERMITTENT

TX FAN'S SHALL BE COMPLETE WITH:
1. VARI-GREEN EC MOTOR W/ MOUNTED POTENTIOMETER DIAL
2. UL-705 "POWER VENTILATORS" COMPLIANT
3. NEMA-1 DISCONNECT SWITCH
4. 12-INCH HIGH ROOF CURB WITH DAMPER TRAY
5. 18-INCH HIGH ALUMINUM SOUND ATTENDING CURB EXTENSION
6. CURB SEAL
7. GRAVITY BACK-DRAFT DAMPER

IN-LINE FAN'S SHALL BE COMPLETE WITH:
1. MODEL 5WSSC SPEED CONTROLLER (MTD AT UNIT)
2. UL-705 "POWER VENTILATORS" COMPLIANT
3. NEMA-1 DISCONNECT SWITCH
4. VIBRATION ISOLATOR KIT

EF FAN'S SHALL BE COMPLETE WITH:
1. VARI-GREEN EC MOTOR W/ MOUNTED POTENTIOMETER DIAL
2. UL-705 "POWER VENTILATORS" COMPLIANT
3. NEMA-1 DISCONNECT SWITCH
4. 12-INCH HIGH ROOF CURB WITH DAMPER TRAY
5. 18-INCH HIGH ALUMINUM SOUND ATTENDING CURB EXTENSION
6. CURB SEAL
7. GRAVITY BACK-DRAFT DAMPER

SP FAN'S SHALL BE COMPLETE WITH:
1. UL-705 "POWER VENTILATORS" COMPLIANT
2. NEMA-3R DISCONNECT SWITCH
3. 12-INCH HIGH ROOF CURB WITH DAMPER TRAY
4. CURB SEAL
5. NEMA PREMIUM EFFICIENCY MOTOR
6. COPPER LUBRICATION LINES
7. BOLTED INSPECTION DOOR
8. MOTORIZED BACK-DRAFT DAMPER

HYDRONIC UNIT HEATER SCHEDULE (TRANE AS STANDARD)

TAG	AREA SERVED	CFM	CAPACITY MBH	ENTERING AIR TEMPERATURE, °F	FINAL AIR TEMPERATURE, °F	GPM	PRESSURE DROP FT OF W.C.	MOTOR H.P.	ELECTRICAL DATA V/Ø/Hz	MCA	MOCP	MODEL NUMBER	WGT. (LBS.)	REMARKS
UH-1	CELLAR, UTILITY ROOMS	543	14.3	60	84.3	1.47	0.04	1/20	115/1/60	--	--	UHSA018W8	40	

EACH UNIT SHALL BE PROVIDED WITH REMOTE HEAVY DUTY THERMOSTAT AND 3-WAY CONTROL VALVE.
ALL VALVING (PER DETAIL) TO BE PROVIDED BY THE MECHANICAL CONTRACTOR.

ELECTRIC HEATER SCHEDULE

DESIGNATION	LOCATION	CFM	KW	MANUFACTURER	MODEL No.	MOUNTING	DIMENSIONS	REMARKS
EWH	STAIRWELLS ON SELECTED LEVELS	N.A.	3.0	MARKEL	HF3326TD-RP	SURFACE	14-3/16"x19-3/16"x4"	208VOLT, 1PHASE, 14.4 AMPS WITH REMOTE THERMOSTAT

NOTE: ALL ELECTRIC HEATERS SHALL BE FURNISHED AND INSTALLED BY MECHANICAL CONTRACTOR COMPLETE WITH ALL REQUIRED THERMOSTATS, RELAYS, AND ANY MISCELLANEOUS APPURTENANCES FOR A COMPLETE AND OPERATIONAL SYSTEM.

PACKAGED TERMINAL AIR CONDITIONING UNIT SCHEDULE (ICE-AIR AS STANDARD)

UNIT TAG	COOLING CAPACITY TOTAL/SENSIBLE, MBH	HEATING CAPACITY, MBH	HI/LOW CFM	OUTDOOR AIR, CFM	ELEC. DATA V-Ø-Hz	EER	WEIGHT, LB	DIMENSIONS, IN.: INDOOR CABINET / WALL SLEEVE	MODEL NO.	REMARKS
PTAC 07	7,700/5,390	16,500	300-380	60	120V-1Ø-60	12.0	129	54"x10-3/4"x22"(H) / 42"(W)x16-1/4"(H)	5RSNU07	
PTAC 09	9,700/6,790	16,500	300-380	60	208V-1Ø-60	12.0	133	54"x10-3/4"x22"(H) / 42"(W)x16-1/4"(H)	5RSNU09	
PTAC 13	12,800/8,960	16,500	350-400	60	208V-1Ø-60	11.4	133	54"x10-3/4"x22"(H) / 42"(W)x16-1/4"(H)	8RSNU13	
PTAC 15	14,400/10,080	19,400	380-450	60	208V-1Ø-60	10.5	148	54"x10-3/4"x22"(H) / 42"(W)x16-1/4"(H)	8RSNU15	
PTAC 18	16,400/11,480	19,400	450-540	60	208V-1Ø-60	10.3	157	54"x10-3/4"x22"(H) / 42"(W)x16-1/4"(H)	8RSNU18	

1. HEATING CAPACITY IS BASED ON 170 DEGREE EWT, 65 DEGREE ENTERING AIR, 2 GPM FLOW RATE.
2. PROVIDE MANUFACTURER'S AUTOMATIC CONTROL VALVE AND STANDARD EFFICIENCY FILTERS (TO BE INCLUDED WITH EACH UNIT).
3. EACH UNIT SHALL BE WIRED THROUGH THE HACR TYPE CIRCUIT BREAKER.
4. EACH UNIT SHALL DRAW 60 CFM OF OUTSIDE AIR.
5. WALL OPENING SHALL BE A MINIMUM OF 16-3/4"(high)x42-1/2"(wide) AND MUST BE A MINIMUM OF 2-1/2" ABOVE THE FINISHED FLOOR, INCLUDING CARPET.
6. CONTRACTOR SHALL VERIFY IN THE FIELD LENGTH OF ALL THROUGH THE WALL SLEEVES TO FIT VARIABLE WALL THICKNESS. MINIMUM OF SLEEVE DEPTH IS 12-1/2". SIZE OF INDOOR CABINET SHALL BE COORDINATED WITH MANUFACTURER TO AVOID USING CABINET EXTENSION PARTS. SLEEVE BOTTOM MUST PITCH TO THE OUTSIDE OF BUILDING.
7. HEATING COIL ASSEMBLY MUST BE MOUNTED ABOVE THE COOLING CHASSIS.

PTAC SPECIFICATIONS (ICE-AIR AS STANDARD)

1. PROVIDE PACKAGED TERMINAL AIR CONDITIONERS (PTAC's) AS MANUFACTURED BY ICE-AIR INC.
2. AIR CONDITIONER TO CONSIST OF WALL SLEEVE, OUTSIDE AIR LOUVER, HEATING COIL ASSEMBLY, COOLING CHASSIS AND ROOM ENCLOSURE. UNITS TO OPERATE AT 115/208-230 VOLT, SINGLE PHASE, 60 HERTZ CIRCUITS.
3. WALL SLEEVE TO BE FACTORY FABRICATED OF 18 GAUGE GALVANIZED STEEL AND TO BE SHIPPED WITH COATED CARDBOARD FILLER FOR WEATHER PROTECTION. FILLER PANEL TO BE REMOVED PRIOR TO CHASSIS AND LOUVER INSTALLATION. WALL SLEEVE TO HAVE BUILT-IN PITCH OF AT LEAST 1/4" FOR PROPER DRAINAGE TOWARDS EXTERIOR OF BUILDING. WALL SLEEVES FOR MASONRY LOCATIONS TO BE FACTORY FABRICATED FOR FULL WALL DEPTHS. SLEEVES WITH FIELD-IBSTALLED EXTENSIONS ARE NOT ACCEPTABLE. WALL SLEEVES AT PANEL WALL LOCATIONS TO BE PROVIDED WITH ADJUSTABLE SUPPORT LEGS AND SLEEVE ANGLES TO INTERFACE WITH PANEL SYSTEM.
4. OUTSIDE AIR LOUVER TO BE HORIZONTAL, EXTRUDED ALUMINUM BLADE TYPE WITH CLEAR ANODIZED (PAINTED DURNAR) FINISH. LOUVER TO BE SUPPLIED WITH STAINLESS STEEL FASTENING HARDWARE AND IS TO BE INSTALLED FROM WITHIN THE BUILDING. LOVERS AT PANEL WALL LOCATIONS TO BE SUPPLIED BY OTHERS.
5. COOLING CHASSIS TO BE A SELF-CONTAINED, SLIDE-IN ASSEMBLY CONSISTING OF A SEALED REFRIGERANT SYSTEM, EVAPORATOR AND CONDENSER SECTIONS WITH SEPARATE PSC MOTORS (SINGLE MOTOR UNITS ARE NOT ACCEPTABLE), MANUAL D OUTSIDE FRESH AIR DAMPER, UNIT MOUNTED CONTROLS, AND LINE CORD. PROVIDE PERMANENT, WASHABLE ALUMINUM MESH FILTER.
6. SEALED REFRIGERANT SYSTEM TO CONSIST OF HERMETIC HIGH EFFICIENCY ROTARY COMPRESSOR, COPPER TUBE/ALUMINUM FIN EVAPORATOR AND CONDENSER COILS, AUTOMATIC EXPANSION VALVE AND INTERCONNECTING TUBING. SYSTEM TO BE FACTORY CHARGED AND SEALED AND CAPABLE OF OPERATING IN THE COOLING MODE TO AN OUTDOOR AMBIENT TEMPERATURE OF 35°F.
7. EVAPORATOR MOTOR AND BLOWER WHEELS TO BE MOUNTED ON AN EASILY REMOVABLE MOTOR BOARD. BLOWER WHEELS TO BE DOUBLE-INLET, FORWARD CURVED CENTRIFUGAL TYPE, DIRECTLY DRIVEN BY A THREE-SPEED PSC MOTOR WITH BUIL-IN AUTOMATIC RESET OVERLOAD PROTECTOR. EVAPORATOR SECTION TO CONTAIN AN INTEGRAL GALVANIZED STEEL CONDENSATE PAN WITH ADDITIONAL MOLDED LEXAN INSERT AND CLEAR PVC DRAIN HOSE. STYRENE OR STYROFOAM EVAPORATOR CONDENSATE PAN IS NOT ACCEPTABLE.
8. CONDENSER SECTION TO CONTAIN SEPARATE PSC MOTOR AND PROPELLER FAN WITH INTEGRAL SLINGER RING. CONDENSER MOTOR TO CYCLE WITH COMPRESSOR AND TO RUN DURING COOLING CYCLE ONLY.
9. CONDENSATE FROM EVAPORATOR PAN TO DRAIN INTO A SEPARATE CONDENSER-SIDE PLASTIC PAN LOCATED IN UNIT BASE PAN UNDER CONDENSER COIL. CONDENSATE DISPOSAL TO BE ACCOMPLISHED BY ENTRAINMENT OF WATER PARTICLES IN CONDENSER AIR STREAM AND EVAPORATION ON HOT CONDENSER COIL.
10. CHASSIS SHEET METAL PARTS TO BE MANUFACTURE ENTIRELY OF 18 AND 20 GAUGE GALVANIZED STEEL. CONDENSER BASE PAN TO BE COATED WITH SPRAY-ON MASTIC UNDERCOATING FOR INCREASED CORROSION RESISTANCE. CHASSIS TO BE SUPPLIED WITH PRESSURE SENSITIVE FOAM TAPE WEATHER SEALING TO PREVENT AIR AND WATER PENETRATION.
11. UNIT CONTROLS TO INCLUDE 6 POSITION CONTROL SWITCH (OFF/ON, HEAT-HI, COOL-LOW, COOL, VENT, AND EXHAUST) AND UNIT MOUNTED THERMOSTAT.
12. HEATING ASSEMBLY (HYDRONIC HEAT) TO CONSIST OF SNAP-IN CRADLE AND HEATING COIL WITH AUTOMATIC CONTROL VALVE. HEATING COIL TO BE FABRICATED OF COPPER TUBING MECHANICALLY EXPANDED INTO ALUMINUM FINS. HOT WATER COIL TO BE SERPENTINE TYPE. COILS TO BE SUPPLIED EITHER RIGHT- OR LEFT-HANDED IN QUANTITIES SPECIFIED IN BUILDING PLANS. COIL ASSEMBLY TO MOUNT HORIZONTALLY ABOVE COOLING CHASSIS AND TO HAVE NECESSARY DRAINAGE PITCH BUILT INTO CRADLE ASSEMBLY. SUPPLY OF ALL REQUIRED VALVES AND FITTINGS IS BY OTHERS.
13. ROOM ENCLOSURE TO BE FABRICATED OF 18 GAUGE GALVANNEAL PAINT-GRIP FURNITURE STEEL AND PAINTED IN AN ANTIQUE WHITE BAKED POWDER COAT FINISH. ROOM SUPPLY AIR LINEAR GRILLE TO BE FABRICATED OF EXTRUDED ALUMINUM WITH A CLEAR ANODIZED FINISH. ENCLOSURE TO MOUNT TO WALL SLEEVE WITH INTEGRAL THREADED FASTENERS AND TO BE CAPABLE OF ADDITIONAL MOUNTING DIRECTLY TO THE WALL. ENCLOSURE KICK PLATE TO BE VERTICALLY ADJUSTABLE.
14. UNIT TO BE GUARANTEED FREE OF DEFECTS IN MATERIALS OR WORKMANSHIP FOR ONE YEAR FROM DATE OF DELIVERY. UNITS TO BE UL LISTED FOR SAFETY FOR UNITED STATES AND CANADA, NEW YORK CITY M.E.A. APPROVED AND TESTED IN ACCORDANCE WITH CURRENT ARI STANDARDS.

HYDRONIC COIL CONVECTOR SCHEDULE

DESIGNATION	AREA SERVED	170°F A.W.T. HOT WATER		MANUFACTURER "STERLING" MODEL No.	NOMINAL DIMENSIONS LENGTH x HIGH x DEEP	REMARKS
		GPM	MBH			
CONVECTOR No.1	CELLAR, LAUNDRY ROOM	0.80	8.0	SRG-A-632	48 x 32 x 6	SEMI-RECESSED
CONVECTOR No.2	1ST FLOOR, CORRIDOR	0.80	8.0	FSG-A-632	48 x 32 x 6	SURFACE MOUNTED
CONVECTOR No.3	1ST FLOOR, VESTIBULE	0.80	8.0	SRG-A-632	48 x 32 x 6	SEMI-RECESSED
CONVECTOR No.4	1ST FLOOR, REAR EXIT	0.80	8.0	FSG-A-632	48 x 32 x 6	SURFACE MOUNTED
CONVECTOR No.5	1ST FLOOR, COMM RM	0.80	8.0	SRG-A-632	48 x 32 x 6	SEMI-RECESSED

CONVECTOR SPECIFICATIONS

CONVECTOR RADIATORS
FURNISH AND INSTALL STERLING CONVECTOR WHERE SHOWN ON PLANS.

HEATING ELEMENTS
CONTINUOUS FOR HEATING ELEMENTS SHALL BE NON-FERROUS CONSISTING OF 5/8" DIAMETER COPPER TUBING AND .010 THICK ALUMINUM PLATE FINS WITH FULL-FLANGED COLLARS. THE TUBES SHALL BE EXPANDED MECHANICALLY INTO FIN COLLARS TO FORM A PERMANENT THERMAL BOND. FINS SHALL BE PROTECTED FRONT AND BACK BY FORMED SHIELD PLATES RUNNING ENTIRE LENGTH OF ELEMENT. HEADERS SHALL BE CAST BRASS PROVIDED WITH BOTTOM THREADED PIPING CONNECTIONS. HEATING ELEMENTS SHALL BE TESTED BY MANUFACTURER AT 100 P.S.I. AIR PRESSURE UNDER WATER. ELEMENTS SHALL BE SUPPORTED FROM BRACKETS ON SIDES OF CABINET WHICH SHALL ALLOW FOR PROPER PITCHING OF THE ELEMENT.

CABINETS GENERAL
CABINETS SHALL BE FORMED FROM COLD ROLLED STEEL AND SHALL BE SUITABLY BRACED AND REINFORCED WHERE NECESSARY TO PROVIDE STIFFNESS, AND ACCURATELY FITTED TO PREVENT AIR LEAKAGE. CABINET FRONT SHALL BE FLANGED TOP AND BOTTOM FOR ADDED RIGIDITY. TOP EDGE OF CABINET FRONTS SHALL BE SMOOTHLY FORMED WITH 3/8" INSIDE RADIUS. AIR OUTLET LOUVERS (AND INLET LOUVERS WHERE REQUIRED) SHALL BE VENETIAN TYPE. 18 GAUGE COLD ROLLED STEEL HEATING ELEMENT SUPPORT BRACKETS SHALL BE SPOT WELDED TO INSIDE ENDS OF ALL CONVECTOR CABINETS. ALL CABINETS 48" LONG OR 32" HIGH AND GREATER SHALL HAVE A STIFFENING CHANNEL SPOT-WELDED TO INSIDE FRONT. AFTER FABRICATION, ALL CABINETS SHALL BE THOROUGHLY CLEANED, AND PROVIDED WITH A HIGH QUALITY PRIME COAT. ACCESSORY ITEMS SHALL BE INCLUDED AS NOTED PER JOB REQUIREMENTS.

WALL MOUNTED CABINET W-A
TYPE W-A CONVECTOR IS A COMPLETELY EXPOSED WALL HUNG UNIT WITH FLAT TOP. TYPE W-A CONVECTORS SHALL BE CONSTRUCTED FROM NOT LESS THAN #18 GAUGE CRS FRONTS AND NOT LESS THAN #20 GAUGE CRS LINER. THE FRONT SHALL ENGAGE INTO HORIZONTAL SECURING STRIP AS WELL AS UTILIZING TWO FRONT POSITIVE LOCKING SCREWS. FRONT SHALL BE PROVIDED WITH VENETIAN TYPE AIR OUTLET LOUVERS. AIR INLET IS THROUGH OPEN BOTTM OF UNIT ENCLOSURE. WALL MOUNTING MODEL W-A SHALL BE FOUR (4) SIDED FRONT CABINET. ALL FOUR SIDES SHALL BE OVERLAP.

SEMI-RECESSED CABINET SRG-A
TYPE SRG-A CONVECTOR SHALL BE CONSTRUCTED FROM NOT LESS THAN #18 GAUGE CRS WRAP-AROUND FRONTS AND #20 GAUGE CRS RECESSED LINER. DEPTH OF CABINET FRONT FROM WALL SHALL BE 2-1/4 INCHES.FRONT SHALL HAVE RADIUSED FRON EDGES AND SHALL EXTEND BACK TO WALL AND FASTEN TO BRACKETS ON LINER WITH SCREWS. FRONT SHALL BE PROVIDED WITH VENETIAN TYPE AIR OUTLET GRILLE (AND INTEGRAL INLET AIR GRILLE).CONVECTORS SHALL BE 3 SIDE OVERLAP (FOR FLOOR MOUNT MODELS), AND 4 SIDE OVERLAP FOR WALL MOUNTING.

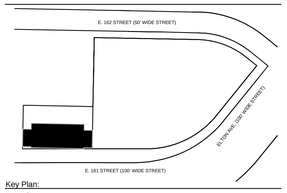
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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M-300.00
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91 OF 111

AIR HANDLING UNIT SCHEDULE

(LG ELECTRONICS AS STANDARD)

UNIT TAG	SERVICED AREA	NOMINAL TONS	DX COOLING COIL INSTALLED CAPACITY, BTUH		HEATING CAPACITY, BTUH	EVAPORATOR FAN			ELECTRICAL DATA			OPERATING WT. - (LBS)	MODEL NO.	CONDENSATE REMOVAL	REMARKS
			TOTAL	SENSIBLE	TOTAL	CFM	ESP, IN. W.C.	HP	VOLTS/Ø/Hz	MCA	MOCP				
AC 1	CELLAR TELECOM RM	1	11,200	9,500	13,300	272	N/A	N/A	208/1/60	0.29	15	23	ARNU123SEL2	GRAVITY	WALL MTD, DUCTLESS
FCU 1	CELLAR OFFICES	2	24,000	18,000	27,000	640	0.50	N/A	208/1/60	2.0	15	117	ARNU243NJA2	PUMP	VERTICAL, DUCTED
FCU 2	CELLAR LAUNDRY ROOM	2	24,000	18,000	27,000	640	0.50	N/A	208/1/60	2.0	15	117	ARNU243NJA2	PUMP	VERTICAL, DUCTED
FCU 3	FIRST FLOOR OFFICES	3.5	42,000	31,500	43,800	1140	0.50	N/A	208/1/60	2.5	15	84	ARNU423BGA2	PUMP	CONCEALED, HIGH STATIC, DUCTED
FCU 4	FIRST FLOOR COMM ROOM	4	48,100	36,000	51,200	1430	0.50	N/A	208/1/60	2.5	15	117	ARNU483BRA2	PUMP	CONCEALED, HIGH STATIC, DUCTED
FCU EMP	ROOFTOP ELEVATOR CONTROL CLOSET	1	11,200	9,500	13,300	272	N/A	N/A	208/1/60	0.29	15	23	LSN121HSV3	GRAVITY	WALL MTD, DUCTLESS

NOTES: SELECTION IS BASED ON: AIR ENTERING EVAP. COIL 80 DEGREES DB - 67 DEGREES WB

1. REFER TO MANUFACTURER PROVIDED DETAILED REFRIGERANT PIPE SIZING AND FITTINGS SCHEMATIC (NO DEVIATIONS ARE ALLOWED UNLESS PRIOR APPROVAL IS OBTAINED).
2. EACH FAN COIL TO BE MOUNTED ON EQUIPMENT SUPPORTS WITH NEOPRENE RUBBER VIBRATION ISOLATION (CORK PADS ARE NOT ACCEPTABLE).
3. FUSED ELECTRICAL DISCONNECT SWITCH SHALL BE PROVIDED FOR EACH FAN COIL (BY ELECTRICAL CONTRACTOR).
4. PROVIDE FILTER RETURN REGISTER OR EXTERNAL FILTER RACK AND FILTER FOR ALL DUCTED FAN COILS (AS INDICATED ON PLANS).
5. PROVIDE -DAY PROGRAMMABLE BACK-LIT CONTROLLER, MODEL PQRCVSLOW (WHITE)
6. ALL CONTROL WIRING TO BE DONE BY MECHANICAL CONTRACTOR, UNLESS OTHERWISE NOTED BY CONSTRUCTION MANAGEMENT.
7. ALL REFRIGERANT LINES MUST BE INSULATED IN ACCORDANCE WITH NYC ENERGY CODE (ARMAFLEX TYPE INSULATION IS PREFERRED).
8. EQUIPMENT START-UP TO BE SUPERVISED BY FACTORY SERVICE PERSONNEL.

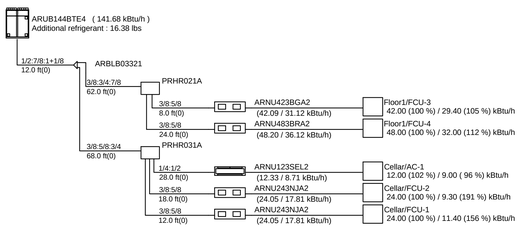
AIR COOLED CONDENSING UNIT SCHEDULE (OUTDOOR UNIT)

(LG ELECTRONICS AS STANDARD)

SYSTEM TAG	LOCATION	NOMINAL RATING (TONS)	COOLING CAPACITY (BTU/HR)	COOLING EFFICIENCY		HEATING CAPACITY (BTU/HR)	HEATING EFFICIENCY		ELECTRICAL DATA			MODEL NO.	OPERATING WT. (LBS)	REMARKS
									VOLTS (Ø, HZ)	POWER SUPPLY				
				REQUIRED	ACTUAL		REQUIRED	ACTUAL		MCA	MOCP (FUSE)			
ACCU COM	REAR YARD	12	144,000	EER: 10.60	EER: 11.80	162,000	COP: 3.20	COP: 3.49	208/3/60	48.8	60	ARUB144BTE4	650	
ACCU EMP	ROOF	1	11,200	SEER: 13.00	SEER: 21.50	13,300	HSPF: 7.70	HSPF: 11.00	208/1/60	10	15	LSU121HSV3	75	

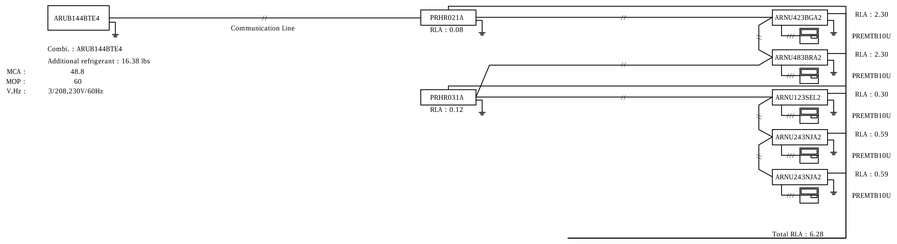
NOTES:

1. REFER TO MANUFACTURER PROVIDED DETAILED REFRIGERANT PIPE SIZING AND FITTINGS SCHEMATIC (NO DEVIATIONS ARE ALLOWED UNLESS PRIOR APPROVAL IS OBTAINED).
2. EACH CONDENSING MODULE TO BE MOUNTED ON EQUIPMENT SUPPORTS WITH NEOPRENE RUBBER VIBRATION ISOLATION (CORK PADS ARE NOT ACCEPTABLE).
3. FUSED ELECTRICAL DISCONNECT SWITCH SHALL BE PROVIDED FOR EACH CONDENSER MODULE (BY ELECTRICAL CONTRACTOR).
4. PROVIDE THE FOLLOWING
   1. LIMITED 6 YEAR COMPRESSOR WARRANTY.
   2. LIMITED 2 YEAR PARTS WARRANTY.
5. ALL REFRIGERANT LINES MUST BE INSULATED IN ACCORDANCE WITH NYC ENERGY CODE (ARMAFLEX TYPE INSULATION IS PREFERRED).



REFRIGERANT PIPING DIAGRAM SCHEMATIC

NOT TO SCALE



Note :
Power wiring, breaker size, and disconnects shall follow local code or NEC
Multi-frame outdoor unit models require a separate power connection for each frame.
Refer to the most current submittal sheets for applicable electrical data.

A/C SYSTEM WIRING DIAGRAM SCHEMATIC

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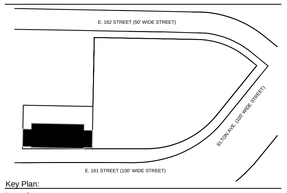

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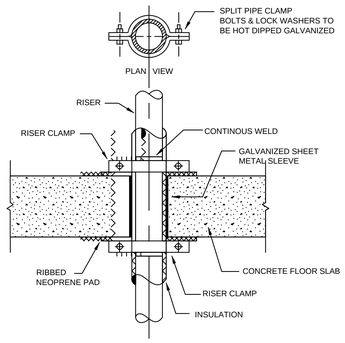
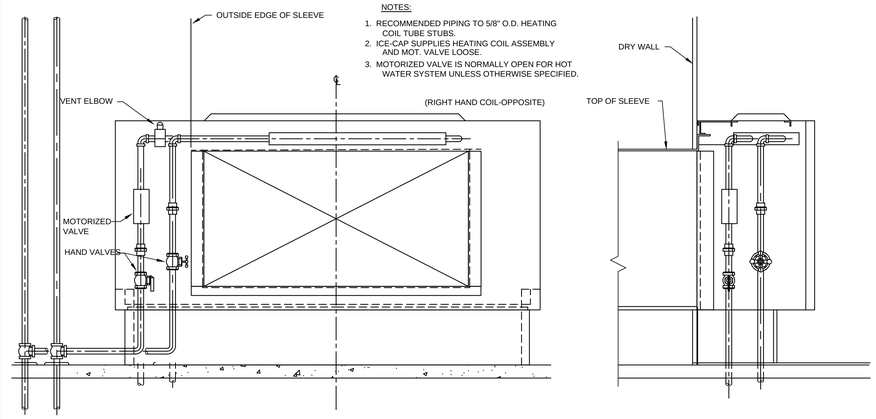


PIPE ANCHOR DETAIL

NOT TO SCALE

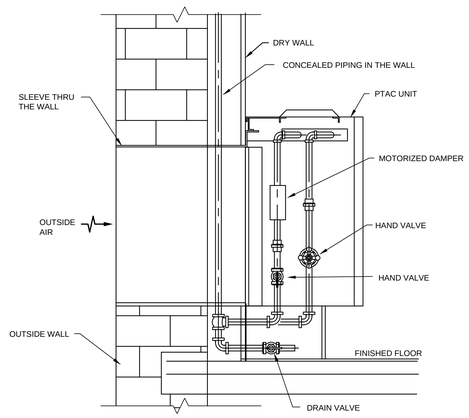


NOTES:

1. RECOMMENDED PIPING TO 5/8" O.D. HEATING COIL TUBE STUBS.
2. ICE-CAP SUPPLIES HEATING COIL ASSEMBLY AND MOT. VALVE LOOSE.
3. MOTORIZED VALVE IS NORMALLY OPEN FOR HOT WATER SYSTEM UNLESS OTHERWISE SPECIFIED.

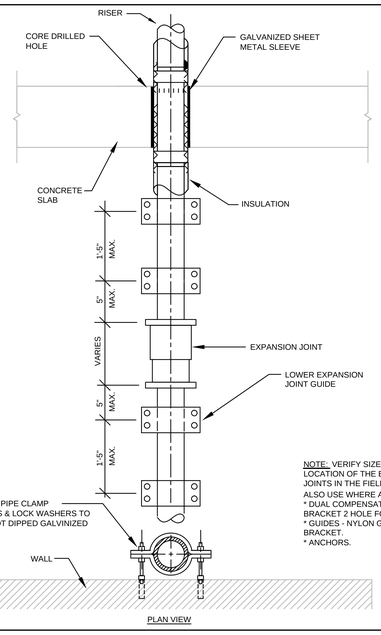
PIPING DETAIL FOR SINGLE PTAC UNIT CONNECTED TO RISER

NOT TO SCALE



PIPING DETAIL FOR LOWER FLOOR PTAC UNITS

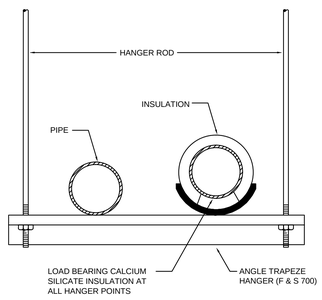
NOT TO SCALE



NOTE:- VERIFY SIZES AND EXACT LOCATION OF THE EXPANSION JOINTS IN THE FIELD.
ALSO USE WHERE APPLICABLE:
* DUAL COMPENSATOR
BRACKET 2 HOLE FOR ATTACHMENT.
* GUIDES - NYLON GUIDE AND BRACKET.
* ANCHORS.

RISER EXPANSION JOINT INSTALLATION DETAIL

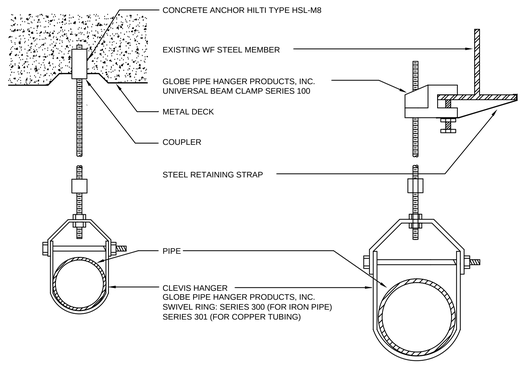
NOT TO SCALE



HANGER ROD SPACING AND SIZE SCHEDULE			
NOM. PIPE SIZE (INCHES)	STEEL PIPE MAX. SPAN (FEET)	COPPER TUBE MAX. SPAN (FEET)	MINIMUM ROD DIAMETER (INCHES)
UP TO 3/4	7	5	3/8
1	7	6	3/8
1-1/4	7	6	3/8
1-1/2	9	8	3/8
2	10	8	3/8
2-1/2	11	9	1/2
3	12	10	1/2
3-1/2	12	10	1/2
4	12	10	5/8, 1/2 FOR COPPER
5	12	10	5/8, 1/2 FOR COPPER
6	12	10	3/4, 5/8 FOR COPPER
8	12	10	7/8, 3/4 FOR COPPER

TRAPEZE PIPING HANGING DETAIL

NOT TO SCALE



HANGER ROD SPACING AND SIZE SCHEDULE			
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UP TO 3/4	7	5	3/8
1	7	6	3/8
1-1/4	7	6	3/8
1-1/2	9	8	3/8
2	10	8	3/8
2-1/2	11	9	1/2
3	12	10	1/2
3-1/2	12	10	1/2
4	12	10	5/8, 1/2 FOR COPPER
5	12	10	5/8, 1/2 FOR COPPER
6	12	10	3/4, 5/8 FOR COPPER
8	12	10	7/8, 3/4 FOR COPPER

SINGLE PIPE CLEVIS HANGING DETAIL

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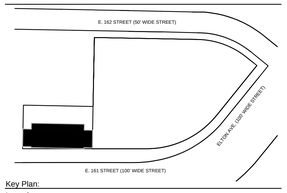

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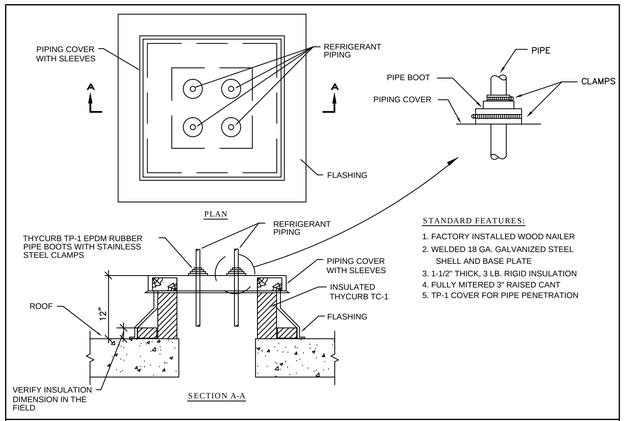


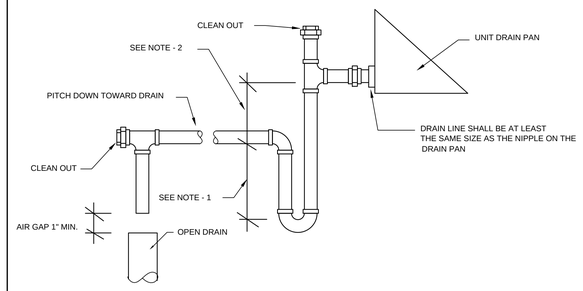
STANDARD FEATURES:

1. FACTORY INSTALLED WOOD NAILER
2. WELDED 18 GA. GALVANIZED STEEL SHELL AND BASE PLATE
3. 1-1/2" THICK, 3 LB. RIGID INSULATION
4. FULLY MITERED 3" RAISED CANT
5. TP-1 COVER FOR PIPE PENETRATION

NOTE: 3-1/2" DIAMETER COLLARS ACCOMMODATE PIPES 1/2" TO 2-1/2" NOM.
6-1/2" DIAMETER COLLARS ACCOMMODATE PIPES 3" TO 5" NOM.

DETAIL OF PIPE FLASHING CURB

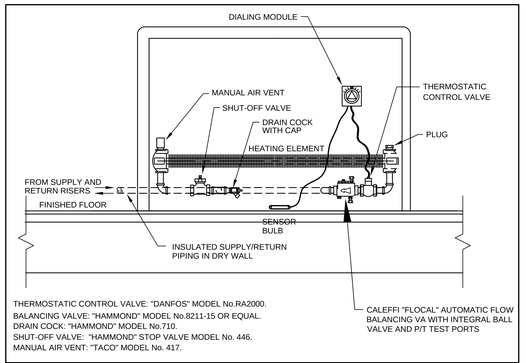
NOT TO SCALE



NOTES:
1. ON POSITIVE PRESSURE SYSTEM(E.G. DUCT COILS, BOW-THRU UNITS , ETC.) DEPTH OF SEAL SHALL BE A MINIMUM OF 1.5 TIMES SYSTEM PRESSURE IN THE DRAIN PAN.
2. ON NEGATIVE PRESSURE SYSTEMS(E.G. DRW-THRU UNITS) DEPTH OF SEAL SHALL BE MINIMUM OF 1.5 TIMES SYSTEM PRESSURE IN THE DRAIN PAN.

TYPICAL CONDENSATE DRAIN TRAP

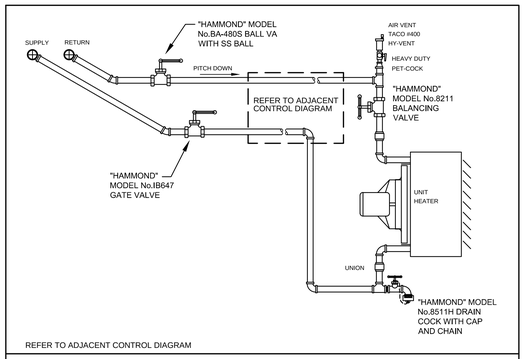
NOT TO SCALE



THERMOSTATIC CONTROL VALVE: "DANFOS" MODEL No.RA2000.
BALANCING VALVE: "HAMMOND" MODEL No.8211-15 OR EQUAL.
DRAIN COCK: "HAMMOND" MODEL No.710.
SHUT-OFF VALVE: "HAMMOND" STOP VALVE MODEL No. 446.
MANUAL AIR VENT: "TACO" MODEL No. 417.

HOT WATER CONVECTOR PIPING DETAIL

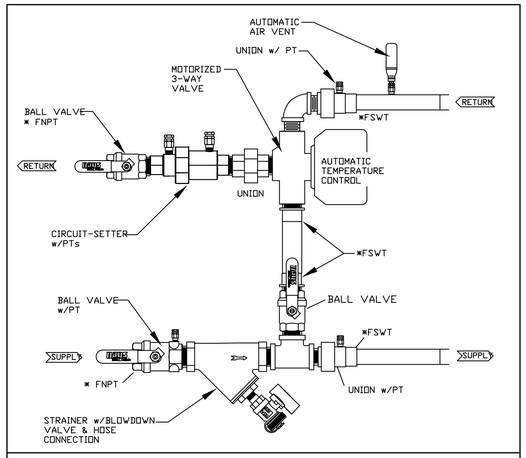
NOT TO SCALE



REFER TO ADJACENT CONTROL DIAGRAM

UNIT HEATER PIPING DETAIL

NOT TO SCALE



UNIT HEATER CONTROL PIPING DETAIL

NOT TO SCALE

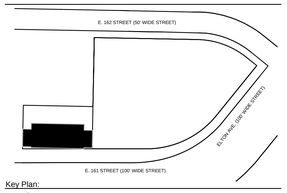
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	06.20.14	Design Development
4	08.22.14	50% CD SET
5	02.26.15	BID SET/ HPD
6	02.26.15	SPRINKLER DOB ISSUANCE
7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

Revisions:

Architect:

Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

GACE Consulting Engineers, PC
31 West 27th Street, 6th Floor
New York, NY 10001

MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard.
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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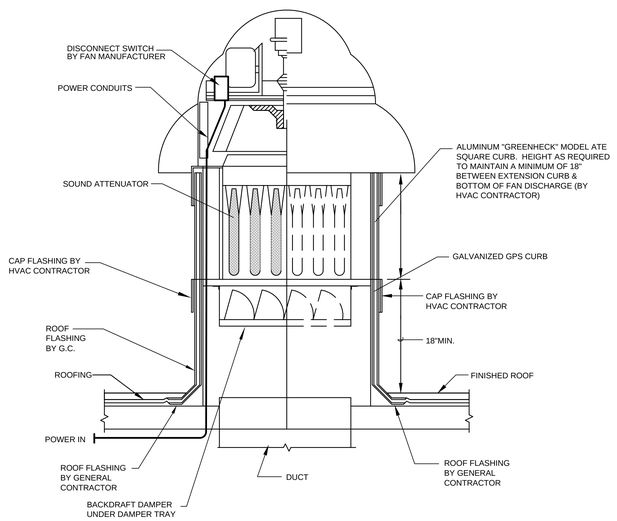
MECHANICAL DETAILS

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: PNP
CHK BY: CMS/FTK
DWG No:

M-401.00

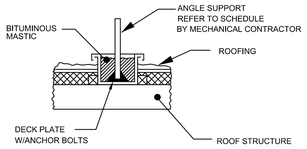
SCALE: AS NOTED



NOTE:
DUCT SHALL BE 1" SMALLER THAN ROOF OPENING.
ROOF OPENING SHALL CONFORM TO MANUFACTURERS CURB SIZE.

EXHAUST FAN ON EXTENDED CURB DETAIL

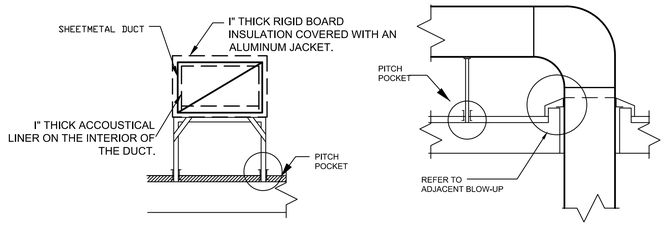
NOT TO SCALE

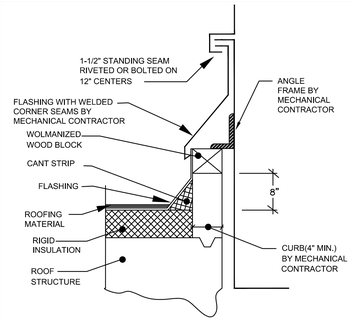


ENLARGED VIEW OF PITCH POCKET

SCHEDULE OF SUPPORTS		
DUCT SIZE	ANGLE SUPPORT (ALUM)	MAX. SPACING
UP TO 42-INCHES	1-1/2" x 1-1/2" x 1/8"	8'-0"
43 TO 60-INCHES	1-1/2" x 1-1/2" x 1/8"	4'-0"
61 TO 84-INCHES	2" x 2" x 1/8"	4'-0"
OVER 85-INCHES	2" x 2" x 1/4"	4'-0"

NOTE: 1. ALL DUCTS EXPOSED ON ROOF SHALL BE CONSTRUCTED W/WATER TIGHT SEAMS AND JOINTS.
2. ALL SUPPLY AIR AND RETURN DUCTWORK SHALL BE INTERNALLY INSULATED WITH 1-INCH THICK ACCOUSTICAL INSULATION AND EXTERNALLY INSULATED WITH1" THICK RIGID BOARD INSULATION. THE TOTAL INSULATING R VALUE SHALL BE 8 MINIMUM.
3. EXTERNAL RIGID INSULATION TO BE COVERED WITH AN ALUMINUM JACKET
3. ALL JOINTS SHALL BE CAULKED WITH SUITABLE WEATHER SEALANT.

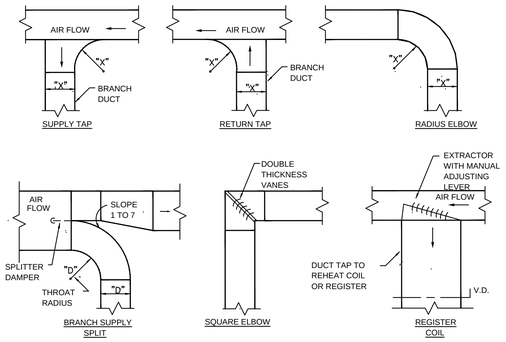




ENLARGED VIEW OF CURB FLASHING

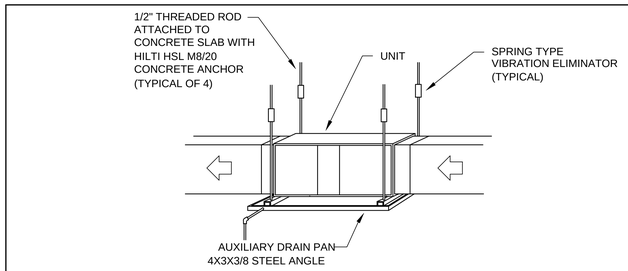
DUCTS EXPOSED ON ROOF AND DUCT FLASHING DETAIL

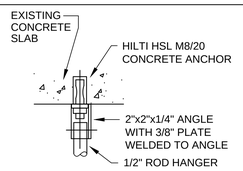
NOT TO SCALE



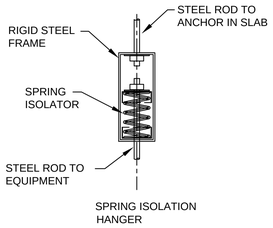
DUCTWORK FITTINGS DETAIL

NOT TO SCALE



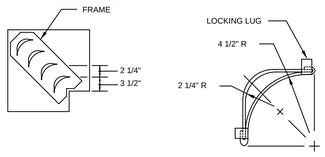


ANCHOR LOAD:
5P.S.F. AT 4'-0" O.C. EACH WAY = 16SFx5 = 80.0#
ADDITIONAL LOAD AT MIDSPAN = 200.0#
TOTAL 280.0#
HILTI HSL M8/20 = 1,680.0# IN TENSION IN 4,000.0 PSI CONCRETE
1,680.0# > 280.0#



TYPICAL UNIT HANGING DETAIL

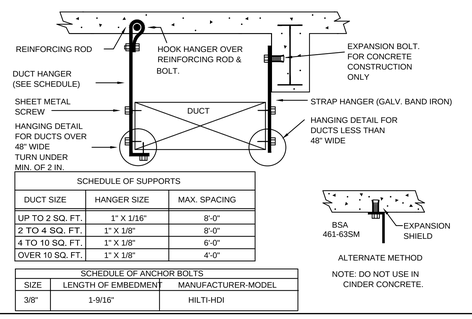
NOT TO SCALE



NOTES:
1. LOCKING LUGS INTEGRAL WITH VANE
2. MAXIMUM UNSUPPORTED VANE LENGTH 48"
3. FRAMES-BOLTED OR RIVETED TO ELBOW
4. VANES AND FRAMES - SAME GAUGE AS ELBOW

SQUARE ELBOW WITH TURNING VANES

NOT TO SCALE



SCHEDULE OF SUPPORTS		
DUCT SIZE	HANGER SIZE	MAX. SPACING
UP TO 2 SQ. FT.	1" X 1/16"	8'-0"
2 TO 4 SQ. FT.	1" X 1/8"	8'-0"
4 TO 10 SQ. FT.	1" X 1/8"	6'-0"
OVER 10 SQ. FT.	1" X 1/8"	4'-0"

SCHEDULE OF ANCHOR BOLTS		
SIZE	LENGTH OF EMBEDMENT	MANUFACTURER-MODEL
3/8"	1-9/16"	HILTI-HDI

NOTE: DO NOT USE IN CINDER CONCRETE.

DUCT HANGING DETAIL

NOT TO SCALE

DUCT CONSTRUCTION SCHEDULE

DIMENSION OF LONGEST SIDE OF DUCT (IN.)	SHEET METAL GAUGES		RECOMMENDED JOINT CONSTRUCTION	MAX. JOINT SPACING
	STEEL	ALUMINUM		
UP TO 24"	24	22 (.025)	POCKET SLIP BAR - S SLIP	8'-0"
24 THRU 30	24	22 (.025)	POCKET SLIP BAR - S SLIP	4'-0"
31 THRU 60	22	20 (.032)	POCKET SLIP BAR - S SLIP	4'-0"
61 THRU 72	20	18 (.040)	REINFORCED POCKET SLIP REINFORCED BAR - S	4'-0"
73 THRU 90	20	18 (.040)	REINFORCED POCKET SLIP REINFORCED BAR - S	4'-0"
91 AND UP	18	16 (.051)	REINFORCED POCKET SLIP REINFORCED BAR - S	4'-0"

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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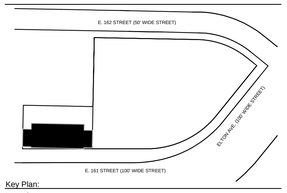
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Revisions:

Architect:

MAP
Magnusson Architecture & Planning PC
42 West 39th Street, 15th Floor
New York, NY 10018
Tel (212) 253 7820 Fax (212) 253 1276

Structural Engineer:

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31 West 27th Street, 6th Floor
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TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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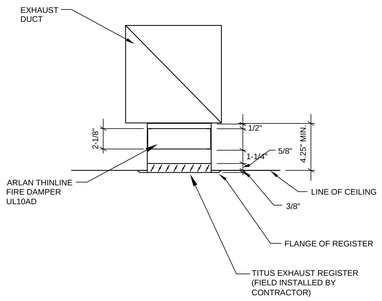
MECHANICAL DETAILS

SEAL & SIGNATURE:

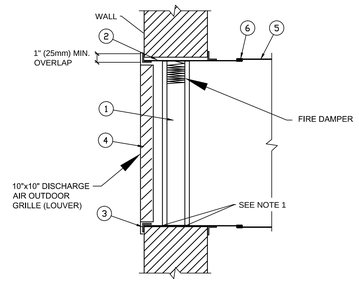
PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

M-402.00

SCALE: AS NOTED



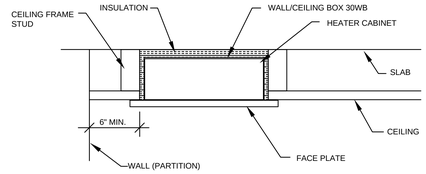
REGISTER/FIRE DAMPER INSTALLATION DETAIL NOT TO SCALE



ITEM.	DESCRIPTION
1.	CURTAIN TYPE FIRE DAMPER
2.	DAMPER SLEEVE
3.	MOUNTING ANGLES
4.	ARCHITECTURAL GRILLE (OPTIONAL-SUPPLIED BY OTHERS)
5.	DUCT
6.	DUCT TO DAMPER SLEEVE CONNECTION

DISCHARGE AIR OUTDOOR GRILLE

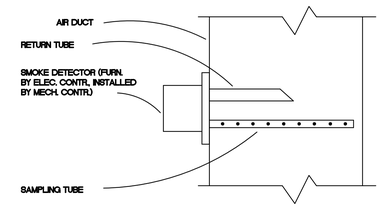
NOT TO SCALE



NOTES:
1. DO NOT OBSTRUCT THE FRONT OF THE HEATER WITH CURTAINS, FURNITURE, DOORS, ETC.
2. DO NOT PLACE HEATERS UNDER TOWEL RACKS.
3. THE HEATERS MAY BE WALL MOUNTED IN A VERTICAL OR HORIZONTAL POSITION AND CEILING MOUNTED.
4. THE MINIMUM CLEARANCE FROM WALL BOX TO ADJACENT WALL OR FLOOR IS 6 INCHES.
5. THESE HEATERS MUST NOT BE INSTALLED WITHOUT WALLBOX MODEL No.30WB.
6. WALL BOX MUST BE INSTALLED WITH FRONT EDGE FLUSH WITH FINISHED WALL SURFACE.
7. SECURE WALL BOX TO WALL/CEILING STUDS WITH NAILS OR SCREWS.

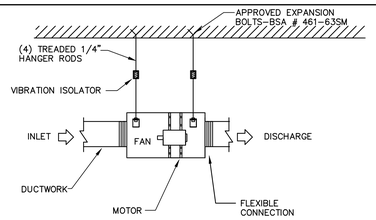
ELECTRIC CABINET HEATER INSTALLATION DETAIL

NOT TO SCALE



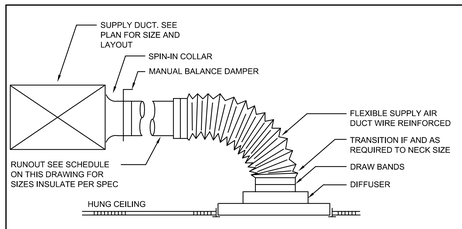
SMOKE DETECTOR DETAIL

NOT TO SCALE



IN-LINE FAN HANGING DETAIL

NOT TO SCALE



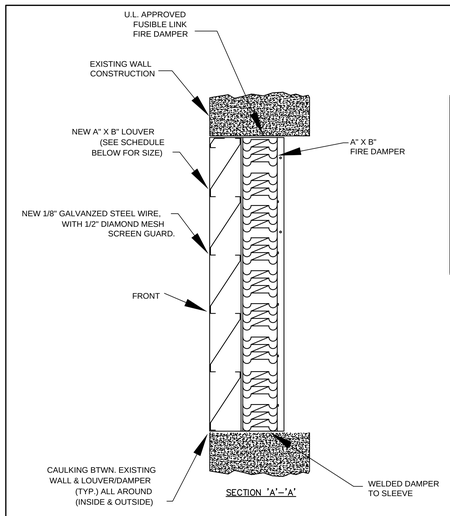
NOTE:

1. LENGTH OF FLEX DUCT TO BE NO LONGER THAN 6'-0."

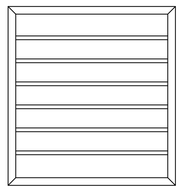
2. ALL FLEX DUCT TO HAVE 1" INTEGRAL INSULATION WITH VAPOR PROOF BARRIER.

DIFFUSER DETAIL

NOT TO SCALE



SECTION 'A'-'A'



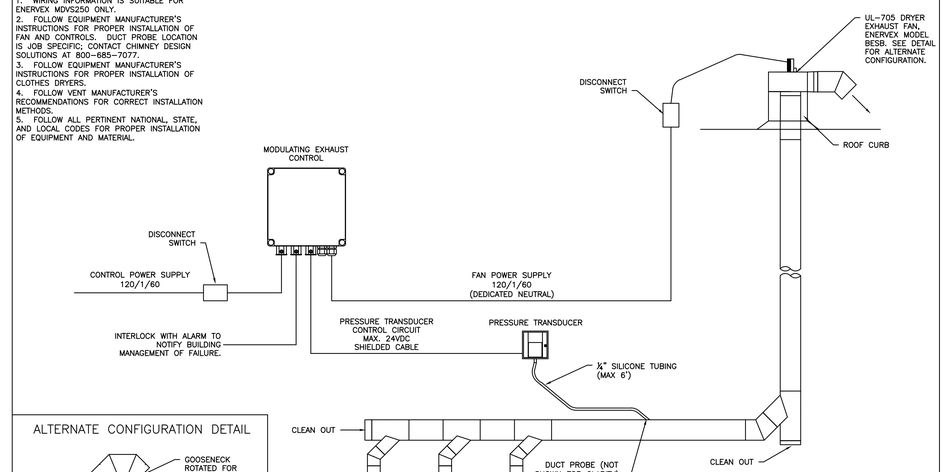
FRONT ELEVATION

LOUVER DETAIL-TYPICAL

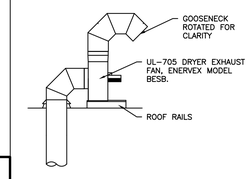
NOT TO SCALE

DRAWING NOTES

1. WIRING INFORMATION IS SUITABLE FOR ENERVEX MDVS250 ONLY.
2. FOLLOW EQUIPMENT MANUFACTURER'S INSTRUCTIONS FOR PROPER INSTALLATION OF FAN AND CONTROLS. DUCT PROBE LOCATION IS JOB SPECIFIC; CONTACT CHIMNEY DESIGN SOLUTIONS AT 800-685-7077.
3. FOLLOW EQUIPMENT MANUFACTURER'S INSTRUCTIONS FOR PROPER INSTALLATION OF CLOTHES DRYERS.
4. FOLLOW VENT MANUFACTURER'S RECOMMENDATIONS FOR CORRECT INSTALLATION METHODS.
5. FOLLOW ALL PERTINENT NATIONAL, STATE, AND LOCAL CODES FOR PROPER INSTALLATION OF EQUIPMENT AND MATERIAL.



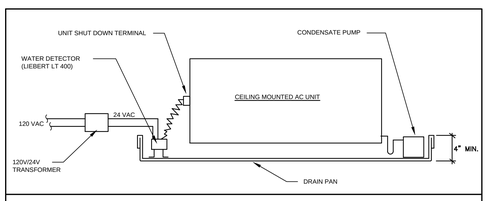
ALTERNATE CONFIGURATION DETAIL



CHIMNEY DESIGN SOLUTIONS®
NY: 134 W. 29TH STREET, 11TH FL., NY, NY 10001
NJ: 649 LAFAYETTE AVE., SUITE 3, HAWTHORNE, NJ 07506
V: 800-685-7077 F: 212-685-4777
WWW.CHIMNEYDESIGNSOLUTIONS.COM

DESCRIPTION
INSTALLATION DETAIL FOR A MECHANICAL CLOTHES DRYER EXHAUST SYSTEM (MDVS250)

DRAWN BY	DATE	SCALE
J. KIM	130801	NONE
CHECKED BY	DATE	NO.
		NONE

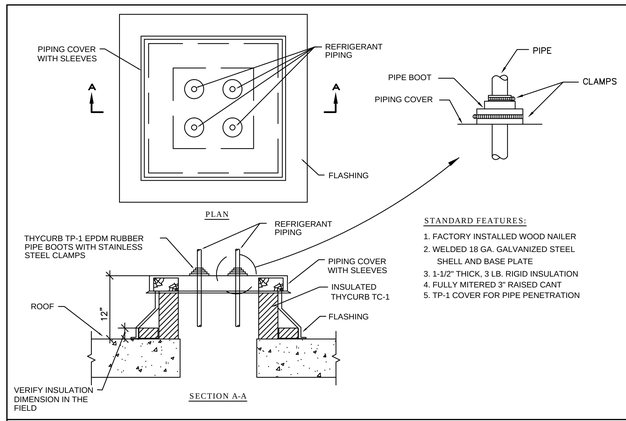


PAN CONSTRUCTION

1. PAN SHALL BE 6" LARGER THAN AC UNIT ON ALL FOUR SIDES.
2. 2" HEM SHALL BE TURNED DOWN OUTSIDE OF PAN.
3. FABRICATE PAN OF 16 GAUGE GALVANIZED STEEL WITH SOLDERED CORNERS WATERTIGHT.

AUXILIARY DRAIN PAN DETAIL

NOT TO SCALE



PLAN

SECTION A-A

STANDARD FEATURES:

1. FACTORY INSTALLED WOOD NAILER
2. WELDED 18 GA. GALVANIZED STEEL SHELL AND BASE PLATE
3. 1-1/2" THICK, 3 LB. RIGID INSULATION
4. FULLY MITERED 3" RAISED CANT
5. TP-1 COVER FOR PIPE PENETRATION

NOTE: 3-1/2" DIAMETER COLLARS ACCOMMODATE PIPES 1/2" TO 2-1/2" NOM.
6-1/2" DIAMETER COLLARS ACCOMMODATE PIPES 3" TO 5" NOM.

DETAIL OF PIPE FLASHING CURB

NOT TO SCALE

DRYER VENTING SPECIFICATIONS

MDVS SPECIFIACTIONS

The Chimney Design Solutions® mechanical dryer exhaust system, manufactured by Enervex, shall meet UL-705, 'Standard for Power Venters', be shall be tested and approved by an independent testing laboratory for the transport and exhaust of lint-laden air from type I or type II residential or commercial electric or gas-fired clothes dryers. The mechanical dryer exhaust system shall have a two-year factory warranty for parts. The system shall be manufactured at an ISO9001 certified plant and be of the highest quality workmanship and construction. The system shall have the following features:

A. The box ventilator (BESB) shall be suitable for indoor and outdoor installation. The BESB's corrosion-resistant housing shall have duct connections and be designed so the entire impeller and motor assembly can be removed as a unit. The BESB shall have a hinged service door for easy cleaning and service. To prevent ignition of lint, the BESB shall be designed as a Type B, Spark Resistant Construction in compliance with AMCA Standard 99-0401. The backward curved impeller shall be made in cast aluminum and be statically and dynamically balanced with permanently attached balancing weights to ensure lint passes through the impeller. The motor shall be a totally enclosed, fan-cooled (TEFC) inverter-duty motor with pre-lubricated and sealed ball bearings requiring no further maintenance, and rated as shown on the fan schedule. The motor shall be factory warranted by the fan manufacturer to operate at voltages as low as 15V for single-phase motors. To assure motor longevity, the motor shall not operate at speeds above 1600RPM for single-phase motors. The motor shall be located outside the exhaust air stream to comply with the International Code Council's requirements.

B. The modulating exhaust control shall be a true PID microprocessor-based control and shall be able to maintain a constant pressure with a tolerance of 0.01"W.C., by modulating the BESB's speed via an integrated triac board for single-phase motors. The control shall include a pressure transducer, six feet of silicone tubing and a duct probe. The duct's pressure shall be referenced just downstream of the clothes dryers. For multistory applications, the duct's pressure shall be referenced in the lower portion of the exhaust riser while the building's pressure shall be referenced in the lower portion of the building. The control shall provide automatic pressure maintenance, pressure proving and lockout in addition to:
   a. Potentiometer to set the required pressure and a LCD panel to display the value. The LCD panel shall also be able to show the actual pressure.
   b. Electrical terminals monitored constantly via LED diodes for verification of proper operation.
   c. LED diode to verify box ventilator operation and cycling.
   d. LED diode to indicate alarm.
   e. Safety function to notify building management in case of insufficient pressure or ventilator failure, and indicate this with a visual alarm.
   f. Integrated triac board for controlling the speed of a single-phase motor.

C. Furnish a NEMA 4X-enclosed disconnect switch with a maximum rating of 25A and 600V for the box ventilator.

D. Contact Chimney Design Solutions® at 800-685-7077 for a list of representatives and/or distributors.

E. Contractor shall install structural, mechanical, electrical, and control connections as designed by the manufacturer and in accordance with the terms of the manufacturer's warranties.

F. Follow all pertinent national, state, and/or local codes where applicable.

SCHEDULE

UNIT TAG	SERVICING	MANUFACTURER	MODEL	ELECTRICAL DATA			RPM	HP	CAPACITY CFM	S.P. W.C.
				AMPS	VOLTS	PHASE				
DEF-1	CLOTHES DRYERS	CHIMNEY DESIGN SOLUTION EXHAUSTO	ENERVEX BESB250	5.8	120	1	VAR	1/2	920	0.73

1. CONTACT CHIMNEY DESIGN SOLUTIONS OF NEW YORK CITY.
2. EBC12 MODULATING DRAFT CONTROL

DRYER SEQUENCE OF OPERATION

Use
The MDVS Modulating Dryer Exhaust System is a mechanical exhaust system used to maintain a constant pressure in the exhaust system for multiple type I and type II residential and commercial clothes dryers whether electric or gasfired.
Description
The MDVS system consists of a BESB250 Box Ventilator and an MEC18 Modulating Fan Control. The MEC18 maintains a constant pressure for the clothes dryers by modulating the speed of the box ventilator via an internal triac board. The MDVS system is supplied as a complete package with fan, disconnect, control, differential pressure transducer, and duct probe.
Operation
The MDVS250's pressure setting must be entered manually via the MEC18 at startup. After these steps have been taken, the control will keep the pressure setting in memory. The MDVS is 'active' at all times. As a tumbler activates, the MEC18's pressure transducer senses the pressure change and adjusts the box ventilator's speed accordingly. As more tumblers activate, the box ventilator's speed is increased to maintain a constant pressure. When a tumbler shuts down, the box ventilator will slow down while still maintaining the pressure setting. When the last tumbler shuts down, the box ventilator will slow to a minimum speed.
The MEC18's integrated proven pressure function may also notify the building in case of a mechanical failure or a power failure to the box ventilator. The MEC18 automatically resets once the proper pressure can be obtained.
Listings
The MDVS Modulating Dryer Exhaust System is listed to UL 705, "Standard for Power Ventilators" and has the following approval from Intertek Group (ETL):
"The product covered by this report is a modulating air exhaust system. The product consists of a box ventilator and a modulating control for permanent installation. Its intended use is exhausting of lint-laden air from single or multiple type I and type II residential and commercial clothes dryers whether electric or gas-fired. The
A. box ventilator can be installed indoors or outdoors."

Owner:

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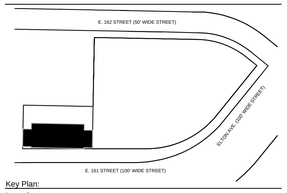
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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MECHANICAL DETAILS

SEAL & SIGNATURE:

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DRAWING BY:	??
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DWG No:	M-403.00
SCALE: AS NOTED	96 OF 111

FLOOR AND ROOF DRAIN SCHEDULE

LOCATION	TYPE	MANUFACTURER MODEL NUMBER	DESCRIPTION AND OPTIONS
ROOF AREAS WITHOUT PAVER FINISHES	GENERAL PURPOSE ROOF DRAIN TYPE RD-A	JAY R. SMITH FIGURE # 1015-G-R-C-U	GALVANIZED (-G) CAST-IRON BODY WITH ADJUSTABLE EXTENSION SLEEVE, REVERSIBLE COLLAR, COMBINED FLASHING CLAMP AND GRAVEL STOP, WITH POLYETHYLENE DOME AND STAINLESS STEEL MESH SCREEN, SUMP RECEIVER (-R), UNDERDECK CLAMP (-C), VANDAL PROOF DOME (-U)
ROOF AREAS	CONTROLLED FLOW ROOF DRAIN TYPE RD-A1	JAY R. SMITH FIGURE # 1083-R-C-U	GALVANIZED (-G) DUCO CAST-IRON BODY WITH COMBINED FLASHING CLAMP AND GRAVEL STOP, WITH ADJUSTABLE "FLOW RATE CONTROL" ASSEMBLY AND POLYETHYLENE DOME. SUMP RECEIVER (-R) UNDERDECK CLAMP (-C) VANDAL PROOF DOME (-U)
TERRACED ROOF AREA	PROMENADE DECK ROOF DRAIN TYPE RD-B	JAY R. SMITH FIGURE #1410-G-R-C-U-PB	GALVANIZED (-G) CAST-IRON BODY WITH ADJUSTABLE EXTENSION SLEEVE, COMBINED FLASHING COLLAR AND CLAMP AND SECURED SQUARE HOLE HEAVEY DUTY GRATE. SUMP RECEIVER (-R), UNDERDECK CLAMP (-C), VANDAL PROOF GRATE (-U) POLISHED BRONZE TOP (-PB).
CANOPY ROOF AREA	GENERAL PURPOSE ROOF DRAIN TYPE RD-C	JAY R. SMITH FIGURE # 1620T-G-U-NB	GALVANIZED (-G) CAST-IRON BODY WITH LOW DOME VANDAL PROOF SCREWS (-U), NICKEL BRONZE TOP (-NB)
LAUNDRY ROOM	FLOOR DRAIN FOR TILED AREAS TYPE FD-A	JAY R. SMITH FIGURE # 2005-NB	GALVANIZED CAST-IRON BODY WITH FLASHING COLLAR AND ADJUSTABLE STRAINER HEAD STRAINER HEAD SHALL BE NICKEL BRONZE (-NB)
MECHANICAL ROOMS	FLOOR DRAIN FOR CONCRETE AREAS TYPE FD-B	JAY R. SMITH FIGURE # 2110-G-B-U	GALVANIZED (-G) CAST-IRON BODY WITH FLASHING COLLAR AND CAST IRON BAR GRATE SEDIMENT BUCKET (-B), VANDAL PROOF SCREWS (-U)
EXTERIOR AREAWAYS	AREA DRAIN FOR CONCRETE AREAS TYPE AD-A	JAY R. SMITH FIGURE # 2210-G-D-U	GALVANIZED (-G) CAST-IRON BODY WITH DOMED GRATE (-D) VANDAL PROOF SCREWS (-U)
EXTERIOR WALKWAYS	AREA DRAIN FOR CONCRETE AREAS TYPE AD-B	JAY R. SMITH FIGURE # 2130-H-B-S-U-G-NB	GALVANIZED (-G) CAST-IRON BODY WITH SQUARE GRATE (-S), HINGED (-H), SEDIMENT BUCKET (-S), VANDAL PROOF SCREWS (-U), NICKEL BRONZE TOP (-NB)

PIPING MATERIAL SCHEDULE

SYSTEMS	PIPING												FITTINGS															JOINTS						
	REQUIRED	CAST IRON	STL. SCHED. 40	STL. SCHED. 80	BLACK STEEL	GALVANIZED	COPPER TUBE "L"	EXTRA HEAVY CAST IRON	CAST IRON WASTE PIPE	THREADED PIPE	RE-INFORCED CONCRETE SOIL PIPE	COPPER TUBE "K"	CAST IRON NO-HUB	CAST IRON SOIL	CAST IRON DRAINAGE	STD. C.I. -175# W.W.P.	EX. H. C.I. 400 W.W.P.	STD. C.I. FLG. -175# W.W.P.	STD. MALL. -300# W.W.P.	R.C.S.P.	CAST BRONZE -175# W.W.P.	CAST BRONZE -400# W.W.P.	CAST STEEL FLDG.	SOLDER FITTINGS	CLASS "D"	P.V.C. SCHED. 80	BLACK	GALVANIZED	COMPRESSION GASKET	THREADED	SOLDERED	WELDED	BRAZED	MECH. JOINT	NO-HUB
DRAINAGE (BURIED)	X							X									X												X						
VENTS (BURIED)	X							X									X												X						
HOSE DRAINS	X							X									X												X						
LEADER DRAINS																																			
SANITARY STACKS	X								X					X																					X
SANITARY BRANCHES	X								X					X																					X
LEADERS	X								X					X																					X
LEADER RUNOUTS																																			
VENTS	X								X																										X
C.W.	X						X																	X							X				
C.T.																																			
DRINKING WATER																																			
PUMP DISCHARGE	X					X																		X							X				
H.W. & H.W.C.	X						X																	X							X				
BURIED C.W. (4" & LARGER)	X			X																														X	
BURIED C.W. (3" & SMALLER)																																			
GAS PIPING 3" & SMALLER	X		X																											X					
GAS PIPING 4" & LARGER	X		X																													X			
DRAINAGE (BURIED) 12" & LARGER																																			
EJECTOR DISCHARGE	X		X																															X	
SUMP DISCHARGE	X		X																															X	
FIXTURE CONNECTION																																			

NOTE: THE DOMESTIC HW HEATER FOR THIS PROJECT IS AN IN-DIRECT HEATER AND AS SUCH IT USES HEATED WATER FROM THE BOILERS TO CREATE DOM HOT WATER. THERE IS NO GAS INPUT, NO ELECTRICITY INPUT; THEREFORE, CANNOT BE ENTERED IN COM-CHECK. REFER TO SCHEDULE INFORMATION ON DWG P-300 FOR ECCC COMPLIANCE.

ECCCNYS PLUMBING COMPLIANCE NOTES

PER 2011 NYC ENERGY CONSERVATION CODE:

SECTION 504.2: SERVICE WATER HEATING EQUIPMENT PERFORMANCE EFFICIENCY
WATER HEATER EFFICIENCY IS INCLUDED ON THE MECHANICAL COM CHECK (REFER TO DRAWING EN-010)

SECTION 504.3: **TEMPERATURE CONTROLS**
DOMESTIC HOT WATER DISCHARGE SET POINT TEMPERATURE SHALL BE 110 DEGREES F FOR ALL DWELLING UNITS, 90 DEGREES F IN OTHER OCCUPANCIES AND 110 DEGREES F FOR LAVATORIES IN PUBLIC FACILITY RESTROOMS.

SECTION 504.4: **HEAT TRAPS** - NOT APPLICABLE TO THIS PROJECT.

SECTION 504.5: **PIPE INSULATION**
ALL DOMESTIC WATER PIPE (COLD, HOT AND CIRCULATING HOT WATER) SHALL BE INSULATED WITH 1-INCH THICK, MINERAL FIBER, PREFORMED PIPE INSULATION. THIS IS INCLUSIVE OF CROTONS.

SECTION 504.6: **HOT WATER SYSTEM CONTROLS**
AUTOMATIC CIRCULATING HOT WATER SYSTEM PUMP SHALL BE ARRANGED TO BE "TURNED OFF" AUTOMATICALLY VIA AN AQUASTAT SENSING RETURN WATER TEMPERATURE (REFER TO DETAIL).

SECTION 504.7: **POOL HEATERS** - NOT APPLICABLE TO THIS PROJECT.

PLUMBING LEGEND

SYMBOL	ABBREV	DESCRIPTION
	S OR W	SANITARY BELOW GRADE
	S OR W	SANITARY ABOVE GRADE
	ST	STORM BELOW GRADE
	ST	STORM ABOVE GRADE
	CW	DOMESTIC COLD WATER
	HW	DOMESTIC HOT WATER
	HWR	DOMESTIC HOT WATER RETURN
	V	SANITARY VENT
G	G	NATURAL GAS
	IW	INDIRECT WASTE PIPING
	DN	PIPE OFFSET DOWN
	UP	PIPE OFFSET UP
	UP & DN	PIPE UP & DN
	RD	ROOF DRAIN
	FD	FLOOR DRAIN WITH RUNNING TRAP
	FS	FLOOR SINK WITH RUNNING TRAP
	COWP	CLEAN-OUT WITH WALL PLATE
	CODP	CLEAN-OUT WITH DECK PLATE
	CO	CLEAN-OUT AT END OF PIPE RUN (EXPOSED)
	GV	GATE VALVE
	BV	BALL VALVE
	GC	GAS COCK
	CV	CHECK VALVE
	WH	FLUSH MOUNTED WALL HYDRANT
	BT	BATHTUB
	SH	SHOWER
	SS, MS	SERVICE SINK
	WC	WATER CLOSET
	LAV	LAVATORY
	SK	SINK
M		DOMESTIC WATER METER

INSULATION SCHEDULE

SYSTEM	PIPE SIZE	PIPE INSULATION	PIPE INSULATION THICKNESS	FITTINGS, VALVES, FLANGES-INSULATION TYPE	REMARKS
DOMESTIC COLD WATER	ALL	MINERAL FIBER, ASJ, SSL	1"	MOLDED, PRE-FORMED MINERAL PVC JACKET	TYPE I
DOMESTIC HOT WATER	1" & LESS	MINERAL FIBER, ASJ, SSL	1"	MOLDED, PRE-FORMED MINERAL PVC JACKET	TYPE I
DOMESTIC HOT WATER CIRC.	1" & LESS	MINERAL FIBER, ASJ, SSL	1"	MOLDED, PRE-FORMED, MINERAL PVC JACKET	TYPE I
DOMESTIC HOT WATER	1.5" & UP	MINERAL FIBER, ASJ, SSL	1.5"	MOLDED, PRE-FORMED MINERAL PVC JACKET	TYPE I
DOMESTIC HOT WATER CIRC.	1.5" & UP	MINERAL FIBER, ASJ, SSL	1.5"	MOLDED, PRE-FORMED, MINERAL PVC JACKET	TYPE I

NOTE1: FIBERGLASS INSULATION: THERMAL CONDUCTIVITY .22 TO. 28 BTU x IN/H x FT x F W/100F MEAN TEMP, THICKNESS BASED ON ASHRAE 90.1, 1999, TABLE 6.2.4.5
NOTE 2: REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
NOTE3: CONSTRUCTION DOCUMENTS MUST ACCOUNT FOR PIPING TOTAL THICKNESS INCLUDING REQUIRED INSULATION WHEN PASSING THROUGH PLANKS OR ANY OTHER PENETRATION. PIPING MUST BE INSPECTED BEFORE ACCESS IS COVERED UP. EXTENT AND LOCATION TO BE DETERMINED BY ASHRAE 90.1-2007 SECTION 7.4.3 OR LOCAL CODE.

N.Y.C. DOB PLUMBING NOTES

THE PLUMBING SYSTEMS (SANITARY, WASTE, VENT, WATER DISTRIBUTION AND GAS) AND ALL ASSOCIATED EQUIPMENT WILL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE FULL REQUIREMENTS OF THE NYC 2008 PLUMBING CODE (PC) AND FUEL GAS CODE (FGC).

1. INSTALLATION OF UNDERGROUND PIPING SHALL BE IN ACCORDANCE WITH THE NYC PLUMBING CODE SECTION 702.2.
2. PROTECTION OF PIPING PASSING UNDER OR THROUGH FOUNDATION WALLS SHALL COMPLY WITH NYC PLUMBING CODE SECTION 305.
3. TRENCHING, EXCAVATION AND BACKFILL SHALL COMPLY WITH NYC PLUMBING CODE SECTION 306.
4. RAT PROOFING SHALL COMPLY WITH NYC PLUMBING CODE SECTION 304.
5. ALL MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF NYC PLUMBING CODE SECTION 303, 605, 702, 902 AND 1102.
6. THE INSTALLATION OF FIXTURES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE CHAPTER 4.
7. EQUIPMENT CONNECTIONS AND JOINING OF PIPING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE CHAPTERS 4, 5, 6, 7 AND 9.
8. DEEP SEAL TRAPS FOR FLOOR DRAINS SHALL BE PROVIDED AS PER NYC PLUMBING CODE SECTION 1002; CLEAN-OUTS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE SECTION 708.
9. BUILDING HOUSE TRAPS SHALL BE PROVIDED IN ACCORDANCE WITH NYC PLUMBING CODE SECTION 1002.
10. DRAINAGE PIPE CLEAN-OUTS SHALL BE PROVIDED IN ACCORDANCE WITH NYC PLUMBING CODE SECTION 708.
11. VERTICAL AND HORIZONTAL PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH NYC PLUMBING CODE SECTION 308.
12. WATER SUPPLY SYSTEMS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE CHAPTER 6, SECTION 601 THROUGH 604, 606, 607, 608 AND 610.
13. THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE CHAPTER 7, SECTION 701, 704 THROUGH 708 AND 711.
14. VENT PIPING FOR THE SANITARY DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE CHAPTER 9, SECTION 901 THROUGH 917.
15. THE STORM DRAINAGE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC PLUMBING CODE CHAPTER 11, SECTION 1101 THROUGH 1113.
16. GAS PIPING AND CONNECTIONS TO EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NYC FUEL GAS CODE CHAPTERS 3, 4 AND 6.
17. TEMPORARY TOILE FACILITIES SHALL BE PROVIDED FOR CONSTRUCTION WORKERS AS PER NYC PLUMBING CODE CHAPTER 3, SECTION 311.

Owner:
The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
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New York, NY 10025

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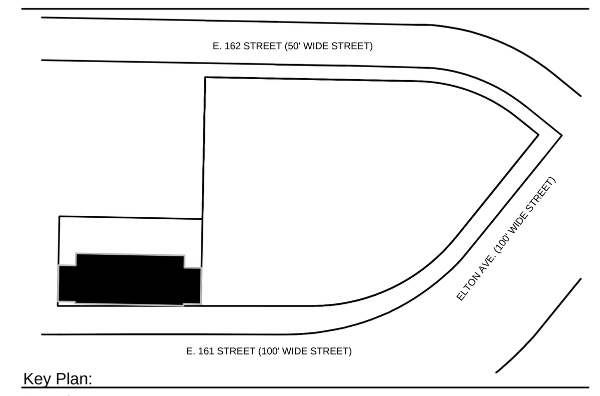

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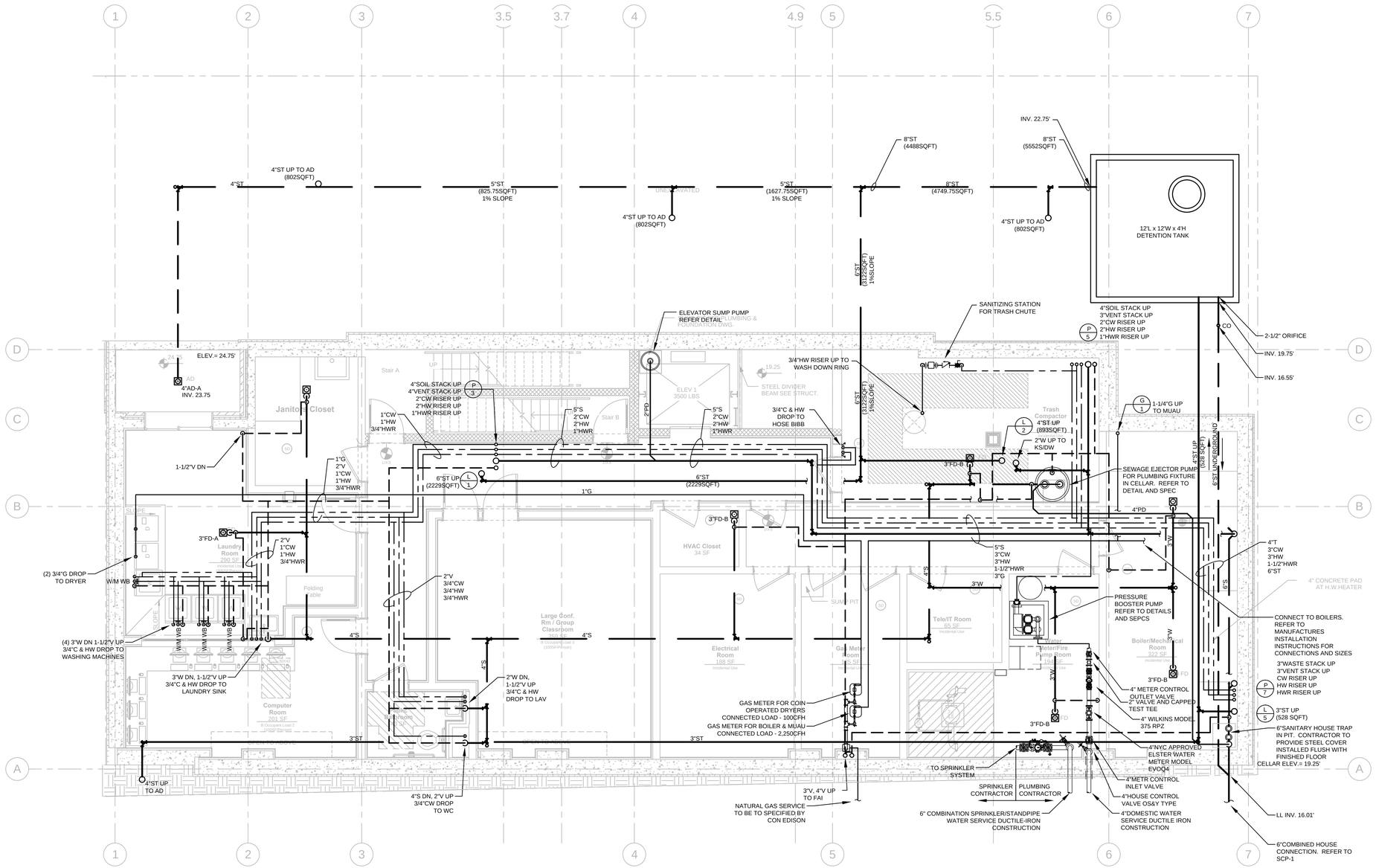

CELLAR FLOOR PLAN - PLUMBING

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

Owner:

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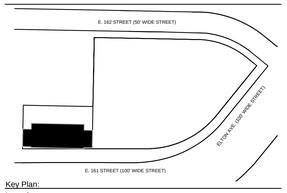

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CELLAR PLUMBING PLAN

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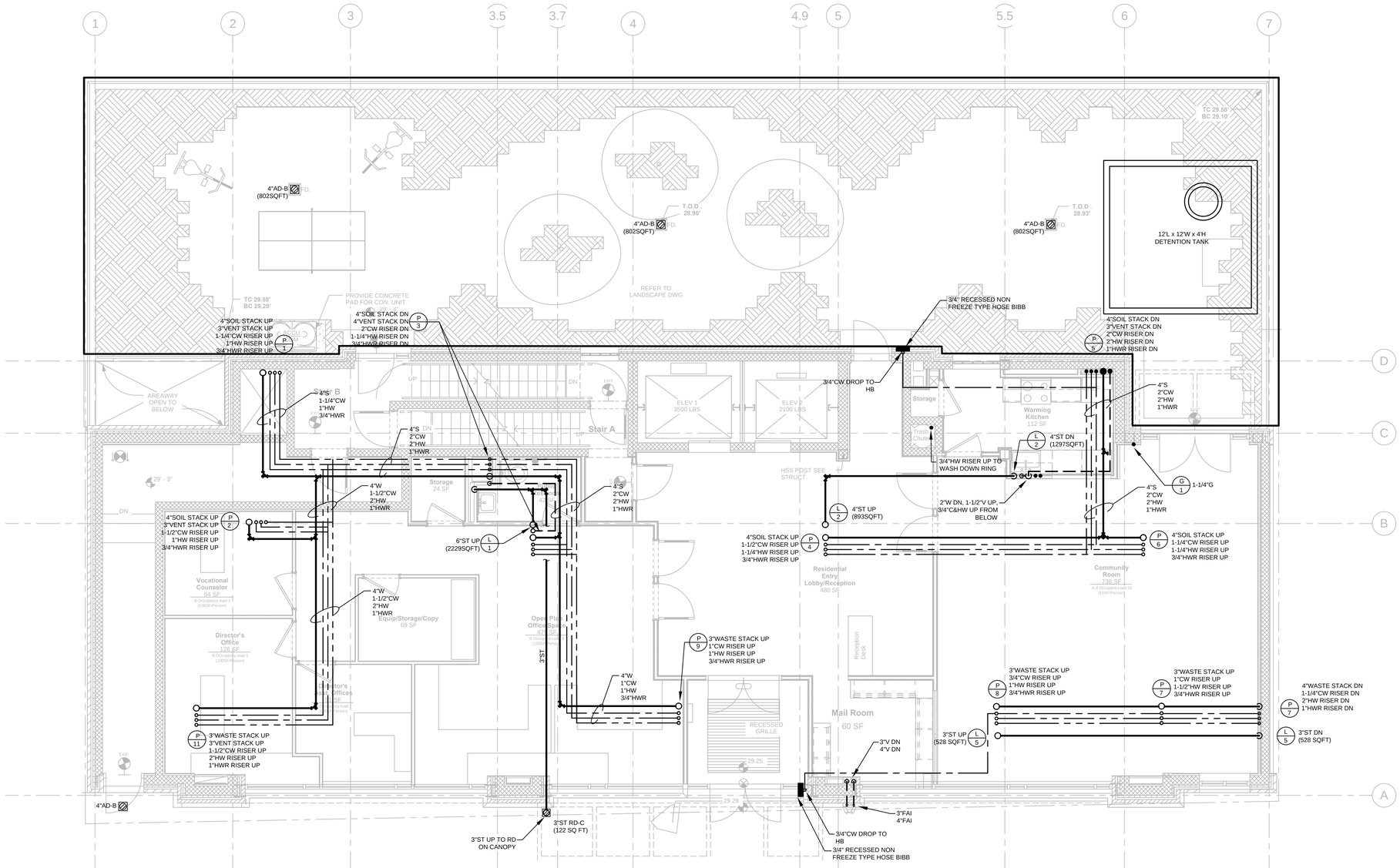

FIRST FLOOR PLAN - PLUMBING

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

Owner:

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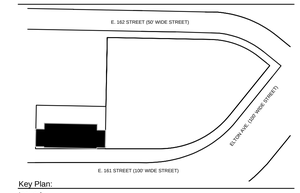

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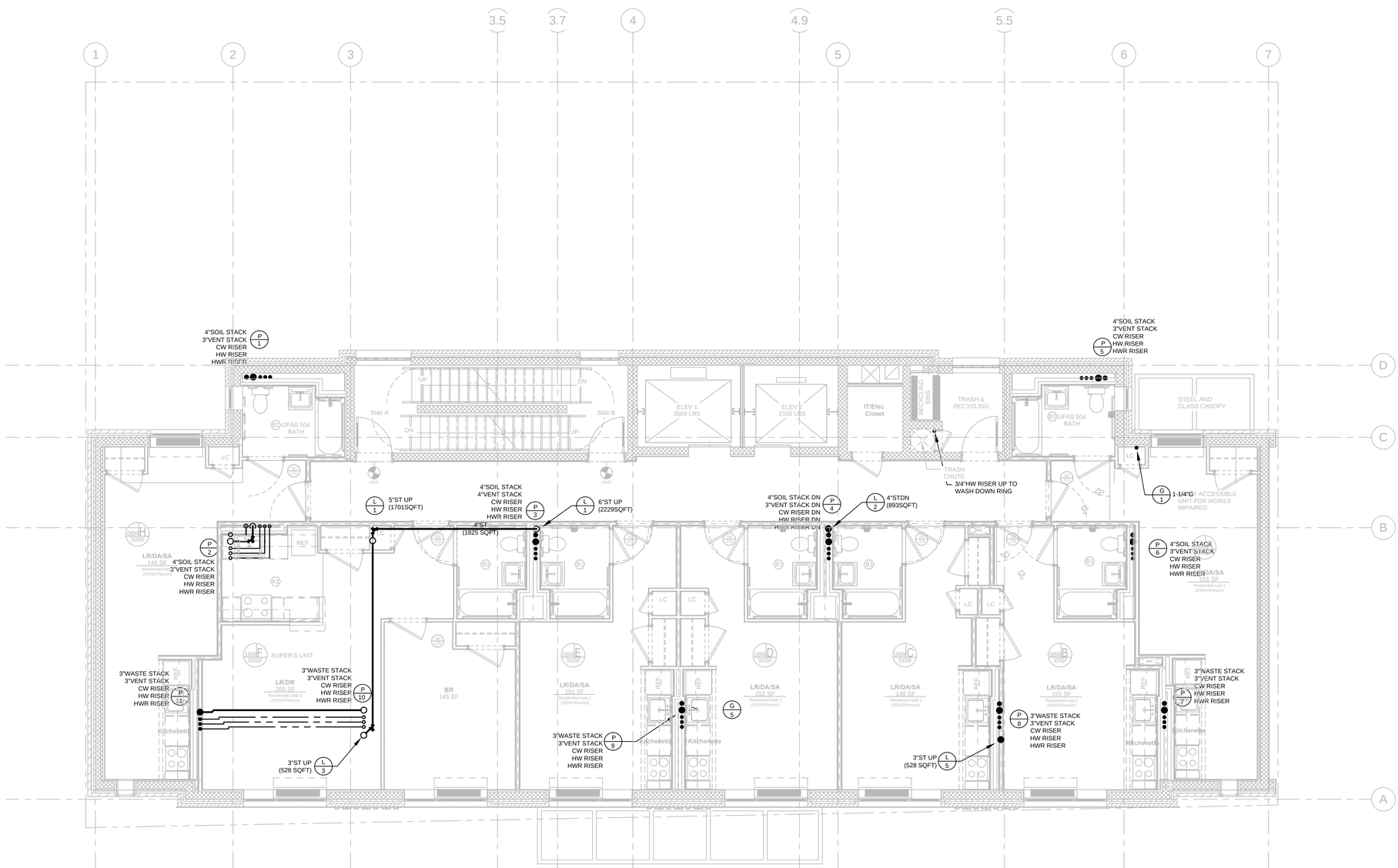

SECOND FLOOR PLAN - PLUMBING

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

Owner:

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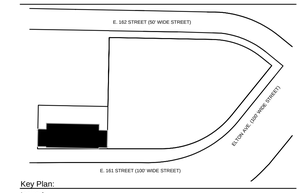

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7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

Revisions:

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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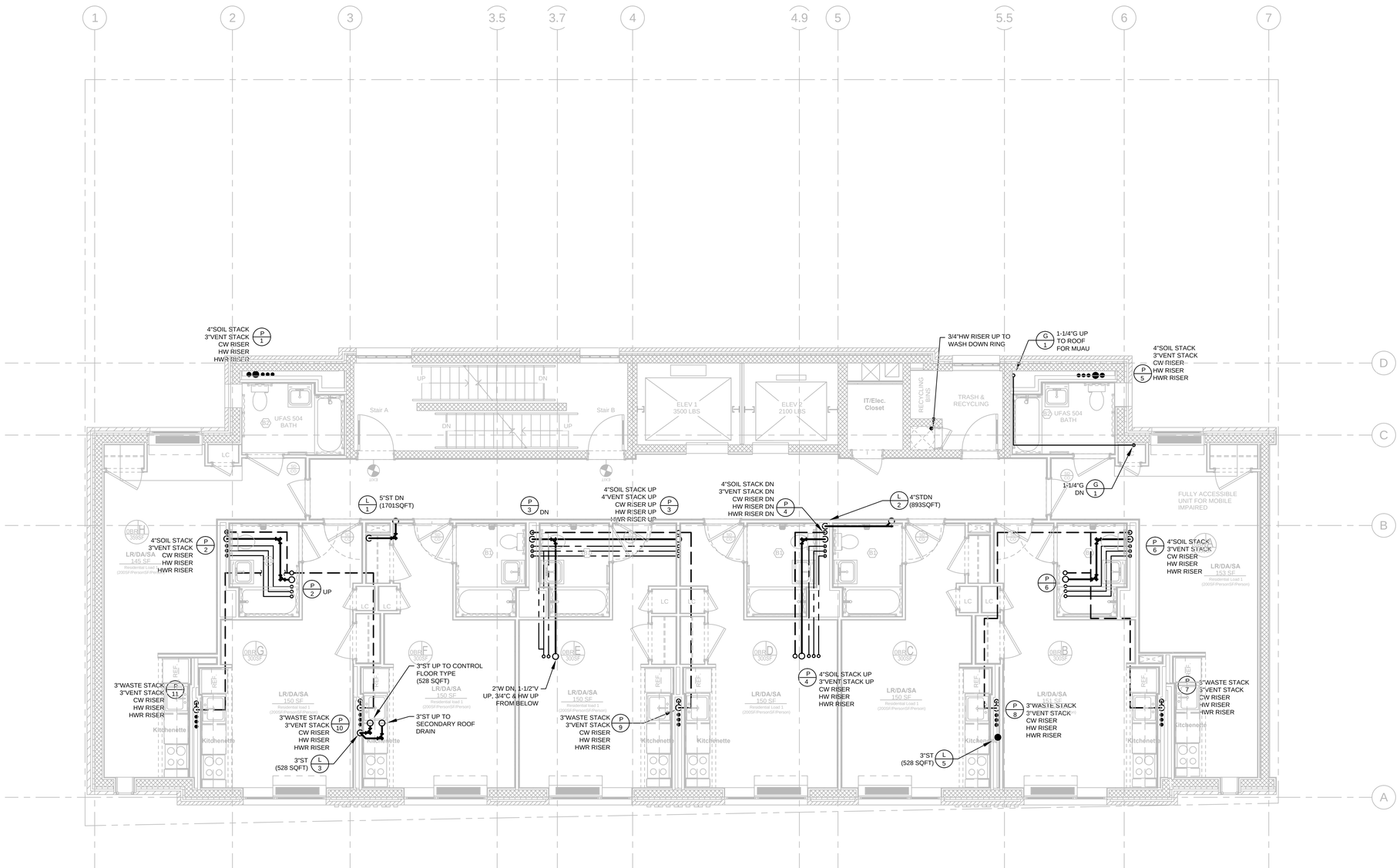
SECOND FLOOR PLUMBING PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-102.00

SCALE: AS NOTED



THIRD THRU EIGHTH FLOOR PLAN - PLUMBING

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

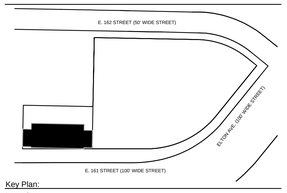
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
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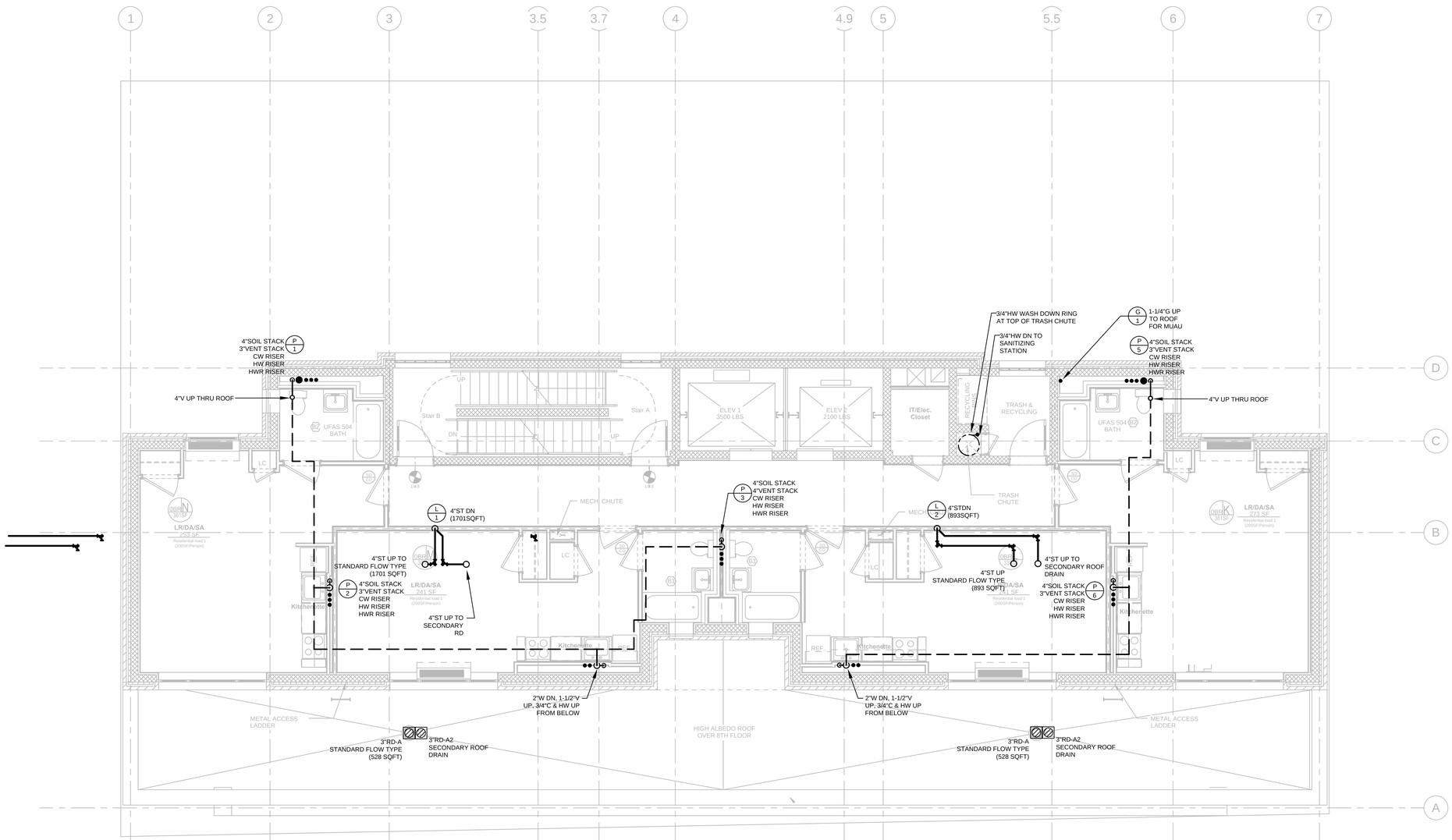
THIRD THRU EIGHTH FLOOR PLUMBING PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-103.00

SCALE: AS NOTED



NINTH FLOOR PLAN - PLUMBING

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

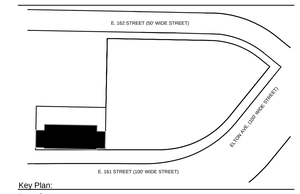
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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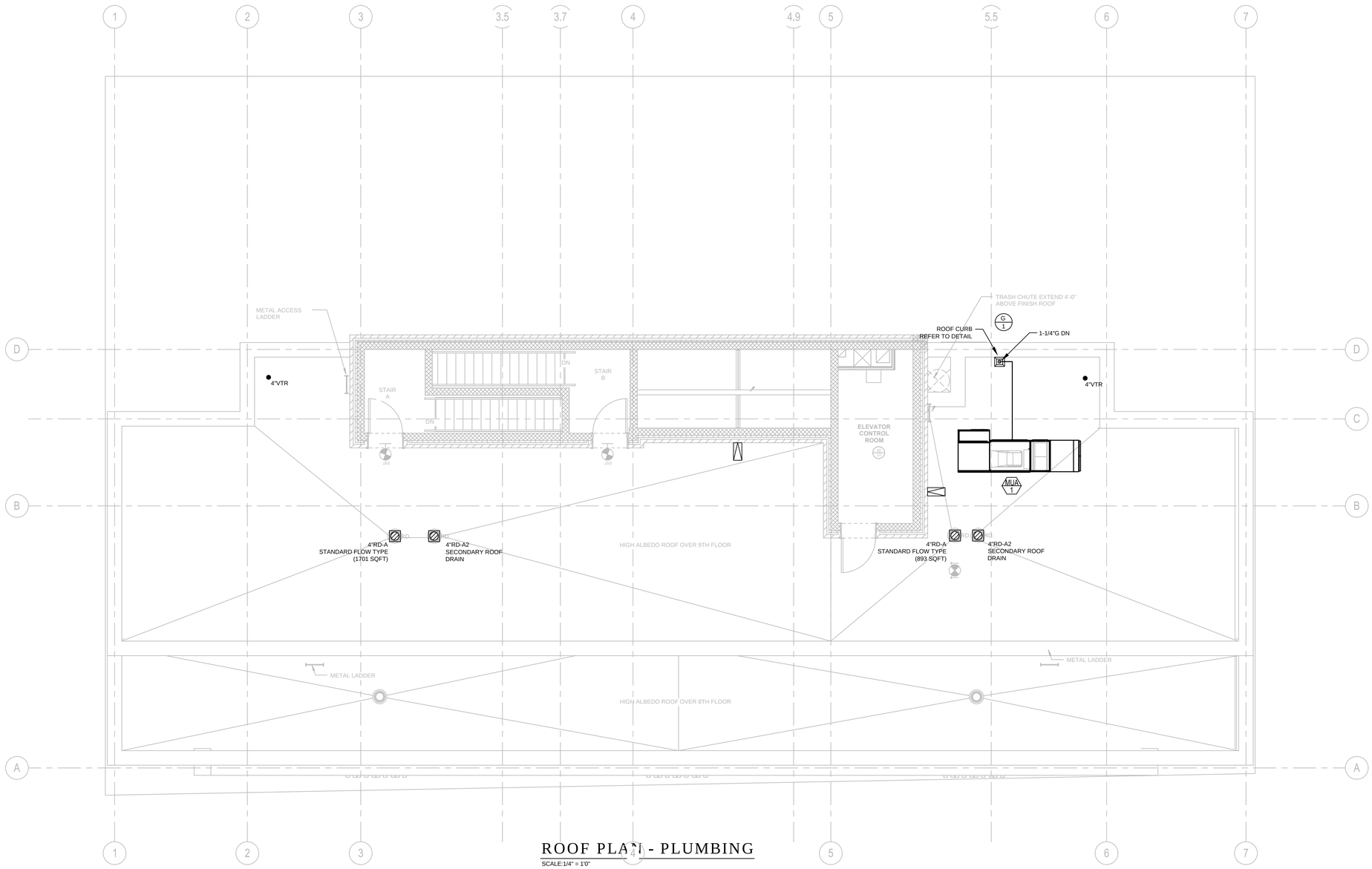
NINTH FLOOR PLUMBING PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:
P-104.00
SCALE: AS NOTED
102 OF 111



ROOF PLAN - PLUMBING

SCALE:1/4" = 1'0"

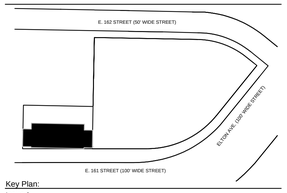
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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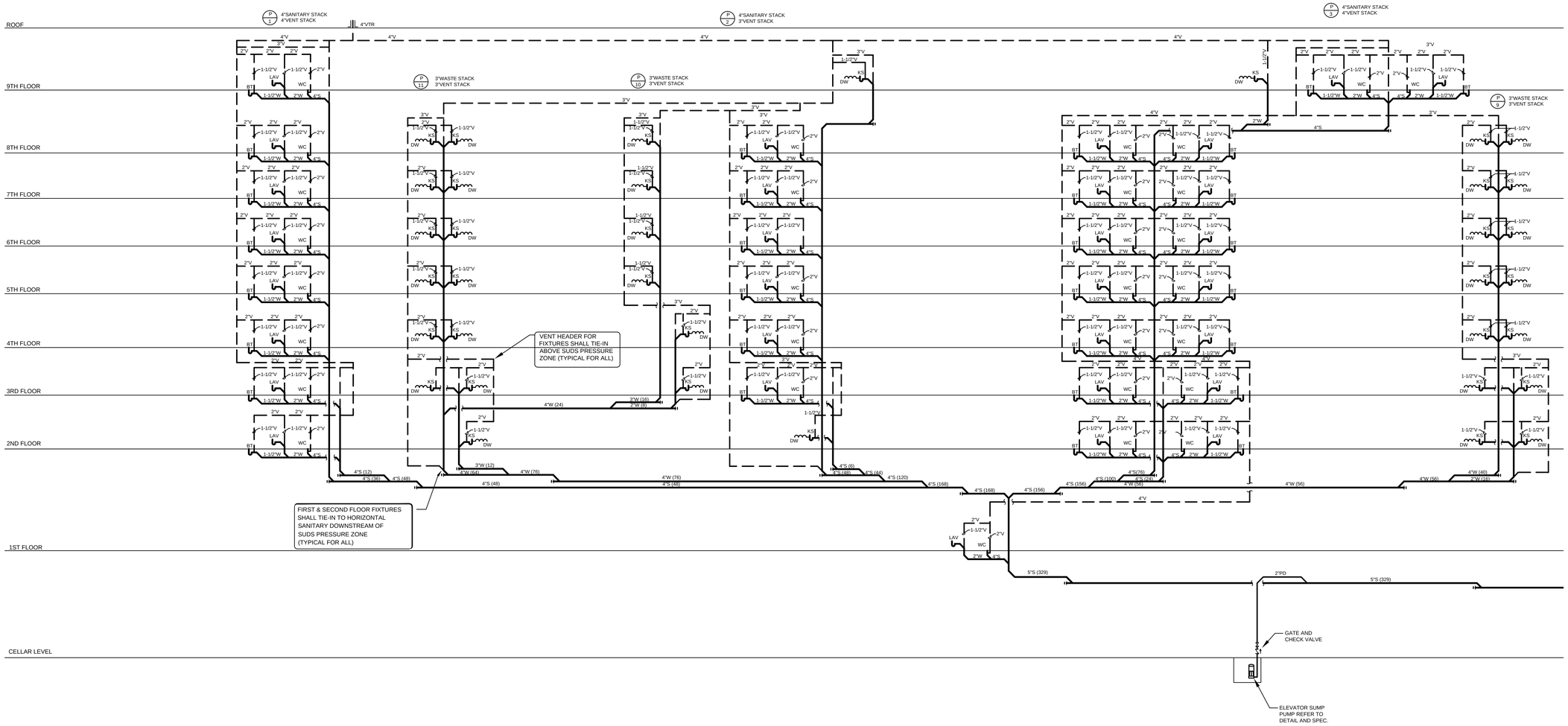
ROOF PLUMBING PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-105.00

SCALE: AS NOTED



SANITARY RISER DIAGRAM 1 OF 2

SCHEMATIC ONLY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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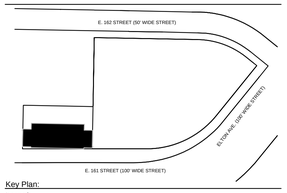

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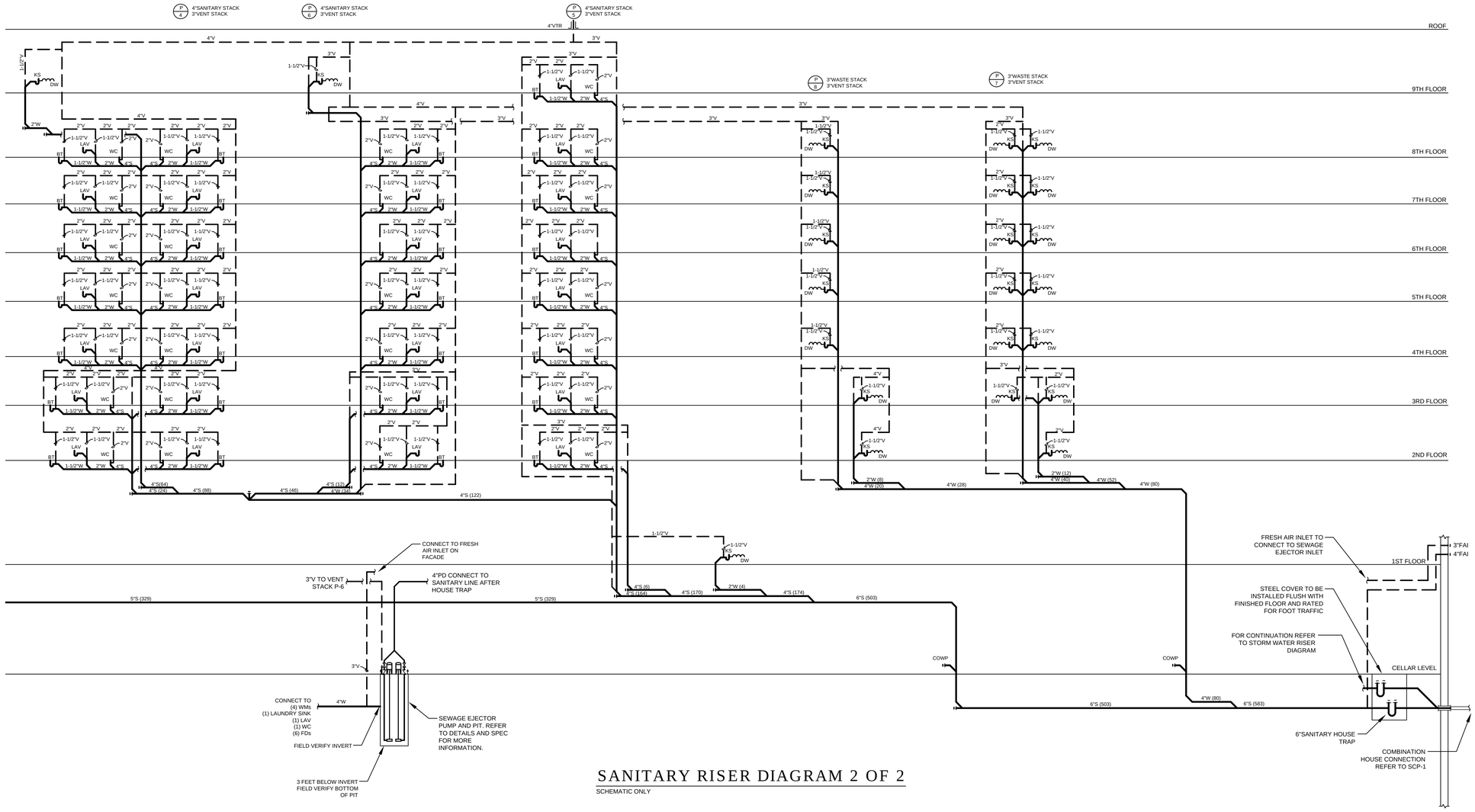
SANITARY RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:
P-200.00
SCALE: AS NOTED
104 OF 111



SANITARY RISER DIAGRAM 2 OF 2

SCHEMATIC ONLY

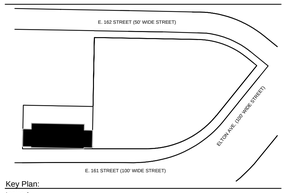
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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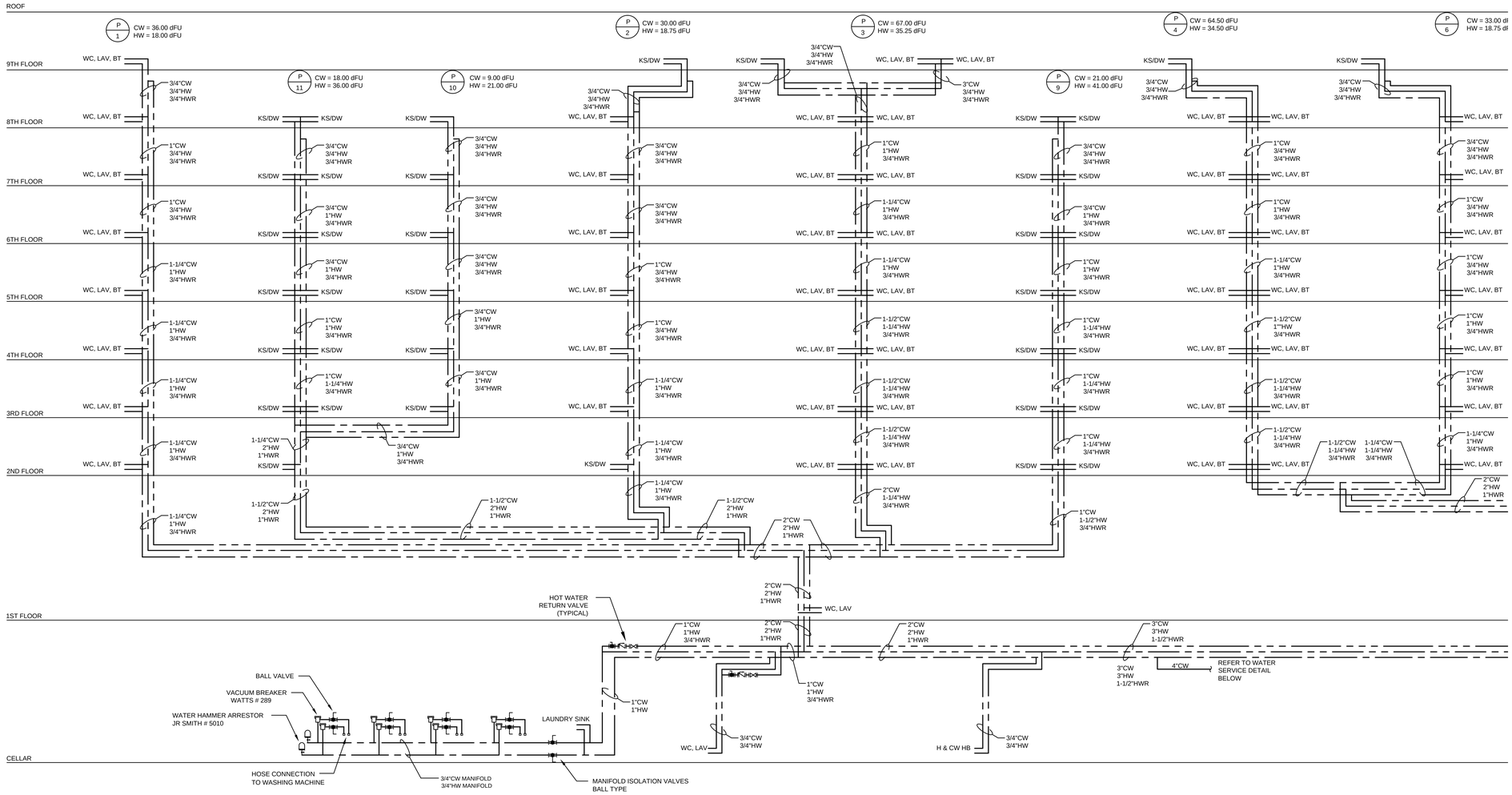
SANITARY RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

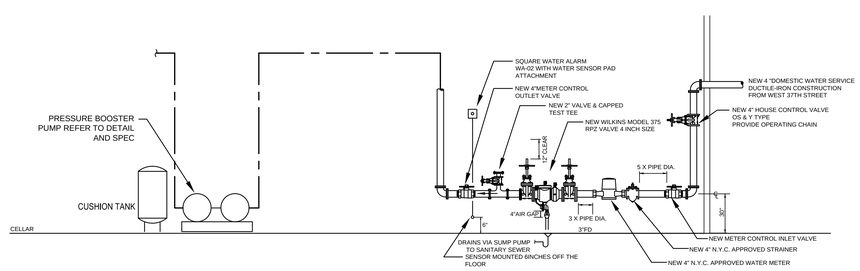
P-201.00

SCALE: AS NOTED



DOMESTIC WATER RISER DIAGRAM 1 OF 2

SCHEMATIC ONLY



WATER SERVICE AND BOOSTER PUMP

SCHEMATIC ONLY

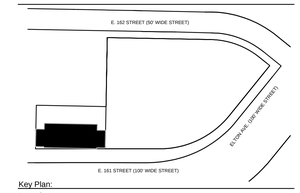
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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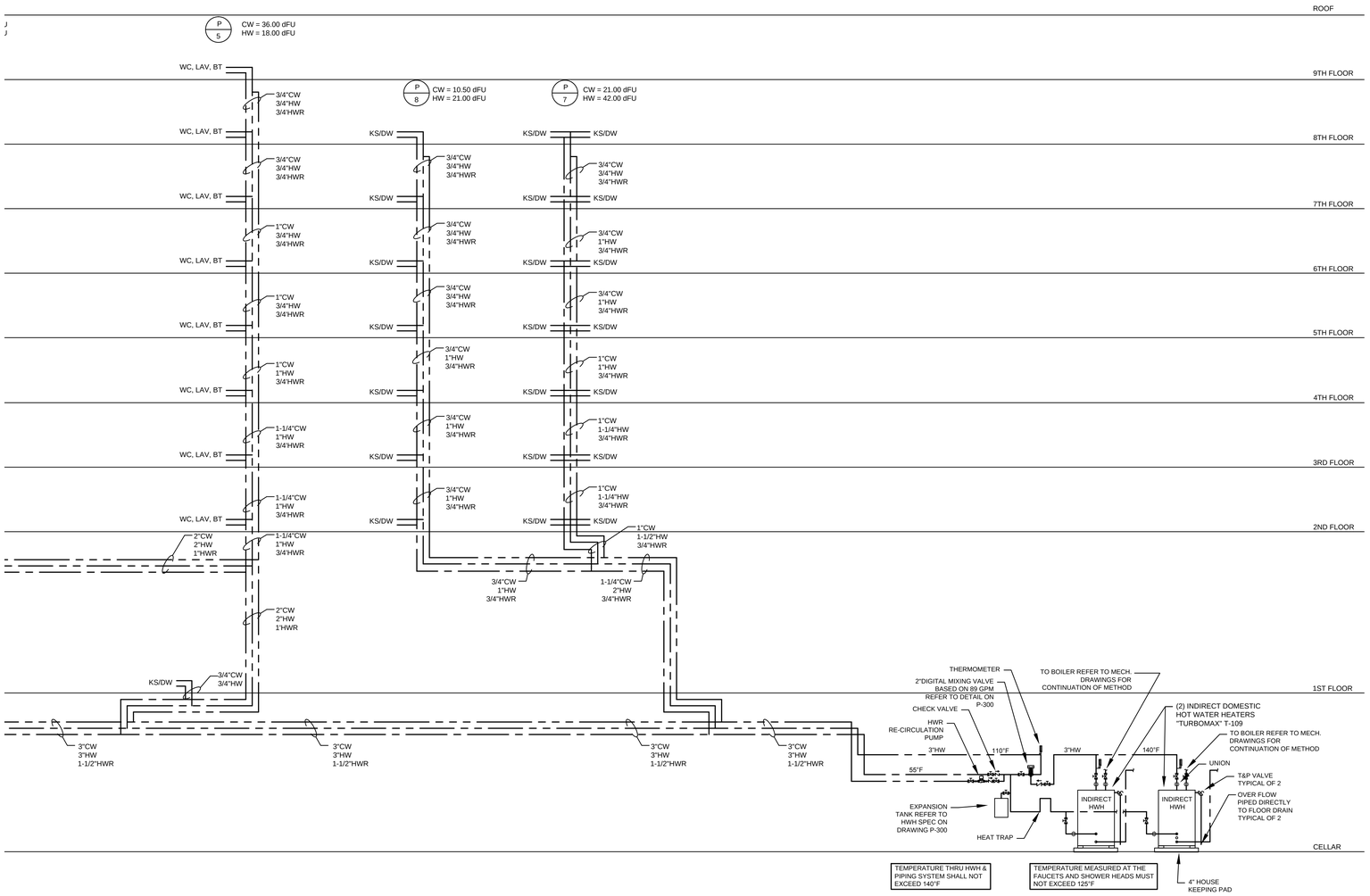
DOMESTIC WATER RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-210.00

SCALE: AS NOTED



DOMESTIC WATER RISER DIAGRAM 2 OF 2

SCHEMATIC ONLY

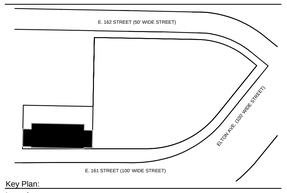
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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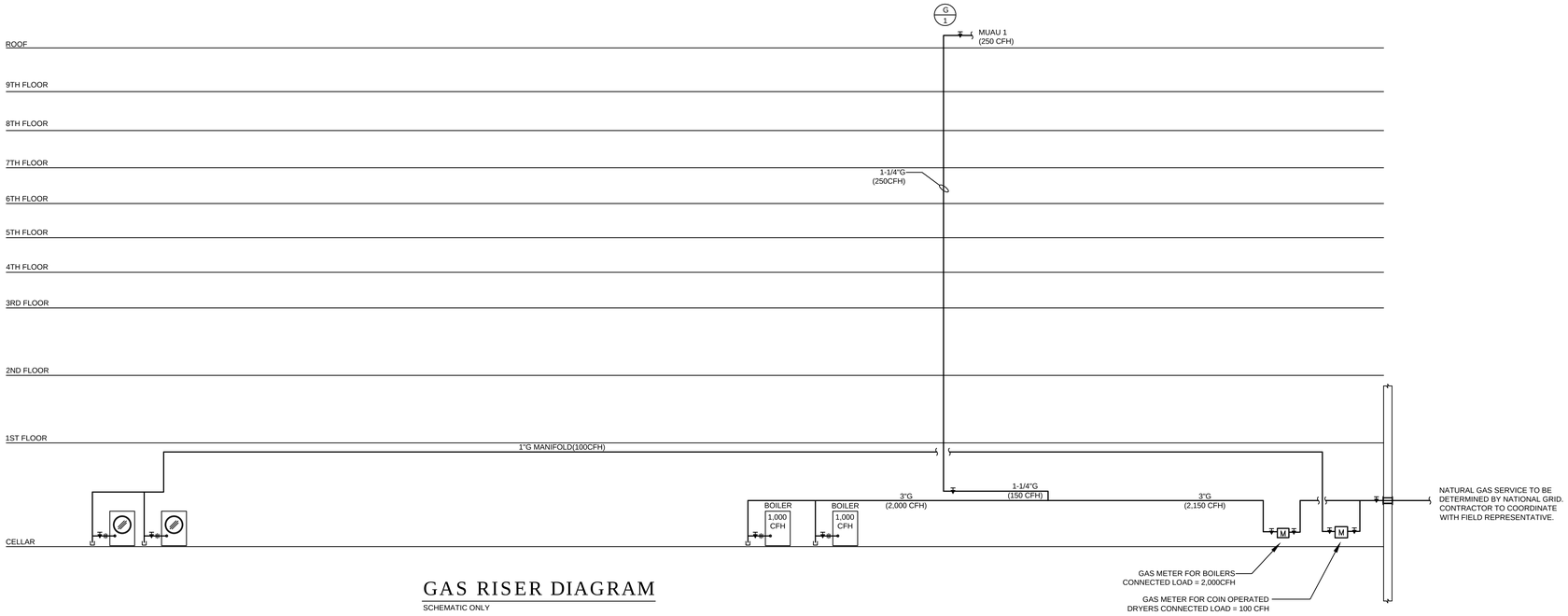
DOMESTIC WATER RISER DIAGRAM

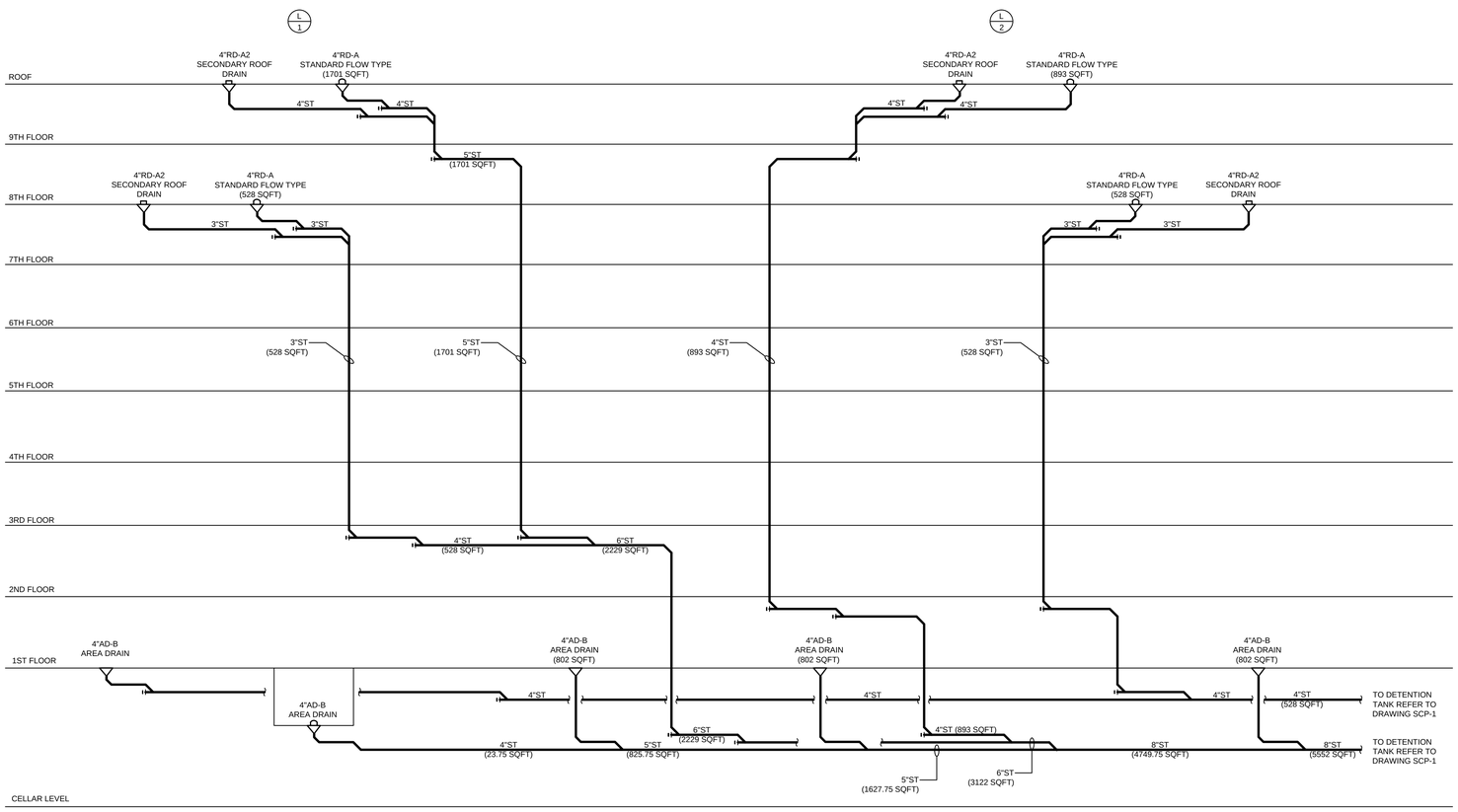
SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:
P-211.00
SCALE: AS NOTED
107 OF 111



GAS RISER DIAGRAM

SCHEMATIC ONLY



STORM RISER DIAGRAM

SCHEMATIC ONLY SLOPE = 1%

GAS PIPING NOTES:

1. ARRANGE WITH THE UTILITY COMPANY TO PROVIDE GAS SERVICE CONNECTION, CURB STOP WITH SERVICE BOX, MASTER GAS METER, PRESSURE REGULATORS AND VALVES.
2. PROVIDE FOR ALL OTHER NECESSARY EQUIPMENT AND GAS PIPING CONNECTIONS TO METER STATION NOT PROVIDED BY THE UTILITY COMPANY
3. CONNECTION AND INSTALLATION OF THE GAS SYSTEM SHALL BE MADE IN SUCH MANNER AS REQUIRED BY THE GAS UTILITY COMPANY AND ALL AUTHORITIES HAVING JURISDICTION.
4. PROVIDE INDEPENDANT GAS COCK ON PIPING TO EACH EQUIPMENT ITEM REQUIRING GAS SERVICE.
5. PITCH GAS PIPING NOT LESS THAN 1/4 INCH PER FT. TO PREVENT TRAPS. HORIZONTAL LINES SHALL PITCH TO RISERS AND RISERS TO THE METER OR SERVICE REGULATOR WHEN A METER IS NOT PROVIDED.
6. GAS PIPING SYSTEM WITHIN A BUILDING SHALL BE ELECTRICALLY CONTINUOUS AND BONDED TO A GROUNDING ELECTRODE AS DEFINED BY THE NEC.

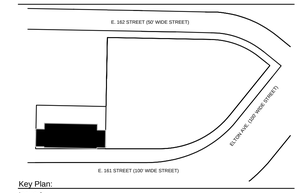
Owner:

The Bridge
MENTAL HEALTH AND
HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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GAS & STORM RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-220.00

SCALE: AS NOTED

DOMESTIC HOT WATER HEATER SPECIFICATION

(2) SPECIFICATIONS FOR TURBOMAX 109 INDIRECT WATER HEATERS

FIRST HOUR MAXIMUM FLOW RATE - 772.00 GALLONS/HOUR
- 12.87 GALLONS/MINUTE
CONTINUOUS MAXIMUM FLOW RATE - 724.00 GALLONS/HOUR
- 12.07 GALLONS/MINUTE
THE HOT WATER HEATER(S) FOR DOMESTIC HOT WATER PURPOSES SHALL BE TURBOMAX
WITH QUANTITY, MODEL NUMBER # TURBOMAX 109 AND RATING AS SHOWN ON THE MECHANICAL PLANS..

WATER SIDE FLOW: THE HOT WATER HEATER SHALL HAVE AN ALL COPPER WATERWAYS MADE OF MULTIPLE HELICAL COPPER TUBES OPERATING IN PARALLEL WITH A 150 P.S.I. MAXIMUM OPERATING PRESSURE RATING. ALL COPPER COMPONENTS SHALL MEET THE NSF 61 STANDARD NSF INTERNATIONAL STANDARD DRINKING WATER SYSTEMS COMPONENTS HEALTH EFFECTS AND SHALL BE JOINED BY A SILLFOSS SILVER BRAZING CONTAINING NO LEAD.

BOILER SIDE FLOW: THE HOT WATER HEATER SHALL HAVE A PATENTED STEEL INJECTOR THROUGH WHICH THE BOILER WATER OR THE PRIMARY CIRCUIT FLUID ENTERS THE TOP SIDE OF THE TANK AND A STEEL COLLECTOR THROUGH WHICH THE BOILER WATER OR PRIMARY CIRCUIT FLUID EXITS AT THE BOTTOM OF THE TANK.

TANK CONSTRUCTION: THE TANK SHALL BE MADE OF HIGH CARBON STEEL, BE HYDROSTATICALLY TESTED TO A PRESSURE OF 300 P.S.I. WITH A MAXIMUM OPERATING PRESSURE OF 150 P.S.I. STEEL JOINTS MUST BE WELDED BY THE MIG/ARGON GAS PROCESS. THE TANK SHALL HAVE A FIBERGLASS INSULATION JACKET REDUCING THE TANK HEAT LOSS TO LESS THAN ½ DEGREE F PER HOUR AND HAVE AN OUTER STEEL JACKET PROTECTED BY BAKED EPOXY.
THE TANK SHALL BE COMPLETE WITH:

- A DRAIN (BALL) VALVE MADE OF BRASS WITH A MAXIMUM WORKING PRESSURE OF 150 P.S.I.
- THREE ADJUSTABLE FEET TO SUPPORT THE WATER HEATER AND FOR LEVELING.
- AN ASME RATED PRESSURE RELIEF VALVE SET AT 30 P.S.I.
- A THERMOMETER/PRESSURE GAGE.

CONTROL: THE HOT WATER HEATER SHALL HAVE A TEMPERATURE CONTROLLER (AQUASTAT) THAT MAKES CONTACT WHEN THE TEMPERATURE FALLS 6 DEGREES F0 BELOW THE TANK WATER TEMPERATURE SET POINT AND BREAK CONTACT WHEN THE TEMPERATURE RISES OVER THE SET POINT.

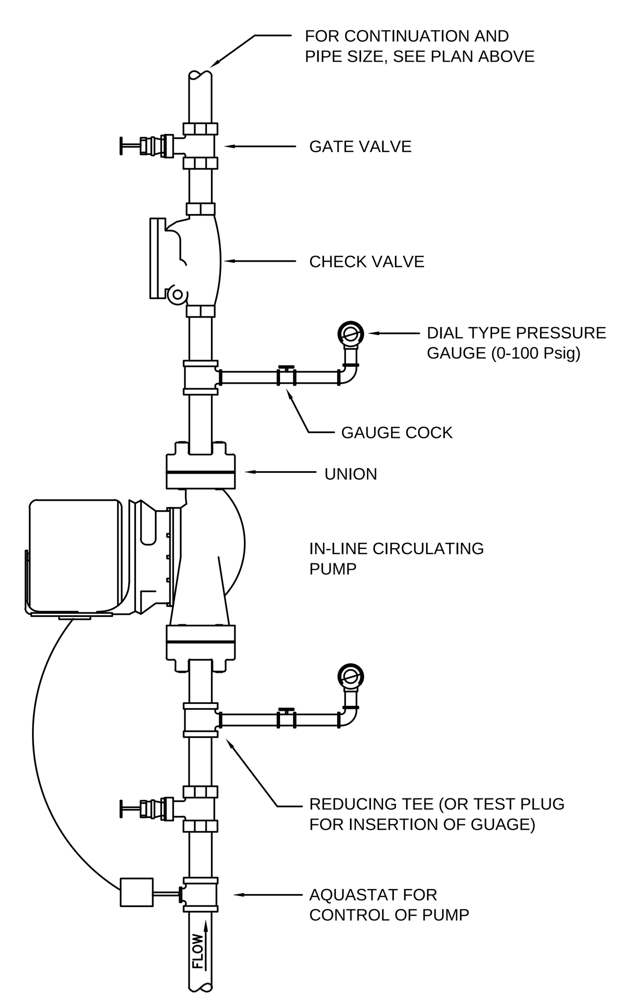
IN ADDITION THE CONTRACTOR SHALL SUPPLY :

- AN IRON BODY CIRCULATING PUMP OF SUFFICIENT RATING TO PROPERLY AND ADEQUATELY MAINTAIN THE CORRECT PUMP FLOW RATE BETWEEN THE HOT WATER HEATER AND THE TURBOMAX (S).
- A BRONZE BODY PUMP TO RE-CIRCULATE THE DOMESTIC HOT WATER THROUGHOUT THE BUILDING.
- A MIXING VALVE TO PREVENT EXCESSIVE HOT WATER FROM CAUSING BODILY HARM TO ANY OCCUPANT.

WARRANTY: THE WATER HEATER SHALL BE BACKED BY A 10-YEAR WARRANTY .

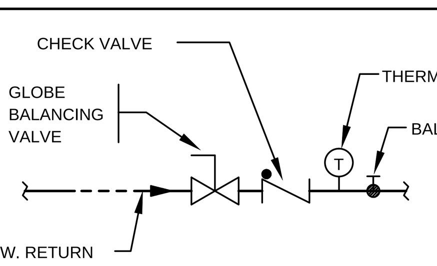
PER NYCECC TABLE 504.2 (FOR UNFIRED STORAGE TANKS): MINIMUM INSULATION REQUIREMENT: R= 12.5
ACTUAL INSULATION FOR THIS UN-FIRED STORAGE TANK: R = 20.8 (EXCEEDS MIN CODE REQUIREMENT)

1	FLEXCON MODEL WHV-120 TANK VOLUME 32 GAL, ACCEPTANCE VOLUME 12.8 GAL FOR POTABLE WATER
1	THE BRONZE RE-CIRC PUMP: 8 GPM @ PSI TO OVER COME FRICTION LOSS
	REFER TO RISER DIAGRAM FOR PIPING SCHEMATIC AND REFER TO MANUFACTURES INSTALLATION INSTRUCTIONS
	HEAT TRANSFER EFFICIENCY 99%



CIRCULATING PUMP DETAIL

NOT TO SCALE



PROCEDURE FOR BALANCING HOT WATER RETURN PIPING

1. IN ORDER TO BALANCE HOT WATER RETURN TEMPERATURES IN THE RETURN PIPING THIS IS THE PROCEDURE TO BE FOLLOWED:
BEFORE A RETURN CIRCULATION SYSTEM IS PUT INTO SERVICE IT SHOULD BE ADJUSTED FOR RETURN LINE TEMPERATURE BALANCE UNDER CONDITIONS WHEREBY NO WATER IS DRAWN AT THE FIXTURE OUTLETS. FIRST, CLOSE ALL BALANCING VALVES SO THAT ALL CIRCULATION GOES THROUGH BRANCH 1. THEN, OPEN THE BALANCING VALVE ON BRANCH 2 TO THE DEGREE NECESSARY SO THAT IT RETURNS WATER CONSTANTLY AT THE SAME TEMPERATURE AS BRANCH 1. SIMILARLY, ADJUSTMENT MAY BE MADE WITH BALANCING VALVE ON ANY OTHER RISERS OR BRANCHES SO THAT ALL RETURN WATER IS THE SAME TEMPERATURE.

2. CONTRACTOR, AT THE END OF THE PROJECT, TO SUBMIT A REPORT FOR RECORD TO THE ENGINEER THAT THE HOT WATER RETURN CIRCULATION SYSTEM HAS BEEN BALANCED PROPERLY.

HOT WATER RETURN BALANCING ASSEMBLY

SCHEMATIC ONLY

FURNISH AND INSTALL AS SHOWN ON PLANS A DUPLEX VSA-4F-1-1/2-4 SUSPENDED WET-PIT SEWAGE PUMP UNIT AS MANUFACTURED BY FEDERAL PUMP CORP. EACH PUMP SHALL BE RATED 100 G.P.M. AT 30 FEET TOTAL DYNAMIC HEAD, SHALL HAVE A 4-INCH DISCHARGE AND BE BUILT FOR A BASIN FOR WHICH THE DEPTH IS DETERMINED BY THE FIELD CONDITIONS.

IMPELLERS SHALL BE CAST IRON NON-CLOG BALANCED DESIGN; SHAFTS CARBON STEEL SIZED FOR MAXIMUM LOAD; THRUST BEARINGS BALL TYPE MOUNTED IN MOISTURE-PROOF HOUSINGS MOUNTED ABOVE THE SUSPENSION PLATE; CASINGS SMOOTH-PASSAGE CAST IRON WITH RENEWABLE BRONZE SLEEVE BEARING; RENEWABLE BRONZE SLEEVE INTERMEDIATE BEARINGS PROVIDED FOR EACH FOUR FEET OF UNSUPPORTED SHAFT LENGTH. FLEXIBLE GREASE LINE SHALL BE PROVIDED FOR EACH SHAFT BEARING; SUSPENSION PLATE CAST IRON WITH STRENGTHENING RIBS; SUSPENSION LEG SECTIONS CAST IRON WITH INTEGRAL CAST FLANGES ON EACH END; DISCHARGE PIPE STEEL WITH EXPANSION JOINTS AT BOTH ENDS; TOP DISCHARGE CONNECTION SHALL BE 45 DEGREE ELBOW WITH INTEGRAL ASA STANDARD FLANGE.

MOTORS SHALL BE 1-1/2 HP, 3 PHASE, 60 CYCLES, 208 VOLTS, 1150 R.P.M. OPEN, DRIP-PROOF BALL BEARING TYPE.

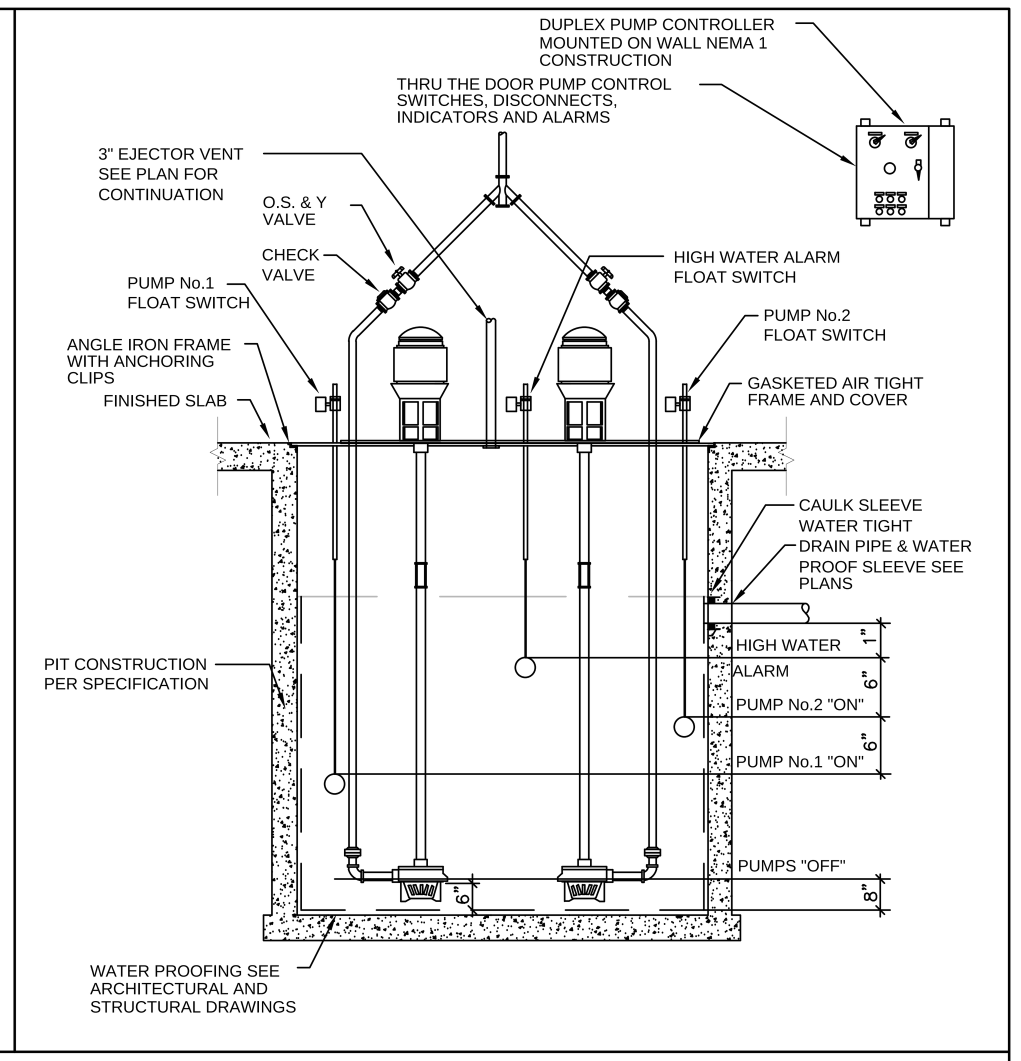
FURNISH A PEDESTAL MOUNTED ALTERNATING FLOAT SWITCH TO ALTERNATE THE OPERATION OF THE PUMPS AND PROVIDE SIMULTANEOUS OPERATION WHEN REQUIRED. FURNISH A PEDESTAL MOUNTED AUXILIARY FLOAT SWITCH TO TURN ON BOTH PUMPS IF THE ALTERNATING FLOAT SWITCH IS INOPERATIVE. THE ALTERNATING AND AUXILIARY FLOAT SWITCHES SHALL HAVE COPPER FLOATS, BRASS RODS, ADJUSTBLE STOPS, GALVANIZED ROD GUIDES AND SHALL BE EQUAL TO FEDERAL TYPE FS-4.

FURNISH A COMPRESSION TUBE TYPE HIGH WATER ALARM ACTUATING SWITCH WITH ADJUSTBLE SENSING TUBE AND INTEGRAL ALARM HORN, EQUAL TO FEDERAL TYPE FS-5.

FURNISH FOR EACH MOTOR A MAGNETIC LINE VOLTAGE STARTER IN WALL MOUNTING GENERAL PURPOSE ENCLOSURE PROVIDING OVERLOAD AND LOW VOLTAGE PROTECTION AND WITH A HAND-OFF-AUTOMATIC SELECTOR SWITCH IN THE COVER. CONTROL PANEL SHALL BE PROVIDED BY FEDERAL PUMP CORP.

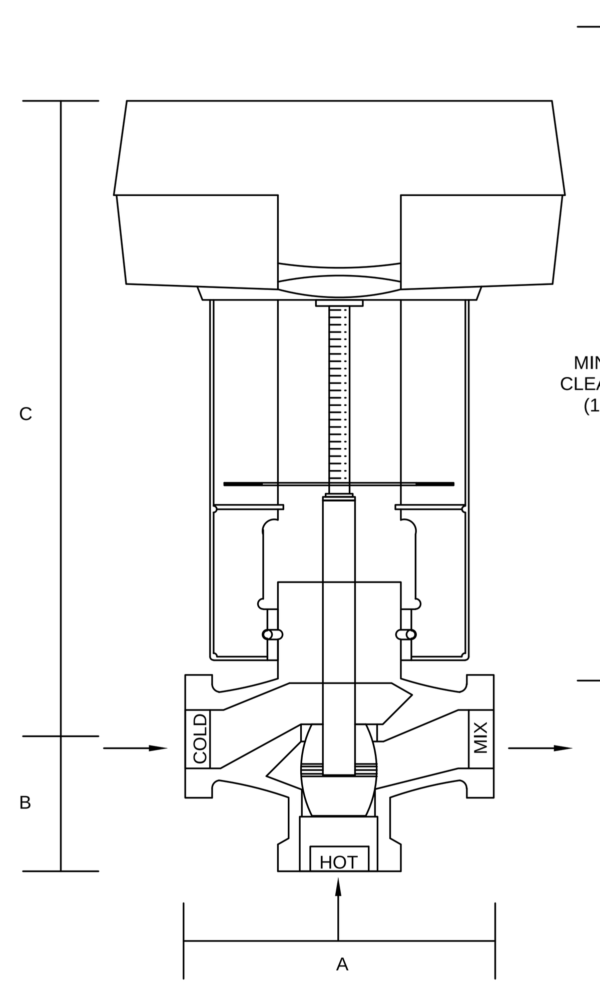
FURNISH A FIBERGLASS SEWAGE BASIN 36-INCH DIAMETER X REQUIRED DEPTH WITH INLET AS DETERMINED BY JOB CONDITIONS. BASIN SHALL HAVE A STEEL COVER WITH REQUIRED OPENINGS FOR PUMPS, CONTROLS, MANHOLE AND VENT CONNECTION AND SHALL BE TREATED WITH A CORROSION RESISTANT COATING.

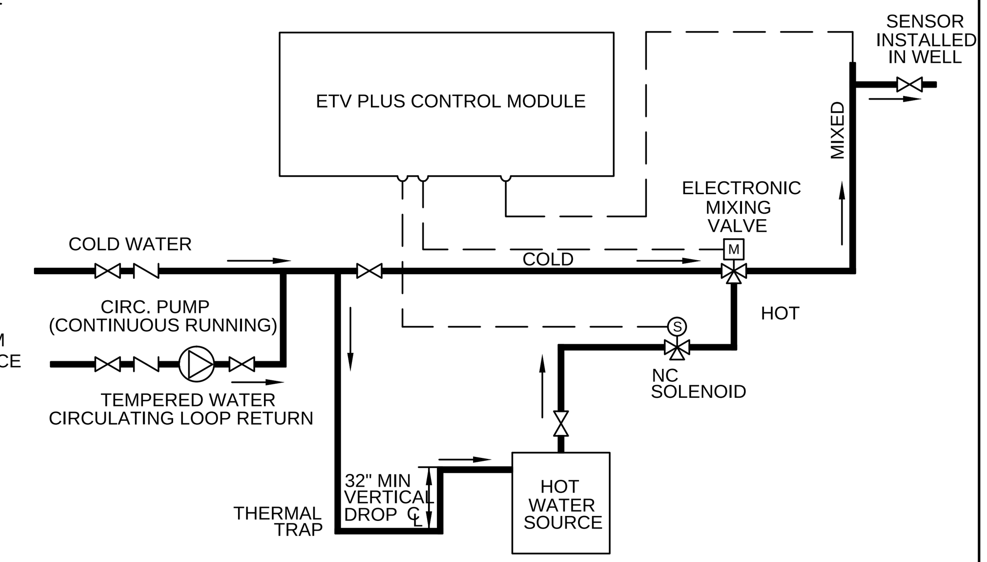
CONTRACTOR SHALL VERIFY DEPTH WITH FIELD CONDITIONS AND ADJUST AT NO ADDITIONAL COST TO OWNER.



DUPLEX SEWAGE EJECTOR SPECIFICATION and DETAIL

NOT TO SCALE





ETV PLUS PIPING

SCHEMATIC ONLY

SIZING RECOMMENDATIONS:

TO MAINTAIN ACCURACY, HEAT-TIMER RECOMMENDS A VALVE SIZE WITH A DESIGN FLOW RATE AS CLOSE AS POSSIBLE TO 5 PSI DROP.

STAINLESS STEEL VALVE DIMENSIONS

3-WAY MIXING VALVE SIZE	PART NO.	MOTOR	A	B	C	INLET/OUTLET PIPE SIZES		
						MIX	HOT	COLD
1/2"	915640-00	M800	3"	1-7/8"	12-1/2"	1/2"	1/2"	1/2"
3/4"	915641-00	M800	3-1/4"	2"	12-5/8"	3/4"	3/4"	3/4"
1"	915642-00	M800	3-3/8"	2-1/2"	12-7/8"	1"	1"	1"
1-1/4"	915642-00	M800	4"	2-1/2"	12-7/8"	1-1/4"	1-1/4"	1-1/4"
1-1/2"	915643-00	M800	4-3/4"	2-3/4"	13"	1-1/2"	1-1/2"	1-1/2"
2"	951644-00	TR1000	5-3/8"	3-3/8"	13-1/2"	2"	2"	2"
2-1/2"	915645-00	TR1000	6-1/8"	3-3/4"	13-7/8"	2-1/2"	2-1/2"	2-1/2"

EACH OF THE PART NUMBERS INCLUDE THE MOTOR AND A STAINLESS STEEL 3 WAY MIXING VALVE ONLY

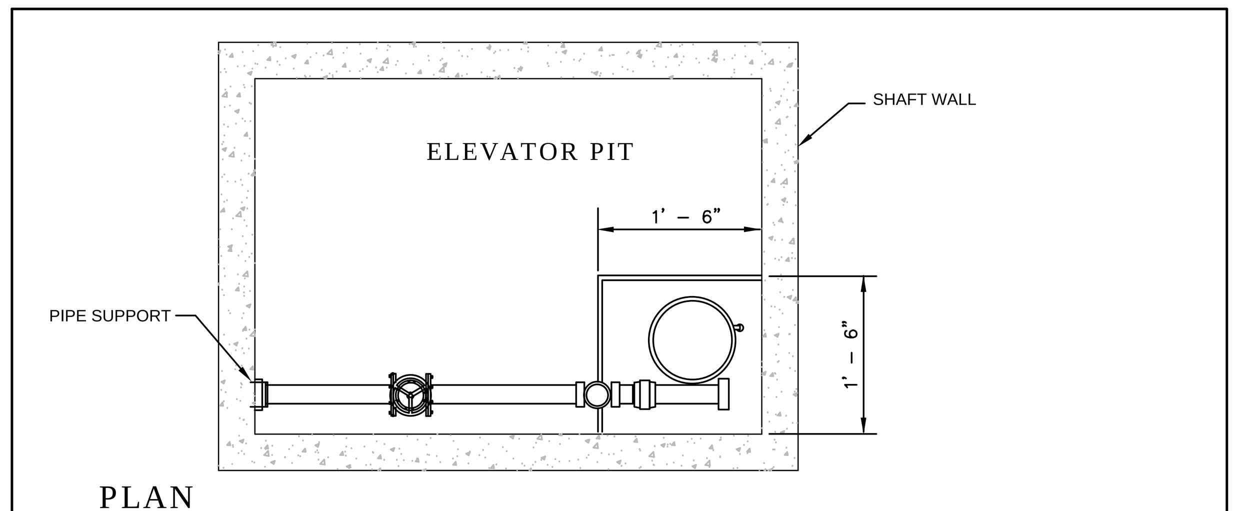
ETV VALVE SIZING CHART

PRESSURE DROP	VALVE SIZE						
	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"
3 psi	8	12	20	32	50	80	126
4 psi	9	15	23	37	58	93	145
5 psi	10	16	26	41	64	103	162
6 psi	12	18	28	45	71	113	178
7 psi	13	20	31	50	78	125	192
8 psi	14	21	33	53	83	132	205
9 psi	15	22	35	56	88	140	218
10 psi	16	23	36	58	91	145	230
11 psi	17	24	38	62	97	154	241
12 psi	18	25	40	64	100	160	252
	GALLONS PER MINUTE						

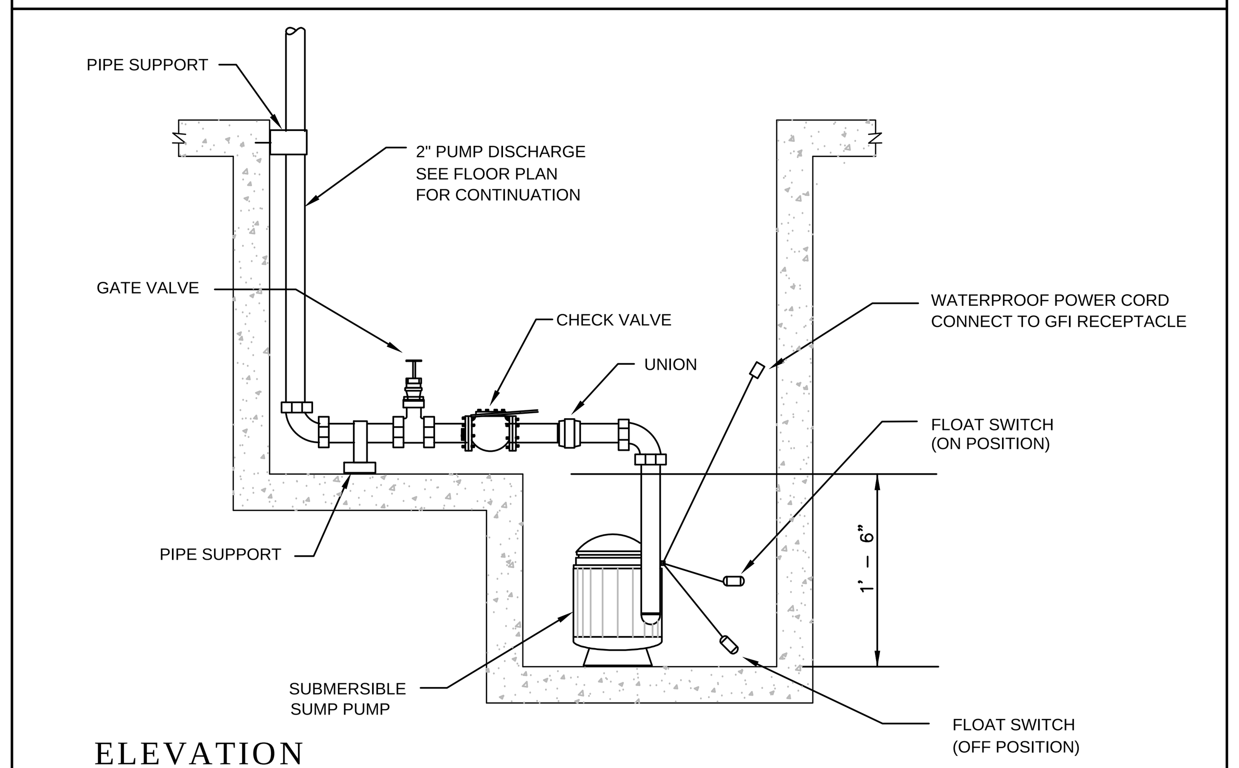
*CONFIRM ALL DIMENSIONS AND SIZING REQUIREMENTS WITH MANUFACTURER

HOT WATER HEATER DETAIL
ELECTRONIC TEMPERING VALVE CONTROL

NOT TO SCALE



PLAN



ELEVATION

SPECIFICATION:

FURNISH AND INSTALL WHERE SHOWN ON PLANS, A SINGLE TYPE P SUBMERSIBLE SUMP PUMP UNIT, MODEL # 2P-1/2-4 AS MANUFACTURED BY FEDERAL PUMP CORPORATION. PUMP TO HAVE A CAPACITY OF 10 G.P.M. AGAINST A TOTAL DYNAMIC HEAD OF 25 FT. PUMP TO HAVE 2-INCH N.P.T. DISCHARGE CONNECTION AND TO BE STANDARD-FITTED CONSTRUCTION WITH SUBMERSIBLE SEALED MOTOR, STAINLESS STEEL SHAFT AND WATERPROOF POWER CABLE. MOTOR TO BE 1/2 H.P., 1-PH., 120 VOLTS, 1750 RPM, WITH INTEGRAL FULLY SUBMERSIBLE FLOAT SWITCH, FOR AUTOMATIC CONTROL OF THE PUMP.

ELEVATOR PIT - SUMP PUMP DETAIL

NOT TO SCALE

PRESSURE BOOSTING SYSTEM SPECIFICATION

1. FURNISH AND INSTALL AS SHOWN ON PLANS, A FACTORY-ASSEMBLED DUPLEX WATER PRESSURE SYSTEM EQUAL TO SICO SYSTEMS TYPE ULTRA 2300 (QUIMBY EQUIPMENT, FARMINGDALE, NY) OR EQUAL.

2. THE UNIT SHALL INCLUDE TWO (2) MULTI-STAGE, DIFFUSER TYPE, VERTICALLY MOUNTED PUMPS AND HAVE A CAST IRON CASTING, STAINLESS STEEL IMPELLERS, DIFFUSERS AND SHAFT. EACH PUMP SHALL HAVE A SINGLE, TUNGSTEN-CARBIDE MECHANICAL SHAFT SEAL SUBJECT TO SUCTION PRESSURE AND REPLACEABLE WITHOUT DISTURBING THE PIPING CONNECTIONS. EACH PUMP WILL HAVE ITS OWN VFD (VARIABLE FREQUENCY DRIVE) LOCATED WITHIN THE DUPLEX CONTROL PANEL.

3. THE SYSTEM SHALL INCLUDE A PRE-CHARGED CUSHION STORAGE TANK WITH A FLEXIBLE BLADDER FDA APPROVED FOR POTABLE WATER USE. THE TANK SHALL BE RATED FOR MAXIMUM WORKING PRESSURE OF 150 PSIG. DURING PERIODS OF LOW DEMAND THE UNIT SHALL PROVIDE COMPLETE PUMP SHUTDOWN AND UTILIZE THE CUSHION STORAGE TANK TO MAINTAIN CONSTANT SYSTEM PRESSURE BETWEEN PUMP CYCLES.

4. THE SYSTEM SHALL BE FACTORY ASSEMBLED ON A STAINLESS STEEL BASE AND SHALL INCLUDE COPPER SUCTION AND DISCHARGE HEADERS, BRASS/ BRONZE INTERCONNECTING PIPING, A PRESSURE GAUGE FOR EACH HEADER, A BRONZE ISOLATION VALVE ON THE SUCTION AND DISCHARGE OF EACH PUMP AND A TEMPERATURE SENSING PURGE VALVE, TANK CHECK VALVE WITH "ONE WAY FLOW CONTROL', COPPER TUBING WITH SHUT-OFF COCKS FOR GAUGES AND PRESSURE SWITCHES. THE ONLY FIELD CONNECTIONS REQUIRED WILL BE SYSTEM SUCTION, DISCHARGE AND POWER CONNECTION AT THE CONTROL PANEL

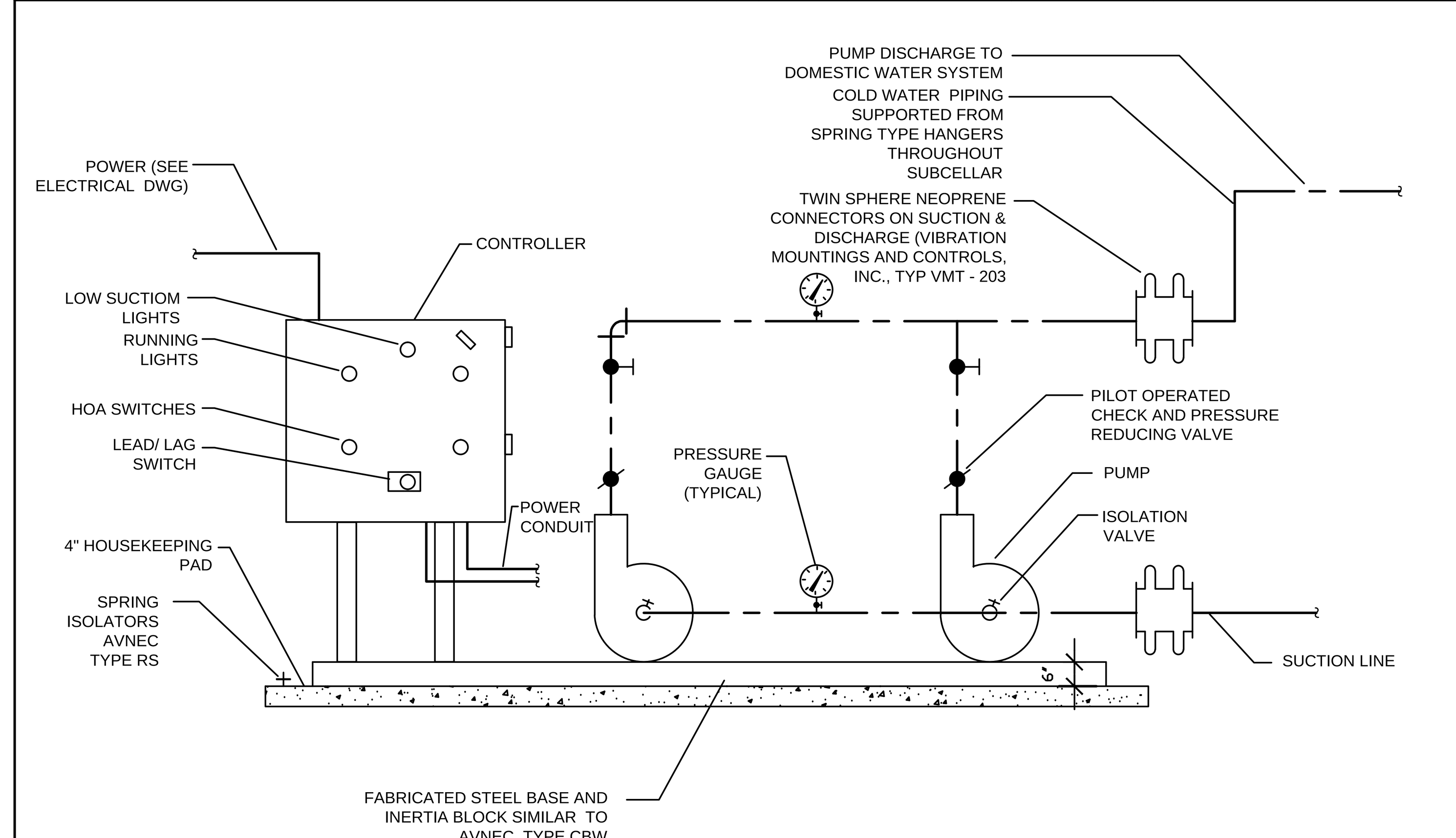
5. THE SYSTEM SHALL INCLUDE A CONTROL PANEL IN A NEMA-1 GENERAL PURPOSE ENCLOSURE, FACTORY MOUNTED AND WIRED IN THE UNIT, COMPRISING A FUSIBLE DISCONNECT SWITCH FOR EACH MOTOR WITH THRU-DOOR OPERATING HANDLES, A MAGNETIC STARTER FOR EACH MOTOR HOA SELECTOR SWITCHES, PILOT LIGHTS, A LEAD-LAG MANUAL TRANSFER SWITCH,REQUIRED TRANSFORMERS, HOLDING CIRCUITS,AND TIME DELAYS, A LAG PUMP CONTROL PRESSURE SWITHC AND A TERMINAL STRIP. FURNISH A LOW SUCTION PRESSURE CUT-OUT SWITH WITH PANEL-FRONT INDICATING LIGHT AND REQUIRED CIRCUITRY WITH TIME DELAY TO STOP PUMPS IF SUCTION PRESSURE DROPS BELOW A PREDETERMINED MINIMUM LEVEL AND ACTIVATES AUDIBLE ALARM.

6. THE SERVICE OF A FACTORY TRAINED REPRESENTATIVE SHALL BE MADE AVAILABLE AT THE JOBSITE TO CHECK INSTALLATION, START-UP AND INSTRUCT OPERATING PERSONNEL ON THE PROPER OPERATION AND MAINTENANCE. THE MANUFACTURER'S REPRESENTATIVE FOR SICO SYSTEMS IS:

THE MANUFACTUREER'S REPRESENTATIVE FOR SICO SYSTEM IS:
QUIMBY EQUIPMENT CO., INC.
35 CENTRAL DRIVE EAST
FARMINGDALE , NY 11735
PHONE: (631) 454-8411 FAX:
(631) 454-8417

DESIGN DATA

PUMP No.	MODEL No.	GPM	FEET OF HEAD	SHUT-OFF PRESS	HP	VOLTAGE	PHASE	RPM	STORAGE TANK		CONSTANT PRESSURE SYSTEM
									TANK CAPACITY	WORKING PRESS.	
P-1	CR20-3	135	116	85#	7.5	208	3	3500	80	150	VFD
P-2	CR20-3	135	116	85#	7.5	208	3	3500			



SCHEMATIC OF DUPLEX DOMESTIC WATER BOOSTER PUMPS

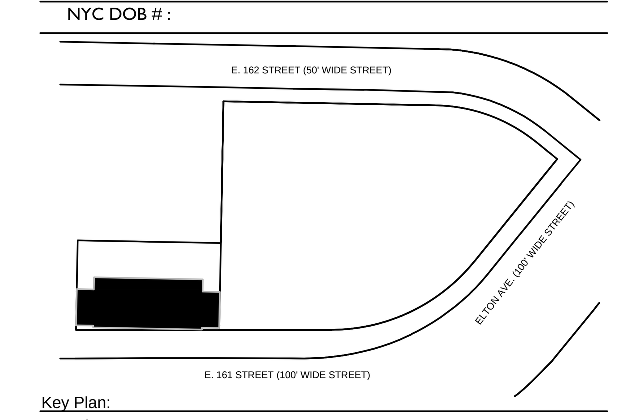
NOT TO SCALE

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
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6	02.26.15	SPRINKLER DOB ISSUANCE
7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

Revisions:

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New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:
DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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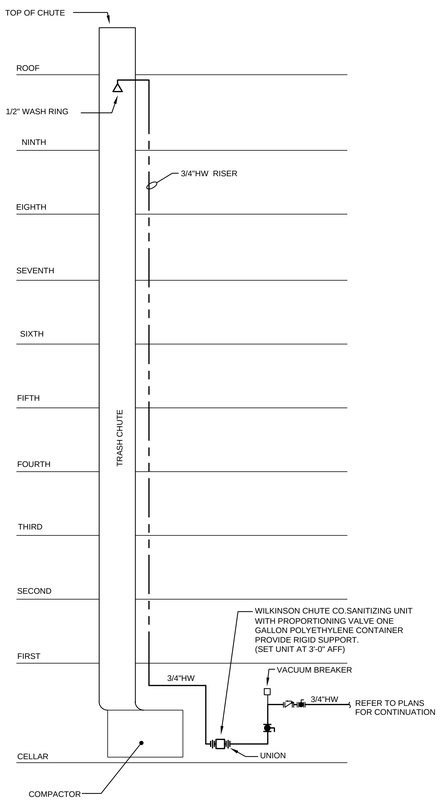
PLUMBING DETING

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:
P-300.00
SCALE: AS NOTED



TRASH CHUTE SANITIZING RISER DETAIL

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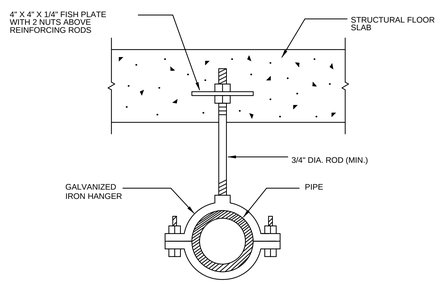
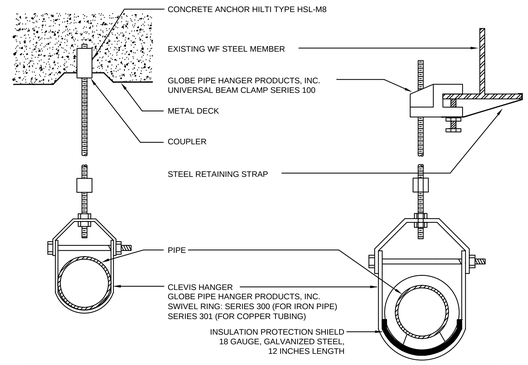


NOTES:

1. PIPE HANGERS TO BE INSTALLED THROUGHOUT
2. HANGERS FOR C.I. DRAINAGE LINES TO BE LOCATED AT A MAXIMUM OF 5'-0" APART. WITHIN 6" OF DOWN STREAM SIDE OF EACH HUB.
3. HANGERS AND RODS SHALL BE PAINTED WITH RED LEAD PAINT OR RUST INHIBITED PAINT.

UNDER SLAB PIPE SUPPORT DETAIL

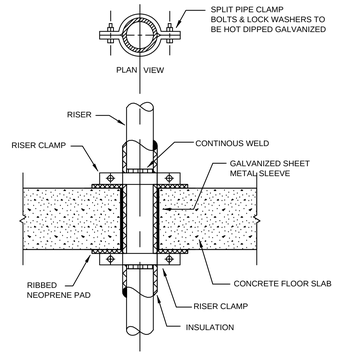
NOT TO SCALE



HANGER ROD SPACING AND SIZE SCHEDULE			
NOM. PIPE SIZE (INCHES)	COPPER TUBE MAX. SPAN (FEET)	CAST-IRON SOIL PIPE MAX. SPAN (FEET)	MINIMUM ROD DIAMETER (INCHES)
UP TO 3/4	5	N/A	3/8
1	6	N/A	3/8
1-1/4	6	N/A	3/8
1-1/2	8	5	3/8
2	8	5	3/8
2-1/2	9	5	1/2
3	10	5	1/2
3-1/2	10	5	1/2
4	10	5	1/2, 5/8 FOR SOIL PIPE
5	10	5	1/2, 5/8 FOR SOIL PIPE
6	10	5	5/8, 3/4 FOR SOIL PIPE
8	10	5	3/4, 7/8 FOR SOIL PIPE
10	10	5	3/4, 7/8 FOR SOIL PIPE
12	10	5	3/4, 1 FOR SOIL PIPE

PLUMBING PIPING CLEVIS HANGER DETAIL

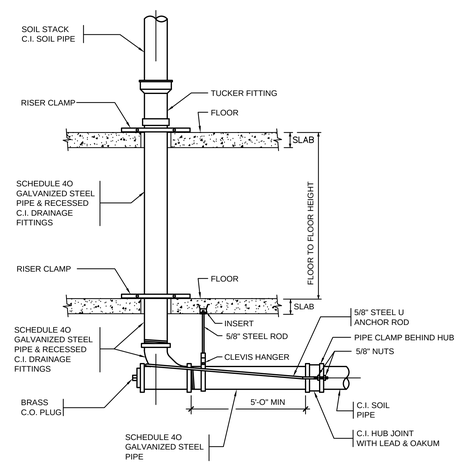
NOT TO SCALE



PIPE ANCHOR DETAIL

NOT TO SCALE

F:\DETAILS\PLUMBING-DETAILS\PCLEVIS



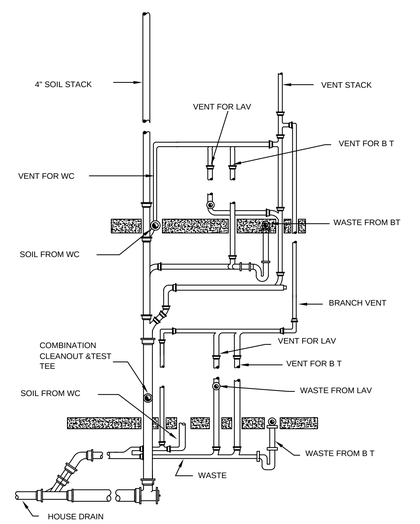
APPLICATION:

THIS DETAIL TO BE USED AT BASE STACKS IN HIGH RISE PORTIONS OF BUILDING STACKS (WHERE HIGH HEAD CONDITIONS MIGHT OCCUR DUE TO LINE BLOCKAGES, HIGH STATIC HEADS, ETC).

THIS DETAIL IS ALSO APPLICABLE TO STORM CONDUCTOR STACKS IN HIGH RISE PORTIONS OF BUILDING.

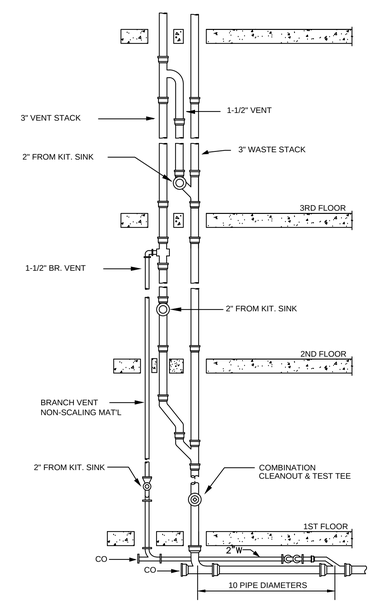
PIPING CONNECTIONS AT BASE OF STACK

SCHEMATIC ONLY



TYPICAL BATHROOM STACK PIPING DETAIL

SCHEMATIC ONLY



TYPICAL KITCHEN STACK PIPING DETAIL

SCHEMATIC ONLY

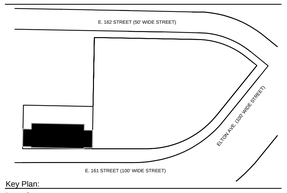
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

DESIGN 2147 LIMITED

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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PLUMBING DETING

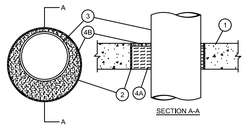
SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-301.00

SCALE: AS NOTED

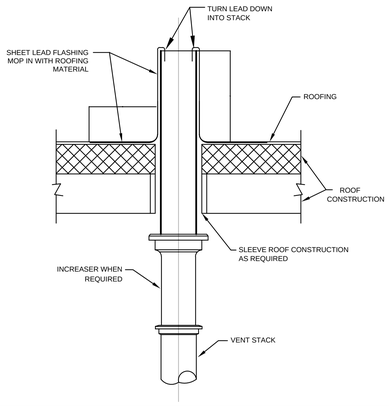
TREMCO - UL SYSTEM NO. C-AJ-1064
F RATINGS - 2, 3 & 4 HR



1. FLOOR OR WALL ASSEMBLY - MAX DIAM OF SLEEVED OPENING IS 32 IN. (813 MM).
2. STEEL SLEEVE - NOM 32 IN. (813 MM) DIAM (OR SMALLER) SCHEDULE 10 (OR HEAVIER) STEEL PIPE SLEEVE CAST OR GROUTED INTO FLOOR OR WALL ASSEMBLY. FLUSH WITH BOTH SURFACES OF FLOOR OR WALL, AS AN OPTION, SLEEVE MAY EXTEND MAX 2 IN. ABOVE TOP SURFACE OF FLOOR OR BEYOND ONE OR BOTH SURFACES OF WALL. STEEL SLEEVE MAY BE USED IN 2 AND 3 HR F RATED SYSTEMS ONLY.
3. THROUGH PENETRANTS - ONE METALLIC PIPE, CONDUIT OR TUBING TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. PIPE, CONDUIT OR TUBING TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR OR WALL ASSEMBLY.
4. FIRESTOP SYSTEM.
A. PACKING MATERIAL — MIN 3-1/2, 4-1/4 OR 5 IN. (89, 108 OR 127 MM) THICKNESS OF MIN 4.0 OR 6.0 PCF (64) MINERAL WOOL BATT INSULATION.
B. FILL, VOID OR CAVITY MATERIAL* - CAULK - MIN 1/4 OR 1/2 IN. (6 OR 13 MM) THICKNESS OF FILL MATERIAL.

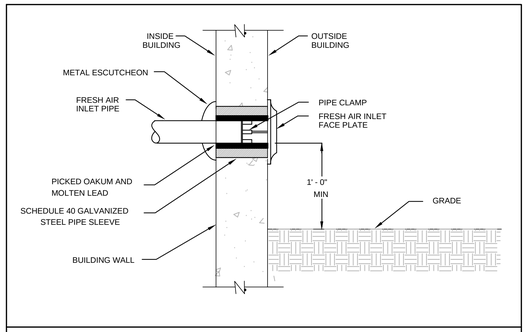
PIPE FIRESTOPPING DETAIL

NOT TO SCALE



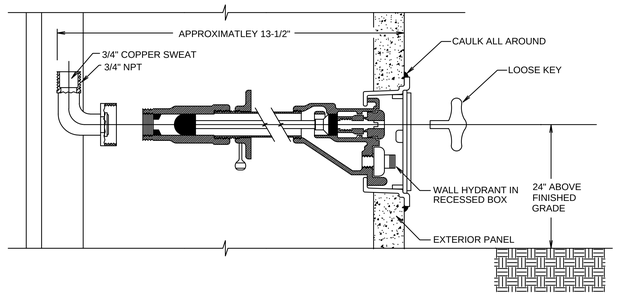
VENT TERMINAL THRU ROOF DETAIL

NOT TO SCALE



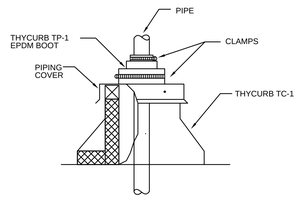
FRESH AIR INLET

NOT TO SCALE



FROST PROOF HYDRANT

NOT TO SCALE

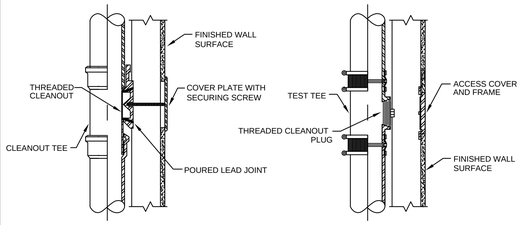


NOTE: 3-1/2" DIAMETER COLLARS ACCOMMODATE PIPES 1/2" TO 2-1/2" NORM.
6-1/2" DIAMETER COLLARS ACCOMMODATE PIPES 3" TO 5" NORM.

DETAIL OF PIPE FLASHING THRU ROOF

NOT TO SCALE

F:\DETAILS\PLUMBING-DETAILS\PIPEFLAS.DWG



HUB AND SPIGOT WITH COVER PLATE

NO-HUB WITH ACCESS COVER

DETAIL OF WALL CLEANOUTS

NOT TO SCALE

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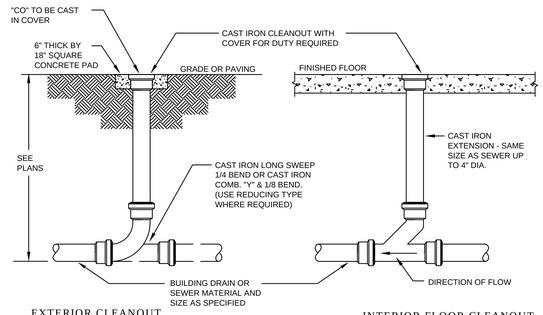


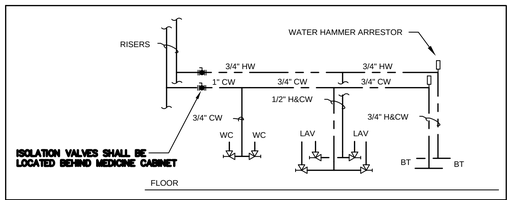
EXTERIOR CLEANOUT
(LIGHT TRAFFIC AREA)

INTERIOR FLOOR CLEANOUT

DETAIL OF CLEANOUT WITH DECKPLATE

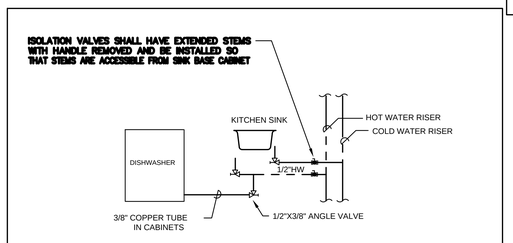
NOT TO SCALE

F:\DETAILS\PLUMBING-DETAILS\FLOORCO.DWG



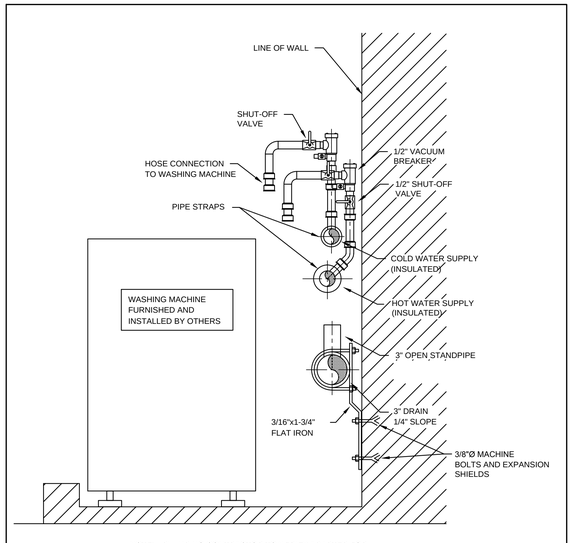
DOMESTIC WATER BRANCH PIPING AT BACK-TO-BACK BATHROOMS

SCHEMATIC ONLY



DOMESTIC WATER BRANCH PIPING AT SINGLE KITCHEN W/DISHWASHER

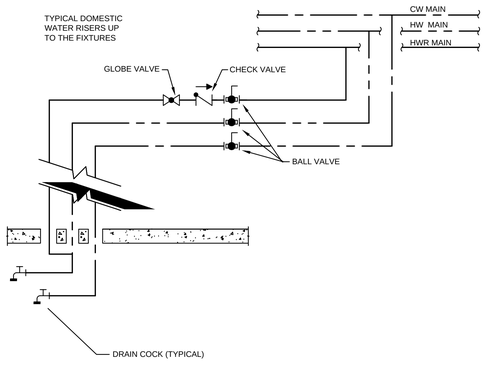
SCHEMATIC ONLY



NOTE: PLUMBING CONTRACTOR TO VERIFY ADAPTER FOR HOSE CONNECTION WITH MACHINE INSTALLER.

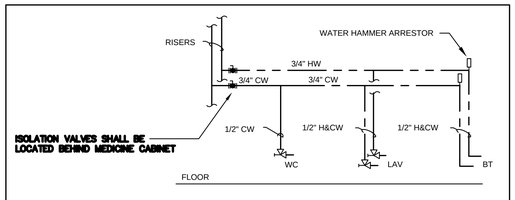
PLUMBING CONNECTION FOR WASHING MACHINES

SCHEMATIC ONLY



DOWN FEED DOMESTIC WATER VALVE DETAIL

SCHEMATIC ONLY



DOMESTIC WATER BRANCH PIPING AT SINGLE BATHROOM

SCHEMATIC ONLY

NOTE: PLUMB'G CONTR TO FURNISH & INSTALL WATT'S # 15 SERIES WATER HAMMER ARRESTORS IN QUANTITY & SIZES AS SHOWN AND/OR AS MAY BE REQUIRED.

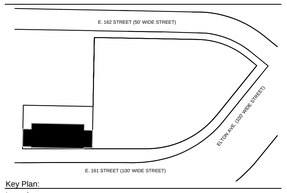
F:\DETAILS\PLUMBING-DETAILS\HAMMER.DWG

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS
248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

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NUMBER	DATE	DESCRIPTION
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9	12.14.15	ISSUE FOR BID

Revisions:

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PLUMBING DETING

SEAL & SIGNATURE:

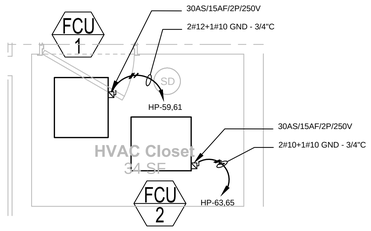
PROJECT No: 14-0427
DRAWING BY: STM
CHK BY: CMS/FTK
DWG No:

P-302.00

SCALE: AS NOTED 111 OF 111

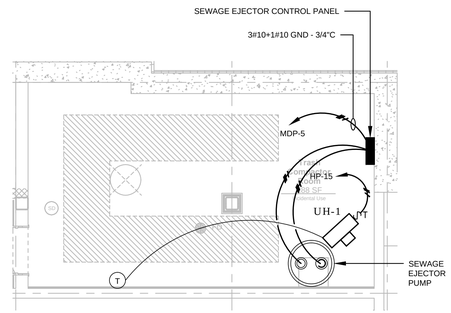
ELEVATOR NOTES

1. ELECTRICAL CONTRACTOR SHALL PROVIDE SINGLE POLE 15A, 120V FUSED DISCONNECT SWITCH FOR ELEVATOR CAR LIGHTS. VERIFY REQUIREMENTS WITH ELEVATOR MANUFACTURERS.
2. DISCONNECT SWITCH WITH AUXILIARY CONTACTS SHALL BE WIRED TO THE ELEVATOR CONTROL PANEL VIA CONDUIT WITH 16 AWG STRANDED 2 CONDUCTOR, A LOOP OF WIRE IS TO BE LEFT AT CONTROL PANEL FOR CONNECTION BY ELEVATOR CONTRACTOR. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER/MANUFACTURER.
3. ALL ELECTRICAL DEVICES, CONDUIT, FITTINGS IN ELEVATOR PIT SHALL BE RATED WEATHER PROOF.



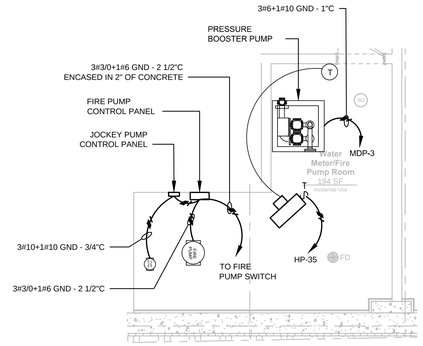
ENLARGED HVAC CLOSET - ELECTRICAL

SCALE: 1/2" = 1'-0"



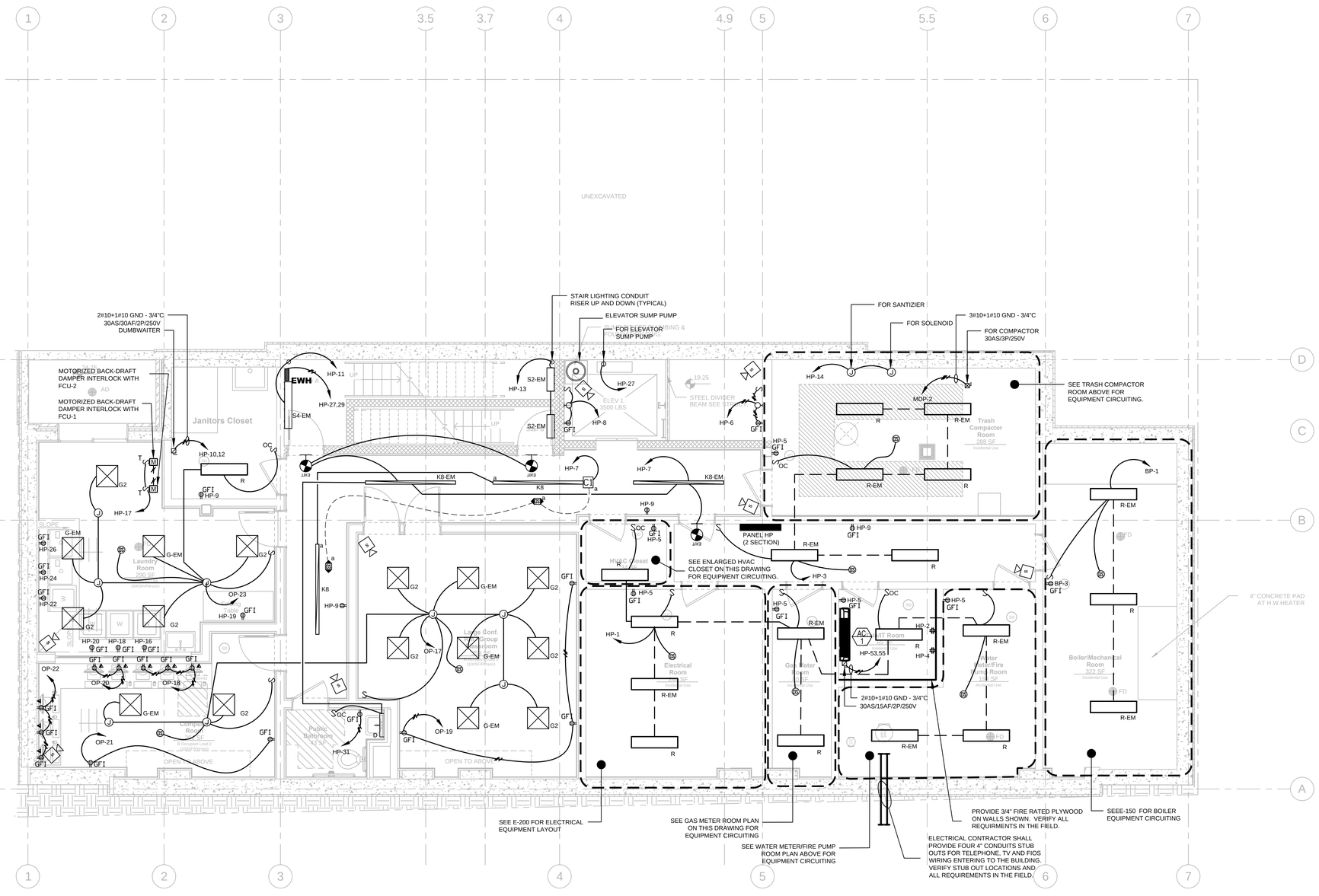
TRASH COMPACTOR ROOM - ELECTRICAL

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



WATER METER/FIRE PUMP ROOM

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



CELLAR FLOOR PLAN - ELECTRICAL

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

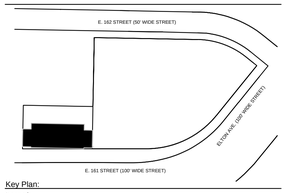
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Revisions:

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CELLAR ELECTRICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-100.00

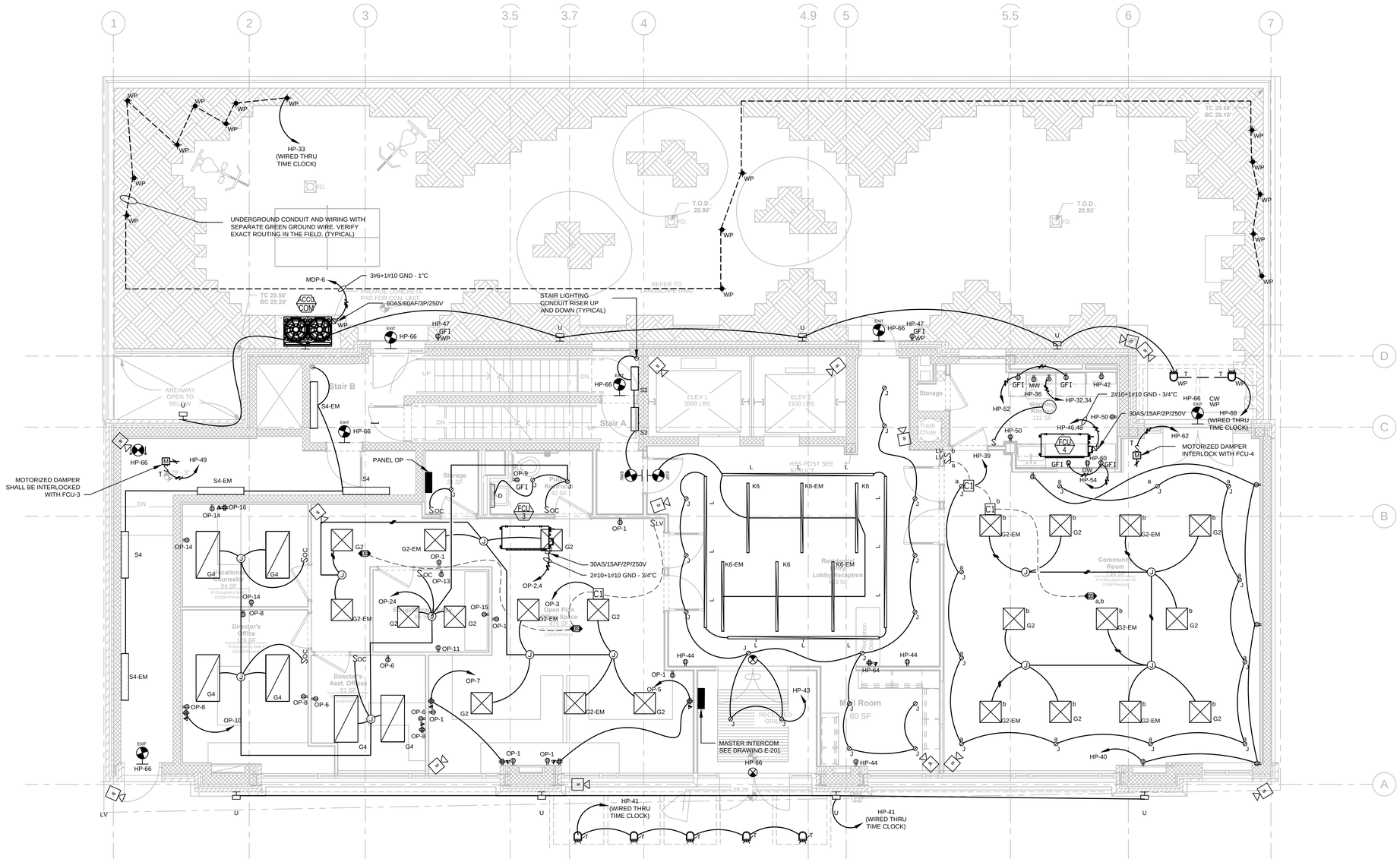
SCALE: AS NOTED

ROOF PLAN NOTES

1. ALL LIGHT FIXTURES SHALL BE NEW YORK CITY APPROVED.
2. ALL ELECTRICAL DEVICES ON ROOF SHALL BE RATED WEATHERPROOF.
3. ALL WIRING FOR EXTERIOR LIGHTING SHALL BE RUN ON THE INSIDE OF BUILDING AND NOT EXPOSED ON THE EXTERIOR OF BUILDING.
4. SEE LATEST ARCHITECTURAL PLANS FOR SPECIFICATION OF LIGHT FIXTURES.

ELEVATOR NOTES

1. ELECTRICAL CONTRACTOR SHALL PROVIDE SINGLE POLE 15A, 120V FUSED DISCONNECT SWITCH FOR ELEVATOR CAR LIGHTS. VERIFY REQUIREMENTS WITH ELEVATOR MANUFACTURERS.
2. DISCONNECT SWITCH WITH AUXILIARY CONTACTS SHALL BE WIRED TO THE ELEVATOR CONTROL PANEL VIA CONDUIT WITH 16 AWG STRANDED 2 CONDUCTOR, A LOOP OF WIRE IS TO BE LEFT AT CONTROL PANEL FOR CONNECTION BY ELEVATOR CONTRACTOR. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER/MANUFACTURER.
3. ALL ELECTRICAL DEVICES, CONDUIT, FITTINGS IN ELEVATOR PIT SHALL BE RATED WEATHER PROOF.



FIRST FLOOR PLAN - ELECTRICAL

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

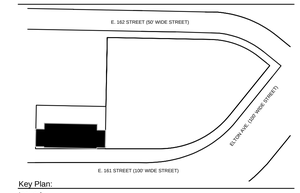
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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SIDERIS KEFALAS ENGINEERS P.C.
PLUMBING & DRAINAGE, N.Y.C. BUILDING, N.Y.S. FUEL GAS
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FIRST FLOOR ELECTRICAL PLAN

SEAL & SIGNATURE:

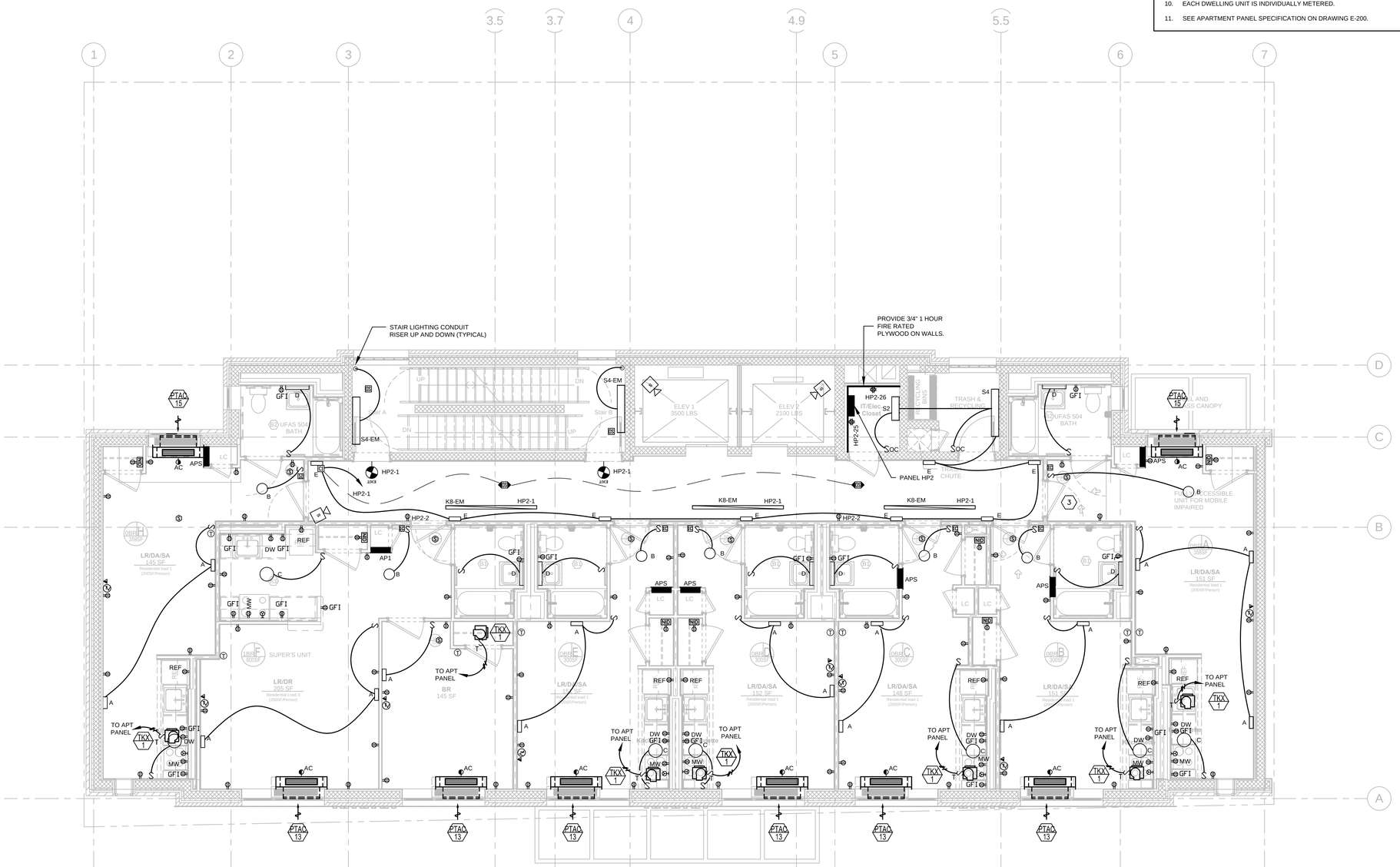
PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-101.00

SCALE: AS NOTED

APARTMENT NOTES

1. ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.
2. ALL HARDWIRED COMBINATION SMOKE/CARBON MONOXIDE DETECTORS LOCATED IN EACH APARTMENT SHALL BE CIRCUITED TOGETHER ON THE SAME CIRCUIT WITH AN ADDITIONAL INTERCONNECT WIRE SO THAT ALL DETECTORS WILL ANNUNCIATE IF ANY DETECTOR IN THAT APARTMENT INITIATES.
3. LOW VOLTAGE WIRING SHALL BE INSTALLED CONCEALED WITHIN PARTITIONS. PROVIDE INSULATED GROMMETS IN STEEL STUDS AS REQUIRED TO PROTECT FROM DAMAGE.
4. WIRING OF APARTMENT RECEPTACLES IS NOT SHOWN FOR REASON OF CLARITY.
5. RECEPTACLE OUTLETS IN COAT CLOSET SHALL BE LOCATED WITHIN NID BOX. SEE NID BOX DETAIL.
6. SEE APARTMENT WIRING DEVICE LEGEND ON DRAWING.
7. HACR TYPE CIRCUIT BREAKERS SHALL BE USED FOR PTAC AND AC UNITS.
8. 100% OF THE PERMANENTLY INSTALLED LIGHT FIXTURES SHALL BE PROVIDED WITH HIGH EFFICACY LAMPS.
9. ELECTRIC RANGES SHALL BE WIRED WITH 2#8+1#12 GND - 3/4"C.
10. EACH DWELLING UNIT IS INDIVIDUALLY METERED.
11. SEE APARTMENT PANEL SPECIFICATION ON DRAWING E-200.



SECOND FLOOR PLAN - ELECTRICAL

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

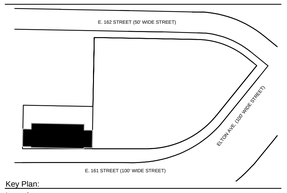
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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SECOND FLOOR
ELECTRICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-102.00

SCALE: AS NOTED

VISUAL/HEARING IMPAIRED NOTE

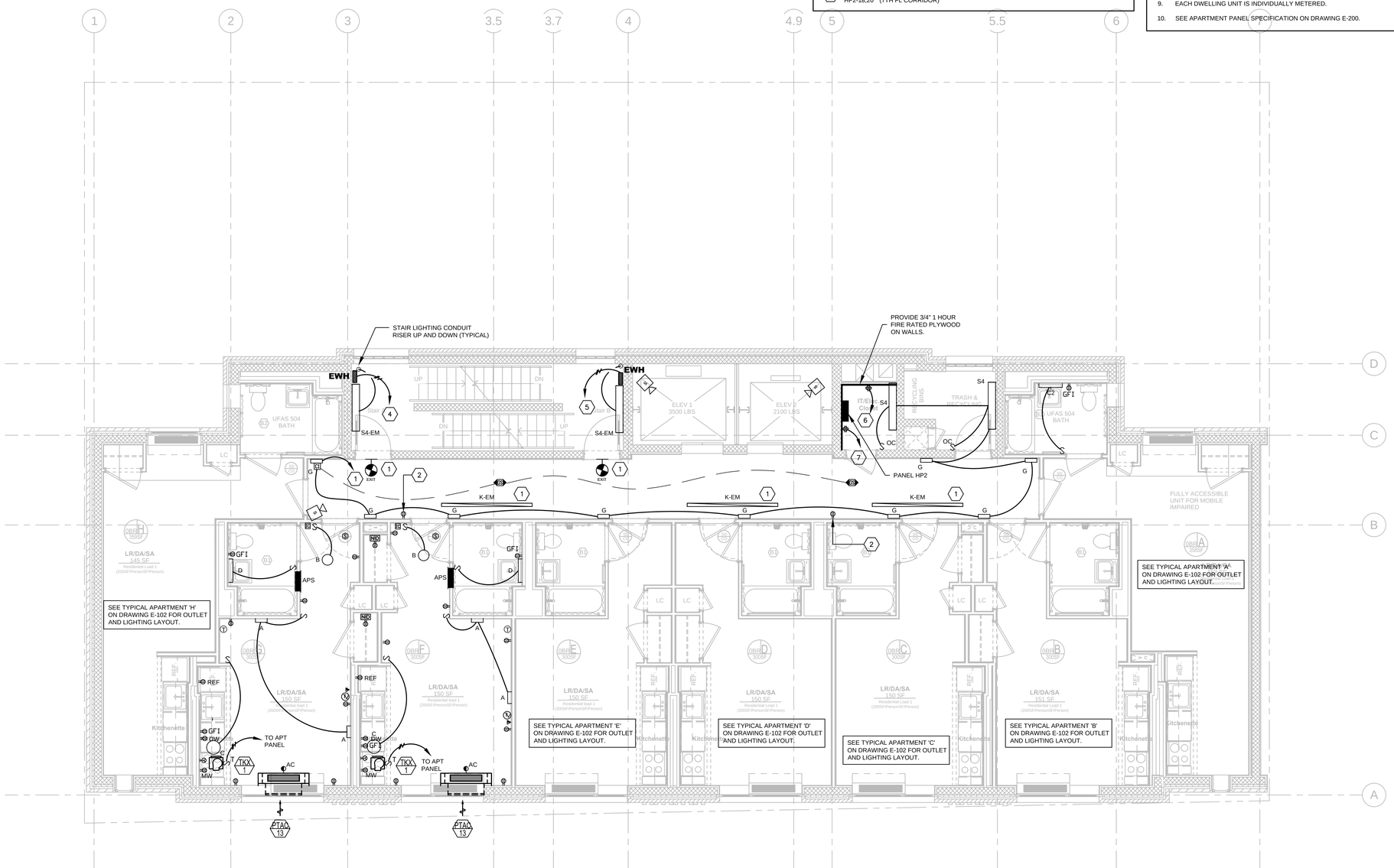
1. PROVIDE ACCESSORY LIGHT FOR INTERCOM AND DOOR BELL IN DESIGNATED HANDICAPPED APARTMENTS 3C,4C,5C,6C,7C & 8C. VERIFY ALL REQUIREMENTS IN THE FIELD.
2. PROVIDE A FLUSH MOUNTED JUNCTION BOX OUTSIDE EACH VISUAL/HEARING IMPAIRED APARTMENT 3C,4C,5C,6C,7C & 8C FOR A DOOR BELL WITH VISUAL NOTIFICATION. ROUTE A 3/4" CONDUIT WITH WIRING FROM JUNCTION BOX TO INDICATING LIGHT. INDICATING LIGHTS SHALL BE THE SAME FOR INTERCOM AS WELL AS THE DOORBELL. VERIFY ALL REQUIREMENTS IN THE FIELD.
3. PROVIDE A LIGHT BASE FOR SMOKE DETECTORS IN VISUAL/HEARING IMPAIRED APARTMENTS 3C,4C,5C,6C,7C & 8C.

KEY NOTES

1. HP2-3 (3RD FL LIGHTING)
   HP2-5 (4TH FL LIGHTING)
   HP2-7 (5TH FL LIGHTING)
   HP2-9 (6TH FL LIGHTING)
   HP2-11 (7TH FL LIGHTING)
   HP2-13 (8TH FL LIGHTING)
2. HP2-4 (3RD FL CORRIDOR)
   HP2-6 (4TH FL CORRIDOR)
   HP2-8 (5TH FL CORRIDOR)
   HP2-10 (6TH FL CORRIDOR)
   HP2-12 (7TH FL CORRIDOR)
   HP2-14 (8TH FL CORRIDOR)
3. SEE VISUAL/HEARING IMPAIRED NOTE
4. HP2-17,91 (3RD FL CORRIDOR)
   HP2-18,20 (7TH FL CORRIDOR)
5. HP2-21,23 (3RD FL CORRIDOR)
   HP2-22,24 (7TH FL CORRIDOR)
6. HP2-28 (3RD FL IT CLOSET)
   HP2-30 (4RD FL IT CLOSET)
   HP2-32 (5TH FL IT CLOSET)
   HP2-34 (6TH FL IT CLOSET)
   HP2-36 (7TH FL IT CLOSET)
   HP2-38 (8TH FL IT CLOSET)
7. HP2-25 (3RD FL IT CLOSET)
   HP2-27 (4RD FL IT CLOSET)
   HP2-29 (5TH FL IT CLOSET)
   HP2-31 (6TH FL IT CLOSET)
   HP2-33 (7TH FL IT CLOSET)
   HP2-35 (8TH FL IT CLOSET)

APARTMENT NOTES

1. ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.
2. ALL HARDWIRED COMBINATION SMOKE/CARBON MONOXIDE DETECTORS LOCATED IN EACH APARTMENT SHALL BE CIRCUITED TOGETHER ON THE SAME CIRCUIT WITH AN ADDITIONAL INTERCONNECT WIRE SO THAT ALL DETECTORS WILL ANNUNCIATE IF ANY DETECTOR IN THAT APARTMENT INITIATES.
3. LOW VOLTAGE WIRING SHALL BE INSTALLED CONCEALED WITHIN PARTITIONS. PROVIDE INSULATED GROMMETS IN STEEL STUDS AS REQUIRED TO PROTECT FROM DAMAGE.
4. WIRING OF APARTMENT RECEPTACLES IS NOT SHOWN FOR REASON OF CLARITY.
4 RECEPTACLE OUTLETS IN COAT CLOSET SHALL BE LOCATED WITHIN NID BOX. SEE NID BOX DETAIL.
5. SEE APARTMENT WIRING DEVICE LEGEND ON DRAWING.
6. HACR TYPE CIRCUIT BREAKERS SHALL BE USED FOR PTAC AND AC UNITS.
7. 100% OF THE PERMANENTLY INSTALLED LIGHT FIXTURES SHALL BE PROVIDED WITH HIGH EFFICACY LAMPS.
8. ELECTRIC RANGES SHALL BE WIRED WITH 2#8+1#12 GND - 3/4"C.
9. EACH DWELLING UNIT IS INDIVIDUALLY METERED.
10. SEE APARTMENT PANEL SPECIFICATION ON DRAWING E-200.



THIRD THRU EIGHTH FLOOR PLAN - ELECTRICAL

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

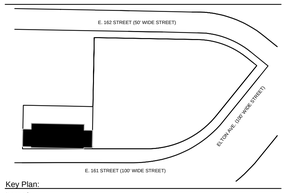
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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New York, NY 10001

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Filing Representative:

DESIGN 2147 LIMITED
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THIRD THRU EIGHTH FLOOR ELECTRICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-103.00

SCALE: AS NOTED

VISUAL/HEARING IMPAIRED NOTE

1. PROVIDE ACCESSORY LIGHT FOR INTERCOM AND DOOR BELL IN DESIGNATED HANDICAPPED APARTMENTS 3C,4C,5C,6C,7C,8C & 9L. VERIFY ALL REQUIREMENTS IN THE FIELD.
2. PROVIDE A FLUSH MOUNTED JUNCTION BOX OUTSIDE EACH VISUAL/HEARING IMPAIRED APARTMENT 3C,4C,5C,6C,7C, 8C & 9L FOR A DOOR BELL WITH VISUAL NOTIFICATION. ROUTE A 3/4" CONDUIT WITH WIRING FROM JUNCTION BOX TO INDICATING LIGHT. INDICATING LIGHTS SHALL BE THE SAME FOR INTERCOM AS WELL AS THE DOORBELL. VERIFY ALL REQUIREMENTS IN THE FIELD.
3. PROVIDE A LIGHT BASE FOR SMOKE DETECTORS IN VISUAL/HEARING IMPAIRED APARTMENT 9L.

APARTMENT NOTES

1. ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.
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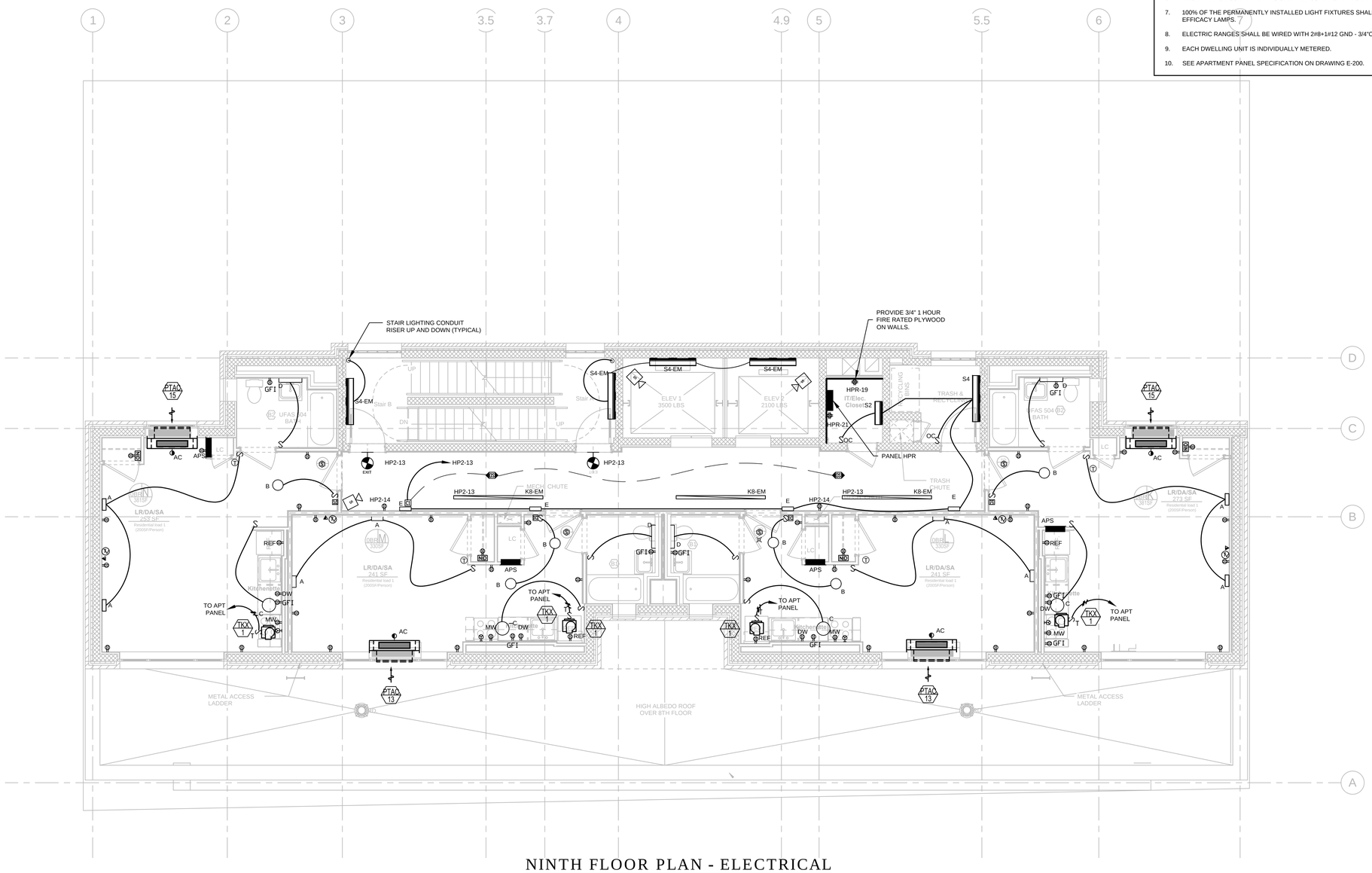
9. EACH DWELLING UNIT IS INDIVIDUALLY METERED.
10. SEE APARTMENT PANEL SPECIFICATION ON DRAWING E-200.



NINTH FLOOR PLAN - ELECTRICAL

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

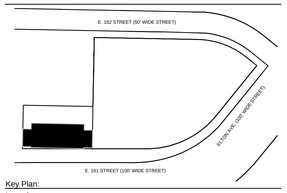
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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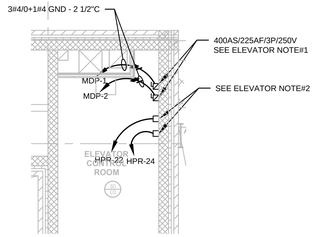
NINTH FLOOR ELECTRICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-104.00

SCALE: AS NOTED



ELEVATOR CONTROL ROOM - ELECTRICAL

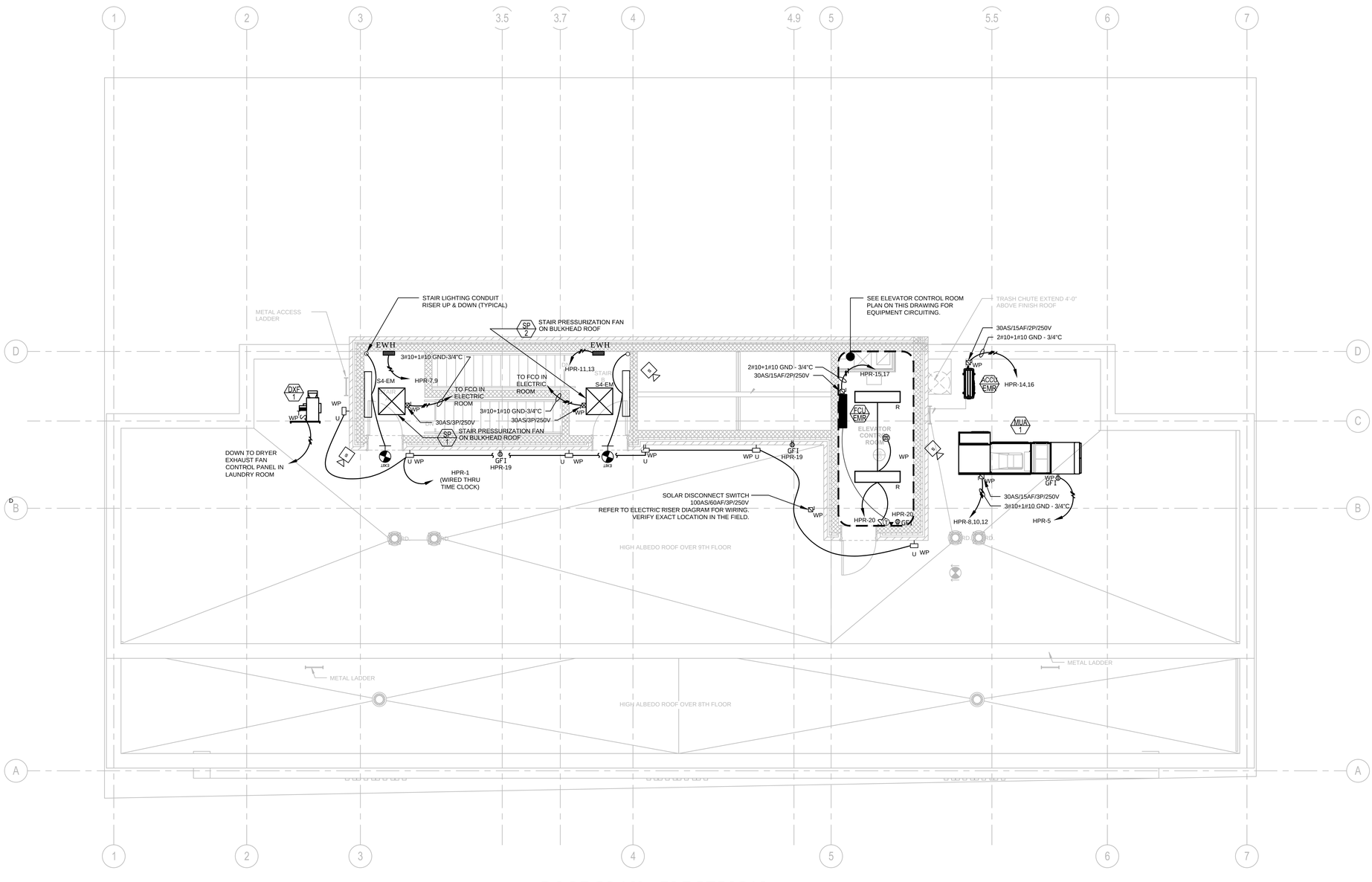
SCALE: 1/4" = 1'-0"

ROOF PLAN NOTES

1. ALL LIGHT FIXTURES SHALL BE NEW YORK CITY APPROVED.
2. ALL ELECTRICAL DEVICES ON ROOF SHALL BE RATED WEATHERPROOF.
3. ALL WIRING FOR EXTERIOR LIGHTING SHALL BE RUN ON THE INSIDE OF BUILDING AND NOT EXPOSED ON THE EXTERIOR OF BUILDING.
4. SEE LATEST ARCHITECTURAL PLANS FOR SPECIFICATION OF LIGHT FIXTURES.

ELEVATOR NOTES

1. ELECTRICAL CONTRACTOR SHALL PROVIDE SINGLE POLE 15A, 120V FUSED DISCONNECT SWITCH FOR ELEVATOR CAR LIGHTS. VERIFY REQUIREMENTS WITH ELEVATOR MANUFACTURERS.
2. DISCONNECT SWITCH WITH AUXILIARY CONTACTS SHALL BE WIRED TO THE ELEVATOR CONTROL PANEL VIA CONDUIT WITH 16 AWG STRANDED 2 CONDUCTOR, A LOOP OF WIRE IS TO BE LEFT AT CONTROL PANEL FOR CONNECTION BY ELEVATOR CONTRACTOR. VERIFY ALL REQUIREMENTS WITH EQUIPMENT SUPPLIER/MANUFACTURER.
3. ALL ELECTRICAL DEVICES, CONDUIT, FITTINGS IN ELEVATOR PIT SHALL BE RATED WEATHER PROOF.



ROOF PLAN - ELECTRICAL

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

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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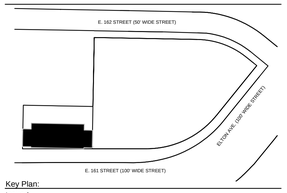

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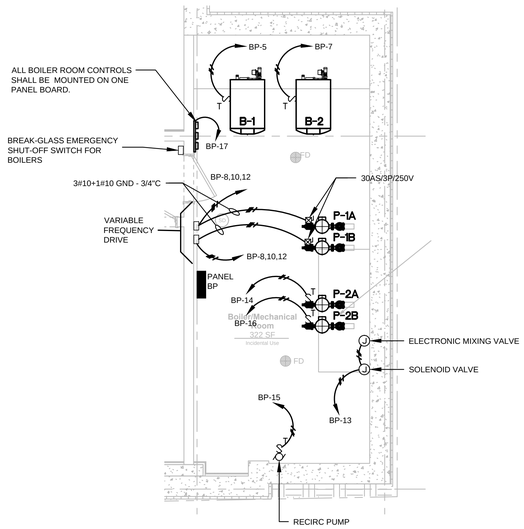
ROOF ELECTRICAL PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-105.00

SCALE: AS NOTED



BOILER ROOM PLAN

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

Panel WIRING SCHEDULE (3-PHASE)

Panelboard: BP | Voltage: 120 / 208 | Phase: 3 | Wire: 4 | AIC Rating: 10,000
Panel Type: NQOD | Mains: MLO | Main Rating: 225A
NEMA Type Enclosure: 1 | Mounting: SURFACE | Options:
Notes:

Load Description	LIGHTS	KITCHEN	RECEPTS	MISC	Breaker Option	Poles & Trip Amps	Connected Load WATTS A	B	C	Circuit Number	A	B	C	Circuit Number	Connected Load WATTS A	B	C	Poles & Trip Amps	Breaker Option	LIGHTS	KITCHEN	RECEPTS	MISC	Load Description
BOILER LIGHTING	X					1P20	192			1	X			2	2004								X	
BOILER RECEPTACLE			X			1P20		180		3		X		4		2004		3P30					X	P-1A
BOILER				X		1P20			2400	5			X	6			2004						X	
BOILER				X		1P20	2400			7	X			8	2004								X	
SPARE						1P20				9		X		10		2004		3P30					X	P-1B
SPARE						1P20				11			X	12			2004						X	
SOLENOID & MIXING VALVE				X		1P20	200			13	X			14	1176			1P20					X	P-2A
RECIRCULATION PUMP				X		1P20		696		15		X		16		1176		1P20					X	P-2B
BOILER CONTROLLER				X		1P20			1500	17			X	18				1P20						SPARE
SPARE				X		1P20				19	X			20				1P20						SPARE
SPARE						1P20				21		X		22				1P20						SPARE
SPARE						1P20				23			X	24				1P20						SPARE
SPARE						1P20				25	X			26				1P20						SPARE
SPARE						1P20				27		X		28				1P20						SPARE
SPARE						1P20				29			X	30				1P20						SPARE
SPARE						1P20				31	X			32				1P20						SPARE
SPARE						1P20				33		X		34				1P20						SPARE
SPARE						1P20				35			X	36				1P20						SPARE
SPARE						1P20				37	X			38				1P20						SPARE
SPARE						1P20				39		X		40				1P20						SPARE
SPARE						1P20				41			X	42				1P20						SPARE

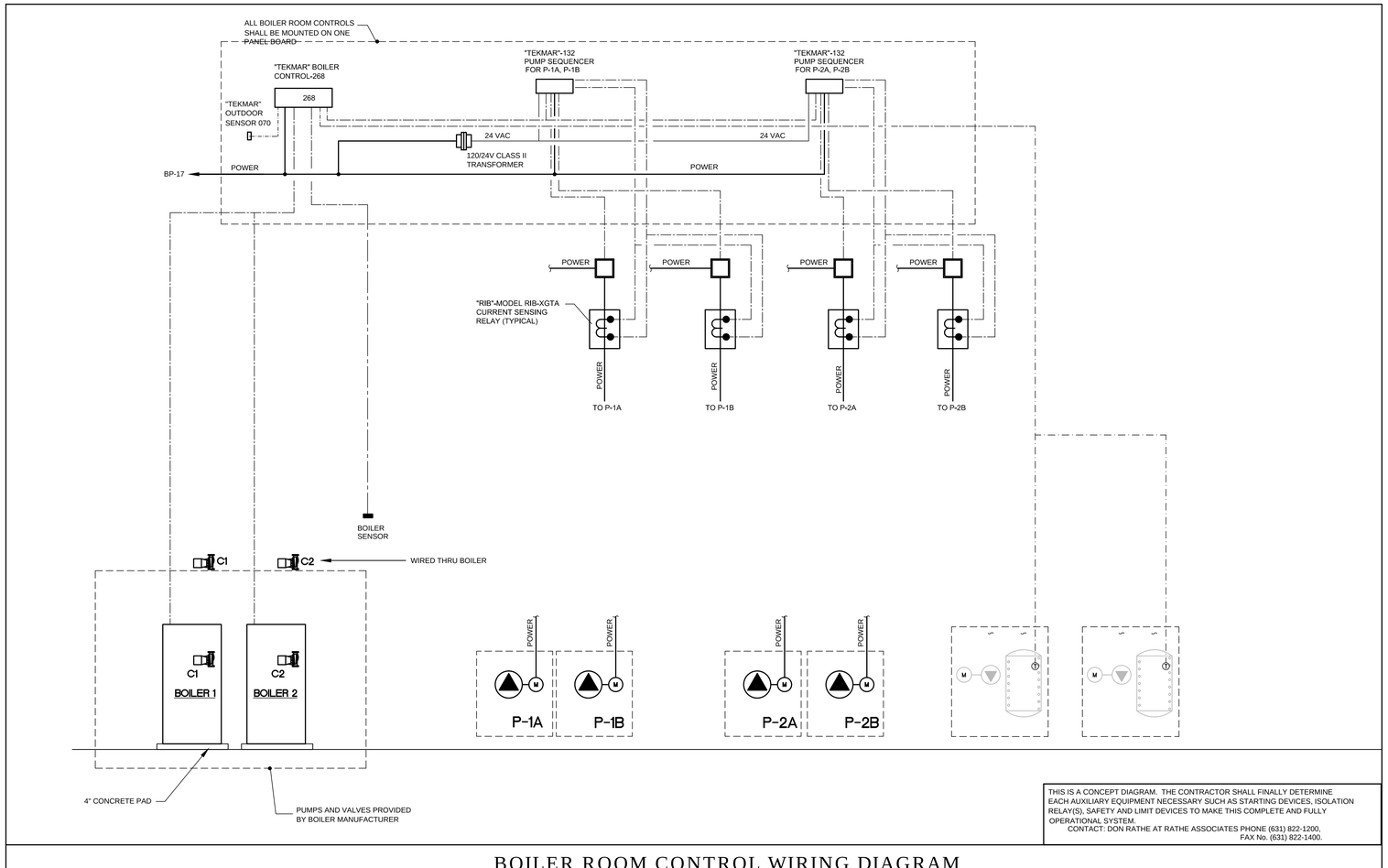
ITEM	LOAD (KW)	DIVERSITY	DEMAND	
LIGHTS	0.2	125%	0.2	KW
KITCHEN	0.0	100%	0.0	KW
RECEPTS (1ST 10KW)	0.2	100%	0.2	KW
REMAINDER	0.0	50%	0.0	KW
MISC	21.6	100%	21.6	KW
TOTAL			22.0	KW

Connect Loads Phase A 8.0 kW 66.5 A
Phase B 6.1 kW 50.5 A
Phase C 7.9 kW 65.9 A
Total 21.9 kW 60.9 A

61.0 A

(ALL PHASES TO BE BALANCE TO WITHIN 7% USING ACTUAL LOAD TOTALS.)

BREAKER OPTIONS
AS - POWERLINK AS BREAKER
LO - HANDLE LOCK-OFF DEVICE
ST - SHUNT TRIP
AUX - AUXILIARY CONTACTS
PA - HANDLE PADLOACK ATTACHMENT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING, A/C & REFRIGERATION
SF - SUBFEED
TC - TIME CLOCK CONTROL



THIS IS A CONCEPT DIAGRAM. THE CONTRACTOR SHALL FINALLY DETERMINE EACH AUXILIARY EQUIPMENT NECESSARY SUCH AS STARTING DEVICES, ISOLATION RELAY(S), SAFETY AND LIMIT DEVICES TO MAKE THIS COMPLETE AND FULLY OPERATIONAL SYSTEM.
CONTACT: DON RATHE AT RATHE ASSOCIATES PHONE (631) 822-1200, FAX No. (631) 822-1400.

BOILER ROOM CONTROL WIRING DIAGRAM

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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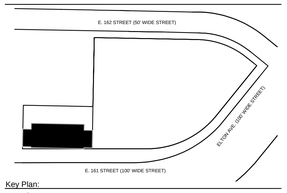

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BOILER PLANS

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-150.00

SCALE: AS NOTED

ELECTRIC SWITCHBOARD NOTES

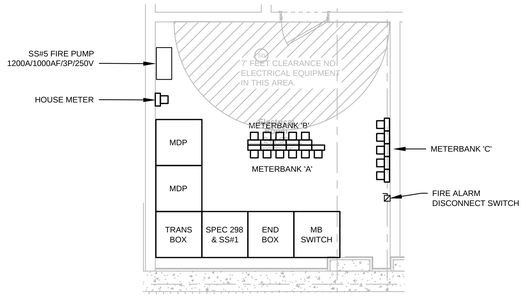
1. SERVICE 120/208 V A.C. 3 PHASE 4 WIRE 60 Hz.
2. FABRICATE SWITCHBOARD STRUCTURE FROM UNIVERSAL STEEL CHANNEL FRAME WITH CODE GAUGE SHEET STEEL COVERS.
3. BOXES & TRIMS CODE GAUGE SHEET STEEL.
4. SERVICE OR DISTRIBUTION SWITCHES 800A & ABOVE BOLTED PRESSURE CONTACT TYPE AS MANUFACTURED BY BOLTSWITCH COMPANY OR APPROVED EQUAL. BELOW 800 A PRESSURE CONTACT TYPE VACU-BREAK AS MANUFACTURED BY ITE.
5. NO DOOR OVER VACU-BREAK PANEL. EACH SWITCH HAS ITS OWN INDIVIDUAL INTERLOCKED DOOR.
6. ALL FUSES SHALL BE COORDINATED FOR PROPER SHORT CIRCUIT & OVERLOAD PROTECTION.
7. FUSES ARE GOULD/SHAWMUT TYPE OR APPROVED EQUAL.
8. BUSWORK COPPER RATED AT 1000 AMPS PER SQ. INCH DENSITY.
9. LUGS T & B (OR EQUAL) MECHANICAL TYPE SUITABLE FOR COPPER CABLES. 10. ALL LIVE PARTS MIN. 12" OFF THE FINISHED FLOOR.
11. ALL SERVICE & DISTRIBUTION EQUIPMENT FRONT ACCESSIBLE. NO BUS CONNECTION MORE THAN 30" FROM FRONT OF EQUIPMENT WITH COVERS REMOVED.
12. C.T. TRIM SHALL HAVE A SPLIT DOOR & 3 POINT CATCH WITH VAULT TYPE HANDLE WITH PROVISION FOR A SEAL.
13. FINISH ONE (1) PRIME COAT OF GREY PRIMER & ONE (1) FINISH COAT OF ASA-49 GREY ENAMEL.
14. ALL SWITCHBOARDS, PANELBOARDS, DISCONNECT SWITCHES TO BE BY ALL CITY SWITCHBOARD. CONTACT DAVE ENGELHARDT (718) 956-7244.

APARTMENT PANEL SPECIFICATION

PANEL DESIGNATION	CIRCUIT BR. QUANTITY 1P20	1P20 AFCI	2P20	2P40
APS	12	8	1	1
APS	10	10	1	1

NOTES:

1. PANEL SHALL BE RATED A MINIMUM OF 100A, 24 CIRCUIT CAPACITY, MLO. SEE SCHEDULE FOR BREAKERS.
2. ELECTRIC PANEL SHALL BE RATED FOR 10K AIC UNLESS OTHERWISE NOTED. IT MAY BE NECESSARY TO DO SHORT CIRCUIT COORDINATION DEPENDING ON EQUIPMENT SELECTION AND IN-RUSH GIVEN BY THE UTILITY.
3. ALL 120-VOLT, SINGLE PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS,LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT.



ELECTRICAL ROOM LAYOUT

SCALE: 1/4 = 1'-00"

CONTRACTOR NOTE

1. ELECTRICAL CONTRACTOR SHALL FILE WITH ALL CITY AGENCIES INCLUDING NEW YROK CITY BUREAU OF ELECTRICAL CONTROL, ADVISORY BOARD, AND CONSOLIDATED EDISON, AND OBTAIN ALL APPROVALS FOR THE WORK UNDER THIS CONTRACT.
2. THE ELECTRICAL CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH THE FILINGS.
3. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE ADVISORY BOARD FILING DRAWINGS.
4. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF OVERCURRENT PROTECTIVE DEVICES AND DOCUMENTATION DEMONSTRATING HOW SELECTIVE COORDINATION WAS ACHIEVED.

FUSE PULLOUT TABLE

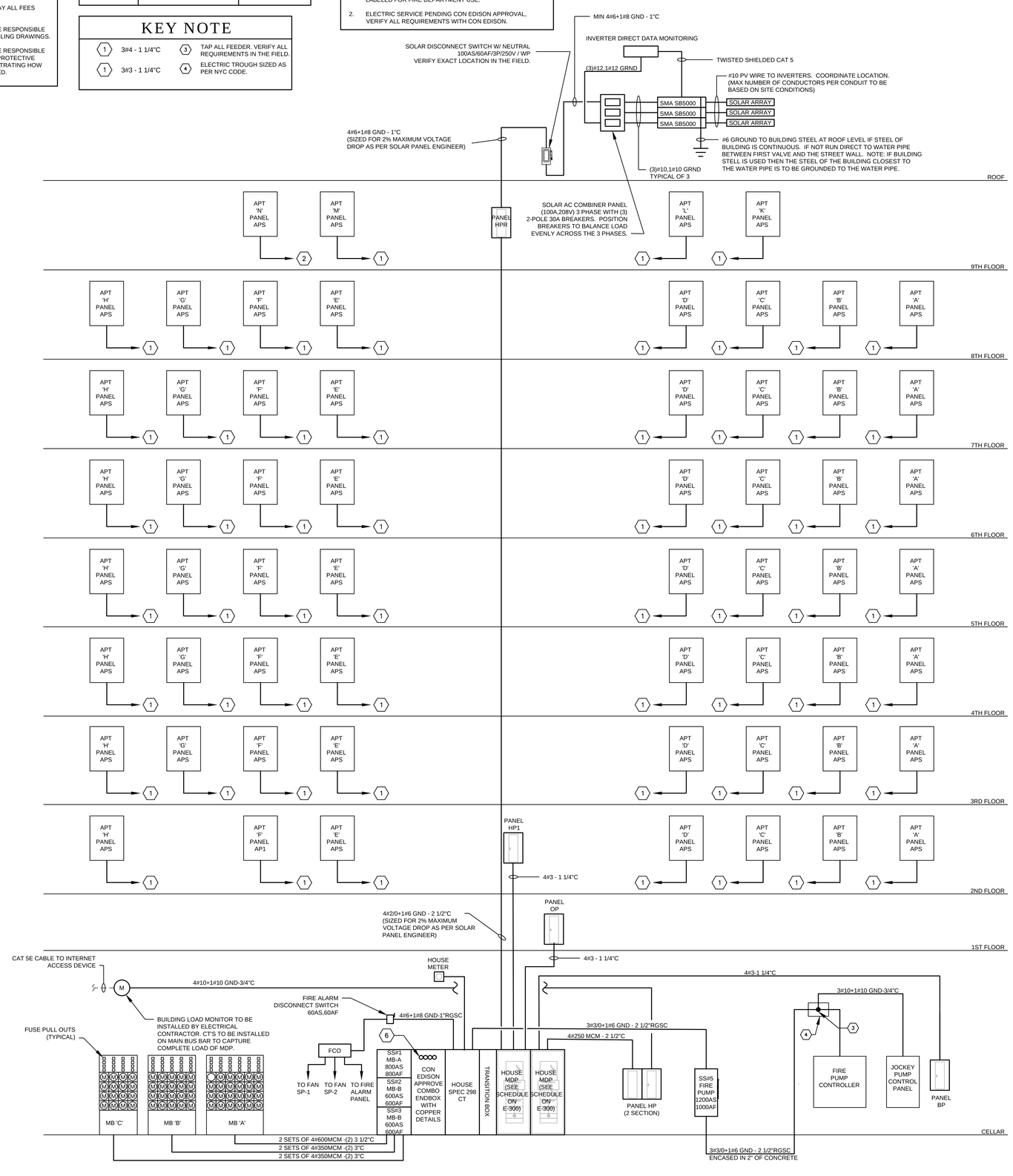
APARTMENT TYPE	PULL OUT SIZE	FUSE SIZE
APS	100A	70A
AP1	100A	70A

KEY NOTE

1. 3/#4 - 1 1/4"C
1. 3/#3 - 1 1/4"C
3. TAP ALL FEEDER. VERIFY ALL REQUIREMENTS IN THE FIELD.
4. ELECTRIC TROUGH SIZED AS PER NYC CODE.

RISER NOTES

1. ALL WIRING BETWEEN MAIN SWITCH, FIRE PUMP CONTROL PANEL AND FIRE PUMP TO BE IN RIGID GALVANIZED STEEL (RGS) CONDUIT. ALL CONDUIT, JUNCTION BOXES, DISCONNECT SWITCH AND DEVICES FOR SPRINKLER ALARM SYSTEM TO BE PAINTED FIRE DEPARTMENT RED AND LABELED FOR FIRE DEPARTMENT USE.
2. ELECTRIC SERVICE PENDING CON EDISON APPROVAL, VERIFY ALL REQUIREMENTS WITH CON EDISON.



ELECTRICAL RISER DIAGRAM

SCHEMATIC ONLY

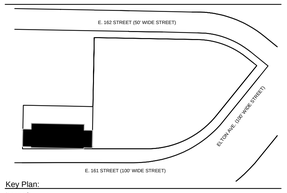
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
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3	06.20.14	Design Development
4	08.22.14	50% CD SET
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7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

Revisions:

Architect:

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42 West 39th Street, 15th Floor
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Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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ELECTRICAL RISER DIAGRAM

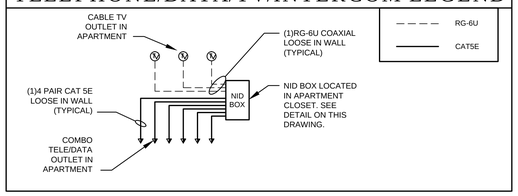
SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

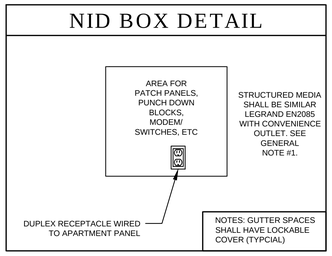
E-200.00

SCALE: AS NOTED

TELEPHONE/DATA/TV/INTERCOM LEGEND



NID BOX DETAIL



RISER LEGEND

FIOS FIBER OPTIC CABLE (FBO)

CABLE PROVIDER CABLE (FBO)

GENERAL NOTES

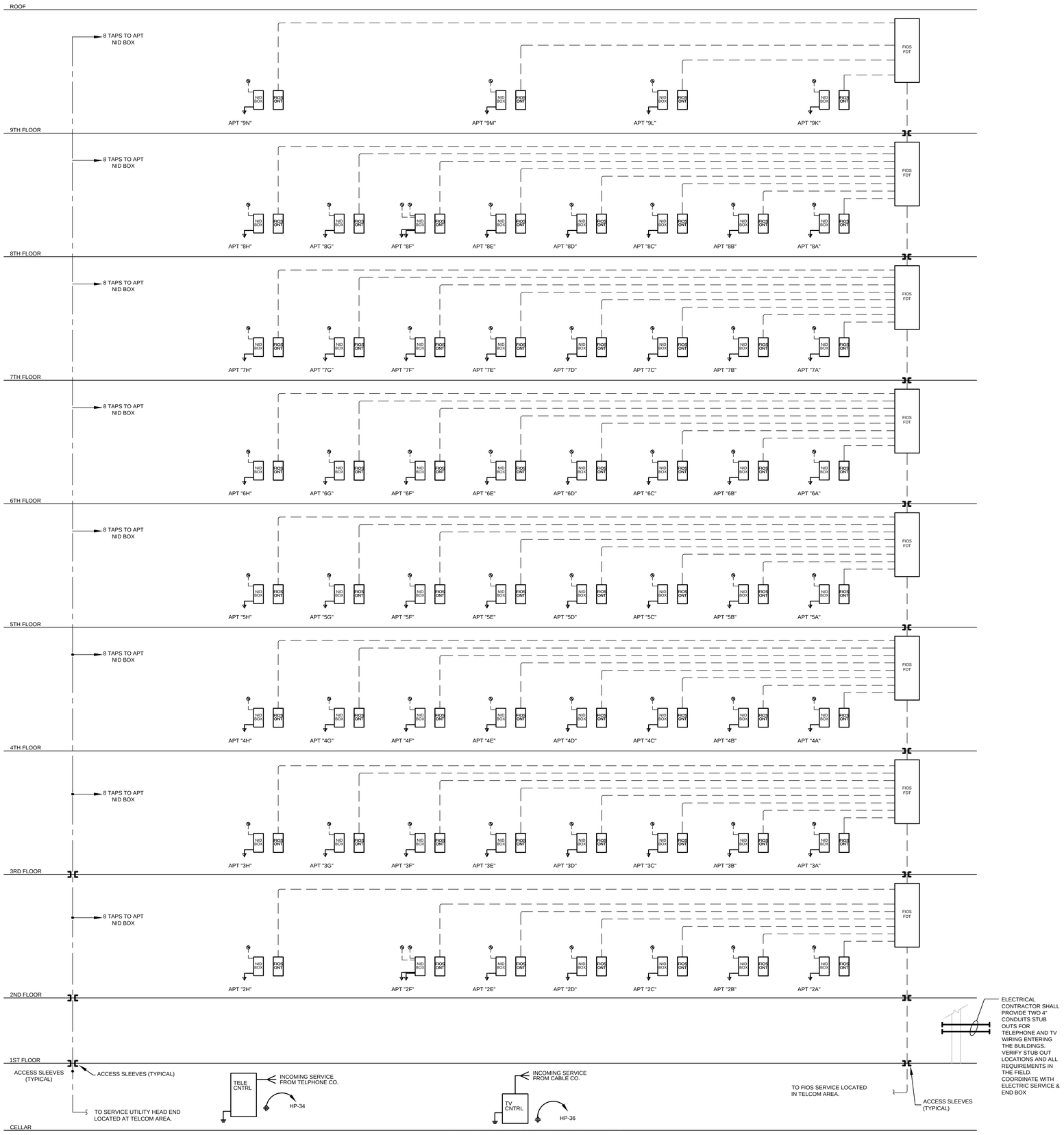
1. THERE SHALL BE ONE LOW VOLTAGE NID BOX IN EACH APARTMENT.
2. ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE ALL PUNCHDOWN AND TERMINAL BLOCKS, CONNECTORS AND OR DEVICES, ETC IN THE NID BOX. ALL PROPRIETARY EQUIPMENT SHALL BE PROVIDED BY SERVICE PROVIDER (IE VERIZON, COMCAST, TIME WARNER ETC.)
3. THE MAIN RISER FEEDER IS FURNISHED AND INSTALLED BY THE SERVICE PROVIDER (TO BE VERIFIED AND COORDINATED WITH SERVICE PROVIDER). ELECTRICAL CONTRACTOR SHALL PROVIDE ALL WIRING/FEEDERS/CABLE FROM MAIN RISERS TO NID BOX OR AS DIRECTED BY THE SERVICE PROVIDER REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL INSTALL ALL WIRING/FEEDERS/CABLE FROM NID BOX TO ALL OUTLETS IN THE APARTMENTS.

TELEPHONE RISER NOTES

THERE IS ONLY ONE 2" CONDUIT FOR TELEPHONE PER EACH APARTMENT LINE. THIS CONDUIT CONTAINS ALL TELEPHONE RISER CABLE. THE CONDUIT GOES THROUGH EACH APARTMENT NID BOX.

LOW VOLTAGE NOTE

CONTRACTOR SHALL COORDINATE ALL OWNER/DEVELOPER WORK REQUIRED TO PROVIDE COMPLETE TELEPHONE/TV/INTERNET SERVICE TO BUILDING, INCLUDING BUT NOT LIMITED TO SLEEVES, ACCESS PATHWAYS, CONDUITS, POWER OUTLETS, CORE DRILL HOLES, CABLING, OUTLETS ETC WITH SERVICE PROVIDER.



LOW VOLTAGE RISER DIAGRAM

SCHEMATIC ONLY

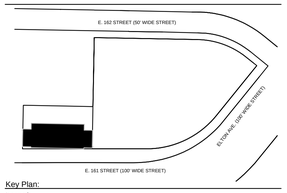
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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LOW VOLTAGE RISER DIAGRAM

SEAL & SIGNATURE:

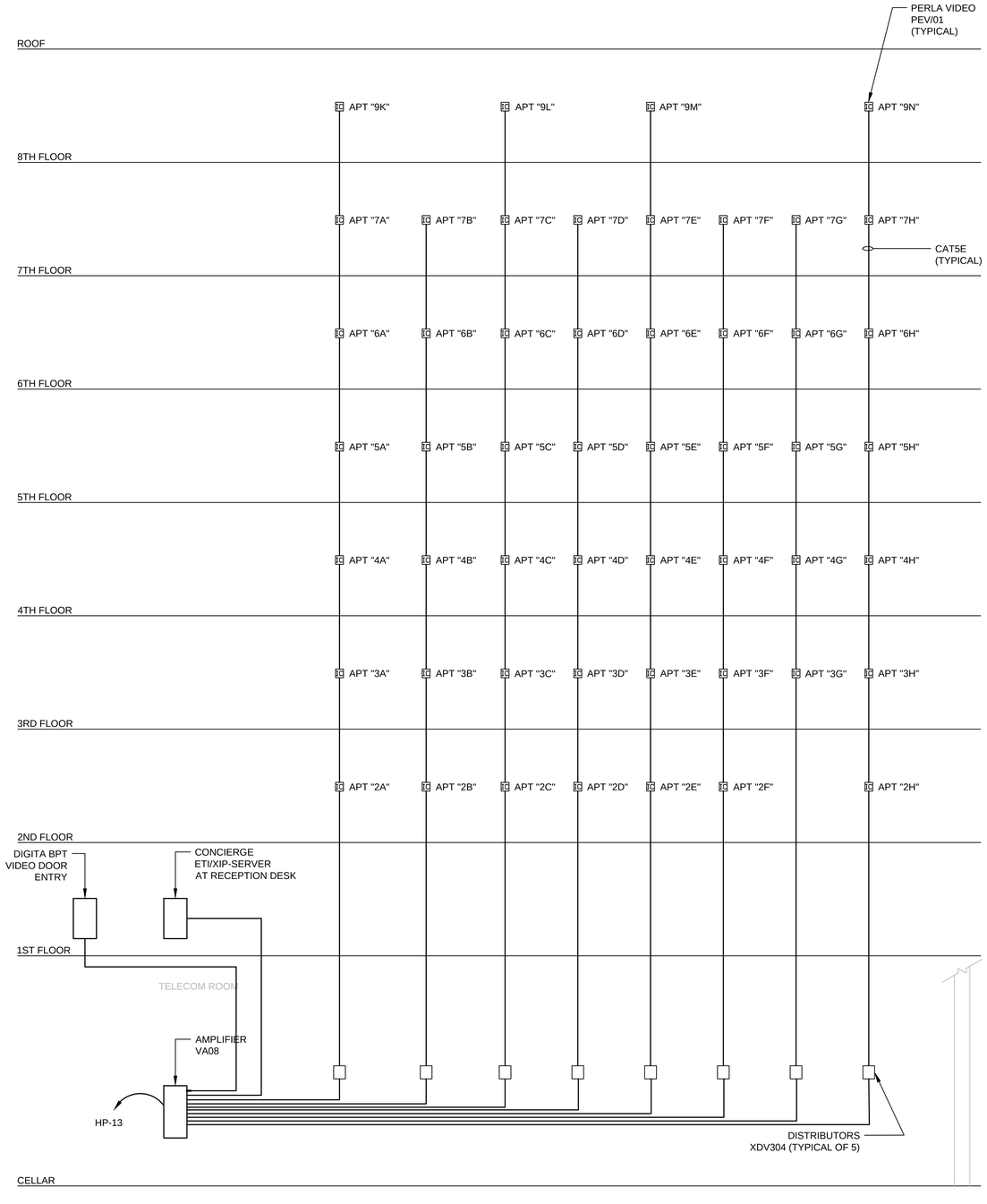
PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-201.00

SCALE: AS NOTED

INTERCOM NOTES

1. BUILDING SHALL HAVE A COMPLETE VIDEO INTERCOM SYSTEM WITH CONCEIGE.
2. INTERCOM SYSTEM TO BE BPT. CONTACT DAVID HIGGINS AT MDU INTERGRATORS (631) 790-2701.
3. CONTRACTOR SHALL PROVIDE ALL WIRING, CONDUIT, AND APPURTENANCES NECESSARY TO MAKE THIS A COMPLETE AND FUNCTIONAL SYSTEM.
4. LEAVE ADDITIONAL SPACE BEHIND LOBBY PANEL FOR AMPLIFIERS OR AMPLIFIERS CAN BE LOCATED AT THE CELLAR TELECOM ROOM.



VIDEO INTERCOM RISER DIAGRAM

SCHEMATIC ONLY

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The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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New York, NY 10025

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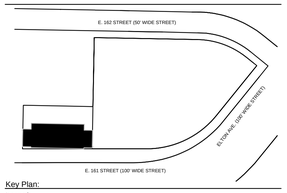
NYC DOB # :



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INTERCOM RISER DIAGRAM

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-202.00

SCALE: AS NOTED

Panel WIRING SCHEDULE (3-PHASE)

Panelboard HP | Panel Type NQOD | NEMA Type Enclosure 1 | Voltage 120 / 208 | Mains MLO | Mounting SURFACE | Main Rating 225A | Phase 3 | Options | Wire 4 | AIC Rating 10,000 | Notes

Load Description	LIGHTS	KITCHEN	RECEPTS	MISC	Breaker Option	Poles & Trip Amps	Connected Load WATTS A	B	C	Circuit Number	A	B	C	Circuit Number	Connected Load WATTS A	B	C	Poles & Trip Amps	Breaker Option	LIGHTS	KITCHEN	RECEPTS	MISC	Load Description
CELLAR LIGHTING	X					1P20	544			1	X			2	360			1P20				X		TELECOM QUAD
CELLAR LIGHTING	X					1P20		384		3		X		4		360		1P20				X		TELECOM QUAD
CELLAR GFI			X			1P20			900	5			X	6			200	1P20				X		ELEV LTG&GFI
CELLAR CORRIDOR LTG	X					1P20	128			7	X			8	200			1P20				X		ELEV LTG&GFI
CELLAR CORRIDOR RCPTS			X			1P20		540		9		X		10		2500		2P30					X	DUMWAITER
STAIR LIGHTING	X					1P20			256	11			X	12			2500						X	
STAIR LIGHTING	X					1P20	256			13	X			14	300			1P20				X		SANITIZIER & SOLENOID
TRASH COMPACTOR UH-1			X			1P20		528		15		X		16		1500		1P20				X		WASHER MACHINE
LAUNDRY RM MTR DAMPER			X			1P20			100	17			X	18			1500	1P20				X		WASHER MACHINE
LAUNDRY RM GFI			X			1P20	180			19	X			20	1500			1P20				X		WASHER MACHINE
SPARE						1P20				21		X		22		1500		1P20				X		WASHER MACHINE
ELEV CAB LIGHT	X					1P20			100	23			X	24			1500	1P20				X		DRYER
ELEV CAB LIGHT	X					1P20	100			25	X			26	1500			1P20				X		DRYER
STAIR EWH			X			2P20		1500		27		X		28		1176		1P20				X		ELEV SUMP PUMP
			X						1500	29			X	30			1500	1P20				X		EXHAUSTO CONTROL & DXF-1
CELLAR RESTROOM			X			1P20	180			31	X			32	3850			2P40				X		1ST FL KITCHEN OVEN
LANDSCAPE LIGHTING	X					1P20		544		33		X		34		3850						X		
WATER METER RM UH-1	X					1P20			528	35			X	36			1500	1P20						1ST FL KITCHEN MICROWAVE
INTERCOM	X					1P20	1500			37	X			38				1P20						SPARE
1ST COMMUNITY LTG	X					1P20		1200		39		X		40		900		1P20				X		1ST FL COMMUNITY RCPTS
1ST FL EXTERIOR LTG	X					1P20			225	41			X	42			800	1P20			X			KITCHEN REFRIGERATOR
1ST FL LOBBY/REC RCPTS			X			1P20	800			43	X			44	360			1P20				X		1ST FL LOBBY RCPTS
SPARE			X			1P20				45		X		46		260		2P20					X	KITCHEN FCU-4
1ST EXT TERRACE GFI			X			1P20			360	47			X	48			260						X	
1ST FL CORR. MTR DAMPER			X			1P20	100			49	X			50	360			1P20				X		KITCHEN RCPTS
SPARE			X			1P20		360		51		X		52		360		1P20				X		KITCHEN GFI
AC 1			X			2P15	30		30	53			X	54			360	1P20				X		KITCHEN GFI
			X							55	X			56				1P20						SPARE
SPARE						1P20				57		X		58				1P20						SPARE
CELLAR HVAC FCU-1			X			2P15			208	59			X	60			1500	1P20					X	DISHWASHER
			X				208			61	X			62	100			1P20				X		1ST FL COMM MTR DAMPER
CELLAR HVAC FCU-2			X			2P15		208		63		X		64		360		1P20				X		1ST FL RECEPTION QUAD
			X						208	65			X	66			45	1P20				X		EXIT SIGNS
SPARE						1P20				67	X			68	384			1P20						1ST FL EXT. LIGHTING
SPARE						1P20				69		X		70				3P15						SOLAR PANEL METER
SPARE						1P20				71			X	72										
SPARE						1P20				73	X			74										
SPARE						1P20				75		X		76				1P20						SPARE
SPARE						1P20				77			X	78				1P20						SPARE
SPARE						1P20				79	X			80				1P20						SPARE
SPARE						1P20				81		X		82				1P20						SPARE
SPARE						1P20				83			X	84				1P20						SPARE

ITEM	LOAD (KW)	DIVERSITY	DEMAND	
LIGHTS	5.8	125%	7.2	KW
KITCHEN	0.8	100%	0.8	KW
RECEPTS (1ST 10KW)	7.4	100%	7.4	KW
REMAINDER	0.0	50%	0.0	KW
MISC	31.2	100%	31.2	KW
TOTAL			46.6	KW

129.4 A

Connect Loads Phase A 12.9 kW 107.8 A
Phase B 18.0 kW 150.3 A
Phase C 16.1 kW 134.0 A
Total 47.1 kW 130.6 A

BREAKER OPTIONS
AS - POWERLINK AS BREAKER
LO - HANDLE LOCK-OFF DEVICE
ST - SHUNT TRIP
AUX - AUXILIARY CONTACTS
PA - HANDLE PADLOACK ATTACHMENT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING, A/C & REFRIGERATION
SF - SUBFEED
TC - TIME CLOCK CONTROL

(ALL PHASES TO BE BALANCE TO WITHIN 7% USING ACTUAL LOAD TOTALS.)

Panel WIRING SCHEDULE (3-PHASE)

Panelboard BP | Panel Type NQOD | NEMA Type Enclosure 1 | Voltage 120 / 208 | Mains MLO | Mounting SURFACE | Main Rating 225A | Phase 3 | Options | Wire 4 | AIC Rating 10,000 | Notes

Load Description	LIGHTS	KITCHEN	RECEPTS	MISC	Breaker Option	Poles & Trip Amps	Connected Load WATTS A	B	C	Circuit Number	A	B	C	Circuit Number	Connected Load WATTS A	B	C	Poles & Trip Amps	Breaker Option	LIGHTS	KITCHEN	RECEPTS	MISC	Load Description
BOILER LIGHTING	X					1P20	192			1	X			2	2004			3P30					X	P-1A
BOILER RECEPTACLE			X			1P20		180		3		X		4		2004							X	
BOILER			X			1P20			2400	5			X	6			2004						X	
BOILER			X			1P20	2400			7	X			8	2004			3P30					X	P-1B
SPARE						1P20				9		X		10		2004							X	
SPARE						1P20				11			X	12			2004						X	
SOLENOID & MIXING VALVE			X			1P20	200			13	X			14	1176			1P20					X	P-2A
RECIRCULATION PUMP			X			1P20		696		15		X		16		1176		1P20					X	P-2B
BOILER CONTROLLER			X			1P20			1500	17			X	18				1P20						SPARE
SPARE			X			1P20				19	X			20				1P20						SPARE
SPARE						1P20				21		X		22				1P20						SPARE
SPARE						1P20				23			X	24				1P20						SPARE
SPARE						1P20				25	X			26				1P20						SPARE
SPARE						1P20				27		X		28				1P20						SPARE
SPARE						1P20				29			X	30				1P20						SPARE
SPARE						1P20				31	X			32				1P20						SPARE
SPARE						1P20				33		X		34				1P20						SPARE
SPARE						1P20				35			X	36				1P20						SPARE
SPARE						1P20				37	X			38				1P20						SPARE
SPARE						1P20				39		X		40				1P20						SPARE
SPARE						1P20				41			X	42				1P20						SPARE

ITEM	LOAD (KW)	DIVERSITY	DEMAND	
LIGHTS	0.2	125%	0.2	KW
KITCHEN	0.0	100%	0.0	KW
RECEPTS (1ST 10KW)	0.2	100%	0.2	KW
REMAINDER	0.0	50%	0.0	KW
MISC	21.6	100%	21.6	KW
TOTAL			22.0	KW

61.0 A

Connect Loads Phase A 8.0 kW 66.5 A
Phase B 6.1 kW 50.5 A
Phase C 7.9 kW 65.9 A
Total 21.9 kW 60.9 A

BREAKER OPTIONS
AS - POWERLINK AS BREAKER
LO - HANDLE LOCK-OFF DEVICE
ST - SHUNT TRIP
AUX - AUXILIARY CONTACTS
PA - HANDLE PADLOACK ATTACHMENT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING, A/C & REFRIGERATION
SF - SUBFEED
TC - TIME CLOCK CONTROL

(ALL PHASES TO BE BALANCE TO WITHIN 7% USING ACTUAL LOAD TOTALS.)

MAIN DISTRIBUTION PANEL "MDP"

LOCATION: ELECTRIC ROOM | **SERVICE:** 120/208 V, 3Ø, 4 WIRE
MOUNTING: SURFACE | **MAIN:** 1200A | **MAIN TYPE:** 1200A MAIN SW

NO.	SERVES	KW	AMPS	SW/FUSE/ POLE	REMARKS: ALL CONDUCTORS TO BE TYPE THHN
1	ELEVATOR	43.2	119.9	400/225/3P	3#4/0+1#4 GND-2 1/2"C
2	ELEVATOR	43.2	119.9	400/225/3P	3#4/0+1#4 GND-2 1/2"C
3	COMPACTOR	5.7	15.8	30/30/3P	3#10+1#10 GND - 3/4"C
4	BOOSTER PUMP	17.4	48.3	60/60/3P	3#6+1#10 GND - 1"C
5	DUPLEX SEWAGE EJECTOR	4.7	13.0	30/30/3P	3#10+1#10 GND - 3/4"C
6	ACCU-COM	17.6	48.9	60/60/3P	3#8+1#10 GND - 1"C
7	SPARE	--	--	100/--/3P	--
8	PANEL HPR	29.1	80.7	200/150/3P	4#2/0+1#6 GND - 2"C
9	PANEL BP	22.0	61.0	100/100/3P	4#3+1#8 GND-1 1/4"C
10	PANEL HP2	18.9	52.5	100/100/3P	4#3+1#8 GND-1 1/4"C
11	PANEL OP	19.9	55.2	100/100/3P	4#3+1#8 GND-1 1/4"C
12	PANEL HP	46.6	129.4	200/200/3P	4#3/0+1#6 GND - 2"C

Panel WIRING SCHEDULE (3-PHASE)

Panelboard HPR | Panel Type NQOD | NEMA Type Enclosure 1 | Voltage 120 / 208 | Mains MLO | Mounting SURFACE | Main Rating 225A | Phase 3 | Options | Wire 4 | AIC Rating 10,000 | Notes

Load Description	LIGHTS	KITCHEN	RECEPTS	MISC	Breaker Option	Poles & Trip Amps	Connected Load WATTS A	B	C	Circuit Number	A	B	C	Circuit Number	Connected Load WATTS A	B	C	Poles & Trip Amps	Breaker Option	LIGHTS	KITCHEN	RECEPTS	MISC	Load Description
ROOF LIGHTING	X					1P20	128			1	X			2	5760			3P60				X		SOLAR PANELS
SPARE						1P20				3			X	4		5760						X		
MUAU GFI				X		1P20			180	5				6			5760					X		
STAIR EWH (ROOF)					X	2P20	1500			7	X			8	756			3P15				X		MUA-1
					X			1500		9			X	10		756						X		
STAIR EWH (ROOF)					X	2P20			1500	11				12			756					X		
					X		1500			13	X			14	1200			3P15				X		ACCU-EMR
FCU EMR					X	2P15		30		15			X	16		1200						X		
					X				30	17				18										SPARE
ROOF EXTERIOR LIGHTING				X		1P20	180			19	X			20	180			1P20			X			ELEV CONTROL RM GFI
SPARE						1P20				21			X	22		200		1P20		X				ELEV #1 CAB LIGHTS
SPARE						1P20				23				24			200	1P20		X				ELEV #2 CAB LIGHTS
SPARE						1P20				25	X			26				1P20						SPARE
SPARE						1P20				27			X	28				1P20						SPARE
SPARE						1P20				29				30				1P20						SPARE
SPARE						1P20				31	X			32				1P20						SPARE
SPARE						1P20				33			X	34				1P20						SPARE
SPARE						1P20				35				36				1P20						SPARE
SPARE						1P20				37	X			38				1P20						SPARE
SPARE						1P20				39			X	40				1P20						SPARE
SPARE						1P20				41				42				1P20						SPARE

CIRCUIT BREAKER FOR SOLAR PANEL SHALL BE LOCATED AT OPPOSITE END FROM PANEL FEEDER TERMINATION POINT. FOR EXAMPLE: IF THE PANEL IS BOTTOM FED, THE CIRCUIT BREAKER SHALL BE AT THE TOP MOST POSITION ON THE PANEL. VERIFY ALL REQUIREMENTS IN THE FIELD.

ITEM	LOAD (KW)	DIVERSITY	DEMAND	
LIGHTS	0.5	125%	0.7	KW
KITCHEN	0.0	100%	0.0	KW
RECEPTS (1ST 10KW)	0.5	100%	0.5	KW
REMAINDER	0.0	50%	0.0	KW
MISC	28.0	100%	28.0	KW
TOTAL			29.2	KW

81.1 A

Connect Loads Phase A 11.2 kW 93.4 A
Phase B 9.4 kW 78.7 A
Phase C 8.4 kW 70.2 A
Total 29.1 kW 80.7 A

BREAKER OPTIONS
AS - POWERLINK AS BREAKER
LO - HANDLE LOCK-OFF DEVICE
ST - SHUNT TRIP
AUX - AUXILIARY CONTACTS
PA - HANDLE PADLOACK ATTACHMENT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING, A/C & REFRIGERATION
SF - SUBFEED
TC - TIME CLOCK CONTROL

(ALL PHASES TO BE BALANCE TO WITHIN 7% USING ACTUAL LOAD TOTALS.)

Panel WIRING SCHEDULE (3-PHASE)

Panelboard OP | Panel Type NQOD | NEMA Type Enclosure 1 | Voltage 120 / 208 | Mains MLO | Mounting SURFACE | Main Rating 225A | Phase 3 | Options | Wire 4 | AIC Rating 10,000 | Notes

Load Description	LIGHTS	KITCHEN	RECEPTS	MISC	Breaker Option	Poles & Trip Amps	Connected Load WATTS A	B	C	Circuit Number	A	B	C	Circuit Number	Connected Load WATTS A	B	C	Poles & Trip Amps	Breaker Option	LIGHTS	KITCHEN	RECEPTS	MISC	Load Description
OFFICE RCPTS	X					1P20	1080			1	X			2	260			2P15				X		OFFICE FCU-3
OFFICE LIGHTING			X			1P20		576		3			X	4		260						X		
OFFICE QUADS			X			1P20			600	5				6			540	1P20				X		ASST OFFICE RCPTS
OFFICE QUADS			X			1P20	600			7	X			8	600			1P20				X		ASST OFFICE QUAD
OFFICE RR GFI			X			1P20		180		9		X		10		360		1P20				X		DIRECTOR OFFICE RCPTS
OFFICE DED RCPT			X			1P20			1500	11				12			600	1P20				X		DIRECTOR OFFICE QUADS
OFFICE DED RCPT			X			1P20	1500			13	X			14	360			1P20				X		COUNSELOR RCPTS
OFFICE DED RCPT			X			1P20		1500		15		X		16		600		1P20				X		COUNSELOR QUADS
CELLAR CONF. LTG	X					1P20			640	17				18			600	1P20				X		COMPUTER RM DATA/RCPT
CELLAR CONF. RCPTS			X			1P20	540			19	X			20	600			1P20				X		COMPUTER RM DATA/RCPT
COMPUTER RM GEN. RCPTS			X			1P20		360		21		X		22		600		1P20				X		COMPUTER RM DATA/RCPT
LAUNDRY/JAN LIGHTING			X			1P20			448	23			X	24			512	1P20		X				1ST FLOOR OFFICE LTG
SPARE						1P20				25	X			26				1P20						SPARE
SPARE						1P20				27		X		28				1P20						SPARE
SPARE						1P20				29			X	30				1P20						SPARE
SPARE						1P20				31	X			32				1P20						SPARE
SPARE						1P20				33		X		34				1P20						SPARE
SPARE						1P20				35			X	36				1P20						SPARE
SPARE						1P20				37	X			38				1P20						SPARE
SPARE						1P20				39		X		40				1P20						SPARE
SPARE						1P20				41			X	42				1P20						SPARE

ITEM	LOAD (KW)	DIVERSITY	DEMAND	
LIGHTS	2.2	125%	2.8	KW
KITCHEN	0.0	100%	0.0	KW
RECEPTS (1ST 10KW)	10.0	100%	10.0	KW
REMAINDER	3.2	50%	1.6	KW
MISC	0.0	100%	0.0	KW
TOTAL			14.4	KW

39.9 A

Connect Loads Phase A 5.5 kW 46.2 A
Phase B 4.4 kW 37.0 A
Phase C 5.4 kW 45.3 A
Total 15.4 kW 42.8 A

BREAKER OPTIONS
AS - POWERLINK AS BREAKER
LO - HANDLE LOCK-OFF DEVICE
ST - SHUNT TRIP
AUX - AUXILIARY CONTACTS
PA - HANDLE PADLOACK ATTACHMENT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING, A/C & REFRIGERATION
SF - SUBFEED
TC - TIME CLOCK CONTROL

(ALL PHASES TO BE BALANCE TO WITHIN 7% USING ACTUAL LOAD TOTALS.)

Panel WIRING SCHEDULE (3-PHASE)

Panelboard HP2 | Panel Type NQOD | NEMA Type Enclosure 1 | Voltage 120 / 208 | Mains MLO | Mounting SURFACE | Main Rating 225A | Phase 3 | Options | Wire 4 | AIC Rating 10,000 | Notes

Load Description	LIGHTS	KITCHEN	RECEPTS	MISC	Breaker Option	Poles & Trip Amps	Connected Load WATTS A	B	C	Circuit Number	A	B	C	Circuit Number	Connected Load WATTS A	B	C	Poles & Trip Amps	Breaker Option	LIGHTS	KITCHEN	RECEPTS	MISC	Load Description
2nd Fl Lighting	X					1P20	624			1	X			2	360			1P20				X		2nd Fl Corridor Rcpts
3rd Fl Lighting	X					1P20		624		3			X	4		360		1P20				X		3rd Fl Corridor Rcpts
4th Fl Lighting	X					1P20			624	5				6			360	1P20				X		4th Fl Corridor Rcpts
5th Fl Lighting	X					1P20	624			7	X			8	360			1P20				X		5th Fl Corridor Rcpts
6th Fl Lighting	X					1P20		624		9			X	10		360		1P20				X		6th Fl Corridor Rcpts
7th Fl Lighting	X					1P20			624	11				12			360	1P20				X		7th Fl Corridor Rcpts
8th Fl Lighting	X					1P20	624			13	X			14	360			1P20				X		8th Fl Corridor Rcpts
9th Fl Lighting	X					1P20				15			X	16		360		1P20				X		9th Fl Corridor Rcpts
STAIR EWH (3RD FL)				X		2P20			1500	17				18			1500	2P20				X		STAIR EWH (7TH FL)
				X			1500			19	X			20	1500							X		
STAIR EWH (3RD FL)				X		2P20		1500		21			X	22		1500		2P20				X		STAIR EWH (7TH FL)
				X					1500	23				24			1500					X		
IT CLOSET QUAD			X			1P20	360			25	X			26	360			1P20				X		2ND FL IT CLOSET QUAD
2ND FL IT CLOSET QUAD			X			1P20		360		27			X	28		360		1P20				X		3RD FL IT CLOSET QUAD
3RD FL IT CLOSET QUAD			X			1P20			360	29				30			360	1P20				X		4TH FL IT CLOSET QUAD
4TH FL IT CLOSET QUAD			X			1P20	360			31	X			32	360			1P20				X		5TH FL IT CLOSET QUAD
5TH FL IT CLOSET QUAD			X			1P20		360		33		X		34		360		1P20				X		6TH FL IT CLOSET QUAD
6TH FL IT CLOSET QUAD			X			1P20			360	35			X	36			360	1P20				X		7TH FL IT CLOSET QUAD
7TH FL IT CLOSET QUAD			X			1P20	360			37	X			38	360			1P20				X		8TH FL IT CLOSET QUAD
8TH FL IT CLOSET QUAD			X			1P20		360		39		X		40				1P20						SPARE
SPARE						1P20				41			X	42				1P20						SPARE

ITEM	LOAD (KW)	DIVERSITY	DEMAND	
LIGHTS	4.4	125%	5.5	KW
KITCHEN	0.0	100%	0.0	KW
RECEPTS (1ST 10KW)	8.3	100%	8.3	KW
REMAINDER	0.0	50%	0.0	KW
MISC	12.0	100%	12.0	KW
TOTAL			25.7	KW

71.4 A

Connect Loads Phase A 8.1 kW 67.6 A
Phase B 7.1 kW 59.4 A
Phase C 9.4 kW 78.4 A
Total 24.6 kW 68.4 A

BREAKER OPTIONS
AS - POWERLINK AS BREAKER
LO - HANDLE LOCK-OFF DEVICE
ST - SHUNT TRIP
AUX - AUXILIARY CONTACTS
PA - HANDLE PADLOACK ATTACHMENT
GFCI - GROUND FAULT CIRCUIT INTERRUPTER
HACR - HEATING, A/C & REFRIGERATION
SF - SUBFEED
TC - TIME CLOCK CONTROL

(ALL PHASES TO BE BALANCE TO WITHIN 7% USING ACTUAL LOAD TOTALS.)

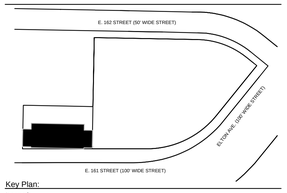
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

Issued:

NUMBER	DATE	DESCRIPTION
1	09.30.13	BLDS INITIAL REVIEW
2	02.26.14	BLDS SUB #2
3	06.20.14	Design Development
4	08.22.14	50% CD SET
5	02.26.15	BID SET/ HPD
6	02.26.15	SPRINKLER DOB ISSUANCE
7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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PANEL SCHEDULES

SEAL & SIGNATURE:

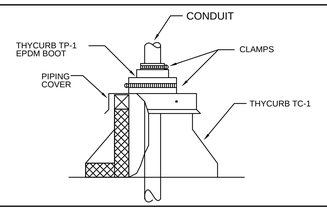
PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-300.00

SCALE: AS NOTED

GENERAL ELECTRICAL NOTES

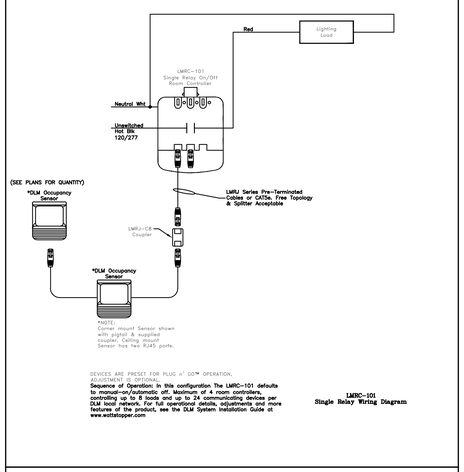
1. ALL WIRING SHALL BE IN COMPLIANCE WITH THE 2008 EDITION OF THE NATIONAL ELECTRIC CODE WITH NYC AMENDMENTS AND SPECIFICATIONS ROMEX (TYPE NM) IS PROHIBITED.
2. ELECTRICAL CONTRACTOR SHALL FILE WITH ALL AGENCIES AND OBTAIN ALL APPROVALS FOR THE WORK UNDER THIS CONTRACT. THE ELECTRICAL CONTRACTOR SHALL PAY ALL FEES ASSOCIATED WITH THE FILINGS.
3. ALL EQUIPMENT FEED TERMINATIONS AND MOUNTING HEIGHTS SHALL BE VERIFIED WITH EQUIPMENT MANUFACTURER.
4. ELECTRICAL CONTRACTOR SHALL COORDINATE HIS WORK WITH THAT OF OTHER DISCIPLINES AND GENERAL CONTRACTOR.
5. LOCATION OF MECHANICAL EQUIPMENT SHALL BE FIELD COORDINATED WITH MECHANICAL CONTRACTOR PRIOR TO ROUGHING-IN.
6. ALL CONDUCTORS SHALL BE COPPER, THHN/THWN, RATED 90°, 600 VOLT (AS PER TABLE 310.16 NEC 2005). MINIMUM SIZE NO. 12 AWG. ALUMINUM CABLE IS PROHIBITED.
7. ALL 15 AND 20 AMPERE BRANCH CIRCUIT OVER 100 FEET SHALL BE WIRED WITH NUMBER 10 AWG WIRING. ALL 15 AND 20 AMPERE BRANCH CIRCUIT OVER 200 FEET SHALL BE WIRED WITH NUMBER 8 AWG WIRING.
8. ARMORED CABLE (BX) PERMITTED TO BE RUN CONCEALED INDOORS (ABOVE CEILING, BEHIND WALLS) AS PER CODE.
9. ALL CONDUIT INDOORS (WHERE REQUIRED BY CODE) SHALL BE EMT (ELECTRIC METAL TUBING). ALL CONDUIT OUTDOORS SHALL BE RIGID GALVANIZED STEEL.
10. EXACT LOCATION OF LIGHTING FIXTURES, SPECIFICATION AND INSTALLATION DETAILS SHALL BE AS SHOWN ON THE LATEST ARCHITECTURAL REFLECTED CEILING PLAN. REVIEW PRIOR TO ROUGHING-IN.
11. GENERAL CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL NEW CEILING MTD EQUIPMENT WITH ALL OF THE VARIOUS TRADES.
12. VERIFY ALL CEILING TYPES AND MATERIALS PRIOR TO ORDERING LIGHT FIXTURES.
13. SUPPORT EACH LIGHTING FIXTURE (WITH CHAINS WHEN REQUIRED BY CODE) INDEPENDENTLY FROM THE SUSPENDED CEILING AND COORDINATE ITS LOCATION WITH THAT OF OTHER EQUIPMENT TO AVOID CONFLICTS.
14. EMERGENCY LIGHT FIXTURES SHALL HAVE AN UNSWITCHED HOT FEED TO THEIR BATTERY PACK.SEE DETAIL.
15. SEE ARCHITECTURAL PLANS FOR LIGHT FIXTURE SPECIFICATIONS.
16. ALL BRANCHES SHALL BE WIRED WITH AN INDIVIDUAL GREEN GROUND WIRE.
17. ALL ELECTRICAL DEVICES (SWITCHES, RECEPTACLES, PLUGS, COVER PLATES) TO BE DECORA PLUS BY LEVITON. COLORS TO BE SELECTED BY ARCHITECT.
18. ELECTRICAL CONTRACTOR TO FURNISH & INSTALL CONDUIT WITH DRAG LINE FOR PULLING OF TELEPHONE CO. WIRES. VERIFY REQUIREMENTS IN THE FIELD.
19. ELECTRICAL CONTRACTOR TO FURNISH & INSTALL CONDUIT WITH DRAG LINE FOR PULLING OF DATA WIRES. VERIFY ALL REQUIREMENTS IN THE FIELD.
20. ELECTRICAL CONTRACTOR TO FURNISH + INSTALL ALL CONTROL WIRING FOR ALL MECHANICAL EQUIPMENT. (NOT SHOWN ON THESE PLANS). VERIFY EXACT REQUIREMENTS WITH MECHANICAL CONTRACTOR TO COORDINATE WORK WITH THEM.
21. THE CONTRACTOR SHALL VISIT THE PREMISES TO DETERMINE EXISTING CONDITIONS AND COMPARE SAME WITH DRAWINGS AND SATISFY HIMSELF OF ALL CONDITIONS PRIOR TO THE SUBMISSION OF A BID PROPOSAL. NO ALLOWANCE WILL BE MADE FOR FAILURE TO COMPLY WITH THESE REQUIREMENTS AND BID PROPOSAL SHALL BE CONSTRUED AS EVIDENCE HE HAS DONE SO.



NOTE: 3-1/2" DIAMETER COLLARS ACCOMMODATE CONDUITS 1/2" TO 2-1/2" NORM.
6-1/2" DIAMETER COLLARS ACCOMMODATE CONDUITS 3" TO 5" NORM.

CONDUIT FLASHING THRU ROOF DETAIL

NOT TO SCALE



DLM WIRING DETAIL

ELECTRICAL LEGEND

- CONDUIT AND WIRING CONCEALED IN CLG OR WALLS. BRANCH CIRCUIT WIRING. THE NUMBER OF TICS INDICATES THE NUMBER OF CONDUCTORS EXCLUDING GROUNDS.
- CONDUIT AND WIRING EXPOSED ON CLG OR WALLS. BRANCH CIRCUIT WIRING. THE NUMBER OF TICS INDICATES THE NUMBER OF CONDUCTORS EXCLUDING GROUNDS.
- HP-35 — HOME RUN TO POWER PANEL, THE NUMBER OF TICS INDICATES THE NUMBER OF CONDUCTORS EXCLUDING GROUNDS. NOMENCLATURE INDICATES THE POWER PANEL AND CIRCUIT BREAKER NUMBER (POWER PANEL HP, CIRCUIT BREAKER NUMBER 35).
- INDICATES INDIVIDUAL HOT, NEUTRAL AND GROUND CONDUCTORS.
- GFI — DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE OUTLET, 20 AMP 2P 3W 125 VOLT GROUNDING, WALL MTD. PASS & SEYMOUR 2095TR
- DUPLEX RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT. PASS & SEYMOUR 26362TR
- DOUBLE DUPLEX RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT. (2) PASS & SEYMOUR 26362TR
- SIMPLEX CONVENIENCE RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 26361TR NEMA 5-20R
- SIMPLEX CONVENIENCE RECEPTACLE OUTLET 20 AMP 2P 3W 250 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 26861TR NEMA 6-20R
- DRYER CONVENIENCE RECEPTACLE OUTLET 30 AMP 2P 3W 208 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 3801 NEMA 6-30R
- DUPLEX CONVENIENCE RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 26362TR
- RECEPTACLE OUTLET 50 AMP 2P 3W 250 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 3801 (SR) NEMA 6-50R
- C1 — DIGITAL ON/OFF ROOM CONTROLLER. WATT STOPPER MODEL # LMRC-100
- S — SINGLE POLE SWITCH, LOWER CASE LETTER INDICATES LIGHTING CIRCUIT THAT IS BEING CONTROLLED. PASS & SEYMOUR 2601
- S_3 — THREE WAY TOGGLE SWITCH 15A. PASS & SEYMOUR 2603
- S_T — MANUAL SWITCH WITH STANDARD TRIP THERMAL UNIT. EQUAL TO SQ D CLASS 2510 TYPE KG1A (NEMA 1 ENCLOSURE).
- SOC — OCCUPANCY SENSOR SWITCH WATTSTOPPER DW-100
- UNFUSED DISCONNECT SWITCH (NEMA 1 FOR INDOOR AND NEMA 3R FOR OUTDOOR).
- FUSED DISCONNECT SWITCH (NEMA 1 FOR INDOOR AND NEMA 3R FOR OUTDOOR).
- COMBINATION STARTER AND DISCONNECT (NEMA 1 FOR INDOOR AND NEMA 3R FOR OUTDOOR).
- COMBINATION TELEPHONE/DATA JACK IN ONE SINGLE GANG FACE PLATE. ORTRONICS OR-40300570P-88/ OR-40300670P-88/ OR-TJ5E00-88
- TELEPHONE JACK ORTRONICS OR-40300670P-88/ OR-TJ5E00-88
- J — ELECTRICAL JUNCTION BOX.
- TV — TELEVISION OUTLET FLUSH WALL MOUNTED 2-1/8"x4 INCH JUNCTION BOX.
- HP — SURFACE MOUNTED PANELBOARD WITH BRANCH CIRCUIT BREAKERS, REFER TO PANEL SCHEDULES
- EM — INDICATES LIGHT FIXTURE WITH EMERGENCY BATTERY BACKUP
- WP — INDICATES WEATHER PROOF ENCLOSURE
- CW — INDICATES COLD WEATHER EMERGENCY BATTERY PACK
- DW — INDICATES DEDICATED FOR DISHWASHERS
- OS — OCCUPANCY SENSOR, LOW VOLTAGE WATTSTOPPER DT-305
- OS — OCCUPANCY SENSOR, LINE VOLTAGE WATTSTOPPER DT-355

FOR FURTHER INFORMATION IN REGARDING TO RECEPTACLES CONTACT:
RAPHAEL ALMEIDA OF LEGRAND
TEL. 561-271-5491
FAX: 201-222-7527

FOR FURTHER INFORMATION IN REGARDING TO LOW VOLTAGE CONTACT:
CALL ORTRONICS (TECH SERVICES)
TEL. 877-599-5393

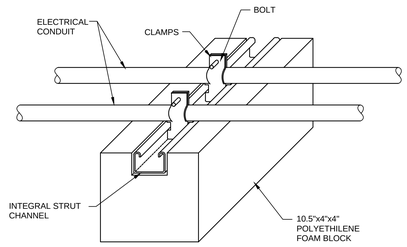
APARTMENT LEGEND

- CONDUIT AND WIRING CONCEALED IN CLG OR WALLS. BRANCH CIRCUIT WIRING. THE NUMBER OF TICS INDICATES THE NUMBER OF CONDUCTORS EXCLUDING GROUNDS.
- CONDUIT AND WIRING EXPOSED ON CLG OR WALLS. BRANCH CIRCUIT WIRING. THE NUMBER OF TICS INDICATES THE NUMBER OF CONDUCTORS EXCLUDING GROUNDS.
- HP-35 — HOME RUN TO POWER PANEL, THE NUMBER OF TICS INDICATES THE NUMBER OF CONDUCTORS EXCLUDING GROUNDS. NOMENCLATURE INDICATES THE POWER PANEL AND CIRCUIT BREAKER NUMBER (POWER PANEL HP, CIRCUIT BREAKER NUMBER 35).
- INDICATES INDIVIDUAL HOT, NEUTRAL AND GROUND CONDUCTORS.
- GFI — DUPLEX GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE OUTLET, 20 AMP 2P 3W 125 VOLT GROUNDING, WALL MTD. PASS & SEYMOUR 2095TR
- DUPLEX RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT. PASS & SEYMOUR 885TR
- DOUBLE DUPLEX RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT. (2) PASS & SEYMOUR 885TR
- SIMPLEX CONVENIENCE RECEPTACLE OUTLET 20 AMP 2P 3W 125 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 26361TR NEMA 5-20R
- SIMPLEX CONVENIENCE RECEPTACLE OUTLET 20 AMP 2P 3W 250 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 26861TR NEMA 6-20R
- RECEPTACLE OUTLET 50 AMP 2P 3W 250 VOLT, GROUNDING, WALL MTD. PASS & SEYMOUR 3801 (SR) NEMA 6-50R
- WP — WEATHER PROOF ENCLOSURE.
- MW — DENOTES DEDICATED OUTLET FOR MICROWAVE
- DW — DENOTES DEDICATED OUTLET FOR DISHWASHER
- WM — DENOTES DEDICATED OUTLET FOR WASHING MACHINE
- DRY — DENOTES DEDICATED OUTLET FOR DRYER
- AC — INDICATES RECEPTACLES FOR AIR CONDITIONER. VERIFY MOUNT HEIGHT WITH AC SLEEVE.
- S — SINGLE POLE SWITCH, LOWER CASE LETTER INDICATES LIGHTING CIRCUIT THAT IS BEING CONTROLLED. PASS & SEYMOUR 2601
- S_3 — THREE WAY TOGGLE SWITCH 15A. PASS & SEYMOUR 2603
- NID — LOW VOLTAGE NID BOX
- IC — INTERCOM STATION.
- COMBINATION TELEPHONE/DATA JACK IN ONE SINGLE GANG FACE PLATE. ORTRONICS OR-40300570P-88/ OR-40300670P-88/ OR-TJ5E00-88
- TELEPHONE JACK ORTRONICS OR-40300670P-88/ OR-TJ5E00-88
- J — ELECTRICAL JUNCTION BOX.
- TV — TELEVISION OUTLET FLUSH WALL MOUNTED 2-1/8"x4 INCH JUNCTION BOX.
- APA — FLUSH WALL MOUNTED APARTMENT PANELBOARD WITH BRANCH CIRCUIT BREAKERS, REFER TO PANEL SCHEDULES
- S — NYC APPROVED HARDWIRED LOCAL AREA COMBINATION SMOKE/CARBON MONOXIDE DETECTOR WITH ANNUCIATOR.

FOR FURTHER INFORMATION IN REGARDING TO RECEPTACLES CONTACT:
RAPHAEL ALMEIDA OF LEGRAND
TEL. 561-271-5491
FAX: 201-222-7527

FOR FURTHER INFORMATION IN REGARDING TO LOW VOLTAGE CONTACT:
CALL ORTRONICS (TECH SERVICES)
TEL. 877-599-5393

			Lighting Fixture Schedule				
				Lamp			
Type	Description	Manufacturer	Model Number		Ballast	Energy Star	Location/Note
A	WALL MOUNT SCONCE	NUVO LIGHTING	60-907	1 18W T4 G24 FLUORESCENT	ELECTRONIC	Yes	RESIDENTIAL UNIT
B	DECORATIVE CEILING MOUNT	SUNLIGHT	49030-SU	15W LED	N/A	Yes	RESIDENTIAL UNIT ENTRY
C	DECORATIVE CEILING MOUNT	SUNLIGHT	49030-SU	15W LED	N/A	Yes	RESIDENTIAL UNIT KITCHENS
D	WALL MOUNT VANITY	SUNPARK	FL3136D-3000K	34W LED	N/A	Yes	RESIDENTIAL UNIT BATHROOMS
E	WALL MOUNT SCONCE	SUNPARK	MDF032-126	26W GU24 CFL	ELECTRONIC	Yes	RESIDENTIAL CORRIDOR
G2	RECESSED DOWNLIGHT IN ACT	PRECISE	FL-2X2-34-45WT-4000K-NA-SK	45WT _3400K LED	N/A	Yes	OFFICE/LAUNDRY/COMMUNITY ROOM
G4	RECESSED DOWNLIGHT IN ACT	PRECISE	FL-2X4-35WT-4000K-NA-45WT-SK	45WT _3400K LED	N/A	Yes	OFFICE/LAUNDRY/COMMUNITY ROOM
G-EM	RECESSED DOWNLIGHT IN ACT - EM PACK	PHILLIPS	ZI100T	100W	ELECTRONIC		OFFICE/LAUNDRY/COMMUNITY ROOM
J	RECESSED 4" LED CAN	DMF LIGHTING	DH4-AT/LED10DR430K	10W LED _3000K	N/A	Yes	RESIDENTIAL ENTRY LOBBY/MAIL ROOM/COMMUNITY ROOM
K6	RECESSED LINEAR FLUORESCENT	LAMAR	44-1-28-T-G-E5-1-PA	F21T5-F39T5HO	ELECTRONIC	Yes	RESIDENTIAL ENTRY LOBBY
K8	RECESSED LINEAR FLUORESCENT	LAMAR	44-1-28-T-G-E5-1-PA	F28T5-F54T5HO	ELECTRONIC		RESIDENTIAL CORRIDOR
K8-EM	RECESSED LINEAR FLUORESCENT - EM PACK	LAMAR	44-1-28-G-E5-1-PA-EM	F28T5-F54T5HO	ELECTRONIC		RESIDENTIAL CORRIDOR
L	COVE LIGHTING	PHILLIPS	BCX416	32W LED	ELECTRONIC	Yes	RESIDENTIAL ENTRY LOBBY
R	1X4 SURFACE MOUNT FLUORESCENT	MOBERN	770-2-32-ELO	(2) 32 W T8 FLUORESCENT	ELECTRONIC	Yes	UTILITY ROOMS/TRASH
R-EM	1X4 SURFACE MOUNT FLUORESCENT - EM PACK	MOBERN	770-2-32-ELO-B1	(2) 32 W T8 FLUORESCENT	ELECTRONIC		UTILITY ROOMS/TRASH
S2	WALL MOUNTED ASYMETRIC INDIRECT W/ OC	MOBERN	155SW-232-W-MV	(2) 32 W T8 FLUORESCENT	ELECTRONIC	Yes	
S4	WALL MOUNTED ASYMETRIC INDIRECT W/ OCCUPANCY SENSOR	MOBERN	155SW-232-W-MV	(2) 32 W T5 FLUORESCENT	ELECTRONIC	Yes	
S4-EM	WALL MOUNTED ASYMETRIC - EM PACK W/ OCCUPANCY SENSOR	MOBERN	155SW-232-W-MV-B1	(2) 32 W T8 FLUORESCENT	N/A	Yes	STAIRWELLS/ELEVATOR SHAFT
T	ALUMINUM HOOD DOWNLIGHT	KICHLER	16201AZT30	15W FLOODLIGHT BEAM 3000K	ELECTRONIC	Yes	CANOPY LIGHTING
U	EXTERIOR WALL MOUNT W/ MOTION SENSOR	RAB	WP1F26	26W TRIPLE	N/A		EXTERIOR LIGHTING
EXITS	NEW YORK PRECISION SERIES	MULE	NYELX-2-B-R-BA-SD	3.2 W LED	N/A		



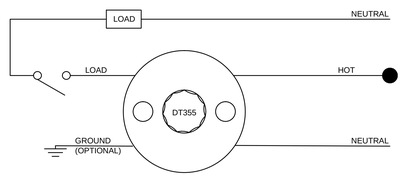
SHOWN DETAIL IS AS PER FASTENING PRODUCTS PIPE PIER BLOCK DETAIL (CATALOG No. 64704040PG)
PHONE No. (800)333-0852

FLAT ROOF CONDUIT SUPPORT DETAIL

NOT TO SCALE

MECHANICAL AND PLUMBING EQUIPMENT WIRING NOTES

1. ALL EQUIPMENT TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONTROL DEVICES ASSOCIATED WITH ALL MECHANICAL AND PLUMBING EQUIPMENT.
3. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE POINT-TO-POINT CONTROL WIRING DIAGRAMS TO THE ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL BACK BOXES, CONDUIT AND CONTROL WIRING. ELECTRICAL CONTRACTOR SHALL LEAVE 3 FT CONTROL WIRE WHIPS AT ALL CONTROL DEVICE LOCATIONS. CONTRACTOR SHALL MAKE ALL FINAL TERMINATION AND PERFORM FINAL INSTALLATION OF ALL CONTROL DEVICES.
4. ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL ALL LINE VOLTAGE COMPONENTS REQUIRED FOR THE ROPER CONNECTION AND OPERATION OF THE EQUIPMENT. ELECTRICAL CONTRACTOR SHALL MAKE ALL FINAL TERMINATION ON ALL LINE VOLTAGE COMPONENTS.



OCCUPANCY SENSOR WIRING DIAGRAM

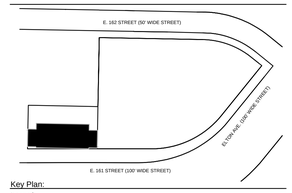
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



Key Plan:

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Filing Representative:

DESIGN 2147 LIMITED
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Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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ELECTRICAL NOTES AND DETAILS

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: WH
CHK BY: CMS/FTK
DWG No:

E-400.00

SCALE: AS NOTED

New York City SPRINKLER CODE COMPLIANCE NOTES

1. THE INSTALLATION COMPONENT, SIZING, SPACING, CLEARANCES, AND TYPE OF SYSTEMS SHALL CONFORM TO APPENDIX Q, SECTION BCQ102 AND SECTION BC903.
2. ONLY APPROVED MATERIALS SHALL BE USED AS PER CHAPTER 6 OF APPENDIX Q, SECTION BCQ102.
3. DIRECT CONNECTION OF SPRINKLERS TO THE PUBLIC WATER SYSTEM SHALL CONFORM TO BCQ102.1 SEE 15.2.1 AND 15.1.1 (d).
4. SPRINKLERS SHALL BE PROTECTED AGAINST FREEZING AND INJURY AS PER APPENDIX Q, SECTION BCQ102, SECTION 8.15.3 AND 6.2.8.
5. INSPECTIONS AND TESTS OF SPRINKLERS SHALL BE CONDUCTED AS PER SECTION 901.5 AND APPENDIX Q SECTION BCQ102 CHAPTER 16.
6. THE OCCUPANCY OF THE AREAS TO BE SPRINKLED IN ACCORDANCE WITH SECTIONS 5.2 AND A.5.2. OF APPENDIX Q, SECTION BCQ102.
7. WATER SUPPLY TEST PIPES AND GAUGES SHALL BE PROVIDED AS PER SECTION 8.16.1 AND 8.16.4 OF APPENDIX Q, SECTION BCQ102.
8. PIPING, FITTINGS, SPECIFICATIONS, PIPE SCHEDULES, SYSTEM TEST PIPES, PROTECTION AGAINST CORROSION, DAMAGE, VALVES, HANGERS, SPRINKLERS GUARDS AND SHIELDS SHALL BE AS PER APPENDIX Q, SECTION BCQ102 CHAPTERS 6 AND 9.
9. STOCK OF EXTRA SPRINKLERS SHALL BE FURNISHED AS PER SECTION 6.2.8 OF APPENDIX Q, SECTION BCQ102 (REQUIRED FOR EACH TEMPERATURE RATING).
10. SPRINKLER ALARM WILL BE IN ACCORDANCE WITH SECTION 8.16.1. OF APPENDIX Q, SECTION BCQ102.
11. SPACING, LOCATION AND POSITION OF SPRINKLER WILL BE AS PER SECTION 8 OF APPENDIX Q, SECTION BCQ102.
12. ALL BLIND SPACES EXCEEDING 6" IN WIDTH OR DEPTH WHICH CONTAIN COMBUSTIBLE MATERIAL WILL BE SPRINKLED.
13. ALL PIPES PASSING THROUGH WALLS SHALL COMPLY WITH SECTION BC 712 OF THE 2008 NYC BUILDING CODE.
14. THERE IS NO HIGH PILE STORAGE AS DEFINED IN CHAPTER 3.3.12 OF AS PER APPENDIX Q, SECTION BCQ102.
15. DISTANCE OF SPRINKLERS FROM HEAT SOURCES SHALL BE AS PER TABLES 9.3.2.5(a) AND 8.3.2.5(b).
16. AS PER SECTION BC903.1.2 PROVIDE DEPARTMENT OF WATER SUPPLY LETTER WITH FLOW TEST DATA IF THERE IS A DIRECT CONNECTION TO THE STREET WATER SUPPLY.
17. ALL PIPES PASSING THROUGH FOUNDATION WALLS SHALL BE PROTECTED AS PROVIDED SECTION 305.5 OF THE PLUMBING CODE.
18. THIS APPLICATION IS NOT FILED AS A RESULT OF BY THE FIRE COMMISSIONER AS AUTHORIZED BY BS&A TO MODIFY THE CERTIFICATE OF OCCUPANCY NOR IS SUCH ACTION PENDING.
19. ALL VALVES SHALL BE IDENTIFIED AS REQUIRED BY SECTION 6.7.4. OF APPENDIX Q, SECTION BCQ102.
20. DRAINAGE TO CONFORM TO CHAPTER 8.15.2 OF APPENDIX Q, SECTION BCQ102.
21. A ONE PIECE REDUCING FITTING OF GOOD DESIGN SHOULD BE USED WHEREVER A CHANGE IS MADE IN THE SIZE OF PIPE AS PER SECTION 6.4.6 OF APPENDIX Q, SECTION BCQ102.
22. ALL VALVES ON CONNECTIONS TO WATER SUPPLY TO SPRINKLERS SHALL BE APPROVED O.S. & Y. OR APPROVED INDICATOR TYPE.
23. DRAIN VALVES AND TEST VALVES SHALL BE APPROVED TYPE AS PER SECTION 6.7.3 OF APPENDIX Q, SECTION BCQ102.
24. HANGERS SHOULD BE SUPPORTED BY IRON U TYPE OR APPROVED ADJUSTABLE HANGERS. HANGERS SHALL BE A TYPE APPROVED FOR USE WITH THE PIPE OR TUBE INVOLVED AS PER CHAPTER 9 OF APPENDIX Q, SECTION BCQ102.
25. PROVISIONS SHOULD BE MADE TO FACILITATE FLUSHING SYSTEM PIPING BY PROVIDING FLUSHING CONNECTION CONSISTING OF A CAPPED NIPPLE 4" LONG ON END OF A CROSS MAIN AS PER SECTION 8-14.16 OF APPENDIX Q, SECTION BCQ102.
26. SPRINKLERS SHALL BE AN APPROVED TYPE AS PER CHAPTER 8.3 OF APPENDIX Q, SECTION BCQ102.
27. TEMPERATURE RATING SHALL COMPLY WITH SECTION 8.3 OF APPENDIX Q, SECTION BCQ102.
28. 18" MINIMUM CLEARANCE TO BELOW SPRINKLER DEFLECTOR AS PER SECTION 8.5.6 OF APPENDIX Q, SECTION BCQ102.
29. SPACING AND LOCATION OF SPRINKLERS SHALL COMPLY WITH CHAPTER 8 OF APPENDIX Q, SECTION BCQ102.
30. SPRINKLER SYSTEM COMPLIES WITH NFPA13R-2002 AS MODIFIED BY APPENDIX Q, SECTION BCQ102.
31. SOURCES OF WATER SUPPLY FOR SPRINKLER SYSTEMS AS PER CHAPTER 15 OF APPENDIX Q, SECTION BCQ102.
32. PIPE SCHEDULE SYSTEMS SHALL BE IN ACCORDANCE WITH SECTION 14.5 OF APPENDIX Q, SECTION BCQ102.
33. AUTOMATIC INTERLOCK CUTOFF SWITCH FOR VENTILATION WILL CONFORM TO CHAPTER 6 OF THE MECHANICAL CODE (APPLICABLE ONLY IF THERE IS AN AIR SYSTEM UTILIZING RECIRCULATED AIR AND REQUIRING A THERMOSTATIC DEVICE).
34. HYDRAULICALLY DESIGNED SPRINKLER SYSTEMS SHALL BE IN ACCORDANCE WITH CHAPTER 14 OF APPENDIX Q, SECTION BCQ102.
35. MINIMUM BRANCH PIPE SIZE TO BE ONE INCH (1").
36. THIS APPLICATION IS MADE ONLY FOR THE WORK INDICATED ON THE SPECIFICATION SHEET. ALL OTHER MATTERS SHOWN ARE NOT TO BE RELIED UPON OR TO BE CONSIDERED AS EITHER BEING APPROVED OR IN ACCORDANCE WITH APPLICABLE CODES.

ECCCNYS COMPLIANCE

WORK IS EXEMPT AS PER ECC sec 101.6

SEISMIC NOTE

THE SYSTEM PERFORMANCE WILL BE AT LEAST EQUAL TO THAT OF THE BUILDING STRUCTURE UNDER EXPECTED SEISMIC FORCES.

-NFPA 13-2002 SEC. 9.3.1.2

SPRINKLER LEGEND

SYMBOL	DESCRIPTION
	NEW SPRINKLER PIPING NEW, SCHEDULE 40, BLACK STEEL, WITH THREADED ENDS USE CAST- OR MALLEABLE-IRON FITTINGS(150PSI) AND THREADED JOINTS
○	APPLICATION: RETAIL SPACES/CELLAR/JANITOR'S CLOSET/ETC. NEW UPRIGHT SPRINKLER HEAD VIKING SIN #VK100 OR EQUAL 1/2 INCH, 1/2 ORIFICE, 155 DEGREE, BRASS FINISH, UL CERTIFICATION # EX643
○ 175°	APPLICATION: BOILER ROOM NEW UPRIGHT SPRINKLER HEAD VIKING SIN #VK100 M OR EQUAL 1/2 INCH, 1/2 ORIFICE, 175 DEGREE F, BRASS FINISH, UL CERTIFICATION # EX643
○ 200°	APPLICATION: FRONT and REAR OF DRYERS NEW UPRIGHT SPRINKLER HEAD VIKING SIN #VK100 OR EQUAL 1/2 INCH, 1/2 ORIFICE, 200 DEGREE, BRASS FINISH, UL CERTIFICATION # EX643
◁	APPLICATION: RESIDENTIAL AREAS ONLY (I.E. APARTMENTS/CORRIDORS) STANDARD THROW SIDEWALL SPRINKLER HEAD VIKING QUICK RESPONSE CONCEALED HORIZONTAL SIDEWALL SPRINKLER HEAD SIN # VK408, 1/2" ORIFICE, 5.6 K-FACTOR, 135 DEGREE F., PAINTED WHITE UL CERTIFICATION # EX643
◁ INT EXT	APPLICATION: RESIDENTIAL AREAS ONLY (I.E. KITCHENS, LAUNDRY CLOSETS) EXTENDED COVERAGE QUICK RESPONSE CONCEALED HORIZONTAL SIDEWALL SPRINKLER HEAD VICTAULIC MODEL V3416, 17/32" ORIFICE, 8.0K-FACTOR, 200° DEGREE F., PAINTED WHITE UL CERTIFICATION # EX5170
◁ INT	APPLICATION: RESIDENTIAL AREAS ONLY (I.E. KITCHENS, LAUNDRY CLOSETS) STANDARD THROW QUICK RESPONSE CONCEALED HORIZONTAL SIDEWALL SPRINKLER HEAD VICTAULIC MODEL V2710, 1/2" ORIFICE, 5.6 K-FACTOR, 200° DEGREE F., PAINTED WHITE UL CERTIFICATION # EX5170
◁ EXT	APPLICATION: RESIDENTIAL AREAS ONLY (I.E. APARTMENT/CORRIDORS) EXTENDED COVERAGE QUICK RESPONSE CONCEALED HORIZONTAL SIDEWALL SPRINKLER HEAD VICTAULIC MODEL V3416, 17/32" ORIFICE, 8.0K-FACTOR, 135° DEGREE F., PAINTED WHITE UL CERTIFICATION # EX5170
●	NEW CONCEALED QUICK RESPONSE PENDENT SPRINKLER HEAD RELIABLE MODEL RFC49, 1/2-INCH THREAD & ORIFICE, 4.9 K-FACTOR, 165 DEGREE SPRINKLER HEAD RATING,135 DEGREE COVER PLATE RATING, 1/2-INCH ADJUSTABLE, (SIN RA0616) 12 x 12 SPACING: REQUIRES 13 GPM AT 7.0 PSI 14 x 14 SPACING: REQUIRES 13 GPM AT 7.0 PSI 16 x 16 SPACING: REQUIRES 13 GPM AT 7.0 PSI 18 x 18 SPACING: REQUIRES 17 GPM AT 12.0 PSI 20 x 20 SPACING: REQUIRES 20 GPM AT 16.7 PSI MINIMUM SPACING: 8-FEET
● INT	APPLICATION: INTERMEDIATE TEMPERATURE HEADS (I.E. KITCHENS / MECHANICAL ROOMS) NEW CONCEALED QUICK RESPONSE PENDENT SPRINKLER HEAD RELIABLE MODEL G5-56, 1/2-INCH THREAD, 1/2-INCH ORIFICE, 5.6 K-FACTOR 212 DEGREE SPRINKLER HEAD RATING,165 DEGREE COVER PLATE RATING, 3/4-INCH ADJUSTABLE, (SIN RA3415)
● EXT INT	APPLICATION: INTERMEDIATE TEMPERATURE HEADS (I.E. KITCHENS / MECHANICAL ROOMS) NEW CONCEALED QUICK RESPONSE PENDENT SPRINKLER HEAD RELIABLE MODEL G5-80, 3/4-INCH THREAD, 17/32-INCH ORIFICE, 8.0 K-FACTOR 212 DEGREE SPRINKLER HEAD RATING,165 DEGREE COVER PLATE RATING, 3/4-INCH ADJUSTABLE, (SIN RA3412)
LL	LOT LINE WINDOW SPRINKLER HEAD. LOT LINE WINDOW SPRINKLER HEAD SHALL BE PLACE AT THE CENTER NEAR THE TOP, SO LOCATED THAT WATER WILL WET THE UPPER PART OF THE WINDOW, AND RUN DOWN OVER THE SASH AND GLASS, WETTING THE ENTIRE WINDOW.
	GATE VALVE (OS&Y) OUTSIDE STEM & YOKE TYPE VIKING MODEL OF250 C.I. UL CERTIFICATION # EX15003
	CHECK VALVE WITH AUTO BALL DRIP VIKING CORP MODEL G-1 UL CERTIFICATION #EX1299
TS	TAMPER SWITCH POTTER MODEL TSW-2X UL CERTIFICATION #BP212B
WF	WATER FLOW INDICATOR SWITCH POTTER VSR UL CERTIFICATION # S309
FDC	NEW FLUSH TYPE, FIRE DEPARTMENT SIAMESE CONNECTION INSTALL 18 TO 36 INCHES ABOVE GRADE CROKER MODEL 6405 UL CERTIFICATION # EX1158
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
FMRC	FACTORY MUTUAL RESEARCH CORPORATION
AHJ	AUTHORITY HAVING JURISDICTION
FPC	FIRE PROTECTION CONTRACTOR
PBC	PLUMBING CONTRACTOR
BFP	BACK FLOW PREVENTOR

REFERENCE STANDARD

NFPA 13-2002 EDITION

STANDPIPE SYSTEM

THIS STANDPIPE SYSTEM IS DESIGNED TO MEET NFPA 14-2003 CLASS I REQUIREMENTS.

SPECIAL and PROGRESS INSPECTIONS

INSPECTIONS AND TESTS	CODE/SECTION
☒ Sprinkler Systems	BC 1704.21
☒ Standpipe Systems	BC 1704.22
☒ Final Inspection	28-116.2.4.2, BC 109.5 Directive 14 of 1975 and 1 RCNY 101-10

MelroseCommons Bronx, New York

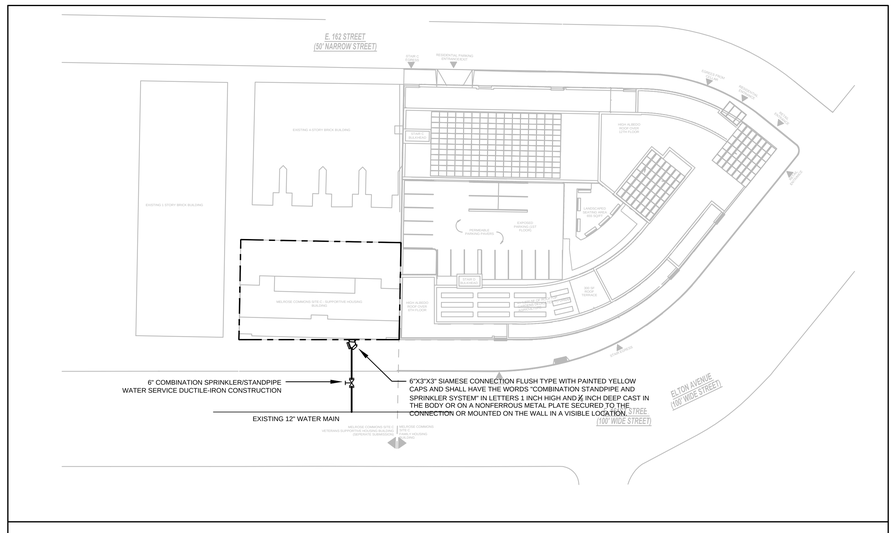
SPRINKLER / STANDPIPE

New York City STANDPIPE CODE COMPLIANCE NOTES

1. STANDPIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH SECTION BC905.2 AND NFPA 14 AS MODIFIED IN APPENDIX Q.
2. SIAMESE CONNECTIONS SHALL BE PLACED BETWEEN 18 INCHES AND 36 INCHES ABOVE SIDEWALK LEVEL.
3. EACH SIAMESE CONNECTION SHALL BE PROVIDE WITH A SWING-TYPE CHECK VALVE INSIDE OF THE BUILDING.
4. EACH SIAMESE CONNECTION SHALL HAVE A ¾ INCH AUTOBALL DRIP VALVE PLACED BETWEEN THE SIAMESE CONNECTION AND THE CHECK VALVE.
5. ALL PARTS OF THE STANDPIPE SYSTEMS THAT MAY BE EXPOSED TO FROST SHALL BE PROTECTED FROM FREEZING IN ACCORDANCE WITH NEW YORK CITY BUILDING CODE AND NFPA 14 SECTION 6.1.2.3.1
6. RISER CONTROL VALVES SHALL BE INSTALLED IN ACCORDANCE WITH NEW YORK CITY BUILDING CODE AND NFPA 14 SECTION 6.2.2
7. PIPE AND FITTING FOR STANDPIPE SYSTEM WILL BE IN ACCORDANCE WITH NEW YORK CITY BUILDING CODE AND NFPA 14 CHAPTER 4.
8. HOSE CONNECTIONS SHALL HAVE NOMINAL 2-1/2 INCH THREADS CONFORMING TO FDNY STANDARDS.
9. THE SPACING AND LOCATION OF STANDPIPE AND HOSE CONNECTION SHALL BE IN ACCORDANCE WITH CHAPTER 7 OF NFPA 14.
10. STANDPIPE SYSTEM PIPING SHALL BE PROTECTED IN ACCORDANCE WITH NFPA 14 SECTION 6.1.2
11. SUPPORTS SHALL BE IN ACCORDANCE WITH NFPA 14 SECTION 6.4.
12. LOCATION OF HOSE CONNECTIONS SHALL BE IN ACCORDANCE WITH NFPA SECTION 7.3.

LIST OF DRAWINGS

DWG. NO.	TITLE
FP-010.00	SPRINKLER/STANDPIPE NOTES, DETAILS, LEGEND AND PLOT PLAN
FP-100.00	CELLAR SPRINKLER/STANDPIPE PLAN
FP-101.00	FIRST FLOOR SPRINKLER/STANDPIPE PLAN
FP-102.00	SECOND FLOOR SPRINKLER/STANDPIPE PLAN
FP-103.00	THIRD THRU EIGHTH FLOOR SPRINKLER/STANDPIPE PLAN
FP-104.00	NINTH FLOOR SPRINKLER/STANDPIPE PLAN
FP-105.00	ROOF SPRINKLER/STANDPIPE PLAN
FP-200.00	SPRINKLER/STANDPIPE RISER DIAGRAM AND FIRE PUMP DETAILS



PLOT PLAN

NOT TO SCALE

REFERENCE STANDARD

NFPA 13 2002 EDITION

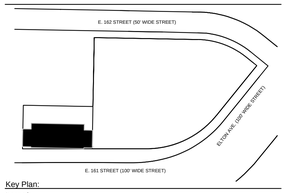
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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Tel (718) 383-9340

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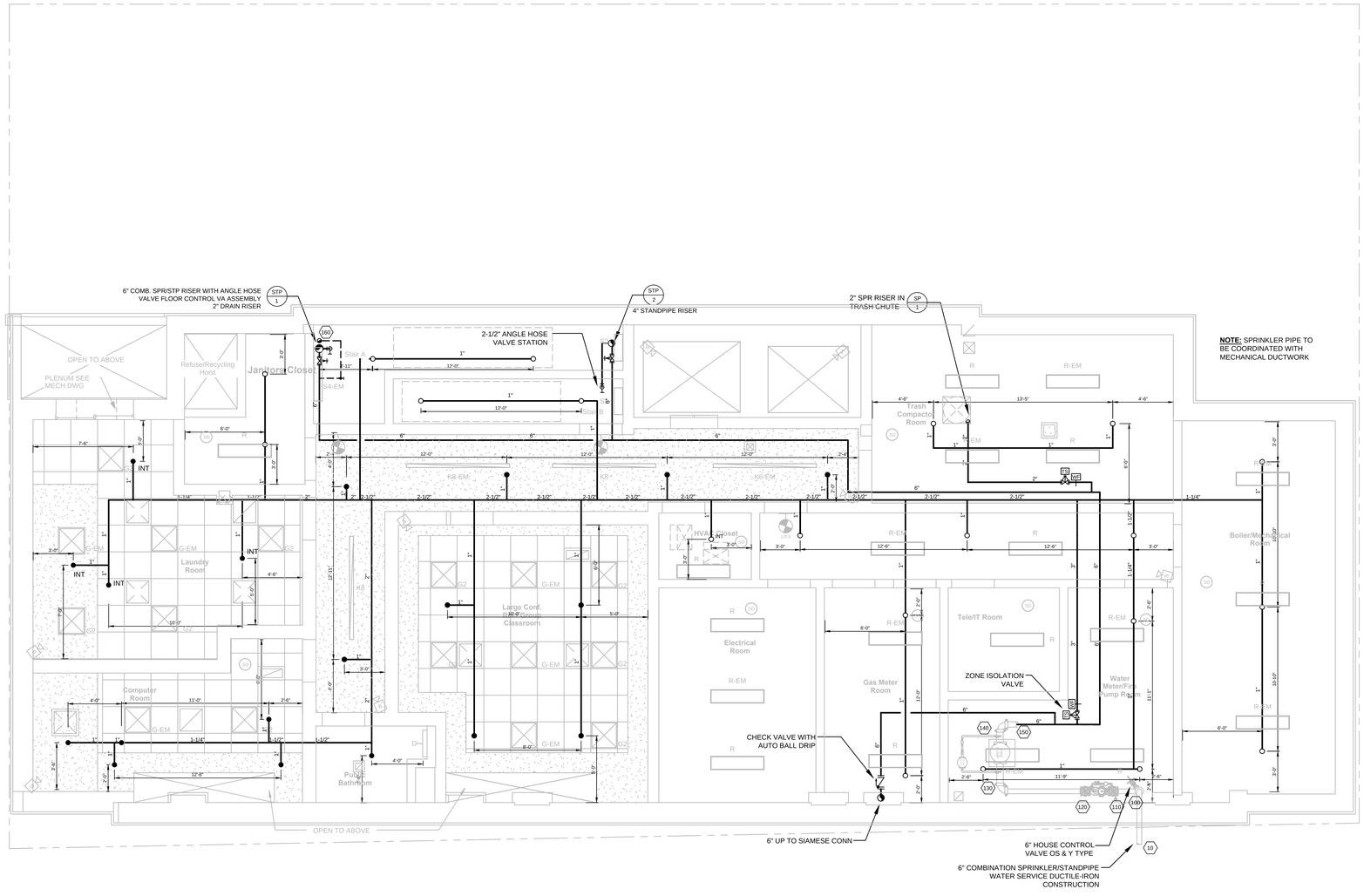
SPRINKLER/STANDPIPE NOTES, DETAILS, LEGEND AND PLOT PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: MB
CHK BY: CMS/FTK
DWG No:

FP-010.00

SCALE: AS NOTED



CELLAR FLOOR PLAN - SPRINKLER/STANDPIPE

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

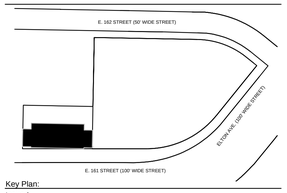
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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CELLAR SPRINKLER/STANDPIPE PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: CNP
CHK BY: CMS/FTK
DWG No:
FP-100.00
SCALE: AS NOTED
99 OF 139

STORAGE CABINET NOTE

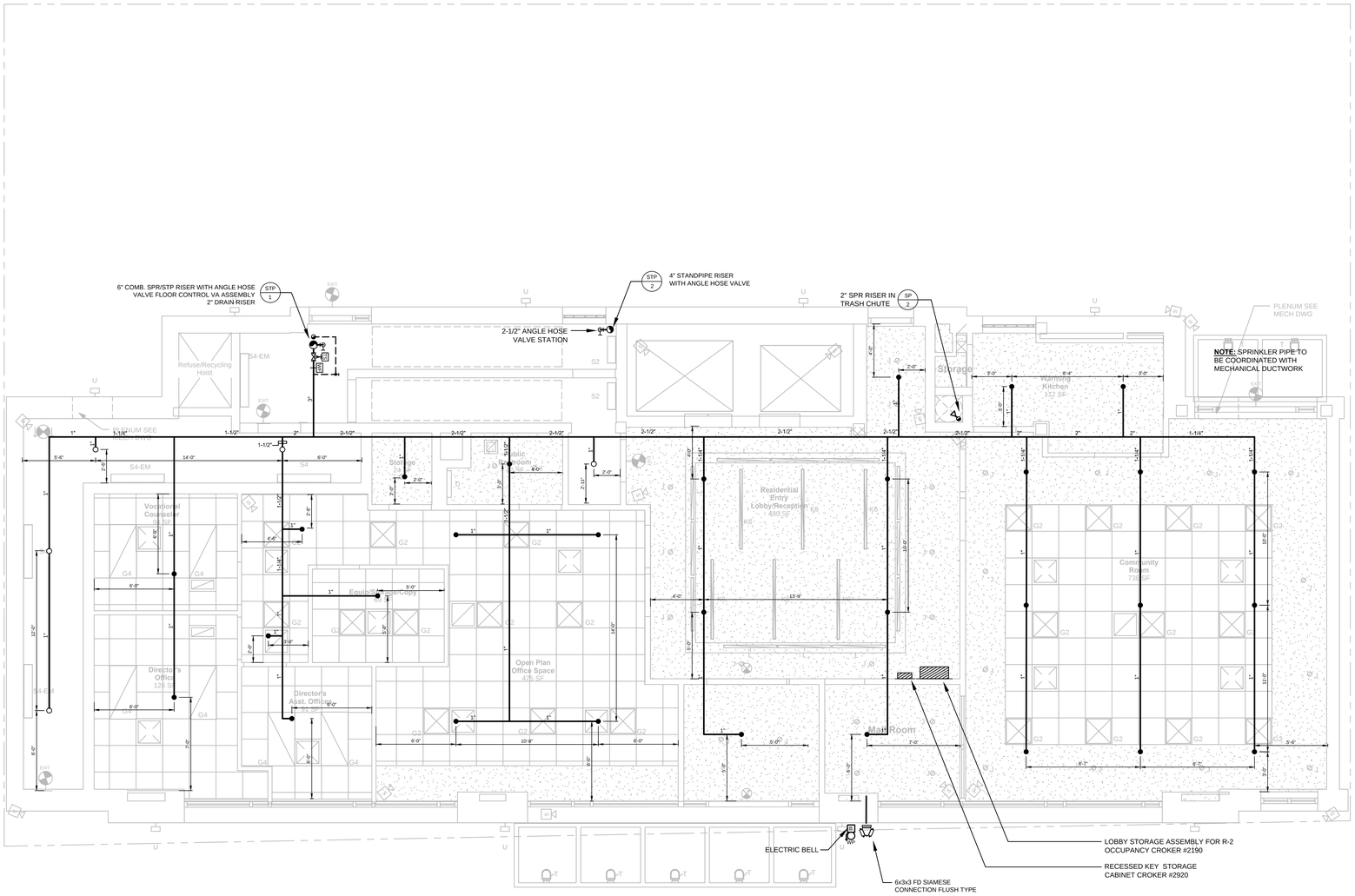
AS PER THE 2008 NYC BUILDING CODE BC905 STANDPIPE SYSTEMS SECTION 905.3

A LOCKED STORAGE CABINET SHALL BE PROVIDED ON THE MAIN ENTRANCE FLOOR IN A LOCATION APPROVED BY THE FIRE COMMISSIONER NEAR THE STANDPIPE RISER ENCLOSURE. SUCH CABINET SHALL CONTAIN AT LEAST THREE OPEN NOZZLES, TWO 1.5-INCH (38MM) SPANNER WRENCHES, TWO 2.5-INCH (64MM) SPANNER WRENCHES, TWO 2.5-INCH (64MM) BY 1.5 INCH (38 MM) NONSWIVELREDUCING COUPLINGS. AND 375 FEET (114 M) OF 1.5 INCH (38 MM) HOSE. HOWEVER, THE HOSE MAY BE OMITTED WHEN SERVING GROUP R-2 OCCUPANCIES.

A KEY FOR UNLOCKING THE STORAGE CABINET SHALL BE KEPT IN A LOCATION WHERE IT IS READILY AVAILABLE TO AUTHORIZED PERSONS, BUT NOT AVAILABLE TO THE GENERAL PUBLIC. A SIGN SHALL BE PLACED ON THE STORAGE CABINET INDICATING THE LOCATION OF SUCH KEY.

AN ADDITIONAL LABELED KEY SHALL BE KEPT IN A LOCKED RECEPTACLE NEAR THE STORAGE CABINET OPENABLE BY A FIRE DEPARTMENT STANDARD KEY. SUCH RECEPTACLE SHALL BE LABELED, "FOR FIRE DEPARTMENT USE ONLY."

A METAL SIGN SHALL BE PLACED IN EACH STAIR ENCLOSURE ON THE MAIN ENTRANCE FLOOR STATING CLEARLY WHERE THE STORAGE CABINET IS LOCATED.



FIRST FLOOR PLAN - SPRINKLER/STANDPIPE

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

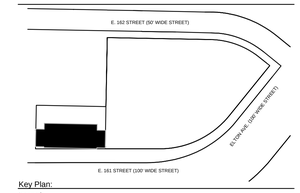
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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2	02.26.14	BLDS SUB #2
3	06.20.14	Design Development
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7	09.01.15	ISSUE FOR HPD FINAL APPROVAL
8	11.30.15	DOB APPROVAL
9	12.14.15	ISSUE FOR BID

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Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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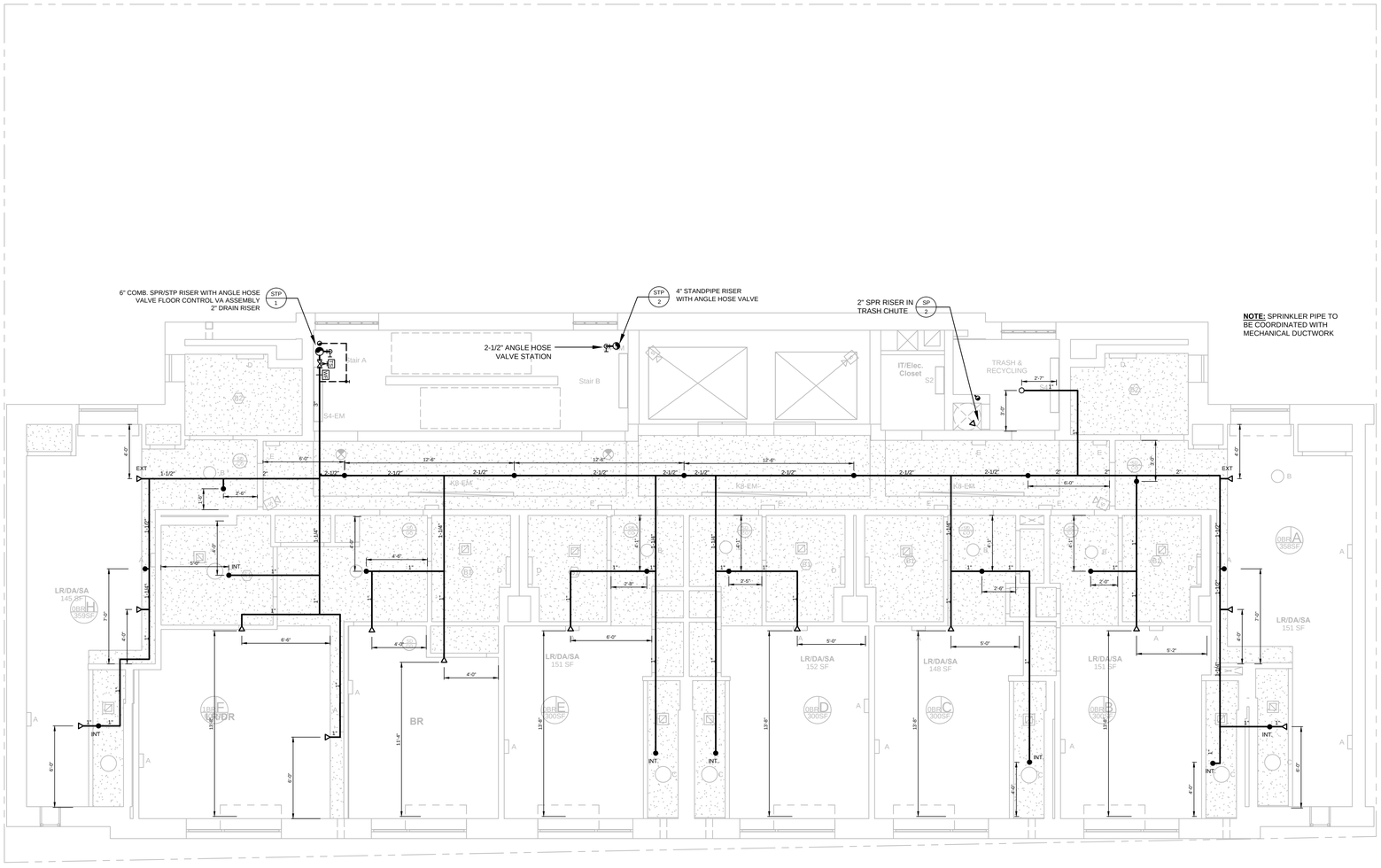
FIRST FLOOR SPRINKLER/STANDPIPE PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: MB
CHK BY: CMS/FTK
DWG No:

FP-101.00

SCALE: AS NOTED



NOTE: SPRINKLER PIPE TO BE COORDINATED WITH MECHANICAL DUCTWORK

SECOND FLOOR PLAN - SPRINKLER/STANDPIPE

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

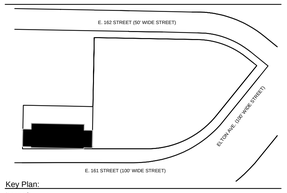
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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SECOND FLOOR SPRINKLER/ STANDPIPE PLAN

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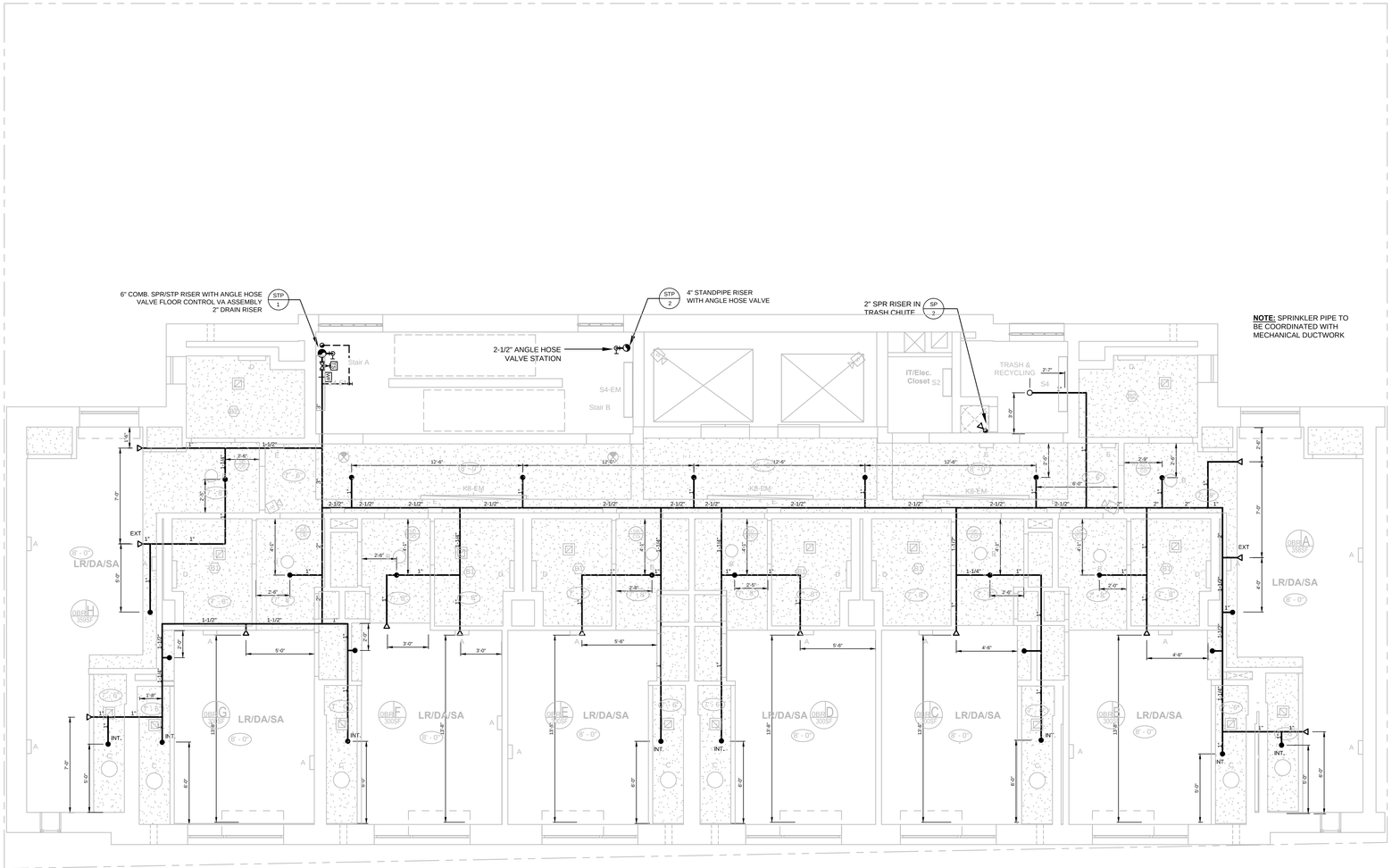
DWG No:

FP-102.00

SCALE: AS NOTED



THIRD THRU EIGHTH FLOOR PLAN - SPRINKLER/STANDPIPE

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

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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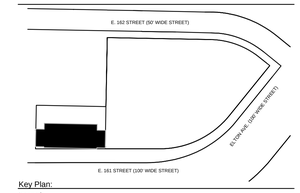

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THIRD THRU EIGHTH FLOOR SPRINKLER/ STANDPIPE PLAN

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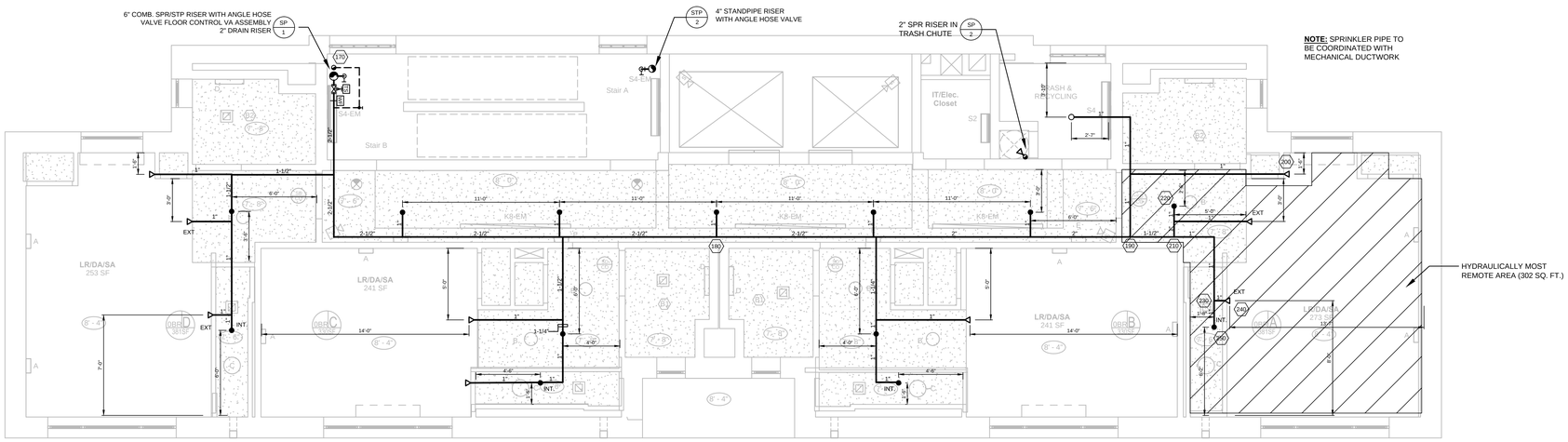
DWG No:
FP-103.00
SCALE: AS NOTED
102 OF 139



NOTE: SPRINKLER PIPE TO BE COORDINATED WITH MECHANICAL DUCTWORK

NINTH FLOOR PLAN - SPRINKLER/STANDPIPE

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

Owner:

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MENTAL HEALTH AND HOUSING SOLUTIONS

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New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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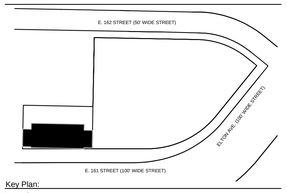

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NINTH FLOOR SPRINKLER/STANDPIPE PLAN

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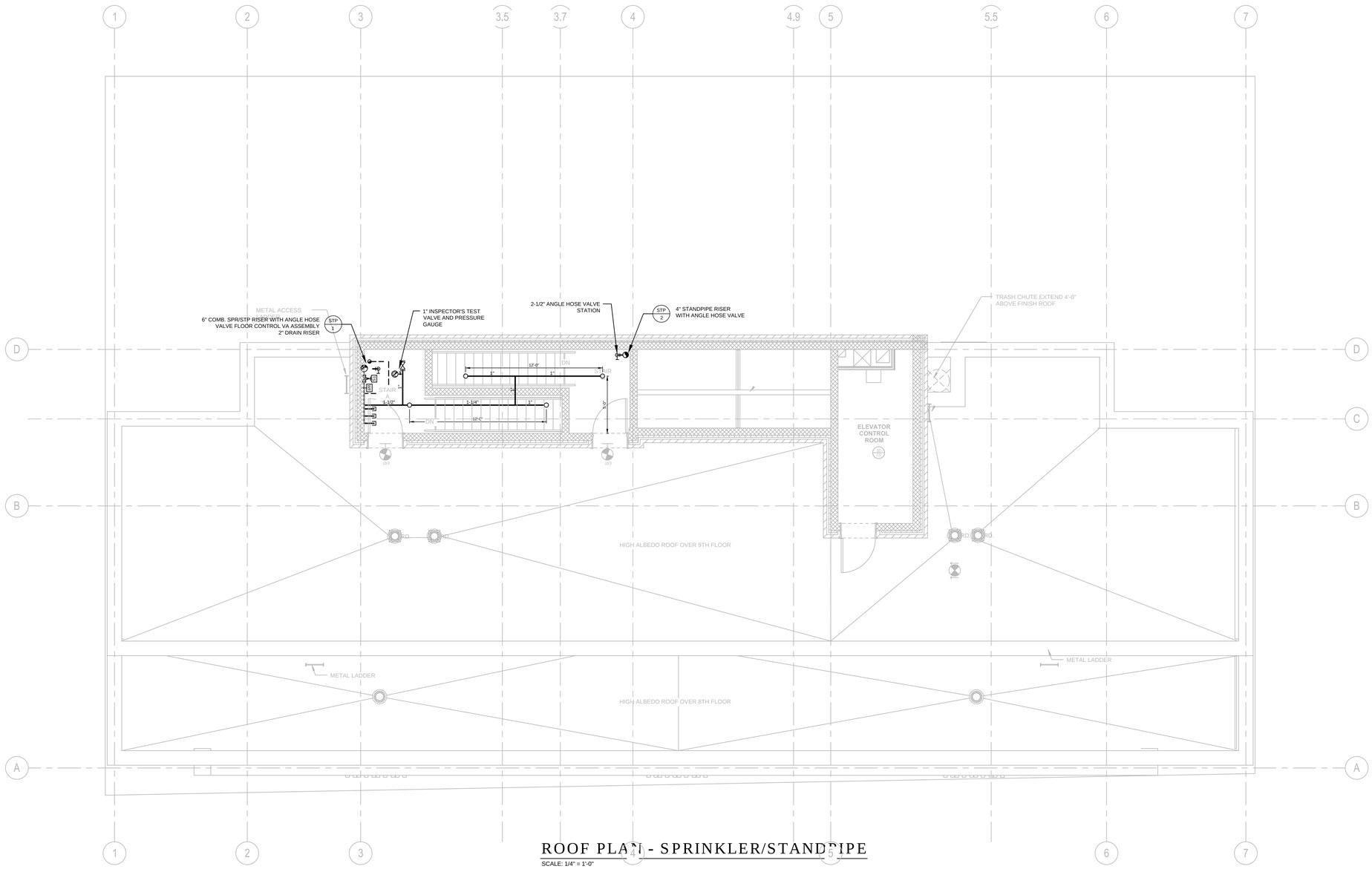
FP-104.00
SCALE: AS NOTED



ROOF PLAN - SPRINKLER/STANDPIPE

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

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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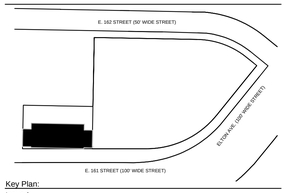

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ROOF SPRINKLER/STANDPIPE PLAN

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DRAWING BY: MB
CHK BY: CMS/FTK
DWG No:

FP-105.00

SCALE: AS NOTED

PACKAGED FIRE PUMP SYSTEMS SPECIFICATIONS

I. AUTOMATIC FIRE PUMP (COMBINATION SYSTEM-STANDPIPE AND SPRINKLERS)

PROVIDE ONE COMPLETE AUTOMATIC FIRE PUMP AS HEREIN DESCRIBED AND INDICATED ON THE PLANS. THE FIRE PUMP SHALL BE UL LISTED, FM APPROVED AND NEW YORK CITY APPROVED. THE VERTICAL IN-LINE FIRE PUMP SHALL BE COMPLETE WITH ALL ACCESSORIES AND CONTROLS AND SHALL MEET THE FOLLOWING CONSTRUCTION REQUIREMENTS. THE FIRE PUMP SHALL BE CONNECTED TO A VERTICAL MOTOR OF AN APPROVED DESIGN.

II. PUMP

ONE ITT/A-C FIRE SERIES 1580, MODEL 6x6x11F-L UL/FM VERTICAL IN-LINE CENTRIFUGAL FIRE PUMP (QUIMBY EQUIPMENT CO., INC., EAST FARMINGDALE, NEW YORK) HAVING A CAPACITY OF 750 GPM AT 70 PSI.

THE FIRE PUMP SHALL BE UL LISTED AND SHALL HAVE NYC BSA/MEA APPROVAL NO. 357-92-E, Vol II

THE FIRE PUMP SHALL HAVE BRONZE IMPELLER WITH SMOOTH WATER PASSAGES, BRONZE SHAFT SLEEVE, PACKED STUFFING BOX WITH LANTERN RING AND CAST IRON CASING.

THE PUMP SHALL FURNISH NOT LESS THAN 150 % OF RATED CAPACITY AT A PRESSURE NOT LESS THAN 65% OF RATED HEAD.

THE SHUTOFF HEAD OF THE FIRE PUMP SHALL NOT EXCEED 120% OF TOTAL RATED HEAD.

III. ELECTRIC MOTOR

THE FIRE PUMP SHALL BE DRIVEN BY 50 HP, 3500 RPM, 208 VOLT, 3 PHASE 60 HERTZ STANDARD VERTICAL CLOSE-COUPLED OPEN DRIP-PROOF MOTOR WITH 1.15 SERVICE FACTOR.

IV. FIRE PUMP CONTROLLER

THE FIRE PUMP CONTROLLER SHALL BE A METRON MODEL MP-400 RATED FOR 50 HP, 208 VOLT- 3 PHASE - 60 CYCLE POWER SUPPLY. THE FIRE CONTROLLER SHALL BE UNDERWRITERS LABORATORIES (UL) LISTED, FACTORY MUTUAL (FM) APPROVED AND NFPA-20 LISTED.

THE FIRE PUMP CONTROLLER SHALL BE OF THE COMBINED MANUAL AND AUTOMATIC FULL SERVICE TYPE, ACROSS-THE-LINE STARTING MASTER MODEL MCA.

THE INTERRUPTING CAPACITY OF THE CIRCUIT BREAKER SHALL BE 100,000 RMS SYMMETRICAL AMPERES AT 208 VOLTS.

THE CONTROL PANEL STARTS THE PUMP AUTOMATICALLY AT THE PRESSURE CUT-IN POINT AND SHALL BE STOPPED MANUALLY.

RUNNING PERIOD TIMER SET TO KEEP MOTOR IN OPERATION WHEN STARTED AUTOMATICALLY FOR A PERIOD TO TIME OF ONE (1) MINUTE FOR EACH 10 HP NOT EXCEEDING TEN (10) MINUTES. (THIS TIMER MAY BE DELETED FOR AUTOMATIC START WITH MANUAL STOP OPERATION).

PILOT LAMP TO INDICATE CIRCUIT BREAKER CLOSED AND POWER AVAILABLE.

POWER AVAILABILITY RELAYS, COMPLETE WITH ALARM CONTACT TO ENERGIZE AN AUDIBLE OR VISIBLE ALARM THROUGH AN INDEPENDENT SOURCE OF POWER, TO INDICATE CIRCUIT BREAKER OPEN OR POWER FAILURE IN ANY PHASE.

PROVISION FOR CONVENIENT VOLTAGE AND CURRENT MEASUREMENT.

START-STOP PUSH BUTTONS FOR TOTAL MANUAL OPERATION.

V. STANDARD ACCESSORIES

THE FIRE PUMP SHALL BE SUPPLIED WITH THE FOLLOWING ACCESSORIES:

1. ONE (1) COMBINATION 30" HG TO 100 PSI SUCTION GAUGE, 4 ½" DIAL TYPE WITH ¼" COCK AND LEVER HANDLE.
2. ONE (1) 0 TO 300 PSI DISCHARGE GAUGE, 4 ½" DIAL TYPE WITH ¼" COCK LEVER AND HANDLE.
3. ONE (1) ½" CASING RELIEF VALVE.
4. ONE (1) 3" X 3" MAIN RELIEF VALVE (125# X 125#).
5. ONE (1) 3" X 3" ENCLOSED CONE (125# X 125#).

VI. JOCKEY PUMP AND CONTROLLER

THE JOCKEY PUMP SHALL BE A GRUNDFOS CR SERIES MODEL CR1-9 CENTRIFUGAL CLOSE-COUPLED VERTICAL TYPE MECHANICAL SEALED, CAST IRON SUCTION AND DISCHARGE CHAMBERS, WITH STAINLESS STEEL IMPELLERS, SHAFT AND WET PARTS. DESIGNED FOR 10 GPM @ 80 PSI, 3500 RPM COMPLETE WITH VERTICAL OPEN-DRIP-PROOF MOTOR RATED FOR 1 HP, 3 PHASE, 60 CYCLE, 208 VOLT OPERATION.

THE JOCKEY PUMP CONTROL PANEL SHALL INCLUDE AN ACROSS-THE-LINE MAGNETIC STARTER, FUSED DISCONNECT SWITCH, HOA SWITCH AND PRESSURE SWITCH.

VII. FIRE PUMP TESTING

1. INSPECTION OF THE COMPLETED INSTALLATION PRIOR TO START-UP INCLUDING PROPER INSTALLATION OF FIRE PUMP, FITTINGS, FIRE PUMP CONTROLLER (INCLUDING WIRING), JOCKEY PUMP AND JOCKEY PUMP CONTROLLER. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINKLER AND/OR ELECTRICAL CONTRACTORS AND CORRECTED UNDER SUPERVISION OF THE FIRE PUMP MANUFACTURER'S REPRESENTATIVE.

2. START-UP AND ADJUSTMENT: PRIOR TO START-UP, THE FIRE PUMP MANUFACTURER'S REPRESENTATIVE SHALL CHECK THE PUMP AND MAKE ANY ADJUSTMENTS AS RECOMMENDED BY THE PUMP MANUFACTURER. ALL CONTROLLERS WILL BE THOROUGHLY CHECKED FOR LOOSENESS OF WIRES AND/OR CONNECTIONS AND ADJUSTMENTS MADE WHERE NECESSARY. THE FIRE PUMP AND JOCKEY PUMP MOTORS SHALL BE ASS"BUMPED" FOR PROPER ROTATION BY THE MANUFACTURER'S REPRESENTATIVE AND ANY CORRECTIONS THAT ARE NECESSARY WILL BE PERFORMED BY THE ELECTRICAL CONTRACTOR UNDER THE SUPERVISION OF THE PUMP/CONTROLLER MANUFACTURER'S REPRESENTATIVE.

3. FIELD TEST OF FIRE PUMP: THE FIRE PUMP SHALL BE GIVEN A COMPLETE FIELD FLOW TEST BY THE PUMP MANUFACTURER'S REPRESENTATIVE UNDER THE DIRECTION, SUPERVISION AND AS REQUIRED BY THE REPRESENTATIVE OF THE "AUTHORITY HAVING JURISDICTION".

4. VERIFICATION OF PRESSURES, VOLTAGES, AMPERES AND RPM'S SHALL BE RECORDED. FLOW AND PRESSURE RESULTS SHALL BE SUPERIMPOSED ON A FACTORY CERTIFIED PERFORMANCE TEST CURVE PROVIDED BY THE MANUFACTURER'S REPRESENTATIVE AND SIX (6) COPIES SHALL BE FURNISHED TO THE SPRINKLER CONTRACTOR FOR DISTRIBUTION AS REQUIRED.

5. ANY CORRECTIONS, REPAIRS AND/OR MODIFICATION TO THE EQUIPMENT NECESSARY TO MEET THE FIELD PERFORMANCE SHALL BE ACCOMPLISHED AT NO COST TO THE OWNERS OR HIS REPRESENTATIVE.

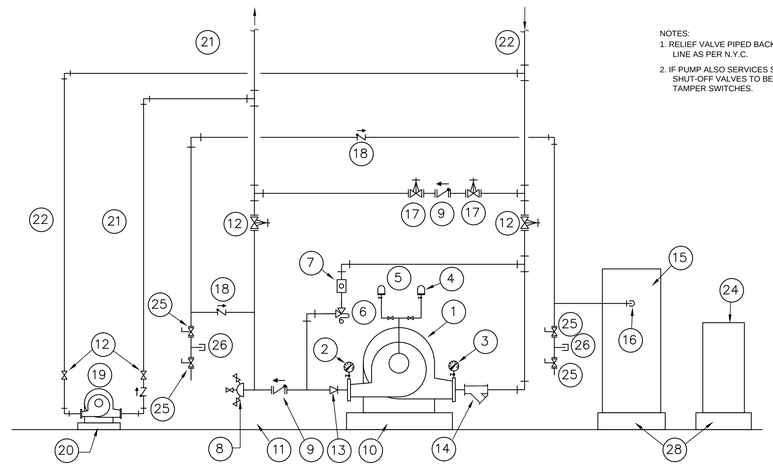
6. THE MANUFACTURER'S REPRESENTATIVE FOR PATTERSON PUMP COMPANY IS:

QUIMBY EQUIPMENT CO., INC.
35 CENTRAL DRIVE
EAST FARMINGDALE, NY 11735
PHONE: (631) 454-8411
FAX: (631) 454-8417

FIRE PUMP NOTE

FIRE PUMP INSTALLATION IN COMPLIANCE WITH NYC BUILDING CODE CH. 9, 33 AND NFPA 20.

-SERVICE NOTICE DECEMBER 2010

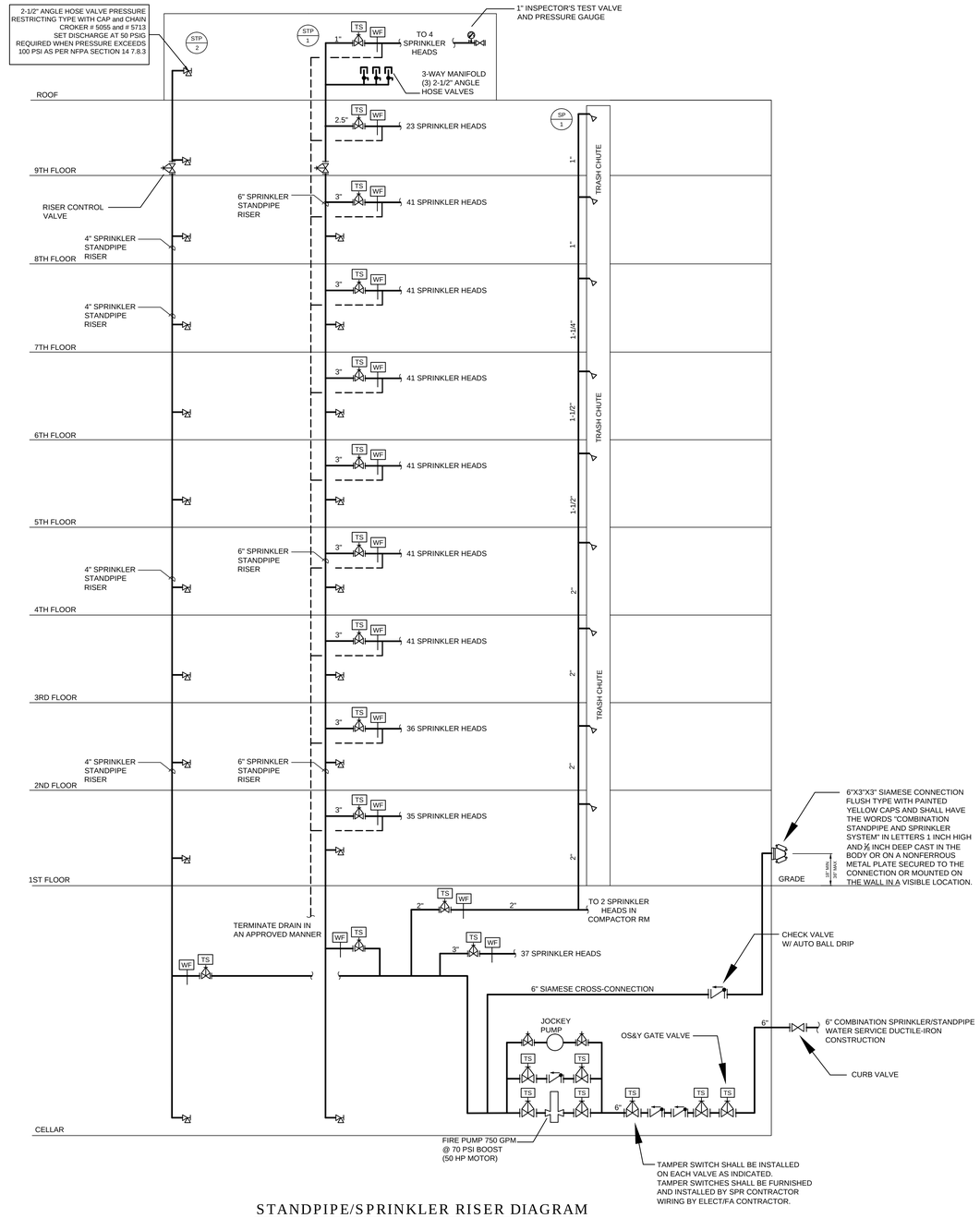


NOTES:
1. RELIEF VALVE PIPED BACK TO PUMP SUCTION LINE AS PER N.Y.C.
2. IF PUMP ALSO SERVICES SPRINKLERS ALL SHUT-OFF VALVES TO BE EQUIPPED WITH TAMPER SWITCHES.

1	AUTOMATIC FIRE PUMP	9	CHECK VALVE uSE SPRING CHECK IN VERTICAL OR SWING CHECK IN HORIZONTAL POSITION)	14	ECCENTRIC SUCTION REDUCER	21	DISCHARGE TO SYSTEM
2	DISCHARGE GAUGE	10	CONCRETE BASE MIN. 12" HIGH. BASE TO EXTEND MIN. 4" BEYOND BEDPLATE.	15	AUTOMATIC FIRE PUMP CONTROL PANEL	22	SUCTION SUPPLY
3	SUCTION GAUGE	11	SUPPORT BELOW	16	PRESSURE SWITCH	23	COPPER OR BRASS 1/2" PIPE SIZE
4	CASING RELIEF VALVE PIPE DISCHARGE TO F.D.	12	OS&Y GATE VALVE (W/VALVED BY-PASS ON VALVES 6" AND LARGER)	17	OS&Y GATE VALVE (BY-PASS)	24	JOCKEY PUMP CONTROLLER
5	AIR RELEASE VALVE	13	CONCENTRIC DISCHARGE INCREASER (HOSE VALVE HEADER MAY BE INSTALLED IN THIS LOCATION IF DESIRED)	18	BRONZE CHECK VALVE WITH 3/32" ORIFICE IN CLAPPER	25	GLOBE VALVE
6	MAIN RELIEF VALVE			19	JOCKEY PUMP	26	1/4" PLUG
7	SIGHT CONE & GLASS W/OPENING FOR TEST VALVES			20	CONCRETE BASE MIN. 12" HIGH. BASE TO EXTEND MIN. 4" BEYOND BEDPLATE.	27	TEST BY-PASS
8	TEST VALVES MANIFOLD					28	CONCRETE BASE 12" HIGH, IF CONTROLLER LEGS ARE REMOVED

FIRE PUMP FOR COMBINATION STANDPIPE/SPRINKLER SERVICE DETAIL

NOT TO SCALE



STANDPIPE/SPRINKLER RISER DIAGRAM

SCHEMATIC ONLY

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

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New York, NY 10025

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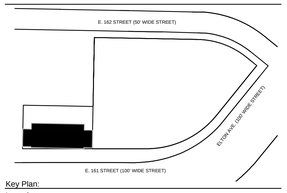

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Client Representative:

Filing Representative:
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52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

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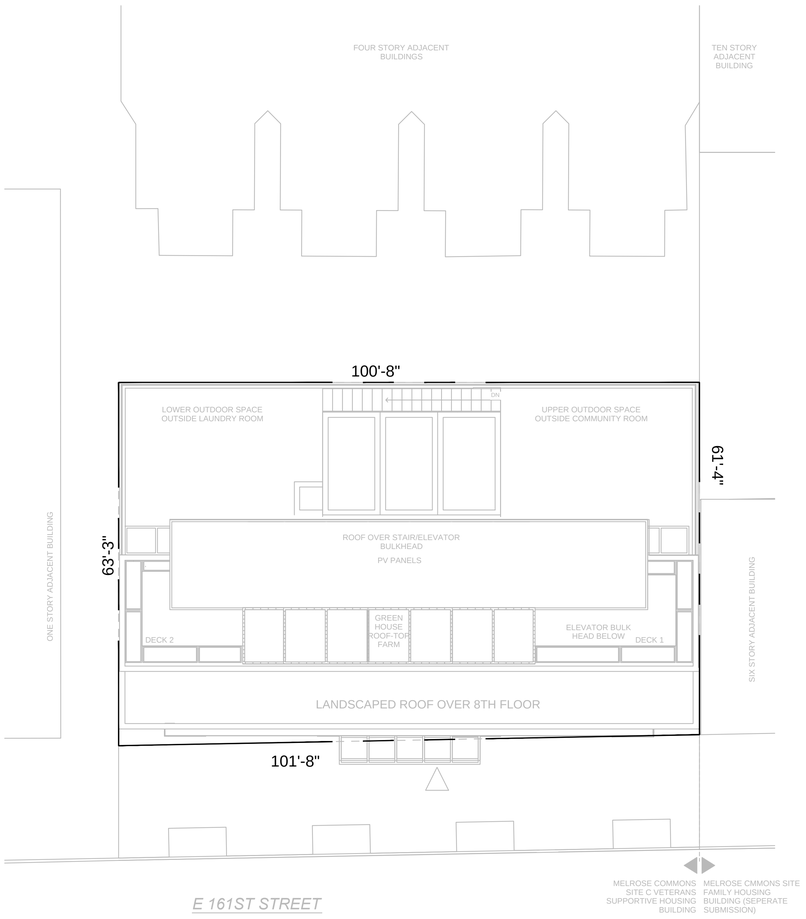
SPRINKLER/STANDPIPE RISER DIAGRAM AND FIRE PUMP DETAILS

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: MB
CHK BY: CMS/FTK
DWG No:

FP-200.00

SCALE: AS NOTED



PLOT PLAN

NOT TO SCALE

SPRINKLER ALARM SYSTEM NOTES

1. NO CONDUITS ARE TO ENTER THE TOP OF A FIRE ALARM CONTROL PANEL REGARDLESS OF SYSTEM TYPE OR SIZE.
2. CEILING MOUNTED SMOKE DETECTORS MUST BE MOUNTED AT LEAST 3 FEET FROM SUPPLY AIR REGISTERS.
3. ALL CEILING MOUNTED DEVICES MUST BE SECURELY FASTENED TO THE BUILDING STRUCTURE AND NOT TO THE CEILING GRID. FURTHERMORE ALL WALL-MOUNTED DEVICES SHALL BE SECURELY MOUNTED IN PLACE. PLASTIC ANCHORS ARE NOT ACCEPTABLE.
4. ALL FIRE ALARM PANELS, JUNCTION BOX COVERS, ETC. SHALL BE PAINTED "FIRE DEPARTMENT RED".
5. DEVICE LOCATIONS MUST BE READILY ACCESSIBLE TO ALLOW FOR MAINTENANCE AND REPAIR.
6. DUCT MOUNTED SMOKE DETECTORS SHALL BE MOUNTED AND LOCATED ON THE DUCTWORK IN STRICT ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS. ANY DUCT SMOKE DETECTORS MOUNTED ABOVE FINISHED CEILINGS OR IN REMOTE LOCATIONS SHALL BE FURNISHED WITH A REMOTE LAMP.
7. MANUAL STATIONS SHALL BE MOUNTED 48 INCHES ABOVE THE FINISHED FLOOR TO THE CENTER OF THE HANDLE.
8. MANUAL PULL STATIONS SHALL BE PAINTED "FIRE DEPARTMENT RED". ALL MANUAL PULL STATIONS SHALL BE INSTALLED SO THAT THEY KEPT UNOBSTRUCTED AT ALL TIMES. IF SYSTEM IS CONNECTED TO A CENTRAL STATION THEN ALL MANUAL PULL STATIONS SHALL HAVE A 1 INCH WHITE DIAGONAL STRIPE PAINTED FROM THE UPPER LEFT HAND CORNER TO THE LOWER RIGHT HAND CORNER.
9. THE NYC FIRE DEPARTMENT SHALL APPROVE THE PLANS PRIOR TO START OF ANY WORK.
10. ALL WIRING, EXCEPT AS NOTED OTHERWISE, SHALL BE FPLP 150 DEGREE CELSIUS, LABELED "NYC CERTIFIED" AND INSTALLED IN ACCORDANCE WITH 1 RCNY 4000-06., FURTHERMORE, ALL WIRING USED MUST BE OF THE PROPER INSULATION FOR THE TYPE OF SYSTEM BEING INSTALLED AND APPROVED FOR USE IN NYC.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE 2008 NYC CONSTRUCTION CODES AND WITH 1 RCNY 4000-06. EQUIPMENT/DEVICE USED SHALL BE APPROVED MANUFACTURERS AND ARE LISTED FOR THEIR USE.
12. DO NOT RUN FIRE ALARM CABLE IN THE SAME RACEWAY WITH NON FIRE ALARM CABLE.
13. AVOID INSTALLING FIRE ALARM CABLES NEAR SOURCES OF ALTERNATING CURRENT (LIGHTING, POWER, ETC.).
14. ALL FIRE ALARM PANELS SHALL BE GROUNDED USING A MINIMUM #10 AWG, GREEN THHN OR EQUIVALENT, CONNECTED TO STREET SIDE OF COLD WATER MAIN WITH AN APPROVED CLAMP OR LUG AND INSTALLED IN 3/4 INCH MINIMUM EMT/RGS IN ACCORDANCE WITH THE 1 RCNY 4000-06.
15. FIRE ALARM EQUIPMENT SHALL BE POWERED THROUGH A DISCONNECT SWITCH WITH MEANS OF INTERRUPTING THE UNFUSED NEUTRAL AHEAD OF THE MAIN SERVICE SWITCH. DISCONNECT SWITCH TO BE LOCATED WITHIN 5 FEET OF THE CONNECTION POINT, PAINTED RED AND SUPPLIED WITH A LOCK. ALL WIRING SHALL BE MINIMUM #10 AWG THHN OR EQUIVALENT RUN IN 3/4 INCH MINIMUM EMT/RGS AND IN ACCORDANCE WITH NYC REQUIREMENTS. FUSES SHALL BE CARTRIDGE TYPE WITH A SOLID BAR COPPER NEUTRAL. ADDITIONAL FUSES AND NEUTRAL SHALL BE PROVIDED AS REQUIRED FOR BOOSTER POWER SUPPLY.
16. OBSERVE ALL POLARITY ON ALL FIRE ALARM CIRCUITS. NO TEE TAPPING IS PERMITTED ON ALARM INDICATING CIRCUITS (HORNS, STROBES, SPEAKERS, ETC.).
17. ALL FIRE ALARM WIRE SHALL BE CLEARLY LABELED IN JUNCTION BOXES AND CABINETS. FURTHERMORE CONDUCTORS IN CABINETS SHALL BE FORMED SO THAT THEY DROP OFF DIRECTLY OPPOSITE TO ITS TERMINAL CONNECTION. ALL TERMINALS SHALL BE NUMBERED AND LABELED IN EVERY CABINET.
18. ANY REQUIREMENTS FOR SHIELDING CERTAIN CONDUCTORS OR RUNNING THEM IN SEPARATE RACEWAYS SHALL BE AS RECOMMENDED BY THE MANUFACTURERS DOCUMENTATION.
19. ALL WIRING TO BE CHECKED TO INSURE THAT THEY ARE FREE OF ANY OPENS, SHORTS OR GROUNDS.
20. ALL FIRE ALARM PANELS, CABINETS CENTRAL OFFICE TRANSMITTER, BOOSTER POWER SUPPLY, FUSE CUTOUT PANELS AND DATA GATHERING PANELS SHALL BE CLEARLY LABELED USING A LAMINATE TYPE ENGRAVED LABEL AS TO WHAT THEY ARE AND WHAT FLOOR THEY SERVE AS APPLICABLE.
21. LOCATIONS OF ALL FIRE ALARM EQUIPMENT SHALL BE SUBJECT TO NEW YORK CITY DEPARTMENT OF BUILDING AND FIRE DEPARTMENT APPROVAL. NO CHANGE OR MODIFICATION TO THE SYSTEM OR PLANS SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER OF RECORD. IF ANY SUBSTANTIAL CHANGES ARE MADE TO THE DRAWINGS PRIOR TO OR DURING INSTALLATION, AS BUILT PLANS SHALL BE PREPARED BY THE ENGINEER AND FILED WITH THE APPROPRIATE NYC AGENCIES FOR FINAL ACCEPTANCE.
22. ALL HORNS AND STROBES SHALL BE CIRCUITED TO COMPLY WITH THE 60/40 RULE ON SEPARATE "A" AND "B" CIRCUITS DEDICATED TO EACH FLOOR IN THE BUILDING AS PER 1 RCNY 4000-06.
23. BATTERY BACK UP SHALL BE PROVIDED FOR MINIMUM OF 24 HOURS STANDBY FOLLOWED BY 45 MINUTES FULL LOAD OF SYSTEM PLUS A MINIMUM OF 25% SPARE CAPACITY.

FIRE ALARM CONTRACTOR'S RESPONSIBILITY

1. CONTRACTOR TO BE LICENSED AND INSURED AS A FIRE ALARM CONTRACTOR IN THE CITY OF NEW YORK.
2. FIRE ALARM CONTRACTOR SHALL PURCHASE AND INSTALL ALL REQUIRED DEVICES, WHETHER INDICATED OR NOT, FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. THE LOCAL FIRE DEPARTMENT AND BUILDING ENGINEER SHALL BE NOTIFIED 10 DAYS PRIOR TO FIRE ALARM SYSTEM SHUT DOWN.
4. FIRE ALARM CONTRACTOR SHALL CLEAN ALL DEBRIS IN SMOKE DETECTOR SENSORS PRIOR TO TURNOVER OF SYSTEM TO OWNER.
5. ALL SMOKE DETECTORS SHALL BE KEPT IN COMPLETE OPERATIONAL CONDITION DURING PROJECT.
6. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR SYSTEM PROGRAMMING AS MAY BE REQUIRE.
7. FIRE ALARM CONTRACTOR SHALL BE RESPONSIBLE FOR SYSTEM PRE-TESTING PRIOR TO THE NEW YORK CITY FIRE DEPARTMENT INSPECTION.
8. FIRE ALARM CONTRACTOR SHALL PREPARE AND FILE NECESSARY FORMS (I.E. A-433) WITH THE NYC FIRE DEPARTMENT TO SCHEDULE THE NECESSARY INSPECTION(S) AND OBTAIN FINAL CERTIFICATION OF SYSTEM INSTALLATION.
9. THE FIRE ALARM CONTRACTOR IS REQUIRED TO PROVIDE A COMPLETELY OPERATIONAL FIRE ALARM SYSTEM WHICH SATISFIES ALL REQUIREMENTS OF THE NEW YORK CITY ADMINISTRATIVE CODE. THE CONTRACTOR SHALL BE RESPONSIBLE TO MAKE ANY MODIFICATIONS TO THE SYSTEM DESIGN REQUIRED BY THOSE REGULATORY AGENCIES, SATISFY THE CONTROLLED INSPECTION REQUIREMENT FOR THIS SYSTEM (27-977), AND SATISFY THE FIRE DEPARTMENT ACCEPTANCE TEST, IN ORDER TO OBTAIN THE REQUIRED FINAL REGULATORY AGENCY APPROVAL FOR SYSTEM USE.
10. UPON COMPLETION OF THE WORK, THE FIRE ALARM CONTRACTOR SHALL OBTAIN THE REQUIRED LETTER OF APPROVAL FROM THE NYC FIRE DEPARTMENT, INCLUDING ALL RECONSIDERATIONS, SELF CERTIFICATIONS, ETC. REQUIRED TO OBTAIN THE ABOVE.

LIST OF DRAWINGS

DWG. NO.	TITLE
FA-010.00	FIRE ALARM NOTES, DETAILS, LEGEND AND PLOT PLAN
FA-100.00	CELLAR FIRE ALARM PLAN
FA-101.00	FIRST FLOOR FIRE ALARM PLAN
FA-102.00	SECOND FLOOR FIRE ALARM PLAN
FA-103.00	THIRD THRU EIGHTH FL FIRE ALARM PLAN
FA-104.00	NINTH AND TENTH FL FIRE ALARM PLAN
FA-105.00	ELEVENTH AND TWELFTH FL FIRE ALARM PLAN
FA-106.00	ROOF FIRE ALARM PLAN
FA-200.00	FIRE ALARM RISER DIAGRAM

Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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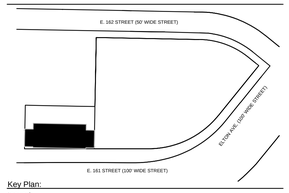

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FIRE ALARM NOTES AND PLOT PLAN

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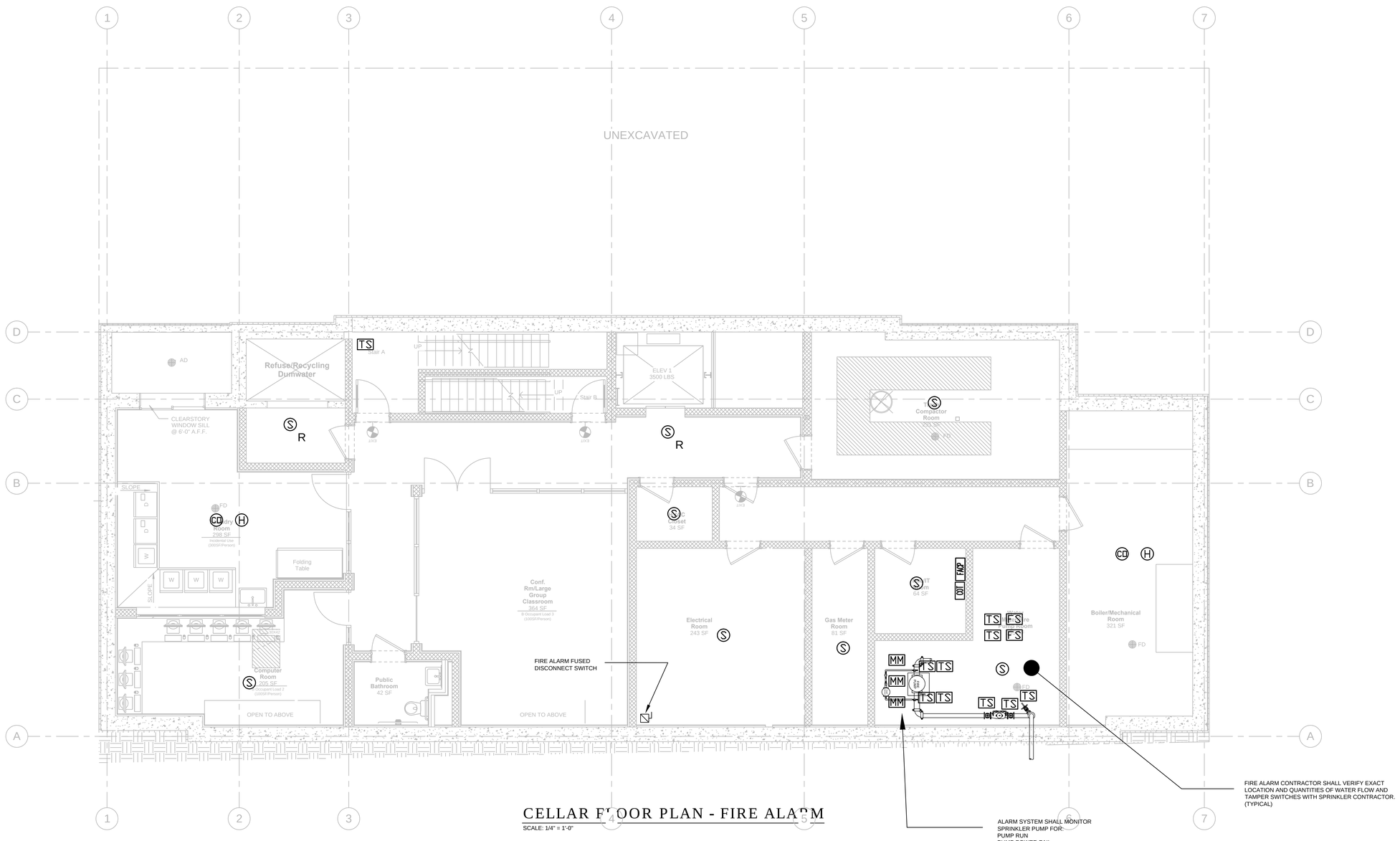
DWG No:

FA-001.00

SCALE: AS NOTED



CELLAR FLOOR PLAN - FIRE ALARM

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

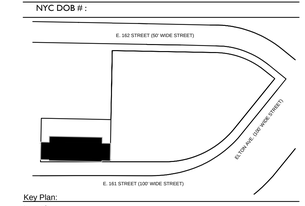
Owner:

The Bridge
MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

NYC DOB # :



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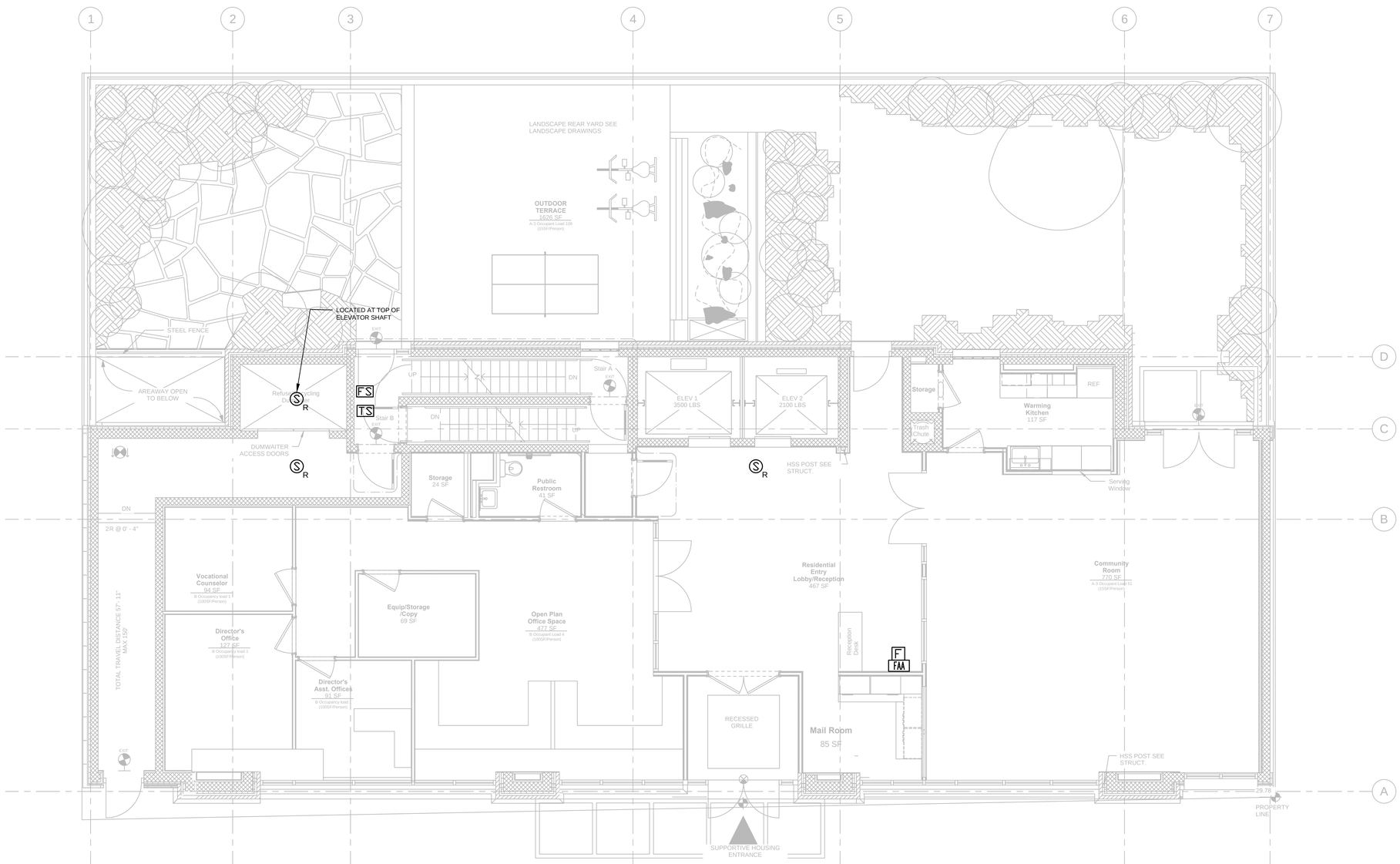
CELLAR FIRE ALARM PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

FA-100.00

SCALE: AS NOTED



FIRST FLOOR PLAN - FIRE ALARM

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

Owner:

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New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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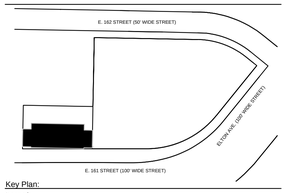

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FIRST FLOOR FIRE ALARM PLAN

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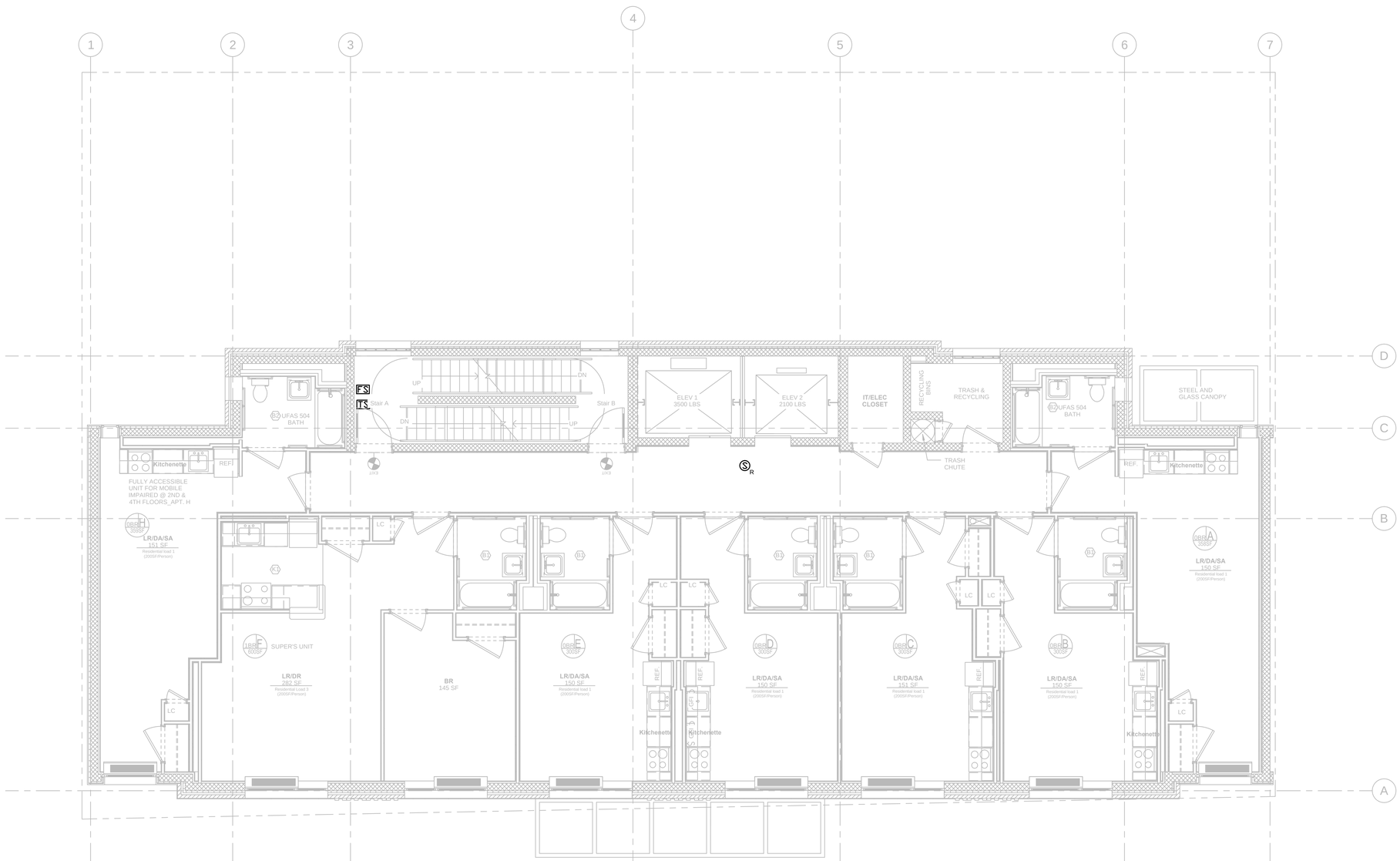

SECOND FLOOR PLAN - FIRE ALARM

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

Owner:

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MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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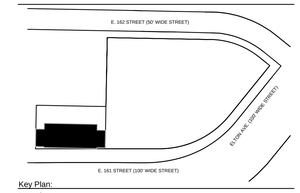

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SECOND FLOOR FIRE ALARM PLAN

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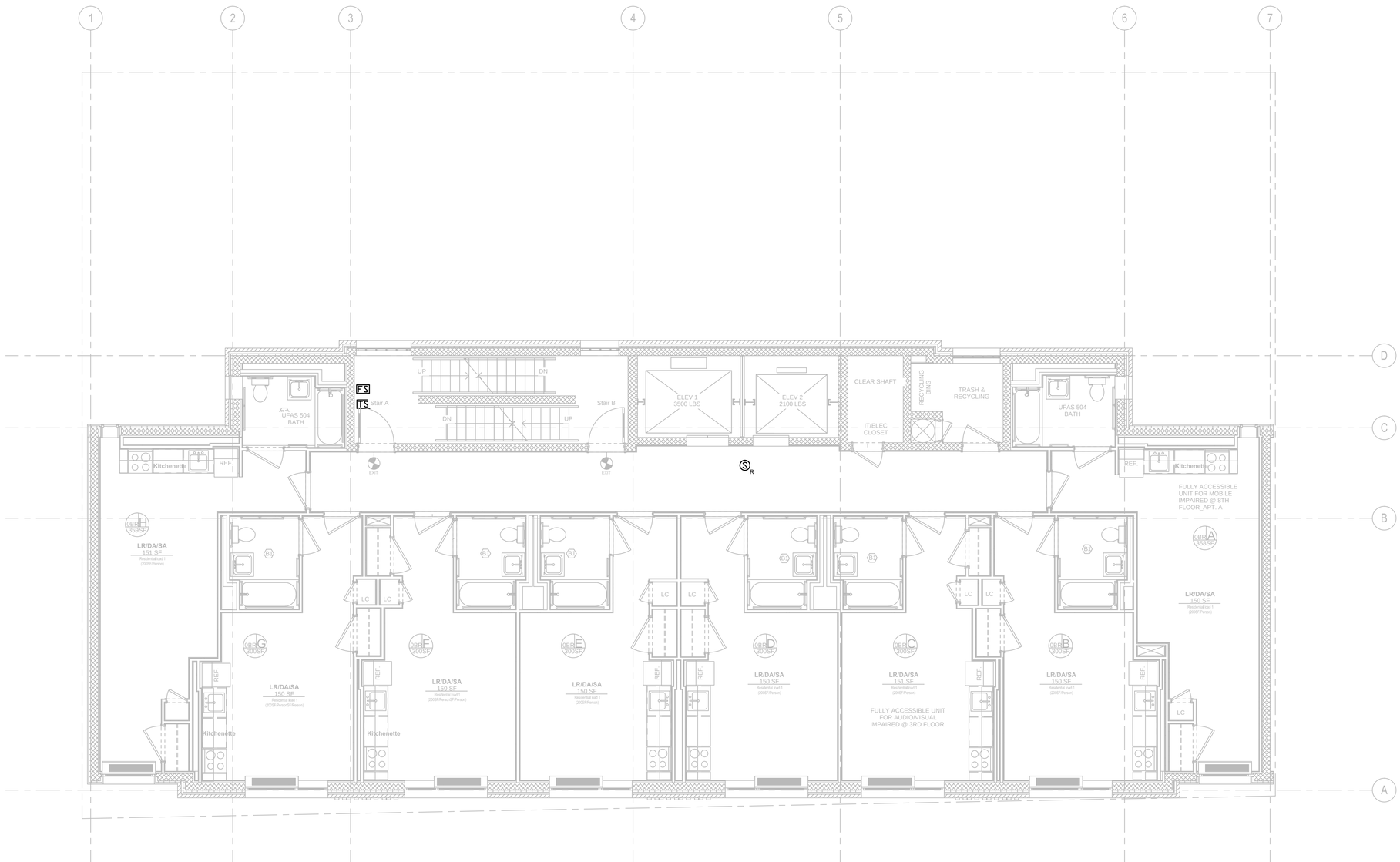

THIRD THRU EIGHTH FLOOR PLAN - FIRE ALARM

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

Owner:

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MENTAL HEALTH AND
HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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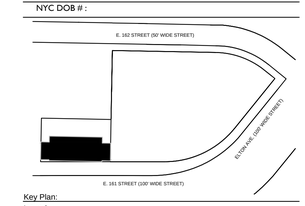

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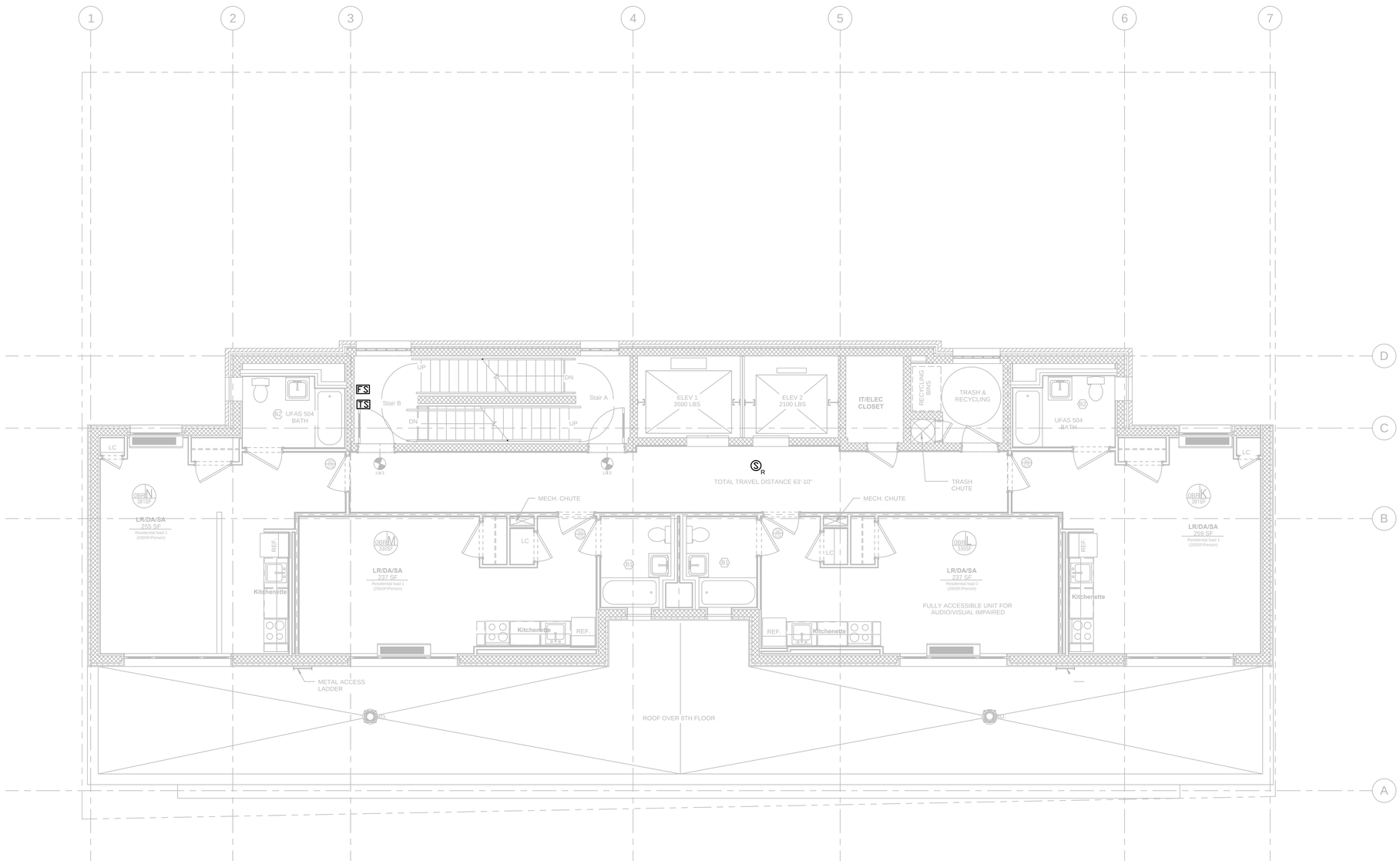

NINTH FLOOR PLAN - FIRE ALARM

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

Owner:

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MENTAL HEALTH AND HOUSING SOLUTIONS

248 W. 108th St.
New York, NY 10025

BLOCK: 2383 LOT: 19,23,24,25,27,29,30,31,33,36,37&39

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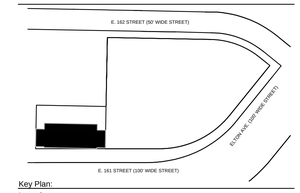

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NINTH FLOOR FIRE ALARM PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
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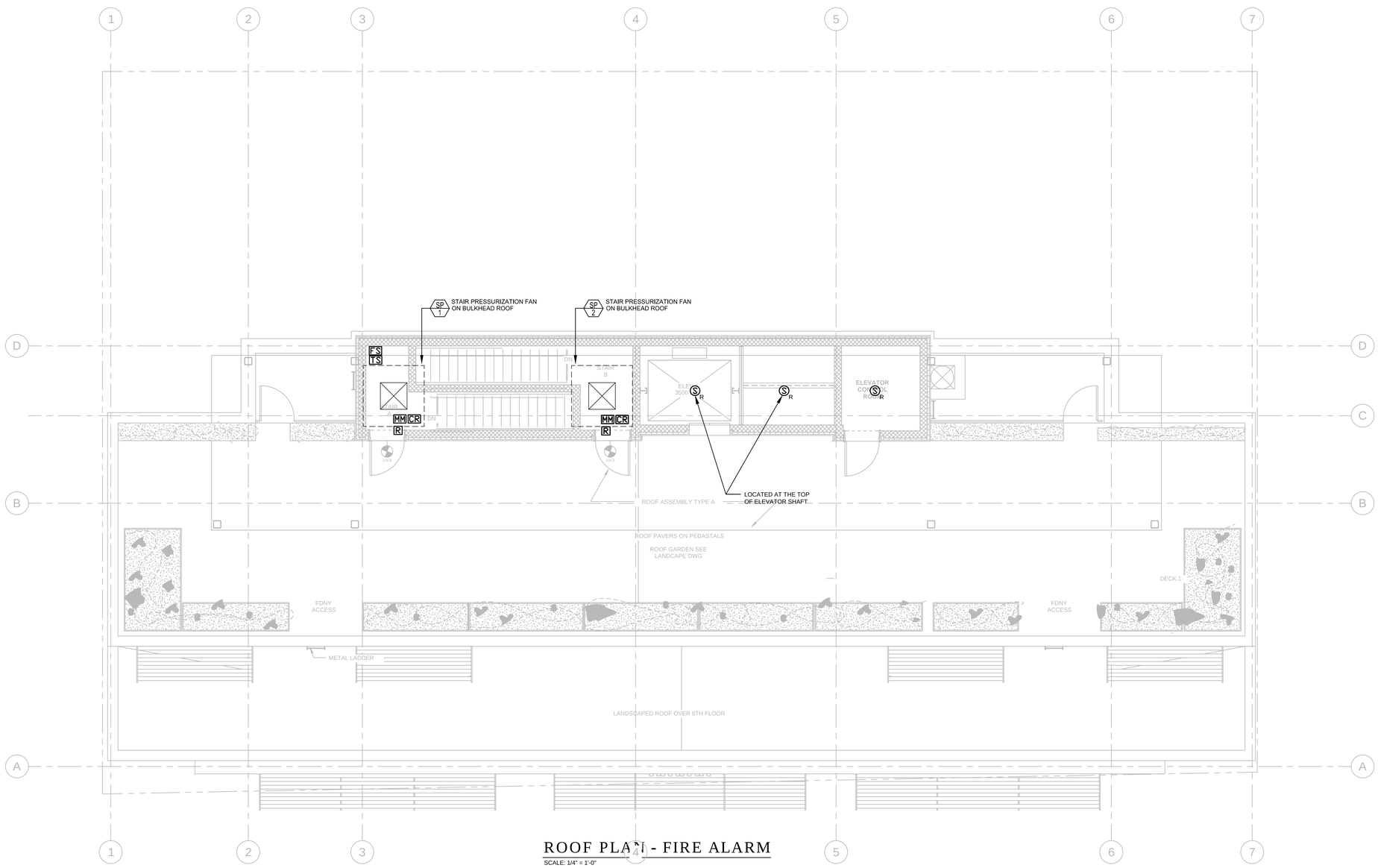
SCALE: AS NOTED | 5 OF 7



ROOF PLAN - FIRE ALARM

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

Owner:

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248 W. 108th St.
New York, NY 10025

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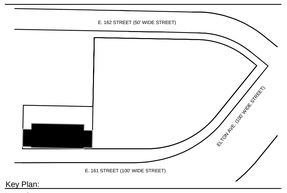

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MEP Engineer:

SIDERIS KEFALAS Engineers, PC
217-22 Northern Boulevard.
Bayside, New York 11361
Tel (718) 224 9091 Fax (718) 224 9143

Landscape Architect:

TERRAIN-NYC
200 Park Avenue South, Suite 1401
New York, New York 10003
Tel (212) 537 6080 Fax (212) 537 6079

Client Representative:

Filing Representative:

DESIGN 2147 LIMITED
52 Diamond St.
Brooklyn, NY 11222
Tel (718) 383-9340

Do Not Scale Plans
Contractor to promptly notify Architect of any material variations between field conditions and existing conditions as indicated in Contract documents

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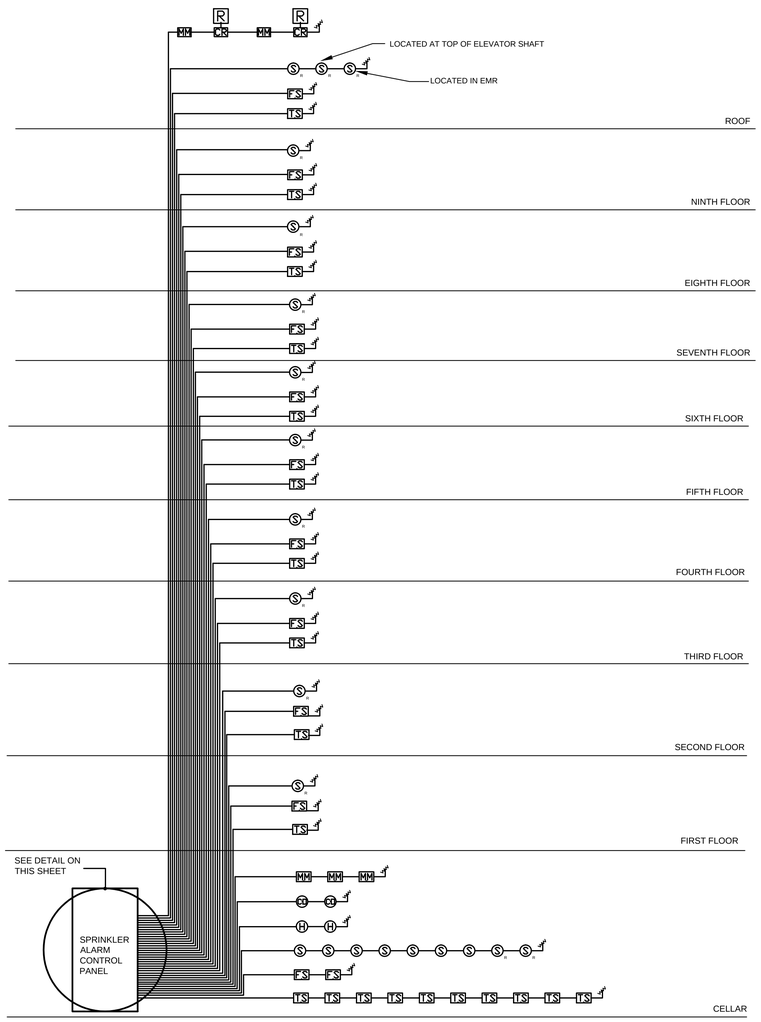
ROOF FIRE ALARM PLAN

SEAL & SIGNATURE:

PROJECT No: 14-0427
DRAWING BY: ??
CHK BY: CMS/FTK
DWG No:

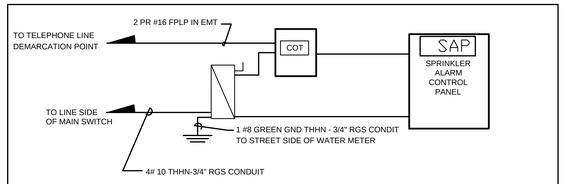
FA-104.00

SCALE: AS NOTED



FIRE ALARM RISER DIAGRAM

SCHEMATIC ONLY



SPRINKLER ALARM CONTROL PANEL

SCHEMATIC ONLY

SEQUENCE OF OPERATION
FIRE ALARM SYSTEM

INITIATION	RESULTING OPERATION
OPERATION OF A MANUAL PULL STATION:	ACTIVATE THE AUDIBLE ALARM LOCATED IN THE LOBBY. SHUTDOWN ALL FANS OVER 2000 CFM'S. PRINT ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATOR THE TYPE AND LOCATION OF ALARM. NOTIFY THE FIRE DEPARTMENT MANUAL PULL STATION ALARM VIA AN APPROVED CENTRAL STATION.
OPERATION OF A SMOKE/HEAT OR A DUCT DETECTOR:	ACTIVATE THE AUDIBLE ALARM LOCATED IN THE LOBBY. SHUTDOWN ALL FANS OVER 2000 CFM'S. PRINT ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATOR THE TYPE AND LOCATION OF ALARM. NOTIFY THE FIRE DEPARTMENT SMOKE DETECTOR ALARM VIA AN APPROVED CENTRAL STATION.
OPERATION OF A ELEVATOR LOBBY, ELEVATOR MACHINE ROOM, OR TOP OF SHAFT SMOKE DETECTOR:	ACTIVATE THE AUDIBLE ALARM LOCATED IN THE LOBBY. SHUTDOWN ALL FANS OVER 2000 CFM'S. RECALL ELEVATORS. PRINT ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATOR THE TYPE AND LOCATION OF ALARM. NOTIFY THE FIRE DEPARTMENT SMOKE DETECTOR ALARM VIA AN APPROVED CENTRAL STATION.
OPERATION OF A CARBON MONOXIDE DETECTOR OR LOW AIR:	ACTIVATE THE AUDIBLE CHIME TONE AT THE FIRE ALARM CONTROL PANEL. DISPLAY ON THE FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATOR THE TYPE AND LOCATION OF SUPERVISORY ALARM. NOTIFY THE FIRE DEPARTMENT, SUPERVISORY ALARM, VIA AN APPROVED CENTRAL STATION.
OPERATION OF A WATER FLOW OR PRESSURE SWITCH:	ACTIVATE THE AUDIBLE ALARM ABOVE THE FIRE ALARM PANEL. SHUTDOWN ALL FANS OVER 2000 CFM'S. RECALL ELEVATOR. PRINT ON THE LCD DISPLAY ON THE FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATOR THE TYPE AND LOCATION OF ALARM. NOTIFY THE FIRE DEPARTMENT WATER FLOW ALARM VIA AN APPROVED CENTRAL STATION.
OPERATION OF A TROUBLE CONDITION TAMPER SWITCH, PUMP RUN OR POWER FAIL	ACTIVATE THE AUDIBLE ALARM LOCATED IN THE LOBBY. DISPLAY ON THE FIRE ALARM CONTROL PANEL AND THE REMOTE ANNUNCIATOR THE TYPE AND LOCATION OF TROUBLE, SUPERVISORY, SPRINKLER PUMP RUN, OR SPRINKLER PUMP POWER FAIL CONDITION. NOTIFY THE FIRE DEPARTMENT TROUBLE CONDITION, SUPERVISORY, SPRINKLER PUMP RUN,OR SPRINKLER PUMP FAIL VIA AN APPROVED CENTRAL STATION.

NOTE: 1) UPON RESET OF FIRE ALARM CONTROL PANEL FANS SHALL NOT RESTART. A SEPARATE SWITCH SHALL BE PROVIDED TO RESTART FANS.

2) RISER DIAGRAM, AND SEQUENCE OF OPERATION INCLUDING PURGE SHALL BE MOUNTED IN A FRAME ADJACENT TO FIRE ALARM CONTROL PANEL.

3) THE FIRE ALARM SYSTEM SHALL BE PROVIDED WITH AND CAPABLE OF SENDING SEPARATE SIGNALS TO CENTRAL OFFICE FOR MANUAL PULL STATION, SMOKE, WATERFLOW, TROUBLE, SUPERVISORY, SPRINKLER PUMP RUN, AND SPRINKLER PUMP POWER FAIL SIGNALS.

4) CONTRACTOR SHALL PROVIDE AN ENGRAVED LAMINATED SIGN ADJACENT TO THE MULTI-TONE HORN AS FOLLOWS:

WATERFLOW ALARM SHALL SOUND BELL TONE
SMOKE ALARM SHALL SOUND HORN TONE
TROUBLE OR SUPERVISORY SHALL SOUND CHIME TONE.

SPRINKLER ALARM LEGEND

SAP	SPRINKLER ALARM CONTROL PANEL
S	IONIZATION SMOKE DETECTOR. (P-PHOTOELECTRIC)
FS	WATER FLOW SWITCH (F.B.O.)
TS	TAMPER SWITCH (F.B.O.)
	END OF LINE DEVICE
F	MANUAL PULL STATION
CO	CARBON MONOXIDE DETECTOR
	DISCONNECT SWITCH
MM	MONITOR MODULE
FM	REMOTE ANNUNCIATOR
H	HEAT DETECTOR
CR	CONTROL RELAY
R	FAN SHUT DOWN RELAY
F.B.O.	FURNISHED BY OTHERS
R	ELEVATOR RECALL
S	DUCT SMOKE DETECTOR. (P-PHOTOELECTRIC)
	REMOTE LAMP (LED)

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

DOB STAMPS & SIGNATURES

SIDERIS KEFALAS ENGINEERS P.C

Consulting Engineers For:
• Mechanical • Fire Protection
• Plumbing • Electrical
• Fire Alarm

217-22 Northern Boulevard
Bayside, New York 11361
Tel: 718-224-9091
Fax: 718-224-9143

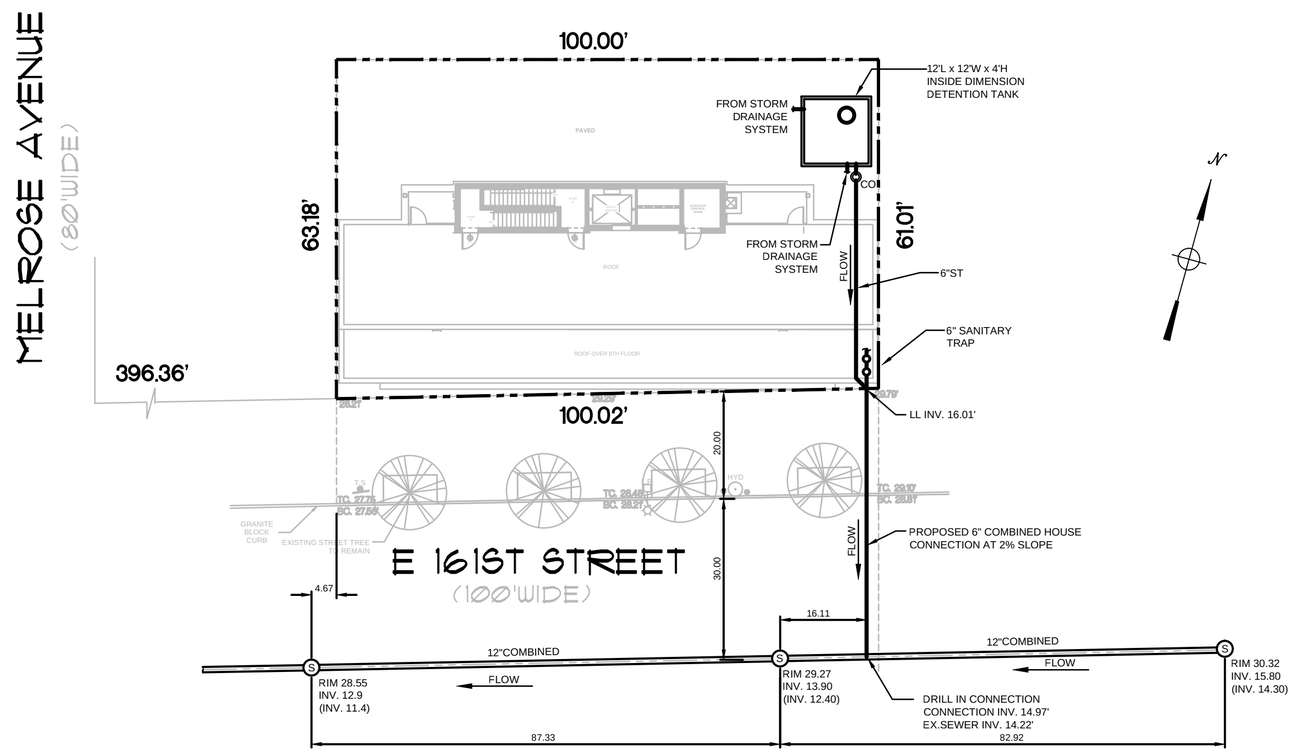
Project:
2132 Frederick Douglass Blvd.
New York, NY

Title:
FIRE ALARM RISER DIAGRAM

Seal & Signature:

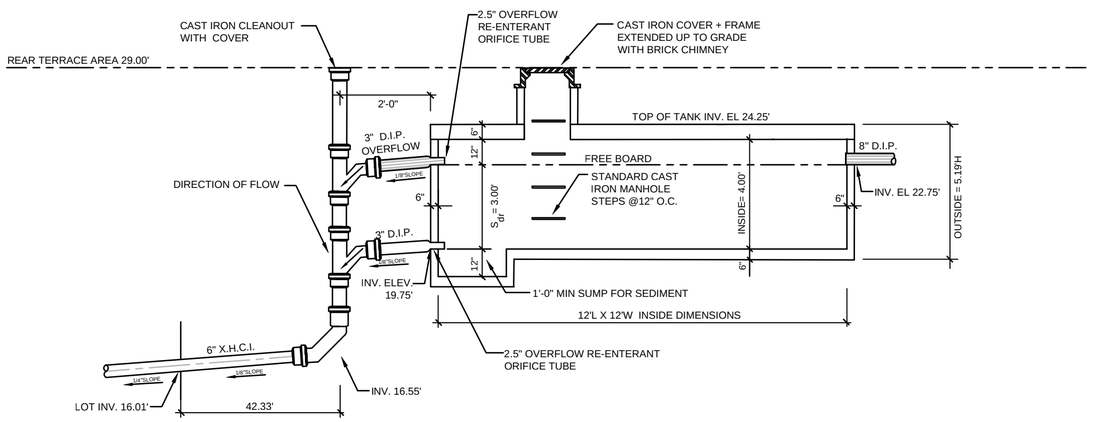
Date:	10-14-13
Job No.:	13-0321
Drawn By:	DE
Checked By:	CMS/FTK
DWG NO.	FA-106.00

BSCAN:



SITE CONNECTION PROPOSAL PLAN

SCALE: 1"=20'



DETENTION TANK DETAIL

NOT TO SCALE

DETENTION TANK CALCULATION:

DURATION OF RAINFALL:

$t_v = 0.27(Cwt \times At / Q_{DRR})^{0.5} - 15$

$t_v = 0.27(0.908 \times 6{,}285 / 0.250)^{0.5} - 15$

$t_v = 25.79$ min

REQUIRED STORAGE VOLUME:

$V_v = [0.19 \times Cwt \times At / (t_v+15) - 40\ Q_{DRR}] \times t$

$V_v = [0.19 \times 0.908 \times 6{,}285 / (25.79 + 15) - 40 \times 0.250] \times 25.79$

$V_v = 428$ cu. ft.

USE (1) RECTANGULAR TANK INSIDE DIMENSIONS (12' x 12' x 4')

STORAGE VOLUME:
12' x 12' x 3.00' (L x W x H)
STORAGE VOLUME= 432 Cu. Ft.
432 Cu.Ft. >> 428 Cu.Ft. OK

ORIFICE CALCULATION

$Q_{DRR} = Cd \times A \sqrt{2gh}$

$0.250 = 0.52A\sqrt{2 \times 32.2 \times 3.00'}$

$0.250 = 7.23\ A$ A = 0.035 Sq.Ft.

$d = \sqrt{0.035 / 0.785}$ = 0.21 Ft. x 12 inches = 2.5 inches

DIAMETER OF RESTRICTION ORIFICE: d = 2.5 inches min

$S_{DR} = 1930\ (Q_{DRR} / d_o^2)^2 + d_o^2 / 24$

$S_{DR} = 1930\ (0.250 / 2.5^2)^2 + 2.5^2 / 24$

$S_{DR} = 3.35$ ft >> 3.00 ft OK

OWNER

PETER BEITCHMAN
THE BRIDGE MENTAL HEALTH AND HOUSING
248 WEST 108TH STREET
NEW YORK, NY 10025
212-663-3316

OUTLET NOTE

THE SANITARY FLOW FROM
THIS PROPOSAL IS TRIBUTARY
TO THE HUNTS POINT CREEK WPCP

DATUM NOTES

1. ALL ELEVATIONS SHOWN HERE ON REFER TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

2. HOUSE CONNECTION MATERIAL WILL BE EXTRA HEAVY CAST IRON. BEDDING WILL BE BROKEN STONE.

DEVELOPMENT NOTE

THE OWNER'S PROPERTY SHOWN HEREON WILL BE DEVELOPED WITH A 9-STORY AND CELLAR RESIDENTIAL BUILDING
FEE SIMPLE (59 DWELLING UNITS)

STORM FLOW NOTE

STORM FLOW OF 0.780 CFS WILL BE RESTRICTED TO 0.250 BY MEANS OF DETENTION FACILITIES AND CONTROLLED FLOW DEVICES.

DOB # 220404612

SEWER DEPT #

ADDRESS: 425 EAST 161ST STREET BRONX, NEW YORK

BLOCK # 2383 LOT # 39

SITE TOTALS

TOTAL SITE AREA	= 6,285 SQ .FT. = 0.144 ACRES
ROOF AREA	= 3,650 SQ .FT. = 0.084 ACRES
PAVED AREA	= 2,635 SQ .FT. = 0.060 ACRES

STORM CALCULATION METHOD

RATIONAL METHOD:
(CRITERIA ESTABLISHED BY D.E.P. FOR BRONX SEWERS)
Qall = ALLOWABLE STORM FLOW, IN CFS
Qdev = DEVELOPED FLOW RATE, IN CFS
Qrr = MAXIMUM RELEASE RATE, IN CFS
Cws = WEIGHTED RUN-OFF COEFFICIENT
A = TRIBUTARY AREA, EXPRESSED, IN SQ. FT.

Qall = 6,285 / 24,800 = 0.253 CFS

Qrr = 0.253 > 0.250 = 0.250 CFS

$Cws = \frac{(3{,}650 \times 0.95) + (2{,}635 \times 0.85)}{6{,}285} = 0.908$

Q dev= 6,285 x 0.908 / 7,320 = 0.780 CFS

SINCE THE DEVELOPED STORM FLOW OF 0.780 CFS IS GREATER THAN THE ALLOWABLE STORM FLOW OF 0.250 CFS, STORM FLOW OF 0.780 CFS WILL BE RESTRICTED TO 0.250 BY MEANS OF DETENTION FACILITIES AND CONTROLLED FLOW DEVICES.

SANITARY CALCULATIONS:

FLOW BASED ON ZONING R8
POPULATION DENSITY = 375 PERSONS/ACRE (BASED UPON R8)

$Qs = \frac{375 \times 0.144 \times 150}{7.48 \times 86{,}400} = 0.013 \times 4 = 0.052$ CFS

SEWER SIZE SELECTION:

Qsanitary = 0.052 CFS
Qtotal = Qsanitary + Qstorm
Qtotal = 0.052 + 0.250 = 0.302 CFS

TRY 6-INCH COMBINED HOUSE SEWER @ 2% SLOPE
(MAX CAPACITY = 0.806 CFS) 0.806 CFS >> 0.302 CFS
THUS 6-INCH COMBINED HOUSE SEWER IS ACCEPTABLE

REV. No.	DATE	BY	REVISIONS
	03.01.15	STM	SUBMISSION TO DEP

SIDERIS KEFALAS ENGINEERS P.C.

Consulting Engineers For:
• Mechanical • Fire Protection
• Plumbing • Electrical
• Fire Alarm

217-22 Northern Boulevard
Bayside, New York 11361
Tel: 718-224-9091
Fax: 718-224-9143

Project:

425 EAST 161ST STREET
BRONX, NEW YORK

Title:

SITE CONNECTION PROPOSAL

Seal & Signature:

Date:	02-20-2015
Job No.:	14-0115
Drawn By:	STM
Checked By:	CMS/FTK
DWG NO.	SCP-1

APPENDIX B
CITIZEN PARTICIPATION PLAN

CITIZEN PARTICIPATION PLAN

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

Project Contact List: OER has established a Site Contact List for this project to provide public notices in the form of fact sheets to interested members of the Community. Communications will include updates on important information relating to the progress of the cleanup program at the Site as well as to request public comments on the cleanup plan. The Project Contact List includes owners and occupants of adjacent buildings and homes, principal administrators of nearby schools, hospitals and day care centers, the public water supplier that serves the area, established document repositories, the representative Community Board, City Council members, other elected representatives and any local Brownfield Opportunity Area (BOA) grantee organizations. Any member of the public or organization will be added to the Site Contact List on request. A copy of the Site Contact List is maintained by OER's project manager. If you would like to be added to the Project Contact List, contact NYC OER at (212) 788-8841 or by email at brownfields@cityhall.nyc.gov.

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

New York Public Library Melrose Branch
910 Morris Avenue, Bronx, NY 10451
(718) 588-0110

Monday – Thursday: 10 AM – 7 PM
Friday – Saturday: 10 AM – 5 PM
Sunday: Closed

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

Identify Issues of Public Concern: Members of the community surrounding the Site have expressed concerns about the project, as well as construction and cleanup projects throughout the neighborhood. Concerns have been raised about dust, vibrations, and noise from demolition, cleanup, and construction;

historic uses of the property that may result in specific types of contamination; extended work hours at the site; truck traffic; on-going environmental work; etc. These concerns will be addressed by the implementation of CAMP during excavation and the implementation of dust suppression techniques to control dust on an as-needed basis. During excavation the soil will be screened for evidence of contamination from potential historic property use or others sources. The project work hours will comply with the DOB work permit. Trucks traveling to and from the Site will be routed to avoid or limit travel through residential streets until a commercial roadway is reached.

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

Citizen Participation Milestones: Public notice and public comment activities occur at several steps during a typical NYC VCP project. See flow chart on the following page, which identifies when during the NYC VCP public notices are issued: These steps include:

- **Public Notice of the availability of the Remedial Investigation Report and Remedial Action Work Plan and a 30-day public comment period on the Remedial Action Work Plan.**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the availability of the Remedial Investigation Report and Remedial Action Work Plan and the initiation of a 30-day public comment period on the Remedial Action Work Plan. The Fact Sheet summarizes the findings of the RIR and provides details of the RAWP. The public comment period will be extended an additional 15 days upon public request. A public meeting or informational session will be conducted by OER upon request.

- **Public Notice announcing the approval of the RAWP and the start of remediation**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the approval of the RAWP and the start of remediation.

- **Public Notice announcing the completion of remediation and the issuance of the Notice of Completion**

  Public notice in the form of a Fact Sheet is sent to all parties listed on the Site Contact List announcing the completion of remediation and the issuance of the Notice of Completion.

APPENDIX C

SUSTAINABILITY STATEMENT

SUSTAINABILITY STATEMENT

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

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

If possible, the Site will reuse clean non-virgin materials; the results of which will be quantified and reported in the RAR.

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

Reduced Energy Consumption and Promotion of Greater Energy Efficiency: Reduced energy consumption lowers greenhouse gas emissions, improves local air quality, lessens in-city power generation requirements, can lower traffic congestion, and provides substantial cost savings.

Best efforts will be made to quantify energy efficiencies achieved during the remediation and will be reported in the RAR. Where energy savings cannot be easily quantified, a gross indicator of the amount of energy saved or the means by which energy savings was achieved will be reported.

Conversion to Clean Fuels: Use of clean fuel improves NYC's air quality by reducing harmful emissions.

Recontamination Control: Recontamination after cleanup and redevelopment is completed undermines the value of work performed, may result in a property that is less protective of public health or the environment, and may necessitate additional cleanup work later or impede future redevelopment. Recontamination can arise from future releases that occur within the property or by influx of contamination from off-Site.

An estimate of the area of the Site that utilizes recontamination controls under this plan will be reported in the RAR in square feet.

Stormwater Retention: Stormwater retention improves water quality by lowering the rate of combined stormwater and sewer discharges to NYC's sewage treatment plants during periods of precipitation, and reduces the volume of untreated influent to local surface waters.

Linkage with Green Building: Green buildings provide a multitude of benefits to the city across a broad range of areas, such as reduction of energy consumption, conservation of resources, and reduction in toxic materials use.

The number of Green Buildings that are associated with this brownfield redevelopment property will be reported in the RAR. The total square footage of green building space created as a function of this brownfield redevelopment will be quantified for residential, commercial and industrial/manufacturing uses.

Paperless Brownfield Cleanup Program: Melrose Commons Supportive HDC c/o The Bridge, Inc. is participating in OER's Paperless Brownfield Cleanup Program. Under this program, submission of electronic documents will replace submission of hard copies for the review of project documents, communications and milestone reports.

Low-Energy Project Management Program: Melrose Commons Supportive HDC c/o The Bridge, Inc. is participating in OER's low-energy project management program. Under this program, whenever

possible, meetings are held using remote communication technologies, such as videoconferencing and teleconferencing to reduce energy consumption and traffic congestion associated with personal transportation.

Trees and Plantings: Trees and other plantings provide habitat and add to NYC's environmental quality in a wide variety of ways. Native plant species and native habitat provide optimal support to local fauna, promote local biodiversity, and require less maintenance.

APPENDIX D

SOIL/MATERIALS MANAGEMENT PLAN

1.0 SOIL/MATERIALS MANAGEMENT PLAN

1.1 SOIL SCREENING METHODS

Visual, olfactory and PID soil screening and assessment will be performed under the supervision of a Qualified Environmental Professional and will be reported in the RAR. Soil screening will be performed during invasive work performed during the remedy and development phases prior to issuance of the Notice of Completion.

1.2 STOCKPILE METHODS

Excavated soil from suspected areas of contamination (e.g., hot spots, USTs, drains, etc.), if any, will be stockpiled separately and will be segregated from clean soil and construction materials. Stockpiles will be used only when necessary and will be removed as soon as practicable. While stockpiles are in place, they will be inspected daily, and before and after every storm event. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. Excavated soil will be stockpiled on, at minimum, double layers of 8-mil minimum sheeting, will be kept covered at all times with appropriately anchored plastic tarps, and will be routinely inspected. Broken or ripped tarps will be promptly replaced.

All stockpile activities will be compliant with applicable laws and regulations. Soil stockpile areas will be appropriately graded to control run-off in accordance with applicable laws and regulations. Stockpiles of excavated soil and other materials shall be located at least of 50 feet from the Site boundaries, where possible. Hay bales or equivalent will surround soil stockpiles except for areas where access by equipment is required. Silt fencing and hay bales will be used as needed near catch basins, surface waters and other discharge points.

1.3 CHARACTERIZATION OF EXCAVATED MATERIALS

Soil/fill or other excavated media that is transported off-site for disposal will be sampled in a manner required by the receiving facility, and in compliance with applicable laws and regulations. Soil proposed for reuse on-site will be managed as defined in this plan.

1.4 MATERIALS EXCAVATION, LOAD-OUT, AND DEPARTURE

The PE/QEP overseeing the remedial action will:

- Oversee remedial work and the excavation and load-out of excavated material;
- Ensure that there is a party responsible for the safe execution of invasive and other work performed under this work plan;
- Ensure that Site development activities and development-related grading cuts will not interfere with, or otherwise impair or compromise the remedial activities proposed in this RAWP;
- Ensure that the presence of utilities and easements on the Site has been investigated and that any identified risks from work proposed under this plan are properly addressed by appropriate parties;
- Ensure that all loaded outbound trucks are inspected and cleaned if necessary before leaving the Site; and

- Ensure that all egress points for truck and equipment transport from the Site will be kept clean of Site-derived materials during Site remediation.

Locations where vehicles exit the Site shall be inspected daily for evidence of soil tracking off premises. Cleaning of the adjacent streets will be performed as needed to maintain a clean condition with respect to Site-derived materials.

Open and uncontrolled mechanical processing of historical fill and contaminated soil on-site will not be performed without prior OER approval.

1.5 OFF-SITE MATERIALS TRANSPORT

Loaded vehicles leaving the Site will comply with all applicable materials transportation requirements (including appropriate covering, manifests, and placards) in accordance with applicable laws and regulations, including use of licensed haulers in accordance with 6 NYCRR Part 364. If loads contain wet material capable of causing leakage from trucks, truck liners will be used. Queuing of trucks will be performed on-site, when possible, to minimize off-site disturbance. Off-site queuing will be minimized.

Outbound truck transport routes will be established and reported to OER prior to the start of remedial work at the Site. This routing takes into account the following factors: (a) limiting transport through residential areas and past sensitive sites; (b) use of mapped truck routes; (c) minimizing off-site queuing of trucks entering the facility; (d) limiting total distance to major highways; (e) promoting safety in access to highways; and (f) overall safety in transport. To the extent possible, all trucks loaded with Site materials will travel from the Site using these truck routes. Trucks will not stop or idle in the neighborhood after leaving the project Site.

1.6 MATERIALS DISPOSAL OFF-SITE

The following documentation will be established and reported by the PE/QEP for each disposal destination used in this project to document that the disposal of regulated material exported from the Site conforms with applicable laws and regulations: (1) a letter from the PE/QEP or Enrollee to each disposal facility describing the material to be disposed and requesting written acceptance of the material. This letter will state that material to be disposed is regulated material generated at an environmental remediation Site in the Bronx, New York under a governmental remediation program. The letter will provide the project identity and the name and phone number of the PE/QEP or Enrollee. The letter will include as an attachment a summary of all chemical data for the material being transported; and (2) a letter from each disposal facility stating it is in receipt of the correspondence (1, above) and is approved to accept the material. These documents will be included in the RAR.

The Remedial Action Report will include an itemized account of the destination of all material removed from the Site during this remedial action. Documentation associated with disposal of all material will include records and approvals for receipt of the material. This information will be presented in the RAR.

All impacted soil/fill or other waste excavated and removed from the Site will be managed as regulated material and will be disposed in accordance with applicable laws and regulations. Historic fill and contaminated soils taken off-site will be handled as solid waste and will not be disposed at a Part 360-16 Registration Facility (also known as a Soil Recycling Facility).

Waste characterization will be performed for off-site disposal in a manner required by the receiving facility and in conformance with its applicable permits. Waste characterization sampling and analytical methods, sampling frequency, analytical results and QA/QC will be reported in the RAR. A manifest system for off-Site transportation of exported materials will be employed. Manifest information will be

reported in the RAR. Hazardous wastes derived from on-site will be stored, transported, and disposed of in compliance with applicable laws and regulations.

If disposal of soil/fill from this Site is proposed for unregulated disposal (i.e., clean soil removed for development purposes), including transport to a Part 360-16 Registration Facility, a formal request will be made for approval by OER with an associated plan compliant with 6NYCRR Part 360-16. This request and plan will include the location, volume and a description of the material to be recycled, including verification that the material is not affected by Site uses and that the material complies with receipt requirements for recycling under 6NYCRR Part 360. This material will be appropriately handled on-site to prevent mixing with impacted material.

1.7 MATERIALS REUSE ON-SITE

Soil and fill that is derived from the Site that meets the Soil Cleanup Objectives (SCOs) established in this plan may be reused on-site. The SCOs for on-site reuse are Track 2 Restricted Residential (RRSCOs) as modified by the Track 4 Site-specific SCOs (SSSCOs) listed Section 4.2. 'Reuse on-site' means material that is excavated during the remedy or development, does not leave the Site, and is relocated within the same property and on comparable soil/fill material. The PE/QEP will ensure that reused materials are segregated from other materials to be exported from the Site and that procedures defined for material reuse in this RAWP are followed.

Organic matter (wood, roots, stumps, etc.) or other waste derived from clearing and grubbing of the Site will not be buried on-site. Soil or fill excavated from the site for grading or other purposes will not be reused within a cover soil layer or within landscaping berms.

1.8 DEMARCATION

After completion of hotspot removal and any other invasive remedial activities, and prior to backfilling, the top of the residual soil/fill will be defined by one of three methods: (1) placement of a demarcation layer. The demarcation layer will consist of geosynthetic fencing or equivalent material to be placed on the surface of residual soil/fill to provide an observable reference layer; or (2) a land survey of the top elevation of residual soil/fill before the placement of cover soil, pavement and associated sub-soil, or other materials or structures; or, (3) all materials beneath the approved cover will be considered affected and subject to site management after the remedy is complete. Demarcation may be established by one or any combination of these three methods. As appropriate, a map showing the method of demarcation for the Site and all associated documentation will be presented in the RAR.

1.9 IMPORT OF BACKFILL SOIL FROM OFF-SITE SOURCES

This Section presents the requirements for imported fill materials to be used below the cover layer and within the clean soil cover layer. All imported soil will meet OER-approved backfill and cover soil quality objectives for this Site. The backfill and cover soil quality objectives are listed in Section 4.2.

A process will be established to evaluate sources of backfill and cover soil to be imported to the Site, and will include an examination of source location, current and historical use(s), and any applicable documentation. Material from industrial sites, spill sites, environmental remediation sites or other potentially contaminated sites will not be imported to the Site.

The following potential sources may be used pending attainment of backfill and cover soil quality objectives:

- Clean soil from construction projects at non-industrial sites in compliance with applicable laws and regulations;

- Clean soil from roadway or other transportation-related projects in compliance with applicable laws and regulations; and
- Clean recycled concrete aggregate (RCA) from facilities permitted or registered by the regulations of NYS DEC.

All materials received for import to the Site will be approved by a PE/QEP and will be in compliance with provisions in this RAWP. The RAR will report the source of the fill, evidence that an inspection was performed on the source, chemical sampling results, frequency of testing, and a Site map indicating the locations where backfill or soil cover was placed.

Source Screening and Testing

Inspection of imported fill material will include visual, olfactory and PID screening for evidence of contamination. Materials imported to the Site will be subject to inspection, as follows:

- Trucks with imported fill material will be in compliance with applicable laws and regulations and will enter the Site at designated locations;
- The PE/QEP is responsible to ensure that every truck load of imported material is inspected for evidence of contamination; and
- Fill material will be free of solid waste including pavement materials, debris, stumps, roots, and other organic matter, as well as ashes, oil, perishables or foreign matter.

Composite samples of imported material will be taken at a minimum frequency of one sample for every 500 cubic yards of material. Once it is determined that the fill material meets imported backfill or cover soil chemical requirements and is non-hazardous, and lacks petroleum contamination, the material will be loaded onto trucks for delivery to the Site.

Recycled concrete aggregate (RCA) will be imported from facilities permitted or registered by NYSDEC. Facilities will be identified in the RAR. A PE/QEP is responsible to ensure that the facility is compliant with 6NYCRR Part 360 registration and permitting requirements for the period of acquisition of RCA. RCA imported from compliant facilities will not require additional testing, unless required by NYSDEC under its terms for operation of the facility. RCA imported to the Site must be derived from recognizable and uncontaminated concrete. RCA material is not acceptable for, and will not be used as cover material.

1.10 FLUIDS MANAGEMENT

All liquids to be removed from the Site, including dewatering fluids, will be handled, transported and disposed in accordance with applicable laws and regulations. Liquids discharged into the New York City sewer system will receive prior approval by New York City Department of Environmental Protection (NYC DEP). The NYC DEP regulates discharges to the New York City sewers under Title 15, Rules of the City of New York Chapter 19. Discharge to the New York City sewer system will require an authorization and sampling data demonstrating that the groundwater meets the City's discharge criteria. The dewatering fluid will be pretreated as necessary to meet the NYC DEP discharge criteria. If discharge to the City sewer system is not appropriate, the dewatering fluids will be managed by transportation and disposal at an off-Site treatment facility.

Discharge of water generated during remedial construction to surface waters (i.e., a stream or river) is prohibited without a SPDES permit issued by New York State Department of Environmental Conservation.

1.11 STORMWATER POLLUTION PREVENTION

Applicable laws and regulations pertaining to stormwater pollution prevention will be addressed during the remedial program. If required, erosion and sediment control measures identified in this RAWP (silt fences and barriers, and hay bale checks) will be installed around the entire perimeter of the remedial construction area and inspected once a week and after every storm event to ensure that they are operating appropriately. Discharge locations will be inspected to determine whether erosion control measures are effective in preventing significant impacts to receptors. Results of inspections will be recorded in a logbook and maintained at the Site and available for inspection by OER. All necessary repairs shall be made immediately. Accumulated sediment will be removed as required to keep the barrier and hay bale check functional. Undercutting or erosion of the silt fence toe anchor will be repaired immediately with appropriate backfill materials. Manufacturer's recommendations will be followed for replacing silt fencing damaged due to weathering.

1.12 CONTINGENCY PLAN

This contingency plan is developed for the remedial construction to address the discovery of unknown structures or contaminated media during excavation. Identification of unknown contamination source areas during invasive Site work will be promptly communicated to OER's Project Manager. Petroleum spills will be reported to the NYS DEC Spill Hotline. These findings will be included in the daily report. If previously unidentified contaminant sources are found during on-site remedial excavation or development-related excavation, sampling will be performed on contaminated source material and surrounding soils and reported to OER. Chemical analytical testing will be performed for TAL metals, TCL volatiles and semi-volatiles, TCL pesticides and PCBs, as appropriate.

1.13 ODOR, DUST, AND NUISANCE CONTROL

Odor Control

All necessary means will be employed to prevent on- and off-site odor nuisances. At a minimum, procedures will include: (a) limiting the area of open excavations; (b) shrouding open excavations with tarps and other covers; and (c) use of foams to cover exposed odorous soil. If odors develop and cannot otherwise be controlled, additional means to eliminate odor nuisances will include: (d) direct load-out of soils to trucks for off-site disposal; and (e) use of chemical odorants in spray or misting systems.

This odor control plan is capable of controlling emissions of nuisance odors. If nuisance odors are identified, work will be halted and the source of odors will be identified and corrected. Work will not resume until all nuisance odors have been abated. OER will be notified of all odor complaint events. Implementation of all odor controls, including halt of work, will be the responsibility of the PE/QEP's certifying the Remedial Action Report.

Dust Control

Dust management during invasive on-site work will include, at a minimum:

- Use of a dedicated water spray methodology for roads, excavation areas and stockpiles.
- Use of properly anchored tarps to cover stockpiles.
- Exercise extra care during dry and high-wind periods.
- Use of gravel or recycled concrete aggregate on egress and other roadways to provide a clean and dust-free road surface.

This dust control plan is capable of controlling emissions of dust. If nuisance dust emissions are identified, work will be halted and the source of dusts will be identified and corrected. Work will not resume until all nuisance dust emissions have been abated. OER will be notified of all dust complaint events. Implementation of all dust controls, including halt of work, will be the responsibility of the PE/QEP's responsible for certifying the Remedial Action Report.

Other Nuisances

Noise control will be exercised during the remedial program. All remedial work will conform, at a minimum, to NYC noise control standards.

Rodent control will be provided, during Site clearing and grubbing, and during the remedial program, as necessary, to prevent nuisances.

APPENDIX E

MANUFACTURER'S SPECIFICATIONS FOR VAPOR BARRIER

Stego® Wrap Class A Vapor Retarder

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name

Stego Wrap Class A Vapor Retarder

2. Manufacturer

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description

USES: Stego Wrap Class A is used as an exceptional vapor retarder.
COMPOSITION: Stego Wrap Class A is a multi-layer plastic extrusion manufactured with only high grade prime, virgin, polyolefin resins.
ENVIRONMENTAL FACTORS:
Stego Wrap Class A can be used in systems for the control of soil gases (radon, methane), soil poisons (oil by-products) and sulfates.

5. Installation

UNDER SLAB: Unroll Stego Wrap Class A over an aggregate, sand or tamped earth base. Overlap all seams a minimum of six inches and tape using Stego Tape or Crete Claw® Tape. All penetrations must be sealed using a combination of Stego Wrap and Stego accessories.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost

Stego Wrap Class A is available nationally via building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' sales department.

7. Warranty

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance

None required.

9. Technical Services

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or via the website.

10. Filing Systems

- Stego Industries' website
- Buildsite
- 4Specs

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGO WRAP CLASS A VAPOR RETARDER

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E 1745 Class A, B & C – Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F 1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0254 perms
Puncture Resistance	ASTM D 1709 – Test Methods for Impact Resistance of Plastic Film by Free-Falling Dart Method	3466 grams
Tensile Strength	ASTM D 882 – Test Method for Tensile Properties of Thin Plastic Sheeting	50.60 lbf/in.
Permeance After Conditioning (ASTM E 1745 Sections 7.1.2 - 7.1.5)	ASTM E 154 Section 8, F 1249 – Permeance after wetting, drying, and soaking ASTM E 154 Section 11, F 1249 – Permeance after heat conditioning ASTM E 154 Section 12, F 1249 – Permeance after low temperature conditioning ASTM E 154 Section 13, F 1249 – Permeance after soil organism exposure	0.0258 perms 0.0259 perms 0.0241 perms 0.0245 perms
Thickness	ACI 302.1R-04 – Minimum Thickness (10 mils)	10 mils
Roll Dimensions		14 ft. wide x 210 ft. long or 2,940 ft^2
Roll Weight		140 lbs.

Note: perm unit = grains/(ft^2 *hr* in.Hg)

Test results above are for Stego Wrap products made as of March 15, 2013. If you have product made prior to March 15, 2013 please refer to Stego literature dated 10/12 for representative test results or call your local Stego Representative with questions.

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

Stego® Mastic

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name
Stego Mastic

2. Manufacturer
Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description
USES: Stego Mastic is designed to be used as a waterproofing and vapor retardant membrane for use in conjunction with Stego Wrap 10-mil and 15-mil Vapor Retarder/Barrier. Stego Mastic can be used as an alternate to boots for pipe penetrations in Stego Wrap Vapor Barrier.

COMPOSITION: Stego Mastic is a medium-viscosity, water-based, polymer-modified anionic bitumin-ous/ asphalt emulsion, which exhibits bonding, elongation and water-proofing characteristics.

SIZE: Stego Mastic comes in five-gallon buckets.

4. Technical Data
APPLICABLE STANDARDS:

American Society for Testing and Materials (ASTM)

- ASTM D 412 Standard Test Method for Vulcanized Rubber and Therm-oplastic Elastomers - Tension
- ASTM E 154 Standard Test Methods for Water Vapor Retarders Used in Contact with Earth under Concrete Slabs, on Walls, or as Ground Cover
- ASTM G 23 Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) With and Without Water for Exposure of Nonmetallic Materials (Withdrawn 2000)
- ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM D 751 Standard Test Methods for Coated Fabrics
- ASTM D 1434 Standard Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting
- ASTM C 836 Standard Specification for High Solids Content, Cold Liquid-Applied Elastomeric Water-proofing Membrane for Use with Separate Wearing Course.
- ASTM E 1643 Standard Practice for Installation of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs.

5. Installation
PREPARATION:

- A test application simulating the project environment should always be done prior to final usage of Stego Mastic.
- All Surfaces should be dry and free of loose materials, oils and other contaminants. The surfaces should be cleaned in the same fashion as the test surface in order to ensure proper results.
- Store above 40°F

PENETRATIONS:

For small pipe and rebar penetrations in Stego Wrap Vapor Barrier cut Stego Wrap just big enough for the pene-tration. Liberally apply Stego Mastic around the penetration to keep the integrity of the membrane intact. Stego Mastic can be applied by brush, roller, or sprayer.

NOTES: 1) For larger penetrations or wide cut-outs of Stego Wrap, use Stego Wrap and Stego Tape to repair and seal. 2) Solvent-based products should not be applied over this product. 3)Clean all tools with kerosene and/or oil-based cleaners.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost
Stego Mastic is available nationally via building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' sales department.

7. Warranty
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchan-tability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance
None required.

9. Technical Services
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or by visiting the website.

10. Filing Systems
- Stego Industries' website
- Buildsite

TABLE 1: PHYSICAL PROPERTIES OF STEGO MASTIC

Property and Test	Stego Mastic
Tensile/Elongation, ASTM D 412	32 psi / 3860%
Resistance to Decay, ASTM E 154	9% perm loss
Accelerated Aging, ASTM G 23	No Effect
Permeance, ASTM E 96	0.17 Perms
Hydrostatic Water Pressure, ASTM D 751	28 psi
Methane Transmission Rate, ASTM D 1434	0
Adhesion to Concrete & Masonry, ASTM C 836	7 lbf./in.
Hardness, ASTM C 836	85
Crack Bridging, ASTM C 836	No Cracking
Low Temp Flexibility, ASTM C 836	No Cracking at -20°C
Resistance to Acids:	
Acetic	30%
Sulfuric and Hydrochloric	15%
Temperature Effect:	
Stable	248°F
Flexible	13°F

Note: perm unit = grains/(ft^2 *hr* in.Hg)

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

Stego® Tape

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name

Stego Tape

2. Manufacturer

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description

USES: Stego Tape is a low permeance tape designed for protective sealing, hanging, seaming, splicing, and patching applications where a highly conformable material is required. It has been engineered to bond specifically to Stego Wrap, making it ideal for sealing Stego Wrap seams and penetrations.

COMPOSITION: Stego Tape is composed of polyethylene film and an acrylic, pressure-sensitive adhesive.

SIZE: Stego Tape is 3.75" wide and 180' long. Stego Tape ships 12 rolls in a case.

4. Technical Data

APPLICABLE STANDARDS:

Pressure Sensitive Tape Council (PSTC)

- PSTC 101 – International Standard for Peel Adhesion of Pressure Sensitive Tape

American Society for Testing & Materials (ASTM)

- ASTM E 1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill under Concrete Slabs

5. Installation

SEAMS:

Overlap Stego Wrap six inches and seal with Stego Tape. Make sure the area of adhesion is free from dust, dirt, moisture and frost to allow maximum adhesion of the pressure sensitive tape.

PIPE PENETRATION SEALING

1) Install Stego Wrap around pipe by slitting/cutting material
2) If void space around pipe is minimal, seal around base of pipe with Stego Tape (Stego Mastic can be used for additional coverage)

DETAIL PATCH FOR PIPE PENETRATION SEALING

1) Cut a piece of Stego Wrap that creates a six inch overlap around all edges of the void space
2) Cut an "X" in the center of the detail patch
3) Slide detail patch over pipe, secure tightly
4) Tape down all sides of detail patch with Stego Tape
5) Seal around base of pipe with Stego Tape (Stego Mastic can be used for additional coverage)

Stego Tape should be installed above 40°F. In temperatures below 40°F, take extra care to remove moisture or frost from the area of adhesion.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost

Stego Tape is available nationally via building supply distributors. For current cost information, contact your local Stego distributor or Stego Industries' sales department.

7. Warranty

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance

None required.

9. Technical Services

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or by visiting the website.

10. Filing Systems

- Stego Industries' website
- Buildsite

TABLE 1: PHYSICAL PROPERTIES OF STEGO TAPE

PROPERTY	RESULTS
Total Thickness	6 mils
Permeance	0.03 perms
Tensile Strength	17 lbs./in. width
Elongation (at break) MD	1060%
Adhesion (20 min dwell ss, PSTC 101)	95-oz./in. width
Ultraviolet Resistance	Excellent

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

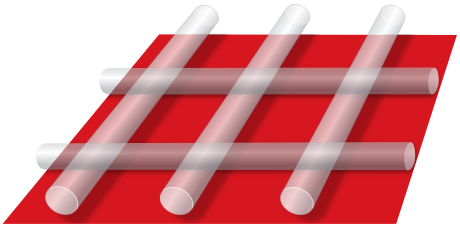
STEGO CRETE CLAW® TAPE

Stego Crete Claw® Tape provides an innovative and economical way to secure plastic film to concrete while the concrete is still wet.

Crete Claw is a multi-layered tape/detail strip that will mechanically lock Stego Wrap Vapor Barrier to concrete. The patent-pending design allows wet concrete to cast into the textured surface of Crete Claw. Just stick Crete Claw to Stego Wrap prior to concrete placement, then place the concrete directly over the system.

Stego Crete Claw can be used in place of Stego Tape to seal joints in Stego Wrap Vapor Barrier providing a dual purpose and helping to offset costs.

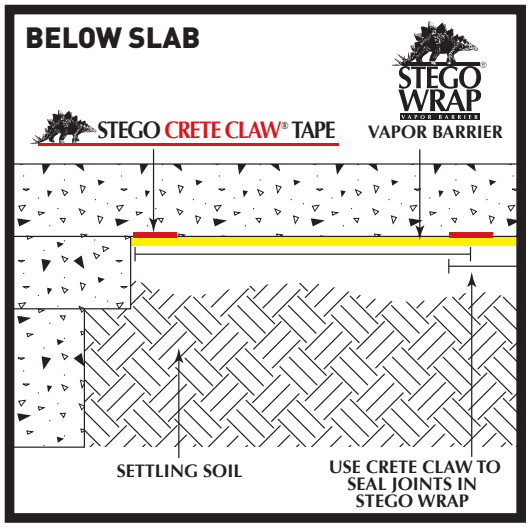
The patent-pending design allows wet concrete to cast into the textured surface of Crete Claw

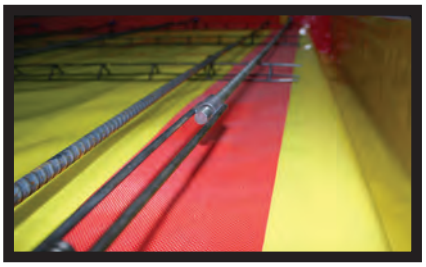


ANGLED TOP VIEW

MOST COMMON APPLICATIONS FOR CRETE CLAW®		6" Wide	3" Wide
ASTM E 1643 - Forming seal to the slab at perimeter		✓	✓
Securing Stego Wrap to bottom of slab for expansive/settling soils and carton/void form applications	Perimeter	✓	
	Seams	✓	

- Quick and easy to install
- Saves time and money
- Innovative Solution to help meet ASTM E 1643





Other more expensive products rely on chemical reaction or geotextile to bond with concrete making it all but impossible to properly install the vapor barrier. Often in pursuit of the all-in-one product, the performance characteristics of the vapor barrier are compromised. Because Crete Claw Tape is applied as a separate accessory to the vapor barrier, it does not interfere with the ability to detail around penetrations or repair damaged areas.

TABLE 1: CRETE CLAW TAPE TEST RESULTS

PROPERTY	TEST	RESULTS
Total Thickness		26 mils
Permeance	ASTM F 1249	0.03 perms
180° Adhesion Peel Strength	ASTM D 903	17.6 lbf/in.
Sheer Adhesion Strength	1 in.^{2} shear test using an Instron 3345 Machine	>49 lbf/in.^{2}*
Roll Sizes		6" x 180' and 3" x 180' **

* Specimens failed by stretching vapor barrier to failure before pulling Crete Claw from concrete.
** 3" wide is for perimeter seal application only.

Contact us to learn more about this innovative product.

STEGO INDUSTRIES, LLC | San Clemente, CA | 949-257-4100 | Toll Free 877-464-7834 | Fax 949-257-4113 | www.stegoindustries.com

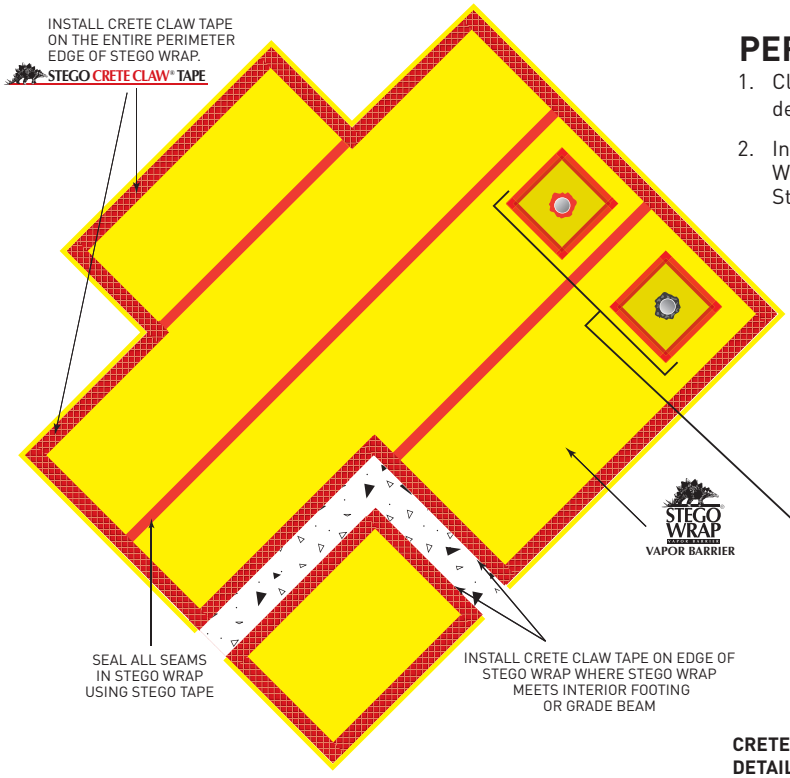
Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

04/2013

STEGO CRETE CLAW® TAPE

INSTALLATION INSTRUCTIONS

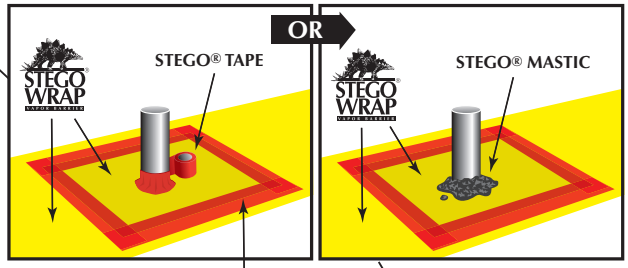
TOP-DOWN VIEWS OF A BUILDING FOOTPRINT



PERIMETER SEAL TO SLAB

1. Clean surface of Stego Wrap to ensure that it is free of moisture and debris prior to the installation of Crete Claw Tape.
2. Install 3" or 6" Crete Claw Tape on the entire perimeter of the Stego Wrap Installation. Crete Claw Tape should be completely on Stego Wrap.

SEAL ALL PENETRATIONS WITH STEGO TAPE AND/OR STEGO MASTIC. CRETE CLAW TAPE IS NOT MEANT FOR REPAIRING PENETRATIONS.



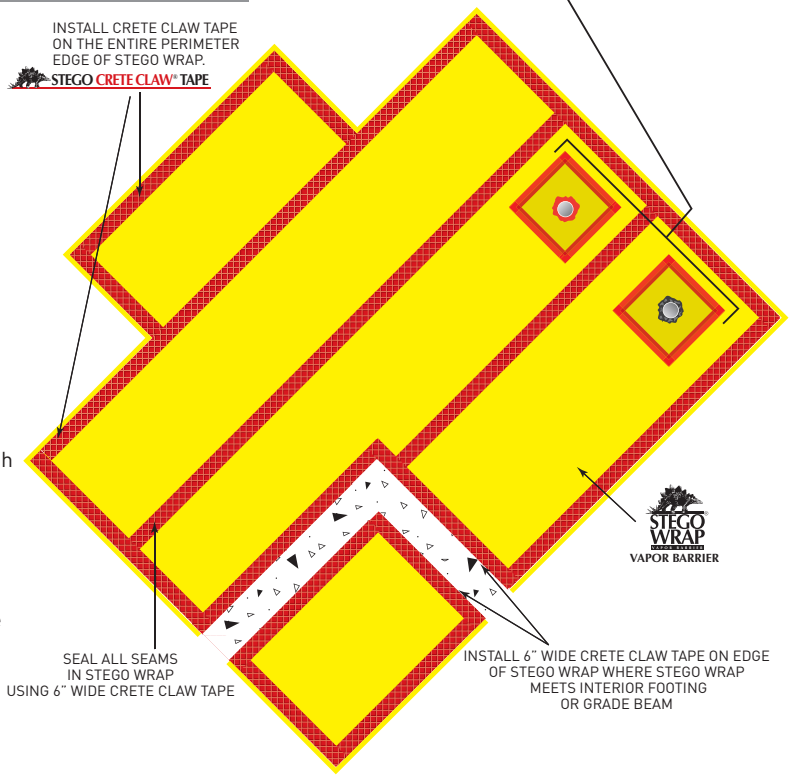
CRETE CLAW CAN BE USED TO SEAL SEAM AROUND DETAIL PATCH FOR ADDED PROTECTION.

SECURING STEGO WRAP TO THE BOTTOM OF THE SLAB

1. Clean surface of Stego Wrap to ensure that it is free of moisture and debris prior to the installation of 6" wide Crete Claw Tape.
2. Overlap seams a minimum of 6 inches. Seal all seams in Stego Wrap using Crete Claw Tape.
3. Install 6" wide Crete Claw Tape on the entire perimeter of the Stego Wrap Installation. Crete Claw Tape should be completely on Stego Wrap.
4. Install additional Crete Claw Tape if required. Lab and simulated field tests have shown that if 6" wide Crete Claw is installed on all seams and around the perimeter, then it is more than strong enough to support Stego Wrap. If determined by the architect or engineer, additional Crete Claw may be specified.
5. Prior to the placement of concrete, ensure that Crete Claw is free of dirt or debris to ensure maximum bond to the concrete.

These are general instructions. Installation requirements may change on a project-by-project basis

IMPORTANT - For the application of securing Stego Wrap to the bottom of the slab, always use 6" wide Crete Claw Tape.



NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs*. These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions, Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

949-257-4100 • 877-464-7834 • www.stegoindustries.com

Stego® Crete Claw® Tape

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00

1. Product Name

Stego® Crete Claw® Tape

2. Manufacturer

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description

USES: Stego Crete Claw Tape is a multi-layered tape that is used to seal Stego Wrap to concrete while the concrete is still wet. Crete Claw allows wet concrete to cast into the textured top surface to form a mechanical bond/seal.
COMPOSITION: Stego Crete Claw is composed of polyethylene film, aperture film, and an acrylic, pressure sensitive adhesive.
SIZE: Stego Crete Claw is 6" wide by 180' long. Stego Crete Claw ships 8 rolls in a case.

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGO CRETE CLAW

PROPERTY	RESULTS
Dimensions	6" x 180'
Total Thickness	26 mils
Permeance: ASTM F 1249	0.03 perms
180° Adhesion Peel Strength: ASTM D 903	17.6 lbf/in.
Sheer Adhesion Strength: 1 in^2 shear test using an Instron 3345 Machine	>49 lbf/in^2*

* Specimens failed by stretching vapor barrier to failure before pulling Crete Claw from concrete.

5. Installation

SECURING STEGO WRAP TO SLAB: Clean the surface of Stego Wrap to ensure that it is free of moisture, frost, dirt, and debris prior to the installation of Stego Crete Claw. When ready to apply Crete Claw, peel back the release liner and apply to Stego Wrap. Stego Crete Claw should be completely on Stego Wrap.

Install Crete Claw Tape on all seams and around the entire perimeter of the Stego Wrap installation.

To detail, cut Stego Crete Claw with a box knife or scissors. Crete Claw should be installed above 40°F for maximum adhesion. For additional information, please refer to Stego's complete installation instructions.

TIP: Wrap the release liner back over the entire roll while unrolling Crete Claw. This technique will allow the release liner to pull off easily and keep it out of the way.

6. Availability & Cost

Stego Crete Claw is available nationally through our network of building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' Sales Representative.

7. Warranty

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance

Store Stego Crete Claw in a dry and temperate area.

9. Technical Services

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical department or via our website.

10. Filing Systems

www.stegoindustries.com
Buildsite

Stego, the stegosaurus logo, Crete Claw, and StegoTack are all deemed to be registered and protectable trademarks of Stego Industries, LLC.

Stego® Crete Claw® (3" Wide)

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00

1. Product Name

Stego® Crete Claw® (3" Wide)

2. Manufacturer

Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description

USES: Stego Crete Claw is a multi-layered tape that is used to seal Stego Wrap to the perimeter of the slab while the concrete is placed. Crete Claw allows wet concrete to cast into the textured top surface to form a mechanical bond/seal.
COMPOSITION: Stego Crete Claw is composed of polyethylene film, aperture film, and an acrylic, pressure sensitive adhesive.
SIZE: Stego Crete Claw (3" Wide) is 3" wide and 180' long. Stego Crete Claw (3" Wide) ships 16 rolls in a case.

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGO CRETE CLAW (3" Wide)

PROPERTY	RESULTS
Dimensions	3" x 180'
Total Thickness	26 mils
Permeance: ASTM F 1249	0.03 perms
180° Adhesion Peel Strength: ASTM D 903	17.6 lbf/in.
Sheer Adhesion Strength: 1 in^2 shear test using an Instron 3345 Machine	>49 lbf/in^2*

* Specimens failed by stretching vapor barrier to failure before pulling Crete Claw from concrete.

5. Installation

UNDER SLAB: Clean surface of Stego Wrap to ensure that it is free of moisture, frost, dirt, and debris prior to the installation of Stego Crete Claw. When ready to apply Crete Claw, peel back the release liner and apply to Stego Wrap. Stego Crete Claw should be completely on Stego Wrap.

To detail, cut Stego Crete Claw with a box knife or scissors. Crete Claw should be installed above 40°F for maximum adhesion. For additional information please refer to Stego's complete installation instructions.

TIP: Wrap the release liner back over the entire roll while unrolling Crete Claw. This technique will allow the release liner to pull off easily and keep it out of the way.

6. Availability & Cost

Stego Crete Claw (3" Wide) is available nationally through our network of building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' Sales Representative.

7. Warranty

Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance

Store Stego Crete Claw in a dry and temperate area.

9. Technical Services

Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical department or via our website.

10. Filing Systems

www.stegoindustries.com
Buildsite

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StegoTack® Tape

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name
StegoTack® Tape

2. Manufacturer
Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description
USES: StegoTack Tape is a double-sided adhesive strip used to bond and seal Stego Wrap to concrete, masonry, wood, metal, and other surfaces. StegoTack is a flexible and moldable material to allow for a variety of applications and installations.
COMPOSITION: StegoTack Tape is made from a blend of synthetic rubber and resins. SIZE: StegoTack Tape is 2 inches wide and 50 feet long. StegoTack Tape ships 12 rolls in a case.

5. Installation
TO WALLS: Make sure the area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion. Remove release liner on one side and stick to desired surface. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

TO FOOTINGS: Make sure the area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion. Remove release liner on one side and stick to desired surface. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

Cut StegoTack Tape using a utility knife or scissors. Cut StegoTack Tape before removing the release liner for easier cutting. Install StegoTack Tape between 40°F and 110°F. For additional information please refer to Stego's complete installation instructions.

6. Availability & Cost
StegoTack Tape is available nationally through our network of building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' Sales Representative.

7. Warranty
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance
For longer adhesive life, store in dry, temperate area.

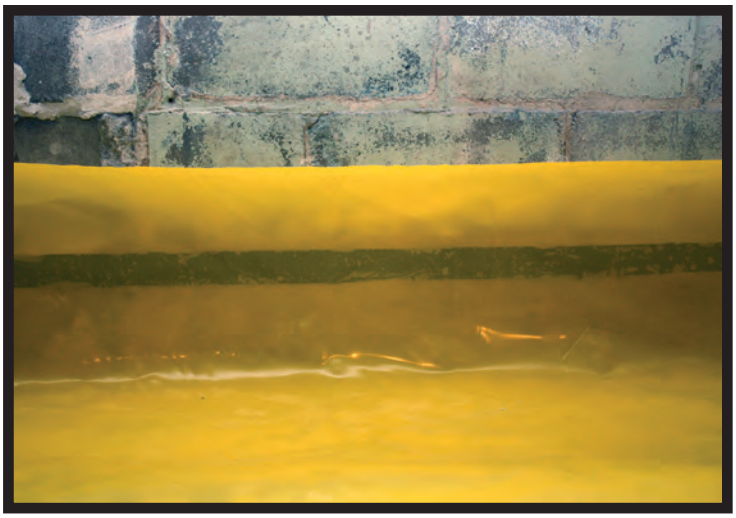
9. Technical Services
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or via the website. **www.stegoindustries.com**

10. Filing Systems
www.stegoindustries.com
Buildsite

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGOTACK TAPE

PROPERTY	RESULTS
Dimensions	50 feet long, 2 inches wide
Total Thickness	30 Mils
Permeance	0.03 perms (30 mils)
Color	Grey
Material	Synthetic rubber blend
Adhesion to Steel	10.3 lbs./in. width ASTM C 1000
Installation Temperature	40°F/110°F (4°C/43°C)
In Service Temperature Range	-20°F/+140°F (-29°C/60°C)
VOC Content	No VOC's, 100% solids



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Stego® Term Bar

STEGO INDUSTRIES, LLC

Vapor Retarders
07 26 00, 03 30 00

1. Product Name
Stego Term Bar

2. Manufacturer
Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description
USES: Stego Term Bar is a semi-flexible plastic termination bar used for mechanically securing Stego Wrap or other materials to concrete, masonry, or wood.
COMPOSITION: Stego Term Bar is made from post-industrial recycled PVC.

5. Installation
UNDER SLAB: Nail through Stego Term Bar and Stego Wrap to secure material as needed. If the beveled edge is facing the wall, a pocket/lip is created for mastic/sealant to be used if required. Pre-drilled nail holes are provided every 6 inches for ease of installation.

To cut Stego Term Bar, score with a utility knife or wire snips. Stego Term Bar can be bent back and forth and then broken at desired locations as well. Stego Term Bar is flexible enough to bend around corners and contours in the wall for easy installation.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost
Stego Term Bar is available nationally through our network of building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' Sales Representative.

7. Warranty
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance
Store above 60°F. Term Bar will become less flexible at lower temperatures.

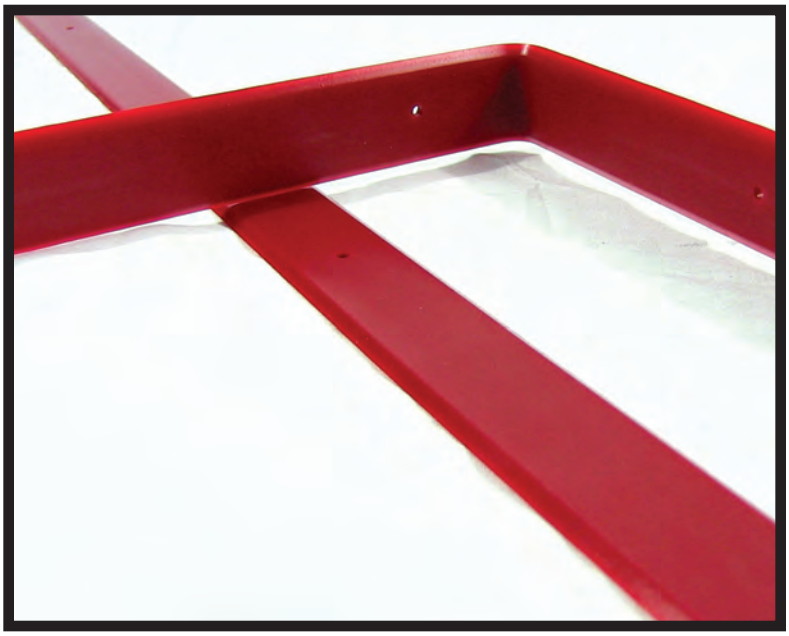
9. Technical Services
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or via the website. **www.stegoindustries.com**

10. Filing Systems
www.stegoindustries.com

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGO TERM BAR

PROPERTY	RESULTS
Dimensions	4 feet long, 1 1/8 inches wide
Color	Red
Material	Recycled PVC
Weight	4.7 oz. (132 grams)



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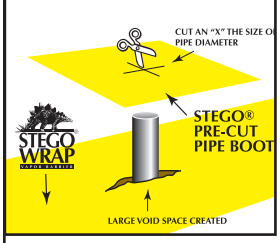
Stego® Pre-Cut Pipe Boots

STEGO INDUSTRIES, LLC



Vapor Retarders
07 26 00, 03 30 00

1. Product Name
Stego Pre-Cut Pipe Boots

2. Manufacturer
Stego Industries, LLC
216 Avenida Fabricante, Suite 101
San Clemente, CA 92672
Sales, Technical Assistance
Ph: (877) 464-7834
Fx: (949) 257-4113
www.stegoindustries.com

3. Product Description
USES: Stego Pre-Cut Pipe Boots are used to seal around permanent penetrations in Stego Wrap.
COMPOSITION: Stego Pre-Cut Pipe Boots are made from Stego Wrap Vapor Barrier (15-mil), and therefore are manufactured from only high grade prime, virgin, polyolefin resins.
SIZE: Stego Pre-Cut Pipe Boots are 18" by 18" and 15 mils thick. Stego Pre-Cut Pipe Boots ship 10 packs of 25 in a case (250 boots per case).

5. Installation
UNDER SLAB: Cut an "X" the size of the pipe diameter in the center of the Pre-Cut Pipe Boot and slide tightly over pipe. Tape all sides of the pipe boot with Stego Tape. Seal around the base of the pipe using Stego tape and/or Stego Mastic.

For additional information, please refer to Stego's complete installation instructions.

6. Availability & Cost
Stego Pre-Cut Pipe Boots are available nationally through our network of building supply distributors. For current cost information, contact your local Stego Wrap distributor or Stego Industries' Sales Representative.

7. Warranty
Stego Industries, LLC believes to the best of its knowledge, that specifications and recommendations herein are accurate and reliable. However, since site conditions are not within its control, Stego Industries does not guarantee results from the use of the information provided and disclaims all liability from any loss or damage. No warranty, express or implied, is given as to the merchantability, fitness for a particular purpose, or otherwise with respect to the products referred to.

8. Maintenance
None required.

9. Technical Services
Technical advice, custom CAD drawings, and additional information can be obtained by contacting Stego Industries' technical assistance department or via the website. **www.stegoindustries.com**

4. Technical Data

TABLE 1: PHYSICAL PROPERTIES OF STEGO PRE-CUT PIPE BOOTS

PROPERTY	TEST	RESULTS
Under Slab Vapor Retarders	ASTM E 1745 Class A, B & C – Standard Specification for Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs	Exceeds Class A, B & C
Water Vapor Permeance	ASTM F 1249 – Test Method for Water Vapor Transmission Rate Through Plastic Film and Sheeting Using a Modulated Infrared Sensor	0.0086 perms *0.0036 WVTR
Puncture Resistance	ASTM D 1709 – Test Methods for Impact Resistance of Plastic Film by Free-Falling Dart Method	2266 grams
Tensile Strength	ASTM D 882 – Test Method for Tensile Properties of Thin Plastic Sheeting	70.60 lbf/in.
Permeance After Conditioning (ASTM E 1745 Sections 7.1.2 - 7.1.5)	ASTM E 154 Section 8, F 1249 – Permeance after wetting, drying, and soaking ASTM E 154 Section 11, F 1249 – Permeance after heat conditioning ASTM E 154 Section 12, F 1249 – Permeance after low temperature conditioning ASTM E 154 Section 13, F 1249 – Permeance after soil organism exposure	0.0098 perms 0.0091 perms 0.0097 perms 0.0095 perms
Thickness	ACI 302.1R-04 – Minimum Thickness (10 mils)	15 mils
Pipe Boot Dimensions		18" x 18"

Note: perm unit = grains/(ft^2 *hr* in.Hg) * WVTR = Water Vapor Transmission Rate

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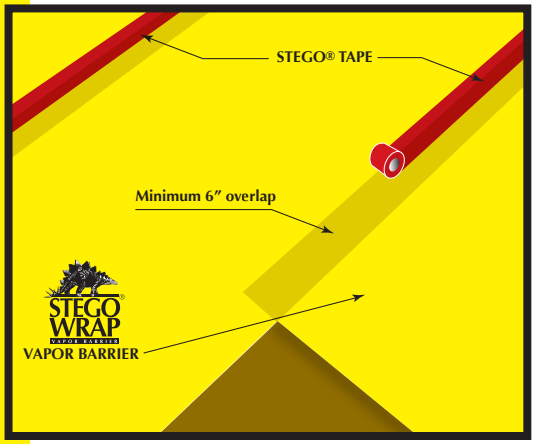
PART 1

STEGO WRAP VAPOR BARRIER/RETARDER INSTALLATION INSTRUCTIONS

IMPORTANT: Please read these installation instructions completely, prior to beginning any Stego Wrap installation. The following installation instructions are based on ASTM E 1643 - Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs. If project specifications call for compliance with ASTM E 1643, then be sure to review the specific installation sections outlined in the standard along with the techniques referenced in these instructions.

FIGURE 1: UNDER-SLAB INSTALLATION



UNDER-SLAB INSTRUCTIONS:

1. Stego Wrap can be installed over an aggregate, sand, or tamped earth base. It is not necessary to have a cushion layer or sand base, as Stego Wrap is tough enough to withstand rugged construction environments.
2. Unroll Stego Wrap over the area where the slab is to be placed. Stego Wrap should completely cover the concrete placement area. All joints/seams both lateral and butt should be overlapped a minimum of six inches and taped using Stego Tape.

NOTE: The area of adhesion should be free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive tape.

3. ASTM E 1643 requires sealing the perimeter of the slab. *Extend vapor retarder over footings and seal to foundation wall, grade beam, or slab at an elevation consistent with the top of the slab or terminate at impediments such as waterstops or dowels.* Consult the structural engineer of record before proceeding.

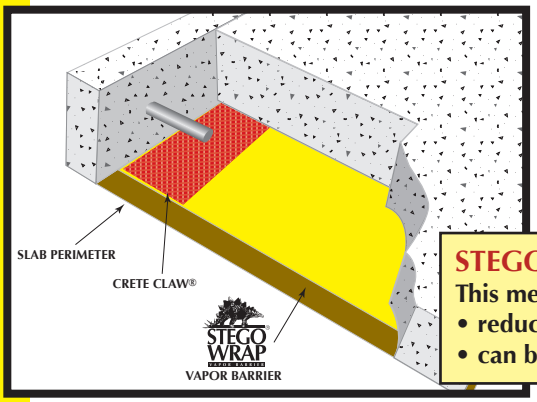
SEAL TO SLAB AT PERIMETER:*

NOTE: Clean the surface of Stego Wrap to ensure that the area of adhesion is free from dust, dirt, moisture, and frost to allow maximum adhesion of the pressure-sensitive adhesive.

a. Install Crete Claw® on the entire perimeter edge of Stego Wrap.

b. Prior to the placement of concrete, ensure that the top of Crete Claw is free of dirt, debris, or mud to maximize the bond to the concrete.

FIGURE 2a: SEAL TO SLAB AT PERIMETER

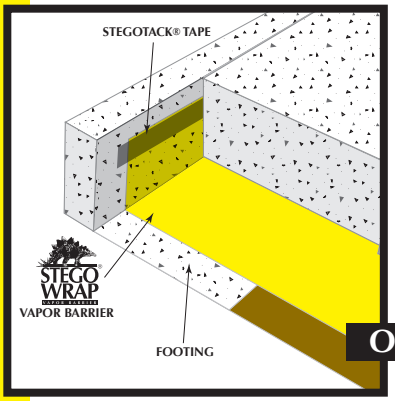


STEGO LABOR SAVER!

This method not only complies with ASTM E 1643, but it also:

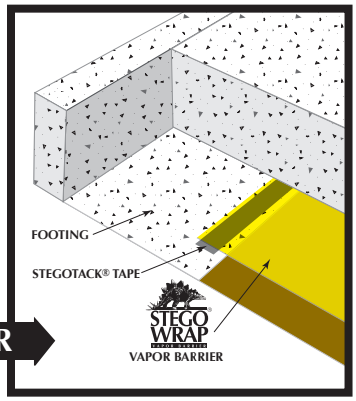
- **reduces labor compared to other perimeter sealing techniques.**
- **can be used even without an existing wall or footing, unlike alternatives.**

FIGURE 2b: SEAL TO PERIMETER WALL



OR

FIGURE 2c: SEAL TO FOOTING



OR SEAL TO PERIMETER WALL OR FOOTING WITH STEGOTACK® TAPE:*

a. Make sure area of adhesion is free of dust, dirt, debris, moisture, and frost to allow maximum adhesion.

b. Remove release liner on one side and stick to desired surface.

c. When ready to apply Stego Wrap, remove the exposed release liner and press Stego Wrap firmly against StegoTack Tape to secure.

* If ASTM E 1643 is specified, consult with project architect and structural engineer to determine which perimeter seal technique should be employed for the project.

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

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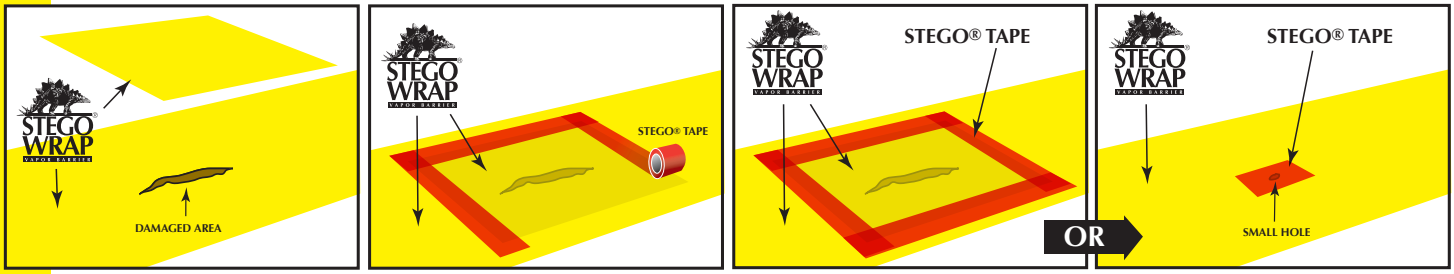
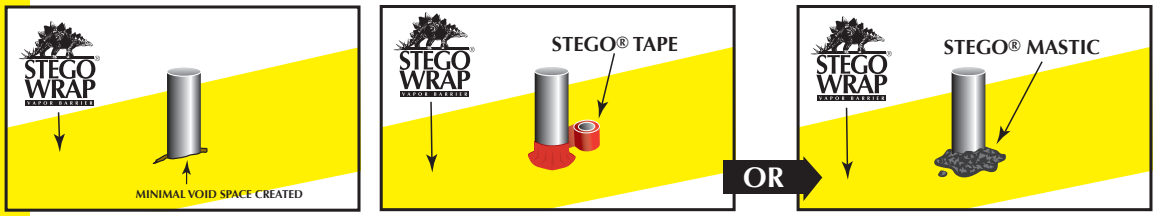
4. In the event that Stego Wrap is damaged during or after installation, repairs must be made. Stego Tape can be used to repair small holes in the material. For larger holes, cut a piece of Stego Wrap to a size and shape that covers any damage by a minimum overlap of six inches in all directions. Clean all adhesion areas of dust, dirt, moisture, and frost. Tape down all edges using Stego Tape (see figure 3, Sealing Damaged Areas).

FIGURE 3: SEALING DAMAGED AREAS



5. **IMPORTANT: ALL PENETRATIONS MUST BE SEALED.** All pipe, ducting, rebar, wire penetrations and block outs should be sealed using Stego Wrap, Stego Tape and/or Stego Mastic (see figure 4a, Pipe Penetration Sealing).

FIGURE 4a: PIPE PENETRATION SEALING



STEGO WRAP PIPE PENETRATION REPAIR DETAIL:

1: Install Stego Wrap around pipe penetrations by slitting/cutting material as needed. Try to minimize the void space created.

2: If Stego Wrap is close to pipe and void space is minimized then seal around pipe penetration with Stego Tape and/or Stego Mastic.

(See Figure 4a)

3: If detail patch is needed to minimize void space around penetration, then cut a detail patch to a size and shape that creates a six inch overlap on all edges around the void space at the base of the pipe. Stego Pre-Cut Pipe Boots are also available to speed up the installation.

4: Cut an "X" the size of the pipe diameter in the center of the pipe boot and slide tightly over pipe.

5: Tape down all sides of the pipe boot with Stego Tape.

6: Seal around the base of the pipe using Stego Tape and/or Stego Mastic.

(See Figure 4b)

FIGURE 4b: DETAIL PATCH FOR PIPE PENETRATION SEALING

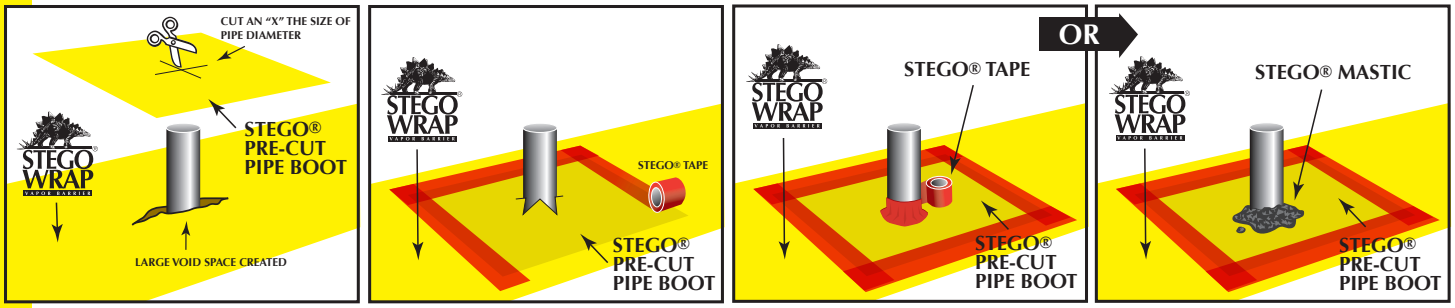
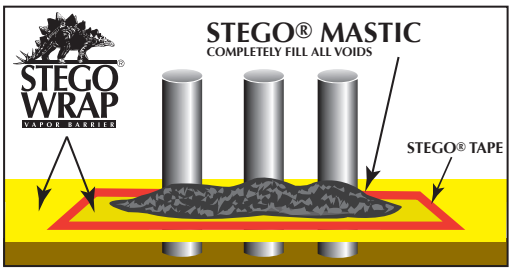


FIGURE 5: MULTIPLE PIPE PENETRATION SEALING



MULTIPLE PIPE PENETRATION SEALING:

Multiple pipe penetrations in close proximity and very small pipes may be sealed using Stego Wrap and Stego Mastic for ease of installation (see figure 5, Multiple Pipe Penetration Sealing).

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

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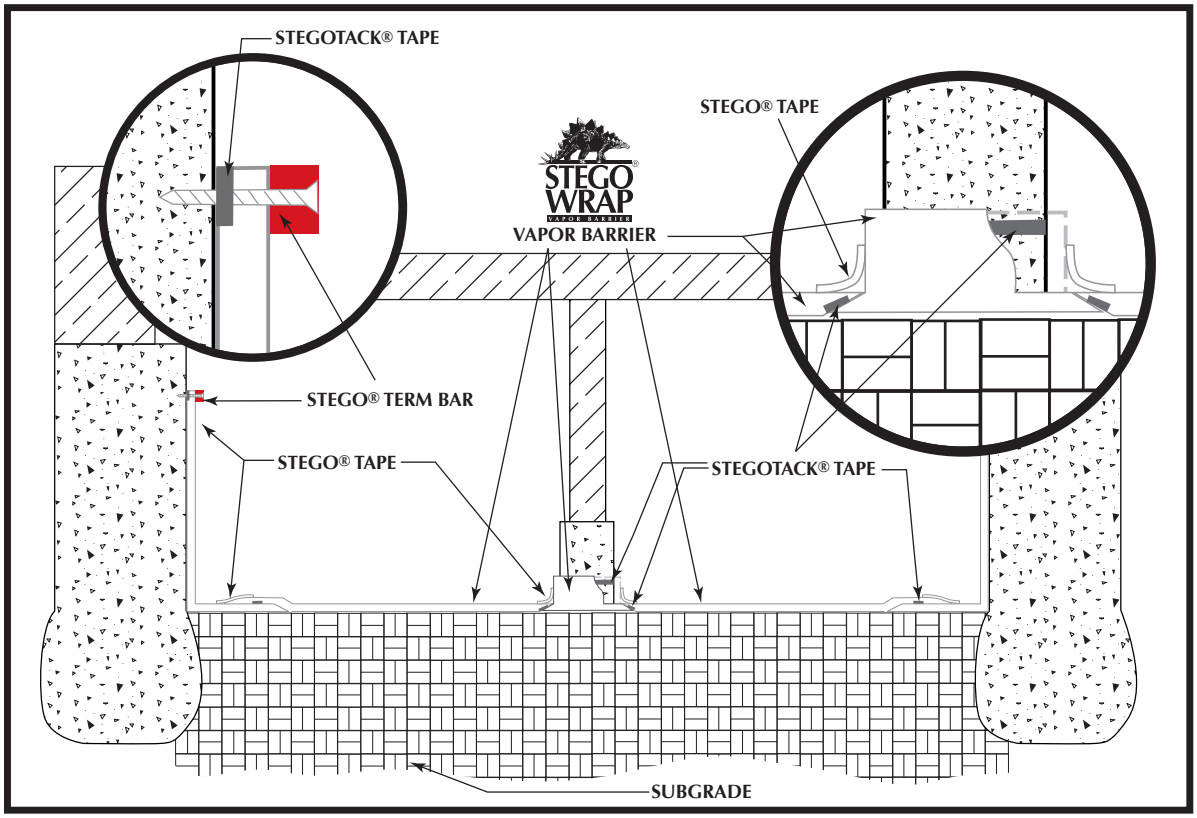
PART 2

STEGO WRAP VAPOR BARRIER/RETARDER INSTALLATION INSTRUCTIONS

CRAWL SPACE INSTALLATION INSTRUCTIONS:

1. Turn Stego Wrap up the foundation wall to a minimum height of six inches above the outside/exterior grade or in compliance with local building codes and terminate with Stego Term Bar. To form a complete seal, apply StegoTack Tape or a layer of Stego Mastic to the foundation wall prior to installing Stego Term Bar. Allow one hour for Stego Mastic to cure prior to installing Stego Term Bar.
2. Seal Stego Wrap around all penetrations and columns using Stego Tape, StegoTack Tape, and/or Stego Mastic.
3. Place Stego Wrap directly over the crawl space floor. If rigid insulation is to be used, install Stego Wrap prior to insulation (under insulation and between the foundation wall and insulation).
4. Overlap seams a minimum of six inches and seal with Stego Tape. Some codes require a minimum of a twelve inch overlap. Check appropriate codes prior to installation.

FIGURE 6: CRAWL SPACE INSTALLATION



NOTE: Stego Wrap Vapor Barrier and Stego Tape are both available in white (as shown in illustration above).

INSTALLATION TIP:

1. For a cleaner look and to prevent against tenting of Stego Wrap at the foundation wall/foundation floor intersection, consider mechanically fastening Stego Wrap to base of foundation wall in addition to the above mentioned wall termination.

NOTE: Stego Industries, LLC's ("Stego") installation instructions are based on ASTM E 1643 - *Standard Practice for Selection, Design, Installation, and Inspection of Water Vapor Retarders Used in Contact with Earth or Granular Fill Under Concrete Slabs.* These instructions are meant to be used as a guide, and do not take into account specific job site situations. Consult local building codes and regulations along with the building owner or owner's representative before proceeding. If you have any questions regarding the above mentioned installation instructions or Stego products, please call us at 877-464-7834 for technical assistance. While Stego employees and representatives may provide technical assistance regarding the utility of a specific installation practice or Stego product, they are not authorized to make final design decisions.

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APPENDIX F

CONSTRUCTION HEALTH AND SAFETY PLAN

Melrose Commons Site C – Supportive Housing

BRONX, NEW YORK

Construction Health and Safety Plan

AKRF Project Number: 11925

NYC VCP Project Number: 17CVCP003X

OER Project Number: 15ENOS474X

Prepared for:

NYSDEC
625 Broadway
Albany, NY 12233

On Behalf of:

Melrose Commons Supportive HDFC c/o The Bridge, Inc.
248 West 108th Street
New York, NY 10025

Prepared by:

AKRF, Inc.
440 Park Avenue South, 7th Floor
New York, NY 10016
212-696-0670

JULY 2016

TABLE OF CONTENTS

1.0 PURPOSE 1
2.0 APPLICABILITY 1
3.0 SITE DESCRIPTION 1
3.1 General Information 1
3.2 Hazard Potential 1
3.3 Hazard Evaluation 3
3.3.1 Hazards of Concern 3
3.3.2 Physical Characteristics 3
3.3.3 Hazardous Materials 4
3.3.4 Chemicals of Concern 4
4.0 HEALTH AND SAFETY OFFICER 5
5.0 TRAINING 5
6.0 GENERAL WORK PRACTICES 6
7.0 PERSONAL PROTECTIVE EQUIPMENT & AIR MONITORING 6
7.1 Personal Protective Equipment 6
7.2 Work Zone Air Monitoring 7
8.0 DECONTAMINATION PROCEDURES 8
8.1 Personnel Decontamination 8
8.2 Sampling Equipment Decontamination 8
8.3 Heavy Equipment Decontamination 9
9.0 EMERGENCY RESPONSE 9
9.1 Emergency Procedures 9
9.1.1 Chemical Exposure 9
9.1.2 Personal Injury 10
9.1.3 Evacuation Procedures 10
9.1.4 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency 10
9.1.5 Spill Response 11
9.2 Hospital Directions 11
9.3 CHASP Contact Information 12
10.0 APPROVAL & ACKNOWLEDGMENTS OF CHASP 13

FIGURES

Figure 1 – Project Site Location and Nearest Hospital

APPENDICES

Appendix A - Potential Health Effects from On-site Contaminants
Appendix B - West Nile Virus/St. Louis Encephalitis Prevention
Appendix B - Report Forms
Appendix C - Emergency Hand Signals

1.0 PURPOSE

This Construction Health and Safety Plan (CHASP) was prepared for 425 East 161st Street in the Bronx, NY ("the Site"). The legal definition of the Site is Tax Block 2383, Lot 39. A location map is provided as Figure 1.

The purpose of this CHASP is to assign responsibilities, establish personnel protection standards and mandatory safety practices and procedures, and provide for contingencies that may arise during construction at the Site. The CHASP is intended to minimize health and safety risks resulting from the known or potential presence of subsurface hazardous materials.

This plan is not designed to address geotechnical, mechanical or general construction safety concerns, nor to supersede or replace any OSHA regulation and/or local and state construction codes or regulations.

2.0 APPLICABILITY

Work subject to this CHASP includes all activities that disturb the existing soil on-site. The contractors and their subcontractors involved in the construction project will provide a copy of this CHASP to their employees whose work involves any potential exposure to on-site soil, and will complete all work in accordance with this CHASP.

3.0 SITE DESCRIPTION

3.1 General Information

The Site is an approximately 6,097 square foot area consisting of a vacant lot currently used for construction equipment storage. The surface topography of the Site is generally level. Based on reports compiled by the U.S. Geological Survey (Central Park Quadrangle), the Site lies at an elevation of approximately 28 feet above the National Geodetic Vertical Datum (NGVD) of 1929 (an approximation of mean sea level).

Soil at the Site generally consists of sand, silt, and gravel with varying amounts of wood, coal, brick, and ash. Assumed bedrock was encountered during AKRF's subsurface investigation in June 2014 between 12.5 and 15 feet below grade. Groundwater was not encountered above assumed bedrock. Groundwater beneath the Site is expected to flow in a southerly direction towards the Harlem River. However, groundwater flow direction can be affected by many factors including subsurface openings or obstructions such as basements, underground utilities, bedrock geology, tidal fluctuations, and other factors. Groundwater in the Bronx is not used as a source of potable water.

A map showing the Site location is provided as Figure 1.

3.2 Hazard Potential

The hazard potential was evaluated based on the findings of the *Phase I Environmental Site Assessment, Melrose Commons Urban Renewal Area, Site C, Bronx, NY, Environmental Health Investigations, Inc., February 2011 and Subsurface (Phase II) Investigation, Tax Block 2383, Lot 39, Bronx, NY, AKRF, Inc., October 2014*.

Environmental Health Investigations, Inc. (EHI) performed a Phase I Environmental Site Assessment (ESA) in February 2011 in accordance with ASTM Standard E1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Practice. A summary of the assessment findings is presented below:

- The lots were previously occupied by multi-story residences with basements. It is likely that storage tanks were located on the property for the storage of heating oil.
- The surrounding area was historically mixed-use and included: a gasoline station, auto repair facilities, and a paint store south of the Site on East 161st Street; a dry cleaner west of the Site on East 161st Street; and a Brownfield Cleanup Program site south of the Site across East 161st Street.
- The potential exists for building materials from former on-site structures and debris to be within the historical fill. Based on the age of the former structures, these materials could contain lead-based paint and suspect asbestos-containing material (ACM).
- The lots are 'E'-designated for Noise.

Based on the Phase I ESA findings, AKRF prepared and submitted a Subsurface Investigation (Phase II) Work plan and Health and Safety Plan (HASP) to the NYCDEP. It was recommended that the subsurface (Phase II) investigation include the collection and laboratory analysis of subsurface (soil, soil vapor, and groundwater) samples. The Work plan was approved by NYCDEP in May 2014,

AKRF conducted a Phase II investigation at the Site in June 2014. The Phase II investigation included the advancement of three borings with the collection and analysis of six soil samples, the installation of two soil vapor points with the collection of a sub-slab vapor sample from each, and the collection of one ambient air sample. A ground penetrating radar (GPR) survey was conducted by Enviroprobe Services, Inc. of Moorestown, NJ prior to advancement of the borings.

- Subsurface materials consisted of sand, silt, and gravel with varying amounts of wood, coal, brick, and ash. Assumed bedrock was encountered between 12.5 and 15 feet below grade. Groundwater was not encountered above bedrock.
- The GPR survey identified an approximately 7-foot by 8.5-foot anomaly consistent with an underground storage tank (UST) or buried aboveground storage tank (AST) on the northern portion of Lot 39.
- No VOCs or PCBs were detected in the soil samples exceeding the applicable Unrestricted Use Soil Cleanup Objectives (USCOs) or Restricted Residential Soil Cleanup Objectives (RRSCOs). Six SVOCs [benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, and indeno(1,2,3-cd)pyrene] were detected in at least one of the soil samples at concentrations exceeding their respective USCOs and RRSCOs. Benzo(k)fluoranthene in soil samples SB-1(0-2') and SB-2 (0-2') and chrysene is soil sample SB-3(0-2') were also detected in at least one of the soil samples exceeding respective USCOs, but below RRSCOs. Four pesticides (4,4'-DDD, 4,4'-DDE, 4,4'-DDT, and dieldrin) were detected at concentrations exceeding respective USCOs, but below respective RRSCOs in three of the six soil samples. Four metals (copper, lead, mercury, and zinc) were detected in most of the soil samples at concentrations exceeding respective USCOs but below RRSCOs. Barium and lead were detected in soil samples SB-1(0-2') and SB-2(0-2') at concentrations exceeding respective USCOs and RRSCOs. The detected SVOCs are generally polycyclic aromatic hydrocarbons (PAHs); a class of compounds found in coal tar,

coal ash, and other combustion products (as well as some petroleum products and rubber) and commonly found in historic fill. Ash was found in each of the soil borings advanced during the investigation. Therefore, the PAH concentrations are most likely attributable to fill material in the soil and are not attributable to a spill or release at the Site. In addition, based on the distribution and levels detected, the pesticide and metal detections are likely attributable to the fill material.

- Up to 25 VOCs were detected in the soil vapor samples. None of the VOCs with established AGVs were detected above their respective guidelines. Nonetheless, AKRF understands that a vapor barrier will be installed beneath the entire new building to prevent the potential intrusion of any subsurface vapors.

3.3 Hazard Evaluation

The most likely routes of exposure are breathing of volatile and semi-volatile compounds or particulate-laden air released during soil disturbing activities, dermal contact, and accidental ingestion. Appendix A includes specific health effects from chemicals present or potentially present on-site. Although some of the chemicals of concern listed in the sections below were not detected during the subsurface investigation, they are included here as a precaution. The remaining sections of this CHASP address procedures (including training, air monitoring, work practices and emergency response) to reduce the potential for unnecessary and unacceptable exposure to these contaminants.

The potential adverse health effects from these detected contaminants are diverse. Many of these compounds are known or suspected to result in chronic illness from long-term exposures. However, due to the limited nature of the proposed construction, only acute effects are a potential concern.

This CHASP addresses potential environmental hazards from the presence of hazardous materials. It is not intended to address the normal hazards of construction work, which are separately covered by OSHA regulations and/or local and state construction codes and regulations.

3.3.1 Hazards of Concern

Check all that apply		
(×) Organic Chemicals	(×) Inorganic Chemicals	( ) Radiological
( ) Biological	( ) Explosive/Flammable	( ) Oxygen Deficient Atm.
(×) Heat Stress	(×) Cold Stress	( ) Other
Comments: No personnel are permitted to enter permit confined spaces		

3.3.2 Physical Characteristics

Check all that apply		
(×) Liquid	(×) Solid	( ) Sludge
(×) Vapors	( ) Unknown	( ) Other

Comments:

3.3.3 Hazardous Materials

Check all that apply					
Chemicals	**Solids**	**Sludges**	**Solvents**	**Oils**	**Other**
( ) Acids	( ) Ash	( ) Paints	(x) Halogens	( ) Transformer	( ) Lab
( ) Caustics	( ) Asbestos	( ) Metals	(x) Petroleum	( ) Other DF	( ) Pharm.
(x) Pesticides	( ) Tailings	( ) POTW	( ) Other	( ) Motor or Hydraulic Oil	( ) Hospital
(x) Petroleum	(x) Other: Fill Material	( ) Other – Tars & Other NAPL		( ) Gasoline	( ) Rad.
( ) Inks				( ) Fuel Oil	( ) MGP
(x) PCBs					( ) Mold
(x) Metals					( ) Cyanide
(x) Other: VOCs, SVOCs					

3.3.4 Chemicals of Concern

Chemicals	**REL/PEL/STEL (ppm)**	**Health Hazards**
Benzene	REL = 0.1 ppm PEL = 1 ppm STEL = 5 ppm	Irritation eyes, skin, nose, respiratory system; dizziness; headache, nausea, staggered gait; anorexia, lassitude, dermatitis; bone marrow depression, potential occupational carcinogen.
Copper	REL = 1 mg/m^3 PEL = 1 mg/m^3	Irritation eyes, nose, pharynx; nasal septum perforation; metallic taste; dermatitis; in animals: lung, liver, kidney damage; anemia
DDT/DDE (pesticides)	REL = 0.5 mg/m^3 PEL = 1 mg/m^3 [skin]	Irritation eyes, skin; paresthesia tongue, lips, face; tremor; anxiety, dizziness, confusion, malaise (vague feeling of discomfort), headache, lassitude (weakness, exhaustion); convulsions; paresis hands; vomiting; potential carcinogen
Toluene	REL = 100 ppm PEL = 200 ppm STEL = 300 ppm	Irritation eyes, nose; lassitude, confusion, euphoria, dizziness, headache; dilated pupils, lacrimation (discharge of tears); anxiety, muscle fatigue, insomnia; paresthesia; dermatitis; liver, kidney damage.
Ethylbenzene	REL = 100 ppm PEL = 100 ppm	Irritation eyes, skin, mucous membrane; headache; dermatitis; narcosis, coma.
Xylenes	REL = 100 ppm PEL = 100 ppm	Irritation eyes, skin, nose, throat; dizziness, excitement, drowsiness, poor coordination, staggering gait; corneal vacuolization; anorexia, nausea, vomiting, abdominal pain; dermatitis.
Lead	REL = 0.1 mg/m^3 PEL = 0.05 mg/m^3	Weakness, lassitude, insomnia; facial pallor, pale eye, anorexia, low-weight, malnutrition, constipation, abdominal pain, colic; anemia; gingival lead line; tremors, paralysis wrists and ankles; encephalopathy; kidney disease; irritation eyes; hypotension.

Chemicals	REL/PEL/STEL (ppm)	Health Hazards
Polycyclic Aromatic Hydrocarbons (PAHs)	PEL = 5 mg/m^3	Harmful effects to skin, bodily fluids, and ability to fight disease, reproductive problems; [potential occupational carcinogen]
Mercury	REL = 0.05 mg/m^3 PEL = 0.1 mg/m^3	Irritation eyes, skin; cough, chest pain, dyspnea (breathing difficulty), bronchitis, pneumonitis; tremor, insomnia, irritability, indecision, headache, lassitude (weakness, exhaustion); stomatitis, salivation; gastrointestinal disturbance, anorexia, weight loss; proteinuria
Barium	PEL = 0.5 mg/m^3 REL = 0.5 mg/m^3	Irritation eyes, skin, upper respiratory system; skin burns; gastroenteritis; muscle spasm; slow pulse, extrasystoles; hypokalemia
Comments: REL = National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit PEL = OSHA Permissible Exposure Limit STEL = OSHA Short Term Exposure Limit		

4.0 HEALTH AND SAFETY OFFICER

The contractor or engineer will designate one of its personnel as the Site Safety Officer (SSO). The SSO will be a competent person responsible for the implementation of this plan. The SSO will have completed a 40-hour training course (updated by an annual refresher) that meets OSHA requirements of 29 CFR Part 1910, Occupational Safety and Health Standards. The SSO has stop-work authorization, which he/she will execute on his/her determination of an imminent safety hazard, emergency situation, or other potentially dangerous situation. If the SSO must be absent from the Site, he/she will designate a suitably qualified replacement that is familiar with the CHASP.

5.0 TRAINING

All those who enter the work area while intrusive activities are being performed must recognize and understand the potential hazards to health and safety. All construction personnel upon entering the Site must attend a brief training meeting, its purpose being to:

- Make workers aware of the potential hazards they may encounter;
- Instruct workers on how to identify potential hazards,
- Provide the knowledge and skills necessary for them to perform the work with minimal risk to health and safety;
- Make workers aware of the purpose and limitations of safety equipment; and
- Ensure that they can safely avoid or escape from emergencies.

Each member of the construction crew will be instructed in these objectives before he/she goes onto the Site. Construction personnel will be responsible for identifying potential hazards in the work zone. The SSO or other suitably trained individual will be responsible for conducting the training program. Others who enter the Site must be accompanied by a suitably-trained construction worker.

6.0 GENERAL WORK PRACTICES

To protect the health and safety of the field personnel, all field personnel will adhere to the guidelines listed below during activities involving subsurface disturbance in contaminated areas.

- Eating, drinking, chewing gum or tobacco, and smoking are prohibited, except in designated areas on the Site. These areas will be designated by the SSO.
- Workers must wash their hands and face thoroughly on leaving the work area and before eating, drinking, or any other such activity. The workers should shower as soon as possible after leaving the Site.
- Contact with contaminated or suspected surfaces should be avoided.
- The buddy system should always be used; each buddy should watch for signs of fatigue, exposure, and heat stress.

7.0 PERSONAL PROTECTIVE EQUIPMENT & AIR MONITORING

7.1 Personal Protective Equipment

The personal protection equipment required for various kinds of site investigation tasks are based on 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, Appendix B, "General Description and Discussion of the Levels of Protection and Protective Gear."

During the implementation of air monitoring, if deemed appropriate by the SSO, site personnel will wear, at a minimum, Level D personal protective equipment. The protection will be based on the air monitoring described in Section 7.2.

Level of Protection Summary

LEVEL OF PROTECTION & PPE		**1 – Excavation**	**2 – Other Earth Moving Activities**
Level D (×) Steel Toe Shoes (×) Hard Hat (×) Work Gloves	(×) Safety Glasses ( ) Face Shield (×) Ear Plugs (within 25 ft of excavator) (×) Latex Gloves	Yes	Yes
Level D – Modified ***(in addition to Level D)*** (×) Tyvek Coveralls	(×) Nitrile Gloves ( ) Overboots ( ) Saranex Coveralls	As Necessary	As Necessary

LEVEL OF PROTECTION & PPE		**1 – Excavation**	**2 – Other Earth Moving Activities**
Level C *(in addition to Level D – Modified)* (×) Half-Face Respirator & (×) Safety Glasses OR (×) Full Face Respirator ( ) Full-Face PAPR	( ) Particulate Cartridge ( ) Organic Cartridge (×) Dual Organic/ Particulate Cartridge	If PID > 10 ppm (breathing zone)	If PID > 10 ppm (breathing zone)
Comments: Cartridges to be changed out at least once per shift unless warranted beforehand (e.g., more difficult to breathe or any odors detected). PID = Photoionization Detector ppm = Parts Per Million			

7.2 Work Zone Air Monitoring

Monitoring with a particulate air monitor will be conducted during excavation and other earth moving activities only in the event that contamination is encountered. Real time air monitoring will be performed with a photoionization detector (PID) during sampling and excavation work in areas where petroleum or other volatile organic compounds are detected. Measurements would be taken prior to commencement of work and continuously during the work as outlined in the following table. Measurements will be made as close to the workers as practicable and at the breathing height of the workers. The SSO will set up the equipment and confirm that it is working properly. His/her designee may oversee the air measurements during the day. The initial measurement for the day will be performed before the start of work and will establish the background level for that day. The final measurement for the day will be performed after the end of work. The action levels and required responses are listed in the following table:

Action Levels and Required Safety Response Actions

Instrument	**Task to be Monitored**	**Action Level**	**Response Action**
PID (Minirae 2000 or equivalent)	Excavation activities disturbing contaminated soil	Less than 10 ppm in breathing zone.	Level D or D-Modified
		Between 10 and 20 ppm	Level C
		More than 20 ppm	Stop work. Resume work when readings are less than 20 ppm.
Particulate monitor (MIE 1000 Personal DataRam or equivalent)	Excavation activities disturbing contaminated soil	Less than 5 $\mu g/m^3$	Level D
		Between 5 $\mu g/m^3$ and 150 $\mu g/m^3$	Level C. Apply dust suppression measures. If < 2.5 $\mu g/m^3$, resume work using Level D. Otherwise, use Level C.

Instrument	Task to be Monitored	Action Level	Response Action
		Above 150 µg/m^3	Stop work. Apply additional dust suppression measures. Resume work when less than 150 µg/m^3.

Notes: PID = Photoionization Detector ppm = Parts Per Million, µg/m^3= micrograms per cubic meter

Field personnel will be trained in the proper operation of all field instruments at the start of the field program. Instruction manuals for the equipment will be on file at the Site for referencing proper operation, maintenance and calibration procedures.

The equipment will be calibrated according to manufacturer specifications at the start of each day of fieldwork. If an instrument fails calibration, the project manager will be contacted immediately to obtain a replacement instrument and arrange for repairs. A calibration log will be maintained to record the date of each calibration, any failure to calibrate and corrective actions taken. The PID will be calibrated each day using 100 parts per million (ppm) isobutylene standard gas.

8.0 DECONTAMINATION PROCEDURES

8.1 Personnel Decontamination

Personnel decontamination (decon), if deemed necessary by the SSO, will take place in a designated decontamination area. This area will be delineated during each stage of work. Personnel decontamination will consist of the following steps:

- Soap and potable water wash and potable water rinse of gloves;
- Coverall removal (if applicable);
- Glove removal;
- Disposable clothing removal; and
- Field wash of hands and face.

8.2 Sampling Equipment Decontamination

Any non-disposable sampling equipment for confirmatory sampling or other equipment that is in contact with contaminated materials will be decontaminated in accordance with the following procedure:

- Double wash with solution of Simple Green® and clean tap water;
- Double rinse with clean tap water;
- Rinse with clean distilled water; and
- Allow equipment to air dry.

8.3 Heavy Equipment Decontamination

If heavy equipment comes in contact with contaminated materials, it will be decontaminated prior to being relocated to a clean area or leaving the Site. A designated decontamination pad will be constructed, where soil, dust, or oil will be washed off the exterior, undercarriage, and wheels or tracks of the equipment. Wash water will be collected for treatment and/or disposal.

9.0 EMERGENCY RESPONSE

9.1 Emergency Procedures

In the event that an emergency develops at the Site, the procedures delineated herein are to be immediately followed. Emergency conditions are considered to exist if:

- Any member of the field crew is involved in an accident or experiences any adverse effects or symptoms of exposure while on-site.
- A condition is discovered that suggests the existence of a situation creating a higher health hazard than anticipated.
- A spill of oil or other hazardous materials.

General emergency procedures and specific procedures for personal injury and chemical exposure are described below. In the event of an accident or emergency, an Incident Report form should be filled out and placed in the project file. An example Incident Report form is provided in Appendix B. Information on emergency hand signals is provided in Appendix C.

9.1.1 Chemical Exposure

If a member of the field crew demonstrates symptoms of chemical exposure the procedures outlined below should be followed:

- Another team member (buddy) should remove the individual from the immediate area of contamination. The buddy should communicate to the SSO (via voice and hand signals) of the chemical exposure. The SSO should contact the appropriate emergency response agency.
- Precautions should be taken to avoid exposure of other individuals to the chemical.
- If the chemical is on the individual's clothing, the chemical should be neutralized or removed if it is safe to do so.
- If the chemical has contacted the skin, the skin should be washed with copious amounts of water.
- In case of eye contact, an emergency eye wash should be used. Eyes should be washed for at least 15 minutes.
- All chemical exposure incidents must be reported in writing to the Project Manager. The SSO is responsible for completing the Incident Report Form.

9.1.2 Personal Injury

In case of personal injury at the Site, the following procedures should be followed:

- Another team member (buddy) should signal the SSO that an injury has occurred.
- A field team member trained in first aid can administer treatment to an injured worker.
- If deemed necessary, the victim should then be transported to the nearest hospital or medical center. If necessary, an ambulance should be called to transport the victim.
- The SSO is responsible for making certain that an Incident Report Form is completed. This form is to be submitted to the AKRF Health and Safety Officer. Follow-up action should be taken to correct the situation that caused the accident.
- Any incident (near miss, Site damage, first aid, medical treatment, etc.) must be reported.

A first-aid kit, eye-wash, and blood-borne pathogens kit will be kept on-site during the field activities.

9.1.3 Evacuation Procedures

- The SSO will initiate evacuation procedures by signaling to leave the Site or containment structure.
- All personnel in the work area should evacuate the area and meet in the common designated area.
- All personnel suspected to be in or near the contract work area should be accounted for and the whereabouts or missing persons determined immediately.
- The SSO will then give further instruction.

9.1.4 Procedures Implemented in the Event of a Major Fire, Explosion, or Emergency

- Notify the paramedics and/or fire department, as necessary;
- Signal the evacuation procedure previously outlined and implement the entire procedure;
- Isolate the area;
- Stay upwind of any fire;
- Keep the area surrounding the problem source clear after the incident occurs; and
- Complete accident report for and distribute to appropriate personnel.

9.1.5 Spill Response

All personnel must take every precaution to minimize the potential for spills during Site operations. Any spill will be reported immediately to the SSO. The SSO will then determine and report any required spills to the NYCDEP and/or NYSDEC Hotlines. Spill control apparatus (sorbent materials) will be located on-site. All materials used for the cleanup of spills will be containerized and labeled separately from other wastes. The SSO, in consultation with the Project Manager, will determine if additional spill response measures are required.

9.2 Hospital Directions

The **Lincoln Medical Center** is located at 234 East 149th Street, Bronx, NY 10451, as shown on Figure 2.

Hospital Information and Directions

Hospital Name:	Lincoln Medical Center
Phone Number:	718-579-5000
Address/Location:	234 East 149th Street, Bronx, NY 10451
Directions:	1. Head *west* on E 161st St. toward Melrose Ave. 2. Turn *left* onto Melrose Ave. 3. Turn *right* onto E 149th St. 4. Lincoln Medical Center will be on the *left.*

9.3 CHASP Contact Information

AKRF Project Manager – Deborah Shapiro ..... (646) 388-9544 (office)

Site Safety Officer (SSO) – Shira Clement ..... (646) 388-9864 (office)
(610) 405-2847 (cell)

AKRF Project Manager Alternate – Michelle Lapin..... (646) 388-9520 (office)

Site Safety Officer (SSO) Alternate – Drew Lewis ..... (646) 388-9549 (office)

Project Representative – Carole Gordon, The Bridge, Inc..... (212) 663-3000 x378 (office)

Ambulance, Fire and Police Departments 911

Local Poison Control..... (212) 764-7667
pm/weekend (212) 340-4494

NYSDEC Spill Response Team ..... (800) 457-7362

NYCDEP Hotline ..... (718) DEP-HELP

10.0 APPROVAL & ACKNOWLEDGMENTS OF CHASP

APPROVAL

Signed: _____ Date: _____

Project Manager

Signed: _____ Date: _____

Health and Safety Officer

Below is an affidavit that must be signed by all workers who enter the Site. A copy of the CHASP must be on-site at all times and will be kept by the SSO.

AFFIDAVIT

I, _____ (name), of _____ (company name), have read the Construction Health and Safety Plan (CHASP) for Tax Block 2383, Lot 39 in the Bronx, New York. I agree to conduct all on-site work in accordance with the requirements set forth in this CHASP and understand that failure to comply with this CHASP could lead to my removal from the Site(s).

Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
Signed: _____ Company: _____ Date: _____
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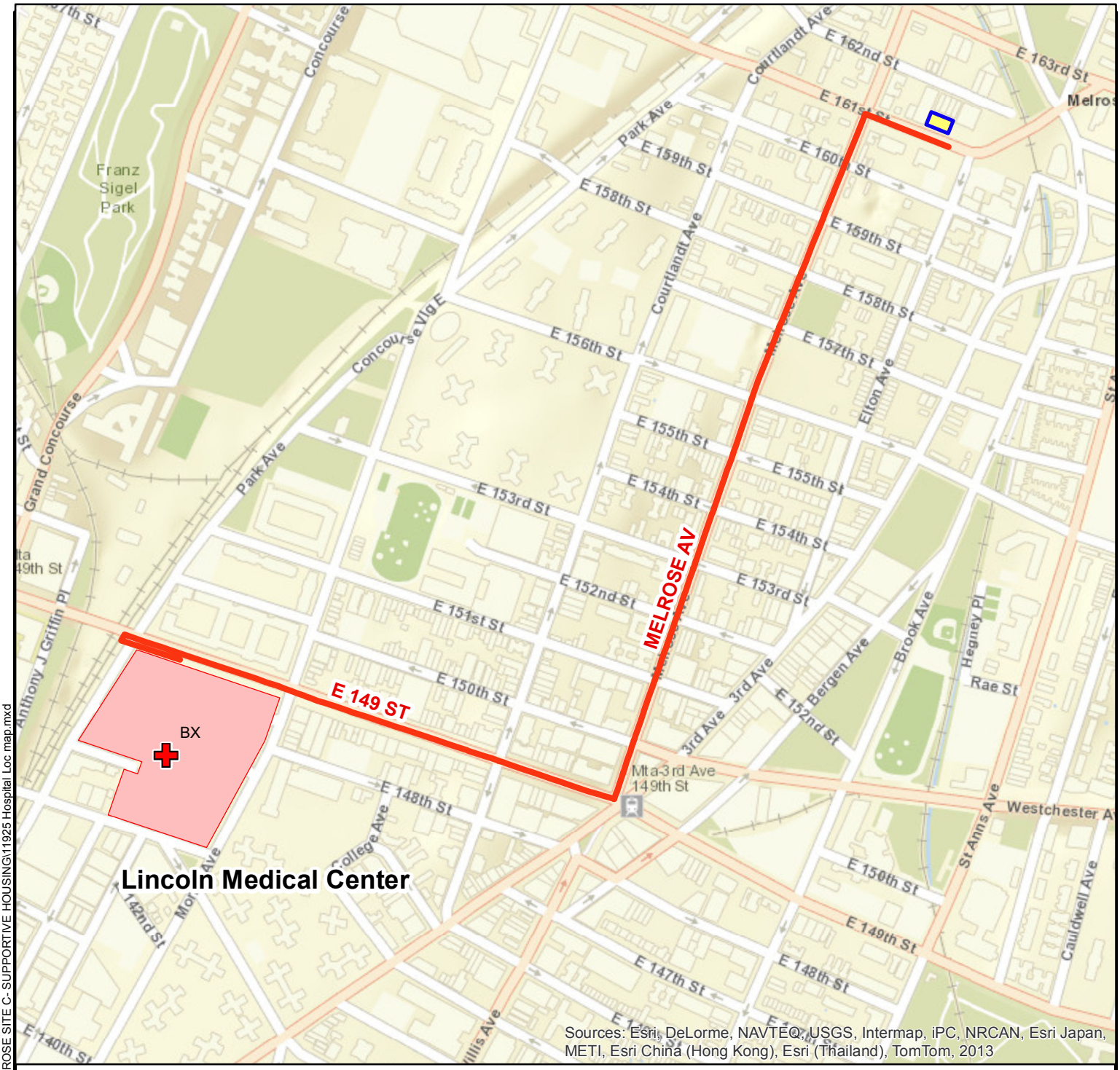
FIGURES



Legend

- Route to Hospital
- Project Site Location
- Hospital Location

0 500 1,000 Feet

Lincoln Medical Center
234 Eugenio Maria De Hostos Blvd (East 149th Street)
Bronx, New York 10451
(Between Park and Morris Avenues)

Melrose Commons Site C - Supportive
425 and 429 East 161st, Bronx, New York

HOSPITAL LOCATION MAP

AKRF
Environmental Consultants
440 Park Avenue South, New York, N.Y. 10016

DATE
3/21/2014

PROJECT No.
11925

FIGURE
1

© 2013 AKRF, Inc. Environmental Consultants O:\Projects\11925 - MELROSE SITE C- SUPPORTIVE HOUSING\11925 Hospital Loc map.mxd

APPENDIX A

POTENTIAL HEALTH EFFECTS FROM ON-SITE CONTAMINANTS

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ETHYLBENZENE

CAS # 100-41-4

Division of Toxicology and Environmental Medicine ToxFAQs™ September 2007

This fact sheet answers the most frequently asked health questions (FAQs) about ethylbenzene. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Ethylbenzene is a colorless liquid found in a number of products including gasoline and paints. Breathing very high levels can cause dizziness and throat and eye irritation. Breathing lower levels has resulted in hearing effects and kidney damage in animals. Ethylbenzene has been found in at least 829 of 1,689 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is ethylbenzene?

Ethylbenzene is a colorless, flammable liquid that smells like gasoline.
It is naturally found in coal tar and petroleum and is also found in manufactured products such as inks, pesticides, and paints.
Ethylbenzene is used primarily to make another chemical, styrene. Other uses include as a solvent, in fuels, and to make other chemicals.

What happens to ethylbenzene when it enters the environment?

❏ Ethylbenzene moves easily into the air from water and soil.
❏ It takes about 3 days for ethylbenzene to be broken down in air into other chemicals.
❏ In surface water, ethylbenzene breaks down by reacting with other chemicals found naturally in water.
❏ Ethylbenzene can move through soil into groundwater
❏ In soil, it is broken down by bacteria.

How might I be exposed to ethylbenzene?

❏ If you live in a city or near many factories or heavily traveled highways, you may be exposed to ethylbenzene in air.
❏ Releases of ethylbenzene into the air occur from burning oil, gas, and coal and from industries using ethylbenzene.
❏ Ethylbenzene is not often found in drinking water. Higher levels may be found in residential drinking water wells near landfills, waste sites, or leaking underground fuel storage tanks.
❏ Working in an industry where ethylbenzene is used or made.
❏ Using products containing it, such as gasoline, carpet glues, varnishes, and paints.

How can ethylbenzene affect my health?

Exposure to high levels of ethylbenzene in air for short periods can cause eye and throat irritation. Exposure to higher levels can result in dizziness.
Irreversible damage to the inner ear and hearing has been observed in animals exposed to relatively low concentrations of ethylbenzene for several days to weeks.
Exposure to relatively low concentrations of ethylbenzene in air for several months to years causes kidney damage in animals.

How likely is ethylbenzene to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that ethylbenzene is a possible human carcinogen.

How can ethylbenzene affect children?

There are no studies evaluating the effects of ethylbenzene exposure on children or immature animals. It is likely that children would have the same health effects as adults. We do not know whether children would be more sensitive than adults to the effects of ethylbenzene.

We do not know if ethylbenzene will cause birth defects in humans. Minor birth defects and low birth weight have occurred in newborn animals whose mothers were exposed to ethylbenzene in air during pregnancy.

How can families reduce the risks of exposure to ethylbenzene?

❏ Use adequate ventilation to reduce exposure to ethylbenzene vapors from consumer products such as gasoline, pesticides, varnishes and paints, and newly installed carpeting.

❏ Sometimes older children sniff household chemicals, including ethylbenzene, in an attempt to get high. Talk with your children about the dangers of sniffing chemicals.

❏ Household chemicals should be stored out of reach of children to prevent accidental poisoning. Always store household chemicals in their original containers; never store them in containers that children would find attractive to eat or drink from, such as old soda bottles. Gasoline should be stored in a gasoline can with a locked cap.

Is there a medical test to determine whether I've been exposed to ethylbenzene?

Ethylbenzene is found in the blood, urine, breath, and some body tissues of exposed people. The most common way to test for ethylbenzene is in the urine. This test measures substances formed by the breakdown of ethylbenzene. Because these substances leave the body very quickly, this test needs to be done within a few hours after exposure occurs.

These tests can show you were exposed to ethylbenzene, but cannot predict the kind of health effects that might occur.

Has the federal government made recommendations to protect human health?

The EPA has determined that exposure to ethylbenzene in drinking water at concentrations of 30 ppm for 1 day or 3 ppm for 10 days is not expected to cause any adverse effects in a child.

The EPA has determined that lifetime exposure to 0.7 ppm ethylbenzene is not expected to cause any adverse effects.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to an average of 100 ppm for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Ethylbenzene (Draft for Public Comment). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

ATSDR
AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

ARSENIC
CAS # 7440-38-2

Division of Toxicology ToxFAQs™ December 2003

This fact sheet answers the most frequently asked health questions (FAQs) about arsenic. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to higher than average levels of arsenic occurs mostly in the workplace, near hazardous waste sites, or in areas with high natural levels. At high levels, inorganic arsenic can cause death. Exposure to lower levels for a long time can cause a discoloration of the skin and the appearance of small corns or warts. Arsenic has been found at 1,014 of the 1,598 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is arsenic?

Arsenic is a naturally occurring element widely distributed in the earth's crust. In the environment, arsenic is combined with oxygen, chlorine, and sulfur to form inorganic arsenic compounds. Arsenic in animals and plants combines with carbon and hydrogen to form organic arsenic compounds.

Inorganic arsenic compounds are mainly used to preserve wood. Organic arsenic compounds are used as pesticides, primarily on cotton plants.

What happens to arsenic when it enters the environment?

- ❑ Arsenic cannot be destroyed in the environment. It can only change its form.
- ❑ Arsenic in air will settle to the ground or is washed out of the air by rain.
- ❑ Many arsenic compounds can dissolve in water.
- ❑ Fish and shellfish can accumulate arsenic, but the arsenic in fish is mostly in a form that is not harmful.

How might I be exposed to arsenic?

- ❑ Eating food, drinking water, or breathing air containing arsenic.
- ❑ Breathing contaminated workplace air.
- ❑ Breathing sawdust or burning smoke from wood treated with arsenic.
- ❑ Living near uncontrolled hazardous waste sites containing arsenic.
- ❑ Living in areas with unusually high natural levels of arsenic in rock.

How can arsenic affect my health?

Breathing high levels of inorganic arsenic can give you a sore throat or irritated lungs. Ingesting high levels of inorganic arsenic can result in death. Lower levels of arsenic can cause nausea and vomiting, decreased production of red and white blood cells, abnormal heart rhythm, damage to blood vessels, and a sensation of "pins and needles" in hands and feet.

Ingesting or breathing low levels of inorganic arsenic for a long time can cause a darkening of the skin and the

appearance of small "corns" or "warts" on the palms, soles, and torso.

Skin contact with inorganic arsenic may cause redness and swelling.

Organic arsenic compounds are less toxic than inorganic arsenic compounds. Exposure to high levels of some organic arsenic compounds may cause similar effects as inorganic arsenic.

How likely is arsenic to cause cancer?

Several studies have shown that inorganic arsenic can increase the risk of lung cancer, skin cancer, bladder cancer, liver cancer, kidney cancer, and prostate cancer. The World Health Organization (WHO), the Department of Health and Human Services (DHHS), and the EPA have determined that inorganic arsenic is a human carcinogen.

How can arsenic affect children?

We do not know if exposure to arsenic will result in birth defects or other developmental effects in people. Birth defects have been observed in animals exposed to inorganic arsenic.

It is likely that health effects seen in children exposed to high amounts of arsenic will be similar to the effects seen in adults.

How can families reduce the risk of exposure to arsenic?

❑ If you use arsenic-treated wood in home projects, you should wear dust masks, gloves, and protective clothing to decrease exposure to sawdust.
❑ If you live in an area with high levels of arsenic in water or soil, you should use cleaner sources of water and limit contact with soil.

Is there a medical test to show whether I've been exposed to arsenic?

There are tests to measure the level of arsenic in blood, urine, hair, or fingernails. The urine test is the most reliable test for arsenic exposure within the last few days. Tests on hair and fingernails can measure exposure to high levels or arsenic over the past 6-12 months. These tests can determine if you have been exposed to above-average levels of arsenic. They cannot predict how the arsenic levels in your body will affect your health.

Has the federal government made recommendations to protect human health?

EPA has set limits on the amount of arsenic that industrial sources can release to the environment and has restricted or canceled many uses of arsenic in pesticides. EPA has set a limit of 0.01 parts per million (ppm) for arsenic in drinking water.

The Occupational Safety and Health Administration has set limits of 10 μg arsenic per cubic meter of workplace air (10 $\mu g/m^3$) for 8 hour shifts and 40 hour work weeks.

Source of Information

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for Arsenic. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

BENZENE
CAS # 71-43-2

Agency for Toxic Substances and Disease Registry ToxFAQs September 1997

This fact sheet answers the most frequently asked health questions (FAQs) about benzene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Benzene is a widely used chemical formed from both natural processes and human activities. Breathing benzene can cause drowsiness, dizziness, and unconsciousness; long-term benzene exposure causes effects on the bone marrow and can cause anemia and leukemia. Benzene has been found in at least 813 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is benzene?

(Pronounced bĕn′zēn′)

Benzene is a colorless liquid with a sweet odor. It evaporates into the air very quickly and dissolves slightly in water. It is highly flammable and is formed from both natural processes and human activities.

Benzene is widely used in the United States; it ranks in the top 20 chemicals for production volume. Some industries use benzene to make other chemicals which are used to make plastics, resins, and nylon and synthetic fibers. Benzene is also used to make some types of rubbers, lubricants, dyes, detergents, drugs, and pesticides. Natural sources of benzene include volcanoes and forest fires. Benzene is also a natural part of crude oil, gasoline, and cigarette smoke.

What happens to benzene when it enters the environment?

- Industrial processes are the main source of benzene in the environment.
- Benzene can pass into the air from water and soil.
- It reacts with other chemicals in the air and breaks down within a few days.
- Benzene in the air can attach to rain or snow and be carried back down to the ground.
- It breaks down more slowly in water and soil, and can pass through the soil into underground water.
- Benzene does not build up in plants or animals.

How might I be exposed to benzene?

- Outdoor air contains low levels of benzene from tobacco smoke, automobile service stations, exhaust from motor vehicles, and industrial emissions.
- Indoor air generally contains higher levels of benzene from products that contain it such as glues, paints, furniture wax, and detergents.
- Air around hazardous waste sites or gas stations will contain higher levels of benzene.
- Leakage from underground storage tanks or from hazardous waste sites containing benzene can result in benzene contamination of well water.
- People working in industries that make or use benzene may be exposed to the highest levels of it.
- A major source of benzene exposures is tobacco smoke.

How can benzene affect my health?

Breathing very high levels of benzene can result in death, while high levels can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion, and unconsciousness. Eating or drinking foods containing high levels of benzene can cause vomiting, irritation of the stomach, dizziness, sleepiness, convulsions, rapid heart rate, and death.

The major effect of benzene from long-term (365 days or longer) exposure is on the blood. Benzene causes harmful effects on the bone marrow and can cause a decrease in red blood cells leading to anemia. It can also cause excessive bleeding and can affect the immune system, increasing the chance for infection.

Some women who breathed high levels of benzene for many months had irregular menstrual periods and a decrease in the size of their ovaries. It is not known whether benzene exposure affects the developing fetus in pregnant women or fertility in men.

Animal studies have shown low birth weights, delayed bone formation, and bone marrow damage when pregnant animals breathed benzene.

How likely is benzene to cause cancer?

The Department of Health and Human Services (DHHS) has determined that benzene is a known human carcinogen. Long-term exposure to high levels of benzene in the air can cause leukemia, cancer of the blood-forming organs.

Is there a medical test to show whether I've been exposed to benzene?

Several tests can show if you have been exposed to benzene. There is test for measuring benzene in the breath; this test must be done shortly after exposure. Benzene can also be measured in the blood, however, since benzene disappears rapidly from the blood, measurements are accurate only for recent exposures.

In the body, benzene is converted to products called metabolites. Certain metabolites can be measured in the urine. However, this test must be done shortly after exposure and is not a reliable indicator of how much benzene you have been exposed to, since the metabolites may be present in urine from other sources.

Has the federal government made recommendations to protect human health?

The EPA has set the maximum permissible level of benzene in drinking water at 0.005 milligrams per liter (0.005 mgL). The EPA requires that spills or accidental releases into the environment of 10 pounds or more of benzene be reported to the EPA.

The Occupational Safety and Health Administration (OSHA) has set a permissible exposure limit of 1 part of benzene per million parts of air (1 ppm) in the workplace during an 8-hour workday, 40-hour workweek.

Glossary

Anemia: A decreased ability of the blood to transport oxygen.

Carcinogen: A substance with the ability to cause cancer.

CAS: Chemical Abstracts Service.

Chromosomes: Parts of the cells responsible for the development of hereditary characteristics.

Metabolites: Breakdown products of chemicals.

Milligram (mg): One thousandth of a gram.

Pesticide: A substance that kills pests.

References

This ToxFAQs information is taken from the 1997 Toxicological Profile for Benzene (update) produced by the Agency for Toxic Substances and Disease Registry, Public Health Service, U.S. Department of Health and Human Services, Public Health Service in Atlanta, GA.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-498-0093. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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ETHYLBENZENE

CAS # 100-41-4

Division of Toxicology and Environmental Medicine ToxFAQs™ September 2007

This fact sheet answers the most frequently asked health questions (FAQs) about ethylbenzene. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Ethylbenzene is a colorless liquid found in a number of products including gasoline and paints. Breathing very high levels can cause dizziness and throat and eye irritation. Breathing lower levels has resulted in hearing effects and kidney damage in animals. Ethylbenzene has been found in at least 829 of 1,689 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is ethylbenzene?

Ethylbenzene is a colorless, flammable liquid that smells like gasoline.
It is naturally found in coal tar and petroleum and is also found in manufactured products such as inks, pesticides, and paints.
Ethylbenzene is used primarily to make another chemical, styrene. Other uses include as a solvent, in fuels, and to make other chemicals.

What happens to ethylbenzene when it enters the environment?

❏ Ethylbenzene moves easily into the air from water and soil.
❏ It takes about 3 days for ethylbenzene to be broken down in air into other chemicals.
❏ In surface water, ethylbenzene breaks down by reacting with other chemicals found naturally in water.
❏ Ethylbenzene can move through soil into groundwater
❏ In soil, it is broken down by bacteria.

How might I be exposed to ethylbenzene?

❏ If you live in a city or near many factories or heavily traveled highways, you may be exposed to ethylbenzene in air.
❏ Releases of ethylbenzene into the air occur from burning oil, gas, and coal and from industries using ethylbenzene.
❏ Ethylbenzene is not often found in drinking water. Higher levels may be found in residential drinking water wells near landfills, waste sites, or leaking underground fuel storage tanks.
❏ Working in an industry where ethylbenzene is used or made.
❏ Using products containing it, such as gasoline, carpet glues, varnishes, and paints.

How can ethylbenzene affect my health?

Exposure to high levels of ethylbenzene in air for short periods can cause eye and throat irritation. Exposure to higher levels can result in dizziness.
Irreversible damage to the inner ear and hearing has been observed in animals exposed to relatively low concentrations of ethylbenzene for several days to weeks.
Exposure to relatively low concentrations of ethylbenzene in air for several months to years causes kidney damage in animals.

How likely is ethylbenzene to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that ethylbenzene is a possible human carcinogen.

How can ethylbenzene affect children?

There are no studies evaluating the effects of ethylbenzene exposure on children or immature animals. It is likely that children would have the same health effects as adults. We do not know whether children would be more sensitive than adults to the effects of ethylbenzene.

We do not know if ethylbenzene will cause birth defects in humans. Minor birth defects and low birth weight have occurred in newborn animals whose mothers were exposed to ethylbenzene in air during pregnancy.

How can families reduce the risks of exposure to ethylbenzene?

❏ Use adequate ventilation to reduce exposure to ethylbenzene vapors from consumer products such as gasoline, pesticides, varnishes and paints, and newly installed carpeting.

❏ Sometimes older children sniff household chemicals, including ethylbenzene, in an attempt to get high. Talk with your children about the dangers of sniffing chemicals.

❏ Household chemicals should be stored out of reach of children to prevent accidental poisoning. Always store household chemicals in their original containers; never store them in containers that children would find attractive to eat or drink from, such as old soda bottles. Gasoline should be stored in a gasoline can with a locked cap.

Is there a medical test to determine whether I've been exposed to ethylbenzene?

Ethylbenzene is found in the blood, urine, breath, and some body tissues of exposed people. The most common way to test for ethylbenzene is in the urine. This test measures substances formed by the breakdown of ethylbenzene. Because these substances leave the body very quickly, this test needs to be done within a few hours after exposure occurs.

These tests can show you were exposed to ethylbenzene, but cannot predict the kind of health effects that might occur.

Has the federal government made recommendations to protect human health?

The EPA has determined that exposure to ethylbenzene in drinking water at concentrations of 30 ppm for 1 day or 3 ppm for 10 days is not expected to cause any adverse effects in a child.

The EPA has determined that lifetime exposure to 0.7 ppm ethylbenzene is not expected to cause any adverse effects.

The Occupational Health and Safety Administration (OSHA) has limited workers' exposure to an average of 100 ppm for an 8-hour workday, 40-hour workweek.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for Ethylbenzene (Draft for Public Comment). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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TOLUENE
CAS # 108-88-3

Division of Toxicology ToxFAQs™ February 2001

This fact sheet answers the most frequently asked health questions (FAQs) about toluene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to toluene occurs from breathing contaminated workplace air, in automobile exhaust, some consumer products paints, paint thinners, fingernail polish, lacquers, and adhesives. Toluene affects the nervous system. Toluene has been found at 959 of the 1,591 National Priority List sites identified by the Environmental Protection Agency

What is toluene?

Toluene is a clear, colorless liquid with a distinctive smell. Toluene occurs naturally in crude oil and in the tolu tree. It is also produced in the process of making gasoline and other fuels from crude oil and making coke from coal.

Toluene is used in making paints, paint thinners, fingernail polish, lacquers, adhesives, and rubber and in some printing and leather tanning processes.

What happens to toluene when it enters the environment?

❏ Toluene enters the environment when you use materials that contain it. It can also enter surface water and groundwater from spills of solvents and petrolieum products as well as from leasking underground storage tanks at gasoline stations and other facilities.

❏ When toluene-containing products are placed in landfills or waste disposal sites, the toluene can enter the soil or water near the waste site.

❏ Toluene does not usually stay in the environment long.

❏ Toluene does not concentrate or buildup to high levels in animals.

How might I be exposed to toluene?

❏ Breathing contaminated workplace air or automobile exhaust.

❏ Working with gasoline, kerosene, heating oil, paints, and lacquers.

❏ Drinking contaminated well-water.

❏ Living near uncontrolled hazardous waste sites containing toluene products.

How can toluene affect my health?

Toluene may affect the nervous system. Low to moderate levles can cause tiredness, confusion, weakness, drunken-type actions, memory loss, nausea, loss of appetite, and

hearing and color vision loss. These symptoms usually disappear when exposure is stopped.

Inhaling High levels of toluene in a short time can make you feel light-headed, dizzy, or sleepy. It can also cause unconsciousness, and even death.

High levels of toluene may affect your kidneys.

How likely is toluene to cause cancer?

Studies in humans and animals generally indicate that toluene does not cause cancer.

The EPA has determined that the carcinogenicity of toluene can not be classified.

How can toluene affect children?

It is likely that health effects seen in children exposed to toluene will be similar to the effects seen in adults. Some studies in animals suggest that babies may be more sensitive than adults.

Breathing very high levels of toluene during pregnancy can result in children with birth defects and retard mental abilities, and growth. We do not know if toluene harms the unborn child if the mother is exposed to low levels of toluene during pregnancy.

How can families reduce the risk of exposure to toluene?

❑ Use toluene-containing products in well-ventilated areas.

❑ When not in use, toluene-containing products should be tightly covered to prevent evaporation into the air.

Is there a medical test to show whether I've been exposed to toluene?

There are tests to measure the level of toluene or its breakdown products in exhaled air, urine, and blood. To determine if you have been exposed to toluene, your urine or blood must be checked within 12 hours of exposure. Several other chemicals are also changed into the same breakdown products as toluene, so some of these tests are not specific for toluene.

Has the federal government made recommendations to protect human health?

EPA has set a limit of 1 milligram per liter of drinking water (1 mg/L).

Discharges, releases, or spills of more than 1,000 pounds of toluene must be reported to the National Response Center.

The Occupational Safety and Health Administration has set a limit of 200 parts toluene per million of workplace air (200 ppm).

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological Profile for Toluene. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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DDT, DDE, AND DDD

CAS # 50-29-3, 72-55-9, 72-54-8

Division of Toxicology ToxFAQs™ September 2002

This fact sheet answers the most frequently asked health questions (FAQs) about DDT, DDE, and DDD. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to DDT, DDE, and DDD occurs mostly from eating foods containing small amounts of these compounds, particularly meat, fish and poultry. High levels of DDT can affect the nervous system causing excitability, tremors and seizures. In women, DDE can cause a reduction in the duration of lactation and an increased chance of having a premature baby. DDT, DDE, and DDD have been found in at least 441 of the 1,613 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are DDT, DDE, and DDD?

DDT (dichlorodiphenyltrichloroethane) is a pesticide once widely used to control insects in agriculture and insects that carry diseases such as malaria. DDT is a white, crystalline solid with no odor or taste. Its use in the U.S. was banned in 1972 because of damage to wildlife, but is still used in some countries.

DDE (dichlorodiphenyldichloroethylene) and DDD (dichlorodiphenyldichloroethane) are chemicals similar to DDT that contaminate commercial DDT preparations. DDE has no commercial use. DDD was also used to kill pests, but its use has also been banned. One form of DDD has been used medically to treat cancer of the adrenal gland.

What happens to DDT, DDE, and DDD when they enter the environment?

❑ DDT entered the environment when it was used as a pesticide; it still enters the environment due to current use in other countries.

❑ DDE enters the environment as contaminant or breakdown product of DDT; DDD also enters the environment as a breakdown product of DDT.

❑ DDT, DDE, and DDD in air are rapidly broken down by sunlight. Half of what's in air breaks down within 2 days.

❑ They stick strongly to soil; most DDT in soil is broken down slowly to DDE and DDD by microorganisms; half the DDT in soil will break down in 2-15 years, depending on the type of soil.

❑ Only a small amount will go through the soil into groundwater; they do not dissolve easily in water.

❑ DDT, and especially DDE, build up in plants and in fatty tissues of fish, birds, and other animals.

How might I be exposed to DDT, DDE, and DDD?

❑ Eating contaminated foods, such as root and leafy vegetables, fatty meat, fish, and poultry, but levels are very low.

❑ Eating contaminated imported foods from countries that still allow the use of DDT to control pests.

❑ Breathing contaminated air or drinking contaminated water near waste sites and landfills that may contain higher levels of these chemicals.

❑ Infants fed on breast milk from mothers who have been exposed.

❑ Breathing or swallowing soil particles near waste sites or landfills that contain these chemicals.

How can DDT, DDE, and DDD affect my health?

DDT affects the nervous system. People who accidentally swallowed large amounts of DDT became excitable and had tremors and seizures. These effects went away after the exposure stopped. No effects were seen in people who took small daily doses of DDT by capsule for 18 months.

A study in humans showed that women who had high amounts of a form of DDE in their breast milk were unable to

breast feed their babies for as long as women who had little DDE in the breast milk. Another study in humans showed that women who had high amounts of DDE in breast milk had an increased chance of having premature babies.
In animals, short-term exposure to large amounts of DDT in food affected the nervous system, while long-term exposure to smaller amounts affected the liver. Also in animals, short-term oral exposure to small amounts of DDT or its breakdown products may also have harmful effects on reproduction.

How likely are DDT, DDE, and DDD to cause cancer?

Studies in DDT-exposed workers did not show increases in cancer. Studies in animals given DDT with the food have shown that DDT can cause liver cancer.
The Department of Health and Human Services (DHHS) determined that DDT may reasonable be anticipated to be a human carcinogen. The International Agency for Research on Cancer (IARC) determined that DDT may possibly cause cancer in humans. The EPA determined that DDT, DDE, and DDD are probable human carcinogens.

How can DDT, DDE, and DDD affect children?

There are no studies on the health effects of children exposed to DDT, DDE, or DDD. We can assume that children exposed to large amounts of DDT will have health effects similar to the effects seen in adults. However, we do not know whether children differ from adults in their susceptibility to these substances.
There is no evidence that DDT, DDE, or DDD cause birth defects in people. A study showed that teenage boys whose mothers had higher DDE amounts in the blood when they were pregnant were taller than those whose mothers had lower DDE levels. However, a different study found the opposite in preteen girls. The reason for the discrepancy between these studies is unknown.
Studies in rats have shown that DDT and DDE can mimic the action of natural hormones and in this way affect the development of the reproductive and nervous systems. Puberty was delayed in male rats given high amounts of DDE as juveniles. This could possibly happen in humans.
A study in mice showed that exposure to DDT during the first weeks of life may cause neurobehavioral problems later in life.

How can families reduce the risk of exposure to DDT,DDE, and DDE?

❑ Most families will be exposed to DDT by eating food or drinking liquids contaminated with small amounts of DDT.
❑ Cooking will reduce the amount of DDT in fish.
❑ Washing fruit and vegetables will remove most DDT from their surface.
❑ Follow health advisories that tell you about consumption of fish and wildlife caught in contaminated areas.

Is there a medical test to show whether I've been exposed to DDT, DDE, and DDD?

Laboratory tests can detect DDT, DDE, and DDD in fat, blood, urine, semen, and breast milk. These tests may show low, moderate, or excessive exposure to these compounds, but cannot tell the exact amount you were exposed to, or whether you will experience adverse effects. These tests are not routinely available at the doctor's office because they require special equipment.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) sets a limit of 1 milligram of DDT per cubic meter of air (1 mg/m^3) in the workplace for an 8-hour shift, 40-hour workweek.
The Food and Drug Administration (FDA) has set limits for DDT, DDE, and DDD in foodstuff at or above which the agency will take legal action to remove the products from the market.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2002. Toxicological Profile for DDT/DDE/DDD (Update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

XYLENE
CAS # 1330-20-7

Agency for Toxic Substances and Disease Registry ToxFAQs September 1996

This fact sheet answers the most frequently asked health questions (FAQs) about xylene. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to xylene occurs in the workplace and when you use paint, gasoline, paint thinners and other products that contain it. People who breathe high levels may have dizziness, confusion, and a change in their sense of balance. This substance has been found in at least 658 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What is xylene?

(Pronounced zī′lēn)

Xylene is a colorless, sweet-smelling liquid that catches on fire easily. It occurs naturally in petroleum and coal tar and is formed during forest fires. You can smell xylene in air at 0.08–3.7 parts of xylene per million parts of air (ppm) and begin to taste it in water at 0.53–1.8 ppm.

Chemical industries produce xylene from petroleum. It's one of the top 30 chemicals produced in the United States in terms of volume.

Xylene is used as a solvent and in the printing, rubber, and leather industries. It is also used as a cleaning agent, a thinner for paint, and in paints and varnishes. It is found in small amounts in airplane fuel and gasoline.

What happens to xylene when it enters the environment?

- Xylene has been found in waste sites and landfills when discarded as used solvent, or in varnish, paint, or paint thinners.
- It evaporates quickly from the soil and surface water into the air.
- In the air, it is broken down by sunlight into other less harmful chemicals.
- It is broken down by microorganisms in soil and water.
- Only a small amount of it builds up in fish, shellfish, plants, and animals living in xylene-contaminated water.

How might I be exposed to xylene?

- Breathing xylene in workplace air or in automobile exhaust.
- Breathing contaminated air.
- Touching gasoline, paint, paint removers, varnish, shellac, and rust preventatives that contain it.
- Breathing cigarette smoke that has small amounts of xylene in it.
- Drinking contaminated water or breathing air near waste sites and landfills that contain xylene.
- The amount of xylene in food is likely to be low.

How can xylene affect my health?

Xylene affects the brain. High levels from exposure for short periods (14 days or less) or long periods (more than 1 year) can cause headaches, lack of muscle coordination, dizziness, confusion, and changes in one's sense of balance. Exposure of

people to high levels of xylene for short periods can also cause irritation of the skin, eyes, nose, and throat; difficulty in breathing; problems with the lungs; delayed reaction time; memory difficulties; stomach discomfort; and possibly changes in the liver and kidneys. It can cause unconsciousness and even death at very high levels.

Studies of unborn animals indicate that high concentrations of xylene may cause increased numbers of deaths, and delayed growth and development. In many instances, these same concentrations also cause damage to the mothers. We do not know if xylene harms the unborn child if the mother is exposed to low levels of xylene during pregnancy.

How likely is xylene to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that xylene is not classifiable as to its carcinogenicity in humans.

Human and animal studies have not shown xylene to be carcinogenic, but these studies are not conclusive and do not provide enough information to conclude that xylene does not cause cancer.

Is there a medical test to show whether I've been exposed to xylene?

Laboratory tests can detect xylene or its breakdown products in exhaled air, blood, or urine. There is a high degree of agreement between the levels of exposure to xylene and the levels of xylene breakdown products in the urine. However, a urine sample must be provided very soon after exposure ends because xylene quickly leaves the body. These tests are not routinely available at your doctor's office.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 10 ppm of xylene in drinking water.

The EPA requires that spills or accidental releases of xylenes into the environment of 1,000 pounds or more must be reported.

The Occupational Safety and Health Administration (OSHA) has set a maximum level of 100 ppm xylene in workplace air for an 8-hour workday, 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) and the American Conference of Governmental Industrial Hygienists (ACGIH) also recommend exposure limits of 100 ppm in workplace air.

NIOSH has recommended that 900 ppm of xylene be considered immediately dangerous to life or health. This is the exposure level of a chemical that is likely to cause permanent health problems or death.

Glossary

Evaporate: To change from a liquid into a vapor or a gas.

Carcinogenic: Having the ability to cause cancer.

CAS: Chemical Abstracts Service.

ppm: Parts per million.

Solvent: A liquid that can dissolve other substances.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for xylenes (update). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone:1-888-422-8737, FAX: 404-498-0093. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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MERCURY
CAS # 7439-97-6

Agency for Toxic Substances and Disease Registry ToxFAQs April 1999

This fact sheet answers the most frequently asked health questions (FAQs) about mercury. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to mercury occurs from breathing contaminated air, ingesting contaminated water and food, and having dental and medical treatments. Mercury, at high levels, may damage the brain, kidneys, and developing fetus. This chemical has been found in at least 714 of 1,467 National Priorities List sites identified by the Environmental Protection Agency.

What is mercury?
(Pronounced mŭr′kyə-rē)

Mercury is a naturally occurring metal which has several forms. The metallic mercury is a shiny, silver-white, odorless liquid. If heated, it is a colorless, odorless gas.

Mercury combines with other elements, such as chlorine, sulfur, or oxygen, to form inorganic mercury compounds or "salts," which are usually white powders or crystals. Mercury also combines with carbon to make organic mercury compounds. The most common one, methylmercury, is produced mainly by microscopic organisms in the water and soil. More mercury in the environment can increase the amounts of methylmercury that these small organisms make.

Metallic mercury is used to produce chlorine gas and caustic soda, and is also used in thermometers, dental fillings, and batteries. Mercury salts are sometimes used in skin lightening creams and as antiseptic creams and ointments.

What happens to mercury when it enters the environment?

- Inorganic mercury (metallic mercury and inorganic mercury compounds) enters the air from mining ore deposits, burning coal and waste, and from manufacturing plants.
- It enters the water or soil from natural deposits, disposal of wastes, and volcanic activity.
- Methylmercury may be formed in water and soil by small organisms called bacteria.
- Methylmercury builds up in the tissues of fish. Larger and older fish tend to have the highest levels of mercury.

How might I be exposed to mercury?

- Eating fish or shellfish contaminated with methylmercury.
- Breathing vapors in air from spills, incinerators, and industries that burn mercury-containing fuels.
- Release of mercury from dental work and medical treatments.
- Breathing contaminated workplace air or skin contact during use in the workplace (dental, health services, chemical, and other industries that use mercury).
- Practicing rituals that include mercury.

How can mercury affect my health?

The nervous system is very sensitive to all forms of mercury. Methylmercury and metallic mercury vapors are more harmful than other forms, because more mercury in these forms reaches the brain. Exposure to high levels of metallic, inorganic, or organic mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning may result in irritability, shyness, tremors, changes in vision or hearing, and memory problems.

Short-term exposure to high levels of metallic mercury vapors may cause effects including lung damage, nausea,

vomiting, diarrhea, increases in blood pressure or heart rate, skin rashes, and eye irritation.

How likely is mercury to cause cancer?

There are inadequate human cancer data available for all forms of mercury. Mercuric chloride has caused increases in several types of tumors in rats and mice, and methylmercury has caused kidney tumors in male mice. The EPA has determined that mercuric chloride and methylmercury are possible human carcinogens.

How can mercury affect children?

Very young children are more sensitive to mercury than adults. Mercury in the mother's body passes to the fetus and may accumulate there. It can also can pass to a nursing infant through breast milk. However, the benefits of breast feeding may be greater than the possible adverse effects of mercury in breast milk.

Mercury's harmful effects that may be passed from the mother to the fetus include brain damage, mental retardation, incoordination, blindness, seizures, and inability to speak. Children poisoned by mercury may develop problems of their nervous and digestive systems, and kidney damage.

How can families reduce the risk of exposure to mercury?

Carefully handle and dispose of products that contain mercury, such as thermometers or fluorescent light bulbs. Do not vacuum up spilled mercury, because it will vaporize and increase exposure. If a large amount of mercury has been spilled, contact your health department. Teach children not to play with shiny, silver liquids.

Properly dispose of older medicines that contain mercury. Keep all mercury-containing medicines away from children.

Pregnant women and children should keep away from rooms where liquid mercury has been used.

Learn about wildlife and fish advisories in your area from your public health or natural resources department.

Is there a medical test to show whether I've been exposed to mercury?

Tests are available to measure mercury levels in the body. Blood or urine samples are used to test for exposure to metallic mercury and to inorganic forms of mercury. Mercury in whole blood or in scalp hair is measured to determine exposure to methylmercury. Your doctor can take samples and send them to a testing laboratory.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 2 parts of mercury per billion parts of drinking water (2 ppb).

The Food and Drug Administration (FDA) has set a maximum permissible level of 1 part of methylmercury in a million parts of seafood (1 ppm).

The Occupational Safety and Health Administration (OSHA) has set limits of 0.1 milligram of organic mercury per cubic meter of workplace air (0.1 mg/m^3) and 0.05 mg/m^3 of metallic mercury vapor for 8-hour shifts and 40-hour work weeks.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1999. Toxicological profile for mercury. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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POLYCHLORINATED BIPHENYLS

Division of Toxicology ToxFAQs™ February 2001

This fact sheet answers the most frequently asked health questions (FAQs) about polychlorinated biphenyls. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Polychlorinated biphenyls (PCBs) are a mixture of individual chemicals which are no longer produced in the United States, but are still found in the environment. Health effects that have been associated with exposure to PCBs include acne-like skin conditions in adults and neurobehavioral and immunological changes in children. PCBs are known to cause cancer in animals. PCBs have been found in at least 500 of the 1,598 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are polychlorinated biphenyls?

Polychlorinated biphenyls are mixtures of up to 209 individual chlorinated compounds (known as congeners). There are no known natural sources of PCBs. PCBs are either oily liquids or solids that are colorless to light yellow. Some PCBs can exist as a vapor in air. PCBs have no known smell or taste. Many commercial PCB mixtures are known in the U.S. by the trade name Aroclor.

PCBs have been used as coolants and lubricants in transformers, capacitors, and other electrical equipment because they don't burn easily and are good insulators. The manufacture of PCBs was stopped in the U.S. in 1977 because of evidence they build up in the environment and can cause harmful health effects. Products made before 1977 that may contain PCBs include old fluorescent lighting fixtures and electrical devices containing PCB capacitors, and old microscope and hydraulic oils.

What happens to PCBs when they enter the environment?

❏ PCBs entered the air, water, and soil during their manufacture, use, and disposal; from accidental spills and leaks during their transport; and from leaks or fires in products containing PCBs.

❏ PCBs can still be released to the environment from hazardous waste sites; illegal or improper disposal of industrial wastes and consumer products; leaks from old electrical transformers containing PCBs; and burning of some wastes in incinerators.

❏ PCBs do not readily break down in the environment and thus may remain there for very long periods of time. PCBs can travel long distances in the air and be deposited in areas far away from where they were released. In water, a small amount of PCBs may remain dissolved, but most stick to organic particles and bottom sediments. PCBs also bind strongly to soil.

❏ PCBs are taken up by small organisms and fish in water. They are also taken up by other animals that eat these aquatic animals as food. PCBs accumulate in fish and marine mammals, reaching levels that may be many thousands of times higher than in water.

How might I be exposed to PCBs?

❏ Using old fluorescent lighting fixtures and electrical devices and appliances, such as television sets and refrigerators, that were made 30 or more years ago. These items may leak small amounts of PCBs into the air when they get hot during operation, and could be a source of skin exposure.

❏ Eating contaminated food. The main dietary sources of PCBs are fish (especially sportfish caught in contaminated lakes or rivers), meat, and dairy products.

❏ Breathing air near hazardous waste sites and drinking contaminated well water.

❏ In the workplace during repair and maintenance of PCB transformers; accidents, fires or spills involving transformers, fluorescent lights, and other old electrical devices; and disposal of PCB materials.

How can PCBs affect my health?

The most commonly observed health effects in people exposed to large amounts of PCBs are skin conditions such as acne and rashes. Studies in exposed workers have shown changes in blood and urine that may indicate liver damage. PCB exposures in the general population are not likely to result in skin and liver effects. Most of the studies of health effects of PCBs in the general population examined children of mothers who were exposed to PCBs.

Animals that ate food containing large amounts of PCBs for short periods of time had mild liver damage and some died. Animals that ate smaller amounts of PCBs in food over several weeks or months developed various kinds of health effects, including anemia; acne-like skin conditions; and liver, stomach, and thyroid gland injuries. Other effects

of PCBs in animals include changes in the immune system, behavioral alterations, and impaired reproduction. PCBs are not known to cause birth defects.

How likely are PCBs to cause cancer?

Few studies of workers indicate that PCBs were associated with certain kinds of cancer in humans, such as cancer of the liver and biliary tract. Rats that ate food containing high levels of PCBs for two years developed liver cancer. The Department of Health and Human Services (DHHS) has concluded that PCBs may reasonably be anticipated to be carcinogens. The EPA and the International Agency for Research on Cancer (IARC) have determined that PCBs are probably carcinogenic to humans.

How can PCBs affect children?

Women who were exposed to relatively high levels of PCBs in the workplace or ate large amounts of fish contaminated with PCBs had babies that weighed slightly less than babies from women who did not have these exposures. Babies born to women who ate PCB-contaminated fish also showed abnormal responses in tests of infant behavior. Some of these behaviors, such as problems with motor skills and a decrease in short-term memory, lasted for several years. Other studies suggest that the immune system was affected in children born to and nursed by mothers exposed to increased levels of PCBs. There are no reports of structural birth defects caused by exposure to PCBs or of health effects of PCBs in older children. The most likely way infants will be exposed to PCBs is from breast milk. Transplacental transfers of PCBs were also reported In most cases, the benefits of breast-feeding outweigh any risks from exposure to PCBs in mother's milk.

How can families reduce the risk of exposure to PCBs?

❏ You and your children may be exposed to PCBs by eating fish or wildlife caught from contaminated locations. Certain states, Native American tribes, and U.S. territories have issued advisories to warn people about PCB-contaminated fish and fish-eating wildlife. You can reduce your family's exposure to PCBs by obeying these advisories.

❏ Children should be told not play with old appliances, electrical equipment, or transformers, since they may contain PCBs.

❏ Children should be discouraged from playing in the dirt near hazardous waste sites and in areas where there was a transformer fire. Children should also be discouraged from eating dirt and putting dirty hands, toys or other objects in their mouths, and should wash hands frequently.

❏ If you are exposed to PCBs in the workplace it is possible to carry them home on your clothes, body, or tools. If this is the case, you should shower and change clothing before leaving work, and your work clothes should be kept separate from other clothes and laundered separately.

Is there a medical test to show whether I've been exposed to PCBs?

Tests exist to measure levels of PCBs in your blood, body fat, and breast milk, but these are not routinely conducted. Most people normally have low levels of PCBs in their body because nearly everyone has been environmentally exposed to PCBs. The tests can show if your PCB levels are elevated, which would indicate past exposure to above-normal levels of PCBs, but cannot determine when or how long you were exposed or whether you will develop health effects.

Has the federal government made recommendations to protect human health?

The EPA has set a limit of 0.0005 milligrams of PCBs per liter of drinking water (0.0005 mg/L). Discharges, spills or accidental releases of 1 pound or more of PCBs into the environment must be reported to the EPA. The Food and Drug Administration (FDA) requires that infant foods, eggs, milk and other dairy products, fish and shellfish, poultry and red meat contain no more than 0.2-3 parts of PCBs per million parts (0.2-3 ppm) of food. Many states have established fish and wildlife consumption advisories for PCBs.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2000. Toxicological profile for polychlorinated biphenyls (PCBs). Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop E-29, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 404-498-0093. ToxFAQs™ Internet address is http://www.atsdr.cdc.gov/toxfaq.html . ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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LEAD

CAS # 7439-92-1

Division of Toxicology and Environmental Medicine ToxFAQs™ August 2007

This fact sheet answers the most frequently asked health questions (FAQs) about lead. For more information, call the ATSDR Information Center at 1-800-232-4636. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It is important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

HIGHLIGHTS: Exposure to lead can happen from breathing workplace air or dust, eating contaminated foods, or drinking contaminated water. Children can be exposed from eating lead-based paint chips or playing in contaminated soil. Lead can damage the nervous system, kidneys, and reproductive system. Lead has been found in at least 1,272 of the 1,684 National Priority List sites identified by the Environmental Protection Agency (EPA).

What is lead?

Lead is a naturally occurring bluish-gray metal found in small amounts in the earth's crust. Lead can be found in all parts of our environment. Much of it comes from human activities including burning fossil fuels, mining, and manufacturing.

Lead has many different uses. It is used in the production of batteries, ammunition, metal products (solder and pipes), and devices to shield X-rays. Because of health concerns, lead from paints and ceramic products, caulking, and pipe solder has been dramatically reduced in recent years. The use of lead as an additive to gasoline was banned in 1996 in the United States.

What happens to lead when it enters the environment?

❏ Lead itself does not break down, but lead compounds are changed by sunlight, air, and water.

❏ When lead is released to the air, it may travel long distances before settling to the ground.

❏ Once lead falls onto soil, it usually sticks to soil particles.

❏ Movement of lead from soil into groundwater will depend on the type of lead compound and the characteristics of the soil.

How might I be exposed to lead?

❏ Eating food or drinking water that contains lead. Water pipes in some older homes may contain lead solder. Lead can leach out into the water.

❏ Spending time in areas where lead-based paints have been used and are deteriorating. Deteriorating lead paint can contribute to lead dust.

❏ Working in a job where lead is used or engaging in certain hobbies in which lead is used, such as making stained glass.

❏ Using health-care products or folk remedies that contain lead.

How can lead affect my health?

The effects of lead are the same whether it enters the body through breathing or swallowing. Lead can affect almost every organ and system in your body. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. In pregnant women, high levels of exposure to lead may cause miscarriage. High-level exposure in men can damage the organs responsible for sperm production.

How likely is lead to cause cancer?

We have no conclusive proof that lead causes cancer in humans. Kidney tumors have developed in rats and mice that had been given large doses of some kind of lead compounds. The Department of Health and Human Services

(DHHS) has determined that lead and lead compounds are reasonably anticipated to be human carcinogens and the EPA has determined that lead is a probable human carcinogen. The International Agency for Research on Cancer (IARC) has determined that inorganic lead is probably carcinogenic to humans and that there is insufficient information to determine whether organic lead compounds will cause cancer in humans.

How can lead affect children?

Small children can be exposed by eating lead-based paint chips, chewing on objects painted with lead-based paint, or swallowing house dust or soil that contains lead.

Children are more vulnerable to lead poisoning than adults. A child who swallows large amounts of lead may develop blood anemia, severe stomachache, muscle weakness, and brain damage. If a child swallows smaller amounts of lead, much less severe effects on blood and brain function may occur. Even at much lower levels of exposure, lead can affect a child's mental and physical growth.

Exposure to lead is more dangerous for young and unborn children. Unborn children can be exposed to lead through their mothers. Harmful effects include premature births, smaller babies, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. These effects are more common if the mother or baby was exposed to high levels of lead. Some of these effects may persist beyond childhood.

How can families reduce the risks of exposure to lead?

❏ Avoid exposure to sources of lead.

❏ Do not allow children to chew or mouth surfaces that may have been painted with lead-based paint.

❏ If you have a water lead problem, run or flush water that has been standing overnight before drinking or cooking with it.

❏ Some types of paints and pigments that are used as make-up or hair coloring contain lead. Keep these kinds of products away from children

❏ If your home contains lead-based paint or you live in an area contaminated with lead, wash children's hands and faces often to remove lead dusts and soil, and regularly clean the house of dust and tracked in soil.

Is there a medical test to determine whether I've been exposed to lead?

A blood test is available to measure the amount of lead in your blood and to estimate the amount of your recent exposure to lead. Blood tests are commonly used to screen children for lead poisoning. Lead in teeth or bones can be measured by X-ray techniques, but these methods are not widely available. Exposure to lead also can be evaluated by measuring erythrocyte protoporphyrin (EP) in blood samples. EP is a part of red blood cells known to increase when the amount of lead in the blood is high. However, the EP level is not sensitive enough to identify children with elevated blood lead levels below about 25 micrograms per deciliter (μg/dL). These tests usually require special analytical equipment that is not available in a doctor's office. However, your doctor can draw blood samples and send them to appropriate laboratories for analysis.

Has the federal government made recommendations to protect human health?

The Centers for Disease Control and Prevention (CDC) recommends that states test children at ages 1 and 2 years. Children should be tested at ages 3–6 years if they have never been tested for lead, if they receive services from public assistance programs for the poor such as Medicaid or the Supplemental Food Program for Women, Infants, and Children, if they live in a building or frequently visit a house built before 1950; if they visit a home (house or apartment) built before 1978 that has been recently remodeled; and/or if they have a brother, sister, or playmate who has had lead poisoning. CDC considers a blood lead level of 10 μg/dL to be a level of concern for children.

EPA limits lead in drinking water to 15 μg per liter.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 2007. Toxicological Profile for lead (Update). Atlanta, GA: U.S. Department of Public Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology and Environmental Medicine, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-800-232-4636, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html. ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

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FUEL OILS

CAS # 8008-20-6, 70892-10-3, 68476-30-2, 68476-34-6, 68476-31-3

Agency for Toxic Substances and Disease Registry ToxFAQs September 1996

This fact sheet answers the most frequently asked health questions (FAQs) about fuel oils. For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. It's important you understand this information because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Fuel oils are liquid mixtures produced from petroleum, and their use mostly involves burning them as fuels. Drinking or breathing fuel oils may cause nausea or nervous system effects. However, exposure under normal use conditions is not likely to be harmful. Fuel oils have been found in at least 26 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are fuel oils?

(Pronounced fyōō′əl oilz)

Fuel oils are a variety of yellowish to light brown liquid mixtures that come from crude petroleum. Some chemicals found in fuel oils may evaporate easily, while others may more easily dissolve in water.

Fuel oils are produced by different petroleum refining processes, depending on their intended uses. Fuel oils may be used as fuel for engines, lamps, heaters, furnaces, and stoves, or as solvents.

Some commonly found fuel oils include kerosene, diesel fuel, jet fuel, range oil, and home heating oil. These fuel oils differ from one another by their hydrocarbon compositions, boiling point ranges, chemical additives, and uses.

What happens to fuel oils when they enter the environment?

- Some chemicals found in fuel oils may evaporate into the air from open containers or contaminated soil or water.
- Some chemicals found in fuel oils may dissolve in water after spills to surface waters or leaks from underground storage tanks.
- Some chemicals found in fuel oils may stick to particles in water, which will eventually cause them to settle to the bottom sediment.
- Some of the chemicals found in fuel oils may be broken down slowly in air, water, and soil by sunlight or small organisms.
- Some of the chemicals found in fuel oils may build up significantly in plants and animals.

How might I be exposed to fuel oils?

- Using a home kerosene heater or stove, or using fuel oils at work.
- Breathing air in home or building basements that has been contaminated with fuel oil vapors entering from the soil.
- Drinking or swimming in water that has been contaminated with fuel oils from a spill or a leaking underground storage tank.
- Touching soil contaminated with fuel oils.
- Using fuel oils to wash paint or grease from skin or equipment.

How can fuel oils affect my health?

Little information is available about the health effects that may be caused by fuel oils. People who use kerosene

stoves for cooking do not seem to have any health problems related to their exposure.

Breathing some fuel oils for short periods may cause nausea, eye irritation, increased blood pressure, headache, lightheadedness, loss of appetite, poor coordination, and difficulty concentrating. Breathing diesel fuel vapors for long periods may cause kidney damage and lower your blood's ability to clot.

Drinking small amounts of kerosene may cause vomiting, diarrhea, coughing, stomach swelling and cramps, drowsiness, restlessness, painful breathing, irritability, and unconsciousness. Drinking large amounts of kerosene may cause convulsions, coma, or death. Skin contact with kerosene for short periods may cause itchy, red, sore, or peeling skin.

How likely are fuel oils to cause cancer?

The International Agency for Research on Cancer (IARC) has determined that some fuel oils (heavy) may possibly cause cancer in humans, but for other fuel oils (light) there is not enough information to make a determination. IARC has also determined that occupational exposures to fuel oils during petroleum refining are probably carcinogenic in humans.

Some studies with mice have suggested that repeated contact with fuel oils may cause liver or skin cancer. However, other mouse studies have found this not to be the case. No studies are available in other animals or in people on the carcinogenic effects of fuel oils.

Is there a medical test to show whether I've been exposed to fuel oils?

There is no medical test that shows if you have been exposed to fuel oils. Tests are available to determine if some of the chemicals commonly found in fuel oils are in your blood. However, the presence of these chemicals in blood may not necessarily mean that you have been exposed to fuel oils.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) and the Air Force Office of Safety and Health (AFOSH) have set a permissible exposure level (PEL) of 400 parts of petroleum distillates per million parts of air (400 ppm) for an 8-hour workday, 40-hour workweek.

The National Institute for Occupational Safety and Health (NIOSH) recommends that average workplace air levels not exceed 350 milligrams of petroleum distillates per cubic meter of air (350 mg/m^3) for a 40-hour workweek.

The Department of Transportation (DOT) lists fuel oils as hazardous materials and, therefore, regulates their transportation.

Glossary

Carcinogenic: Able to cause cancer.

CAS: Chemical Abstracts Service.

Evaporate: To change into a vapor or a gas.

Hydrocarbon: Any compound made up of hydrogen and carbon.

Milligram (mg): One thousandth of a gram.

ppm: Parts per million.

Sediment: Mud and debris that have settled to the bottom of a body of water.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for fuel oils. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

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AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY

POLYCYCLIC AROMATIC HYDROCARBONS (PAHs)

Agency for Toxic Substances and Disease Registry ToxFAQs September 1996

This fact sheet answers the most frequently asked health questions (FAQs) about polycyclic aromatic hydrocarbons (PAHs). For more information, call the ATSDR Information Center at 1-888-422-8737. This fact sheet is one in a series of summaries about hazardous substances and their health effects. This information is important because this substance may harm you. The effects of exposure to any hazardous substance depend on the dose, the duration, how you are exposed, personal traits and habits, and whether other chemicals are present.

SUMMARY: Exposure to polycyclic aromatic hydrocarbons usually occurs by breathing air contaminated by wild fires or coal tar, or by eating foods that have been grilled. PAHs have been found in at least 600 of the 1,430 National Priorities List sites identified by the Environmental Protection Agency (EPA).

What are polycyclic aromatic hydrocarbons?

(Pronounced pŏl′ĭ-sī′klĭk ăr′ə-măt′ĭk hī′drə-kar′bənz)

Polycyclic aromatic hydrocarbons (PAHs) are a group of over 100 different chemicals that are formed during the incomplete burning of coal, oil and gas, garbage, or other organic substances like tobacco or charbroiled meat. PAHs are usually found as a mixture containing two or more of these compounds, such as soot.

Some PAHs are manufactured. These pure PAHs usually exist as colorless, white, or pale yellow-green solids. PAHs are found in coal tar, crude oil, creosote, and roofing tar, but a few are used in medicines or to make dyes, plastics, and pesticides.

What happens to PAHs when they enter the environment?

- PAHs enter the air mostly as releases from volcanoes, forest fires, burning coal, and automobile exhaust.
- PAHs can occur in air attached to dust particles.
- Some PAH particles can readily evaporate into the air from soil or surface waters.
- PAHs can break down by reacting with sunlight and other chemicals in the air, over a period of days to weeks.
- PAHs enter water through discharges from industrial and wastewater treatment plants.
- Most PAHs do not dissolve easily in water. They stick to solid particles and settle to the bottoms of lakes or rivers.
- Microorganisms can break down PAHs in soil or water after a period of weeks to months.
- In soils, PAHs are most likely to stick tightly to particles; certain PAHs move through soil to contaminate underground water.
- PAH contents of plants and animals may be much higher than PAH contents of soil or water in which they live.

How might I be exposed to PAHs?

- Breathing air containing PAHs in the workplace of coking, coal-tar, and asphalt production plants; smokehouses; and municipal trash incineration facilities.
- Breathing air containing PAHs from cigarette smoke, wood smoke, vehicle exhausts, asphalt roads, or agricultural burn smoke.
- Coming in contact with air, water, or soil near hazardous waste sites.
- Eating grilled or charred meats; contaminated cereals, flour, bread, vegetables, fruits, meats; and processed or pickled foods.
- Drinking contaminated water or cow's milk.

- Nursing infants of mothers living near hazardous waste sites may be exposed to PAHs through their mother's milk.

How can PAHs affect my health?

Mice that were fed high levels of one PAH during pregnancy had difficulty reproducing and so did their offspring. These offspring also had higher rates of birth defects and lower body weights. It is not known whether these effects occur in people.

Animal studies have also shown that PAHs can cause harmful effects on the skin, body fluids, and ability to fight disease after both short- and long-term exposure. But these effects have not been seen in people.

How likely are PAHs to cause cancer?

The Department of Health and Human Services (DHHS) has determined that some PAHs may reasonably be expected to be carcinogens.

Some people who have breathed or touched mixtures of PAHs and other chemicals for long periods of time have developed cancer. Some PAHs have caused cancer in laboratory animals when they breathed air containing them (lung cancer), ingested them in food (stomach cancer), or had them applied to their skin (skin cancer).

Is there a medical test to show whether I've been exposed to PAHs?

In the body, PAHs are changed into chemicals that can attach to substances within the body. There are special tests that can detect PAHs attached to these substances in body tissues or blood. However, these tests cannot tell whether any health effects will occur or find out the extent or source of your exposure to the PAHs. The tests aren't usually available in your doctor's office because special equipment is needed to conduct them.

Has the federal government made recommendations to protect human health?

The Occupational Safety and Health Administration (OSHA) has set a limit of 0.2 milligrams of PAHs per cubic meter of air (0.2 mg/m^3). The OSHA Permissible Exposure Limit (PEL) for mineral oil mist that contains PAHs is 5 mg/m^3 averaged over an 8-hour exposure period.

The National Institute for Occupational Safety and Health (NIOSH) recommends that the average workplace air levels for coal tar products not exceed 0.1 mg/m^3 for a 10-hour workday, within a 40-hour workweek. There are other limits for workplace exposure for things that contain PAHs, such as coal, coal tar, and mineral oil.

Glossary

Carcinogen: A substance that can cause cancer.

Ingest: Take food or drink into your body.

References

Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for polycyclic aromatic hydrocarbons. Atlanta, GA: U.S. Department of Health and Human Services, Public Health Service.

Where can I get more information? For more information, contact the Agency for Toxic Substances and Disease Registry, Division of Toxicology, 1600 Clifton Road NE, Mailstop F-32, Atlanta, GA 30333. Phone: 1-888-422-8737, FAX: 770-488-4178. ToxFAQs Internet address via WWW is http://www.atsdr.cdc.gov/toxfaq.html ATSDR can tell you where to find occupational and environmental health clinics. Their specialists can recognize, evaluate, and treat illnesses resulting from exposure to hazardous substances. You can also contact your community or state health or environmental quality department if you have any more questions or concerns.

APPENDIX B

WEST NILE VIRUS/ST. LOUIS ENCEPHALITIS PREVENTION

WEST NILE VIRUS/ST. LOUIS ENCEPHALITIS PREVENTION

The following section is based upon information provided by the CDC Division of Vector-Borne Infectious Diseases. Symptoms of West Nile Virus include fever, headache, and body aches, occasionally with skin rash and swollen lymph glands, with most infections being mild. More severe infection may be marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness, paralysis, and, rarely, death. Most infections of St. Louis encephalitis are mild without apparent symptoms other than fever with headache. More severe infection is marked by headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, occasional convulsions (especially infants) and spastic (but rarely flaccid) paralysis. The only way to avoid infection of West Nile Virus and St. Louis encephalitis is to avoid mosquito bites. To reduce the chance of mosquito contact:

- Stay indoors at dawn, dusk, and in the early evening.
- Wear long-sleeved shirts and long pants whenever you are outdoors.
- Spray clothing with repellents containing permethrin or DEET (N, N-diethyl-meta-toluamide), since mosquitoes may bite through thin clothing.
- Apply insect repellent sparingly to exposed skin. An effective repellent will contain 35% DEET. DEET in high concentrations (greater than 35%) provides no additional protection.
- Repellents may irritate the eyes and mouth.
- Whenever you use an insecticide or insect repellent, be sure to read and follow the manufacturer's directions for use, as printed on the product.

APPENDIX C

REPORT FORMS

WEEKLY SAFETY REPORT FORM

Week Ending: _____ Project Name/Number: _____

Report Date: _____ Project Manager Name: _____

Summary of any violations of procedures occurring that week:

_____

_____

_____

Summary of any job related injuries, illnesses, or near misses that week:

_____

_____

_____

_____

Summary of air monitoring data that week (include and sample analyses, action levels exceeded, and actions taken):

_____

_____

_____

Comments:

_____

_____

_____

Name: _____ Company: _____

Signature: _____ Title: _____

INCIDENT REPORT FORM

Date of Report: _____

Injured: _____

Employer: _____

Site: _____ Site Location: _____

Report Prepared By: _____ _____
Signature Title

ACCIDENT/INCIDENT CATEGORY (check all that applies)

___Injury	___ Illness	___ Near Miss
__ Site Damage	___ Fire	___ Chemical Exposure
__ On-site Equipment	___ Motor Vehicle	___ Electrical
__ Mechanical	___ Spill	___ Other

DATE AND TIME OF ACCIDENT/INCIDENT: Narrative report of Accident/Incident: Identify: 1) actions leading to or contributing to the accident/incident; 2) the accident/incident occurrence; and 3) actions following the accident/incident.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

WITNESS TO ACCIDENT/INCIDENT:

Name:	_____	Company:	_____
Address:	_____	Address:	_____
Phone No.:	_____	Phone No.:	_____
Name:	_____	Company:	_____
Address:	_____	Address:	_____
Phone No.:	_____	Phone No.:	_____

INJURED - ILL:

Name: _____ SSN: _____

Address: _____ Age: _____

Length of Service: _____ Time on Present Job: _____

Time/Classification: _____

SEVERITY OF INJURY OR ILLNESS:

____ Disabling ___ Non-disabling ___ Fatality

____ Medical Treatment ___ First Aid Only

ESTIMATED NUMBER OF DAYS AWAY FROM JOB: _____

NATURE OF INJURY OR ILLNESS: _____

_____

_____

_____

CLASSIFICATION OF INJURY:

__ Abrasions	_____ Dislocations	____ Punctures
__ Bites	_____ Faint/Dizziness	____ Radiation Burns
__ Blisters	_____ Fractures	____ Respiratory Allergy
__ Bruises	_____ Frostbite	____ Sprains
__ Chemical Burns	_____ Heat Burns	____ Toxic Resp. Exposure
__ Cold Exposure	_____ Heat Exhaustion	____ Toxic Ingestion
__ Concussion	_____ Heat Stroke	____ Dermal Allergy
__ Lacerations		

Part of Body Affected: _____

Degree of Disability: _____

Date Medical Care was Received: _____

Where Medical Care was Received: _____

Address (if off-site): _____

(If two or more injuries, record on separate sheets)

SITE DAMAGE:

Description of Damage: _____

_____

Cost of Damage: $ _____

ACCIDENT/INCIDENT LOCATION: _____

ACCIDENT/INCIDENT ANALYSIS: Causative agent most directly related to accident/incident (Object, substance, material, machinery, equipment, conditions)

_____

_____

_____

_____

Was weather a factor?: _____

_____

Unsafe mechanical/physical/environmental condition at time of accident/incident (Be specific):

_____

_____

_____

Personal factors (Attitude, knowledge or skill, reaction time, fatigue):

_____

_____

ON-SITE ACCIDENTS/INCIDENTS:

Level of personal protection equipment required in Site Safety Plan:

_____

_____

Modifications:

_____

Was injured using required equipment?:

_____

_____

If not, how did actual equipment use differ from plan?:

_____

_____

ACTION TAKEN TO PREVENT RECURRENCE: (Be specific. What has or will be done? When will it be done? Who is the responsible party to insure that the correction is made?

_____

_____

_____

_____

_____

ACCIDENT/INCIDENT REPORT REVIEWED BY:

_____ _____

SSO Name Printed SSO Signature

OTHERS PARTICIPATING IN INVESTIGATION:

_____ _____

Signature Title

_____ _____

Signature Title

_____ _____

Signature Title

ACCIDENT/INCIDENT FOLLOW-UP: Date: _____

Outcome of accident/incident: _____

_____

_____

_____

Physician's recommendations: _____

_____

_____

_____

Date injured returned to work: _____

Follow-up performed by:

_____ _____

Signature Title

ATTACH ANY ADDITIONAL INFORMATION TO THIS FORM

APPENDIX D

EMERGENCY HAND SIGNALS

EMERGENCY SIGNALS

In most cases, field personnel will carry portable radios for communication. If this is the case, a transmission that indicates an emergency will take priority over all other transmissions. All other site radios will yield the frequency to the emergency transmissions.

Where radio communications is not available, the following air-horn and/or hand signals will be used:

EMERGENCY HAND SIGNALS

OUT OF AIR, CAN'T BREATHE!

Hand gripping throat

LEAVE AREA IMMEDIATELY, NO DEBATE!

(No Picture) Grip partner's wrist or place both hands around waist

NEED ASSISTANCE!

Hands on top of head

OKAY! – I'M ALL RIGHT!

- I UNDERSTAND!

Thumbs up

NO! - NEGATIVE!

Thumbs down