Planning Department

MEMORANDUM

TO: Sherry Dong
Chairwoman, City of Boston Board of Appeal

FROM: Joanne Marques
Regulatory Planning & Zoning

DATE: May 1, 2025
RE: Planning Department Recommendations

Please find attached, for your information, Planning Department recommendations for the May 6, 2025 Board of Appeal's Hearing.

Also included are the Board Memos for:

736 to 738 E Broadway South Boston 02127
1 Waverly ST Roxbury 02119
496 to 500 Talbot AV Dorchester 02124
470 Western AV Brighton 02135
77 to 81 Terrace ST Mission Hill 02120

If you have any questions please feel free to contact me.

Case	BOA1663421
ZBA Submitted Date	2024-10-20
ZBA Hearing Date	2025-05-06
Address	869 Saratoga ST East Boston 02128
Parcel ID	0101333000
Zoning District & Subdistrict	East Boston Neighborhood 2F-4000
Zoning Article	53
Project Description	Erect a four-story residential building with four residential units, three private roof decks, and three exterior covered parking spaces.
Relief Type	Variance
Violations	Parking or Loading Insufficient

Planning Context:

The proposed project is within the boundaries of PLAN: East Boston, which was adopted by the BPDA Board in January 2024. The Plan calls for the development of contextually sensitive and appropriately scaled residential projects that "affirm the physical characteristics that define lowscale neighborhood fabric" (PLAN: East Boston page 21). This project supports this goal by constructing a three-story residential building with four dwelling units in an area characterized by similar buildings.

Zoning Analysis:

The original project was filed before the East Boston zoning map amendment was adopted by the Zoning Commission in April 2024. The ZBA issued a decision letter for the original project in May 2021 (BOA1068596), which approved zoning relief for the proposed project's 12 zoning violations with a proviso for design review based on the previous zoning subdistrict, 2F-4000. The current refusal letter dated March 26, 2025 is based on a request to amend the approved project (ERT1055406), which has begun construction, in order to eliminate one parking space. The refusal letter cites the previous zoning subdistrict, 2F-4000, as the applicable zoning that the proposed project was reviewed under. For four units, the previous 2F-4000 subdistrict would require six parking spaces (1.5 parking spaces/unit).

The newly adopted zoning map is based on the recommendations from PLAN East Boston, adopted by the BPDA Board in January 2024. East Boston's updated zoning places the proposed project within an EBR-3 subdistrict. The new EBR-3 zoning subdistrict requires one parking space per unit for a four unit building, so the proposed project does not comply with updated zoning parking requirements.The proposed project removed a parking space from their previous plans to address a zoning violation for maneuverability, given that the lot depth cannot accommodate more than three standard sized (8.5’ x 20’) parking spaces. The uniquely shallow configuration of the lot is a condition for granting a variance (Boston Zoning Code Section 7-3) , so zoning relief is recommended.

The plans are titled "1088 Saratoga Street", prepared by Context, and are dated October 29, 2024.

Recommendation:

In reference to BOA1663421, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1661355
ZBA Submitted Date	2024-10-11
ZBA Hearing Date	2025-05-06
Address	18 Symphony RD Boston 02115
Parcel ID	0401577000
Zoning District & Subdistrict	Fenway Neighborhood MFR-1
Zoning Article	32, 66
Project Description	Change use from one-unit to congregate living, including interior renovation and addition of a first-floor rear deck.
Relief Type	Variance, Conditional Use
Violations	GCOD Applicability Screening & Buffering

Planning Context:

This site is located within the densely-built residential neighborhood in East Fenway, two blocks from the Symphony MBTA train station. The typical built form in this area includes four- and five-story rowhouses, with a range of unit composition from one-unit to multi-unit buildings. The existing three-story row house is one unit, and the proposal converts this to a seven-bedroom congregate living building by renovating the interior and adding a deck to the rear of the first floor.

The new deck extends eight feet into the rear yard and would include two tuck-under parking spaces beneath. The rear yard is currently paved over, with a wooden privacy fence around it and a mature tree within a raised bed in the middle; the proposal removes this tree in order to accommodate the two required parking spaces. A common condition along this public alley is tuck-under parking underneath rear decks with no screening or buffering.

Zoning Analysis:

This project is cited for GCOD applicability due to paving over part of the rear yard for the parking spaces. Consequently, the project is subject to GCOD review by the Boston Water and Sewer Commission.

The project is also cited for not providing adequate screening and buffering of the proposed parking spaces pursuant to Section 66-40. However, none of the parking spaces along this

public alley include screening or buffering, which is appropriate given the alleyway condition. This presents a case for zoning reform, where screening and buffering requirements may not be appropriate for all instances of accessory parking.

Plans reviewed are titled "18 Symphony Road Boston, MA 02115", prepared by Design Resources Team, LLC, and dated February 28, 2024.

Recommendation:

In reference to BOA1661355, The Planning Department recommends APPROVAL WITH PROVISO/S: the plans shall be reviewed and approved by the Boston Water & Sewer Commission due to its location within the Groundwater Conservation Overlay District (GCOD).

Reviewed,

Kathleen Onufa

Deputy Director of Zoning

Planning Department

CITY of BOSTON

Case	BOA1697843
ZBA Submitted Date	2025-03-10
ZBA Hearing Date	2025-05-06
Address	175 Newbury ST Boston 02116
Parcel ID	0501373000
Zoning District & Subdistrict	Boston Proper B-3-65
Zoning Article	8
Project Description	Convert a retail use to a restaurant use.
Relief Type	Conditional Use
Violations	Conditional Use

Planning Context:

175 Newbury Street is located along This is notably the Back Bay Historic Architectural District. The street is mainly commercial with a mix of retail and restaurant uses. For example, directly adjacent to the parcel, there is an ice cream shop. The proponent seeks to obtain a conditional use permit in order to convert what was previously a retail use into a restaurant use on the lower level of the building, with no exterior changes proposed.

Zoning Analysis:

175 Newbury Street is located in the Boston Proper Zoning district, and the B-3-65 zoning subdistrict (a commercial district type). Restaurant uses in this district are conditional use.

Section 6-3 of the municipal code states that the following conditions must be met for the appeal to be granted. The specific site must be an appropriate location for such use and such substitute nonconforming use will not be more objectionable nor more detrimental to the neighborhood than the nonconforming use for which it is being substituted. Given that there is an abundant amount of restaurant uses on Newbury Street, the proposal is appropriate for the given location. The proposed use will not adversely affect the neighborhood and there will be no serious hazard to vehicles or pedestrians from the use. There will also be no nuisance created by the proposal and adequate and appropriate facilities will be provided for the proper operation of the use.

Recommendation:

In reference to BOA1697843, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1692966
ZBA Submitted Date	2025-02-19
ZBA Hearing Date	2025-05-06
Address	81 S Huntington AV Jamaica Plain 02130
Parcel ID	1001624000
Zoning District & Subdistrict	Jamaica Plain Neighborhood NI-VA-1
Zoning Article	55
Project Description	Convert existing hotel to a shelter providing supportive housing services.
Relief Type	Conditional Use
Violations	Conditional Use (Homeless Shelter)

Planning Context:

The proposed project sits in an established mixed-use area along Huntington Avenue, on the boundary of the Mission Hill and Jamaica Plain neighborhoods. The site's immediate surroundings consist of a mix of three-story rowhouses and larger ten- to fifteen-story apartment buildings, both of which support multifamily residential land uses. The Jamaica Plain VA Medical Center campus, as well as several other health care-related uses (including the Sherril House Rehabilitation Center and American Cancer Society's Hope Lodge) are located less than a quarter-mile south of the project. The property is transit accessible and sits directly in front of stops for the MBTA's "E" Green Line service and 35/39 bus routes.

The project site is currently occupied by an existing four-story structure, which formerly operated as the enVision Hotel. Since 2021 (after the Hotel's closing during the 2020 pandemic), the property has been operated by Victory Programs, a Boston-based nonprofit, as a low-threshold housing shelter. Over the past three years, the shelter has provided safe and stable housing for over 200 individuals who have been navigating homelessness, substance use disorders, and mental health challenges. The program is staffed 24/7 year round and provides services including supportive case management, assistance with housing retention skills, setting goals, developing long-term plans, referrals to community services, medical and detoxification providers, and employment resources. From inception through much of 2024, the program was funded by the Massachusetts Department of Public Health Bureau of Substance Addiction Services. However, in December 2024, Victory Programs, along with financial support from the

Boston Public Health Commission and the Mayor's Office of Housing, officially acquired the property from SDS Hospitality (who previously operated the Hotel), with the intention of permanently securing the site's operation as supportive and transitional housing. The proposal to which this recommendation relates, seeks to legally affirm this existing land use to ensure the site's continued operation as supportive housing into the future. No alterations to the existing site, structure, or interior layouts are proposed by the project.

The acquisition of the enVision Hotel property secures a vital resource for individuals experiencing homelessness in Boston and addresses the need for long-term supportive housing across the City.

Zoning Analysis:

As per Table D of Article 55, "transitional housing or homeless shelter" uses in the Jamaica Plain's NI-VA-1 Subdistrict (of which the project sits within) require a conditional use permit to be developed. As discussed in the Planning Context section of this recommendation, despite the site's previous official hotel designation being in place since 2012 (the enVision Hotel's opening), the proposed project site has been successfully operating as a government-supported transitional housing and homeless shelter for the past three years. Given this context, as well as the site's location within an existing cluster of residential, supportive housing, and health care uses, the Planning Department deems the proposed change of use appropriate for the site and contextual to the surrounding area.

Plans reviewed are titled "Victory Programs Transitional Housing," prepared by "Studio G Architects" on December 17, 2024.

Recommendation:

In reference to BOA1692966, The Planning Department recommends APPROVAL.

Reviewed,

Planning Department

CITY of BOSTON

Kathleen Onufer

Deputy Director of Zoning

Planning Department

CITY of BOSTON

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Case	BOA1664180
ZBA Submitted Date	2024-10-22
ZBA Hearing Date	2025-05-06
Address	100 to 102 Warren ST Roxbury 02119
Parcel ID	1200077000
Zoning District & Subdistrict	Roxbury Neighborhood MFR/LS
Zoning Article	50
Project Description	Proposed change in use to include an Accessory Food Pantry. The office use will remain and the new food pantry will be added in the basement. Scope includes demolishing the middle section of the building and building a two-story addition. The project includes a full remodel, new roof deck with pergola, and site grading with retaining walls.
Relief Type	Variance
Violations	Parking or Loading Insufficient FAR Excessive Side Yard Insufficient Rear Yard Insufficient Extension of Nonconforming Use

Planning Context:

100–102 Warren Street in Roxbury is located close to the corner of Warren Street and Moreland Street. It sits within the Moreland Street Historic District and is close to Nubian Square, with access to public transit, shops, and community services. This site is about a 5-minute walk (0.3 miles) from Nubian Station, a major MBTA bus hub with connections throughout the city, and right next to several bus routes including 10, 14, 19, 23 and 28.

The site contains an existing office used by the National Council for Incarcerated and Formerly Incarcerated Women and Girls. The proponent is looking to alter the building to include a new food pantry and make necessary renovations to the building.

Zoning Analysis:

Most violations in the refusal letter reflect existing conditions that will remain unchanged with the proposed work—for example, the side yard is currently about 3 feet (10 feet required) and will remain the same, as will the rear yard, which is about 8.5 feet (10 feet required).

FAR is cited as excessive (required 1.0), but the project involves minimal changes to building dimensions or massing and does not worsen the existing non-conformity. Although the plans do not specify old vs. new GFA, relief for FAR is appropriate given the limited impact.

The proposal is also cited for insufficient parking, but there is no feasible way to add parking on this lot to comply with the four parking spaces required. Given site constraints, relief is appropriate. Future zoning reform should consider reducing or eliminating off-street parking minimums to better align with Boston's existing built form. As noted in the planning context, this site is near transit, making the required parking unnecessary.

The extension of nonconforming use should be allowed because an accessory food pantry is a key element that is needed for the functioning of this building that is being used by the National Council for Incarcerated and Formerly Incarcerated Women and Girls.

Plans reviewed were prepared by Stull and Lee Incorporated, titled 100 Warren St, and dated July, 2024.

Recommendation:

In reference to BOA1664180, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1701377
ZBA Submitted Date	2025-03-21
ZBA Hearing Date	2025-05-06
Address	34 Wales ST Dorchester 02121
Parcel ID	1402792000
Zoning District & Subdistrict	Greater Mattapan Neighborhood 3F-5000
Zoning Article	60
Project Description	MOH Welcome Home initiative: Erect new 12 unit affordable dwelling.
Relief Type	Variance, Conditional Use
Violations	FAR Excessive Height Excessive (ft) Rear Yard Insufficient Usable Open Space Insufficient Lot Area Insufficient Parking design and maneuverability Conditional Use

Planning Context:

The proposal is full ground up construction of a new fully affordable housing twelve-unit three-story building. The building will be designed in a similar massing and scale to the multi-family buildings found across the neighborhood. The existing lot is presently vacant with grass and trees. This project would be part of the Mayor's Office of Housing's Welcome Home Boston initiative. Welcome Home is an allocation of funding from the city to fast track new affordable homes across the city. Sites were picked for this funding with this site being part of Phase 2 for development. Development teams were selected through a community-led disposition process: there was first an initial meeting with the community to help build an RFP, after the RFP went out the applicants spoke with the community in larger meetings at least three times to select the work envisioned on the site.

Zoning Analysis:

The proposal has seven violations: off-street parking design, insufficient lot area, excessive floor area, excessive height, insufficient open space, insufficient rear yard and forbidden multifamily use. The required lot area for a residential building with this many units would be 30,000 SF while the site is 11,108 SF. The maximum FAR is 0.8 however the proposed would be 1.5. The

height max is 35 feet while the proposed height would be 38 feet. The minimum rear yard setback is 30 ft which the proposed has a rear setback of 16.2 feet. The maximum number of units in this area is three while the project is proposing twelve units. The parking spaces do not meet sizing requirements with 50% of parking spaces required to be 8.5' x 20'. All the spaces have a maximum length of 18'. These violations are all to meet the goals of providing fully affordable homes. These violations are also common characteristics of the neighboring multifamily buildings in the same subdistrict. These violations can be recommended for relief.

"34 Wales Welcome Home RFP" Drawn by SIC Design Dated "January 3, 2025"

Recommendation:

In reference to BOA1701377, The Planning Department recommends APPROVAL WITH PROVISO/S that plans be submitted to the Planning Department for design review.

Reviewed,

Kathleen Onufa

Deputy Director of Zoning

Case	BOA1684453
ZBA Submitted Date	2025-01-16
ZBA Hearing Date	2025-05-06
Address	77 Bushnell ST Dorchester 02124
Parcel ID	1604769000
Zoning District & Subdistrict	Dorchester Neighborhood 1F-7000
Zoning Article	65
Project Description	Confirm occupancy as a single-family dwelling. Construct a two-story rear addition to the main house measuring approximately 15'-30" x 27'. The proposed addition will include a master bedroom, bathroom, and dining room.
Relief Type	Variance
Violations	Rear Yard Insufficient

Planning Context:

Bushnell Street is a residential street located in the Dorchester neighborhood. The homes along this street generally share a similar character to the subject property. The rear of the property abuts the CSX transportation railway tracks, meaning the proposed rear addition will not impact residential properties to the rear. The surrounding homes are comparable or larger in scale, and the lot size is consistent with others on the street. The proposed modifications are in keeping with the established character of the neighborhood and are not expected to negatively impact the surrounding community. However, the modified building is not out of character with surrounding properties, indicating a need for zoning reform to better align dimensional requirements with existing context.

Zoning Analysis:

The proposed rear addition requires a minimum rear yard setback of 40 feet, as outlined in Article 65, Section 9 of the Boston Zoning Code. However, the plans indicate that the addition would result in a rear yard of only 25 feet, rendering the proposal noncompliant with the dimensional requirement.

It is important to note that this condition is not unique to the subject property. Many of the surrounding homes on Bushnell Street, including the adjacent property to the south, feature additions or accessory dwelling units (ADUs) that similarly do not meet the 40-foot rear yard minimum. This pattern of development suggests that the dimensional requirements are not well-aligned with the existing built fabric of the neighborhood.

While the project technically violates the zoning code, it fits within the context of the neighborhood and reflects a built condition that is already prevalent along the street. The project is a case for zoning reform to establish dimensional requirements that better align with the existing built fabric.

The Plans, titled "77 Bushnell Street Addition Project", was designed by ARK Design and Build in 2024.

Recommendation:

In reference to BOA1684453, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufa

Deputy Director of Zoning

Case	BOA1679758
ZBA Submitted Date	2024-12-21
ZBA Hearing Date	2025-05-06
Address	76 Sanborn AV West Roxbury 02132
Parcel ID	2008644000
Zoning District & Subdistrict	West Roxbury Neighborhood 1F-6000
Zoning Article	56
Project Description	Construct a two-story addition to expand the existing dining room and build a new powder room on the first floor and build a new primary bathroom, closet, and laundry room on the second floor.
Relief Type	Variance
Violations	Side Yard Insufficient

Planning Context:

The proposed project is located in a low-density, primarily single-family neighborhood just east of Baker Street and north of the MBTA commuter line tracks for the Needham Line. The project site - a 2.5 story detached single-family home with a pitched roof - reflects the surrounding built fabric in the immediate vicinity.

This kind of improvement is an example of the kinds of renovations and changes the Planning Department seeks to streamline via the new Neighborhood Housing zoning initiative, announced in November 2024, where a clear goal is the eventual citywide allowance of maintenance and upgrades to existing structures without the need for zoning relief. West Roxbury is among several neighborhoods with large lots and low-density housing that will be part of phase 1 of this initiative.

This project exemplifies how home improvements can contribute to contextual growth in Boston’s lower-density residential neighborhoods especially where current and future flood risk is low. Expanding existing living space also aligns with the Boston Housing Strategy 2025 goal to make Boston one of the most family-friendly cities in the country, in part by providing housing that serves various household sizes and compositions.

Zoning Analysis:

The proposed project is cited for insufficient side yard, which is required to be a minimum of 10 feet for a single-family detached dwelling. The existing side yard is 4.5 feet due to an enclosed first floor sunroom that protrudes into the side yard, so the proposed addition does not worsen this condition. The prevailing side yard condition on this block is narrow, with many homes separated only by a narrow driveway or landscaping, which provides adequate space between neighboring structures. Relief for this zoning violation is recommended.

The plans are titled 'Renovation & Addition 75 Sanborn Ave West Roxbury, MA 02132', prepared by Slocum Hall Design Group, and are dated June 21, 2024.

Recommendation:

In reference to BOA1679758, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufa

Deputy Director of Zoning

Case	BOA1704651
ZBA Submitted Date	2025-03-31
ZBA Hearing Date	2025-05-06
Address	1 to 4 Percival PL East Boston 02128
Parcel ID	0103909000
Zoning District & Subdistrict	East Boston Neighborhood EBR-4
Zoning Article	53
Project Description	Subdivide the lot. Change the rear building from two units to six units. No exterior work expected.
Relief Type	Variance
Violations	Parking or Loading Insufficient Building Lot Coverage Excessive Front Yard Insufficient Permeable Area of Lot Insufficient Side Yard Insufficient Rear Yard Insufficient

Planning Context:

The proposed project aims to subdivide one existing parcel, containing two separate residential buildings, into two new parcels. The existing building on the frontmost parcel will see no dimensional or use changes. The rear building will undergo no dimensional changes, but its use would change from two dwelling units to six dwelling units.

This proposed project fits within the neighborhood context. Multifamily residential is common along the Orleans Street Corridor, which points to the appropriate use case of the proposed project. As the buildings already exist, they fit within the design context of the neighborhood, as they will undergo no dimensional changes. While it technically does not meet the requirements for parking under the zoning code, little to no on parcel parking is common in this area of East Boston. Street parking is the predominant form of parking, and this project is located within proximity of public transportation options.

While this project is in violation of recently adapted zoning, the associated PLAN: East Boston points to the appropriate fit for the neighborhood. The PLAN states as one of its goals: “Allow for

a mix of housing types within a limited range and affirm the physical characteristics that define lowscale neighborhood fabric. Rather than segmenting residential uses, zoning will focus on setting limits on the size of potential buildings—an approach referred to as “form-based” zoning. These limits would be set by using existing built forms as a guide, ensuring that the size and scale of new development are consistent with what already exists.” As this project is making no exterior changes to an existing building, it already fits within the built form of the neighborhood. The proposed use of Multifamily is allowed as the EB4 district encourages a higher level of density than other newly created districts.

Zoning Analysis:

The proposed project triggers seven zoning violations. As this is a subdivision, the violations are presented across two refusal letters: the one associated with the existing 1-4 Percival Place and the new parcel designated 108-110 Orleans St.

Six of the violations are regarding dimensional violations under the zoning code. Zoning Code section 53-30 states “A Building or use existing on the effective date of this Article and not conforming to any such applicable dimensional requirements specified in other provisions of this Article may nevertheless be altered, enlarged, or extended, provided that, unless otherwise provided in subsection 2 of this Section 53-30, any enlargement itself: does not increase any such dimensional nonconformity; and otherwise conforms to the dimensional requirements of this Article.”

There are no dimensional changes being made to the exterior of the building. Therefore, these violations should not be triggered for this new project as it adheres to both of the above-stated requirements.

The final zoning violation is in regards to the parking and off-street loading. The zoning code would require six new car spaces for the change in use from two units to six units, as it falls under a 1 to 1 unit to space ratio. However, BTD parking guidelines recommend a parking ratio of zero in this area. The surrounding context for the project supports this idea, as on-street parking is the predominant form in the neighborhood and would require demolition of the existing building to meet the minimum ratio, which goes against planning goals to preserve existing buildings where applicable.

The proposed project also falls within the Flood Hazard District and the Coastal Flood Resiliency Overlay District, however, the triggers for CFROD review are not met. As the proposed project has no labeling for heights concerning the Designated Flood Elevation, it is impossible to analyze its compliance with the regulations. Section 25-6-6 states that “In the case of a building or structure that lawfully exists or for which a building permit has been lawfully issued prior to the effective date of this article, the Board of Appeal may grant permission for reconstruction, structural change” which exempts this project from these regulations as it is an already existing structure. In addition to providing data that allows for analysis of the DFE, it is recommended that Utilities be moved out of the basement to increase flood preparedness.

Recommendation:

In reference to BOA1704651, The Planning Department recommends APPROVAL WITH DESIGN REVIEW to ensure that no living area is extended below the Sea Level Rise Design Flood Elevation.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1704648
ZBA Submitted Date	2025-03-31
ZBA Hearing Date	2025-05-06
Address	108 to 110 Orleans ST East Boston 02128
Parcel ID	0103909000
Zoning District & Subdistrict	East Boston Neighborhood EBR-4
Zoning Article	53
Project Description	Subdivide a lot containing two residential structures and one garage into two lots. Lot 1 to contain 2872 square feet and Lot 2 to contain 2127 square feet. See BOA1704651 for corresponding use changes on each of the proposed parcels.
Relief Type	Variance
Violations	Building Lot Coverage Excessive Side Yard Insufficient Rear Yard Insufficient Permeable Area of Lot Insufficient

Planning Context:

While not considering the context of the corresponding use changes in BOA1704651, this application seeks to subdivide one lot containing multiple buildings into two lots. Out of an existing ~5000 square foot lot primarily facing Orleans Street, a smaller front lot containing the front building and garage would be 2127 square feet, while a larger rear lot, including a driveway to the front street, would be 2872 square feet. Each residential building would be on its own lot. Both lots also abut a smaller side street called Percival Place, though the rear lot would still have a driveway on the parcel edge opposite Percival Place that extends to Orleans Street.

Notably, this site is approximately twice the width of most lots in this general area of East Boston. Accordingly, it is reasonable to consider a lot subdivision. Given the existing layout of the current buildings, it would be unreasonable to simply split this wide lot into two skinner components, and instead to seek a way to allow each of the two residential buildings to have their own ownership. While there are not many examples in the immediate vicinity of other parcels configured accordingly, this provides good support for the strange lot dimensions suggesting that relief from zoning might be needed. Rather than proposing a wholesale

demolition of existing buildings to build something new and conforming onsite, this subdivision is a move to preserve and promote longer-term ownership and uses of these existing structures in an atypical assemblage. While this specific configuration is not anticipated through the specifics of East Boston's new zoning, effective May 2024, the corresponding PLAN: East Boston does note that "East Boston contains an eclectic mix of building forms that defies the use of any one typology," and proposes as a key recommendation to "allow for a mix of housing types" and that "zoning derived from existing forms will help those existing structures rely less on the Zoning Board of Appeal." While the new zoning cannot remove the need for the Zoning Board of Appeal in this particular case, this particular subdivision proposal does not worsen any of the existing nonconformities provided in the existing layout of the site.

Zoning Analysis:

As noted above, the proposed use changes in BOA1704651 are not being considered here. Instead, this analysis only looks at the dimensional violations of the specific subdivision request.

Four violations related to dimensional regulations are noted, per Table F of Article 53.

The maximum building lot coverage for a mid-block lot is 60%. For the existing (to-be-subdivided) lot, building lot coverage would become something approximating 90%, since the portion of the lot to remain as the original lot is more or less identical to the existing building footprint plus a small circulation space in the rear. This 90% coverage would be a violation. The primary reason for this proposed subdivision, in particular one where almost no open space is apportioned to the front lot, is to provide as much of the existing open space as possible for a driveway to the proposed rear parcel, rather than any actual new loss of open space. The existing amount of lot coverage is simply being apportioned between two lots, rather than any new construction worsening net lot coverage amounts. Relief is appropriate.

Similarly, the minimum permeable area of a mid-block lot in EBR-4 is 15%, but this is not met by the newly created lot. (While not noted on the refusal, it might also not be met by the existing front lot either, given the amount of existing concrete.) Again, nothing about the subdivision is actually exacerbating the amount of non-permeable surface to be present, and so this could reasonably be considered an existing condition, noted only due to the lot subdivision. Relief is appropriate to whatever degree this violation exists on both proposed parcels.

Finally, rear yards are required to be 1/3 of the lot depth, and side yards are required to be 5'. These conditions are wholly unmet by both proposed lots, which have side yards and rear yards

approaching 0'. Such conditions are all pre-existing, and are only being flagged due to the subdivision request. Relief is appropriate.

Recommendation:

In reference to BOA1704648, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufa

Deputy Director of Zoning

Case	BOA1670399
ZBA Submitted Date	2024-11-12
ZBA Hearing Date	2025-05-06
Address	44R Bradlee ST Hyde Park 02136
Parcel ID	1807878000
Zoning District & Subdistrict	Hyde Park Neighborhood 1F-6000
Zoning Article	69
Project Description	Proposed demolition of an existing single-story, detached two car garage and replacement with a new two-story, detached three car garage with a proposed office on the second floor.
Relief Type	Variance
Violations	Lot Width Insufficient FAR Excessive Height Excessive (ft) Side Yard Insufficient Rear Yard Insufficient Use: Forbidden

Planning Context:

The subject property is located in a primarily single and two-family neighborhood adjacent to Hyde Park Avenue. Many of the surrounding structures are 1.5- to 2.5-story residential structures with parking in the side or back yard. Many of the surrounding properties have detached garages or smaller structures such as sheds or pavilions in their backyards as well. The proposed project involves demolishing an existing single-story, detached two car garage to replace with a new two-story, detached three car garage with an office on the second floor.

Zoning Analysis:

The minimum requirement for lot width in this district is sixty feet. The subject parcel is fifty feet wide, consistent with surrounding lots that are also fifty feet wide. This is an existing non-conformity that is not altered by the proposed project.

The proposal has been cited for proposing an office which is a forbidden use according to Article 69, Table A. No additional information was provided describing the use of this structure

besides the label on the site plan which calls the second floor room an “office.” As represented on the submitted plans, the proposal does not appear to meet the Article 2 definition of an "agency or professional office," "back office" or "general office". Instead, the proposal appears to be better classified as an “Accessory professional office in a Dwelling” given the lack of a primary entrance to the office that would be identifiable for customers, the lack of customer parking, and the full bathroom proposed on the first floor. “Accessory professional office in a Dwelling” is allowed in this subdistrict. Further information provided by the proponent would be helpful in making this determination.

The proposed accessory structure's expanded floorplate worsens the violations for both side yards and for the rear yard. The minimum depth of the side is eight feet, nine inches (depth for a narrow lot) and the minimum depth of the rear lot is forty feet. The existing garage is 31 feet, 1 inch wide and is built to the rear (west) property line. The proposed garage is 45 feet wide and is also proposed to be built to the property line, worsening the violation. Along the side (south) property line, the structure is proposed 1 foot, 3 inches over the property line within a 2 foot driveway easement. The existing structure also extends over the property line but the proposed building is 2 feet, 9 inches deeper, increasing the degree of nonconformity. Along the side (north) property line, the existing garage does not violate the side yard requirement. The proposed garage has a 6 foot, 3 inch side yard with a walkway of permeable pavement proposed between the structure and the lot line.

The proposal was also cited for excessive height. Article 69-30 (7) states that accessory buildings may be erected in a side or rear yard if the accessory building is less than fifteen feet in height and does not come within four feet of the side or rear lot line. The existing structure is 9 feet, 5 inches in height, which means it would be allowed within the rear and side yards if it were set back four feet from the lot lines. The proposed structure is 24 feet tall. This additional height allows the property owner to make reasonable use of the property by creating additional living space. However, this means the structure is not allowed within the required side and rear yards and is therefore required to be set back eight feet, nine inches from the side lot lines and 40 feet from the rear lot line. While maintaining the full required yards is not feasible given the size of the parcel, the structure should be relocated to increase the side and rear yards to at least three feet, if not more, in order to provide an adequate buffer for light and air between neighboring properties given the proposed height and the second floor living space. If the

project can not be set back on the south side because of the placement of the existing driveway, the height should be lowered on this side to minimize the impact on the neighboring property.

The proposal is also cited for excessive Floor Area Ratio (FAR) with a proposed FAR of 0.6. The maximum FAR in this subdistrict is 0.5 according to Article 69, Table C. The proposed FAR is greater than permitted in the zoning code and there are no examples of properties in the immediate surrounding area with an FAR greater than 0.5, indicating that the proposed massing is excessive to the local context.

Plans reviewed "44 Bradlee Street Hyde Park, MA 02136" prepared by "686 Architects" dated 02-01-2024

Recommendation:

In reference to BOA1670399, The Planning Department recommends DENIAL WITHOUT PREJUDICE. The proponent should consider a future project that reduces the overall massing of the proposed accessory building and ensures adequate side and rear yards to avoid any impact on neighboring properties.

Reviewed,

Kathleen Onufa

Deputy Director of Zoning

Case	BOA1703885
ZBA Submitted Date	2025-03-27
ZBA Hearing Date	2025-05-06
Address	222 Saint Theresa AV West Roxbury 02132
Parcel ID	2003580000
Zoning District & Subdistrict	West Roxbury Neighborhood 1F-6000
Zoning Article	56
Project Description	The applicant proposes to construct a new single-family home at 222 Saint Theresa Avenue following the demolition of the existing structure, as outlined in related application ALT1661492.
Relief Type	Variance
Violations	Lot Width Insufficient

Planning Context:

The subject property is located in a residential section of West Roxbury, characterized by one and two-story single-family homes. The neighborhood has a distinctly suburban character, with detached homes, landscaped yards, and modestly scaled buildings that reflect the intent of the 1F-6000 zoning subdistrict.

The applicant proposes to demolish the existing home and construct a new single-family residence. The proposed use and building type are consistent with both the zoning subdistrict and the prevailing pattern of development in the neighborhood. Although the lot width is below the required minimum, this condition is common among properties in the immediate vicinity, where many lots range from 50 to 55 feet wide. As such, the proposal does not represent a significant departure from the established character of the area and is generally in keeping with the surrounding context.

Zoning Analysis:

The proposal to construct a new single-family home has been reviewed in detail against the dimensional and use requirements of Article 56, Section 8 (Table D) for 1F-zoned properties in the West Roxbury Neighborhood District. The review has identified the following zoning issue:

Lot Width Requirements: Per Article 56, Table D, the minimum lot width required in the 1F-6000 subdistrict is 60 feet. The subject property does not meet this requirement, resulting in a dimensional violation. However, lots ranging from 50 to 55 feet in width are common throughout this area of West Roxbury, and the lot width deficiency is not atypical in the local context. The proposed structure maintains the scale and setback conditions seen in the surrounding homes and does not introduce density inconsistent with the neighborhood's development pattern.

The plans, entitled 222 St. Theresa Avenue and prepared by Eric Zachrison, Architect with Context, LLC, dated August 29, 2024, propose the construction of a new single-family residence on an existing lot where the primary zoning nonconformity relates to insufficient lot width. The proposed project reflects the character, scale, and form of adjacent homes and is consistent with the established pattern of residential development on the street. Zoning relief is warranted, and the project further reflects the need to modernize dimensional regulations to better reflect the existing built fabric in West Roxbury.

Recommendation:

In reference to BOA1703885, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1703888
ZBA Submitted Date	2025-03-27
ZBA Hearing Date	2025-05-06
Address	224 Saint Theresa AV West Roxbury 02132
Parcel ID	2003580000
Zoning District & Subdistrict	West Roxbury Neighborhood 1F-6000
Zoning Article	56
Project Description	The applicant proposes to construct a new single-family home at 224 Saint Theresa Avenue following the demolition of the existing structure, as outlined in related application ALT1661492.
Relief Type	Variance
Violations	FAR Excessive Lot Width Insufficient Side Yard Insufficient Front Yard Insufficient

Planning Context:

The subject property is located within a predominantly residential area of West Roxbury, characterized by detached single-family homes, consistent with the suburban form encouraged by the 1F-6000 zoning subdistrict. The neighborhood features modestly scaled residences, landscaped front yards, and uniform street setbacks, reflecting the district's intent to preserve low-density residential character.

The proposal to construct a single-family dwelling aligns with the intended use and typology for this zoning district. While the project triggers multiple dimensional violations, these conditions, particularly regarding lot width and yard setbacks are not uncommon in the immediate vicinity. Several nearby properties exhibit similar nonconformities due to longstanding subdivision patterns and built conditions that predate current zoning requirements. The proposed home is designed to be compatible in scale, form, and siting with adjacent residences, ensuring that it complements the existing neighborhood fabric.

Zoning Analysis:

The proposed construction has been reviewed against the dimensional requirements set forth in Article 56, Section 8 (Table D) for properties within the 1F-6000 subdistrict of the West Roxbury Neighborhood District. The review has identified the following zoning violations:

Lot Width Requirements: The minimum lot width required in this district is 60 feet. The subject lot narrows, with portions at the rear measuring less than 45 feet, and tapering further as the lot progresses. This irregular and substandard lot width is reflective of historical subdivision patterns in the neighborhood, where many parcels do not conform to zoning standards.

Floor Area Ratio (FAR): The maximum permitted FAR for this district is 0.4. The proposed project has an FAR of 0.584, exceeding the allowable limit by 0.184. However, the building's massing remains compatible with surrounding homes, many of which reflect similar levels of density due to the neighborhood's built context.

Front Yard Setback: A minimum front yard setback of 20 feet is required. The proposed design provides a setback of 14 feet, resulting in a deficiency of 6 feet. However, this reduced setback generally aligns with existing building patterns along Saint Theresa Avenue, where several homes are situated closer to the street, maintaining a consistent streetscape.

Side Yard Setback: Zoning requires a minimum side yard setback of 10 feet. The proposed setbacks vary between 3 to 5 feet in different areas, creating deficiencies of up to 7 feet. Similar side yard nonconformities are prevalent in the surrounding neighborhood, where narrow lots and modest separations between homes are characteristic of the built environment.

The plans, entitled 224 Saint Theresa Avenue, prepared by Eric Zachrison, Architect with Context, LLC, dated August 29, 2024, propose a single-family residence that respects the established character of the area. While dimensional relief is required, the proposal reflects typical development patterns in West Roxbury and highlights the need for zoning updates to better accommodate existing neighborhood conditions.

Zoning relief is warranted, as the project remains consistent with the surrounding built environment and supports the residential objectives of the 1F-6000 subdistrict.

Recommendation:

In reference to BOA1703888, The Planning Department recommends APPROVAL.

Planning Department

CITY of BOSTON

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1691234
ZBA Submitted Date	2025-02-12
ZBA Hearing Date	2025-05-06
Address	9 Oak Square AV Brighton 02135
Parcel ID	2203912000
Zoning District & Subdistrict	Allston/Brighton Neighborhood 3F-4000
Zoning Article	51
Project Description	Renovate existing four-unit building to include six units. Resurface rear accessory parking area for six regular spaces and one van accessible space.
Relief Type	Variance, Conditional Use
Violations	Side Yard Insufficient Front Yard Insufficient Change in Nonconforming Use >25% (Forbidden) Use: MFR (Forbidden) Basement Unit (Forbidden)

Planning Context:

This project was last submitted for the Zoning Board of Appeal hearing scheduled April 8, 2025. As no new plans have been submitted, the recommendation below remains the same.

The proposed project intends to convert an existing four unit building to a six unit building with an accessible basement dwelling unit. The existing parking area to the rear of the site will also be renovated. The current condition contains seven parking spaces across a large gravel area. The proposed parking arrangement will contain six regular spaces and one van accessible space across a reduced, paved footprint.

The Allston-Brighton Needs Assessment, adopted by BPDA Board in January 2024, recognizes that the average rent within the neighborhood for a two-bedroom unit increased by more than 10% over the course of the Assessment study period. This increase underscores the immediate need for additional housing within both Boston as a whole, and particularly the Allston-Brighton area. Participants in the study promoted supply-side solutions to the housing crisis, recommending an end to parking minimums, relaxation of zoning rules, and other measures to

increase housing production in the neighborhood. The proposed development subdivides an existing building into additional housing units, and adds accessible accommodations, in line with the goals of creating more housing while preserving the unique neighborhood character.

The proposed project contains seven parking spaces, one more than the number of the proposed housing units. Per the suggested BTD Parking Maximums, there should be no more than a 1.0/du parking ratio. It is recommended that the plans be revised to reduce the parking by an additional space.

Zoning Analysis:

The proposed project contains five zoning violations. The two dimensional violations for insufficient front and side yard persist from the existing condition. The front yard is changed minimally through the creation of a bay at the left side of the building. The bay will protrude 0.2' further into the front yard from the existing building front, but the front of the building face will continue to be located approximately twenty feet from the front lot line. The side yard condition to the left of the building is improved through the proposed changes, with an increase by five feet of the proposed side yard.

The other violations relate to the number of units and their locations within the building. The building presently contains four units; as such, the proposed project represents an extension of a nonconforming use, albeit a worsened condition through the addition of two units. Given the needs of the Allston-Brighton neighborhood, and the City as a whole with respect to additional and accessible unit housing, relief is recommended for multifamily use. However, changes should be made to the basement unit to ensure proper natural light within the unit. It is not clear from the provided plans if light wells exist for that unit.

Recommendation:

In reference to BOA1691234, The Planning Department recommends DENIAL WITHOUT PREJUDICE Plans should be revised for a reduction in parking area and improved basement dwelling conditions with light wells and resubmitted.

Reviewed,

Kathleen Onufa

Planning Department

CITY of BOSTON

Case	BOA1669678
ZBA Submitted Date	2024-11-07
ZBA Hearing Date	2025-05-06
Address	879 to 881 Blue Hill AV Dorchester 02124
Parcel ID	1404262000
Zoning District & Subdistrict	Greater Mattapan Neighborhood LC
Zoning Article	60
Project Description	The proponent is seeking the addition of live entertainment to a new restaurant.
Relief Type	Variance, Conditional Use
Violations	Use: nonconforming use change; Use: forbidden (live entertainment)

Planning Context:

The proposed project was deferred at the previous Zoning Board of Appeal meeting on March 25, 2025 at the request of the Mayor's Office of Neighborhood Services. No new plans have been submitted, so the original recommendation is below.

This one-story restaurant and lounge is located at the corner of Blue Hill Avenue and Angell Street. Blue Hill Avenue is a major commercial corridor with other restaurants as well as convenience stores, barber shops, and a grocery store. Restaurants of this type require licenses from the License Board specific to the operator.

The project is situated within a Neighborhood Business subdistrict, which has the stated purpose of "encourag[ing] the development of neighborhood businesses that provide essential goods and services as well as jobs and entrepreneurial opportunities for the Greater Mattapan community" (Section 60-10).

Zoning Analysis:

Since this project appears to be for a new restaurant, the extension of a nonconforming use citation would not apply. ISD has been contacted in regards to this issue.

The proposed new use is a restaurant with live entertainment, which requires a conditional use permit if it operates no later than 10:30 PM, and a variance if it is open after 10:30 PM. It is unclear from the application what the hours of operation for the business would be.

Whether a conditional use permit or a variance is required, approval is recommended because this project falls within the purview of ongoing land use modernization updates. In Squares + Streets districts, for instance, most entertainment and events are classed as either allowed or allowed at the ground level. This change reduces costs and regulatory burdens on small businesses.

Recommendation:

In reference to BOA1669678, The Planning Department recommends APPROVAL.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

Case	BOA1578094
ZBA Submitted Date	2024-03-08
ZBA Hearing Date	2025-05-06
Address	218 Bremen ST East Boston 02128
Parcel ID	0103757000
Zoning District & Subdistrict	East Boston Neighborhood 3F-2000
Zoning Article	53
Project Description	Expand the building into the rear yard and add a fourth floor to an existing three-story, three-unit building, resulting in a total of four units.
Relief Type	Variance, Conditional Use
Violations	Parking or Loading Insufficient GCOD Applicability Roof Structure Restrictions Additional Lot Area Insufficient FAR Excessive Height Excessive (stories) Height Excessive (ft) Usable Open Space Insufficient Front Yard Insufficient Side Yard Insufficient Rear Yard Insufficient Flood Hazard Districts Use: Forbidden

Planning Context:

The project is located in a residential area of East Boston, directly across the street from the East Boston Greenway and just a short distance from Bremen Community Park. The neighborhood is characterized by tightly clustered three-story buildings with small backyards. This dense and walkable environment is supported by excellent transit access, with the Maverick T stop less than a 10-minute walk away and the Airport T stop just a 5-minute walk from the site.

Based on recommendations from PLAN: East Boston (adopted on April 24, 2024), this area was rezoned as EBR-4 on May 1, 2024 to allow four-story multifamily buildings, signaling a shift toward accommodating slightly higher density. One of PLAN: East Boston's key goals focused on expanding access to housing options that are affordable, stable, and able to meet

households needs as they change over time. The neighborhood's established infrastructure, proximity to public transit, and access to parks make it an ideal location for modest density increases like the proposed project. The updated zoning reflects a recognition of the area's potential to support additional housing while maintaining its residential character.

Zoning Analysis:

This case was previously brought forward for the January 28, 2025 hearing, at which time the Planning Department recommended Denial Without Prejudice. As the project plans have not changed since that time, our recommendation remains the same.

The proposed project at 218 Bremen Street in East Boston has been cited with 13 zoning violations. These citations are listed upon the project's most recent refusal letter, dated 3/7/24. The project proposal was initially filed with the Inspectional Services Department on 12/1/23. Since that initial filing, updated zoning for the East Boston neighborhood was adopted by the Zoning Commission on 4/24/24.

The proponent seeks to convert a three-unit, three story building into a four-unit building by extending into the rear yard and adding a fourth story. Under the old zoning district 3F-2000 the project has 13 violations related to dimensional requirements (FAR, height, and front, side and rear yards), use requirements (multifamily forbidden), site requirements (off-street parking, lot area, and usable open space), and others (flood hazard district, GCOD, roof structure).

Under East Boston's updated zoning, the property falls within the EBR-4 subdistrict, which permits a maximum building height of 4 stories/50' and allows multi-unit buildings. The proposed project complies with both of these requirements.

Updated zoning for the area also removes previously present dimensional regulations (such as maximum FAR, minimum lot area, minimum additional lot area, and minimum usable open space) and replaces them with updated dimensional regulations based on building form and environmental performance items (including maximum building lot coverage, maximum building floor plate, and minimum permeable area of lot). The zoning also recalibrates the requirements for previously present dimensional regulators (including for front, rear, and side yard setbacks).

Some of the proposed project's raw dimensional figures are in violation of the new zoning requirements (mainly yards and lot coverage). The side and front yard violations reflect existing nonconforming conditions that are not worsened by the proposed changes. According to the provision on section 53-30, a building may be altered, enlarged or extended, provided that any enlargement itself does not increase any such dimensional nonconformity. However, the project worsens conditions for the rear yard and lot coverage. The proponent must revise the design to make sure that the proposed rear yard and lot coverage is compliant with updated zoning.

The current building lacks off-street parking. According to section 53-28-2, if a Structure existing on the effective date of this Article is altered or extended so as to increase its Gross Floor Area or the number of Dwelling Units, only the additional Gross Floor Area or the additional number of Dwelling Units shall be counted in computing the off-street parking facilities required, which under updated zoning would be 1 additional unit, which does not have a parking requirement. Additionally, creating off-street parking where there is none would require demolishing the existing building and creating a curb cut where there is none, removing public on-street parking; zoning relief is appropriate.

Additionally, the project is located in the Coastal Flood Resilience Overlay District. The proponent is not allowed to extend the living area below the sea level rise Design Flood Elevation (DFE). The drawings do not have enough information to accurately determine whether or not it's in compliance, since they are missing the finished floor elevation of the first floor in Boston City Base (BCB). The elevations need to be labeled in BCB instead of the project datum in order to determine whether the additional living area is below DFE or not.

The proposal also involves extending a structure that occupies more than 50 square feet of lot area within a Groundwater Conservation Overlay District (GCOD). Consequently, the parcel is subject to GCOD review by the Boston Water and Sewer Commission.

This recommendation is based on plans titled “218 BREMEN ST. E. BOSTON MA” prepared by DAVID CHOI on 11/4/23.

Recommendation:

In reference to BOA1578094, The Planning Department recommends DENIAL WITHOUT PREJUDICE. The proponent should consider a project that does not extend living area below the Sea Level Rise Design Flood Elevation (Article 25A) and reduces the size of the addition to ensure it is compliant with rear yard and lot coverage requirements in updated zoning.

Reviewed,

Kathleen Onufer

Deputy Director of Zoning

MEMORANDUM **JULY 18, 2024**

TO: **BOSTON REDEVELOPMENT AUTHORITY**
D/B/A BOSTON PLANNING & DEVELOPMENT AGENCY (BPDA)
AND JAMES ARTHUR JEMISON II, DIRECTOR

FROM: CASEY HINES, DIRECTOR OF DEVELOPMENT REVIEW
ELLA WISE, PLANNING & DEVELOPMENT REVIEW COORDINATION MANAGER
ZOE SCHUTTE, PROJECT ASSISTANT

SUBJECT: 470 WESTERN AVENUE, BRIGHTON

SUMMARY: This Memorandum requests the Boston Redevelopment Authority d/b/a Boston Planning & Development Agency ("BPDA") authorize the Director to: (1) issue a Certification of Approval for the proposed development located at 470 & 470A Western Avenue in Brighton (as defined below, the "Proposed Project"), in accordance with Article 80E, Small Project Review of the City of Boston Zoning Code (the "Code"); (2) execute and deliver an Affordable Rental Housing Agreement and Restriction ("ARHAR"), if necessary, or require the same be executed by and between the Proponent and Mayor's Office of Housing, in connection with the Proposed Project; (3) enter into a Community Benefits Agreement in connection with the Proposed Project, and to take any other actions and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

PROJECT SITE

The project site includes approximately 10,702 square feet of land located at the northern portion of Western Avenue in the Allston-Brighton Neighborhood District, with an underutilized and unimproved asphalt surface lot and a two (2) family residential structure (the "Property Site" or "Site").

DEVELOPMENT TEAM

The development team includes:

Proponent:	470 Western Ave LLC C/O Triad Alpha Partners, LLC Peter Zagorianakos, Manager
Legal Counsel:	McDermott Quilty Miller & Hanley LLP Joseph P. Hanley, Esq. – Partner Nicholas J. Zozula, Esq. – Partner
Architecture:	R&B Design Ronald Bennett - AIA
Civil Engineer:	Columbia Design Group Peter Gammie - PE

PROPOSED PROJECT

The proposed project includes the construction of a new six (6) story 39-unit residential building of approximately 34,647 square feet of gross floor area, with on-site parking for 14 vehicles, 49 bicycle parking spaces and improvements in landscaping, pedestrian connectivity, and related public realm improvements in and around the Site, consistent with the character and housing needs of the surrounding community (the “Proposed Project”). The Proposed Project is anticipated to include two (2) studio units, nineteen (19) one-bedroom units, thirteen (13) two-bedroom units, and five (5) three-bedroom units.

The Proponent plans to commence construction of the Proposed Project in 2025. There are an estimated 80+/- construction jobs contributing to the Proposed Project. The total development cost is approximately Twenty Million Dollars ($20,000,000).

The scale, design and programming of the Proposed Project has been carefully shaped and scoped by carefully reviewing the purpose and goals of the Western Avenue Corridor Study and Rezoning (“WACRZ”) and responding to staff and public comments during Article 80 Small Project review.

The table below summarizes the Proposed Project's key statistics:

Project Metrics	**Proposed Plan**
Gross Square Footage	42,154
Gross Floor Area	34,647
Residential	34,647
Development Cost Estimate	$20,000,000
Residential Units	39
IDP Units	7
Parking spaces	14

ARTICLE 80 REVIEW PROCESS

On May 13, 2024, the Proponent filed an Application for Small Project Review with the BPDA for the Proposed Project, pursuant to Article 80E of the Code (the "Code"). The BPDA sponsored and held a virtual public meeting on June 10, 2024, via Zoom. The meeting was advertised in the local newspapers, posted on the BPDA website and a notification was emailed to all subscribers of the BPDA's Allston/Brighton neighborhood update list. The public comment period ended on June 12, 2024.

The Proponent also presented at meetings with the Allston Civic Association and the Brighton Allston Improvement Association at various points during the public process, where it presented and further discussed the Proposed Project with these groups. As a result of the input received and continued dialogue with the community, the Proponent made certain changes to the original project scope, design, parking, landscape, and vehicular and pedestrian access.

ZONING

The Project Site is located in the Allston-Brighton Neighborhood Zoning District and the Community Commercial 1 Zoning Subdistrict and is regulated by Article 51 of the Zoning Code. There are no zoning overlays applicable to the Project Site.

The Proponent expects that the Proposed Project will require zoning relief for the following:

Article 51, Section 16: First Floor Residential Use Conditional
Article 51, Section 17: Floor Area Ratio Excessive
Article 51, Section 17: Building Height Excessive
Article 51, Section 17: Rear Yard Setback Insufficient
Article 51, Section 56: Off-Street Loading Insufficient

Article 51, Section 56: Off-Street Parking Insufficient
Article 51, Section 56: Off-Street Parking Design and Maneuverability (Tandem Spaces and Elevator Lift)

PLANNING AND ZONING CONTEXT

The Proposed Project is within the boundaries of the Western Avenue Corridor Study and Rezoning ("WACRZ") initiative adopted by the BPDA Board in October 2022. WACRZ aims to advance community goals, including access to more market-rate and affordable housing, more open space and better connections, and multimodal connections through new zoning, Urban Design Guidelines, and a mobility plan for Western Avenue. Generally, the plan envisions Western Avenue as a vibrant, multi-modal corridor, with nodes of higher density development at Barry's Corner and near Boston Landing. Specifically, WACRZ recommends creating additional income-restricted housing by providing a density bonus, as well as creating a transitway along Western Avenue by requiring a 10-foot setback in new development on portions of the southern side of the street. Based on WACRZ, Article 51 of the Code was amended and related map amendments were adopted by the Zoning Commission. Due to these amendments, the Proposed Project is within the Allston/Brighton Neighborhood, Everett/Telford Community Commercial ("CC-1") subdistrict. The Proposed Project requires zoning relief in line with density bonuses allowed for Planned Development Areas ("PDAs") within the CC-1 subdistrict. Because the Proposed Project provides at least a 10-foot front setback to allow for improved public transit along Western Avenue as envisioned by WACRZ, provides more income-restricted units than is required by the City of Boston's Inclusionary Development Policy ("IDP"), and is consistent with the goals of WACRZ, zoning relief is recommended.

MITIGATION AND COMMUNITY BENEFITS

The Proposed Project will include mitigation measures and community benefits to the neighborhood and the City of Boston (the "City"), including:

- Exceeding current Inclusionary Development Policy requirements with greater percentage of on-site affordable housing, as part of the WACRZ, and as detailed further below;
- Improving the streetscapes by constructing modern sidewalks as well as upgrading the public realm in and around the Project Site. Public realm improvements will include new pedestrian lighting and landscaping;

- An enclosed ground-floor trash room, equipped with a concrete foundation, framed walls, and weathertight exterior doors, creating a fully protected and secure space for waste management;
- The Proponent will include a ten (10) foot overall setback along Western Avenue, which will be programmed with long-term transportation improvements, green stormwater infrastructure (if possible), and landscaping;
- Creating much needed residential rental units for both market-rate and income-restricted housing in the Allston/Brighton community, with a greater percentage of on-site affordable units in excess of the City's current IDP requirements;
- The Proponent will design and install new complete street compliant sidewalks, furnishing zone, and a low-stress bike lane along Western Avenue, as part of the Proposed Project. These improvements help implement the long-term vision for Western Avenue as laid out in WACRZ. These improvements will be designed in coordination with the Planning and Streets Cabinets, and will be complete before the Certificate of Occupancy is granted;
- As required by the City's Bicycle Parking Guidelines, the Proponent will contribute $10,725.00 to the Boston Transportation Department prior to Certificate of Occupancy to help support the Bluebikes bike share system;
- The Proponent will relocate certain utility / light poles for improved circulation on the public sidewalk at Western Avenue;
- The Proponent will plant and maintain six (6) new trees in and around the Site;
- The Proponent commits to equipping electric vehicle charging infrastructure at a rate of 25% installed, or four (4) charging stations, and the remaining ten (10) parking spaces to be EV Ready for future installation;
- In support of the City's green building and carbon neutral goals, the Proposed Project will be designed to meet LEED Gold standards;
- Installation of a 6-foot wooden fence along the rear of the project site;
- Installation of a raised crosswalk at Kelly Court, to be coordinated with BPDA and BTD, through continued design review;
- Inclusion of a rooftop solar PV system;
- The Proposed Project will create approximately eighty (80) temporary construction related jobs; and
- Additional property tax revenue for the City.

The community benefits described above will be set forth in the Community Benefit Contribution Agreement for the Proposed Project. Any required community benefit contribution payments shall be made to the BPDA or respective City of Boston

department before issuance of the initial building permit by the City of Boston Inspectional Services Department ("ISD") and will be distributed as outlined above.

The Proposed Project and public realm improvements are subject to BPDA Design Review.

INCLUSIONARY DEVELOPMENT POLICY

The Proposed Project is subject to the Inclusionary Development Policy, dated December 10, 2015 (the "IDP") and is located within Zone B, as defined by the IDP. The IDP requires that 13% of the total number of units within the development be designated as IDP units, and the WACRZ further recommends 19% of residential unit square footage as IDP units restricted at an average of 60% of Area Median Income ("AMI"). In this case, the Proposed Project has committed to providing seven (7) units, or approximately 17.9% of the total number of units within the Proposed Project, to be created as IDP rental units (the "IDP Units"), including six (6) units made affordable to households earning not more than 60% of AMI, as published annually by the BPDA and based upon data from the United States Department of Housing and Urban Development ("HUD"), with the remaining one (1) unit made affordable to households earning not more than 100% of AMI.

The proposed locations, sizes, income restrictions, and rental prices for the IDP Units are as follows:

Unit Number	Number of Bedrooms	Square Footage	Percent of Area Median Income	Rental Price	ADA/Group 2 Designation (if any)
101	2	887	60%	$1499	
104	2	787	60%	$1499	
202	3	1140	100%	$2880	
203	1	690	60%	$1325	Yes
301	1	731	60%	$1325	
405	1	689	60%	$1325	
504	2	829	60%	$1499	

The location of the IDP Units will be finalized in conjunction with BPDA and Mayor's Office of Housing ("MOH") staff and outlined in the ARHAR, and rental prices and income limits will be adjusted according to BPDA published maximum rental prices and income limits, as based on HUD AMIs, available at the time of the initial rental

of the IDP Units. IDP Units must be comparable in size, design, and quality to the market-rate units in the Proposed Project, cannot be stacked or concentrated on the same floors, and must be consistent in bedroom count with the entire Proposed Project.

The ARHAR must be executed along with, or prior to, the issuance of the Certification of Approval for the Proposed Project. The Proponent must also register the Proposed Project with the Boston Fair Housing Commission ("BFHC") upon issuance of the building permit. The IDP Units will not be marketed prior to the submission and approval of an Affirmative Marketing Plan to the BFHC and the BPDA. Preference will be given to applicants who meet the following criteria, weighted in the order below:

1. Boston resident; and
2. Household size (a minimum of one (1) person per bedroom).

Where a unit is built out for a specific disability (e.g., mobility or sensory), a preference will also be available to households with a person whose need matches the build out of the unit. The City of Boston Disabilities Commission may assist the BPDA in determining eligibility for such a preference.

The IDP Unit will not be marketed prior to the submission and approval of the Plan. An affordability covenant will be placed on the IDP Units to maintain affordability for a total period of fifty (50) years (this includes thirty (30) years with a BPDA option to extend for an additional period of twenty (20) years). The household income of the renter and the rent of any subsequent rental of the IDP Units during this fifty (50) year period must fall within the applicable income and rent limits for each IDP Unit. IDP Units may not be rented out by the developer prior to rental to an income eligible tenant, and the BPDA or its assigns or successors will monitor the ongoing affordability of the IDP Unit.

RECOMMENDATIONS

The Proposed Project complies with the requirements set forth in Section 80E of the Code for Small Project Review. Therefore, staff recommends that the Director be authorized to: (1) issue a Certification of Approval for the Proposed Project; (2) execute and deliver an Affordable Rental Housing Agreement and Restriction ("ARHAR"), if necessary, of require the same be executed by and between the

Proponent and Mayor's Office of Housing, in connection with the Proposed Project; (3) enter into a Community Benefits Agreement in connection with the Proposed Project, and to take any other actions and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

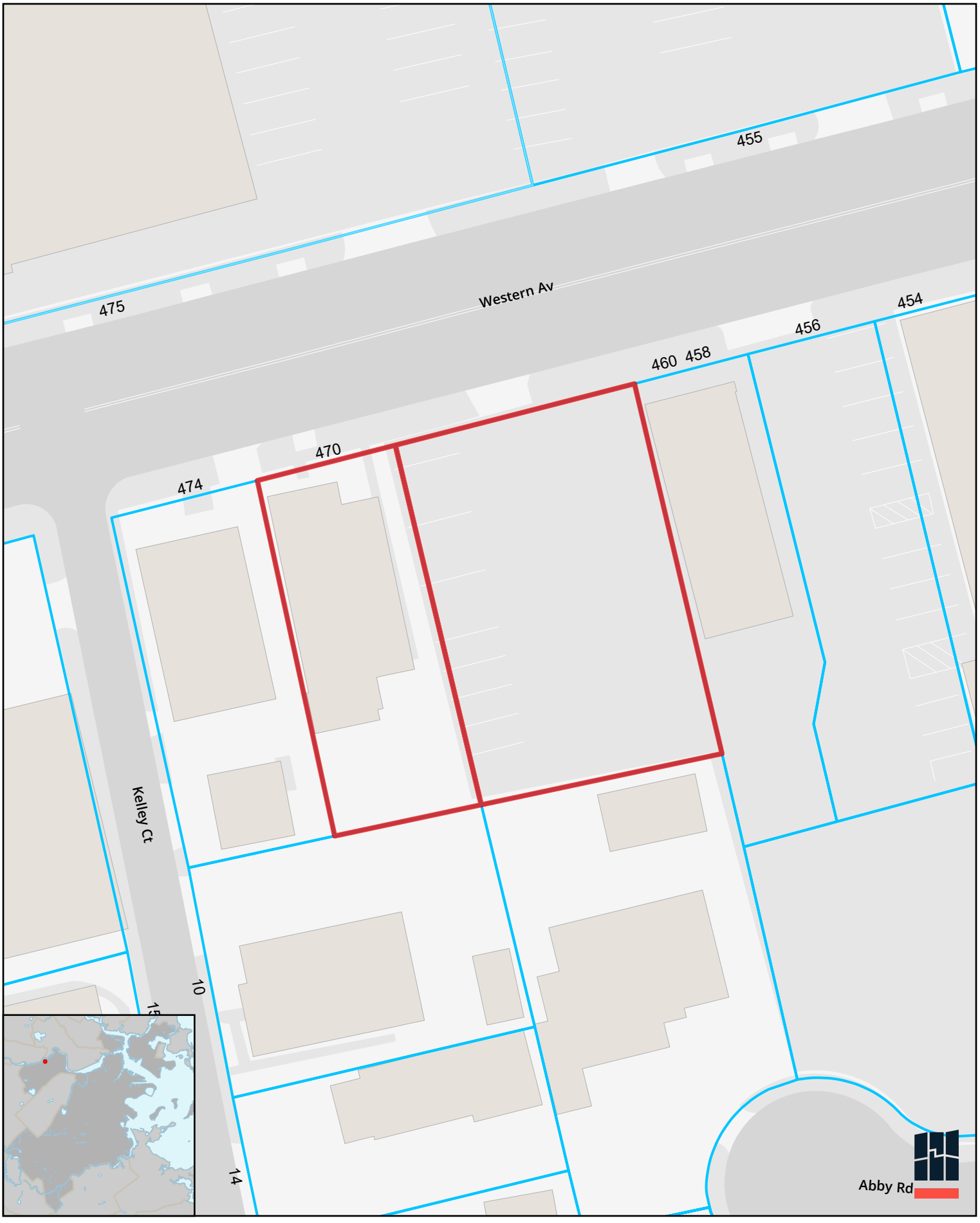
VOTED: That the Director be, and hereby is, authorized to issue a Certification of Approval pursuant to Section 80E-6 of the Boston Zoning Code (the "Code"), approving the development at 470 & 470A Western Avenue in the Brighton neighborhood, proposed by 470 Western Ave LLC (the "Proponent"), for the construction of a new six (6) story, 39 unit residential rental building of approximately 33,668 square feet of gross floor area, with on-site parking for 14 vehicles, 49 bicycle parking spaces and improvements in landscaping, pedestrian connectivity, and related public realm improvements in and around the Project Site, consistent with the character and housing needs of the surrounding community (the "Proposed Project"), in accordance with the requirements of Small Project Review, Article 80E, of the Code, subject to continuing design review by the BPDA; and

FURTHER VOTED: That the Director be, and hereby is, authorized to execute and deliver an Affordable Rental Housing Agreement and Restriction for the creation of seven (7) on-site IDP Units, if necessary, of require the same be executed by and between the Proponent and Mayor's Office of Housing, in connection with the Proposed Project; and

FURTHER VOTED: That the Director be, and hereby is, authorized to enter into a Community Benefits Agreement, and to take any other actions and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

470 Western Avenue

1:400



470 Western Avenue

1:400



MEMORANDUM **March 13, 2025**

TO: **BOSTON REDEVELOPMENT AUTHORITY**
D/B/A BOSTON PLANNING AND DEVELOPMENT AGENCY
AND KAIROS SHEN, DIRECTOR

FROM: CASEY HINES, SENIOR DEPUTY DIRECTOR FOR DEVELOPMENT REVIEW
NUPOOR MANANI, SENIOR DEPUTY DIRECTOR FOR DEVELOPMENT REVIEW
MEGHAN RICHARD, SENIOR URBAN DESIGNER
JILL ZICK, ASSISTANT DEPUTY DIRECTOR OF PUBLIC REALM DESIGN
FORD DELVECCHIO, PLANNER I
COLIN FREDRICKSON, TRANSPORTATION PLANNER
CAMILLE PLATT, PROJECT MANAGER

SUBJECT: 77 TERRACE STREET AND 778-796 PARKER STREET, MISSION HILL

SUMMARY: This Memorandum requests that the Boston Redevelopment Authority ("BRA") d/b/a Boston Planning Department ("BPD") authorize the Director to: (1) issue a Certification of Approval for the proposed development located at 77 Terrace Street and 778-796 Parker Street in Mission Hill (as defined below, the "Proposed Project"), in accordance with Article 80E, Small Project Review of the Boston Zoning Code (the "Code"); and (2) enter into a Community Benefits Agreement in connection with the Proposed Project, and to take any other actions and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

PROJECT SITE

The Proposed Project is located on eleven (11) parcels, comprised of 77 Terrace Street (approximately 28,300 square feet) and 778-796 Parker Street (approximately 30,765 square feet), that will be combined to create an approximately 59,065 square foot parcel of land in the Mission Hill neighborhood of Boston (the "Project

Site") and subsequently subdividing them into three distinct (3) parcels to create a three (3) part development as outlined in this Decision. The Project Site is currently vacant. The parcels are currently City-owned and will be transferred to the developer per the designation as awarded in July 2023. The MBTA 14, 22, and 66 Buses have inbound and outbound stops within 0.4 miles of the Project Site. Additionally, the MBTA Orange Line has a stop at Roxbury Crossing 0.2 miles from the Project Site, and the Ruggles MBTA Commuter Rail Station is located approximately 0.7 miles from the Project Site.

DEVELOPMENT TEAM

The development team includes:

Proponent:	ODJ Dev LLC Kevin Maguire
Architect:	JGE Architecture & Design Jonathan Garland
Legal Counsel:	Pulgini and Norton, LLP John Pulgini, Esq.

PROPOSED PROJECT

ODJ Dev LLC (the "Proponent") proposes to redevelop this long abandoned and contaminated site in Mission Hill (Project Site) by consolidating the eleven (11) parcels within it and subsequently subdividing them into three (3) parcels to create a three (3) part development. The three (3) components of this development shall stand on their own merits and shall not be required to be developed in tandem with one another. The three (3) components of this development are (1) the construction of a five (5) story building containing forty-eight (48) affordable homeownership residential units, approximately 2,000 square feet of ground floor retail, and thirteen (13) off-street parking spaces upon an approximately 29,132 square foot parcel; (2) the development of a public open space area for recreation upon an approximately 15,840 square foot parcel; and (3) the development of a community garden upon a 11,931 square foot parcel. Vehicle parking for the residential component will be provided at grade and will be accessed from Terrace Street. Forty-eight (48) interior bicycle parking spaces will be provided for residents on the ground floor of the building. The units will be comprised of twelve (12)

studio units, seventeen (17) one-bed units, sixteen (16) two-bed units, and three (3) three-bed units.

The table below summarizes the Proposed Project's anticipated key development metrics.

Estimated Project Metrics	**Proposed Plan**
Gross Square Footage	49,838
Gross Floor Area	49,838
Residential	47,955
Office	0
Retail	2,000
Lab	0
Medical Clinical	0
Education	0
Hotel	0
Industrial	0
Recreational	0
Cultural	0
Parking	
Development Cost Estimate	$35,000,000
Residential Units	48
Rental Units	0
Ownership Units	48
IDP/Affordable Units	48
Parking spaces	13

ZONING

The Project Site is located within the Mission Hill Neighborhood District governed by Article 59 of the Zoning Code, more specifically in the Local Industrial ("LI") and

3F-3000 Districts. The Proposed Project will be seeking zoning relief from the Zoning Board of Appeals for the following:

- Use
- Maximum Building Height (Feet)
- Rear Yard Setback
- Off-Street Parking
- Required Loading Bays

PLANNING AND ZONING CONTEXT

The Proposed Project spans combined properties at 77 Terrace Street and 778-796 Parker Street in the Mission Hill neighborhood. The component at 77 Terrace Street falls within a Local Industrial Zoning Subdistrict and will include 48 affordable homeownership condominium units and 2,000 square feet of ground-floor retail space, while 778-796 Parker Street, located in an 3F-3000 Zoning Subdistrict, will be reserved for open space use. Specifically, 778-786 Parker Street will become a community garden, while 790-796 Terrace Street will preserve an existing park and urban wild.

The Parker Street context primarily consists of three- and four-story residential buildings, while Terrace Street is evolving with a mix of multifamily residential, commercial, and retail uses. The Proposed Project is well served by transit, with service provided by the MBTA's Roxbury Crossing Orange Line station, as well as the 19, 22, and 66 bus routes.

Developed in partnership with the Mayor's Office of Housing and the Boston Department of Parks and Recreation, on public land the project aims to set a positive precedent for the evolving residential corridor along Terrace Street. Notably, all residential units in the new building will be income-restricted.

The proposed project will deliver open space and a mixed-use development that was carefully scaled and designed to align with Mission Hill's neighborhood needs. In shaping the building's design, particular attention was given to the surrounding built environment, ensuring the structure complements both street frontages of the site.

built environment, ensuring the structure complements both street frontages of the site. The building also reflects the evolving character of Terrace Street, embracing its transition into a more residential corridor.

ARTICLE 80 REVIEW PROCESS

On September 20, 2024, the Proponent filed an Application for Small Project Review with the Planning Department for the Proposed Project, pursuant to Article 80E of the Code (the "Code"). The Planning Department sponsored and held a virtual public meeting on November 18, 2024, via Zoom. The meeting was advertised in local newspapers, posted on the Planning Department website, and a notification was emailed to all subscribers of the Mission Hill neighborhood update list as required by the Code. The public comment period ended on December 2, 2024.

MITIGATION AND COMMUNITY BENEFITS

The Proposed Project will include mitigation measures and community benefits to the neighborhood and the City of Boston (the "City"), including:

- The creation of forty-eight (48) affordable residential homeownership units.
- The development of nearly 28,000 square feet of usable open space, in the form of a community garden (approximately 11,931SF) and public open space for recreation (approximately 15,840SF). The Proponent shall enter into a Memorandum of Understanding, or similar agreement, with the Mayor's Office of Housing and Boston Parks Department for the creation of the open space and the community garden.
- Significant landscaping and related public realm improvements both on site and in the adjacent public rights-of-way.

The Proposed Project and public realm improvements are subject to Planning Department Design Review. Additionally, review of the new public open space and community garden will be subject to a separate review process by Parks Department staff and the Boston Parks Commission, as the Parks Department is the anticipated final owner of these open spaces once they have been built out. Any suggested changes proposed within the public right-of way will be subject to a separate review by the Public Improvement Commission. It is anticipated that their review may include specific repair plans and pedestrian easements.

In compliance with Boston's Complete Streets Policy, the Proponent will setback their building to create a wider sidewalk on Terrace Street within the bounds of their property within the public way. Terrace Street will have a minimum of eleven (11) foot sidewalk. All sidewalks will maintain at least eight (8) feet clear accessible paths of travel absent vertical elements made of concrete monolithic sidewalk space. All sidewalk setbacks are subject to design review and will require approval for a Pedestrian Easement with the Public Improvement Commission (PIC).

The Proponent will provide ten (10) visitor bicycle parking spaces within the public right of way subject to approval from the Public Improvement Commission (PIC).

INCLUSIONARY DEVELOPMENT POLICY

Projects that are financed as one entity and where at least 40% of the units are income restricted are exempt from the Inclusionary Development Policy, dated December 10, 2015. The Proposed Project is financed as one entity and contains forty-eight (48) income-restricted homeownership units, or 100% percent of the total units, surpassing 40% of the total units. As such, the Proposed Project is exempt from the Inclusionary Development Policy.

The residential homeownership units within the Proposed Project shall include approximately twenty-four (24) units made available to households earning not more that 80% of the Area Median Income ("AMI"), as published by the United States Department of Housing and Urban Development and approximately twenty-four (24) units will be made available to households earning not more than 100% of AMI.

The affordability of the Proposed Project will be finalized through the public funding process and the ongoing affordability of the Proposed Project will be monitored under a MassDocs agreement. The Proposed Project has been issued City of Boston Affordable Housing Acceleration Certificate No. EO2433.

RECOMMENDATIONS

The Proposed Project complies with the requirements set forth in Section 80E of the Code for Small Project Review. Therefore, staff recommends that the Director be authorized to: (1) issue a Certification of Approval for the Proposed Project, and (2) enter into a Community Benefits Agreement in connection with the Proposed Project, and to take any other actions and to execute any other agreements and

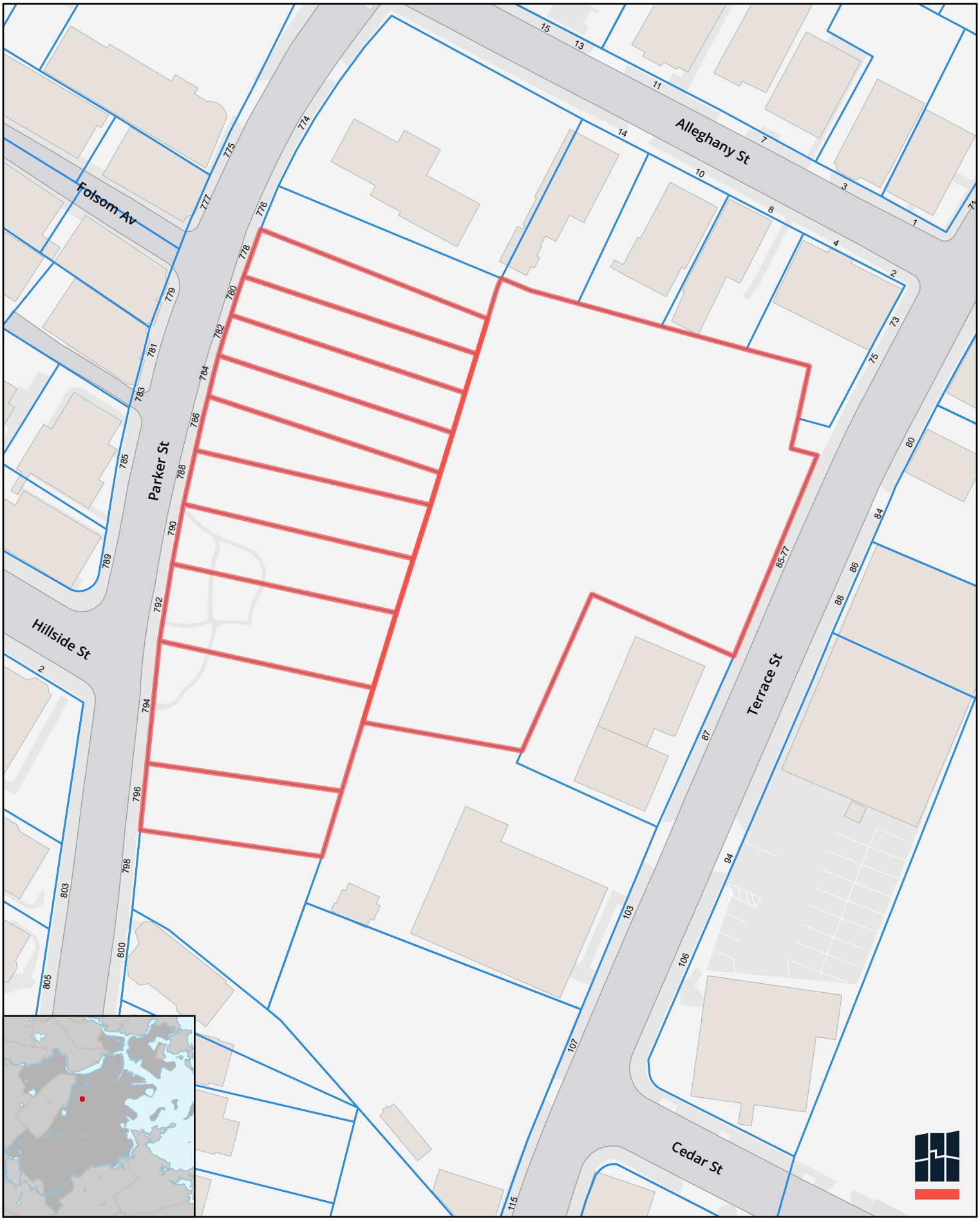
documents that the Director deems appropriate and necessary in connection with the Proposed Project.

VOTED: That the Director be, and hereby is, authorized to issue a Certification of Approval pursuant to Section 80E-6 of the Boston Zoning Code (the "Code"), approving the development at 77 Terrace Street in the Mission Hill neighborhood, proposed by ODJ Dev LLC (the "Proponent"), for the construction of a five (5) story building containing forty-eight (48) income-restricted homeownership residential units and 2,000 square feet of ground floor retail, public open space for recreation, and community garden (the "Proposed Project"), in accordance with the requirements of Small Project Review, Article 80E, of the Code, subject to continuing design review by the Planning Department; and

FURTHER VOTED: That the Director be, and hereby is, authorized to enter into a Community Benefits Agreement, and to take any other actions and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

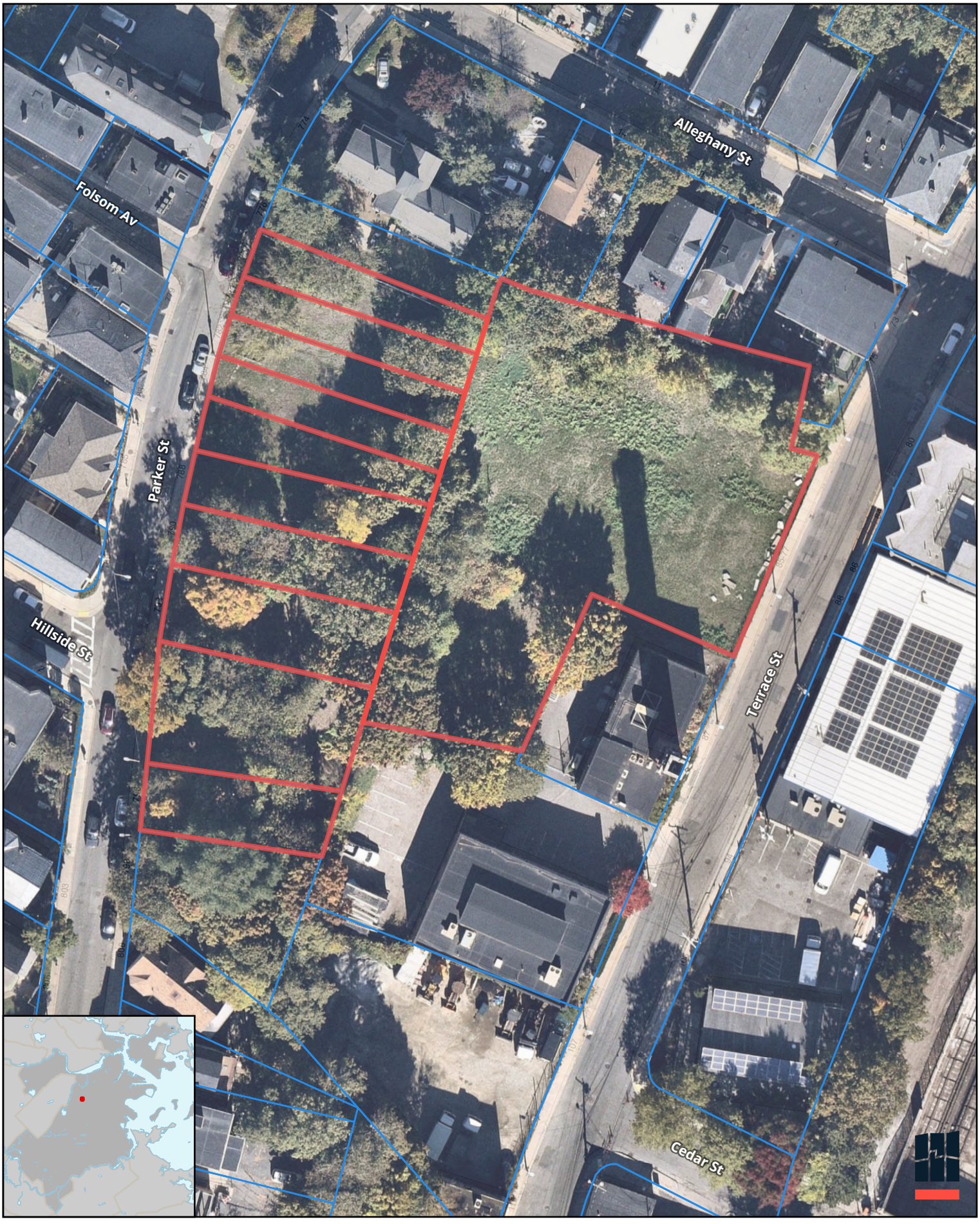
77 Terrace Street

1:700



77 Terrace Street

1:700



The Commonwealth of Massachusetts

House of Representatives
24 Beacon Street, Boston, MA 02133

Sam Montaño
State Representative of 15th Suffolk
samantha.montano@mahouse.gov

Carlos Rios
Legislative Aide
carlos.rios@mahouse.gov

Joint Committee on Ways and Means • Joint Committee on Racial Equity, Civil Rights, and Inclusion • Joint Committee on Community Development and Small Businesses • Joint Committee on Elder Affairs

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September 10th, 2024

Attn: Sheila Dillon | Christine O'Keefe
Re: Mission Hill Pathway Project
77 Terrace Street

Dear Chief Dillon and Ms. O'Keefe,

I am writing to support ODJ Dev LLC's proposed development located at 77 Terrace Street in the Mission Hill community of Boston, Massachusetts. The proposed project will replace underutilized city-owned vacant land with a development that will provide critically needed affordable housing opportunities as well as a new park and community gardens for the community to enjoy.

The proposed development will provide 44 residential units which are affordable to households earning up to 80% AMI and 100% AMI and approximately 2,700 square feet of ground floor commercial space. I am thrilled that the proposed sales prices and/or rents are accessible to residents that live in our district and the commercial space will be prioritized for local business owners of color.

ODJ Dev LLC is compromised of dedicated, experienced, and thoughtful developers who are committed to creating more affordable housing and advancing opportunity for the residents who call these communities home. ODJ has engaged local nonprofit organizations, neighborhood associations, community groups, and local business owners in the surrounding area. During this engagement process, they've worked side-by-side with these key stakeholders to obtain a broad spectrum of ideas and feedback to help mold ODJ's vision for the proposed development.

As the Mayor's Office of Housing (MOH) prepares to review submissions, we hope that you will look favorably upon this team's response to your Request for Proposals. Based on the critical importance of this project to the Mission Hill community, I urge MOH to approve the necessary financial support needed to make this project a reality.

We look forward to continuing to work with ODJ and the community in pursuit of real outcomes for individuals and families living in our community.

Sincerely,

Samantha Montaño
Massachusetts State Representative for the 15th Suffolk

SHARON DURKAN
OFFICE OF BOSTON CITY COUNCILOR, DISTRICT 8

September 17, 2024

Chief Sheila Dillon
Mayor's Office of Housing
12 Channel Street, 9 th Floor
Boston, MA 02210

Re: 77 Terrace St

Dear Chief Dillon,

I am writing to express my support of ODJ's proposed affordable homeownership development located at 77 Terrace Street in Mission Hill. The proposed project will provide 44 affordable housing condominiums, affordable to households earning up to 80% AMI and 100% AMI, as well as a new adjacent park and community gardens.

ODJ is an experienced affordable housing developer with extensive experience in the City of Boston who is committed to advancing opportunities for the residents of Boston. ODJ has engaged local nonprofit organizations, neighborhood associations, community groups, and local business owners in the surrounding area to solicit a broad spectrum of ideas and feedback to help mold ODJ's vision for this proposed development.

As the Mayor's Office of Housing (MOH) prepares to review submissions, we hope that you will look favorably upon this team's response to your Request for Proposals. Based on the critical importance of this project to the Mission Hill community and the Boston community at large, I urge MOH to approve the necessary financial support needed to make this project a reality. I look forward to continuing to work with ODJ and Mission Hill in pursuit of real outcomes for individuals and families living in the City of Boston.

Thank you for your consideration.

Sincerely,

Sharon Durkan
Boston City Councilor, District 8

DISTRICT 8 COUNCILOR, SHARON DURKAN
BOSTON CITY HALL, ONE CITY HALL SQUARE, BOSTON
617-635-4225 | SHARON.DURKAN@BOSTON.GOV

SHARON DURKAN
OFFICE OF BOSTON CITY COUNCILOR, DISTRICT 8

March 13, 2025

Priscilla Rojas
Boston Planning and Development Agency
One City Hall Square, Ninth Floor
Boston, MA 02201

Re: 77 Terrace St

Dear Chair Rojas and Members of the Board,

I am writing to express my strong support for ODJ's proposed affordable homeownership development at 77 Terrace Street in Mission Hill. I have championed this project at every stage of its process because I believe it represents a transformational opportunity for this corridor and the broader Mission Hill community. This proposal will create 48 much-needed affordable homeownership opportunities, providing stable housing for households 80% - 100% AMI. In a city where homeownership is increasingly out of reach for many working families, this development will provide a critical pathway to generational wealth-building and neighborhood stability.

The inclusion of a new adjacent park and community gardens further demonstrates ODJ's commitment to sustainable, community-centered development—transforming long-underutilized parcels into assets that will benefit residents for years to come. For too long, this stretch of Terrace Street has been subject to hazardous conditions and underutilization, despite its prime location within a rapidly evolving corridor. As development continues in Mission Hill, it is imperative that we prioritize projects that center affordability, accessibility, and long-term benefits. ODJ's vision aligns with these priorities, ensuring that Mission Hill remains a place where families of all backgrounds can put down roots and thrive.

ODJ is a trusted and experienced affordable housing developer with a proven track record in the City of Boston. Throughout this process, the team has engaged extensively, soliciting a broad range of feedback to shape the project. Given the critical importance of this project, I strongly urge the BPDA to approve the proposal before you today.

Sincerely,

Sharon Durkan
Boston City Councilor, District 8

DISTRICT 8 COUNCILOR, SHARON DURKAN
BOSTON CITY HALL, ONE CITY HALL SQUARE, BOSTON
617-635-4225 | SHARON.DURKAN@BOSTON.GOV

CITY of BOSTON
Michelle Wu, Mayor

To: [Camille Platt]
From: [Xujie Liu], PWD
Date: [9/26/2024]
Subject: [77 Terrace Street SPRA] - Boston Public Works Department Comments

Included here are Boston Public Works Department (PWD) PNF comments for 77 Terrace Street.

Project Coordination:
The developer should coordinate with the City of Boston if proposing any changes in use, dimensional, parking, or loading elements. The developer should coordinate with BTD and PWD to develop safety and accessibility improvements for pedestrians and cyclists in the area.

Project Specific Scope Considerations:
Please confirm with the Public Improvement Commission (PIC) that the proposed width and material of sidewalk meet City standards. The developer should also coordinate with the Parks and Recreation department in regards to the existing tree protection and green infrastructure. The developer shall consider coordinating with PWD and BTD in regards to addressing potential access to the proposed park area along Parker Street. The developer shall coordinate with PIC in regards to the 5' setback from the property lines.

Pedestrian Access:
The developer should consider extending the scope of sidewalk improvements along the site frontage.

Site Plan:
Developer must provide an engineer's site plan at an appropriate engineering scale that shows curb functionality on both sides of all streets that abut the property.

Construction Within The Public vs Private Right-of- Way:
Although the general comments below apply specifically to work associated with the project within the public right-of-way, it is preferred and encouraged for construction in the private right-of-way to be consistent with City standards for public ways, as well, to the extent possible. Should these streets ever become public ways, they must conform to the City standards as outlined below.

All work within the public way shall conform to Boston Public Works Department (PWD) standards. Any non-standard materials proposed within the public way will require approval through the Public Improvement Commission (PIC) process and a fully executed License, Maintenance and Indemnification (LM&I) Agreement with the PIC.

Sidewalks:
The developer is responsible for the reconstruction of the sidewalks abutting the project and, wherever possible, to extend the limits to the nearest intersection to encourage and compliment pedestrian improvements and travel along all sidewalks within the ROW within and beyond the project limits. The reconstruction effort also must meet current American's with Disabilities Act (ADA)/ Massachusetts Architectural Access Board (AAB) guidelines, including the installation of new or reconstruction of existing pedestrian ramps at all corners of all intersections abutting the project site if not already constructed to ADA/AAB compliance per Code of Massachusetts Regulations Title 521, Section 21 (https://www.mass.gov/regulations/521-CMR-21-curb-cuts). This includes converting apex ramps to perpendicular ramps at intersection corners and constructing or reconstructing reciprocal pedestrian ramps where applicable. Plans showing the extents of the proposed sidewalk improvements associated with this project must be submitted to the PWD Engineering Division for review and approval. Changes to any curb geometry will need to be reviewed and approved through the PIC.

Please note that at signalized intersections, any alteration to pedestrian ramps may also require upgrading the traffic signal equipment to ensure that the signal post and pedestrian push button locations meet current ADA and

Manual on Uniform Traffic Control Devices (MUTCD) requirements. Any changes to the traffic signal system must be coordinated and approved by BTD.

All proposed sidewalk widths and cross-slopes must comply to both City of Boston and ADA/AAB standards.

The developer is encouraged to contact the City's Disabilities Commission to confirm compliant accessibility within the Public ROW.

Green Infrastructure:
The developer shall work with PWD, the Green Infrastructure Division, and the Boston Water and Sewer Commission (BWSC) to determine appropriate methods of green infrastructure and stormwater management systems within the Public ROW. The ongoing maintenance of such systems shall require an LM&I Agreement with the PIC.

Driveway Curb Cuts
Any proposed driveway curb cuts within the Public ROW will need to be reviewed and approved by the PIC. All existing curb cuts that will no longer be utilized shall be closed.

Discontinuances
Any discontinuances (sub-surface, surface or above surface) within the Public ROW must be processed through the PIC.

Easements
Any easements within the Public ROW associated with this project must be processed through the PIC.

Landscaping
The developer must seek approval from the Chief Landscape Architect with the Parks and Recreation Department for all landscape elements within the Public ROW. The landscaping program must accompany a LM&I with the PIC.

Street Lighting
The developer must seek approval from the PWD Street Lighting Division, where needed, for all proposed street lighting to be installed by the developer. All proposed lighting within the Public ROW must be compatible with the area lighting to provide a consistent urban design. The developer should coordinate with the PWD Street Lighting Division for an assessment of any additional street lighting upgrades that are to be considered in conjunction with this project. All existing metal street light pull box covers within the limits of sidewalk construction to remain shall be replaced with new composite covers per PWD Street Lighting standards. Metal covers should remain for pull box covers in the roadway. For all sections of sidewalk that are to be reconstructed in the Public ROW that contain or are proposed to contain a City-owned street light system with underground conduit, the developer shall be responsible for installing shadow conduit adjacent to the street lighting system. Installation of shadow conduit and limits should be coordinated through the BPDA Smart Utilities team.

Roadway
Based on the extent of construction activity, including utility connections and taps, the developer will be responsible for the full restoration of the roadway sections that immediately abut the property and, in some cases, to extend the limits of roadway restoration to the nearest intersection. A plan showing the extents and methods for roadway restoration shall be submitted to the PWD Engineering Division for review and approval.

Additional Project Coordination

All projects must be entered into the City of Boston Utility Coordination Software (COBUCS) to review for any conflicts with other proposed projects within the Public ROW. The developer must coordinate with any existing projects within the same limits and receive clearance from PWD before commencing work.

Resiliency:
Proposed designs should follow the Boston Public Works Climate Resilient Design Guidelines (https://www.boston.gov/environment-and-energy/climate-resilient-design-guidelines) where applicable.

Please note that these are the general standard and somewhat specific PWD requirements. More detailed comments may follow and will be addressed during the PIC review process. If you have any questions, please feel free to contact me at jeffrey.alexis@boston.gov or at 617-635-4966.

Sincerely,

Jeffrey Alexis
Principal Civil Engineer
Boston Public Works Department
Engineering Division

CC: Para Jayasinghe, PWD
Todd Liming, PIC

Boston Water and Sewer Commission

980 Harrison Avenue
Boston, MA 02119-2540
617-989-7000

October 16, 2024

Ms. Camilla Platt, Project Manager
Boston Planning and Development Agency
One City Hall Square
Boston, MA 02201

Re: 77 Terrace Street, Roxbury
Small Project Review Application

Dear Ms. Platt:

The Boston Water and Sewer Commission (Commission) has reviewed the Small Project Review Application (SPRA) for the proposed redevelopment project located at 77 Terrace Street in the Roxbury neighborhood of Boston. This letter provides the Commission's comments on the SPRA.

The proposed project site is located on several, city owned, parcels of land with frontage on Parker Street and Terrace Street. The eleven parcels of land encompass approximately 55,000 square feet (sf) of vacant land that will be combined to establish the project site. The combined parcels will then be divided into three separate parcels. The proposed uses are; a public park, a community garden, and the residential development at 77 Terrace Street. The residential parcel land area is approximately 29,949 sf. The project proponent ODJ DEV LLC, proposes to construct a four-story residential building with a floor area of approximately 60,033 gross square feet. The building will contain forty-four homeownership residential units consisting of studios and one-to-three-bedroom apartments. Amenities include ground floor retail space, parking for 21 cars, bicycle storage and fitness space on the ground floor.

For water service, the Commission owns and maintains a 16-inch pit cast iron water main in Terrace Street. The water main was installed in 1876 and cleaned and cement lined in 1995 and is served by the Commission's Southern High-Pressure Zone.

For sewer and drain service, the Commission has a 12-inch sewer in Terrace. The nearest storm drain is at the intersection of Terrace Street and Alleghany Street.

Daily water demand and wastewater generation estimates were not provided in the SPRA.

The Commission has the following comments regarding the 77 Terrace Street project.

General

1. Prior to the initial phase of the site plan development, ODJ DEV LLC, should meet with the Commission's Design and Engineering Customer Services Departments to review water main, sewer and storm drainage system availability and potential upgrades that could impact the development.

2. All new or relocated water mains, sewers and storm drains must be designed and constructed at ODJ DEV LLC's, expense. They must be designed and constructed in conformance with the Commission's design standards, Water Distribution System and Sewer Use regulations, and Requirements for Site Plans. The site plan should include the locations of new, relocated and existing water mains, sewers and drains which serve the site, proposed service connections, water meter locations, as well as backflow prevention devices in the facilities that will require inspection. A General Service Application must also be submitted to the Commission with the site plan.

3. The Department of Environmental Protection (DEP), in cooperation with the Massachusetts Water Resources Authority (MWRA) and its member communities, has implemented a coordinated approach to flow control in the MWRA regional wastewater system, particularly the removal of extraneous clean water (e.g., infiltration/inflow (I/I)) in the system. The Commission has a National Pollutant Discharge Elimination System (NPDES) Permit for its combined sewer overflows and is subject to these regulations [314 CMR 12.00, section 12.04(2)(d)]. This section requires all new sewer connections with design flows exceeding 15,000 gpd to mitigate the impacts of the development by removing four gallons of I/I for each new gallon of wastewater flow. In this regard, any new connection or expansion of an existing connection that exceeds 15,000 gallons per day of wastewater shall assist in the I/I reduction effort to ensure that the additional wastewater flows are offset by the removal of I/I. Currently, a minimum ratio of 4:1 for I/I removal to new wastewater flow added is used. The Commission will require proponent to develop a consistent inflow reduction plan. The 4:1 requirement should be addressed at least 90 days prior to activation of water service and will be based on the estimated sewage generation provided on the project site plan.

4. The design of the project should comply with the City of Boston's Complete Streets Initiative, which requires incorporation of "green infrastructure" into street designs. Green infrastructure includes greenscapes, such as trees, shrubs, grasses and other landscape plantings, as well as rain gardens and vegetative swales, infiltration basins, and paving materials and permeable surfaces. The proponent must develop a maintenance plan for the proposed green infrastructure. For more information on the Complete Streets Initiative see the City's website at http://bostoncompletestreets.org/

5. The water use and sewage generation estimates were not stated in the SPRA. The Commission requires that these values be calculated and submitted with the Site Plan. ODJ DEV LLC should provide separate estimates of peak and continuous maximum water demand for residential, irrigation and air-conditioning make-up water for the project. Estimates should be based on full-site build-out of the proposed project. ODJ DEV LLC should also provide the methodology used to estimate water demand for the proposed project.

6. The Commission will require ODJ DEV LLC to undertake all necessary precautions to prevent damage or disruption of the existing active water and sewer lines on, or adjacent to, the project site during construction. As a condition of the site plan approval, the Commission will require ODJ DEV LLC to inspect the existing sewer lines by CCTV after site construction is complete, to confirm that the lines were not damaged from construction activity.

7. It is ODJ DEV LLC's responsibility to evaluate the capacity of the water, sewer and storm drain systems serving the project site to determine if the systems are adequate to meet future project demands. With the site plan, ODJ DEV LLC must include a detailed capacity analysis for the water, sewer and storm drain systems serving the project site, as well as an analysis of the impacts the proposed project will have on the Commission's water, sewer and storm drainage systems.

Water

1. ODJ DEV LLC should explore opportunities for implementing water conservation measures in addition to those required by the State Plumbing Code. ODJ DEV LLC should consider outdoor landscaping which requires minimal use of water to maintain. If ODJ DEV LLC plans to install in-ground sprinkler systems, the Commission recommends that timers, soil moisture indicators and rainfall sensors be installed. The use of sensor-operated faucets and toilets in common areas of buildings should be considered.

2. ODJ DEV LLC is required to obtain a Hydrant Permit for use of any hydrant during the construction phase of this project. The water used from the hydrant must be metered. ODJ DEV LLC should contact the Commission's Meter Department for information on and to obtain a Hydrant Permit.

3. ODJ DEV LLC will also be required to install approved backflow prevention devices on the water services for fire protection, mechanical and any irrigation systems. ODJ DEV LLC is advised to consult with Mr. Larry Healy, Manager of Engineering Code Enforcement, with regards to backflow prevention.

4. The Commission is utilizing a Fixed Radio Meter Reading System to obtain water meter readings. For new water meters, the Commission will provide a Meter Transmitter Unit

(MTU) and connect the device to the meter. For information regarding the installation of MTUs, ODJ DEV LLC should contact the Commission's Meter Department.

Sewage / Drainage

1. A Total Maximum Daily Load (TMDL) for Nutrients has been established for the Lower Charles River Watershed by the Massachusetts Department of Environmental Protection (MassDEP). To achieve the reductions in Phosphorus loading required by the TMDL, phosphorus concentrations in the lower Charles River from Boston must be reduced by 64%. To accomplish the necessary reductions in phosphorus, the Commission is requiring developers in the lower Charles River watershed to infiltrate stormwater discharging from impervious areas in compliance with MassDEP. ODJ DEV LLC will be required to submit with the site plan a phosphorus reduction plan for the proposed development. ODJ DEV LLC must fully investigate methods for retaining stormwater on-site before the Commission will consider a request to discharge stormwater to the Commission's system. The site plan should indicate how storm drainage from roof drains will be handled and the feasibility of retaining their stormwater discharge on-site. Under no circumstances will stormwater be allowed to discharge to a sanitary sewer.

   In conjunction with the Site Plan and the General Service Application ODJ DEV LLC will be required to submit a Stormwater Pollution Prevention Plan. The plan must:

   - Identify best management practices for controlling erosion and for preventing the discharge of sediment and contaminated groundwater or stormwater runoff to the Commission's drainage system when the construction is underway.

   - Include a site map which shows, at a minimum, existing drainage patterns and areas used for storage or treatment of contaminated soils, groundwater or stormwater, and the location of major control or treatment structures to be utilized during construction.

   - Provide a stormwater management plan in compliance with the DEP standards mentioned above. The plan should include a description of the measures to control pollutants after construction is completed.

2. The Commission encourages ODJ DEV LLC to explore additional opportunities for protecting stormwater quality on site by minimizing sanding and the use of deicing chemicals, pesticides, and fertilizers.

3. The discharge of dewatering drainage to a sanitary sewer is prohibited by the Commission. ODJ DEV LLC is advised that the discharge of any dewatering drainage to the storm drainage system requires a Drainage Discharge Permit from the Commission. If the dewatering drainage is contaminated with petroleum products, ODJ DEV LLC will

be required to obtain a Remediation General Permit from the Environmental Protection Agency (EPA) for the discharge.

4. Sanitary sewage must be kept separate from stormwater and separate sanitary sewer and storm drain service connections must be provided. The Commission requires that existing stormwater and sanitary sewer service connections, which are to be re-used by the proposed project, be dye tested to confirm they are connected to the appropriate system.

5. The Commission requests that ODJ DEV LLC install a permanent casting stating "Don't Dump: Drains to Charles River" next to any catch basin created or modified as part of this project. ODJ DEV LLC should contact the Commission's Operations Division for information regarding the purchase of the castings.

6. If a cafeteria or food service facility is built as part of this project, grease traps will be required in accordance with the Commission's Sewer Use Regulations. ODJ DEV LLC is advised to consult with the Commission's Operations Department with regards to grease traps.

7. The enclosed floors of the parking garage must drain through oil separators into the sewer system in accordance with the Commission's Sewer Use Regulations. The Commission's Requirements for Site Plans, available by contacting the Engineering Services Department, include requirements for separators.

Thank you for the opportunity to comment on this project.

Yours truly,

John P. Sullivan, P.E.
Chief Engineer

JPS/RJA

cc: K. Ronan, MWRA via e-mail
P. Larocque, BWSC via e-mail
D. Devlin BWSC via e-mail
S. McFee, BWSC via e-mail

MEMORANDUM **APRIL 14, 2022**

TO: **BOSTON REDEVELOPMENT AUTHORITY**
D/B/A BOSTON PLANNING & DEVELOPMENT AGENCY*
AND BRIAN P. GOLDEN, DIRECTOR

FROM: MICHAEL CHRISTOPHER, DIRECTOR OF DEVELOPMENT REVIEW
CASEY HINES, DEPUTY DIRECTOR OF DEVELOPMENT REVIEW
NICK CARTER, PROJECT MANAGER

SUBJECT: NOTICE OF PROJECT CHANGE: 500 TALBOT AVENUE, DORCHESTER BOSTON

SUMMARY: This Memorandum requests that the Boston Redevelopment Authority ("BRA") d/b/a Boston Planning & Development Agency ("BPDA") authorize the Director to issue a Certification of Approval for the Notice of Project Change for the previously approved development located at 500 Talbot Avenue in Dorchester (the "Proposed Project"), in accordance with Article 80E, Small Project Review, of the Boston Zoning Code (the "Code")

PROJECT SITE

The Proposed Project is located at 500 Talbot Avenue in Dorchester between Argyle Street, Welles Avenue and Talbot Avenue (the "Project Site"). The Project Site is approximately 17,554 square feet of land that contains a Lutheran Church. The Project Site is also located one (1) block north of Peabody Square. The Project Site is 0.3 miles walking distance to the MBTA Red Line Ashmont station, and is well served by multiple bus lines operating in Dorchester.

DEVELOPMENT TEAM

Proponent: JPA Development Co., Inc.

* Effective October 20, 2016 the BRA commenced doing business as the BPDA.

James M. Baker

Architect: RODE Architects Inc.
Michael Dellefave and Kevin Deabler

Legal Counsel: Pulgini and Norton LLP
John A. Pulgini, Esq.

ORIGINAL PROPOSED PROJECT

The BPDA first approved the Project on November 15, 2018. At that time the Project was proposed as a five (5)-story, mixed-use building totaling approximately 49,500 square feet, containing forty (40) residential units. Five (5) of the forty residential units were approved as Inclusionary Development Policy Units ("IDP Units") and to be made available to households earning not more than 70% of the Area Median Income ("AMI"). In addition, JPA Development Co., Inc. (the "Proponent") agreed to make an IDP contribution of $40,000 to the IDP Special Revenue Fund managed by the Department of Neighborhood Development. Combined, this contribution together with the five (5) designated IDP Units would fully satisfy the IDP requirement pursuant to the IDP. On March 11, 2021, the BPDA approved a change to the IDP Units.

NOTICE OF PROJECT CHANGE

The Notice of Project Change ("NPC"), filed with the BPDA on March 16, 2022, seeks to increase the number of income-restricted units within the Proposed Project from five (5) to seventeen (17). Proponent is increasing the number of income-restricted units through utilization of MHFA financing. As result of the increase in income-restricted units, the Proposed Project is now IDP exempt. No other changes to the Project are proposed.

ARTICLE 80 REVIEW PROCESS

On September 11, 2018, the Proponent filed a Small Project Review Application with the BPDA for the Proposed Project pursuant to Article 80E of the Code, The BPDA sponsored public meeting was held on October 2, 2018 at All Saints Church located at 209 Ashmont Street in Dorchester. The meeting was advertised in The Dorchester

Reporter newspaper on September 20, 2018. The BPDA comment period concluded on October 12, 2018. On March 16, 2022, the Proponent filed a Notice of Project Change with the BPDA.

MITIGATION & COMMUNITY BENEFITS

The Proposed Project will result in a number of public benefits to the Dorchester neighborhood and the City of Boston as a whole. The Proponent has committed to spending a total of approximately Two-Hundred-Fifty-Thousand dollars ($250,000.00) towards improvements to the public realm around the Project Site. The Proposed Project will result in new pedestrian and retail activity along Talbot Avenue and improvements to the pedestrian realm around the project site, including new sidewalks, trees and open space. The Proponent will be creating a more pedestrian friendly Talbot Avenue by improving the streetscape with a safer sidewalk and crosswalk plan which includes reconstructing the Argyle Street and Talbot Avenue intersection. The Proponent will coordinate the transportation infrastructure improvements with the City of Boston's Transportation Department and Public Works Department.

INCLUSIONARY DEVELOPMENT COMMITMENT

As originally approved, the Proposed Project was required to deliver a minimum of five (5) on-site residential rental units in order to meet the requirements of the Inclusionary Development Policy, dated December 10, 2015 which states that 13% of total units in Proposed Project be delivered as IDP units. As a result of this NPC- which seeks to increase the number of income-restricted units from five (5) to seventeen (17)-the Proposed Project will be exempt from IDP requirements.

Projects financed as one entity and where at least forty (40) percent of the units are income restricted are exempt from the Inclusionary Development Policy, dated December 10, 2015. The Proposed Project is financed as one entity and contains seventeen (17) income restricted units, or 42% of the total units, meeting the threshold for IDP exemption.

As currently proposed, eight (8) units within the Proposed Project will be made affordable to households earning not more than 100% of the Area Median Income ("AMI"), as published by the United States Department of Housing and Urban

Development (“HUD”), four (4) units will be made affordable to households earning not more than 80% of AMI, and five (5) units will be made affordable to households earning not more than 70% of AMI. The affordability of the project will be finalized through the public funding process and the ongoing affordability of the project will be monitored under a MassDocs agreement.

RECOMMENDATIONS

The Proposed Project complies with the requirements set forth in Section 80E of the Code for Small Project Review. Therefore, BPDA staff recommends that the Director be authorized to issue a Certification of Approval for the Proposed Project; and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project. .
Appropriate votes follow:

VOTED: That the Director be, and hereby is, authorized to issue a Certification of Approval pursuant to Section 80E-6 of the Boston Zoning Code (the "Code"), approving the development consisting of a five-story mixed-use building containing forty (40) rental units, 3,000 square feet of commercial retail space and 1,815 square feet of multi-purpose space at 500 Talbot Avenue in Dorchester (the "Proposed Project") in accordance with the requirements of Small Project Review, Article 80E,of the Code, subject to continuing design review by the Boston Redevelopment Authority ("BRA"), and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

MEMORANDUM **DECEMBER 12, 2024**

TO: **BOSTON REDEVELOPMENT AUTHORITY**
D/B/A BOSTON PLANNING & DEVELOPMENT AGENCY (BPDA)
AND KAIROS SHEN, DIRECTOR

FROM: CASEY HINES, SENIOR DEPUTY DIRECTOR OF DEVELOPMENT REVIEW
ZOE SCHUTTE, PROJECT ASSISTANT
MICHELLE YEE, PLANNER I, PLANNING REVIEW
JAMES FITZGERALD, TRANSPORTATION PLANNER
MARIN BRACO, SITE DESIGN
JONATHAN PALAZZOLO, URBAN DESIGNER

SUBJECT: 736-742 EAST BROADWAY - SOUTH BOSTON

SUMMARY: This Memorandum requests the Boston Redevelopment Authority d/b/a Boston Planning & Development Agency ("BPDA") authorize the Director to: (1) issue a Certification of Approval for the proposed development located at 736-742 East Broadway in South Boston (as defined below, the "Proposed Project"), in accordance with Article 80E, Small Project Review of the City of Boston Zoning Code (the "Code"); (2) execute and deliver an Affordable Rental Housing Agreement and Restriction ("ARHAR"), if necessary, or require the same be executed by and between the Proponent and Mayor's Office of Housing, in connection with the Proposed Project; (3) enter into a Community Benefits Agreement in connection with the Proposed Project, and to take any other actions and to execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

PROJECT SITE

The proposed Project is located at 736-742 East Broadway. The existing site contains an existing 3 story, mixed-use building with 1 commercial and 2 residential units. The existing structure is to be demolished and replaced with a 4-story, mixed-use building containing twelve (12) residential units, one (1) commercial unit, and six (6) parking spaces.

DEVELOPMENT TEAM

The development team includes:

Proponent:	Giuseppe Arcari Monarc Development LLC
Legal Counsel:	George Morancy, Esq. Adam & Morancy 350 W Broadway Boston, MA 02127
Architect:	Sousa Design Architects 81 Boylston St. Brookline, MA 02445
Engineer: P.O. Box 290220	Boston Survey Charlestown, MA 02129

PROPOSED PROJECT:

The proposed project consists of twelve new residential units, primarily market rate, with two affordable units provided in accordance with the City of Boston's Inclusionary Development Policy, as well as approximately 3,080 square feet of ground-floor commercial place, likely to consist of a new restaurant. The building will be served by an at-grade parking area in the rear which will accommodate six vehicles, accessed via Newhill Place, a public way, with accompanying secure storage for twelve bicycles. All twelve (12) residential rental units in the Proposed Project are one-bedroom units. The project site consists of two parcels of land totaling approximately 5,600 square feet.

The table below summarizes the Proposed Project's key statistics:

Project Metrics Proposed Plan	**Proposed Plan**
Gross Square Footage	20,025
Gross Floor Area	16,805
Residential	12,660
Retail	4,145
Mechanical/Storage	1,706
Development Cost Estimate	$8,000,000
Residential Units	12

IDP units	2
Parking spaces	6

ARTICLE 80 REVIEW PROCESS

On August 22, 2024, the Proponent filed an Application for Small Project Review with the Planning Department for the Proposed Project, pursuant to Article 80E of the Code (the "Code"). The Planning Department sponsored and held a virtual public meeting on October 2, 2024, via Zoom. The meeting was advertised in the local newspapers, posted on the Planning Department website and a notification was emailed to all subscribers of the Planning Department's South Boston neighborhood update list. The public comment period ended on November 7, 2024.

The development team has discussed the project with Planning Department staff members prior to filing this application to identify issues, address concerns, and make preliminary design changes accordingly. Additionally, as part of the Article 80 Review process, the development team has met with neighbors and local elected officials, and community organizations to obtain feedback and answer questions from community members. The team will continue to work with the Planning Department and other city agencies in accordance with Article 80 and the Inspectional Services Department requirements.

PLANNING AND ZONING CONTEXT

The Proposed Project at 736-742 East Broadway is located in the South Boston Neighborhood District within a Multifamily / Local Services (MFR/LS) Subdistrict, governed by Article 68 of the Code, and the Restricted Parking Overlay District. The proposed mix of active ground floor use and residential on upper stories aligns well with the MFR/LS zoning, and the built environment of mixed-use context of this portion of East Broadway.

Staff review was guided by the local context and citywide planning goals. During staff review of the project, the amount of usable open space was increased through the addition of rear balconies. Streetscape improvements were designed in collaboration with staff to ensure compliance with Complete Street Guidelines along with the addition of three street trees.

The proposed height and floor area ratio exceeds the maximum dimensions established by Article 68. However, zoning relief is appropriate given the Proposed Project's consistency with an established dimensional context found on this section of East Broadway, as well as the general purpose and intent of the Code.

MITIGATION AND COMMUNITY BENEFITS

The Proposed Project will include mitigation measures and community benefits to the neighborhood and the City of Boston (the "City"), including:

- Creation of 12 new residential units and commercial space for the South Boston neighborhood.
- Significant improvements to the streetscape in adherence to the "Boston Complete Streets" design principles including:
    - New accessible sidewalks
    - Appropriate signage for the existing bus stop that meets minimum dimensional requirements
    - Two new street trees
    - A new post and ring bike rack
- A one-time contribution of $4,834 to the Boston Transportation Department ("BTD") for the Bikeshare program per the City of Boston Bike Parking Guidelines.
- The generation of hundreds of thousands of dollars in new property tax revenue annually to the City of Boston.
- Expected employment of new construction jobs for local residents over the length of the project.

INCLUSIONARY DEVELOPMENT POLICY

The Proposed Project is subject to the Inclusionary Development Policy, dated December 10, 2015 ("IDP"), and is located within Zone B, as defined by the IDP. The IDP requires that 13% of the total number of units within the development be designated as IDP units. In this case, the developer has agreed to make approximately 16.7% of the units at the Proposed Project comply with IDP. Therefore, two (2) units within the Proposed Project will be created as IDP rental units (the "IDP Units"). Each of the two (2) IDP units will be made affordable to households earning not more than 70% of Area Median Income ("AMI"), as based on data from the United States Department of Housing and Urban Development ("HUD") and published by the BPDA.

The proposed locations, sizes, income restrictions, and rents for the IDP Units are as follows:

Unit Number	Number of Bedrooms	Square Footage	Percentage of AMI	Rent
1	One-Bedroom	797	70%	$1,559
8	One-Bedroom	803	70%	$1,559

The location of the IDP Units will be finalized in conjunction with BPDA and Mayors' Office of Housing ("MOH") staff and outlined in the Affordable Rental Housing Agreement and Restriction ("ARHAR") for the Proposed Project, and rents and income limits will be adjusted according to BPDA published maximum rents and income limits, as based on HUD AMIs, available at the time of the initial rental of the IDP Units. IDP Units must be comparable in size, design, and quality to the market rate units in the Proposed Project, cannot be stacked or concentrated on the same floors, and must be consistent in bedroom count with the entire Proposed Project.

The ARHAR must be executed along with, or prior to, the issuance of the Certification of Approval for the Proposed Project. The Proponent must also submit an Affirmative Marketing Plan (the "Plan") to the Boston Fair Housing Commission and the BPDA. Preference will be given to applicants who meet the following criteria, weighted in the order below:

(1) Boston resident; and
(2) Household size (a minimum of one (1) person per bedroom).

Where a unit is built out for a specific disability (e.g., mobility or sensory), a preference will also be available to households with a person whose need matches the build out of the unit. The City of Boston Disabilities Commission may assist the BPDA in determining eligibility for such a preference.

The IDP Units will not be marketed prior to the submission and approval of the Plan. An affordability covenant will be placed on the IDP Units to maintain affordability for a total period of fifty (50) years (this includes thirty (30) years with a BPDA option to extend for an additional period of twenty (20) years). The household income of the renter and the rent of any subsequent rental of the IDP units during this fifty (50) year period must fall within the applicable income and rent limits for the IDP Units. The BPDA or its assigns or successors will monitor the ongoing affordability of the IDP Units.

RECOMMENDATIONS

The Proposed Project complies with the requirements set forth in Section 80E of the Code for Small Project Review. Therefore, BPDA staff recommends that the Director be authorized to: (1) issue a Certification of Approval for the Proposed Project; (2) execute and deliver an Affordable Rental Housing Agreement and Restriction; and (3) Community Benefits Agreement, if necessary, and take any other action and execute any other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

Appropriate votes follow:

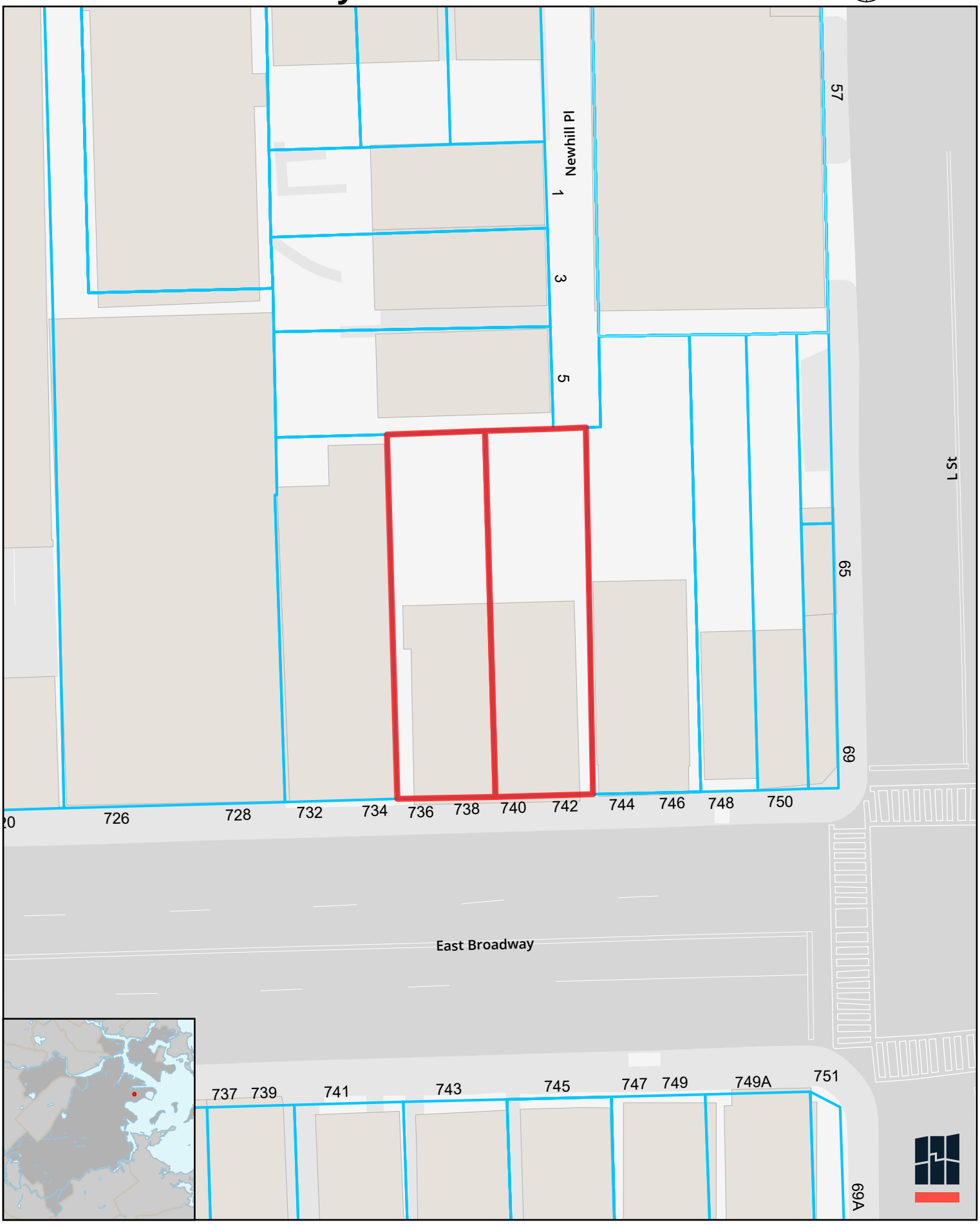
VOTED: This Memorandum requests the Boston Redevelopment Authority d/b/a Boston Planning & Development Agency ("BPDA") authorize the Director to issue a Certification of Approval for the proposed development located at 736-742 East Broadway in South Boston (as defined below, the "Proposed Project"), in accordance with Article 80E, Small Project Review of the City of Boston Zoning Code (the "Code"); and

FURTHER VOTED: That the Director be, and hereby is, authorized to execute and deliver an Affordable Rental Housing Agreement and Restriction for the creation of two (2) on-site Inclusionary Development Policy Units in connection with the 736-742 East Broadway project, if necessary, of require the same be executed by and between the Proponent and Mayor's Office of Housing, in connection with the Proposed Project; and

FURTHER VOTED: That the Director be, and hereby is, authorized to execute, a Community Benefits Agreement, and deliver any and all other agreements and documents that the Director deems appropriate and necessary in connection with the Proposed Project.

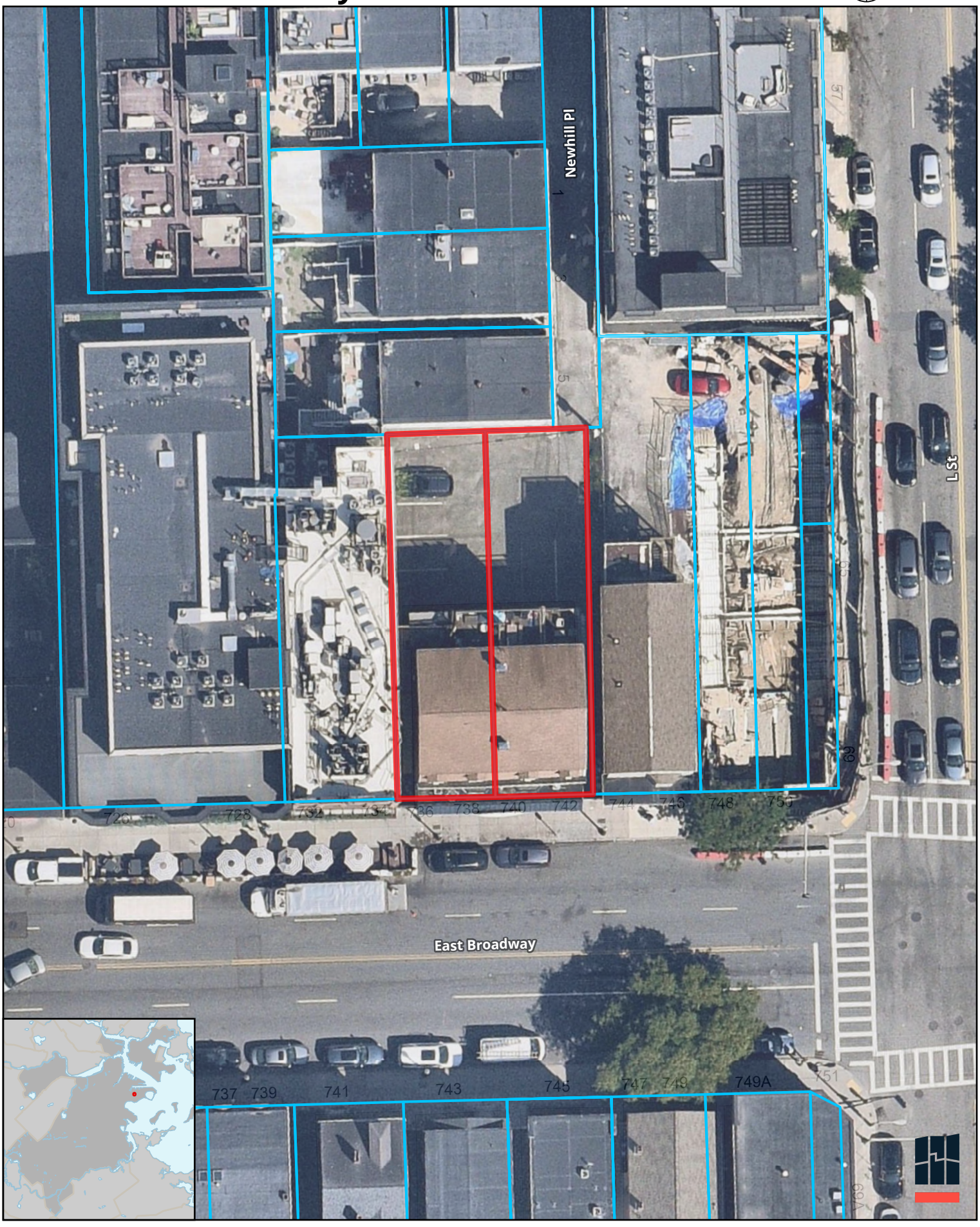
736-742 East Broadway Street

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736-742 East Broadway Street

1:400



Boston City Council
ED FLYNN
Councilor - District 2

December 12, 2024

Boston Planning Department
One City Hall Square, Room 900
Boston, MA 02201

RE: Letter of support for 736-742 East Broadway Mixed-Use Project

Dear Members of the BPDA Board,

I'm writing in support of the mixed-use project proposed at 736-742 East Broadway in South Boston. At the same time, there is additional work to be done in the community process for both the Zoning Board of Appeal and Licensing Board as it relates to quality of life issues - the nature of the restaurant itself, the capacity, hours of operation, concerns on accessibility with lines outside of the establishment, etc.

736-742 East Broadway is a Small Project Review project. The proposed project includes erecting a new four-story building with retail/commercial and residential use. The project site is approximately 5,600 sq feet, with 3,080 sq ft of ground-floor commercial space, and twelve residential units of one-bedrooms above, two of which will be affordable units. There will be six on-site parking spots in the rear of this project.

This is located at the commercial area of East Broadway, and its ground floor retail/commercial use. During the community process, neighbors reacted positively to the absence of a roofdeck and addition of 6 parking spaces, while emphasizing the need for more conversations on quality of life concerns regarding the restaurant piece.

I respectfully ask that the Board provide every consideration for this project. If you have any questions, please feel free to contact me at Ed.Flynn@Boston.gov, or at 617-635-3203.

Sincerely,

Ed Flynn

Ed Flynn
Boston City Councilor, District 2

ONE WAVERLY, ROXBURY, MA

1 WAVERLY STREET, ROXBURY MA 02119

SCHEMATIC DESIGN

PREPARED FOR:

CRUZ DEVELOPMENT CORP.
1 JOHN ELIOT SQUARE
ROXBURY, MA 02119

PREPARED BY:

MICHEAL WASHINGTON ARCHITECTS, INC.
1208 VFW PARKWAY, SUITE 201
WEST ROXBURY MA, 02132

SITE PLANNING, CIVIL ENGINEERING & LANDSCAPE ARCHITECTURE:

DZI– DEVELLIS ZREIN INC.
Po BOX 307
FOXBOROUGH, MA

STRUCTURAL ENGINEERING:

R J FARAH ENGINEERING
800 West Cummings Park–Suite 1950
Woburn MA 01801

MEP & FP CONSULTANTS:

ZADE ASSOCIATES LLC
140 BEACH STREET,
BOSTON, MA, 02111



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T–2 ABBREVIATIONS, LEGEND AND GENERAL NOTES, CODE SUMMARY

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E–2.5 FIFTH FLOOR: POWER FLOOR PLAN
E–2.6 ROOF: POWER FLOOR PLAN
E–3.0 ELECTRICAL NOTES
E–3.1 ELECTRICAL RISER

FIRE ALARM

FA–1.0 LOWER LEVEL: FIRE ALARM FLOOR PLAN
FA–1.1 FIRST FLOOR: FIRE ALARM FLOOR PLAN
FA–1.2 SECOND FLOOR: FIRE ALARM FLOOR PLAN
FA–1.3 THIRD FLOOR: FIRE ALARM FLOOR PLAN
FA–1.4 FOURTH FLOOR: FIRE ALARM FLOOR PLAN
FA–1.5 FIFTH FLOOR: FIRE ALARM FLOOR PLAN
FA–1.6 ROOF PLAN: FIRE ALARM FLOOR PLAN
FA–2.0 FIRE ALARM NOTES

ONE WAVERLY, ROXBURY, MA

UNIT COUNT

UNITS/ FLOOR	1BR	2BR	3BR	TOTAL
1ST FLOOR				0
2ND FLOOR	6	6	1	13 (9,904 SQ. FT)
3RD FLOOR	6	6	1	13 (9,904 SQ. FT)
4TH FLOOR	6	6	1	13 (9,904 SQ. FT)
5TH FLOOR	6	6	1	13 (9,868 SQ. FT)
TOTAL UNITS	24	24	4	52 (39,580 SQ. FT)
1ST FLOOR LEVEL PARKING SPACES				18

ACCESSIBLE UNITS

UNIT TYPE	ACCESSIBILITY	# OF UNITS
1B	SENSORY UNIT APT. 206	1
1C	GROUP 2 APT. 208,306,408	3
2B	GROUP 2 APT. 204,302	2
TOTAL		6

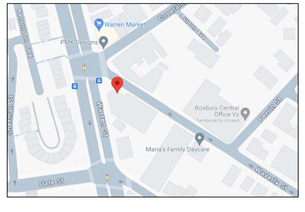
BUILDING SQUARE FOOTAGE

	BASEMENT	1ST FLOOR	2ND FLOOR	3RD FLOOR	4TH FLOOR	5TH FLOOR	TOTAL
RESIDENTIAL	–	–	9,904 SF	9,904 SF	9,904 SF	9,868 SF	39,580 SF
COMMERCIAL	–	3,205 SF	–	–	–	–	3,205 SF
COMMUNITY AREA	1,006 SF (REC & FITNESS)	–	289 SF (LAUNDRY AREA)	289 SF (LAUNDRY AREA)	289 SF (LAUNDRY AREA)	289 SF (LAUNDRY AREA)	2,162 SF
COMMON AREA	1,454 SF	2,162 SF	1,991 SF	1,991 SF	1,991 SF	1,991 SF	11,580 SF
UTILITY & STORAGE	2,496 SF	–	–	–	–	–	2,496 SF
SUB TOTAL	4,956 SF	5,367 SF	12,184 SF	12,184 SF	12,184 SF	12,148 SF	59,023 SF
ONSITE PARKING	–	7,787 SF	–	–	–	–	7,787 SF
TOTAL SQUARE FEET	4,956 SF	13,154 SF	12,184 SF	12,184 SF	12,184 SF	12,148 SF	66,810 SF

ONE WAVERLY, ROXBURY, MA
UNIT NET SQ. FT.

UNIT TYPE	# BEDROOMS	SQ. FT.	# OF UNITS
1A	1	582 SQ. FT. 5th FL. 578 SQ. FT.	16
1B	1	604 SQ. FT.	4
1C	1	703 SQ. FT.	4
2A	2	802 SQ. FT. 5th FL.798 SQ. FT.	4
2B	2	836 SQ. FT.	4
2C	2	851 SQ. FT. 5th FL.846 SQ. FT.	4
2D	2	942 SQ. FT. 5th FL.938 SQ. FT.	4
2E	2	921 SQ. FT. 5th FL.918 SQ. FT.	4
2F	2	886 SQ. FT.	4
3A	3	1,031 SQ. FT. 5th FL.1,027 SQ. FT.	4
TOTAL			52

LOCUS MAP





75% PRICING SET
NOT FOR CONSTRUCTION

MICHEAL WASHINGTON ARCHITECT, INC. DATE: 09/18/2024

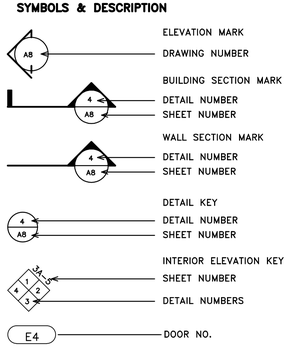
DRAWING NO. T-1

ABBREVIATIONS

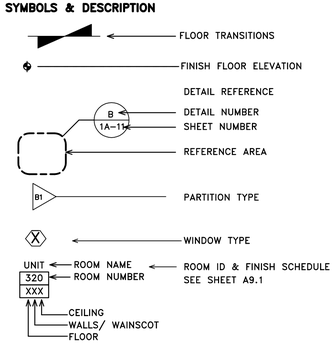
ACOUST.	ACOUSTICAL
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
A.F.F.	ABOVE FINISH FLOOR
AGGR.	AGGREGATE
ALUM	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASPH.	ASPHALT
ATTD.	ATTACHED
BD.	BOARD
BF.	BI-FOLD
BITUM.	BITUMINOUS
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
BSMT.	BASEMENT
CAB.	CABINET
C.B.	CATCH BASIN
CEM.	CEMENT
CER.	CERAMIC
C.I.	CAST IRON
C.I.P.	CAST IN PLACE
C.I.P.C.	CAST IN PLACE CONCRETE
C.G.	CORNER GUARD
C.J.	CONTROL JOINT
CLG.	CEILING
CLKG.	CAULKING
CLO.	CLOSET
CLR.	CLEAR
C.O.	CONCRETE OPENING
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CORR.	CORRIDOR
CTSK.	COUNTERSUNK
CNTR.	COUNTER
C.T.	CERAMIC TILE
CTR.	CENTER
DBL.	DOUBLE
DEM.	DEMOLITION
DEPT.	DEPARTMENT
D.F.	DRINKING FOUNTAIN
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
D.O.	DOOR OPENING
DR.	DOOR
DWR.	DRAWER
DS.	DOWNSPOUT
D.S.P.	DRY STANDPIPE
DW	DISHWASHER
DWG.	DRAWING
E.	EAST
EA.	EACH
E.B.	EXPANSION BOLT
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMER.	EMERGENCY
ENCL.	ENCLOSURE
E.P.	ELECTRICAL PANELBOARD
EQ.	EQUAL
EQPT.	EQUIPMENT
E.W.C.	ELECTRIC WATER COOLER
EXST.	EXISTING
EXPO.	EXPOSED
EXP.	EXPANSION
EXT.	EXTERIOR
F.A.	FIRE ALARM
F.B.	FLAT BAR, FACE BRICK
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CABINET
F.H.C.	FIRE HOSE CABINET
FIN.	FINISH, FINISHED
FL.	FLOOR
FLASH.	FLASHING
FLUOR.	FLUORESCENT
F.O.C.	FACE OF CONCRETE
F.O.F.	FACE OF FINISH
F.O.S.	FACE OF STUDS
FPRF.	FIREPROOF
F.R.	FIRE RATED
F.S.	FULL SIZE
FT.	FOOT OR FEET
FTG.	FOOTING
FURR.	FURRING
FUT.	FUTURE
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
GL.	GLASS
GND.	GROUND
GR.	GRADE
GWB.	GYPSUM WALL BOARD
GYP.	GYPSUM
H.B.	HOSE BIBB
H.C.	HOLLOW CORE, HANDICAPPED
HDWD.	HARDWOOD
HDWE.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HGT.	HEIGHT
HTR.	HEATER
HVAC	HEATING, VENTILATING, & AIR CONDITIONING
H.W.	HOT WATER
I.D.	INSIDE DIAMETER
INCL.	INCLUDED, INCLUDING
INSUL.	INSULATION
INT.	INTERIOR
JAN.	JANITOR
JT.	JOINT
KIT.	KITCHEN
LAB.	LABORATORY
LAM.	LAMINATE
LAV.	LAVATORY
L.C.C.	LEAD-COATED COPPER
LCKR.	LOCKER
LT.	LIGHT
LTL.	LINTEL
LVR.	LOUVER
L.W.C.	LIGHT WEIGHT CONCRETE
MACH.	MACHINE
MATL.	MATERIAL
MAX.	MAXIMUM
M.B.	MACHINE BOLT
MBR.	MEMBER, MEMBRANE
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MFR.	MANUFACTURER
MH.	MANHOLE
MIN.	MINIMUM
MIR.	MIRROR
MISC.	MISCELLANEOUS
MLDG.	MOULDING
MLWK.	MILLWORK
MOD.	MODULAR
M.O.	MASONRY OPENING
MTD.	MOUNTED
MTL.	METAL
MUL.	MULLION
N.	NORTH
N.I.C.	NOT IN CONTRACT
NO. or #	NUMBER.
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.A.	OVERALL
OBS.	OBSCURE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
OFF.	OFFICE
OPNG.	OPENING
OPP.	OPPOSITE
P.C.C.	PRECAST CONCRETE
PERF.	PERFORATED
PERIM.	PERIMETER
PKG.	PARKING
PRCST.	PRECAST
PL.	PLATE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER
PLYWD.	PLYWOOD
PNL.	PANEL
POL.	POLISHED
PR.	PAIR
PT.	POINT
PTD.	PAINTED
PTN.	PARTITION
Q.T.	QUARRY TILE
QTR.	QUARTER
R.	RISER
RAD.	RADIUS
RBR.	RUBBER
R.D.	ROOF DRAIN
RECD.	RECESSED
REF.	REFERENCE
REFR.	REFRIGERATOR
REINF.	REINFORCED
REQ.	REQUIRED
RESIL.	RESILIENT
RM.	ROOM
R.O.	ROUGH OPENING
S.	SOUTH, SINK
S.C.	SOLID CORE
SCHED.	SCHEDULE
SCR.	SCREEN
SECT.	SECTION
SEP.	SEPARATE
SH.	SHELF
SHT.	SHEET
SHTG.	SHEATHING
SHWR.	SHOWER
SIM.	SIMILAR
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
STA.	STATION
STD.	STANDARD
ST.	STEEL
STOR.	STORAGE
STRL.	STRUCTURAL
SUSP.	SUSPENDED
SV RNG	SELF-VENTING RANGE HOOD
SYM.	SYMMETRICAL
SYS.	SYSTEM
T. or TRD.	TREAD
T.B.	TOWEL BAR
T.C.	TOP OF CURB
TEL.	TELEPHONE
T. & G.	TONGUE and GROOVE
THK.	THICK
THLD.	THRESHOLD
TP.	TEMPERED
T.V.	TELEVISION
T.W.	TOP OF WALL
TYP.	TYPICAL
U.L.	UNDERWRITER'S LABORATORY
UNF.	UNFINISHED
U.O.N.	UNLESS OTHERWISE NOTED
V.B.	VAPOR BARRIER, VINYL BASE
VCT	VINYL COMPOSITION TILE
VEN.	VENEER
VERT.	VERTICAL
VEST.	VESTIBULE
V.I.F.	VERIFY IN FIELD
VIN.	VINYL
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W.H.	WALL HUNG
WIN.	WINDOW
W/O	WITHOUT
WP.	WATERPROOF
W.R.	WATER RESISTANT
WSCT.	WAINSCOT
WT.	WEIGHT

LEGEND

SYMBOLS & DESCRIPTION



SYMBOLS & DESCRIPTION



CODE SUMMARY

One Waverly Street, ROXBURY, MA

Date: September 10, 2024

Item	Allowed/Required	Proposed
Applicable Building Codes: **780 CMR - MA State Building Code, 9th Edition** **248 CMR - MA Fuel Gas and Plumbing Code** **2015 International Mechanical Code (IMC)** **NFPA 30/2002 - Electrical Code, with Mass amdts.** **524 CMR - MA Elevator Code** **with 1996 ASME A17.1 Elevator Code** **527 CMR - MA Fire Prevention Regulations** **105 CMR - MA Sanitary Code**		
Applicable Handicapped Accessibility Code: Mass Architectural Accesses Board 521 CMR (9.2 New Construction)	meet the requirements of 521 CMR 9.3, Group 1 Dwelling Units and 521 CMR 9.4, Group 2 Dwelling Units.	
Building Type Information		
Construction Type	**3B**	**3B**
Use or Occupancy Classification		
Lower Level	N/A	**S** - Storage/Utility,
Ground (First Floor)	N/A	**S-2/B** Storage/Business
Second Floor	N/A	**R-2** - Residential Multi-Family
Third Floor	N/A	**R-2** - Residential Multi-Family
Fourth Floor	N/A	**R-2** - Residential Multi-Family
Fifth floor	N/A	**R-2** - Residential Multi-Family
Number of Dwelling Units	52	52
Sprinkler Classification	NFPA S (R-2 use) & NFPA 13 (S-2 use)	NFPA S (R-2 use) & NFPA 13 (S-2 use)
Allowable Building Area (Table 506.2)		
Basement	48,000	4,956.00
First Floor	48,000	13,154.00
Second Floor	48,000	12,184.00
Third Floor	48,000	12,184.00
Fourth Floor	48,000	12,184.00
Fifth floor	48,000	12,148.00
(Tables 504.3/504.4) Building Height: feet/stories	70 feet/ 5 stories	**62'-0"- 5 stories**
REQUIRED SEPARATION OF OCCUPANCIES (Table 508.4)	This building shall be fully sprinklered: (note e: separation not req'd btwn same occup)	
R-2/A-2 (Basement to First Floor)	1 hr	1 hr
S-2/ R-2 (First to Second Floor)	1 hr	1 hr
FIRERESISTANCE RATINGS OF STRUCTURAL ELEMENTS (Table 601)	Note a: roof supports, fire resistance ratings of primary structure frame and bearing walls permitted to be reduced by 1 hour where supporting a roof only.	
Primary Structural Frame	1	1
Bearing walls	0	
Exterior (Table 602 Fire separation) (min separation =30'-0")	**R-2** 5'< to 30' = 1 hr; over 30' = 0 hr	**R-2** 5'< to 30' = 1 hr; over 30' = 0 hr
exterior bearing walls	1	1
Unprotected Opening (Table 705.8)	45%	-
Non bearing walls and Partitions	0	0
Nonbearing walls and partitions	0	0
Interior	0	0
Floor construction and Secondary members	0	0
Roof Construction and secondary members	0	0
FIRE AND SMOKE PROTECTION		
Exit Enclosures (1023.2)	2 hrs	2 hrs
Party Walls	N/A	N/A
Exit Access Corridors (Table 1020.1)	0.5 hr	0.5 hr
Shafts, trash chutes and Elevator Hoistways (708.4)	2 hrs	2 hrs
Exit Passageways (1024.4)not less than connecting exit enclosure	1 hr	1 hr
Fire Separation at Penetrations	Not less than assembly penetrated	Not less than assembly penetrated
Occupant Load and Egress Calculations	Table 1004.1 Floor area allowance per person;	Table 1021.1 exits per story
Basement (S Storage)	4956 gsf @ 1/300 gsf = 19; exits req'd =1	2 Exits Provided
First Floor (S-2 Storage)	7787 gsf @ 1/300 gsf =27 exits Req'd = 2	3 Exits Provided
First Floor (B Business Area)	3483 gsf @ 1/100 gsf =35 exits Req'd = 2	3 Exits Provided
Second Floor (R-2 use Residential)	12184 gsf @ 1/15 gsf = 71; Exits Req'd = 2	2 Exits Provided
Third Floor (R-2 use Residential)	12184 gsf @ 1/200 gsf = 71; Exits Req'd = 2	2 Exits Provided
Fourth Floor (R-2 use Residential)	12184 gsf @ 1/200 gsf =71; Exits Req'd = 2	2 Exits Provided
Fifth Floor (R-2 use Residential)	12148 gsf @ 1/200 gsf =71; Exits Req'd = 2	2 Exits Provided
Stairway Width Common Stairs	44 inches	44 inches
Door width	36 inches	36 inches
Travel distance (Table 1014.3; note 4)	250 feet	160

Micheal Washington Architects Inc.
1280 VFW Parkway Suite 201
West Roxbury, MA 02132
Phone: 617-390-5515
Email:mwashington@mwaboston.com

PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



75% PRICING SET
NOT FOR CONSTRUCTION

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SHEET TITLE

ABBREVIATIONS, LEGEND & CODE SUMMARY

SCALE:	N/A
DATE:	09/18/2024
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FILE:	

DRAWING NO.

T-2

MIX TABLE

SECOND FLOOR PLAN TYPES

UNIT TYPE	# OF BEDROOMS	SQUARE FOOT	TOTAL UNITS
UNIT TYPE 1A	1 BEDROOMS	582 SQ. FT.	4
UNIT TYPE 1B (SENSORY UNIT)	1 BEDROOMS	604 SQ. FT.	1
UNIT TYPE 1C (GROUP 2)	1 BEDROOMS	703 SQ. FT.	1
UNIT TYPE 2A	2 BEDROOMS	802 SQ. FT.	1
UNIT TYPE 2B (GROUP 2)	2 BEDROOMS	836 SQ. FT.	1
UNIT TYPE 2C	2 BEDROOMS	851 SQ. FT.	1
UNIT TYPE 2D	2 BEDROOMS	942 SQ. FT.	1
UNIT TYPE 2E	2 BEDROOMS	921 SQ. FT.	1
UNIT TYPE 2F	2 BEDROOMS	886 SQ. FT.	1
UNIT TYPE 3A	3 BEDROOMS	1,031 SQ. FT.	1
TOTAL UNITS		9,904 SF.	13

SECOND FLOOR PLAN BEDROOM UNITS:

TOTAL 1 BEDROOM UNITS = 6
TOTAL 2 BEDROOMS UNITS = 6
TOTAL 3 BEDROOMS UNITS = 1

THIRD FLOOR PLAN TYPES

UNIT TYPE	# OF BEDROOMS	SQUARE FOOT	TOTAL UNITS
UNIT TYPE 1A	1 BEDROOMS	582 SQ. FT.	4
UNIT TYPE 1B	1 BEDROOMS	604 SQ. FT.	1
UNIT TYPE 1C (GROUP 2)	1 BEDROOMS	703 SQ. FT.	1
UNIT TYPE 2A	2 BEDROOMS	802 SQ. FT.	1
UNIT TYPE 2B (GROUP 2)	2 BEDROOMS	836 SQ. FT.	1
UNIT TYPE 2C	2 BEDROOMS	851 SQ. FT.	1
UNIT TYPE 2D	2 BEDROOMS	942 SQ. FT.	1
UNIT TYPE 2E	2 BEDROOMS	921 SQ. FT.	1
UNIT TYPE 2F	2 BEDROOMS	886 SQ. FT.	1
UNIT TYPE 3A	3 BEDROOMS	1,031 SQ. FT.	1
TOTAL UNITS		9,904 SF.	13

THIRD FLOOR PLAN BEDROOM UNITS:

TOTAL 1 BEDROOM UNITS = 6
TOTAL 2 BEDROOMS UNITS = 6
TOTAL 3 BEDROOMS UNITS = 1

FOURTH FLOOR PLAN TYPES

UNIT TYPE	# OF BEDROOMS	SQUARE FOOT	TOTAL UNITS
UNIT TYPE 1A	1 BEDROOMS	582 SQ. FT.	4
UNIT TYPE 1B	1 BEDROOMS	604 SQ. FT.	1
UNIT TYPE 1C (GROUP 2)	1 BEDROOMS	703 SQ. FT.	1
UNIT TYPE 2A	2 BEDROOMS	802 SQ. FT.	1
UNIT TYPE 2B	2 BEDROOMS	836 SQ. FT.	1
UNIT TYPE 2C	2 BEDROOMS	851 SQ. FT.	1
UNIT TYPE 2D	2 BEDROOMS	942 SQ. FT.	1
UNIT TYPE 2E	2 BEDROOMS	921 SQ. FT.	1
UNIT TYPE 2F	2 BEDROOMS	886 SQ. FT.	1
UNIT TYPE 3A	3 BEDROOMS	1,031 SQ. FT.	1
TOTAL UNITS		9,904 SF.	13

FOURTH FLOOR PLAN BEDROOM UNITS:

TOTAL 1 BEDROOM UNITS = 6
TOTAL 2 BEDROOMS UNITS = 6
TOTAL 3 BEDROOMS UNITS = 1

FIFTH FLOOR PLAN TYPES

UNIT TYPE	# OF BEDROOMS	SQUARE FOOT	TOTAL UNITS
UNIT TYPE 1A	1 BEDROOMS	578 SQ. FT.	4
UNIT TYPE 1B	1 BEDROOMS	604 SQ. FT.	1
UNIT TYPE 1C	1 BEDROOMS	703 SQ. FT.	1
UNIT TYPE 2A	2 BEDROOMS	798 SQ. FT.	1
UNIT TYPE 2B	2 BEDROOMS	836 SQ. FT.	1
UNIT TYPE 2C	2 BEDROOMS	846 SQ. FT.	1
UNIT TYPE 2D	2 BEDROOMS	938 SQ. FT.	1
UNIT TYPE 2E	2 BEDROOMS	918 SQ. FT.	1
UNIT TYPE 2F	2 BEDROOMS	886 SQ. FT.	1
UNIT TYPE 3A	3 BEDROOMS	1,027 SQ. FT.	1
TOTAL UNITS		9,868 SF.	13

FIFTH FLOOR PLAN BEDROOM UNITS:

TOTAL 1 BEDROOM UNITS = 6
TOTAL 2 BEDROOMS UNITS = 6
TOTAL 3 BEDROOMS UNITS = 1

TABLE 2-1 MFR/LS DISTRICT (ARTICLE 50) --ZONING COMPLIANCE

DIMENSIONAL ELEMENT	MFR/LS DISTRICT	PROPOSED PROJECT	CONDITIONAL USE PERMITS / VARIANCE(S) REQUIRED?
MINIMUM LOT SIZE	4,000 SF FOR 1ST THREE-UNITS = 4,000 SF	23,612	YES
LOT AREA FOR EACH ADDITIONAL UNIT	1,000 SF PER DU= 45,000 SF	23,612	YES
MAX. FLOOR AREA RATIO	1.0	2.95	YES
MAX. BUILDING HEIGHT	45 FEET/ 4 - STORIES	62 FEET/ 5 - STORIES	YES
MINIMUM LOT WIDTH	40 FEET	285.37	NO
MINIMUM LOT FRONTAGE	40 FEET	285.37	NO
MINIMUM USABLE OPEN SPACE	200 MIN. SF PER DU = 9,600 SF	7,294	YES
MINIMUM FRONT YARD	20	0	YES
MINIMUM SIDE YARD	10	0	YES
MINIMUM REAR YARD	20	0	YES
MINIMUM NUMBER OF PARKING SPACES	(2)	18 SPACES	NO (2)
MINIMUM NUMBER OF LOADING BAYS	(2)	1	NO (2)

1. THE DIMENSIONS DESCRIBED IN THIS ABOVE TABLE MAY CHANGE AS THE PROPOSED PROJECT UNDERGOES DESIGN REVIEW WITH THE BRA.
2. REQUIRED OFF - STREET PARKING SPACES AND LOADING REQUIREMENTS SHALL BE DETERMINED THROUGH BRA'S LARGE PROJECT REVIEW IN ACCORDANCE WITH ARTICLE 80 OF THE CODE.

PARKING SPACES

FIRST FLOOR LEVEL =18 SPACES
TOTAL PARKING SPACES = 18

Micheal Washington Architects Inc.
1280 VFW Parkway Suite 201
West Roxbury, MA 02132

Phone: 617-390-5515
Email:mwashington@mwaboston.com

PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN TYLER
NO. 31142
WESTWOOD
MA

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NOT FOR CONSTRUCTION

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SHEET TITLE

MIX TABLE

SCALE: NTS
DATE: 09/18/2024
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FILE:

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T-3

R.E. Cameron & Associates, Inc.
LAND SURVEYORS – CIVIL ENGINEERS
681 WASHINGTON STREET
NORWOOD, MA 02062
(781) 769-1777 Fax (781) 769-8644

BENCHMARK:
DRILL HOLE
IN CONCRETE WALK
8' FROM CATCH BASIN
ELEV. = 81.03
DATUM = BCB

BENCHMARK:
DRILL HOLE
IN CONCRETE WALK
16.5' FROM CONC. WALL
ELEV. = 87.14
DATUM = BCB

BENCHMARK:
DRILL HOLE
IN CONCRETE WALK
6' FROM BLDG. COR.
ELEV. = 79.83
DATUM = BCB

BENCHMARK:
TOP OF BOLT
ON PEDESTRIAN
LIGHT POLE
ELEV. = 80.80
DATUM = BCB

WAVERLLY (PUBLIC ~ VARIABLE WIDTH) STREET

WARREN (PUBLIC ~ VARIABLE WIDTH) STREET

CLIFFORD (PUBLIC ~ VARIABLE WIDTH) STREET

#270 WARREN ST
BLDG FTPRNT = 12,500 S.F.
2 STORY BRICK

23,612 S.F. ± LOT AREA

30,079 S.F. ± LOT AREA

4 STORY BRICK

4 STORY BRICK WITH GARAGE BELOW

MICHAEL E HAYNES ARMS
280 WARREN STREET

MICHAEL E HAYNES ARMS
8 CLIFFORD STREET

N/F
PARCEL 1200444010
29 WAVERLY ST
MARIA CHACON

N/F
PARCEL 1200489000
16 CLIFFORD ST
PATRICIA A TELLIS-WARREN

WARREN STREET L 9501

RAMP TO LOWER PARKING LEVEL DOWN

CONCRETE RETAINING WALL

ASPHALT DRIVEWAY

LAWN AREA

CONCRETE PATIO

GARAGE DOOR

GRANITE CURB

CONCRETE WALK

ROUGH GROUND

ASPHALT

PLANTING AREA

LANDSCAPE TIMBERS

SKYLIGHT

12" SEWER

10" SEWER

6" DIG SEWER

12" DRAIN

12" PVC DRAIN

12" PVC SEWER

SH WATER 12" DICL

SH WATER 12" DUCTILE

GRASS TRAFFIC ISLAND

GRANITE CURB

CONCRETE APRON

HANDICAP RAMP

STOP AREA

ELEC TRAN

UNDERGROUND ELECTRIC SYSTEM

FIRE DOMESTIC

AUTO SPRINK

SLL

TYP. 1 STR. CHIMNEY

TYP. 2 STR. CHIMNEY

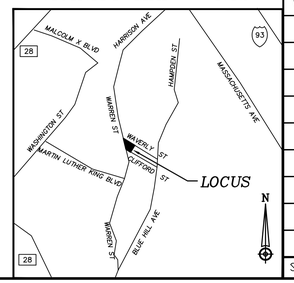
0 10 20 40 60 80

1 INCH = 20 FT.

LEGEND

- AREA DRAIN
- BOLLARD
- METAL BENCH
- BOSTON WATER WORKS
- CATCH BASIN
- CHAIN LINK FENCE
- CONCRETE LIGHT POLE
- DETECTABLE WARNING STRIP
- DRAIN MANHOLE
- ELECTRIC HANDHOLE
- ELECTRIC MANHOLE
- ELECTRIC METER
- ELECTRIC TRANSFORMER
- FLAGPOLE
- GAS GATE
- GAS METER
- GENERATOR
- HYDRANT
- METAL LIGHT POLE
- OVERHEAD WIRES
- PARKING METERS
- PEDESTRIAN LIGHT POLE
- ROOF DRAIN
- SEWER MANHOLE
- SIGNS
- STOCKADE FENCE
- STONE WALL
- TELEPHONE MANHOLE
- TRAFFIC LIGHT POLE
- TRAFFIC CONTROL BOX
- TRASH RECEPTACLE
- UNDERGROUND UTILITIES
  - D — DRAIN
  - E — ELECTRIC
  - G — GAS
  - S — SEWER
  - T — TELEPHONE
  - W — WATER
  - TV — TELEVISION
  - C — COMMUNICATION
- WATER CONTROL VALVE
- WATER GATE
- WOOD UTILITY POLE
- WOOD UTILITY POLE W/LIGHT
- WROUGHT IRON FENCE

VICINITY MAP ~ NTS



EX-1

SCALE: 1"=20' DATE: 6/5/23
DRAWN BY: SLS MATH: SLS28/23
JOB NUMBER: 4143 CHECKED BY:
COUNTY: SUFFOLK
TITLE:

AS-BUILT
MICHAEL E HAYNES ARMS
270 WARREN STREET,
280 WARREN STREET &
8 CLIFFORD STREET
BOSTON (Roxbury), MASS.

4143AB2

Revisions

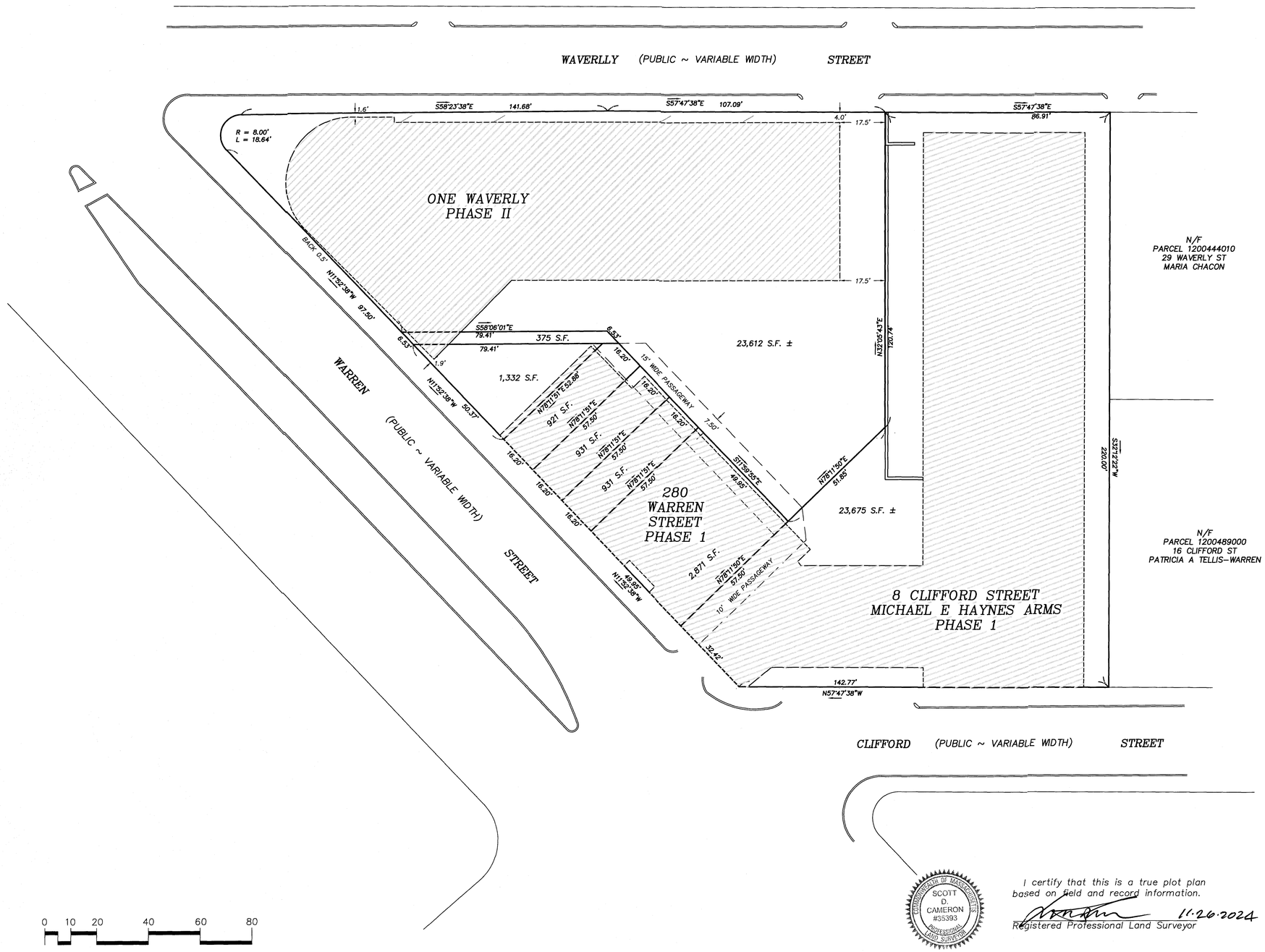
No.	Date	Description
1	11/10/23	TERRACED PLANTING

SHEET NUMBER:

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4143

R.E. Cameron & Associates, Inc.
LAND SURVEYORS – CIVIL ENGINEERS
681 WASHINGTON STREET
NORWOOD, MA 02062
(781) 769-1777 Fax (781) 769-8644



COMMONWEALTH OF MASSACHUSETTS
SCOTT D. CAMERON #35393
PROFESSIONAL LAND SURVEYOR

I certify that this is a true plot plan based on field and record information.

11.26.2024
Registered Professional Land Surveyor

V-1

SCALE:	1"=20'
DATE:	11/25/24
DRAWN BY:	SLS
MATH:	SLS28/23
JOB NUMBER:	4143
CHECKED BY:	
COUNTY:	SUFFOLK

TITLE:

CERTIFIED PLOT PLAN
ONE WAVERLY
BOSTON (Roxbury), MASS.

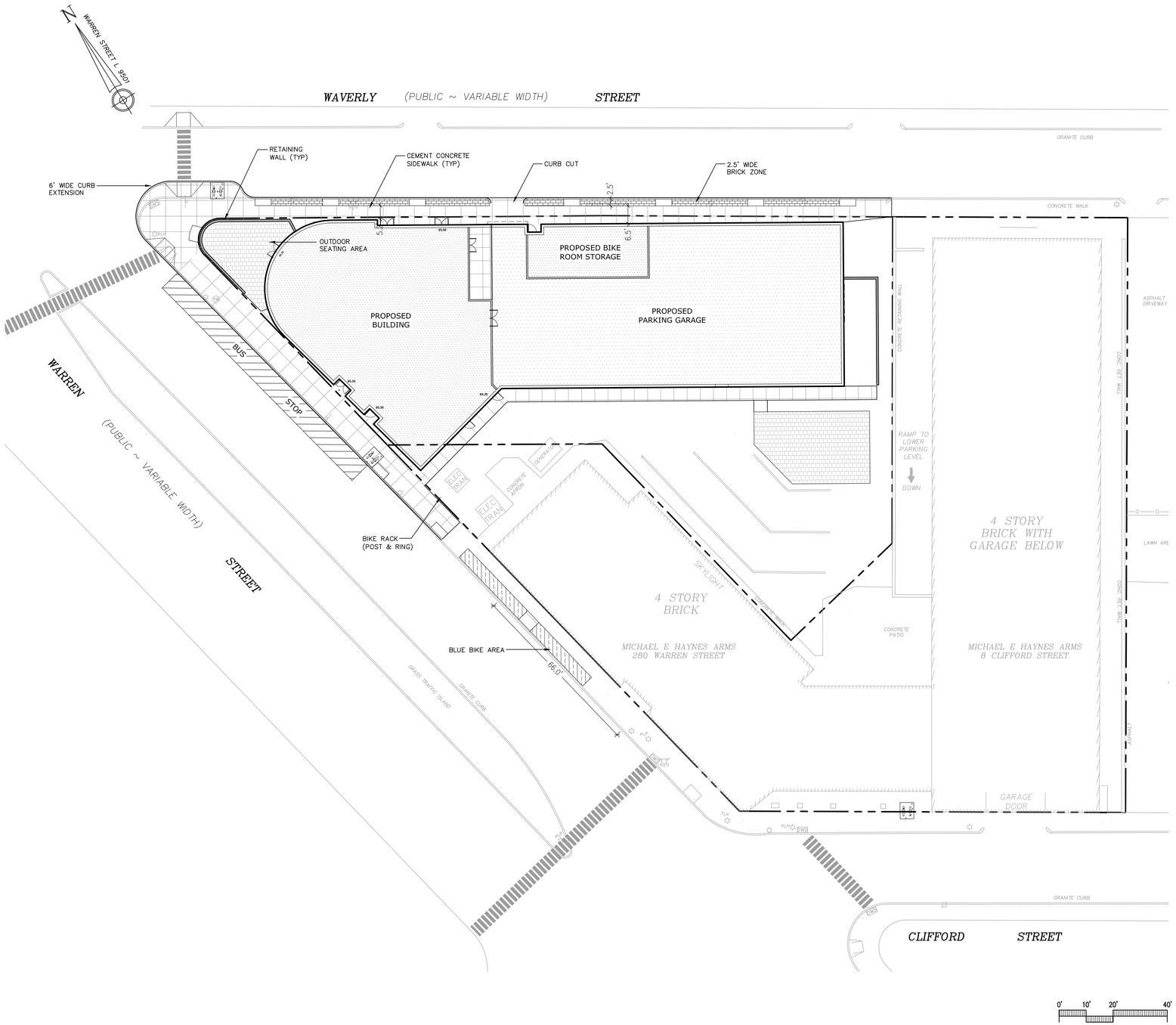
4143ISD2

Revisions

No.	Date	Description

SHEET NUMBER:

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Micheal Washington Architects Inc.

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Email:mwashington@mwaboston.com

PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

CONSULTANT:

DZI
Site Planning, Civil Engineering
Landscape Architecture
Po Box 307
Foxborough, MA
508.473.4114 phone
develliszrein.com
DeVellis Zrein Inc.

COMMONWEALTH OF MASSACHUSETTS
IMAD A ZREIN
CIVIL
NO. 37231
REGISTERED PROFESSIONAL ENGINEER

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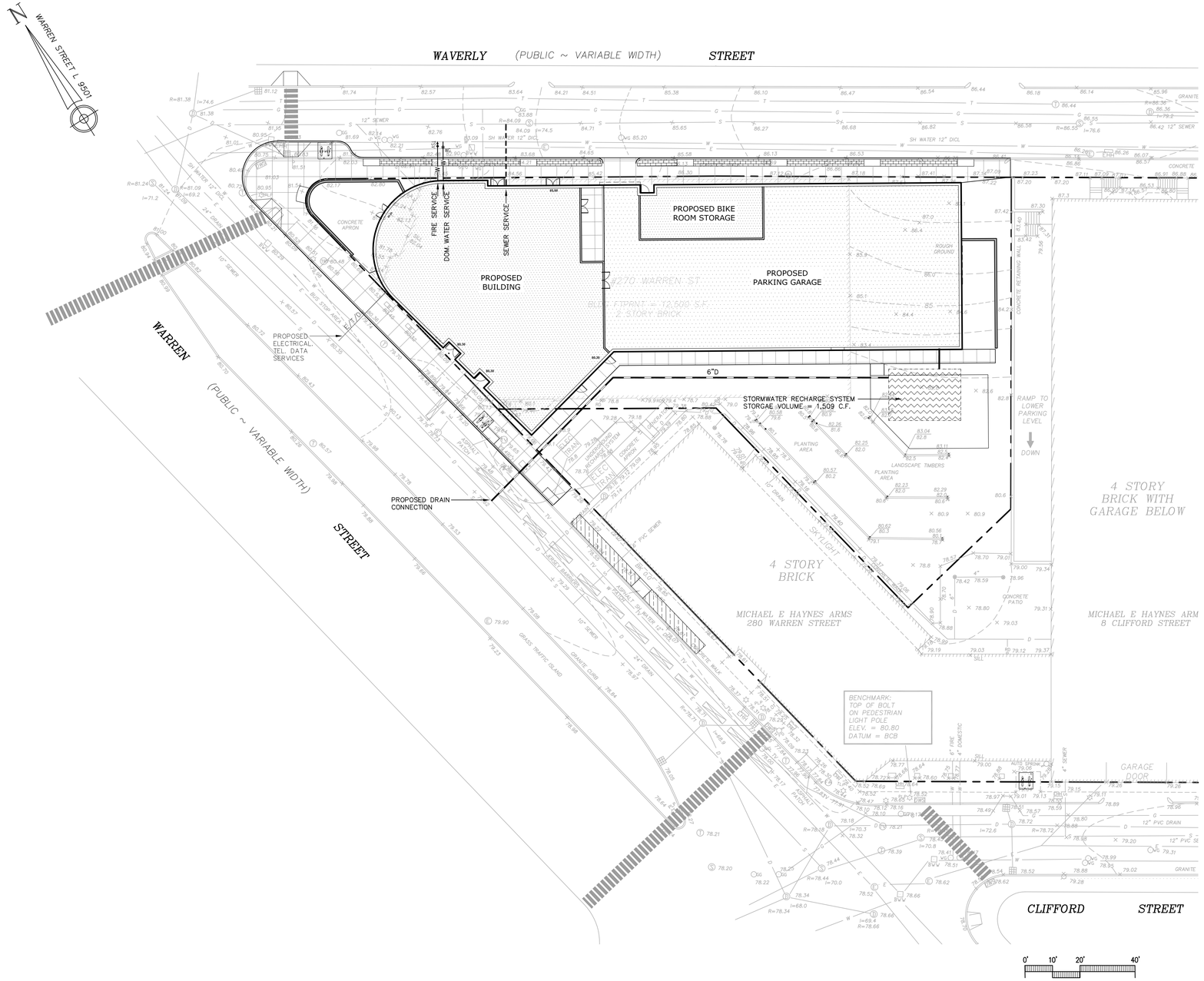
SHEET TITLE

SITE PLAN

SCALE:	1" = 20'
DATE:	08/23/2024
DRAWN BY:	IAZ
CHECKED BY:	
FILE:	

DRAWING NO.

C-1



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Email:mwashington@mwaboston.com

PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

CONSULTANT:

DZI Site Planning, Civil Engineering
Landscape Architecture
Po Box 307
Foxborough, MA
508.473.4114 phone
develliszrein.com
DeVellis Zrein Inc.

COMMONWEALTH OF MASSACHUSETTS
BRAD A ZRein
CIVIL
NO. 37231
REGISTERED PROFESSIONAL ENGINEER

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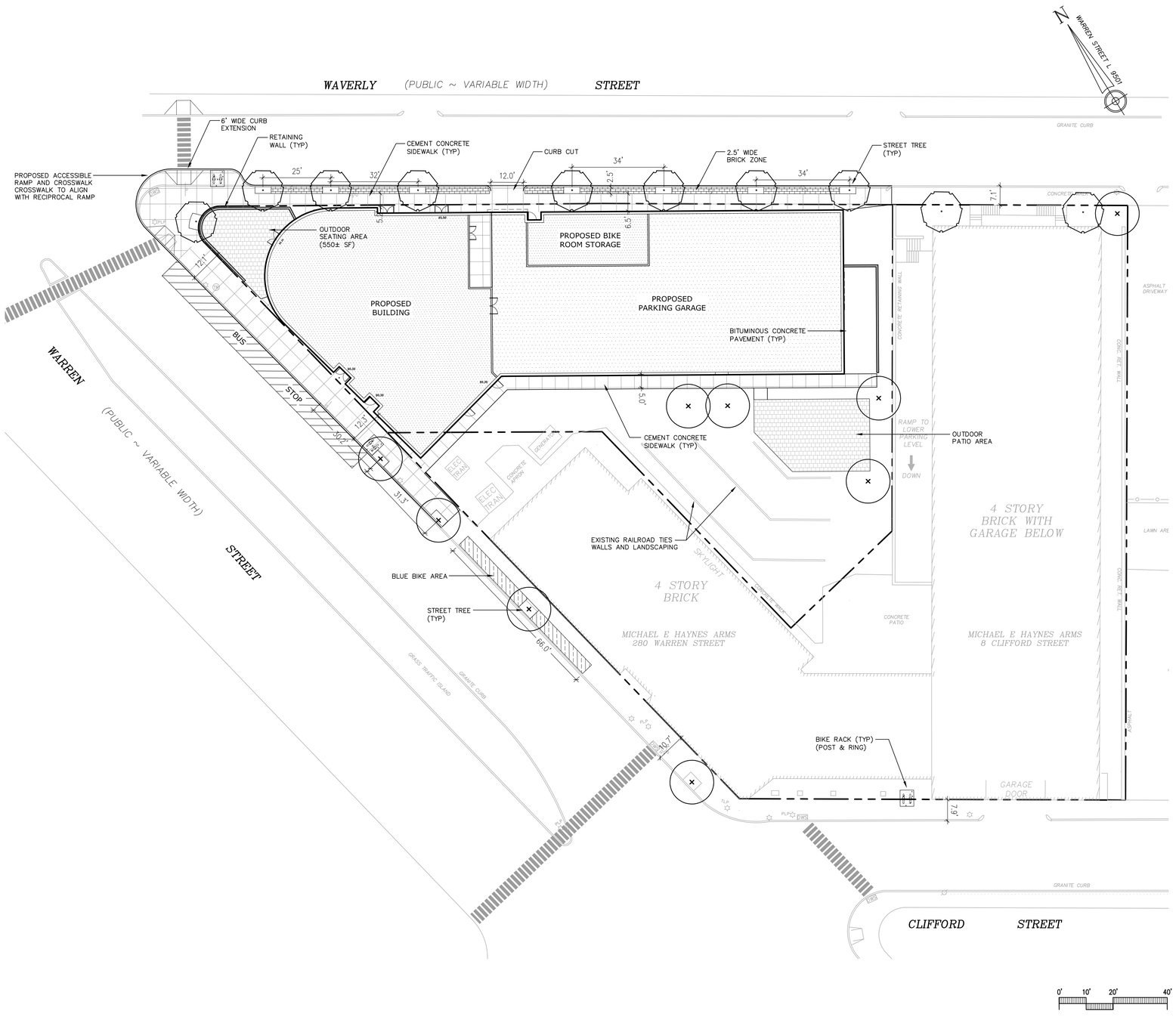
SHEET TITLE

GRADING AND UTILITY PLAN

SCALE:	
DATE:	08/23/2024
DRAWN BY:	XXX
CHECKED BY:	XXX
FILE:	

DRAWING NO.

C-2



PLANTING LEGEND

- PROPERTY LINE
- GROUNDCOVER / PERENNIAL PLANTING
- SHRUB PLANTING
- ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS TREE

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

CONSULTANT:

DZI Site Planning, Civil Engineering
Landscape Architecture
Po Box 307
Foxborough, MA
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develliszrein.com
DeVellis Zrein Inc.

DAVID A ZRein CIVIL NO. 37231 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

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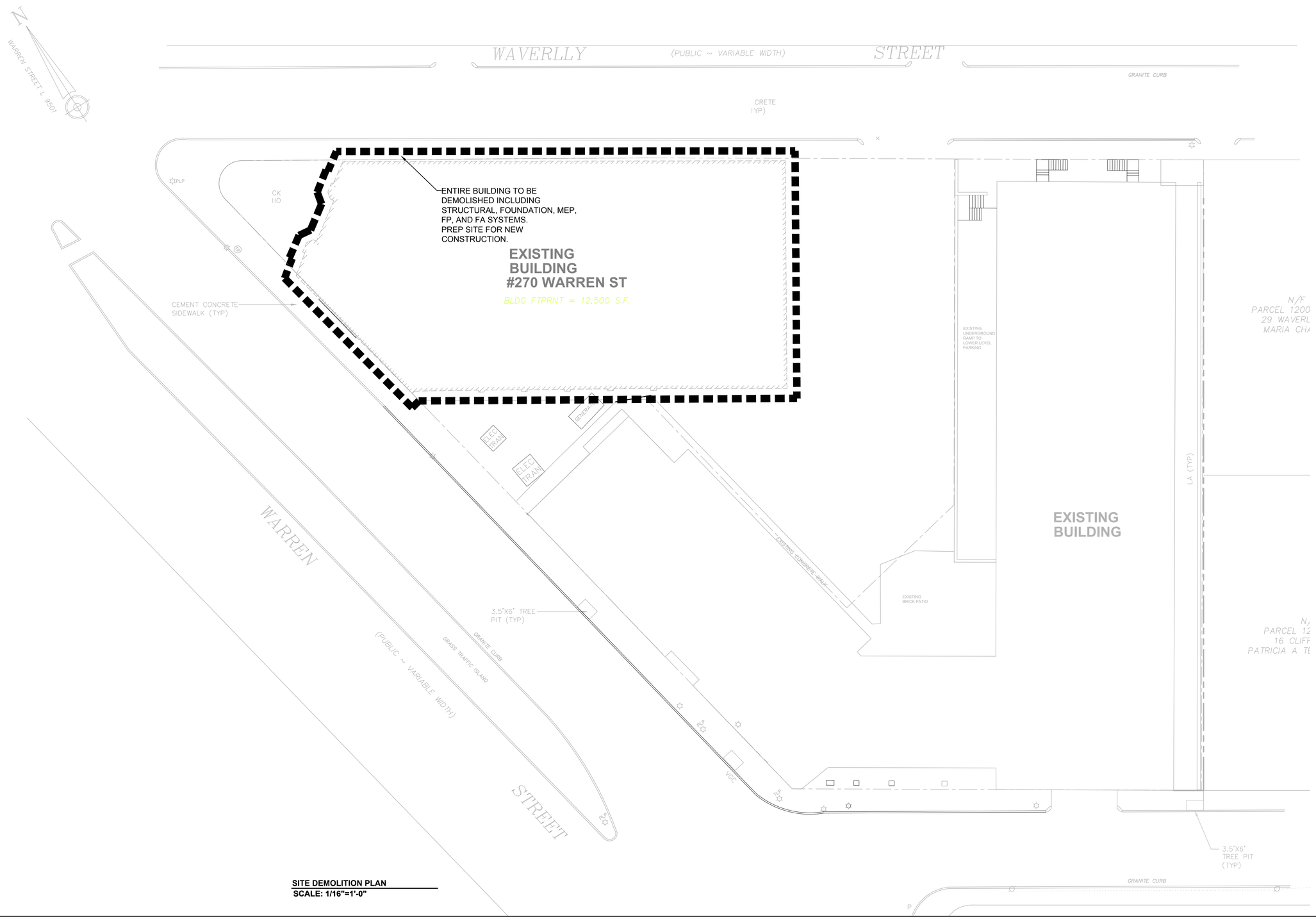
SHEET TITLE

LANDSCAPE PLAN

SCALE:	1" = 20'
DATE:	08/23/2024
DRAWN BY:	IAZ
CHECKED BY:	
FILE:	

DRAWING NO.

C-3



SITE DEMOLITION PLAN
SCALE: 1/16"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN T. LEE
NO. 31142
WESTWOOD
MA
COMMONWEALTH OF MASSACHUSETTS

NORTH

75% PRICING SET
NOT FOR CONSTRUCTION

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SHEET TITLE

SITE DEMOLITION PLAN

SCALE: 1/16"=1'-0"	DRAWING NO.
DATE: 09/18/2024	A-0.0
DRAWN BY: BL/JB	
CHECKED BY: BL	
FILE:	



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PROJECT

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PERSPECTIVE

SCALE: 3/32"=1'-0"	DRAWING NO.
DATE: 09/18/2024	**A0.1A**
DRAWN BY: MWA	
CHECKED BY: BL	
FILE:	



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PROJECT

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PERSPECTIVE

SCALE:	3/32"=1'-0"
DATE:	09/18/2024
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FILE:	

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A0.1B



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ONE JOHN ELIOT SQUARE
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PERSPECTIVE

SCALE: 3/32"=1'-0"	DRAWING NO.
DATE: 09/18/2024	**A0.1C**
DRAWN BY: MWA	
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FILE:	



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PROJECT

ONE WAVERLY

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ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
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PERSPECTIVE

SCALE:	3/32"=1'-0"
DATE:	09/18/2024
DRAWN BY:	MWA
CHECKED BY:	BL
FILE:	

DRAWING NO.

A0.1D



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DATE:	09/18/2024
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FILE:	

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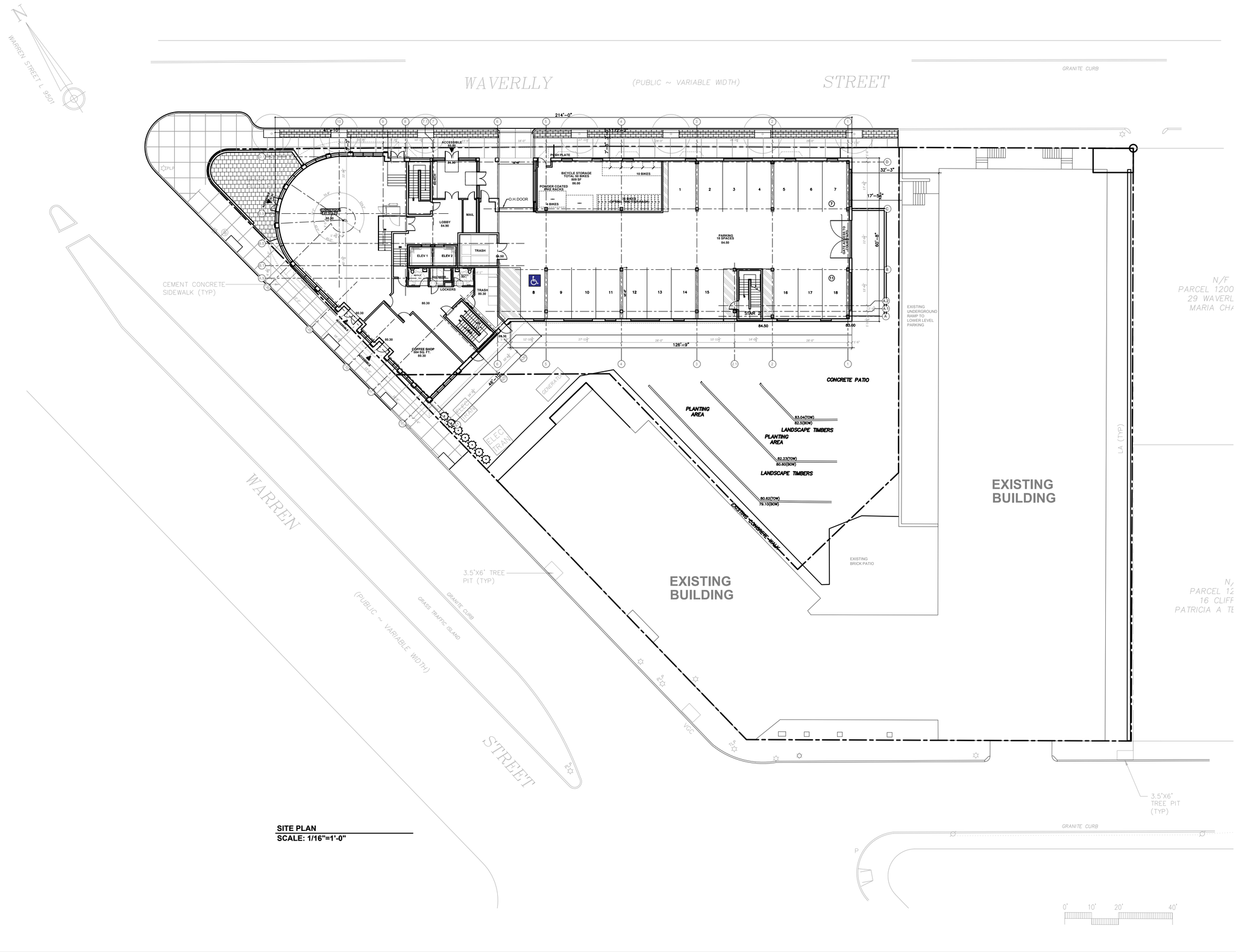
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PERSPECTIVE

SCALE:	3/32"=1'-0"
DATE:	09/18/2024
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CHECKED BY:	BL
FILE:	

DRAWING NO.

A0.1F



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

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PROJECT

ONE WAVERLY

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ROXBURY, MASSACHUSETTS

DEVELOPER:

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ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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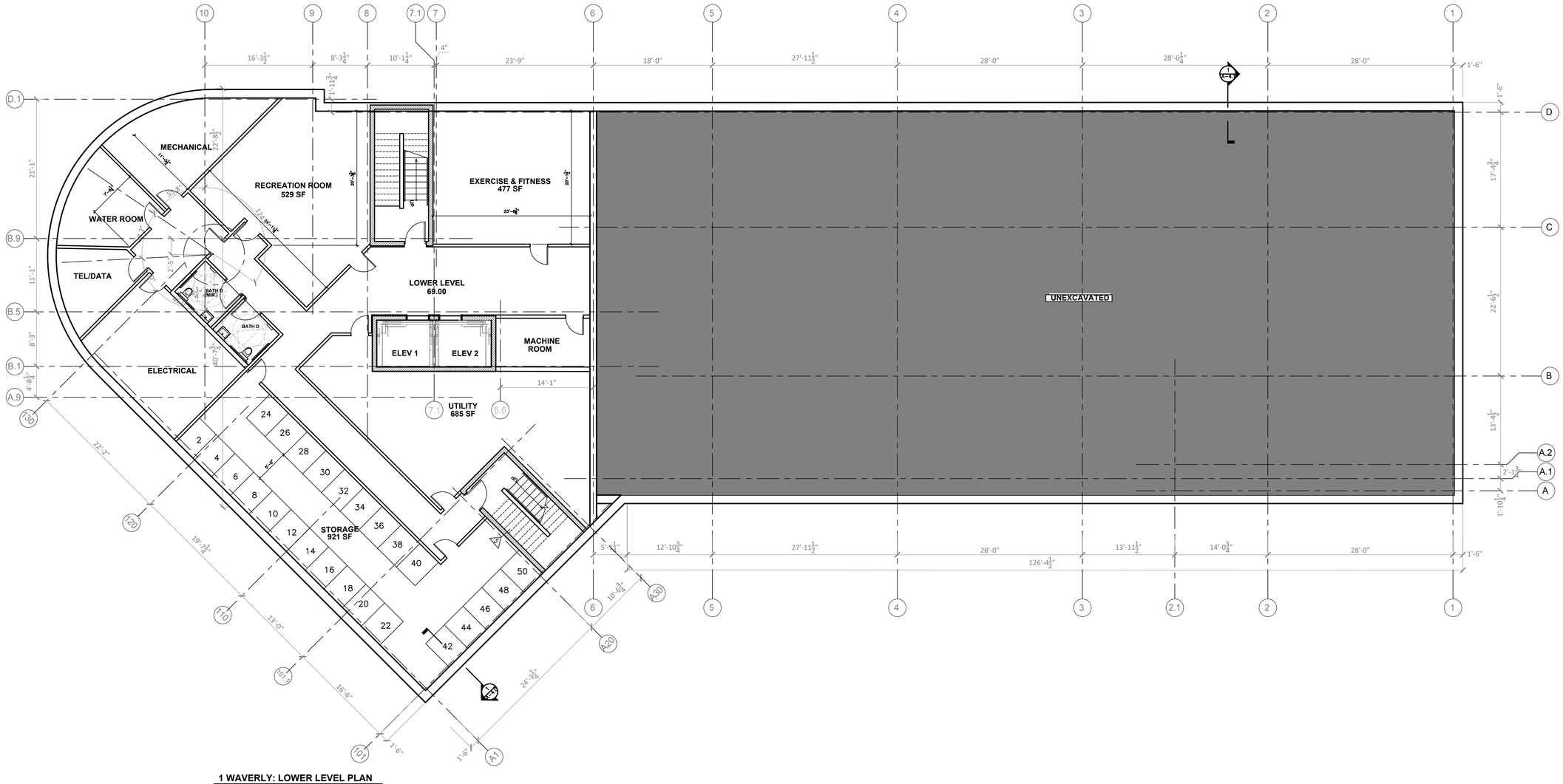
SHEET TITLE

SITE PLAN

SCALE:	1/16"=1'-0"
DATE:	09/18/2024
DRAWN BY:	BL/JB
CHECKED BY:	BL
FILE:	

DRAWING NO.

A-0.2



1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

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DEVELOPER:

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ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



NORTH

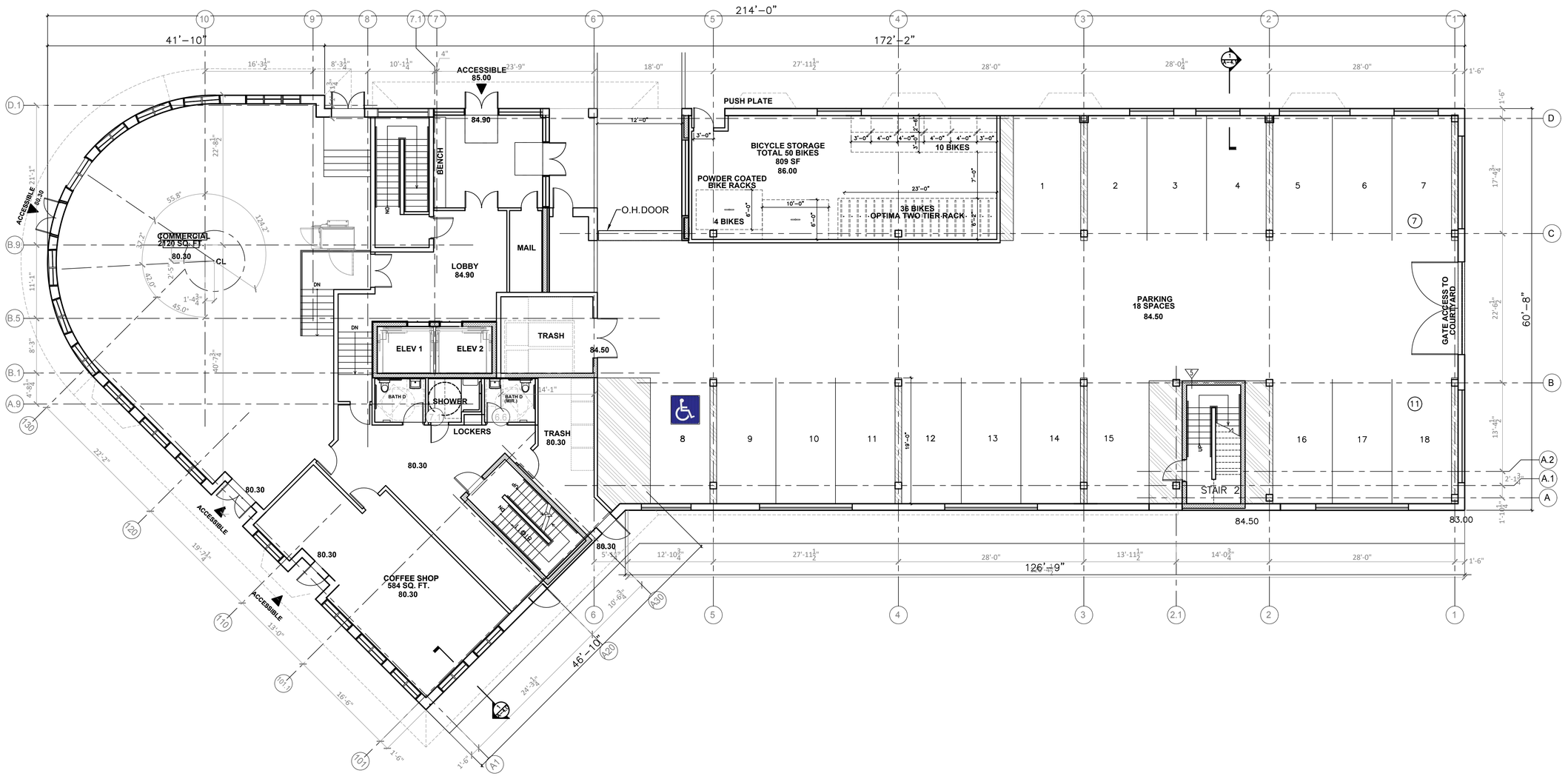
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SHEET TITLE

LOWER LEVEL PLAN

SCALE: 1/8"=1'-0"	DRAWING NO.
DATE: 09/18/2024	**A1.0**
DRAWN BY: BL/JB	
CHECKED BY: BL	
FILE:	



1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

NORTH

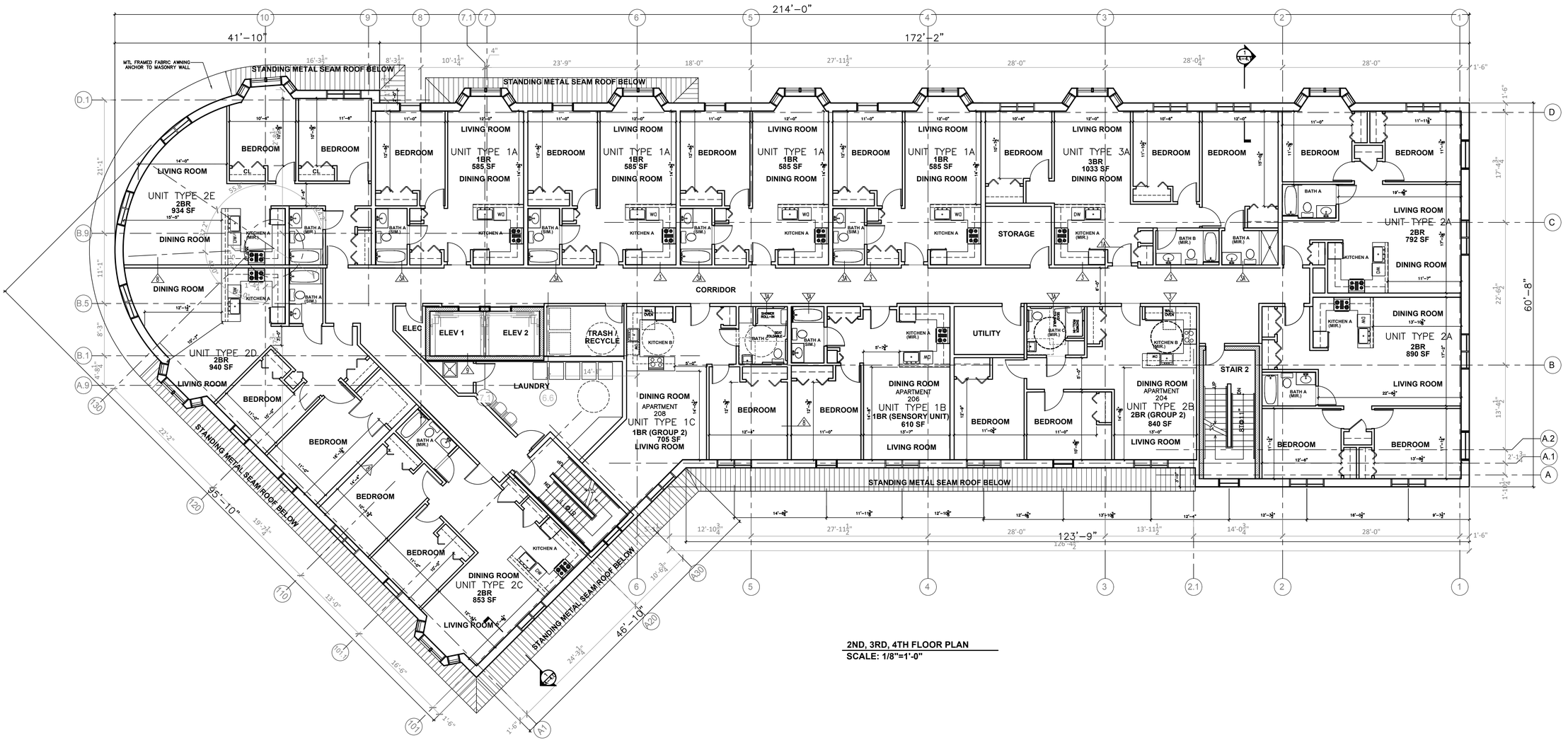
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FIRST FLOOR PLAN

SCALE: 1/8"=1'–0"	DRAWING NO.
DATE: 09/18/2024	**A1.1**
DRAWN BY: BL/JB	
CHECKED BY: BL	
FILE:	



2ND, 3RD, 4TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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DEVELOPER:

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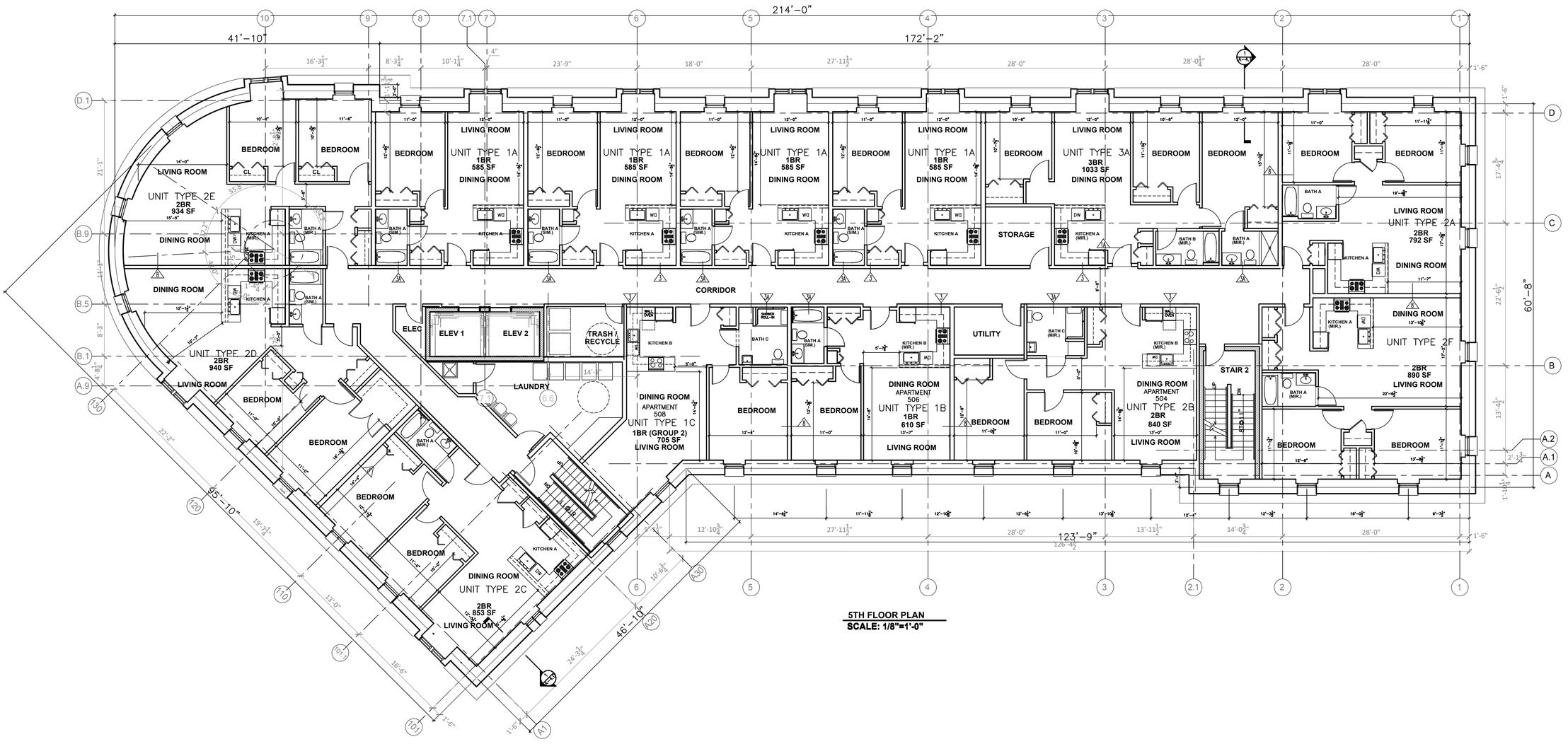
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SHEET TITLE

TYPICAL FLOOR PLAN (2ND-4TH)

SCALE: 1/8"=1'–0"	DRAWING NO.
DATE: 09/18/2024	A-1.2
DRAWN BY: MWA/JB	
CHECKED BY: BL	
FILE:	



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CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN T. LEE
NO. 31142
WESTWOOD
MA
COMMONWEALTH OF MASSACHUSETTS

NORTH

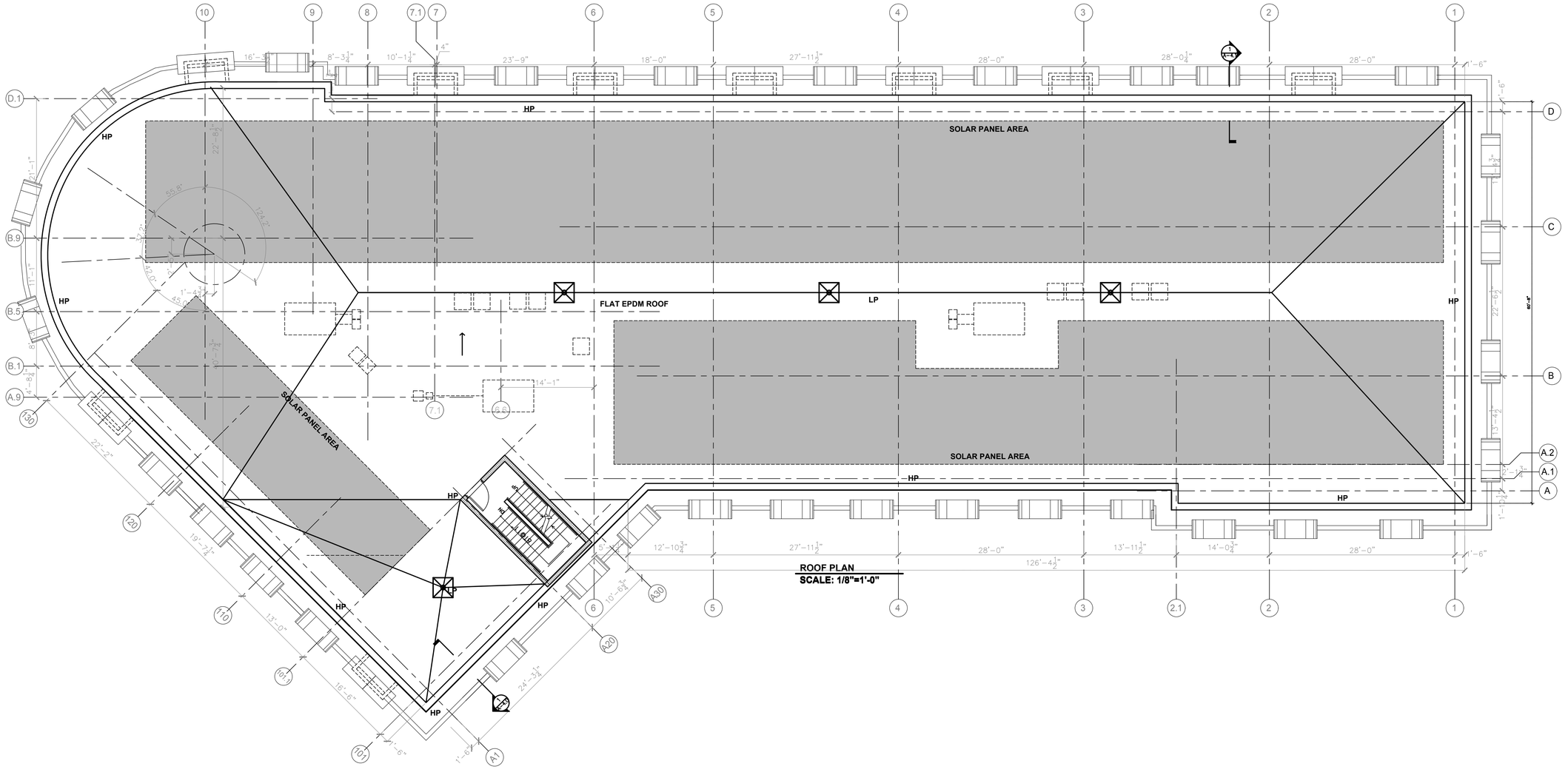
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SHEET TITLE

FIFTH FLOOR PLAN

SCALE: 1/8"=1'–0"	DRAWING NO.
DATE: 09/18/2024	A1.5
DRAWN BY: BL/JB	
CHECKED BY: BL	
FILE:	


HP
SOLAR PANEL AREA
FLAT EPDM ROOF
LP
SOLAR PANEL AREA
SOLAR PANEL AREA
HP
HP
HP



EXISTING EXTERIOR ELEVATION



1 EXTERIOR ELEVATION - WAVERLY STREET

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

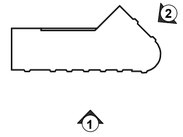


2 EXTERIOR ELEVATION - WARREN STREET

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



X M.E.H. EXISTING ELEVATION - WARREN STREET



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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

LEGEND

1	MANSORY VENEER, SEE TYP. WALL ASSEMBLY DETAIL 2/A4.0
2	STANDING SEAM METAL ROOFING
3	PRECAST CONCRETE LINTEL
4	PRECAST CONCRETE FEATURE
5	EXPOSED CONCRETE FOUNDATION WALL
6	COLUMNS COVERS
8	ALUMINIUM STOREFRONT GLAZING SYSTEM
9	FIBERGLASS WINDOWS
10	DECORATIVE MDO PANEL AT BASE
11	STANDING SEAM CANOPY
11A	METAL FRAMED FABRIC AWNING
	LIGHT FIXTURE
1	COLUMN COVER, SEE SCHEDULE A.9b
13	DECORATIVE METAL GRILL- PICKET-3/4", RAILS- TOPWALLS-1-3/8"X0.65 THICK RAILS- SIDEWALLS-1 1/4"X0.88 THICK PICKET SPACING-3-5/8"
14	ASPHALT TILE ROOFING



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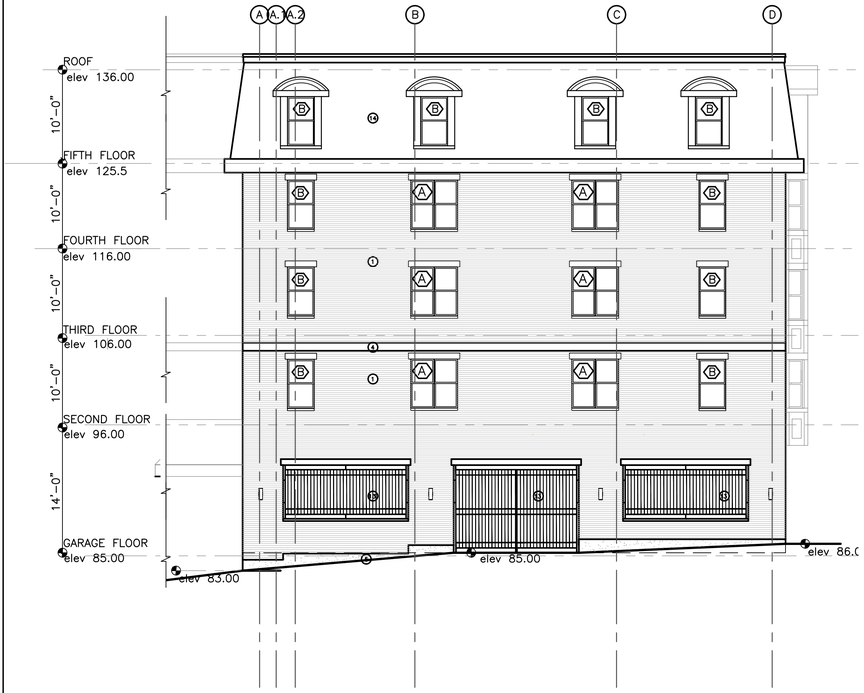
SHEET TITLE

EXTERIOR ELEVATIONS

SCALE:	3/32"=1'-0"
DATE:	09/18/2024
DRAWN BY:	JB
CHECKED BY:	BL
FILE:	

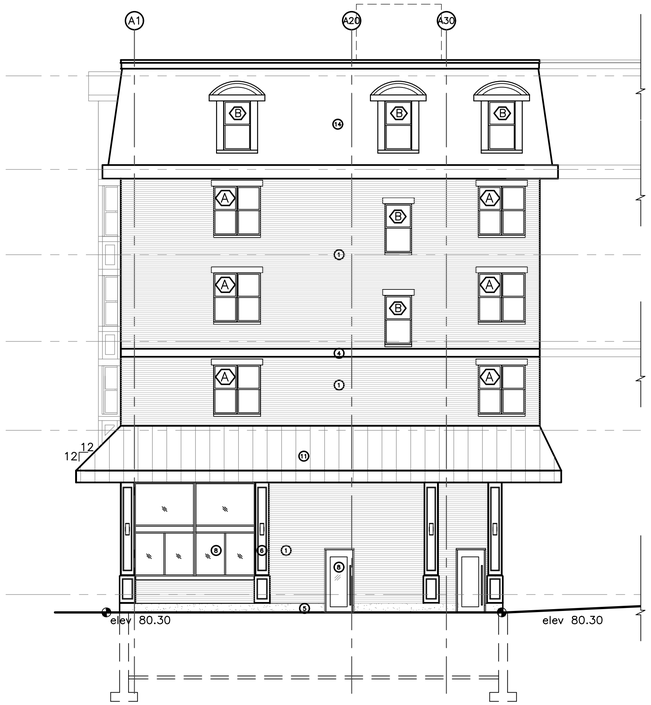
DRAWING NO.

A2.0



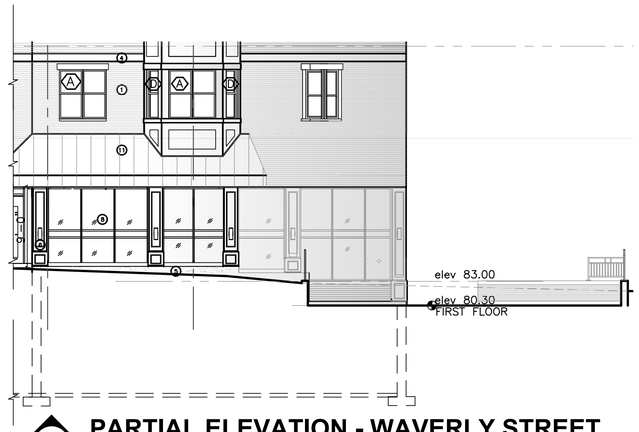
3 EXTERIOR ELEVATION

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



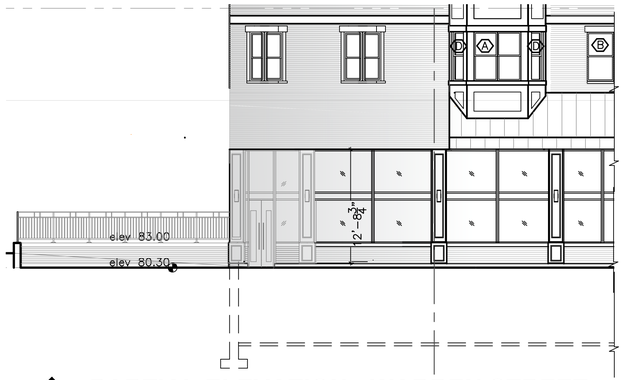
4 EXTERIOR ELEVATION

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



1a PARTIAL ELEVATION - WAVERLY STREET

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



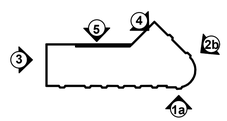
2b PARTIAL ELEVATION - WARREN STREET

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



5 EXTERIOR ELEVATION

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



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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

LEGEND

1	MANSORY VENEER, SEE TYP. WALL ASSEMBLY DETAIL 2/A4.0
2	STANDING SEAM METAL ROOFING
3	PRECAST CONCRETE LINTEL
4	PRECAST CONCRETE FEATURE
5	EXPOSED CONCRETE FOUNDATION WALL
6	COLUMNS COVERS
8	ALUMINIUM STOREFRONT GLAZING SYSTEM
9	FIBERGLASS WINDOWS
10	DECORATIVE MDO PANEL AT BASE
11	STANDING SEAM CANOPY
11A	METAL FRAMED FABRIC AWNING
	LIGHT FIXTURE
1	COLUMN COVER, SEE SCHEDULE A.9b
13	DECORATIVE METAL GRILL- PICKET-3/4", RAILS- TOPWALLS-1-3/8"X0.85 THICK RAILS- SIDEWALLS-1 1/4"X0.88 THICK PICKET SPACING-3-5/8"
14	ASPHALT TILE ROOFING



75% PRICING SET
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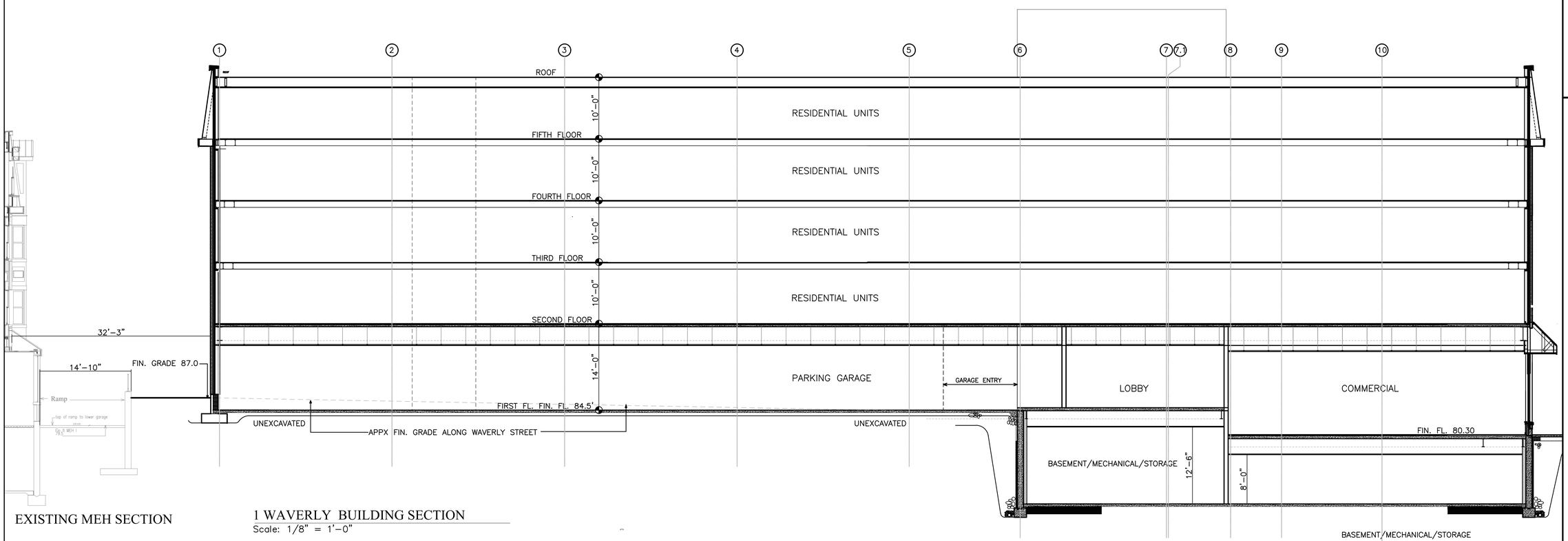
SHEET TITLE

EXTERIOR ELEVATIONS

SCALE:	1/8"=1'-0"
DATE:	09/18/2024
DRAWN BY:	JB
CHECKED BY:	BL
FILE:	

DRAWING NO.

A2.1



EXISTING MEH SECTION

1 WAVERLY BUILDING SECTION
Scale: 1/8" = 1'-0"

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



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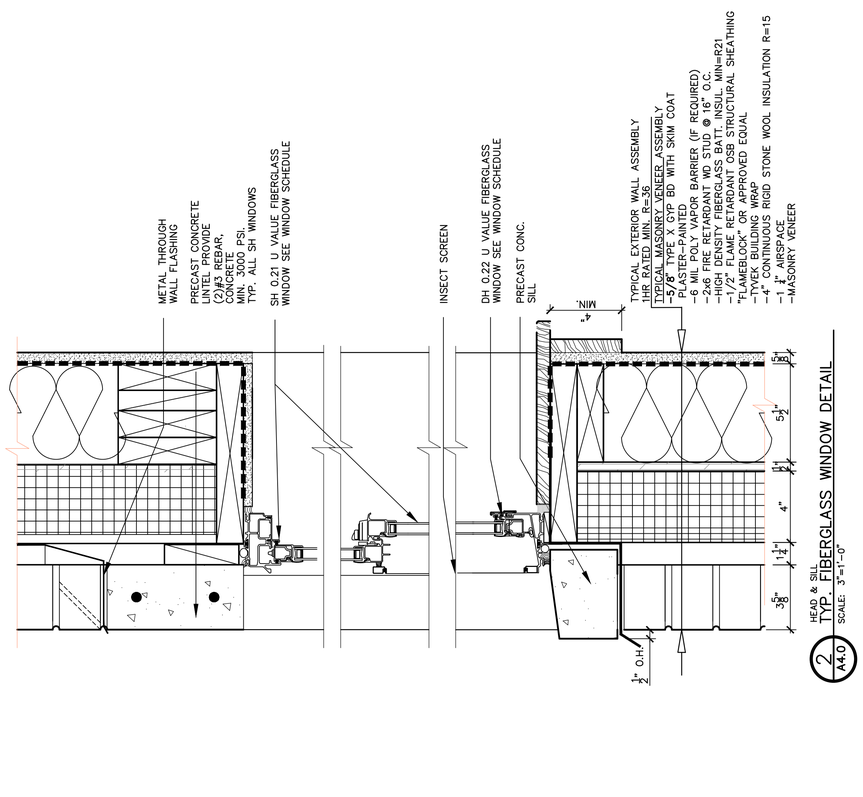
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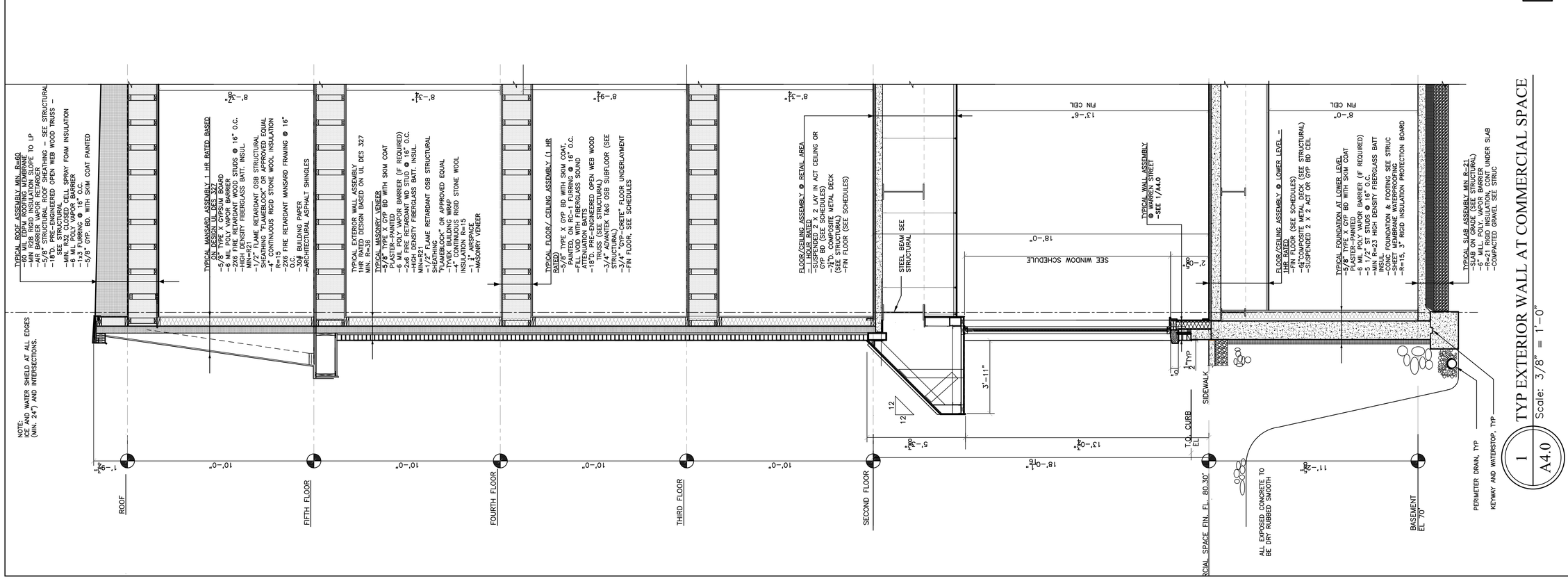
BUILDING SECTION

SCALE:	1/8"=1'-0"
DATE:	09/18/2024
DRAWN BY:	EP
CHECKED BY:	BL
FILE:	

DRAWING NO.

A3.0





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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN T. LEE
NO. 31142
WESTWOOD
MA
COMMONWEALTH OF MASSACHUSETTS

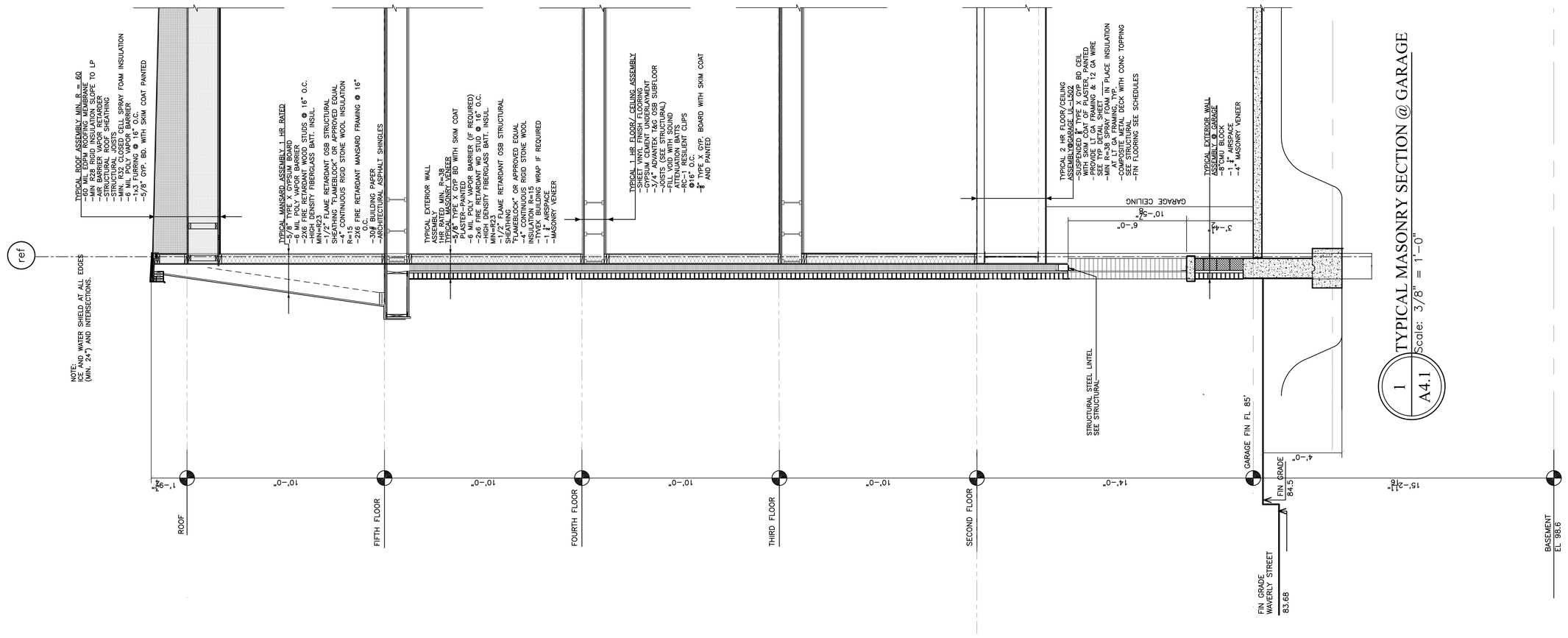
75% PRICING SET
NOT FOR CONSTRUCTION

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SHEET TITLE

WALL SECTION WINDOW DETAILS

SCALE: AS SHOWN	DRAWING NO.
DATE: 09/18/2024	A4.0
DRAWN BY: MWA/JB	
CHECKED BY: BL	
FILE:	



1 TYPICAL MASONRY SECTION @ GARAGE
Scale: 3/8" = 1'-0"

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN TYLER WESTWOOD
NO. 31142
WESTWOOD
MA
COMMONWEALTH OF MASSACHUSETTS

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SHEET TITLE

WALL SECTION

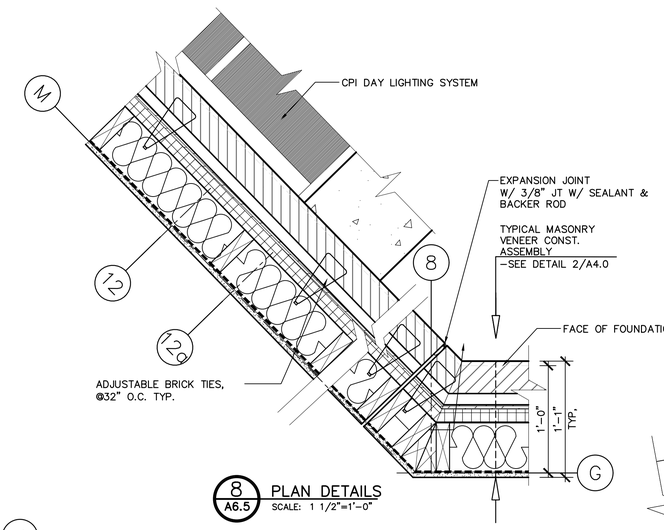
SCALE:	3/8"=1'-0"
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FILE:	

DRAWING NO.

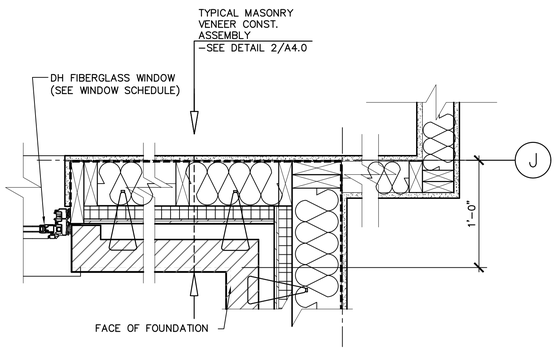
A4.1

GENERAL NOTE:

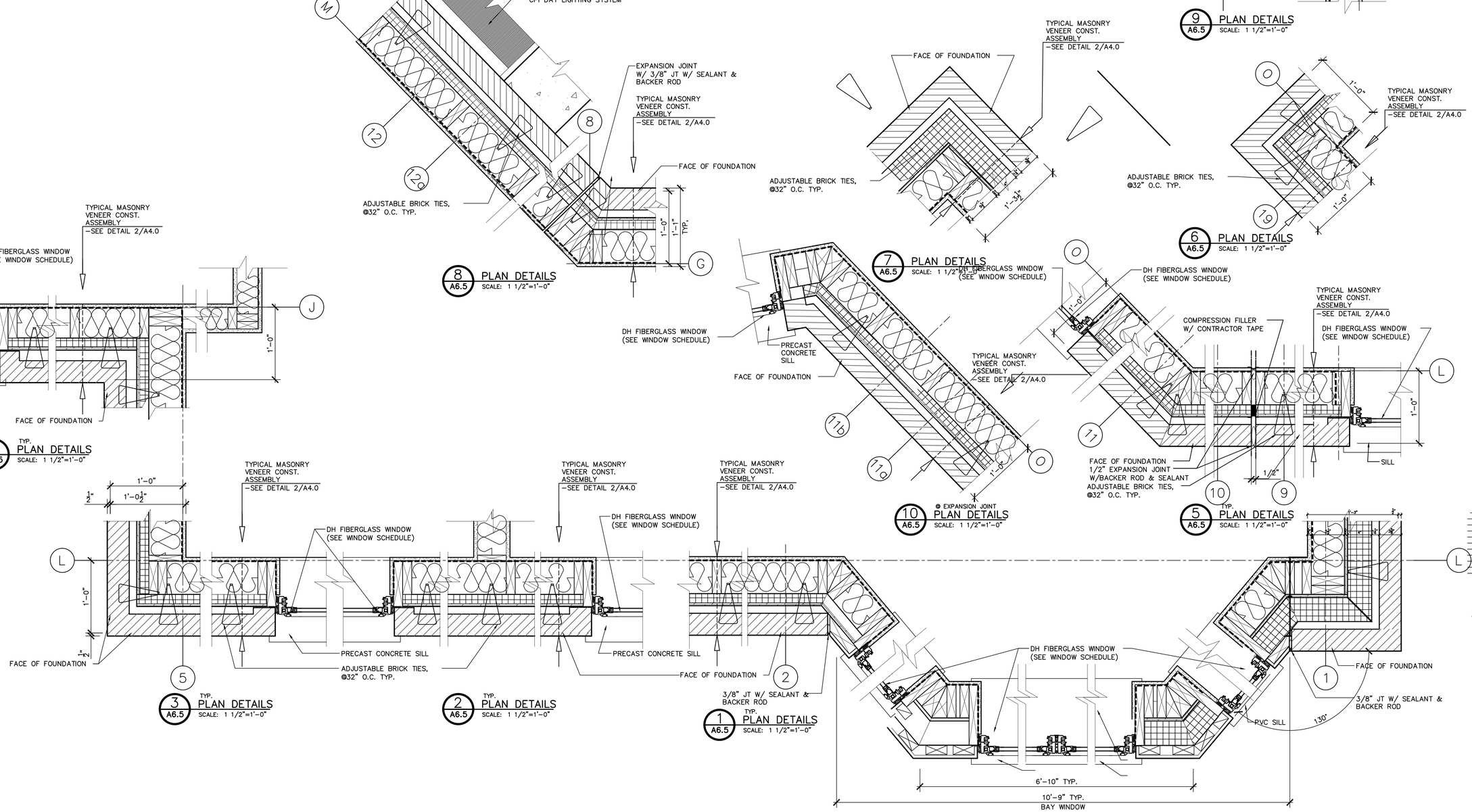
1. ALL STRUCTURAL STEEL COLUMNS & BEAMS SHALL BE FIRE RATED TO 1 HR. SEE GENERAL NOTE 22.



8 PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"



4 TYP. PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"



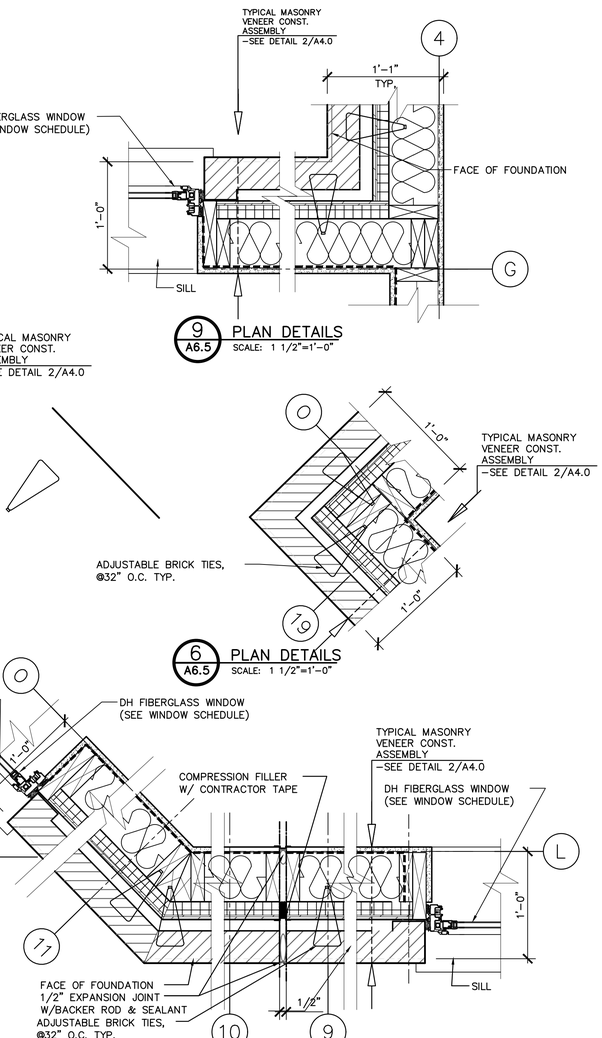
3 TYP. PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

2 TYP. PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

1 TYP. PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

7 PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

10 PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"



9 PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

6 PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

5 TYP. PLAN DETAILS A6.5 SCALE: 1 1/2"=1'-0"

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



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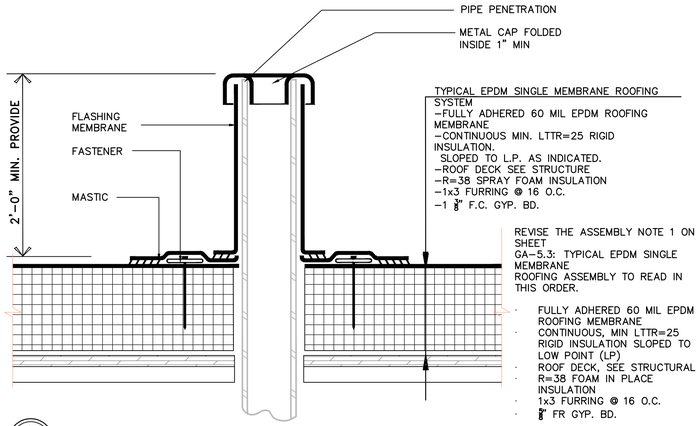
SHEET TITLE

SECOND & THIRD FLOOR PLAN SECTION DETAILS

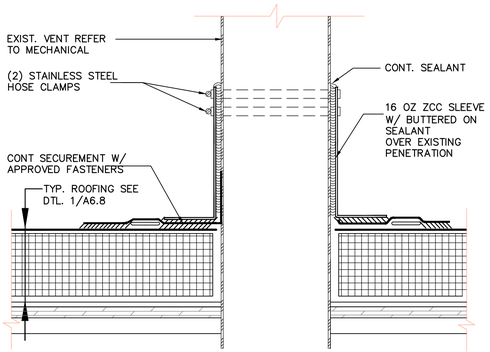
SCALE:	AS NOTED
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DRAWN BY:	LD
CHECKED BY:	BL
FILE:	

DRAWING NO.

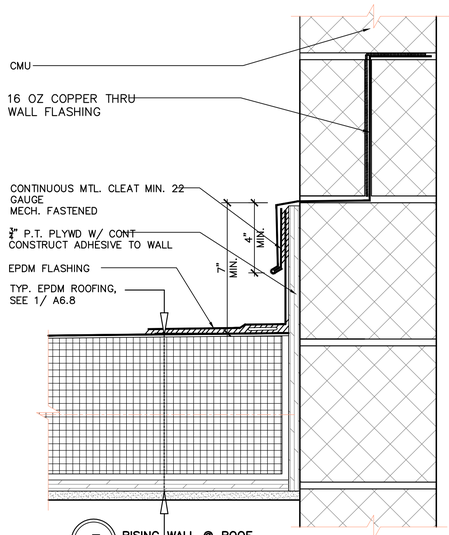
A6.5



1 A6.8 **VENT PIPE PENETRATION**
SCALE: 3"=1' – 0"



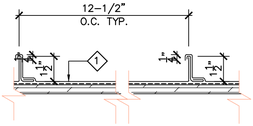
4 A6.8 **LARGE VENT PENETRATION**
SCALE: 3"=1' – 0"



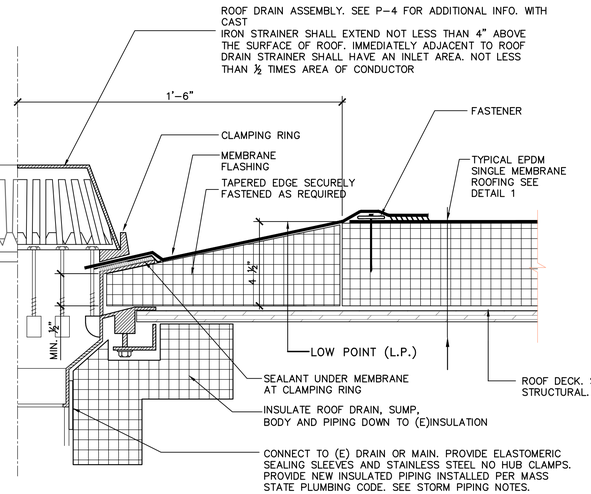
7 A6.8 **RISING WALL @ ROOF**
SCALE: 3"=1' – 0"

NOTES:

1. PREFINISHED ALUMINUM .032 GA ALUMINUM STANDING SEAM ROOFING ON BUILDING PAPER SLIP SHEET. COLOR TO BE SELECTED BY ARCHITECT FROM COMPLETE RANGE OF COLORS.

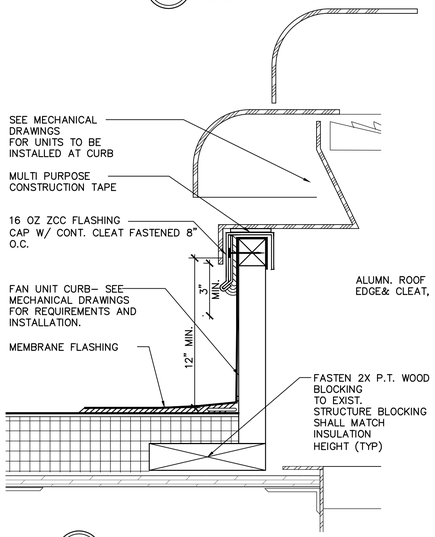


10 A6.8 **TYP. STANDING SEAM DETAIL**
SCALE: 3"=1' – 0"

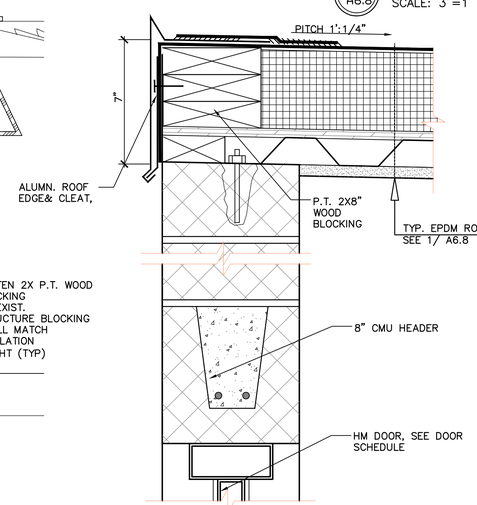


2 A6.8 **ROOF DRAIN (LOW POINT)**
SCALE: 3"=1' – 0"

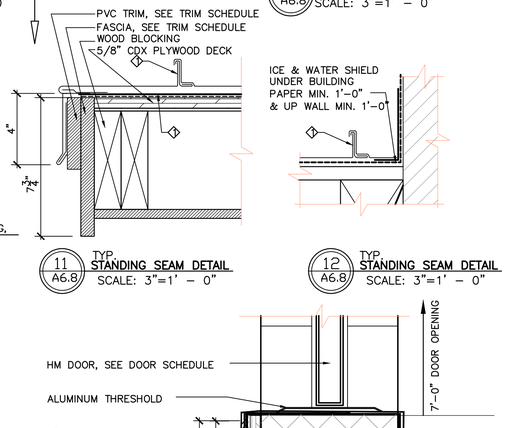
NOTE: ROOF DRAIN ASSEMBLY SHALL PROVIDE OFFSET OVERFLOW DRAIN.



5 A6.8 **MECHANICAL ROOF TOP UNIT CURB**
SCALE: 3"=1' – 0"

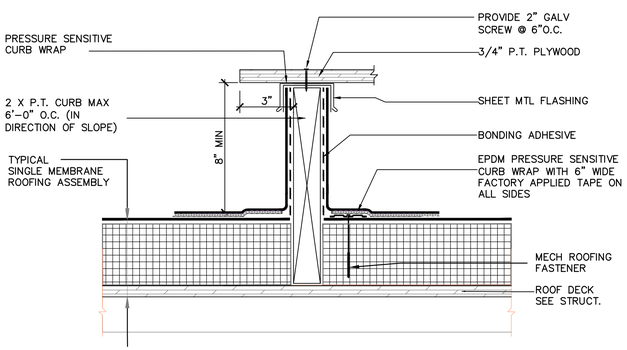


8 A6.8 **RISING WALL ROOF EDGE**
SCALE: 3"=1' – 0"

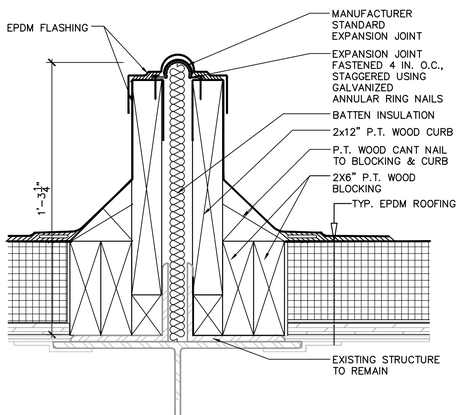


11 A6.8 **TYP. STANDING SEAM DETAIL**
SCALE: 3"=1' – 0"

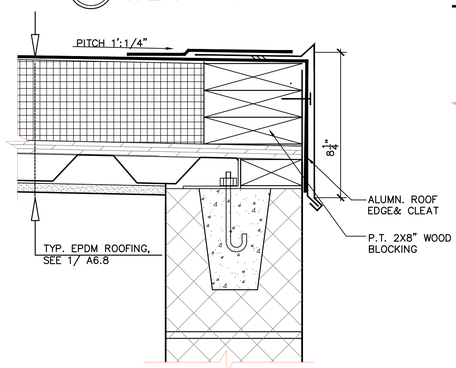
12 A6.8 **TYP. STANDING SEAM DETAIL**
SCALE: 3"=1' – 0"



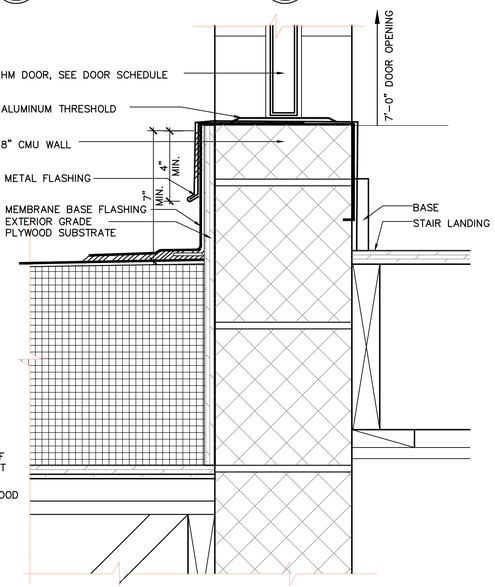
3 A6.8 **CURB FOR MULTIPLE COMPRESSORS**
SCALE: 3"=1' – 0"



6 A6.8 **EXPANSION JOINT**
SCALE: 3"=1' – 0"



9 A6.8 **RISING WALL ROOF EDGE**
SCALE: 3"=1' – 0"



13 A6.8 **RISING WALL THRESHOLD DETAIL**
SCALE: 3"=1' – 0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT BENJAMIN T. LEE NO. 31142 INVESTAVOCO MA COMMONWEALTH OF MASSACHUSETTS

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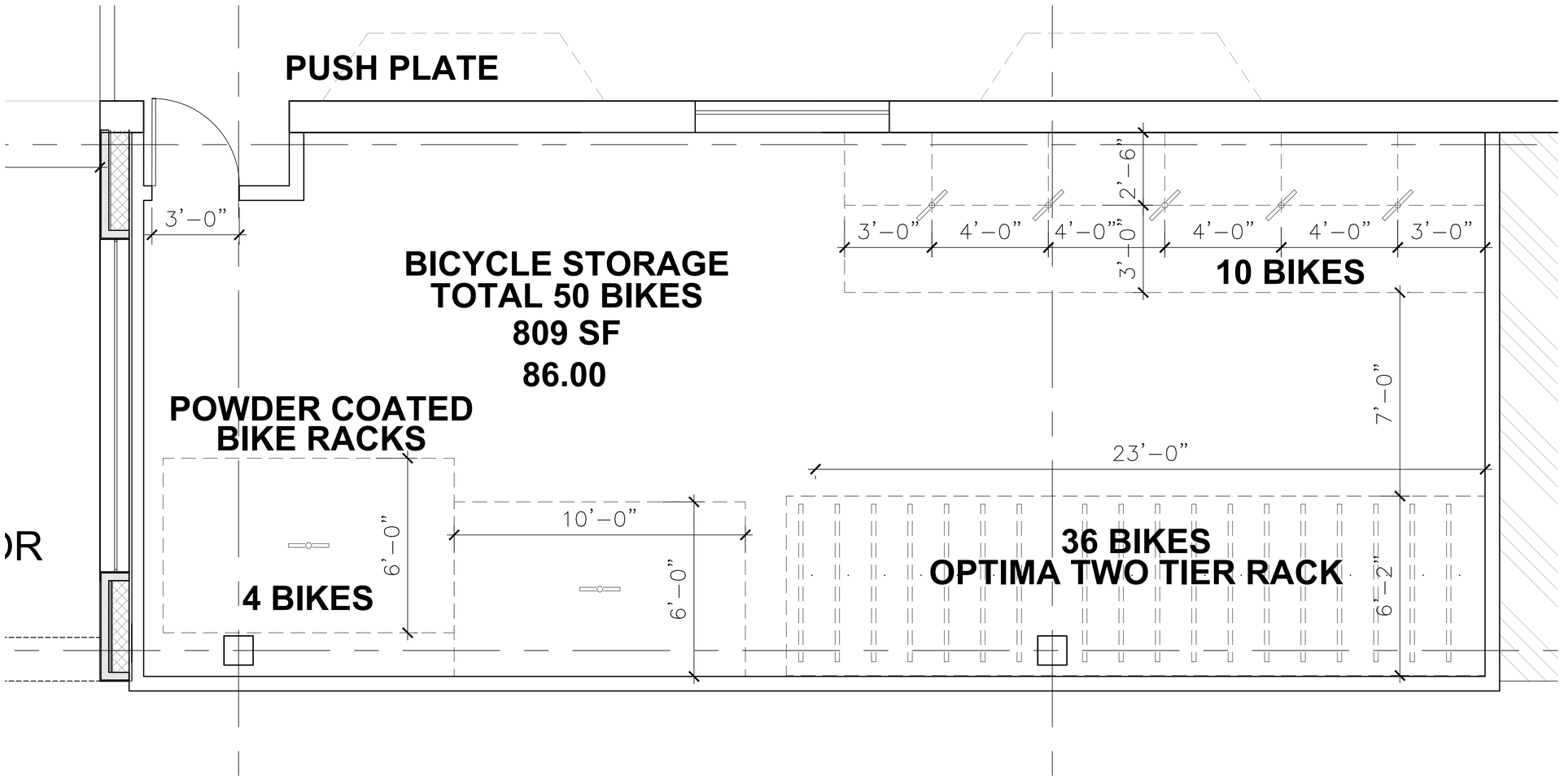
SHEET TITLE

ROOF DETAILS

SCALE:	1/4"=1'-0"
DATE:	09/18/2024
DRAWN BY:	JRB
CHECKED BY:	BL
FILE:	

DRAWING NO.

A6.8



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PROJECT

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ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN T. LEE
NO. 31142
WESTWOOD
MA
COMMONWEALTH OF MASSACHUSETTS

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SHEET TITLE

ENLARGED BIKE ROOM

SCALE: 1/2"=1'–0"
DATE: 09/18/2024
DRAWN BY: BL/JB
CHECKED BY: BL
FILE:

DRAWING NO.
A7.4

ACCESSIBLE
85.00
84.90
BENCH
PUSH PLATE
12'-0"
3'-0"
BICYCLE STORAGE
TOTAL 50 BIKES
809 SF
86.00
POWDER COATED
BIKE RACKS
4 BIKES
10'-0"
6'-0"
9'-0"
O.H.DOOR
ACCESSIBLE 21'-1"
80.30
55.8°
124.2°
37.2°
COMMERCIAL
2120 SQ. FT.
80.30
CL
42.0°
2'-5"
1'-4 3/4"
45.0°
MAIL
LOBBY
84.90
DN
DN
ELEV 1
ELEV 2
TRASH
84.50
BATH D
SHOWER
BATH D
(MIR.)
7.1
6.6
LOCKERS
14'-1"
TRASH
80.30
80.30
8
9
10
80.30
ACCESSIBLE
80.30
UP
DN
LOBBY
80.30
5'-1 1/4"
12'-10 3/4"
27'-11 1/2"
COFFEE SHOP
584 SQ. FT.
80.30
ACCESSIBLE
10'-6 3/4"
13'-0"
6
5
A30
120
110
130
16'-3 1/2"
8'-3 1/4"
10'-1 1/4"
4"
23'-9"
18'-0"
27'-11 1/2"
3"
7 1/4"
22'-8 1/2"
40'-7 3/4"
11'-1"
8'-3"
4'-8 1/4"
22'-2"
19'-7 1/4"
.1
.9
.5
.1
.9

ENLARGED PLAN: UPPER & LOWER LOBBY
SCALE: 1/4"=1'-0"

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

REGISTERED ARCHITECT
BENJAMIN T. LEE
NO. 31142
WESTWOOD
MA
COMMONWEALTH OF MASSACHUSETTS

NORTH

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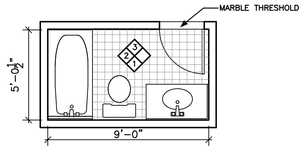
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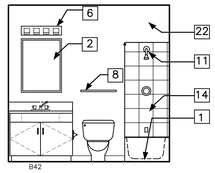
ENLARGED UPPER & LOWER LOBBY

SCALE: 1/4"=1'-0"
DATE: 09/18/2024
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CHECKED BY: BL
FILE:

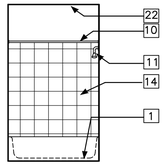
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A7.5



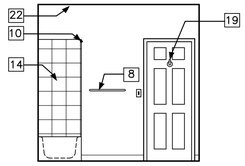
BATH A



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



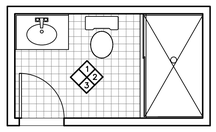
2 ELEVATION
SCALE: 1/4" = 1'-0"



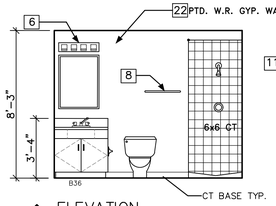
3 ELEVATION
SCALE: 1/4" = 1'-0"

LEGEND
1. BATHTUB
2. MIRROR / MEDICINE CABINET
3. WATER CLOSET
4. SINK / VANITY
5. 6"X6" SINGLE-ROLL TOILET PAPER DISPENSER
6. LIGHT FIXTURE
7. GRAB BAR
8. (2) 24" TOWEL BAR
9. LIGHT SWITCH
10. SHOWER CURTAIN ROD
11. SHOWER HEAD
12. MIXING VALVE
13. BATHTUB SOAP DISH
14. TILE
15. 4" VINYL
16. N/A
17. VANITY SOAP DISH
18. TOOTH BRUSH HOLDER
19. ROBE HOOK [LOCATED ON BATHROOM DOOR
20. PAPER TOWEL DISPENSER
21. TOILET PARTITION
22. PAINTED GYP BD

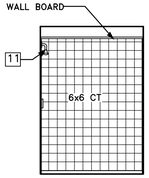
CONTRACTOR TO FURNISH AND INSTALL ALL TOILET ACCESSORIES



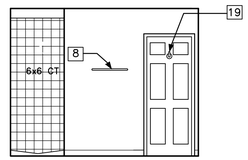
BATH B



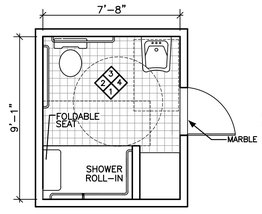
1 ELEVATION
SCALE: 3/16" = 1'-0"



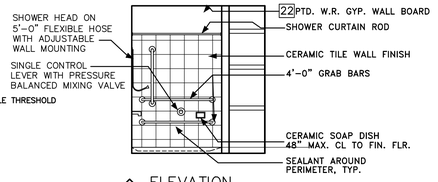
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SCALE: 3/16" = 1'-0"



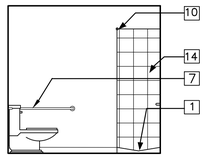
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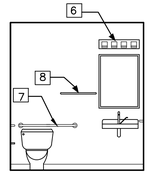
BATH C



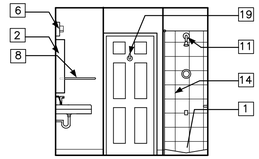
1 ELEVATION
SCALE: 1/4" = 1'-0"



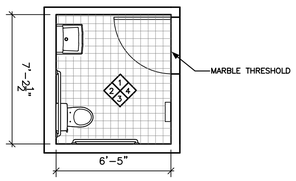
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SCALE: 1/4" = 1'-0"



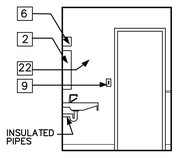
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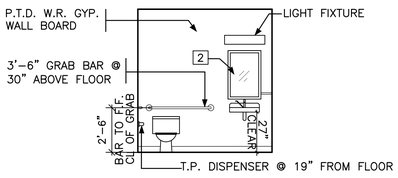
4 ELEVATION
SCALE: 1/4" = 1'-0"



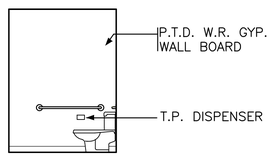
BATH D
TYPICAL PRIVATE RESTROOM



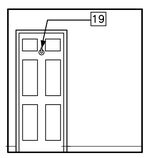
1 ELEVATION
SCALE: 1/4" = 1'-0"



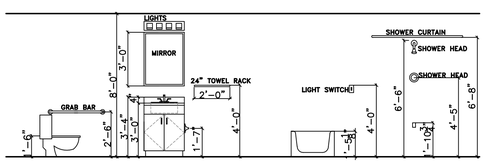
2 ELEVATION
SCALE: 1/4" = 1'-0"



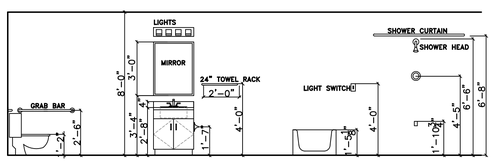
3 ELEVATION
SCALE: 1/4" = 1'-0"



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



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



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

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



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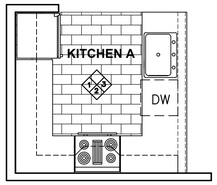
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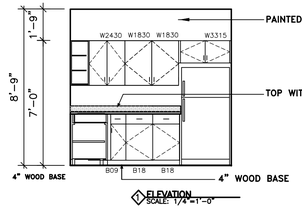
BATHROOM ELEVATIONS DETAILS , AND CLOSET ELEVATIONS

SCALE:	AS NOTED
DATE:	09/18/2024
DRAWN BY:	JB
CHECKED BY:	BL
FILE:	

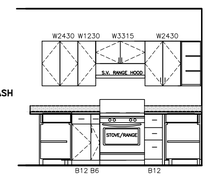
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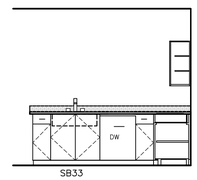




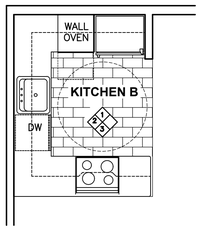
1 ELEVATION
SCALE: 1/4"=1'-0"

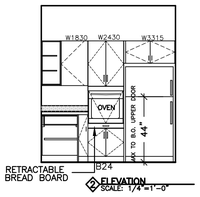


2 ELEVATION
SCALE: 1/4"=1'-0"

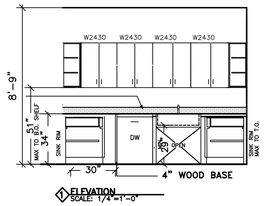


3 ELEVATION
SCALE: 1/4"=1'-0"

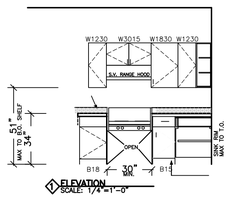




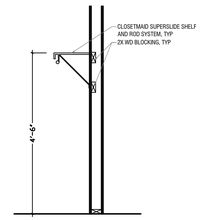
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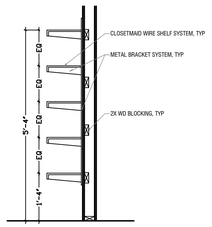
1 ELEVATION
SCALE: 1/4"=1'-0"



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

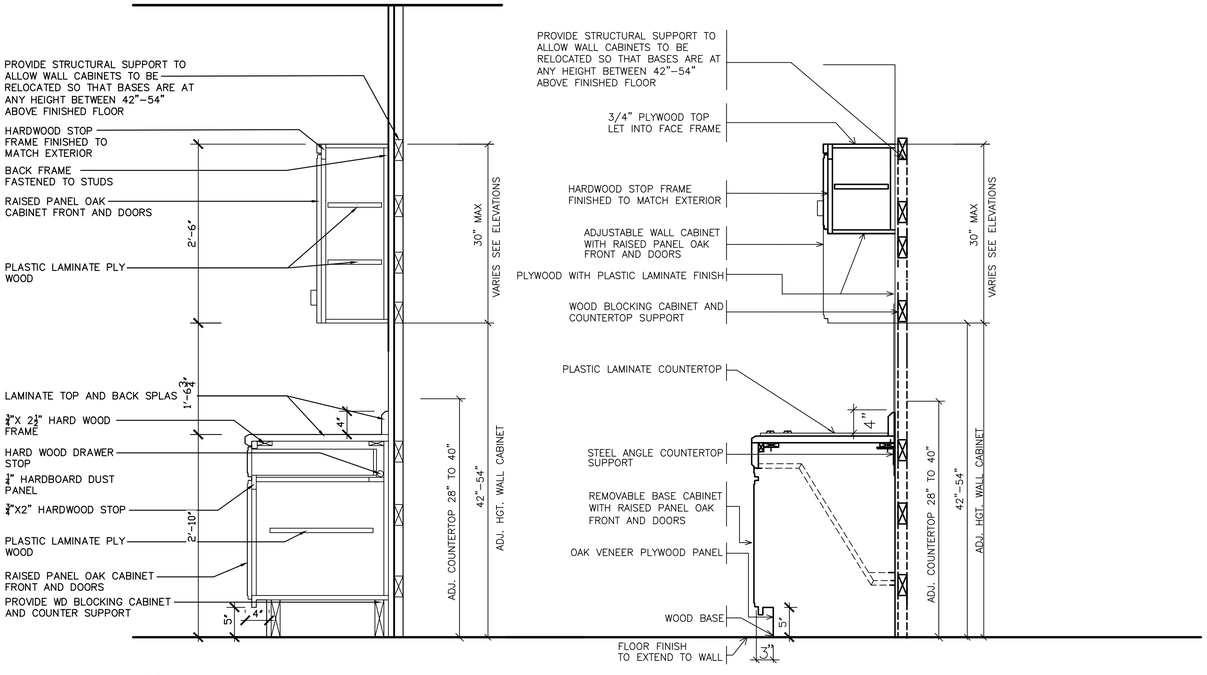


CLOSET ELEVATION

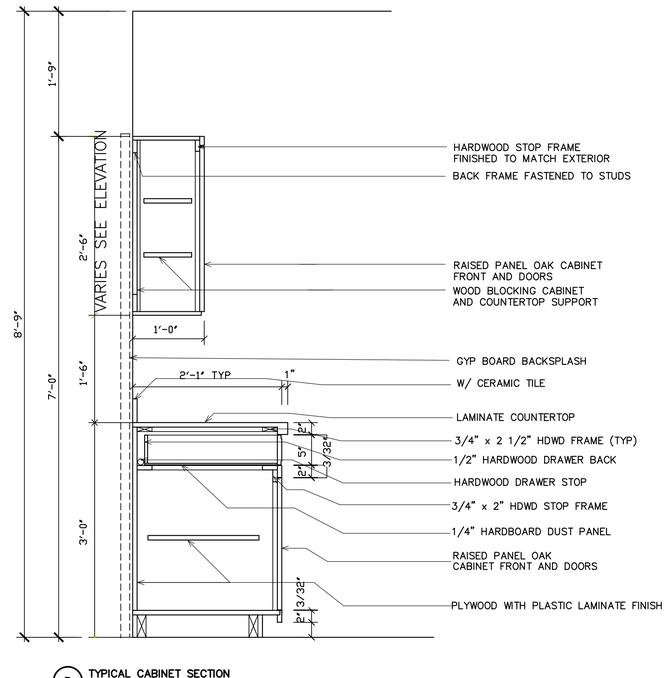


LINEN ELEVATION

KITCHEN CABINETS GENERAL NOTES
1. PLASTIC TRIM EDGE ON ALL EXPOSED PLASTIC LAMINATE WALL COVER EDGES.
2. N/A.
3. INSTALL DUPLEX OUTLET AT 6" ABOVE THE TOP OF THE COUNTERTOP TYP. SEE ELECTRICAL DWGS.
4. ALL EXPOSED END PANELS SHALL BE FINISHED INSTALL WOOD BASE & BASE UNIT END PANELS
5. INSTALL WOOD BASE ON WALLS BEHIND ALL APPLIANCES. SEE TRIM SCHEDULE
6. VERIFY ALL DIMENSIONS AT SITE PRIOR TO SUBMISSION OF SHOP DRAWINGS.
7. PROVIDE FILLER PANELS FOR SPACES UP TO 3". IF OVER 3" PROVIDE NEXT CABINET SIZES.
8. PROVIDE COMVIENCE OUTLETS AT ISLAND COUNTERS PER MASS STATE CODE.



A TYPICAL HC CABINET SECTION
SCALE: 1"=1'-0"



B TYPICAL CABINET SECTION
SCALE: 1/2"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



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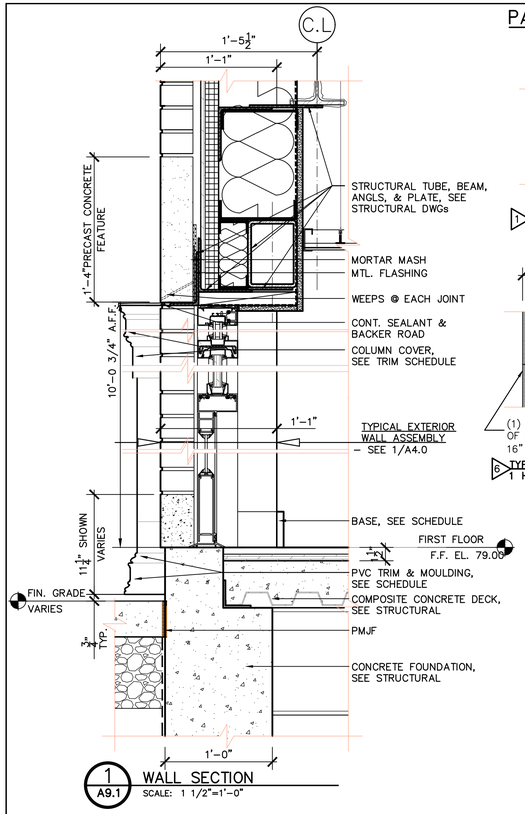
SHEET TITLE

KITCHEN AND CLOSET, ELEVATIONS & DETAILS

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DATE:	09/18/2024
DRAWN BY:	MA
CHECKED BY:	BL
FILE:	

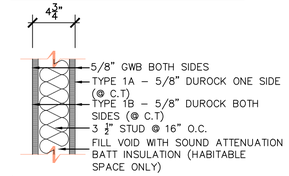
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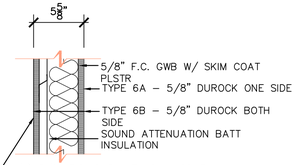


1 A9.1 WALL SECTION
SCALE: 1 1/2"=1'-0"

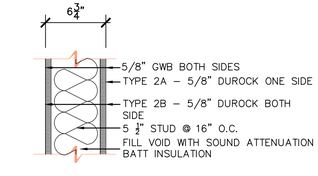
PARTITION TYPES



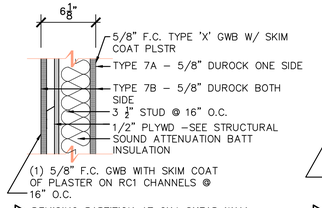
1 TYPICAL PARTITION
NOT RATED
*SEE GENERAL NOTE 20/T-2
1, 1A & 1B



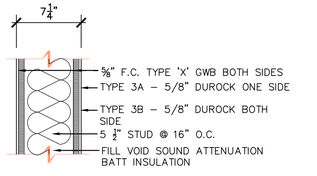
6 TYPICAL DEMISING PARTITION
1 HR RATED STC 50 UL U327



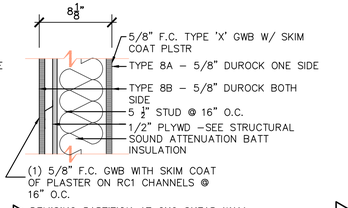
2 6" PARTITION
NOT RATED
2, 2A & 2B



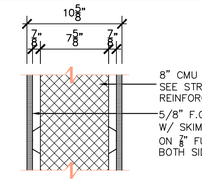
7 DEMISING PARTITION AT 2X4 SHEAR WALL
1 HR RATED STC 50 UL U327



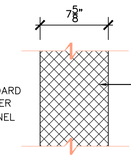
3 6" PARTITION
1HR RATED UL U 305
3, 3A & 3B



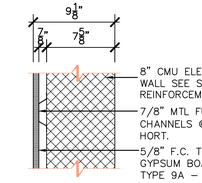
8 DEMISING PARTITION AT 2X6 SHEAR WALL
1 HR RATED STC 50 UL U327



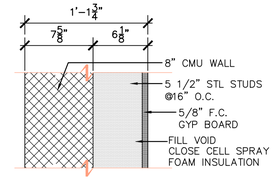
4 CMU WALL FURRED BOTH SIDES
2 HR RATED



5 CMU PARTITION
2 HR RATED



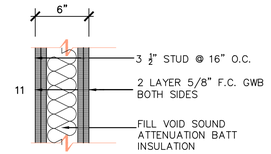
9 ELEVATOR SHAFT WALL
2 HR RATED



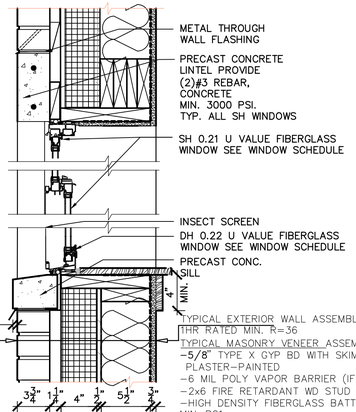
10 INSULATED CMU WALL
2 HR RATED

GENERAL NOTES WALL TYPES

1. AS AN APPROVED ALTERNATE, GYPSUM BOARD WITH A THREE COAT TAPED JOINT FINISH MAY BE SUBSTITUTED FOR ALL PLASTER VENEER ON WALLS OF CEILINGS TYPICAL THROUGHOUT. MAINTAIN FIRE RATED ASEMBLY WHERE REQUIRED BY USING FIRE RATED GYP BD OF THICKNESS SHOWN
2. ALL ASSEMBLIES SHALL BE CONSTRUCTED PER DESIGNATED TEST ASSEMBLY
3. USE PLASTER BASE (USG 'IMPERIAL BOARD PLASTER BASE',OR APPROVED EQUAL). WITH A SKIM COAT OF PLASTER
4. FIRESTOP ALL THRU WALL & THRU FLOOR PENETRATIONS, PER MASS STATE BUILDING CODE.
5. ALL PARTITION TYPE SHALL BE PARTITION TYPE 1, U.N.O.
6. ALL PARTITION WITH TILE FINISH SHALL USE ⅝" DUROCK.
7. ALL PARTITION AT SHOWER SHALL USE ⅝" DURRUCK WITH WATER BARRIER.



PARTITION
WALL 2 HR RATED UL U 301



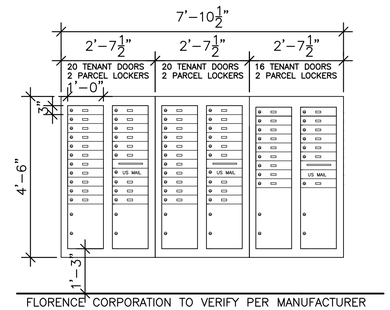
HEAD & SILL
2 A4.0 TYP. FIBERGLASS WINDOW DETAIL
SCALE: 1 1/2"=1'-0"

TYPICAL EXTERIOR WALL ASSEMBLY
1HR RATED MIN. R=36
TYPICAL MASONRY VENEER ASSEMBLY
–5/8" TYPE X GYP BD WITH SKIM COAT PLASTER–PAINTED
–6 MIL POLY VAPOR BARRIER (IF REQUIRED)
–2x6 FIRE RETARDANT WD STUD @ 16" O.C.
–HIGH DENSITY FIBERGLASS BATT. INSUL. MIN=R21
–1/2" FLAME RETARDANT OSB STRUCTURAL SHEATHING
"FLAMEBLOCK" OR APPROVED EQUAL
–TYVEK BUILDING WRAP
–4" CONTINUOUS RIGID STONE WOOL INSULATION R=15
–1 ½" AIRSPACE
–MASONRY VENEER

TRIM SCHEDULE		
RESIDENTAL UNITS		
LIVING/DINING/KITCHEN/STUDY/BEDROOM/FOYER/HALL	9/16" X 7 1/4"	MDF SPEED BASE
CLOSETS/UTILITY/MECHANICAL	9/16" X 3 1/4"	MDF COLONIAL BASE
DOORS CASING	5/8" X 3 1/2"	MDF MODERN COLONIAL CASING
WINDOW CASING	5/8" X 3 1/2"	MDF MODERN COLONIAL CASING (3 SIDES)
	3/4" X W	STOOL CAP
	5/8" X 2 1/2"	MDF APRON
CORRIDORS & LOBBY	9/16" X 7 1/4"	MDF SPEED BASE
STORAGE/UTILITY/CLOSETS	4"	VINYL COVE BASE
STAIRWAYS (LANDING)	9/16" X 7 1/4"	MDF SPEED BASE

ROOM FINISH SCHEDULE					
FLOOR		WALLS/WAINSCOT		CEILING	
0	MARBLE	A	PAINTED GYPSUM BOARD	0	SPECIAL– SEE DETAILS
1	HARDWOOD	B	CERAMIC TILE	1	PAINTED GYPSUM BOARD
2	CERAMIC TILE	C	PAINTED CMU	2	PAINTED PLASTER
3	PAINTED CONCRETE	D	PAINTED CONCRETE	3	ACOUSTIC CEILING TILE
4	RECESSED WALK OF MAT	E	PAINTED GYP BD/PAINTED CMU	4	PAINTED CMU
5	VINYL TILE				
6	CONCRETE				
7	VINYL STAIR TREAD				
8	CARPET				
9	SHEET VINYL ON UNDERLAYMENT 1/4" PLYWOOD				

* SPECIAL SEE DETAIL SEE INTERIOR ELEVATION
* FOR TRIM SEE SCHEDULE

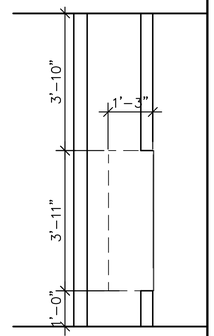


FLORENCE CORPORATION TO VERIFY PER MANUFACTURER INSTRUCTION.

(2)20 TENANT DOORS WITH TWO PARCEL LOCKERS

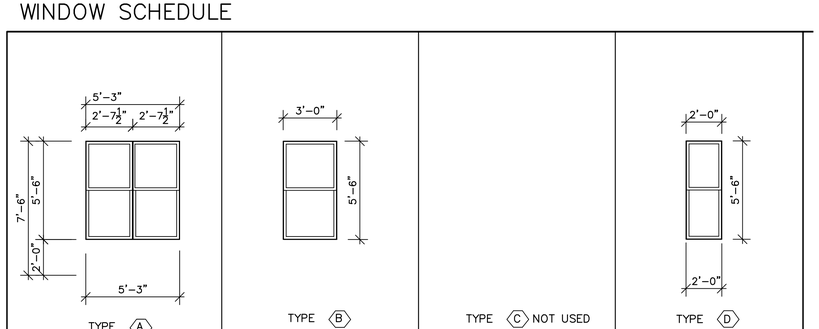
(1) 16 TENANT DOORS WITH TWO PARCEL LOCKERS

1 FRONT MAILBOX ELEVATION
SCALE 1/2"–1'–0"

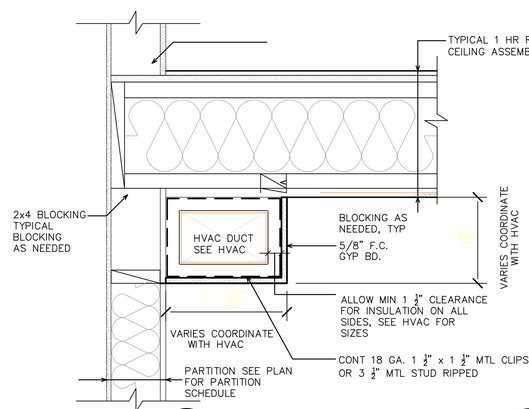


2 SIDE MAILBOX ELEVATION
SCALE 1/2"–1'–0"

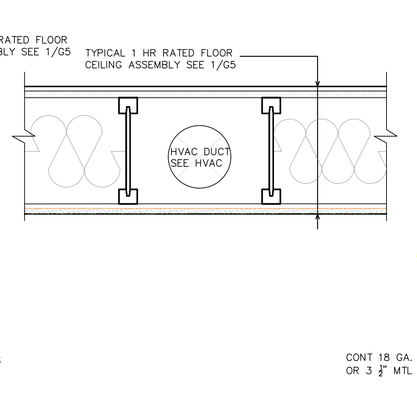
WINDOW SCHEDULE



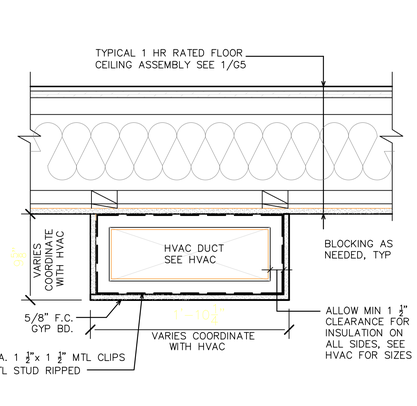
1) ALL OPERABLE WINDOWS ARE FIBERGLASS SINGLE HUNG WITH A MIN. U VALUE = .21
2) PROVIDE TEMPERED GLASS AS REQUIRED BY THE LATEST EDITION OF THE MASS STATE BUILDING CODE. WHETHER SO NOTED OR NOT
3) ALL OPERABLE WINDOWS TO HAVE INSECTS SCREENS & BE FULLY WEATHER STRIPPED
4) PROVIDE WINDOW OPENING LIMITERS (OR "ANGEL" WINDOW GUARDS) ON WINDOWS WHICH ARE 10' AFG OR MORE



5 A9.1 TYPICAL SOFFIT – 1HR RATED
SCALE: 1 1/2"=1'-0"



6 A9.1 TYPICAL FLOOR SECTION @ SOFFIT
SCALE: 1 1/2"=1'-0"



7 A9.1 TYPICAL SOFFIT BELOW CEILING @ SOFFIT – 1 HR RATED
SCALE: 1 1/2"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



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SHEET TITLE

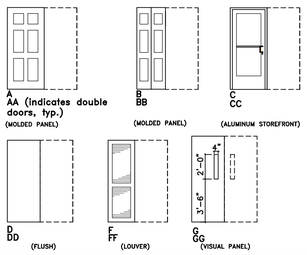
WINDOW SCHEDULE, FINISH SCHEDULE, PARTITION TYPES, AND MAILBOX ELEVATIONS

SCALE: AS NOTED	DRAWING NO.
DATE: 09/18/2024	**A9.1**
DRAWN BY: JB	
CHECKED BY: BL	
FILE:	

DOOR NOTES

1. CONFIRM ALL DOOR SWINGS AND SIZES WITH OWNER PRIOR TO ORDERING.

2. DOOR TYPE
SEE WINDOW SCHEDULE FOR TRANSOM INFO



3. * INDICATES TYP. 1 3/4" THICKNESS

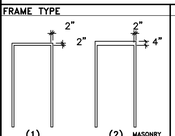
4. DOOR CONSTRUCTION
SSC = SEMI-SOLID CORE
SC = SOLID CORE
HM = HOLLOW METAL
INS = INSULATED
AL = ALUMINUM STOREFRONT

5. FACING AND FINISH
P = PAINTED
C = CLEAR (URETHANE OR OIL)
FF = FACTORY FINISH

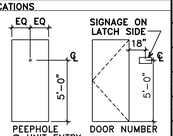
6. GLASS
TG = TEMPERED AND INSULATED GLASS

7. (3/4),(1),(1 1/2), INDICATES HOURS OF FIRE RATING.

8. FRAME TYPE



LOCATIONS

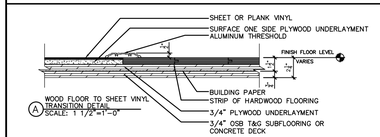


THRESHOLDS

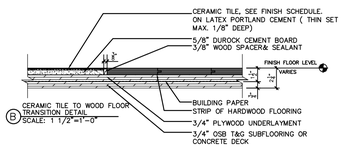
LOCATION	MATERIAL	COMMENTS/DETAILS
BATHROOMS	MARBLE	–
ALL EXTERIOR DOORS	ALUMINUM	WEATHERSTRIPPED
ALL UNIT ENTRIES	ALUMINUM	AAB/ADA COMPLIANT
STAIR/HALL	ALUMINUM	AAB/ADA COMPLIANT

GENERAL NOTES

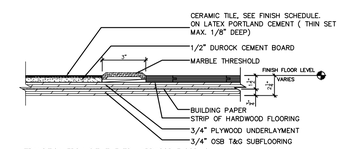
1) AT ALL UNIT ENTRIES, PROVIDE AND INSTALL UP TO FOUR POLISHED BRASS RAISED LETTERS AT EACH DOORWAY. PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
2) PEEP HOLES AT ALL UNIT ENTRY DOORS.
3) VISION PANEL AT ALL STAIR/ HALL DOORS.
4) ALL GLASS DOORS TO BE TEMPERED SAFETY GLASS.
5) PROVIDE HOLLOW METAL FRAMES AT UNIT ENTRY DOORS & COMMON CORRIDORS.
6) PROVIDE WEATHER STRIPPING AT ALL EXTERIOR DOORS.
7) PROVIDE ELECTRIC STRIKES AND CARD READERS FOR THE FOLLOWING DOORS:
-001
-020
-102
-103
-105
-115
-118



A WOOD FLOOR TO SHEET VINYL TRANSITION DETAIL
SCALE: 1 1/2"=1'-0"



B CERAMIC TILE TO WOOD FLOOR TRANSITION DETAIL
SCALE: 1 1/2"=1'-0"

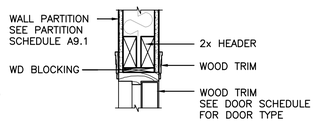


C TRANSITION FROM C.T. TILE TO HARDWOOD FLOORING THRESHOLD DETAIL
SCALE: 1 1/2"=1'-0"

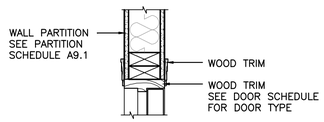
DOOR SCHEDULE

DOOR MARK	AREA/ROOM	OPENING SIZE	TYPE	THICKNESS	CONSTRUCTION	FACING & FINISH	GLASS	RATING	FRAME	HARDWARE	DETAILS	REMARKS
NOTES			2	3	4	5	6	7	8			
~~001~~	~~LOWER LEVEL ENTRY~~	~~6'-0" X 7'-0"~~	~~CC~~	~~*~~	~~INS/HM~~	~~P~~	~~TG~~	~~1.5~~	~~2~~		~~11A~~	~~SEE GENERAL NOTE 5, PROVIDE ELECTRIC STRIKE~~
002	WATER ROOM	3'-0" X 6'-8"	D	*	HM	P	–	0.75	1		3, 4	PROVIDE KICKPLATE
003	MECHANICAL ROOM	3'-0" X 6'-8"	D	*	HM	P	–	0.75	1		3, 4	PROVIDE KICKPLATE
004	STAIR 3	3'-0" X 7'-0"	G	*	HM	P	TG	1.5	2		11	SIM.
005	TEL/DATA	2'-6" X 6'-8"	D	*	HM	P	–	–	1		3, 4	
006	ELEVATOR CONTROL ROOM	3'-0" X 6'-8"	D	*	HM	P	–	–	0.75		3, 4	PROVIDE WEATHERSTRIPPING AT ROOM NEXT TO STAIR 4
007	RECREATIONAL ROOM FITNESS ROOM	3'-0" X 6'-8"	D	*	SC	P	TG	–	0.75			ALUMINUM STOREFRONT, HARDWARE BY MANUFACTOR
008	STAIR 4	3'-0" X 7'-0"	G	*	HM	P	TG	1.5	2		11	SIM.
009	STORAGE-BIKE STORAGE	3'-0" X 6'-8"	D	*	HM	P	–	–	0.75		3, 4	
009A	BATHROOM	3'-0" X 6'-8"	D	*	SC	P	–	–	0.75		3, 2	PROVIDE KICKPLATE
101	MAIN ENTRANCE	6'-0" X 7'-0"	CC	*	AL	FF	TG	–	1		1/A3.0	ALUMINUM STOREFRONT, HARDWARE BY MANUFACTOR, GEN. NOTE 7
102	MAIL DELIVERY ROOM	3'-0" X 6'-8"	A	*	AL	FF	TG	–			/A3.0	
103	TRASH ROOM	6'-0" X 7'-0"	GG	*	INS/HM	P	–	1.5			4	SEE GEN. NOTE 7
104	STAIRS	3'-0" X 7'-0"	G	*	HM	P	–	1.5	2		1, 12	SIM.
105	RESTAURANT BACK	6'-0" X 7'-0"	CC	*	AL	FF	TG	–	1		3/A3.0	ALUMINUM STOREFRONT, HARDWARE BY MANUFRACTOR GEN. NOTE 7
106	TRASH ROOM	3'-0" X 7'-0"	G	*	INS/HM	P	–	1.5			3, 4	SEE GEN. NOTE 7
107	SERVICE	3'-0" X 6'-8"	G	*	AL	FF		–	1		1/A3.0	
108												
109												
201/301/401/501	STAIR 1	3'-0" X 7'-0"	G	*	HM		TG	1.5	2		11, 12	
202/302/402/502	STAIR 2	3'-0" X 7'-0"	G	*	HM		TG	1.5	2		11, 12	
502	STAIR 2, ELEVATOR, TO ROOF PENTHOUSE	3'-0" X 7'-0"	G	*	INS/	P	TG	1.5	2		8&13/ A6.8	FULLY WEATHERSTRIPPED
203/303/403/503	TRASH/ELEC. ROOM/TEL.	2'-8" X 6'-8"	A	*		P	–	0.75	1		1, 2	SEE GENERAL NOTE 5
204/304/404/504	UNIT ENTRY	3'-0" X 6'-8"	A	*		P	–	0.75	1		1, 2	SEE GENERAL NOTE 5
205/305/405/505	MECH ROOM / CLOSET	2'-6" X 6'-8"	A	*	SSC		–	–	1		1, 2	
206/306/406/506	CLOSET	4'-0" X 6'-8"	BB	*		P	–	–	1		1, 2	
207/307/407/507	BATHROOM ADA UNITS	3'-0" X 6'-8"	A	*	SC	P	–	–	1		1, 2	
208/308/408/508	MASTER BEDROOM	3'-0" X 6'-8"	A	*	SSC	P	–	–	1		1, 2	
209/309/409/509	BATHROOM	2'-6" X 6'-8"	A	*		P	–	–	1		1, 2	
210/310/410/510	BEDROOM	2'-8" X 6'-8"			SSC	P	–	–	1		1, 2	
211/311/411/511	LINEN CLOSET/MECH.	2'-6" X 6'-8"	B		SSC	P	–	–	1		1, 2	
212/312/412/512	LAUNDRY ROOM	3'-0" X 6'-8"		*	SC	P	–	0.75	1		1, 2	
213/313/413/513	LAUNDRY CLOSET ROOM	2'-8" X	D		SSC	P	–	–	1		1, 2	
215/315/415/515	CORRIDOR DOOR	3'-0	G	*	HM	P	–	–	1		1, 2	SIM.
216/316/416/516	CLOSET	5'-0" X 6'-		*	SSC	P	–	–	1		1, 2	
217/317/417/517	LINEN CLOSET	1'-8" X 6'-8"	B	*	SSC	P	–	–	1		1, 2	
218/318/418/518	CLOSET	3'-6" X 6'-8"	BB	*	SSC	P	–	–	1		1, 2	

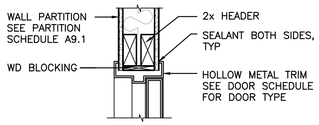
PROGRESS



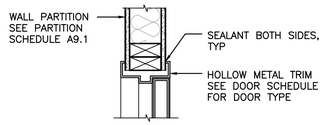
1 INTERIOR DOOR HEAD
SCALE: 1 1/2"=1'-0"



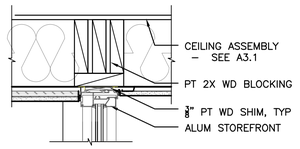
2 INTERIOR DOOR JAMB
SCALE: 1 1/2"=1'-0"



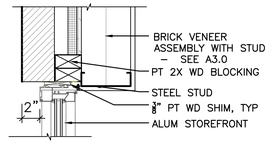
3 HOLLOW METAL DOOR HEAD
SCALE: 1 1/2"=1'-0"



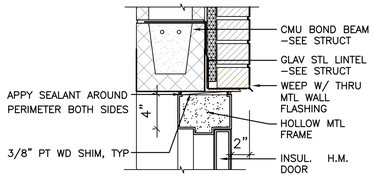
4 HOLLOW METAL DOOR JAMB
SCALE: 1 1/2"=1'-0"



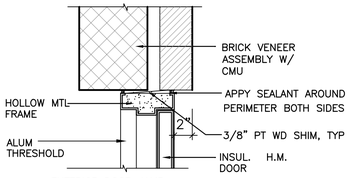
5 STOREFRONT HEAD
SCALE: 1 1/2"=1'-0"



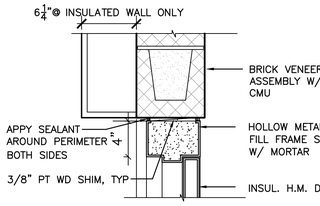
6 STOREFRONT JAMB
SCALE: 1 1/2"=1'-0"



7 EXTERIOR DOOR HEAD
SCALE: 1 1/2"=1'-0"

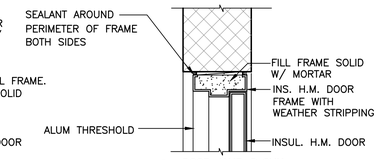


EXTERIOR DOOR JAMB @ MASONRY VENEER
SCALE: 1 1/2"=1'-0"

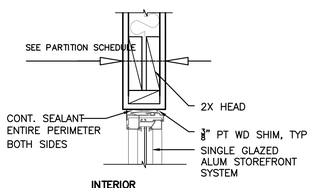


11 DOOR HEAD AT CMU
SCALE: 1 1/2"=1'-0"

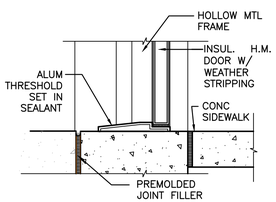
11A AT INSULATED WALL
SCALE: 1 1/2"=1'-0"



12 DOOR JAMB @ CMU
SCALE: 1 1/2"=1'-0"



13 INTERIOR STOREFRONT HEAD/JAMB
SCALE: 1 1/2"=1'-0"



14 EXTERIOR DOOR SILL
SCALE: 1 1/2"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS



75% PRICING SET
NOT FOR CONSTRUCTION

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SHEET TITLE

DOOR SCHEDULE & DETAILS

SCALE:	AS NOTED
DATE:	09/18/2024
DRAWN BY:	JB
CHECKED BY:	BL
FILE:	

DRAWING NO.

A9.2

CONCRETE MASONRY UNIT:

DESIGN STRENGTH ..... f'm = 1500 PSI

BLOCK ..... HOLLOW LOAD BEARING MASONRY UNITS ASTM C90. 4000 PSI MINIMUM STRENGTH. ALL BLOCK TO BE 2 CORE TYPE.

WATER ..... POTABLE

MASON'S SAND ..... ASTM C144, FINENESS MODULUS 2.0 TO 2.5

HYDRATED LIME ..... ASTM C207, TYPE S

PORTLAND CEMENT ..... ASTM C150, TYPE I OR II

MORTAR ..... ASTM C270, TYPE S. PROPORTION MIX BY VOLUME 1:1½:3 (PORTLAND CEMENT:HYDRATED LIME:MASON'S SAND.

REINFORCING AND GROUTING ..... REINFORCING BARS: ASTM A615 GRADE 60
JOINT REINFORCING: DUR-O-WAL STANDARD TRUSS FOR 8" WALLS AND DUR-O-WAL EXTRA HEAVY TRUSS IN 12" WALLS.
GROUT ALL BOND BEAMS , REINFORCED VERTICAL CORES, AND ANY UNREINFORCED CORES INDICATED TO RECEIVE GROUTING ON THE DRAWINGS
MAXIMUM GROUT HEIGHT: 1 STORY

MINIMUM REINFORCEMENT: UON ON THE DRAWINGS, ALL LOAD BEARING CMU WALLS ARE TO BE REINFORCED HORIZONTALLY WITH JOINT REINFORCING IN EVERY OTHER COURSE, A BOND BEAM AT 8 FEET O.C. WITH ONE CONTINUOUS #5 FOR 8" WALLS OR ONE #6 FOR 12" WALLS. VERTICALLY PROVIDE #6 AT 2'-8" O.C. FOR 8" WALLS AND ONE #6 AT 2'-8" O.C. FOR 12" WALLS.
SPLICE: MINIMUM OF 48 BAR DIAMETERS.

SHOP DRAWINGS .....SUBMIT FOR DESIGNER'S APPROVAL COMPLETE BENDING AND PLACING DETAILS OF ALL REINFORCING STEEL INDICATING POSITION OF SPLICES AND LOCATION OF REINFORCEMENT AND GROUT IN MASONRY.

STANDARD SPECIFICATIONS .... COMPLY WITH THE LATEST RECOMMENDATIONS AND SPECIFICATIONS OF THE: ACI 530 / ASCE 5 / TMS 402 AND ACI 530.1 / ASCE 6 / TMS 602

PREFABRICATED WOOD TRUSSES

a. TRUSS SUPPLIER SHALL FABRICATE, SUPPLY, AND ERECT WOOD TRUSSES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. INCLUDE ANCHORAGE, BLOCKING CURBING, MISCELLANEOUS FRAMING, BRACING, AND ALL CONNECTION MATERIALS.
TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH NDS, AFPA, WTC, TPI AND 780 CMR.
TRUSS DESIGN SHALL BE PREPARED BY THE TRUSS MANUFACTURER IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTES SPECIFICATIONS AND UNDER THE SUPERVISION OR A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MASSACHUSETTS. ALL TRUSS DESIGN DRAWINGS AND CALCULATIONS SHALL BE SUBMITTED TO THE ARCHITECT / ENGINEER FOR REVIEW AND SHALL BE SIGNED AND SEALED BE THE TRUSS DESIGN ENGINEER. THE CONFIGURATION OR THE TRUSS WEB MEMBERS SHALL BE DETERMINED BY THE TRUSS ENGINEER.

b. TRUSSES ARE TO BE SPACED AT 16"O.C. UNLESS OTHERWISE NOTED ON PLANS.
THE UNIFORM LOADS INDICATED IN THE SCHEDULE IN COMBINATION SNOW DRIFT LOADS SHALL BE USED TO DESIGN HIP AND/OR GIRDER TRUSSES AS REQUIRED.
THE MAXIMUM TRUSS LIVE LOAD DEFLECTION SHALL BE SPAN/240 FOR ROOF TRUSSES.
TRUSS BRIDGING SHALL BE INSTALLED AS REQUIRED BY THE TRUSS MANUFACTURER'S DESIGN IN ACCORDANCE WITH THE TRUSS PLATE INSTITUTE SPECIFICATION AND RECOMMENDATIONS.
ALL TRUSSES SHALL BE DESIGNED TO WITHSTAND ALL APPLIED LOADS AND COMBINATION THEREOF.
INDICATED ABOVE AND IN ACCORDANCE WITH THE MASSACHUSETTS STATE BUILDING CODE", THE 9TH EDITION WINDWARD, LEEWARD AND SUCTION WIND PRESSURES SHALL BE CONSIDERED IN THE DESIGN.
ALL ROOF TRUSS SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR APPROVAL PRIOR TO FABRICATION.

c. ROOF TRUSSES SHALL BE CONNECTED AT THE BEARING LOCATIONS AT EACH END AS NOTED BELOW:
- WHERE THE ROOF TRUSS BEARS ON A DOUBLE 2X PLATE, THE TRUSS SHALL BE CONNECTED WITH A MINIMUM 2-12D TOENAILS AND A SIMPSON H2.5 HURRICANE ANCHOR AT EACH END OF TRUSS. THE DOUBLE 2X PLATE SHALL BE ANCHORED AT 4'-0" O.C. MAX. TO THE STUDS WITH A SIMPSON H2.5 HURRICANE ANCHOR.
- WHERE THE ROOF TRUSS CONNECTS TO ANOTHER TRUSS OR BEAM, IT SHALL BE CONNECTED WITH A GALVANIZED METAL TRUSS ANCHOR OR HANGER CAPABLE OR RESISTING GRAVITY AND WIND LOADS.

d. LUMBER USED SHALL BE IDENTIFIED BY THE GRADE MAKE OF A LUMBER INSPECTION BUREAU OR AGENCY APPROVED BY BOARD OF REVIEW OF THE AMERICAN LUMBER STANDARDS COMMITTEE.

e. INCLUDED IN THE MANUFACTURER DESIGN DRAWING PACKAGE SHALL BE SIGNED AND SEALED COPIES OF THE FOLLOWING ITEMS:

i. LETTER STATING THAT GOVERNING DESIGN CRITERIA HAS BEEN MET

ii. TRUSS LAYOUT PLAN TO MATCH THE CONCEPT GENERATED ON THE STRUCTURAL DESIGN DRAWINGS

iii. INDIVIDUAL TRUSS PROFILES THAT SHOW CORRECT LOADING, SPACING, MAXIMUM DEFLECTIONS, MEMBER FORCES, DIMENSIONS, LUMBER GRADE AND SPECIES, AND REACTION/UPLIFT FORCES.

f. STEEL FOR CONNECTOR PLATES SHALL MEET OR EXCEED ASTM A446- "SPECIFICATIONS FOR SHEET STEEL, ZINC COATED BY THE HOT-DIPPED PROCESS"

g. TRUSSES SHALL BE FABRICATED IN COMPLIANCE WITH REQUIREMENTS IN MPC, WTC, TPI

h. TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY AND AT JOB SITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE LATERAL BENDING. ERECTION SHALL BE IN ACCORDANCE WITH BC51-2006. TRUSSES MUST BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION. CUTTING AND ALTERING OF TRUSSES IS NOT PERMITTED.

i. BRACE TRUSSES SUFFICIENTLY DURING ERECTION TO PREVENT TOPPLING OR DOMINOING. INSTALL ALL BRACING BEFORE PLACING CONCENTRATED LOADS ON TRUSSES.

j. MANUFACTURER SHALL SUPPLY ALL REQUIRED HANGARS, HOLD DOWN STRAPS, SHEAR PANELS, CRIPPLES AND OTHER SPECIAL HARDWARE.

k. ROOF TRUSS LIVE LOAD DEFLECTION SHALL NOT EXCEED L/360 UP TO A MAXIMUM OF 0.8". TOTAL DEFLECTION SHALL BE LIMITED TO L/240. A MINIMUM OF (1) SIMPSON H2.5A OR EQUIVALENT HURRICANE CLIP WLL BE REQUIRED AT EACH TRUSS BEARING POINT. GIRDER TRUSSES SUPPORING OTHER ROOF TRUSSES SHALL BE ANCHORED AT EACH BEARING POINT WITH A SIMPSON "H6" TIE DOWN OR APPROVED EQUIVALENT. ADDITIONAL UPLIFT FORCE RESISTANCE WILL BE DETERMINED AT THE TIME OF ROOF TRUSS SHOP DRAWING REVIEW

l. TRUSS DESIGNER SHALL DESIGN FOR LOADING FROM SPRINKLER HANGARS. CONTRACTOR TO COORDINATE SPRINKLER PIPE HANGER SPACING AND INSTALLATION.

METAL DECK AND SHEAR STUDS:

METAL DECK: PROVIDE METAL DECK MADE FROM GALVANIZED STEEL CONFORMING TO ASTM A653 GRADE 33 SS AND A MINIMUM YIELD STRENGTH OF 33KSI.

STANDARD SPECIFICATION:
AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN, AIS1 SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS. SDI CODE OF RECOMMENDED PRACTICES AND SPECIFICATIONS FOR COMPOSITE STEEL FLOOR DECK AND AWS STRUCTURAL WELDING CODE-STEEL AND STRUCTURAL STEEL WELDING CODE-SHEET STEEL.

FASTENING: WELD DECK TO SUPPORTS AT 12" O.C. AT EACH SUPPORT USING ⅝" DIAMETER PUDDLE WELDS. USE WELDING WASHERS WHERE DECK IS 22 GAUGE OR LIGHTER. FASTEN SIDE LAPS WITH 10 SCREWS AT 24" O.C.

ADDITIONAL NOTES CONTINUE ON S0.0

CONCRETE WORK:

CONCRETE STRENGTH: U.N.O. ALL CONCRETE SHALL BE NORMAL WEIGHT WITH A MINIMUM COMPRESSIVE STRENGTH (F'c) AT 28 DAYS AS FOLLOWS:

1. FOOTINGS..... 3000 PSI
2. WALLS..... 4000 PSI
3. PIERS..... 4000 PSI
4. SLABS ON GRADE..... 3000 PSI
5. SLABS ON METAL DECK..... 3500 PSI (LIGHT WEIGHT)
6. PARKING SLABS ON GRADE... 3000 PSI
7. ALL OTHER CONCRETE..... 3000 PSI

PORTLAND CEMENT: ASTM C150, TYPE II. WATER CEMENT RATIO AS REQUIRED FOR DESIGN STRENGTH.

AGGREGATE: NORMAL WEIGHT : ASTM C35, WITH MAXIMUM SIZE OF ¾".

WATER: POTABLE

SLUMP: ACI TABLE 305A

ADMIXTURE: CONCRETE EXPOSED TO THE WEATHER SHALL HAVE AIR ENTRAINING AGENT WITH A TOTAL ENTRAINED AIR CONTENT OF 6% : DO NOT USED CALCIUM CHLORIDE.

STEEL REINFORCEMENT: ASTM A615 GRADE 60
ASTM A185 FOR WIRE FABRIC.
PROVIDE #6 CHAIR BARS, HIGH CHAIRS, TIES, CLIPS, SLAB BOLSTERS AND OTHER ACCESSORIES WHERE NOT SPECIFIED ON THE DRAWINGS IN ACCORDANCE WITH MANUAL OF STANDARD PRACTICE OR DETAILING REINFORCING CONCRETE STRUCTURES ACI 315 OR CRSI-WRSI MANUAL OF STANDARD PRACTICE. USE PLASTIC TIPS ON ALL CHAIRS PLACED ON THE SIDES OF CONCRETE FORM-WORK.

OPENINGS: PROVIDE 2-#6 AT EACH SIDE OF ALL OPENINGS IN WALLS AND SLABS AND EXTEND 2'-6" BEYOND THE OPENING OR AS DETAILED, EXCEPT VERTICAL BARS AT SIDES OF OPENINGS IN WALLS ARE TO EXTEND FROM FLOOR TO FLOOR. BARS MAY BE MOVED ASIDE AT OPENINGS OR SLEEVES BUT DO NOT CUT OR OMIT.

MINIMUM CONCRETE COVER: CONCRETE PLACED AGAINST EARTH (BOTTOM)..... 3"
SLAB ON GRADE BOTTOM ..... 1 ½"
SLAB ON GRADE TOP ..... 1"
FORMED CONCRETE EXPOSED TO EARTH, WATER OR WEATHER..... 2"
FORMED SLABS TOP AND BOTTOM ..... 1"
INTERIOR FACES OF WALLS ..... 1"
COLUMNS OR PIERS (MAIN REINFORCEMENT) ..... 2"

SPLICING OF REINFORCEMENT: AS SHOWN ON PLANS BUT NOT LESS THAN 40 DIAMETERS FOR SLABS AND BEAM BOTTOM BARS, AND NOT LESS THAN 48 BAR DIAMETERS FOR WALLS AND BEAM TOP BARS. PROVIDE A LAP OF 8" OR 1 ½ SPACES, WHICHEVER IS LARGER, FOR WWF. TIE WIRES TOGETHER AT LAP.

MINIMUM REINFORCEMENT: REINFORCE ALL WALLS WITH #4 @ 12" IN EACH WAY EACH FACE AND 2 - #6 EACH EDGE, U.N.O. IN SLABS, PROVIDE AT LEAST 0.0018 TIMES THE AREA OF CONCRETE IN EACH DIRECTION, U.N.O.

SHOP DRAWINGS: SUBMIT FOR DESIGNER'S APPROVAL COMPLETE BENDING AND PLACING DETAILS AT ALL REINFORCING STEEL INCLUDING WELDED WIRE FABRIC (WWF), INCLUDING POSITION OF SPLICES. INCLUDE ACCESSORY DRAWINGS.

STANDARD SPECIFICATIONS: COMPLY WITH THE LATEST RECOMMENDATIONS AND SPECIFICATIONS OF THE AMERICAN CONCRETE INSTITUTE.
ACI 301 ..... STRUCTURAL CONCRETE FOR BUILDINGS
ACI 302 ..... CONCRETE FLOOR AND SLAB CONSTRUCTION
ACI 304 ..... MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE
ACI 305 ..... HOT WEATHER CONCRETING
ACI 306 ..... COLD WEATHER CONCRETING
ACI 315 ..... DETAILING REINFORCING STEEL
ACI 318 ..... GENERAL DESIGN OF ITEMS NOT OTHERWISE SPECIFIED
ACI 347 ..... FORAWORK
CRSI ..... MANUAL OF STANDARD PRACTICE.

CONSTRUCTION JOINTS: PROVIDE KEYS AND DOWELS AT ALL CONSTRUCTION JOINTS. PROVIDE DOWELS WITH AN AREA EQUAL TO 0.003 TIMES THE CONCRETE CROSS SECTIONAL AREA AT CONSTRUCTION JOINT. SUBMIT THE PROPOSED LOCATION OF CONSTRUCTION JOINTS TO THE DESIGNER FOR APPROVAL. MAXIMUM SPACING OF CONSTRUCTION JOINTS TO BE 30 FEET FOR WALLS AND STRUCTURAL FLOORS AND 20 FEET FOR SLABS ON GRADE.

SURFACE TREATMENT: ROUGHEN ALL EXISTING CONCRETE SURFACES COMMON WITH NEW CONCRETE TO AN AMPLITUDE OF ¼"

REBAR ANCHORING SYSTEMS: DRILL AND EPOXY GROUT REBAR INTO EXISTING FOOTINGS USING HILTI HY200 ADHESIVE SYSTEM OR APPROVED EQUAL.

STRUCTURAL STEEL NOTES:

a. THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL ELEMENTS SHALL BE IN ACCORDANCE WITH AISC 360

b. STRUCTURAL STEEL W-SHAPES TO CONFORM TO ASTM A992 (FY = 50 KSI MIN). STRUCTURAL STEEL M, S, HP, C, MC, AND L SHAPES TO CONFORM TO ASTM A36 (FY = 36 KSI). STRUCTURAL STEEL PIPE SHALL CONFORM TO ASTM A53 GR. B (FY = 35 KSI). ROUND HSS SHAPES W/ WALL THICKNESS LESS THAN OR EQUAL TO 0.625" TO CONFORM TO ASTM A500 GR. B (FY = 46 KSI) SQUARE AND RECTANGULAR HSS SHAPES TO CONFORM TO ASTM A500 GR. B (FY = 46 KSI). ALL STRCUTRAL PLATES SHALL CONFORM TO ASTM A36 (FY = 36 KSI).

c. WELDS SHALL COMPLY WITH AWS D1.1. WELDING ELECTRODE: E70XX

d. UNO,CONNECTIOSN SHALL BE AISC STANDARD DESIGNED FOR REACTIONS SHOWN ON PLAN. IF NO REACTIONS ARE SHOWN ON PLAN, PROVIDE CONNECTION CAPABLE OF SUPPORTING ½ OF TOTAL UNIFORM LOAD CAPACITY OF THE BEAM. MINIMUM CONNECTION SHALL BE (2) ¾" DIAMETER HIGH STENGTH BOLTS MEETING ASTM A325.

e. MOMENT CONNECTIONS - MOMENT CONNECTIONS SHALL BE DESIGNED AND DETAILED FOR THE FULL PLASTIC CAPACITY OF THE BEAM (AS TABULATED BY THE MANUAL OF STEEL CONSTRUCTION PART 3 2015). PREPARE SHOP DRAWINGS AND CALCULATIONS FOR ALL MEMBERS AND CONNECTIONS AND SUBMIT COPY STAMPED BY A PROFESSIONAL ENGINEER REGISTERED IN THE COMMONWEALTH OF MASSACHUSETTS, TO THE ENGINEER OF RECORD FOR REVIEW

f. PROVIDE STEEL BASE PLATE FOR ALL STRUCTURAL STEEL BEARING ON CONCRETE OR MASONRY.

g. ANCHOR BOLTS FOR BEAM AND COLUMN BASE PLATES SHALL BE ASTM A307, U.N.O GROUT UNDER BASE PLATE SHALL BE NON-SHRINK, NON-METALLIC, FC' = 5000 PSI.

h. ALL ANCHOR BOLTS, BEARING PLATES,AND INSERTS SHALL BE CAST INTO CONNECTING WORK USING PRESET TEMPLATES.

i. ERECTION - PROVIDE ANCHOR BOLTS, STEEL WEDGES, THREADED SCREWS OR SHIMS TO SUPPORT AND PLUMB ALL COLUMNS. GROUT SOLID UNDER BASE PLATES IMMEDIATELY AFTER COLUMNS ARE PLUMB. PROVIDE BEARING PLATES AND WALL ANCHORS OR ANCHOR BOLTS FOR ALL BEAMS RESTING ON CONCRETE AND ALL NECESSARY CONNECTING HARDWARE. SET ANCHOR BOLTS USING TEMPLATES. DO NOT FIELD CUT OR FIELD MODIFY ANY STRUCTURAL STEEL WITHOUT PRIOR APPROVAL BY ARCHITECT/ENGINEER FOR EACH SPECIFIC CASE

j. SHOP PRIME ALL STEELNOT ENCASED IN CONCRETE OR TO BE FIREPROOFED.

k. ALL STEEL EXPOSED TO WEATHER, INCLUDING STEEL LINTELS, SHALL BE HOT-DIPPED GALVANIZED.

l. LOOSE LINTELS - SEE SCHEDULE ON SHEET S0.1

BRICK VENEER:

A. ALL BRICK VENEER CONSTRUCTION TO BE IN ACCORDANCE WITH ACI 530 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES", THE BRICK INSTITUTE OF AMERICA AND 2009 IBC REQUIREMENTS.

VENEER BRICK ASTM C216, GRADE SW
MORTAR ASTM C270, TYPE S EXTERIOR OR BELOW GRADE
ASTM C270 TYPE N OR S EXTERIOR ABOVE GRADE

B. BRICK VENEER WITH A MAXIMUM WEIGHT OF 40 PSF SHALL BE ANCHORED IN ACCORDANCE WITH ACI 530 SECTION 6.2.2.5. MAINTAIN A MINIMUM SPACING OF 1" BETWEEN THE INSIDE FACE OF VENEER AND OUTSIDE FACE OF SOLID SHEATHING.

C. BRICK VENEER LESS THAN 30'-0" IN HEIGHT SHALL BE ANCHORED TO WOOD FRAMING WITH ⅞" x 7" LONG x 22 GAGE STANDARD CORRUGATED WALL TIES W/ A MAXIMUM SPACING OF 1" BETWEEN THE INSIDE FACE OF VENEER AND OUTSIDE FACE OF SOLID SHEATHING. ATTACH EACH ANCHOR TO WOOD STUDS WITH ONE (MINIMUM) CORROSION-RESISTANT 8d COMMON NAIL OR EQUIVALENT.

D. BRICK VENEER WALLS TALLER THAN 30'-0" BUT NOT EXCEEDING 45'-0" IN HEIGHT OR WALLS WITH A SPACING OF 1" TO 4 ½" BETWEEN THE INSIDE FACE OF VENEER AND OUTSIDE FACE OF SOLID SHEATHING, ANCHOR ENTIRE HEIGHT WITH "DW-10" SERIES VENEER ANCHORS BY HOHMANN AND BERNARD OR APPROVED EQUAL. ATTACH TO WOOD STUDS WITH (2) #6 x 1 ¼" GALV. SCREWS PER ANCHOR.

E. ALL TIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION CONFORMING TO ASTM A-153 CLASS B2. EMBED ALL ANCHORS IN THE MORTAR JOINT 1 ½" MIN. W/ AT LEAST ⅝" COVERTO THE OUTSIDE FACE. SPACE ANCHORS TO PROVIDE AT LEAST ONE ANCHOR FOR EACH 2.67 SQUARE FEET OF WALL AREA W/ MAXIMUM SPACING OF ANCHORS AND TIES OF 16" O.C. VERTICAL AND 24" O.C. HORIZONTAL. PROVIDE ADDITIONAL ANCHORS AROUND ALL OPENINGS GREATER THAN 16" IN EITHER DIMENSION. SPACE ANCHORS AROUND PERIMETER OF OPENINGS AT A MAXIMUM OF 3'-0" ON CENTER. PLACE ANCHORS WITHIN 12" OF OPENING. PROVIDE WEEP HOLES SPACED HORIZONTALLY LESS THAN 33" O.C. BRICK VENEER SHALL BE DESIGNED & DETAILED BY THE ARCHITECT / CONTRACTOR TO ALLOW FOR DIFFERENTIAL MOVEMENT AT ALL FIXED OBJECTS WITHIN THE VENEER INCLUDING DOORS, WINDOWS, BEAMS, TRIM,ETC.

F. COORDINATE OPENINGS WITH THE LINTEL SCHEDULE.

GENERAL STRUCTURAL NOTES

a. ALL CONSTRUCTION SHALL BE IN COMPLIANCE WITH THE IBC 2015 with the MASSACHUSETTS STATE BUILDING CODE (9TH EDITION) AMENDMENTS.
b. THE STRUCTURAL INTEGRITY OF THE BUILDING IS DEPENDENT UPON COMPLETION ACCORDING TO THE PLANS AND SPECIFICATIONS. THE STRUCTUAL ENGINEER OF RECORD ASSUMES NO LIABILITY FOR THE STRUCTURE DURING CONSTRUCTION, THE METHOD OF CONSTRUCTION AND SEQUENCE OF OPERATIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL SUPPLY ANY NECESSARY BRACING, GUYS, ETC. TO PROPERLY BRACE THE STRUCTURE AGAINST WIND, DEAD, AND LIVE LOADS UNTIL THE BUILDING IS COMPLETED ACCORDING TO THE PLANS AND SPECIFICATIONS. ANY QUESTIONS REGARDING TEMPORARY BRACING REQUIREMENTS SHOULD BE FORWARDED TO A STRUCTURAL ENGINEER FOR REVIEW.
c. MECHANICAL UNITS AND ANY OTHER EQUIPMENT SUPPORTED BY THE STRUCTURE WITH WEIGHTS IN EXCESS OF 200 LBS SHALL BE BROUGHT TO THE ATTENTION OF THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
d. CONTRACTOR SHALL REVIEW AND VERIFY ALL FIELD CONDITIONS, DIMENSIONS AND CONTRACT DOCUMENTS PRIOR TO COMMENCING WORK AND SHALL NOTIFY THE S.E.R OR ARCHITECT OF ANY DISCREPANCIES OR OMISSIONS BEFORE PROCEEDING.
e. SHOP DRAWINGS FOR ALL STRUCTURAL ELEMENTS SHOWN ON THE CONTRACT DOCUMENTS MUST BE SUBMITTED BY THE GENERAL CONTRACTOR AND REVIEWED BY THE S.E.R. SHOULD THE OWNER OR CONTRACTOR FAIL TO OBTAIN THE S.E.R'S REVIEW OF THE SHOP DRAWINGS, THE S.E.R WILL NOT ACCEPT RESPONSIBILITY FOR THE DESIGN AND CERTIFICATION OF THIS PROJECT. PRIOR TO SUBMISSION, THE CONTRACTOR SHALL REVIEW SHOP DRAWINGS FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. SHOP DRAWINGS SHALL NOT BE ISSUED PRIOR TO FINAL CONSTRUCTION SET.
f. DO NOT FABRICATE PRIOR TO SHOP DRAWING REVIEW. REVIEW IS LIMITED TO CONFORMANCE WITH THE DEISNG CONCEPT. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR FOR COMPATIBILITY OF ARCHITECTURAL AND STRUCUTRAL REQUIREMENTS. NOTIFY ARCHITECT OR ENGINEER OF ANY CONFLICTS PRIOR TO FABRICATION.
g. UNLESS OTHERWISE REQUIRED BY THE LOCAL JURISDICTION, CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW (PDF accepted). RJ FARAH ENGINEERING WILL RETURN MARKED PDF COPIES. SUBMIT SHOP DRAWINGS FOR THE FOLLOWING STRUCTURAL ITEMS:

1. CONCRETE
   a. FOUNDATION REBAR DRAWINGS
   b. WALL REBAR DRAWINGS
   c. COLUMN REBAR DRAWINGS
   d. ELEVATED SLAB REBAR DRAWINGS
   e. CONCRETE MIX DESIGNS (INCLUDING TEST RESULTS & ADMIXTURES)
   f. CONCRETE ACCESSORIES (SEALANTS, GROUTS, ANCHOR BOLTS, EPOXIES)
2. WOOD
   a. FLOOR TRUSSES (WITH CALCS) SIGNED/SEALED
   b. ROOF TRUSSES (WITH CALCS) SIGNED/SEALED
3. MASONRY
   a. MASONRY + GROUT
   b. BRICK TIES
4. MISC.
   a. ELEVATOR SHOP DRAWINGS
   b. STEEL STAIRS WITH PE SIGNED SEALED CALCS AND DRAWINGS, WITH CONNECTIONS
   c. HANDRAILS WITH PE SIGNED/SEALED CALCS AND DRAWINGS, INCLUDING CONNECTIONS TO THE STRUCTURE
   d. COORDINATED SLEEVE PLAN FOR THE ELEVATED SLAB

COMPOSITE DECK FLOOR DESIGN LOADS (PSF)

LOCATIONS	LIVE LOAD	SUPERIMPOSED DEAD LOAD	TOTAL LOAD (W/0 SELF)
LIVING UNITS	40	10	50
CORRIDORS	80	10	90
LIGHT STORAGE	125	10	135

WOOD TRUSS DESIGN LOADS (PSF)

LOCATIONS	LIVE LOAD TC	LIVE LOAD BC	DEAD LOAD TC	DEAD LOAD BC	TOTAL LOAD TC	TOTAL LOAD BC	TOTAL LOAD TOTAL
ROOF TRUSSES	30	10**	7	10	37	20	57
LIVING UNITS	40	----	20	5	60	5	65*
PRIVATE DECKS	60	----	10	----	70	----	70
CORRIDORS	80	----	20	5	100	5	105
EXIT STAIRS LANDINGS	100	----	20	5	120	5	125*
LIGHT STORAGE	125	----	20	5	145	5	150

(*) DESIGN TRUSSES FOR ROLLING 250# LIVE LOAD AND 100# DEAD LOAD ON TOP OR BOTTOM CHORD FOR SPRINKLER LOADS. LIVE LOAD MAY BE NON-CONCURRENT WITH OTHER LIVE LOADS.
(**) ROOF TRUSS BCLL TO BE NON-CONCURRENT WITH OTHER LIVE LOADS.

SPRINKLER PIPE LOADS: CONTRACTOR TO COORDINATE SPRINKLER PIPE HANGER SPACING. PIPE HANGERS SHALL BE INSTALLED SUCH THAT THE TOTAL LOAD FROM EACH PIPE HANGER DOES NOT EXCEED THE FOLLOWING:
- 100 LBS/HANGER FOR SPRINKLER PIPE WITHOUT WATER (DRY)
- 250 LBS/HANGER FOR SPRINKLER PIPE FILLED WITH WATER (WET)

SPRINKLER PIPES SHALL BE HUNG FROM TOP OR BOTTOM CHORDS. ATTACHMENT TO TRUSS WEBS IS NOT PERMITTED.

WIND LOADS

A. REFERENCE WIND VELOCITY = 128 MPH (3 SECOND GUSTS)

EARTHQUAKE LOADS

A.	SEISMIC IMPORTANCE FACTOR	Ie	1.00
B.	MAPPED SPECTRAL RESPONSE ACCELERATION	Ss	0.217
C.	MAPPED SPECTRAL RESPONSE ACCELERATION	S1	0.069
D.	SPECTRAL RESPONSE COEFFICIENT	Sds	0.23
E.	SPECTRAL RESPONSE COEFFICIENT	Sd1	0.11
F.	SITE CLASS	C	
G.	SEISMIC DESIGN CATEGORY	B	
H.	RESPONSE MODIFICATION FACTOR	R	3
I.	DEFLECTION AMPLIFICATION FACTOR	Cd	4
J.	ANALYSIS PROCEDURE = EQUIVALENT LATERAL FORCE METHOD (WOOD SHEAR WALL)		
K.	DESIGN BASE SHEAR = V =		

FOUNDATIONS:

A. SOIL BEARING:
SPREAD FOOTINGS..... THE FOUNDATION DESIGN IS BASED ON RECOMMENDATIONS CONTAINED IN THE GEOTECHNICAL REPORT BY "McPHAIL ASSOCIATES, LLC." DATED OCTOBER 29 2019. FOUNDATION SHALL BEAR ON STRUCTURAL FILL OR COMPACTED STONE COLUMNS HAVING A MINIMUM BEARING CAPACITY OF 3 TONS.

B. EXCAVATION.....EXCAVATE TO LINES AND GRADES TO PROPERLY INSTALL FOUNDATIONS ON UNRESTRICTED SOIL. IN NO CASE SHALL THE BOTTOM OF FOOTING BE LOCATED LESS THAN 4'-0" BELOW THE LOWEST ADJACENT SURFACE EXPOSED TO FREEZING.

C. BACKFILL UNDER SLAB OR GRADE..... BACKFILL WHERE REQUIRED BELOW SLABS WITH APPROVED GRANULAR SOIL PLACED IN 6" LAYERS AND COMPACTED TO 95x DENSITY AT OPTIMUM MOISTURE CONTENT AS DEFINED BY ASTM D-1557, METHOD D. SEE GEOTECHNICAL REPORT.

D. FOUNDATION PLACEMENT AND PROTECTION..... DO NOT PLACE FOUNDATION CONCRETE IN WATER OR ON FROZEN GROUND. PROTECT IN-PLACE FOUNDATIONS AND SLABS FROM FROST PENETRATION UNTIL THE PROJECT IS COMPLETE. DO NOT EXCAVATE WITHOUT ENGINEER'S WRITTEN PERMISSION. ANY SOILS BELOW HYPOTHETICAL PLANES BEGINNING AT THE BOTTOM EDGE OF EXISTING FOOTINGS AND EXTENDING DOWNWARDS AND AWAY FROM THE FOOTING AT A 1:1 SLOPE.



SHEET INDEX

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S0.4	SHEAR WALL LOCATION PLAN
S0.5	ROOF AND FLOOR FRAMING SECTIONS ANDE DETAILS
S0.6	FITH FLOOR AND ROOF WALL SECTIONS AND DETAILS
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S.5.0	COMPOSITE DECK AND STEEL CONNECTION DETAILS

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PROJECT

ONE WAVERLY

1 WAVERLY ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE ROXBURY, MASSACHUSETTS

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Project North:

COMMONWEALTH OF MASSACHUSETTS
RACHID J. FARAH
STRUCTURAL
No. 45180
REGISTERED PROFESSIONAL ENGINEER

NUMBER	DATE	DESCRIPTION

REVISIONS

ISSUED FOR: 75% SUBMISSION

DATE: 08/19/2024

SHEET TITLE

STRUCTURAL NOTES

SCALE:	DRAWING NO.
DATE:	S0.0
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	

BEARING WALL STUD SCHEDULE

LOCATION \ MARK	A	B	C	D	E	F	G	NON-BEARING WALLS
5TH. TO ROOF	26 / 16	26 / 16	26 / 16	24 / 8S	24 / 16	24 / 16	24 / 16	NOTE 2
4TH. TO 5TH FLOOR	26 / 16	26 / 16	26 / 16	24 / 8S	24 / 16	24 / 16	24 / 16	
3RD. TO 4TH FLOOR	26 / 16	26 / 16	26 / 16	24 / 8S	224 / 16	24 / 16	24 / 16	
2ND. TO 3RD FLOOR	26 / 16	226 / 16	226 / 16	224 / 8S	44 / 16	224 / 16	224 / 16	

NOTES: 24 / 16 = 2x4 @ 16" O.C.
24/8S = 2X4 @ 8" O/C STAGGERED
224 / 16 = (2) 2x4 @ 16" O.C.
26 / 16 = 2x6 @ 16" O.C.
26 / 12 = 2x6 @ 12" O.C.
226 / 16 = (2) 2x6 @ 16" O.C.
44/16 = 4x4 versalam column

1. UNO ON THE PLANS EXTERIOR WALLS ARE TYPE "A"
2. NON - BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2x4 @24" O.C.
3. ANY STUDS FALLING IN BEARING 2x6 WET WALLS OR OTHER 6" WALLS LOCATED PER ARCHITECT SHALL FOLLOW THE WET WALL SCHEDULE U.N.O.
4. DOUBLE / TRIPLE STUDS SHALL BE NAILED TOGETHER WITH 12d NAILS @8" O.C.
5. LOAD BEARING WALLS TO BE SPF #1/#2 UNO

JACK SCHEDULE (2x6 EXTERIOR BEARING WALLS)

OPENING	ROOF BEARING ABOVE	ROOF & 1 FLOOR BEARING ABOVE	ROOF & 2 FLOORS BEARING ABOVE	ROOF & 3 FLOORS BEARING ABOVE
0'-0" UP TO 3'-0"	1 J & 1 S	1 J & 1 S	1 J & 1 S	1 J & 1 S
3'-1" UP TO 5'-0"	2 J & 1 S	2 J & 1 S	1 J & 2 S	1 J & 2 S
5'-1" UP TO 7'-0"	2 J & 1 S	2 J & 1 S	2 J & 2 S	2 J & 3 S
7'-1" UP TO 9'-0"	2 J & 1 S	2 J & 1 S	2 J & 2 S	2 J & 4 S

JACK SCHEDULE (2x4 INTERIOR BEARING WALLS)

OPENING	1 FLOOR BEARING ABOVE	2 FLOORS BEARING ABOVE	3 FLOORS BEARING ABOVE	
0'-0" UP TO 3'-0"	1 J & 1 S	1 J & 1 S	1 J & 2 S	
3'-1" UP TO 6'-0"	2 J & 1 S	2 J & 1 S	1 J & 2 S	
6'-1" UP TO 9'-0"	2 J & 1 S	2 J & 1 S	2 J & 3 S	

NOTES:
1. J = JACK UNDER HEADER
2. S = FULL HEIGHT STUD NAILED TO JACK ALONGSIDE OF JACK.
3. ALL JACKS & STUDS TO BE 2x6 SPF FOR EXTERIOR AND 2x4 FOR INTERIOR - #2 GRADE OR BETTER.
4. ALL JACKS & STUDS TO BE NAILED TOGETHER W/ 12d NAILS @8" O.C.
5. FOR FLUSH BEAMS WITH NO COLUMNS LABELED ON THE PLAN, USE THE TOTAL NUMBER OF JACKS AND STUDS SHOWN IN THE SCHEDULE ABOVE, EXCEPT LOCATE ALL OF THEM UNDER THE BEAM. BLOCK AS REQUIRED.

WOOD COLUMN SCHEDULE

MARK	SIZE	MARK	SIZE
1 - 44	(1) 4x4	2 - 26	(2) 2x6
2 - 24	(2) 2x4	3 - 26	(3) 2x6
3 - 24	(3) 2x4	3.5 x 3.5 PSL	3 1/2" x 3 1/2" PSL COLUMN
4 - 24	(4) 2x4	5.5 x 5.5 PSL	5 1/2" x 5 1/2" PSL COLUMN
5 - 24	(5) 2x4	3.5 x 5.5 PSL	3 1/2" x 5 1/2" PSL COLUMN
1 - 66	(1) 6x6		
1 - 46	(1) 4x6		

NOTES:
1. WHERE COLUMNS ARE SHOWN ON EITHER SIDE OF OPENING, JACK SCHEDULE REQUIREMENTS ARE NOT APPLICABLE FOR THAT OPENING.
2. ALL COLUMNS ARE ASSUMED TO BE SPF - #2 GRADE OR BETTER U.N.O.
3. ALL BUILT-UP COLUMNS TO BE NAILED TOGETHER W/ 12d NAILS SPACED 8" O.C.
4. PRE - FAB STRUCTURAL COLUMNS ~ CONTRACTOR TO SUPPLY ENGINEER WITH SPECIFICATIONS AND DESIGN CRITERIA.

FLOOR & ROOF SHEATHING SCHEDULE

SHEATHING	NAILING REQUIRMENTS
FLOORS	
23/32" APA RATED T&G FLOOR SHEATHING	NAILED WITH 6d RING OR SCREW SHANK NAILS AT 6" O.C. ALONG PANEL EDGES WHICH ALIGN WITH FLOOR TRUSSES AND / OR RIBBONS AT 12" ALONG INTERMEDIATE SUPPORTS
	ALTERNATE: GLUED AND NAILED WITH 6d RING OR SCREW SHANK NAILS AT 12" O.C. ALONG PANEL EDGES AND INTERMEDIATE SUPPORTS. SEE NOTE 1
FLAT ROOFS	
23/32" APA RATED PLYWOOD	NAILED WITH 8d COMMON SMOOTH OR DEFORMED SHANK NAILS AT 6" O.C. ALONG PANEL EDGES WHICH ALIGN WITH ROOF TRUSSES AT 12" O.C. ALONG INTERMEDIATE SUPPORTS. INSTALL CLIPS AT PANEL EDGES. STAPLES ARE NOT ALLOWED.

NOTES:
1. USE ONLY ADHESIVES CONFORMING TO APA SPECIFICATION AFG-01 OR ASTM D3498. APPLY IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS .
2. THIS TABLE IS BASED UPON THE APA RECOMMENDATIONS FOR STURD-I-FLOOR.

HEADER AND BEAM SCHEDULE

MARK	SIZE	MARK	SIZE
2 - 26 (2)	(2) 2x6	3 - 26 (2)	(3) 2x6
2 - 28 (2)	(2) 2x8	3 - 28 (2)	(3) 2x8
2 - 210 (2)	(2) 2x10	3 - 210 (2)	(3) 2x10
2 - 212 (3)	(2) 2x12	3 - 212 (3)	(3) 2x12
2 - 95 LVL (3)	(2) 1 3/4" x 9 1/2" LVL	3 - 95 LVL (3)	(3) 1 3/4" x 9 1/2" LVL
2 - 12 LVL (3)	(2) 1 3/4" x 11 7/8" LVL	3 - 12 LVL (3)	(3) 1 3/4" x 11 7/8" LVL
2 - 14 LVL (4)	(2) 1 3/4" x 14" LVL	3 - 14 LVL (4)	(3) 1 3/4" x 14" LVL
2 - 16 LVL (4)	(2) 1 3/4" x 16" LVL	4 - 14 LVL (4)	(4) 1 3/4" x 14" LVL
2 - 18 LVL (4)	(2) 1 3/4" x 18" LVL	3 - 18 LVL (4)	(3) 1 3/4" x 18" LVL
ML88 (10)	8x8 CMU LINTEL W/2-#4 CONT. BARS	ML88 (10)	8x16 CMU LINTEL W/2-#5 CONT. BARS

NOTES:
1. SEE STRUCTURAL NOTES FOR REQUIRED WOOD SPECIES & GRADE.
2. NAIL EACH PLY OF MULTIPLE MEMBER HEADERS W/ (2) ROWS 12d NAILS @12" O.C. U.N.O.
3. NAIL EACH PLY OF MULTIPLE MEMBER HEADERS W/ (3) ROWS 12d NAILS @12" O.C. U.N.O.
4. GLUE & NAIL EACH PLY OF MULTIPLE MEMBER HEADERS W/ (4) ROWS 12d NAILS @12" O.C. U.N.O.
5. BOLT MULTIPLE LVL HEADERS FOR SIDE LOADED CONDITIONS PER MANUFACTURERS REQUIRMENTS, U.N.O.
6. PRE-ENGINEERED COMPONENT HEADERS MAY BE SUBSTITUTED FOR THE HEADER SHOWN. THE CONTRACTOR SHALL SUBMIT SIGNED & SEALED SHOP DRAWING TO THE S.E.R. FOR APPROVAL PRIOR TO FABRICATION.
7. PROVIDE ½" PLYWOOD SHIM BETWEEN EACH PLY OF 2x HEADERS(EXCEPT EXTERIOR BALCONY BEAMS). MATCH DEPTH OF HEADER.
8. ONE PIECE PARALLAM (PSL) BEAMS OF EQUAL WIDTH MAY BE SUBSTITUTED FOR MULTIPLE LVL BEAMS.
9. ALL WOOD BEAMS EXPOSED TO THE WEATHER SHALL BE PRESSURE TREATED.

CORRIDOR
WOOD JOIST & LEDGER ATTACHMENT SCHEDULE

LOCATION (LL+DL) PSF	SPAN LENGTH	JOIST SIZE & SPACING (P.T. SP #2 U.N.O.)	REQUIRED JOIST TO LEDGER ATTACHMENT	REQUIRED LEDGER TO SUPPORT ATTACHMENT (1/4"x4 1/2" LONG GALVANIZED SDS SCREWS)
CORRIDOR FLOOR (80 LL + 30 DL) (SPF #2)	LESS THAN 7'-6"	2x10 @ 24" O.C.	"SIMPSON" LUS28	2 ROWS AT 12" O.C.
	7'-6" TO 9'-0"	2x10 @ 16" O.C.		
	9'-0" TO 11'-0"	2x10 @ 12" O.C.	"SIMPSON" LUS28	3 ROWS AT 12" O.C.

NOTES:
1. IF 5/4 DECKING OR "TREX" TYPE MATERIAL IS UTILIZED: JOISTS TO HAVE A 16" O.C. MAXIMUM SPACING.
2. LEDGER TO MATCH SIZE OF JOISTS.
3. WHERE APPLICABLE, WOOD SHEATHING TO RUN CONTINUOUS BEHIND LEDGER.
4. SCREWS ARE REQUIRED TO HAVE A MIN. EDGE DISTANCE AND SPACING BETWEEN SCREWS OF 2".

SHEAR WALL SHEATHING SCHEDULE

SHEATHING	NAILING REQUIRMENTS	SPACING	
EXTERIOR WALLS AND ROOFS			
7/16" OSB SHEATHING EXTERIOR	8d NAIL - BLOCK ALL PANELS EDGES (NOTE 1)	1ST FLOOR	4" EDGE, 12" FIELD
		ABOVE	8" EDGE, 12" FIELD
5/8" GYP BD. EACH SIDE	6d x 1 7/8" COOLER OR WALLBOARD (NOTE 2)	1ST FLOOR	4" EDGE, 4" FIELD
		ABOVE	7" EDGE, 7" FIELD
CORRIDOR WALLS			
5/8" GYP BD. EACH SIDE	6d x 1 7/8" COOLER OR WALLBOARD (NOTE 2)	1ST FLOOR	4" EDGE, 4" FIELD
		ABOVE	7" EDGE, 7" FIELD
INTERIOR UNIT BEARING WALLS AND INTERIOR SHEAR WALLS			
5/8" GYP BD. EACH SIDE	6d x 1 7/8" COOLER OR WALLBOARD (NOTE 2)	1ST FLOOR	4" EDGE, 4" FIELD
		ABOVE	7" EDGE, 7" FIELD
UNIT SEPARATION WALLS			
5/8" GYP BD. EACH SIDE	6d x 1 7/8" COOLER OR WALLBOARD (NOTE 2)	1ST FLOOR	4" EDGE, 4" FIELD
		ABOVE	7" EDGE, 7" FIELD

NOTES:
1. AT ALL FLOORS INSTALL LONG SIDE HORIZONTAL TO FORM LAPS AT SUB-FLOOR . SEE ALTERNATE STRAP ON EXTERIOR WALL DETAIL.
2. ALTERNATE ATTACHMENTS FOR INTERIOR SHEAR WALLS ONLY: 0.120" NAIL, MIN. 3/8" HEAD, 1-3/4" LONG. OR 16 GAGE STAPLES, 1-1/2" LEGS, 1-5/8" LONG, OR 1-1/4" TYPE W OR S #6 SCREWS.

PRE-ENGINEERED STAIRS AND GUARD RAILS:

a. FABRICATE, SUPPLY AND ERECT STAIRS AND RAILINGS AS SHOWN ON SHOP DRAWING PROFILE AND LAYOUT SHEETS AND AS SPECIFIED.
b. WORK INCLUDES, BUT IS NOT LIMITED TO, THE FOLLOWING:
i. COMPLETE DETAILS AND MATERIAL SCHEDULES FOR FABRICATION OF EACH MEMBER AND ALL CONNECTIONS
ii. BUILDING ELEVATIONS INDICATING THE LOCATION AND FABRICATOR DESIGNATION OF EACH RAILING
iii. SCALE ELEVATIONS AND PLAN DRAWINGS OF ALL STAIR AND RAILING CONFIGURATIONS SHOWING THE ACTUAL DIMENSIONS AND QUANTITY. DISTINGUISH CLEARY THE LIMIT OF FACTORY AND FIELD ASSMEBLED WORK ILLUSTRATE METHOD OF JOINING COMPONENTS, AND ILLUSTRSTE PROVISIONS FOR ACCOMODATION OF THEMRAL EXPSNSION AND CONTRACTION.
c. SHOP DRAWINGS SHALL BE THOROUGHLY CHECKED BY THE FABRICATOR AND CONTRACTOR BEFORE BEING SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW. THE REVIEW BY THE ARCHITECT/ENGINEER IS FOR GENERAL CONFORMANCE WITH THE DESIGN INTENT ONLY AND DOES NOT RELIEVE FABRICATOR OF FULL RESPONSIBILITY OF THE CORRECTNESS OF ALL MATERIALS, SIZES, DIMENSIONS, AND DETAILS.
d. FABRICATOR SHALL NOT PROCEED WITH FABRICATION OR ERECTION UNTIL SHOP DRAWINGS HAVE BEEN REVIEWED BY ARCHITECT/ENGINEER.
e. FABRICATION, ASSEMBLY, AND ERECTION SHALL CONFORM TO REVIEWED SHOP DRAWINGS.
f. ALL STAIR AND GURD RAILS SHALL BE DESIGNED IN ACCORDANCE WITH THE LOADING REQUIREMENTS SPECIFIED IN THE IBC CODE. PROVIDE COMPLETE STRUCTURAL CALCULATIONS INCLUDING MAXIMUM ALLOWABLE FIBER STRESSES, DEFLECTIONS, AND ACTUAL LOADS FOR ALL CONNECTIONS, BASE PLATES AND POST ANCHORS. ALL ASSUMPTIONS, GIVEN VALUES, CONSTANTS, ETC...SHALL BE CLEARLY STATED AND REFERENCED AS APPROPRIATE.
g. CALCULATIONS SHALL BE PREPARED AND SEALED BY A PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF MASSACHUSETTS.

INSPECTIONS:

a. CONTRACTOR SHALL RETAIN THE SERVICES OF INDEPENDENT AGEN CIES TO PERFORM THE INSPECTION OF THE FOLLOWING ITEMS: SOILS, ENGINEERED FILLS, CONCRETE, PIER FOUNDATIONS, LIGHT GAUGE STEEL, STRUCTURAL STEEL INCLUDING STAIRS, STEEL FLOOR JOINGTS, ROOF TRUSSES, MASONRY, METAL ROOF DECK ETC. AS CONSTRUCTION PROGRESSES FORWARD COPIES OF INSPECTIONS TO STRUCTURAL ENGINEER FOR REVIEW. RJ FARAH ENGINEERING, INC. CANNOT ISSUE A CERTIFICATE OF SATISFACTORY COMPLETION WITHOUT ALL THE ABOVE REPORTS AND FINAL CERTIFICATES ISSUED BY EACH OF THE ABOVE AGENCIES.

WOOD NOTES:

a. ALL JOISTS, HEADERS, BEAMS, BUILT UP COLUMNS, EXTERIOR AND INTERIOR BEARING WALL STUDS, TOP PLATES AND BOTTOM PLATES TO BE MINIMUM SPF#2 UNLESS NOTED OTHERWISE. SEE WALL STUD SCHEDULE FOR SPACING.
b. DOUBLE TOP PLATES WITH ROOF TRUSSES BEARING ABOVE ARE TO BE SOUTHERN YELLOW PINE #2.
c. NON-BEARING INTERIOR WALL STUDS MAY BE SPF-STUD GRADE 2X4 AT 24" O.C.
d. THE DESIGN VALUES SHOWN IN THE TABLE BELOW ARE IN ACCORDANCE WITH THE 2015 ANSI/AWC NATIONAL DESIGN SPECIFICATIONS (NDS)

LUMBER GRADE	Fb (PSI)	Fb (PERP) (PSI)	FC (II) (PSI)	FV (PSI)	E (PSI)
SPF #2 STUDS PLATES ETC.	875	425	1150	135	1,400,000
6"x6" POSTS SP SPF #2	850	375	525	———	1,200,000
8"x8" POSTS DFL (N) #2	725	625	700	———	1,300,000
SP P.T.	1500	525	———	175	1,600,000
LVL	2600	750	———	285	1,900,000
PSL	2900	750	———	290	2,000,000
PSL-WOLMANIZED USE SERVICE LEVEL 2	2088	385	———	177	1,740,000

e. ALL LUMBER USED IN EXTERIOR APPLICATIONS, INCLUDING: BALCONY DECK BOARDS, LEDGER, JOISTS BEAMS, AND SILL PLATES EXPOSED TO CONCRETE SHALL BE SOUTHERN PINE PRESSURE TREATED IN ACCORDANCE WITH AWPA C2 SPECIFICATIONS. ALL FASTENERS FOR PRESSURE TREATED WOOD SHALL BE OF HOT-DIPPED ZINC-COATED GALVANIZED STAINLESS STEEL, OR OTHER CORROSION RESISTANT MATERIALS THAT ARE COMPATIBLE WITH THE PRESERVATIVE USED. CONTRACTOR TO VERIFY THE SUITABILITY OF CONNECTORS WITH THE MANUFACTURER AND THE GOVERNING JURISDICTION.
f. LVL'S (LAMINATED VENEER LUMBER) SHALL BE 1-3/4" WIDE, OF THE DEPTH SPECIFIED BY THE MANUFACTURER UNLESS NOTED OTHERWISE.
g. PSL'S (PARALLEL STRAND LUMBER) SHALL BE OF THE WIDTH AND DEPTH SPECIFIC ON THE PLANS, AND SHALL BE SECURED TOGETHER AS DIRECTED BT THE MANUFACTURER UNLESS NOTED OTHERWISE.
h. ALL STUDS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA (NATIONAL FOREST PRODUCTS ASSOCIATION) REQUIREMENTS. MEMBERS ARE NOT TO BE DRILLED IN EXCESS OF NDS OR LOCAL CODE REQUIREMENTS, WHICHEVER IS MORE STRINGENT. ALL POSTS AND STUDS SHALL STACK CONTINOUSLY TO SOLID BEARING ON FOUNDATION WALLS OR BEAMS; PROVIDE SOLID BLOCKING AND/OR CRIPPLES AS REQUIRED BETWEEN FLOORS.
i. SHEATHING: EACH PANEL SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF THE AMERICAN PLYWOOD ASSOCIATION, AND SHALL MEET THE REQUIREMENTS OF APA PRP-108 PERFORMANCE STANDARDS. ALL PANELS WHICH HAVE ANY EDGE OR SURFACE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE CLASSED EXTERIOR GRADE. PANEL THICKNESS, GRADE, AND GROUP NUMMBER OR SPAN RATING SHALL BE AT LEAST EQUAL TO THAT SHOWN ON THE DRAWINGS. APPLICATION SHALL BE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE AMERICAN PLYWOOD ASSOCIATION. ALL ADHESIVES SHALL CONFORM TO APA SPECIFICATION AFG-01 AND APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. LAP SHEATHING OVER WALL PLATES TO PREVENT UPLIFT.
j. FLOOR DECKING SHALL BE GLUED AND NAILED PER APA RECOMMENDATIONS FOR THE STURDI-FLOOR SYSTEM AND IN ACCORDANCE WITH THE SCHEDULE PROVIDED.
k. DIMENSIONAL PROPERTIES OF WOOD CAN VARY SIGNIFICANTLY WITH MOISTURE CONTENT. WHENEVER POSSIBLE, GENERAL CONTRACTOR SHALL STORE FLOOR SHEATHING PANELS, ROOF SHEATHGIN PANELS, WALL STUDS, AND FLOOR TRUSSES UNDER ROOF. IF MATERIALS ARE TO BE STORED OUTSIDE, STACK THEM ON A LEVEL SURFACE AND BLOCK UP OFF THE GROUND. UTILIZE A MINIMUM OF THREE (3) SUPPORT POINTS. NEVER LEAVE MATERIALS IN DIRECT CONTACT WITH THE GROUND. COVER STACKS LOOSELY AND OPEN AT THE BASE TO ALLOW FOR VENTILATION.
l. GENERAL CONTRACTOR SHALL ALLOW FOR DIFFERENTIAL MOVEMENT BETWEEN WOOD AND MASONRY PRODUCTS.
i. WOOD AT EXTERIOR WALLS BACKING BRICK VENEER SHOULD BE VERIFIED FOR A MAXIMUM MOISTURE CONTENT LESS THAN 10% PRIOR TO THE PLACEMENT OF MASONRY VENEER.
ii. BUILDING SHOULD BE FULLY ENCLOSED AND DRYWALL SHOULD BE 'STACKED' WITHIN UNITS PRIOR TO THE PLACVEMENT OF MASONRY VENEER.
iii. VERIFY PROPER TOLERANCES FOR MOVEMENT AND PROPER FLASHNIG IS INCORPORATED INTO FINISH WORK CONSTRUCTED AT WINDOW SILLS AND TRANSITIONS FROM MASONRY VENEER TO ALTERNATE FINISH MATERIAL.

PREFABRICATED WOOD TRUSSES

a. TRUSS SUPPLIER SHALL FABRICATE, SUPPLY, AND ERECT WOOD TRUSSES AS SHOWN ON THE DRAWINGS AND AS SPECIFIED. INCLUDE ANCHORAGE, BLOCKING CURBING, MISCELLANEOUS FRAMING, BRACING, AND ALL CONNECTION MATERIALS.
b. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH NDSO, AFPA, NDSMPCWTC, TPI, 780 CMR AND THE FOLLOWING REQUIREMENTS:
i. BASIC WIND SPEED: 110 MPH (3 SECOND GUST)
ii. IMPORTANCE FACTOR: 1.0
iii. BUILDING SITED IN EXPOSURE: B

TRUSS MEMBERS
COMPONENTS & CLADDING, EXPOSURE B CASE 1, INTERIOR ZONE 1

TRUSS UPLIFT REACTIONS
MAIN WINDFORCE--RESISTING SYSTEM
EXPOSURE B CASE 1, BASED ON WINDWARD OR LEEWARD ROOF (WHICHEVER IS GREATER)

c. TRUSS MANUFACTURER SHALL FURNISH DESIGN DRAWINGS BEARING THE SEAL AND REGISTRATION NUMBER OF THE DESIGN PROFESSIONAL LICENSED IN THE Commonwealth of Massachusetts. DRAWINGS SHALL BE APPROVED BY ARCHITECT AND S.E.R. PRIOR TO FABRICATION.
d. LUMBER USED SHALL BE IDENTIFIED BY THE GRADE MAKE OF A LUMBER INSPECTION BUREAU OR AGENCY APPROVED BY BOARD OF REVIEW OF THE AMERICAN LUMBER STANDARDS COMMITTEE.
e. INCLUDED IN THE MANUFACTURER DESIGN DRAWING PACKAGE SHALL BE SIGNED AND SEALED COPIES OF THE FOLLOWING ITEMS:
i. LETTER STATING THAT GOVERNING DESIGN CRITERIA HAS BEEN MET
ii. TRUSS LAYOUT PLAN TO MATCH THE CONCEPT GENERATED ON THE STRUCTURAL DESIGN DRAWINGS
iii. INDIVIDUAL TRUSS PROFILES THAT SHOW CORRECT LOADING, SPACING, MAXIMUM DEFLECTIONS, MEMBER FORCES, DIMENSIONS, LUMBER GRADE AND SPECIES, AND REACTION/UPLIFT FORCES.
f. STEEL FOR CONNECTOR PLATES SHALL MEET OR EXCEED ASTM A446- "SPECIFICATIONS FOR SHEET STEEL, ZINC COATED BY THE HOT-DIPPED PROCESS"
g. TRUSSES SHALL BE FABRICATED IN COMPLIANCE WITH REQUIREMENTS IN NDSMPCWTC, TPI
h. TRUSSES SHALL BE HANDLED DURING FABRICATION, DELIVERY AND AT JOB SITE SO AS NOT TO BE SUBJECTED TO EXCESSIVE LATERAL BENDING. ERECTION SHALL BE IN ACCORDANCE WITH BCS1-2006. TRUSSES MUST BE SET AND SECURED LEVEL AND PLUMB, AND IN CORRECT LOCATION. CUTTING AND ALTERING OF TRUSSES IS NOT PERMITTED.
i. BRACE TRUSSES SUFFICIENTLY DURING ERECTION TO PREVENT TOPPLING OR DOMINOING. INSTALL ALL BRACING BEFORE PLACING CONCENTRATED LOADS ON TRUSSES.
j. MANUFACTURER SHALL SUPPLY ALL REQUIRED HANGARS, HOLD DOWN STRAPS, SHEAR PANELS, CRIPPLES AND OTHER SPECIAL HARDWARE.
k. ROOF TRUSS LIVE LOAD DEFLECTION SHALL NOT EXCEED L/360 UP TO A MAXIMUM OF 0.8". TOTAL DEFLECTION SHALL BE LIMITED TO L/240. A MINIMUM OF (1) SIMPSON H2.5A OR EQUIVALENT HURRICANE CLIP WLL BE REQUIRED AT EACH STRUSS BEARING POINT. GIRDER TRUSSES SUPPORING OTHER ROOF TRUSSES SHALL BE ANCHORED AT EACH BEARING POINT WITH A SIMPSON "H6" TIE DOWN OR APPROVED EQUIVALENT. ADDITIONAL UPLIFT FORCE RESISTANCE WILL BE DETERMINED AT THE TIME OF ROOF TRUSS SHOP DRAWING REVIEW
l. TRUSS DESIGNER SHALL DESIGN FOR LOADING FROM SPRINKLER HANGARS. CONTRACTOR TO COORDINATE SPRINKLER PIPE HANGER SPACING AND INSTALLATION.

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PROJECT

ONE WAVERLY

1 WAVERLY ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE ROXBURY, MASSACHUSETTS

Structural Engineer:

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Project North:

COMMONWEALTH OF MASSACHUSETTS
RACHID J. FARAH
STRUCTURAL
No. 45180
REGISTERED PROFESSIONAL ENGINEER

NUMBER	DATE	DESCRIPTION
REVISIONS		

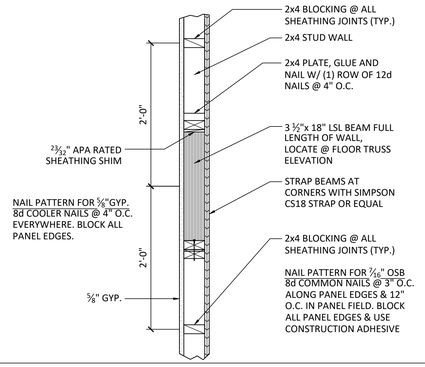
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DATE: 08/19/2024

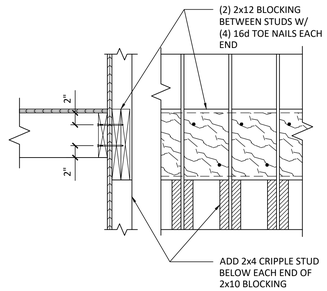
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STRUCTURAL NOTES AND WOOD SCHEDULES

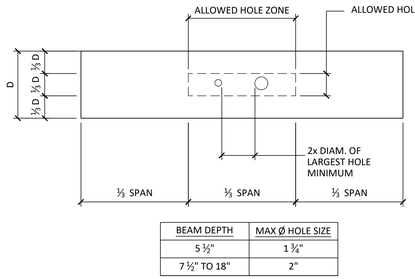
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SECTION @ 2-STORY WALL D4
1"=1'-0"



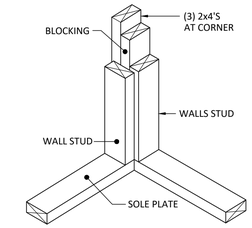
MID-HEIGHT STAIR LANDING D3
1"=1'-0"



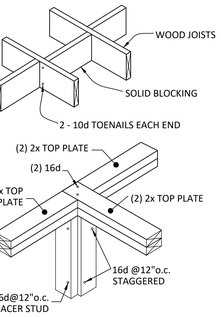
BEAM DEPTH	MAX Ø HOLE SIZE
5 ½"	1 ¾"
7 ½" TO 18"	2"

GENERAL NOTES:
1. DIAGRAM IS FOR UNIFORMLY LOADED BEAM ONLY.
2. RECTANGULAR HOLES ARE NOT ALLOWED.

ALLOWABLE HOLE GUIDE FOR JOIST OR BEAM D2
3/4" = 1'-0"



DETAIL @ CORNER STUDS D1
NTS



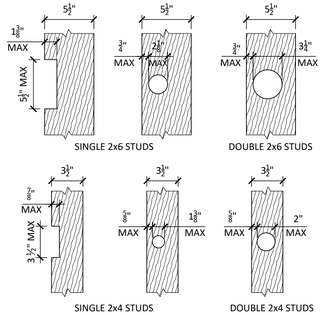
TOP PLATE CONNECTION & BLOCKING DETAIL C4
NTS

2015 INTERNATIONAL BUILDING CODE

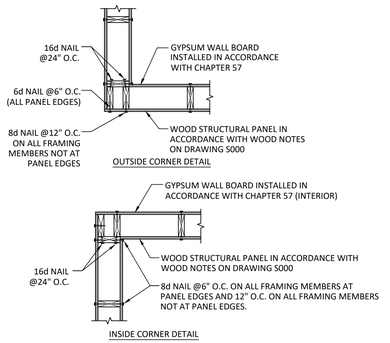
SECTION 2308.9.10 CUTTING & NOTCHING
IN EXTERIOR WALLS & BEARING PARTITIONS, ANY WOOD STUD IS PERMITTED TO BE CUT OR NOTCHED TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. CUTTING OR NOTCHING OF STUDS TO A DEPTH NOT GREATER THAN 40 PERCENT OF THE WIDTH OF THE STUD IS PERMITTED IN NON-BEARING PARTITIONS SUPPORTING NO LOADS OTHER THAN THE WEIGHT OF THE PARTITION.

SECTION 2308.9.11 BORED HOLES
A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH IS PERMITTED TO BE BORED IN ANY WOOD STUD. BORED HOLES NOT GREATER THAN 60 PERCENT OF THE WIDTH OF THE ARE PERMITTED IN NON-BEARING PARTITIONS OR IN ANY WALL WHERE EACH BORED STUD IS DOUBLED, PROVIDE NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLED STUDS ARE BORED.
IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8" TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF STUD AS A CUT OR NOTCH.

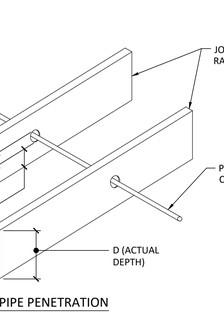
IBC NOTES ON STUD NOTCHING & BORING C3
NTS



ALLOWABLE STUD NOTCH & BORINGS C2
NTS

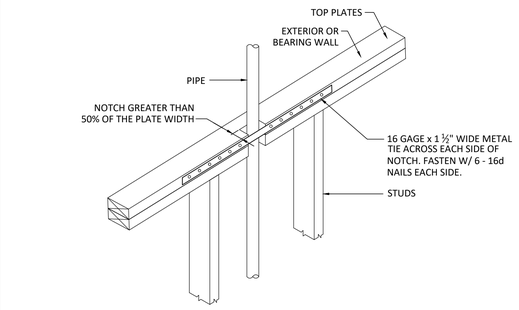


EXTERIOR CORNER FRAMING DETAILS C1
NTS

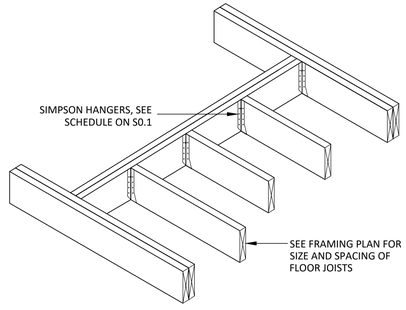


PIPE PENETRATION

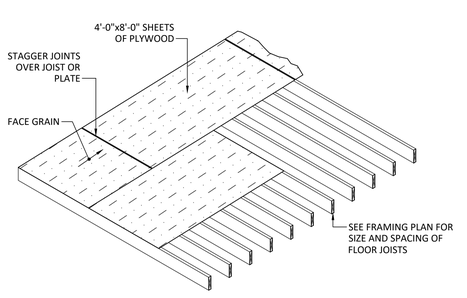
PIPE PENETRATION DETAILS B4
1/2" = 1'-0"



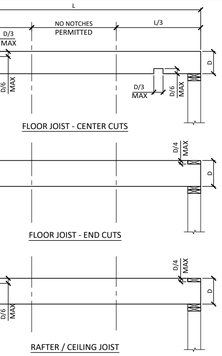
TYPICAL TOP PLATE NOTCH DETAIL AT PIPE B3
NTS



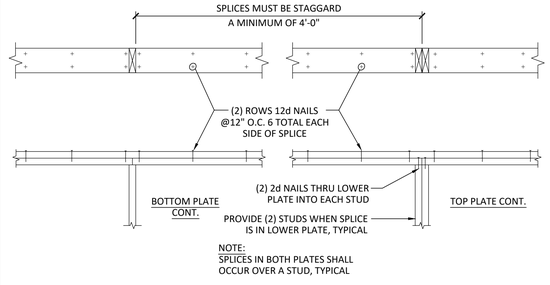
FLUSH HEADER FRAMING B2
NTS



SHEATHING PLACEMENT DETAIL B1
NTS

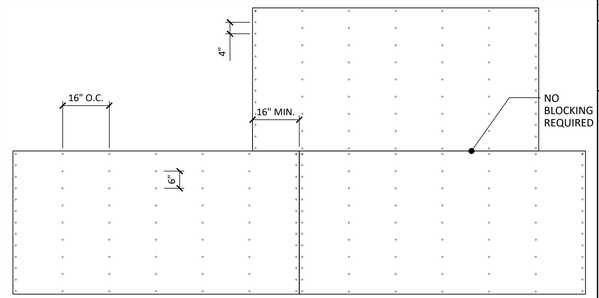


WOOD PENETRATION DETAILS A4
1/2" = 1'-0"



TYPICAL TOP PLATE SPLICE DETAIL A3
NTS

NOT USED A2



NOTES:
1. ALL EXTERIOR SHEATHING (U.N.O.) MAY BE INSTALLED HORIZONTALLY WITH A MINIMUM 16" SEPARATION BETWEEN VERTICAL JOINTS.
2. APPLY 7/16" APA SHEATHING (CDX PLYWOOD OR OSB) AND FASTEN WITH 8d NAILS, 4" O.C. ALONG VERTICAL EDGES AND 6" O.C. IN FIELD.
3. THIS SHEATHING APPLICATION DETAIL MEETS ALL SHEAR WALL REQUIREMENTS UNLESS SPECIFICALLY OTHERWISE NOTED ON PLAN.

EXTERIOR SHEATHING APPLICATION A1
NTS

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PROJECT

ONE WAVERLY

1 WAVERLY ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

Structural Engineer:

R J Farah Engineering

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Project North:

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RACHID J. FARAH
STRUCTURAL
No. 45180
REGISTERED PROFESSIONAL ENGINEER

NUMBER	DATE	DESCRIPTION
REVISIONS		

ISSUED FOR: 75% SUBMISSION

DATE: 08/19/2024

SHEET TITLE

TYPICAL WOOD SECTIONS DETAILS

SCALE: N.T.S.	DRAWING NO.
DATE:	S0.2
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	

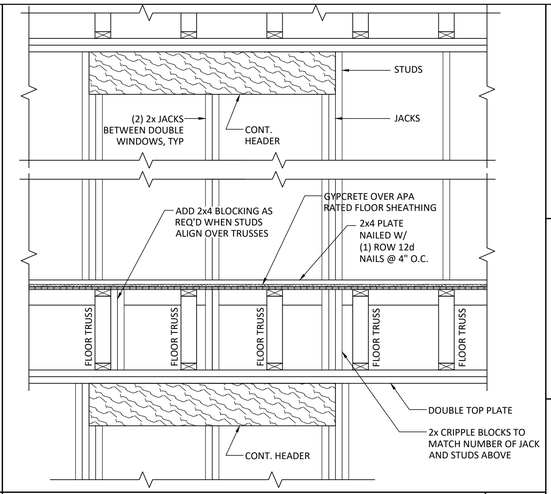
NOT USED C4

NOT USED C3

NOT USED C2

TYPICAL HEADER FRAMING C1

3/4" = 1'-0"

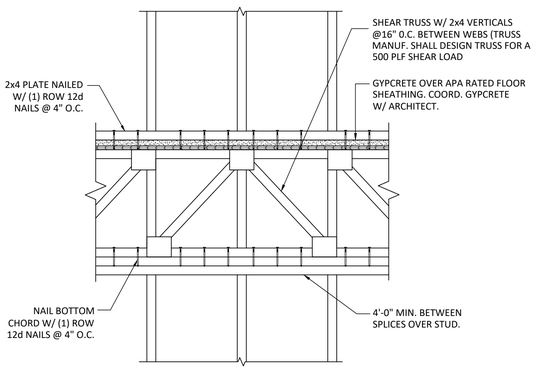


NOT USED B4

NOT USED B3

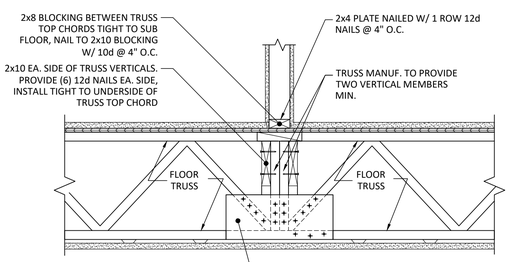
CONT. BEARING SHEAR TRUSS B2

1" = 1'-0"

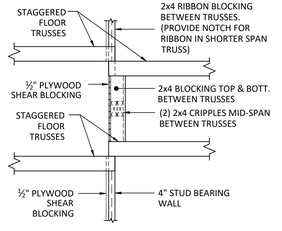


TYPICAL OFFSET BEARING CONDITION B1

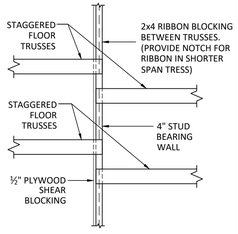
1" = 1'-0"



NOT USED B4



STAGGERED TRUSS

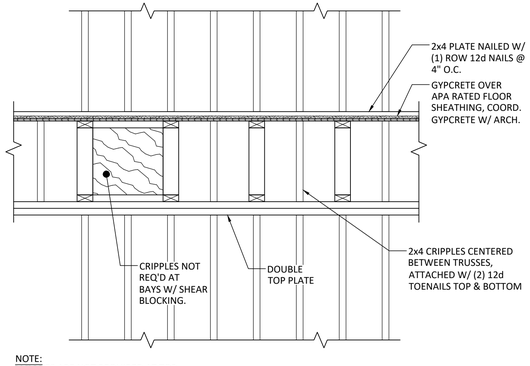


OFFSET TRUSS

OFFSET TRUSS CONDITION A4

NTS

NOT USED B3



NOTE:
CRIPPLES ARE NOT REQUIRED AT TOP FLOOR TRUSS PLENUM UNLESS ROOF TRUSSES BEAR ON WALL ABOVE.

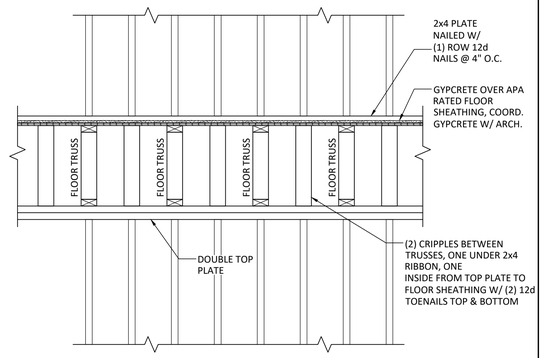
INTERIOR BEARING WALLS

TYPICAL CRIPPLE DETAIL A3

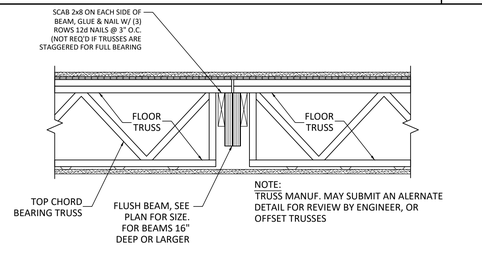
3/4" = 1'-0"

TYPICAL CRIPPLE DETAIL A2

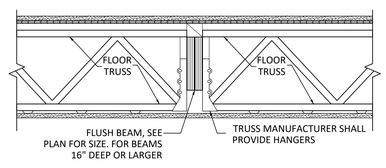
3/4" = 1'-0"



NOTE:
CRIPPLES ARE NOT REQUIRED AT TOP FLOOR TRUSS PLENUM UNLESS ROOF TRUSSES BEAR ON WALL ABOVE.



TOP CHORD BEARING



BOTTOM CHORD BEARING

TYPICAL FLUSH BEAM DETAIL A1

3/4" = 1'-0"

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NUMBER	DATE	DESCRIPTION
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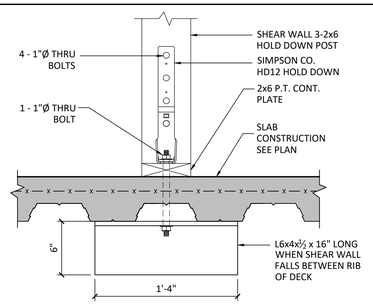
ISSUED FOR: 75% SUBMISSION

DATE: 08/19/2024

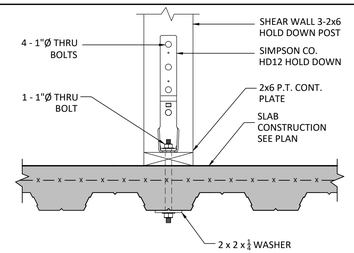
SHEET TITLE

TYPICAL TRUSS, BEAM AND WALL DETAILS

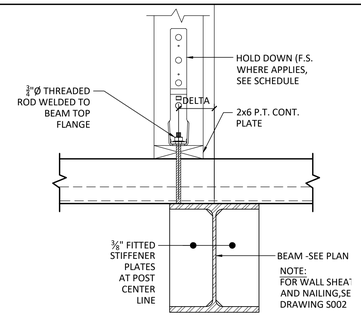
SCALE:	DRAWING NO.
DATE:	S0.3
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	



DETAIL BETWEEN DECK RIBS @ COMPOSITE SLAB



DETAIL AT DECK RIBS @ COMPOSITE SLAB



TYPICAL HOLD DOWN DETAIL AT STEEL BEAM

TYPICAL HOLD DOWN DETAILS

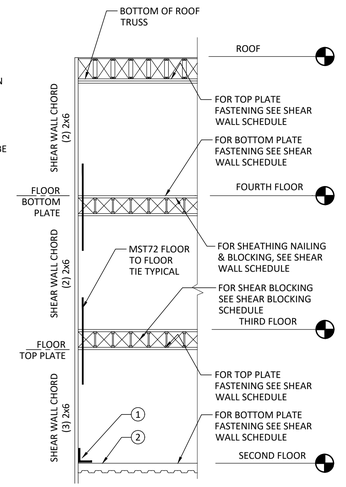
SCALE: 1 1/2" = 1'-0"

WOOD SHEAR WALL & HOLD DOWN SCHEDULE					
MARK	SHEATHING TYPE	SHEATHING	JOINT NAILING	HOLDOWN	REMARKS
SW1	1/2" CDX PLYWD (32/16), ONE SIDE	BLOCKED	8d @ 4" O.C. EDGE 8d @12" O.C. FIELD	SIMPSON CO. HD12	SEE SHEAR WALL ELEVATION
SW2	1/2" CDX PLYWD (32/16), ONE SIDE	BLOCKED	8d @ 4" O.C. EDGE 8d @12" O.C. FIELD	NONE	THROUGH OUT EXTERIOR
EXTERIOR	7/16" ZIP WALL, ONE SIDE	BLOCKED	16d @ 12" O.C. EDGE	NONE	SHEAR WALL PANELS @4'-0" AND SPACED 25' O.C.

KEY NOTES:

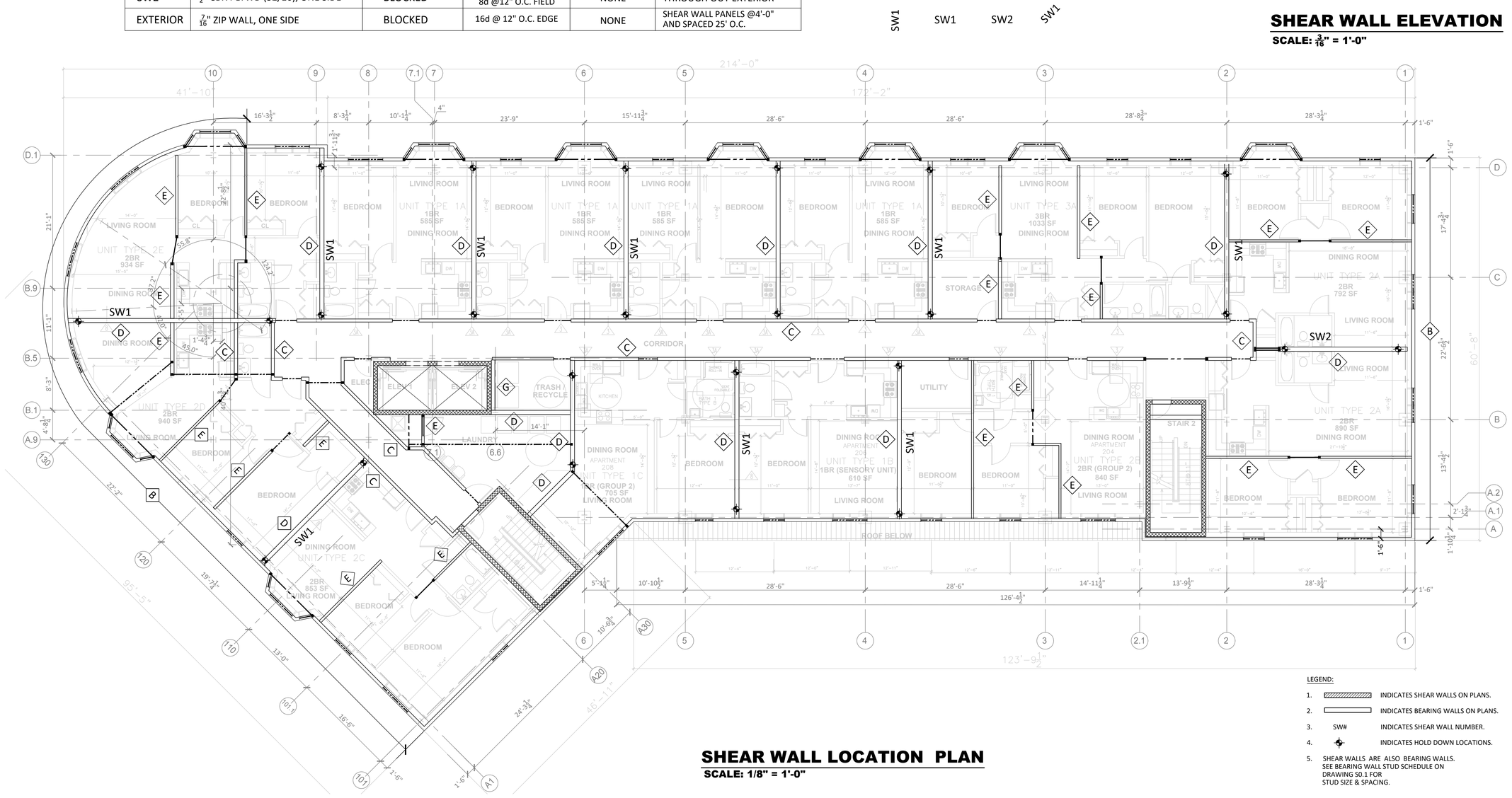
1. SIMPSON CO. HOLD DOWNS SEE PLAN FOR LOCATION & DETAILS.
2. COMPOSITE FLOOR DECK, SEE PLAN.

NOTE:
SIMPSON STRAPS & HOLD DOWNS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATIONS.



SHEAR WALL ELEVATION

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



SHEAR WALL LOCATION PLAN

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

LEGEND:

1. INDICATES SHEAR WALLS ON PLANS.
2. INDICATES BEARING WALLS ON PLANS.
3. SW# INDICATES SHEAR WALL NUMBER.
4. INDICATES HOLD DOWN LOCATIONS.
5. SHEAR WALLS ARE ALSO BEARING WALLS. SEE BEARING WALL STUD SCHEDULE ON DRAWING S0.1 FOR STUD SIZE & SPACING.

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REGISTERED PROFESSIONAL ENGINEER

NUMBER	DATE	DESCRIPTION
REVISIONS		

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SHEET TITLE

SHEAR WALL LOCATION PLAN & DETAILS

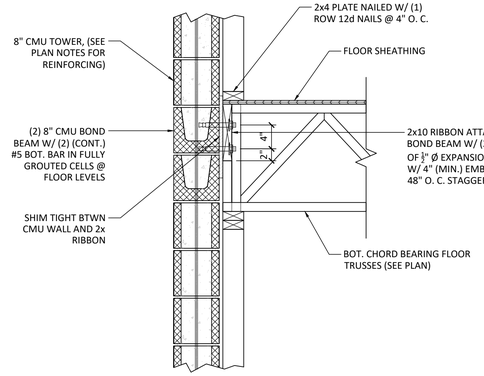
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CHECKED BY: RJF	
FILE NO.: R23015	

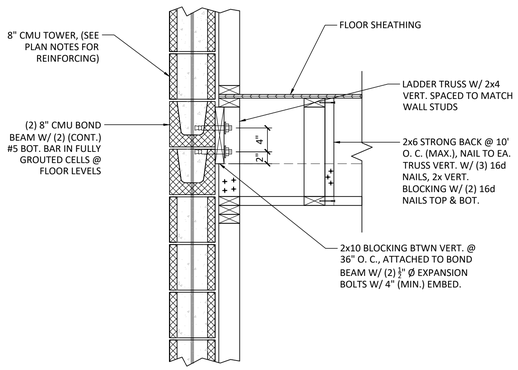
NOT USED C4

NOT USED C3

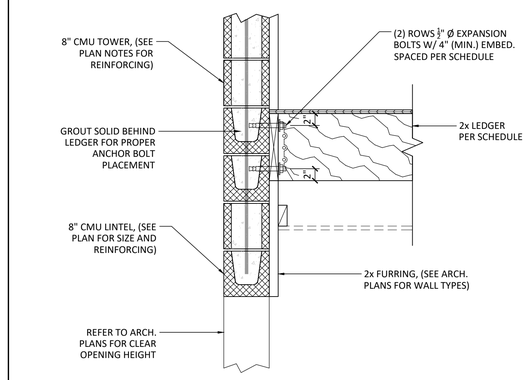
NOT USED C2

FLOOR TRUSS @ CMU WALL C1
TRUSSES PERPENDICULAR TO WALL 1" = 1'-0"

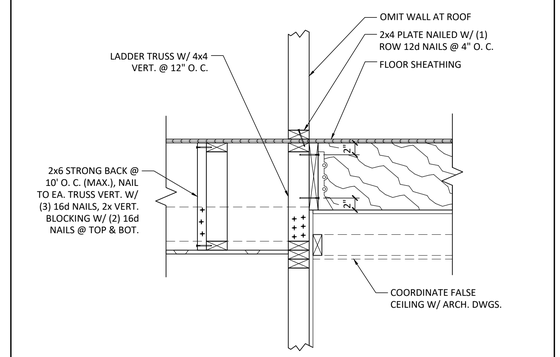




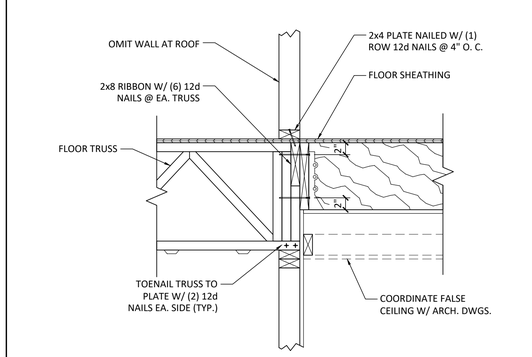
FLOOR TRUSS @ CMU WALL B4
TRUSSES PARALLEL TO WALL 1" = 1'-0"



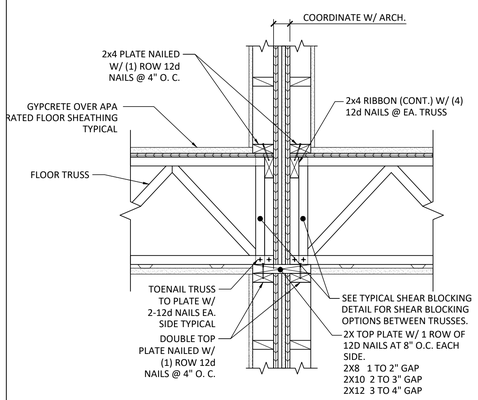
FLOOR JOIST @ CMU WALL B3
LEDGER ATTACHMENT 1" = 1'-0"



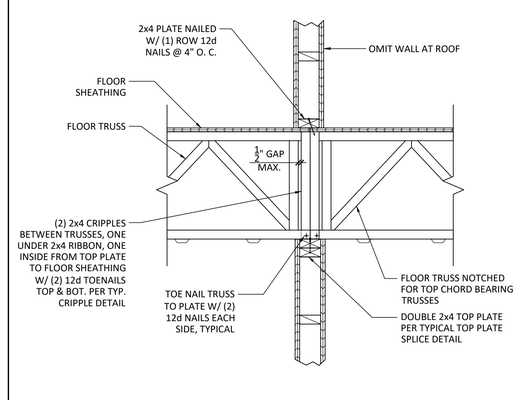
TYPICAL CORRIDOR LEDGER B2
TRUSSES PARALLEL TO WALL 1" = 1'-0"



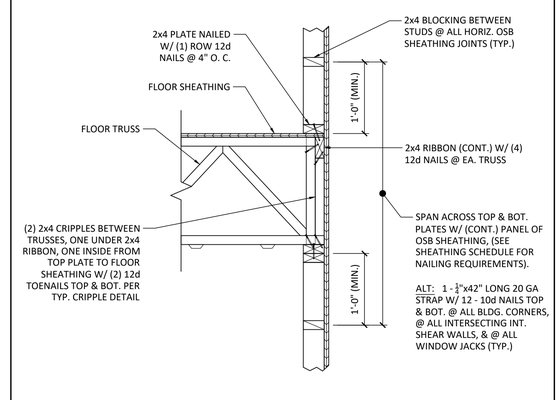
TYPICAL CORRIDOR LEDGER B1
TRUSSES PERPENDICULAR TO WALL 1" = 1'-0"



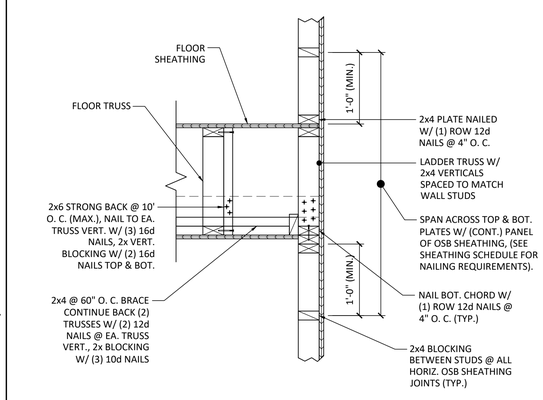
TYPICAL 2 HOUR SEPERATION WALL A4
1" = 1'-0"



INTERIOR LOAD BEARING WALL A3
1" = 1'-0"



TYPICAL OSB EXTERIOR WALL A2
TRUSSES PERPENDICULAR TO WALL 1" = 1'-0"



TYPICAL OSB EXTERIOR WALL A1
TRUSSES PARALLEL TO WALL 1" = 1'-0"

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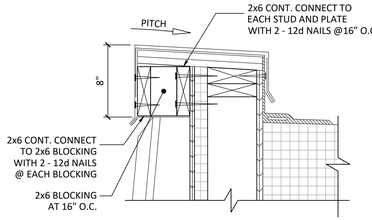
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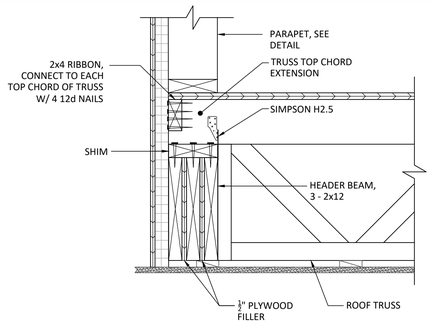
SHEET TITLE

TYPICAL FLOOR FRAMING SECTIONS AND DETAILS

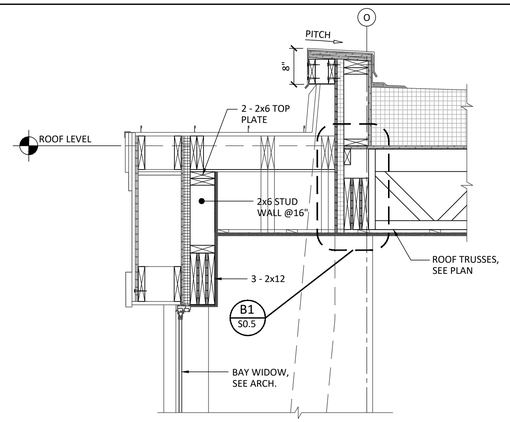
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FILE NO.: R23015	



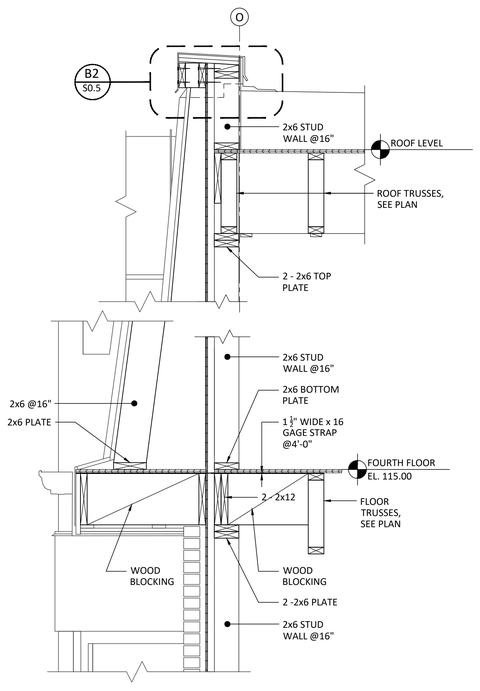
LARGE SCALE DETAIL B2
1 1/2" = 1'-0"



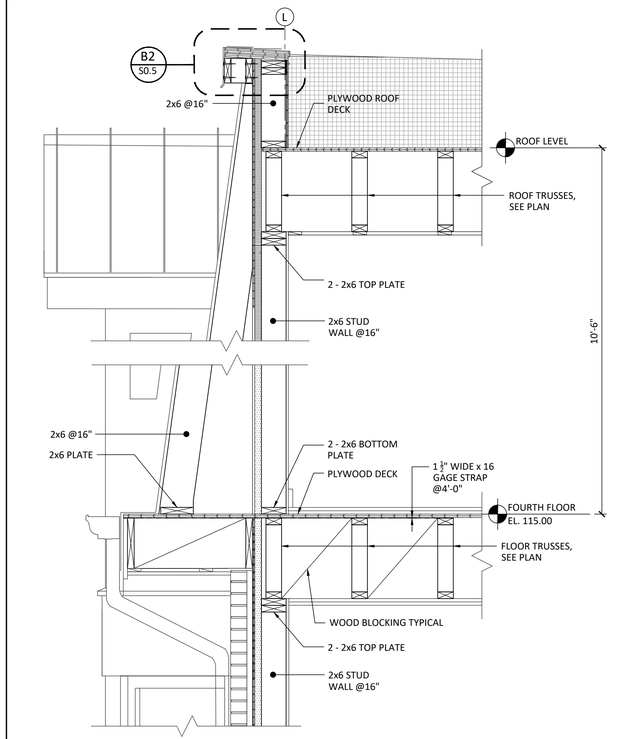
LARGE SCALE DETAIL B1
1 1/2" = 1'-0"



TYPICAL ROOF SECTION AT BAY WINDOW A3
3/4" = 1'-0"



TYPICAL SECTION AT MANSARD A2
3/4" = 1'-0"



SECTION A1
3/4" = 1'-0"

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REGISTERED
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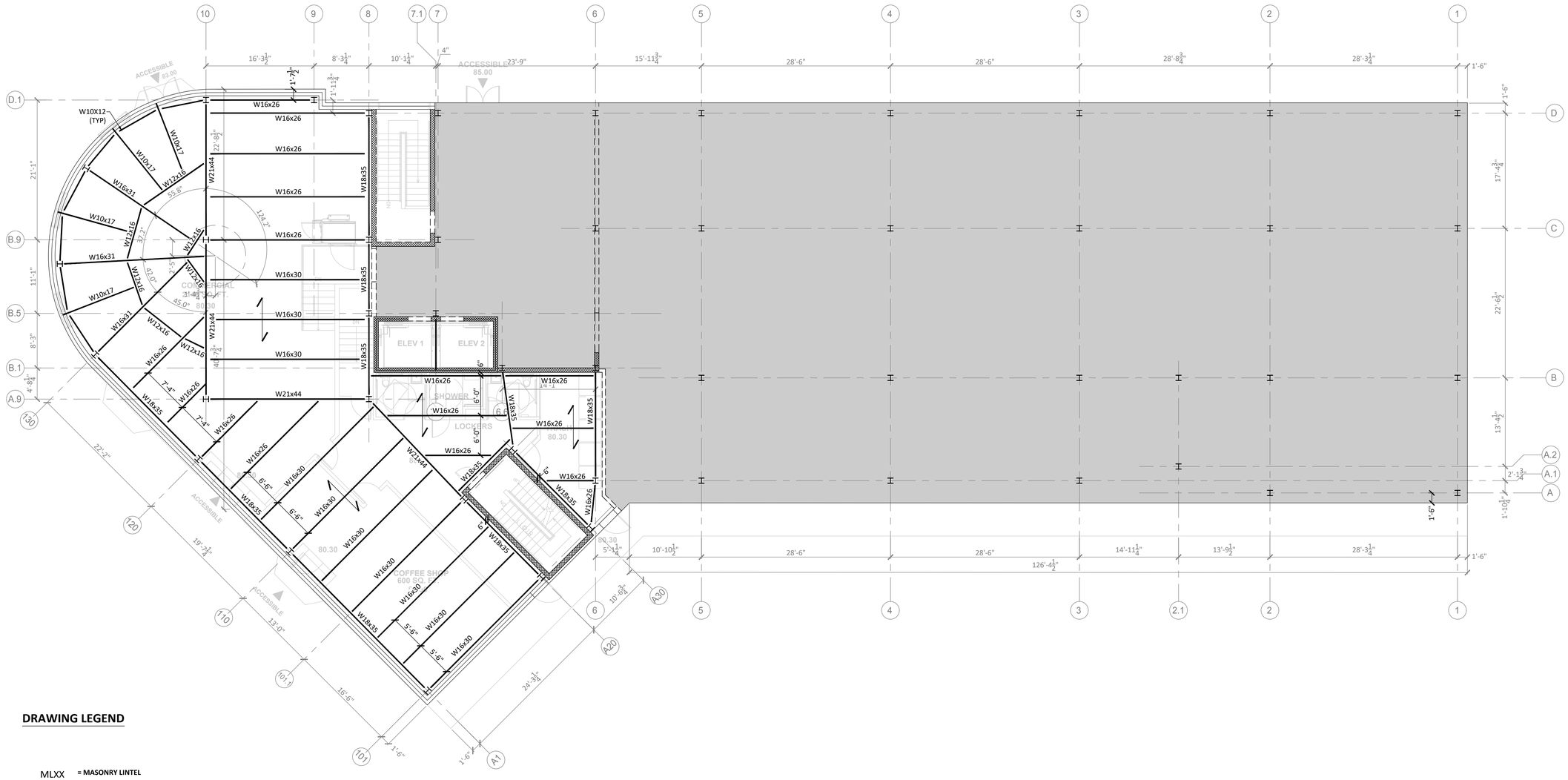
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SHEET TITLE

WOOD SECTIONS DETAILS

SCALE:	DRAWING NO.
DATE:	S0.6
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	



DRAWING LEGEND

MLXX	= MASONRY LINTEL
EOD	= EDGE OF DECK
	= DECK DIRECTION
HSS8	= HSS8X6X3/8 LLV SPACED 10' ALONG HIGHT OF ELEVATOR SHAFT (COORDINATE WITH ELEVATOR MANUFACTURER)
HSS12	= HSS12X6X1/2 CURVED

NOTE "A"
3 ¼" LIGHT WEIGHT CONCRETE SLAB ON 3" (VLI) x 20 GAUGE METAL DECK, REINF. W/6x6~W2.9xW2.9
W.W.F. (TOTAL DEPTH = 6 ¼")

PLAN NOTES

1. SHEAR STUDS SHALL BE 3/4 " DIAM. X 6" LONG SPACED 12" O/C U.N.O
2. USE SHEAR STUDS ONLY ON BEAMS THAT ARE LONGER THAN 11'

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PROJECT

ONE WAVERLY

1 WAVERLY ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

Structural Engineer:

R J Farah Engineering

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Project North:

RACHID J FARAH STRUCTURAL No. 45190 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

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REVISIONS		

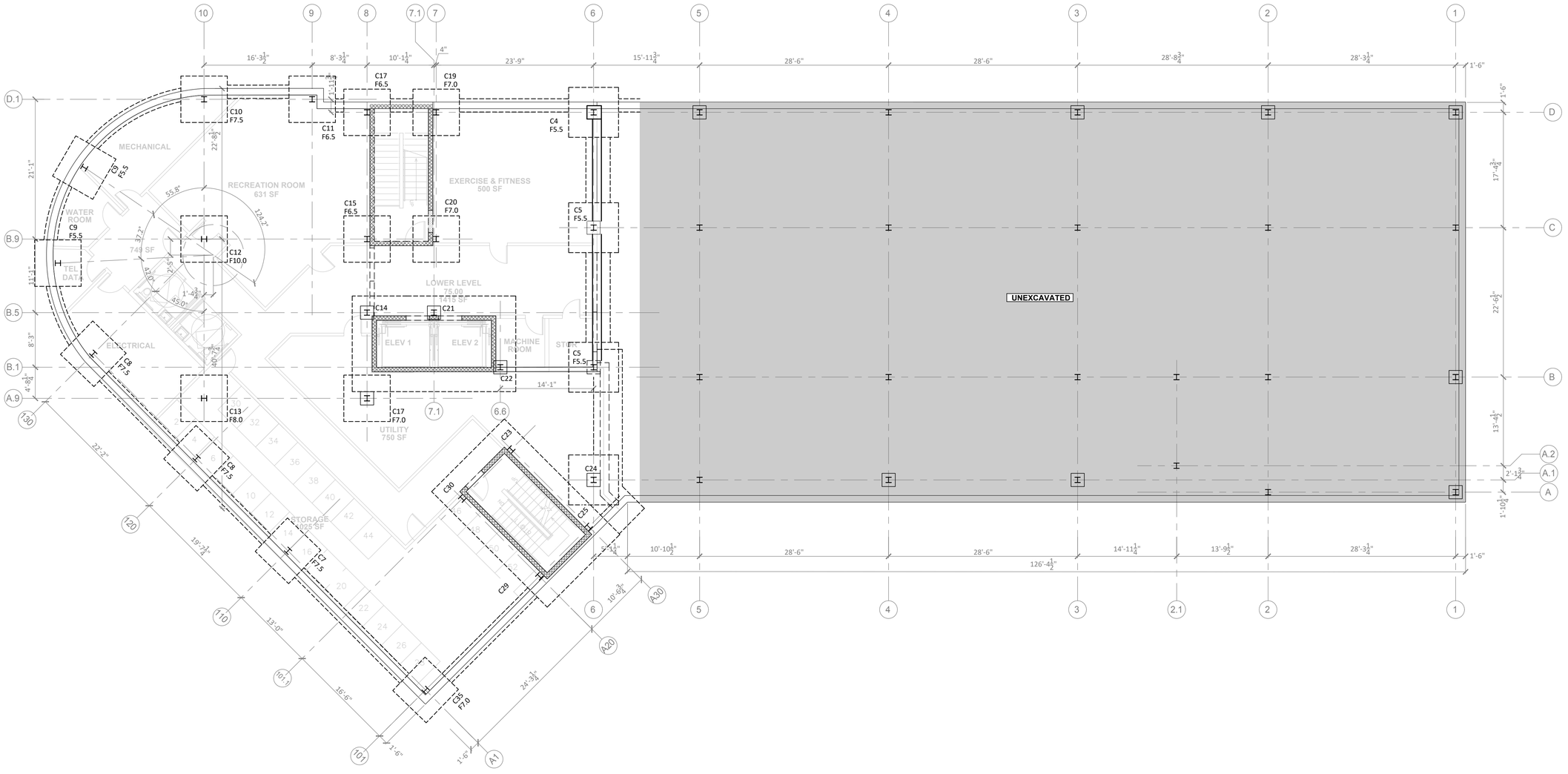
ISSUED FOR: 75% SUBMISSION

DATE: 08/19/2024

SHEET TITLE

RETAIL LEVEL FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"	DRAWING NO.
DATE: 07/28/23	S1.0A
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	



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COMMONWEALTH OF MASSACHUSETTS
RACHID J FARAH
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PROFESSIONAL ENGINEER

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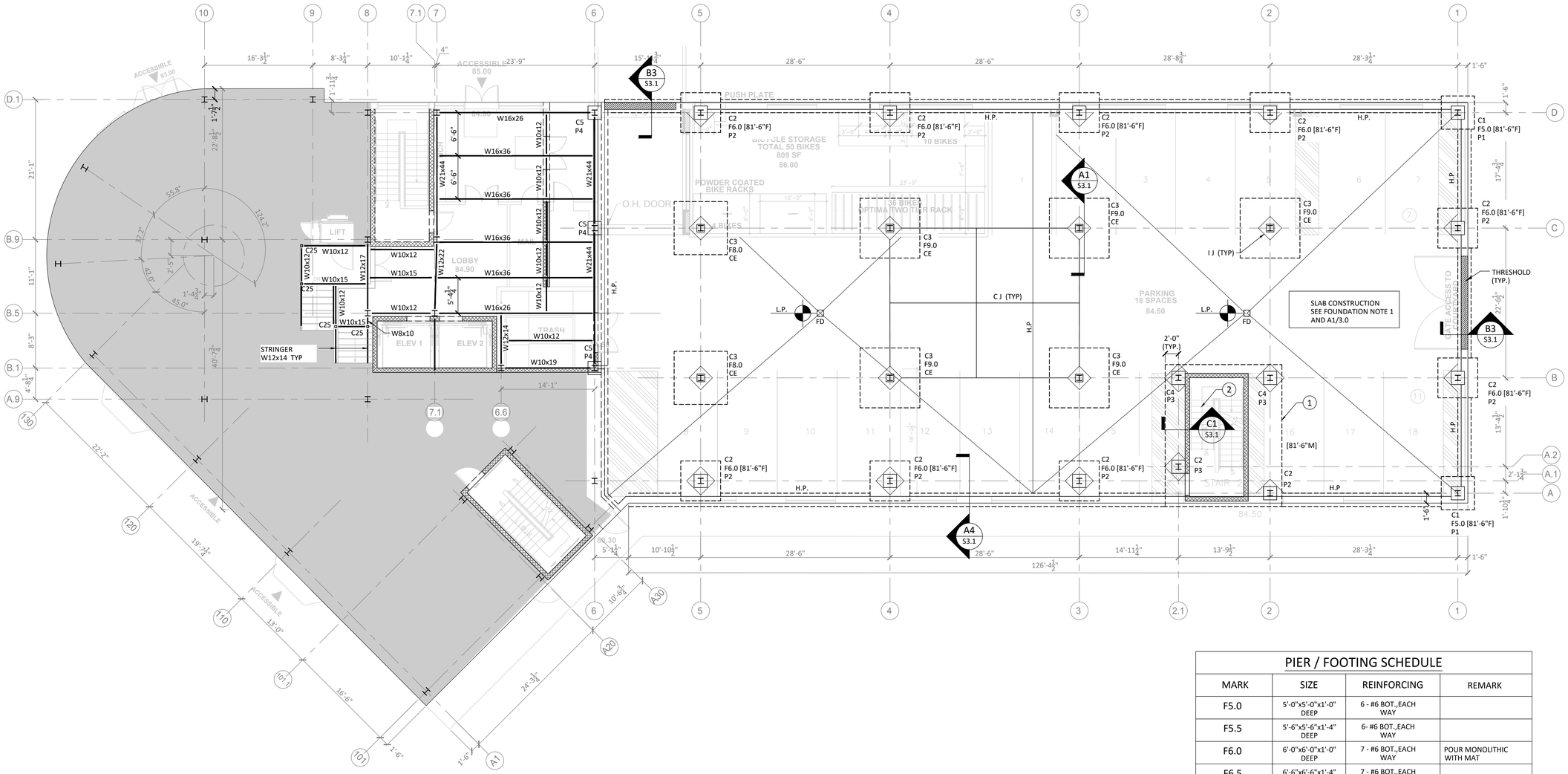
ISSUED FOR: 75% SUBMISSION

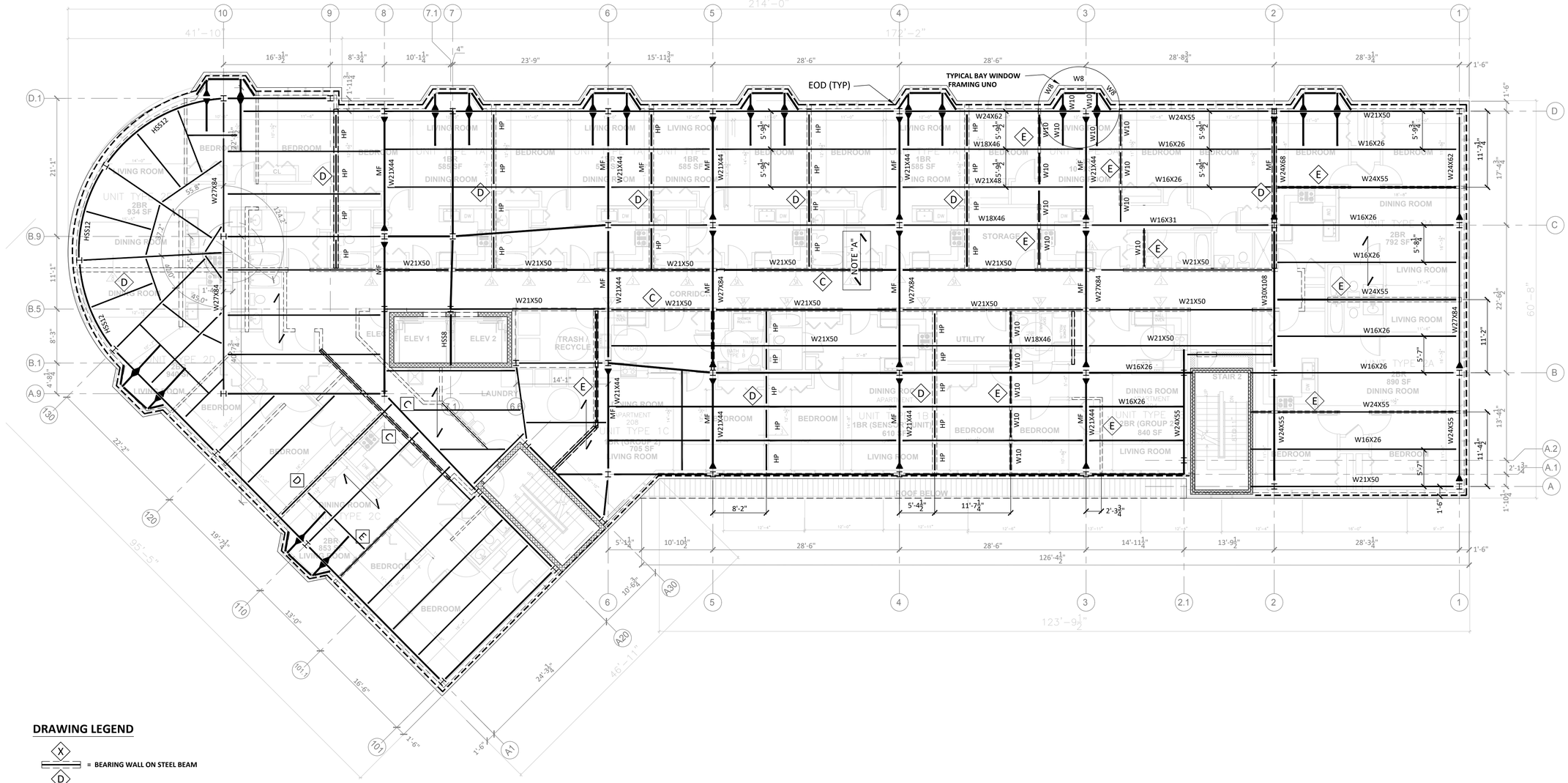
DATE: 08/19/2024

SHEET TITLE

BASEMENT LEVEL FOUNDATION PLAN

SCALE: 1/8" = 1'-0"	DRAWING NO.
DATE: 07/28/23	S1.0
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	


B3
S3.1
A1
S3.1
A4
S3.1
C1
S3.1
PUSH PLATE
BICYCLE STORAGE
TOTAL 50 BIKES
809 SF
86.00
10 BIKES
POWDER COATED
BIKE RACKS
36 BIKES
OPTIMATIVO UTER RACK
O.H. DOOR
LIFT
LOBBY
84.90
ELEV 1
ELEV 2
TRASH
STAIR 1
STAIR 2
PARKING
18 SPACES
84.50
SLAB CONSTRUCTION
SEE FOUNDATION NOTE 1
AND A1/3.0
THRESHOLD
(TYP.)
ACCESS TO
GROUND LEVEL
STRINGER
W12x14 TYP
C2
F6.0 [81'-6"F]
P2
C3
F8.0
CE
C3
F9.0
CE
C1
F5.0 [81'-6"F]
P1
C4
P3
C5
P4
[81'-6"M]
H.P.
L.P.
FD
C J (TYP)
I J (TYP)
2'-0"
(TYP.)
ACCESSIBLE
85.00
ACCESSIBLE
83.00
ACCESSIBLE
ACCESSIBLE
84.30
84.30
84.30



DRAWING LEGEND

- X = BEARING WALL ON STEEL BEAM
- D = DBL WALL BETWEEN UNITS (BEARING AND SHEAR WALL)
- HP = HP10X42
- W10 = W10X12
- = MOMENT CONNECTION
- MF = MOMENT FRAME
- MLXX = MASONRY LINTEL
- EOD = EDGE OF DECK
- = DECK DIRECTION
- HSS8 = HSS8X6X3/8 LLV SPACED 10' ALONG HIGHT OF ELEVATOR SHAFT (COORDINATE WITH ELEVATOR MANUFACTURER)
- HSS12 = HSS12X6X1/2 CURVED

NOTE "A"
4 ¼" LIGHT WEIGHT CONCRETE SLAB ON 3" (VLI) x 20 GAUGE METAL DECK, REINF. W/6x6~W2.9xW2.9 W.W.F. (TOTAL DEPTH = 6 ¼")

NOTE :
G.C. TO COORDINATE LOCATION OF ALL BEAMS SUPPORTING WOOD LOAD BEARING WALL WITH THE LATEST ARCHITECTURAL DRAWINGS.

PLAN NOTES

1. SHEAR STUDS SHALL BE 3/4 " DIAM. X 6" LONG SPACED 12" O/C U.N.O
2. USE SHEAR STUDS ONLY ON BEAMS THAT ARE LONGER THAN 11'

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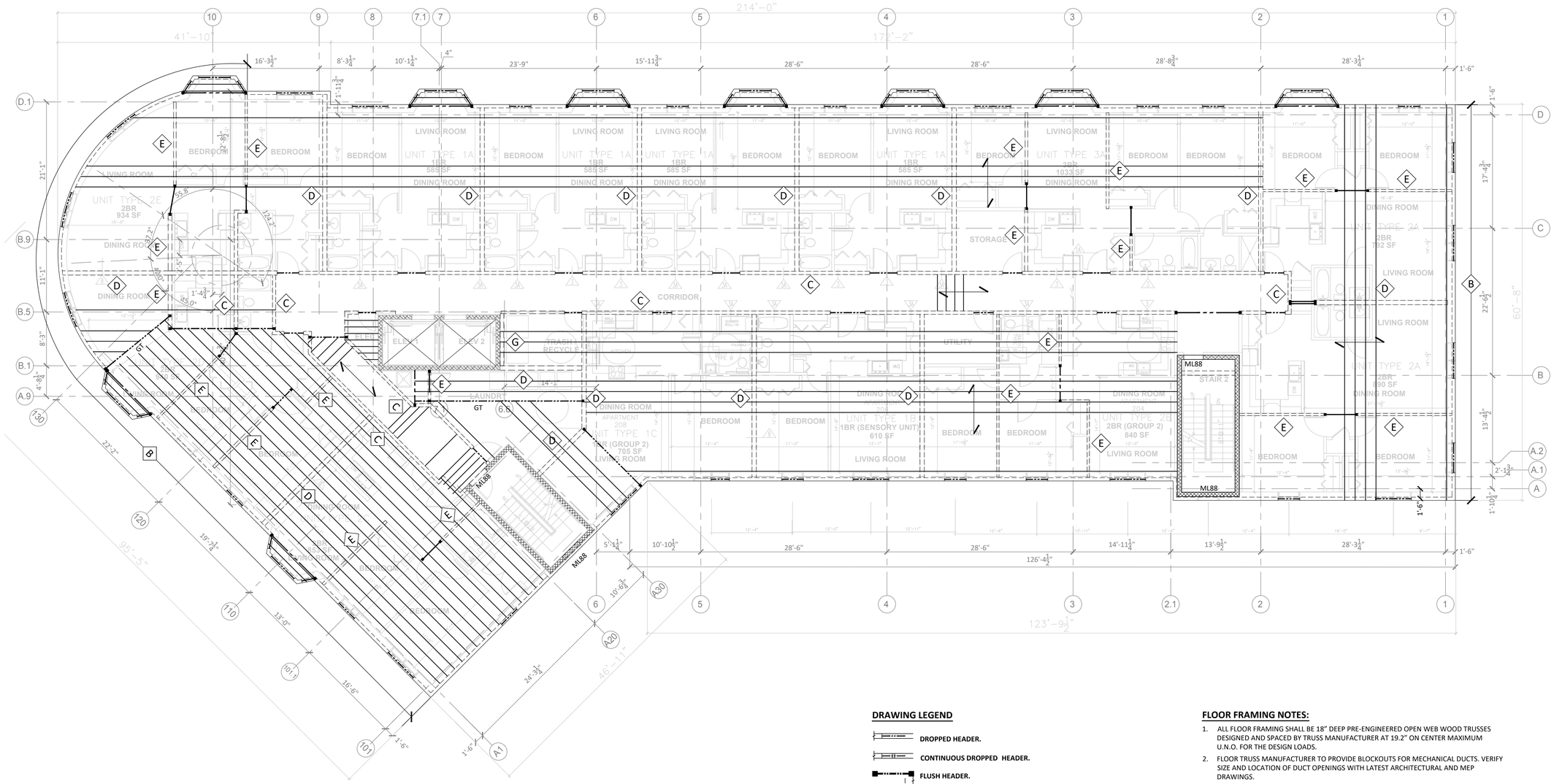
SHEET TITLE

SECOND FLOOR FRAMING PLAN

SCALE: 1/8" = 1'-0"
DATE: 07/28/23
DRAWN BY: LS
CHECKED BY: RJF
FILE NO.: R23015

DRAWING NO.

S1.2



DRAWING LEGEND

- **DROPPED HEADER.**
- **CONTINUOUS DROPPED HEADER.**
- **FLUSH HEADER.**
- A — **INDICATES BEARING WALL TYPE, SEE SCHEDULE DRAWING S0.1.**
- ML88 — **INDICATES 8"x8" CMU LINTEL W/ 2 - #5 BARS BOTTOM.**
- **INDICATES 4x4 PSL POST IN 4" WALL & 6x6 PSL IN 6" WALL.**
- **INDICATES DIRECTION OF DECK SPAN.**
- GT — **= GIRDER TRUSS**

FLOOR FRAMING NOTES:

1. ALL FLOOR FRAMING SHALL BE 18" DEEP PRE-ENGINEERED OPEN WEB WOOD TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 19.2" ON CENTER MAXIMUM U.N.O. FOR THE DESIGN LOADS.
2. FLOOR TRUSS MANUFACTURER TO PROVIDE BLOCKOUTS FOR MECHANICAL DUCTS. VERIFY SIZE AND LOCATION OF DUCT OPENINGS WITH LATEST ARCHITECTURAL AND MEP DRAWINGS.
3. ALL TRUSS TO TRUSS CONNECTIONS TO BE SPECIFIED BY TRUSS MANUFACTURER.
4. ADD EXTRA FLOOR TRUSS UNDER FULL HEIGHT WALLS WHERE WALL EXTENDS MORE THAN HALF THE SPAN OF THE TRUSS.
5. PROVIDE ACE4 OR ACE6 FOR POST TO BEAM CONNECTION INVERT CONNECTOR FOR CONNECTION TO POST ABOVE.
6. ALL EXTERIOR WALLS TO TYPE "A" U.N.O.
7. AT ALL INTERIOR BEARING WALLS ATTACH ALL BOTTOM PLATES TO SLAB WITH HILTI "ZF72P8S36" POWDER ACTUATED FASTENERS AT 12" ON CENTER MAXIMUM. PLACE FIRST ANCHOR 6" FROM END OF WALL.
8. PROVIDE (1) 2x6 STRONG BACK AT 10'-0" ON CENTER.
9. CORRIDOR FLOOR FRAMING TO BE 2x8 SPF #2 JOISTS. QUANTITY AND SPACING PER CORRIDOR JOIST SCHEDULE.
10. FLOOR DIAPHRAGM SHALL BE ¾" T&G, LONG EDGES PERPENDICULAR TO JOISTS. SEE DRAWING S000 FOR NAILING SCHEDULE.

KEY NOTES

1. FLOOR JOIST 2X? SPACED 16" O.C. U.N.O

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PROJECT

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ONE JOHN ELIOT SQUARE
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SHEET TITLE

THIRD FLOOR FRAMING PLAN

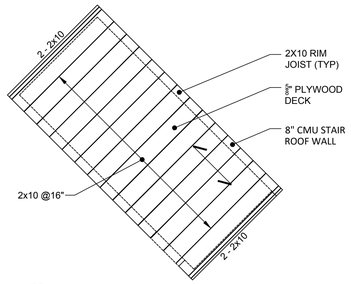
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DATE: 07/28/23	S1.3
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	

ROOF FRAMING NOTES:

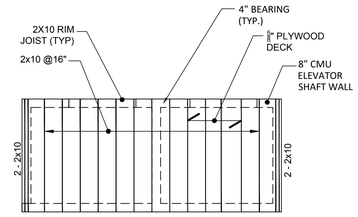
1. UNO ALL FRAMING SHALL BE PRE-ENGINEERED ROOF TRUSSES DESIGNED AND SPACED BY TRUSS MANUFACTURER AT 19.2" ON CENTER MAXIMUM FOR THE DESIGN LOADS INCLUDING ROOF TOP MECHANICAL UNITS AS REQUIRED
2. ALL ROOF TRUSS BEARING POINTS SHALL BE ATTACHED TO THE BUILDING WITH SIMPSON H2.5A HURRICANE CLIPS OR EQUIVALENT. ADDITIONAL ANCHORS MAY BE REQUIRED FOR GIRDERS
3. HOLD DOWN ANCHORS ARE REQUIRED FOR FLUSH BEAMS SUPPORTING ROOF TRUSSES AND WILL BE IDENTIFIED DURING THE SHOP DRAWINGS REVIEW. U.N.O USE H6 OR TWO SIMPSON H2.5A EACH END.
4. PROVIDE ACE4 OR ACE6 FOR POST TO BEAM CONNECTION INVERT CONNECTOR TO CONNECT TO POST ABOVE
5. UNO EXTERIOR WALLS SHALL BE TYPE "A"
6. SEE ARCHITECTURAL PLANS FOR LOCATION OF DRAFT STOPPING WHERE REQUIRED
7. TRUSS TO TRUSS CONNECTION TO BE SPECIFIED BY TRUSS MANUFACTURER.
8. SEE TYPICAL ROOF FRAMING DETAILS ON S0.3.
9. ROOF TRUSS MANUFACTURER SHALL COORDINATE ELEVATOR OVER-RUN WITH ARCHITECTURAL DRAWINGS AND ELEVATOR MANUFACTURER.

DRAWING LEGEND

- **EXTERIOR WALLS AND INTERIOR BEARING WALLS.**
- **DROPPED HEADER.**
- **CONTINUOUS DROPPED HEADER.**
- **FLUSH HEADER.**
- (X) **INDICATES BEARING WALL TYPE, SEE SCHEDULE DRAWING S0.1.**
- ML## **INDICATES 8"x8" CMU LINTEL, SEE HEADER SCHEDULE ON S0.1.**
- #-#LVL **INDICATES LVL BEAMS, SEE HEADER SCHEDULE ON SHEET S0.1.**
- ■ **INDICATES 4x4 PSL POST IN 4" WALL & 6x6 PSL IN 6" WALL UNO.**



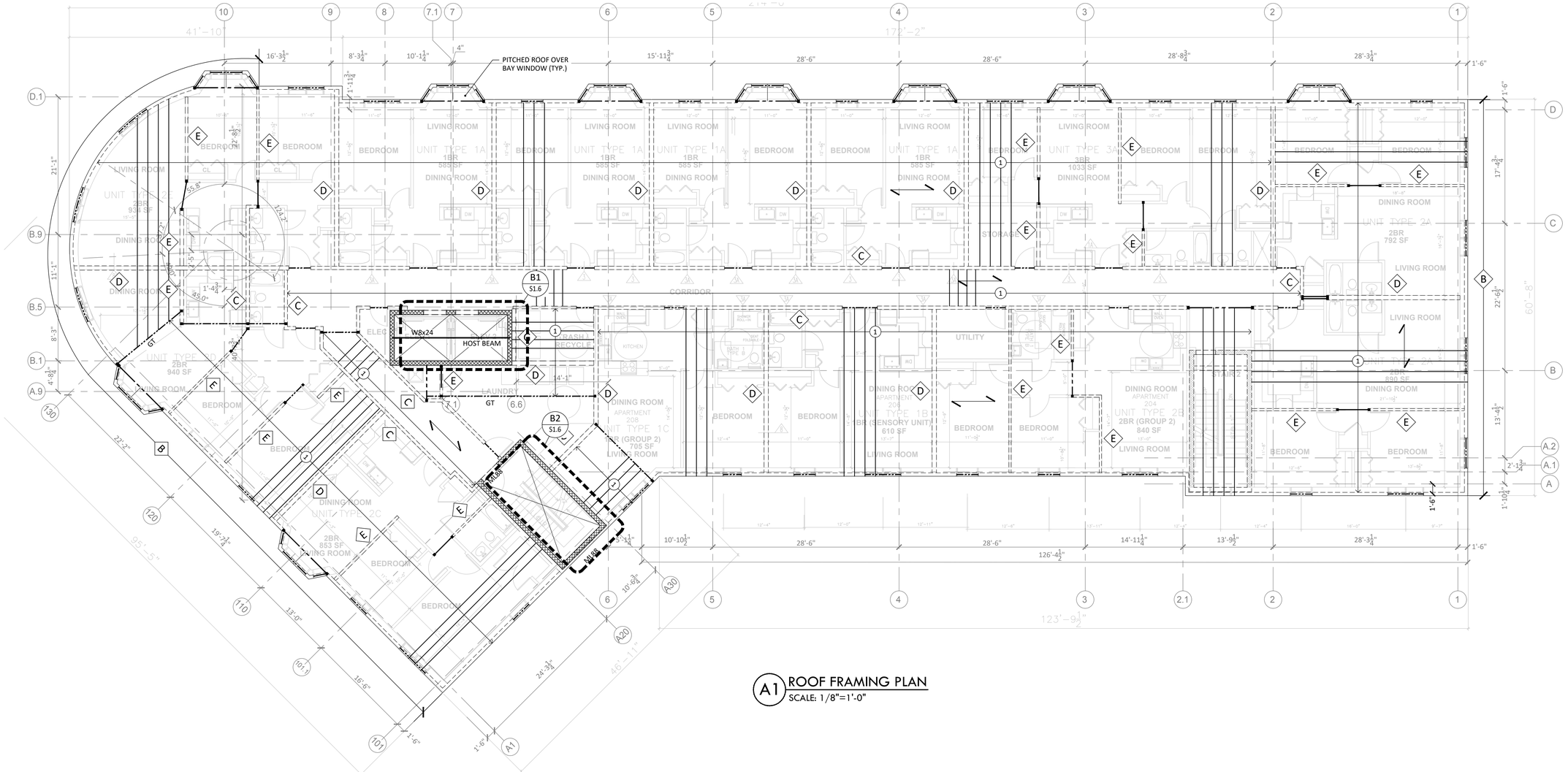
B2 STAIR ROOF FRAMING PLAN
SCALE: 3/16" = 1'-0"



B1 ELEVATOR ROOF FRAMING PLAN
SCALE: 3/16" = 1'-0"

KEY NOTES

1. TRUSS TYPE 1 - SPACED 16" O/C U.N.O.
2. TRUSS TYPE 2 - SPACED 16" O/C U.N.O.
3. CORRIDOR JOIST 2x10 @ 16" O/C
4. PROVIDE ADDITIONAL INSULATION IN HATCH AREA TO CREATE SLOPE IN ROOF SEE ARCH. DWGS.



A1 ROOF FRAMING PLAN
SCALE: 1/8"=1'-0"

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PROJECT

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RACHID J. FARAH
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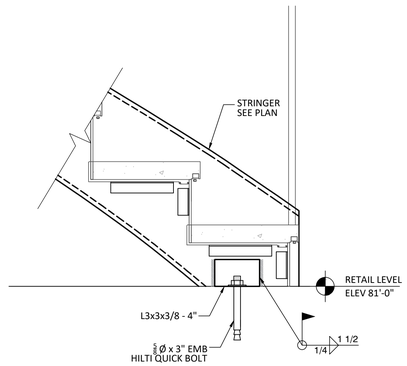
SHEET TITLE

ROOF FRAMING PLAN

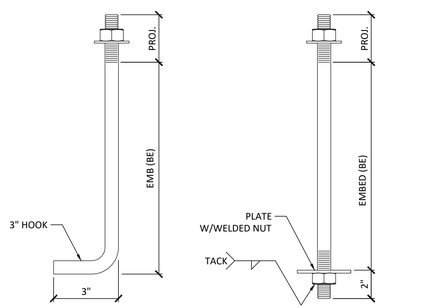
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DATE: 07/28/23	S1.6
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	

COLUMN SCHEDULE

MARK / LEVEL	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15	C16	C17	C18	C19	C20	C21	C22	C23	C24	C25
LEVEL 2 - SECOND FLOOR ELEV. 99' / LOBBY LEVEL ELEV. 85.75' / GARAGE LEVEL ELEV. 85'.0 / RETAIL LEVEL ELEV. 81.0' / BASEMENT LEVEL ELEV. 70'	W8 x 48	W8 x 48	W8 x 48	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W10 x 45	W8 x 48	HSS4X4X3/8
BOTTOM BASE PLATE ELEVATION	83'-7"	83'-7"	83'-7"	83'-7"	81'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	68'-7"	81'-1"
BASE PLATE SIZE	1"x18"x18"	1"x18"x18"	1"x18"x18"	1"x18"x18"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	1"x16"x16"	3/4" X 12X12
BASE PLATE TYPE	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	B	C
ANCHOR BOLTS	6-1"Ø	6-1"Ø	6-1"Ø	6-1"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-3/4"Ø	4-1/2"Ø

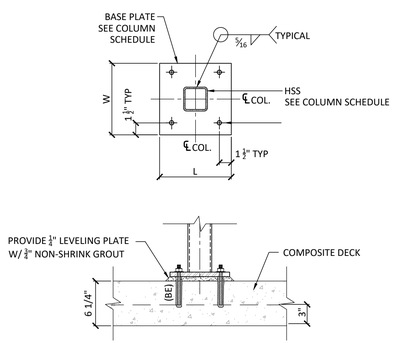


TYP STAIRL CONNECTION DETAIL N.T.S. **B1**

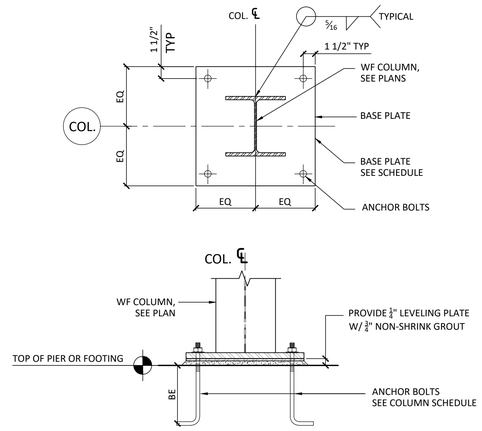


SIZE	EMBED	PROJ.	PLATE	REMARK
3/4"	12"	4 1/2"	N/A	
1"	18"	4 1/2"	4" x 4" x 5/16"	
1/2"	3"	4 1/2"	N/A	HILTI HAS-HY200

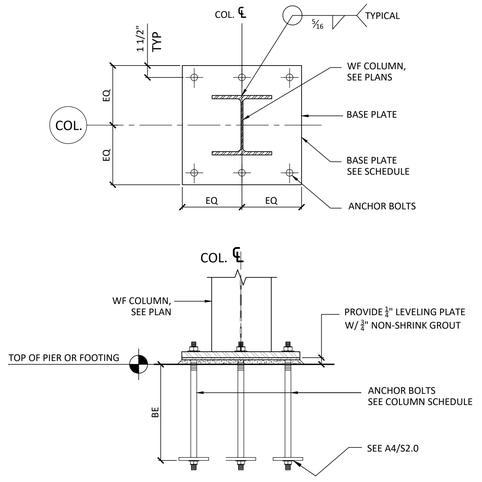
TYPICAL ANCHOR DETAIL N.T.S. **A4**



BASE PLATE TYPE C N.T.S. **A3**



BASE PLATE TYPE B N.T.S. **A2**



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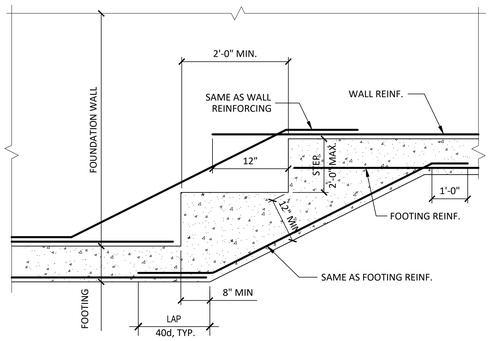
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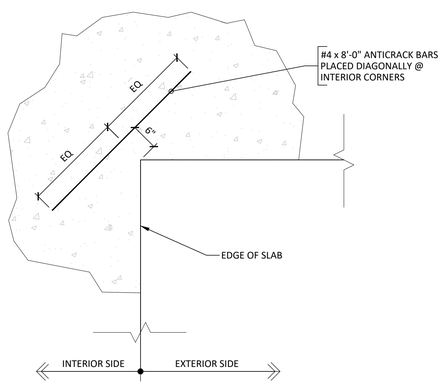
SHEET TITLE

COLUMN SCHEDULE & DETAILS

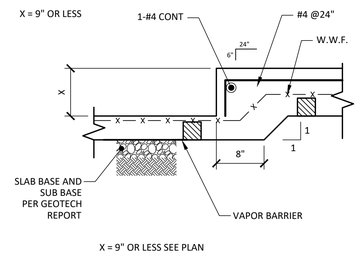
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CHECKED BY: RJF	
FILE NO.: R23015	



TYPICAL STEPPED WALL FOOTING DETAIL
1/2"=1'-0" **C4**



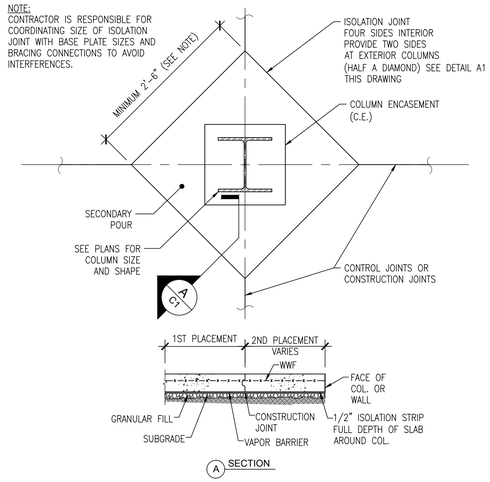
TYPICAL SLAB ON GRADE CORNER REINFORCING
3/4"=1'-0" **C3**



X = 9" OR LESS SEE PLAN

TYPICAL STEP IN SLAB
1"=1'-0" **C2**

NOTE:
CONTRACTOR IS RESPONSIBLE FOR COORDINATING SIZE OF ISOLATION JOINT WITH BASE PLATE SIZES AND BRACING CONNECTIONS TO AVOID INTERFERENCES.



TYPICAL ISOLATION JOINT DETAIL
3/4"=1'-0" **C1**

PIPE OPENNING THRU FOOTING DETAIL
1/2"=1'-0" **B4**

TYPICAL DETAIL OF PIPE THRU FOUNDATION WALL
1/2" = 1'-0" **B3**

NOTES:

1. CONCRETE WALL MAY BE POURED WITH A MAXIMUM LENGTH OF 100'-0" WITH CONTROL JOINTS @ 25'-0" O.C.
2. PVC WATERSTOP AT THE WALL JOINT LOCATION TO BE ABLE TO WITHSTAND THE HYDROSTATIC PRESSURES FROM THE CONTAINED LIQUIDS (I.E. STORAGE TANKS, CONTAINMENT PITS, TRENCHES, ETC). REFER TO DIVISION 3 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. SEAL THE BEVELED NOTCH WITH A POLYETHYLENE SEALANT FOR WALLS SUBJECT TO HYDROSTATIC PRESSURE REQUIRING CONTAINMENT OF LIQUIDS (I.E. STORAGE TANKS, TRENCHES, ETC.).

TYPICAL WALL CONSTRUCTION JOINT DETAIL
3/4"=1'-0" **B2**

NOTE:
PROVIDE CONTROL JOINTS @ APPROX. 25'-0" O.C.
(15' MAX FROM CORNER)

TYPICAL WALL CONTROL JOINT DETAIL
3/4"=1'-0" **B1**

TYPICAL WALL REINFORCING (ONE LAYER)
1/2"=1'-0" **A4**

TYPICAL WALL REINFORCING
1/2"=1'-0" **A3**

SLAB TYPICAL CONTROL JOINT DETAIL
1 1/2"=1'-0" **A2**

TYPICAL SLAB-ON-GRADE REINFORCING DETAIL
1 1/2"=1'-0" **A1**

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PROJECT

ONE WAVERLY

1 WAVERLY ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

Structural Engineer:

R J Farah Engineering

Address:
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WOBURN, MA 01801
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Project North:

COMMONWEALTH OF MASSACHUSETTS
RACHID J. FARAH
STRUCTURAL
No. 45180
REGISTERED PROFESSIONAL ENGINEER

NUMBER	DATE	DESCRIPTION
REVISIONS		

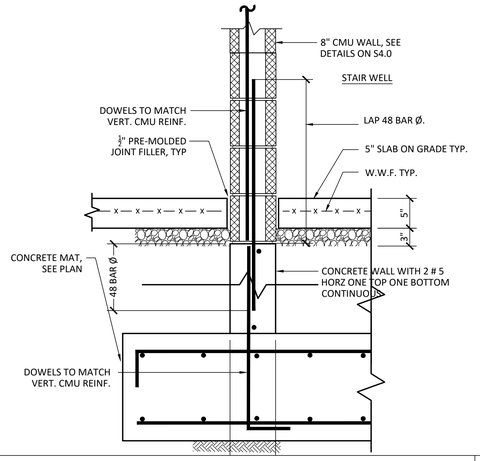
ISSUED FOR: 75% SUBMISSION

DATE: 08/19/2024

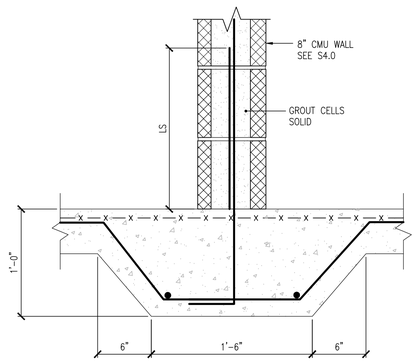
SHEET TITLE

TYPICAL CONCRETE SECTIONS AND DETAILS

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DATE:	S3.0
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	



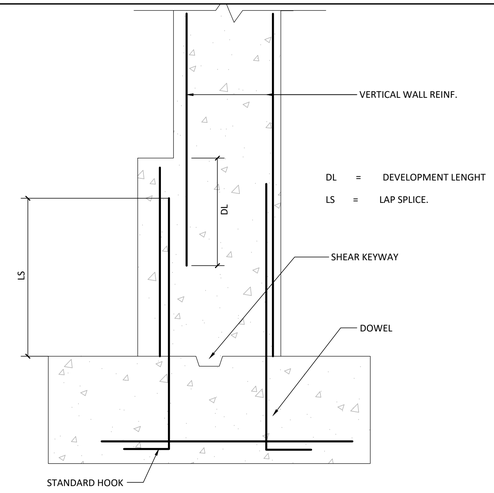
SECTION AT STAIR MAT (GARAGE LEVEL) C3
1 1/2"=1'-0"



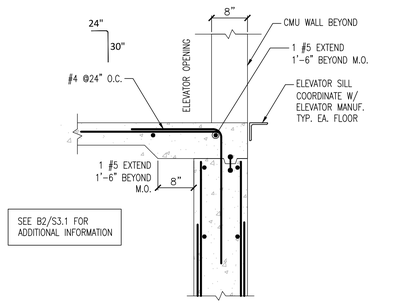
THICKENED SLAB AT MASONRY CURB DETAIL C3
1 1/2"=1'-0"

SHEET NOTES:

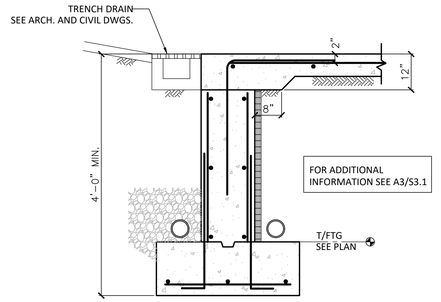
1. STANDARD HOOK (SH) = 12 BAR DIAMETER
2. LAP SPLICE (LS) = 48 BAR DIAMETER
3. DEVELOPMENT LENGHT (DL) = 48 BAR DIAMETER
4. DETAILING REQUIREMENTS PER ACI 315-99



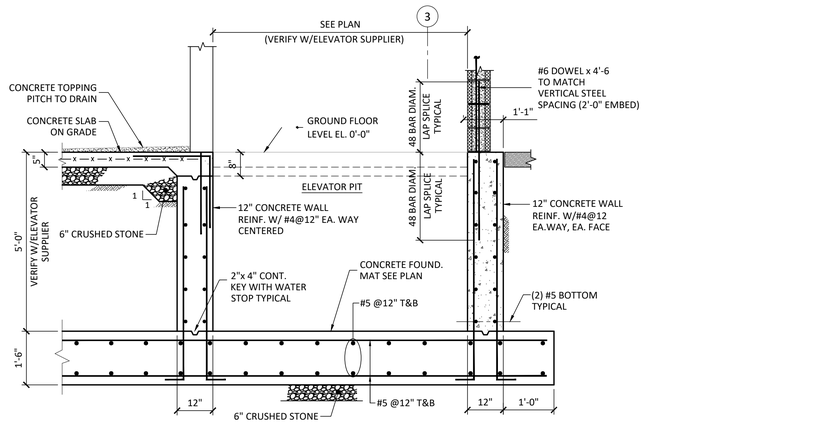
DOWELS, LAP SPLICE AND DEVELOPMENT LENGTH DETAIL C1
1 1/2 "=1'-0"



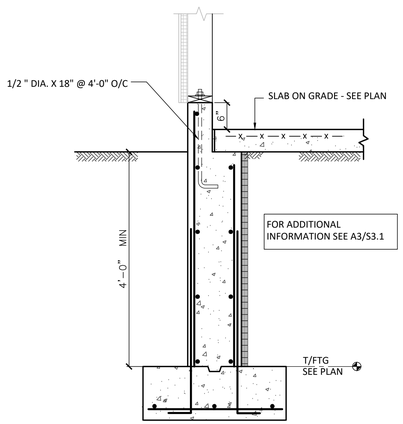
SECTION AT ELEVATOR OPENING B4
3/4"=1'-0"



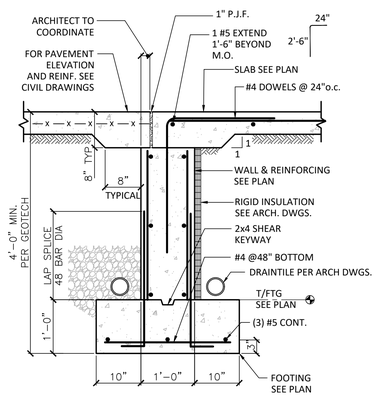
SECTION AT GARAGE ENTRY B3
NTS



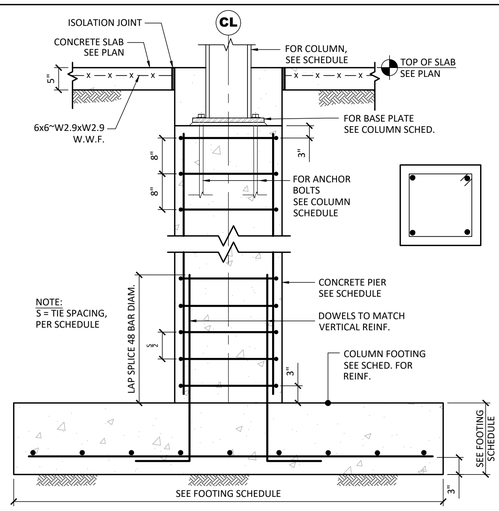
TYPICAL ELEVATOR PIT SECTION B1
1/2"=1'-0"



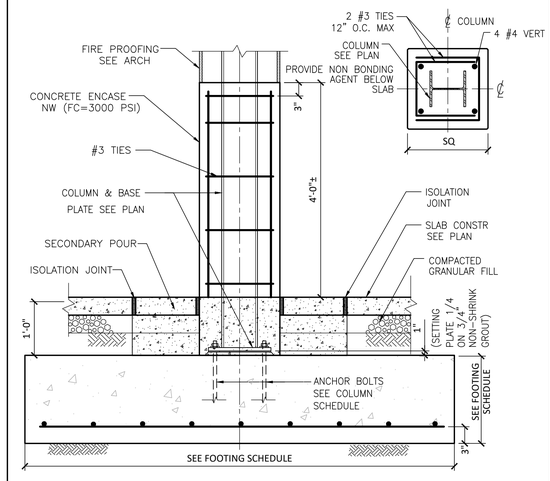
SECTION AT LOBBY AND RETAIL A4
3/4"=1'-0"



SECTION AT THRESHOLD A3
3/4"=1'-0"



SECTION AT COLUMN-PIER A2
3/4"=1'-0"



SECTION AT INTERIOR COLUMN-FOOTING A1
3/4"=1'-0"

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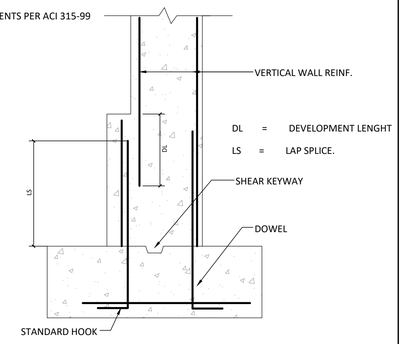
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FOUNDATION SECTIONS AND DETAILS

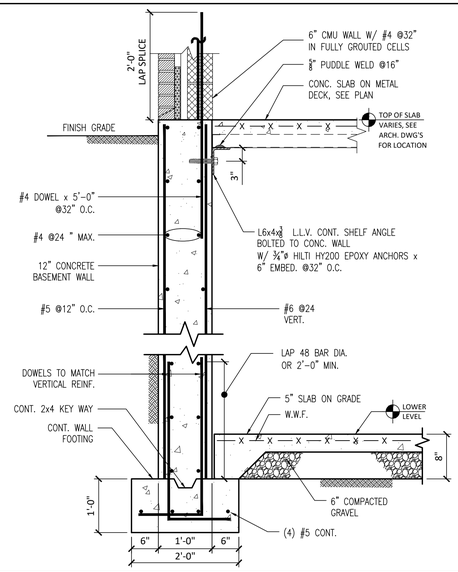
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DATE:	S3.1
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	

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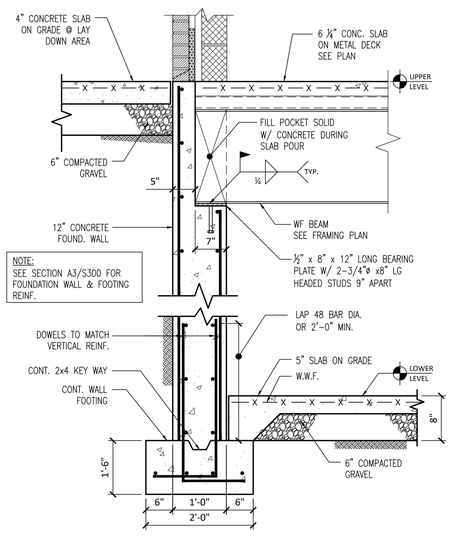
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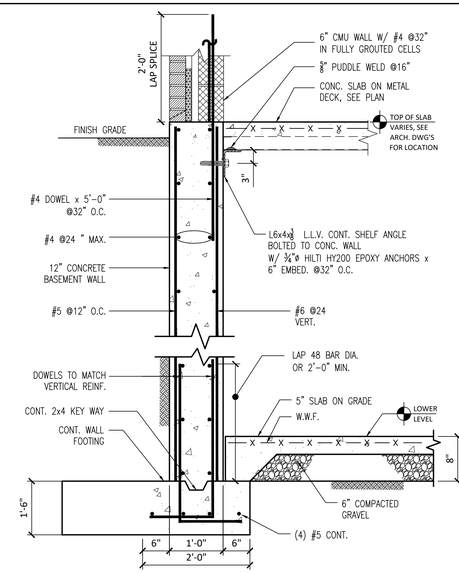
DOWELS, LAP SPLICE AND DEVELOPMENT LENGTH DETAIL C1
1"=1'-0"



FOUNDATION WALL SECTION AT RETAIL LINE D B3
3/4"=1'-0"

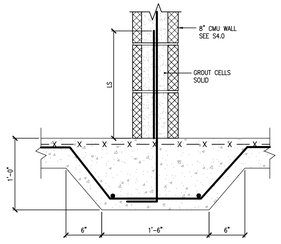


FOUNDATION WALL SECTION AT RETAIL LEVEL B2
3/4"=1'-0"

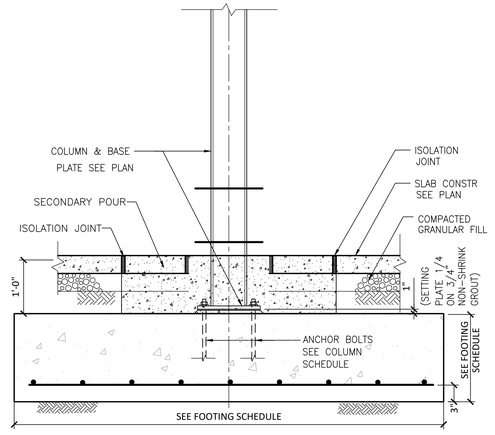


FOUNDATION WALL SECTION AT LINE 6 B1
3/4"=1'-0"

NOTUSED A4
1 1/2"=1'-0"



THICKEND SLAB AT STAIRL WALL AT LINE A AND 7 A2
1/2"=1'-0"



COLUMN FOOTING AT BASEMENT LEVEL A1
3/4"=1'-0"

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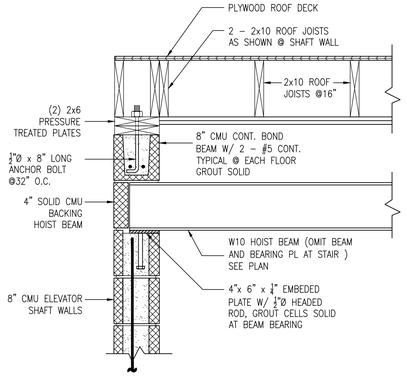
DATE: 08/19/2024

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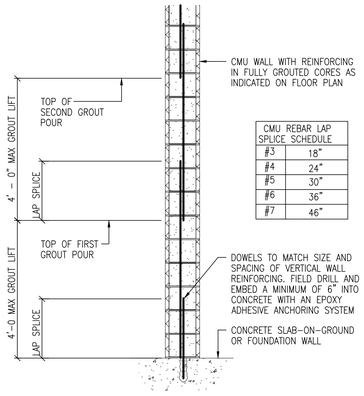
FOUNDATION SECTIONS AND DETAILS

SCALE: N.T.S.	DRAWING NO.
DATE:	S3.2
DRAWN BY: LS	
CHECKED BY: RJF	
FILE NO.: R23015	

NOT USED
N.T.S.
C4



SECTION AT ELEVATOR SHAFT (HOIST BEAM)
N.T.S.
C3



CMU REBAR LAP SPLICE SCHEDULE	
#3	18"
#4	24"
#5	30"
#6	36"
#7	46"

TYPICAL REINFORCED CMU WALL CONSTRUCTION
N.T.S.
C2

MINIMUM CONCRETE MASONRY WALL REINFORCING SCHEDULE

WALL LOCATION	WALL THICKNESS	VERTICAL REINFORCING	HORIZONTAL REINFORCING
ELEVATOR WALLS	8"	#5 @ 16"	9 GAGE TRUSS TYPE REINF. @ 16" o.c.

NOTES:

1. REFER TO PLANS, DETAILS AND NOTES FOR REINFORCING REQUIREMENTS MORE STRINGENT THAN IN THE SCHEDULE.
2. PROVIDE REINFORCED BOND BEAM CONTINUOUS WITHIN 16" OF TOP OF WALL & SPACED 8'–0" O.C. MAX U.N.O. PROVIDE (2)#6 BARS AT BOND BEAMS.
3. ALL CMU WALLS MUST BE SOLID GROUTED.
4. ALL VERTICAL REINFORCING TO BE IN SOLIDLY GROUTED CELLS, AND PROVIDE 48 DIA LAP AT ALL BAR SPLICES. TYPICAL
5. GROUT SHALL BE "LOW LIFT" GROUTING.

WALL REINFORCING SCHEDULE
N.T.S.
C1

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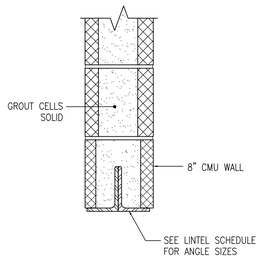
Project North:

STEEL LINTEL SCHEDULE

MAXIMUM MASONRY OPENING	MASONRY WALL THICKNESS			
	4" WALLS	6" WALLS	8" WALLS	12" WALLS
3'-0"	L 3½ x 3½ x ¼	2-JL 3x2½ x ¼	2-JL 3½ x3½ x ¼	3 JJL 3½ x3½ x ¼
4'-0"	L 4 x 3½ x ¼	2-JL 3x2½ x ¼	2-JL 4x3½ x ¼	3-JJL 4x3½ x ¼
5'-0"	L 4 x 3½ x ¼	2-JL 3½ x2½ x ¼	2-JL 5 x3½ x ¼	3-JJL 4½ x 3½ x ¼
6'-0"	L 5 x 3½ x ¼	2-JL 3½ x2½ x ¼	2-JL 3½ x2½ x ¼	3-JJL 5 x 3½ x ¼
8'-0"	L 6 x 3½ x ⅜	2-JL 3½ x2½ x ¼	2-JL 6 x3½ x ⅜	3-JJL 6 x 3½ x ⅜

NOTES:

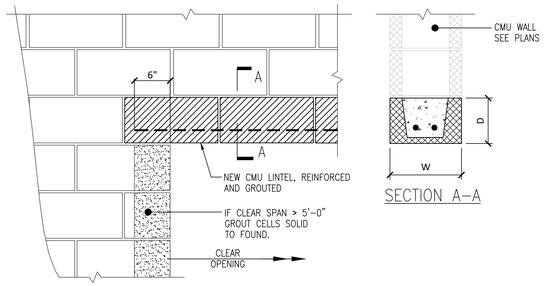
1. PROVIDE AND INSTALL LINTEL ANGLES FOR MASONRY OPENINGS IN ACCORDANCE WITH THE SCHEDULE ABOVE. INSTALL LONG LEG VERTICAL.
2. PROVIDE 6" MINIMUM BEARING AT EACH END BUT NOT LESS THAN 1" PER FOOT OF SPAN. FILL 2 COURSES OF MASONRY BELOW BEARING WITH GROUT.
3. WHERE MINIMUM BEARING CANNOT BE PROVIDED, ATTACH SECURELY TO ADJACENT STRUCTURAL MEMBERS OR PROVIDE SEPARATE SUPPORTS.
4. WHERE LINTELS OCCUR IN EXTERIOR WALLS, MINIMUM THICKNESS SHALL BE ⅜" AND ANGLES SHALL BE HOT DIPPED GALVANIZED.
5. WHERE WALL THICKNESS EXCEEDS 12" PROVIDE ONE ADDITIONAL ANGLE FOR EACH ADDITIONAL 4" OF WALL.



STEEL LINTEL DETAIL

NOTE:
SEE DETAILS THIS DRAWING FOR CMU WALL REINFORCING.

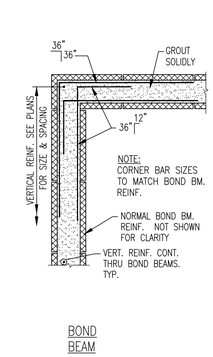
TYPICAL STEEL LINTEL SCHEDULE
3/4"=1'-0"
B3



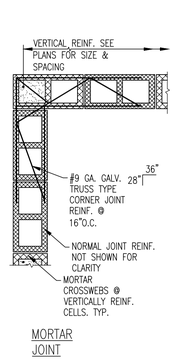
MASONRY LINTEL SCHEDULE

CLEAR SPAN	WIDTH	DEPTH	REINFORCING
< 5'–0"	8"	8"	2 – #5
5'–0" – 7'–0"	8"	8"	2 – #6
> 7'–0" – 10'–0"	8"	16"	2 – #6
< 5'–0"	12"	8"	2 – #5
5'–0" – 7'–0"	12"	8"	2 – #7
> 7'–0" – 10'–0"	12"	16"	2 – #5
F'c = 5000 PSI			

TYPICAL CMU LINTEL DETAIL
1"=1'-0"
B1

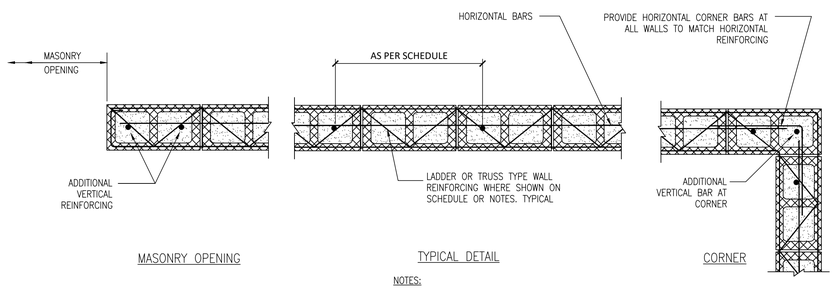


BOND BEAM



MORTAR JOINT

TYPICAL MASONRY DETAILS
1/2" = 1'-0"
A3



MASONRY OPENING

TYPICAL DETAIL

NOTES:
1. 2 CONT BAR AT MASONRY OPENING 4'–0" to 8'–0" IN WIDTH

CORNER

TYPICAL MASONRY REINFORCING DETAILS
1" = 1'-0"
A1

NUMBER	DATE	DESCRIPTION
REVISIONS		

ISSUED FOR: 75% SUBMISSION

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SHEET TITLE

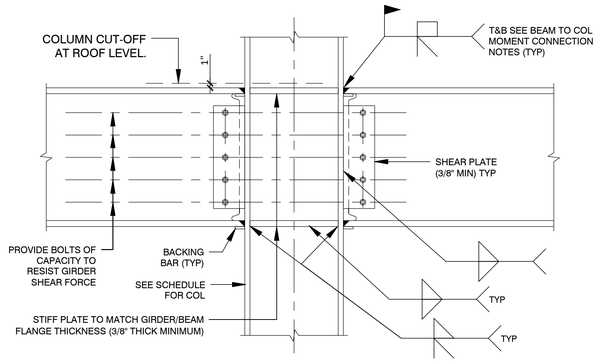
TYPICAL MASONRY SECTION & DETAILS

SCALE: N.T.S.
DATE:
DRAWN BY: LS
CHECKED BY: RJF
FILE NO.: R23015

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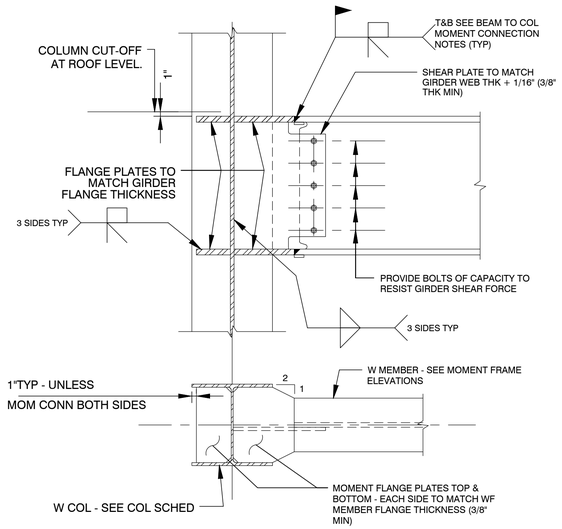
S4.0

NOT USED
N.T.S.
A4



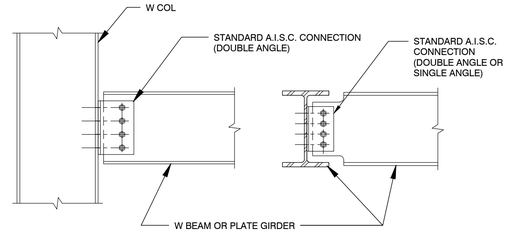
NOTES:
1.) BEAM SHEAR CONNECTION SHALL HAVE A MINIMUM CAPACITY EQUAL TO tw x d x Fv.

GIRDER TO COLUMN FLANGE MOMENT CONNECTION DETAIL (WELDED)

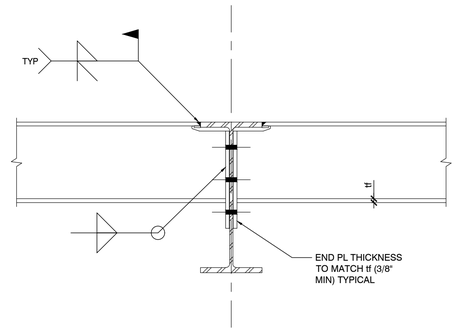


PLAN DETAIL

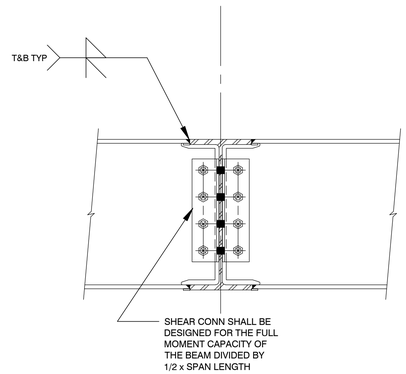
GIRDER TO COLUMN WEB MOMENT CONNECTION DETAIL (WELDED)



W BEAM CONNECTION

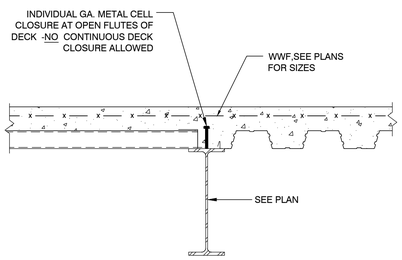


BEAM TO BEAM MOMENT CONNECTION (BEAMS OF DIFFERENT DEPTH)

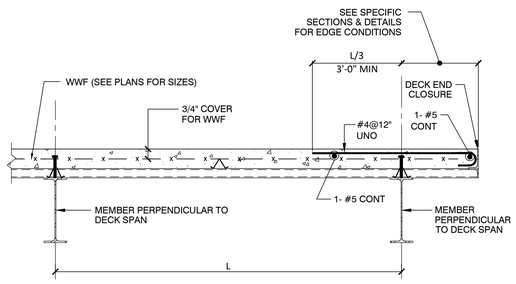


BEAM TO BEAM MOMENT CONNECTION (BEAMS OF THE SAME DEPTH)

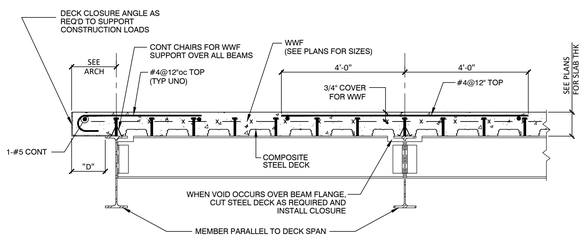
TYPICAL STEEL CONNECTION DETAILS | B1



CONDITION AT DECK SPAN CHANGE OF DIRECTION



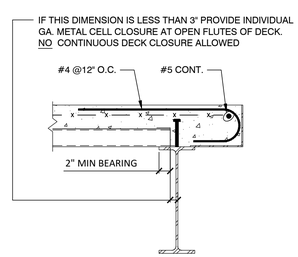
TYPICAL SLAB DETAIL



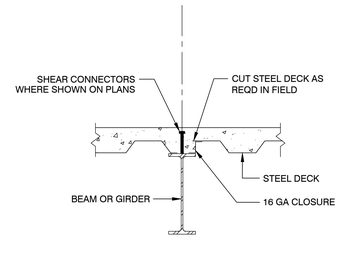
CLOSURE SCHEDULE	
"D"	GUAGE
6" MAX	14 GA
9" MAX	12 GA
12" MAX	10 GA
20" MAX	1/4" BENT PL
24" MAX	3/8" BENT PL

NOTE:
TYPICAL FOR ALL SUPPORTED SLABS UNLESS SHOWN OTHERWISE DECK MUST BE IN CONTACT WITH BEAM TO INSURE THAT FLANGE DOES NOT FALL UNDER HIGH CELL, RESULTING IN UNBRACED BEAM.

* ALL LIGHT GUAGE END PLATES, CLOSURES AND ANGLES SHALL BE SUPPLIED BY DECK SUPPLIER.



CONDITION AT DECK SPAN TERMINATING AT EDGE BEAM



STEEL DECK SPAN PARALLEL TO STEEL BEAM

STEEL DECK SUPPORTED COMPOSITE SLAB DETAILS | A1

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PROJECT

ONE WAVERLY

1 WAVERLY ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

Structural Engineer:

R J Farah Engineering

Address:
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Project North:

COMMONWEALTH OF MASSACHUSETTS
RACHID J. FARAH
STRUCTURAL
No. 45180
REGISTERED PROFESSIONAL ENGINEER

NUMBER	DATE	DESCRIPTION

REVISIONS

ISSUED FOR: 75% SUBMISSION

DATE: 08/19/2024

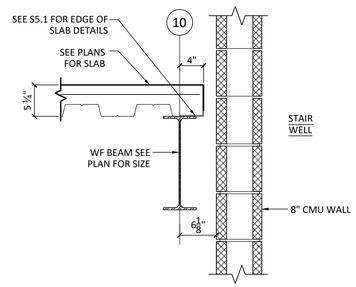
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COMPOSITE DECK & STEEL CONNECTION DETAILS

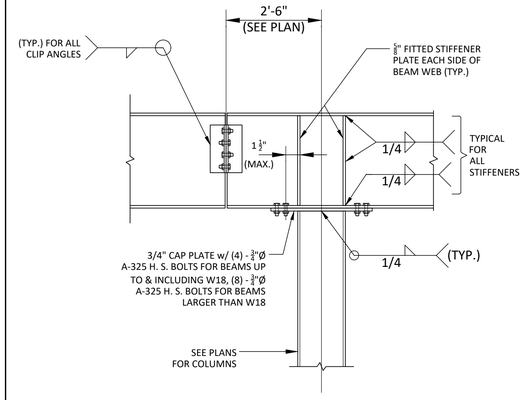
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FILE NO.: R23015	

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C4

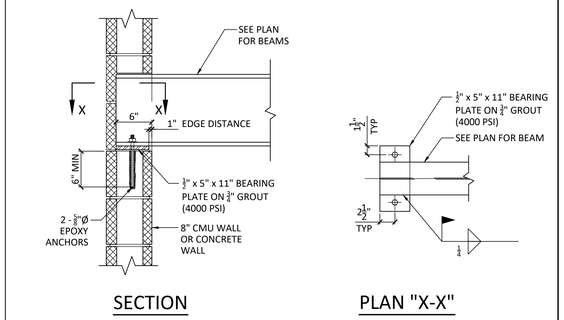
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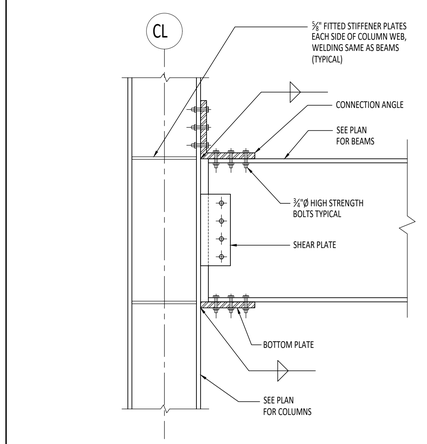
TYPICAL SECTION @EXPANSION JOINT AND STAIR WALL
1" = 1'-0"
C2



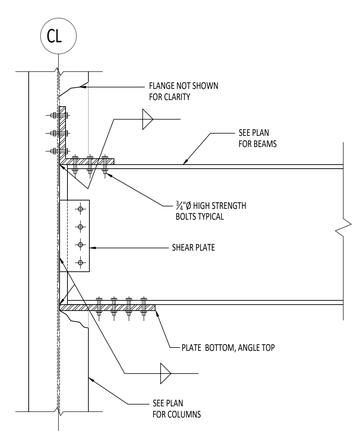
SHEAR SPLICE CONNECTION DETAIL
C1



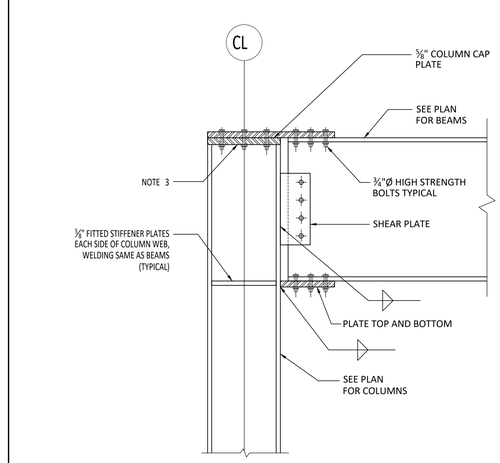
TYPICAL BEAM POCKET DETAIL @CMU OR CONCETE
1"=1'-0"
B4



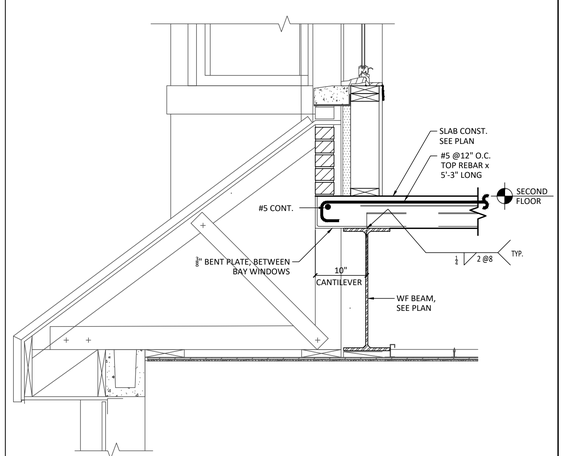
BEAM TO COLUMN FLANGE CONNECTION DETAIL
1"=1'-0"
B3



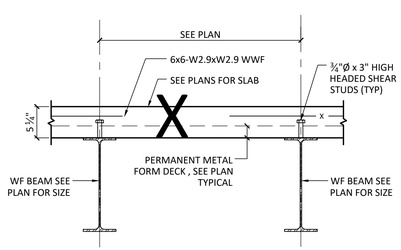
BEAM TO COLUMN WEB CONNECTION DETAIL
1"=1'-0"
B2



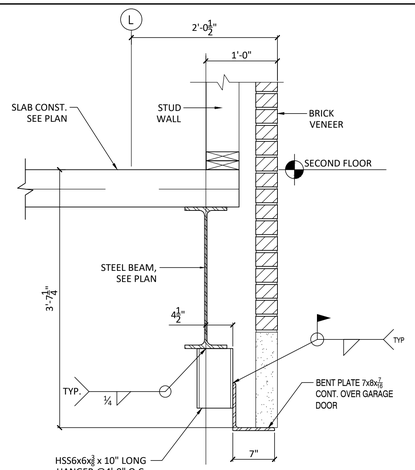
BEAM TO COLUMN FLANGE CONNECTION DETAIL
1" = 1'-0"
B1



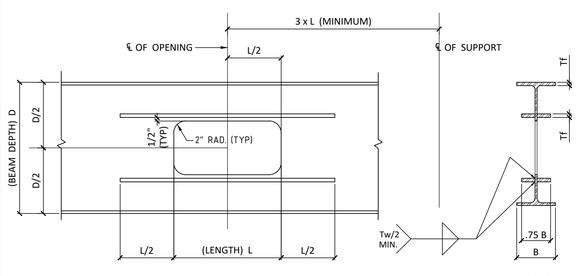
SECTION
1" = 1'-0"
A4



TYPICAL COMPOSITE SLAB DETAIL
1" = 1'-0"
A3



SECTION
1" = 1'-0"
A2



CONDITIONS:
W ≤ D/2
L ≤ 1.3D (NON-COMPOSITE BEAM)
1.5D (COMPOSITE BEAM)

NOTE:
SIZE AND LOCATION OF BEAM OPENINGS NOT INDICATED ON STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT / ENGINEER PRIOR TO FABRICATION.

TYPICAL BEAM / GIRDER OPENING DETAIL
A1

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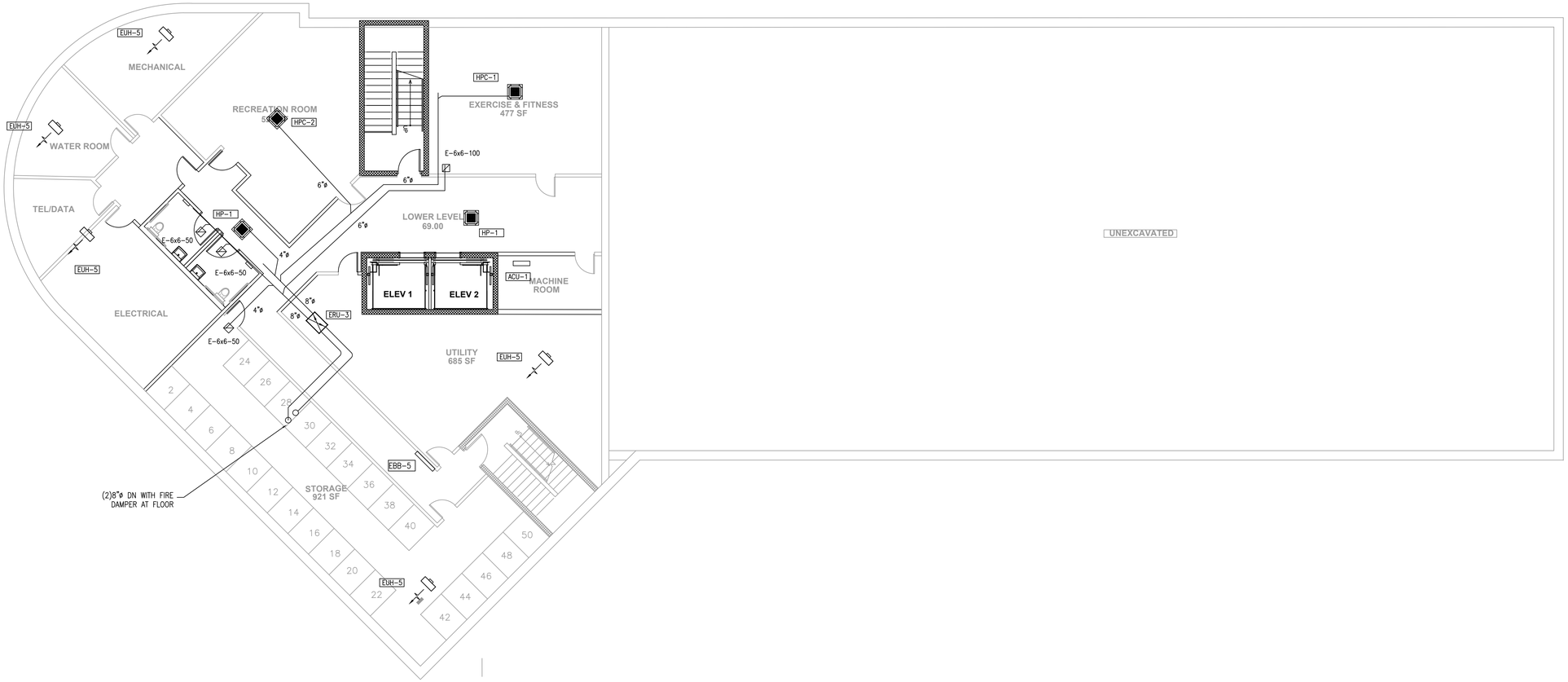
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STRUCTURAL STEEL SECTIONS AND DETAILS

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1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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PROJECT

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1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

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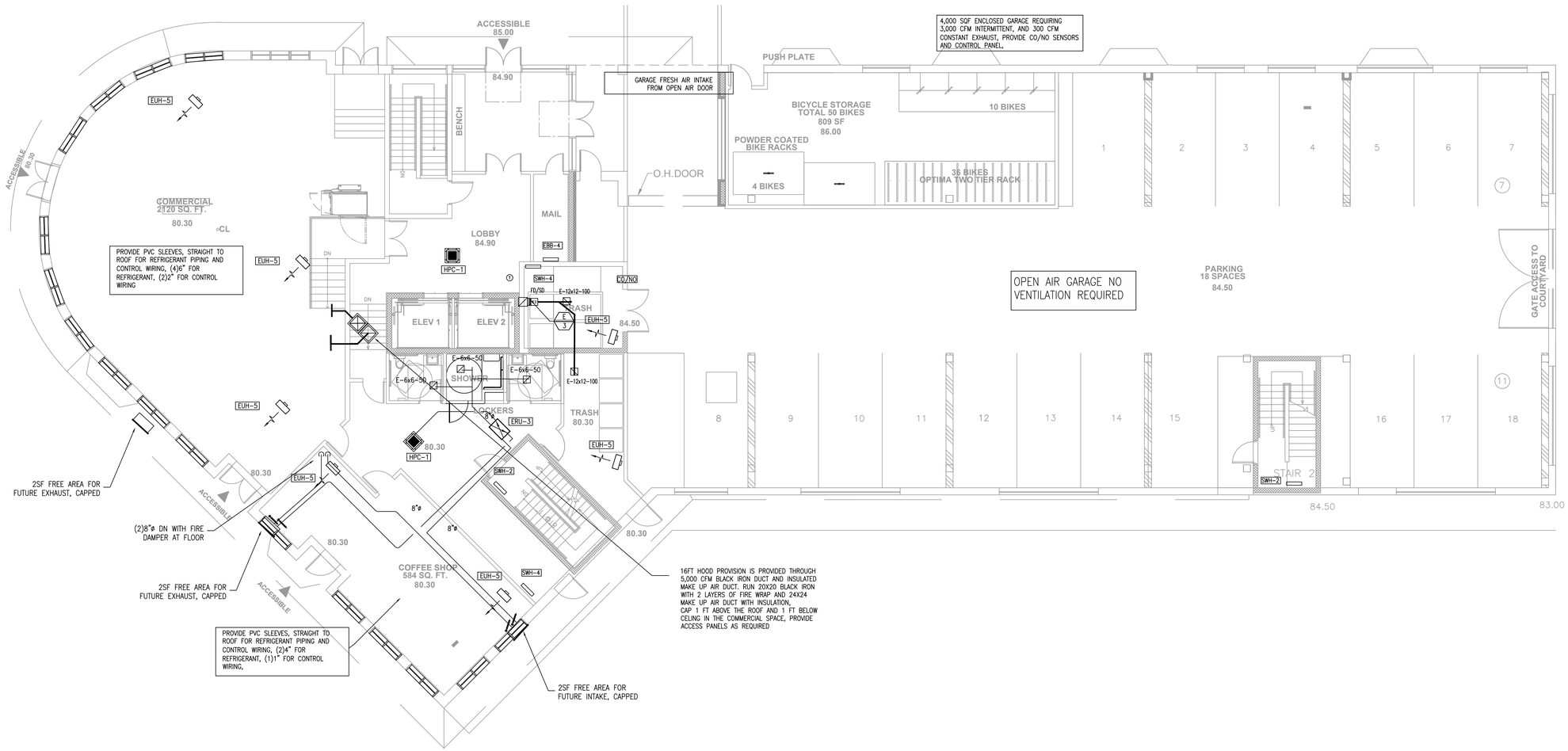
HVAC FLOOR PLAN

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1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

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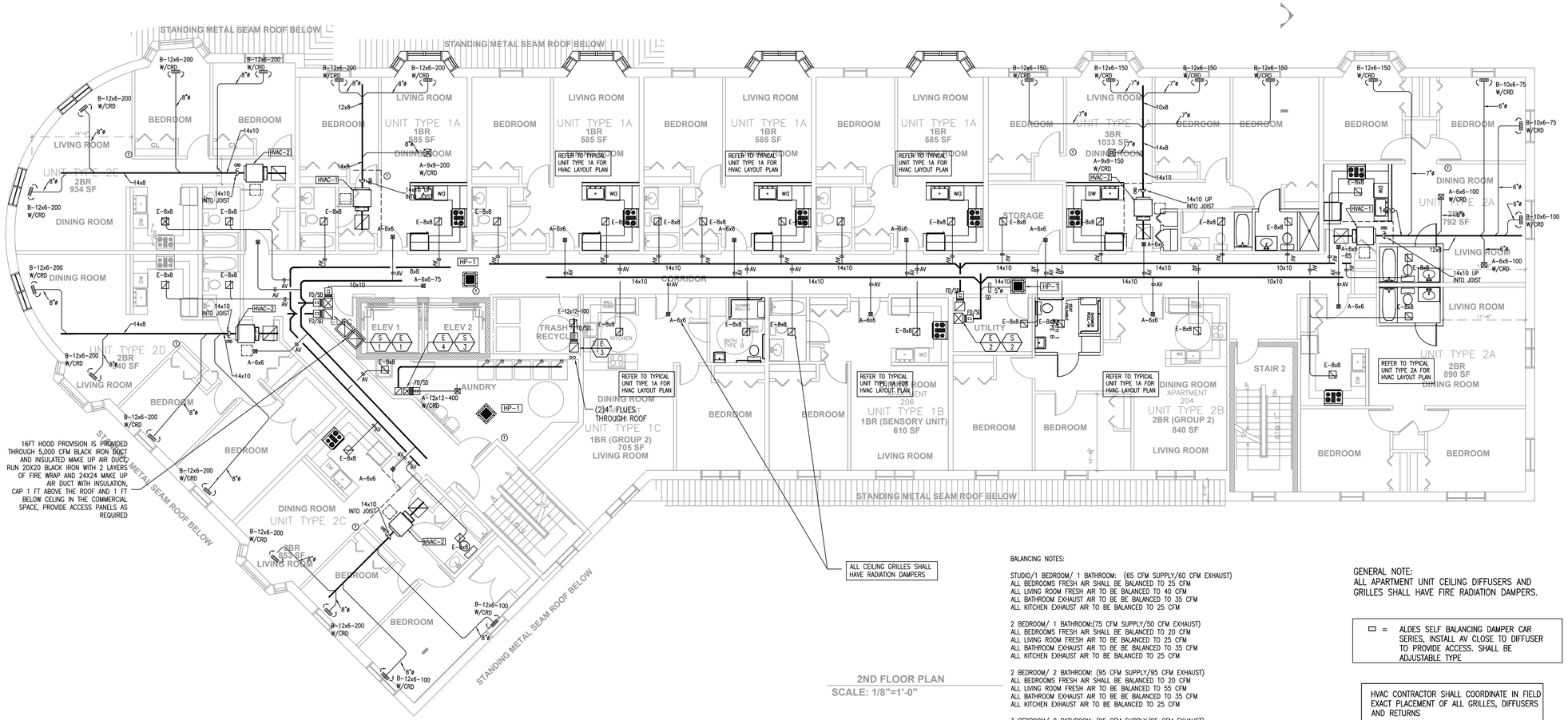
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FILE:	

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ALL CEILING GRILLES SHALL HAVE RADIATION DAMPERS

2ND FLOOR PLAN
SCALE: 1/8"=1'-0"

BALANCING NOTES:

STUDIO/1 BEDROOM/ 1 BATHROOM: (65 CFM SUPPLY/60 CFM EXHAUST)
ALL BEDROOMS FRESH AIR SHALL BE BALANCED TO 25 CFM
ALL LIVING ROOM FRESH AIR TO BE BALANCED TO 40 CFM
ALL BATHROOM EXHAUST AIR TO BE BE BALANCED TO 35 CFM
ALL KITCHEN EXHAUST AIR TO BE BALANCED TO 25 CFM

2 BEDROOM/ 1 BATHROOM:(75 CFM SUPPLY/50 CFM EXHAUST)
ALL BEDROOMS FRESH AIR SHALL BE BALANCED TO 20 CFM
ALL LIVING ROOM FRESH AIR TO BE BALANCED TO 25 CFM
ALL BATHROOM EXHAUST AIR TO BE BE BALANCED TO 35 CFM
ALL KITCHEN EXHAUST AIR TO BE BALANCED TO 25 CFM

2 BEDROOM/ 2 BATHROOM: (95 CFM SUPPLY/95 CFM EXHAUST)
ALL BEDROOMS FRESH AIR SHALL BE BALANCED TO 20 CFM
ALL LIVING ROOM FRESH AIR TO BE BALANCED TO 55 CFM
ALL BATHROOM EXHAUST AIR TO BE BE BALANCED TO 35 CFM
ALL KITCHEN EXHAUST AIR TO BE BALANCED TO 25 CFM

3 BEDROOM/ 2 BATHROOM: (95 CFM SUPPLY/95 CFM EXHAUST)
ALL BEDROOMS FRESH AIR SHALL BE BALANCED TO 20 CFM
ALL LIVING ROOM FRESH AIR TO BE BALANCED TO 35 CFM
ALL BATHROOM EXHAUST AIR TO BE BE BALANCED TO 35 CFM
ALL KITCHEN EXHAUST AIR TO BE BALANCED TO 25 CFM

GENERAL NOTE:
ALL APARTMENT UNIT CEILING DIFFUSERS AND GRILLES SHALL HAVE FIRE RADIATION DAMPERS.

□ = ALDES SELF BALANCING DAMPER CAR SERIES, INSTALL AV CLOSE TO DIFFUSER TO PROVIDE ACCESS. SHALL BE ADJUSTABLE TYPE

HVAC CONTRACTOR SHALL COORDINATE IN FIELD EXACT PLACEMENT OF ALL GRILLES, DIFFUSERS AND RETURNS

ALL KITCHEN HOODS ARE RECIRCULATION TYPE WITH CHARCOAL FILTERS

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

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ONE JOHN ELIOT SQUARE
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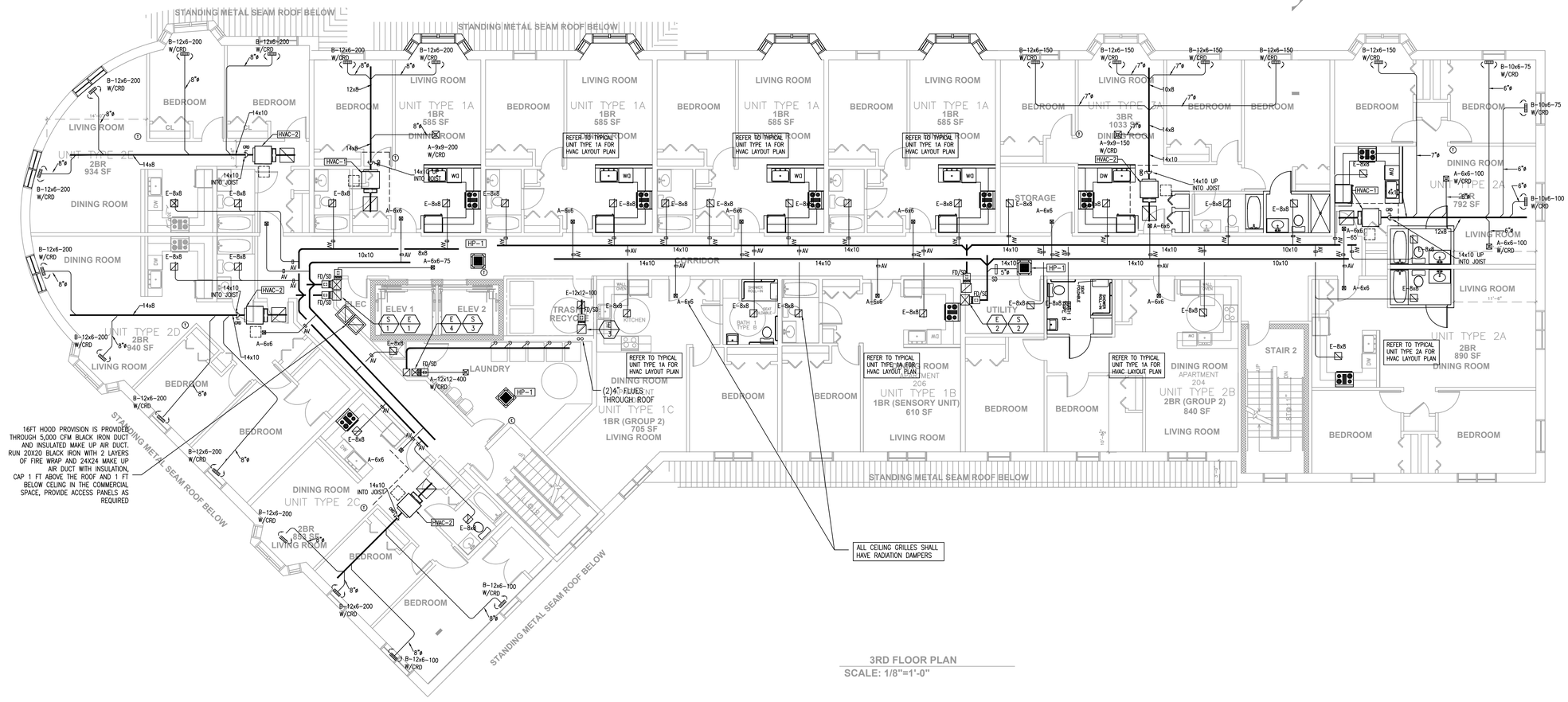
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3RD FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

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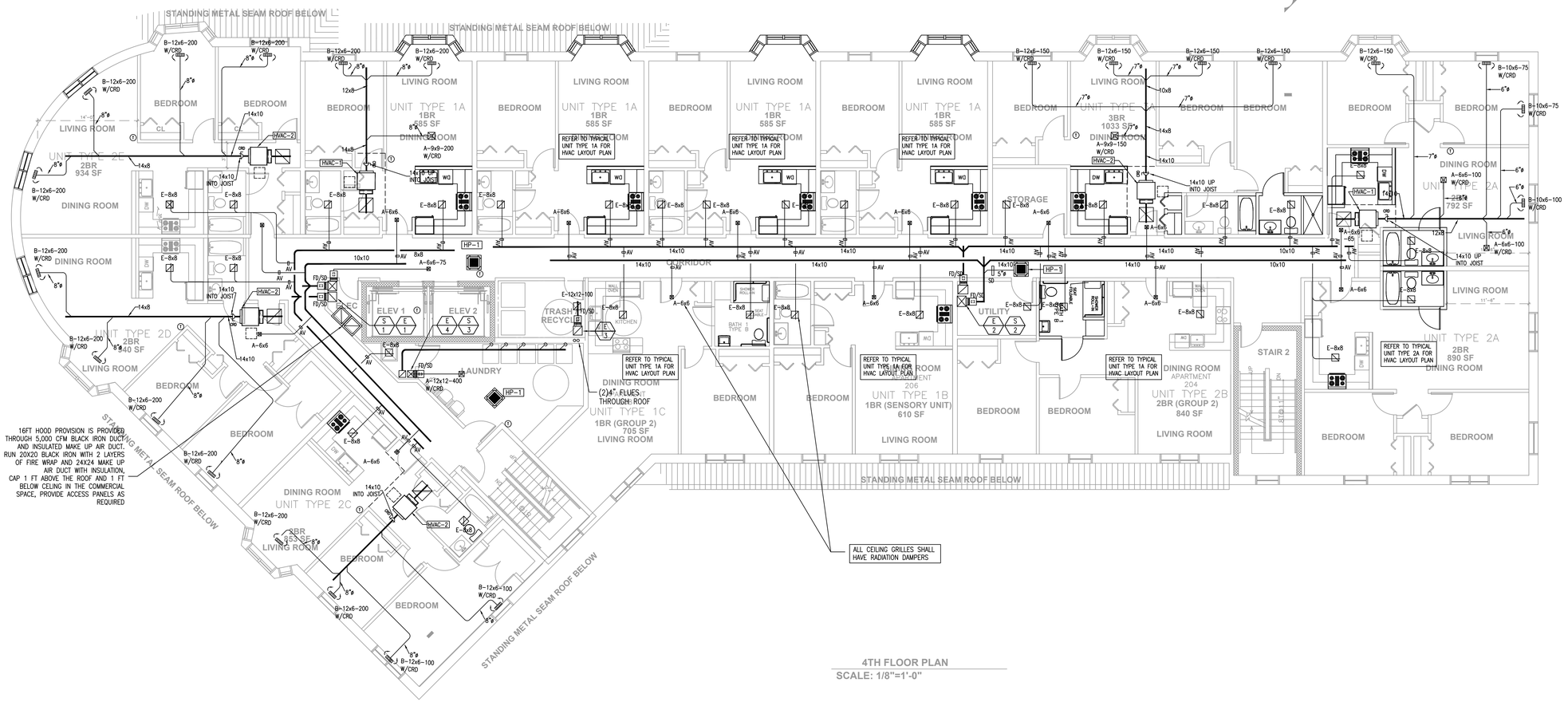
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HVAC FLOOR PLAN

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

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PROJECT

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ROXBURY, MASSACHUSETTS

DEVELOPER:

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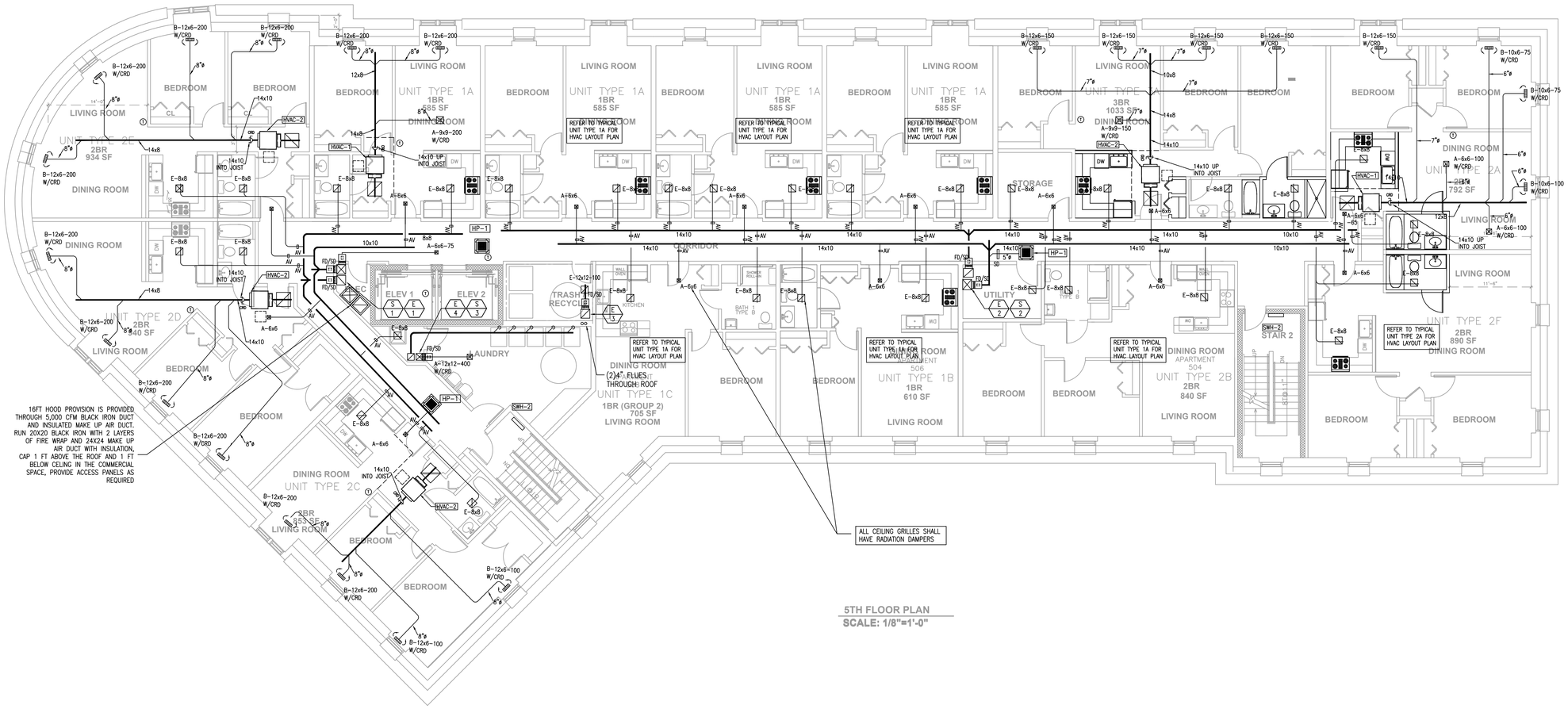
HVAC FLOOR PLAN

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5TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

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ROXBURY, MASSACHUSETTS

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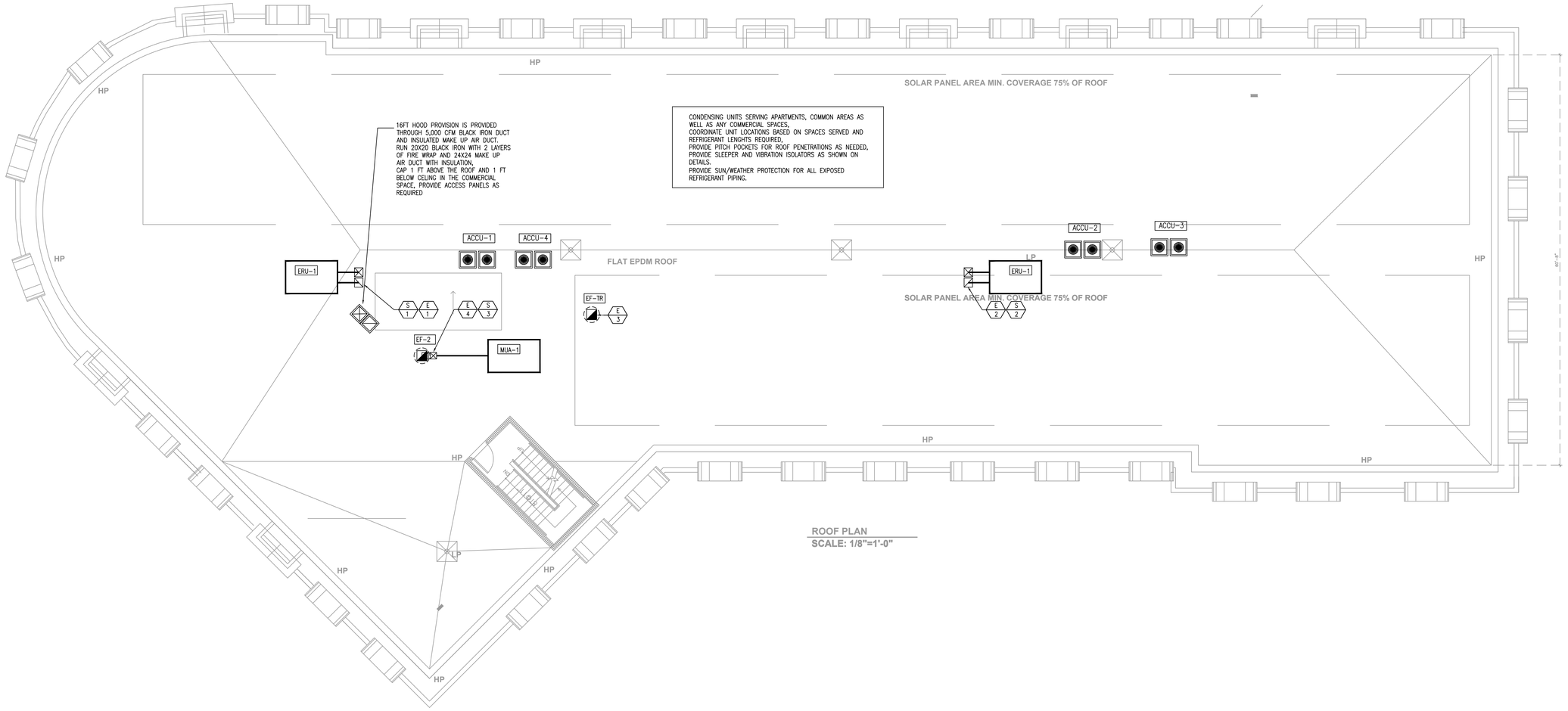
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ROOF PLAN
SCALE: 1/8"=1'-0"

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PROJECT

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1 WAVERLY
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DEVELOPER:

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HVAC FLOOR PLAN

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EQUIPMENT TAG NUMBERS

EQT-X

EQT = EQUIPMENT TYPE
X = UNIT NUMBER

E = EXHAUST RISER
# = REFERS TO RISER DIAGRAM

VS = SUPPLY VENTILATION RISER
# = REFERS TO RISER DIAGRAM

VS = RETURN VENTILATION RISER
# = REFERS TO RISER DIAGRAM

R = CONDENSER WATER RISER
# = REFERS TO RISER DIAGRAM

AIR OUTLET + INLET DESIGNATION

EXAMPLE:

TYPE OF GRILLE, DIFFUSER
SEE SCHEDULE FOR SPECIFIC INFORMATION A-66
ABOUT THIS OUTLET/INLET TYPE

50 CFM

SIZE OF GRILLE, DIFFUSER

AIRFLOW

NOTE:

THIS DESIGNATION FORMAT IS TYPICAL FOR ALL DIFFUSERS, GRILLES, AND

EQUIPMENT SYMBOLS

ROOFTOP UNIT

ROOFTOP UPBLAST EXHAUST FAN

EXHAUST CONTROL VALVE

ROOFTOP UPBLAST EXHAUST FAN

CONSTANT AIRFLOW REGULATOR DEVICE

FIRE AND SMOKE DAMPER

VOLUME DAMPERS

CABINET UNIT HEATER IN CEILING

HORIZONTAL HEAT PUMP

VERTICAL HEAT PUMP

ROOF MOUNTED CONDENSING UNIT

CONTROL SYMBOLS

T TS — WALL MOUNTED THERMOSTAT/SENSOR

H HS — HUMIDISTAT/SENSOR

LP — LOCAL CONTROL PANEL

GENERAL NOTES

1. REFER TO THE SPECIFICATIONS FOR ALL VOLUME DAMPERS. ALL LOCATIONS NOT SHOWN ON THE PLANS.
2. ALL DUCT DIMENSIONS ARE CLEAR INSIDE DIMENSIONS.
3. DUCT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LOCAL MECHANICAL CODE AND THE SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION DUCT CONSTRUCTION STANDARDS UNLESS OTHERWISE INDICATED IN THESE DRAWINGS OR IN THE SPECIFICATIONS.
4. THIS IS A STANDARD LEGEND SHEET. NOT ALL OF THE INFORMATION ON THIS SHEET MAY BE USED ON THIS PROJECT.
5. ALL DUCT SUPPORTS SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS UNLESS OTHERWISE NOTED.
6. BOTTOM OF DUCT IS TO BOTTOM OF SHEETMETAL NOT INCLUDING INSULATION.
7. ALL SUPPLY AIR & OUTSIDE AIR DUCTWORK SHALL BE INSULATED WITH 1" FIBERGLASS SELF-SEALING KRAFT REINFORCED FOIL FACE.

NOTE: PROVIDE DUCT SEALANT PER SMACNA REQUIREMENTS.

NOTE: PROVIDE AUTOMATIC SHUT OFF DAMPERS FOR ANY INTAKE OR EXHAUST DUCTS THAT TRAVEL MORE THAN 2 STORIES VERTICALLY, OR AS SHOWN ON DRAWINGS.

NOTE: HVAC CONDENSATE TO CONNECT TO STORM DRAIN. REFER TO PLUMBING PLANS FOR COORDINATION.

GENERAL NOTES

1. PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT NECESSARY TO EXECUTE THE WORK SHOWN AND DESCRIBED. INSTALLATION OF MATERIALS SHALL MEET ALL APPLICABLE STATE, FEDERAL AND MUNICIPAL REQUIREMENTS.
2. OBTAIN PERMITS AND PAY ALL FEES FOR WORK AND REQUIRED INSPECTIONS.
3. MAINTAIN LIABILITY INSURANCE TO PROTECT OWNER AND THE CONTRACTOR FROM ANY AND ALL CLAIMS UNDER THE WORKER'S COMPENSATION ACT.
4. THE DRAWINGS SHALL CONSIDERED DIAGRAMMATIC ONLY. ALL MEASUREMENTS SHALL BE TAKEN FROM BUILDING SITE AND ARCHITECT'S DRAWINGS.
5. PROVIDE TEMPORARY MATERIAL STORAGE AS REQUIRED AND BE RESPONSIBLE FOR ANY LOSS OR DAMAGE THERETO.
6. SUBMIT SHOP DRAWINGS FOR REVIEW COVERING MAJOR MANUFACTURED ITEMS,
7. KEEP ACCURATE RECORD OF "AS-BUILT" DRAWINGS AND SUBMIT THESE BEFORE FINAL CERTIFICATE OF COMPLETION.
8. ON COMPLETION OF THE WORK, REMOVE FROM THE PREMISES ALL TOOLS, DEBRIS, SURPLUS AND WASTE MATERIALS RESULTING FROM OPERATIONS UNDER THIS SECTION. CLEAN ALL EQUIPMENT AND LEAVE ALL ITEMS IN PERFECT ORDER READY FOR OPERATION.
9. AFTER ACCEPTANCE, INSTRUCT OWNER IN EQUIPMENT OPERATION AND PROVIDE HIM WITH OPERATING AND MAINTENANCE MANUALS STANDARDS AND EXTENDED WARRANTY DOCUMENTS, INSPECTION CERTIFICATES AND COPIES OF SHOP DRAWINGS OF INSTALLED EQUIPMENT.
10. THE CONTRACTOR SHALL, BEFORE FINAL PAYMENT IS MADE, GUARANTEE ALL MATERIALS AND WORKMANSHIP SUPPLIED BY HIM IN THE PERFORMANCE OF THIS CONTRACT FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE AND SHALL, WHEN CALLED UPON, MAKE GOOD WITHOUT FURTHER COST TO THE OWNER SUCH DEFECTS AS MAY APPEAR WITHIN THIS PERIOD.
11. SUPPLY AND INSTALL DUCTWORK AS INDICATED ON DRAWING. DUCTWORK SHALL BE FABRICATED AND INSTALLED IN STRICT ACCORDANCE WITH LATEST ASHRAE & SMACNA STANDARDS AND SHALL BE MANUFACTURED OF GALVANIZED STEEL UNLESS SPECIFICALLY NOTED OTHERWISE.
12. ADJUST ALL FAN SPEEDS TO DELIVER SHOWN AIR QUANTITIES. BALANCE ALL AIR SYSTEMS AND SUPPLY WRITTEN AIR BALANCING REPORTS IN TRIPLICATE. INCLUDE NECESSARY SPARE BELTS AND PULLEYS FOR FIELD ADJUSTMENT.
13. ALL CONCEALED SUPPLY AND RETURN DUCTWORK LOCATED WITHIN THE BUILDING SHALL BE EXTERNALLY INSULATED WITH 1 1/2" THICK INSULATION WITH A MINIMUM "R-6" VALUE. THERMAL INSULATION SHALL BE PROVIDED WITH VAPOR BARRIER. ALL SUPPLY AND RETURN DUCTWORK LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE FURNISHED WITH 3" THICK INSULATION WITH A MINIMUM "R-8" VALUE. THERMAL INSULATION LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE PROVIDED WITH WEATHER-PROOF JACKET.
14. ALL DUCTWORK SHALL BE: 24 GAUGE UP TO 36 INCHES WIDE, 22 GAUGE 31 INCHES WIDE TO 60 INCHES WIDE, ROUND DUCT SHALL BE 24 GAUGE UO TO 10 INCHES DIAMETER, 22 GAUGE 11 TO 20 INCHES DIAMETER, 20 GAUGE ABOVE 20 INCHJES DIAMETER; ALL GALVINIZED SHEETMETAL. SEAL ALL JOINTS AND SLIPS WITH EC 800 OR OTHER SUITABLE SEALANT. ALL LONGITUDINAL SEAMS SHALL BE PITTSBURG LOCKING TAPE. ALL SLIPS SHALL BE REINFORCED BAR TYPE. FABRICATE AND INSTALL ALL DUCTS IN COMPLIANCE WITH SMACNA STANDARDS FOR LOW PRESURE DUCT CONSTRUCTION.
15. ALL DUCT CONNECTIONS TO FAN DRIVEN UNITS SHALL BE MADE WITH A FIREPROOF FLEXIBLE DUCT CONNECTOR.
16. BEFORE THE H.V.A.C. SYSTEM IS OPERATED, ALL DUCTS SHALL BE BLOWN OUT & THOUGHLY CLEANED. SYSTEM SHALL BE TEST AT FULL PRESSURE & ALL LEAKS & FAULTS CORRECTED.
17. INSTALL ALL PIPING AND VALVES AS HIGH AS POSSIBLE.
18. HOT WATER SUPPLY AND RETURN PIPE SHALL BE TYPE L COPPER
19. PIPE INSULATION – HOT WATER SUPPLY AND RETURN PIPE 2" THICK FIBERGLASS INSULATION.
20. BALANCE THE AIR SYSTEM AS PER ASSOCIATED AIR BALANCING COUNCILS LATEST STANDARDS. SUBMIT BALANCING REPORT FOR ARCHITECTS APPROVAL.
21. THESE DRAWINGS ARE DIAGRAMMATIC. FIELD CONDITIONS SHALL DETERMINE ACTUAL LOCATION OF ALL NEW PIPING AND DUCTWORK.
22. ALL VALVES AND FITTINGS SHALL BE SUITABLE FOR THIS PARTICULAR PIPING APPLICATION AND MINIMUM 150LBS PRESSURE RATING.

GENERAL NOTES:

1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCOSISTENCY, OMMISION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS , DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT, IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRCAT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERRORS, OMMISIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSABLE FOR COORDNATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WIL BE AUTHORIZED FOR ALLEGED ERRORS, OMMISIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

2. ALL PENETRATIONS OF ASSEMBLIES EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE SEALED WITH FOAM SEALANT OR EQUIVALENT SEALER TO PROVIDE ZERO AIR INFILTRATION. COORDINATE WITH FIRE STOPPING REQUIREMENTS.

3. NO COMPONENT OF ANY SYSTEM SHALL RUN THROUGH THE STAIR ENCLOSURE THAT DOES NOT RELATE TO OR SERVE THE STAIR ENCLOSURE

–ALL CEILING MOUNTED HVAC UNITS SHALL BE HUNG FROM STRUCTURAL STEEL WITH SPRING ISOLATORS,
–PROVIDE FLEXIBLE DUCT CONNECTIONS AT UNIT SUPPLY.
–PROVIDE ISOLATION VALVES, CONTROL VALVES, DRAIN AND STRAINER FOR ALL WATER BASED HVAC UNITS.
PROVIDE LEAK DETECTOR TO SHUT DOWN THE UNIT.
–MAINTAIN ACCESS DOORS AND CODE REQUIRED CLEARANCES FOR ALL FILTER REPLACEMENT, EQUIPMENT REPAIR AND ELECTRICAL CONTROLS,
–PRIOR TO ANY INSTALLATION, COORDINATE CLEARANCES WITH ALL TRADES.
–ALL INDOOR HVAC UNITS WILL HAVE EXTERNAL DRAIN PANS CONNECTED TO CONDENSATE DRAIN. PROVIDE LEAK DETECTOR WIRED TO UNIT
–PROVIDE VOLUME DAMPERS AT ALL HVAC BRANICH DUCT TAKE OFFS,
–PROVIDE DUCT INSULATION FOR ALL OUTDOOR AIR DUCTS AND SUPPLY AIR DUCTS.
–LIMIT FLEXIBLE DUCT LENGTH TO 4FT.
–PROVIDE CEILING RADIATION DAMPERS ON ALL REGISTERS, GRILLES AND DIFFUSERS IN RATED CEILINGS
–COORDINATE ALL LOCATIONS OF VOLUME DAMPERS WITH CEILING TYPE AND ARCHITECT
–ALL CONDENSATE DRAINS SHALL RUN TO NEAREST STORM CONNECTION PROVIDED BY P.C. REFER TO PLUMBING DRAWINGS
–ALL CONDENSING UNITS SHALL BE MOUNTED ON CONCRETE PAD ON VIBRATION PADS, OR MOUNTED ON SLEEPERS ANCHORED TO ROOF.
–PROVIDE FLEXIBLE DUCT CONNECTIONS AT UNIT SUPPLY.
–ALL BATHROOM EXHAUST DUCTS SHALL BE INSULATED FIRST 10 FT FROM THE EXTERIOR WALL CAP IN
–LAUNDRY VENT DUCT SHALL BE ALUMINUM TYPE TO PREVENT CORROSION AND TAPE SHALL BE IN COMPLIANCE WITH UL FOR DRYER DUCT CONNECTIONS
–ALL CEILING DIFFUSERS INSTALLED IN FIRE RATED CEILING SHALL HAVE RADIATION DAMPERS.
–ALL SPLIT SYSTEM CONDENSER UNITS IF LOCATED AWAY FROM THE BUILDING SHALL BE PIPED UNDERGROUND UP TO BUILDING, PROVIDE MINIMUM 18" COVER.
–ALL A/C UNITS SHALL HAVE DRAIN PANS WITH LEAK DETECTOR TO SHUT DOWN THE UNIT
–ALL RETURN DUCTS SHALL BE LINED WITH CLOSED CELL INSULATION.
–ALL SUPPLY DUCTS SHALL BE INSULATED SEE INSULATION NOTES
–ALL EXHAUST DUCT SHALL BE INSULATED FIRST 10 FT FROM EXTERIOR WALL IN, R–4
–ALL COPPER CONDENSATE DRAINS SHALL BE INSULATED
–FIRE AND SMOKE DAMPER SHALL BE 50% LARGER THAN DUCT SIZE TO MAINTAIN FREE AREA OF DUCT.

FIRE SAFE THROUGH FLOORS

TYPE	SIZE	HILTI	MATERIAL	RATING	BOTTOM	TOP	CHASE WALL
STEEL/CAST COPPER/EMT	MAX 4"	FS–ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
STEEL/CAST 4" EMT/ 2" FLEX	MAX 6" –	FS–ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
STEEL/CAST COPPER/EMT	MAX 4"	CP–620	FIRE FOAM	1HRS	FIRE STOP	FIRE STOP	REQUIRED
PEX	MAX 1"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	BOTH SIDES	BOTH SIDES	NOT REQUIRED
PVC PIPE	MAX 2"	FS–ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
PVC PIPE	MAX 4"	FS–ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
PVC PIPE	MAX 4"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	COLLAR	FIRE STOP	NOT REQUIRED
REFRIGERANT	–	FS–ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
4" DUCT	MAX 4"	FS–ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
INSULATED COPPER/STEEL	MAX 2"	FS–ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
CABLES	MAX 2"	FS–ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED

INSULATION NOTES

CONTRACTOR SHALL FOLLOW THE MOST STRINGENT INSULATION REQUIREMENT FOR EACH ITEM

THE FOLLOWING SYSTEMS SHALL BE INSULATED.
DUCT LINER SHALL BE CLOSED CELL TYPE, GERM PROOF

IECC 2015 REQUIREMENTS:

1. HEATING HOT WATER MAINS AND BRANCHES:
   PIPING < 1" REQUIRES 1 1/2" INSULATION
   PIPING > 1½" REQUIRES 2" INSULATION
2. SUPPLY & RETURN DUCTWORK FROM HVAC UNITS:
   1 1/2" INSULATION MIN. R–6

LEED/ASHRAE 2013 REQUIREMENTS:

1. HEATING HOT WATER MAINS AND BRANCHES:
   PIPING < 1 1/2" REQUIRES 1½" INSULATION
   PIPING > 1½" REQUIRES 2" INSULATION
2. SUPPLY & RETURN DUCTWORK FROM HVAC UNITS:
   1" INSULATION MIN. R–6

GENERAL INSULATION REQUIREMENTS:

1: ALL LINED SUPPLY, RETURN AND TRANSFER DUCTWORK SHALL BE 1" DUCT LINER
   –DUCT INSULATION SHALL CONTINUE OVER DUCT AT LINED POINT
   –FIRST 10' OF SUPPLY AND RETURN FOR ALL ERU'S AND HVAC UNITS
2. CONDENSATE DRAIN: 1"
3. REFRIGERANT PIPING ⅞" ARAMFLEX

ALL DUCTWORK ON ROOF SHALL BE INSULATED WITH R–8 INSULATION AND COVERED WITH EPDM ROOFING MATERIAL FOR WATER TIGHT INSTALLATION.

GENERAL NOTES

1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCONSISTENCY, OMISSION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS , DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT, IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRACT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERROR, OMISSIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

FIRE/SMOKE DAMPER REQUIREMENTS

IMC 607.5.5 REQUIRES FIRE/SMOKE DAMPER AT ALL SHAFT PENETRATIONS

IMC 607.6.1. REQUIRES DAMPER EXCEPT
–DUCT CAN PENETRATE UP TO THREE FLOORS IF, 26 GAUGE, OPEN FROM ONE UNIT TO OUTSIDE, 4" ROUND AND SEALED AROUND AND CEILING GRILLES HAVE RADIATION DAMPERS

IMC 6075.3 REQUIRES FIRE PARTITION PENETRATIONS TO HAVE FIRE DAMPERS EXCEPT
–BUILDING IS SPRINKLED OR
–DUCT IS MINIMUM 26 GAUGE, LESS THAN 100 SQ–INCH AND
–DUCT IS ABOVE CEILING AND,
–DUCT IS NOT TERMINATED AT FIRE RATED WALL AND
–MINIMUM 12" SLEEVE IS PROVIDED

FIRE SAFE THROUGH FLOORS

TYPE	SIZE	HILTI	MATERIAL	RATING	BOTTOM	TOP	CHASE WALL
STEEL/CAST COPPER/EMT	MAX 4"	FS–ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
STEEL/CAST 4" EMT/ 2" FLEX	MAX 6" –	FS–ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
STEEL/CAST COPPER/EMT	MAX 4"	CP–620	FIRE FOAM	1HRS	FIRE STOP	FIRE STOP	REQUIRED
PEX	MAX 1"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	BOTH SIDES	BOTH SIDES	NOT REQUIRED
PVC PIPE	MAX 2"	FS–ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
PVC PIPE	MAX 4"	FS–ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
PVC PIPE	MAX 4"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	COLLAR	FIRE STOP	NOT REQUIRED
REFRIGERANT	–	FS–ONE	INTUMESCENT SEALANT	– 1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
4" DUCT	MAX 4"	FS–ONE	INTUMESCENT SEALANT	– 1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
INSULATED COPPER/STEEL	MAX 2"	FS–ONE	INTUMESCENT SEALANT	– 1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
CABLES	MAX 2"	FS–ONE	INTUMESCENT SEALANT	– 1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED

LOUVERS

LOUVER DIMENSIONS SHALL BE COORDINATED WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS
LOUVERS SHALL BE AMCA CERTIFIED FOR WIND DRIVEN RAINS
BLADES SHALL BE 4" DEEP MOUNTED BETWEEN 35–45 DEGREES WITH DRAINABLE BLADE AND DRAINABLE HEAD
PROVIDE BIRD SCREENS IN COMPLIANCE WITH IMC 401
PROVIDE CLOR ANODIZED LOUVER PER ARCHITECTS DIRECTION
LOUVERS SHALL BE AS MANUFACTURED BY GREENHECK MODEL EHH 401 SERIES

FIRE RATED CEILING NOTES:
–ALL RECESSED DIFFUSERS AND REGISTERS SHALL HAVE RADIATION DAMPERS.
–ALL UNITS DUCTED TO PLENUM SPACE SHALL HAVE CEILING FIRE DAMPERS
–ALL RETURN DUCTS SHALL BE BELOW THE RATED CEILING, DROPPED CEILING AREAS SHALL NOT BE RATED CEILING
–ALL RETURN AIR GRILLS ON CEILING SHALL HAVE CEILING RADIATION DAMPERS
–ALL UNIT DISCHARGES SHALL BE OFFSET TO GET INTO PROPER JOIST SPACES, CARRY TRANSITION PIECE AS NEEDED
–ALL KITCHEN EXHAUST DUCTS OR DUCTS LARGER THAN ø4" DIAMETER SHALL HAVE FIRE DAMPERS AT CEILING PENETRATIONS
–ALL DUCTWORK IN CEILING SPACE SHALL HAVE R–6 INSULATION.
–ALL FRESH AIR DUCTS SHALL HAVE MOTORIZED DAMPERS INTERLOCKED WITH UNIT AND HAVE VOLUME DAMPERS AND INSULATED WITH R–4

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

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SHEET TITLE

HVAC NOTES

SCALE:
DATE: 12/03/24
DRAWN BY:
CHECKED BY: MW
FILE:

DRAWING NO.
H-2.0

NOT FOR CONSTRUCTION

WALL CAP SCHEDULE

TAG	BRAND	SIZE	DIMENSIONS	LOCATION	DUCT
WC-B	MID-AMERICA	4" HOODED VENT	7.5"X7.5"X1.5"	BATHROOM EXHAUST	ø4"
WC-K	MID-AMERICA	6" HOODED VENT	10"x9"X5"	KITCHEN EXHAUST	ø6" W/FD AT CEILING PENETRATION
WC-D	MID-AMERICA	4" HOODED VENT	7.5"X7.5"X1.5"	DRYER EXHAUST-REMOVE SCREEN	ø4" AL WITH HARD ELBOW
WC-FA	MID-AMERICA	6" HOODED VENT	7.5"X7.5"X1.5"	FRESH AIR INTAKE	ø6"-INSULATED

VYNIL COLOR TO MATCH SIDING,
MATCH DUCT SIZE CONNECTED TO UNIT.
ALL EXHAUST DUCTS SHALL HAVE R-6 INSULATION FIRST 10FT FROM EXTERIOR WALL IN
ALL FRESH AIR INTAKE DUCTS SHALL HAVE MOTORIZED DAMPER AT ENVELOPE PENETRATION WITH ACCESS PANEL.
DAMPER SHALL BE INTERLOCKED WITH HVAC UNIT
FOR COMBINED BATHROOMS, USE 6" DUCT AFTER COMBINE AND USE WC-K WALL CAP

CONDENSATE DRAIN PIPE SIZING GUIDELINES	
PIPE	TON
3/4"	2
1"	5
1 1/4"	30
1 1/2"	50
2"	170
2 1/2"	225
3"	300
4"	450

PROVIDE 1" INSULATION

ROOF EXHAUST FAN SCHEDULE

TAG	LOCATION	SERVICE	TYPE	DRIVE	CFM	SP	RPM	HP	V/ø	ROOF OPENING	GREENHECK MODEL	CONTROLS
EF-2	ROOF	LAUNDRY	ROOF	BELT	2000	3/4"	1230	3/4	120/1		GB-SERIES	VFD/PRESSURE SENSOR IN DUCT
TEF-1	ROOF	TRASH	ROOF	BELT	500	1/2"	1230	1/2	120/1		GB-91-4	CONSTANT

NOTE: 1. PROVIDE ROOF CURB, DISCONNECT SWITCH, MOTORIZED DAMPER AND STARTER WITH ALL FANS.

GAS FIRED HEATING AND VENTILATING UNIT SCHEDULE

TAG NO.	SERVING	TYPE	FAN					GAS HEATING-MBH			COOLING-MBH		STARTER	DISC. SW.	MCA	MOCP	VOLTS/ø	REZNOR MODEL NO.	DIMENSIONS
			CFM	O.A.	ESP	RPM	HP	INPUT	OUTPUT	EFF	TOTAL	SENS							
MAU-1	DRYER	ROOFTOP	1600	100%	.75"	1140	2	150	100	81%	250	203	YES	YES	50	70	208V/3ø	JR0A036A1A2AA	64"X50"X60"H-675LB

- 409 SS HEAT EXCHANGER, INTERMITTENT SPARK PILOT, HIGH ENERGY MOTORS, MOTOR STARTER, CONVENIENCE OUTLET, FILTER RACK WITH FILTERS, DOWN TURN PLENUM, OUTSIDE AIR HOOD & DAMPERS, GAS PRESSURE SAFETY SWITCH, ELECTRONIC MODULATION WITH ROOM THERMOSTAT.

* OR APPROVED EQUAL
- MUA-1 SHALL HAVE COOLING DX COIL SIZED AT 100% O.A., INTERLOCK WITH DRYER EXHAUST FAN, PROVIDE VFD TO ADJUST CFM BASED ON PRESSURE SENSOR IN DRYER EXHAUST

VARIABLE REFRIGERANT HEAT PUMP UNIT SCHEDULE (SIMULTANE HEAT AND COOL)

TAG NO.	TON	REFRIG	OUTDOOR UNIT					MAX # OF INDOOR UNITS	NOISE	MITSUBISHI MODEL#	DIMENSIONS
			HEAT	COOL	VOLT/PHS	AMP	MCB				
ACCU-1	16	R410A	215,000	192,000	208/3	31/31	45/45	32	63 DBA	PURY-P192TGMU-BS	79"WX34"DX73"H-1240LBS
ACCU-2	16	R410A	215,000	192,000	208/3	31/31	45/45	32	63 DBA	PURY-P192TGMU-BS	79"WX34"DX73"H-1240LBS
ACCU-3	18	R410A	243,000	216,000	208/3	41/41	60/60	32	63 DBA	PURY-P216TGMU-BS	79"WX34"DX73"H-1240LBS
ACCU-4	12	R410A	160,000	144,000	208/3	49	60	32	63 DBA	PURY-P144TGMU-BS	50WX34"DX73"H-700LBS

Notes & Options:
Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
Efficiency values for EER, IEER, COP are based on AHRI 1230 test method for mixture of ducted & non-ducted indoor units.
For systems with multiple modules, refrigerant pipe dimensions indicate total system combined piping downstream of module twinning.
Added field charge listed is in addition to factory charge, this must be updated based upon final as-built piping layout.
Provide 18" Super Stand Kit
Provide Panel Heater Kit to Prevent Ice Buildup on Outdoor Drain Pan

VARIABLE REFRIGERANT HEAT PUMP UNIT SCHEDULE (SIMULTANE HEAT AND COOL)

TAG NO.	TON	CFM	INDOOR UNIT					MAX # OF INDOOR UNITS	NOISE	MITSUBISHI MODEL#	DIMENSIONS
			HEAT	COOL	VOLT/PHS	SP	KW				
HP-1	.5	200	7,000	6,000	208/1	1/2"	.33	15	40 DBA	PLFY-06EP-NEMU	22"WX22"DX10"H-100LBS
HPC-1	1	400	14,000	12,000	208/1	1/2"	.33	15	40 DBA	PLFY-12EP-NEMU	22"WX22"DX15"H-100LBS
HPC-2	1 1/2	600	20,000	18,000	208/1	1/2"	.33	19	40 DBA	PLFY-18EP-NEMU	22"WX22"DX15"H-100LBS
HVAC-1	1.25	500	17,000	15,000	208/1	1/2"	.33	19	40 DBA	PEFY-P15NAMU-E1	36"WX22"DX15"H-100LBS
HVAC-2	1 1/2	600	20,000	18,000	208/1	1/2"	.33	19	40 DBA	PEFY-P18NAMU-E1	36"WX22"DX15"H-100LBS

Notes & Options:
Nominal cooling capacities are based on indoor coil EAT of 80/67°F (DB/WB), outdoor of 95°F (DB)
Nominal heating capacities are based on indoor coil EAT of 70°F (DB), outdoor of 43°F (WB)
See outdoor unit schedule for outdoor ambient conditions, connected capacity, and other factors associated with corrected capacities
See schematic piping/control diagram for indication of required indoor unit remote controllers, system controllers, and integration devices.
Full demand corrected capacity includes de-rate associated with indoor vs. outdoor connected capacity indicated on outdoor unit schedule for associated system.
Partial corrected capacity assumes sufficient diversity exists such that the connected capacity de-rate does not apply.
It is the designer's responsibility to ensure "Diamond System Builder" is set in the appropriate output capacity setting (full demand/partial demand) prior to generating this schedule.
It is recommended to always base heating corrected capacity on full demand.
Provide Blue Diamond MaxiBlue Condensate Pump with Resevoir & Sensor - 208/230V

VARIABLE REFRIGERANT HEAT PUMP UNIT SCHEDULE (SIMULTANE HEAT AND COOL)

TAG NO.	TON	REFRIG	OUTDOOR UNIT						MAX # OF INDOOR UNITS	NOISE	MITSUBISHI MODEL#	DIMENSIONS
			HEAT	COOL	VOLT/PHS	AMP	KW	MCB				
CU-1	12	R410A	160,000	144,000	208/3	44	10.3	60	24	61 DBA	PURY-P144TGMU-BS	51"WX34"DX73"H-675LBS

WITH EACH UNIT PROVIDE
-3R RATED FUSED DISCONNECT SWITCH
-SEACOST PROTECTION OPTION,
-BC CONTROLLER AS REQUIRED,
-PROVIDE 208/1/.5A POWER TO EACH BC CONTROLLER,

VARIABLE REFRIGERANT HEAT PUMP UNIT SCHEDULE (SIMULTANE HEAT AND COOL)

TAG NO.	TON	CFM	INDOOR UNIT					MAX # OF INDOOR UNITS	NOISE	MITSUBISHI MODEL#	DIMENSIONS
			HEAT	COOL	VOLT/PHS	SP	KW				
HPC-1	1	400	17,000	15,000	208/1	1/2"	.33	15	40 DBA	PEFY-P15NMHU-E	36"WX30"DX15"H-100LBS

NOTE
UNITS ARE BASED ON HIGH EXTERNAL STATIC PRESSURE OPTION, STANDARD PRESSURE IS .3"
HEATING VALUES ARE AT %50 WHEN OUTDOORS IS -5 DEGREE F
WITH EACH UNIT PROVIDE ME PROGRAMMABLE CONTROLLER

SPLIT SYSTEM HEAT PUMP UNIT INDOOR SCHEDULE

TAG NO.	TON	CFM	REFRIG	INDOOR UNIT				NOISE	MITSUBISHI MODEL#	DIMENSIONS	NOISE
				HEAT	COOL	VOLT/PHS	AMP				
HVAC-1	1.5	600	R410A	20,000	18,200	208/230/1	15	34/30/49 DBA	SVZ-KP18NA	22" X 22" X 56"	40 DBA
HVAC-2	2	800	R410A	27,000	24,200	208/230/1	15	34/30/49 DBA	SVZ-KP24NA	22" X 22" X 56"	40 DBA
HVAC-2.5	2.5	1000	R410A	27,000	24,200	208/230/1	15	34/30/49 DBA	SVZ-KP30NA	22" X 22" X 56"	40 DBA

PROVIDE ENERGY STAR THERMOSTAT WITH CO2 SENSOR/ALARM, SECONDARY DRAIN PAN WITH LEAK SENSOR

SPLIT SYSTEM HEAT PUMP UNIT OUTDOOR SCHEDULE

TAG NO.	TON		REFRIG	OUTDOOR UNIT					MITSUBISHI MODEL#	DIMENSIONS	NOISE
				HEAT	COOL	VOLT/PHS	AMP				
CU-1.5	1.5		R410A	20,000	18,000	208/1	20		SUZ-KA18NAHZ	43"WX10"DX12"H-37LBS	33 DBA
CU-2.0	2		R410A	27,000	24,000	208/1	20		SUZ-KA24NAHZ	43"WX10"DX12"H-37LBS	33 DBA
CU-2.5	2.5		R410A	34,000	30,000	208/1	20		SUZ-KA30NAHZ	43"WX10"DX12"H-37LBS	33 DBA

WITH EACH UNIT PROVIDE
-3R RATED FUSED DISCONNECT SWITCH
-PROVIDE AIR PROTECT GUIDE

ENERGY CODE 2021 REQUIREMENTS

APPLICABILITY (CONTRACTOR SHALL PROVIDE ALL ITEMS LISTED BELOW)

RESIDENTIAL BUILDING. FOR THIS CODE, INCLUDES DETACHED ONE- AND TWO-FAMILY DWELLINGS AND MULTIPLE SINGLE-FAMILY DWELLINGS (TOWNHOUSES) AS WELL AS GROUP R-2, R-3 AND R-4 BUILDINGS THREE STORIES OR LESS IN HEIGHT ABOVE GRADE PLANE.

R401.2APPLICATION.

RESIDENTIAL BUILDINGS SHALL COMPLY WITH SECTION R401.2.5 AND EITHER SECTIONS R401.2.1, R401.2.2, R401.2.3 OR R401.2.4.

R403.1.1 PROGRAMMABLE THERMOSTAT.
THE THERMOSTAT CONTROLLING THE PRIMARY HEATING OR COOLING SYSTEM OF THE DWELLING UNIT SHALL BE CAPABLE OF CONTROLLING THE HEATING AND COOLING SYSTEM ON A DAILY SCHEDULE TO MAINTAIN DIFFERENT TEMPERATURE SET POINTS AT DIFFERENT TIMES OF DAY AND DIFFERENT DAYS OF THE WEEK. THIS THERMOSTAT SHALL INCLUDE THE CAPABILITY TO SET BACK OR TEMPORARILY OPERATE THE SYSTEM TO MAINTAIN ZONE TEMPERATURES OF NOT LESS THAN 55°F (13°C) TO NOT GREATER THAN 85°F (29°C). THE THERMOSTAT SHALL BE PROGRAMMED INITIALLY BY THE MANUFACTURER WITH A HEATING TEMPERATURE SETPOINT OF NOT GREATER THAN 70°F (21°C) AND A COOLING TEMPERATURE SETPOINT OF NOT LESS THAN 78°F (26°C).

R403.1.2 HEAT PUMP SUPPLEMENTARY HEAT.
HEAT PUMPS HAVING SUPPLEMENTARY ELECTRIC-RESISTANCE HEAT SHALL HAVE CONTROLS THAT, EXCEPT DURING DEFROST, PREVENT SUPPLEMENTAL HEAT OPERATION WHEN THE HEAT PUMP COMPRESSOR CAN MEET THE HEATING LOAD.

R403.2 HOT WATER BOILER TEMPERATURE RESET.
THE MANUFACTURER SHALL EQUIP EACH GAS, OIL AND ELECTRIC BOILER (OTHER THAN A BOILER EQUIPPED WITH A TANKLESS DOMESTIC WATER HEATING COIL) WITH AUTOMATIC MEANS OF ADJUSTING THE WATER TEMPERATURE SUPPLIED BY THE BOILER TO ENSURE INCREMENTAL CHANGE OF THE INFERRED HEAT LOAD WILL CAUSE AN INCREMENTAL CHANGE IN THE TEMPERATURE OF THE WATER SUPPLIED BY THE BOILER. THIS CAN BE ACCOMPLISHED WITH OUTDOOR RESET, INDOOR RESET OR WATER TEMPERATURE SENSING.

PROVIDE PER R403.2.1 INSULATION (PRESCRIPTIVE).
ANY SUPPLY DUCT IN ATTIC SHALL BE INSULATED TO A MINIMUM OF R-12. ALL OTHER DUCTS SHALL BE INSULATED TO A MINIMUM OF R-6.

R403.3.4 SEALING.
DUCTS, AIR HANDLERS AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH EITHER THE INTERNATIONAL MECHANICAL CODE OR INTERNATIONAL RESIDENTIAL CODE, AS APPLICABLE.

R403.3.7 BUILDING CAVITIES.
BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS

R403.3.6DUCT LEAKAGE.

THE TOTAL LEAKAGE OF THE DUCTS, WHERE MEASURED IN ACCORDANCE WITH SECTION R403.3.5, SHALL BE AS FOLLOWS:

1. ROUGH-IN TEST: THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4.0 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA WHERE THE AIR HANDLER IS INSTALLED AT THE TIME OF THE TEST. WHERE THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, THE TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3.0 CUBIC FEET PER MINUTE (85 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA.
2. POSTCONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4.0 CUBIC FEET PER MINUTE (113.3 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA.
3. TEST FOR DUCTS WITHIN THERMAL ENVELOPE: WHERE ALL DUCTS AND AIR HANDLERS ARE LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 8.0 CUBIC FEET PER MINUTE (226.6 L/MIN) PER 100 SQUARE FEET (9.29 M2) OF CONDITIONED FLOOR AREA.

R403.3.7 BUILDING CAVITIES.
BUILDING FRAMING CAVITIES SHALL NOT BE USED AS DUCTS OR PLENUMS

R403.4 MECHANICAL SYSTEM PIPING INSULATION.
MECHANICAL SYSTEM PIPING CAPABLE OF CARRYING FLUIDS GREATER THAN 105°F (41°C) OR LESS THAN 55°F (13°C) SHALL BE INSULATED TO AN R-VALUE OF NOT LESS THAN R-3.

R403.6MECHANICAL VENTILATION.
THE BUILDINGS COMPLYING WITH SECTION R402.4.1 SHALL BE PROVIDED WITH VENTILATION THAT COMPLIES WITH THE REQUIREMENTS OF SECTION M1505 OF THE INTERNATIONAL RESIDENTIAL CODE OR INTERNATIONAL MECHANICAL CODE, AS APPLICABLE, OR WITH OTHER APPROVED MEANS OF VENTILATION. OUTDOOR AIR INTAKES AND EXHAUSTS SHALL HAVE AUTOMATIC OR GRAVITY DAMPERS THAT CLOSE WHEN THE VENTILATION SYSTEM IS NOT OPERATING.

R403.6.3TESTING.
MECHANICAL VENTILATION SYSTEMS SHALL BE TESTED AND VERIFIED TO PROVIDE THE MINIMUM VENTILATION FLOW RATES REQUIRED BY SECTION R403.6. TESTING SHALL BE PERFORMED ACCORDING TO THE VENTILATION EQUIPMENT MANUFACTURER'S INSTRUCTIONS, OR BY USING A FLOW HOOD OR BOX, FLOW GRID, OR OTHER AIRFLOW MEASURING DEVICE AT THE MECHANICAL VENTILATION FAN'S INLET TERMINALS OR GRILLES, OUTLET TERMINALS OR GRILLES, OR IN THE CONNECTED VENTILATION DUCTS. WHERE REQUIRED BY THE CODE OFFICIAL, TESTING SHALL BE CONDUCTED BY AN APPROVED THIRD PARTY. A WRITTEN REPORT OF THE RESULTS OF THE TEST SHALL BE SIGNED BY THE PARTY CONDUCTING THE TEST AND PROVIDED TO THE CODE OFFICIAL.

EXCEPTION: KITCHEN RANGE HOODS THAT ARE DUCTED TO THE OUTSIDE WITH 6-INCH (152 MM) OR LARGER DUCT AND NOT MORE THAN ONE 90-DEGREE (1.57 RAD) ELBOW OR EQUIVALENT IN THE DUCT RUN.

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PROJECT

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CRUZ DEVELOPMENT CORPORATION

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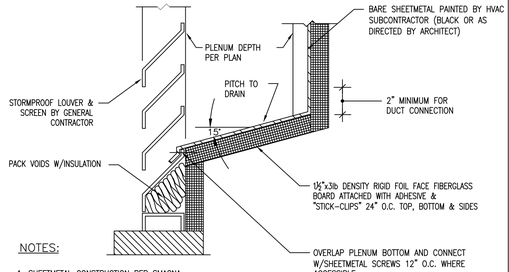
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HVAC NOTES & SCHEDULES

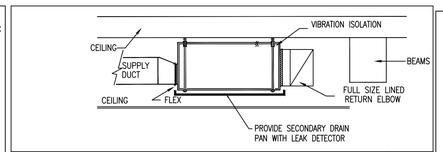
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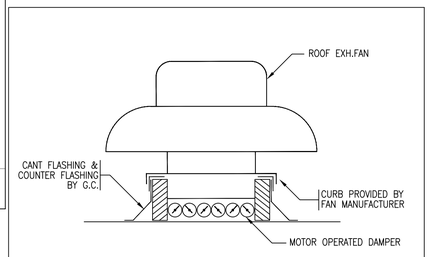
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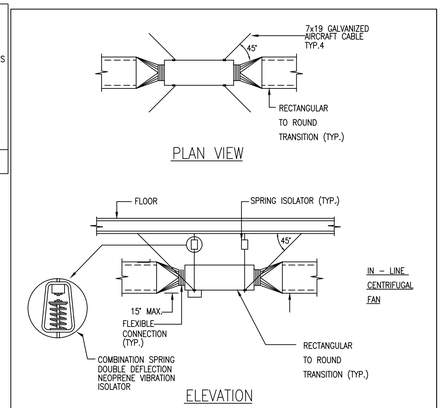
PLENUM AT LOUVER DETAIL | N.T.S.



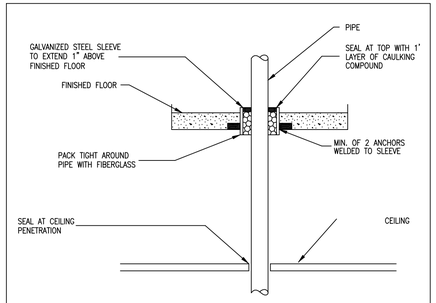
HVAC UNIT HANGER DETAIL | N.T.S.



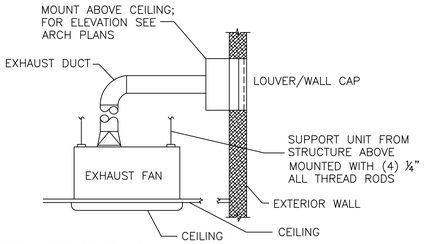
ROOF EXHAUST FAN DETAIL | N.T.S.



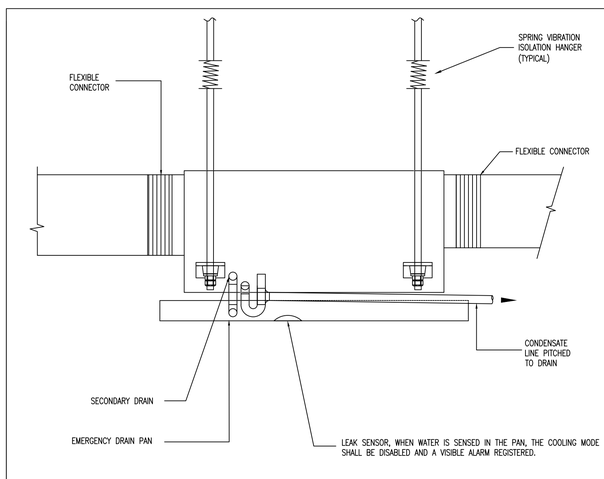
IN LINE FAN HANGER DETAIL | NTS



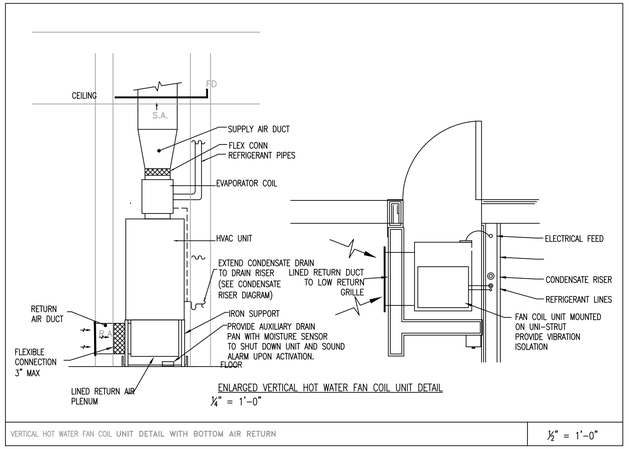
PIPE SLEEVE THRU FLOOR PENTRATION DETAIL | NTS



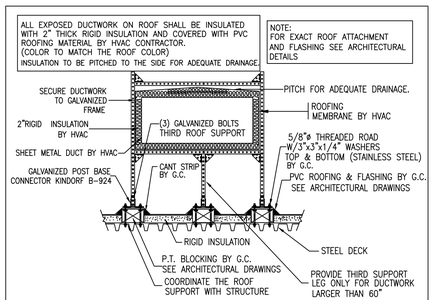
CEILING EXHAUST FAN DETAIL | NTS



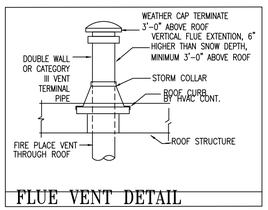
TYPICAL HORIZONTAL HORIZONTAL HVAC UNIT DETAIL | N.T.S.



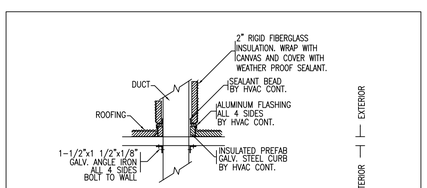
VERTICAL HOT WATER FAN COIL UNIT DETAIL WITH BOTTOM AIR RETURN | ½" = 1'-0"



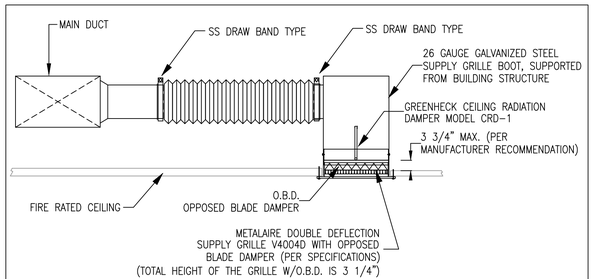
EXPOSED DUCTWORK ON ROOF | NTS



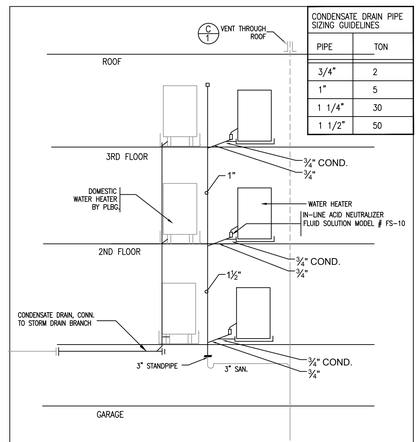
FLUE VENT DETAIL



DUCT ROOF PENETRATION DETAIL | NTS



SUPPLY GRILLE/CRD INSTALLATION DETAIL | N.T.S.



CONDENSATE DRAIN PIPE SIZING GUIDELINES	
PIPE	TON
3/4"	2
1"	5
1 1/4"	30
1 1/2"	50

NOTE:
ALL ACID NEUTRALIZERS, DRAIN PIPING FROM FURNACES, AND CONDENSATE DRAIN SHALL BE BY HVAC CONTRACTOR. SANITARY PIPING SHALL BE BY PLUMBING CONTRACTOR.

NOTE:
PROVIDE CONDENSATE RISER IN EACH APARTMENT MECH ROOM AS SHOWN ON THIS DIAGRAM

MECHANICAL ROOM DRAIN RISER DIAGRAM

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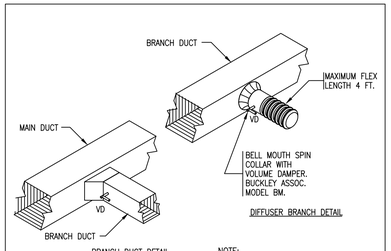
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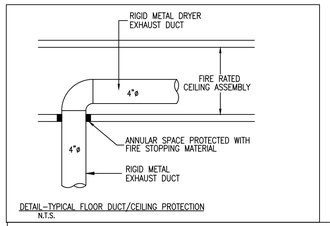
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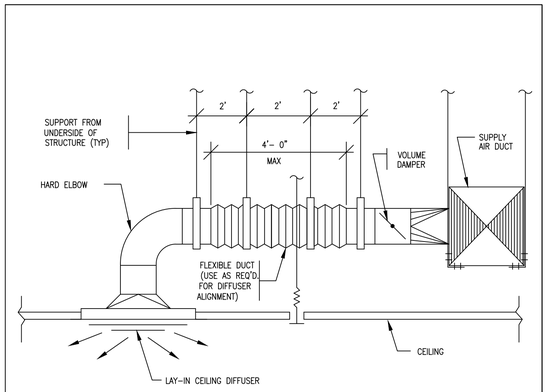


NOTE:
IN AREAS WITH SHEETROCK CEILINGS PROVIDE REMOTELY OPERATED VOLUME DAMPERS.

DUCT DETAILS | NTS

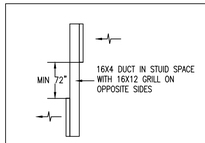


DETAIL-TYPICAL FLOOR DUCT/CEILING PROTECTION
N.T.S.

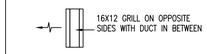


NOTES:
① MAXIMUM SAG 1/2" PER FOOT.

CEILING DIFFUSER BRANCH DUCTS | N.T.S.



BEDROOM WALL TRANSFER GRILL



LAUNDRY ROOM WALL TRANSFER GRILL

CEILING AND WALL TRANSFER DUCT DETAIL | N.T.S.

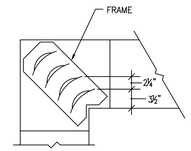
COMMERCIAL KITCHEN HOOD REQUIREMENTS (CONTRACTOR SHALL PROVIDE TO MEET THE REQUIREMENTS)

PROVIDE AND/OR VERIFY THE FOLLOWING ITEMS WITH REGARDS TO COMMERCIAL HOOD:

1. A RETURN AIR INTAKE FOR RE-CIRCULATING AIR-CONDITIONING CAN BE NO CLOSER THAN 10 FEET FROM COOKING APPLIANCES.
2. PER NFPA 96 5.3.4, A FIRE DAMPER ACTUATED AT A MAXIMUM OF 286 DEGREES, WHICH MUST BE INSTALLED IN THE SUPPLY PLENUM. (COORDINATE WITH HOOD MANUFACTURER, NO FD REQUIRED IF SUPPLY PLENUM IS EXTERIOR TO HOOD STRUCTURE)
3. NO DAMPERS CAN BE INSTALLED IN THE EXHAUST SYSTEM, PER NFPA 96 9.1.1.
4. PER NFPA 96 8.1.1 UPBLAST EXHAUST FANS MUST BE HINGED, SUPPLIED WITH FLEXIBLE WEATHERPROOF ELECTRIC CABLE, AND SERVICE HOLD-OPEN RETAINERS. FOR IN-LINE OR UTILITY SET EXHAUST FANS SEE NFPA 96 8.1.2 AND 8.1.3.
5. PER NFPA 96 10.10 . A PORTABLE ALKALINE EXTINGUISHER LISTED FOR EXTRA HAZARD CLASS FIRES MUST BE TEN (10) TO TWENTY (20) FEET FROM COOKING EQUIPMENT AND FIVE (5) FEET ABOVE THE FLOOR. NOTE: CLASS B GAS-TYPE PORTABLES SUCH AS CO2 AND HALON SHALL NOT BE USED IN THE KITCHEN COOKING AREA (NFPA 96 10.10.3)

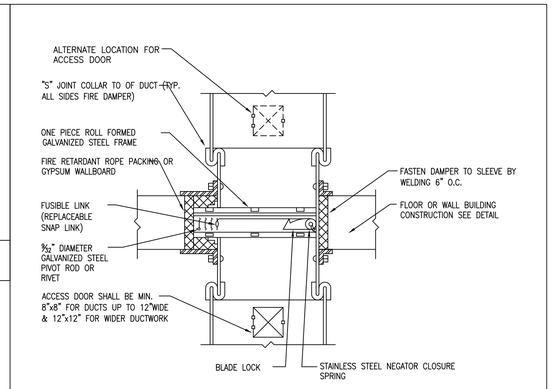
PLEASE PROVIDE AND/OR VERIFY THE FOLLOWING ITEMS WITH REGARDS TO EXHAUST DUCT SYSTEM:

1. THAT THE EXHAUST DUCTS CAN NOT PASS THROUGH FIRE RATED PARTITIONS (WITHOUT SHAFT PROTECTION) AND MUST BE INDEPENDENT OF ANY OTHER BUILDING VENTILATION OR EXHAUST SYSTEM AS PER NFPA 96 7.1.
2. PER NFPA 96 7.3.1 THAT THE ACCESS PANEL OPENINGS MUST BE PROVIDED AT THE SIDES OR AT THE TOP OF THE DUCT, WHICHEVER IS MORE ACCESSIBLE, AND AT CHANGES OF DIRECTION, ON EVERY FLOOR AND AT EVERY 10 FT INTERVALS.
3. PER NFPA 96 7.1.2 THAT THE EXHAUST DUCT MUST LEAD AS DIRECTLY AS IS PRACTICAL TO THE EXTERIOR TO DECREASE THE FIRE HAZARD AND MUST COMPLY WITH THE FOLLOWING:
   A. DUCTS MUST BE CONSTRUCTED OF AND SUPPORTED BY 16-GUAGE CARBON STEEL OR 18-GAUGE STAINLESS STEEL. (NFPA 96.7.5)
   B. ALL SEAMS, JOINTS, AND PENETRATIONS MUST HAVE LIQUID TIGHT EXTERNAL WELDS. (NFPA 96 7.1.2)
   C. AN ACCESS PANEL MUST BE PROVIDED FOR HOODS WITH DAMPERS ON EXHAUST OR SUPPLY COLLARS AND FOR ALL OPENINGS REQUIRED FOR ACCESSIBILITY. (NFPA 96 7.1.5)
4. PER NFPA 96 7.7, FIRE RATED SHAFT PROTECTION IS REQUIRED FOR INTERIOR INSTALLATION OF DUCT SYSTEMS.
   A. ONE-HOUR RATED SHAFT ENCLOSURE FOR DUCTS CONNECTING THREE STORIES AND LESS.((NFPA 96 7.7.2.1.1)
   B. TWO-HOUR RATED SHAFT ENCLOSURE FOR DUCTS CONNECTING FOUR STORIES OR MORE.((NFPA 96 7.7.2.1.1)
   C. DUCTS THAT PASS THROUGH A RATED ROOF/CEILING ASSEMBLY MUST BE ENCLOSED BY A SHAFT. (NFPA 96.7.7.1.2)
5. PER NFPA 96 4.2.1, FIGURE A 4.2 (D), WHERE FIRE RATED SHAFT ENCLOSURES ARE NOT REQUIRED, HOOD, GREASE REMOVAL DEVICES, EXHAUST FANS, AND DUCTS MUST HAVE CLEARANCES AS FOLLOWS:
   A. MINIMUM 18 INCHES TO COMBUSTIBLE MATERIALS. (NFPA 96 4.2.1)
   B. MINIMUM THREE INCHES TO LIMITED COMBUSTIBLE MATERIALS AND ZERO INCHES TO NONCOMBUSTIBLE MATERIALS.
   C. WHERE THE HOOD, DUCT, OR GREASE REMOVAL DEVICE IS LISTED FOR CLEARANCES LESS THAN THOSE REQUIRED BY NFPA 96 4.2.1, THE LISTED REQUIREMENTS SHALL BE PERMITTED. (NFPA 96 4.2.2)
6. PER NFPA 96 7.6, EXTERIOR INSTALLATION OF EXHAUST DUCTS MUST BE VERTICAL WHEREVER POSSIBLE, BE LOCATED AT LEAST 18" FROM COMBUSTIBLES, 3" FROM LIMITED COMBUSTIBLES, AND MUST BE PAINTED OR PROVIDED WITH SOME OTHER MEANS OF WEATHER PROTECTIVE COATING (EXCEPT STAINLESS STEEL DUCTS).
7. PER NFPA 96 7.8.2(1) AND 7.8.2.1(2), FOR ROOF TERMINATION, EXHAUST OUTLETS MUST BE LOCATED 10 FEET FROM ADJACENT BUILDINGS OR INTAKE OPENINGS, AND LOCATED A MINIMUM OF 5 FEET FROM THE OUTLET (FAN HOUSING) TO ANY COMBUSTIBLE STRUCTURE.
8. WHERE THE EXHAUST FAN TERMINATES AT A WALL, IT MUST MEET THE FOLLOWING:
   A. A CLEARANCE OF TEN FEET FROM THE OUTLET TO ADJACENT BUILDINGS, PROPERTY LINE, GRADE LEVEL, ELECTRICAL EQUIPMENT, OR TO ANY INTAKE OR OPERABLE DOOR OR WINDOW AT OR BELOW THE PLANE OF EXHAUST TERMINATION. (NFPA 96 7.8)
   B. THE CLOSEST POINT OF ANY AIR INTAKE OR OPERABLE DOOR/WINDOW ABOVE THE PLANE OF EXHAUST TERMINATION MUST BE MINIMUM TEN FEET DISTANCE PLUS THREE INCHES FOR EACH ONE-DEGREE FROM HORIZONTAL. [NFPA 96 7.8.3(2)].
   C. ALL DUCTWORK MUST BE PITCHED TO DRAIN THE GREASE BACK INTO HOODS, OR TO CONTAINER WITHIN THE BUILDING, OR INTO A REMOTE GREASE TRAP. [NFPA 96 7.8.3(5)]



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.

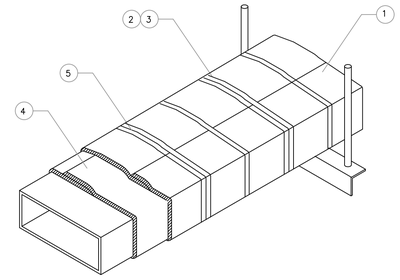
DOUBLE THICKNESS TURNING VANES FOR SQUARE ELBOW | N.T.S.



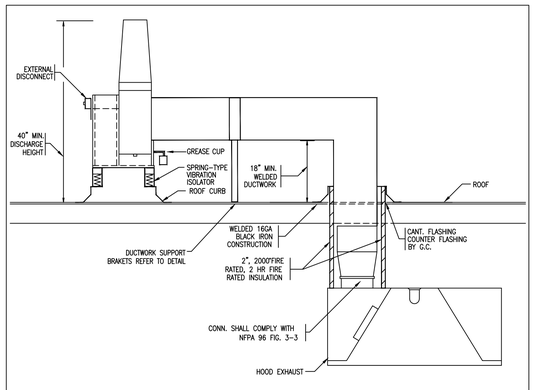
NOTE:
FIRE DAMPER INSTALLATION TO MEET "UL" REQUIREMENTS.

FIRE DAMPER W/BLADES OUTSIDE THE AIR STREAM | N.T.S.

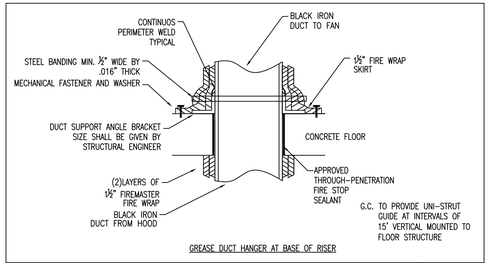
LEGEND	
1	TWO LAYERS CERAMIC FIBER DUCT WRAP
2	FILAMENT TAPE
3	STEEL BANDING
4	3" PERIMETER OVERLAP
5	3" LONGITUDINAL OVERWRAP



GREASE DUCT DETAIL | N.T.S.



HOOD AND FAN DETAIL-(NIC FOR RESTAURANT) | N.T.S.



GREASE DUCT HANGER AT BASE OF RISER

GREASE DUCT HANGER AT BASE OF RISER | N.T.S.

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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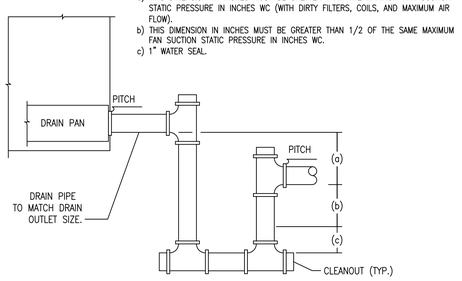
HVAC DETAILS

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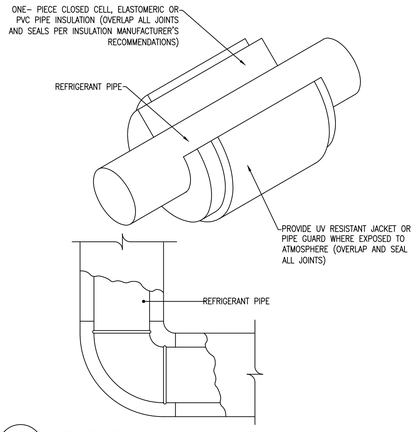
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H-2.3

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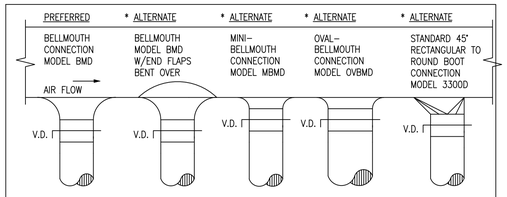
NOTES:
1. ALLOW SUFFICIENT SPACE BELOW DRAIN PAN FOR TRAP.
2. PITCH DRAIN FOR PROPER RUNOFF.
3. MANUALLY PRIME FILL TRAP BEFORE START-UP TO FORM INITIAL DRAIN SEAL.
4. SUPPORT LENGTHY DRAIN LINES TO PREVENT SAG AND CONDENSATE OVERFLOW.
   a) THIS DIMENSION IN INCHES MUST BE GREATER THAN THE MAXIMUM FAN SUCTION STATIC PRESSURE IN INCHES WC (WITH DIRTY FILTERS, COILS, AND MAXIMUM AIR FLOW).
   b) THIS DIMENSION IN INCHES MUST BE GREATER THAN 1/2 OF THE SAME MAXIMUM FAN SUCTION STATIC PRESSURE IN INCHES WC.
   c) 1" WATER SEAL.



6 / M0.4 TYPICAL DRAW THRU CONDENSATE TRAP DETAIL
NTS

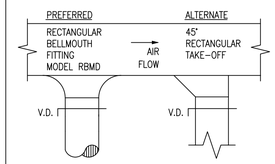


7 / M0.4 REFRIGERANT PIPING INSULATION DETAIL
NTS



ROUND BRANCH DUCT TAKE-OFFS

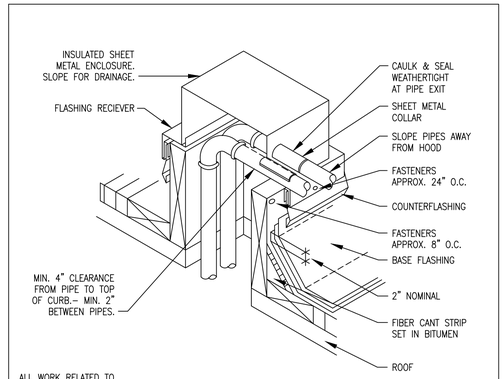
* ALTERNATE FITTINGS TO BE USED WHEN DUCT HEIGHT DOES NOT PERMIT THE USE OF THE FULL SIZE BELLMOUTH



RECTANGULAR BRANCH DUCT TAKE-OFF

NOTES:
1. TO MATCH DUCT & HOLE SIZE RELATIVE TO DUCT HEIGHT, REFER TO FITTING MANUFACTURER'S RECOMMENDATION.
2. ALL ROUND AND RECTNGULAR BELLMOUTH FITTINGS SHALL BE INCLUDED WITH THE FOLLOWING STANDARD FEATURES"
   2.1. NEOPRENE GASKET TO MINIMIZE AIR LEAKAGE.
   2.2. PRE-DRILLED HOLES FOR QUICK MOUNTING.
   2.3. CONSTRUCTION OF HEAVY DUTY GALVANIZED STEEL.
   2.4. 26 GAUGE GALVANIZED LOCKING INDICATING QUADRANT VOLUME DAMPER W/ TIGHT FITTING GASKETING TO MINIMIZE LEAKAGE AT DAMPER PIVOT POINTS.

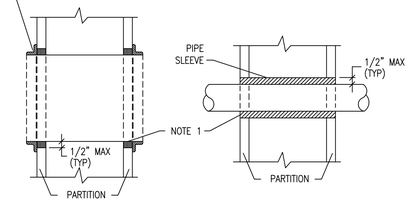
10 / M0.5 TYPICAL WHALEN UNIT DETAIL
NTS



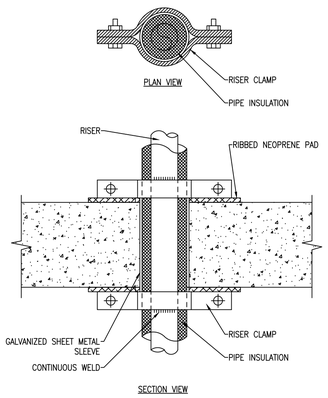
ALL WORK RELATED TO ROOFING, FLASHING & COUNTERFLASHING SHALL BE DONE BY G.C.

1 / M0.5 PIPING ROOF PENETRATION DETAIL
NTS

NOTES:
1. AT FIRE RATED PARTITIONS, ADD ADDITIONAL LAYER OF FIRE SAFING INSULATION AROUND PENETRATION SO AS TO FILL CAVITY.
2. DUCT AND PIPE PENETRATIONS THRU CORRIDOR WALLS ABOVE THE CEILING ARE TO BE FIRE STOPPED AROUND THE PENETRATION.
3. DUCT PENETRATION SHOWN IS WHERE FIRE DAMPER IS NOT REQUIRED BY CODE.

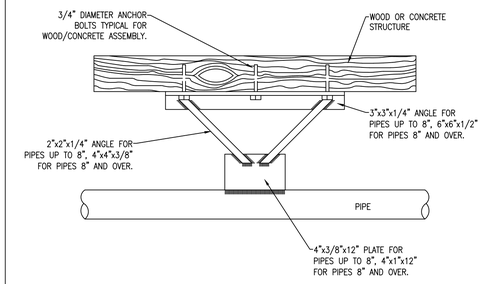


13 / M0.4 DUCT AND PIPE PENETRATION DETAIL
NTS

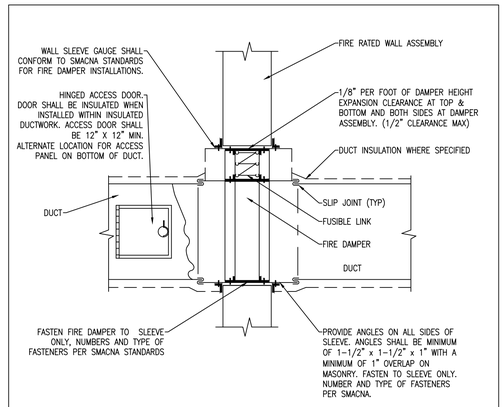


SECTION VIEW

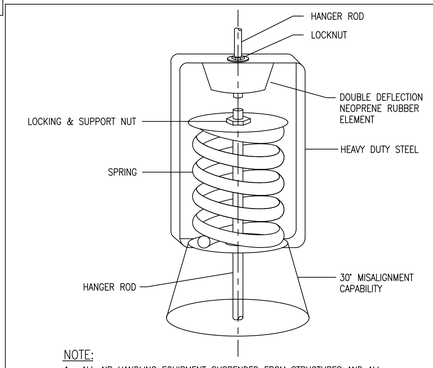
11 / M0.4 RISER PIPE ANCHOR DETAIL
NTS



12 / M0.4 SHEET METAL DUCT SUPPORT HANGERS DETAIL
NTS

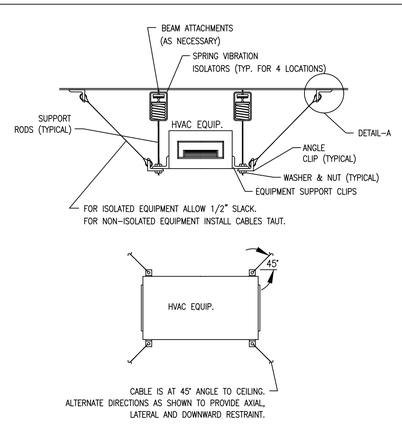


5 / M0.5 FIRE DAMPER DETAIL – HORIZONTAL PENETRATION
NTS

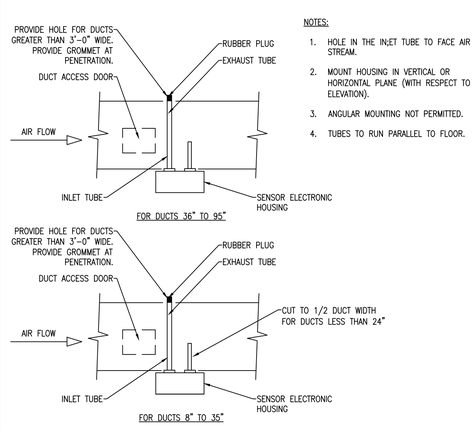


NOTE:
1. ALL AIR HANDLING EQUIPMENT SUSPENDED FROM STRUCTURES AND ALL STEAM AND CHILLED WATER PIPING IN MECHANICAL ROOMS SHALL BE HUNG WITH VIBRATION ISOLATORS.
2. HANGER SIZE SHALL BE AS PER MANUFACTURER'S RECOMMENDATION AND ACCORDING TO THE LOAD OF THE EQUIPMENT.

15 / M0.4 SPRING ISOLATION DETAIL
NTS



16 / M0.4 RESTRAINTS FOR HVAC SUSPENDED EQUIPMENT
NTS



NOTES:
1. HOLE IN THE IN;ET TUBE TO FACE AIR STREAM.
2. MOUNT HOUSING IN VERTICAL OR HORIZONTAL PLANE (WITH RESPECT TO ELEVATION).
3. ANGULAR MOUNTING NOT PERMITTED.
4. TUBES TO RUN PARALLEL TO FLOOR.

6 / M0.5 DUCT SMOKE/FIRE DETECTOR DETAIL
NTS

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
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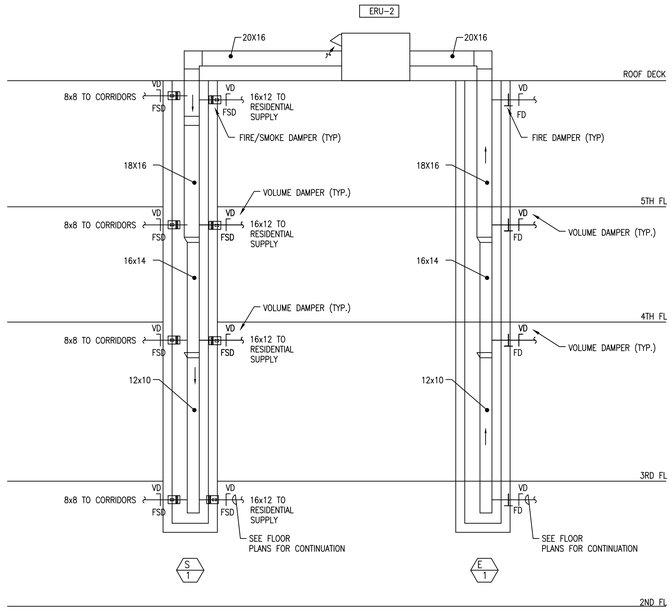
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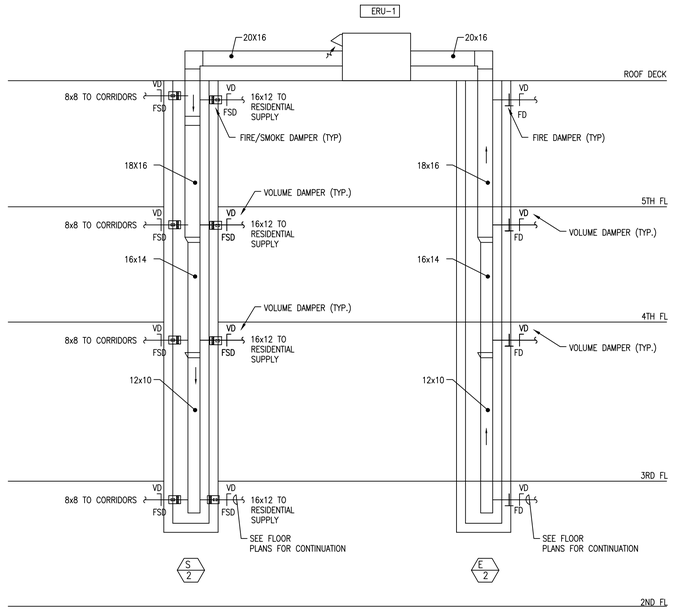
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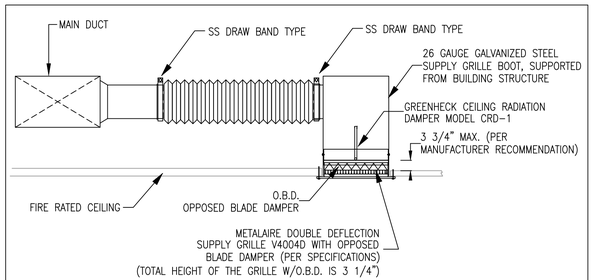
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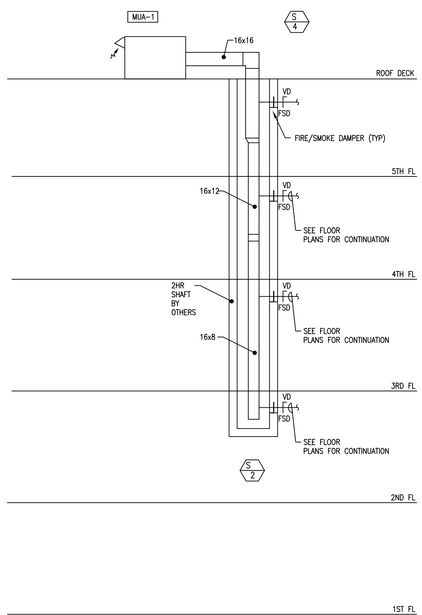
FRESH AIR DIAGRAM



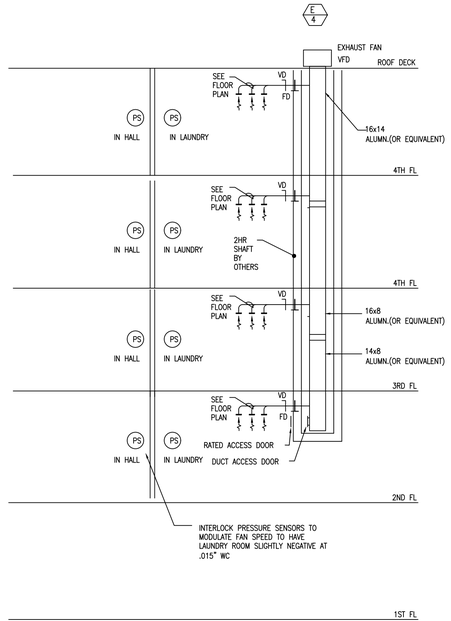
FRESH AIR DIAGRAM



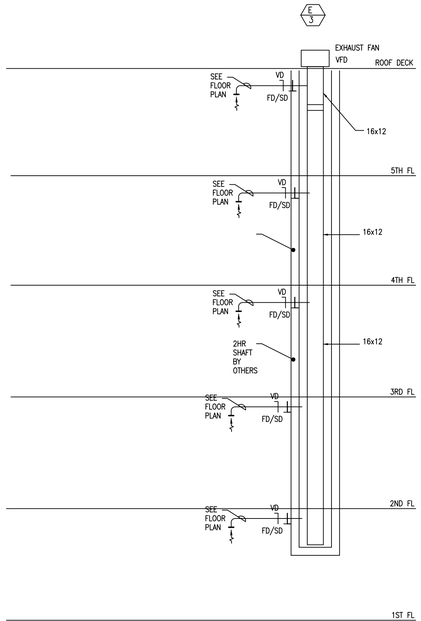
SUPPLY GRILLE/CRD INSTALLATION DETAIL | N.T.S.



MAKE UP AIR DIAGRAM



DRYER EXHAUST DIAGRAM



TRASSH EXHAUST DIAGRAM

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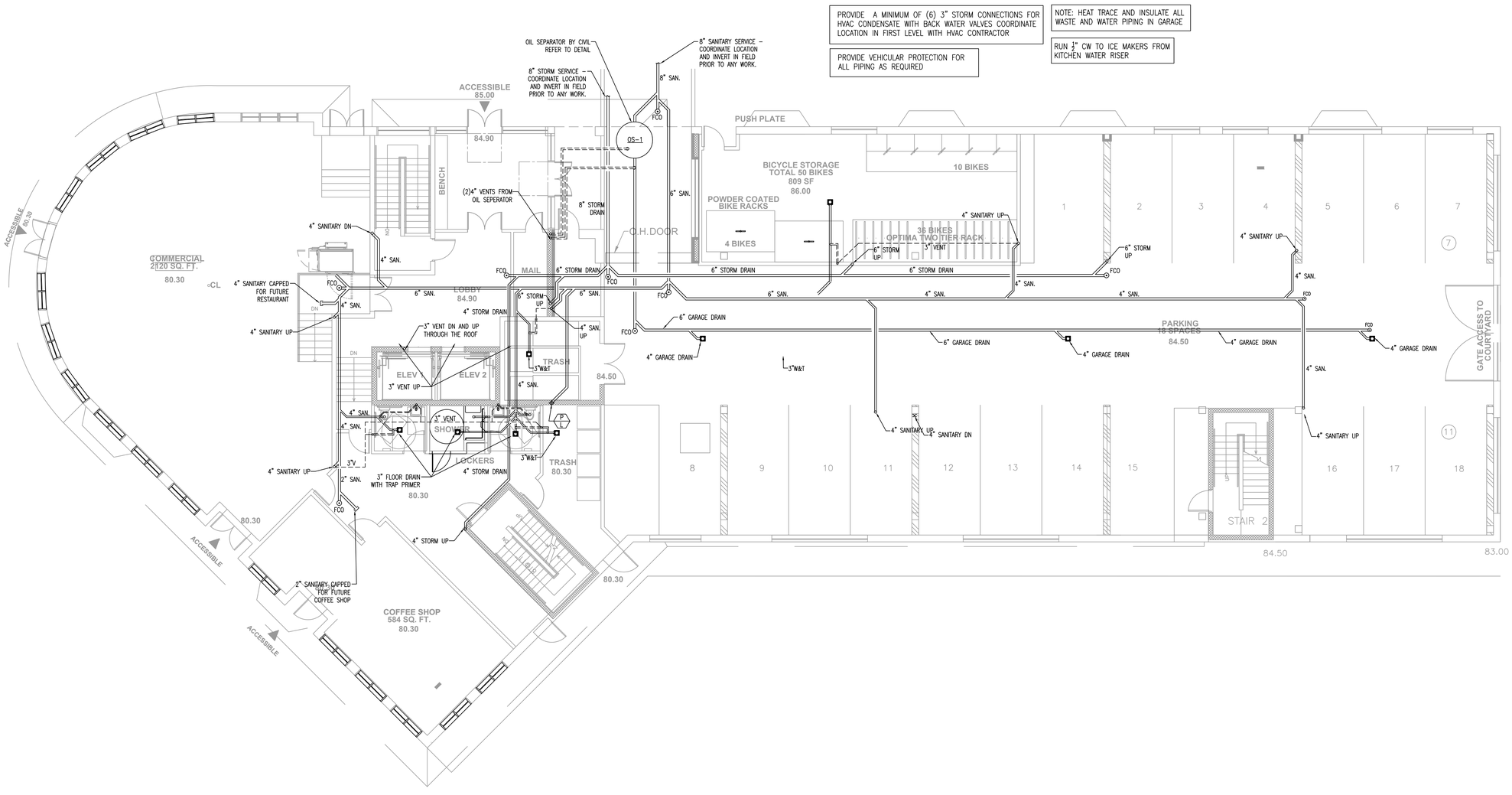
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1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

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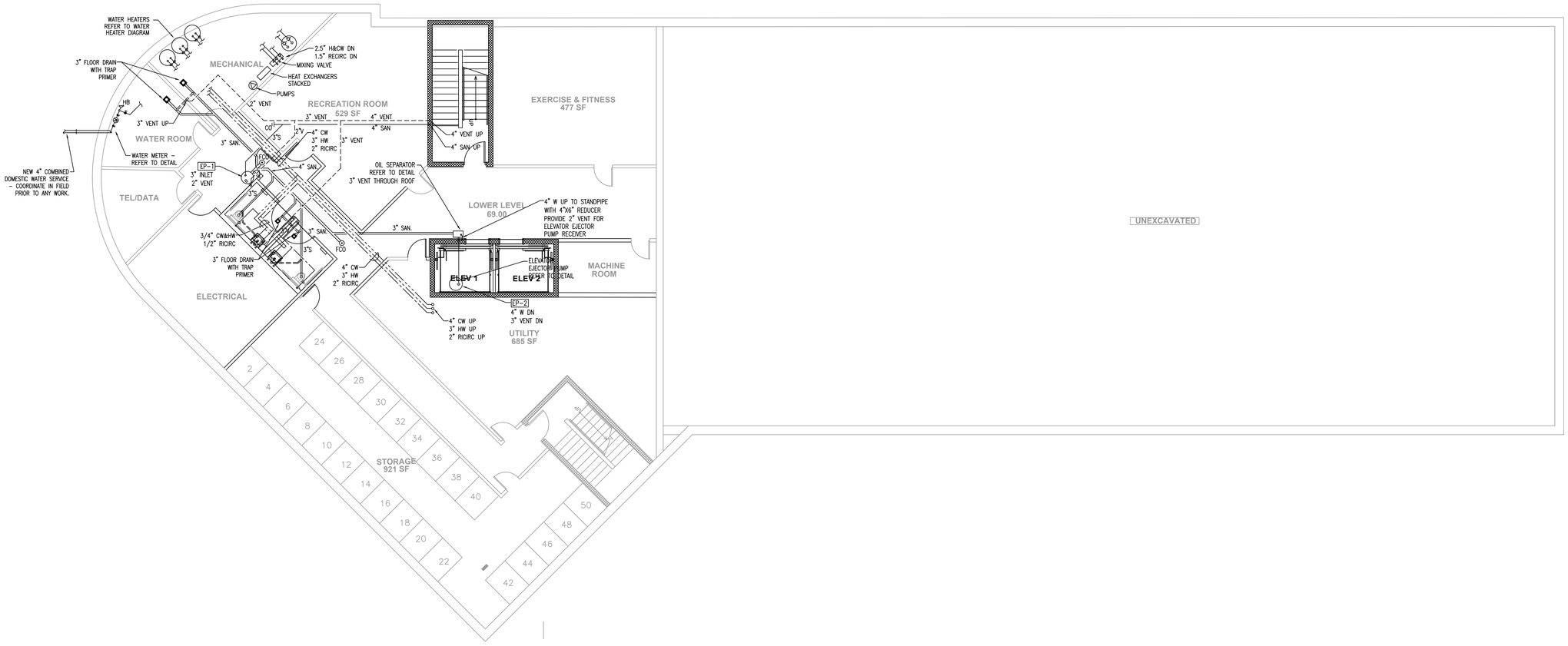
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1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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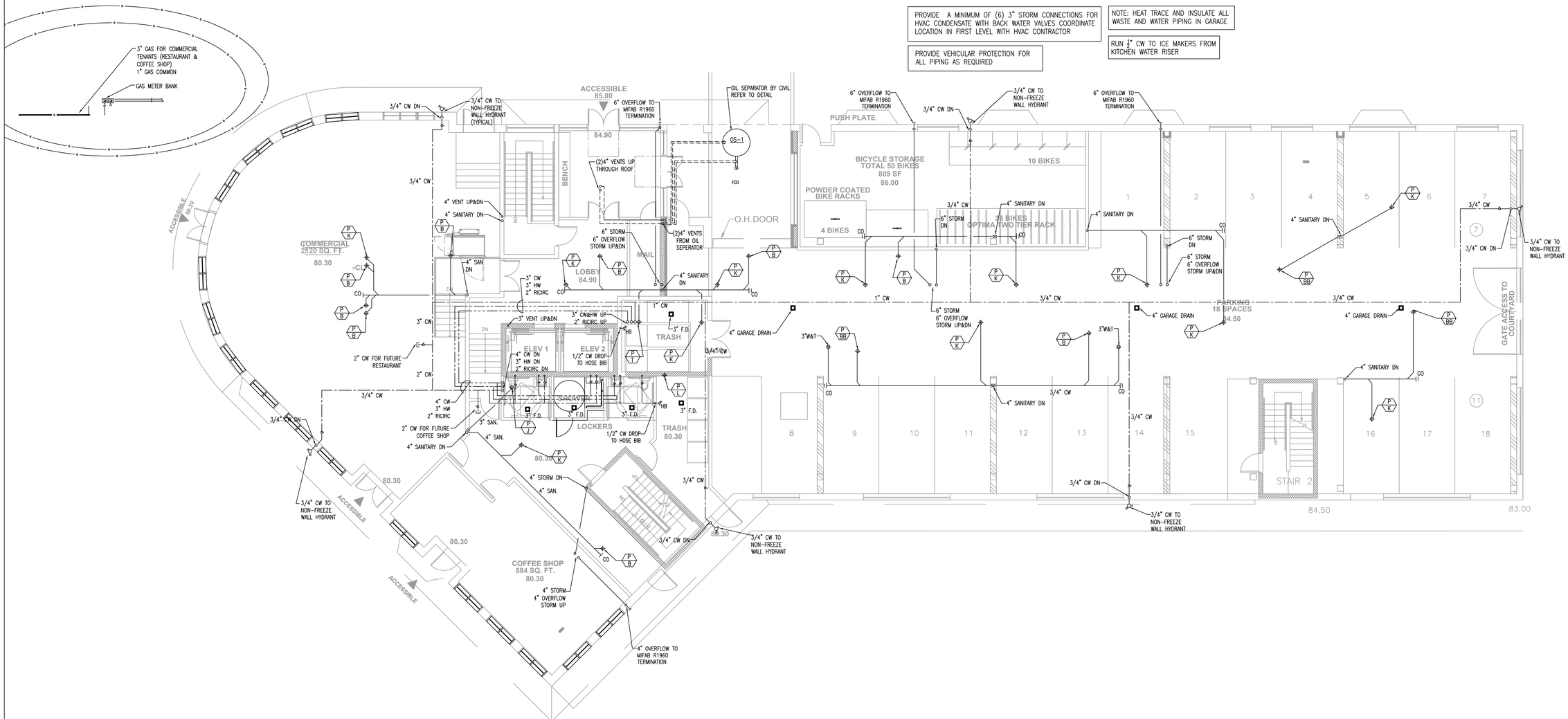
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1 WAVERLY: FIRST FLOOR PLAN
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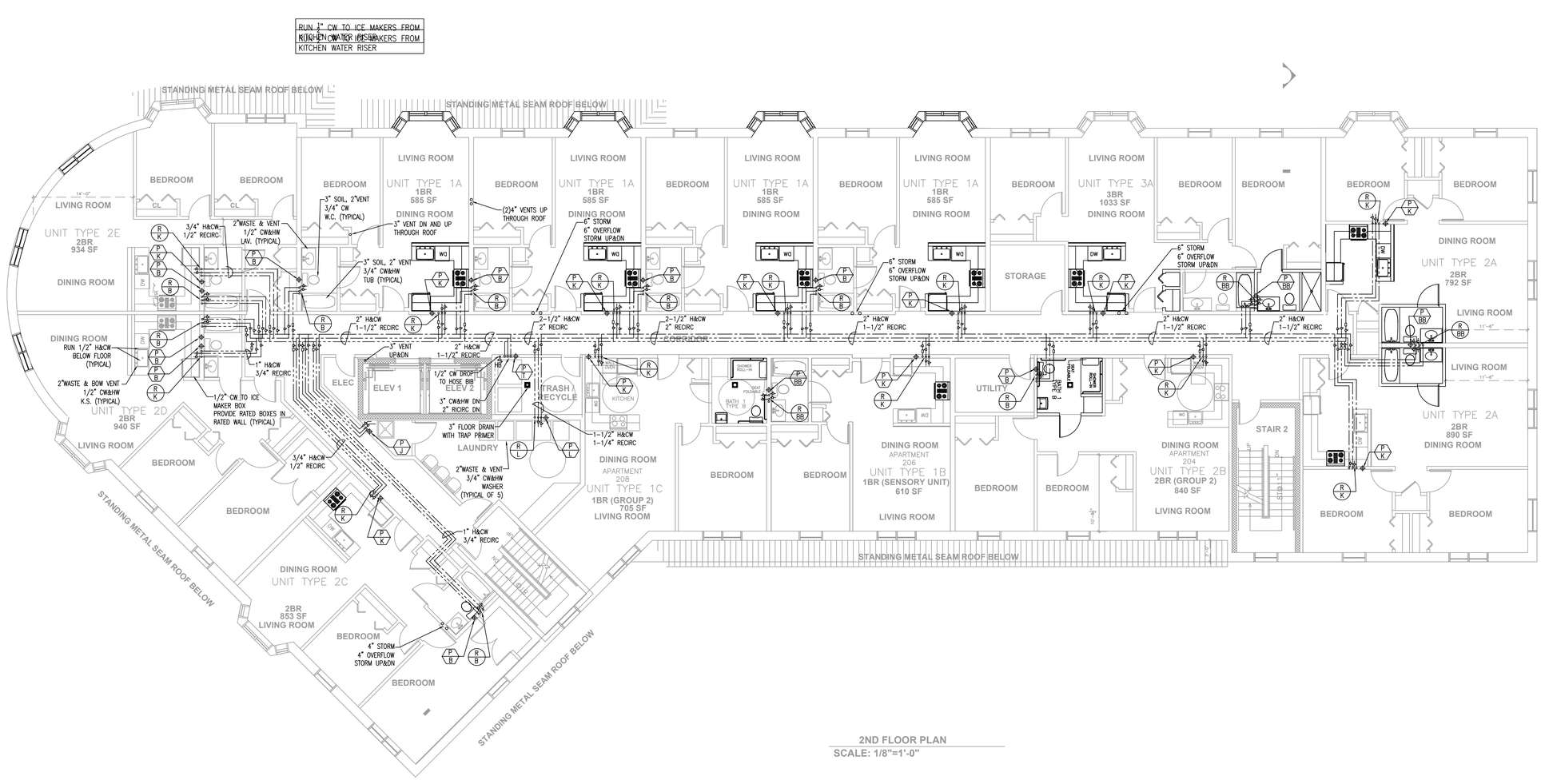
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2ND FLOOR PLAN
SCALE: 1/8"=1'-0"

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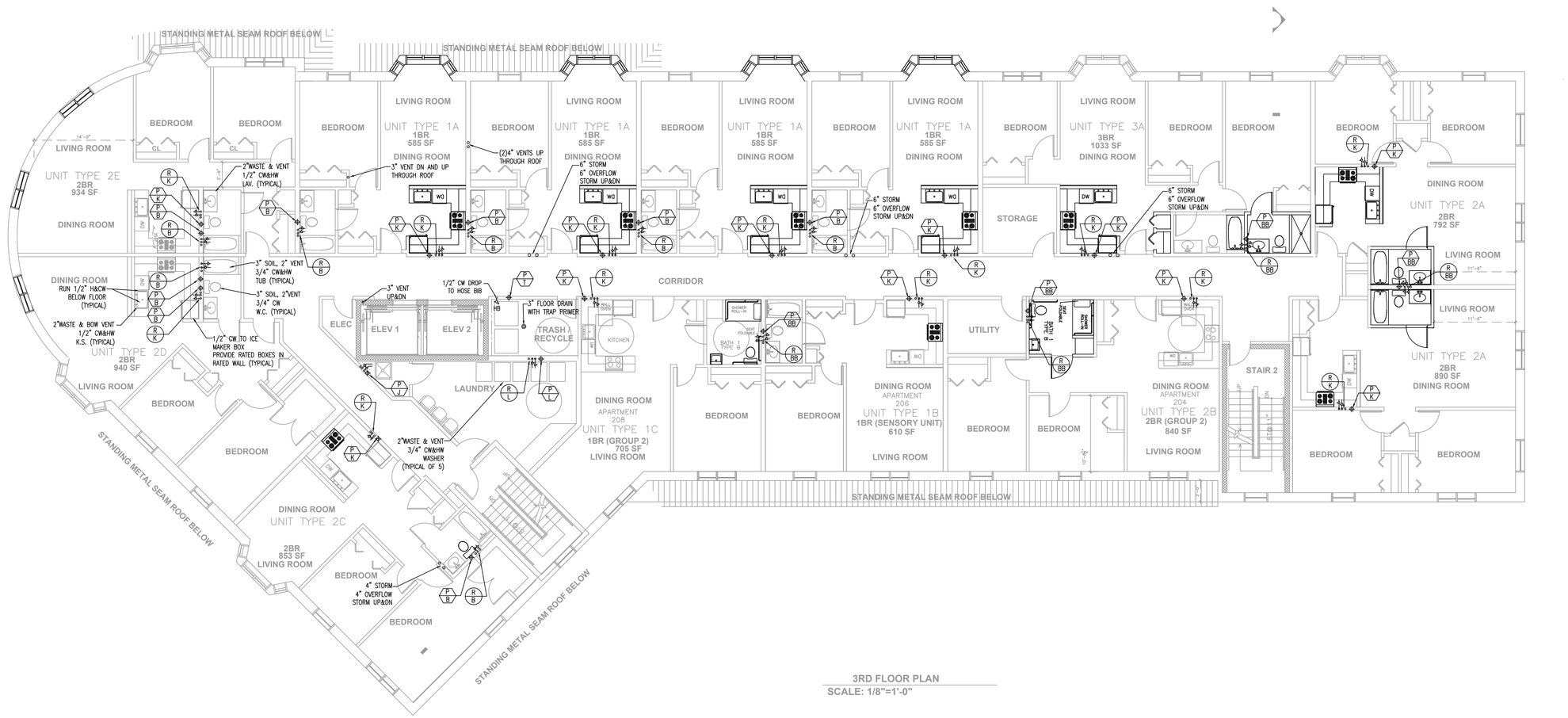
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RUN 3/4" CW TO ICE MAKERS FROM KITCHEN WATER RISER



3RD FLOOR PLAN
SCALE: 1/8"=1'-0"

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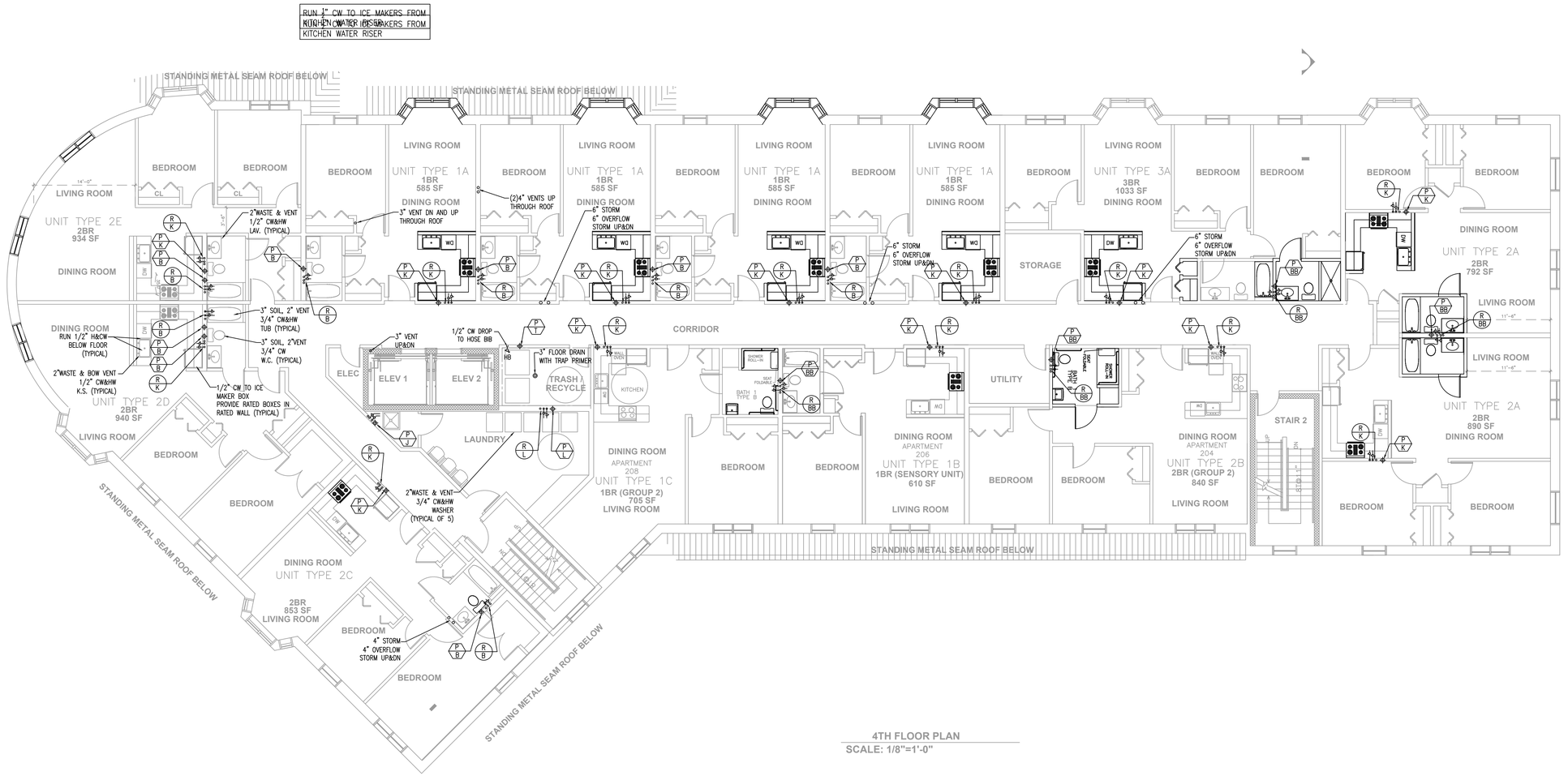
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4TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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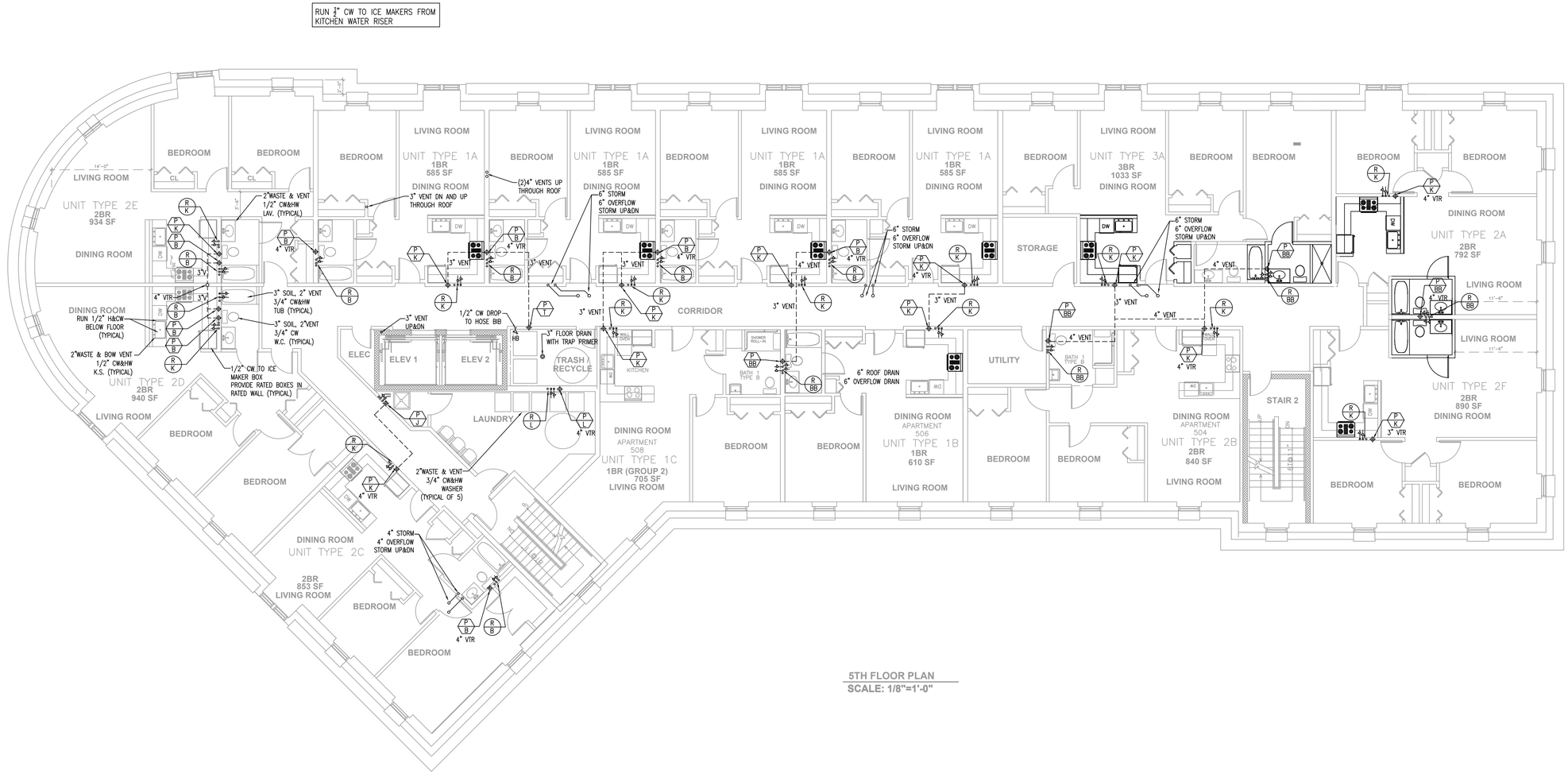
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SHEET TITLE

PLUMBING FLOOR PLAN

SCALE:	
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5TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
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COMMONWEALTH OF MASSACHUSETTS
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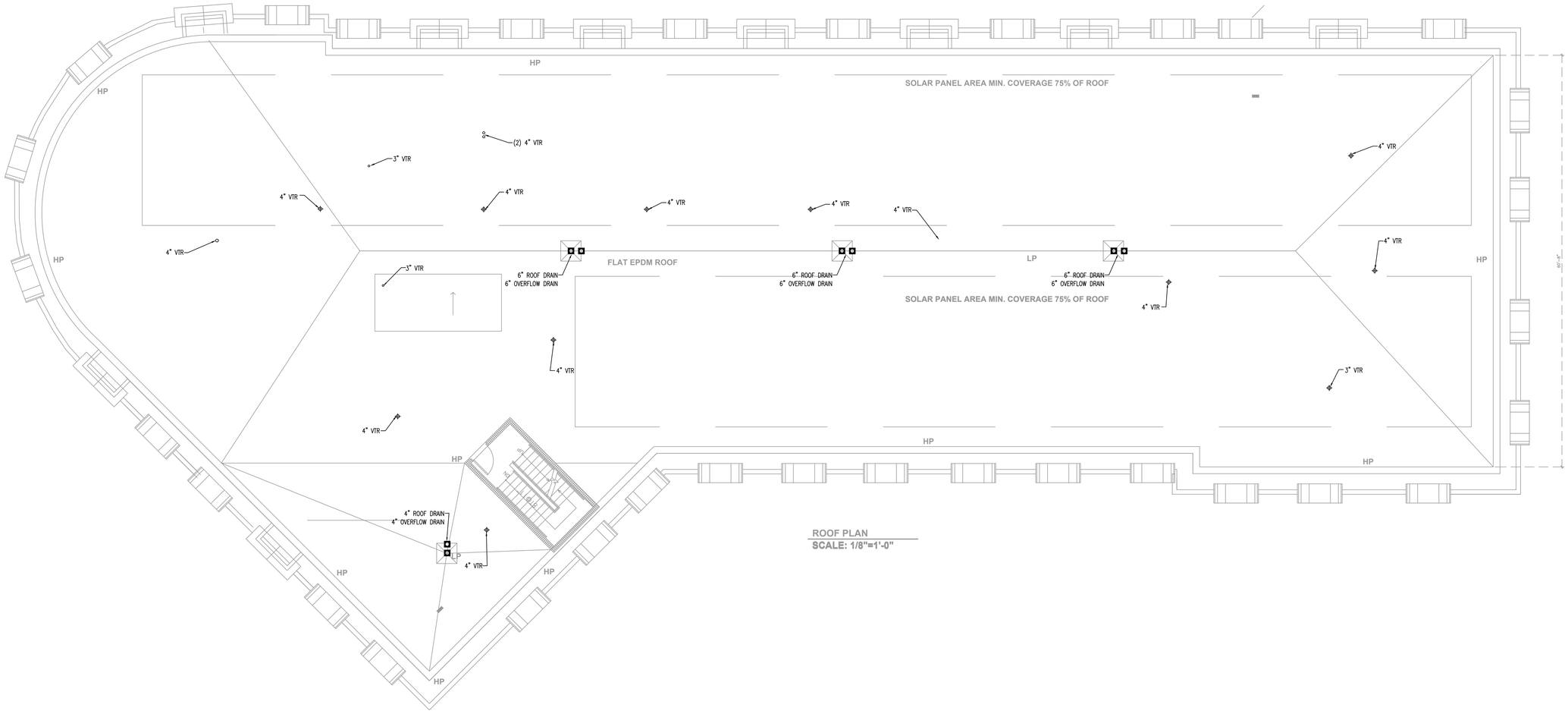
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SHEET TITLE

PLUMBING FLOOR PLAN

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HP
HP
SOLAR PANEL AREA MIN. COVERAGE 75% OF ROOF
(2) 4" VTR
3" VTR
4" VTR
4" VTR
4" VTR
4" VTR
4" VTR
4" VTR
4" VTR
4" VTR
4" VTR
4" VTR
3" VTR
3" VTR
4" VTR
4" VTR
HP
HP
HP
HP
HP
HP
FLAT EPDM ROOF
LP
6" ROOF DRAIN
6" OVERFLOW DRAIN
6" ROOF DRAIN
6" OVERFLOW DRAIN
6" ROOF DRAIN
6" OVERFLOW DRAIN
SOLAR PANEL AREA MIN. COVERAGE 75% OF ROOF
4" ROOF DRAIN
4" OVERFLOW DRAIN
4" VTR
HP
HP
HP
HP
HP
HP

NOT FOR CONSTRUCTION

PLUMBING GENERAL NOTES:

1. THE WORK CONSISTS OF FURNISHING ALL LABOR AND MATERIALS NECESSARY TO INSTALL A COMPLETE AND READY FOR CONTINUOUS OPERATION PLUMBING SYSTEM INCLUDING BUT NOT LIMITED TO APPARATUS AND EQUIPMENT FOR THIS PROJECT.

2. ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THE PLUMBING SUB CONTRACT INCLUDING LABOR AND TESTING PERFORMED HEREIN SHALL BE IN ACCORDANCE WITH THE STATE BUILDING CODE, FUEL GAS AND PLUMBING CODE, ALL LOCAL CODES AND REGULATIONS, NATIONAL FIRE PROTECTION ASSOCIATION, INSURANCE REGULATIONS AND REQUIREMENTS GOVERNING SUCH WORK.

3. ANY AND ALL PERMITS REQUIRED FOR INSTALLATION OF ANY MATERIALS SHALL BE OBTAINED AS PART OF THE WORK OF THE DRAWINGS AND SPECIFICATIONS INCLUDING ALL FEES AND EXPENSES INCURRED.

4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES AND EQUIPMENT.

5. MISCELLANEOUS DISCREPANCIES OR OMISSIONS WHICH MIGHT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE PLUMBING SUB CONTRACTOR OF CODE COMPLIANCE.

6. PROVIDE FIRE STOPPING OF MATERIAL OR COMBINATION OF MATERIALS, TO RETAIN THE INTEGRITY OF TIME RATED CONSTRUCTION BY MAINTAINING AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FLAME, SMOKE AND GASES. IT SHALL BE USED IN ALL PIPING AND HANGER PENETRATIONS THROUGH FLOOR SLABS, TIME RATED PARTITIONS AND FIRE WALLS.

7. FIRE STOPPING MATERIAL SHALL BE ASBESTOS-FREE AND IN COMPLIANCE WITH ASTM E814 AND UL 1479. ALL METERIAL SHALL MEET THE REQUIREMENTS OF NFPA 101 SAFETY CODE AND NFPA 70 NATIONAL ELECTRIC CODE.

8. USE COPPER TUBING ON OUTLETS OF ALL SHOWER/TUB VALVES. NO OTHER MATERIAL WILL BE ACCEPTED.

9. PROVIDE 1" INSULATION ON ALL ROOF DRAIN BODIES AND HORIZONTAL STORM DRAINAGE PIPING.

10. EXPANSION FITTINGS ARE REQUIRED ON ALL PVC PIPING BETWEEN EVERY OTHER BRANCH INTERVAL AND ON HORIZONTAL RUNS EXCEEDING TWENTY (20) FEET. ALL HORIZONTAL FITTINGS SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION OR PROVIDED WITH ACCESS PANELS. UNDERGROUND PIPING IS EXCLUDED FROM THIS REQUIREMENT. OFFSETS DO NOT ELIMINATE THE NEED FOR THIS REQUIREMENT. THE LOCATIONS OF ALL EXPANSION FITTINGS SHALL BE CLEARLY AND ACCURATELY SHOWN ON THE AS-BUILT DRAWINGS.

11. PROVIDE VERTICAL CLEANOUT AT THE BASE OF EACH PLUMBING STACK COMPLETE WITH ACCESS COVER.

12. PROVIDE SHUT-OFF & DRAIN VALVES AT BASE OF EACH RISER

13. MIXING VALVE ASSEMBLY SHALL BE AS MANUFACTURED BY CIRCUIT SOLVER MODEL CSUAS-1/2-120-CV1.

14. FREEZE PROTECTION

ALL PIPING SYSTEMS WITHIN THE GARAGE SHALL BE PROTECTED BY ELECTRICALLY CHARGED HEAT TRACING CABLES AND INSULATION FOR ALL VERTICAL AND HORIZONTAL SANITARY WASTE, LAUNDRY WASTE, CLEAR WATER WASTE, STORM DRAINAGE AND WATER PIPING, INCLUDING TRAPS AND FITTINGS. ALL FREEZE PROTECTION COMPONENTS ARE TO BE FURNISHED AND INSTALLED BY THE PLUMBING CONTRACTOR WITH POWER SUPPLY TO BE PROVIDED BY THE ELECTRICAL CONTRACTOR.

15. TOP FLOOR DWELLING UNIT WATER DISTRIBUTION

DOMESTIC COLD WATER AND HOT WATER PIPING SUPPLING DWELLING UNIT PLUMBING FIXTURES AT THE TOP LEVEL SHALL BE DISTRIBUTED ABOVE CEILING OF THE LEVEL BELOW AND EXTEND UP TO THE FIXTURES FROM THE CEILING SPACE BELOW AVOIDING POTENTIAL FREEZING CONDITIONS ABOVE THE CEILING OF THE TOP LEVEL.

FREEZE PROTECTION SPECIFICATION

ALL PLUMBING SYSTEMS WITHIN THE GARAGE AND OVERHANG AREAS INSTALLED HORIZONTALLY AND VERTICALLY INCLUDING PIPING, FITTINGS AND TRAPS SHALL BE PROTECTED BY ELECTRICALLY CHARGED HEAT TRACING CABLES AND INSULATION WITH A SEALED PVC JACKET.

ALL HEAT TRACING COMPONENTS, INSULATION AND THEIR INSTALLATION SHALL BE THE RESPONSIBILITY OF THE PLUMBING CONTRACTOR WITH THE POWER SUPPLY ONLY AS THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.

THE INSTALLATION SHALL INCLUDE PRODUCTS MANUFACTURED BY THERMON MANUFACTURING COMPANY WITH CABLE MODELS, LENGTHS OF RUNS, QUANTITIES OF PASSES AND THICKNESS OF INSULATION VARYING BASED ON A LOW AMBIENT TEMPERATURE OF ZERO DEGREES F. AND A 208V. ELECTRICAL SUPPLY WITH PIPING SIZE AS FOLLOWS:

1. METALLIC AND NON-METALLIC PIPING SHALL UTILIZE A SINGLE PASS OF MODEL 8-FLX-2-OJ WITH 1" OF INSULATION WITH A SEALED PVC JACKET.

IN ADDITION TO THE INFORMATION ABOVE, THE PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR THE APPROPRIATE QUANTITIES OF THE FOLLOWING THERMON ITEMS IN ORDER TO DELIVER A COMPLETE AND OPERATIONAL SYSTEM:

1. PCA-COM CIRCUIT FABRICATION KITS UTILIZING JB-K JUNCTION BOXES.
2. PCS-COM SPLICE KITS (ALLOWS FOR 2 OR 3 CABLES TO BE SPLICED TOGETHER).
3. ET-8 CABLE END TERMINATION KITS.
4. FT-1L CABLE ATTACHMENT TAPE
5. CL "ELECTRICAL HEAT TRACING" LABELS.
6. RTD-AMB AMBIENT TEMPERATURE SENSOR WITH ENCLOSURE AND TERMINAL BLOCKS.
7. TC202A CONTROL AND MONITORING MODULE.
8. FOIL TAPE TO COVER CABLE FOR INSTALLATIONS ON NON-METALLIC PIPING.

THE ELECTRICAL POWER SUPPLY DESIGN SHALL BE BASED ON 208V. WITH THE FOLLOWING LENGTH LIMITS OF CIRCUITS FOR THE FLX MODELS WITH 20 AMP OR 30 AMP BREAKERS:

8-FLX-2-OJ:
20 AMP BREAKER = 355' MAXIMUM LENGTH
30 AMP BREAKER = 380' MAXIMUM LENGTH

DRAIN SCHEDULE

SYMBOL	TYPE	MFG.	MODEL	OUTLET	STRAINER	LOCATION	REMARKS
FD-A	FLOOR DRAIN	JR SMITH	2010 A	NO HUB	NICKEL BROZE	TOILET ROOM/LAUNDRY	BRONZE BODY W/ TRAP PRIMER CONNECTIONS
FD-B	FLOOR DRAIN	JR SMITH	2230C	CAULK	CAST IRON	MECHANICAL ROOM	SEDIMENT BUCKET & TRAP PRIMER CONNECTIONS
GD-A	GARAGE DRAIN	JR SMITH	2233C-M-P050	CAULK	DUCTILE IRON	GARAGE	SEDIMENT BUCKET & TRAP PRIMER CONNECTIONS
RD-A	ROOF DRAIN	WATTS	RD-700-D	NO HUB	DUCTILE IRON	ROOF	EXTENSION, SUMP RECEIVER, UNDERDECK CLAMP
RD-B	ROOF DRAIN	WATTS	RD-200-D-K	NO HUB	DUCTILE IRON	LOWER ROOF	EXTENSION, SUMP RECEIVER, UNDERDECK CLAMP
RD-C	DECK DRAIN	WATTS	FD-370	NO HUB	ALUMINUM	ROOF DECKS	EXTENSION, SUMP RECEIVER, UNDERDECK CLAMP
TP-1	TRAP PRIMER	PPP	PR01-500				

NOTES:

1. BEFORE SETTING DRAINS, OBTAIN EXACT INFORMATION RELATIVE TO FINISH FLOOR LEVEL AT TOP OF DRAINS
2. DRAIN SIZES ARE INDICATED ON THE DRAWINGS.
3. ALL FLOOR DRAINS (EXCEPT WHERE RECEIVING CONDENSATE FROM DOMESTIC WATER HEATERS) SHALL INCLUDE TRAP PRIMERS.

CONSTRUCTION NOTES:

NOTE FOLLOWING LINE ITEMS ARE LISTED FOR QUALITY PURPOSES AND APPLICABLE WHERE COMPONENTS PRESENT IN THE PROJECT.

REGARDLESS HOW THE DETAILS ARE SHOWN, CONTRACTOR SHALL FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS.

CONTRACTOR SHALL PAY ATTENTION TO GAS FIRED EQUIPMENT DISCHARGE LOCATIONS RELATIVE TO AIR INTAKES BEFORE ANY INSTALLATION AND MAINTAIN CODE REQUIRED OR MANUFACTURER REQUIRED CLEARANCES.

1-ALL HOT WATER PIPING IN RECIRCULATION TYPE SYSTEMS SHALL BE INSULATED, INCLUDING TAKE OFFS FROM RE-CIRCULATION LINE.
ALL HORIZONTAL COLD WATER MAINS OR BRANCH LINES ABOVE CEILINGS SHALL BE INSULATED.
ALL HORIZONTAL STORM DRAINS SHALL BE INSULATED. INSULATE 3 FT PIPING ABOVE AND BELOW THE OFFSET. INSULATE ROOF DRAIN BODIES UNDER DECK AND 3 FT PIPING IF NO OFFSET.

2-HOT WATER PIPING IN SYSTEMS WITHOUT RECIRCULATION SHALL BE FULLY INSULATED TO MAINTAIN TEMPERATURE (IECC 2014)

3-ALL TRAPS SHALL HAVE CLEAN OUTS

4-ALL COMMON AREA FAUCETS SHALL HAVE POINT OF USE MIXING VALVES, ZURN LEAD FREE SERIES LFUSG-B OR EQUAL

5-ALL ADA SINKS AND LAVATORIES SHALL HAVE LAVGUARD PROTECTION COVERS, COMPLETE

6-ALL FIXTURES SHALL HAVE MULTI TURN LEAD FREE WATER STOPS AS MANUFACTURED BY ZURN LF SERIES.

7-ALL PREFABRICATED SHOWERS AND TUB SURROUNDS SHALL HAVE BUILT IN GRAB BAR RE-INFORCEMENTS, OR

8-WALLS BEHIND THE WATER CLOSETS, TUBS, SHOWERS SHALL BE RE-INFORCED FOR FUTURE GRAB BAR INSTALLATION

9-ALL KITCHEN SINKS SHALL HAVE 30" CLEAR KNEE SPACE UNDER

10-IN ALL ELEVATOR BUILDINGS OR GROUP 2 UNITS, SINKS SHALL BE NO DEEPER THAN 6 ½"

11-WATER CLOSET CONTROLS FOR ADA UNITS SHALL BE ON THE ACCESSIBLE SIDE

12-GROUP 2 TUBS SHALL BE 60" LONG WITH RIM 16-18" AFF.

13-FOR GROUP 2 APARTMENTS, ALL TUBS AND SHOWERS SHALL HAVE HOT/COLD WATER PIPING CAPPED BEHIND TO LONGER DIMENSION OF THE STALL

14-A HAND HELD SHOWER HEAD WITH FLOW REGULATOR ATTACHED TO 60" LONG FLEXIBLE HOSE AND AN ADJUSTABLE MOUNTING BAR SHALL BE PROVIDED OR BE CAPABLE OF BEING INSTALLED ON THE LONG WALL OF THE TUB.

15-ALL VENT THROUGH THE ROOF LOCATIONS SHALL BE FIELD COORDINATED WITH HVAC EQUIPMENT INTAKES AND IF NECESSARY SHALL BE EXTENDED 3FT ABOVE THE EQUIPMENT WITHIN 10FT OF THE VENT.

16-ALL FLOOR DRAINS SHALL HAVE TRAP PRIMERS.

17-ALL PUBLIC TOILETS SHALL HAVE HOSE BIBS AND FLOOR DRAINS, FLOOR DRAINS SHALL BE WITHIN 3FT OF THE URINALS.

18-ALL FLOOR PENETRATIONS SHALL BE FIRE RATED WITH FIRE STOP MATERIAL OR INTUMESCENT TYPE COLLARS AS REQUIRED.

19-UNLESS NOTED OTHERWISE PVC MAY BE USED FOR RESIDENTIAL TYPE BUILDINGS UP TO TEN FLOORS FOR DRAINAGE. CPVC MAY BE USED FOR DOMESTIC HOT/COLD WATER IN RESIDENTIAL TYPE BUILDINGS UP TO 60 FT, OR 6 STORY BUILDINGS. PROVIDE SOUND INSULATION ON ALL PVC VERTICAL DRAIN LINES

20-PROVIDE DRAIN PAN FOR ALL STORAGE TYPE WATER HEATERS AND WASHING MACHINES W/DRAINS CONNECTED TO SEWER DRAIN, PROVIDE TRAP PRIMERS..

21-PROVIDE COMPLETE PIPING FOR DISHWASHER AND DISPOSAL CONNECTIONS, OBSERVE CLEARANCE REQUIREMENTS UNDER KITCHEN SINKS.

22-ALL DRAINS LOCATED BELOW THE STREET GRADE SHALL HAVE LOCAL OR CENTRAL TYPE BACK WATER VALVES. DRAINS FROM UPPER FLOORS WILL CONNECT AT EXIT

23-ALL PLUMBING FIXTURES SHALL BE APPROVED TYPE IN THE STATE OF PROJECT BEING USED, SPECIFICATIONS ARE FOR QUALITY, LOOK AND PERFORMANCE PURPOSES ONLY. IF SPECIFIED EQUIPMENT IS NOT THE APPROVED TYPE. CONTRACTOR SHALL PROVIDE SIMILAR APPROVED FIXTURE.

24-ALL FLOOR DRAINS IN BOILER ROOMS SHALL BE COORDINATED WITH BOILER PLACEMENTS SO THAT CONDENSATE DRAINS WILL BE DRAINED TO FLOOR DRAIN.

25-ALL PENETRATIONS THROUGH FIRE RATED WALLS AND CEILINGS SHALL BE FIRE SAFED.
USE FIRE PUDDY WITH FIRE WOOL FILLING FOR 2" AND SMALL PIPES,
USE INTUMESCENT COLLAR FOR LARGER PIPES.

26-ALL LAUNDRY DRAINS FOR BUILDINGS 4 STORIES AND HIGHER SHALL HAVE DEDICATED DRAIN LINES CONNECTED TO SEWER LINES AT BUILDING DISCHARGE.

27-ALL BASEMENT DRAINS WILL HAVE BACK WATER VALVES AND AND UPPER FLOORS WILL BE CONNECTED TO SEWER DISCHARGE SEPERATELY FROM BASEMENT DRAIN

28- PROVIDE BALL TYPE SHUT OFF VALVES FOR ALL RISERS AND WATER BRANCHES OFF THE MAIN PIPES. RISERS SHALL HAVE DRAIN VALVES WITH CAP AND CHAIN

GENERAL NOTES

1. GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND GENERAL REQUIREMENTS, APPLY TO WORK SPECIFIED ON THESE DRAWINGS.
2. COORDINATE WORK WITH THAT OF OTHER TRADES AFFECTING OR AFFECTED BY WORK OF THIS SECTION AND COOPERATE WITH SUCH TRADES TO ASSURE THE STEADY PROGRESS OF THE WORK.
3. ALL WORK AND MATERIALS SHALL COMPLY WITH THE MASSACHUSERTTS STATE PLUMBING AND GAS CODES AND THE CITY OF PROJECT.
4. FURNISH AND INSTALL A COMPLETE, SANITARY DRAINAGE AND VENT SYSTEM THROUGHOUT THE BUILDING FOR CONNECTION TO EVERY FIXTURE OR PIECE OF EQUIPMENT REQUIRING DRAINAGE. THE NEW WORK SHALL EXTEND AND CONNECT TO THE EXTERIOR SANITARY SYSTEM AS INDICATED.
5. FURNISH AND INSTALL A COMPLETE HOT WATER AND COLD WATER SYSTEM THROUGHOUT THE BUILDING, CONNECTING TO ALL FIXTURES AND EQUIPMENT REQUIRING HOT AND/OR COLD WATER. THE COLD WATER SYSTEM WORK SHALL EXTEND AND CONNECT TO THE EXTERIOR COLD WATER SYSTEM AS INDICATED. THE HOT WATER SYSTEM WORK SHALL BEGIN AT EACH NEW WATER HEATER WHERE INDICATED.
6. FURNISH AND INSTALL A COMPLETE GAS SYSTEM THROUGHOUT THE BUILDING, CONNECTING TO ALL EQUIPMENT REQUIRING GAS. THE GAS SYSTEM WORK SHALL EXTEND AND CONNECT TO THE GAS METERS SUPPLIED BY GAS COMPANY.
7. FURNISH TO OWNER A WRITTEN GUARANTEE OF THE GENERAL CONTRACTOR AND THIS SUBCONTRACTOR JOINTLY AND SEVERALLY, AGAINST ANY DEFECTS IN MATERIALS AND WORKMANSHIP IN WORK OF THIS SECTION FOR A PERIOD OF ONE YEAR FROM DATE OF SUBSTANTIAL COMPLETION.
8. SUBMIT SHOP DRAWINGS ON PLUMBING FIXTURES AND VALVES SPECIFIED.
9. FURNISH AND INSTALL ALL PIPE OPENINGS, PIPE HANGERS AND HANGER RODS, AND FIXTURE SUPPORTS. PROPERLY SECURE HANGER RODS TO BUILDING STRUCTURE. SEAL ALL PIPE OPENINGS THROUGH FLOORS AND ROOF WATER TIGHT.
10. VALVES FOR HOT AND COLD WATER SHALL BE GATE VALVE, BRONZE BODY AND TRIM, NON-RISING STEM, 200 PSIG, SOLDER END, SIMILAR TO JENKINS 1240 OR APPROVED EQUAL. VALVES FOR GAS SHALL BE IRON BODY, PLUG TYPE, WITH SQUARE KEY AND THREADED ENDS.
11. COLD WATER AND HOT WATER PIPING INSULATION SHALL BE 1/2" THICK, WITH FACTORY APPLIED FIBERGLASS CLOTH WITH INTEGRAL VAPOR BARRIER AND SELF-SEALING LAP. FITTINGS AND VALVES SHALL BE COVERERD WITH PRE-CUT FIBERGLASS INSERTS AND FITTED WITH MOULDED PVC COVERS, SECURED WITH GLASS FABRIC TAPE WITH MASTIC. INSULATION SHALL BE FIBERGLASS 25 ASJ OR EQUAL, AND SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS TO CONFORM TO THE AUL NON-COMBUSTIBLE RATING.
12. PLUMBING FIXTURES:
(TO BE APPROVED BY BUILDING OWNER REPRESENTATIVE BEFORE SUBMISSION FOR APPROVAL TO ENGINEER)
13. WH - WALL HYDRANT - WOODFORD MODEL 25 FREEZE RESISTANT, WITH INTEGRAL VACUUM BREAKER.
(PROVIDE EVERY 150', WHERE DIRECTED BY BUILDING OWNER)
14. WATER HEATERS - FURNISH AND INSTALL WATER HEATERS WHERE INDICATED.
(TO BE APPROVED BY BUILDING OWNER REPRESENTATIVE BEFORE SUBMISSION FOR APPROVAL TO ENGINEER)
15. TEST ALL NEW PLUMBING WORK IN ACCORDANCE WITH PLUMBING CODE REQUIREMENTS.

GENERAL NOTES | NTS

PLUMBING GENERAL NOTES:

1. THE WORK CONSISTS OF FURNISHING ALL LABOR AND MATERIALS NECESSARY TO INSTALL A COMPLETE AND READY FOR CONTINUOUS OPERATION PLUMBING SYSTEM INCLUDING BUT NOT LIMITED TO APPARATUS AND EQUIPMENT FOR THIS PROJECT.
2. ALL EQUIPMENT AND MATERIALS FURNISHED UNDER THE PLUMBING SUB CONTRACT INCLUDING LABOR AND TESTING PERFORMED HEREIN SHALL BE IN ACCORDANCE WITH THE STATE BUILDING CODE, FUEL GAS AND PLUMBING CODE, ALL LOCAL CODES AND REGULATIONS, NATIONAL FIRE PROTECTION ASSOCIATION, INSURANCE REGULATIONS AND REQUIREMENTS GOVERNING SUCH WORK.
3. ANY AND ALL PERMITS REQUIRED FOR INSTALLATION OF ANY MATERIALS SHALL BE OBTAINED AS PART OF THE WORK OF THE DRAWINGS AND SPECIFICATIONS INCLUDING ALL FEES AND EXPENSES INCURRED.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF ALL PLUMBING FIXTURES AND EQUIPMENT.
5. MISCELLANEOUS DISCREPANCIES OR OMISSIONS WHICH MIGHT APPEAR ON THE PLANS OR SPECIFICATIONS WILL NOT RELIEVE THE PLUMBING SUB CONTRACTOR OF CODE COMPLIANCE.
6. EXACT LOCATION OF ALL GAS FIRED EQUIPMENT SHALL BE DETERMINED IN FIELD PRIOR TO THE START OF WORK. ALL EQUIPMENT CONNECTIONS SHALL INCLUDE UNION CONNECTIONS, DIRT LEG AND VALVE.
7. ALL FLOOR CLEANOUT COVERS IN THE SERVICE RECEPTION AREA SHALL BE STAINLESS STEEL. ALL OTHER FLOOR CLEANOUT COVERS SHALL BE NICKEL BRONZE.
8. IN AREAS WHERE LIMITED SLAB DEMOLITION IS REQUIRED FOR DEMOLITION/CAPPING OF EXISTING PIPING, THE PLUMBER SHALL BE RESPONSIBLE FOR CUTTING/CHIPPING OF THE SLAB WITH PATCHING OF THE SLAB TO BE PERFORMED BY GENERAL CONTRACTOR.
9. THE PLUMBING CONTRACTOR'S DEMOLITION OF EXISTING SYSTEMS SHALL BE LIMITED TO THE CUTTING, CAPPING, MAKING SAFE AND LOWERING PIPING/EQUIPMENT TO THE FLOOR FOR REMOVAL BY THE GENERAL CONTRACTOR.
10. REFER TO THE ARCHITECT'S PHASING PLAN FOR SEQUENCING OF WORK ON DRAWING A0.3. COORDINATION EFFORTS REQUIRED WITH PROPANE SUPPLIER FOR INSTALLATION OF TEMPORARY TANKS DUE TO SERVICE DEMOLITION OCCURRING IN PHASE 1 OF PROJECT. PROPANE CONTACT: JOHN FLAHERTY AT OSTERMAN GAS, WHITINSVILLE, MA. 800-447-1207
11. ALL PIPING SHALL BE CONCEALED IN WALLS WHEREVER POSSIBLE.

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Phone: 617-390-5515
Email:mwashington@mwaboston.com

PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
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PLUMBING NOTES

SCALE:	
DATE: 12/03/24	DRAWING NO. P-2.0
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FILE:	

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PLUMBING LEGEND

	ABBREVIATION	DESCRIPTION
———		ABOVE FLOOR PIPING (INDICATED AS SINGLE LINEWORK)
═══		BELOW FLOOR PIPING (INDICATED AS DOUBLE LINEWORK)
— ———	CW	COLD WATER PIPING
— - — - —	RECIRC	COLD WATER PIPING (HOUSE METER)
— — — — —	HW	HOT WATER PIPING
———	S/W	SANITARY DRAINAGE (SOIL/WASTE) PIPING
- - - - - -	V	SANITARY VENT PIPING
——G———	G	GAS (NATURAL) PIPING
——LW———	LW	LAUNDRY WASTE PIPING
— - — LV — - —	LV	LAUNDRY VENT PIPING
	CWR	COLD WATER RISER
	SS	SOIL STACK
	WS	SANITARY WASTE STACK
	VS	SANITARY VENT STACK
	LWS	LAUNDRY WASTE STACK
	LVS	LAUNDRY VENT STACK
	CWWS	CLEAR WATER WASTE STACK
—o	UP	UP (PENETRATES LEVEL ABOVE)
—›		RISE (BUT DOES NOT PENETRATE LEVEL ABOVE)
—›—o	DN	DOWN (PENETRATES LEVEL BELOW)
—›		DROP (BUT DOES NOT PENETRATE LEVEL BELOW)
——►		DIRECTION OF FLOW
—►— 01		DIRECTION & DESIGNATION OF SLOPE (IN FT/FT)
—⋈—		SHUTOFF VALVE
—⋈—	PRV	PRESSURE REDUCING VALVE
—⋈—	CV	CHECK VALVE
—⋈—	DV	DRAIN VALVE WITH HOSE THREADS
		NATURAL GAS SHUTOFF VALVE
T	PG	PRESSURE GAUGE
	SA/HA	SHOCK ABSORBER/HAMMER ARRESTOR
—|||—	EXPJ	EXPANSION JOINT
—|—	CO	CLEANOUT
o|—	COT	CLEANOUT TEE
—|—	WCO	WALL CLEANOUT
═o═	FCO	FLOOR CLEANOUT
□	FD	FLOOR DRAIN
□	GD	GARAGE DRAIN
□	RD	ROOF DRAIN
—+	HB	HOSE BIBB
—+	WH	WALL HYDRANT
[ ]	AP	ACCESS PANEL
	INV	INVERT ELEVATION
—oo	W&T	WASTE & TRAP
—⋈—	VIV	VALVE IN VERTICAL
—oo	OED	OPEN END DRAIN
	VTR	VENT THRU ROOF
—⊐		CAPPED CONNECTION
—|—	UN	UNION
—Y—	ST	STRAINER
—⊠—	BVA	BALANCING VALVE ASSEMBLY(CIRCUT SOLVER CSUAS)
—=—	SL	WATER TIGHT SLEEVE
	P—	PLUMBING FIXTURE DESIGNATION
	WM	WATER METER
	GM	GAS METER
	LPC	LIMIT OF PLUMBING CONTRACT
(R)		WATER RISER DESIGNATIONS
(P)		WASTE STACK DESIGNATIONS

PIPING AND FITTINGS SPECIFICATIONS

A. SERVICE: BELOW GROUND DOMESTIC WATER SERVICE PIPING.
PIPE: PUSH-ON-JOINT DUCTILE IRON PIPE; AWWA C151, WITH PUSH-ON-JOINT BELL AND PLAIN SPIGOT END, OR AS REQUIRED BY THE LOCAL WATER DEPARTMENT/MUNICIPALITY.
FITTINGS: STANDARD-PATTERN, PUSH-ON-JOINT FITTINGS: AWWA C110, DUCTILE OR GRAY IRON. COMPACT-PATTERN, PUSH-ON-JOINT FITTINGS: AWWA C153, DUCTILE IRON.
PIPE JOINT: PUSH-ON-JOINT WITH AWWA C111 RUBBER GASKETS.

B. SERVICE: ABOVE GROUND DOMESTIC WATER PIPING (NON-RESIDENTIAL)
PIPE MATERIAL: TYPE L COPPER TUBING, HARD TEMPER.
FITTING MATERIAL: WROUGHT COPPER OR BRONZE SOLDER JOINTS WITH LEAD FREE SOLDER OR VICTAULIC ROLL GROOVED WROUGHT COPPER FITTINGS, ORPERMANENT PUSH-ON-CONNECT. SOLDERED OR VICTAULIC STYLE 607 COUPLINGS AND STYLE 641 FLANGE ADAPTERS, OR PERMANENT PUSH-ON-CONNECT.
PIPE JOINT: SOLDERED OR VICTAULIC STYLE 607 COUPLINGS AND STYLE 641 FLANGE ADAPTERS, OR PERMANENT PUSH-TO-CONNECT.

C. SERVICE: ABOVE GROUND DOMESTIC WATER PIPING DISTRIBUTION MAINS (3" AND LARGER)
PIPE MATERIAL: SCHEDULE 80 FLOWGUARD GOLD CPVC PIPING INSTALLED IN CORRIDORS WITH SUPPORT SYSTEM PER MANUFACTURER'S LISTING REQUIREMENTS AND ALL APPLICABLE CODE REQUIREMENTS.
FITTING MATERIAL: SCHEDULE 80 FLOWGUARD GOLD CPVC FITTINGS INSTALLED IN CORRIDORS PER LISTING

D. SERVICE: ABOVE GROUND DOMESTIC WATER PIPING DISTRIBUTION MAINS, RISERS UP THRU BUILDING TO DWELLING UNIT MECHANICAL CLOSETS AND WITHIN DWELLING UNITS (2 1/2" AND SMALLER).
PIPE MATERIAL: SCHEDULE 40 FLOWGUARD GOLD CPVC PIPING INSTALLED IN CORRIDORS WITH SUPPORT SYSTEM AND STRIKE PLATES PER MANUFACTURER'S LISTING REQUIREMENTS AND ALL APPLICABLE CODE REQUIREMENTS.
FITTING MATERIAL: SCHEDULE 40 FLOWGUARD GOLD CPVC FITTINGS INSTALLED IN CORRIDORS PER LISTING

E. SERVICE: DOMESTIC WATER TO TRAP PRIMER CONNECTIONS BELOW SLAB AND ISLAND KITCHEN SINKS.
PIPE MATERIAL: SOFT-ROLLED TYPE K COPPER (NO FITTINGS ALLOWED BELOW SLAB)

F. SERVICE: ABOVE GROUND SANITARY WASTE AND VENT (NON-RESIDENTIAL).
PIPE MATERIAL: NO-HUB CAST IRON SOIL PIPE CONFORMING TO ASTM A-888 OR DWV WROUGHT COPPER.
FITTING MATERIAL: CAST IRON, CAST BRASS, OR WROUGHT COPPER DRAINAGE FITTINGS.
PIPE JOINT: SCREWED, SOLDERED, OR HEAVY DUTY STEEL 4-BAND HEAVY DUTY COUPLING WITH NEOPRENE GASKETS (EQUAL TO HUSKY 4000 SERIES) CONFORMING TO ASTM C-1277.

G. SERVICE: BELOW GROUND SANITARY WASTE AND VENT (NON-RESIDENTIAL).
PIPE MATERIAL: SERVICE WEIGHT CAST IRON HUB AND SPIGOT SOIL PIPE CONFORMING TO ASTM A-74
FITTING MATERIAL: CAST IRON HUB AND SPIGOT DRAINAGE FITTINGS.
PIPE JOINT: PUSH-ON GASKETED
NOTE: ONCE A COMMERCIAL FIXTURE HAS BEEN ATTACHED TO CAST IRON PIPING, THE BUILDING DRAIN MUST CONTINUE IN CAST IRON FROM THAT CONNECTION TO A POINT 10'-0" BEYOND THE FOUNDATION WALL WITH PVC BRANCHES/BRANCH MAINS CONNECTING INTO THIS CAST IRON BUILDING DRAIN.

H. SERVICE: ABOVE GROUND SANITARY WASTE AND VENT, LAUNDRY WASTE AND VENT (NON COMMERCIAL SPACES)
PIPE MATERIAL: SCHEDULE 40 PVC (EXCEPT AS NOTED ON PLANS)
FITTING MATERIAL: SCHEDULE 40 PVC (EXCEPT AS NOTED ON PLANS)
PIPE JOINT: SOLVENT WELD (EXCEPT AS NOTED ON PLANS)

I. SERVICE: BELOW GROUND SANITARY WASTE AND VENT, LAUNDRY WASTE AND VENT (NON COMMERCIAL SPACES)
PIPE MATERIAL: SCHEDULE 40 PVC (EXCEPT AS NOTED ON PLANS)
FITTING MATERIAL: SCHEDULE 40 PVC (EXCEPT AS NOTED ON PLANS)
PIPE JOINT: SOLVENT WELD (EXCEPT AS NOTED ON PLANS)

J. SERVICE NATURAL GAS (INCLUDING RELIEF VENTS) 2-1/2 INCH AND SMALLER
PIPE MATERIAL: SCHEDULE 40 BLACK STEEL
FITTING MATERIAL: VIEGA MEGAPRESS CARBON STEEL FITTINGS.
PIPE JOINT: VIEGA MEGAPRESS CARBON STEEL FITTINGS.

K. SERVICE: NATURAL GAS (3 INCH AND LARGER)
PIPE MATERIAL: SCHEDULE 40 BLACK STEEL (ASTM A120).
FITTING MATERIAL: CARBON STEEL
PIPE JOINT: WELDED, FLANGE.

L. SERVICE: STORM SYSTEM
PIPE MATERIAL: SCHEDULE 40 PVC (EXCEPT AS NOTED ON PLANS)
FITTING MATERIAL: SCHEDULE 40 PVC (EXCEPT AS NOTED ON PLANS)
PIPE JOINT: SOLVENT WELD (EXCEPT AS NOTED ON PLANS)
REMARK: FIBERGLASS INSULATION ON ALL HORIZONTAL STORM PIPING AND DRAIN BODIES ABOVE GRADE.

NOTE:
CAST IRON AND PVC PIPING USE AS NOTED ABOVE IS IN ACCORDANCE WITH THE STATE PLUMBING BOARD INTERPRETATION DATED 06-07-13. ADDITIONAL INFORMATION CAN BE OBTAINED FROM THE STATE PLUMBING BOARD WEB SITE.

ADD ALTERNATE:
ALL PVC PIPING TO INCLUDE ACOUSTICAL QUIET WRAP OR EQUAL.

INSULATION NOTES

THE FOLLOWING SYSTEMS SHALL BE INSULATED.
DUCT LINER SHALL BE CLOSED CELL TYPE, GERM PROOF

ESTAR REQUIREMENTS:

1. DOMESTIC HOT WATER & RECIRCULATION MAINS AND BRANCHES:
PIPING < 1" REQUIRES 1" INSULATION
PIPING > 1½" REQUIRES 1½" INSULATION

IECC 2018 REQUIREMENTS:

1. DOMESTIC HOT WATER MAINS AND BRANCHES:
PIPING < 1" REQUIRES 1" INSULATION
PIPING > 1½" REQUIRES 2" INSULATION

GENERAL INSUALTION REQUIREMENTS:

CW PIPING: ½" INSULATION
HORIZONTAL STORM: ½" INSULATION

THIS BUILDING WILL SHALL BE QUALIFIED FOR ESTAR, STRETCH CODE, AND LEED SILVER.
PROVIDE THE MOST STRINGENT LEVELS OF INSULATION FOR QUALIFICATION

SCHEDULE OF MIXING VALVE

DESIGNATION	NAME	LOCATION	DESCRIPTION
TMV-1	THERMOSTATIC MIXING VALVE	MECHANICAL ROOM	PROVIDE LEONARD TM-1520B-LF-DT HIGH CAPACITY THERMOSTATIC WATER MIXING 1 GPM MINIMUM, 195 GPM MAX. 1¼" INLETS, 1¼" OUTLET, INTEGRAL CHECK VALVE, ROUGH BRONZE, FINISH

SCHEDULE OF CIRCULATOR PUMP

DESIGNATION	NAME	LOCATION	DESCRIPTION
RP-1	RECIRCULATION PUMP	MECHANICAL ROOM	PROVIDE GRUNDFOS MAGNA1 32-60 SET AT 12 GPM @ 20' OF HEAD, WITH TIMER, INTEGRAL CHECK VALVE, AQUASTAT, LINE CORD. 115V,1Ø

PLUMBING NOTES:

1. REFER TO ARCHITECTURAL DRAWINGS FOR TYPE AND LOCATION OF ALL FIRE WALLS. ANY PENETRATION THROUGH FIRE FLOORS SHALL BE FIRE STOPPED . ANY PENETRATION THROUGH FIRE WALL SHALL BE FIRE CAULKED. REFER TO SECTION 7275 FOR PROCEDURE.

2. WITHOUT LIMITATION PAY ATTENTION TO THE FOLLOWING ITEMS:

A. CHASES BEHIND BATHROOM (WALL BETWEEN CORRIDOR AND BATHROOM) AND WALLS BETWEEN UNITS ARE FIRE RATED. FIRE CAULK ALL PENETRATIONS.

B. TOP AND BOTTOM WALL PLATES AT CEILING AND AT FLOOR IS PART OF FIRE SEPARATION. FIRE STOP ALL PENETRATIONS THROUGH PLATES.

GENERAL NOTES:

1. SHOULD ANY CONTRADICTION, AMBIGUITY, ERROR, INCONSISTENCY, OMISSION OR INCOMPLETE SYSTEM APPEAR IN OR BETWEEN ANY OF CONTRACT DOCUMENTS THE CONTRACTOR SHALL, BEFORE SUBMITTING THE FINAL BID AND SIGNING THE CONTRACT FOR CONSTRUCTION, NOTIFY THE ARCHITECT AND REQUEST A WRITTEN RESOLUTION AS TO WHICH METHODS OR MATERIALS WILL BE REQUIRED. IN THE EVENT OF CONFLICTING REQUIREMENTS OF STANDARDS , DRAWINGS AND SPECIFICATIONS, THE CONTRACTOR SHALL COMPLY WITH THE MORE STRINGENT REQUIREMENTS. BEFORE SUBMITTING THE FINAL BID AND THE SIGNING THE CONTRACT FOR THE CONSTRUCTION THE CONTRACTOR SHALL OBTAIN A WRITTEN INTERPRETATION FROM THE ARCHITECT. IN NO CASE SHALL THE CONTRACTOR PROCEED WITH THE AFFECTED WORK UNTIL ADVISED BY THE ARCHITECT.

IF THE CONTRACTOR FAILS TO MAKE A REQUEST FOR INTERPRETATION OR RESOLUTION NO EXCUSE WILL BE ACCEPTED FOR FAILURE TO CARRY OUT THE WORK IN A SATISFACTORY MANNER, AS INTERPRETED BY THE ARCHITECT. THIS GENERALLY MEANS THE USE OF THE HIGHEST QUALITY MATERIAL, MOST EXPENSIVE WAY OF PERFORMING WORK AND PROVIDING COMPLETE FUNCTIONING SYSTEM FOR PROPER OPERATION.

EACH AND EVERY TRADE OR SUBCONTRACTOR WILL BE DEEMED TO HAVE FAMILIARIZED THEMSELVES WITH ALL THE CONTRACT DOCUMENTS OF THIS PROJECT, INCLUDING ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND SITE WORK, AND TO HAVE VISITED THE SITE, SO AS TO AVOID ERROR, OMISSIONS AND MISINTERPRETATIONS. RELATED INFORMATION MAY BE PROVIDED ON CONTRACT DOCUMENTS OTHER THAN THOSE ASSOCIATED WITH THE SUBCONTRACTOR'S TRADE. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RELATED WORK OF ALL THE CONTRACT DOCUMENTS. NO ADDITIONAL COMPENSATION WILL BE AUTHORIZED FOR ALLEGED ERRORS, OMISSIONS AND MISINTERPRETATIONS WHETHER THEY ARE A RESULT OF FAILURE TO OBSERVE THIS REQUIREMENT OR NOT.

2. ALL PENETRATIONS OF ASSEMBLIES EXPOSED TO THE EXTERIOR ENVIRONMENT SHALL BE SEALED WITH FOAM SEALANT OR EQUIVALENT SEALER TO PROVIDE ZERO AIR INFILTRATION. COORDINATE WITH FIRE STOPPING REQUIREMENTS.

3. NO COMPONENT OF ANY SYSTEM SHALLRUN THROUGH THE STAIR ENCLOSURE THAT DOES NOT RELATE TO OR SERVE THE STAIR ENCLOSURE.

FIRE SAFE THROUGH WOOD FLOORS

TYPE	SIZE	HILTI	MATERIAL	RATING	BOTTOM	TOP	CHASE WALL
STEEL/CAST COPPER/EMT	MAX 4"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
STEEL/CAST 4" EMT/ 2" FLEX	MAX 6" –	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
STEEL/CAST COPPER/EMT	MAX 4"	CP-620	FIRE FOAM	1HRS	FIRE STOP	FIRE STOP	REQUIRED
PEX	MAX 1"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	BOTH SIDES	BOTH SIDES	NOT REQUIRED
PVC PIPE	MAX 2"	FS-ONE	INTUMESCENT SEALANT	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
PVC PIPE	MAX 4"	FS-ONE	INTUMESCENT SEALANT	2HRS	FIRE STOP	FIRE STOP	REQUIRED
PVC PIPE	MAX 4"	CP 645	INTUMESCENT STRIP W/COLLAR	1HRS	COLLAR	FIRE STOP	NOT REQUIRED
REFRIGERANT	–	FS-ONE	INTUMESCENT SEALANT –	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
4" DUCT	MAX 4"	FS-ONE	INTUMESCENT SEALANT –	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
INSULATED COPPER/STEEL	MAX 2"	FS-ONE	INTUMESCENT SEALANT –	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED
CABLES	MAX 2"	FS-ONE	INTUMESCENT SEALANT –	1HRS	FIRE STOP	FIRE STOP	NOT REQUIRED

GENERAL NOTES

1) FOR EXACT LOCATION OF PLUMBING FIXTURES SEE ARCHITECTURAL DRAWINGS.
2) EXAMINE ALL CONTRACT DRAWINGS, GERNERAL CONDITIONS AND SPECIFICATIONS WHICH MAY AFFECT THE WORK.
3) ALL PLUMBING WORK MUST BE COORDINATED WITH ALL OTHER TRADES BEFORE PROCEEDING WITH INSTALLATION.
4) CHECK INVERT ELEVATIONS AND EXACT LOCATIONS OF ALL OUTSIDE UTILITIES BEFORE INSTALLING ANY UNDERGROUND.
5) NO CHANGES ARE TO BE MADE IN PLUMBING LAYOUT WITHOUT WRITTEN PERMISSION OF THE ARCHITECT.
6) NO PIPING SHALL RUN EXPOSED IN FINISHED AREAS.
7) ALL PLUMBING SYSTEM SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE LOCAL AND STATE PLUMBING CODES.
8) ROUGHING DIMENSIONS OF TOILET FIXTURES MUST BE COORDINATED WITH GENERAL CONTRACTOR.
9) INSTALL ALL HOT AND COLD WATER PIPING AS PER SPECIFICATIONS.
10) INSTALL SHUTOFF GATE VALVES ON ALL BRANCH SUPPLY LINES AND AT THE BASE OF HOT AND COLD WATER RISERS.
11) PLUMBING CONTRACT SHALL REQUIRES PANELS TO ACCESS THE CONCEALED PLUMBING CLEANOUTS, DRAINS, DEVICES AND CONTROLS. ACCESS PANELS SHALL BE FIRE RATED TO MATCH THE PENETRATING PARTITION OR CEILING TYPE. GENERAL CONTRACTOR SHALL INSTALL THE ACCESS PANELS.
12) INSTALL ALL FLOOR CLEANOUTS TO CLEAR EQUIPMENT.
13) PLUMBING CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS, FEES AND CHARGES IN CONNECTION WITH THE WORK.
14) PLUMBING CONTRACTOR SHALL PROVIDE WATERTIGHT SLEEVES FOR ALL PIPES PASSING THRU BASEMENT WALLS.
15) INSTALL CLEANOUTS AT THE BASE OF ALL SANITARY STACKS.
16) INSTALL ALL HORIZONTAL RUNS OF PIPING AS HIGH AS POSSIBLE, PITCH ALL WATER PIPING TO DRAIN, DRAW OFFS AT ALL POINTS.
17) PLUMBING CONTRACTOR SHALL MAKE ALL FINAL CONNECTIONS TO OUTSIDE UTILITIES.
18) FOR PIPE SIZES NOT SHOWN ON PLANS SEE DETAILS & RISER DIAGRAMS.

PLUMBING FIXTURE SPECIFICATION SCHEDULE

DESIGNATION	FIXTURE SYMBOL	SYMBOL	MANUFACTURER	FIXTURE			FITTING				CARRIER	LOCATION	REMARKS
				MODEL	TYPE	SIZE	MANUF/MODEL#	TYPE	SUPPLY	TRAP			
REFER TO ARCITECTURAL SPECIFICATION FOR PLUMBING FIXTURES													
TRAP PRIMER	P-6	T.P.	PRECISION PLUMBING PRODUCTS	PR-500	-	-	-	-	½" CW SUPPLY	-	-	AS SHOWN	PROVIDE DU-4 FOR MULTIPLE TRAP PRIMERS

NOTE: ALL WASHER MACHINES TO BE PROVIDED WITH AQUA MANAGERS 'FLOODSTOP' (FS 3/4-H) AUTOMATIC FLOOD PROTECTION KIT

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PROJECT

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CRUZ DEVELOPMENT CORPORATION

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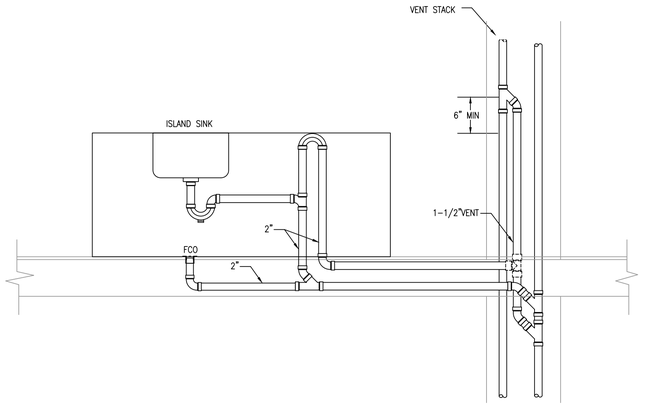
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PLUMBING NOTES & SCHEDULES

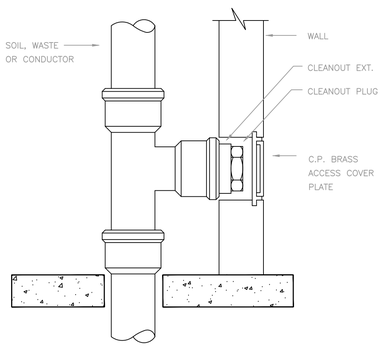
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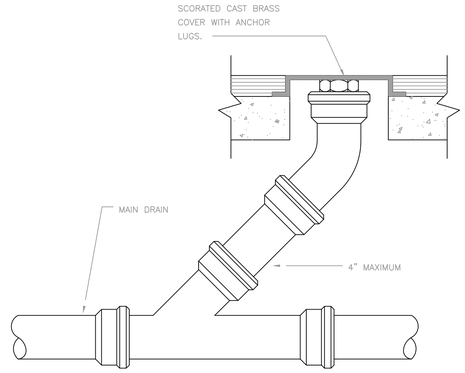
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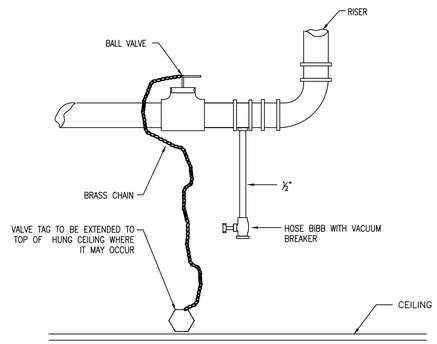
BOW VENT VERTICAL CONNECTION DETAIL | N.T.S.



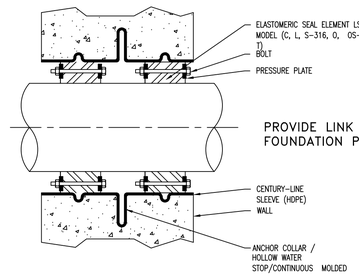
FLUSH WALL CLEANOUT DETAIL | N.T.S.



FLUSH FLOOR CLEANOUT DETAIL | N.T.S.



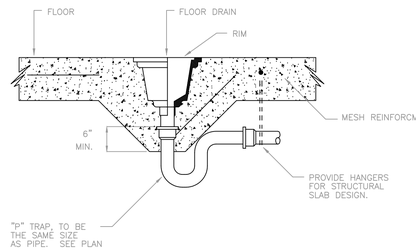
TYPICAL CONNECTION AT BASE OF WATER RISER | N.T.S.



LS Model	Seal Element	Bolts/Nuts	Pressure Plate
C	EPDM (Black)	Zinc Dichromate/Organic Coated Carbon Steel Bolt	Reinforced Nylon
Polymer			

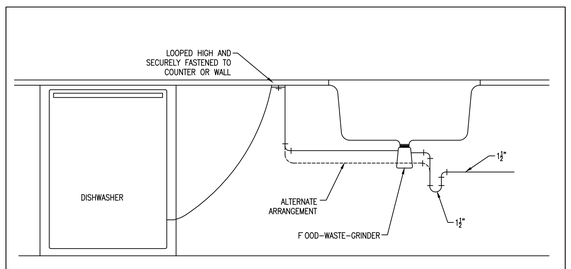
Sleeve Model	Description	Material
CS	Century-Line Sleeve	HDPE

LINK SEAL DETAIL | N.T.S.

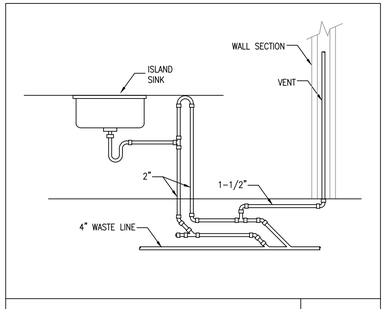


NOTE: CHECK TO SEE IF FLOOR AROUND DRAIN IS TO BE SLOPED OR FEATHERED.

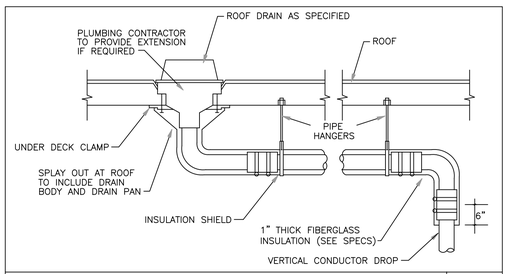
FLOOR DRAIN DETAIL | N.T.S.



TYPICAL SINK DISHWASHER & FOOD WASTE GRINDER – DETAIL | N.T.S.



BOW VENT HORIZONTAL CONNECTION DETAIL | N.T.S.



INSULATION OF CONDUCTOR PIPING OFFSETS | N.T.S.

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PROJECT

ONE WAVERLY

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

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REGISTERED PROFESSIONAL ENGINEER

Mohammed Zade

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INLET	D	A	B
4"	3'-6"ø	3'-0"	2'-6"
5"	3'-6"ø 3'-6"x3'-6" 4'-0"ø 4'-0"x4'-0" 4'-6"ø	5'-0" 5'-0" 3'-6" 3'-0" 3'-0"	4'-6" 4'-6" 3'-0" 2'-6" 2'-0"
6"	4'-0"ø 3'-0"x4'-0" 4'-6"ø 4'-6"x4'-6" 5'-0"ø 5'-0"x5'-0"	5'-0" 4'-0" 4'-0" 3'-6" 3'-0" 3'-0"	4'-6" 3'-6" 3'-6" 3'-0" 2'-6" 2'-6"
8"	5'-0"ø 5'-6"x5'-0" 6'-0"ø 6'-0"x5'-0" 6'-6"ø 6'-6"x6'-6"	6'-0" 4'-6" 4'-0" 3'-0" 3'-6" 3'-0"	5'-0" 4'-0" 3'-6" 2'-0" 3'-0" 2'-6"

NOTES:
- ALL INLET TRAPS TO BE PROVIDED IN ACCORDANCE WITH 248 CMR 10.00
- FOR INLETS LARGER THAN 10" THE DESIGN AND DIMENSIONS WILL BE DETERMINED FOR EACH PARTICULAR CASE.
- PRE-CAST SEPERATORS ARE TO HAVE ALL SPECIFIED HOLES EITHER CORE-BORED OR CAST IN PLACE.
- CIRCULAR BASINS ARE RECOMMENDED.

GENERAL CONSTRUCTION NOTES:

BASIN TO BE LOCATED OUTSIDE OF BUILDING WHERE POSSIBLE, COVER TO HAVE A CENTER HOLE.

A THIGHT COVER MUST BE USED IF BASIN IS LOCATED INSIDE OF BUILDING.

OPENING SHALL BE NOT LESS THAN 24" DIAMETR.

THE CATCH BASIN SHALL BE SO LOCATED AND CONSTRUCTED THAT SURFACE WATER SHALL BE EXLUDED.

INLET PIPE SHALL BE AT LEAST FOUR INCHES ABOVE NORMAL WATER LINE.

WHERE SUBJECT TO FROST OR CRUSHING CONDITIONS, OUTLET SHALL BE AT LEAST THREE FEET BELOW THE SURFACE.

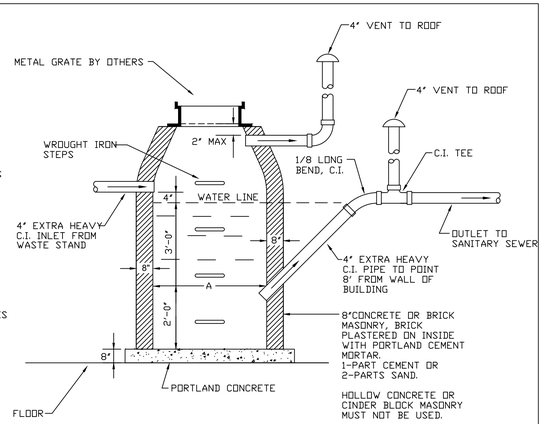
THE NEW CATCH BASIN MUST BE FILLED WITH CLEAN WATER BEFORE USING, AND AFTER BEING EMPTIED FOR PERIODIC CLEANING.

ALL OIL AND GASOLINE MUST BE REMOVED BEFORE CLEANING OUT THE BASIN AND MUST NOT BE DISCHARGED INTO THE SEWER THROUGH OTHER FIXTURES.

SPECIFICATIONS FOR COVERING SPECIAL CASES OR CONDITIONS SHALL BE APPROVED BY THE LOCAL AUTHORITIES.

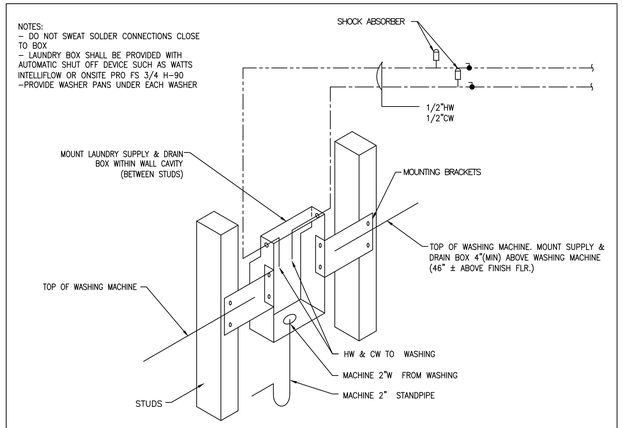
WROUGHT IRON STEPS SHALL BE SPACED ABOUT 18" APART.

BOTH VENTS SHALL BE EXTENDED INDEPENDENTLY 18" ABOVE THE ROOF, OR AS APPROVED BY THE LOCAL AUTHORITIES.

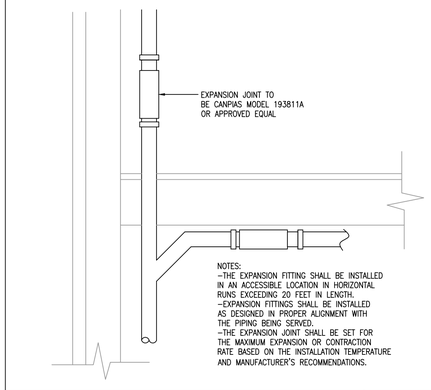


GASOLINE AND SAND TRAP | N.T.S.

NOTES:
- DO NOT SWEAT SOLDER CONNECTIONS CLOSE TO BOX
- LAUNDRY BOX SHALL BE PROVIDED WITH AUTOMATIC SHUT OFF DEVICE SUCH AS WATTS INTELLIFLOW OR ONSITE PRO FS 3/4 H-90
-PROVIDE WASHER PANS UNDER EACH WASHER

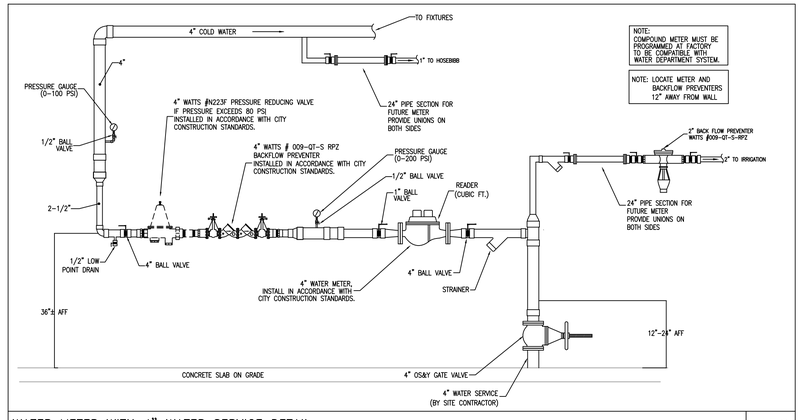


WASHING MACHINE CONNECTION | N.T.S.

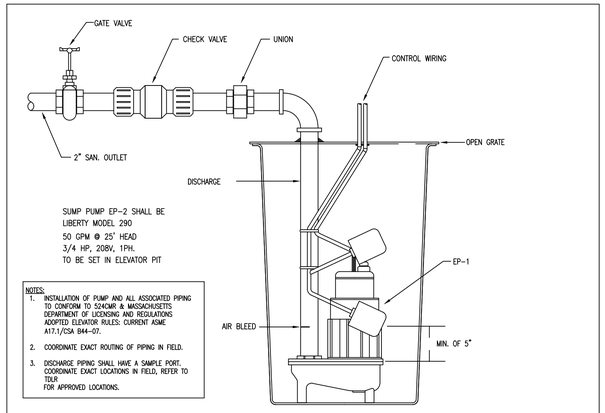


NOTES:
-THE EXPANSION FITTING SHALL BE INSTALLED IN AN ACCESSIBLE LOCATION IN HORIZONTAL RUNS EXCEEDING 20 FEET IN LENGTH.
-EXPANSION FITTINGS SHALL BE INSTALLED AS DESIGNED IN PROPER ALIGNMENT WITH THE PIPING BEING SERVED.
-THE EXPANSION JOINT SHALL BE SET FOR THE MAXIMUM EXPANSION OR CONTRACTION RATE BASED ON THE INSTALLATION TEMPERATURE AND MANUFACTURER'S RECOMMENDATIONS.

P.V.C. EXPANSION JOINT FITTING | N.T.S.

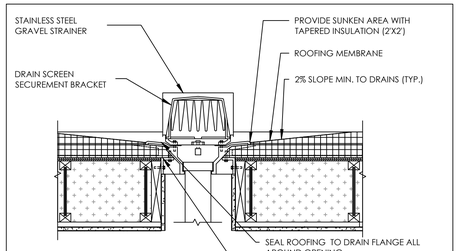


WATER METER WITH 4" WATER SERVICE DETAIL | N.T.S.

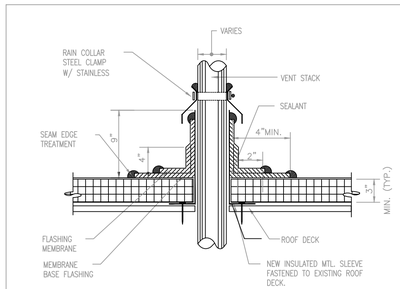


NOTES:
1. INSTALLATION OF PUMP AND ALL ASSOCIATED PIPING TO CONFORM TO 524CMR & MASSACHUSETTS DEPARTMENT OF LICENSING AND REGULATIONS ADOPTED ELEVATOR RULES: CURRENT ASME A17.1/CSA B44-07.
2. COORDINATE EXACT ROUTING OF PIPING IN FIELD.
3. DISCHARGE PIPING SHALL HAVE A SAMPLE PORT. COORDINATE EXACT LOCATIONS IN FIELD, REFER TO TDLR FOR APPROVED LOCATIONS.

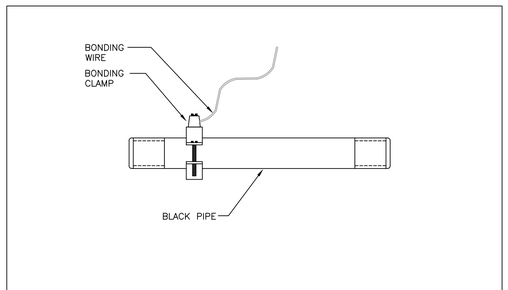
– | ELEVATOR EJECTOR PUMP | N.T.S.



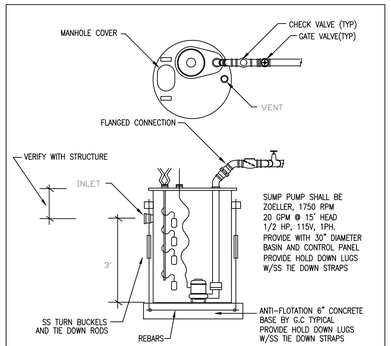
ROOF DRAIN DETAIL | N.T.S.



VENT TERMINAL | N.T.S.



GAS PIPING BONDING DETAIL | N.T.S.



SUMP PUMP DETAIL | NTS

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1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
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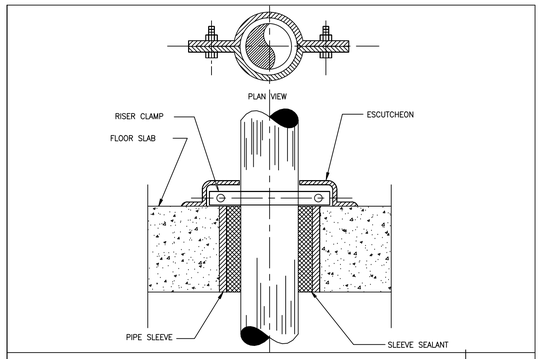
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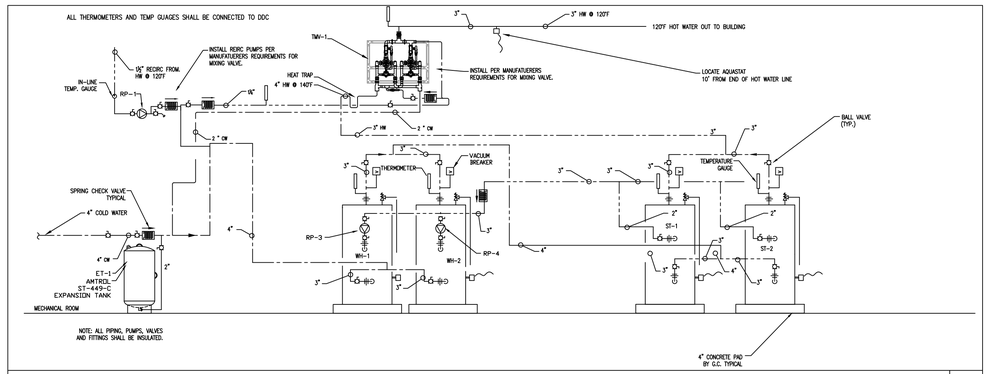
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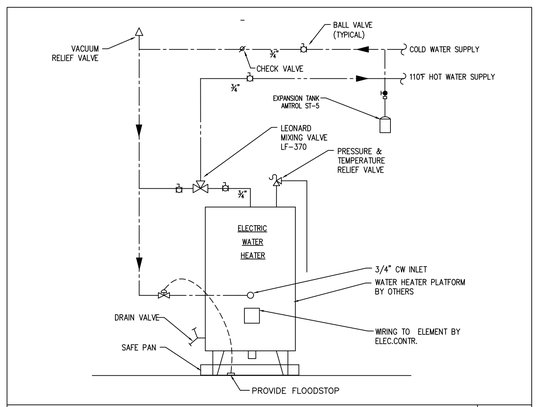
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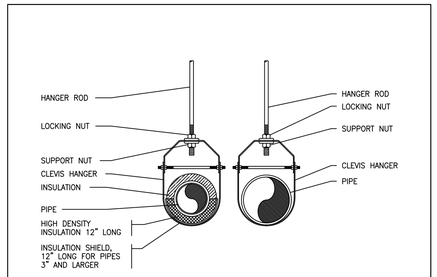
PIPE SLEEVE THROUGH EXPOSED FLOOR SLAB | N.T.S.



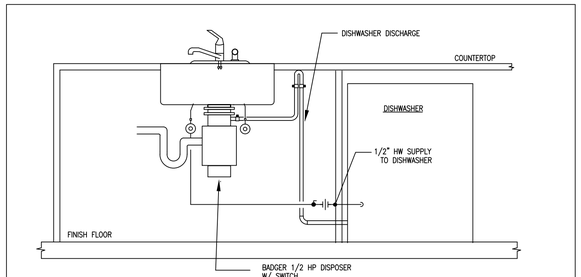
HOT WATER PIPING DIAGRAM | N.T.S.



ELECTRIC WATER HEATER PIPING DETAIL | NTS



PIPE HANGER INSTALLATION DETAIL | N.T.S.



KITCHEN AND DISHWASHER DETAIL | N.T.S.

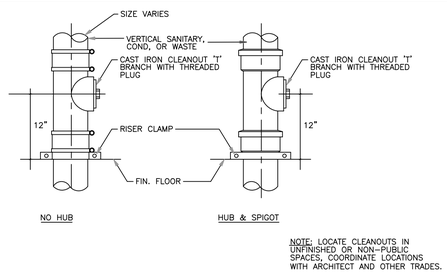
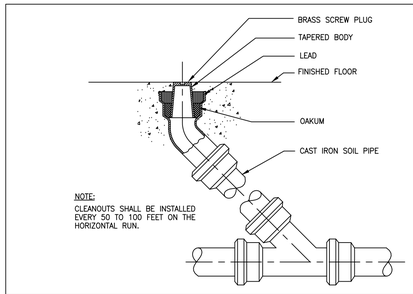
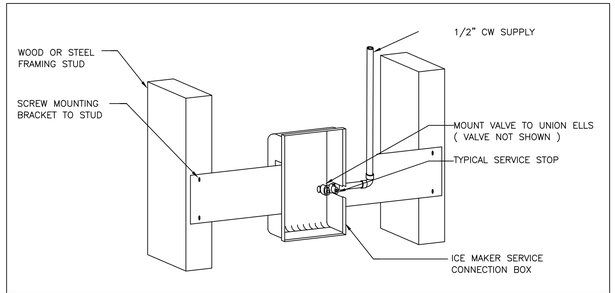


DIAGRAM – DANDY CLEANOUT | N.T.S.



TYPICAL FLOOR CLEANOUT | N.T.S.



ICE MAKER DIAGRAM | N.T.S.

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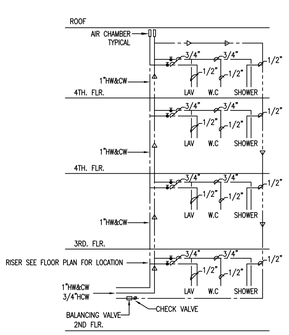
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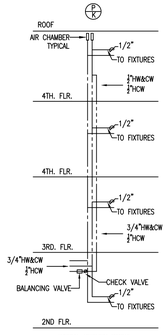
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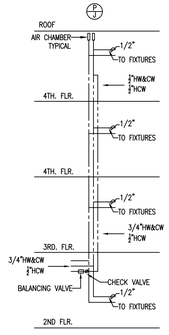
TYPICAL BATHROOM PIPING

NO BRANCH FROM MAIN RISER TO FIXTURE SHALL BE MORE THAN 5'



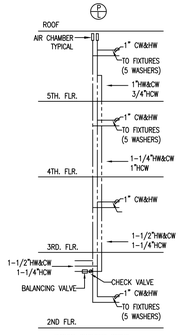
TYPICAL KITCHEN PIPING

NO BRANCH FROM MAIN RISER TO FIXTURE SHALL BE MORE THAN 5'



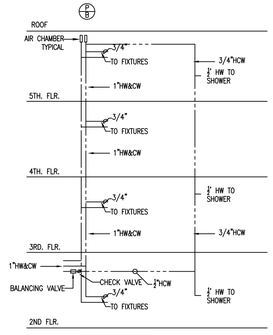
TYPICAL JANITOR SINK PIPING

NO BRANCH FROM MAIN RISER TO FIXTURE SHALL BE MORE THAN 5'



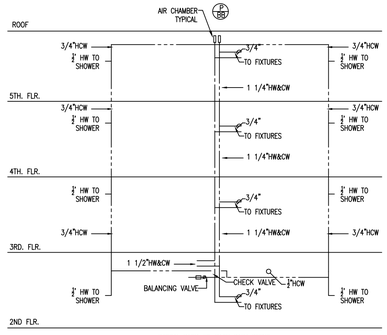
TYPICAL WASHERS PIPING

NO BRANCH FROM MAIN RISER TO FIXTURE SHALL BE MORE THAN 5'



TYPICAL BATH PIPING

NO BRANCH FROM MAIN RISER TO FIXTURE SHALL BE MORE THAN 5'



TYPICAL BACK-TO-BACK BATH PIPING

NO BRANCH FROM MAIN RISER TO FIXTURE SHALL BE MORE THAN 5'

TYPICAL WATER RISER DIAGRAMS

N.T.S.
RISER DIAGRAMS DO NOT SHOW OFFSETS.

TYPICAL KITCHEN PIPING

TYPICAL BATHROOM PIPING

TYPICAL JANITOR SINK PIPING

TYPICAL BACK-TO-BACK BATH PIPING

NOTE: 1. ALL WASHER MACHINES TO BE PROVIDED WITH AQUA MANAGERS "FLOODSTOP" (FS 3/4-H) AUTOMATIC FLOOD PROTECTION KIT

NOTES:

1. 40 PIPE DIAMETER (MIN) IF CHANGE IN DIRECTION IS GREATER THAN 45°.
2. LONG SWEEPS & DANDY CLEANOUTS MAY BE USED IN LIEU OF WYE 1/8 BEND.
3. IF THERE ARE MORE THAN TEN BRANCH INTERVALS IN STACK THEN A RELIEF VENT SHALL BE INSTALLED IN ACCORDANCE WITH 248 CMR 2.16(4)(e).
4. IF IDEAL CONDITIONS DO NOT EXIST, THE LOCAL PLUMBING INSPECTOR MAY APPROVE A VARIATION FROM FIGURE 19 TO ACCOMODATE THE INTENT OF 248 CMR 2.15(9)(a).

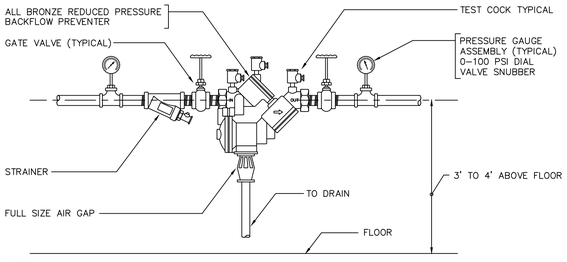
WASHER RISER DIAGRAMS

N.T.S.

RISER DIAGRAMS DO NOT SHOW OFFSETS.

TYPICAL SANITARY RISER DIAGRAMS

N.T.S.
RISER DIAGRAMS DO NOT SHOW OFFSETS.



NOTES:

1. BACKFLOW PREVENTER SHALL BE APPROVED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AGENCY.
2. BACKFLOW PREVENTER SHALL BE IN COMPLETE ACCORDANCE WITH AUTHORITIES HAVING JURISDICTION.
3. THE PLUMBING CONTRACTOR SHALL SUBMIT PLANS AND DEVICE INFORMATION FOR APPROVAL PRIOR TO INSTALLATION.
4. FURNISH TO OWNER ONE TEST KIT AND SPARE PARTS KIT FOR EACH DEVICE.
5. THIS CONTRACTOR SHALL ACT AS THE OWNERS AGENT IN SEEKING APPROVAL FROM ALL LOCAL AND STATE AUTHORITIES.
6. THIS CONTRACTOR SHALL SUBMIT ALL PLANS, SPECS. AND APPLICATIONS REQUIRED FOR APPROVAL AND PAY ALL FEES.
7. SEE FLOOR PLANS FOR SIZES.
8. MAINTAIN 1'-0" CLEARANCE FROM WALL.
9. BACKFLOW PREVENTER SHALL BE EQUAL TO WATTS MODEL NUMBER LF009QT.

3 REDUCED PRESSURE BACKFLOW PREVENTER
SCALE: NONE

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PROJECT

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1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
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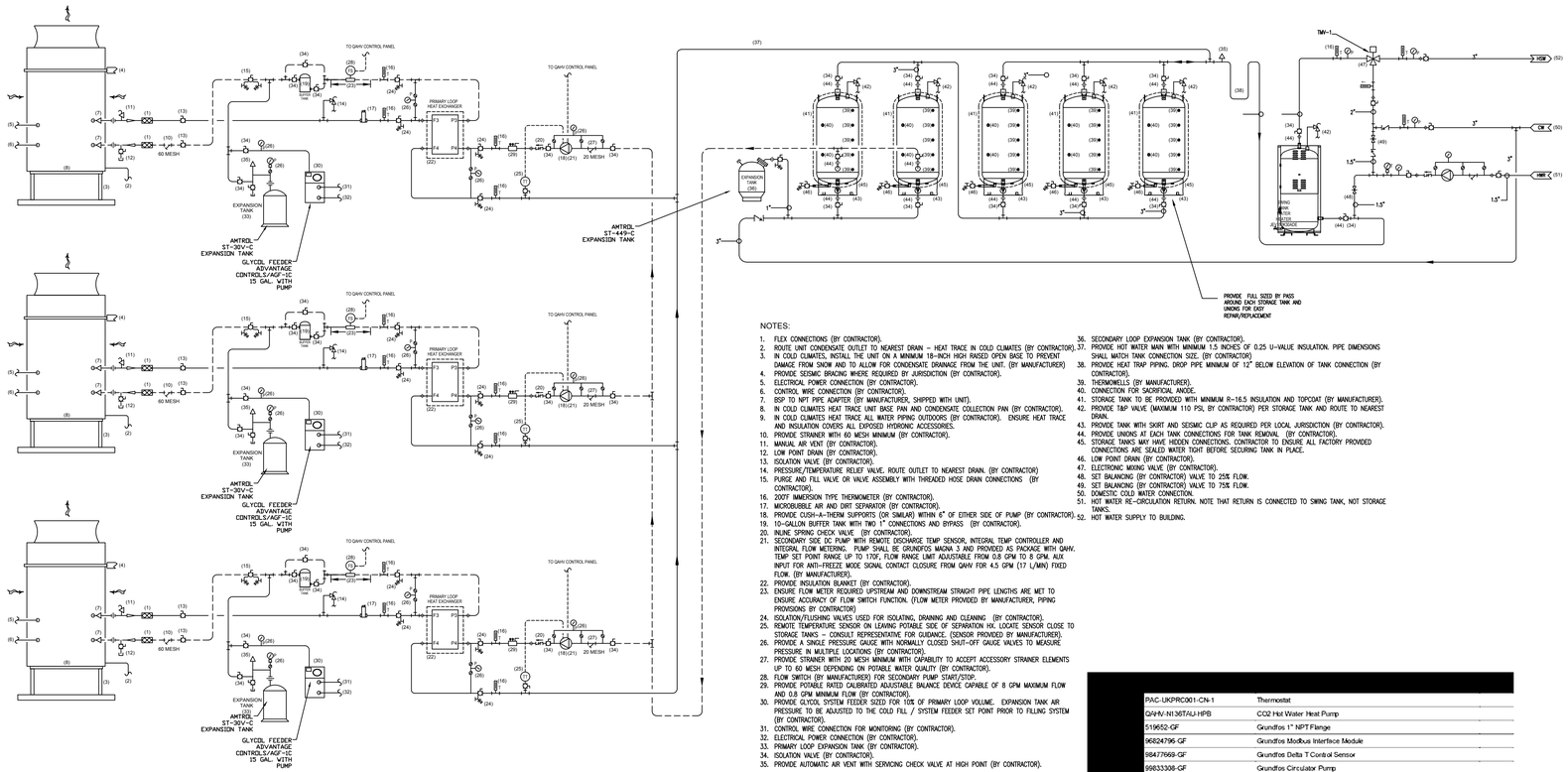
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NOTES:

1. FLEX CONNECTIONS (BY CONTRACTOR).
2. ROUTE UNIT CONDENSATE OUTLET TO NEAREST DRAIN – HEAT TRACE IN COLD CLIMATES (BY CONTRACTOR).
3. IN COLD CLIMATES, INSTALL THE UNIT ON A MINIMUM 18–INCH HIGH RAISED OPEN BASE TO PREVENT DAMAGE FROM SNOW AND TO ALLOW FOR CONDENSATE DRAINAGE FROM THE UNIT. (BY MANUFACTURER)
4. PROVIDE SEISMIC BRACING WHERE REQUIRED BY JURISDICTION (BY CONTRACTOR).
5. ELECTRICAL POWER CONNECTION (BY CONTRACTOR).
6. CONTROL WIRE CONNECTION (BY CONTRACTOR).
7. BSP TO NPT PIPE ADAPTER (BY MANUFACTURER, SHIPPED WITH UNIT).
8. IN COLD CLIMATES HEAT TRACE UNIT BASE PAN AND CONDENSATE COLLECTION PAN (BY CONTRACTOR).
9. IN COLD CLIMATES HEAT TRACE ALL WATER PIPING OUTDOORS (BY CONTRACTOR). ENSURE HEAT TRACE AND INSULATION COVERS ALL EXPOSED HYDRONIC ACCESSORIES.
10. PROVIDE STRAINER WITH 60 MESH MINIMUM (BY CONTRACTOR).
11. MANUAL AIR VENT (BY CONTRACTOR).
12. LOW POINT DRAIN (BY CONTRACTOR).
13. ISOLATION VALVE (BY CONTRACTOR).
14. PRESSURE/TEMPERATURE RELIEF VALVE. ROUTE OUTLET TO NEAREST DRAIN. (BY CONTRACTOR)
15. PURGE AND FILL VALVE OR VALVE ASSEMBLY WITH THREADED HOSE DRAIN CONNECTIONS (BY CONTRACTOR).
16. 200°F IMMERSION TYPE THERMOMETER (BY CONTRACTOR).
17. MICROBUBBLE AIR AND DIRT SEPARATOR (BY CONTRACTOR).
18. PROVIDE CUSH–A–THERM SUPPORTS (OR SIMILAR) WITHIN 6" OF EITHER SIDE OF PUMP (BY CONTRACTOR).
19. 10–GALLON BUFFER TANK WITH TWO 1" CONNECTIONS AND BYPASS (BY CONTRACTOR).
20. INLINE SPRING CHECK VALVE (BY CONTRACTOR).
21. SECONDARY SIDE DC PUMP WITH REMOTE DISCHARGE TEMP SENSOR, INTEGRAL TEMP CONTROLLER AND INTEGRAL FLOW METERING. PUMP SHALL BE GRUNDFOS MAGNA 3 AND PROVIDED AS PACKAGE WITH QAHV. TEMP SET POINT RANGE UP TO 170F, FLOW RANGE LIMIT ADJUSTABLE FROM 0.8 GPM TO 8 GPM. AUX INPUT FOR ANTI–FREEZE MODE SIGNAL CONTACT CLOSURE FROM QAHV FOR 4.5 GPM (17 L/MIN) FIXED FLOW. (BY MANUFACTURER).
22. PROVIDE INSULATION BLANKET (BY CONTRACTOR).
23. ENSURE FLOW METER REQUIRED UPSTREAM AND DOWNSTREAM STRAIGHT PIPE LENGTHS ARE MET TO ENSURE ACCURACY OF FLOW SWITCH FUNCTION. (FLOW METER PROVIDED BY MANUFACTURER, PIPING PROVISIONS BY CONTRACTOR)
24. ISOLATION/FLUSHING VALVES USED FOR ISOLATING, DRAINING AND CLEANING (BY CONTRACTOR).
25. REMOTE TEMPERATURE SENSOR ON LEAVING POTABLE SIDE OF SEPARATION HX. LOCATE SENSOR CLOSE TO STORAGE TANKS – CONSULT REPRESENTATIVE FOR GUIDANCE. (SENSOR PROVIDED BY MANUFACTURER).
26. PROVIDE A SINGLE PRESSURE GAUGE WITH NORMALLY CLOSED SHUT–OFF GAUGE VALVES TO MEASURE PRESSURE IN MULTIPLE LOCATIONS (BY CONTRACTOR).
27. PROVIDE STRAINER WITH 20 MESH MINIMUM WITH CAPABILITY TO ACCEPT ACCESSORY STRAINER ELEMENTS UP TO 60 MESH DEPENDING ON POTABLE WATER QUALITY (BY CONTRACTOR).
28. FLOW SWITCH (BY MANUFACTURER) FOR SECONDARY PUMP START/STOP.
29. PROVIDE POTABLE RATED CALIBRATED ADJUSTABLE BALANCE DEVICE CAPABLE OF 8 GPM MAXIMUM FLOW AND 0.8 GPM MINIMUM FLOW (BY CONTRACTOR).
30. PROVIDE GLYCOL SYSTEM FEEDER SIZED FOR 10% OF PRIMARY LOOP VOLUME. EXPANSION TANK AIR PRESSURE TO BE ADJUSTED TO THE COLD FILL / SYSTEM FEEDER SET POINT PRIOR TO FILLING SYSTEM (BY CONTRACTOR).
31. CONTROL WIRE CONNECTION FOR MONITORING (BY CONTRACTOR).
32. ELECTRICAL POWER CONNECTION (BY CONTRACTOR).
33. PRIMARY LOOP EXPANSION TANK. (BY CONTRACTOR).
34. ISOLATION VALVE (BY CONTRACTOR).
35. PROVIDE AUTOMATIC AIR VENT WITH SERVICING CHECK VALVE AT HIGH POINT (BY CONTRACTOR).
36. SECONDARY LOOP EXPANSION TANK (BY CONTRACTOR).
37. PROVIDE HOT WATER MAIN WITH MINIMUM 1.5 INCHES OF 0.25 U–VALUE INSULATION. PIPE DIMENSIONS SHALL MATCH TANK CONNECTION SIZE. (BY CONTRACTOR)
38. PROVIDE HEAT TRAP PIPING. DROP PIPE MINIMUM OF 12" BELOW ELEVATION OF TANK CONNECTION (BY CONTRACTOR).
39. THERMOWELLS (BY MANUFACTURER).
40. CONNECTION FOR SACRIFICIAL ANODE.
41. STORAGE TANK TO BE PROVIDED WITH MINIMUM R–16.5 INSULATION AND TOPCOAT (BY MANUFACTURER).
42. PROVIDE T&P VALVE (MAXIMUM 110 PSI, BY CONTRACTOR) PER STORAGE TANK AND ROUTE TO NEAREST DRAIN.
43. PROVIDE TANK WITH SKIRT AND SEISMIC CLIP AS REQUIRED PER LOCAL JURISDICTION (BY CONTRACTOR).
44. PROVIDE UNIONS AT EACH TANK CONNECTIONS FOR TANK REMOVAL (BY CONTRACTOR).
45. STORAGE TANKS MAY HAVE HIDDEN CONNECTIONS. CONTRACTOR TO ENSURE ALL FACTORY PROVIDED CONNECTIONS ARE SEALED WATER TIGHT BEFORE SECURING TANK IN PLACE.
46. LOW POINT DRAIN (BY CONTRACTOR).
47. ELECTRONIC MIXING VALVE (BY CONTRACTOR).
48. SET BALANCING (BY CONTRACTOR) VALVE TO 25% FLOW.
49. SET BALANCING (BY CONTRACTOR) VALVE TO 75% FLOW.
50. DOMESTIC COLD WATER CONNECTION.
51. HOT WATER RE–CIRCULATION RETURN. NOTE THAT RETURN IS CONNECTED TO SWING TANK, NOT STORAGE TANKS.
52. HOT WATER SUPPLY TO BUILDING.

PAC-UKPRC001-CN-1	Thermostat
QAHV-N136TAU-HPB	CO2 Hot Water Heat Pump
5196552-GF	Grundfos 1" NPT Flange
96824796-GF	Grundfos Modbus Interface Module
98477669-GF	Grundfos Delta T Control Sensor
99833308-GF	Grundfos Circulator Pump
A6-Thermowell	6.25" Thermistor Thermowell for TW-TH16-E Tank Thermistor
B65H-49-2P-HEX	Heat Exchanger
EVC006	IFM 4-PIN M12 WIRING HARNESS FOR SM-8601 FLOW METER
SGQ-1	SGQ-1 QAHV Snow guard-side
SGQ-2	SGQ-1 QAHV Snow guard-rear
SHQ-1	SHQ-1 QAHV Snowhood
SM-8601	IFM Magnetic Inductive Flow Meter
QSS648M-24	Super Stand w/ 48in rails, 24in Tall
NST285	285 Gallon Storage Tank
JEV150K30ADE	150 Gallon Three Phase Swing Tank
TW-TH16-E	Thermistor
QAHV-Controls-1	Accessory Panel

GENERAL NOTES

① REFER TO PROJECT SPECIFIC SUBMITTALS FOR MORE COMPLETE INFORMATION.

② MITSUBISHI ELECTRIC RESERVES THE RIGHT TO MODIFY OR SUBSTITUTE ALTERNATE EQUIPMENT IN LIEU OF ANY MODELS INDICATED ABOVE AT ITS DISCRETION.

③ TANKS SHALL BE PIPED IN A REVERSE RETURN CONFIGURATION EXACTLY AS SHOWN WITH EQUAL PIPE LENGTHS FROM HEADER TO TANK TO ENSURE EQUAL FLOW THROUGH SYSTEM.

④ PIPING VELOCITY TO BE A MAXIMUM OF 3 TO 5 FEET PER SECOND IN FLOW HEADER.

GENERAL:
1. THE DOMESTIC HOT WATER HEATING SYSTEM IS COMPRISED OF THE MITSUBISHI HEATZIO SOLUTION. WATER HEATING SYSTEM IS SEPARATED INTO TWO HYDRONIC LOOPS VIA BRAZED PLATE HEAT EXCHANGER: THE PRIMARY LOOP CONSISTING OF HEAT PUMP, AND THE SECONDARY LOOP CONSISTING OF THE STORAGE TANKS, ELECTRIC RESISTANCE WATER HEATER SWING TANK AND MIXING VALVE.
2. THE MITSUBISHI CONTROL PANEL IS USED TO BOTH PROVIDE ENHANCED CONTROLS FOR THE SINGLE PASS HEAT PUMP AND COLLECT DATA FOR MEASUREMENT AND VERIFICATION. THE HPWH SHALL ALSO HAVE THE ABILITY TO TREND DATA DURING A TIMEFRAME FOR TROUBLESHOOTING AND ERROR REPORTING WITH THE ABILITY TO EXPORT TO A BUILDING MANAGEMENT SYSTEM.
3. THE MANUFACTURER'S PROVIDED CONTROL PANEL SHALL DISPLAY ALL DATA FROM THE SYSTEM TO THE GRAPHICAL USER INTERFACE (GUI). THE PANEL SHALL MONITOR ALL DATA INCLUDING PROCON/MODBUS POINTS FROM EACH QAHV, PRIMARY SIDE FLOW METER STATUS, AND EACH SECONDARY PUMP STATUS.
4. CONTROL PANEL SHALL HAVE THE ABILITY TO ADJUST THE SYSTEM OPERATIONAL MODE AND PRIMARY AND SECONDARY STORAGE TEMPERATURE SETPOINTS.
5. CONTROL SYSTEM SHALL BE PROVIDED WITH AN INTEGRAL CTA-2045 PORT FOR A THIRD-PARTY UTILITY MODULE TO BE USED FOR DEMAND RESPONSE. MODULE SHALL BE PROVIDED BY THE SITE/UTILITY.
6. THE HPWH SHALL OPERATE AS REQUIRED TO SATISFY THERMISTOR SETPOINTS LOCATED IN THE STORAGE TANKS. THE THERMISTORS SHALL PROVIDE THERMO-ON AND THERMO-OFF COMMANDS BASED ON A TEMPERATURE SETPOINT WHICH WILL ENABLE/DISABLE THE UNIT AS NEEDED. THE THERMO-ON THERMISTOR SHALL BE LOCATED IN THE STORAGE TANK THERMOWELL AT APPROXIMATELY 40% OF SYSTEM VOLUME. THE THERMO-OFF THERMISTOR SHALL BE LOCATED AT THE THERMOWELL ON THE COLD TANK NEAR THE HEAT PUMP WATER-HEATER INLET OPENING.
7. THE QAHV MODULES SHALL BE GROUPED TOGETHER, OPERATING SIMULTANEOUSLY, AND COMMUNICATE VIA INTER-UNIT M-NET WIRING.
8. THE SWING TANK SHALL BE USED AS A TEMPERATURE MAINTENANCE TANK TO SATISFY RECIRCULATION LOSSES ONLY. RECIRCULATION WATER SHALL NOT BE PIPED TO THE SECONDARY STORAGE TANKS.

QAHV PRIMARY/SECONDARY LOOP CONTROL:
1. HPWH SHALL CONTROL TO AN OUTPUT TEMPERATURE BY MODULATING THE INTERNAL PUMP AND INTEGRAL CONTROL VALVE FLOW RATE BASED ON A TARGET PRIMARY SETPOINT OF 165°F (ADJ.)
2. UPON A CALL FOR HOT WATER GENERATION AS SENSED BY THE THERMO-ON THERMISTOR LOCATED IN THE SECONDARY STORAGE TANKS, THE HPWH INVERTER COMPRESSOR SHALL SOFT START AND SLOWLY MODULATE SPEED TO 100%. THE PRIMARY LOOP FLOW METER SHALL THEN ENABLE THE SECONDARY PUMP CONTROL LOOP UPON PROOF OF FLOW OF 0.5 GPM AS SENSED BY THE FLOW METER.
3. THE SECONDARY PUMP SHALL CONTROL THE HEAT EXCHANGER LEAVING WATER TEMPERATURE TO 135°F (ADJ) AS SENSED BY THE PUMP REMOTE TEMPERATURE SENSOR LOCATED DOWNSTREAM FROM THE HEAT EXCHANGER.
4. IF THERE IS AN INCREASE IN QAHV INLET WATER TEMPERATURE AS SENSED BY THE INTEGRAL RETURN WATER TEMPERATURE SENSOR, THE QAHV SHALL REDUCE COMPRESSOR SPEED AND INCREASE PUMP FLOW RATE AS REQUIRED AS PART OF THE DEFAULT ANTI-CYCLING CONTROL.
5. WHEN THE STORAGE TANK TEMPERATURES HAVE BEEN SATISFIED AS SENSED BY THE THERMO-OFF THERMISTOR, THE QAHV SHALL BE DISABLED. ONCE THE HPWH IS DISABLED, THE PRIMARY AND SECONDARY LOOP PUMPS SHALL CONTINUE TO RUN TO REMOVE HOT WATER FROM THE HEAT EXCHANGER FOR APPROXIMATELY 3 MINUTES.

SWING TANK OPERATION:
1. THE SWING TANK SHALL HAVE A BUILT-IN CONTROLLER BASED ON THE NUMBER OF ELEMENTS/KW AND SHALL CONTROL EACH ELEMENT AS REQUIRED TO MEET SETPOINT WITH ADJUSTABLE TIME DELAYS AS NEEDED.
2. SWING TANK ELECTRIC RESISTANCE HEATERS MAINTAIN A TEMPERATURE OF 120°F (ADJ).
3. HOT WATER SHALL BE DELIVERED TO THE DOMESTIC WATER SYSTEM AFTER FINAL TEMPERING BY MIXING VALVE (MV) SET AT 120°F (ADJ.). FINAL SETPOINT TO BE DETERMINED BY ENGINEER OF RECORD.

DEFROST:
1. THE HPWH SHALL NOT USE AUXILIARY ELECTRIC HEAT TO DEFROST THE EVAPORATOR/OUTDOOR COIL.
2. WHEN DEFROST IS ENABLED BY THE QAHV, THE INTERNAL WATER PUMP SHALL STOP. HOT GAS DEFROST OF THE COIL SHALL START BY BYPASSING REFRIGERANT TO THE INTERNAL GAS-COOLER THUS DRAWING NO STORED ENERGY/WATER TEMP FROM THE STORAGE TANKS.

FREEZE PROTECTION:
1. HPWH SHALL BE CONFIGURED TO ENABLE THE SYSTEM COMPRESSOR AND PRIMARY PUMP ANYTIME THE PRIMARY WATER LOOP TEMP DROPS BELOW 34°F TO PREVENT FREEZING.

ALARMS
1. IF AN ALARM CONDITION WERE TO OCCUR, THE FACTORY PROVIDED CONTROL PANEL SHALL DISPLAY THE ALARM ALONG WITH THE SPECIFIC ERROR CODE ON THE GRAPHICAL USER INTERFACE AS WELL AS THE HPWH DISPLAY. IF CONNECTED TO A BUILDING MAINTENANCE SYSTEM, ERRORS AND ALARMS CAN ALSO BE GENERATED AT A WORKSTATION.
2. IF THERE IS AN INCREASE OR DECREASE IN WATER TEMPERATURE, PRESSURE, OR FLOW BEYOND FACTORY DEFAULTS, A LOCAL ALARM SHALL BE GENERATED AND THE UNIT SHALL BE DISABLED.
3. IF THERE IS AN INCREASE OR DECREASE IN REFRIGERANT PRESSURE OR TEMPERATURE BEYOND FACTORY DEFAULTS, A LOCAL ALARM SHALL BE GENERATED AND THE UNIT SHALL BE DISABLED.
4. IF THERE IS A LOSS OF PHASE, OVER CURRENT ERROR, POWER SUPPLY FREQUENCY FAULT OR COMMUNICATION ERROR, A LOCAL ALARM SHALL BE GENERATED AND THE UNIT SHALL BE DISABLED.

MITSUBISHI ELECTRIC TRANE HVAC US: QAHV HOT WATER HEATER OUTDOOR UNIT SCHEDULE

System 1		1	QAHV-N136TAU-HPB	136,480	4.11	-2.0	136,277.4 / 76,883.3	145,482.7 / 76,883.3	175,476.8 / 76,883.3	50.0	140.0	--- / ---	0.7 - 7.8	Evergy Save 1	56	SCROLL/1	208/230V / 3-phase 3-wire	67	100	110	1
System 1		2	QAHV-N136TAU-HPB	136,480	4.11	-2.0	136,277.4 / 76,883.3	145,482.7 / 76,883.3	175,476.8 / 76,883.3	50.0	140.0	--- / ---	0.7 - 7.8	Evergy Save 1	56	SCROLL/1	208/230V / 3-phase 3-wire	67	100	110	1
System 1		3	QAHV-N136TAU-HPB	136,480	4.11	-2.0	136,277.4 / 76,883.3	145,482.7 / 76,883.3	175,476.8 / 76,883.3	50.0	140.0	--- / ---	0.7 - 7.8	Evergy Save 1	56	SCROLL/1	208/230V / 3-phase 3-wire	67	100	110	1

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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MOHAMMED ZADE
No. 27233
REGISTERED PROFESSIONAL ENGINEER
Mohammed Zade

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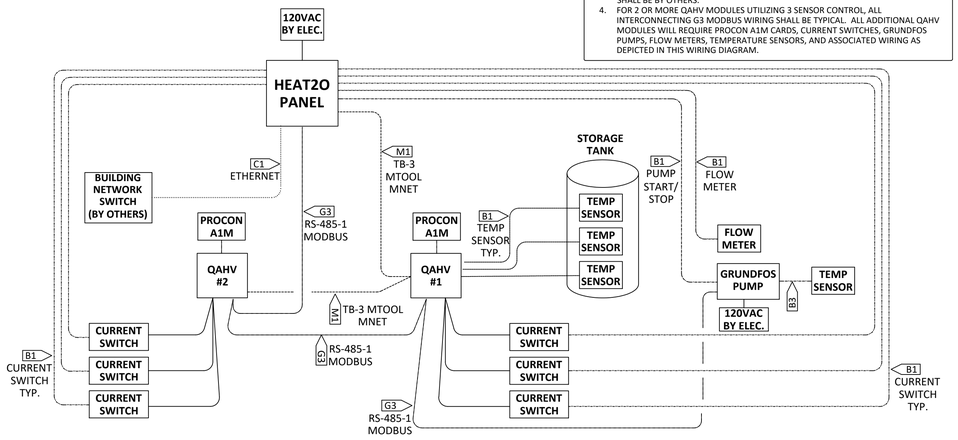
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NOTES:

1. ALL FIELD WIRING PROVIDED BY OTHERS.
2. ALL EQUIPMENT SHOWN IS PROVIDED BY MITSUBISHI UNLESS OTHERWISE NOTED.
3. CURRENT SWITCHES ARE SHIPPED WITH CONTROL PANEL. INSTALLATION AND WIRING SHALL BE BY OTHERS.
4. FOR 2 OR MORE QAHV MODULES UTILIZING 3 SENSOR CONTROL, ALL INTERCONNECTING G3 MODBUS WIRING SHALL BE TYPICAL. ALL ADDITIONAL QAHV MODULES WILL REQUIRE PROCON A1M CARDS, CURRENT SWITCHES, GRUNDFOS PUMPS, FLOW METERS, TEMPERATURE SENSORS, AND ASSOCIATED WIRING AS DEPICTED IN THIS WIRING DIAGRAM.



CABLE TYPE	IMPLEMENTATION	SPECIFICATIONS
B1	GENERAL IO	18-2, SHIELDED, TWISTED, CLASS 2 PLENUM, WHITE JACKET, BLK/WHT COND
B3	GENERAL IO	18-4, SHIELDED, TWISTED, CLASS 2 PLENUM, WHITE JACKET, BLK/WHT/RED COND
C1	ETHERNET	CAT6, 4P, UTP-UNSHIELDED, CMP, 23AWG, LS PVC JACKET (BELDEN 2413 OR EQUAL)
G3	MODBUS	18 GA, PLENUM RATED, TWISTED, SHIELDED, PAIR, STRANDED, LOW CAP., I/E/ CONNECT-AIR W181P-209RIB
M1	M-NET	16-2, SHIELDED, STRANDED, CLASS 3 PLENUM, FLEXGUARD, WHITE JACKET, BLK/WHT COND (CW162S-1000 OR EQUAL)

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ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

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Mohammed Zade

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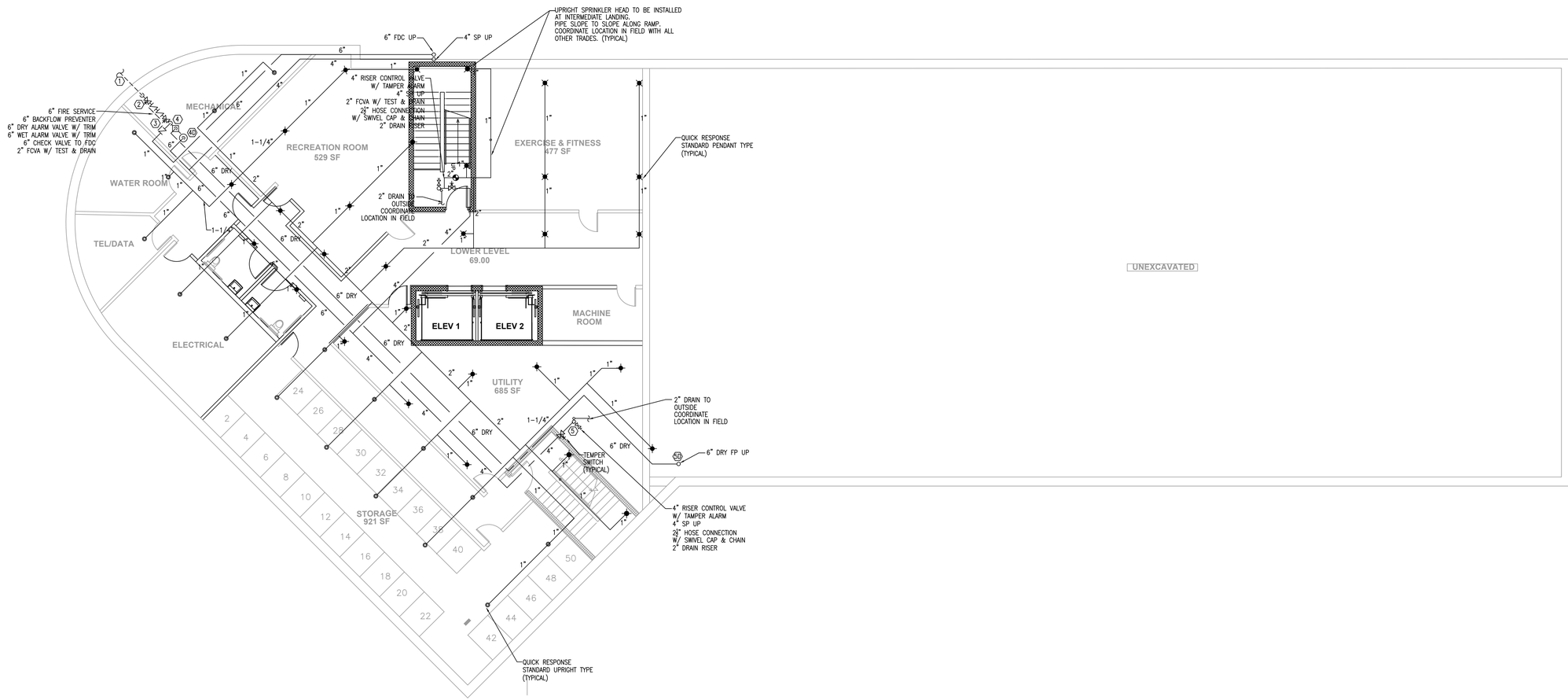
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GENERAL NOTE:
PROVIDE SPRINKLER COVERAGE FOR ALL CONCEALED SPACES AND ALL ABOVE CEILING SPACES WITH COMBUSTIBLE MATERIALS AS REQUIRED BY NFPA-13

DRY SIDEWALL SPRINKLER HEADS ARE REQUIRED AT ALL BUILDING OVERHANGS EXCEEDING 4-FT

OPEN WEB WOOD TRUSS DO NOT REQUIRE SPRINKLER PROTECTION WHERE COMPLETELY FILLED WITH NON-COMBUSTIBLE INSULATION

SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12" BELOW THE GWB CEILING



1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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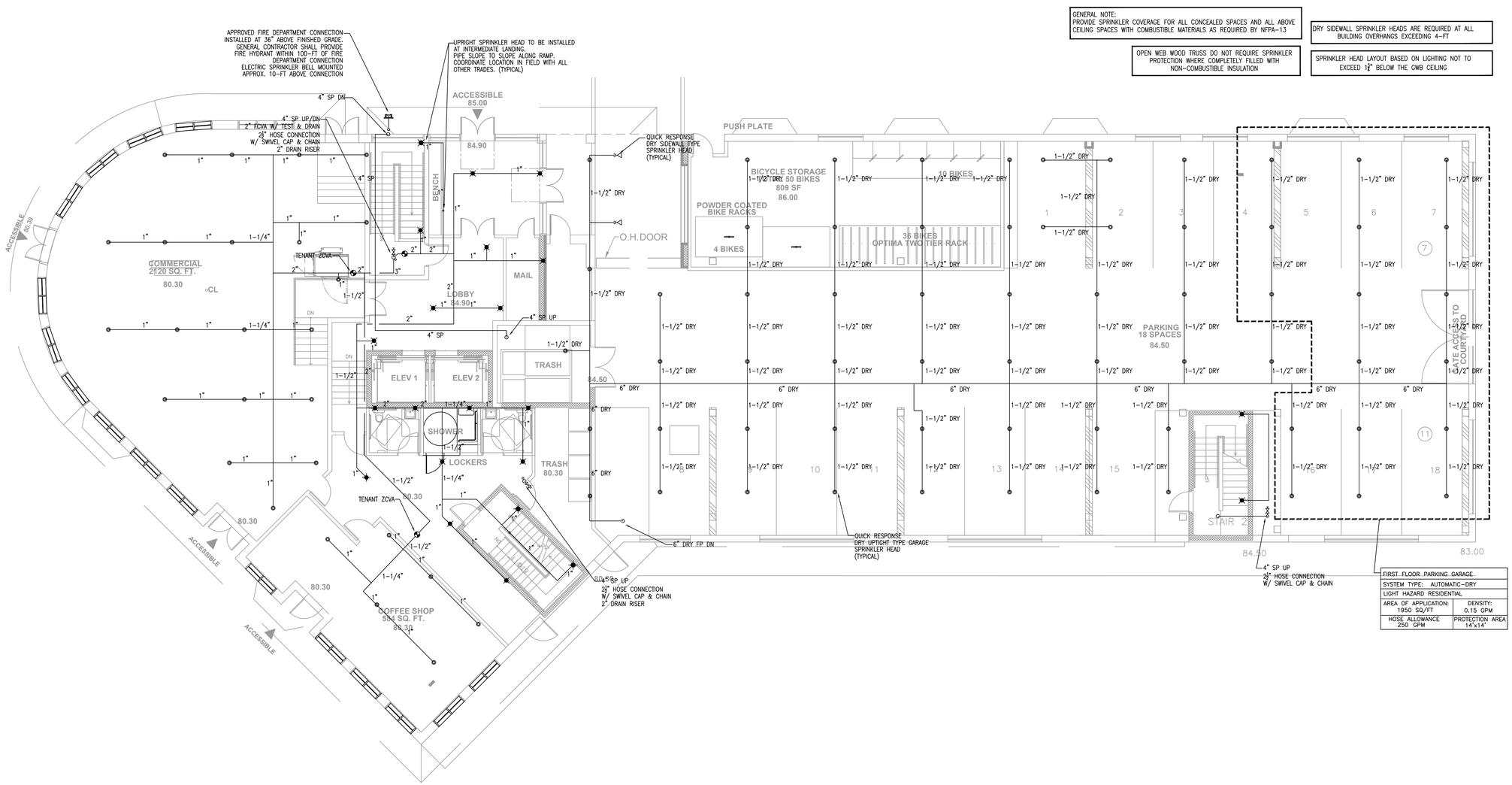
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FIRST FLOOR PARKING GARAGE	
SYSTEM TYPE: AUTOMATIC-DRY	
LIGHT HAZARD RESIDENTIAL	
AREA OF APPLICATION: 1950 SQ/FT	DENSITY: 0.15 GPM
HOSE ALLOWANCE 250 GPM	PROTECTION AREA 14'x14'

GENERAL NOTE:
PROVIDE SPRINKLER COVERAGE FOR ALL CONCEALED SPACES AND ALL ABOVE CEILING SPACES WITH COMBUSTIBLE MATERIALS AS REQUIRED BY NFPA-13

DRY SIDEWALL SPRINKLER HEADS ARE REQUIRED AT ALL BUILDING OVERHANGS EXCEEDING 4-FT

OPEN WEB WOOD TRUSS DO NOT REQUIRE SPRINKLER PROTECTION WHERE COMPLETELY FILLED WITH NON-COMBUSTIBLE INSULATION

SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 1¾" BELOW THE GWB CEILING

1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTE:
PROVIDE SPRINKLER COVERAGE FOR ALL CONCEALED SPACES AND ALL ABOVE CEILING SPACES WITH COMBUSTIBLE MATERIALS AS REQUIRED BY NFPA-13

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SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 1¾" BELOW THE GWB CEILING

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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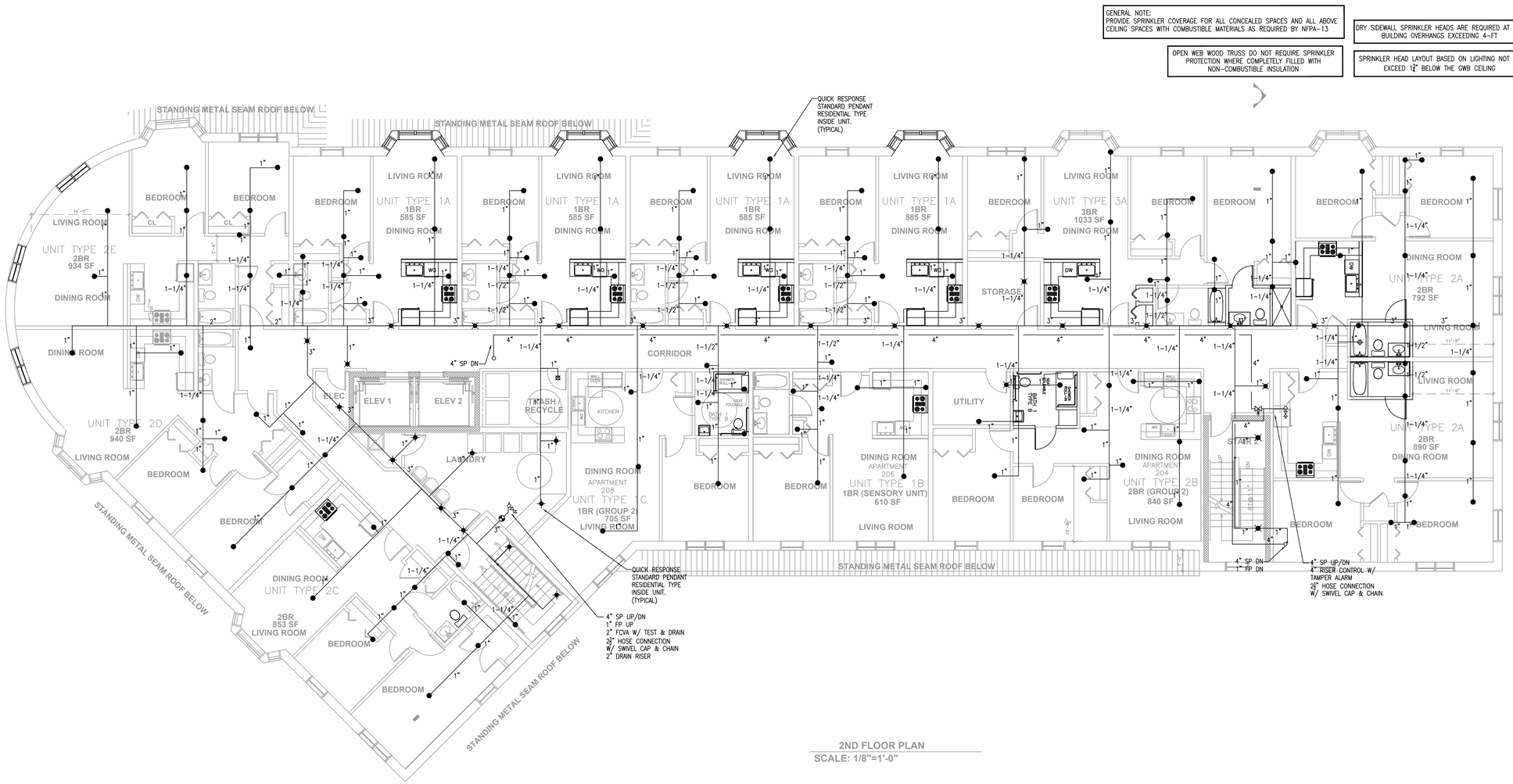
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2ND FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
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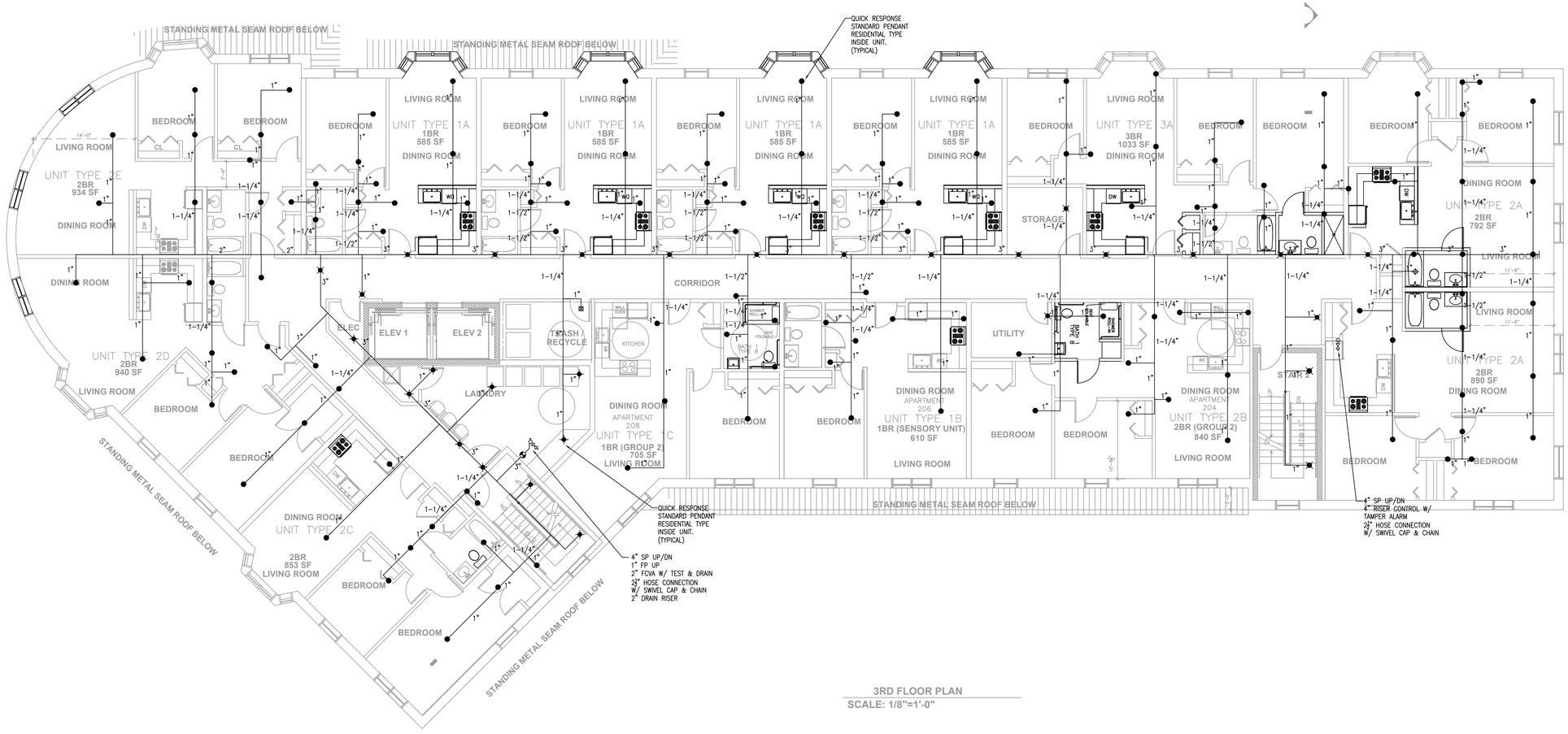
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OPEN WEB WOOD TRUSS DO NOT REQUIRE SPRINKLER PROTECTION WHERE COMPLETELY FILLED WITH NON-COMBUSTIBLE INSULATION

SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12" BELOW THE GWB CEILING



3RD FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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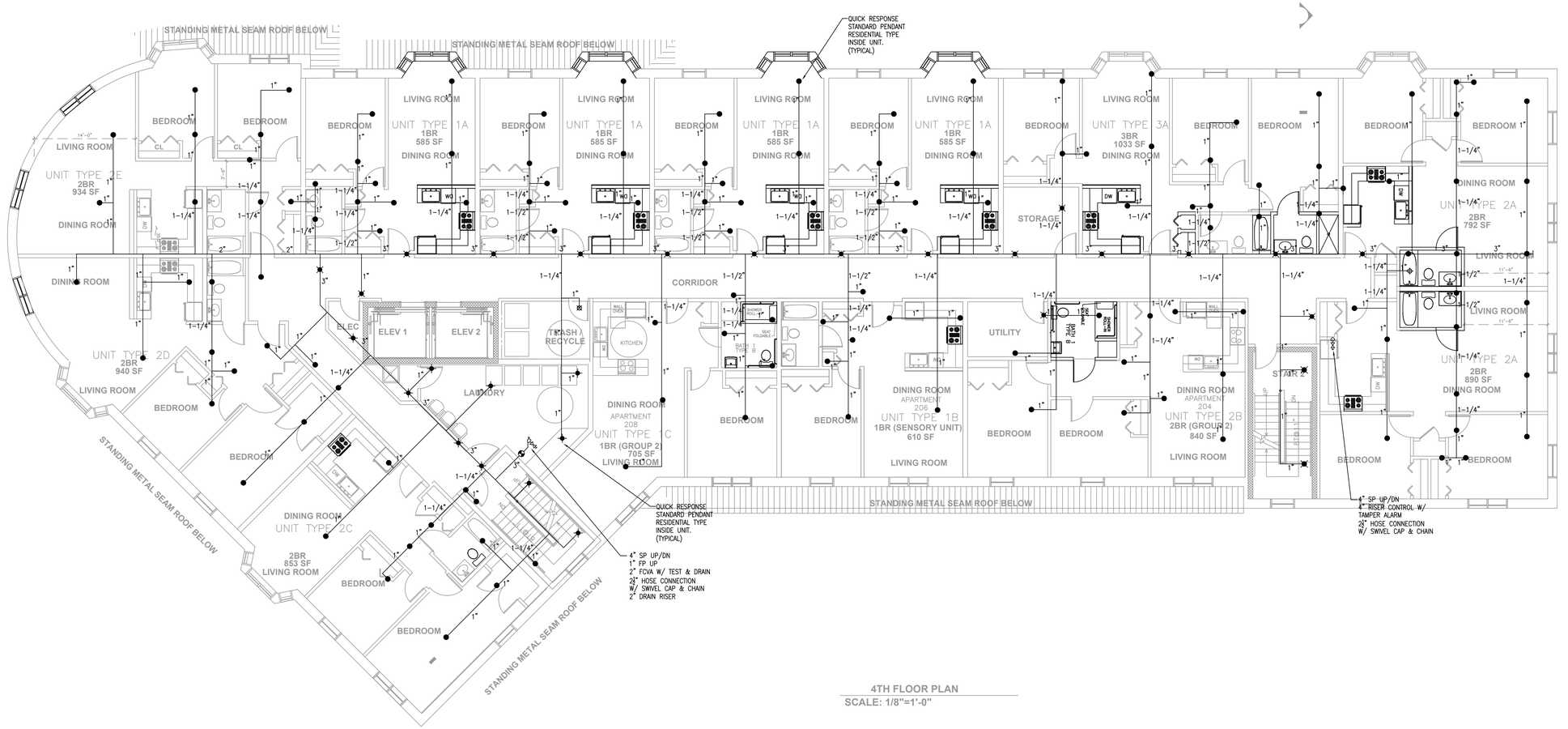
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SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12" BELOW THE GWB CEILING



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

GENERAL NOTE:
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DRY SIDEWALL SPRINKLER HEADS ARE REQUIRED AT ALL BUILDING OVERHANGS EXCEEDING 4-FT

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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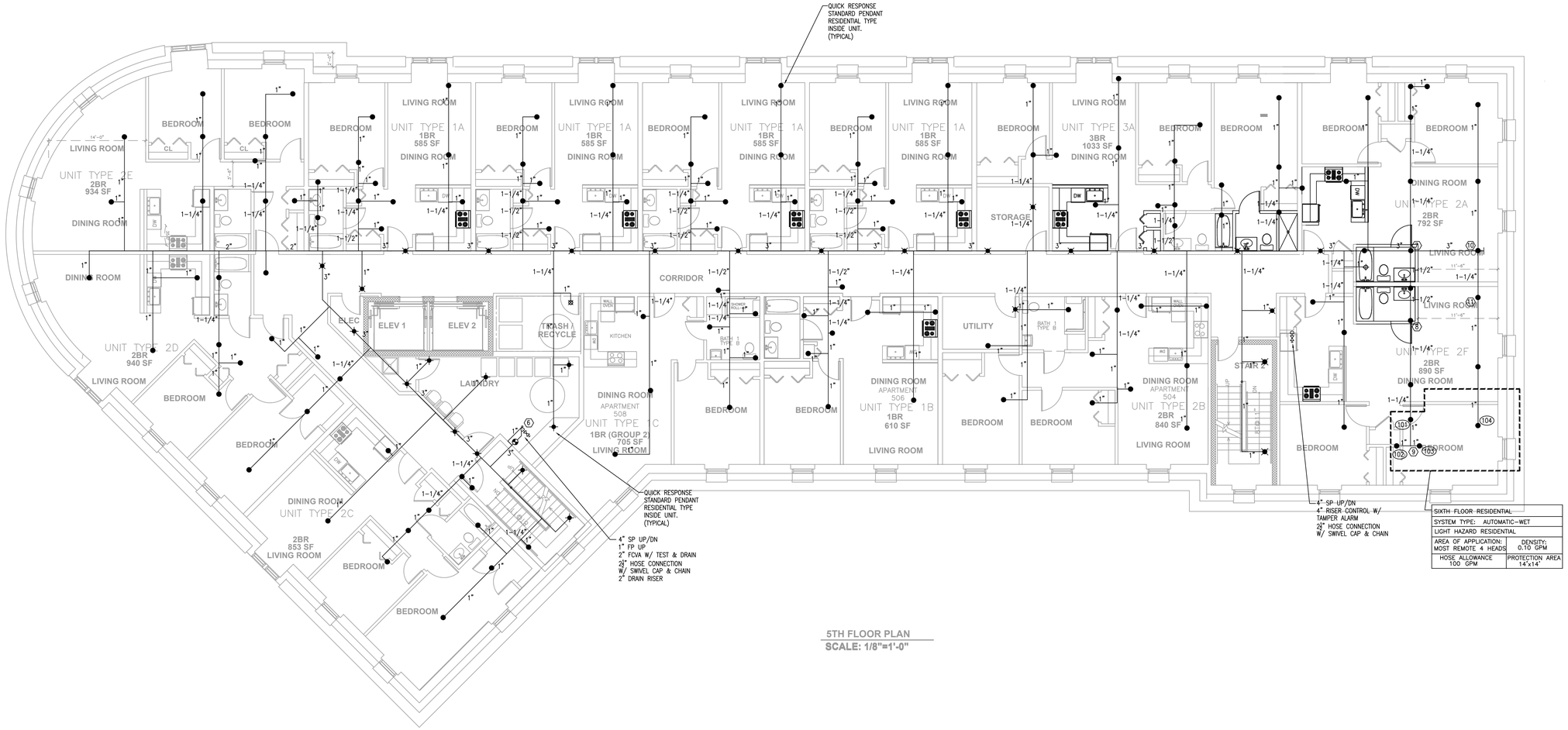
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SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12" BELOW THE GWB CEILING



SIXTH FLOOR RESIDENTIAL	
SYSTEM TYPE: AUTOMATIC-WET	
LIGHT HAZARD RESIDENTIAL	
AREA OF APPLICATION: MOST REMOTE 4 HEADS	DENSITY: 0.10 GPM
HOSE ALLOWANCE 100 GPM	PROTECTION AREA 14'x14'

5TH FLOOR PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTE:
PROVIDE SPRINKLER COVERAGE FOR ALL CONCEALED SPACES AND ALL ABOVE CEILING SPACES WITH COMBUSTIBLE MATERIALS AS REQUIRED BY NFPA-13

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SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12" BELOW THE GWB CEILING

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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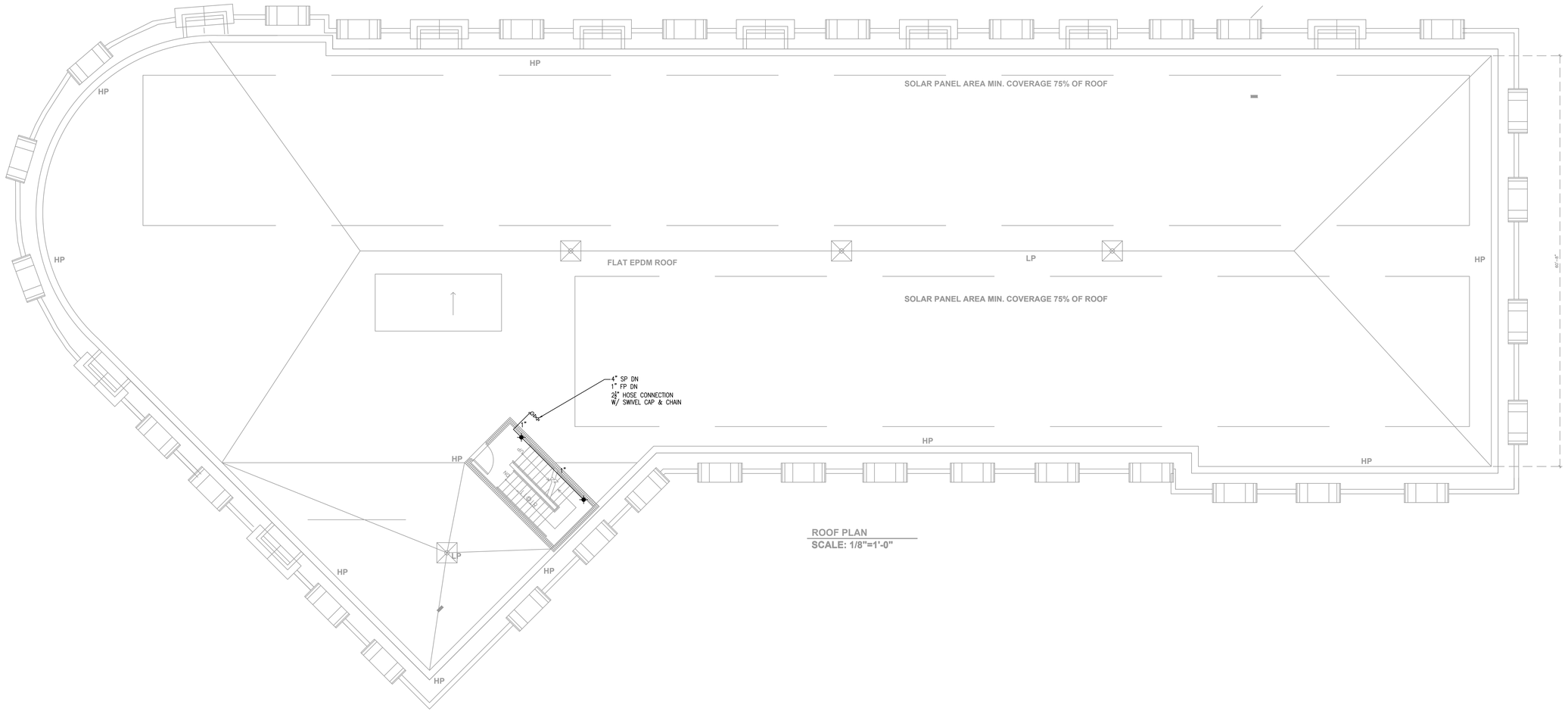
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ROOF PLAN
SCALE: 1/8"=1'-0"

GENERAL NOTE:
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SPRINKLER HEAD LAYOUT BASED ON LIGHTING NOT TO EXCEED 12" BELOW THE GWB CEILING

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

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ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS
MICHAEL STEPHEN MUCCIARELLI
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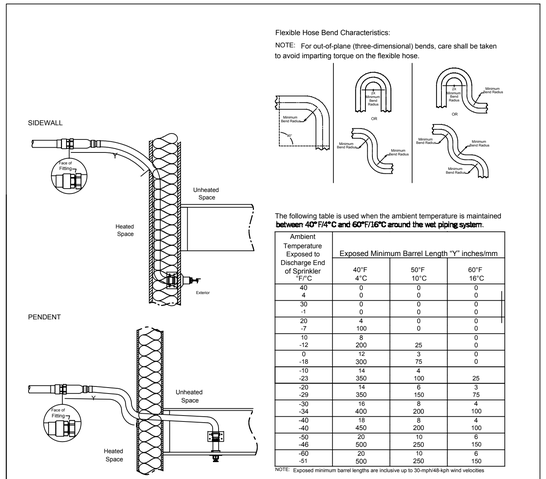
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Flexible Hose Bend Characteristics:

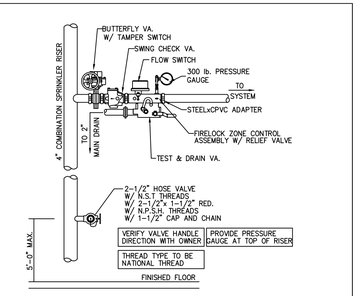
NOTE: For out-of-plane (three-dimensional) bends, care shall be taken to avoid imparting torque on the flexible hose.

The following table is used when the ambient temperature is maintained **between 40°F/4°C and 60°F/16°C around the wet piping system.**

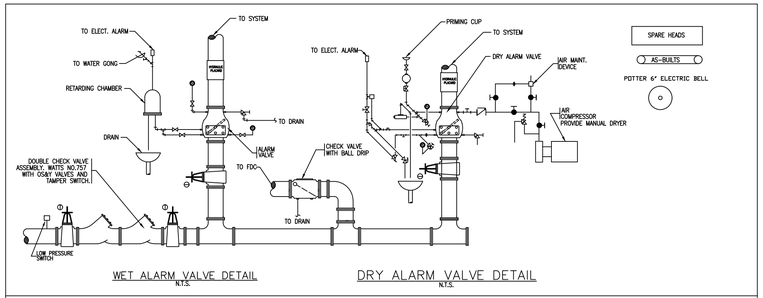
Ambient Temperature Exposed to Discharge End of Sprinkler °F/°C	Exposed Minimum Barrel Length "Y" inches/mm		
	40°F 4°C	50°F 10°C	60°F 16°C
40	0	0	0
4	0	0	0
30	0	0	0
-1	0	0	0
20	4	0	0
-7	100	0	0
10	8		0
-12	200	25	0
0	12	3	0
-18	300	75	0
-10	14	4	
-23	350	100	25
-20	14	6	3
-29	350	150	75
-30	16	8	4
-34	400	200	100
-40	18	8	4
-40	450	200	100
-50	20	10	6
-46	500	250	150
-50	20	10	6
-51	500	250	150

NOTE: Exposed minimum barrel lengths are inclusive up to 30-mph/48-kph wind velocities

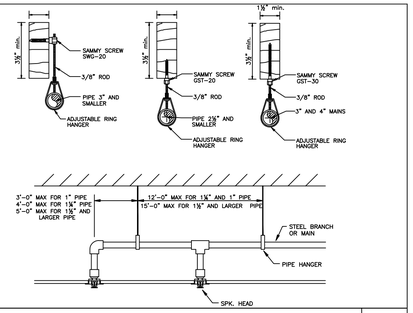
DRY SIDEWALL INSTALLATION DETAIL | NTS



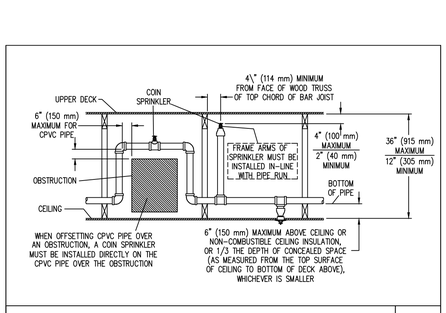
FIRE SPRINKLER RISER | NTS



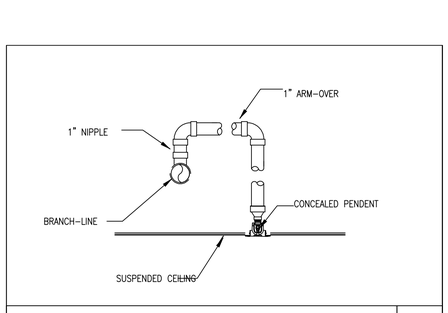
FIRE SERVICE VALVE MANIFOLD DETAIL



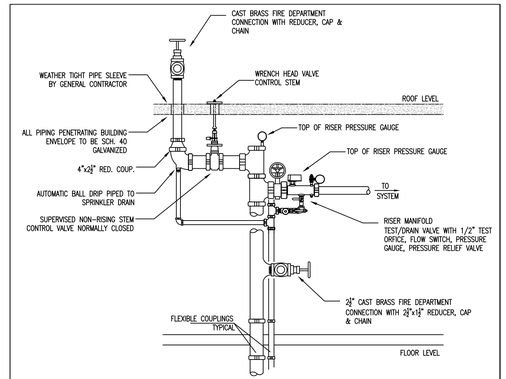
PIPE HANGER SPACING | NTS



INTERSTITIAL SPRINKLER COVERAGE | NTS

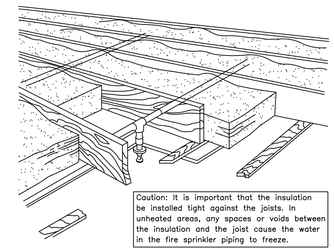


TYPICAL PENDENT INSTALLATION | NTS

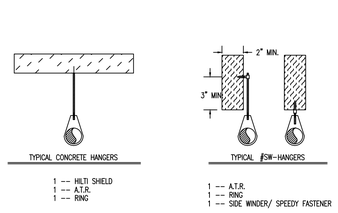


COMBINATION STANDPIPE RISER WITH ROOF HYDRANT CONNECTION

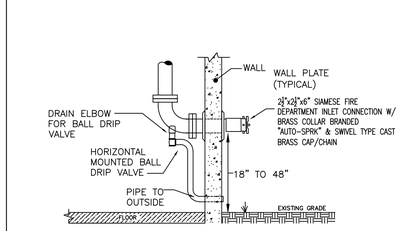
ROOF HYDRANT DETAIL | NTS



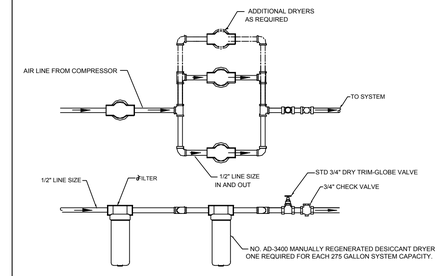
PIPE INSULATION | NTS



HANGER STRUCTURE ATTACHMENT | NTS



FIRE DEPARTMENT CONNECTION | NTS



DRY SYSTEM MANUAL AIR DRYER | NTS

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS — MATTHEW WASHINGTON — REGISTERED ARCHITECT

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SHEET TITLE

FIRE PROTECTION NOTES

SCALE:	
DATE:	12/03/24
DRAWN BY:	
CHECKED BY:	MW
FILE:	

DRAWING NO.

FP-2.0

NOT FOR CONSTRUCTION

DESIGN CRITERIA

THE AUTOMATIC FIRE SUPPRESSION SYSTEM HAS BEEN DESIGNED PER NFPA-14 2013, NFPA-13 2013, IBC-2015

1. THE DRAWINGS ARE INTENDED TO BE DIAGRAMMATIC IN NATURE AND MAY NOT DEPICT EVERY COMPONENT REQUIRED TO FURNISH A FULLY CODE COMPLIANT SYSTEM. THE FIRE PROTECTION CONTRACTOR IS REQUIRED TO PROVIDE ALL MATERIAL AND LABOR TO FURNISH A FULLY CODE COMPLIANT SYSTEM PER NFPA-13 2013

PIPE, FITTINGS AND JOINTS

1. PIPE AND FITTINGS SHALL CONFORM TO THE LATEST ANSI, ASTM, NFPA AND AWWA STANDARDS INCLUDING LATEST AMENDMENTS AND SHALL BE LISTED FOR USE WITH FIRE SPRINKLER SYSTEMS

2. SEE MATERIAL SCHEDULE ON DETAIL SHEET

HANGERS AND SUPPORTS

1. HANGERS AND SWAY BRACING WHERE REQUIRED , SHALL BE INSTALLED TO MEET NFPA AND LOCAL STATE BUILDING CODE COMPLIANCE AS TO LOCATION, SPACING, AND MAXIMUM LOADS.

2. HANGER MATERIAL SHALL BE COMPATIBLE WITH PIPING MATERIALS WITH WHICH IT COMES INTO CONTACT.

3. HANGERS SHALL BE INSTALLED, IN ADDITION TO THE ABOVE, AT ALL CHANGES OF DIRECTION (HORIZONTAL AND VERTICAL), VALVES AND EQUIPMENT CONNECTIONS. HANGERS SHALL BE LOCATED SO THAT THEIR REMOVAL IS NOT REQUIRED TO SERVICE, ASSEMBLE OR REMOVE EQUIPMENT.

4. HORIZONTAL RUNS MAY USE BAND HANGERS UP TO 4" SIZE. PIPING LARGER THAN 4" SHALL BE PROVIDED WITH CLEVIS TYPE.

5. ALL RODS, CLAMPS, NUTS, WASHERS, SHIELDS AND HANGERS IN ALL AREAS SHALL BE ELECTRO-GALVANIZED COATED STEEL.

VALVES AND SUNDRIES

1. SHUTOFF VALVES ON THE ABOVEGROUND FIRE PROTECTION SYSTEM SHALL BE UL, FM BUTTERFLY OR OS&Y GATE VALVES, AS INDICATED, ON SIZES 2-1/2" AND LARGER, VALVES UP TO 2" SHALL BE UL, FM BALL VALVES. ALL ISOLATION / CONTROL VALVES SHALL BE MONITORED.

2. CHECK VALVES SHALL BE 175-POUND CLASS FOR FIRE PROTECTION.

3. VALVES SHALL BE PROVIDED WITH SEATS SUITABLE FOR THE SERVICE INTENDED.

4. VALVES SHALL BE AS MANUFACTURED BY NIBCO, VICTAULIC, WALLWORTH, MILWAUKEE OR APPROVED EQUAL. MANUFACTURERS MODEL NUMBERS REFERENCED BELOW ARE USED TO INDICATE A TYPE, MATERIAL AND QUALITY TO BE PROVIDED.

5. ALL VALVES SPECIFIED HEREIN SHALL BE UL/FM APPROVED, 175 PSI MINIMUM WORKING PRESSURE. ALL CONTROL VALVES SHALL BE PROVIDED WITH TAMPER SWITCH.

AUTOMATIC SPRINKLERS

1. SPRINKLER HEADS: QUICK RESPONSE, BULB TYPE, AND STYLE AS INDICATED OR REQUIRED BY THE APPLICATION. UNLESS OTHERWISE INDICATED.

2. IN ALL OPEN AREAS, WHERE ELECTRICAL EQUIPMENT IS LOCATED, AN APPROVED TYPE SHIELD, TO KEEP WATER OFF THE ELECTRICAL EQUIPMENT, SHALL BE PROVIDED.

3. PROVIDE ALL SPRINKLER HEADS WITH PROTECTIVE CAGE.

4. PROVIDE IN THE VALVE ROOM, A FINISHED STEEL CABINET SUITABLE FOR WALL MOUNTING, WITH HINGED COVER AND SPACE FOR 6 SPARE SPRINKLER HEADS PLUS SPRINKLER HEAD WRENCH.

SPRINKLER SHOP DRAWINGS

1. PRIOR TO INSTALLATION FIRE PROTECTION CONTRACTOR SHALL FURNISH COMPLETE TIER II SHOP DRAWINGS AND HYDRAULIC CALCULATIONS BASED ON A RECENT HYDRANT FLOW TEST FOR APPROVAL BY THE ENGINEER OF RECORD. FINAL AFFIDAVITS CANNOT BE ISSUED WITHOUT APPROVED SHOP DRAWINGS

FLUSHING AND TESTING

1. ALL LABOR, MATERIALS, INSTRUMENTS, DEVICES AND POWER REQUIRED FOR TESTING SHALL BE PROVIDED BY THIS CONTRACTOR. THE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF THE ENGINEER, GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT AND SUCH OTHER PARTIES, AS MAY HAVE LEGAL JURISDICTION. NO PIPING IN ANY LOCATION SHALL BE CLOSED UP, FURRED IN, OR COVERED BEFORE TESTING.

2. WHERE PORTIONS OF PIPING SYSTEMS ARE TO BE COVERED OR CONCEALED BEFORE COMPLETION OF THE PROJECT, THOSE PORTIONS SHALL BE TESTED SEPARATELY IN THE MANNER SPECIFIED HEREIN FOR THE RESPECTIVE ENTIRE SYSTEM.

3. ANY PIPING OR EQUIPMENT THAT HAS BEEN LEFT UNPROTECTED AND SUBJECT TO MECHANICAL OR OTHER INJURY IN THE OPINION OF THE GENERAL CONTRACTOR SHALL BE RE TESTED IN PART OR IN WHOLE AS DIRECTED.

4. THE ENGINEER RETAINS THE RIGHT TO REQUEST A RECHECK OR RESETTING OF ANY PUMP OR INSTRUMENT BY THIS CONTRACTOR DURING THE GUARANTEE PERIOD AT NO ADDITIONAL COST TO THE CONTRACTOR.

5. REPAIR, OR IF DIRECTED, REPLACE ANY DEFECTIVE WORK WITH NEW WORK WITHOUT EXTRA CHARGE TO THE CONTRACT. REPEAT TESTS AS DIRECTED, UNTIL THE WORK IS PROVEN TO MEET THE REQUIREMENTS SPECIFIED HEREIN.

6. RESTORE TO ITS FINISHED CONDITION ANY WORK, DAMAGED OR DISTURBED, PROVIDED BY OTHER CONTRACTORS AND ENGAGE THE ORIGINAL CONTRACTOR TO DO THE WORK OF RESTORATION TO THE DAMAGED OR DISTURBED WORK.

7. THIS CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR AND ANY INSPECTORS HAVING JURISDICTION, A MINIMUM OF 48 HOURS IN ADVANCE OF MAKING ANY REQUIRED TESTS SO THAT ARRANGEMENTS MAY BE MADE FOR THEIR PRESENCE TO WITNESS HIS SCHEDULED TESTS.

8. TESTING SHALL BE IN ACCORDANCE WITH NFPA-13 "STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS".

9. EACH SYSTEM SHALL BE TESTED TO A HYDROSTATIC PRESSURE OF 200 PSI FOR TWO HOURS.

10. FLUSHING OF ALL BURIED SUPPLY PIPING SHALL BE PERFORMED AT A MINIMUM RATE OF 880 GPM FOR SYSTEMS WITH A 6" SERVICE.

11. ALL WATER FLOW DETECTING DEVICES AND CIRCUITS SHALL BE FLOW TESTED THROUGH THE INSPECTOR'S TEST CONNECTION AND ACTIVATE WITHIN FIVE MINUTES OF INITIATION.

12. ALL FLOW TESTS ON THE FIRE PROTECTION SYSTEMS SHALL BE PERFORMED IN THE PRESENCE OF THE AUTHORITY HAVING JURISDICTION.

13. SPRINKLER FLOW TEST DISCHARGE AND FLUSHING WATER DISCHARGE SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND THE LOCAL FIRE DEPARTMENT OR PUBLIC WORKS AS TO ACCEPTABLE DISCHARGE POINTS PRIOR TO SCHEDULING OF FLUSHING AND TESTS. THIS CONTRACTOR SHALL PROVIDE ALL HOSE AND EQUIPMENT NECESSARY TO PERFORM THE REQUIRED TESTING AND FLUSHING.

AS BUILT DRAWINGS AND CONTRACTOR CERTIFICATES

1. CONTRACTOR SHALL HAVE, ON HAND, AT TIME OF FINAL INSPECTION BY THE AUTHORITY HAVING JURISDICTION, FOR TEMPORARY / FINAL CERTIFICATE OF OCCUPANCY, ALL COMPLETED CERTIFICATES OF MATERIAL AND TESTING FOR ABOVEGROUND AND UNDERGROUND PIPING AS WELL AS THE AS- BUILT DRAWINGS OF THE FIRE PROTECTION INSTALLATION.

2. THE FIRE PROTECTION CONTRACTOR IS RESPONSIBLE FOR NOTIFYING THE ENGINEER OF RECORD AT SUCH A TIME WHERE THE INSTALLATION HAS PROGRESSED TO 90% AND PRIOR TO WALLS BEING CLOSED FOR INSPECTION.

PATCHING, REPLACEMENT AND MODIFICATION OF EXISTING WORK

1. AFTER INSTALLATION OF PIPELINES, THE CONTRACTOR SHALL NEATLY PATCH, REPAIR, AND/OR REPLACE EXISTING WORK WHERE DAMAGED, REMOVED OR ALTERED FOR PIPE LINE INSTALLATION. THIS WORK SHALL BE SIMILAR AND EQUAL IN QUALITY TO THE WORK REMOVED OR DAMAGED, UNLESS OTHERWISE SHOWN OR SPECIFIED. SUCH WORK SHALL INCLUDE PATCHING AND REPLACEMENT OF EXISTING PIPING AT POINTS OF CONNECTION TO NEW PIPING, PATCHING OF INSULATION, AND WHEREVER ANY SUCH PATCHING WORK IS INDICATED ON THE DRAWINGS OR OTHERWISE REQUIRED.

INSTALLATION

1. GENERAL: INSTALL FIRE PROTECTION SPECIALTY VALVES, FITTINGS, AND SPECIALTIES IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, NFPA 13 AND 14, AND THE AUTHORITY HAVING JURISDICTION.

2. USE PROPER TOOLS TO PREVENT DAMAGE DURING INSTALLATIONS.

3. ALL PENDENT MOUNTED SPRINKLERS SHALL BE INSTALLED ON RETURN BENDS.

4. ALL SPRINKLERS INSTALLED IN ACOUSTICAL CEILING TILES SHALL BE CENTERED IN TILES WHERE APPLICABLE.

5. COORDINATE AND VERIFY DRAFT CURTAINS ARE INSTALLED AS REQUIRED BY SPRINKLER HEAD SPECIFICATIONS

6. CONTRACTOR IS RESPONSIBLE TO PROVIDE 100% SPRINKLED BUILDING INCLUDING ALL COMBUSTIBLE CONCEALED SPACES WHETHER SHOWN ON THIS PLAN OR NOT

7. NO WORK SHALL COMMENCE BEFORE HAVING FULL APPROVAL FROM THIS OFFICE

FIRE PROTECTION SPECIFICATION

FIRE PROTECTION SPECIFICATION

1. BEFORE BIDDING THE JOB, CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING CONDITIONS. REPORT ADVERSE CONDITIONS IN WRITING TO ARCHITECT.

2. SPRINKLER PIPING SHALL BE SCH.10/40 BLACK STEEL WITH 125 LB. CAST IRON THREADED/GROOVED JOINTS WHERE EXPOSED. BLAZE-MASTER TYPE CPVC FOR FIRE PROTECTION SHALL BE INSTALLED CONCEALED AND PER MANUFACTURERS INSTRUCTIONS.

3. SPRINKLER HEADS IN COMMON AREAS SHALL BE QUICK RESPONSE CONCEALED TYPE MANUFACTURED BY VIKING OR EQUAL. WITHIN UNITS THEY WILL BE RESIDENTIAL CONCEALED TYPE.

4. APPLY AND OBTAIN PERMIT AND APPROVAL FROM LANDLORD'S INSURANCE COMPANY, FIRE DEPARTMENT AND STATE AND LOCAL AUTHORITIES.

5. COORDINATE WITH ARCHITECT AND ARCHITECTURAL REFLECTED CEILING PLAN FOR THE LOCATION OF SPRINKLER HEADS.

6. COORDINATE SPRINKLER WORK WITH OTHER DISCIPLINES. SINCE PERFORMANCE OF SPRINKLER SYSTEM IS AFFECTED BY OBSTRUCTIONS AND NOT OTHER WAY AROUND, THIS CONTRACTOR SHALL COORDINATE ALL LIGHTING FIXTURE LOCATIONS AND TYPES AND OTHER OBSTRUCTIONS PRIOR TO ANY WORK DONE.

7. THE SYSTEM SHALL BE HYDROSTATICALLY TESTED AT NOT LESS THAN 200 PSI PRESSURE FOR 2 HOURS. THERE WILL BE NO VISIBLE LEAKAGE WHEN THE SYSTEM IS SUBJECTED TO THE HYDROSTATIC PRESSURE TEST.

8. GUARANTEE ALL WORK AND MATERIAL FOR ONE YEAR FROM THE DATE OF ACCEPTANCE.

FIRE PROTECTION MATERIAL SCHEDULE

SYSTEM	PIPE									FITTINGS						JOINTS		
NOTES: 1. COMPONENT PRESSURE RATING TO MATCH EXISTING 2. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE ENGINEER & LOCAL AUTHORITIES 2. ALL MATERIALS SELECTED ON THIS SCHEDULE MUST BE APPROVED BY THE ENGINEER & LOCAL AUTHORITIES	BLAZEMASTER CPVC	DUCTILE IRON	EXTRA HEAVY CAST IRON	STEEL SCHED 10	STEEL SCHED 30	STEEL SCHED 40	STEEL SCHED 80	BLACK	GALVANIZED	CEMENT LINED	MALLEABLE IRON	BLAZEMASTER CPVC	LINED	BLACK	GALVANIZED	VICTAULIC	DUCTILE IRON	THREADED	MECH.JOINT-FLANGED	GROOVED	SLIP
BURIED BUILDING FIRE SERVICE		●						●		●								●			
RESIDENTIAL CROSS MAINS	●										●										●
RESIDENTIAL BRANCH LINES	●										●										●
ARM-OVER & DROPS	●										●										●
SPRINKLER DRAIN PIPE						●			●					●				●		●	
DRY SPRINKLER SYSTEM						●		●							●			●		●	

FLOW TEST DATA

STATIC ----- 104 PSI
RESIDUAL ----- 100 PSI
FLOW ----- 2,652 GPM

DATE: 01-23-2023

CONTRACTOR IS REQUIRED TO OBTAIN NEW HYDRANT FLOW TEST FOR USE IN TIER 2 SHOP DRAWINGS

PREPARATION OF SHOP DRAWINGS:

SPRINKLER CONTRACTOR SHALL PREPARE TIER ii SHOP DRAWINGS INCLUDING PIPING & HYDRAULIC CALCULATIONS, AND SHALL SUBMIT TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF WORK. ENGINEER SHALL CERTIFY SYSTEM INSTALLATION FOR CODE COMPLIANCE AT PROJECT COMPLETION.

FIRE SPRINKLER LEGEND

SYM	POSITION	FINISH	TEMP	K	NPT
◎	UPRIGHT	BRASS	155°	11.2	3/4"
⊠	COIN UPRIGHT	BRASS	200°	5.60	1/2"
⊠	DRY UPRIGHT	BRASS	200°	5.60	1/2"
●	PENDENT	CONCEALED	155°	5.60	1/2"
●	RES PENDENT	CONCEALED	155°	4.90	1/2"
◉	DRY PENDENT	CONCEALED	155°	5.60	1/2"
▶	SIDEWALL	RECESSED	155°	5.60	1/2"
▷	DRY SIDEWALL	CONCEALED	155°	5.60	1/2"

FIRE PROTECTION ABBREVIATIONS

DSW	DRY SIDEWALL
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DIA	DIAMETER
DR	DRAIN
ETR	EXISTING TO REMAIN
FHV	FIRE HOSE VALVE
IT	INTERMEDIATE TEMPERATURE
FP	FIRE PROTECTION
FS	FLOW SWITCH
SP	STANDPIPE
GV	GATE VALVE
GAL	GALLONS
GALV	GALVANIZED
GPM	GALLONS PER MINUTE
MAX	MAXIMUM
MIN	MINIMUM
NTS	NOT TO SCALE
DN	PIPE DROP
PSI	POUNDS PER SQUARE INCH
PRV	PRESSURE REDUCING VALVE
RV	RELIEF VALVE
SPK	SPRINKLER
TS	TAMPER SWITCH
UP	PIPE RISE
VIF	VERIFY IN FIELD

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
	SUPERVISED BUTTERFLY VALVE
	DOUBLE CHECK VALVE ASSEMBLY
	SUPERVISED OS&Y GATE VALVE
FS	FLOW ALARM SWITCH
	SPRINKLER ZONE CONTROL ASSEMBLY (SEE DETAIL)
	PUMP (FIRE OR JOCKEY)
	DRY ALARM VALVE
	WET ALARM VALVE
	CHECK VALVE
	DRAIN VALVE
	FIRE VALVE ASSEMBLY 2-1/2"W X 2-1/2" X 1-1/2"
	PRESSURE GAUGE
XX	HYDRAULIC JUNCTION POINT
XXX	HYDRAULIC DISCHARGE NODE

6" SP UP

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS
MATTHEW J. WHITEHOUSE
FIRE PROTECTION
No. 39,990
REGISTERED
PROFESSIONAL ENGINEER

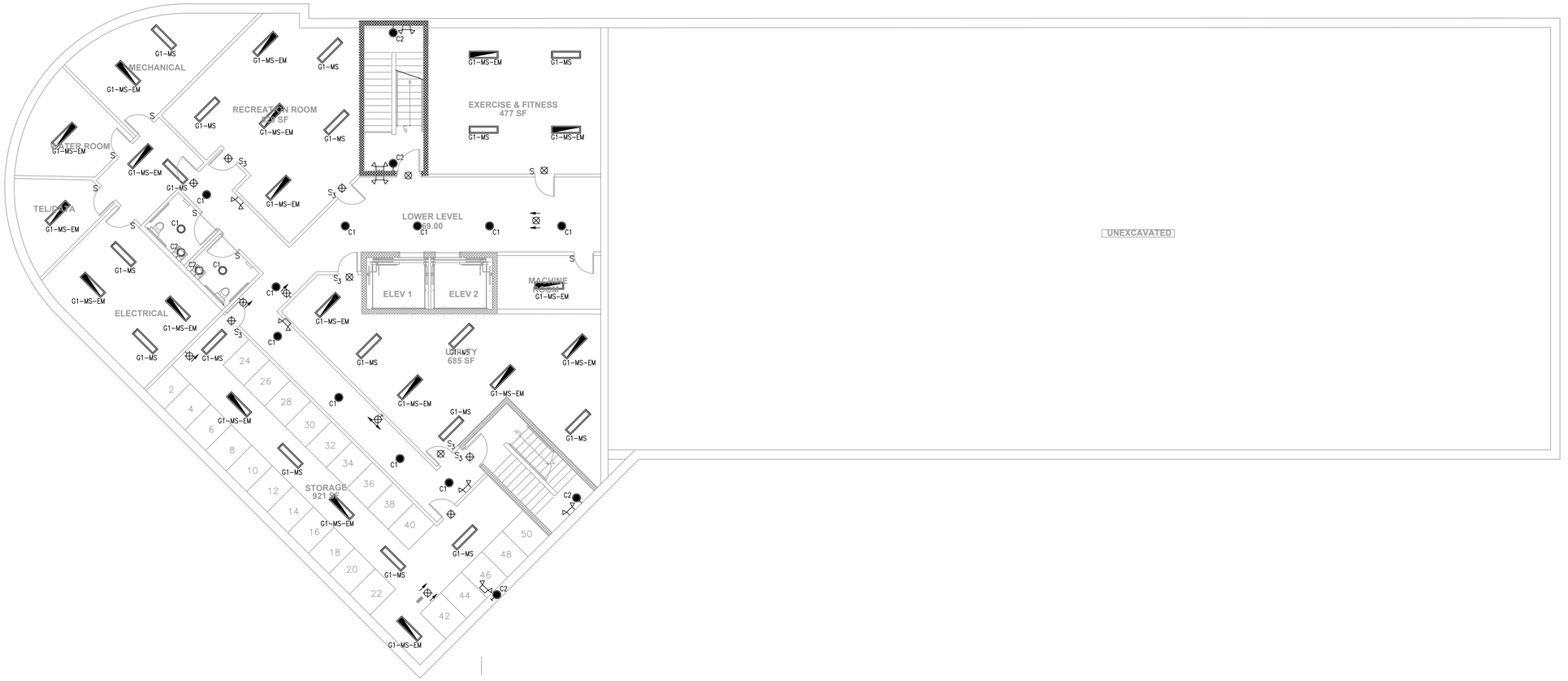
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FIRE PROTECTION DETAILS

SCALE:	DRAWING NO.
DATE: 12/03/24	FP-2.1
DRAWN BY:	
CHECKED BY: MW	
FILE:	

NOT FOR CONSTRUCTION



1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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PROJECT

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ROXBURY, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 32579
REGISTERED
PROFESSIONAL ENGINEER

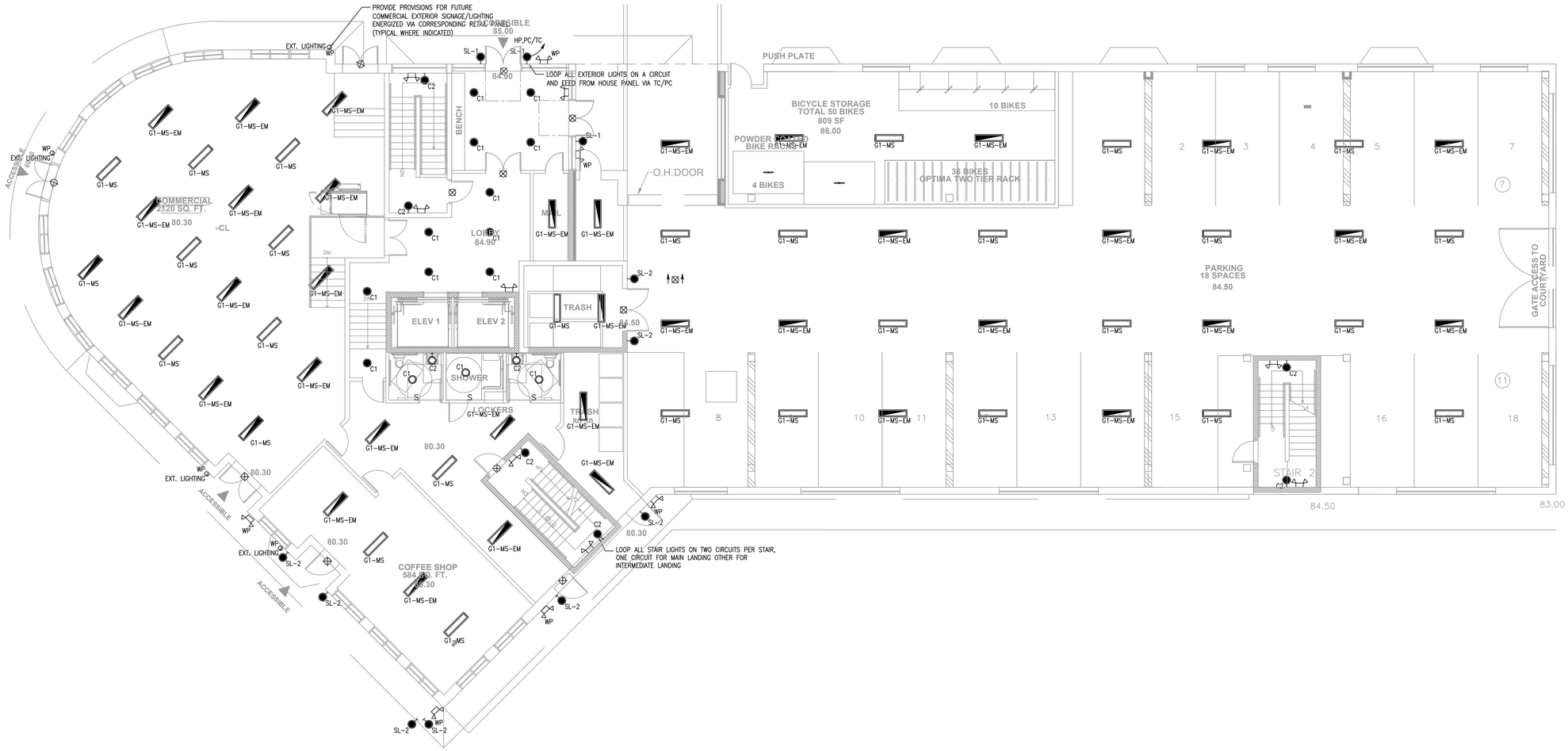
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SHEET TITLE

LIGHTING FLOOR PLAN

SCALE:	DRAWING NO.
DATE: 12/03/24	E-1.0
DRAWN BY:	
CHECKED BY: MW	
FILE:	

NOT FOR CONSTRUCTION



1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

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ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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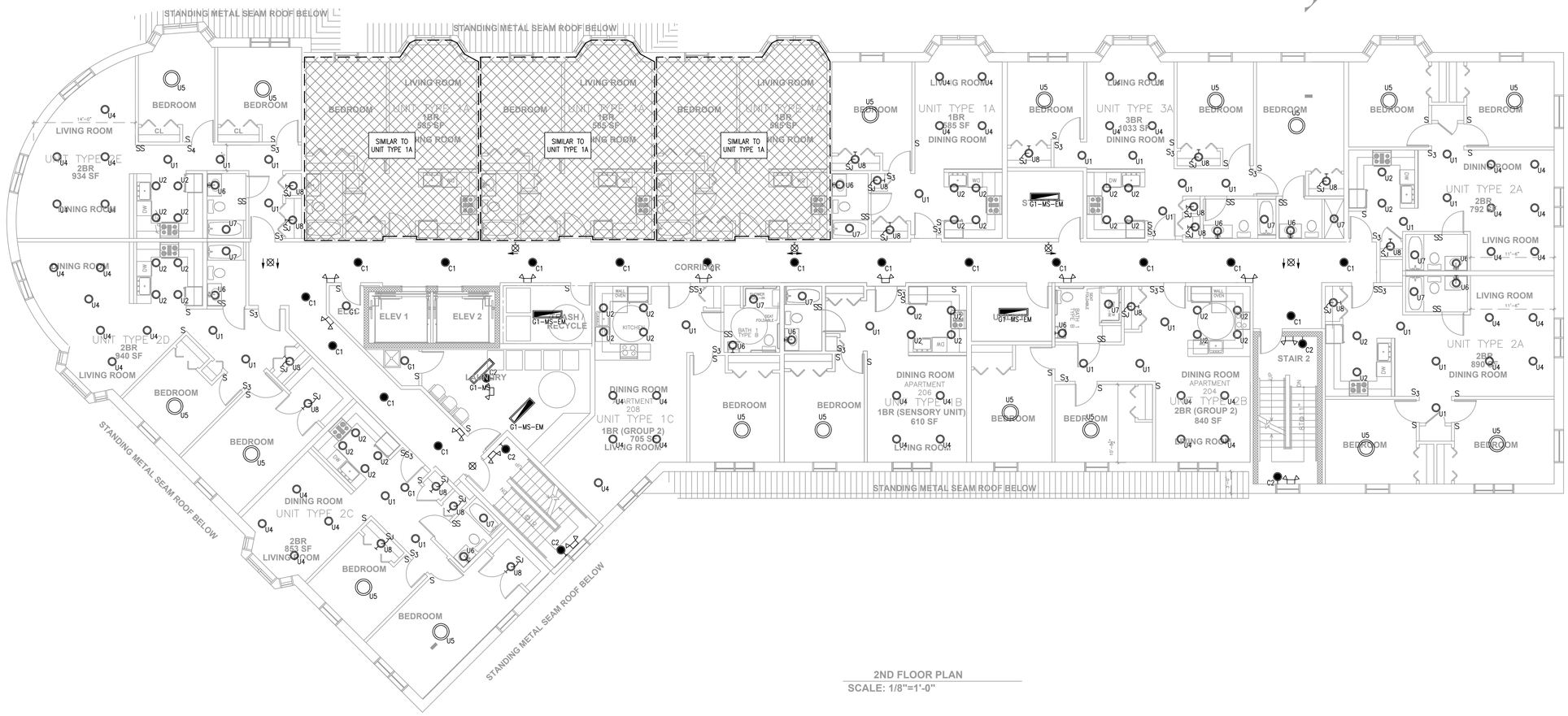
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LIGHTING FLOOR PLAN

SCALE:	
DATE: 12/03/24	DRAWING NO.
DRAWN BY:	E-1.1
CHECKED BY: MW	
FILE:	

NOT FOR CONSTRUCTION



2ND FLOOR PLAN
SCALE: 1/8"=1'-0"

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS
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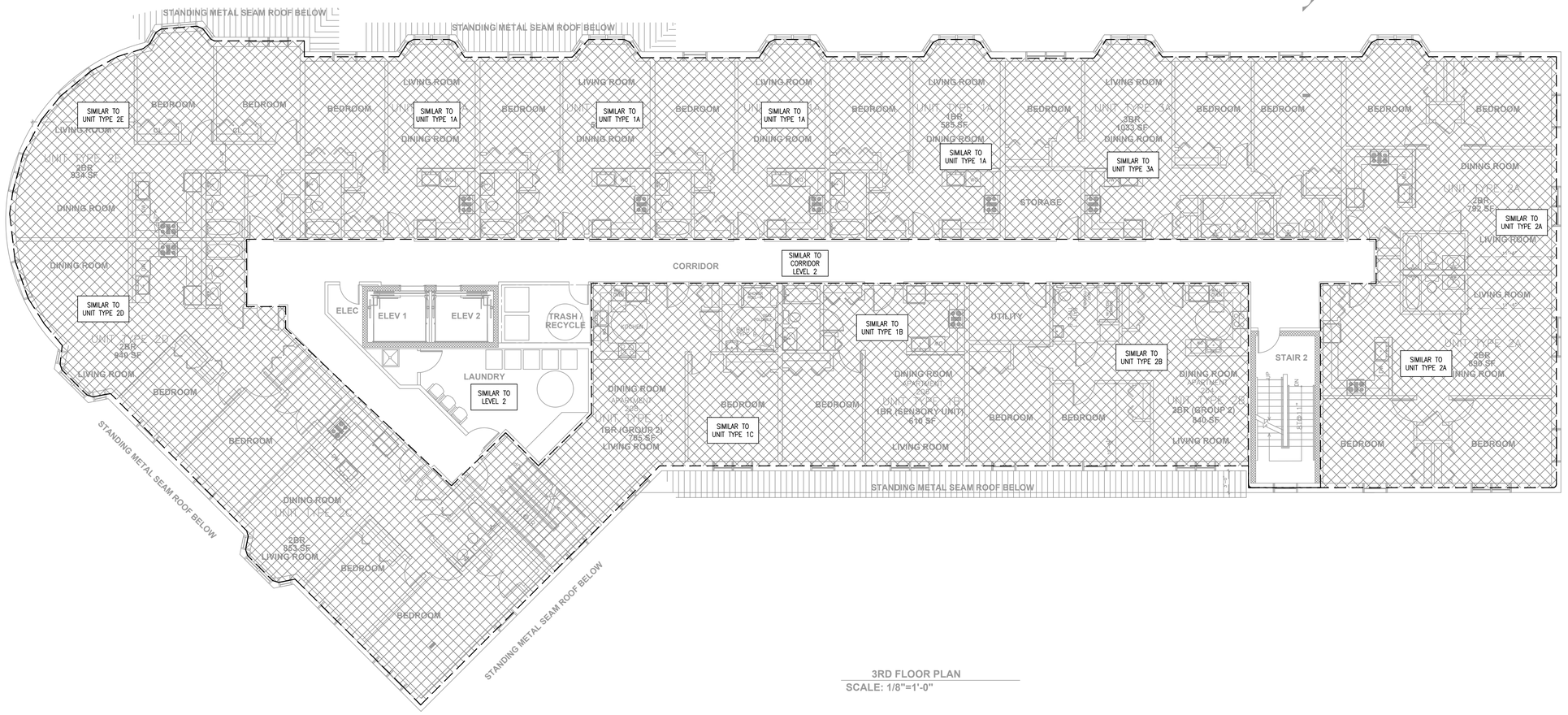
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LIGHTING FLOOR PLAN

SCALE:	
DATE: 12/03/24	DRAWING NO.
DRAWN BY:	E-1.2
CHECKED BY: MW	
FILE:	

NOT FOR CONSTRUCTION



3RD FLOOR PLAN
SCALE: 1/8"=1'-0"

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Email:mwashington@mwaboston.com

PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

ZADE ENGINEERING LLC
CONSULTING ENGINEERS
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COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 32579
REGISTERED
PROFESSIONAL ENGINEER

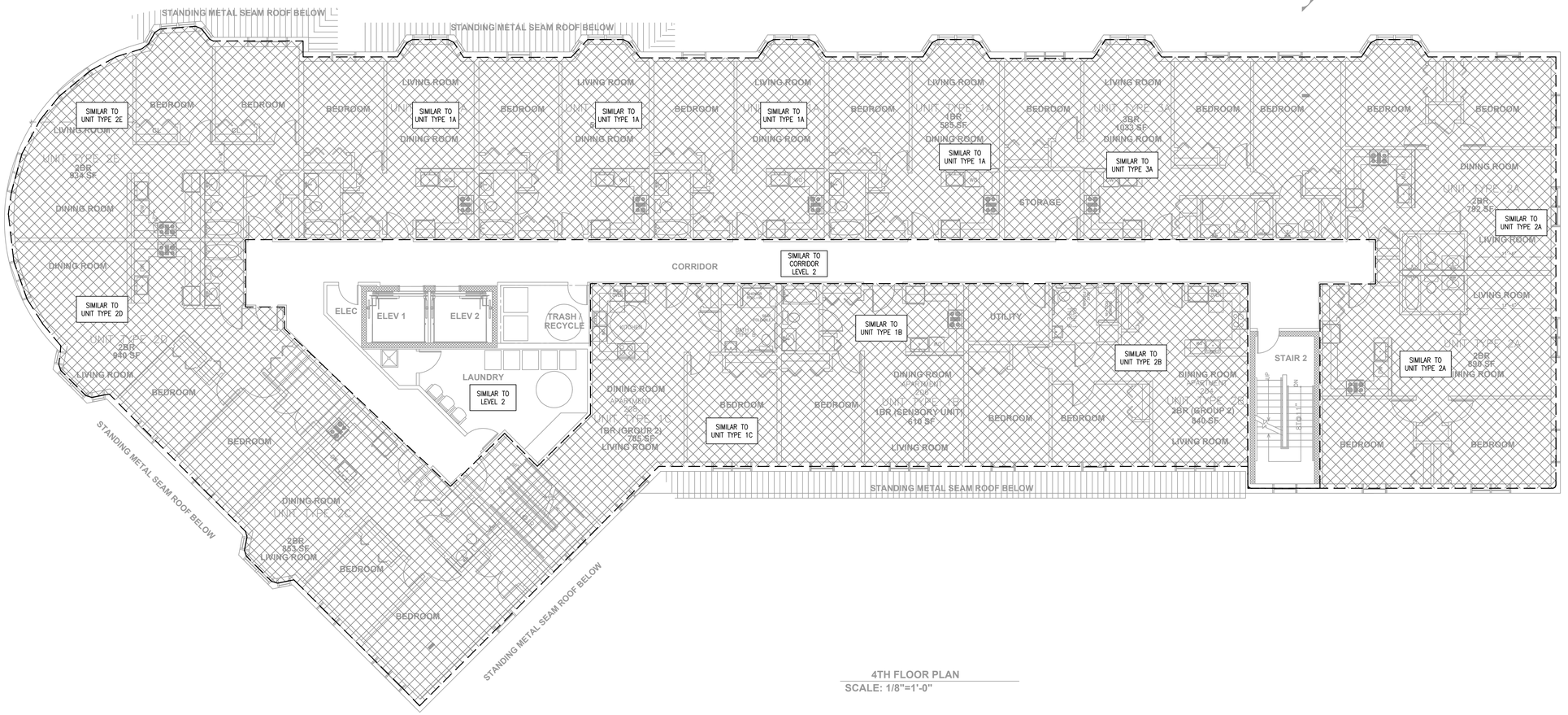
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4TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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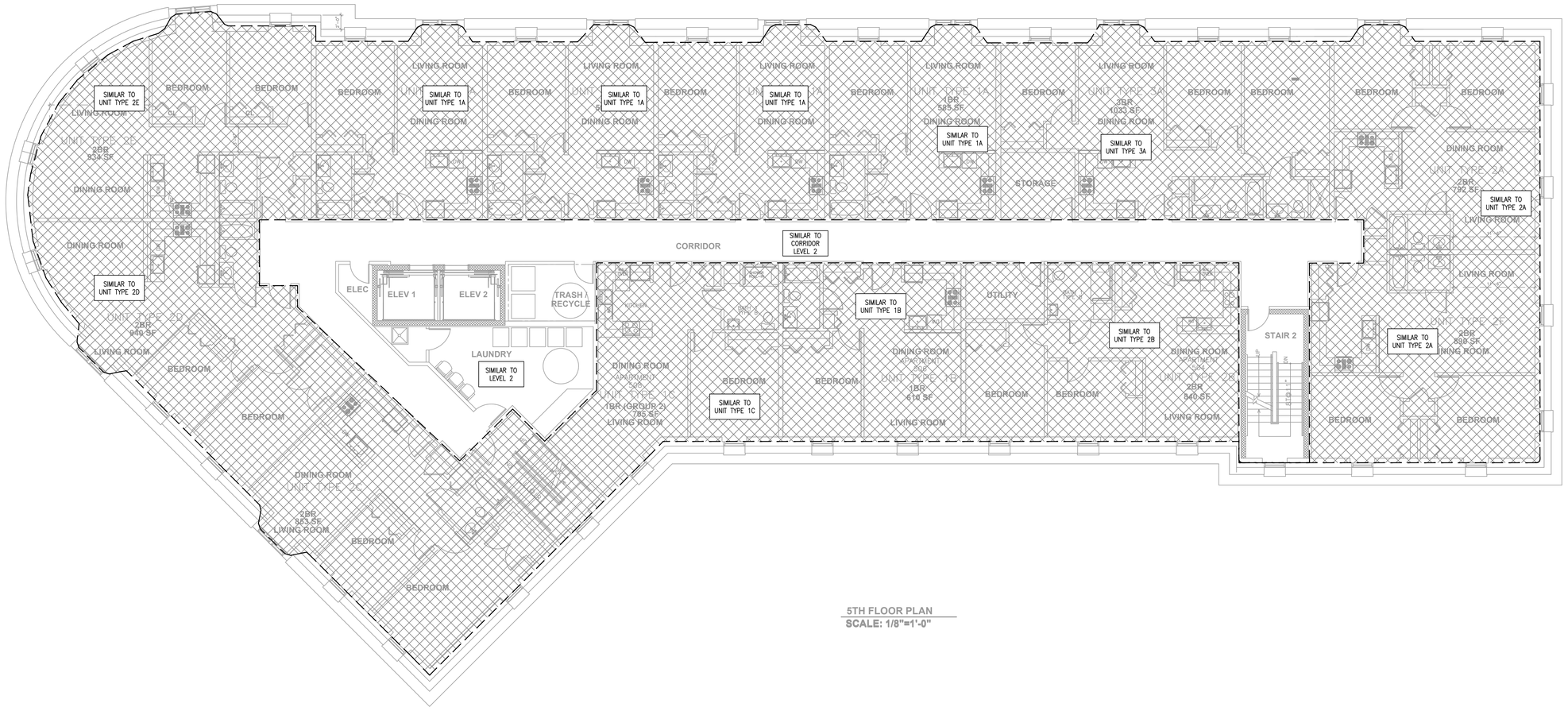
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5TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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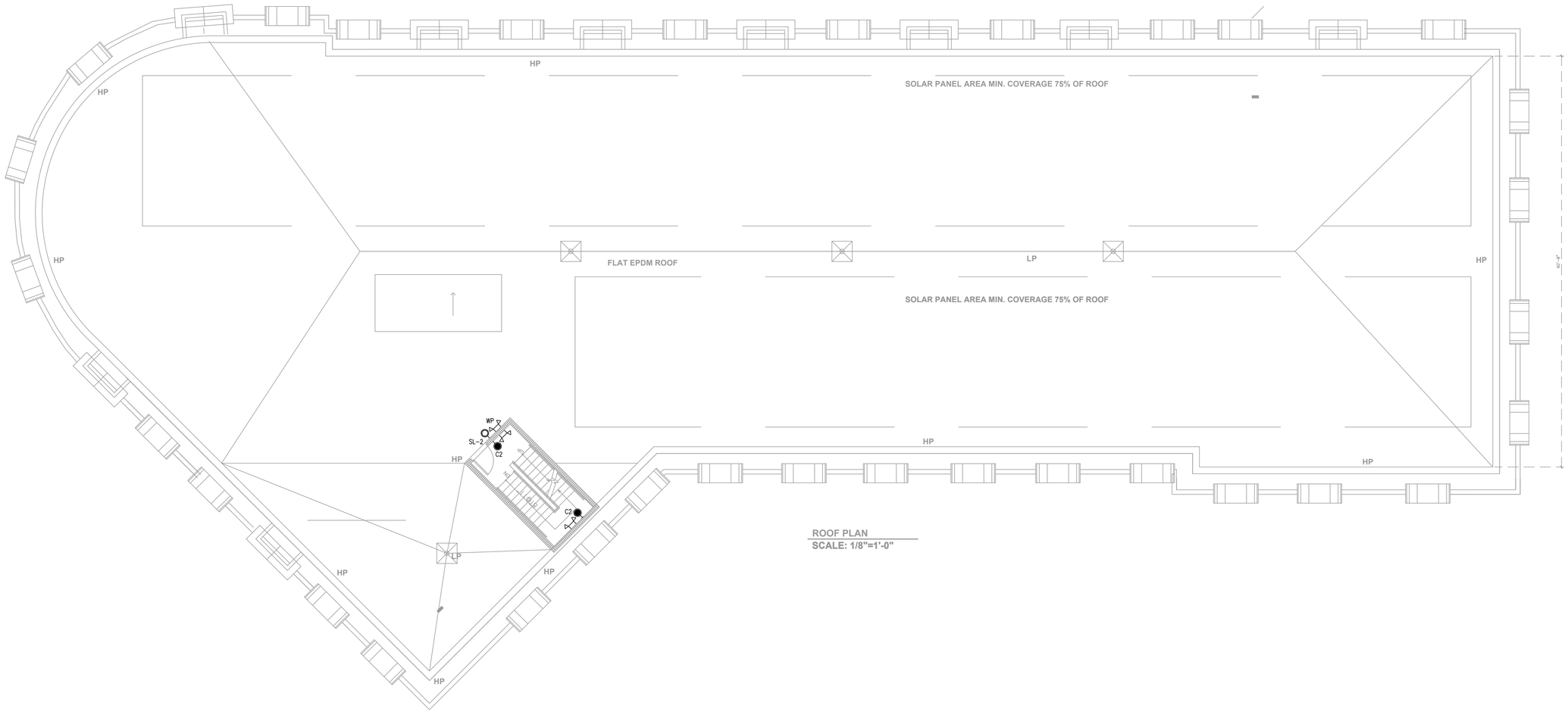
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ROOF PLAN
SCALE: 1/8"=1'-0"

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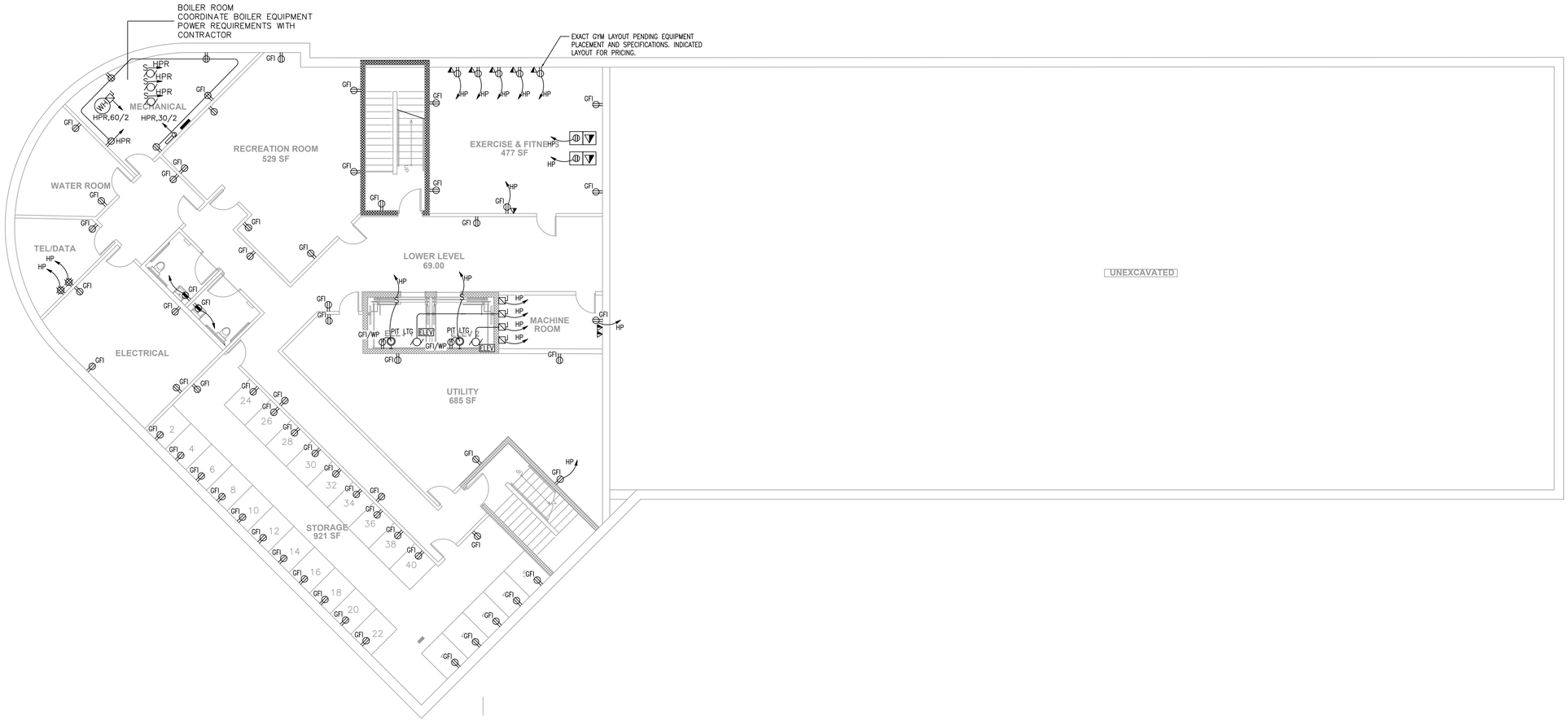
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1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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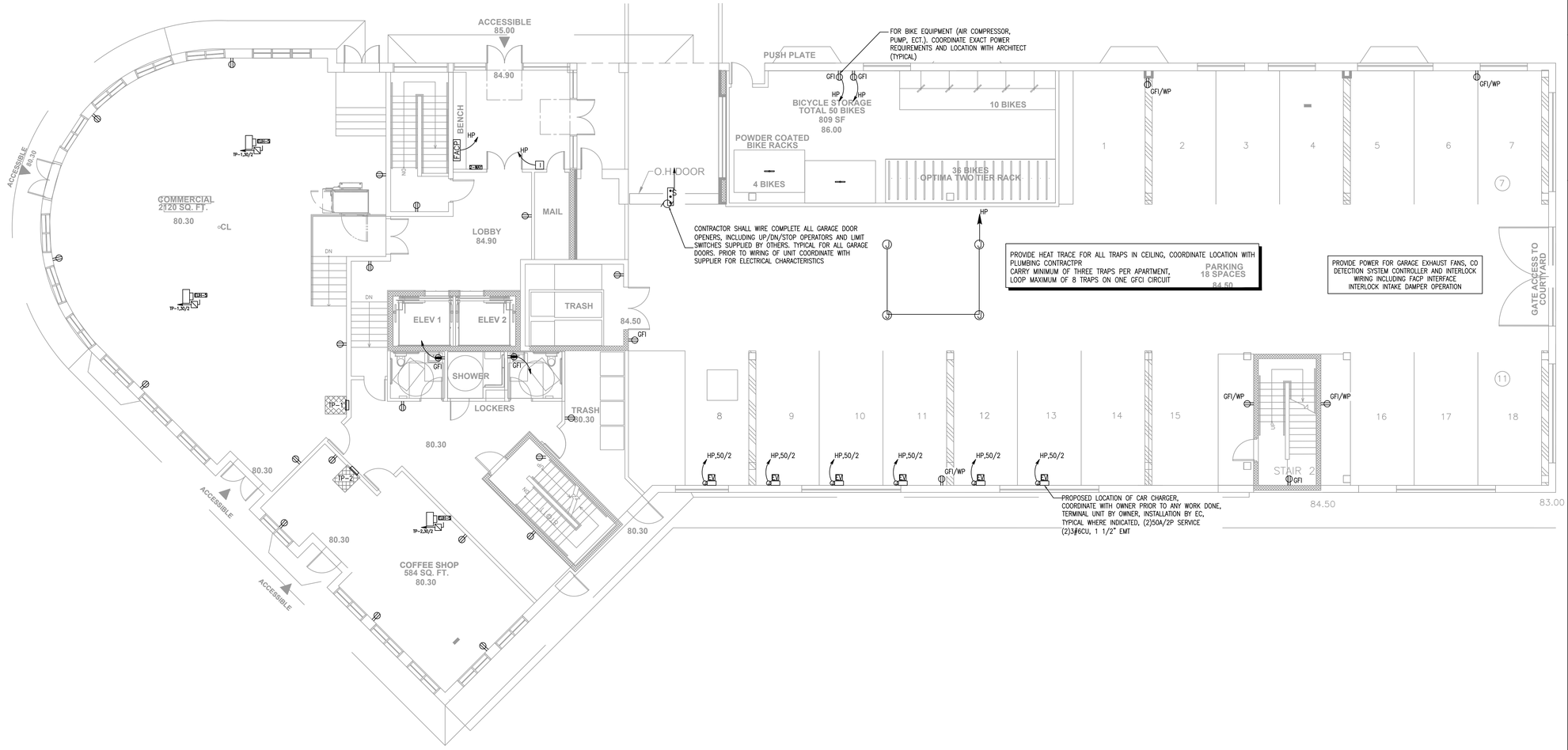
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1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

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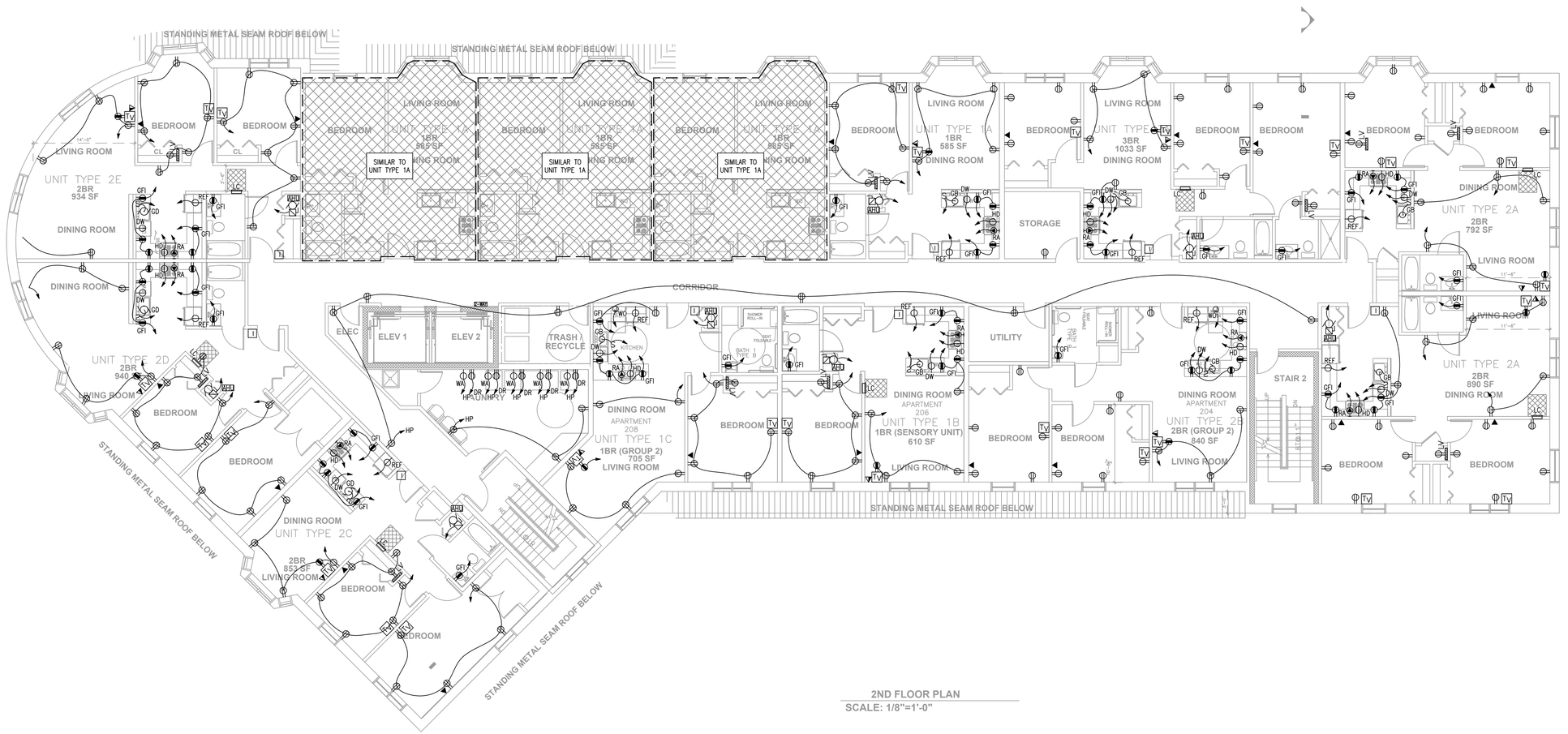
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2ND FLOOR PLAN
SCALE: 1/8"=1'-0"

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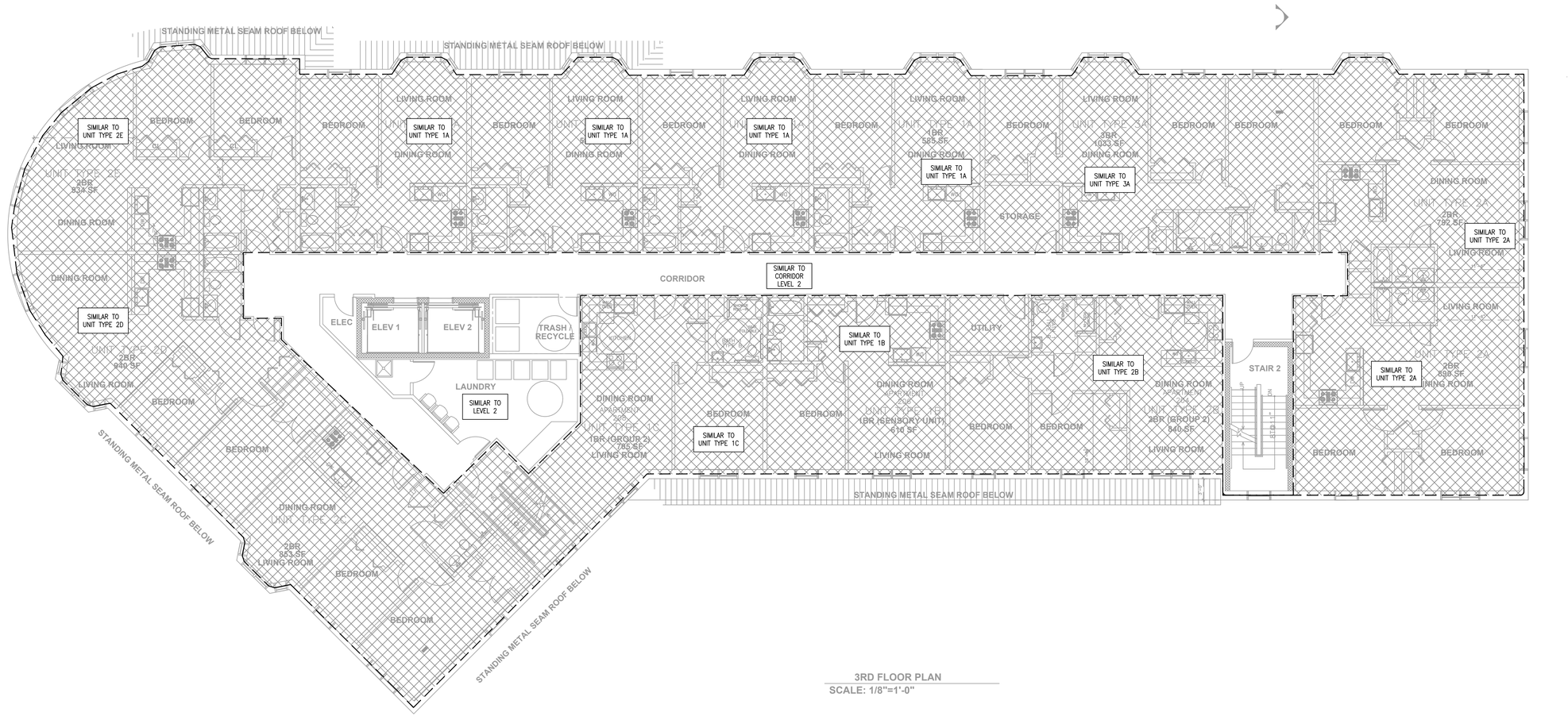
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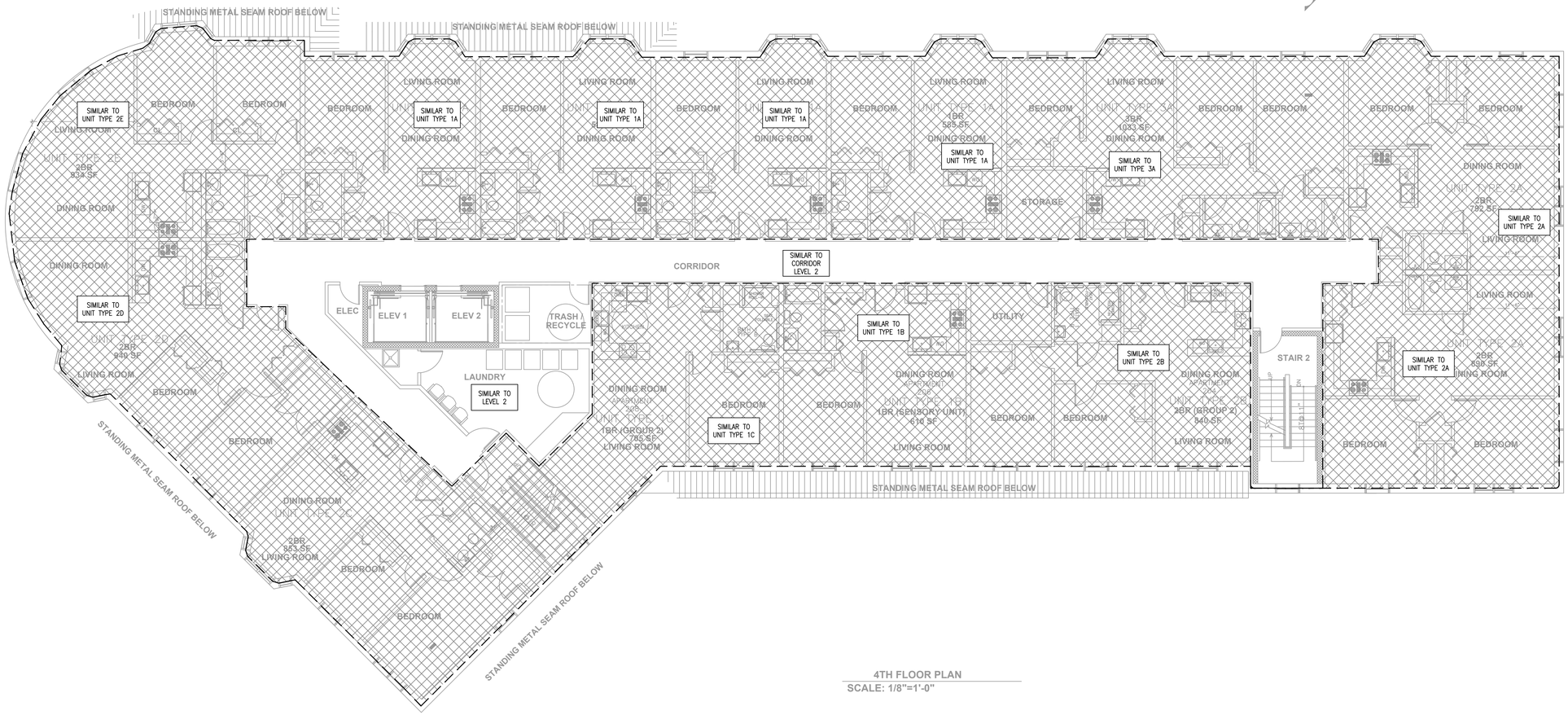
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4TH FLOOR PLAN
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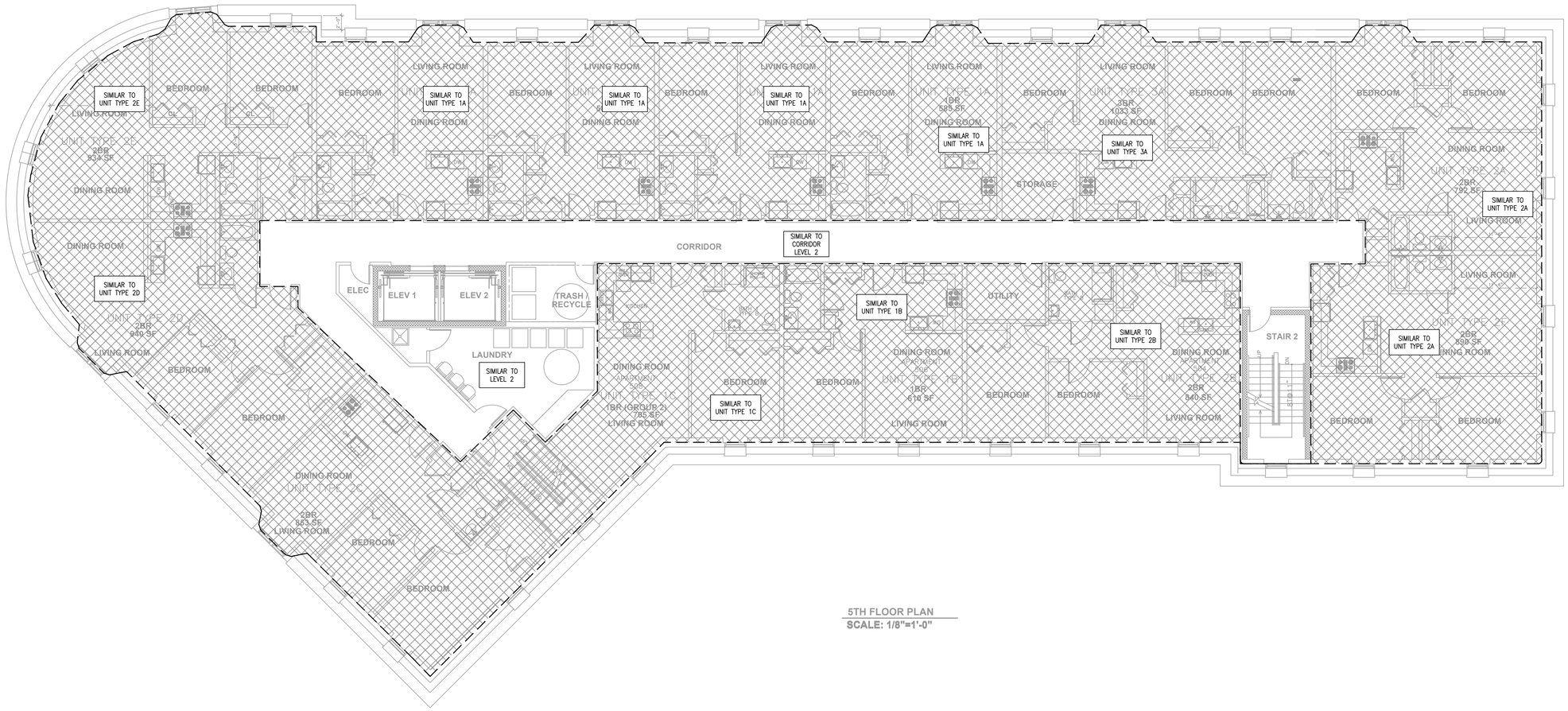
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5TH FLOOR PLAN
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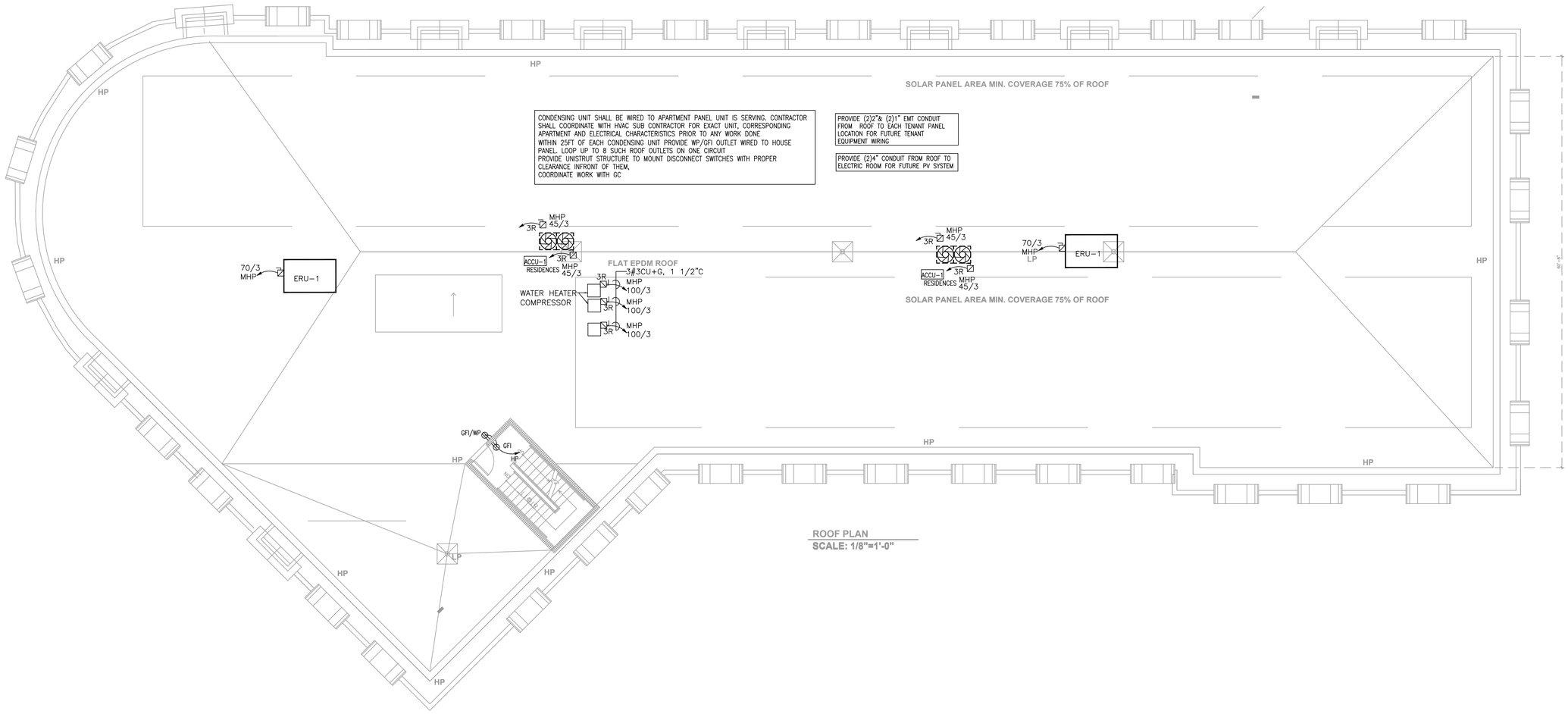
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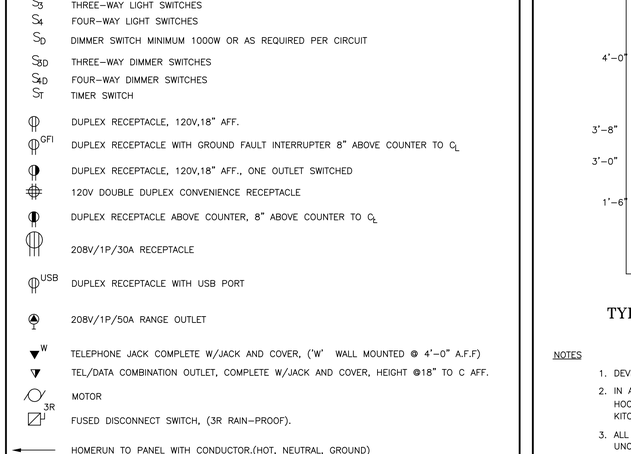
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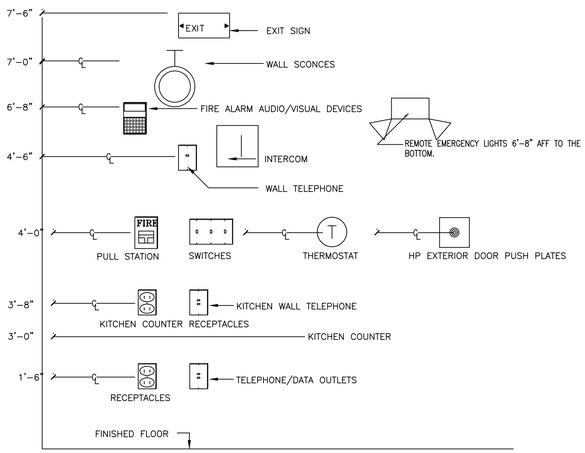
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SYMBOL LIST

- CEILING MOUNTED LIGHT FIXTURE.
- WALL MOUNTED LIGHT FIXTURE.
- 2'X2' OR 2'X4' FLUORESCENT LIGHT FIXTURE.
- 1'x4' FLUORESCENT WALL/CEILING MOUNTED LIGHT FIXTURE.
- TRACK LIGHT
- S — SINGLE POLE LIGHT SWITCH
- S_3 — THREE-WAY LIGHT SWITCHES
- S_4 — FOUR-WAY LIGHT SWITCHES
- S_D — DIMMER SWITCH MINIMUM 1000W OR AS REQUIRED PER CIRCUIT
- S_{3D} — THREE-WAY DIMMER SWITCHES
- S_{4D} — FOUR-WAY DIMMER SWITCHES
- S_T — TIMER SWITCH
- DUPLEX RECEPTACLE, 120V,18" AFF.
- GFI — DUPLEX RECEPTACLE WITH GROUND FAULT INTERRUPTER 8" ABOVE COUNTER TO C_L
- DUPLEX RECEPTACLE, 120V,18" AFF., ONE OUTLET SWITCHED
- 120V DOUBLE DUPLEX CONVENIENCE RECEPTACLE
- DUPLEX RECEPTACLE ABOVE COUNTER, 8" ABOVE COUNTER TO C_L
- 208V/1P/30A RECEPTACLE
- USB — DUPLEX RECEPTACLE WITH USB PORT
- 208V/1P/50A RANGE OUTLET
- W — TELEPHONE JACK COMPLETE W/JACK AND COVER, ('W' WALL MOUNTED @ 4'-0" A.F.F)
- TEL/DATA COMBINATION OUTLET, COMPLETE W/JACK AND COVER, HEIGHT @18" TO C AFF.
- 3R — MOTOR
- FUSED DISCONNECT SWITCH, (3R RAIN-PROOF).
- HOMERUN TO PANEL WITH CONDUCTOR.(HOT, NEUTRAL, GROUND)
- J — JUNCTION BOX
- LIGHTING & POWER PANEL
- LC — APARTMENT LOAD CENTER, RECESSED
- LV — LOW VOLTAGE BOX
- RACEWAY CONCEALED IN CEILING, PLENUM OR WALLS
- RACEWAY CONCEALED IN SLAB (FLOOR)
- TC — TIME SWITCH
- T — DRY TYPE TRANSFORMER
- UNIVERSAL MOUNTING EXIT SIGN (DOUBLE FACED), ARROWS AS INDICATED.
- EMERGENCY BATTERY UNIT WITH MOUNTING BRACKET AND VOLTMETER.
- S_O — OCCUPANCY SENSOR SWITCH
- MS — OCCUPANCY SENSOR
- AORC AREA OF REFUGE CENTRAL BASE UNIT
- AOR AREA OF REFUGE FLOOR ELEVATOR LOBBY UNIT.



SYSTEM GROUNDING DETAIL
Scale: NTS



TYPICAL DEVICE MOUNTING HEIGHTS DETAIL

NOTES

1. DEVICES SHALL BE INSTALLED ON A COMMON VERTICAL CENTERLINE WHEREVER POSSIBLE.
2. IN ADA ACCESSIBLE UNITS ANY CONTROL SWITCHES MOUNTING HEIGHT NO HIGHER THAN 48" AFF.
   HOOD CONTROL SWITCHES (LIGHT/FAN) SHALL BE MOUNTED ON WALL AT COUNTER.
   KITCHEN COUNTER OUTLETS 2" LOWER THAN REGULAR UNITS
3. ALL DEVICES SHALL BE INSTALLED AT MOUNTING HEIGHTS AS INDICATED ON THIS DETAIL, UNO IN THESE CONTRACT DOCUMENTS, BY ARCHITECT OR BY OWNER.
4. FIRE ALARM PULL STATION MOUNTING HEIGHT SHALL BE COMPLY WITH NFPA 72. (NOT LESS THAN 42 INCHES AND NOT MORE THAN 48 INCHES ABOVE FINISHED FLOOR.)
5. FIRE ALARM HORN/STROBE OR STROBE ONLY THE ENTIRE STROBE LENS TO BE LOCATED NOT LESS THAN 80 INCHES ABOVE FINISHED FLOOR AND NOT MORE THAN 96 INCHES ABOVE FINISHED FLOOR AND COMPLY WITH NFPA 72.

GENERAL POWER DISTRIBUTION NOTES

-BEFORE ORDERING ANY EQUIPMENT AND/OR START ANY CONSTRUCTION OR EXCAVATION ELECTRICAL CONTRACTOR AND/OR GENERAL CONTRACTOR SHALL CONTACT ELECTRIC/TELEPHONE/CATV COMPANIES FOR SERVICE POINT AND ROUTING, SERVICE AVAILABILITY.
THIS ENGINEER HAS MADE APPLICATION TO UTILITY COMPANY BUT YET NO CONFIRMATION HAS BEEN MADE BY THE UTILITY COMPANY. CONTRACTOR SHALL NOT PROCEED WITHOUT SUCH CONFIRMATION.

-FEEDERS ARE SIZED BASED ON %3 VD.
CONTRACTOR SHALL FOLLOW THE FOLLOWING CRITERIA.

50A, UP TO 100FT #6, INCREASE BY ONE SIZE FOR EVERY 30FT.
100A, UP TO 100FT #3, INCREASE BY ONE SIZE FOR EVERY 30FT.
200A, UP TO 150FT #3/0, INCREASE BY ONE SIZE FOR EVERY 50 FT.
400A, UP TO 200FT #500, INCREASE BY ONE SIZE FOR EVERY 50FT.

GENERAL POWER DISTRIBUTION NOTES

-FOR SWITCHGEAR SHORT CIRCUIT RATINGS, SEE NOTES UNDER PANEL SCHEDULES.

-PRIOR TO ORDERING ANY SWITCHGEAR ELECTRICAL CONTRACTOR SHALL CONFIRM CIRCUIT BREAKER SIZES WITH HVAC AND OTHER MECHANICAL EQUIPMENT SHOP DRAWINGS. DUE TO SUBMITTAL TIMING FROM VARIOUS CONTRACTORS, ENGINEERS APPROVAL IS GIVEN FOR QUALITY ONLY.

-CONTRACTOR SHALL COORDINATE WITH OTHER TRADES SO THAT NO OTHER TRADE SHALL PASS THROUGH ELECTRIC ROOM OR ABOVE DEDICATES SPACES. INFORM ARCHITECT/ENGINEER ABOUT ANY INFRINGEMENTS PRIOR SUCH INSTALLATIONS OCCUR.

-ELECTRIC ROOM DIMENSIONS ARE BASED ON CERTAIN MANUFACTURER EQUIPMENT DIMENSIONS, CONTRACTOR SHALL CONFIRM ROOM DIMENSIONS PRIOR TO ORDERING EQUIPMENT

TELEPHONE SYSTEM

A. FURNISH AND INSTALL A COMPLETE SYSTEM OF CONDUITS AND BACKBOARDS FOR TELEPHONE INSTRUMENTS AS SHOWN ON THE PLANS.

B. TELEPHONE TERMINAL LOCATIONS AS SHOWN ON THE PLANS SHALL BE 30" X 48" X 3/4" PLYWOOD. GROUND CONNECTIONS SHALL BE MADE BY THE TELEPHONE COMPANY. ELECTRICAL CONTRACTOR SHALL PROVIDE PRIMARY ARRRESTER WITH FUSE AND #6CU GROUNDING WIRE AND GROUND BOLT CONNECTED TO SERVICE GROUND

C. A NYLON FISH WIRE SHALL BE LEFT IN ALL CONDUITS TO FACILITATE PULLING-IN TELEPHONE WIRES. FURNISH AND INSTALL ONE NYLON PULL WIRE FOR PULLING IN TELEPHONE SERVICE IN ALL CONDUITS. SEE SITE PLAN FOR SERVICE ENTRANCE.

D. LOCAL TELEPHONE COMPANY SHALL BE RESPONSIBLE FOR TELEPHONE WIRING FROM THEIR OUTDOOR TERMINATION CABINET TO A NETWORK INTERFACE LOCATED IN THE TELEPHONE ROOM.

F. EACH TELEPHONE OUTLET SHALL BE WIRED TO DATA INTERFFACE TERMINATION BOARD WITH PLENUM RATED CAT 6 , #20/8 TWISTED DATA WIRE TERMINATED IN TESTED AND CERTIFIED CAT 6 TERMINATION STYLE AT BOTH ENDS AND CLEARLY RINGED AND TAGGED.

CONSTRUCTION AND TEST REQUIREMENTS (NEC REQUIREMENTS)

800.50 PREVENTS LAYING TELEPHONE WIRES ON CEILING TILES.

800.50 REQUIRES PRIMARY PROTECTOR FOR MOST UNDERGROUND AND ALL OVERHEAD SERVICES

800.30 (2) REQUIRES FUSED TYPE PRIMARY PROTECTOR AT SERVICE ENTRANCE

800.50 REQUIRES ALL METAL SHIELDS TO BE GROUNDED

800.50 REQUIRES INSULATED GROUNDING CONDUCTOR TO BE MINIMUM #14, NO LONGER THAN 20FT AND CONNECTED TO BUILDING GROUND SYSTEM. WITH MINIMUM #6 BONDING CABLE.

800.50 REQUIRES TYPE CMP FOR PLENUM, CMR FOR RISER APPLICATIONS,

800.51 REQUIRES MINIMUM 2" BETWEEN POWER LINES AND COMMUNICATION LINES, RECOMMENDED PRACTICE 6" FROM BALLASTS AND 6FT FROM LIGHTNING WIRES.
ALSO KEEP DISTANCE FROM HEAT SOURCES.
KEEP MINIMUM 6" FROM 20A/2KW CIRCUITS
KEEP MINIMUM 12" FROM 30A/5KW CIRCUITS
KEEP MINIMUM 24" FROM ANY FEEDER.
FOR SHIELDED CABLES THESE VALUES MAY BE TAKEN IN 1/3.

CAT 6 INSTALLATION RECOMMENDATIONS INCLUDE

CAT 6 INSTALLATION REQUIRES MINIMUM ½" UNTWIST
MINIMUM 1" BENDING RADIUS FOR FOUR PAIR OR 4X. FOR 25 PAIR 10XDIA.
PROVIDE MINIMUM TWO LINES AT EACH LOCATION ONE FOR TELEPHONE OTHER FOR DATA
WATCH FOR THAT A KINKED CABLE REDUCES 2.5DB; A SINGLE 1" RADIUS BEND REDUCES 2 DB.

-WIRE MAP TEST (TO IDENTIFY INSTALLATION ERRORS)
-LENGTH TEST (TO VERIFY MAXIMUM OPERATIONAL LENGTH IS 300FT)
-ATTENUATION TEST (TO MEASURE MAXIMUM SIGNAL LOSS AT 100MHZ LESS THAN 22)
-NEXT (TO MEASURE SIGNAL COUPLING BETWEEN THE PAIRS AT 100MHZ LESS THAN 32)
-PROPAGATION TEST (TO MEASURE TIME IT TAKES SIGNAL FROM ONE POINT TO OTHER)

CATV INTERNAL UNIT WIRING SPECIFICATIONS

COAXIAL CABLE

ALL COAXIAL CABLE WITHIN THE UNIT, INCLUDING THE DROP CABLES BACK TO THE COMMON DISTRIBUTION ROOM SHOULD MEET OR EXCEED THE FOLLOWING REQUIREMENTS:

RG-6 QUAD SHIELD FOR DROP LENGTHS OF UP TO 150 FEET.

RG-11QUAD SHIELD FOR DROP LENGTHS BETWEEN 151 FEET AND 250 FEET.
(DROP LENGTHS SHOULD NOT EXCEED 250 FEET.)

INTERNAL UNIT WIRING

EACH APARTMENT SHALL HAVE IT'S OWN SEPARATE HOME-RUN WIRE. PROVIDE A DUAL CABLE TO BE USED FOR ALL DROP WIRING.

EACH APARTMENT THAT HAS MORE THAN ONE OUTLET MUST HAVE AN INTERFACE ENCLOSURE. THE INTERFACE ENCLOSURE SHALL BE PLACED IN A CENTRAL LOCATION IN THE UNIT, TYPICALLY THE CLOSET. THE ENCLOSURE SHOULD BE LOCATED AS CLOSE AS POSSIBLE TO THE PHONE INTERFACE WITHIN THE UNIT.

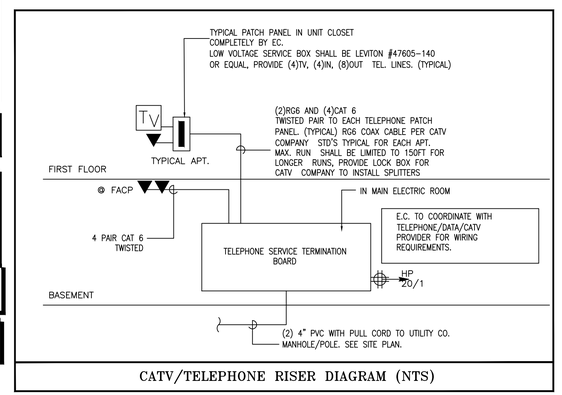
NO OUTLET SHOULD BE LOOP-WIRED (NO DAISY CHAIN WIRING.) EVERY OUTLET IN THE UNIT SHOULD BE WIRED BACK TO AN INTERFACE ENCLOSURE WITHIN THE UNIT.

ALL OUTLET LOCATIONS SHOULD HAVE A MINIMUM OF 12 " OF EXTRA CABLE BEHIND THE WALLPLATE.

MUD RINGS SHOULD BE USED AS OPPOSED TO CLOSED BOXES.

THE COAXIAL HOME RUN AND TWISTED PAIR HOME RUN SHALL BE WIRED TO THE SAME DISTRIBUTION CLOSET ON EACH FLOOR.

DO NOT KINK, FORM TIGHT NINETY-DEGREE ANGLES, PIERCE THE OUTER JACKET, DAMAGE OR MISHANDLE THE COAXIAL CABLE IN ANY WAY. USE APPROVED COAXIAL FASTENERS ONLY. METAL STUDS REQUIRE THAT PLASTIC BUSHINGS BE INSTALLED PRIOR TO PULLING THE CABLE.



CATV/TELEPHONE RISER DIAGRAM (NTS)

CONDENSING UNIT SHALL BE WIRED TO APARTMENT PANEL UNIT IS SERVING. CONTRACTOR SHALL COORDINATE WITH HVAC SUB CONTRACTOR FOR EXACT UNIT, CORRESPONDING APARTMENT AND ELECTRICAL CHARACTERISTICS PRIOR TO ANY WORK DONE
WITHIN 25FT OF EACH CONDENSING UNIT PROVIDE WP/GFI OUTLET WIRED TO HOUSE PANEL.
LOOP UP TO 8 SUCH ROOF OUTLETS ON ONE CIRCUIT

LOCATION OF ALL MECHANICAL EQUIPMENTS AND ELECTRICAL CHARACTERISTICS SHALL BE COORDINATED WITH MECHANICAL CONTRACTOR PRIOR TO ANY WORK DONE. ALL EQUIPMENT RELATING TO MECHANICAL COMPONENTS SHALL BE ORDERED ONLY AFTER THE APPROVAL OF MECHANICAL EQUIPMENT SHOP DRAWINGS

PER NEW DEFINITION OF READILY ACCESSIBLE, ALL APPLIANCE CONNECTION POINT WILL BE LOCATED IN THE NEXT BAY OF THE KITCHEN COUNTER OR SIMILAR SO THAT PLUGGING/UNPLUGGING OF THE APPLIANCES WILL NOT REQUIRE REMOVAL OR PULLING OUT OR TAKING PANELS OF THE FRONT FACE OF THE APPLIANCE.
PROVIDE GFI BREAKER FOR DISHWASHER

IN RESIDENTIAL BUILDINGS ALL EXTERIOR WALL MOUNTED OUTLETS SHALL HAVE DRAFT BARRIERS
-ALL OUTLETS MOUNTED ON FIRE RATED WALLS (UNIT SEPERATION WALLS SHALL HAVE) FIRE BLANKETS ON THEM

AIR TIGHT ELECTRICAL BOXES SHALL BE " ALLIED MOULDED PRODUCTS, INC" VAPOR SEAL SINGLE GANG 22.5 CU.IN., PART#1099-NV2 TWO GANG 37.0 CU.IN., PART#2302-HNKV2 4" ROUND 22.5 CU.IN., PART#9350-BHKV2 KV2 HN 4" ROUND 22.5 CU.IN., PART#9350-

ALL WIRES IN DWELLING ENCLOSURE WALLS SHALL BE FOAM SEALED TO THE BOXES AND THE BOXES SHALL BE FOAM SEALED TO THE DRYWALL.

ALL 120V RECEPTACLES INSTALLED WITHIN A RESIDENTIAL UNIT SHALL BE SHALL BE SAFETY TYPE AS MANUFACTURED BY LEVITON "5262-SG" OR APPROVED EQUAL.

UNLESS NOTED OTHERWISE ALL WIRING SHALL BE #12AWG, Cu, AND FED FROM PANEL LP VIA 20A/1P C.B. CIRCUITS LONGER THAN 100FT SHALL BE #10 CU

NO EXPOSED WIRING IS ALLOWED,
ALL CONCEALED WIRING SHALL BE IN "MC".
ALL WIRING IN BLOCK WALLS SHALL BE CONCEALED, RUN IN CONDUIT.

▼ : INDICATES TEL/DATA COMBINATION OUTLET WITH 1 CAT 6 TEL/DATA JACK. E.C. SHALL WIRE EACH OUTLET HOME RUN 4 PAIR CAT 6 CLP FOR TELEPHONE AND 4 PAIR CAT 6 CLP FOR DATA TO TELEPHONE AND DATA TERMINATION BOARDS RESPECTIVELY. TERMINATE AT TWO SEPARATE PUNCH DOWN BLOCKS. ALL WIRING AND TERMINATION'S SHALL BE PER CAT 6 SPECIFICATIONS, ALL WIRES SHALL BE PROPERLY LABELED AND RINGED OUT. KEEP WIRES MINIMUM 18" FROM POWER FEEDS AND FIXTURE BALLASTS

TV INDICATES CATV JACK COMPLETE.
EC SHALL HOME RUN EACH CATV OUTLETS WITH RG 6 COAX CABLE AND CONNECT TO CATV SPLITTER WITHIN EACH UNIT CLOSET AND CONNECT UNIT WITH DOUBLE COAX TO CATV ENTRANCE BOX LOCATED IN ELECTRIC ROOM.

PRIOR TO CONSTRUCTION, CONTRACTOR SHALL LOCATE BOXES FOR EACH TYPICAL UNIT FOR OWNER/ARCHITECT REVIEW.

IN RESIDENTIAL BUILDINGS, UNLESS NOTED OTHERWISE -ALL LIGHT FIXTURES WITHIN BEDROOMS SHALL BE WIRED TO BEDROOM CIRCUIT
-ALL OPEN AREA LIGHTS SHALL BE WIRED TO A SINGLE LIGHTING CIRCUIT (DINING ROOM, KITCHEN, HALL WAY)
-BATHROOM LIGHTS SHALL BE WIRED TO OPEN AREA CIRCUITS.

OUTLETS AT FOLLOWING LOCATIONS SHALL BE GFI TYPE REGARDLESS HOW THEY ARE SHOWN.
-RESIDENTIAL BATHROOMS, 210.8(A)(1)
-RESIDENTIAL KITCHENS, 210.8(A)
-LAUNDRY, 210.8(A)(10)
-DISHWASHERS, 210.8(D) (THROUGH GFI BREAKER)
-DRINKING FOUNTAIN, 422.52
-VENDING MACHINES, 422.51
-ROOF TOPS, 210.8(B)(2)(WP ALSO)
-BALCONY/EXTERIOR OUTLETS (WP ALSO)
-ELEVATOR MACHINE ROOMS AND PITS (WP ALSO)
-GARAGES
-FINISHED/UNFINISHED BASEMENT OUTLETS

SHADED AND HALF SHADED FIXTURE INDICATES LIGHT FIXTURE ON NIGHT LIGHT CIRCUIT, LOOP UP TO 1200W/120V ON ONE CIRCUIT AND FEED FROM LIGHTING PANEL

CONNECT ALL EXIT SIGNS AND EMERGENCY BATTERIES TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS TYPICAL FOR ALL AREAS

NOTE CEILING IS FIRE RATED, ALL RECESSED FIXTURES AND EXHAUST FANS SHALL BE INSTALLED WITH FIRE RATED ENCLOSURES 3" MINIMUM LARGER THAN FIXTURES TO MAINTAIN INTEGRITY OF CEILING FIRE RATING AND COOLING OF THE FIXTURES.

EXACT LOCATION AND TYPES OF ALL LIGHTING FIXTURES, MOUNTING HEIGHTS AND MOUNTING DETAILS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ANY CONFLICTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION PRIOR TO ANY WORK DONE. OBTAIN LATEST COPY OF THE CEILING PLAN FROM ARCHITECT PRIOR TO ANY WORK DONE.

TO MEET 780 CMR 1308.2.1 CONTRACTOR SHALL PROVIDE IN EACH SPACE (EXCEPT CORRIDORS, BATHROOMS AND UTILITY/MECHANICAL ROOMS), CEILING MOUNTED OCCUPANCY SENSOR TO CONTROL LIGHTS IN THE SPACE. INSTALL SELF CONTAINED TYPE OR RELAY TYPE CEILING MOUNT SENSORS AS REQUIRED TO MATCH LOAD AND VOLTAGE CHARACTERISTICS. LOCATE SENSOR IN CEILING AWAY FROM THE DOOR NOT TO PICK UP NUISANCE ACTIVATION.

ALL FLUORESCENT FIXTURES IN THE ROOMS SHALL BE DOUBLE SWITCHED. PROVIDE TANDEM BALLAST FOR THREE BULB FIXTURES

IN AREAS WHERE FIXTURES ARE MOUNTED INTO INSULATED CEILINGS, THIS CONTRACTOR SHALL PROVIDE HOODS, 3" LARGER THAN FIXTURES TO KEEP INSULATION AWAY FROM THE FIXTURES AND TO MAINTAIN INSULATION INTEGRITY OF THE CEILING, SEE ARCHITECTURAL DRAWINGS FOR AREAS WHERE THESE HOODS MAY BE REQUIRED.

W INDICATES EXTERIOR MOUNTED EMERGENCY LIGHT.CONNECT ALL REMOTE EMERGENCY LIGHTS ON CIRCUITS SO THAT (WATTSXFT) IS LESS THAN 3200 UNITS AND WIRE WITH #10 CU TO REMOTE BATTERY PROVIDE 12V SEALED CALCIUM BATTERY UNIT AS REQUIRED OR AS SPECIFIED. BATTERY SHALL BE LOCATED IN A WARM ROOM AND FED FROM LIGHTING CIRCUIT SERVING THE AREA WHERE REMOTE HEADS ARE LOCATED
BATTERY SHALL BE EMERGI-LITE 12LSM 220V
OUTDOOR LIGHTS SHALL BE EMERGI-LITE EF11D

LOOP EVERY 8 EXTERIOR BUILDING MOUNTED LIGHT FIXTURE ON ONE CIRCUIT AND FEED FROM TC-S VIA 20A/1PCB. WIRE SHALL RUN INSIDE BUILDING

MS INDICATES CEILING MOUNTED OCCUPANCY SENSOR. IN EACH SPACE EXCEPT CLOSETS, BATHROOMS, CORRIDORS AND UTILITY ROOMS, PROVIDE CEILING MOUNTED OCCUPANCY SENSOR SHOWN OR OTHERWISE TO COMPLY WITH MASS ENERGY CODE. UNITS SHALL BE SIZED PER CIRCUIT REQUIREMENTS. EQUIPMENT SHALL BE AS MANUFACTURED BY NOVITAS 01-087 OR 01-077 OR EQUAL, AIR FLOW COMPENSATED TYPE.

SHADED AND HALF SHADED FIXTURE INDICATES LIGHT FIXTURE ON NIGHT LIGHT CIRCUIT, LOOP UP TO 1200W/120V ON ONE CIRCUIT AND FEED FROM LIGHTING PANEL

CONNECT ALL EXIT SIGNS AND EMERGENCY BATTERIES TO LOCAL LIGHTING CIRCUIT AHEAD OF ANY CONTROLS TYPICAL FOR ALL AREAS

Micheal Washington Architects Inc.
1280 VFW Parkway Suite 201
West Roxbury, MA 02132
Phone: 617-390-5515
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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

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COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 32579
REGISTERED
PROFESSIONAL ENGINEER

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SHEET TITLE

ELECTRICAL NOTES

SCALE:	
DATE: 12/03/24	DRAWING NO. E-3.0
DRAWN BY:	
CHECKED BY: MW	
FILE:	

NOT FOR CONSTRUCTION

CONSTRUCTION NOTES

-LOCAL SMOKE DETECTORS SHALL BE WIRED FROM ARC-FAULT CIRCUITS, VERIFY WITH ELECTRICAL INSPECTOR.

-BACK TO BACK OUTLETS ON FIRE RATED WALLS SHALL BE INSTALLED TO MAINTAIN FIRE RATINGS, IF NECESSARY, USE FIRE RATED OUTLET BOXES.

-ALL FLOOR PENETRATIONS BY CABLES AND CONDUITS SHALL BE SEALED TO MAINTAIN FIRE RATINGS.

-RECESSED LIGHT FIXTURES INSTALLED ON FIRE RATED CEILINGS SHALL HAVE FIRE RATED HOODS ON TOP TO MAINTAIN FIRE RATING. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED AREAS.

-ALL WIRING WITHIN UNITS SHALL BE ROMEX. WIRING OUTSIDE UNITS SHALL BE METAL CLAD.

LOAD CALCULATIONS, (ALL ELECTRIC UNIT)

-LIGHTING AND POWER: 3W/SFX1,000SF	=3,000W
-KITCHEN	=3,000W
-ELECTRIC RANGE :	=12,000W
-DISHWASHER/DISPOSAL:	=2,000W
-WATER HEATER:	=CENTRAL
-WASHER:	=CENTRAL
-DRYER:	=CENTRAL
-INDOOR A/C:	=500W
-OUTDOOR A/C:	=CENTRAL
-MICROWAVE/HOOD:	=1,500W
TOTAL:	=22,000W
UNIT DEMAND=(22.0-10KW-.5)X.4+10+.5 71A/125A	=14.8KW
BUILDING DEMAND =UNIT#XTOTAL KWXFACTOR =44 * 28.5 * 0.27	=338.6KW

FACTOR TO BE TAKEN FROM TABLE NEC 220.84

FOR EACH APARTMENT PROVIDE DEDICATED CIRCUITS

-(2) 20A/1P KITCHEN COUNTER OUTLETS GFCI AND AFCI PROTECTION
-(1) 20A/1P FOR REFRIGERATOR GFCI AND AFCI PROTECTON
-(1) 20A/1P FOR DISHWASHER GFCI AND AFCI PROTECTION
-(1) 20A/1P FOR DISPOSAL RECEPTACLE GFCI AND AFCI PROTECTION
-(1) 20A/1P FOR MICROWAVE-HOOD GFCI AND AFCI PROTECTION
-(1) 50A/2P FOR GAS RANGE, GFCI
-(1) 20A/1P FOR DINING ROOM OUTLETS AFCI PROTECTION
IF THEY ARE COMBINED WITH KITCHEN COUNTER OUTLETS GFCI AND AFCI PROTECTION.
-(1) 20A/1P FOR WASHER, AFCI/GFCI PROTECTION
-(1) 30A/2P FOR DRYER, GFCI PROTECTION
-(1) 30A/2P FOR ELECTRIC WATER HEATER, GFCI PROTECTION
-(1) 30A/2P FOR EACH A/C CONDENSER UNIT, GFCI PROTECTION
-(1) 15A/1P FOR EACH A/C INDOOR UNIT GFCI PROTECTION
-(1) 20A/1P FOR EACH BATHROOM GFCI PROTECTION
-(1) 15A/1P FOR LIGHTING AFCI PROTECTION
-(1) 15A/1P FOR LIVING ROOM AFCI PROTECTION
-(1) 15A/1P FOR EACH BEDROOM AFCI PROTECTION
-(1) 20A/1P FOR EACH BATHROOM WALL HEATER, AFCI/GFCI
-(1) 30A/2P FOR SURGE SUPPRESSOR

-RECEPTACLES INSTALLED WITHIN 6 FEET OF SINK SHALL BE GFCI PROTECTED IN ADDITION TO AFCI PROTECTION.
-FIELD VERIFY MICROWAVE AND REFRIGERATOR REQUIREMENTS.

ACCESSIBLE UNIT WIRING NOTES

SEE ARCHITECTURAL PLANS FOR NUMBER OF HC UNITS AND LOCATIONS.
CARRY MINIMUM OF 5% OF UNITS AS ACCESIBLE
IN EACH UNIT PROVIDE
-LOCAL TYPE SMOKE DETECTOR WITH BUILT IN STROBE EACH BEDROOM, OUTSIDE BEDROOM
-SYSTEM TYPE STROBE IN EACH BEDROOM AND LIVING ROOM
-LOCAL TYPE CO DETECTORS OUTSIDE BEDROOMS AND EVERY HABITABLE FLOOR LEVEL, STROBES ARE TO BE LOCATED IN BEDROOMS AND HABITABLE SPACES
-MOUNTING HEIGHTS OF ANY CONTROL SWITCH SHALL BE NO HIGHER THAN 48" AFF.
-HOOD CONTROL SWITCHES (LIGHT/FAN) SHALL BE MOUNTED ON WALL AT COUNTER
-PROVIDE WALL OVEN AND COOK TOP WIRING ON SAME CIRCUIT, 50A/2P
-ALL OUTLETS AND CONTROL SWITCHES SHALL BE MINIMUM 18" AWAY FROM AN INTERIOR CORNER REGARDLESS HOW IT IS SHOWN

-PROVIDE STROBE LIGHT FOR INTERCOM SYSTEM IN LIVING ROOM AND IN EACH BEDROOM

-ALL ELECTRICAL OUTLETS HEIGHTS TO BE A MINIMUM OF 15" TO THE CENTERLINE OF THE LOWEST RECEPTACLE AND MAXIMUM OF 48" TO THE CENTERLINE OF THE HEIGHEST RECEPTACLE

-ALL ELECTRICAL OUTLETS ARE LOCATED OVER COUNTERTOPS, SHALL BE NO HIGHER THAN 44" TO THE CENTERLINE OF THE HIGHEST RECEPTACLE.

-ALL CIRCUIT BREAKER PANELS MUST BE CENTERED ON A 30" BY 48" CLEAR FLOOR SPACE AND IF A PARALLEL APPROACH IS USED, THE HIGHEST CONTROL CAN BE NO HIGHER THAN 54" A.F.F.
IF A FRONT APPROACH IS USED, THE HIGHEST CONTROL CAN BE NO HIGHER THAN 48" A.F.F.

-PROVIDE STROBE FOR INTERCOM FOR THE HEARING IMPAIRED.

(CU) WIRE SCHEDULE

AMPS CB	CU	CMIL	MAX LENGT*)	
20	#12	6,530	70 FT	
30	#10	10,380	70 FT	
40	#8	16,510	90 FT	
50	#6	26,240	110 FT	
60	#6	26,240	95 FT	
70	#4	41,740	120 FT	
80	#3	52,620	125 FT	
100	#2	66,360	140 FT-(#1AL-160FT)	
125	#1	83,690	145 FT-(#1/0AL-155FT)	
150	#1/0	105,600	145 FT-(#2/0AL-160FT)	
200	#3/0	167,800	165 FT-(#4/0AL-185FT)	
225	#4/0	211,600	175 FT-(#300 MCM AL-200FT)	
300	#300	300,000	200 FT-(#400 MCM AL-200FT)	
350	#400	400,000	225 FT-(#600 MCM AL-225FT)	
400	#500	500,000	250 FT-(#750 MCM AL-225FT)	
800	(2)#500	1,000,000	200 FT	(2)#750 AL
1200	(4)#400 (3)#600		200 FT	(5)#400 MCM AL (4)#500 MCM AL
1600	(5)#400 (4)#600		200 FT	(6)#400 MCM AL (5)#600 MCM AL
2000	(6)#400 (5)#600		200 FT	(6)#600 MCM AL (7)#500 MCM AL
2500	(6)#600 (8)#400		200 FT	(8)#600 MCM AL (10)#350 MCM AL
3000	(8)#500 (10)#350		200 FT	(8)#700 MCM AL (10)#500 MCM AL

FIXTURE SCHEDULE — COMMON AREA

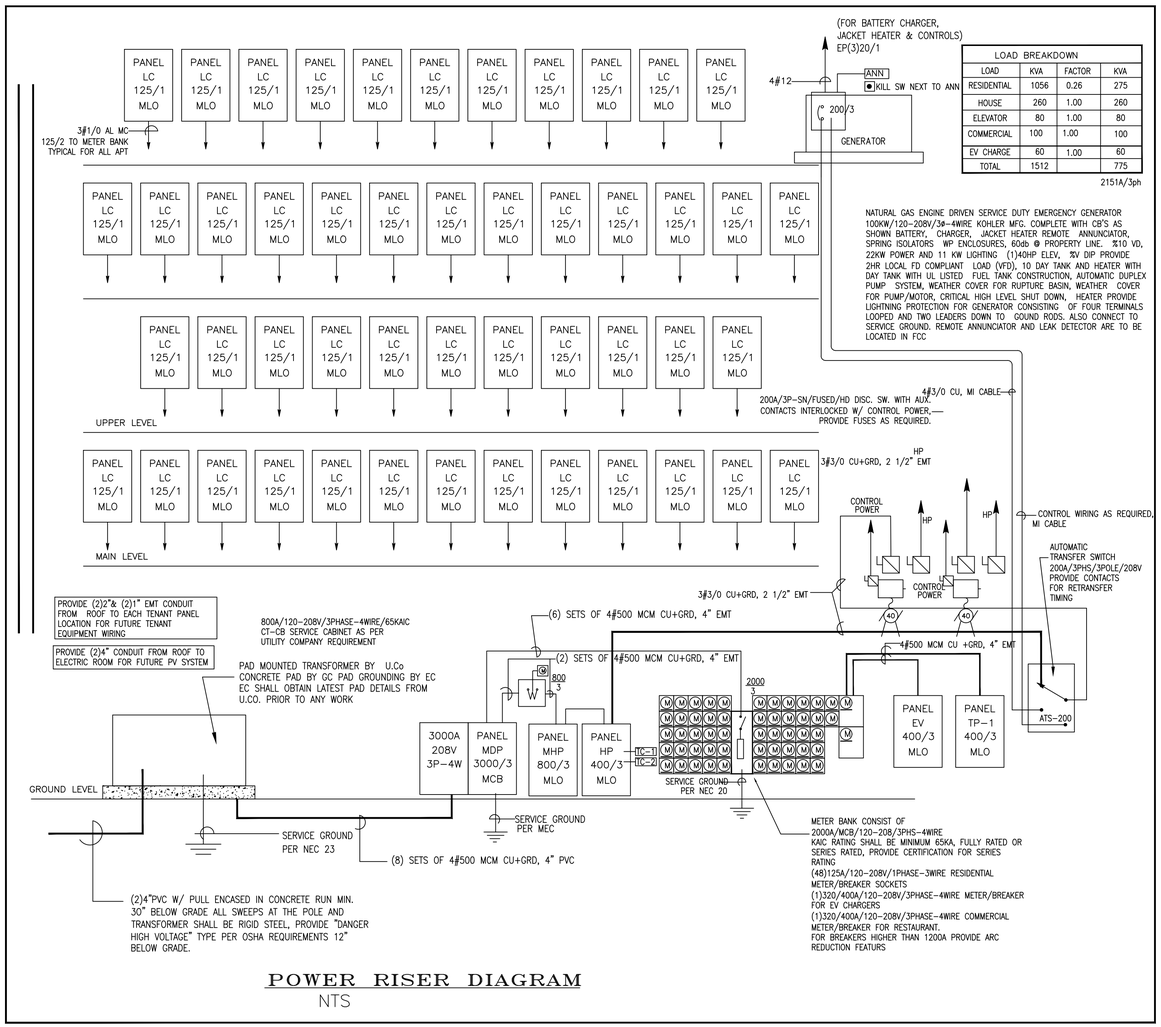
TYPE	MANUFACTURER	CATALOG NUMBER	VOLT	LAMP	DESCRIPTION
C1	TBD	CARRY $150	120	(1)24W LED	COMMON CORRIDOR CEILING LIGHT-SURFACE
C2	TBD	CARRY $150	120	(1)24W LED	COMMON STAIR LIGHT
C2A	TBD	CARRY $150	120	(1)13W LED	APARTMENT ENTRY WALL LIGHT
G1	TBD	CARRY $150	120	(1)28W LED	GARAGE/STORAGE/UTILITY LIGHT
SL-1	TBD	CARRY $150	120	(1)32W LED	EXTERIOR FRONT LIGHT
SL-2	TBD	CARRY $150	120	(1)32W LED	EXTERIOR REAR LIGHT
⊠	TBD	CARRY $150	120/12	LED AS REQUIRED	SELF POWERED EXIT SIGN SINGLE FACE
	TBD	CARRY $150	120/6	(2)5.4W	SELF CONTAINED EMERGENCY LIGHTS AT INTERIOR
WP	TBD	CARRY $150	120/6	(2)5W	WP EMERGENCY LIGHTS AT EXTERIOR

EM" INDICATES FIXTURE WITH BUILT IN BATTERY
MS" INDICATES FIXTURE WITH BUILT IN OCCUPANCY SENSOR, HALF LIGHT/FULL LIGHT
EM/MS INDICATES BOTH FEATURES INCLUDED AS ABOVE

NOTE CEILING IS FIRE RATED, UNLESS RATED FIXTURES ARE USED ALL RECESSED FIXTURES AND EXHAUST FANS SHALL BE INSTALLED WITH FIRE RATED ENCLOSURES 3" MINIMUM LARGER THAN FIXTURES TO MAINTAIN INTEGRITY OF CEILING FIRE RATING AND COOLING OF THE FIXTURES.

FIXTURE SCHEDULE —APARTMENTS

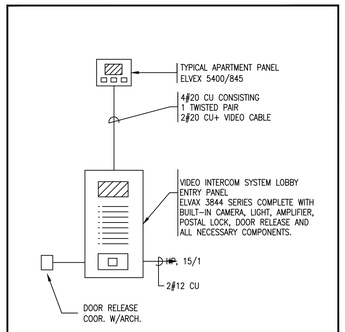
U1	TBD	CARRY $100 EACH	120	(1)13W LED	ENTRY/HALL
U2	TBD	CARRY $100 EACH	120	(1)13W LED	KITCHEN CEILING
U3	TBD	CARRY $100 EACH	120	(1)13W LED	KITCHEN PENDANT
U4	TBD	CARRY $100 EACH	120	(1)23W LED	LIVING/DINING ROOM
U5	TBD	CARRY $100 EACH	120	(1)23W LED	BEDROOM LIGHT
U6	TBD	CARRY $100 EACH	120	(3)11W LED	BATHROOM VANITY LIGHT
U7	TBD	CARRY $100 EACH	120	(1)13W LED	SHOWER LIGHT
U8	TBD	CARRY $100 EACH	120	(1)13W LED	WALK-IN CLOSET LIGHT
U9	TBD	CARRY $100 EACH	120	(1)13W LED	BALCONY LIGHT



POWER RISER DIAGRAM
NTS

WIRE SCHEDULE

AL/CU	1/0 AL	2/0 AL	3/0 AL	4/0 AL	250 MCM AL	3/0 CU	4/0 CU	250 MCM CU
100A	140 FT	185 FT	220 FT	265 FT	300 FT	330 FT	400 FT	460 FT
125A	120 FT	150 FT	185 FT	215 FT	250 FT	285 FT	340 FT	385 FT



VIDEO INTERCOM RISER DIAGRAM

FIXTURE NOTES

LAMPS AND BALLASTS SHALL BE IN COMPLIANCE WITH LOCAL UTILITY COMPANY REBATE PROGRAMS, SPECIFICATIONS ABOVE FOR THE FIXTURE TYPE ONLY.
FLUORESCENT FIXTURES SHALL HAVE ELECTRONIC BALLASTS THD LESS THAN %15.
FIXTURES MOUNTED IN INSULATED CEILINGS, EC SHALL PROVIDE HOODS TO KEEP INSULATION AWAY.
FIXTURES MOUNTED IN RATED CEILINGS (SEE ARCHITECTURAL DRAWINGS), EC SHALL PROVIDE HOODS TO MAINTAIN RATINGS.
SHADED FIXTURE INDICATES EMERGENCY LIGHT WITH BUILT IN BODINE BALLAST, 700 LUMEN OUTPUT.
EMERGENCY LIGHTS SHALL HAVE INTEGRAL TEST SWITCHES BUILT INTO FIXTURE (NOT SEPARATE SWITCH).
PROVIDE CONSTANT FEED TO BUILT-IN EMERGENCY BATTERY AS REQUIRED.

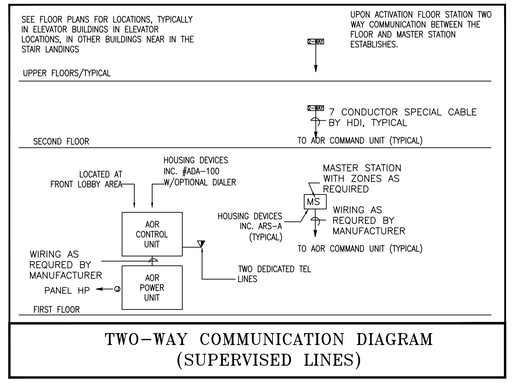
ALL LIGHT FIXTURES MODELS, FINISH COLORS SHALL BE VERIFIED BY ARCHITECT.
REGARDLESS HOW MODEL NUMBERS ARE WRITTEN ALL FLUORESCENT & PL FIXTURES SHALL HAVE HPF ENERGY SAVINGS BALLAST/ENERGY STAR LABEL.

EXACT LOCATION AND TYPES OF ALL LIGHTING FIXTURES, MOUNTING HEIGHTS AND MOUNTING DETAILS SHALL BE COORDINATED WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ANY CONFLICTS SHALL BE BROUGHT TO ARCHITECT'S ATTENTION PRIOR TO ANY WORK DONE. OBTAIN LATEST COPY OF THE CEILING PLAN FROM ARCHITECT PRIOR TO ANY WORK DONE.

IN AREAS WHERE FIXTURES ARE MOUNTED INTO INSULATED CEILINGS, THIS CONTRACTOR SHALL PROVIDE HOODS 3" LARGER THAN FIXTURES TO KEEP INSULATION AWAY FROM THE FIXTURES AND TO MAINTAIN INSULATION INTEGRITY OF THE CEILING, SEE ARCHITECTURAL DRAWINGS FOR AREAS WHERE THESE HOODS MAY BE REQUIRED.

ARCHITECTURAL CURVED ELECTRIC HEATER SCHEDULE

TYPE	KW	VOLT/PH	WIRE	CB	DIMENSIONS	MODEL NUMBER-COLOR BY ARCH
RWH-1	1	120/1	2#12	20/1		Q'MARK#CRA 1512-T2
RWH-2	2	120/1	2#12	20/1	19"HX16"WX4"D	Q'MARK# MCSSARWH1802/HTWHS1
RWH-4	4	208/1	2#10	30/2	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHS1
SWH-4	4	208/1	2#12	30/2	19"HX16"WX4"D	Q'MARK# MCSSARWH4808/HTWHSM
EBB-2	0.4	120/1	2#12	20/1		Q'MARK#QMK-2512W-W/T'STAT
EBB-3	0.75	120/1	2#12	20/1		Q'MARK#QMK-2513W-W/T'STAT
EBB-4	1	120/1	2#12	20/1		Q'MARK#QMK-2514W-W/T'STAT
EBB-6	1.5	120/1	2#12	20/1		Q'MARK#QMK-2516W-W/T'STAT
OCH-4	4	208/1	2#10	30/2		Q'MARK#COF548-W/T'STAT
EUH-5	5	208/1	2#10	30/2	22"HX20"WX8"D	Q'MARK#MUH-35-W/T'STAT
EUH-10	5	208/3	2#10	30/3	22"HX20"WX8"D	Q'MARK#MUH-108-W/T'STAT



TWO-WAY COMMUNICATION DIAGRAM (SUPERVISED LINES)

PANEL SCHEDULE

ITEM	VOLT/PHS/W	MLO	MCB	CIRC	F-Surf. P-Surf.	P-Rec B-Bolt	BRANCH BREAKERS	SPR=SPARE SPC=SPACE
PANEL MDP	120-208/3/4	–	3000	24	S	B	(1)2000/3, (1)800/3	
PANEL MHP	120-208/3/4	800	–	42	S	B	(1)400/3, (3)100/3, (2)70/3, (3)60/3, (4)45/3	
PANEL HP	120-208/3/4	400	–	84	S	B	(2)30/3,(8)30/2, (1)20/2 GFCI, (50)20/1	
PANEL TP-1	120-208/3/4	400	–	42	S	B	(2)30/3, (20)20/1	
PANEL EV	120-208/3/4	400	–	42	S	B	(12)50/2	
PANEL LC	120-208/1/3	125	–	30	F	P	(1)50/2 GFCI, (2)30/2 GFCI, (4)20/1 AFCI/GFCI, (8)20/1 AFCI (7)15/1 AFCI	

SWITCHGEAR AND PANELBOARDS SHALL BE MANUFACTURED BY SQUARE D, SIEMENS OR GENERAL ELECTRIC

MAIN SWITCH AND MAIN DISTRIBUTION PANEL AND ALL CONSECUTIVE PANELS UP TO LAST TWO PANELS IN THE DISTRIBUTION GRID SHALL BE FULLY RATED AND LAST TO PANELS MAY BE SERIES RATED FOR AVAILABLE SHORT CIRCUIT RATINGS.
IF SERIES RATINGS ARE APPLIED SUPPLIER SHALL BE RESPONSIBLE FOR PROVIDING PROPER SERIES RATED EQUIPMENT AS REQUIRED.
AVAILABLE SHORT CIRCUIT CURRENT FOR THE MAIN SERVICE IS 42KA.

SEE RISER DIAGRAM FOR CONNECTION DIAGRAM OF THE PANELS. NO LINE IMPEDANCES ARE TO BE CONSIDERED IN SERIES RATING APPLICATIONS.

FOR ALL RESIDENTIAL LOAD CENTERS, 15A AND 20A CIRCUITS SERVING THE UNIT EXCEPT BATHROOMS CIRCUITS SHALL BE ARC FAULT INTERRUPTER TYPE AS REQUIRED PER NEC 210-12(B)

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PROJECT

ONE WAVERLY

1 WAVERLY
ROXBURY, MASSACHUSETTS

DEVELOPER:

CRUZ DEVELOPMENT CORPORATION

ONE JOHN ELIOT SQUARE
ROXBURY, MASSACHUSETTS

ZADE ENGINEERING LLC
CONSULTING ENGINEERS
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COMMONWEALTH OF MASSACHUSETTS
MUZAFFER MUCTEHITZADE
ELECTRICAL
No. 32579
REGISTERED
PROFESSIONAL ENGINEER

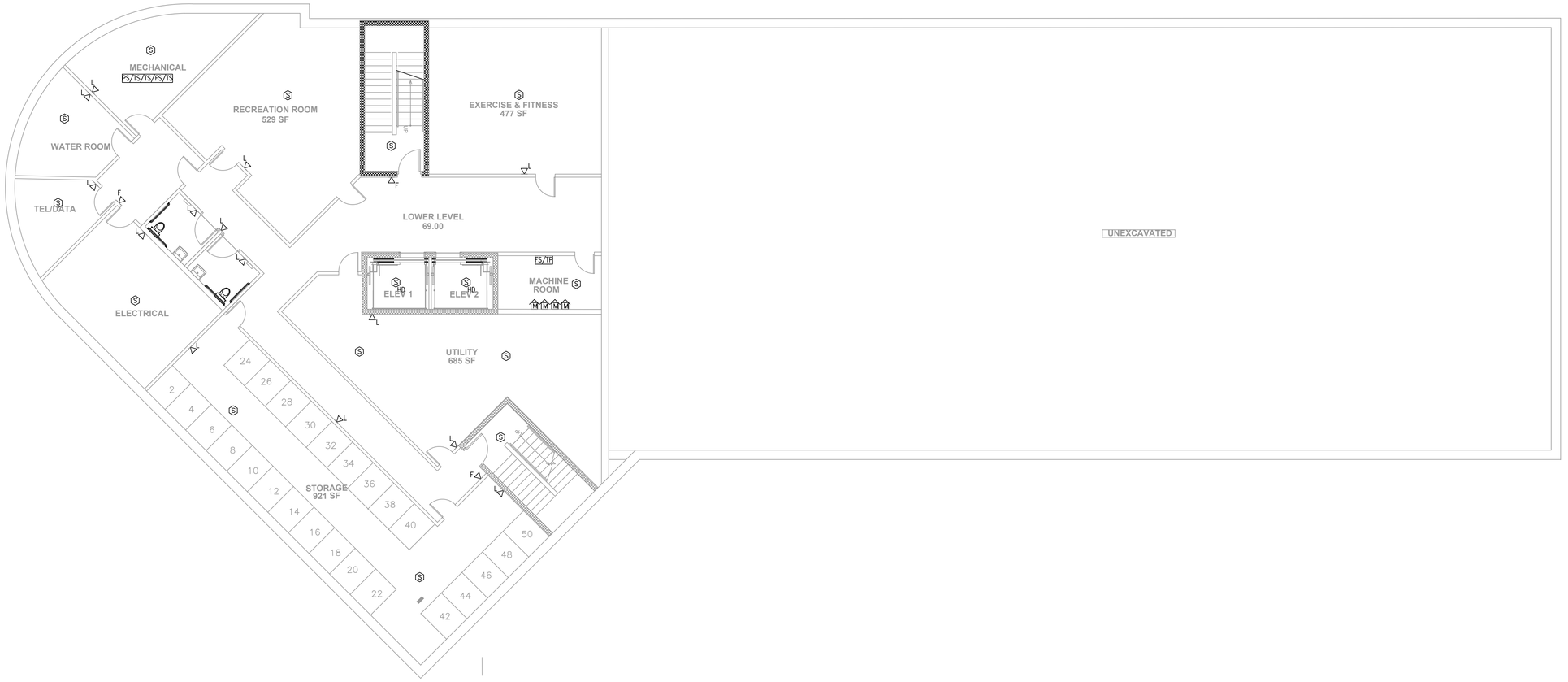
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ELECTRICAL RISER

SCALE:	
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FILE:	

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1 WAVERLY: LOWER LEVEL PLAN
SCALE: 1/8"=1'-0"

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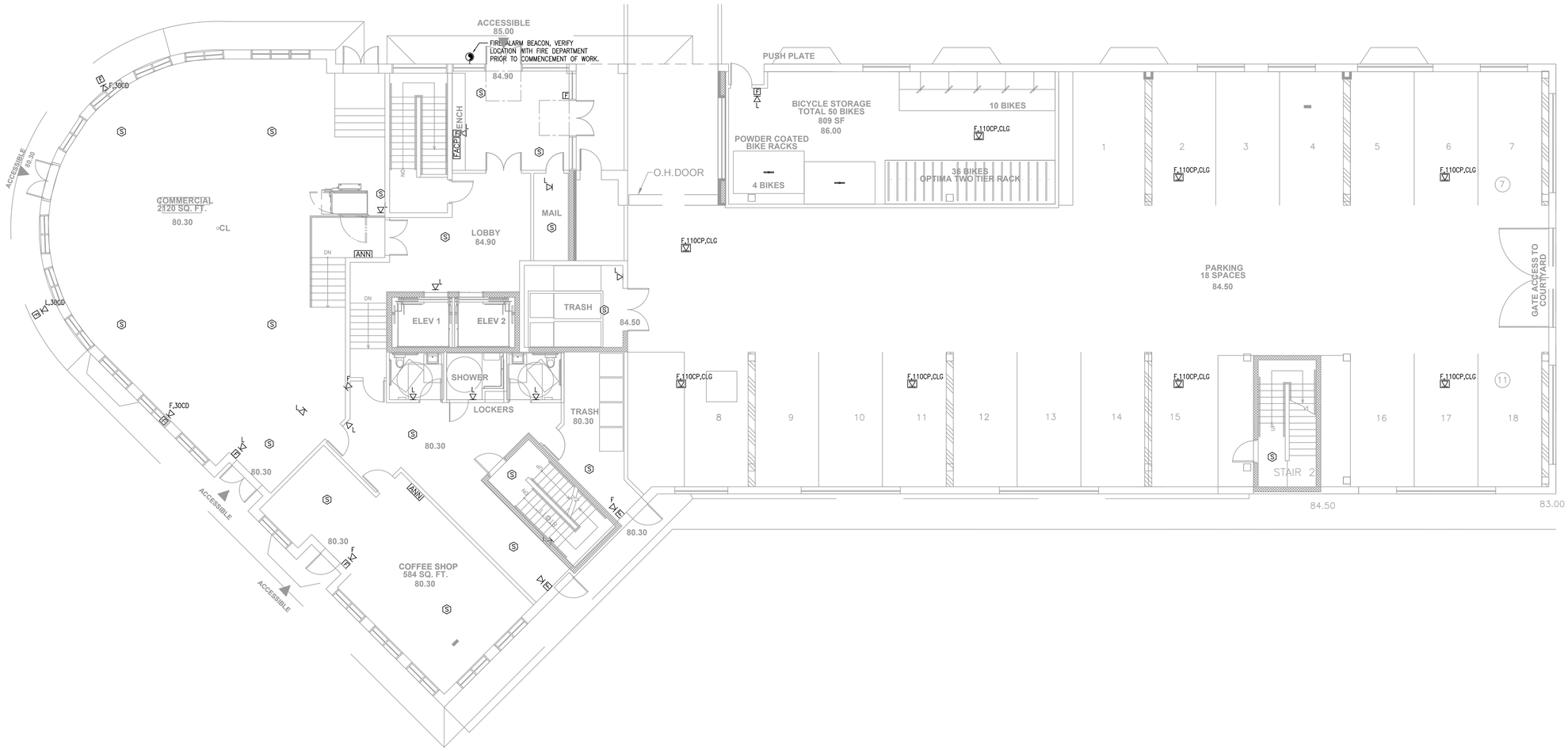
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FIRE ALARM FLOOR PLAN

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1 WAVERLY: FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"

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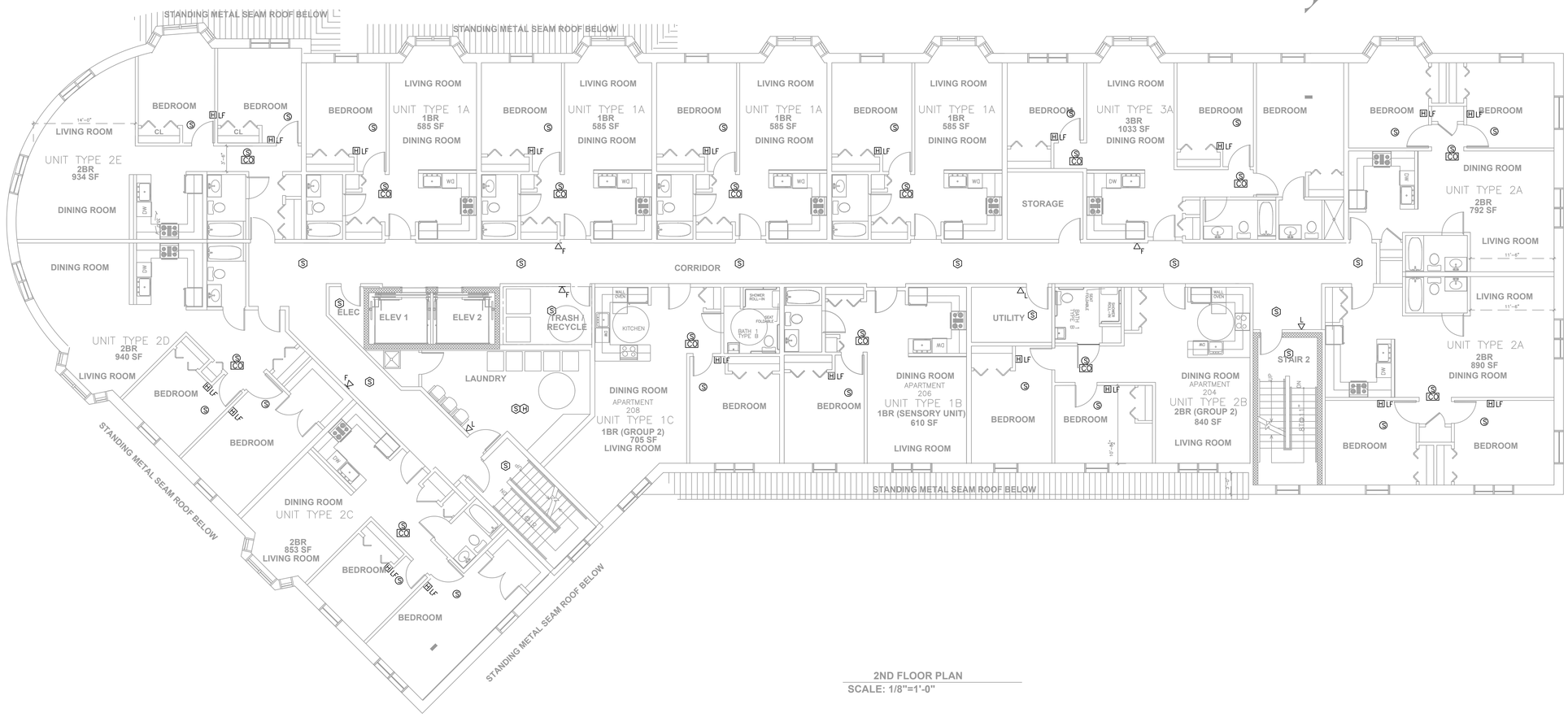
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2ND FLOOR PLAN
SCALE: 1/8"=1'-0"

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DEVELOPER:

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ONE JOHN ELIOT SQUARE
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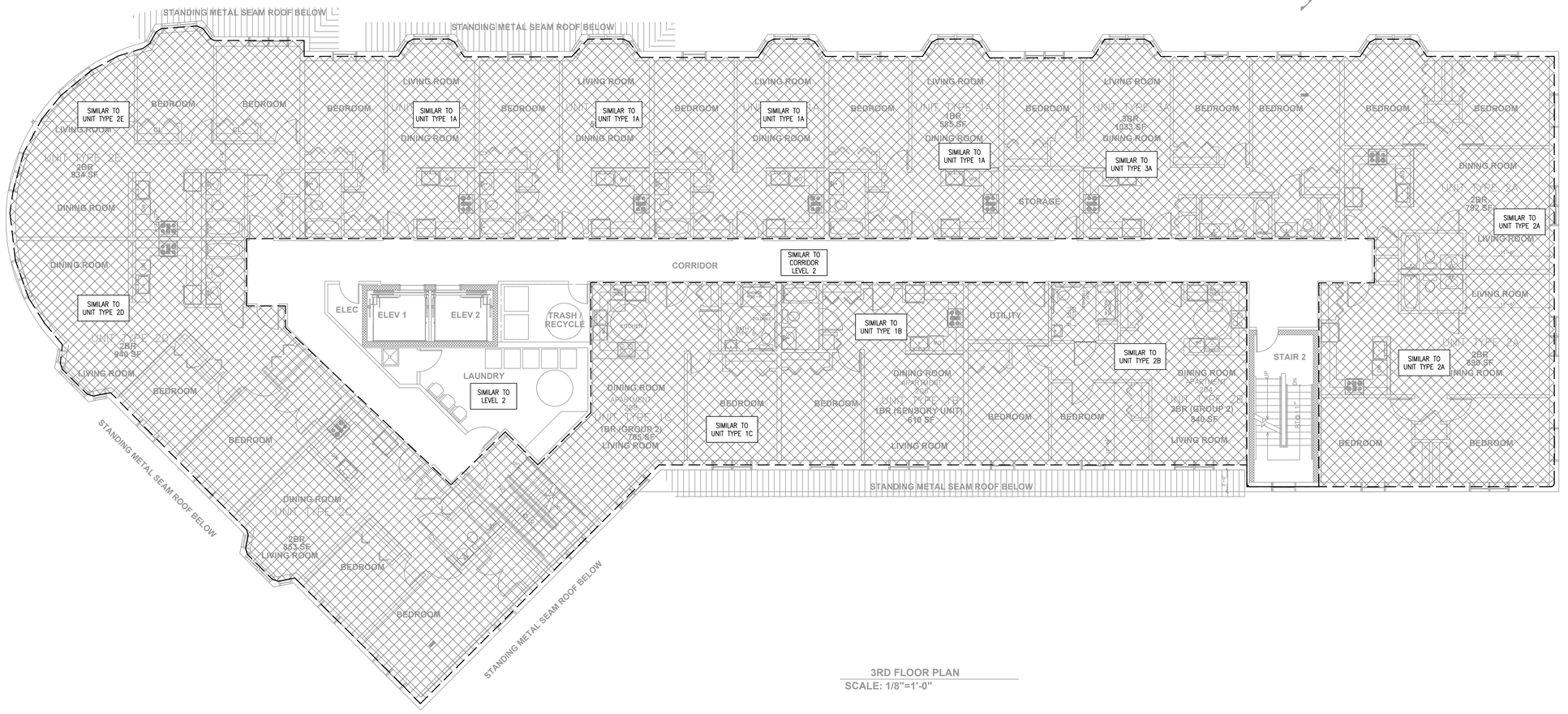
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FIRE ALARM FLOOR PLAN

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3RD FLOOR PLAN
SCALE: 1/8"=1'-0"

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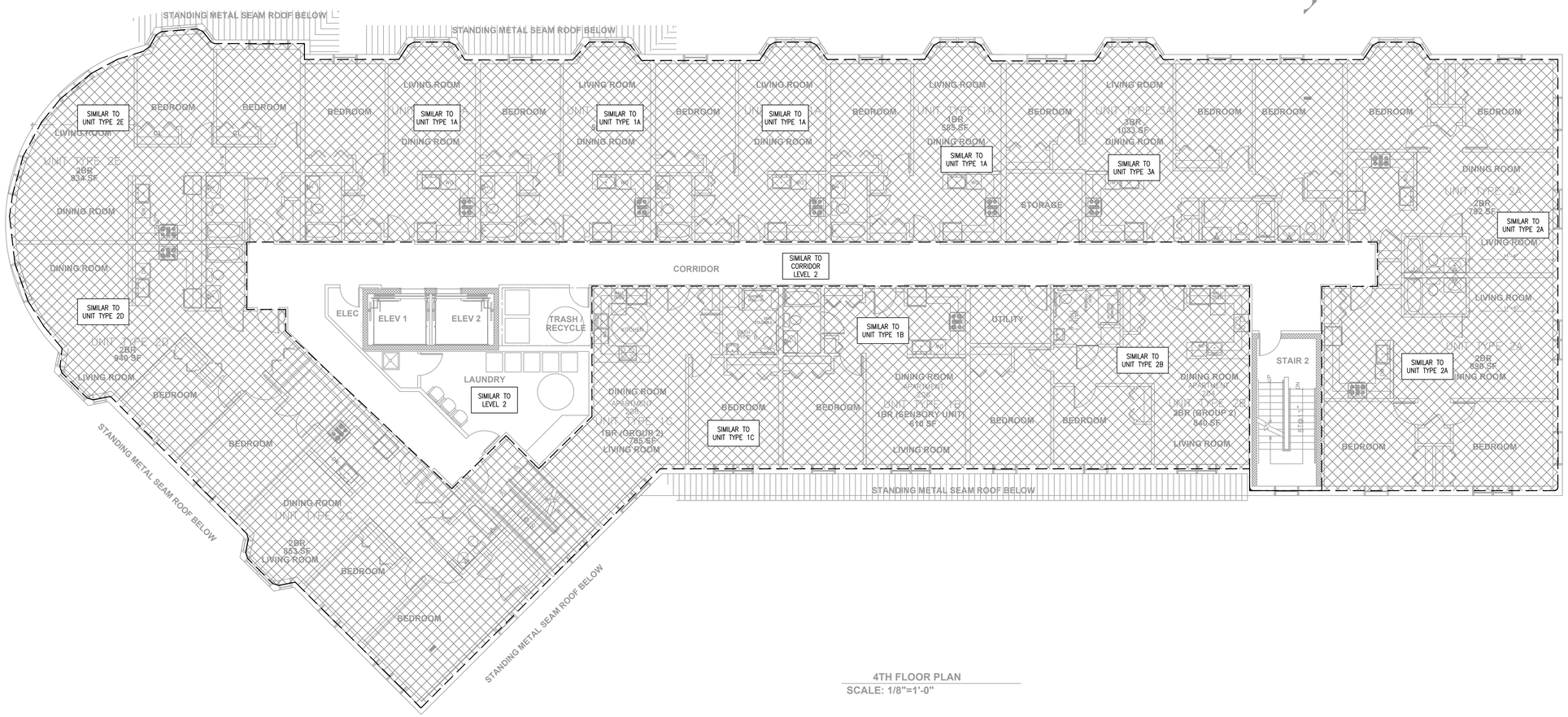
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4TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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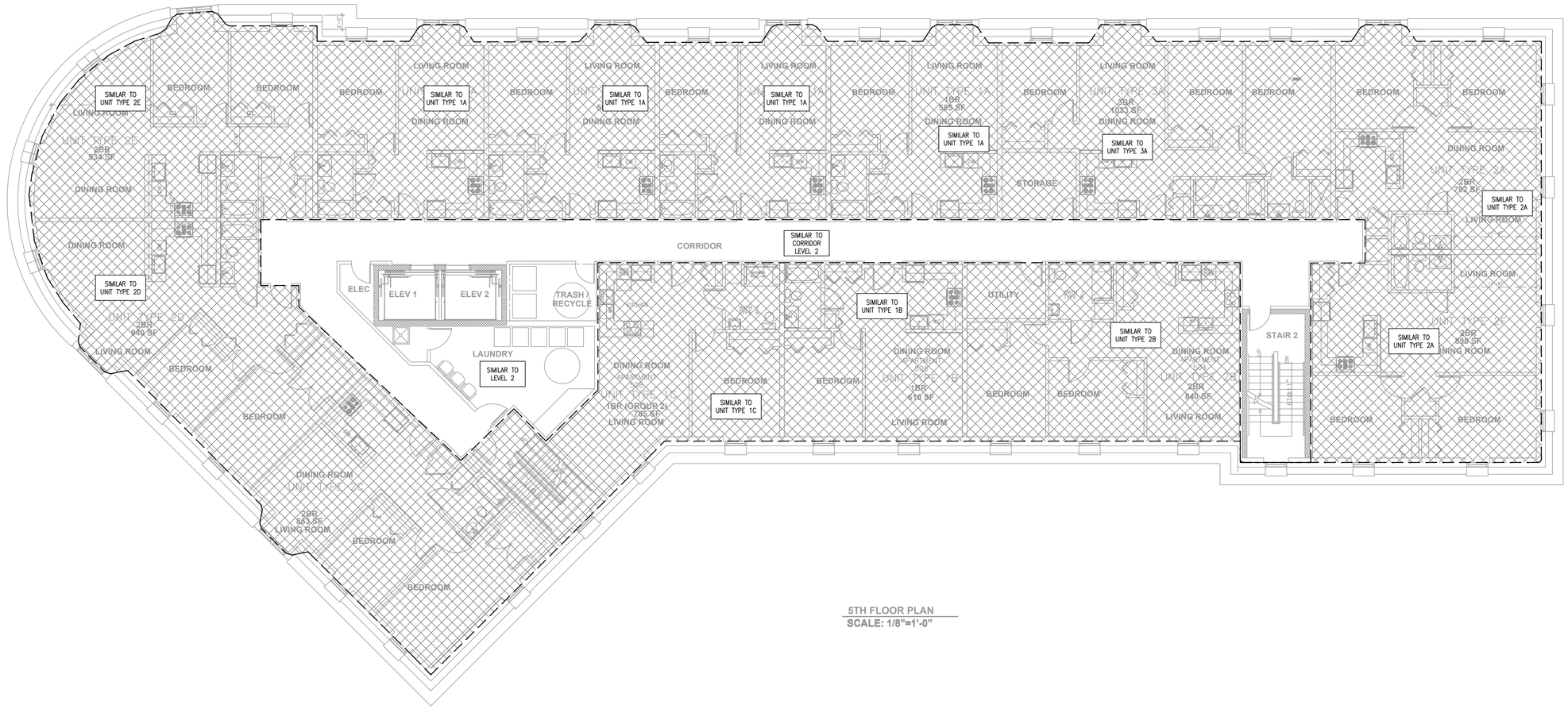
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DRAWING NO.
FA-1.4

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5TH FLOOR PLAN
SCALE: 1/8"=1'-0"

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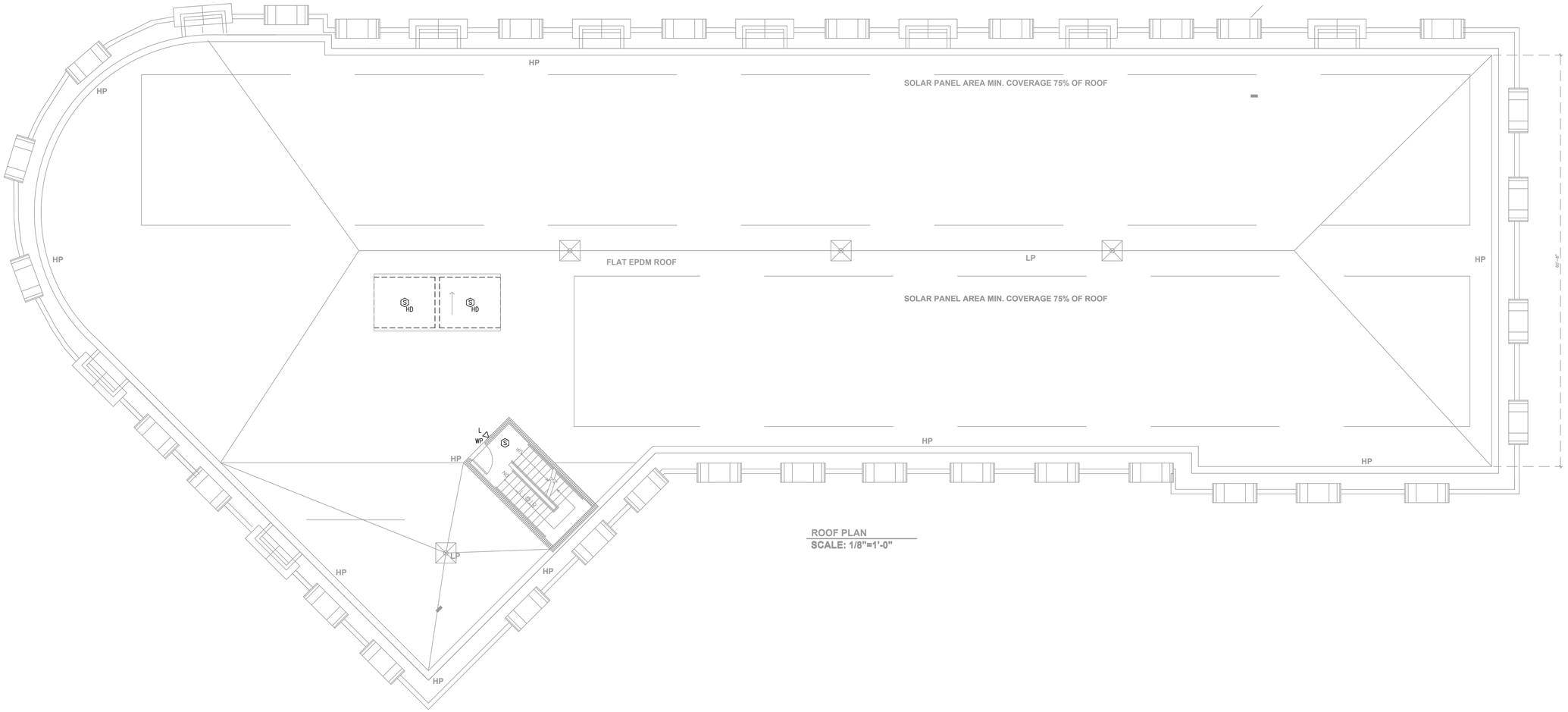
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ROOF PLAN
SCALE: 1/8"=1'-0"

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FIRE ALARM FLOOR PLAN

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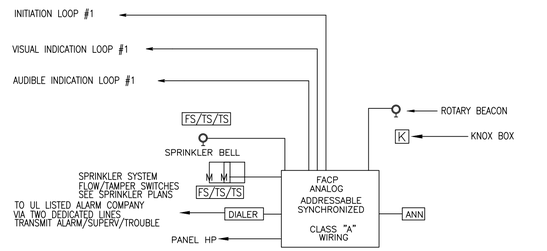
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LEGEND

(S)	SYSTEM TYPE SMOKE DETECTOR. ANALOG ADDRESSABLE
(H)	HEAT DETECTOR. ADDRESSABLE TYPE
F	FIRE ALARM PULL AND HORN/LIGHT DEVICE. PER NFPA 72/.SYCHRONIZED. 15CD IN CORR., 60CD IN COMMON AREAS
F	FIRE ALARM PULL STATION. ADDRESSABLE, MOUNTED AT 4'-0" AFF.
F	FIRE ALARM HORN/LIGHT(SYCHRONIZED). MTD AT 6'-8" AFF 15 CD IN CORRIDORS, 60 CD IN COMMON AREAS
L	FIRE ALARM LIGHT ONLY(SYCHRONIZED).MTD AT 6'-8"AFF 15 CD IN CORRIDORS, 60 CD IN COMMON AREAS
FS	SPRINKLER SYSTEM FLOW SWITCH, WIRING ONLY.
TS	SPRINKLER SYSTEM TAMPER SWITCH, WIRING ONLY.
PS	LOW PRESSURE SWITCH WIRED AS SUPERVISORY
FACP	FIRE ALARM CONTROL PANEL.
ANN	FIRE ALARM REMOTE ANNUNCIATOR WITH TROUBLE BUZZER.
DIAL	DIALER BY E.C. WIRED TO UL LISTED ALARM CO.
(S)	LOCAL TYPE 110V SMOKE DETECTOR, PHOTOELECTRIC TYPE WITH BATTERY BACK-UP. "L" INDICATES BUILT-IN STROBE 177CD)TANDEM WIRED WITH OTHER LOCAL DETECTORS IN THE UNIT. WIRED TO LIGHTING CIRCUIT
H	LOW FREQUENCY MINI HORN
CO	LOCAL TYPE CO DETECTOR

		CONTROL UNIT ANN				NOTIFICATION											FIRE SAFETY SYSTEM CONTROLS												
		ACTUATE COMMON ALARM SIGNAL	ACTUATE AUDIBLE ALARM-GLOBAL	ACTUATE COMMON SUPERVISORY SIGNAL ALARM	ACTUATE AUDIBLE SUPERVISORY ALARM	ACTUATE COMMON SUPERVISORY TROUBLE SIGNAL	ACTUATE AUDIBLE TROUBLE SIGNAL	ACTUATE APPROPRIATE LOCATION INDICATOR	ACTUATE ALL AUDIBLE EVACUATION SIGNALS	ACTUATE ALL VISIBLE ALARM SIGNALS	DISPLAY CHANGE OF STATUS	TRANSMIT ALARM SIGNAL TO SUPERVISORY STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISORY STATION	TRANSMIT SUPERVISORY SIGNAL TO SUPERVISORY STATION	MAIN FLOOR ELEVATOR RECALL	ALTERNATE FLOOR ELEVATOR RECALL	ELEVATOR HAT FLASH	CLOSE FIRE/SMOKE DAMPERS	ACTUATE EXTERIOR BEACON	RELEASE FIRE AND SMOKE DOORS	SHUT DOWN HVAC	UNLOCK ALL EXIT DOORS							
1	COMMON AREA SMOKE DETECTORS	■	■					■	■	■	■	■						■	■	■	■								1
2	COMMON AREA HEAT DETECTORS	■	■					■	■	■	■	■						■	■	■	■								2
3	COMMON AREA PULL STATIONS	■	■					■	■	■	■	■						■	■	■	■								3
4	ELEVATOR LOBBY SMOKE DETECTOR (EXC MAIN)	■	■					■	■	■	■	■				■	■	■	■	■	■								4
5	MAIN FLOOR ELEVATOR LOBBY SMOKE DETECTOR	■	■					■	■	■	■	■			■	■	■	■	■	■	■								5
6	ELEVATOR MACHINE ROOM SMOKE DETECTOR	■	■					■	■	■	■	■			■			■	■	■	■								6
7	MANUAL PULL STATIONS	■	■					■	■	■	■	■						■	■	■	■								7
8	ANSUL SYSTEM	■	■					■	■	■	■	■						■	■	■	■								8
9	SPRINKLER LOW PRESSURE	■	■					■	■	■	■	■						■	■	■	■								9
10	SPRINKLER MAIN FLOW	■	■					■	■	■	■	■						■	■	■	■								10
11	SPRINKLER FLOOR FLOW SWITCH	■	■					■	■	■	■	■						■	■	■	■								11
12	SPRINKLER TAMPER SWITCH ACTUATION			■	■			■			■		■																12
13	DUCT SMOKE DETECTORS			■	■			■			■		■									■								13
14	BDA SYSTEM IF PRESENT			■	■			■			■		■																14
15	GARAGE CO SYSTEM			■	■			■			■		■																15
16	FIRE ALARM AC POWER FAILURE					■	■				■		■								■	■							16
17	FIRE ALARM SYSTEM LOW BATTERY					■	■				■		■																17
18	OPEN CIRCUIT OR GROUND FAULT					■	■				■		■																18
19																													19
20																													20

PROVIDE SMOKE DETECTOR IN ELEVATOR MACHINE ROOM AND IN THE PIT WITHIN 2FT OF SPRINKLER HEAD FOR ELEVATOR RECALL SYSTEM.
PROVIDE HEAT DETECTOR IN ELEVATOR MACHINE ROOM WITHIN 2 FEET OF SPRINKLER HEAD FOR ELEVATOR SHUNT TRIP ACTIVATION.
SMOKE DETECTORS SHALL NOT HAVE A VERIFICATION FEATURE, SPRINKLER HEAD SHALL BE 212 DEGREE (COORDINATE WITH SPRINKLER CONTRACTOR).
HEAT DETECTOR SHALL BE RATED 135 DEGREE.
FLOW SWITCH FOR PIT SHALL BE CONNECTED TO FIRE ALARM PANEL FOR ALARM ONLY WITH NO ELEVATOR OPERATION INTERFACE.
UPON ACTIVATION OF SHUNT TRIP, POWER TO ELEVATOR PUMP SHALL BE CUT OFF. ALL OTHER POWER IN THE ROOM AND CAB SHALL REMAIN OPERATIONAL.
PROVIDE CONTROL MODULE TO INTERLOCK ELEVATOR LOWERING BATTERY UNIT TO PREVENT ELEVATOR FROM AUTOMATIC LOWERING UPON SHUNT TRIP OPERATION.
ON TOP OF ELEVATOR SHAFT PROVIDE 20A/120V DEDICATED CIRCUIT TO POWER FAIL SAFE TYPE MOTORIZED DAMPER (VERIFY W/HVAC TO ASSURE FAIL SAFE TYPE DAMPER INSTALLATION)
INTERLOCKED VIA 20A RELAY AND CONTROL MODULE TO OPEN UPON FIRE ALARM PANEL ACTIVATION



NOTES

PROVIDE ADDRESS MODULES FOR ALL FLOW & TAMPER SWITCHES
PROVIDE COMPLETE INTERLOCK WIRING FOR HVAC UNIT SHUT DOWN
PROVIDE COMPLETE INTERLOCK WIRING FOR ELEVATOR RECALL SYSTEM
SEE FLOOR PLANS FOR DETECTOR TYPES AND LOCATIONS AND QUANTITIES.
SEE SPRINKLER DRAWINGS FOR FLOW/TAMPER SWITCH LOCATIONS AND QUANTITIES.
CARRY MINIMUM OF (1)FLOW AND (4)TAMPER SWITCH AT SPRINKLER SERVICE LOCATION AND (1) FLOW/TAMPER SWITCH PER FLOOR PER STAIR AND TWO TAMPER SWITCH FOR STAND PIPE LOCATION.
PROVIDE FLOW/TAMPER SWITCH AT TRASH CHUTE
PROVIDE MONITOR MODULE FOR KITCHEN ANSUL SYSTEM
PROVIDE MONITOR MODULES AT DRY ALARM VALVE
PROVIDE MONITOR MODULES FOR ALL DETECTORS LOCATED IN COLD AREAS.
PROVIDE TAMPER SWITCH FOR PIV VALVE (SEE SITE PLAN)
FOR ELEVATOR BUILDINGS PROVIDE ACCESSIBLE DEVICES FOR 5% OF THE UNITS
PROVIDE COMPLETE SIGNAL WIRING FOR DOOR RELEASE
PROVIDE COMPLETE WIRING FOR FIRE/SMOKE DAMPERS
PROVIDE COMPLETE SIGNAL WIRING FOR DRY SYSTEM COMPRESSOR AND ALARM
PROVIDE COMPLETE SIGNAL WIRING FOR FIRE PUMP, RUN/POWER/PHASE FAILURE AND PHASE REVERSAL/GENERATOR ON.
PROVIDE COMPLETE SIGNAL WIRING FOR SMOKE EVACUATION SYSTEM, FAN START AND DAMPER OPERATION.
PROVIDE BATTERY CALCULATIONS AND ONE LINE WIRING DIAGRAM
PROVIDE RADIO SIGNAL COVERAGE THROUGHOUT BUILDING AS REQUIRED PER 916.1-2&3
ALL AUDIO DEVICES LOCATED IN SLEEPING AREAS SHALL COMPLY WITH NFPA 72-18.4.5.3 IN REGARDS TO SIGNAL TYPE, PROVIDE LOW FREQUENCY DEVICES
PROVIDE TIER 2 DRAWINGS WITH COMPLETE WIRING DIAGRAMS AND DEVICE ADDRESSES AS REQUIRED FOR FIRE DEPARTMENT APPLICATION
PROVIDE POWER BOOSTERS AS REQUIRED, PROVIDE SMOKE DETECTOR AT EACH BOOSTER LOCATION AND FACP LOCATION
GARAGE CO SYSTEM SHALL BE SUPERVISED

TIER 2 DRAWINGS SHALL COMPLY WITH IBC 901.
MINIMUM SHALL SHOW DEVICE LOCATIONS, WIRING DIAGRAMS WITH DEVICE IDENTIFICATIONS, BATTERY CALCULATIONS

SEQUENCE OF OPERATION

UPON ACTIVATION OF ANY FIRE DETECTOR, MANUAL PULL STATION OR FLOW SWITCH
-FIRE ALARM PANEL WILL TRIP AND CALL FIRE DEPARTMENT
-ALL AUDIO DEVICES WILL INITIATE ALARM SIGNAL TO ALERT ALL OCCUPANTS FOR ALARM CONDITION IN THE BUILDING FOR FULL EVACUATION.
-ALL VISUAL DEVICES WILL ACTIVATE, THEY SHALL BE SYNCHRONIZED TYPE.
-AIR HANDLER UNITS THAT HAS DUCT SMOKE DETECTORS WILL SHUT DOWN UPON ACTIVATION OF THE DUCT SMOKE DETECTOR.

UPON ACTIVATION OF ELEVATOR LOBBY SMOKE DETECTOR
-ELEVATOR RECALL SYSTEM WILL OPERATE. NO OTHER DEVICE WILL ACTIVATE RECALL SYSTEM.
-GARAGE CO SYSTEM SHALL BE SUPERVISORY ON HIGH ALARM

A 24"x18" GRAPHICAL FLOOR PLAN SHALL BE POSTED INSIDE ALL BUILDING ENTRY POINTS AND BE APPROVED BY THE FIRE DEPARTMENT

ALL BEDROOMS AND LIVING ROOMS SHALL BE WIRED FOR FUTURE STROBE.

FIRE ALARM SYSTEM RISER DIAGRAM

REGARDLESS SHOWN ON PLANS OR NOT PROVIDE CARBON MONOXIDE DETECTORS AT
-OUTSIDE EACH BEDROOM WIRED TO SMOKE DETECTOR CIRCUIT AND
-IN THE ROOM HOUSING THE GAS APPLIANCE.
DETECTORS SHALL BE UL LISTED.
DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP
CO DETECTORS SHALL BE AS MANUFACTURED BY BRK CO 5120BN, VOICE TYPE

AUDIBLE APPLIANCES PROVIDED FOR THE SLEEPING AREAS TO AWAKEN OCCUPANTS SHALL PRODUCE A LOW FREQUENCY ALARM SIGNAL THAT COMPLIES WITH THE FOLLOWING.

(1) THE ALARM SIGNAL SHALL BE A SQUARE WAVE OR PROVIDE EQUIVALENT AWAKENING ABILITY.
(2) THE WAVE SHALL HAVE A FUNDAMENTAL FREQUENCY OF 520 HZ +/- 10 PERCENT.

IN RESIDENTIAL BUILDINGS, FOR ALL GAS FIRED VENTILATION/AIR CIRCULATION EQUIPMENT, PROVIDE DUCT MOUNTED CO DETECTOR COMPLETE WITH HOUSING AND SAMPLING TUBE AS MANUFACTURED BY MACURCO CM 15A OR EQUAL AND CONNECT TO FIRE ALARM PANEL VIA MONITOR MODULE

ALL CO DETECTORS MUST "LATCH" AT THE PANEL; THAT IS TO SAY, THE RESPONDER TO A CO DETECTOR SUPERVISORY ALARM MUST BE LEAD TO MITIGATE THE CO ISSUE AT THE DETECTOR AND THEN CLEAR/RESET THE FIRE ALARM PANEL. THIS WILL MEAN THE CO SUPERVISORY ALARM CANNOT BE MITIGATED AT THE POINT LOCATION, BUT REQUIRES A COMPETENT RESPONDER TO ADDRESS THE PANEL IN THE FIRE COMMAND CENTER.

ALARM MONITORING SERVICE RECEIVES A SUPERVISORY CARBON MONOXIDE SIGNAL; THAT IS TO SAY, LITERALLY THE WORDS "CARBON MONOXIDE" MUST BE PRESENT AT ALARM COMPANY, THE LETTERS "CO" ARE NOT ACCEPTABLE.

-ALL SMOKE DETECTOR LOCATIONS SHALL BE COORDINATED WITH REFLECTED CEILING PLANS IN FIELD SO THAT DETECTORS SHALL BE MINIMUM 3FT AWAY FROM SUPPLY DIFFUSER.
-DUCT SMOKE DETECTORS SHALL BE INSTALLED IN HEATED AREAS AT THE SUPPLY SIDE BEFORE THE FIRST TAKE OFF, MINIMUM 5FT AWAY FROM THE UNIT COIL. REMOTE TEST/INDICATOR LOCATIONS SHALL BE NEXT TO FACP PANEL OR AS DIRECTED BY THE FIRE DEPARTMENT.
-A/V DEVICE LOCATIONS ARE SHOWN BASED ON DISTANCE REQUIREMENTS. CONTRACTOR SHALL COORDINATE PHYSICAL STRUCTURES SO THAT VISIBILITY WILL BE MAINTAINED. PROPOSED CHANGES SHALL BE FORWARDED TO ARCHITECT/ENGINEER FOR APPROVAL.

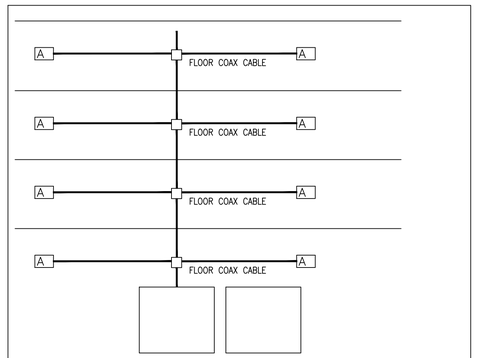
(S) 120V LOCAL SMOKE DETECTOR WITH BATTERY BACK-UP. COMBINATION TYPE 120V LOCAL SMOKE/CO
(S) DETECTOR WITH BATTERY BACK UP. SMOKE DETECTOR
CO SHALL BE PHOTO ELECTRIC TYPE. TANDEM WIRE ALL COMBINATION TYPE SMOKE/CO AND SMOKE ONLY DETECTORS IN THE SAME UNIT AND FEED FROM BEDROOM RECEPTACLE CIRCUIT, VOICE TPE (TYPICAL FOR ALL UNITS)

CO CARBON MONOXIDE DETECTOR MFG:BRK ELECTRONICS CAT#CO5120BN FEED FROM SMOKE DETECTOR.

FIRE ALARM CONSTRUCTION NOTES
-LOCAL SMOKE DETECTORS SHALL BE WIRED FROM ARC-FAULT CIRCUITS, VERIFY WITH ELECTRICAL INSPECTOR.
-BACK TO BACK OUTLETS ON FIRE RATED WALLS SHALL BE INSTALLED TO MAINTAIN FIRE RATINGS, IF NECESSARY, USE FIRE RATED OUTLET BOXES.
-ALL FLOOR PENETRATIONS BY CABLES AND CONDUITS SHALL BE SEALED TO MAINTAIN FIRE RATINGS.
-RECESSED LIGHT FIXTURES INSTALLED ON FIRE RATED CEILINGS SHALL HAVE FIRE RATED HOODS ON TOP TO MAINTAIN FIRE RATING. SEE ARCHITECTURAL DRAWINGS FOR FIRE RATED AREAS.
-ALL WIRING WITHIN UNITS SHALL BE ROMEX. WIRING OUTSIDE UNITS SHALL BE METAL CLAD.

REGARLESS HOW IT IS SHOWN ALL APARTMENT SMOKE AND CO DETECTORS SHALL BE LOCATED MINIMUM
-3 FT FROM AIR DIFFUSERS
-3FT FROM BATHROOM DOORS
-10FT FROM COOKING APPLIANCES

PROVIDE ALL NECESSARY STRUCTURE AND RACEWAYS TO BE ABLE TO INSTALL BDA SYSTEM PER IBC 916.1.2&3 UPON COMPLETION OF THE BUILDING AND AFTER ESTABLISHING THE NEED TO INSTALL HEAD END EQUIPMENT OF A BDA SYSTEM TO MEET EMERGENCY SERVICES COMMUNICATION NEEDS AS TO BE DETERMINED BY THE FD.
PROVIDE ADD ALTERNATE COST FOR ALL HARDWARE COMPONENTS AND INSTALLATION OF FOR EACH BUILDING (EACH BUILDING MAY HAVE DIFFERENT NEEDS) RUN CONDUITS IN 2HR RATED ENCLOSURE.
IF EQUIPMENT IS TO BE INSTALLED IT WILL BE HOUSED IN 2HR ENCLOSURE
CARRY THE COST OF TESTING THE BUILDING UPON COMPLETION OF INTERIOR PARTITIONS



SCHEMATIC BDA SYSTEM DIAGRAM

ON TOP OF ELEVATOR SHAFT PROVIDE 20A/120V DEDICATED CIRCUIT TO POWER FAIL SAFE TYPE MOTORIZED DAMPER (VERIFY W/HVAC TO ASSURE FAIL SAFE TYPE DAMPER INSTALLATION) INTERLOCKED VIA 20A RELAY AND CONTROL MODULE TO OPEN UPON FIRE ALARM PANEL ACTIVATION

REGARDLESS SHOWN ON PLANS OR NOT PROVIDE CARBON MONOXIDE DETECTORS AT
-OUTSIDE EACH BEDROOM WIRED TO SMOKE DETECTOR CIRCUIT AND
-IN THE ROOM HOUSING THE GAS APPLIANCE. DETECTORS SHALL BE UL LISTED. DETECTORS SHALL BE HARD WIRED WITH BATTERY BACK-UP CO DETECTORS SHALL BE AS MANUFACTURED BY BRK CO 5120BN

FOR FIRE ALARM SYSTEM A/V WIRING WITHIN THE TENANT SPACE PROVIDE SPARE CAPACITY AT THE PANEL BY WAY OF POWER BOOSTERS ON EACH FLOOR TO SUPPLY POWER TO TENANT A/V DEVICES WITHIN THE TENANT SPACE. SPARE POWER SHALL BE CALCULATED BASED ON (1) 110CD RATED A/V DEVICES PER 1000SQF OF TENANT SPACE. TYPICAL FOR EACH TENANT SPACE

FOR EVERY SMOKE DAMPER SHOWN ON MECHANICAL DRAWINGS, PROVIDE DUCT SMOKE DETECTOR IN THE DUCT TO OPERATE SMOKE DAMPER. PROVIDE 120V POWER TO SMOKE DAMPER FOR OPERATION. IN SITUATIONS WHERE THE AIR SUPPLY FROM THE SHAFT SERVES DIRECTLY A CORRIDOR OR A SPACE WHERE THERE ARE SMOKE DETECTORS FOR COMPLETE COVERAGE, NO DUCT SMOKE DETECTOR IS REQUIRED. INTERLOCK DAMPERS TO CLOSE UPON THESE DETECTOR ACTIVATIONS.

ACCESSIBLE UNIT AND HEARING IMPAIRED FIRE ALARM NOTES NOTES

SEE ARCHITECTURAL PLANS FOR NUMBER OF HC AND HEARING IMPAIRED UNITS AND LOCATIONS.
CARRY MINIMUM 5% OF TOTAL UNIT NUMBER
IN EACH UNIT PROVIDE
-LOCAL TYPE SMOKE DETECTOR WITH BUILT IN STROBE/OR SEPARATE 120V STROBE EACH BEDROOM, OUTSIDE BEDROOM FOR LOCAL SMOKE ALARM
-LOCAL TYPE STROBE IN EACH BEDROOM AND LIVING ROOM FOR CO ALARM
-SYSTEM TYPE STROBE IN EACH BEDROOM AND LIVING ROOM
-SYSTEM TYPE STROBE IN EACH BATHROOM
-LOCAL TYPE STROBE IN EACH BATHROOM FOR LOCAL SMOKE ALARM
-LOCAL TYPE STROBE IN EACH BATHROOM FOR CO ALARM
-LOCAL TYPE CO DETECTORS OUTSIDE BEDROOMS AND EVERY HABITABLE FLOOR LEVEL, STROBES ARE TO BE LOCATED IN BEDROOMS AND HABITABLE SPACES

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PROJECT

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PROFESSIONAL ENGINEER

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FIRE ALARM NOTES

SCALE:	
DATE:	12/03/24
DRAWN BY:	
CHECKED BY:	MW
FILE:	

DRAWING NO.
FA-2.0