

Historic Preservation Board

Wednesday, May 15, 2024 at 5:00 PM
Hybrid Meeting, Room 24 (Ground Level
of City Hall) and Zoom



MEMBERS

Robert O'Brien, Chair
Brad Miller, Vice Chair
Hilary Bassett
Ashley Keenan
Valerie Paquin-Gould
Brian Sosebee
Rob Whitten

The Historic Preservation Board invites the public to attend the meeting **in person or Zoom** pursuant to the Remote Meeting Policy adopted by the Historic Preservation Board. Prior to the meeting, please check the Agenda Center <https://www.portlandmaine.gov/602/Agendas-Minutes> to view memos and reports which will be posted by the end of the day on the Friday before the Historic Preservation Board meeting. To submit written public comment on an agenda item, email hp@portlandmaine.gov. Submissions must be received by 12:00 pm **the day before** the Historic Preservation Board meeting to guarantee their inclusion in the agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

REMOTE PARTICIPATION

Allow your computer to install the free Zoom app to get the best meeting experience. If you are not able to attend either in person or via Zoom, a recording will be available in the [Agenda Center](#) following the meeting.

Please click the link below to join the webinar:

<https://portlandmaine-gov.zoom.us/j/88045536659>

Or One tap mobile: +13052241968,,88045536659# US; +13092053325,,88045536659# US

Or Telephone:

Dial(for higher quality, dial a number based on your current location): +1 305 224 1968 US; +1 309 205 3325 US; +1 312 626 6799 US (Chicago); +1 646 931 3860 US; +1 929 205 6099 US (New York); +1 301 715 8592 US (Washington DC); +1 669 900 6833 US (San Jose); +1 689 278 1000 US; +1 719 359 4580 US; +1 253 205 0468 US; +1 253 215 8782 US (Tacoma); +1 346 248 7799 US (Houston); +1 360 209 5623 US; +1 386 347 5053 US; +1 507 473 4847 US; +1 564 217 2000 US; +1 669 444 9171 US

Webinar ID: 880 4553 6659

International numbers available: <https://portlandmaine-gov.zoom.us/j/88045536659>

For more information on how to use Zoom, please visit <https://www.portlandmaine.gov/remotepud>

PUBLIC COMMENT INFORMATION:

To submit written public comment on an agenda item, email hp@portlandmaine.gov. Submissions must be received by 12:00 pm **the day before** the Historic Preservation Board meeting to guarantee their inclusion in the agenda packet. All submissions must include the commenter's name and legal address. To help ensure your comment is submitted for the correct item, please include the name of the agenda item (see below).

AGENDA:

1. **ROLL CALL AND DECLARATION OF QUORUM**
2. **REPORT OF ATTENDANCE AT THE MEETING HELD ON APRIL 17, 2024**

- i. Public Hearing
1 Bean Pot Circle: Miller, Bassett, Keenan, Sosebee and O'Brien present; Paquin-Gould recused. Whitten absent.
Workshop
42 Atlantic Street: Bassett, Keenan, Paquin-Gould, Sosebee and O'Brien present; Miller recused. Whitten absent.

3. REPORTS OF DECISIONS AT THE MEETING HELD ON APRIL 17, 2024

- i. Certificate of Appropriateness for Rehabilitation and Interpretive Elements; 1 Bean Pot Circle (B & M Cannery Building); The Initiative for Digital Engineering and Life Science, Applicant. The board voted 5-0 (Paquin-Gould recused, Whitten absent) to approve the project with conditions.

4. COMMUNICATION AND REPORTS

5. PUBLIC HEARING

- i. Certificate of Appropriateness for New Construction; 64 PINE STREET; 64 Pine Street LLC, Applicant. Plan Number: HPBR-002757-2023.
- ii. Certificate of Appropriateness for Rehabilitation & Addition; 7 LAFAYETTE STREET; Tanya Mahood, Applicant. Plan Number: HPBR-002874-2024.

6. CONSENT AGENDA

**STAFF MEMORANDUM
HISTORIC PRESERVATION PROGRAM
PLANNING AND URBAN DEVELOPMENT**



TO: Chair O'Brien and Members of the Historic Preservation Board
FROM: Evan R. Schueckler, Historic Preservation Program Manager
DATE: May 10, 2024
RE: 64 Pine Street – Public Hearing – New Construction
PROJECT ID: HPBR-002757-2023
MEETING: May 15, 2024

Owner: 64 Pine Street LLC
Architect: Virginie Stanley, INVIVID Architecture

A sign announcing the Historic Preservation Board's meeting on May 15, 2024 was posted at the property on May 7, 2024. A legal ad was published in the Portland Press Herald on May 7, 2024 and May 8, 2024, and 269 notices were sent to neighboring property owners within 500 feet of the subject property.

PROJECT SCOPE

Demolish existing noncontributing single-story commercial building. Construct new four-story mixed-use structure with nine residential units and one commercial unit. Structure to have a first-floor central entrance with garage access at the left and glazed commercial storefront at the right. Upper three stories to have bays of randomly arranged windows at the outer edges of the building, and paired recessed balconies at the center.

Dimensions:

Overall Height: ~44'-10" (plus roof deck)

Footprint: ~ 74' x 103'

Material Specifications:

Foundation	Stone-clad concrete
Siding	Stone at base Vertical wood siding at second and third floors Horizontal fiber-cement siding at fourth floor
Trim	Azek Trim
Roofing	Not visible
Windows	Aluminum
Doors	Aluminum

SUMMARY OF HISTORIC CONTEXT



Figure 1: Map of West End Historic District showing location of 64 Pine Street with star.

64 Pine Street is situated midblock on the southern side of Pine Street between Brackett and Clark Streets. The parcel features an 85-foot frontage along Pine Street, and is about 115 feet deep, backing onto the Reiche Community School Park. The parcel currently contains a noncontributing single-story commercial building and a parking lot.

The eastern and northern blocks of the West End are typically lined with densely packed single-family, duplex, and row-house structures situated close to the street on narrow lots. There are also examples of larger mixed-use and apartment buildings on some of the bigger lots, in particular in the area around Andrews Square at the intersection of Clark and Pine Streets.



Figure 2: 2022 Aerial Image of area around 64 Pine Street (indicated with yellow star).

Buildings in the vicinity of 64 Pine Street exhibit a rich range of architectural styles and forms. Residential buildings include modest early-nineteenth-century Capes and Greek revivals, large mid-nineteenth-century Second Empires and Italianates, and late-nineteenth- and early-twentieth-century Queen Annes, as well as several groups of colonial revival rowhouses. Additionally, the area features a concentration of larger, flat-roofed commercial or mixed-use buildings, and the prominent Butler School with its flat-iron footprint and complex roof. Structures show a great variety of building massings and roof forms. Many feature a substantial primary mass, with shorter or narrower secondary masses to the rear or sides, though the commercial, mixed-use and institution structure are typically more monolithic in their massing. Sloped roofs with dormers and flat roofs are common. Windows are primarily punched openings with a vertical orientation. They are typically arranged very regularly, or around the interior program with a sense of balance at the exterior. Wall-to-window ratios favor solid to void. Paired or grouped windows are common, but used sparingly on individual buildings. Many buildings feature projecting bays along the street. Most residential structure feature raised foundations, with entry stoops, while commercial and mixed-use buildings have entries at grade. There's also generally an even distribution of frame and masonry construction.

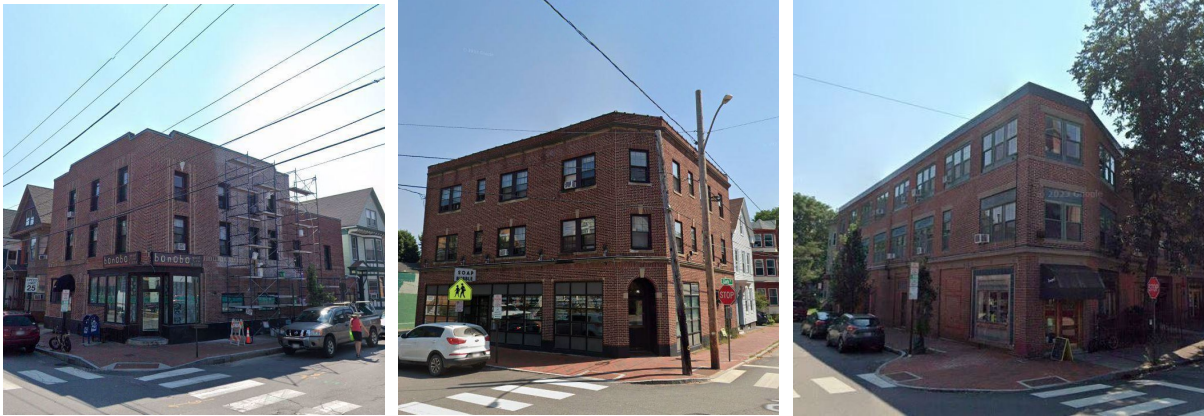


Figure 3: 46 (left), 68 (center), and 72 (right) Pine Street as shown in 2023 Google Street View.

In the immediate area along Pine Street there are several large three-story mixed-use masonry structures, as well as a number of frame residential buildings. The mixed-use buildings typically feature taller first floors with large storefronts, regularly arranged punched windows on the upper residential floors, and flat roofs with or without a cornice.



Figure 4: 5 West Street (left), 65 (center, left), 59 (center, right), and 53-55 (right) Pine Street as shown in 2023 Google Street View.

Residential buildings exhibit greater variety in form, most at two-and-a-half stories with sloped and dormered roofs. They often feature projecting bays that are differentiated through extra details or changes in siding material. Some buildings also feature varied application of siding and details that add visual interest. The majority of residential buildings are of frame construction with the exception of the rowhouse type structures which are of masonry with flat roofs. These range from three to three-and-a-half stories, with flat or sloped roofs and often feature projecting bays or stoops.



Figure 5: A section of 87-101 Pine Street (left), The Butler School at 77 Pine Street (center), and a view looking west on West Street (right) as shown in 2023 Google Street View.

Additional information on the West End Historic District can be found on the city website:
<https://www.portlandmaine.gov/665/Historic-Districts>

PREVIOUS REVIEW BY HISTORIC PRESERVATION BOARD

April 3, Public Hearing:

At the April 3 Public Hearing, the applicant presented the below design which was proposed to entirely be clad in vertical wood siding with a lighter stain at the upper floor. Fiber-cement siding was proposed for around the garage door and brick around the central residential entrance.

During the Board meeting, a majority of Board members expressed reservations about the design, finding that as presented, the applicant had not made strong enough efforts to make the structure compatible with the context.

Specifically, several Board members stated that they found that the proposed change in cladding color only was not a strong enough differentiation for the top floor. A few Board members had previously called for some sort of differentiation whether through a step back or change in material at the fourth floor.

Additionally, a number of Board members found that the use of a single material across the first three floors, while creating a well scaled three-story mass, had lost the sense of strong base that made the design compatible with some of the adjacent commercial structures. Board members encouraged the applicant to explore reincorporating a masonry base to the structure on the basis that it would be more durable so close to grade and more compatible with adjacent structures.

Based on the findings of a majority of the Board that the project had not yet met the standards, the Board voted five in favor, one opposed to table consideration to a future meeting.



Figure 6: Renderings of design presented at the April 3 Public Hearing.

STAFF COMMENTS



Figure 7: Renderings of design presented for the Board's review at the May 15 Public Hearing.

For the public hearing, the applicant has revised the design in an effort to address the Board's reservations raised during the last hearing. Board members had raised two primary areas of concern being the lack of a strong base to the building, and the need for a stronger differentiation between the middle and fourth floors.

At various points the design included a strong masonry base; however, other options which attempted to use a single material for the first three floors were also presented and, in both cases, Board members noted that aspects of both approaches were compatible with adjacent structures. In reviewing the design presented at the previous hearing, several Board members found that it had incompatibly removed the sense of a base from the design. In the revised design, the applicant is proposing to use a masonry cladding material at the first floor with a strong horizontal band at the top of the first floor. The second and third floor will then be clad in a stained wood rainscreen. The strong base and low cornice establish a strong relationship with several adjacent mixed-use buildings which feature first floor cornices. The applicant has chosen materials for the first three stories to be of a similar color in an effort to unify these floors and establish two vertically-proportioned masses of a similar scale to some adjacent residential structures.

Several Board members had also previously requested that the fourth floor be differentiated from the lower levels of the proposed structure in an effort to better scale the building to immediately adjacent structures. In the design presented at the last hearing, Board members found that the slight change in stain color at the fourth floor was not sufficiently differentiated. To address this comment, the applicant is now proposing to use a horizontal fiber-cement siding at the fourth floor. The change in orientation of the siding creates a clear transition between the third and fourth floors, and the use of a horizontal siding at the top floor helps that level to feel lower, especially in contrast with the vertical siding used below.

In the prior hearing, some concerns were also raised about the durability of wood siding on the proposed structure. The applicant noted that the wood siding is proposed to be installed as a rainscreen system, which means that the siding is separated from a waterproof membrane installed over the building's sheathing. The boards are also installed with small gaps between them. This means that siding boards are actually exposed to air on all sides, and are able to dry out more efficiently thus deterring rot. The applicant is also proposing to use cedar for the siding. Cedar clapboards and shingles have been used as an exterior cladding material for hundreds of years because of the wood's inherent resistance to rot and insects. Hundreds of buildings in the West End are clad in wood shingles and clapboards. Typically, staff would recommend that Cedar be used as a replacement siding because of its proven durability relative to other woods. Solid or semi-transparent stains are also a common and recommended means of coating Cedar in addition to standard exterior paints.

The applicant is expected to bring physical samples of the materials to the meeting for the Board's review.

ANALYSIS OF APPLICABLE REVIEW STANDARDS

Standards for Review of New Construction, 17.8.3:

Standard A. Scale and Form	
1. Height The proposed height shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.	
Standard Met?	Staff Comments
Yes	The building is proposed to be four-stories in height. Historic buildings in the surrounding context typically range from two-and-a-half stories to three-and-a-half stories. Several nearby noncontributing buildings are a full four-stories in height. The applicant is proposing to clad the fourth floor in siding of a different orientation, which staff feels successfully differentiates the fourth floor and establishes a relationship with nearby three-story buildings.
2. Width The width of a building shall be visually compatible with surrounding structures when viewed from any street or open space and in compliance with any design guidelines.	
Standard Met?	Staff Comments
Yes	The proposed width is somewhat wider than typical of residential buildings in the context; however, it is within the range of building widths seen on some of the larger commercial or mixed-use buildings nearby. The width is also broken up in the middle by a change in material and wall plane with recessed balconies, breaking down the width to be more typical of nearby residential buildings.
3. Proportion of principal facades The relationship of the width to the height of the principal elevations shall be visually compatible with structures, public ways, and open spaces to which it is visually related.	
Standard Met?	Staff Comments
Yes	The proposed structure will have a somewhat horizontal façade; however, this is proposed to be broken up by the recessed balconies creating two vertically oriented masses. Buildings in the surrounding context exhibit a range of vertical and horizontal proportions.
4. Roof shapes The roof shape of a structure shall be visually compatible with the structures to which it is visually related.	
Standard Met?	Staff Comments
Yes	The proposed structure will have a flat roof. Flat roofs are typical throughout the district, in particular for the larger commercial or mixed-use buildings.

<u>5. Scale of a structure</u> The size and mass of structures in relation to open spaces, windows, door openings, porches, and balconies shall be visually compatible with the structures, public ways, and places to which they are visually related.	
Standard Met?	Staff Comments
Yes	Nearby buildings exhibit a range of scales including several large institutional and apartment buildings of a scale similar to the proposed. Regardless, the façade is proposed to be broken down through the central recessed balconies and the change in color at the fourth floor to better relate to some of the adjacent smaller residential structures.

Standard B. Composition of Principle Facades	
<u>1. Proportion of openings</u> The relationship of the width to height of windows and doors shall be visually compatible with structures, public ways, and places to which the building is visually related.	
Standard Met?	Staff Comments
Yes	The applicant is proposing horizontally oriented openings at the first floor and vertically oriented openings at the upper floors, as is typical of mixed-use structures in the area. The upper story windows are proposed to have a variety of windows of the same height, but varied widths.
<u>2. Rhythm of solids to voids in facades</u> The relationship of solids to voids in the façade of a structure shall be visually compatible with structures, public ways, and places to which it is visually related.	
Standard Met?	Staff Comments
Yes	The proposed structure will have a very transparent primary façade with extensive fenestration, while the side elevations will be more solid. Structures in the surrounding context tend to favor solid over void; however, they do tend to have increased transparency at front elevations such as around bay windows and in mixed-use buildings with commercial ground floors. The structure is also proposed to have a large recessed area at the center of the upper floors for covered balconies.
<u>3. Rhythm of entrance porch and other projections</u> The relationship of entrances and other projections to sidewalks shall be visually compatible with the structures, public ways, and places to which they are visually related.	
Standard Met?	Staff Comments
Yes	The applicant is proposing a single, slightly recessed central entrance for the upper stories off of Pine Street. This Residential entrance will be flanked by a slightly recessed storefront to the right and a slightly recessed garage entrance to the left.

<u>4. Relationship of materials</u> The relationship of the color and texture of materials (other than paint color) of the facade shall be visually compatible with the predominant materials used in the structures to which they are visually related.	
Standard Met?	Staff Comments
Yes	The applicant is proposing to use a stone material at the first floor, vertical stained wood siding at the second and third floors, and horizontal wood siding at the fourth floor. Masonry and wood are typical cladding materials within the context. The building also respects the usual order of using the heavier masonry product at the base and lighter materials at the upper floors.

Standard C. Relationship to Street	
<u>1. Walls of continuity</u> Facades and site structures, such as masonry walls, fences, and landscape masses, shall, when it is a characteristic of the area, form cohesive walls of enclosure along a street to ensure visual compatibility with the structures, public ways, and places to which such elements are visually related.	
Standard Met?	Staff Comments
Yes	Buildings in this section of the West End are typically set close to the street with narrow side yards between buildings. The proposed structure will reinforce this pattern.
<u>2. Rhythm of spacing and structures on streets</u> The relationship of a structure or object to the open space between it and adjoining structures or objects shall be visually compatible with the structures, objects, public ways, and places to which it is visually related	
Standard Met?	Staff Comments
Yes	The proposed structure will retain small side yards while being situated close to the street as is typical of the surrounding context.
<u>3. Directional expression of principal elevation</u> A structure shall be visually compatible with the structures, public ways, and places to which it is visually related in its directional character, whether this be vertical character, horizontal character, or nondirectional character.	
Standard Met?	Staff Comments
Yes	Many buildings in the West End provide a mixed expression with contrasting vertical and horizontal elements. The proposed structure will have an overall horizontal façade, though it is broken up into two vertically-oriented masses. The middle floors feature vertically oriented windows and siding which are contrasted by horizontal string courses that interrupt the vertical siding. The Fourth floor will be clad in horizontal siding to help lower its sense of height and establish a relationship with adjacent buildings which staff believe successfully meet this standard.

Standard D. Other Standards	
1. Compatible use Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.	
Standard Met?	Staff Comments
Yes	The proposed mixed-use is compatible with the surrounding context and does not require any elements that would require alterations to the character-defining features of the surrounding areas.
4. Contemporary design Contemporary design for additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, material, and character of the property, neighborhood and environment.	
Standard Met?	Staff Comments
Yes	The structure is proposed to have a clearly contemporary character through the application of traditional materials (stone and wood) in non-traditional ways, which will differentiate it from the surrounding historic structure. The building still has a compatibility with adjacent buildings by reinforcing the first-floor base of adjacent commercial structures, vertically oriented punched windows at the middle floors, and a differentiated fourth floor to relate to adjacent structures.

MOTION FOR CONSIDERATION

I move to APPROVE application HPBR-002757-2023 for new construction at 64 Pine Street on the basis of submitted documentation, plans, and specifications; information provided in the staff memo; and findings by the Historic Preservation Board that the project meets Standards for Review of New Construction 17.8.3, A.1-5, B.1-4, C.1-3, & D.1 & 4.

ATTACHMENTS

1. Drawings and Renderings





AURORA

PROVISIONS









Rear, Left Side

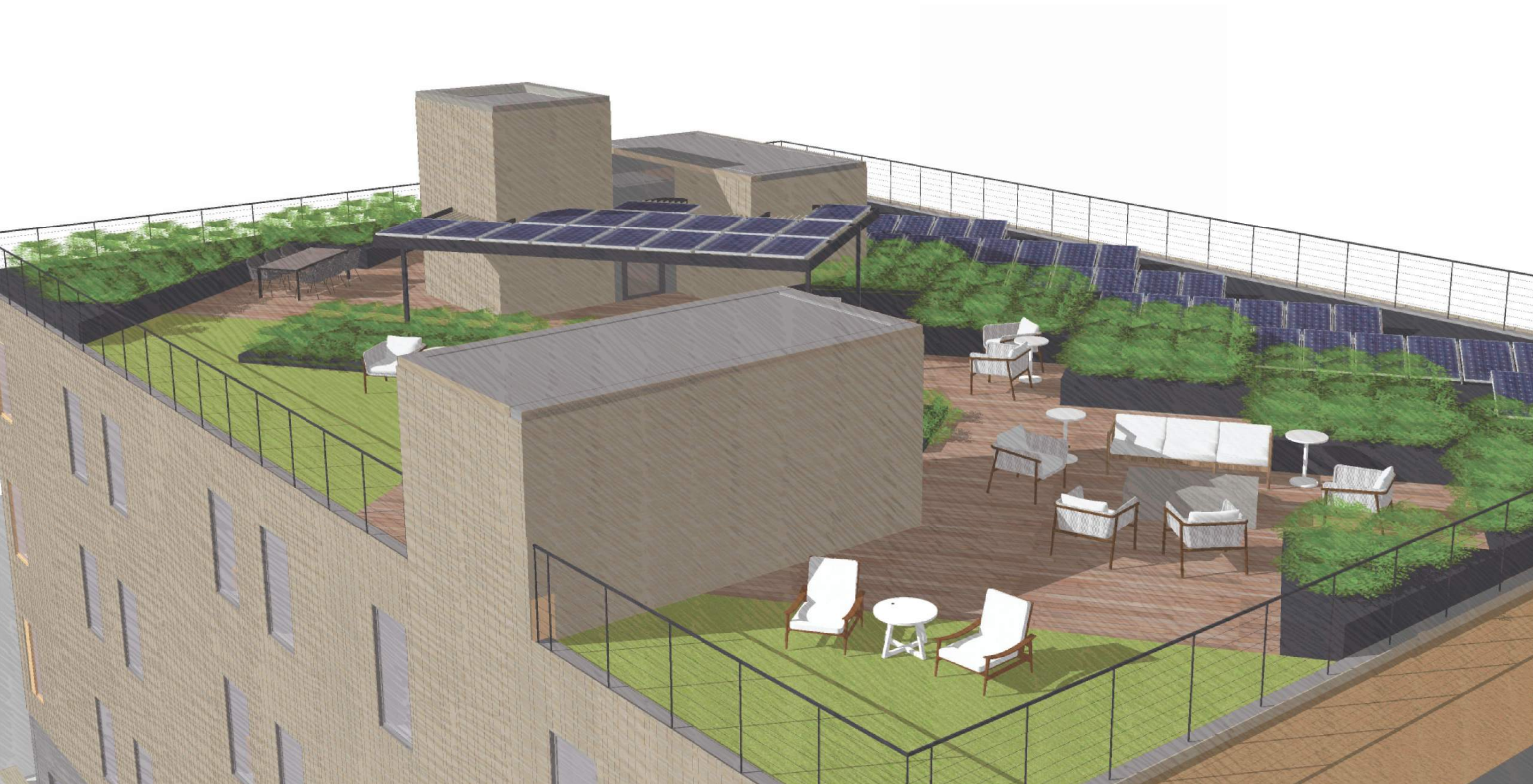
Balcony

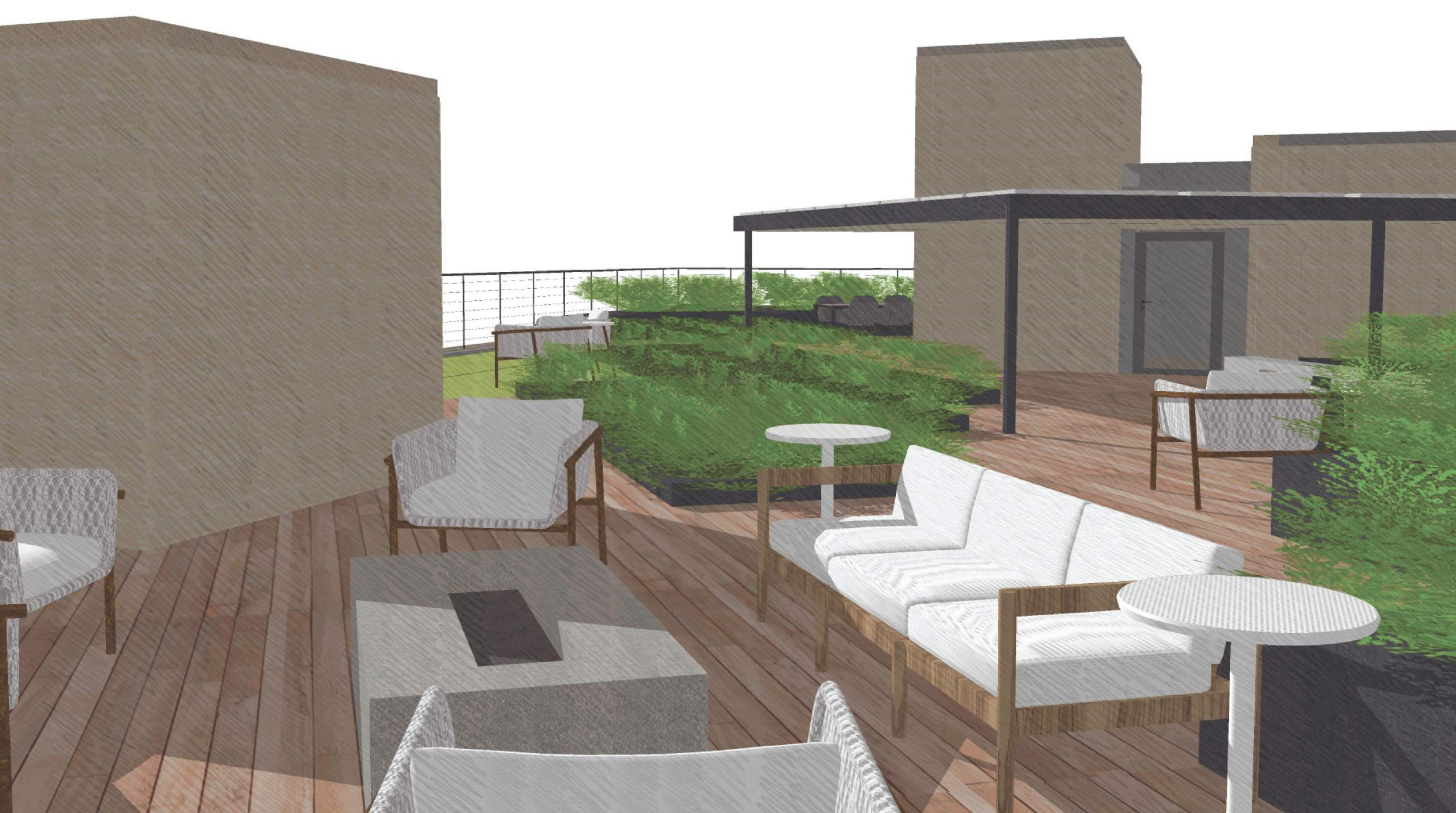
Right Side

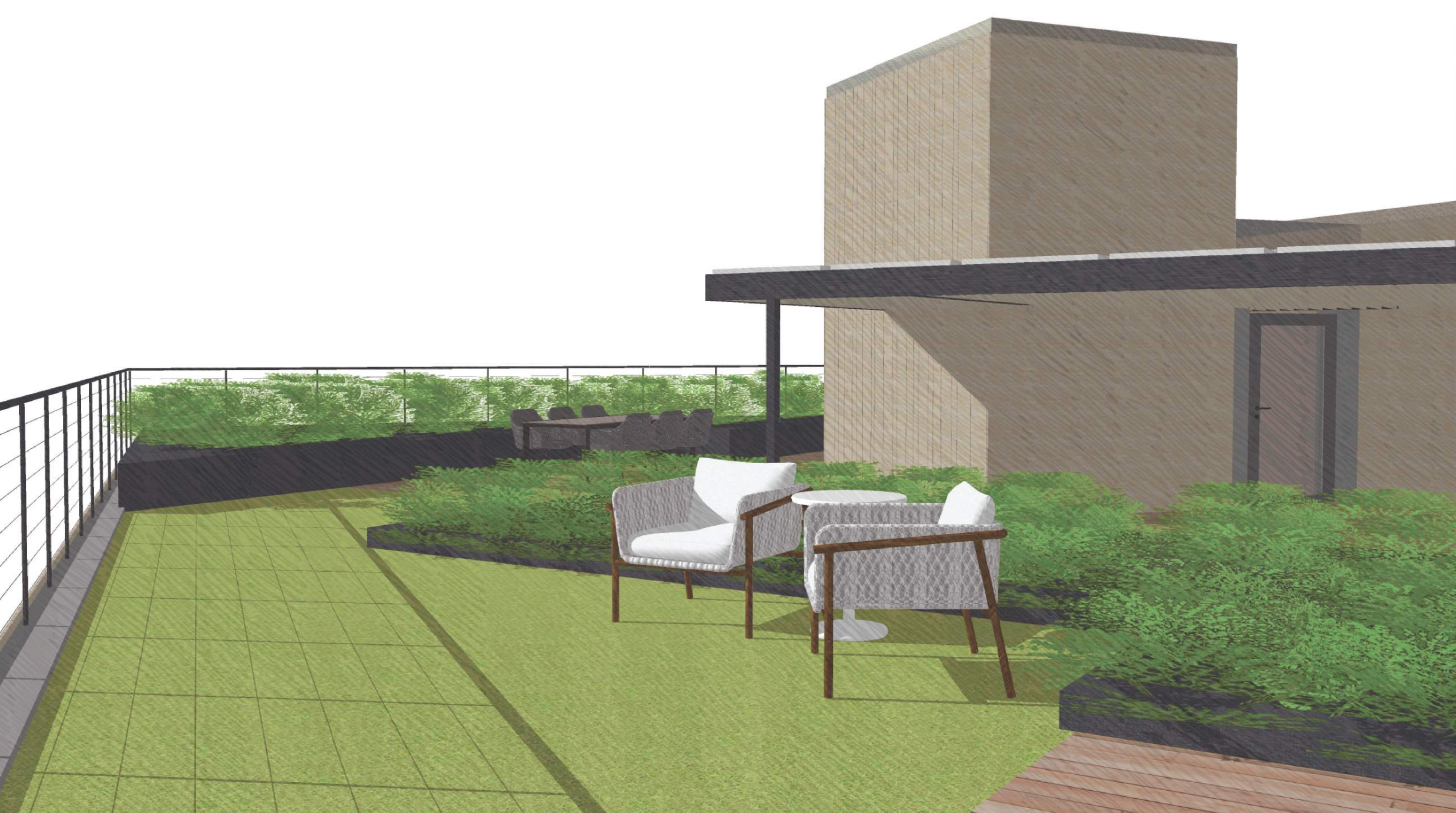


LED STRIP LIGHT

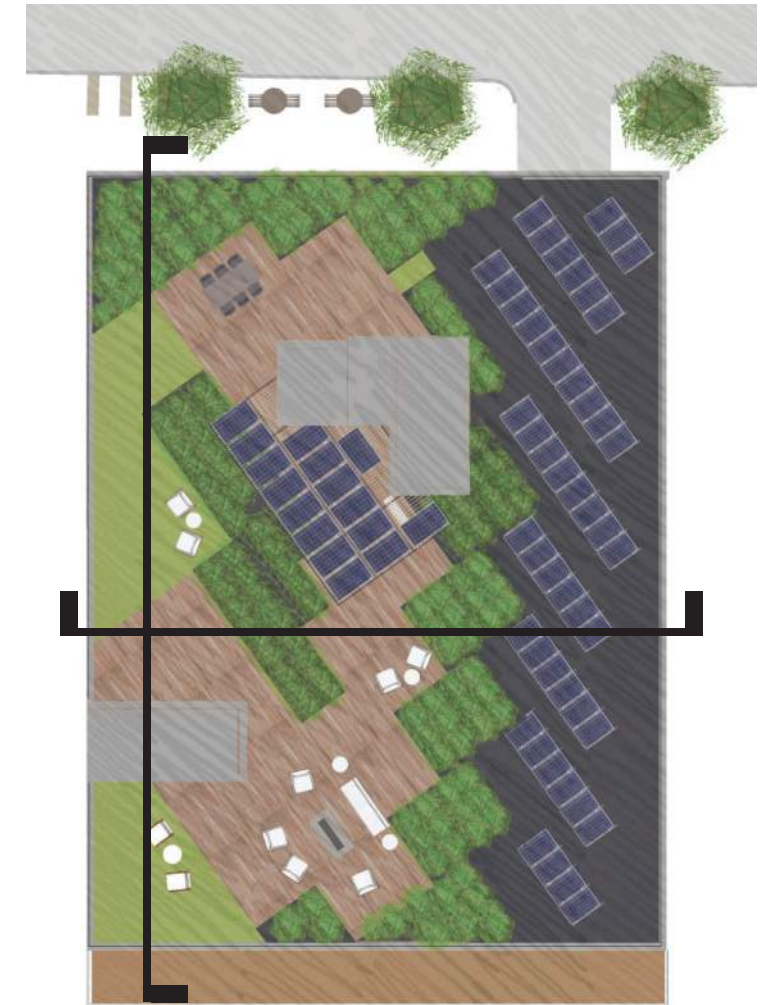
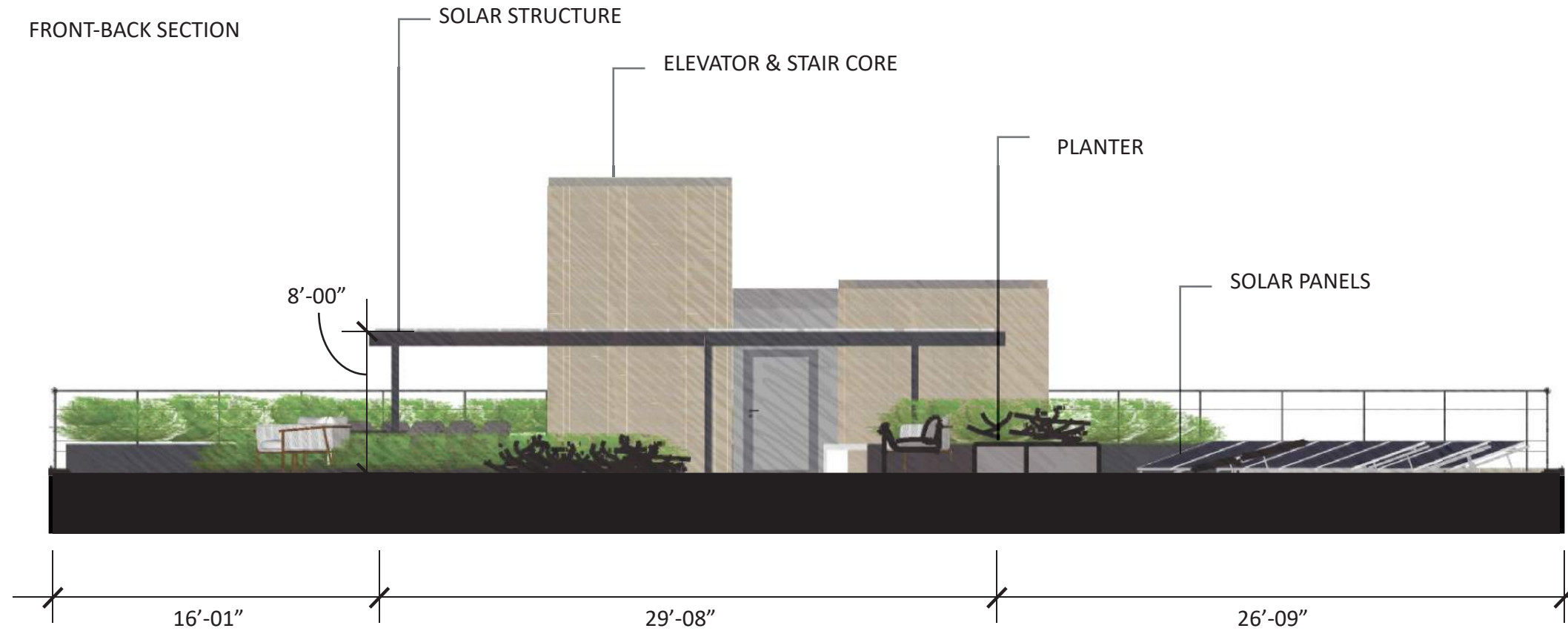




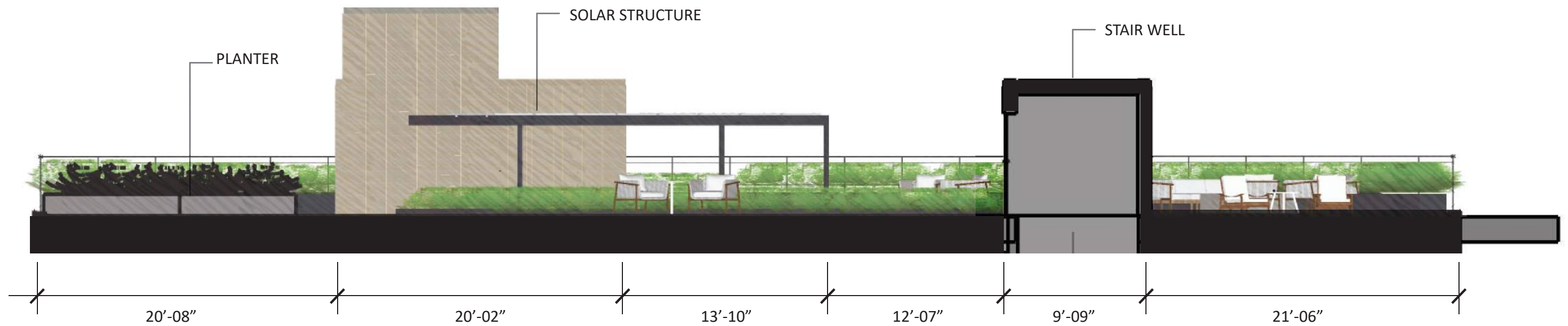




FRONT-BACK SECTION



CROSS SECTION



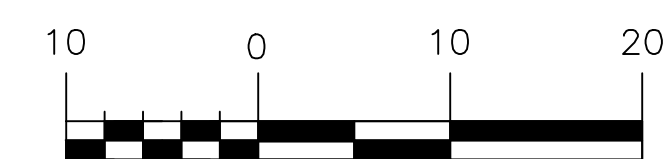
1. ALL BRICK SIDEWALK AND VERTICAL GRANITE CURB TO BE REPLACED SHALL BE REBUILT TO CITY OF PORTLAND STANDARD.
2. ALL PAVEMENT STRIPING AND MARKINGS SHALL COMPLY TO CITY OF PORTLAND STANDARDS.
3. ANY ASPHALT TO BE REMOVED SHALL BE STRIPPED AND PROPERLY DISPOSED OF OFFSITE.
4. CURB TO BE REMOVED, STOCKPILED AND RESET IN ACCORDANCE WITH DETAIL. BROKEN FOOT CURB SHALL BE PROPERLY DISPOSED OF AND SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
5. ALL RAMPS TO CONFORM TO ADA GUIDELINES. SLOPE SHALL NOT EXCEED 1 INCH PER FOOT.
6. ALL SITE SIGNAGE TO COMPLY WITH MUTCD STANDARDS. CONTRACTOR TO COORDINATE AND INSTALL.
7. FOLLOWING COMPLETION OF CONSTRUCTION, THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND MANAGEMENT OF DRIVEWAYS, SITE LIGHTING, TRASH REMOVAL AND SNOW REMOVAL.
8. CONTRACTOR SHALL VERIFY BOTTOM AND TOP OF CURB ELEVATIONS ALONG BUILDING FRONTS PRIOR TO CONSTRUCTION OF THE FOUNDATIONS. CONTACT ENGINEER PRIOR TO CONSTRUCTION IF DISCREPANCIES ARE FOUND.
9. PLAN REFERENCES
- 9.1. PLAN TITLED "BOUNDARY SURVEY & TOPOGRAPHICAL SITE PLAN WITH EXISTING CONDITIONS" PREPARED BY R.W. EATON ASSOCIATES DATED JUNE 15TH, 2023
10. FINAL "LOADINGS SUBJECT TO THE BASED ON THE FINISH MEP DESIGN, MEET TO PROVIDE EV CHARGING STATION DESIGN AND CONDUIT ROUTING.

SPACE AND BULK STANDARDS		
ZONING DISTRICT: B1	REQUIRED	PROPOSED
MINIMUM LOT AREA PER DWELLING UNIT (ON PENINSULA) [9,920 SF / 0.23 ACRES]	435 SF	1,102 SF
MINIMUM STREET FRONTAGE	20 FT	85 FT
MAXIMUM FRONT SETBACK	10 FT	0.74 FT
MINIMUM REAR SETBACK (PRINCIPAL)	10 FT	10.56 FT
MINIMUM SIDE SETBACK	NONE	5.30 FT
MINIMUM REAR STEPBACK (ABOVE 35 FT WHEN PROPERTY LINE ABUTS A RESIDENTIAL ZONE)	15 FT	15.20 FT
MAXIMUM FLOOR AREA (NON-RESIDENTIAL USES ON FIRST FLOOR)	10,000 SF	1,282 SF
MAXIMUM STRUCTURE HEIGHT (ON-PENINSULA)	45 FT	44.92 FT
MAXIMUM LOT COVERAGE	NONE	76.2%
MAXIMUM IMPERVIOUS SURFACE RATIO	90%	84.6%

VEHICLE PARKING SUMMARY			
	SPACES REQUIRED	EXISTING	PROPOSED
RESIDENTIAL USES	1 PARKING SPACE PER UNIT REQUIRED AFTER THE FIRST FOUR UNITS = 5 SPACES		
STANDARD (9'x18')		11	18
ADA SPACE (8'x18')	1 SPACE PER 1 TO 25 PARKING SPACES	—	1
TOTAL VEHICLE SPACES	6	—	19

BICYCLE SUMMARY			
	SPACES REQUIRED	EXISTING	PROPOSED
MULTIFAMILY	2 BICYCLE SPACES/ 5 UNITS		
BICYCLE SPACES		2	9
TOTAL BICYCLE SPACES	4	—	9

PERMISSIBLE VEHICLE SUMMARY			
SPACES	MAX WHEEL BASE	MAX LENGTH	MAX WIDTH
1,2	9.4'	16.8'	6.3'
3	9.0'	15.3'	6.0'
4,5	8.7'	14.4'	6.0'



PROVIDE EV CHARGING STATION DESIGN AND CONDUIT ROUTING.

SPACE AND BULK STANDARDS		
ZONING DISTRICT: B1	REQUIRED	PROPOSED
MINIMUM LOT AREA PER DWELLING UNIT (ON PENINSULA) [9,920 SF / 0.23 ACRES]	435 SF	1,102 SF
MINIMUM STREET FRONTAGE	20 FT	85 FT
MAXIMUM FRONT SETBACK	10 FT	0.74 FT
MINIMUM REAR SETBACK (PRINCIPAL)	10 FT	10.56 FT
MINIMUM SIDE SETBACK	NONE	5.30 FT
MINIMUM REAR STEPBACK (ABOVE 35 FT WHEN PROPERTY LINE ABUTS A RESIDENTIAL ZONE)	15 FT	15.20 FT
MAXIMUM FLOOR AREA (NON-RESIDENTIAL USES ON FIRST FLOOR)	10,000 SF	1,282 SF
MAXIMUM STRUCTURE HEIGHT (ON-PENINSULA)	45 FT	44.92 FT
MAXIMUM LOT COVERAGE	NONE	76.2%
MAXIMUM IMPERVIOUS SURFACE RATIO	90%	84.6%

VEHICLE PARKING SUMMARY			
	SPACES REQUIRED	EXISTING	PROPOSED
RESIDENTIAL USES	1 PARKING SPACE PER UNIT REQUIRED AFTER THE FIRST FOUR UNITS = 5 SPACES		
STANDARD (9'x18')		11	18
ADA SPACE (8'x18')	1 SPACE PER 1 TO 25 PARKING SPACES	-	1
TOTAL VEHICLE SPACES	6	-	19

BICYCLE SUMMARY			
	SPACES REQUIRED	EXISTING	PROPOSED
MULTIFAMILY	2 BICYCLE SPACES/ 5 UNITS		
BICYCLE SPACES		2	9
TOTAL BICYCLE SPACES	4	-	9

PERMISSIBLE VEHICLE SUMMARY			
SPACES	MAX WHEEL BASE	MAX LENGTH	MAX WIDTH
1,2	9.4'	16.8'	6.3'
3	9.0'	15.3'	6.0'
4,5	8.7'	14.4'	6.0'

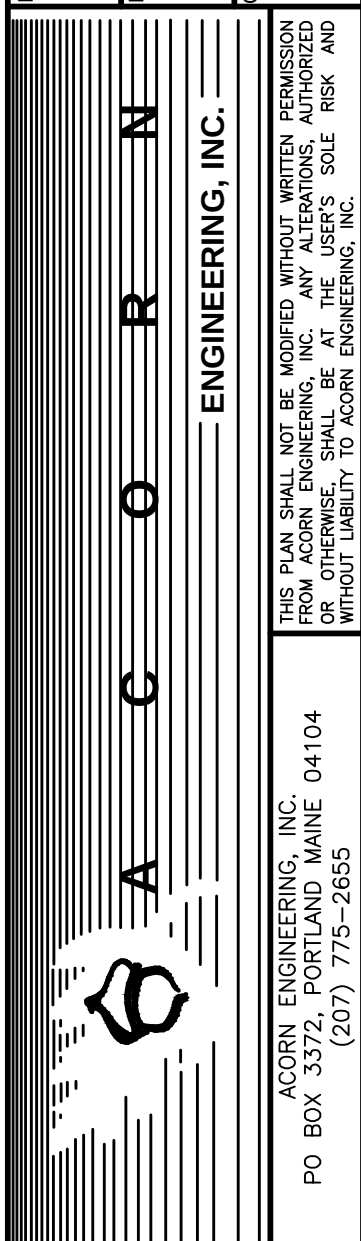
The diagram is a detailed architectural site plan for a proposed building at 64 Pine Street. The building is a rectangular structure with a yellow interior, divided into several sections. The top section contains five residential units, each with a garage and an EV charging station. The middle section is a large retail space (1,386 SF) with a central lobby, stairs, and an elevator. The bottom section contains more residential units and a retail area (1,386 SF). The plan includes numerous dimensions for setbacks, lot coverage, and building footprint. Surrounding the building are various landscape features, including trees, shrubs, and a parking area with 19 spaces (18 standard, 1 ADA). The plan also shows the location of existing and proposed structures, including a former driveway and a foundation license. The surrounding context includes the N.F. City of Portland Reiche School to the north, N.F. Deborah Mcoy 13836/108 to the east, N.F. Edward Ingalls 19653/117 to the east, and N.F. Bricklight Properties, LLC 32379/123 to the east. The plan is divided into zoning districts B-1 and R-6. The building is situated on a lot with a 10' rear setback and a 15' rear stepback. The plan includes a detailed parking layout with 19 spaces, including 18 standard spaces and 1 ADA space. The building is surrounded by a 10' rear setback and a 15' rear stepback. The plan includes a detailed landscape plan with trees, shrubs, and a parking area. The building is situated on a lot with a 10' rear setback and a 15' rear stepback. The plan includes a detailed parking layout with 19 spaces, including 18 standard spaces and 1 ADA space. The building is surrounded by a 10' rear setback and a 15' rear stepback. The plan includes a detailed landscape plan with trees, shrubs, and a parking area.

PINE STREET

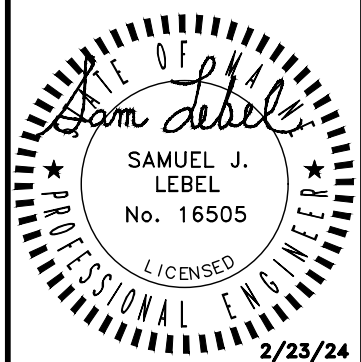
PERMITTING
NOT ISSUED FOR
CONSTRUCTION

[illegible]

DRAWING NAME:	SITE PLAN
PROJECT NAME:	64 PINE STREET REDEVELOPMENT 64 PINE STREET, PORTLAND, MAINE 04012
CLIENT:	64 PINE STREET LLC 104 WASHINGTON AVENUE PORTLAND, MAINE 04101



FILE:	1109.4_CIVIL
JN:	1109.4
SCALE:	AS NOTED
DESIGNED BY:	ZMS
DRAWN BY:	BJK
CHECKED BY:	SJL



DRAWING NO.

C-10

Project:

64 PINE STREET

64 Pine Street
Portland, Maine

Owner/Client:

TOM LANDRY

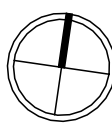
Consultant:

Revisions:

Key Plan:

FIRST FLOOR PLAN

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



12 MARCH, 2024

A1.01

1 | 1ST FLOOR

3/16" = 1'-0"

Project:

64 PINE STREET

64 Pine Street
Portland, Maine

Owner/Client:

TOM LANDRY

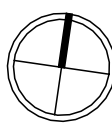
Consultant:

Revisions:

Key Plan:

SECOND FLOOR PLAN

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



12 MARCH, 2024

A1.02



Project:

64 PINE STREET

64 Pine Street
Portland, Maine
Owner/Client:

TOM LANDRY

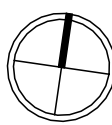
Consultant:

Revisions:

Key Plan:

THIRD FLOOR PLAN

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



12 MARCH, 2024

A1.03



Project:
64 PINE STREET
64 Pine Street
Portland, Maine
Owner/Client:
TOM LANDRY
Consultant:

Revisions:

Key Plan:

FOURTH FLOOR PLAN
Scale:
3/16" = 1'-0"
12 MARCH, 2024

A1.04

Project:

64 PINE STREET

64 Pine Street
Portland, Maine

Owner/Client:

TOM LANDRY

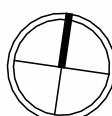
Consultant:

Revisions:

Key Plan:

EXTERIOR ELEVATIONS

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

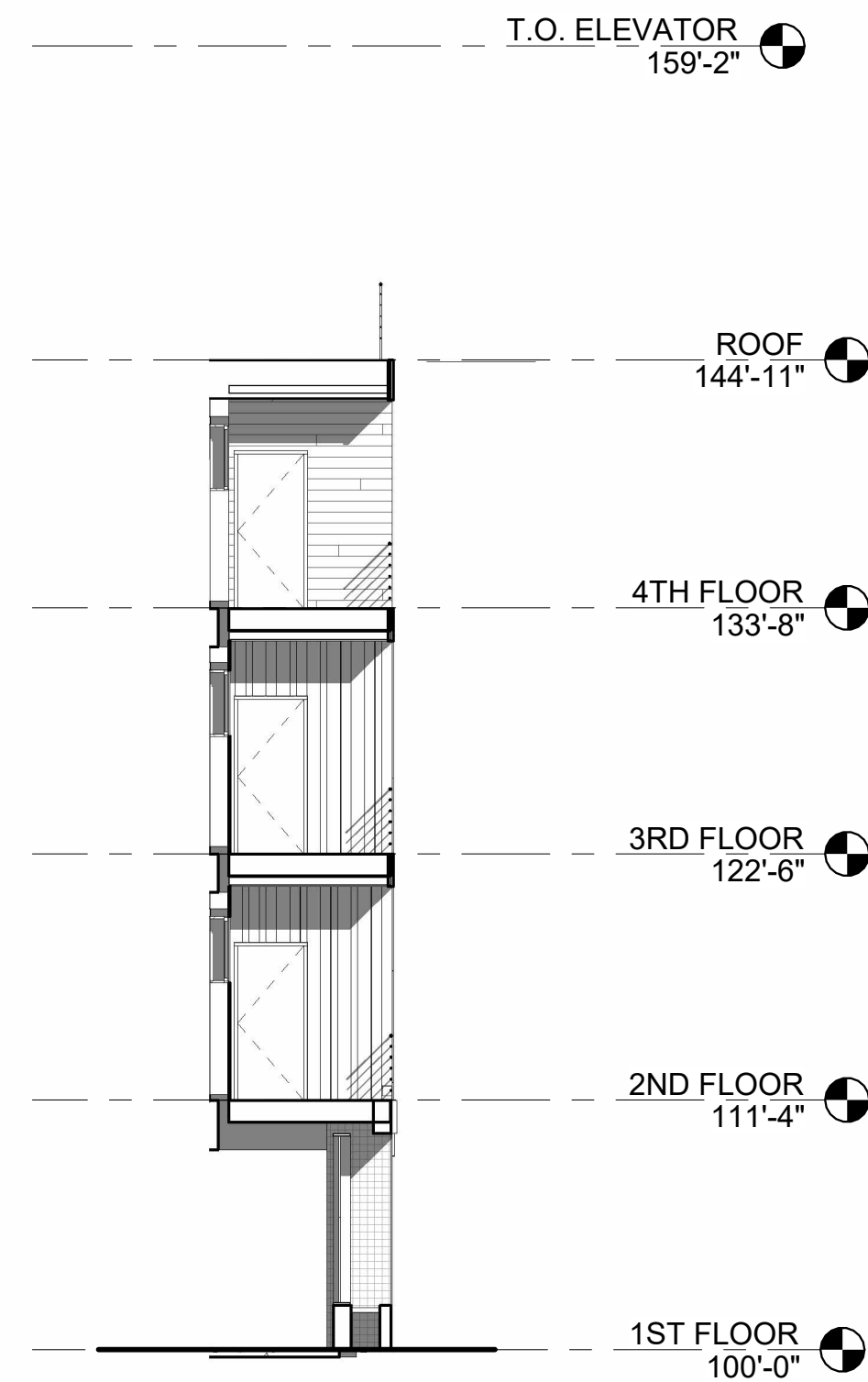


12 MARCH, 2024

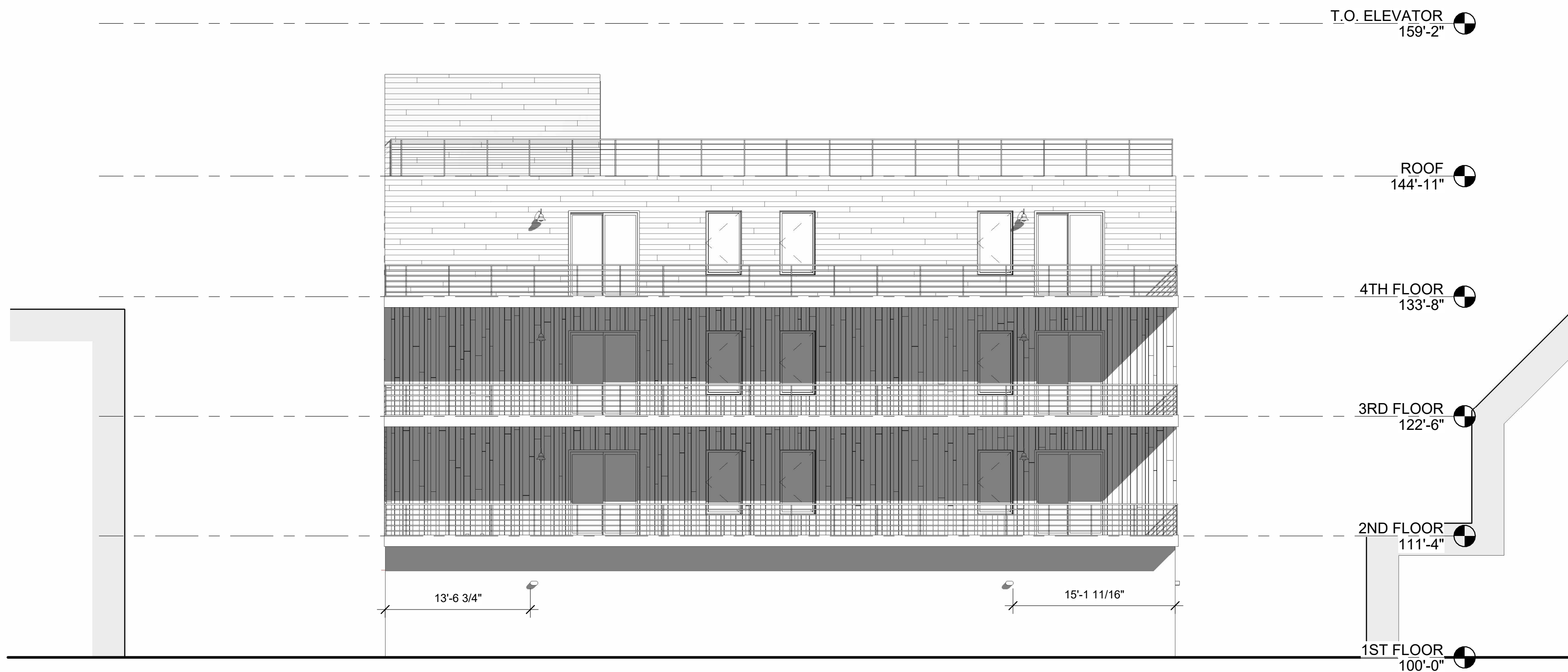
A4.01



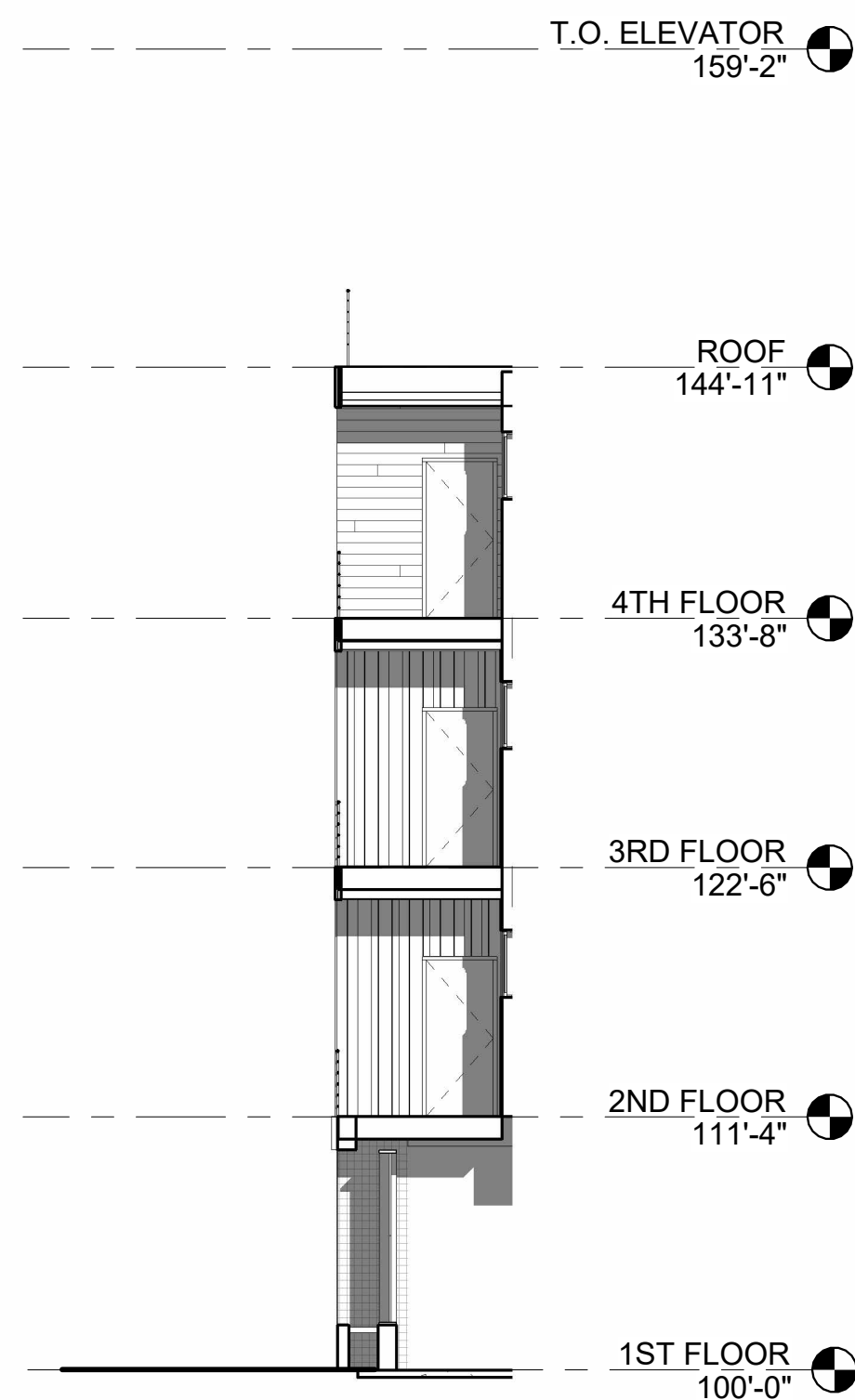
1 | FRONT ELEVATION
1/8" = 1'-0"



3 | TERRACE ELEVATION 2
1/8" = 1'-0"



2 | REAR ELEVATION
1/8" = 1'-0"



4 | TERRACE ELEVATION 1
1/8" = 1'-0"

Project:

64 PINE STREET

64 Pine Street
Portland, Maine

Owner/Client:

TOM LANDRY

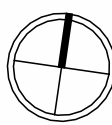
Consultant:

Revisions:

Key Plan:

EXTERIOR ELEVATIONS

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

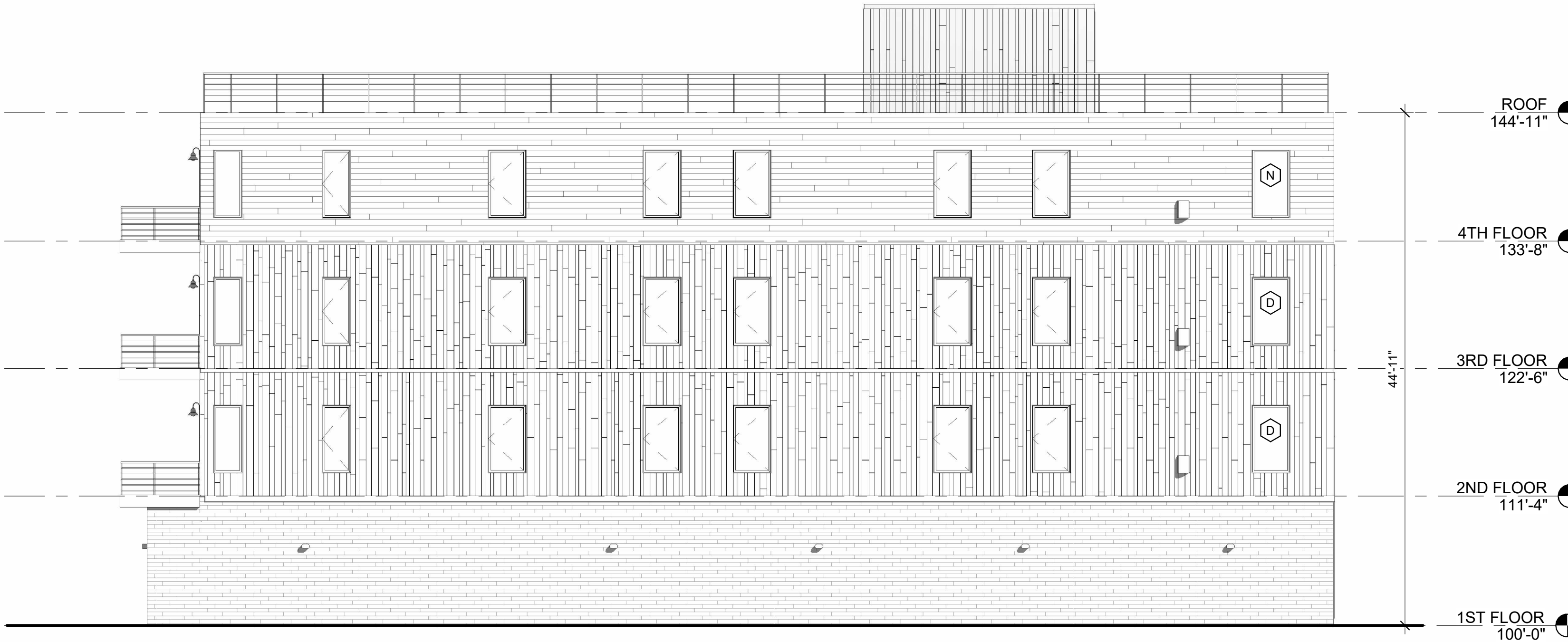


12 MARCH, 2024

A4.02



1 | RIGHT SIDE ELEVATION
1/8" = 1'-0"



2 | LEFT SIDE ELEVATION
1/8" = 1'-0"

Project:

64 PINE STREET

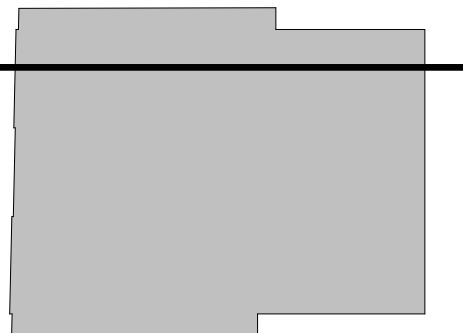
64 Pine Street
Portland, Maine
Owner/Client:

TOM LANDRY

Consultant:

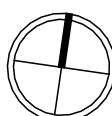
Revisions:

Key Plan:



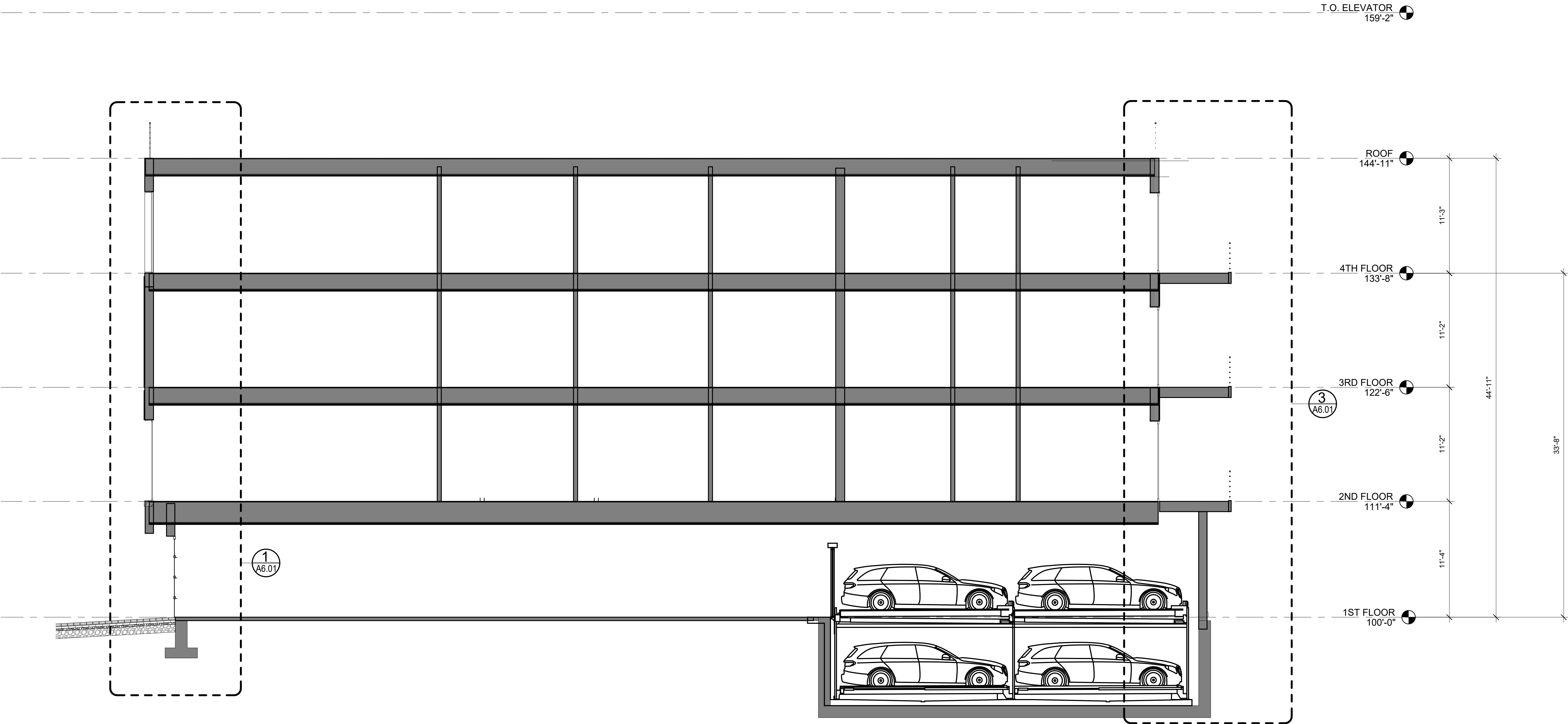
BUILDING SECTION

Scale:
As indicated



12 MARCH, 2024

A5.01



64 PINE STREET

64 Pine Street
Portland, Maine

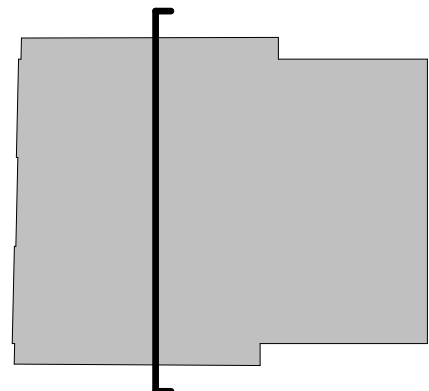
Owner/Client:

TOM LANDRY

Consultant:

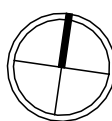
Revisions:

Key Plan:



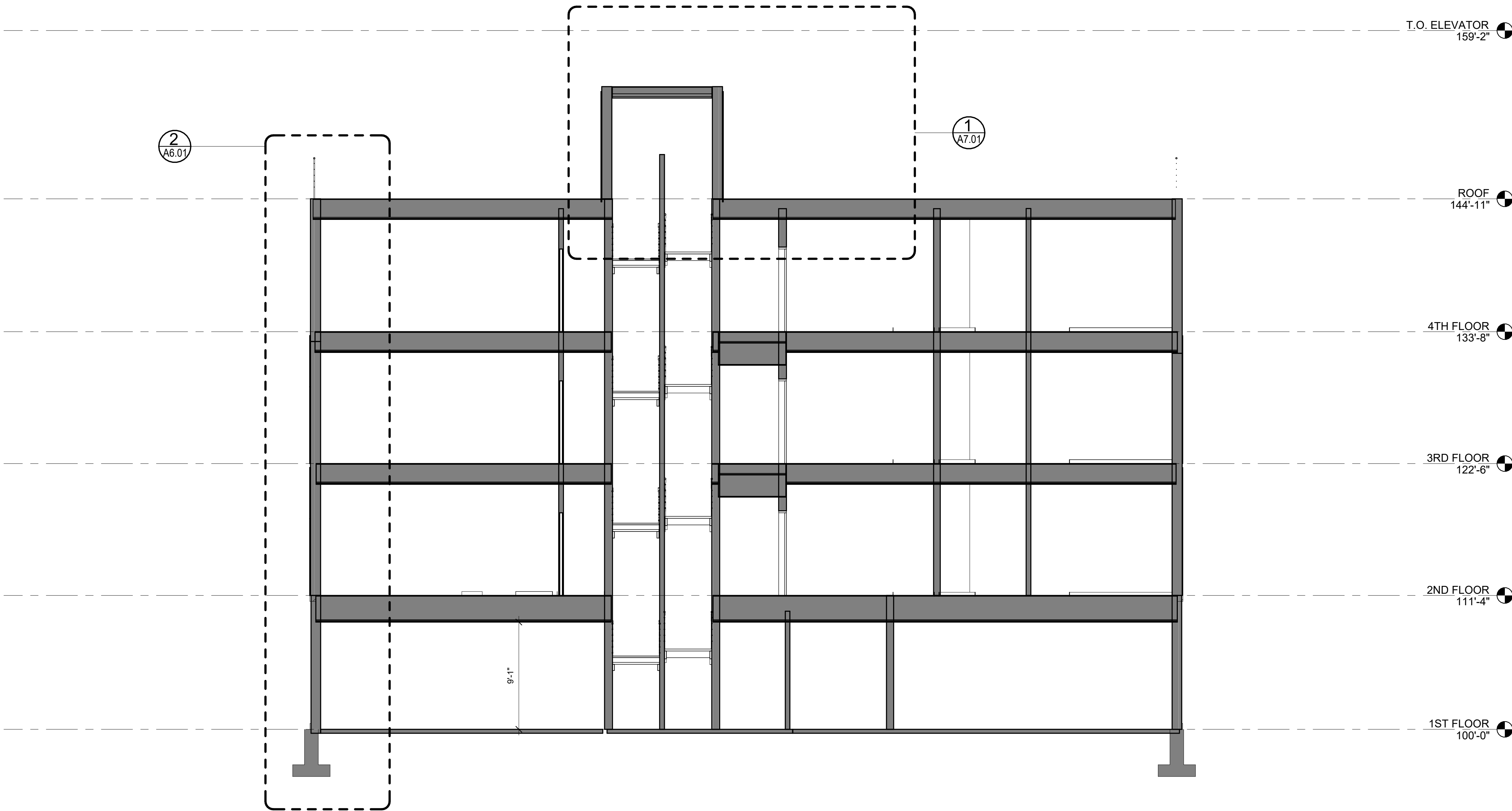
BUILDING SECTION

Scale:
As indicated



12 MARCH, 2024

A5.02



Project:

64 PINE STREET

64 Pine Street
Portland, Maine

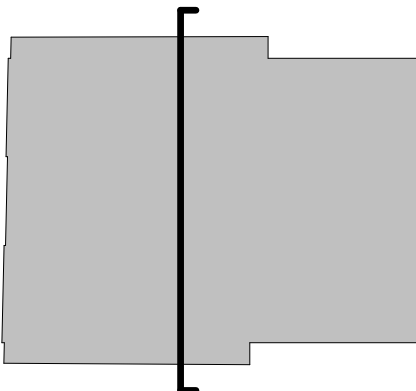
Owner/Client:

TOM LANDRY

Consultant:

Revisions:

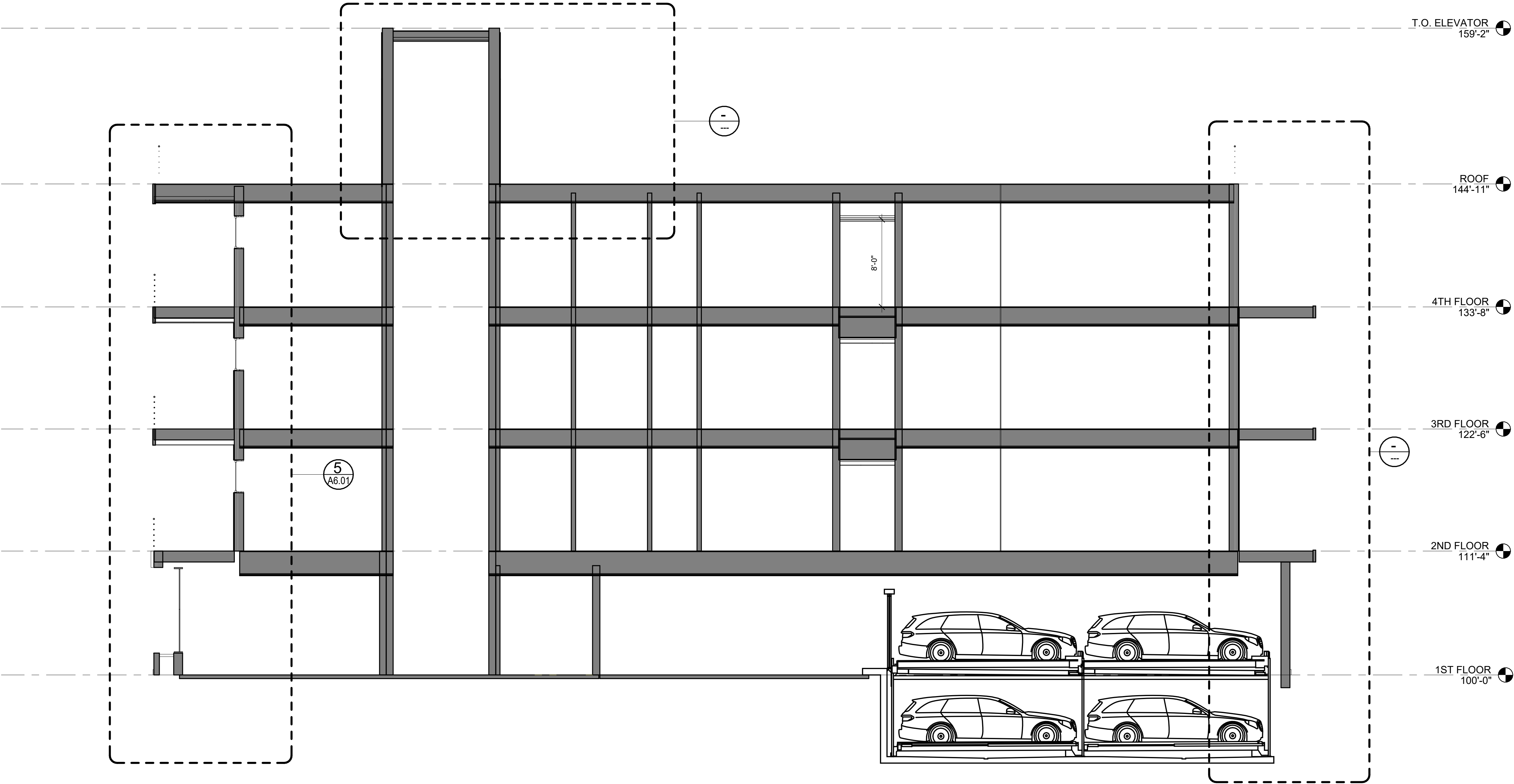
Key Plan:

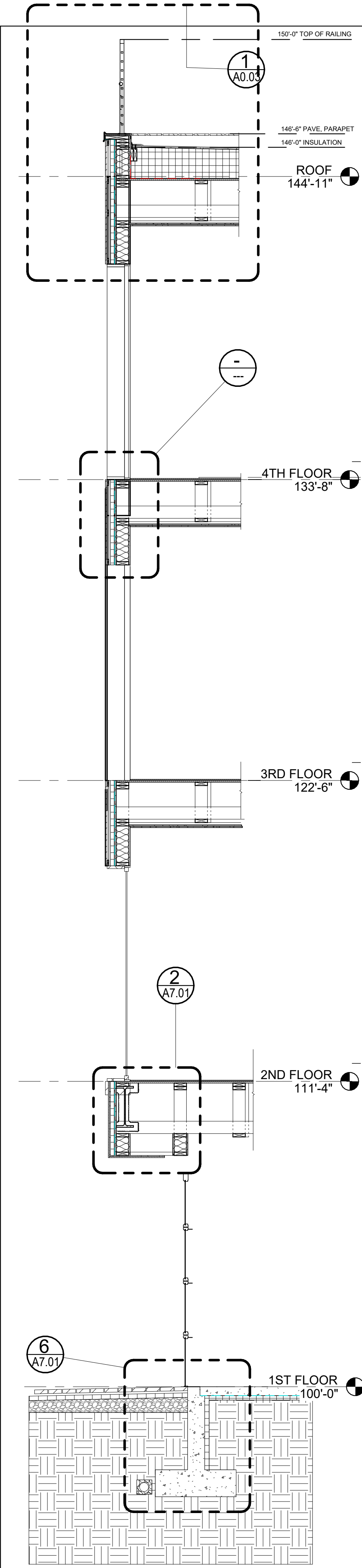


BUILDING SECTION

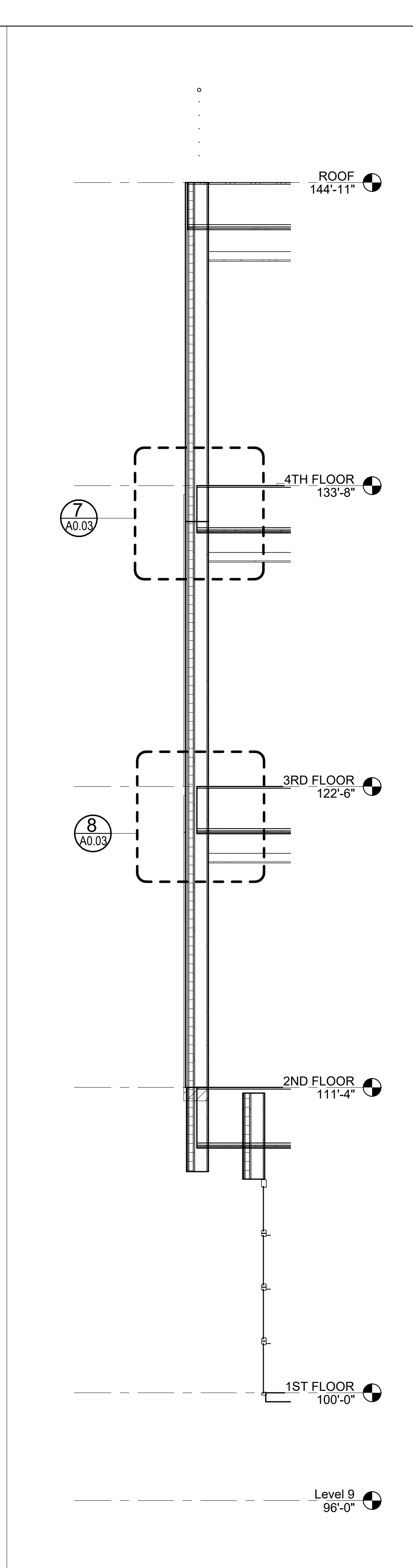
Scale:
As indicated

12 MARCH, 2024

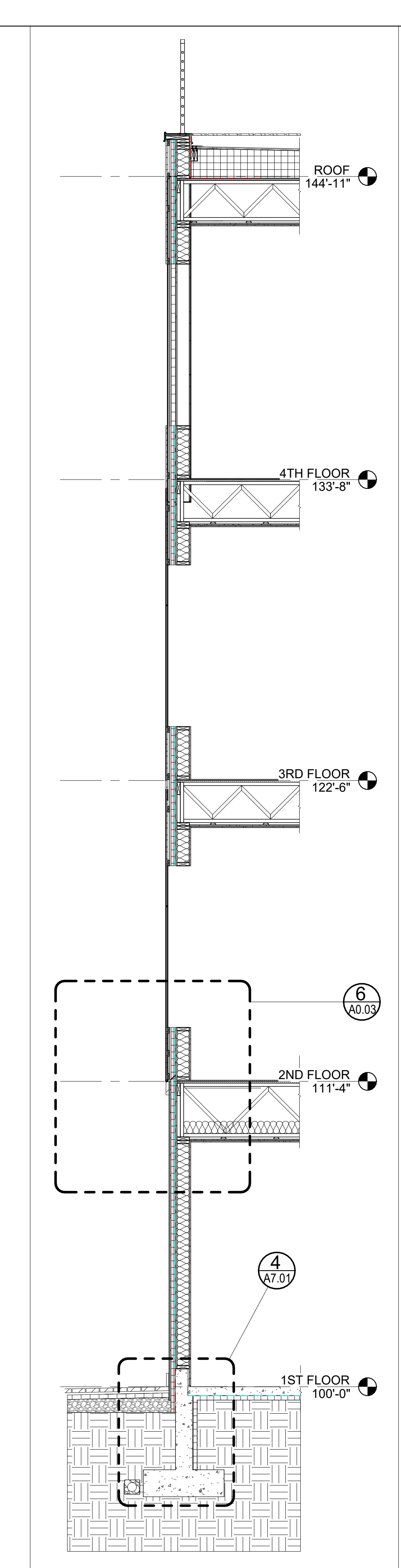




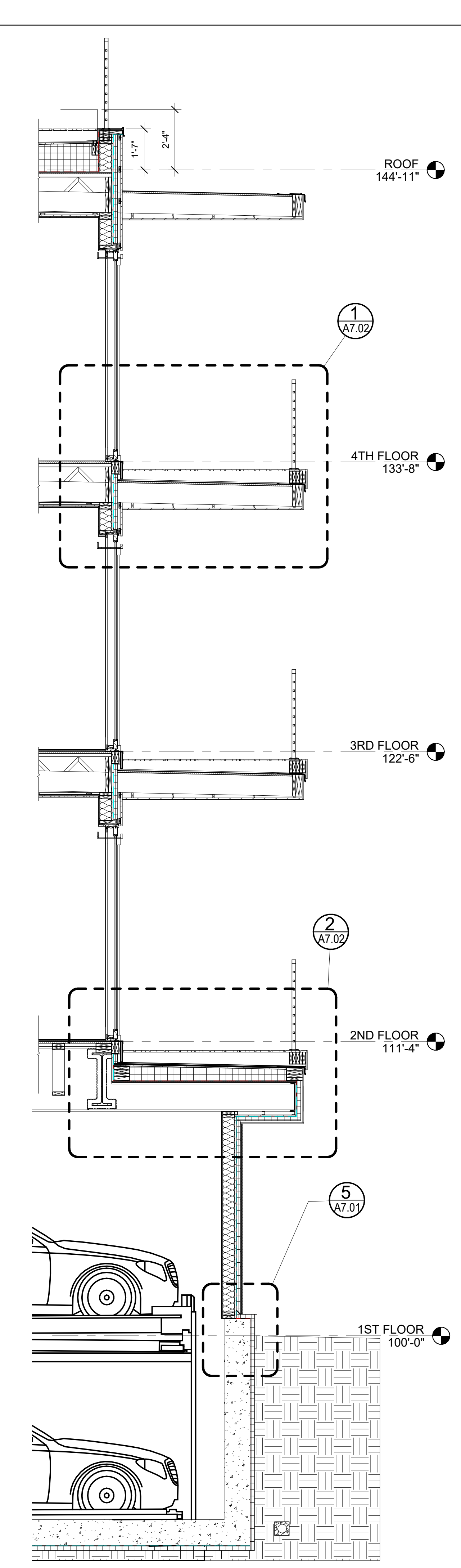
1 | Section 1 - Callout 2
3/8" = 1'-0"



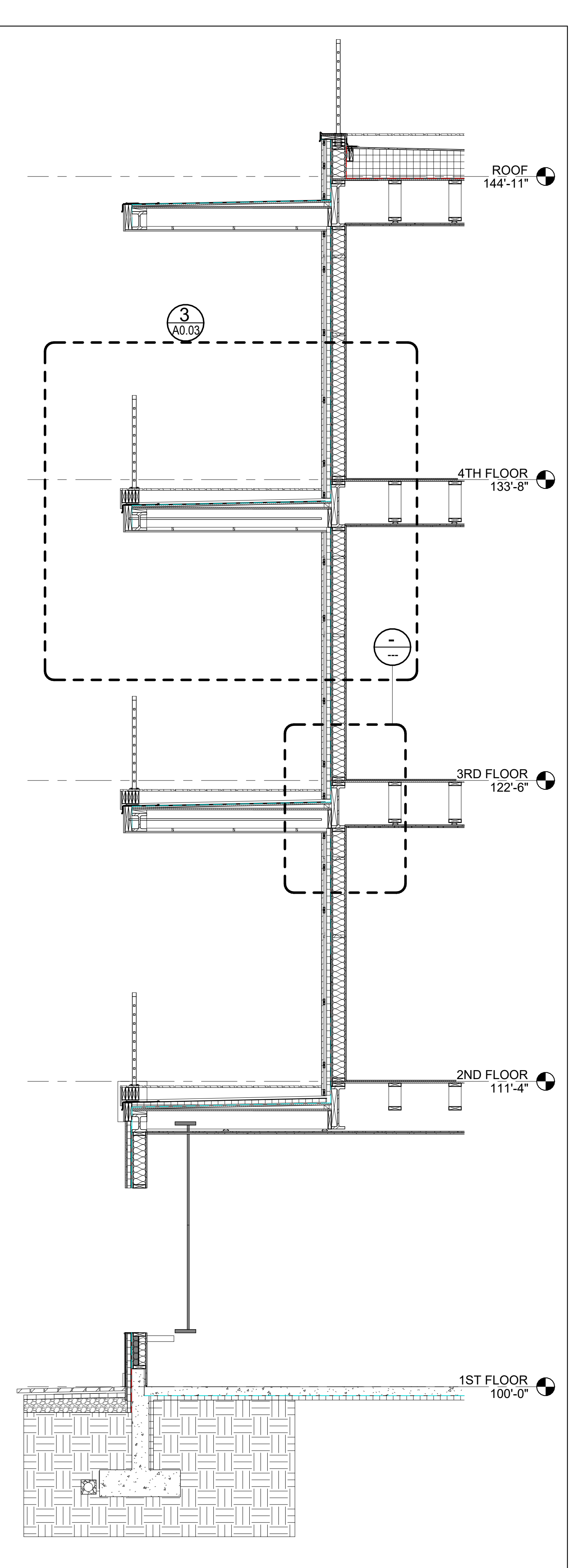
4 | Section 8
3/8" = 1'-0"



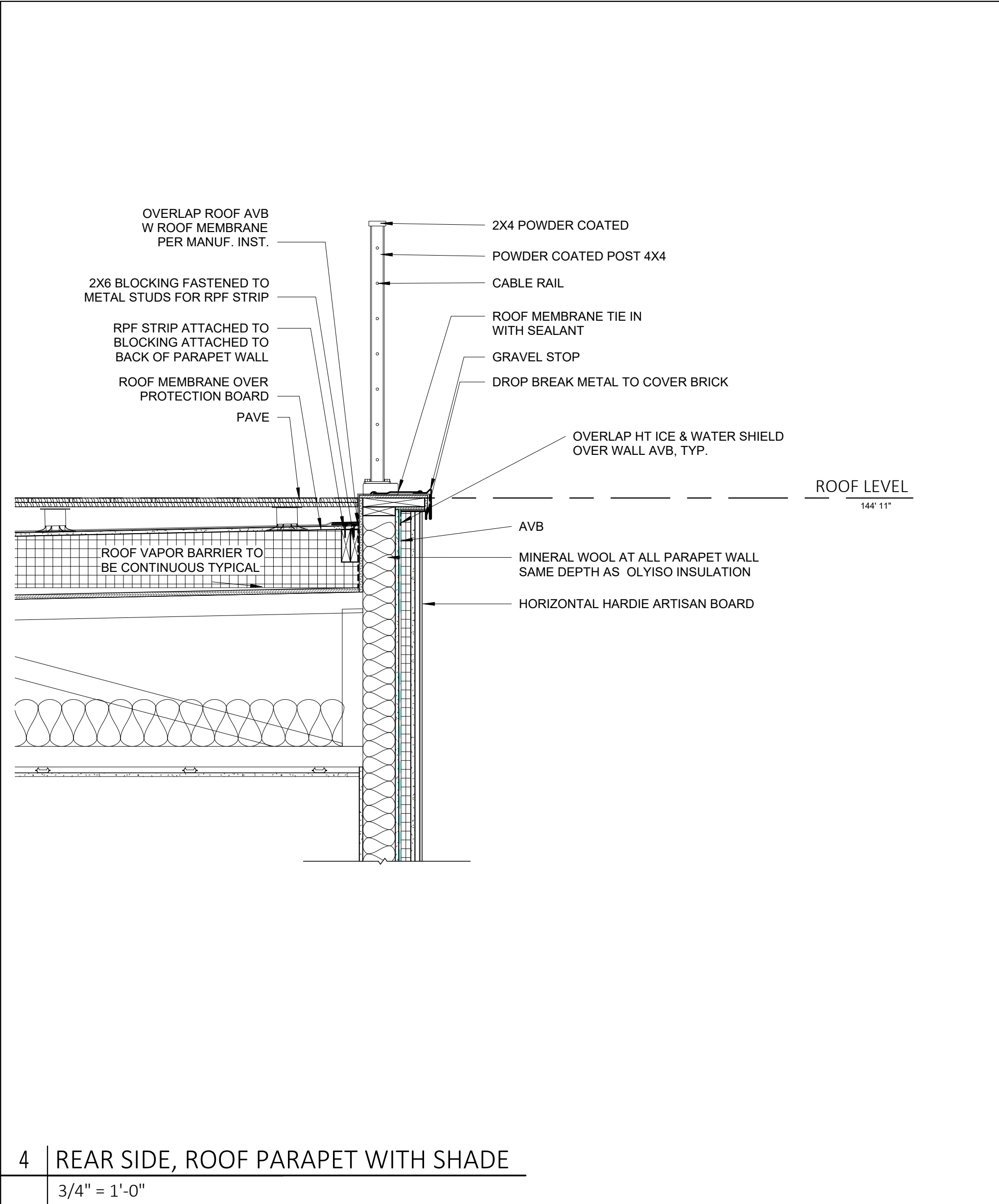
2 | Section 4 - Callout 1
3/8" = 1'-0"



3 | Section 1 - Callout 1
3/8" = 1'-0"

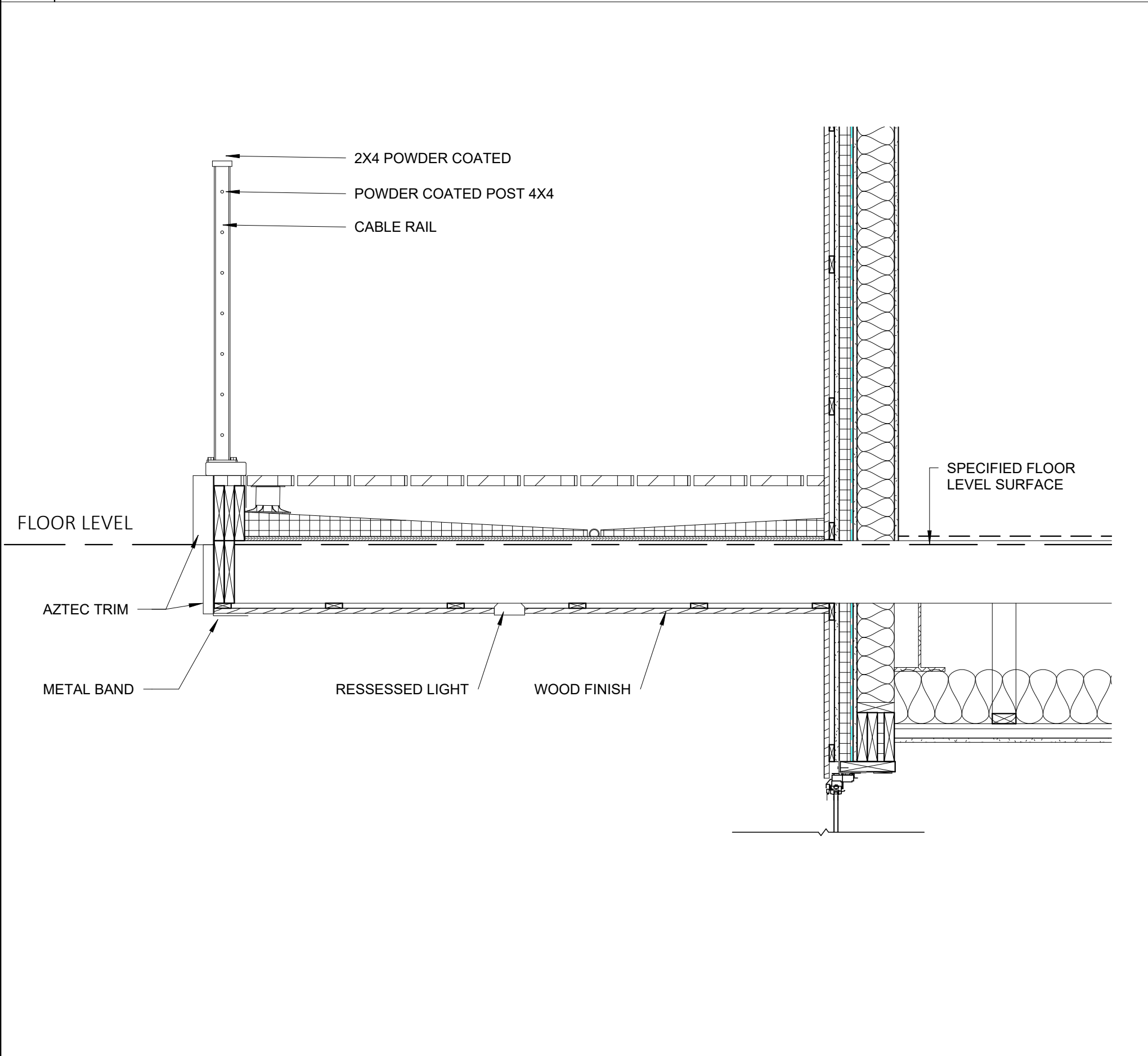


5 | Section 6 - Callout 2
3/8" = 1'-0"



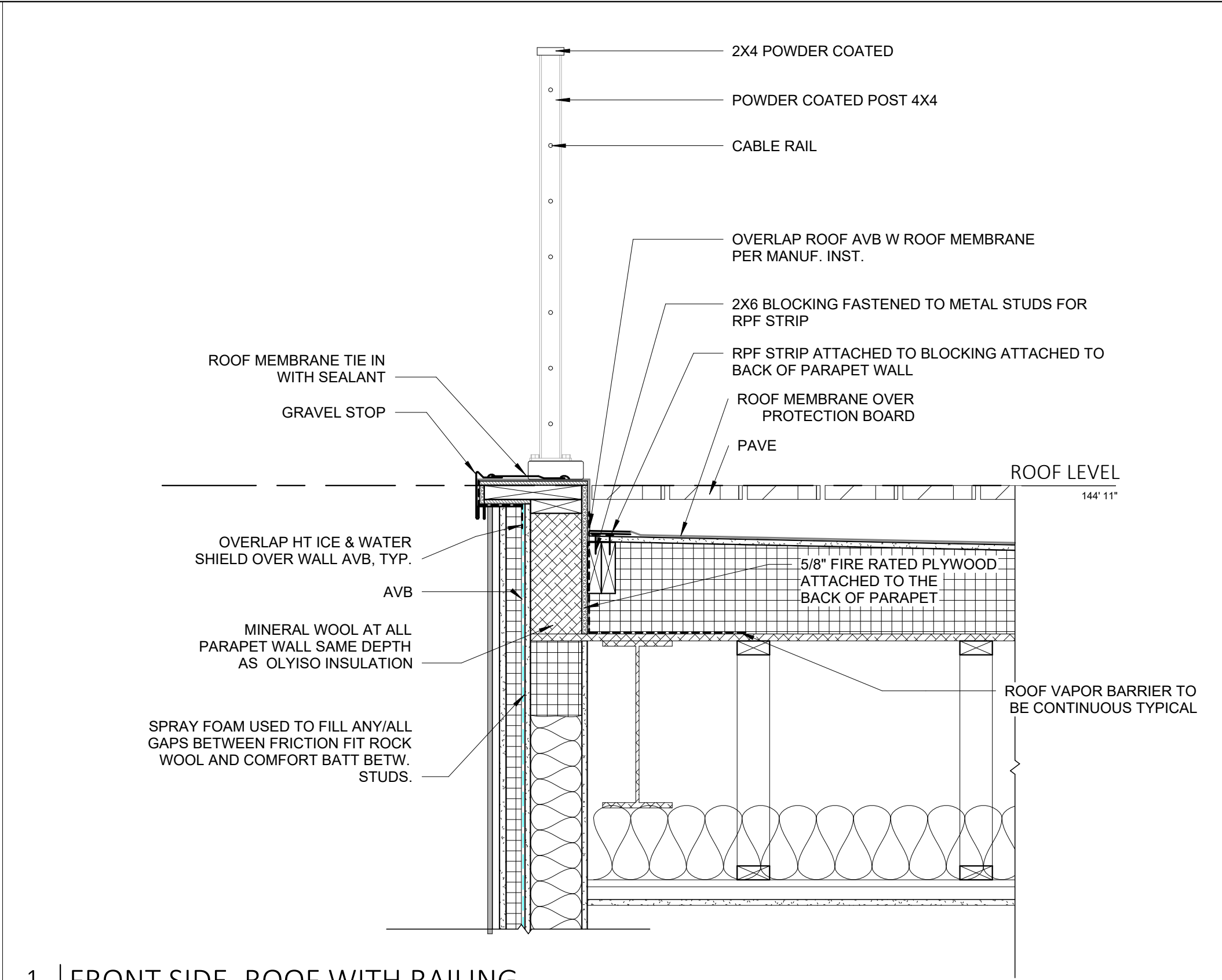
4 | REAR SIDE, ROOF PARAPET WITH SHADE

3/4" = 1'-0"



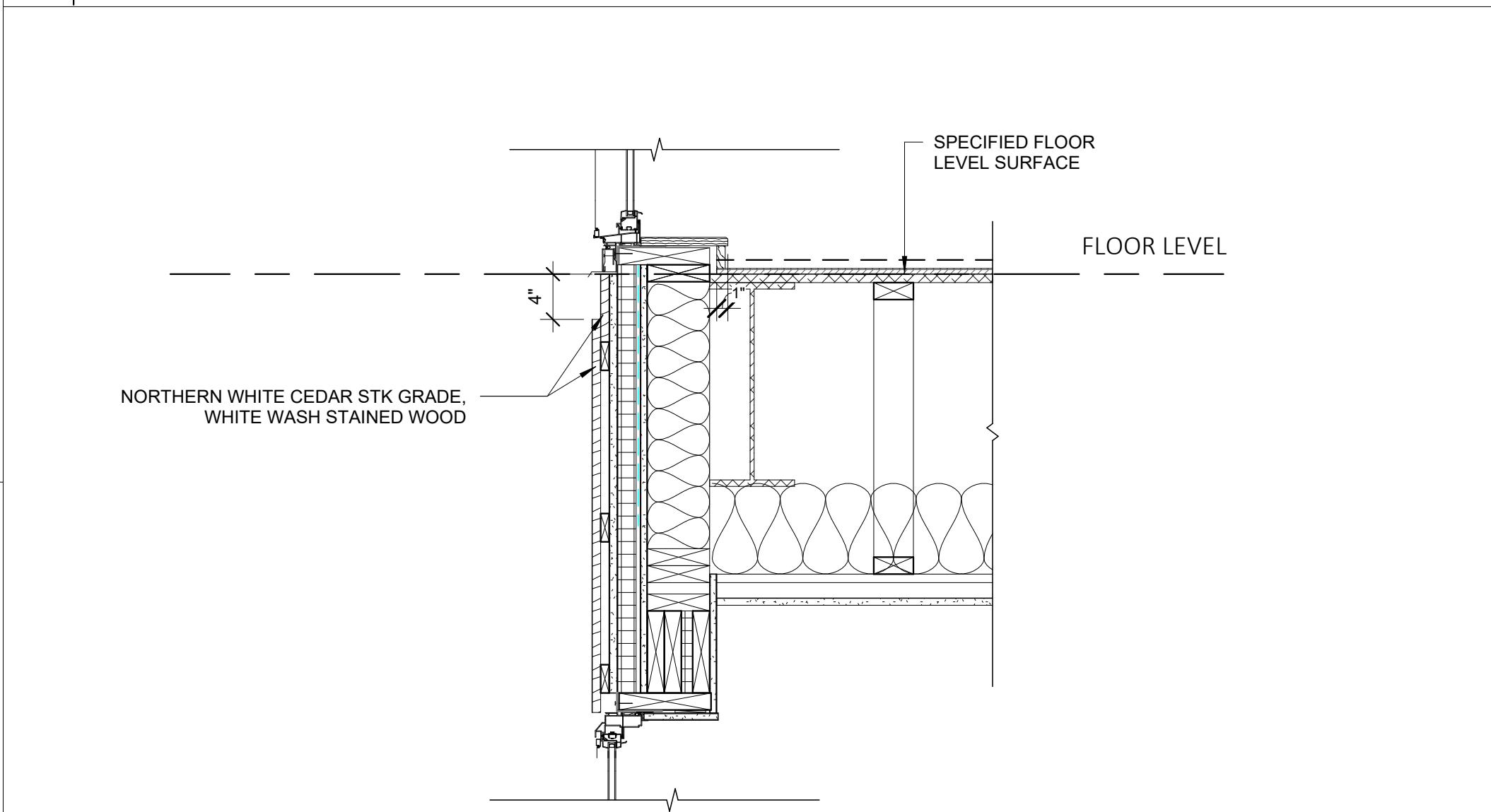
3 | FRONT SIDE, BALCONY

3/4" = 1'-0"



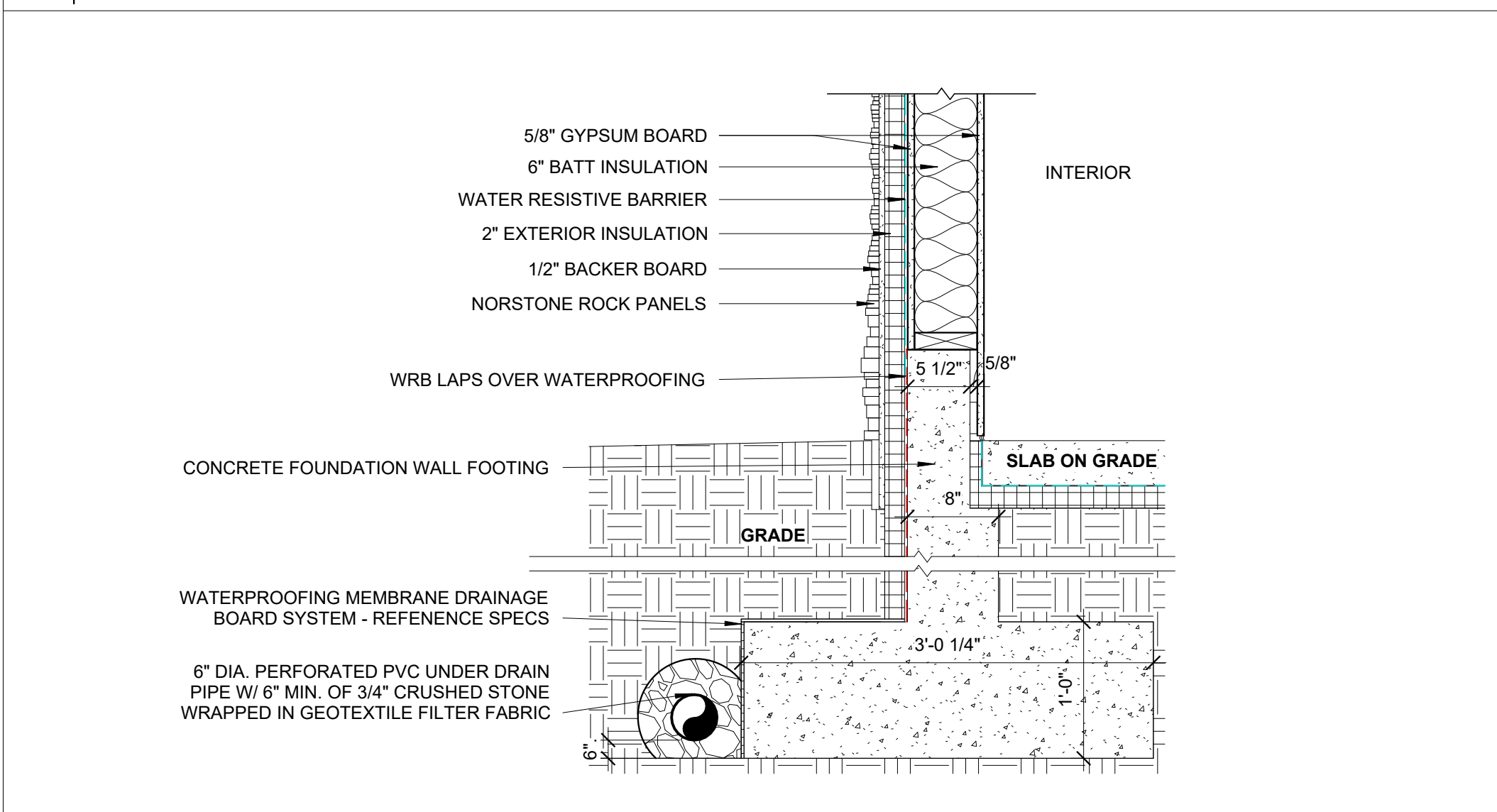
1 | FRONT SIDE, ROOF WITH RAILING

1" = 1'-0"



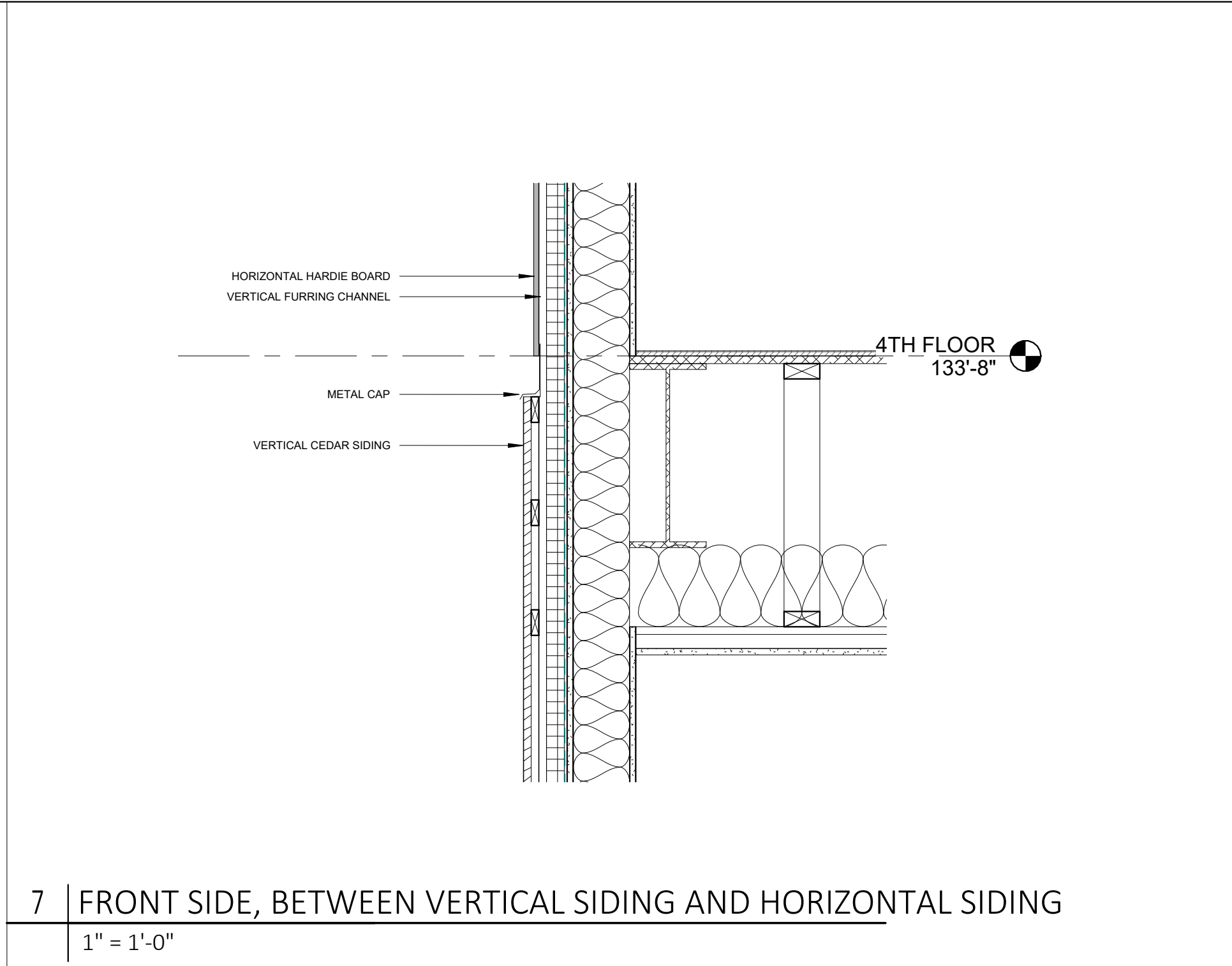
5 | FRONT SIDE, WINDOW SILL AND HEAD WITH 4INCH GAP

1" = 1'-0"



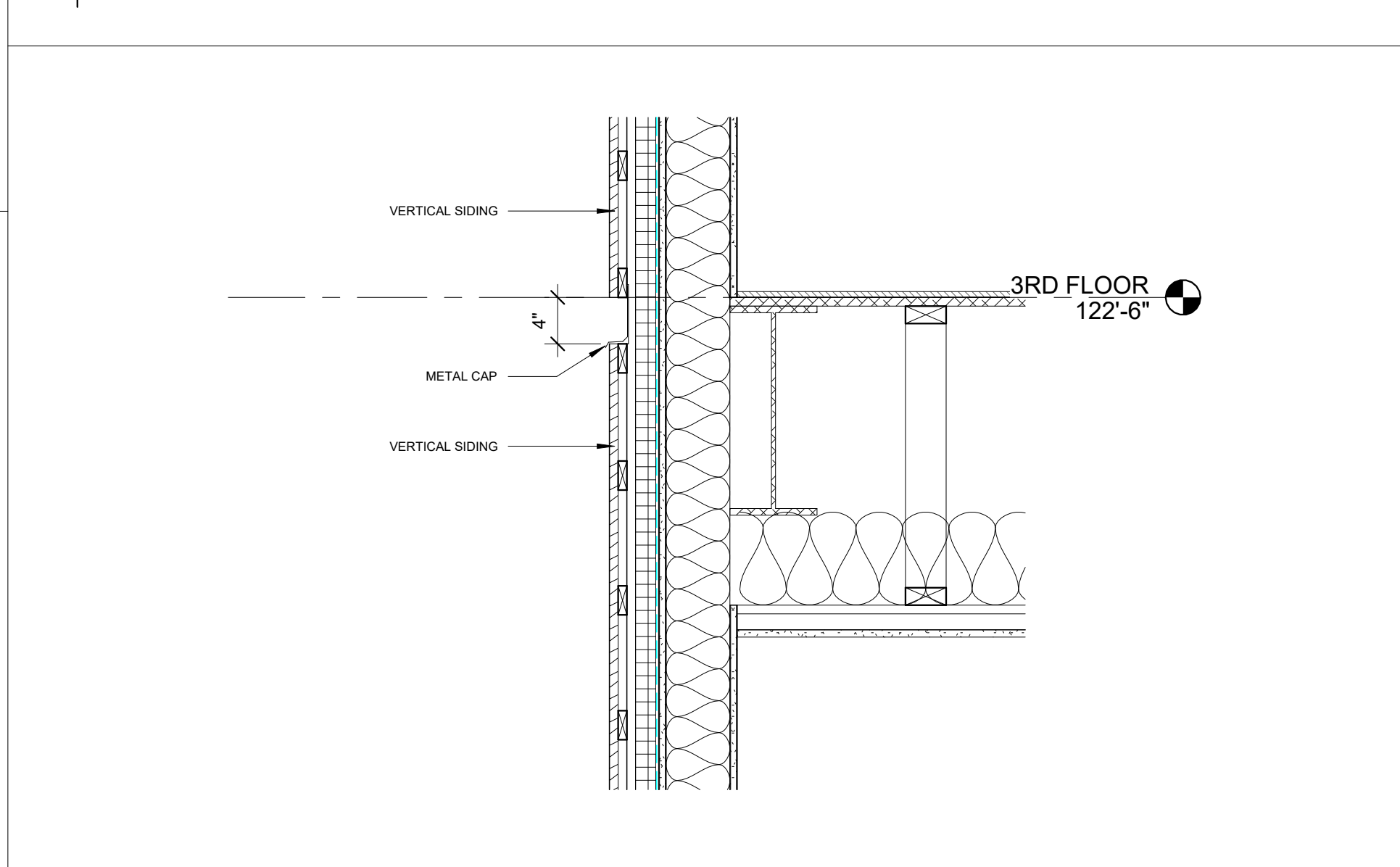
2 | FRONT SIDE, BASE

1" = 1'-0"



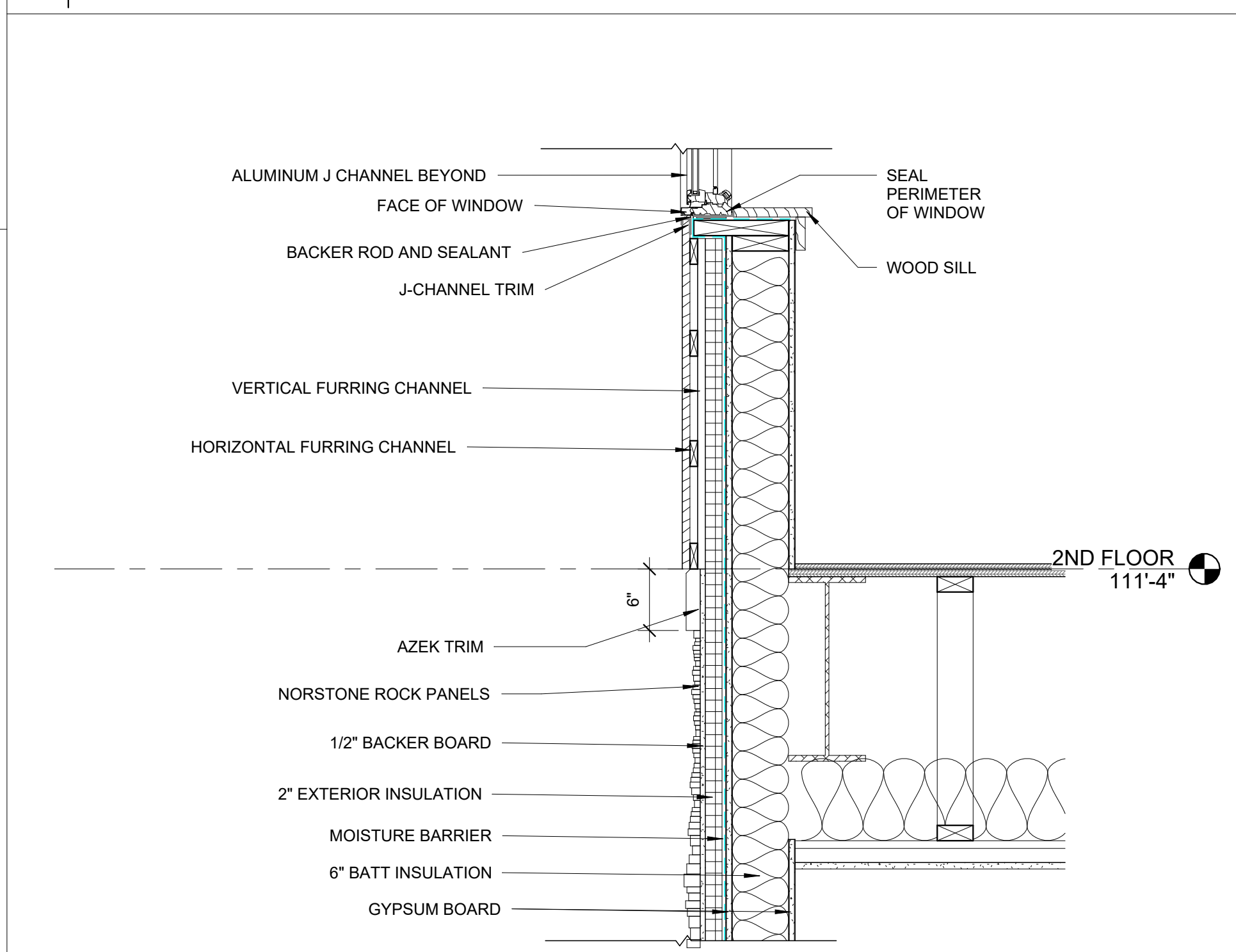
7 | FRONT SIDE, BETWEEN VERTICAL SIDING AND HORIZONTAL SIDING

1" = 1'-0"



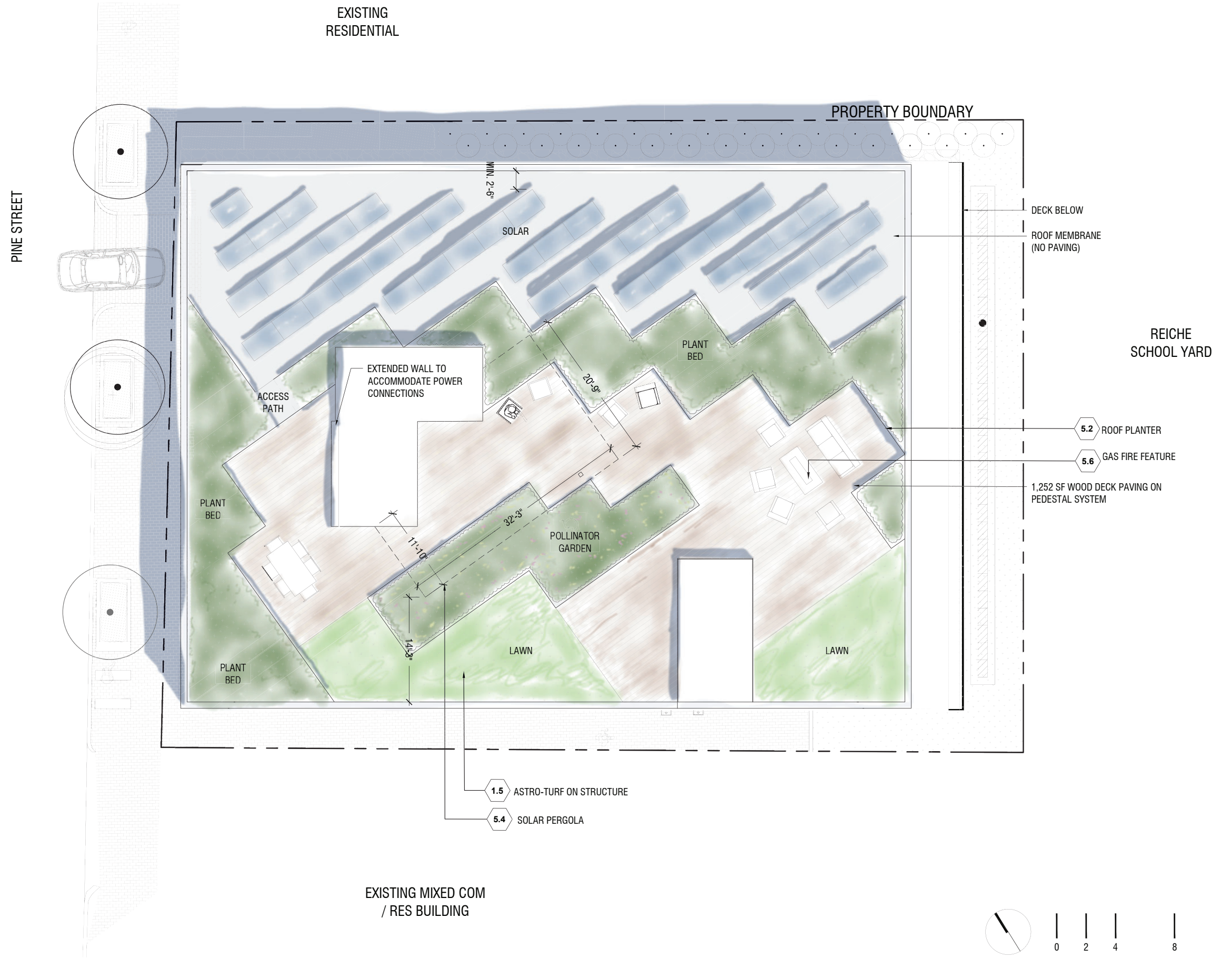
8 | FRONT SIDE, SIDING WITH 4 INCH GAP

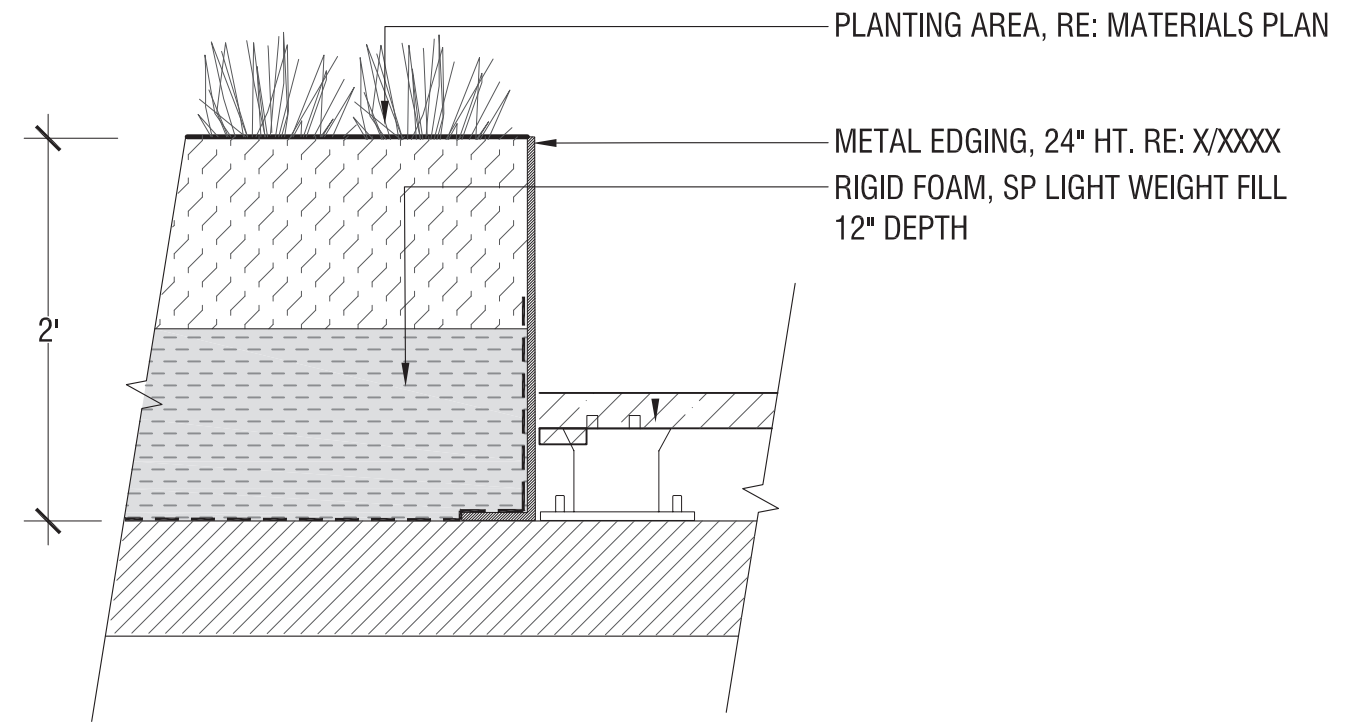
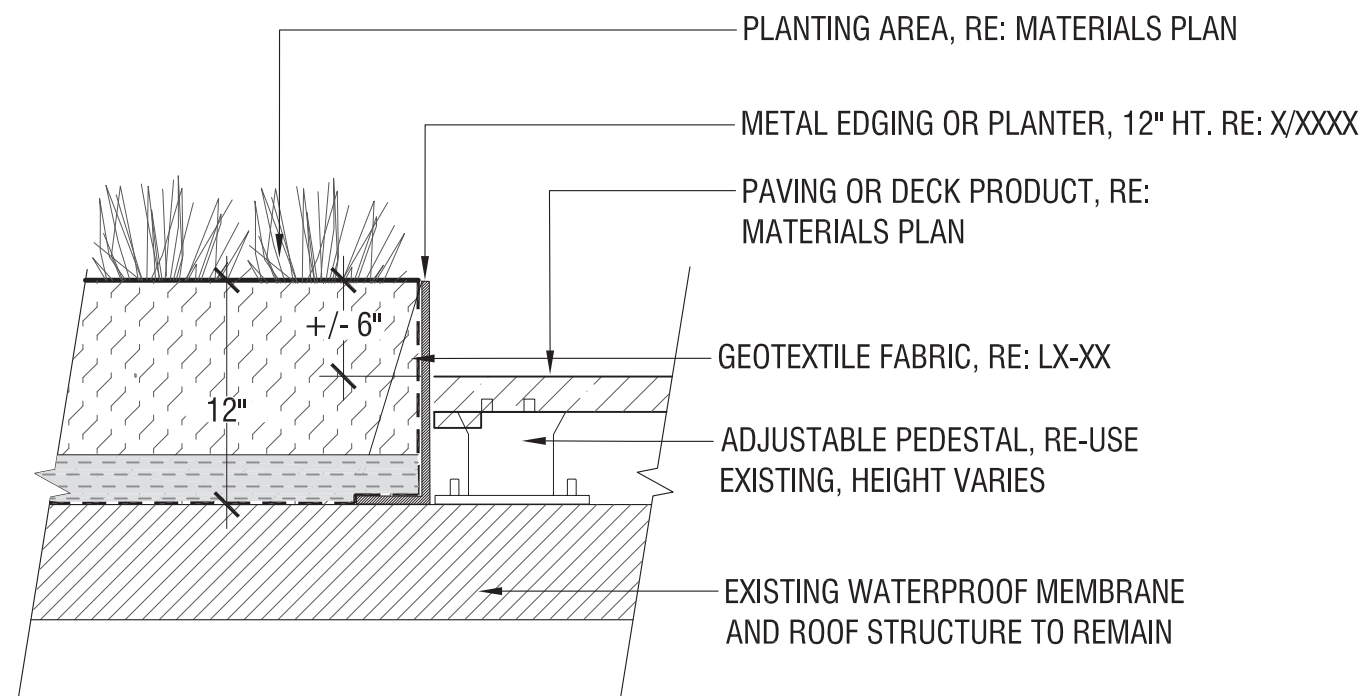
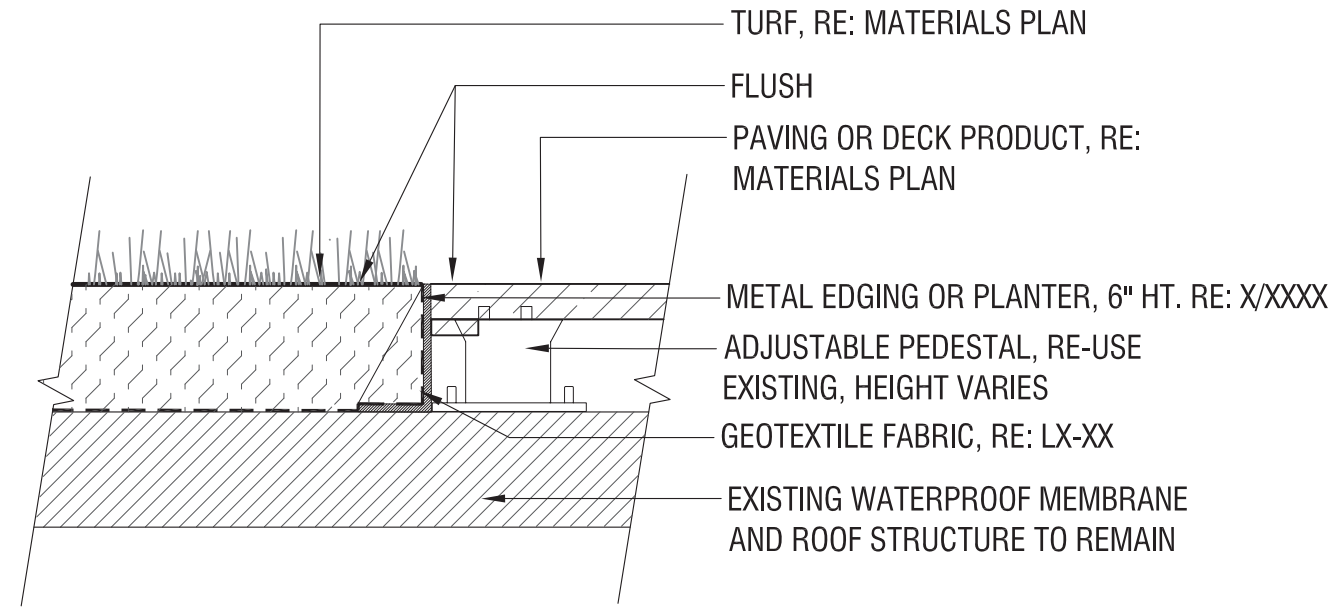
1" = 1'-0"



6 | FRONT SIDE, BETWEEN 1ST FLOOR AND 2ND FLOOR

1" = 1'-0"





1 ROOF AND PLANTER CONDITION

1":1'-0"



HORIZONTAL

HARDIE, ARTISAN SQUARE CHANNEL SIDING



Square Channel	Thickness 5/8 in
Width	10.25 in (9 in exposure)
Length	12 ft
Pcs/Pallet	105
Prime	•



PVC HIGH PERFORMANCE WINDOW

VERTICAL

PINE, SILVER COLOR STAINED
WILL BRING THE SAMPLE WITH STAINED

AZEK TRIM

AZEK TRIM

NORSTONE PLANC, SILVER GREY QUARTZ



HARDIE® ARTISAN SIDING

ARTISAN SQUARE CHANNEL SIDING

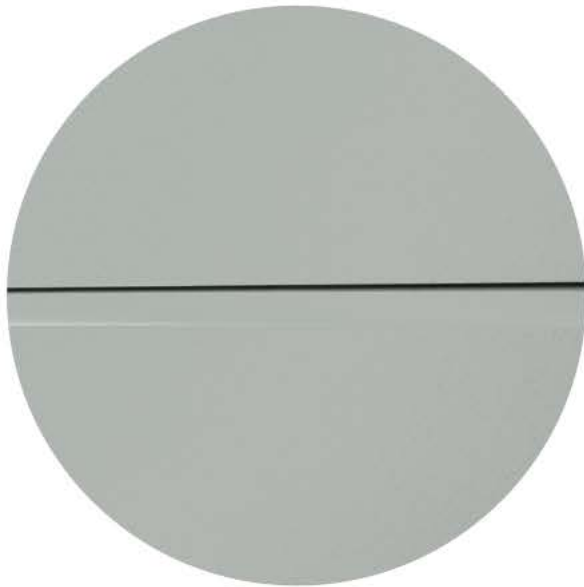
Artisan Square Channel's precise, right-angle cuts create wideset channels that complement traditional and modern styles.

Primed for Paint

Size Options

Thickness	0.625"
Weight	4.49 lbs. per square foot
Length	144"

Widths	10.25"
Exposures	9"
Pcs./Pallet	105



Square Channel

Square Channel	Thickness 5/8 in
Width	10.25 in (9 in exposure)
Length	12 ft
Pcs/Pallet	105
Prime	●



PLANC™

Large Format Stone Veneer System

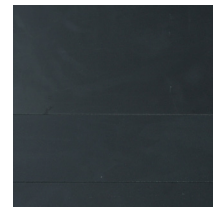
EXPERIENCE THE ART OF LINEAR WALL CLADDING

Norstone's PLANC™ range consists of large format linear stone strips, carefully crafted in modular sizes, and expressly designed to cover expansive walls for both residential and commercial projects.

This new wider, longer format allows the stone's intrinsic character to fully shine - from sprawling ancient mineral formations to subtle tonal variations, our new PLANC™ system showcases natural stone at its very finest.



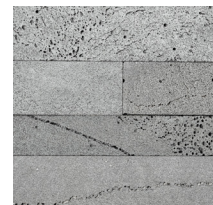
PLANC™ Colors



Ebony Basalt



Grey Basalt



Platinum



Silver Grey Quartz



Graphite

PLANC™ Specs

Built to generous scale, Norstone's new **large format** tile, PLANC™, yields a breath-taking and expansive style. At 31.5" in length, each tile stretches well beyond typical finish dimensions found in the stone industry, ensuring that each project using it will truly stand out. We show PLANC™ in a staggered format, however each tile set is supplied as 3 loose strips so patterns and staggers are unique to each installation.

Unit Dimensions

One PLANC™ SET: 31.5" Long x 3.1" / 2.4" / 5.5" Tall
Thickness: 0.8" Thick

Weight

12.5 lbs/sq ft

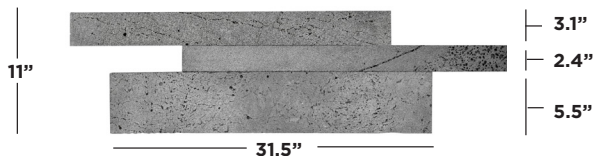
Coverage

2.4 sq ft/set

PACKAGING & USAGE SPECS

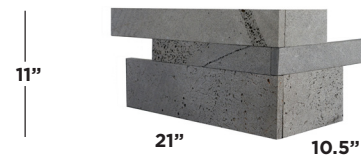
Pc / Set	Sq Ft / Set	Sets / Crate	Sq Ft / Crate
3	2.4	63	151.2
Interior	Exterior	Freeze / Thaw	Wet Applications
✓	✓	✓	✓

One PLANC™ SET



Displayed here in an optional staggered formation. For layout options, consult our PLANC™ pattern guide.

Finger-jointed Corner Example



Corners are mitered or toothed together in interlocking fashion on-site

The Art of Linear Wall Cladding

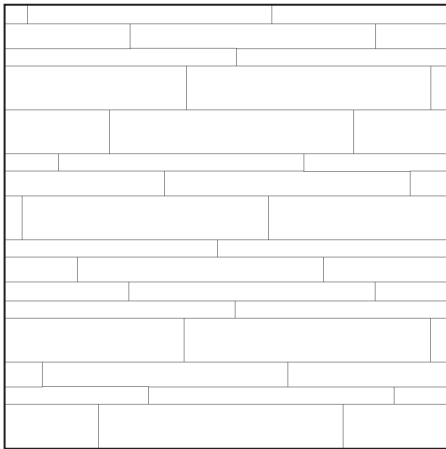
Comprising of Lavastone, Basalt, and Quartz, the PLANC™ format represents an original and modern way of integrating natural stone into a project, putting on display each stone's unique character and distinctive style.



Popular Patterns Guide

Each set of PLANC™ comes to your project as 3 loose, large-format strips of stone in our pre-configured sizes of 31.5" long by 2.4", 3.1" and 5.5" high. Using your imagination as your guide, PLANC™ can be laid in many different patterns and combinations. Below are the most commonly used patterns that you can specify with your installation team.

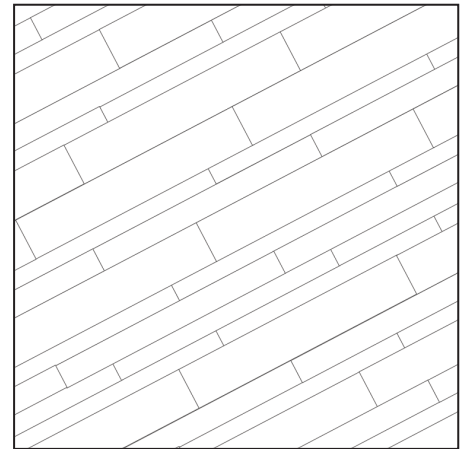
Running Bond



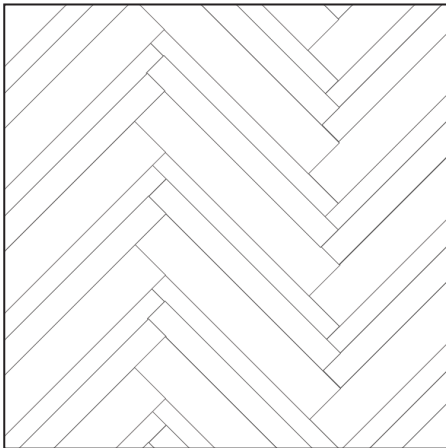
Soldier Stacked (Dry-Stacked)



Angular, Randomized Running Bond



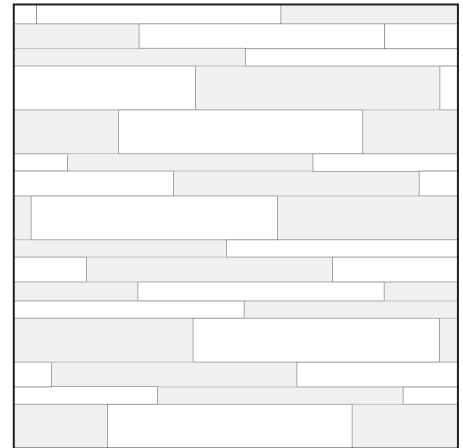
Herringbone



Soldier Stacked (1/16" Joints, Grouted)



Dimensionalized, Running Bond



*Dimensionalize individual strips w/ spacers in setting bed for 3D look.

Striking Architectural Lines in one Highly Flexible System. Start Your Dreaming.

Packaged as three loose strips per set, PLANC™ can be laid staggered, symmetrical, asymmetrical, or simply however catches your eye. In PLANC™, we deliver a versatile large format veneer with a truly streamlined appearance.

RESIDENCE, LOS ANGELES, CA
PLATINUM PLANC





RESIDENCE, WEST PALM BEACH
PLATINUM PLANC



Norstone PLANC™

Installation Guide for PLANC™ Large Format Tile



TEL: 866 717 4548 EMAIL: SALES@NORSTONEUSA.COM WEB: WWW.NORSTONEUSA.COM

Norstone is a manufacturer and supplier of premium natural stone products for residential and commercial world markets.

Established in 2002, Norstone has forged its name by maintaining the highest standards in the industry for quality control, product design, and customer service. We're as passionate about your project as you are.

Table of Contents

Introduction to Planc™..... 3

Estimating Stone Required 3

Professional Installation Recommended 3

Tools and Material Needed 4

Preparing Your Substrate for Installation..... 4

 Installing Over Open Stud Walls 4

 Installing Over Block, Brick, CMU, or Poured Concrete 5

 Installing Over Steel..... 5

Installing the Planc™ Large Format Tiles..... 6

How to Address Corners 7

Special Note on Moisture Rich Environments and Freeze Thaw Climates..... 7

Special Note on Control Joints 8

Post Installation Guidelines..... 8

 Cleaning 8

 Sealing..... 8

 Ongoing Maintenance 9

Disclaimer..... 9

Warranty..... 10

Appendix A – Substrate Detail 11

For Detailed Product Information, please visit the following web-based resources:

Technical Library

Product Page



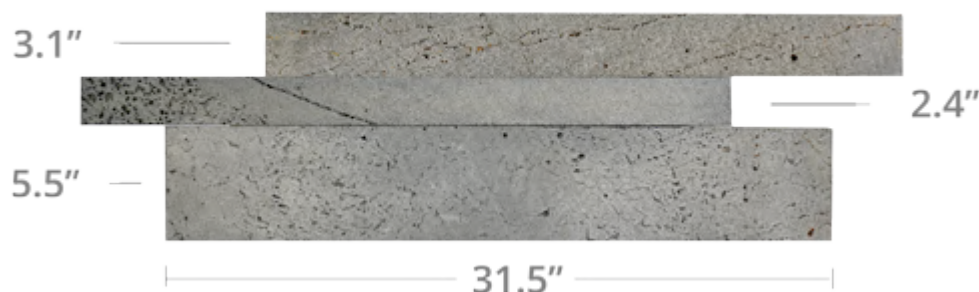
Introduction to Planc™

Planc™ Large Format Tiles are produced by Norstone Pty Ltd., of Sydney Australia. For more information not contained in this document, contact your local Norstone distributor for assistance. Planc™ Large Format Tile products are designed to offer a large scale linear looking natural stone veneer option, open to being set in a variety of patterns. Planc™ Large Format Tiles adhere to the following physical properties

STONE CLASSIFICATION: Basalt, Quartz, or Lavastone

COLOR: Platinum, Graphite, Grey Basalt, Ebony Basalt, Silver Grey Quartz

SIZE: Each Planc™ Set consists of three loose strips of stone. Each strip is 31.5" long, and each set will have one strip at each of the following heights, 5.5", 3.1", 2.4". All strips are .8" thick and each set covers 2.4 sq ft.



WEIGHT: approx 12.5 lbs per sq ft, or 30 lbs per set.

PACKAGING: 1 set = 2.4 sq ft. ; 63 sets per crate = 151.2 square feet per crate

Estimating Stone Required

Determine the amount of the Planc™ Large Format Tile to be ordered by measuring the area to be covered. Measure the length times the height to determine the square footage required. Subtract the square footage for window and door openings. Always allow a minimum of 10% for error and wastage when ordering.

Professional Installation Recommended

PLANC™ Wide Format Stone Veneers can be installed by most home handyman with a limited knowledge of building and construction; however we strongly recommend they be installed by professional licensed tradesmen.

[Return to Table of Contents](#)

Tools and Material Needed

[1] For cutting and modifying Planc™ Large Format Tile, a quality tile **wet saw with a continuous rim diamond blade** is required and should **tilt** if miter cuts are necessary; these are usually available for hire on a daily basis from large equipment hire firms in your area. [2] An angle grinder may be used for around small protrusions in the wall such as pipes, steelwork etc. [3] Steel trowel, [4] ½" (half-inch) notched trowel, [5] large sponge, and [6] recommended tile thinset adhesive, meeting or exceeding ANSI 118.4 & 118.11 standards.

Optional materials that **may be required**, depending on the substrate and application include:

Metal Lath
Thick Bed Mortar
Waterproofing Membrane
Grout and Grout Spacers
Natural Stone Sealer

[Return to Table of Contents](#)

Preparing Your Substrate for Installation

It is mandatory that local building codes be followed in the installation of Planc™ Large Format Tile. Please consult your building authority with any specific questions relating to the local building codes.

Planc™ Large Format Tiles weigh approximately 12.5 lbs per sq ft; therefore it is critical that they are fixed to an appropriate substrate to ensure a successful installation. Planc™ Large Format Tiles may be applied over any masonry surface, concrete block, brick, cement, etc. Painted surfaces must be sandblasted, or otherwise stripped of paint. If a new wall needs to be built of a thinner and lighter substrate, cement board is the correct material to use. **PLANC™ Wide Format Stone Veneer SHOULD NOT be installed over drywall or sheet rock.**

All walls should be checked for plumb and corrected as necessary to within 1/8" tolerance over 10' and no more than 1/16" tolerance in any 2'.

Installing Over Open Stud Walls

Planc™ Large Format Tiles can be installed over open stud walls using either cement board or a combination of wood sheathing, metal lath, and scratch coat. First ensure the wood or steel frame is structurally capable of supporting the weight of the Planc™ Large Format Tiles.

If using cement board, it must be a minimum of 1/2" thick to support the weight of the Planc™ Large Format Tiles and must be securely fixed to the framework of either wood or steel. We suggest that the board be glued and screwed to the frame. First, cover the entire frame, where contact with the cement board is made, with a good quality mastic type adhesive and then fix the cement board to the frame, screwing at 24 inch centers using screws that are a minimum of 2 inches long. To ensure safety, strength and permanent fixing, this work should only be done by a qualified and licensed builder. If project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the cement board and the setting material.

If using wood sheathing, it must be exterior grade and covered with an exterior sheathing product such as 15 lb builders felt or 4 mil polyethylene. A 3.4# galvanized diamond wire metal lath is then to be affixed to the substrate per manufacturer's recommendations and then covered with a thick bed mortar mix. If project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the scratch coat and the setting material.

Please refer to Appendix A for detailed substrate drawings over open stud walls.

Installing Over Block, Brick, CMU, or Poured Concrete

First ensure that the surface is clean and free of any foreign agents, including paint that may interfere with the bond between stone and substrate. This may require light sandblasting or waterblasting.

** Special note for pre-fabricated concrete tilt up construction – all release agents must be removed from concrete surfaces prior to Planc™ Large Format Tile installation.

Next, in all installations over brick, or over other concrete substrates with uneven surfaces, a thick bed mortar mix is troweled onto the substrate to even out any inconsistencies in the substrate and provide a mortar base with which to adhere the setting material to. If the project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the mortar bed and the setting material.

Please refer to Appendix A for detailed substrate drawings over concrete substrates.

Installing Over Steel

First ensure that the surface is clean and free of any surface contamination, such as rust, dirt, paint, and manufacturing oils. **Refer to the steel manufacturer's guidelines for adequately removing all manufacturing oils as to not interfere with the bond between Planc™ Large Format Tiles and substrate.** If possible, tack weld a wire lath onto the steel in accordance with ANSI A108.0 – 3.3 standards. Once the lath is in place, a thick bed mortar mix is troweled onto the steel to fully cover the lath and form a suitable bonding substrate with which to adhere the setting material to. If the project is either exterior or will be exposed to moisture, a waterproofing / anti fracture membrane, to comply with ANSI 118.10 will be required between the mortar bed and the setting material.

Alternatively, Planc™ Large Format Tiles can be adhered directly to a contaminant-free steel substrate using an epoxy based tile adhesive meeting or exceeding ANSI 118.3

standards. This method should only be used when tack welding wire lath and creating a mortar bed on the steel substrate is not feasible. A waterproofing / anti fracture membrane is not required in this method.

Please refer to Appendix A for detailed substrate drawings over steel.

[Return to Table of Contents](#)

Installing the Planc™ Large Format Tiles

Make certain the back of each tile is free of dirt, sand, or loose particles. When necessary, wash them completely. If the back of the tile is dry, dampen it first with a wet sponge, but do not saturate. This prevents the natural stone from pulling the moisture from the adhesive, allowing it to cure naturally and with a stronger bond.

Select a tile thinset adhesive that meets or exceeds ANSI 118.4 and 118.11 standards, and mix per the manufacturer's instructions. When laying Planc™ Large Format Tiles it is necessary to start the bottom row on a level line in order to maintain consistent levels in each row **as you work up the wall**. Always start installing PLANC™ at the bottom row, and **start each row at an outside corner** if one exists. It is also important that they rest on a secure base such as a concrete floor or footing to help carry the weight until the thinset has fully set.

Planc™ Large Format Tiles can be laid in a variety of patterns to suit the design of the project. Most typical is a **randomized, staggered fashion**, in an effort to minimize any vertical seams lining up from one course to the next. However, the loose nature of this tile product allows for it to be laid in many other patterns including straight stacks, symmetrical / asymmetrical columns, vertically, herringbone, and many others. It's recommend to lay out the pattern in a large area before installing on the wall to ensure the desired look is achieved.

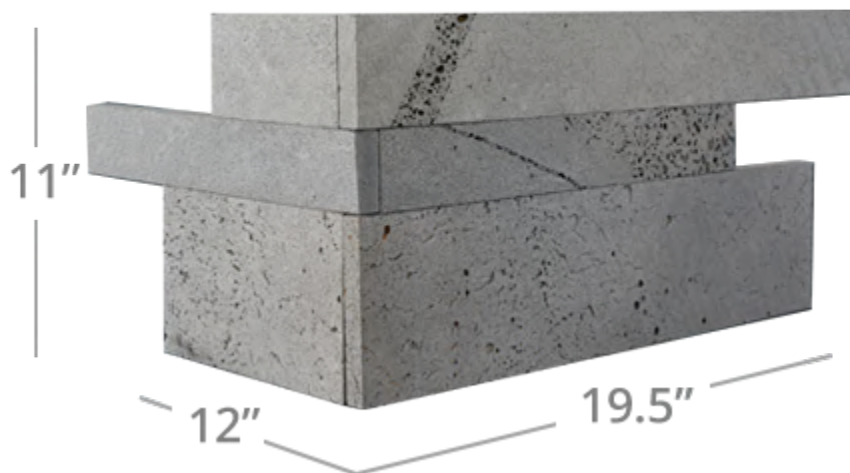
When fixing the tiles to the wall use a generous amount of recommended tile thinset adhesive and apply it to the back of each tile and to the wall. Screed the tile adhesive on to the wall using a 1/2" square notch trowel and then lightly back butter the back of each tile as its being set. By applying the adhesive to the back of each tile and to the wall, this ensures the maximum possible adhesion to your wall surface, as all the gaps, voids and cracks are filled.

Press each tile into the adhesive, rotating slightly, forcing some of the adhesive to squeeze out freely. Any adhesive forced out beyond the finished joint or on the panel surface itself must be removed before the adhesive is allowed to set. Be sure not to allow any adhesive to harden on the face of the panels as this will help in the cleanup process. **Tight joints will provide a neat appearance**, but Planc™ Large Format Tiles can also be set using a grout joint between the tiles to achieve a different look.

How to Address Corners

Outside 90 degree corners can be handled either by **[1]** miter cutting individual tiles or **[2]** using an overlapping corner technique where the cut edge of each tile alternates position as you work your way from course to course. The overlapping technique is only possible with the Lavarock color since the cut edge will have the same finish as the face

of the tile. See photo below for details. Miter-cuts should be used in all off-angle (45°, 60°, etc) corner applications.



Special Note on Moisture Rich Environments and Freeze Thaw Climates

Natural stone is an excellent choice of building material for any environment and climate, be it interior or exterior, adjacent or completely submerged in water, desert hot or polar cold. Certain products should be used and procedures followed in some of these environments, as noted below:

Moisture Rich Environments – It is critical that a waterproofing membrane meeting or exceeding ANSI 118.10 standards be applied between the substrate and tile adhesive to form a waterproof barrier. This will ensure moisture will not reach the substrate material and potentially degrade its ability to support the tile installation.

Pool Applications – It is especially important to **thoroughly seal** your pool application; note that you may be required to **re-seal** your pool application more frequently than other areas of your project. **We recommend re-sealing your pool application every 18-24 months**, or sooner if you notice your sealer has worn off or any adverse affect to your stone.

Freeze / Thaw Climates – Planc™ Large Format Tiles will not be affected at all by the normal freezing and thawing of the climate which they are exposed to, however, the same cannot be said about the substrate to which they are applied. It is critical that a waterproof / anti-fracture membrane meeting or exceeding ANSI 118.10 standards be applied between the substrate and tile

adhesive to form a water and fracture proof barrier, capable of resisting substrate movement during freeze thaw cycles.

[Return to Table of Contents](#)

Special Note on Control Joints on Exterior Façade Installations

Natural Stone is a stable building material and will not move on its own. All buildings however will move over time, settling in response to applied loads, foundation settlement, traffic vibrations, and changes in temperature and humidity.

In determining if and where movement joints may be needed as part of a stone veneer installation, consideration should be given to where differential movement is expected, for example at the intersection of different materials or at transition points between two different type of wall assemblies. Movement joints should be included as part of the building envelope by the structural engineer, and their location and should be clearly indicated on the building elevations.

Stone veneer installations should not be installed directly over top of existing movement joints. The installation should stop at the movement joint, and restart on the other side of the joint with a backer rod and **color-matched sealant** used to fill the movement joint gap.

[Return to Table of Contents](#)

Post Installation Guidelines

Cleaning

Work carefully and meticulously, to avoid adhesive dropping onto the tiles during installation. Should some thinset find its way onto the face of a tiles, allow it to dry until it is crumbly, then pick it off carefully, and use a soft bristle brush to lightly clean the spot where the adhesive may have left a slight mark.

Excess dirt and film may be removed using clean water and a soft bristle brush. It is important not to allow excessive adhesive to dry on face of the tiles. Carefully remove it with a damp rag prior to it hardening.

WARNING: Acidic cleaning agents must not be used under any circumstances as this will cause unnecessary damage to natural stone and void any warranty.

Sealing

Natural Stone products must be sealed with a good quality penetrating sealer for all exterior applications. Norstone also recommends sealing interior applications of Grey Basalt and Ebony Basalt Planc to assist in keeping these polished finishes clean and

smudge free. Always test the sealer on an off-cut or in an inconspicuous place on the finished stone wall before applying to the entire stone surface.

Follow the manufacturer's instructions regarding the application of the sealer. Sealed stone may be easier to keep clean than unsealed stone and certain sealers also repel stains. However, sealers must be periodically reapplied, especially on exterior applications, and could alter the natural coloring of the stone.

If you've installed Planc™ Large Format Tiles in a pool, it will be important to re-seal your application periodically. We recommend every 18-24 months, or whenever you notice that your sealer has worn off. This maintenance will ensure the stone stays stable and in good condition.

Ongoing Maintenance

Though natural stone will last many lifetimes, routine maintenance may be required from time to time. Depending on the application – as with any wall finish - various types of scaling or build-up may occur. Should you experience a need to clean your Planc™ Large Format Tiles please adhere to the following recommendations:

1. Regular dusting for interior applications and hose washing for exterior applications is recommended.
2. In the event that cleaning agents are needed, please select a natural detergent that is non-corrosive and non-acidic to remove build-up in problem areas. Test your detergent in an inconspicuous place to verify compatibility and results.
3. In some cases, a low grade pressure wash may be used. However, the stone should never be exposed to a direct angle of attack from the nozzle. Note that up-close attack from a pressure washer may corrode the stone, so please stand a minimum of 5 feet away when pressure washing.

WARNING

Please DO NOT:

1. Acid wash the stone.
2. High-Pressure Wash the stone (directly or indirectly).
3. Use any sharp object, such as a steel scraper, knife, or screwdriver, to remove stubborn deposits from the face of the stone. This can result in damage to the natural texture of the product.

[Return to Table of Contents](#)

Disclaimer

This Installation Guide is intended for general informational purposes only and should not be considered as professional technical or legal advice. It is designed as a reference only and shall not be construed as a substitute to seeking professional advice relevant to your particular circumstances to evaluate its accuracy, completeness and relevance for your

specified application, or employing professional and licensed contractors to install Norstone Products. Therefore Norstone does not take any responsibility for any error or misinformation that may be contained within this guide.

[Return to Table of Contents](#)

Warranty

Norstone USA, INC, Norstone Companies & Distributors, Rasan Trading Inc. — Limited Warranty

Subject to these terms and conditions, Norstone USA, Inc and all its subsidiaries and affiliates ("Norstone & Companies") warrants its products for a period of fifty (50) years from the date of original purchase from Norstone & Companies against manufacturing defects when used on a structure which conforms to all building codes and regulations and when installed in accordance with Norstone & Companies' instruction, specifications and guidelines. In the event of a defect, Norstone & Companies will credit the cost of the products purchased or, at Norstone & Companies' option, repair or provide new products to replace any products determined to be defective. This warranty is limited to the original purchaser and may not be transferred to any subsequent owner. This limited warranty does not cover damage from: a) settlement of the building or improvement or other structural movements; b) contact with chemicals or paint; c) deterioration or discoloration due to airborne contaminants; or d) staining or oxidation. This limited warranty covers only manufacturing defects in Norstone & Companies products. Norstone & Companies are not responsible for labor costs in removal and replacement of defective products.

THIS LIMITED WARRANTY DOES NOT COVER, AND SHALL AUTOMATICALLY BECOME NULL AND VOID, FOR THE FOLLOWING REASONS: (i) ABUSE; (ii) MISUSE; (iii) ACCIDENT; (iv) IMPROPER INSTALLATION, APPLICATION OR MAINTENANCE; (v) FAILURE TO NOTIFY NORSTONE & COMPANIES OF A CLAIMED COVERED DEFECT IMMEDIATELY WHEN NOTICED; OR (vi) FAILURE TO USE THE PRODUCTS IN ACCORDANCE WITH NORSTONE & COMPANIES' INSTRUCTIONS, SPECIFICATIONS AND GUIDELINES. THIS WARRANTY IS EXCLUSIVE, AND EXCEPT AS EXPRESSLY SET FORTH HEREIN, NORSTONE & COMPANIES' MAKES NO OTHER WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, AND DISCLAIMS ALL WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN ANY EVENT, THE SOLE REMEDY OF THE ORIGINAL PURCHASER SHALL BE A CREDIT FOR THE COST OF THE PRODUCTS PURCHASED FROM NORSTONE & COMPANIES' OR, AT NORSTONE & COMPANIES' OPTION, REPAIR OR REPLACEMENT OF SUCH PRODUCTS. NORSTONE & COMPANIES SHALL UNDER NO CIRCUMSTANCES, WHETHER FOR A FAILURE OF ITS LIMITED WARRANTY OR OTHERWISE, BE LIABLE TO BUYER OR OTHERWISE FOR SPECIAL, INCIDENTAL, DIRECT, PUNITIVE, OR CONSEQUENTIAL DAMAGES, OR FOR DAMAGES IN EXCESS OF ANY AMOUNTS PAID TO NORSTONE & COMPANIES HEREUNDER. NO WAIVER, ALTERATION, ADDITION OR MODIFICATION OF THE FOREGOING CONDITIONS SHALL BE VALID UNLESS MADE IN WRITING AND SIGNED BY AN OFFICER OF NORSTONE & COMPANIES.

[Return to Table of Contents](#)

Appendix A – Substrate Detail

Appendix A details proper installation procedures over various substrates in both interior and exterior applications. Please direct all questions to your local Norstone office at 866-717-4548.

Open Stud – cement board – Exterior.....12

Open Stud – Lathe and Mortar – Exterior.....13

Open Stud – Interior.....14

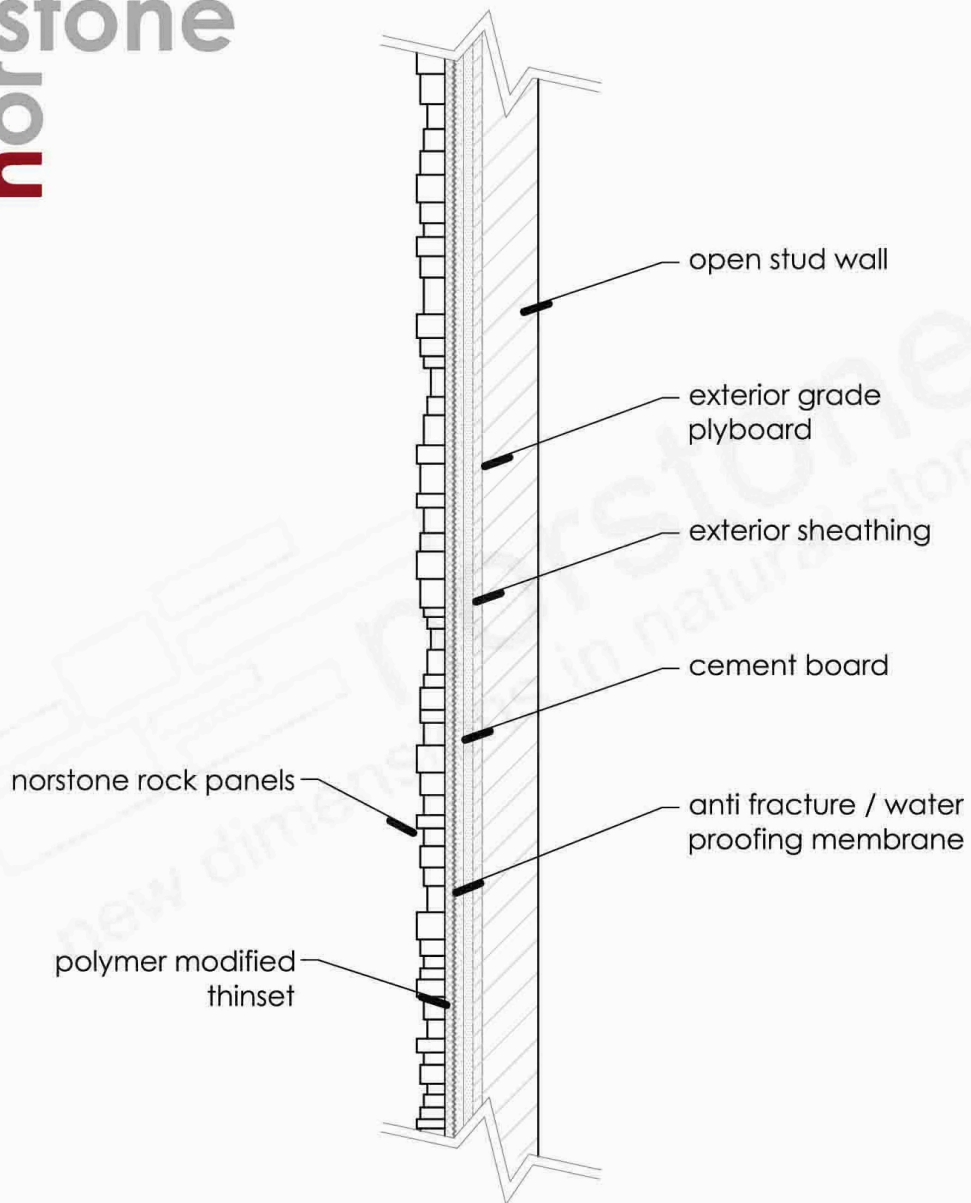
Concrete.....15

Steel – Epoxy Adhesive.....16

Steel – Lathe and Mortar.....17

[Return to Table of Contents](#)

norstone

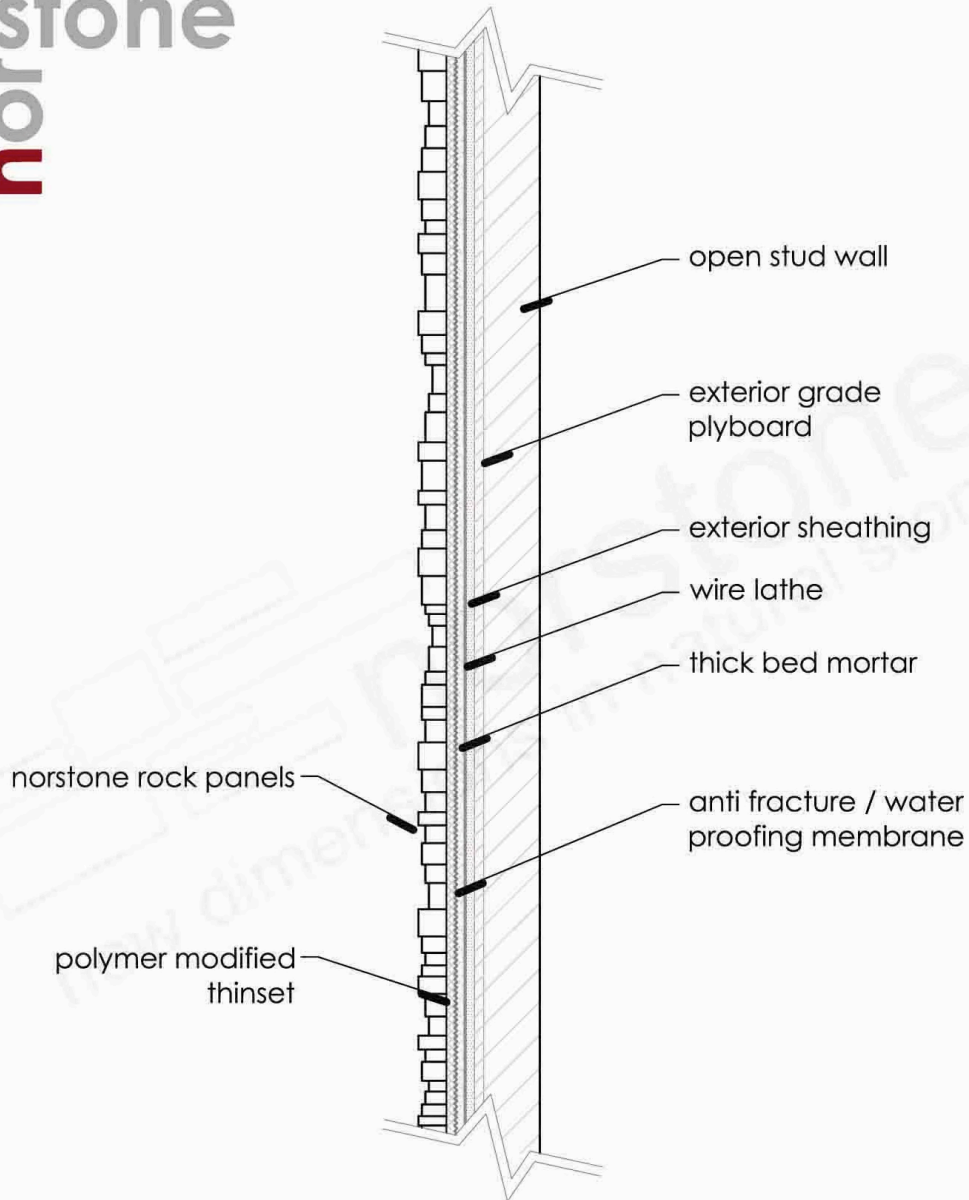


rock panel detail - open stud wall - exterior #1

n.f.s.

© norstone usa, inc.

norstone

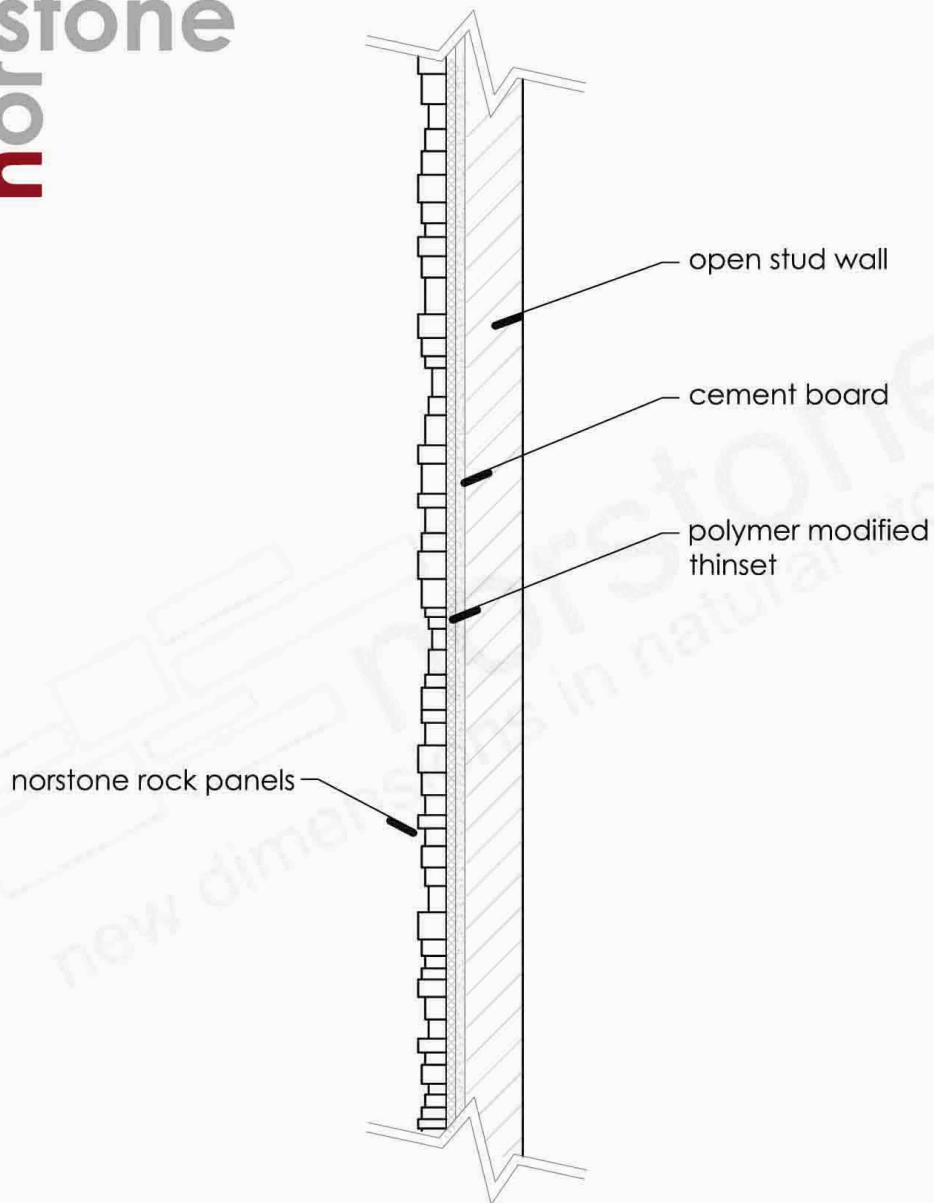


rock panel detail - open stud wall - exterior #2

n.f.s.

© norstone usa, inc.

norstone

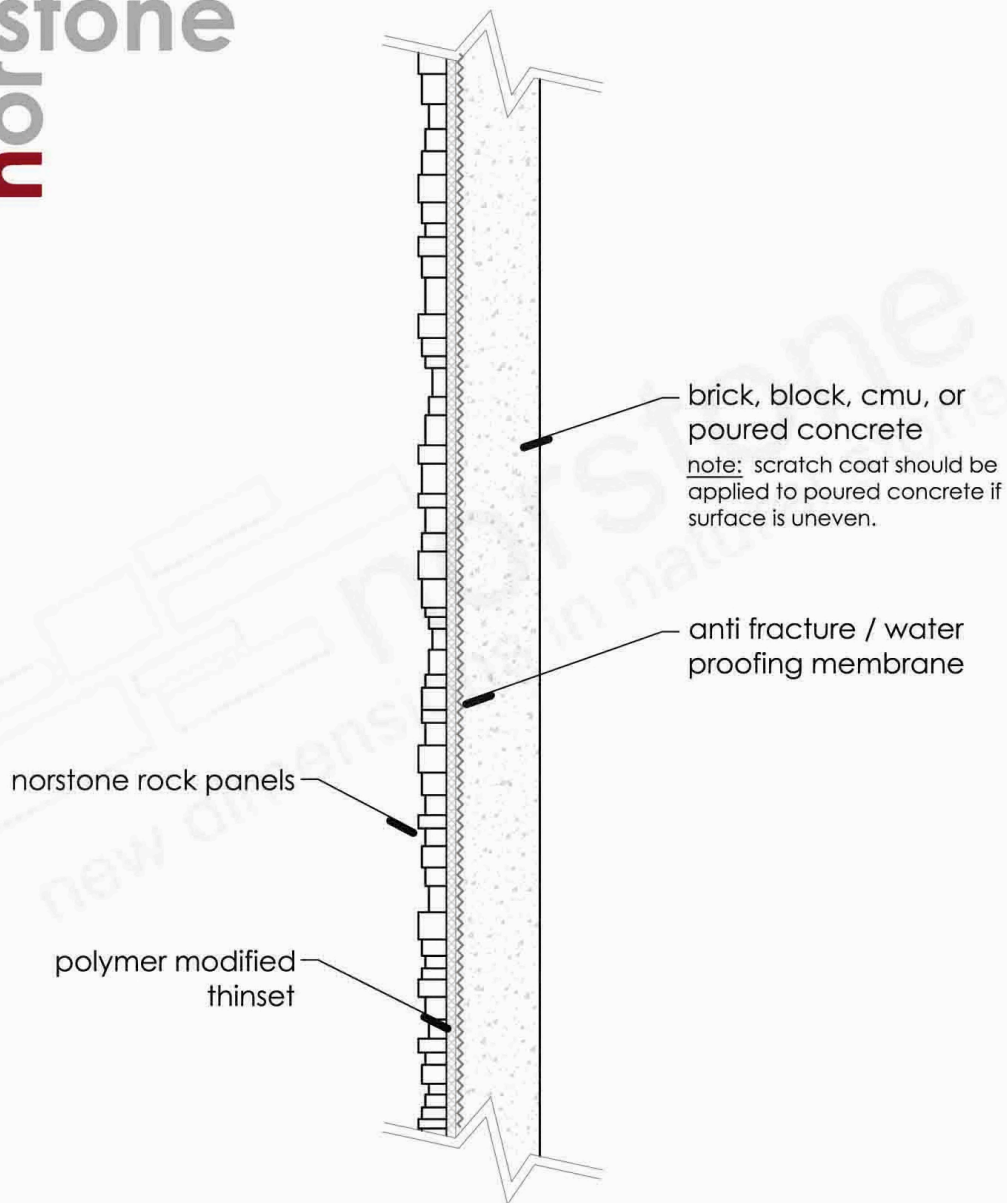


rock panel detail - open stud wall - interior

n.f.s.

© norstone usa, inc.

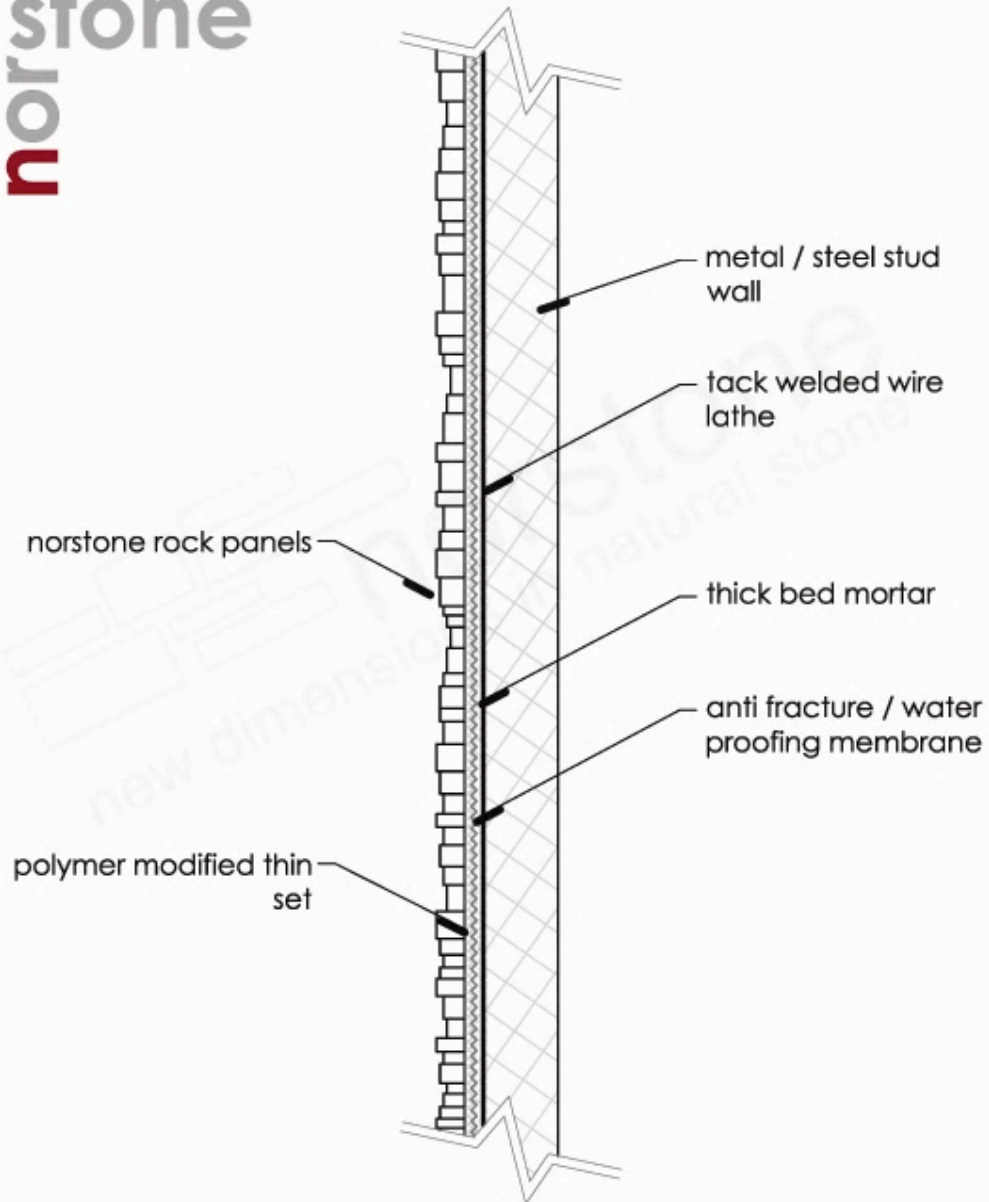
norstone



n.f.s.

© norstone usa, inc.

norstone

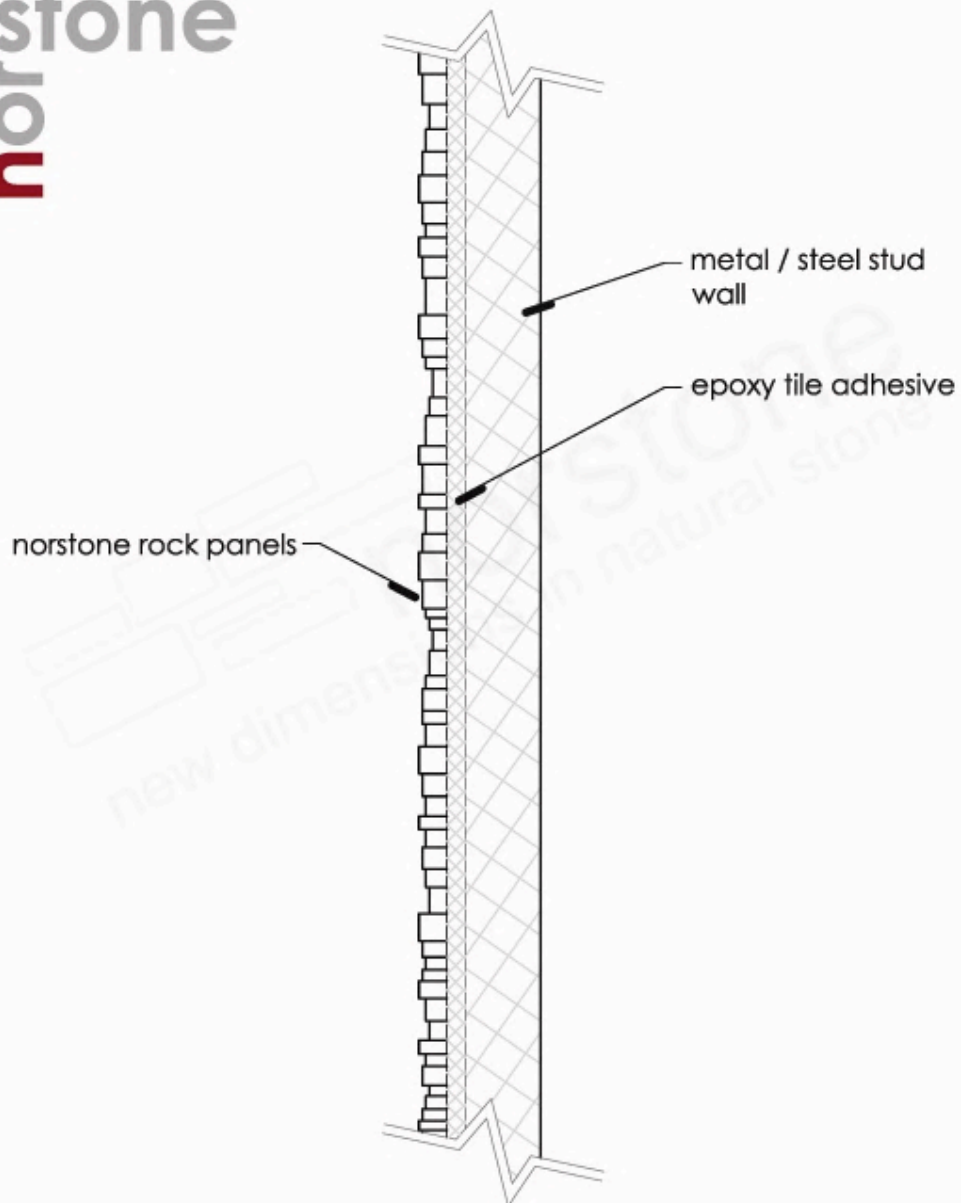


rock panel detail - steel #1 - exterior

n.i.s.

© norstone usa, inc.

norstone



rock panel detail - steel #2 - exterior

n.i.s.

© norstone usa, inc.

STAFF MEMORANDUM
HISTORIC PRESERVATION PROGRAM
PLANNING AND URBAN DEVELOPMENT



TO: Chair O'Brien and Members of the Historic Preservation Board
FROM: Rob Wiener, Historic Preservation Compliance Coordinator
DATE: May 9, 2024
RE: 7 Lafayette Street - PUBLIC HEARING – Addition, Rehab, and Foundation Replacement
PROJECT ID: HPBR-002874-2024
MEETING: May 15, 2024

Owner: Tanya Mahood
Architect: Josef Chalat, Azimuth LLC
Contractor: Wayne Valzania, Redhook Design
Engineer: Joe Leasure

A sign announcing the Historic Preservation Board's meeting on 5/15/24 was posted at the property on 5/10/24. A legal ad was published in the Portland Press Herald on 5/7/24 and 5/8/24, and 242 notices were sent to neighboring property owners within 500 feet of the subject property.

PROJECT SCOPE

Proposed renovations to 7 Lafayette Street include a small entry addition off the back of an existing bay on the southeast side; renovation of the basement into living space that will require lowering the basement floor and replacement of the brick and rubble foundation; replacement of non-original windows with more historically accurate versions; and replacement of the front entry stairs and front door.

Dimensions - Secondary Entrance Addition:

Overall Height, Addition: approximately 11'
Addition Footprint: 57.25 square feet

Material Specifications:

Foundation	Poured concrete with thin brick veneer
Siding	Retain the recently replaced wood clapboard; Addition: wood siding to match
Trim	Painted wood; retain or replicate existing trim, front entry and window trim
Roofing	Existing: asphalt shingle
Windows	Marvin Ultimate double hung (casements where required for egress in second floor gables)
Doors	Front: Custom wood entrance door

SUMMARY OF HISTORIC CONTEXT

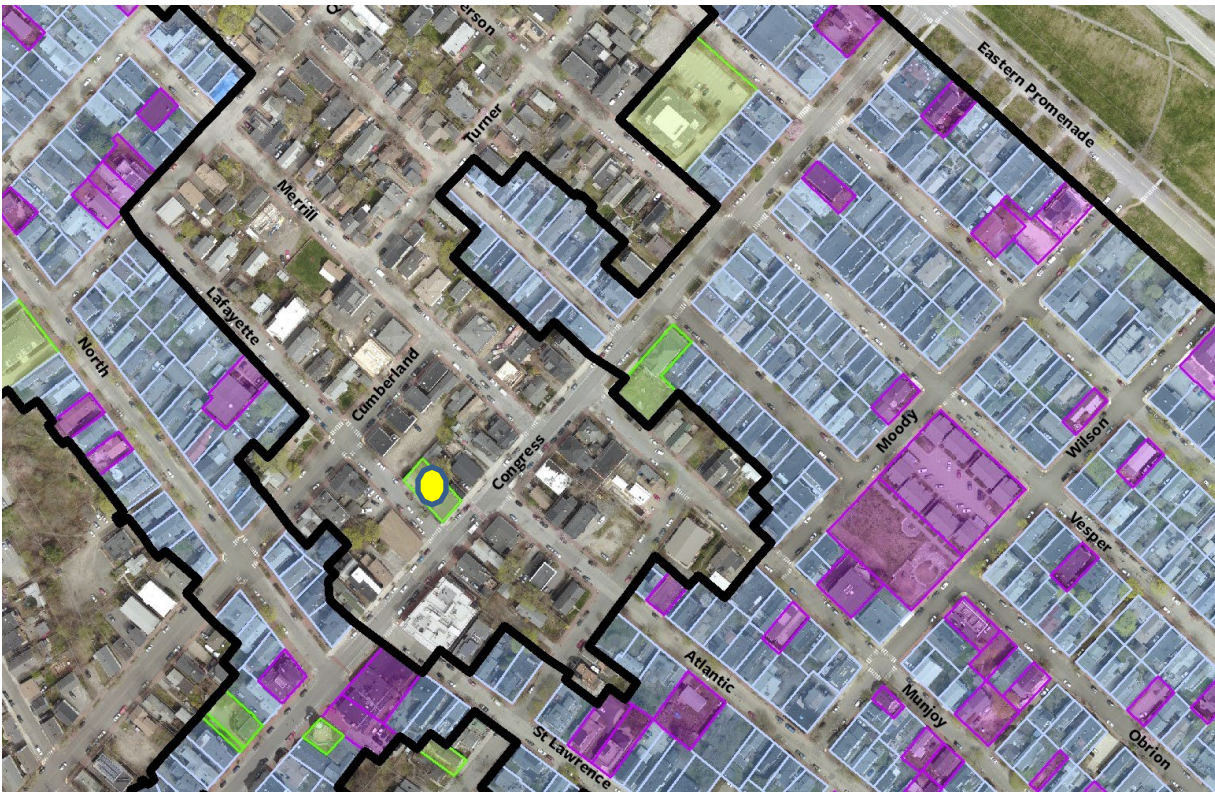


Figure 1: Partial Map of Munjoy Hill Historic District and nearby landmarks showing location of 7 Lafayette Street

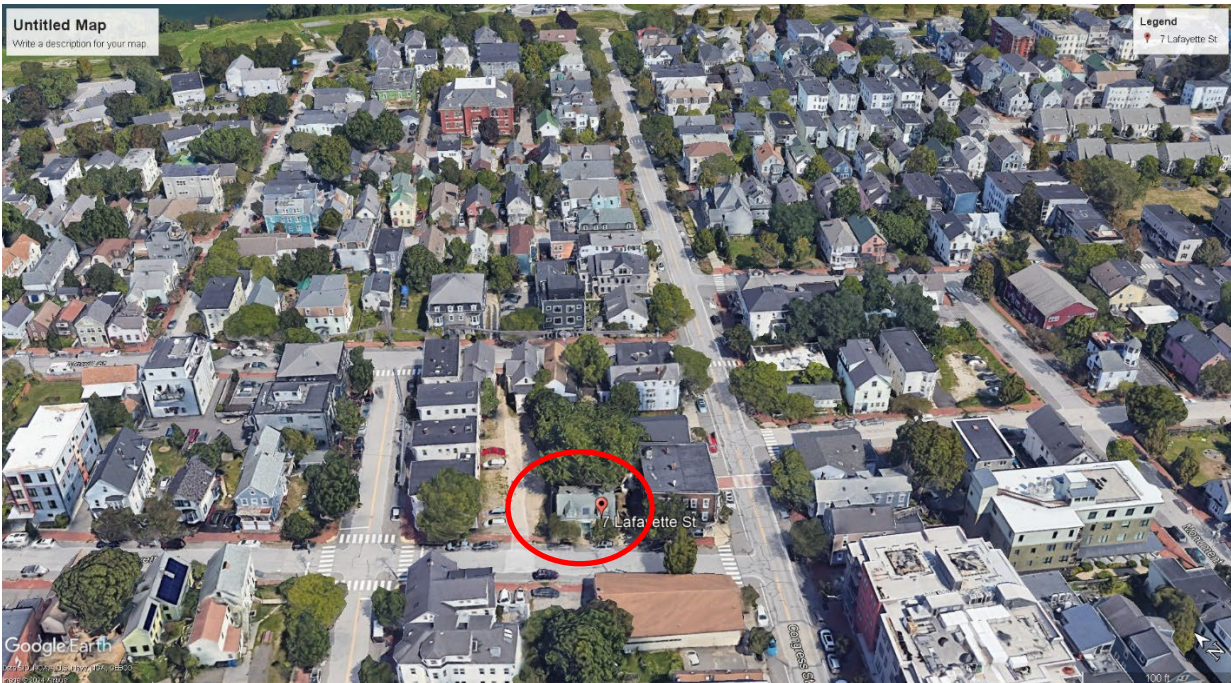


Figure 2: 7 Lafayette, Aerial view

The subject property lies outside of the Munjoy Hill Historic District, but was designated as an individual landmark at the same time as the creation of the historic district at the request of the previous owners, who made a number of improvements during their ownership years (1999 – 2022.) Since the submission package includes the 2019 property description, the description here will be brief, but of note is the very early origin of the house (1849) and the fact that its present appearance is quite similar to the appearance in 1924.



Figure 3: 7 Lafayette, 1924 tax photo



Figure 4: 7 Lafayette, 2022, after re-installation of clapboard siding

Additional information on 7 Lafayette Street can be found on the city website:
<https://content.civicplus.com/api/assets/3136103b-7eb1-4c9a-bfe8-0db113d24d97>

STAFF COMMENTS

Historic Preservation staff members have met on several occasions with the architect and the general contractor, and twice with the owner. A major interior renovation is scheduled, and a substantial amount of interior demolition has started. The owner, architect, and contractor have expressed strong interest in respecting the historic appearance of the property.

Although two of the proposed alterations, the side entry addition and the foundation replacement, have prompted a Board review, much of the proposed exterior work, including the replacements for the existing windows which have been in place approximately twenty years, could be comfortably reviewed by staff with administrative review of the details. The entire package of renovations is coming before the Board for the first time as a public hearing because of the careful approach to the proposed changes, and staff's judgement that the outlined work will meet the Standards for Review. Should the Board approve the proposed alterations, staff is prepared to review important details that the Board might delegate.

As can be seen in the recent photo of the property (above) or with a (recommended) site visit, the entry addition will have some visibility from Lafayette Street, but a slight setback at the rear corner of the existing vestibule bay and a quiet roof form will render the addition as secondary and recessive.

The replacement of the foundation is necessitated by the owner's desire to expand the living space of the small home into the basement. Several discussions focused on how to reach the minimum required headroom; staff posed the question of whether the existing historic foundation could be retained, and suggested that the team consult an engineer and provide a letter detailing the rationale for a full foundation replacement.

The applicant has explained their design goal of useful basement living space and the resulting need to increase the floor-to-ceiling height. Furthermore, a case has been made for the great difficulty and risk involved in excavating and underpinning the rubble wall comprising the lower foundation. An old brick foundation that has been painted and patched in a number of places is to be replaced with a new foundation that is to have a brick veneer. We suggest that the character of the masonry veneer, including samples, should be reviewed by staff; even though the replacement will not display the same character as a wall over 150 years old, carefully chosen brick, mortar, and joint profile can ensure reasonable compatibility.

As mentioned above, the applicant is proposing compatible elements for windows on the visible faces, the front door and porch, and additional trim, and final details for these elements can and should be reviewed by HP staff.

ANALYSIS OF APPLICABLE REVIEW STANDARDS

Standards for Review of Alterations, 17.8.2:

Standard 1	
Every reasonable effort shall be made to provide a compatible use for a property which requires minimal alteration to the character defining features of the structure, object, or site and its environment or to use a property for its originally intended purpose.	
Standard Met?	Staff Comments
Yes	The proposed alterations will not require the removal or destruction of significant portions of the character defining features of the structure.

Standard 2	
The distinguishing original qualities or character of a structure, object, or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.	
Standard Met?	Staff Comments
Yes	The existing foundation is low, simple, utilitarian, and typical of many houses of the same era. While it clearly looks old, it does not display unique details that strongly influence the character of the design. The applicant is proposing to respect the simple utilitarian character of the brick foundation by installing an appropriate brick veneer over the new concrete foundation.

Standard 3	
All sites, structures, and objects shall be recognized as products of their own time, place, and use. Alterations that have no historical basis or create a false sense of historical development, such as adding conjectural features or elements from other properties, shall be discouraged.	
Standard Met?	Staff Comments
Yes	The applicant is proposing that all alterations should either replicate documented historic details or retain the existing details so as not to promote a false sense of history.

Standard 4	
Changes which may have taken place in the course of time are evidence of the history and development of a structure, object, or site and its environment. Changes that have acquired significance in their own right shall not be destroyed.	
Standard Met?	Staff Comments
Yes	Non-original changes visible in the 1924 photo such as the front dormers, are being retained.

Standard 5	
Distinctive features, finishes, and construction techniques or examples of skilled craftsmanship which characterize a structure, object, or site shall be treated with sensitivity.	
Standard Met?	Staff Comments
Yes	Trim and details that are documented in the 1924 photo are being respected.

Standard 6	
Deteriorated historic features shall be repaired rather than replaced wherever feasible. Where the severity of deterioration requires replacement of a distinctive feature, the new feature should match the feature being replaced in composition, design, texture, and other visual qualities and, where possible, materials. Repair or replacement of missing historic features should be based on accurate duplications of features, substantiated by documentary, physical, or pictorial evidence rather than on conjectural designs or the availability of different architectural elements from other structures or objects.	
Standard Met?	Staff Comments
Yes	The applicant is proposing to repair features where feasible, to replace deteriorated features to match, and to recreating missing features based on documentation. Staff reviews of masonry and carpentry details such as porch and front door designs is recommended.

Standard 9	
Contemporary design for alterations and additions to existing properties shall not be discouraged when such alterations and additions do not destroy significant cultural, historical, architectural, or archaeological materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the size, scale, color, material, and character of the property, neighborhood or environment.	
Standard Met?	Staff Comments
Yes	The addition is proposed to have a subtly differentiated character through simplified windows, a flat roof, and offset from the historic side bay. The addition is proposed to be clad in clapboard siding to make it compatible with the historic structure.

Standard 10	
Wherever possible, new additions or alterations to structures and objects shall be undertaken in such a manner that, if such additions or alterations were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.	
Standard Met?	Staff Comments
Yes	The proposed basement alterations will not substantially alter the form or character of the historic house outside of the replacement of the small amount

	of brick above grade. The addition is proposed towards the rear of the side elevation where it will have the least impact on the form and materials of the house.
--	---

MOTION FOR CONSIDERATION

I move to CONDITIONALLY APPROVE application HPBR-002874-2024 for alterations, addition, and foundation replacement at 7 Lafayette Street on the basis of submitted documentation, plans, and specifications; information provided in the staff memo; and findings by the Historic Preservation Board that the project meets Standards for Review of Alterations 17.8.2-# 1, 2, 3, 4, 5, 6, 8, 9, and 10, with the following condition:

- 1) Final details for the concrete and masonry foundation, windows, front steps and entry, front door, and trim are to be reviewed and approved by HP staff prior to installation.

ATTACHMENTS

1. Cover letter and project description
2. Plans
3. Engineer's letter regarding foundation options

Historic Preservation Application

March 25, 2024

Historic Preservation Board and Staff
City of Portland Maine, Planning and Urban Development
Historic Preservation Application Cover Letter and Project Description
7 Lafayette Street Renovations, Restorations, and Additions

Greetings

I am pleased to submit a proposal for a project for renovations, restorations, and additions to the Henry Rowe House, an individually designated landmark single family residence on behalf of the owner, Tanya Mahoud. This cover letter and project description shall serve as a narrative to supplement the drawings that describe the intent of the project. We recognize that the approval we seek from the Historic Preservation Board and Staff is the first step in obtaining a construction permit from the Department of Permitting and Inspection and that no work can take place without a construction permit

A description of the history and features of the building can be found on the City of Portland's Individual Landmarks website page: <https://www.portlandmaine.gov/662/Individual-Landmarks>. Included here are current photos of the building. (see Appendix A)

Following is a list of the components for this project

WINDOW REPLACEMENT

We propose to replace the existing windows, using the 1924 photograph as a guide for the number and disposition of Muntins within the sash. The proposed windows are Marvin Ultimate Signature as described in the attached brochure (see Appendix B). Note that casement windows are required on the 2nd floor gable end elevations in order to meet egress requirements for the bedrooms. The window grilles will be provided in the simulated divided light option (SDL) with 7/8" wide ogee profiles. The casement windows will receive a simulated check rail in the form of a 1-15/16-inch-wide ogee profile to simulate a double hung window check rail. The existing window trim surrounds and shutters will be put back or replicated as required.

Historic Preservation Application

ENTRY DOOR AND TRIM SURROUND

We propose to replace the existing molded metal door and side panels with a custom painted wood door and side panels more in tune with the door and panels in the 1924 photograph. We are exploring the feasibility of replacing the door and panels without removing the trim surround. If removal of the trim surround is required, we will take measures to reuse or duplicate the existing profiles and dimensions

LAFAYETTE STREET ENTRY STAIRS

The existing steps to the entry door on Lafayette Street are rotted and need to be replaced. It is unclear when the decorative newel post, balusters and railings were added. They are not present in the 1924 photograph

MUDROOM ENTRY ADDITION

In order to make entry into the house safer and more useful we are proposing an addition that would allow entry with a single step up into the house and provide a bit of badly needed storage space. The Design for the addition has attempted to account for the two most relevant design standards:

Standard Number 2: The distinguishing original qualities or character of a structure, object or site and its environment shall not be destroyed. The removal or alteration of any historic material or distinctive architectural features should be avoided when possible.

Standard Number 10: Wherever possible, new additions or alterations to structures and objects shall be undertaken in such a manner that, if such additions or alterations were to be removed in the future, the essential form and integrity of the historic property would be unimpaired.

As you can see in the floor plan, the wall of the addition steps back slightly from the wall of the existing entry vestibule. The dimension of the step-back will be 3-5" depending on the exact dimensions of the existing structure. We need to leave minimum 36" wide hallway in the interior to comply with egress requirements. The step back should be enough to leave the existing vestibule clearly articulated. The mudroom could be easily deconstructed in the future if there is a desire to return the building to its original configuration. The eave of the now mudroom roof is stepped back to the maximum extent possible

Historic Preservation Application

FOUNDATION:

The existing foundation is typical for the houses from this period. It consists of a rubble wall built up to a level near grade and continued with a double wythe brick wall, approximately 8" thick composed mainly of stretcher courses and a few courses with alternating stretchers and headers. The top of the brick portion of the foundation supports a 4" wide x 5" high wood sill. The height of the existing joists above existing floor is approximately 66-72". The existing brick is in poor condition in some places. The brick has been painted and there is one location where a basement window was removed and infilled with brick

BASEMENT:

The owner requires that this project provide her with a habitable basement. This means that the space is conditioned, has adequate headroom and is connected to the floor above with a code compliant stair. The existing foundation does not provide the required headroom. Unfortunately, it is not feasible to underpin the existing rubble wall with concrete in order to make the foundation wall taller. While it is possible to make the center portion of the basement deeper the perimeter adjacent to the existing rubble wall would not have the required headroom lose too much floor area at the perimeter

Our proposal includes demolishing the existing foundation and providing a new cast-in-place concrete foundation, with a thin brick (1/2" – 1") brick veneer adhered to the face of the concrete to emulate the existing brick. Thin brick is a widely available veneer product and when adhered according to the methods described in the Brick Industry Association' Technical Notes 28C (Appendix C) is a very durable installation

Thank you very much for your review of our submitted material. We look forward to meeting with you and responding to your comments and questions.

Best Regards

Joe

Parcel	
Parcel ID	014 D007001
Property Location	7 LAFAYETTE ST
Unit	
Living Unit	1
Land Use Code	11 - SINGLE FAMILY Verify legal use with the Zoning Office
Land Area (acreage)	.0578
Land Area (square footage)	2518
Notes	14-D-7 LAFAYETTE ST 7
Utilities	2519 SF
	2 - PUBLIC WATER
	3 - PUBLIC SEWER
	-

Owners	
Owner	MAHOOD TANYA TRUSTEE
Address	7 LAFAYETTE ST
City, State, Zip	PORTLAND ME 04101
Deed Date	2022/08/19
Book	39660
Page	248

Appendix A - 7 Lafayette Street Renovations, Restorations, and Additions

Address: 7 Lafayette Street

Approximate/Documented Date of Building: 1849

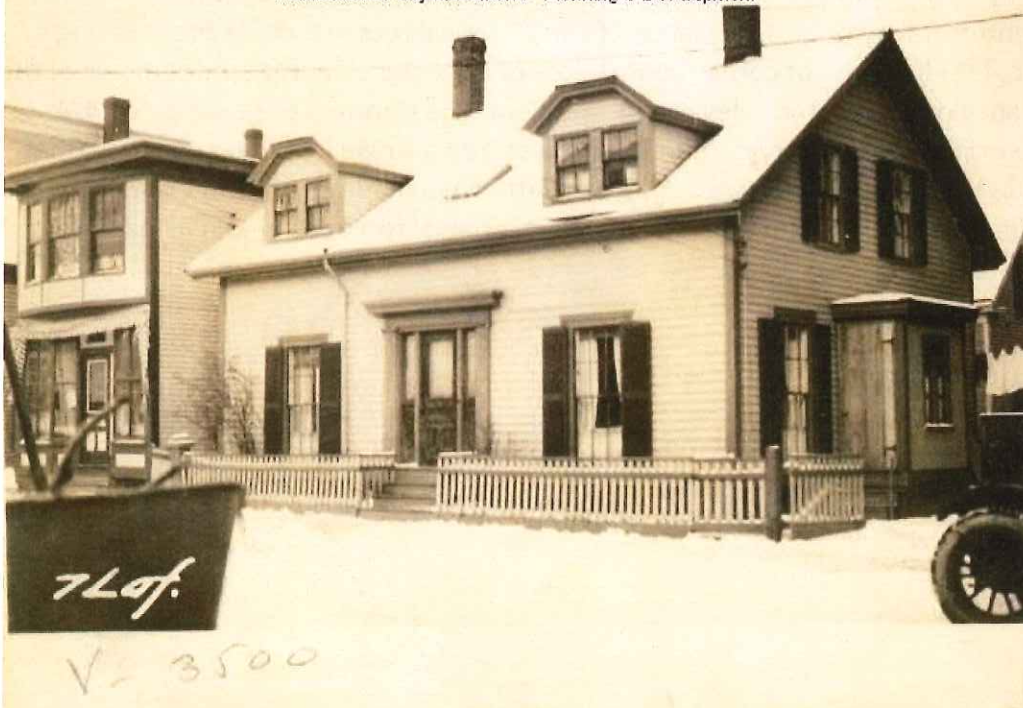
Surveyed: 10/11/ 2019

Historic Name: Henry Rowe House

Classification: Individually-Designated Landmark



www.maine-memory.net/item/60360
Collections of City of Portland - Planning & Development



Introduction

7 Lafayette Street is an excellent example of a one-and-a-half-story side-gable cape built in the mid-nineteenth century. It is one of the few buildings that has survived from the early settlement of Munjoy Hill. The dwelling boasts several distinctive elements, including a Greek Revival door surround and jerkinhead dormer windows over the façade. Though the building has retained some alterations in its 170 years, it has retained a high level of period detail. The three-by-two-bay dwelling has cedar shingle siding and replacement 6/6 double hung sash windows.

The façade is symmetrical, with the main entry in the center bay. The replacement single entry door is flanked by sidelights over panels and sits within a prominent Greek Revival surround. The two jerkinhead dormers over the façade each boast a pair of 6/6 sash windows with wooden trim. Unlike the rest of the dwelling's exterior, the dormers have wood clapboard siding. A skylight, which has been present since at least 1924, sits between the two dormers.

The eastern elevation features a projecting bay where a vestibule secondary entrance and window once stood. The asphalt roof exhibits a single brick chimney over the peak behind the western dormer. A shed dormer on the rear roof is not visible from the road.

Henry Rowe (1812-1870) was an Irish architect who immigrated to the United States circa 1840. He set up a shop in Portland in 1845 after working in Boston and New York. He specialized in Gothic Revival architecture and the Portland Directory shows he resided at 7 Lafayette in 1869.

Additions and Alterations Since 1924

7 Lafayette Street has retained several features or been restored to match the 1924 historical record in many ways. The main entry surround, dormer windows, and overall form of the house reflect its nineteenth-century origins. Deviations from historical record include the dwelling's current cedar shingle siding, loss of corner boards, loss of a second chimney, and removal of the window and entrance on the eastern elevation's first floor. The dormers once exhibited 4/4 windows, and the original main entry door originally featured a single light over panels, rather than two vertical lights. The current owners of 7 Lafayette have made significant efforts to restore architectural elements of the house to match its original form and retain its earlier character.

Appendix A - 7 Lafayette Street Renovations, Restorations, and Additions





Appendix A - 7 Lafayette Street Renovations, Restorations, and Additions



ULTIMATE DOUBLE HUNG G2

Engineered for performance and designed to inspire, each aspect of the Ultimate Double Hung G2 window was made with purpose. Our engineers consider every detail from the most innovative features to the most minute subtleties, all because the windows in your home help illuminate the most important parts of your life.

INTERIOR FEATURES AND PERFORMANCE

RICH WOOD INTERIOR
Offers beauty and warmth with six wood species and ten interior finish options.

NARROW CHECKRAIL
Provides a sleek aesthetic at 1 15⁄16 inches to maximize daylight opening while maintaining historical accuracy.

TILT WASH MODE
Allows easy access to exterior glass for cleaning and maintenance.

EXCLUSIVE AUTOLOCK
Activates when the sashes are closed, locking the window.

FIRST-RATE ENERGY EFFICIENCY
Meets ENERGY STAR® standards in energy efficiency with multiple glass options for various regions, climates, and weather needs.

SASH BALANCE SYSTEMS
Enables smooth operation at the largest sizes.



EXTERIOR FEATURES AND PERFORMANCE

DURABLE CLADDING
Extruded aluminum exterior cladding with an AAMA verified 2605 finish and backed by a 20-year warranty against chalking and fading.

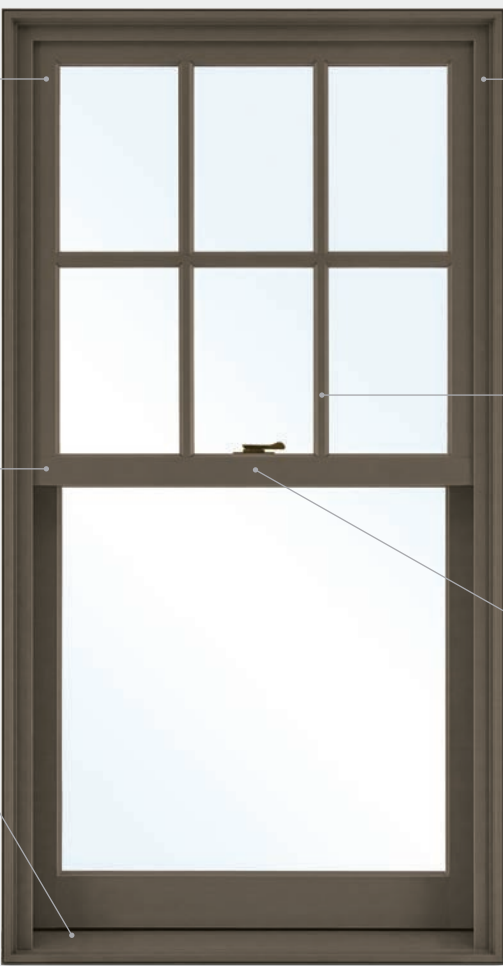
EXPANSIVE SIZES
Larger than 5 feet wide by 10 feet high.

TRADITIONAL SILL BEVEL
The 14-degree bevel provides optimal water management while maintaining a classic look.

SUPERIOR WEATHER PERFORMANCE
LC-PG50 on most sizes. Optional commercial (CW) performance and IZ3 certified coastal performance on most sizes.

DESIGN VERSATILITY
An array of simulated divided lite patterns, interior and exterior color options, ten hardware finishes, and archtop models.

ALUMINUM INTER-LOCK
Eliminates drafts and improves the window's overall structural integrity.



ULTIMATE CASEMENT STYLES



Casement and Picture windows with Satin Nickel hardware

FULL FRAME OR NARROW FRAME

The Ultimate Casement and Ultimate Casement Narrow Frame windows are the most versatile and innovative casement windows ever produced. Ultimate Casement styles feature concealed multi-point locks, a patented Wash Mode, and durable hardware that operates smoothly even at the largest sizes.



ULTIMATE CASEMENT

A recessed sash for a traditional look, plus a full jamb, offers design flexibility for new construction or full frame replacement.



ULTIMATE CASEMENT NARROW FRAME

A flush sash to the exterior and narrow jamb depth make this window an easy choice for frame-in-frame replacement or more contemporary new construction applications.



ULTIMATE CASEMENT EXTERIOR WITH 4 3/16" FULL JAMB



ULTIMATE CASEMENT NARROW FRAME EXTERIOR WITH 2 3/16" NARROW JAMB

JAMBS + PROFILES

The Ultimate Casement has a recessed sash for a traditional or historic look. The Ultimate Casement Narrow Frame has a flush-to-frame sash for a contemporary look.

ULTIMATE CASEMENT



Casement window in Designer Black painted interior finish with Matte Black hardware



Photographer: Sara Tramp

Casement windows with Matte Black hardware

ULTIMATE CASEMENT

The Ultimate Casement window is offered in some of the largest sizes in the industry, with a secure multi-point lock, durable hardware that ensures smooth operation, and Marvin’s exclusive Wash Mode for easy cleaning—even on upper floors. With many design options, including round top shapes, the Ultimate Casement window flexes to fit your vision and can be sized to complement the most expansive views.



CASEMENT INTERIOR WITH FOLDING HANDLE



CASEMENT EXTERIOR WITH FOLDING HANDLE



CASEMENT INTERIOR WITH HANDLE IN MATTE BLACK



DIVIDED LITES



Inswing French Door G2 and Round Top window with custom Simulated Divided Lites



MARVIN SIGNATURE® COLLECTION

DIVIDED LITES

Simulated divided lites, available in a number of different styles, mimic the look of individual panes of glass with the energy efficiency of dual pane insulated glass.

Our custom capabilities allow us to create almost any divided lite pattern to match your design style.



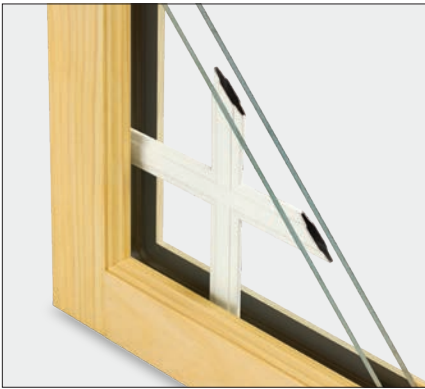
SIMULATED DIVIDED LITE (SDL)

SDL bars are permanently adhered to both sides of the glass. Simulated Divided Lites with Spacer Bars (SDLs) are an energy-efficient way to create the look of authentic divided lites.



AUTHENTIC DIVIDED LITE (ADL)

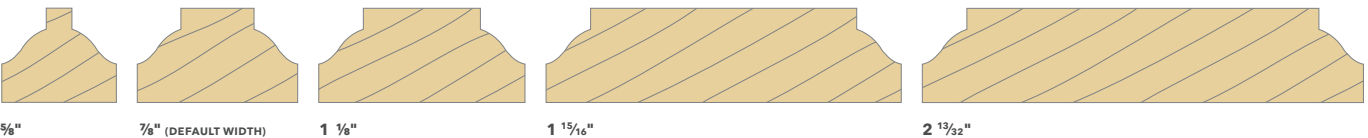
Separate panes of glass are glazed between muntin bars for historical accuracy. Available exclusively with wood exterior units.



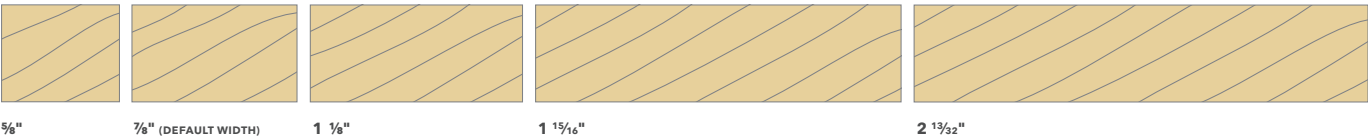
GRILLES-BETWEEN-THE-GLASS (GBG)

Grilles are permanently installed between the glass panes. This low-maintenance grille offers the look of a divided lite pattern with the ease of cleaning just one pane of glass. Available with different interior and exterior colors.

FIVE STANDARD BAR WIDTHS



SQUARE STICKING



STICKING AND PROFILES

Sticking refers to the interior profiles of your wood window. Choose from the standard Ogee profile (used on traditional projects) or the optional clean, contemporary Square sticking.



OGEE



SQUARE



SQUARE STICKING

Thin Brick Veneer

Abstract: This *Technical Note* presents design and construction information on the use of thin brick in adhered veneer systems. Methods of thin brick construction discussed include thick set, thin set, modular panels and prefabricated panels consisting of architectural precast concrete, tilt-up concrete and wood or steel stud frame panels. Properties of the finished construction and comparisons to other systems are presented.

Key Words: adhered veneer, precast concrete, modular, panel, prefabricated, steel stud, thick set, thin brick, thin set, tilt-up, wood stud.

SUMMARY OF RECOMMENDATIONS:

Substrate

- Surfaces should be structurally sound and free of coatings, loose debris and other bond-impeding substances
- Max. variation from plane, ¼ in. in 10 ft (6 mm in 3.05 m)
- Max. deflection of L/360 for wall stud framing

Water-Resistive Barrier

- For exterior applications over stud-framed assemblies, install two layers or one layer with a drainage mat

Flashing and Weeps

- For exterior applications, install corrosion-resistant flashing, integrated with the water-resistive barrier at through-wall penetrations, substrate transitions and terminations of adhered veneer
- Install weep screed or flashing of corrosion-resistant material at base of adhered veneer, with vertical leg or attachment flange extending at least 3½ in. (89 mm) vertically

Thin Brick

- Use brick complying with ASTM C1088, with Type and Grade as appropriate for project requirements

Mortar and Adhesive

- Use ASTM C270, Type S, mortar applied to a thickness of ¾ to 1¼ in. (10 to 32 mm) or one of the following with a minimum shear strength between the thin brick and substrate of 50 psi (345 kPa):
 - ASTM C270, Type S, mortar modified with latex or other suitable polymers
 - Modified mortar complying with ANSI A118.4, Latex-Portland Cement Mortar
 - Non-sagging adhesive compatible with masonry and substrate surfaces

Movement Joints

- Extend movement joints through thickness of entire veneer assembly, for full length or height of veneer, including parapets
- Space no more than 18 ft (5.5 m) o.c. in either direction
- Max. area between movement joints should not exceed 144 sq ft (13.4 m²) or length-to-height or height-to-length ratio of 2½ to 1
- Align veneer movement joints directly over substrate movement joints
- For proprietary modular and prefabricated panels, follow manufacturer's instructions
- See *Technical Note* 18A for recommended placement of additional movement joints

Installation Methods

- Use **Table 1** to determine an appropriate thin brick installation method for substrate wall and application. Use one of the following installation methods:

- Thick Set:

- Attach reinforcing lath or mesh to substrate and apply scratch coat of mortar or modified mortar in one or two layers to a nominal thickness of ½ to ¾ in. (12 to 19 mm)
- To scratch coat, apply bond coat of mortar or modified mortar to nominal thickness of ⅛ in. (3.2 mm), and groove with notched trowel

- Thin Set:

- Use cement backer board with treated joints as substrate for exterior applications over wood or steel studs
- Apply bond coat of modified mortar to a nominal thickness of ⅛ in. (3.2 mm) or non-sagging adhesive in accordance with adhesive manufacturer's instructions

- Modular Panel Systems:

- Install thin brick on panel and attach panel to substrate in accordance with panel manufacturer's instructions

- Prefabricated Panels:

- For architectural precast and tilt-up concrete panels, install in accordance with panel manufacturer's instructions
- For wood or steel stud framing panels, install using panel manufacturer's instructions, or one of the installation methods above

Thin Brick Placement

- Use either of the following:
 - Completely cover back of thin brick when using mortar or modified mortar or, when using adhesive, follow manufacturer's instructions or apply 1 in. diameter (quarter-sized) dabs at each end
 - Firmly press or tap thin brick into mortar or adhesive while maintaining joint width and coursing

Mortar/Grout Joints

- Force mortar to fill joints as thin brick are placed or fill joints using a grout bag, mortar gun or other mortar delivery device
- When thumbprint hard, tool with concave, vee or grapevine profile jointer

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

INTRODUCTION

Thin fired clay units, commonly known as thin brick, have gained increasing popularity by combining the aesthetic of traditional brick masonry with the economic benefits that may be realized in thinner wall sections. Though thin brick were first developed in the 1950s as a way to reface existing construction, current applications include both new and existing structures in residential and commercial construction.

Thin brick veneer, also referred to as adhered veneer, is available in many varieties but can be classified by four basic installation methods: thick set, thin set, modular panel systems and prefabricated panels. The first two involve field installation of each brick unit on a substrate with either a thick mortar bed for thick set or a thin layer of modified mortar or adhesive for thin set. Modular panel systems use an intermediary panel with a typical area of 4 to 6 sq ft (0.33 to 0.5 m²) made of polystyrene, metal or other materials to assist in supporting the thin brick. The modular panels are either fastened to the substrate wall with thin brick already adhered to them or the thin brick are adhered to the panels in the field. Prefabricated panels involve creating larger, structurally independent panels (typically) larger than 10 sq ft (1 m²) that are lifted into place on the building. Panels consisting of architectural precast concrete or steel or wood stud framing are usually constructed off-site, while concrete for tilt-up panels is usually poured in the field.

This *Technical Note* describes thin brick and its use in various interior and exterior adhered veneer applications. Typical installation methods, material requirements and applicable code requirements are also presented. For information on anchored brick veneer, refer to other *Technical Notes* in this series.

PROPERTIES OF THIN BRICK VENEER

Thin brick are made from the same materials and similar processes as other brick but are thinner and weigh less. Thin brick are a single element among many within an adhered veneer system that influence its characteristics. System performance can be accurately determined only when an assembly is evaluated as a whole. When compared with common light-weight cladding systems, thin brick veneer generally provides superior resistance to noise, minor impacts, abuse, heat and vandalism. The durability, fire resistance, security and acoustic comfort provided by thin brick systems are primarily due to their mass.

Adhered brick veneer can be installed where providing support for heavier, anchored brick veneer may be difficult. Thin brick systems also impart less load to buildings. Adhered thin brick veneer may be installed by masons, tilesetters or other workers. Some manufacturers can “match” thin brick with brick used in anchored veneer applications found elsewhere on the building.

SYSTEM DESCRIPTIONS

Adhered veneer is bonded to and dependent upon its backing for stability and strength. This bond is achieved by embedding the thin brick in a mortar or modified mortar setting bed, applying an adhesive or modified mortar and pressing the thin brick onto a panel substrate material, or by casting concrete onto the backs of thin brick. Thin brick can be applied either on-site or off-site. There are four primary methods for the installation of adhered thin brick veneer: thick set, thin set, modular panels and prefabricated panels.

Thick Set

The thick set method consists of applying thin brick with a bond coat of mortar onto a mortar scratch coat, as shown in **Figure 1**. The thick set method requires a reinforcement layer of either lath or mesh within the scratch coat to assist in controlling cracking due to shrinkage of the mortar behind the thin brick.

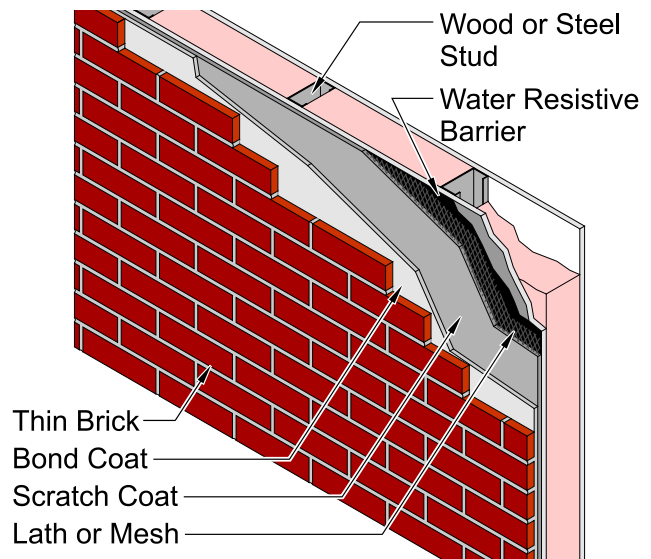


Figure 1
Thick Set Application on Studs

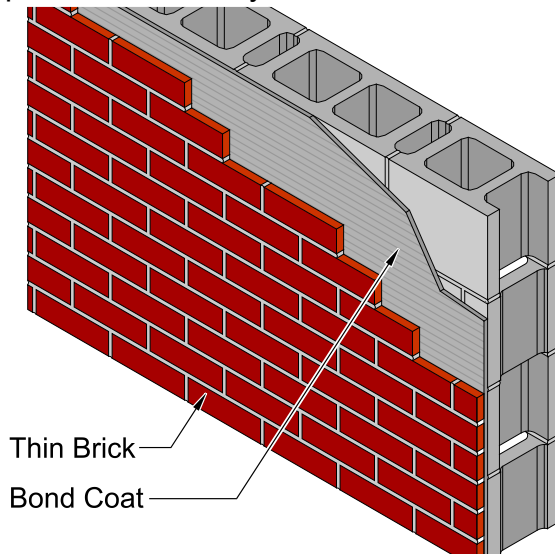


Figure 2
Thin Set Application on CMU

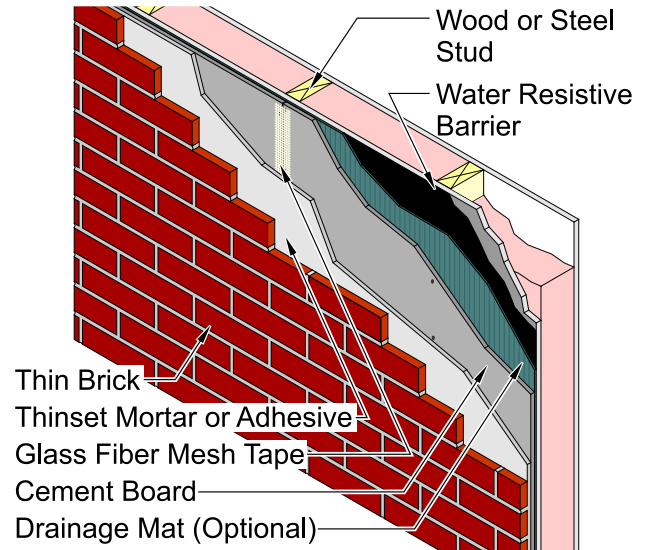


Figure 3
Exterior Thin Set Application on Studs with Drainage Mat

Thin Set

Thin brick installed using the thin set method is adhered directly to the substrate by a thin (typically around $\frac{1}{8}$ in. [3.2 mm]) layer of adhesive or modified mortar, as shown in [Figure 2](#). The surface of the veneer closely mimics the surface condition of the substrate. Due to its reduced thickness, the thin set method does not include a reinforcement layer of lath or mesh. Cement backer board is the recommended substrate for exterior adhered veneer installed over stud walls using the thin set method, as shown in [Figure 3](#).

Modular Panel Systems

In these applications, thin brick are adhered or mechanically secured to a modular panel, usually made of metal, rigid foam insulation, wood or other materials, that is fastened to the substrate wall, as shown in [Figure 4](#). Modular panel systems often have integral water resisting elements such as drainage mats or drainage spaces. Thin brick are adhered to some modular panels prior to installation, while other panels are attached to the substrate before thin brick are adhered. Unlike thick set or thin set, panels usually have grooves, tabs or rails to align the thin brick courses and to provide support while the mortar or adhesive cures. Some proprietary modular panel manufacturers provide all the components needed for installation and warranty the panel and components as complete systems.

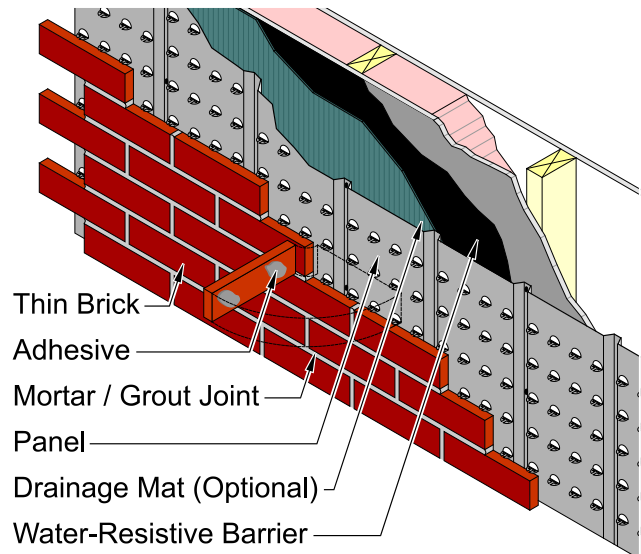


Figure 4
Modular Panel on Studs

Prefabricated Panels

Thin brick can be integrated into tilt-up and architectural precast concrete panels. To create prefabricated panels, thin brick are typically placed facedown into a form liner made of rubber or plastic (used to hold the thin bricks in place), and concrete or a fluid grout is poured directly over the backs of the thin brick (as shown in [Photo 1](#)). In some cases, a retarder or wax is applied to the thin brick's exposed face (finished face) to prevent staining. The concrete that flows into the space between the thin brick forms the appearance of mortar joints. Reinforcement is included in the concrete as necessary to meet project requirements.

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Once cured, the panel is stripped from the form to reveal the thin brick surface. The thin brick are bonded to the concrete on the back and all four sides of the brick. Once the panel has cured, the exposed concrete between the brick typically serves as the mortar joint. Alternatively, joints between the brick may be finished by filling with mortar or modified mortar and tooling to the desired profile.

Prefabrication using thin brick can also be accomplished by building panels on sections of wood or steel stud framing and applying thin brick to the panel. In addition to straight walls, this system is well suited to soffits and other locations where lighter-weight prefabricated components are needed. The thin brick are typically attached to the panels using the thick set method.



Photo 1

Fabrication of Precast Panel with Thin Brick

SYSTEM SELECTION

Table 1 lists acceptable installation methods for different substrates and applications. Where indicated, the substrate or installation method must comply with the notes below the table to be considered acceptable.

TABLE 1
Acceptable Installation Methods for Thin Brick

Substrate Wall	Application	Thin Brick Installation Method			
		Thick Set	Thin Set	Modular Panels	Prefabricated Panels
Wood or Steel Stud Framing	Exterior	Notes 1, 2, 4 and 5	Notes 1, 3, 6 and 7	Notes 1, 2, 5 and 7	Notes 1, 2, 5 and 7
	Interior	Notes 1, 2 and 4	Notes 1, 3 and 7	Notes 1, 2 and 7	Notes 1, 2 and 7
Masonry or Concrete	Exterior	Notes 2 and 4	Note 3	Note 2	Note 2
	Interior	Notes 2 and 4	Note 3	Note 2	Note 2
See below for notes referenced in table.					

1. Maximum deflection of L/360 is recommended for wall stud framing. Maximum deflection of L/240 is permitted for walls by the *International Building Code (IBC)* when rigid finishes like thin brick are applied. For interior adhered veneer applications supported by wood floors, the IBC limits the vertical deflection of the flooring system to L/600.
2. Maximum allowable variation of ¼ in. in 10 ft (6 mm in 3.05 m) from plane.
3. Acceptable only when surface is bondable and variation from plane is no more than ¼ in. in 10 ft (6 mm in 3.05 m).
4. Use only with reinforcing lath or mesh in scratch coat.
5. Use exterior-grade sheathing. Wood stud framing is required by the *IBC* and the *International Residential Code (IRC)* to have water-resistive barrier with the equivalent performance of two layers of Grade D paper.
6. Acceptable only when cement backer board is used as substrate.
7. For *IBC*, the system must comply with the alternative design requirements of the *Building Code Requirements for Masonry Structures (TMS 402)* since the installation method does not include metal lath.

Factors that influence the selection of a particular system or installation method may include the substrate, weather conditions, cost, and experience and skill level of the installer. Performance characteristics of each system should also be considered in the selection process.

Thick set installation provides a greater thickness to absorb some of the irregularity in substrates that are uneven. It also incorporates lath or mesh reinforcement that is fastened to the substrate to provide a mechanical connection to the veneer and to accommodate some differential movement between the veneer and the substrate.

Thin set installations require a more plumb and level substrate surface than thick set installations because the veneer is adhered directly to the substrate. Unevenness in substrate surfaces will also be evident in the thin brick wall surface. Further, the location of movement joints in thin set installations requires more careful attention than in thick set installations, as movement between the substrate and the veneer is accommodated only where movement joints are placed.

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Modular panel systems, like thick set installations, accommodate substrates that are uneven or have questionable bonding surfaces relatively easily. Because modular panels systems are designed to align brick units properly, to securely attach thin brick units and to promote drainage of penetrant water, their installation typically requires less skill than other methods.

Wood and steel stud frames and architectural precast panels are fabricated in a manufacturing facility, which permits them to be assembled without interruption from weather. The size of panels can be limited by the maximum size allowed on the roads to the project site. Large variations in the building's frame may make it difficult for panels to be installed to typical masonry tolerances. Since tilt-up panels are assembled and poured directly at the job site, the panel size is not limited by transportation issues but may be limited by job site restrictions.

SYSTEM DESIGN

For residential applications, the *IRC* [Ref. 2] requires thin brick adhered veneer to be installed over a water-resistive barrier and to comply with the adhered veneer provisions of the *Building Code Requirements for Masonry Structures* (TMS 402/ACI 530/ASCE 5) [Ref. 5]. For commercial construction, the *IBC* [Ref. 1] also requires thin brick adhered veneer to meet the requirements of TMS 402.

TMS 402 allows both prescriptive and alternate methods of design. Prescriptive design requirements limit the specified thickness of the brick to a maximum of 2 in. (67 mm) and require the substrate to be masonry, concrete or metal lath and portland cement plaster applied to masonry, concrete, steel framing or wood framing. If other than $\frac{3}{8}$ in. to $1\frac{1}{4}$ in. (10 to 32 mm) of Type S mortar is used to adhere the thin brick, then the shear strength between the veneer units and backing should be tested in accordance with ASTM C482 for the gross unit surface area and have a shear strength of 50 psi (345 kPa) minimum.

Water-Resistive Barrier and Means of Drainage

The *IRC* and *IBC* require exterior walls to include a water-resistive barrier and a means of draining exterior water that enters the assembly, with a few exceptions. The water-resistive barrier must be installed over the sheathing or studs of frame wall assemblies but may be omitted over concrete or masonry walls designed and flashed in accordance with applicable code requirements. Exterior wall assemblies that demonstrate resistance to wind-driven rain through testing in accordance with ASTM E331 under code-prescribed conditions are also exempt from water-resistive barrier and means-of-drainage requirements.

The code indicates that a water-resistive barrier can be either one layer of No. 15 asphalt felt complying with ASTM D226, Type 1, or other approved material. As noted in the *2009 IRC Commentary* [Ref. 2], field experience and testing [Ref. 7] have shown that using two layers of building paper in exterior applications of stucco considerably decreases the penetration of moisture. Where installed over wood-based sheathing, the *IRC* and *IBC* require two layers of vapor-permeable water-resistive barrier with a performance equivalent to two layers of Grade D building paper, or a single layer of water-resistive barrier with a water resistance equal to or greater than 60-minute Grade D paper that is separated from the veneer by a designed drainage space or a layer of material that does not absorb water. These codes do not indicate specific materials or methods that qualify as providing a means of drainage; however, products such as drainage mats are often used to meet means-of-drainage requirements. Because they are specifically designed to provide the separation and means of drainage required by code, inclusion of designed drainage spaces or drainage mats as shown in [Figure 3](#) is preferred.

A water-resistive barrier is not required for interior applications but may be beneficial in protecting building materials from moisture during installation. For further information, refer to the *IBC* [Ref. 1] and *IRC* [Ref. 2].

Flashing/Weep Scream

Flashing is a material that collects water drained from the veneer assembly and directs it out of the wall through weeps. Building codes require flashing and weeps at the following locations:

- Beneath the first course of veneer above final grade. The *IRC* requires the flashing (or weep screed) to extend a minimum of 1 in. (25 mm) below the foundation plate line for exterior applications over stud walls. To promote drainage, install the first course of veneer directly above the flashing or screed, without a mortar/grout joint.
- At points of support, such as shelf angles, lintels and structural floors.
- At wall and roof intersections.

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

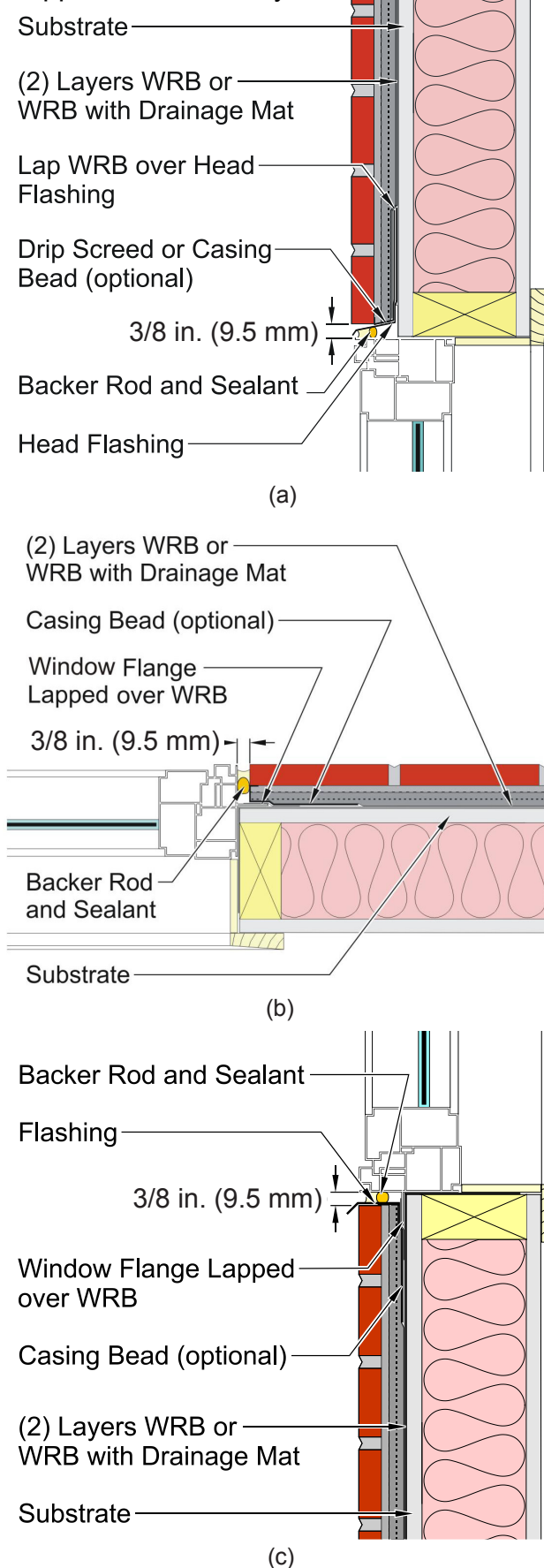


Figure 5

Flashing Details at (a) Window Head,
(b) Window Jamb and (c) Window Sill

- At the heads, jambs and sills of exterior window and door openings.
- At the intersection of chimneys or other masonry construction with frame or stucco walls.
- Under and at the ends of copings and sills.
- Where exterior porches, decks or stairs attach to a wall or floor assembly of wood or steel stud construction.

The flashing or weep screed should extend to the exterior wall surface or beyond, with the back edge (attachment flange) turned up at least 3½ in. (89 mm) vertically. The water-resistive barrier should lap over the flashing or weep screed. In assemblies with two layers of water-resistive barrier installed over a wood-based sheathing, direct the flashing between the layers. Extending flashing beyond the wall surface to form a drip is recommended. When using a flashing that deteriorates with UV exposure, a separate drip edge or weep screed can accomplish this. When a drip edge/weep screed is not used, such flashings should stop, or be cut, flush with the face of the wall. Typical head, jamb and sill flashing details are shown in [Figure 5](#).

Foundations

[Figure 6](#) shows a typical foundation detail for thin brick veneer. The *IRC* and *IBC* require exterior applications of thin brick veneer over stud walls to be installed a minimum of 4 in. (102 mm) above grade, a minimum of 2 in. (51 mm) above paving, and a minimum of ½ in. (12 mm) above exterior walking surfaces supported by the same foundation. The thin brick are required to extend a minimum of 1 in. (25 mm) below the top of a concrete or masonry foundation wall.

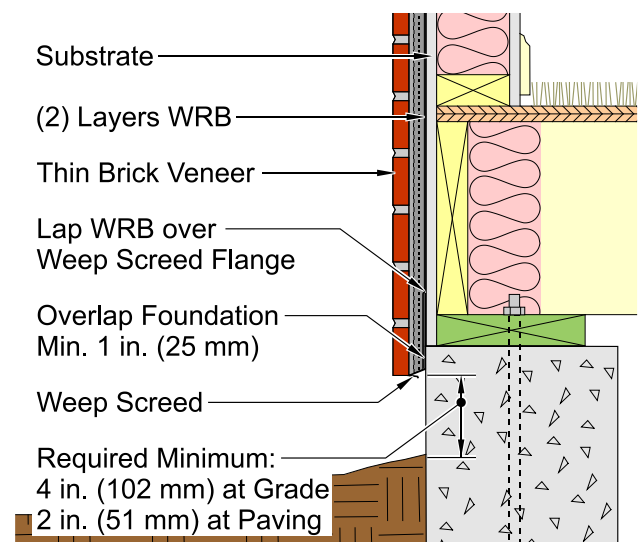


Figure 6

Foundation Detail and Required Clearances

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Deflection

For thin brick veneer with a substrate of masonry or concrete, deflection is not a concern, because the flexural stiffness of the veneer is similar to that of masonry and concrete. When the substrate wall is wood or steel stud framing, out-of-plane deflection of the framing must be considered, because the stiffness of the veneer can be substantially greater than the stud framing. The *IBC* limits the deflection of stud framing to a maximum of $L/240$ when rigid finishes like thin brick are applied. For interior adhered veneer applications supported by wood floors, the *IBC* limits the vertical deflection of the floor system to $L/600$. To decrease potential cracking and the potential for the veneer to separate from the stud framing, a wall deflection limit of $L/360$ is recommended when a wood or steel stud framing substrate is used.

Movement Joints

Thin brick veneers may experience differential movement as the brick expand and the substrate or mortar bed shrinks. To accommodate this movement, a system of movement joints should be installed through the entire layer of adhered thin brick veneer. If movement joints are not placed properly or are not used at all, cracking may occur. It is important to note that architectural precast and tilt-up concrete panels that incorporate movement joints where they are joined together usually do not require additional movement joints within the face of the panel. For movement joints of proprietary modular panel systems, follow manufacturer's instructions. For other thin brick installation methods, incorporate movement joints at regular spacings.

Spacing. The distance between movement joints should not be more than 18 ft (5.5 m) either vertically or horizontally. Areas between movement joints should not exceed 144 sq ft (13.4 m²). Veneer areas between movement joints should preferably be square in shape but may have a maximum length-to-height or height-to-length ratio of $2\frac{1}{2}$ to 1. Where thin brick veneer is adhered to a masonry or concrete substrate, the movement joints through the veneer should be installed directly over and aligned with movement joints in the substrate. Where thin brick veneer is installed on studs, the movement joints through the veneer are not necessarily required to be aligned with movement joints through the sheathing on the studs. Where lath or mesh are used, attachment should allow free movement of the veneer between movement joints.

Construction. Movement joints should extend from the exterior surface of the adhered veneer to the substrate beneath the thin brick. Where modular panels are used, construct movement joints in accordance with manufacturer's instructions. Alignment of movement joints with those in the substrate is more easily achieved when they are formed during installation of mortar beds. A compressible filler strip set during mortar placement can provide the space needed for the joint as well as aid in keeping the joint free of mortar or other obstructions. At the exterior surface, a backer rod and sealant prevent water penetration, as shown in [Figure 7](#). Movement joints must be at least as wide as joints in the substrate that they are placed directly over. The minimum recommended width of movement joints through adhered veneer is $\frac{3}{8}$ in. (10 mm). In thick set applications, lath or mesh reinforcement should stop on each side and not continue through the movement joint, as shown in [Figure 8](#).

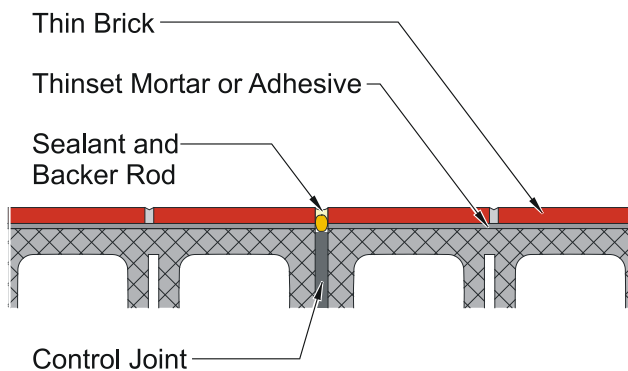


Figure 7

Thin Brick Movement Joints on CMU Backing

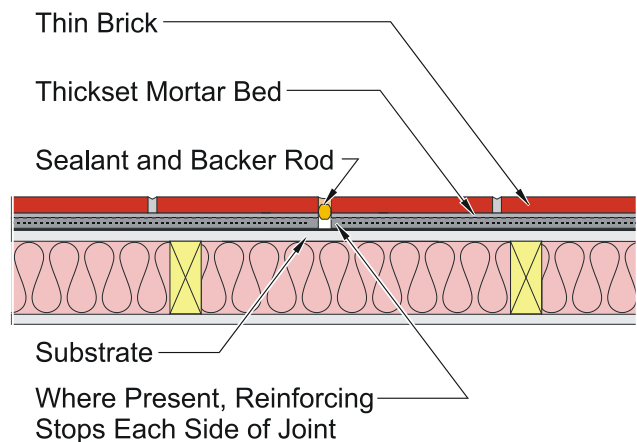


Figure 8

Thin Brick Movement Joints on Stud Backing

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Continuous Insulation

In order to meet prescriptive thermal performance requirements found within various energy codes, continuous insulation is increasingly incorporated into adhered veneer systems. Adhered veneer may be installed over continuous insulation; however, longer, more robust fasteners capable of carrying the weight of the veneer unsupported through the thickness of the insulation will typically require design by an engineer. “Guide to Attaching Exterior Wall Coverings through Foam Sheathing to Wood or Steel Wall Framing” [Ref. 6], published by the Foam Sheathing Committee of The American Chemistry Council, provides a directed approach that may assist engineers in designing adequate connections through continuous insulation.

MATERIALS

Thin Brick Units

Thin brick are available in a wide variety of colors, textures and face dimensions. Most thin brick units are $\frac{1}{2}$ to 1 in. (13 to 25 mm) thick but can be as thick as $1\frac{1}{4}$ in. (45 mm). Thin brick shapes such as those depicted in Figure 9 allow the adhered veneer to be applied around corners, giving the appearance of traditional face brick facades. Manufacturers should be contacted to determine available shape options.

Manufacturing Methods. Two methods are used to manufacture thin brick. The first is to extrude or mold the clay at the desired thickness with any surface modifications (coatings, impressions, etc.) made to the exposed face during forming. The second approach involves forming and firing a thicker brick and either splitting it lengthwise or cutting the brick to the desired thickness. In some cases, this process can produce multiple thin brick from each fired unit. Corner units may be formed in their final shape, cut to their final shape from a single unit or assembled (often mitered) by adhering multiple units. Some thin brick are manufactured with textured, keyed or dovetailed backs.

Due to the asymmetrical configuration of corner and edge units, thin brick are typically stacked in boxes or strapped in smaller packages rather than stacked in cubes like most brick.

Thin Brick Specifications. Thin brick should comply with ASTM C1088, *Standard Specification for Thin Veneer Brick Units Made from Clay or Shale* [Ref. 4]. As with other clay brick standards, C1088 includes requirements for durability, physical appearance and tolerances for dimensions. For exterior applications, Grade Exterior should be used. For interior applications, Grade Interior brick are generally used, but Grade Exterior may be used if desired.

The standard has varying appearance requirements for the brick based on Type. By default, the requirements for Type TBS apply. For some applications, the higher precision of Type TBX may be required. Type TBX may be necessary when using some form liners to position thin brick for use in prefabricated concrete panels. For thin brick with non-uniform features, such as tumbled, distressed or other non-uniform effects, the requirements of Type TBA apply. For further information regarding ASTM C1088, refer to *Technical Note 9A*.

Although thin brick are typically specified according to ASTM C1088, some architectural precast concrete and tilt-up concrete panel manufacturers require thin brick incorporated into their panels to meet the “PCI Standard for Embedded Clay Thin Brick” as published by the Precast/Prestressed Concrete Institute [Ref. 8]. The PCI criteria for thin brick are more stringent than those in ASTM C1088, Type TBX; however, BIA is not aware of research and testing that has demonstrated that these criteria are required for the successful use of thin brick in concrete panels. Some PCI criteria may not be attainable within the normal manufacturing processes used for thin brick.

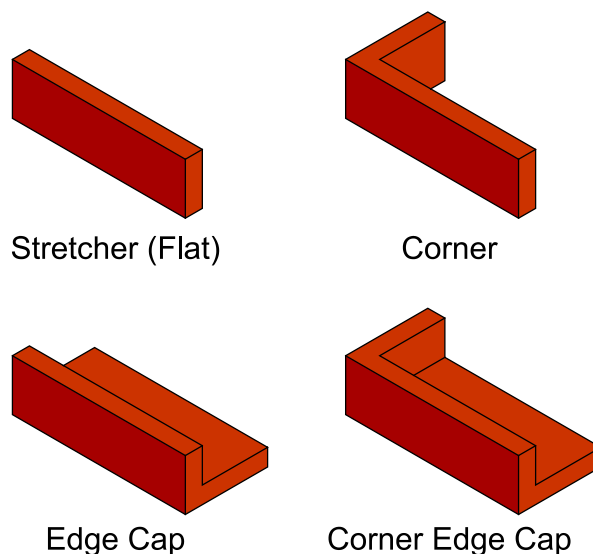


Figure 9

Thin Brick for Adhered Applications

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Reinforcing Lath and Mesh

Reinforcing lath and mesh should be made of corrosion-resistant materials. Galvanized or stainless steel are most common; however other materials such as glass fiber lath may be acceptable with a product evaluation approval. Metal lath should be either 2.5 lb/sq yd (1.4 kg/m²) or ⅜ in. (10 mm) rib, 3.4 lb/sq yd (1.8 kg/m²) metal lath complying with ASTM C847. Self-furred lath or lath attached with self-furring fasteners is recommended. Woven wire mesh should be minimum 18 gauge complying with ASTM C1032. Glass fiber lath should comply with applicable building code requirements. Glass fiber lath is not recommended for applications over open stud framing.

Mortar

Mortar and modified mortar used for scratch and bond coats should comply with ASTM C270, Specification for Mortar for Unit Masonry, Type S, with or without a latex or polymer modifier specifically designed for use with thin veneer; or with ANSI 118.4. Mortar used to fill joints may have a higher water content as required by installation method. For more information on mortar, refer to *Technical Note 8*.

Modified mortar. Typically a modified mortar is a portland cement mortar modified by adding a polymer/latex additive or a bond enhancer. Latex additives may improve adhesion, reduce water absorption and provide greater bond strength and resistance to shock and impact. When using the liquid form of latex, it is added as a replacement for part or all of the water used when mixing the mortar.

Flashing

Many materials are suitable for use as flashing in adhered veneer walls. Flashing materials should be corrosion-resistant, waterproof, durable and sufficiently tough and flexible so as to resist puncture and cracking. Flashing should also be compatible with other materials in the veneer assembly, such as adhesives and sealants. *Technical Note 7A* discusses characteristics of some common flashing materials. The use of superior materials reduces the potential for system failure and exceedingly expensive costs associated with replacement.

Weep screeds or flashing used at the base of the wall must be a minimum 0.019 in. (0.48 mm) or 26-gage galvanized or plastic with a minimum vertical attachment flange of 3½ in. (89 mm). Asphalt-impregnated felt, building paper and house/building wraps are not acceptable for use as flashing.

Cement (Backer) Board

Cement (backer) board, which consists of a cementitious binder reinforced by fiber mats, is a dimensionally stable substrate for decorative finishes in wet or dry areas. Cement board used as a substrate for exterior wall applications of thin brick should be at least ½ in. (13 mm) thick and conform to ASTM C1325, Type A, or ANSI 118.9.

INSTALLATION

The following sections provide recommended procedures for installing thin brick via the thick set and thin set methods and describe the installation of modular and prefabricated panels. Installation of mortar in thin brick veneer applications should be scheduled when temperatures will be between 40 °F (4 °C) and 90 °F (32 °C). Otherwise, cold or hot weather construction measures, as described in *Technical Note 1*, should be employed.

Installation methods for ceramic tile, as published by the Tile Council of North America in the *TCNA Handbook for Ceramic, Glass, and Stone Tile Installation* [Ref. 3], may also be used to install thin brick in thick set and thin set applications. For thick set with a masonry or concrete substrate, use Method W201. For thin set with a masonry or concrete substrate, apply according to Method W202. For thick set with stud framing, use Method W222. For interior applications of thin set on stud framing, use Method W243.

Substrate and Surface Preparation

Where thin brick units are installed on site, proper construction and preparation of the substrate to receive them is critical. Surfaces receiving thin brick should be structurally sound and free of loose or deleterious debris or residue, including algae, mold, dust, laitance, paste, wallpaper or laminate. Remove all substances that could potentially impede the bonding of the veneer. Such substances include oils, greases, waxes, bond-release agents, sealers, solvents, paints or other coatings or surface preparations. If a substrate surface is wet, then the water source must be identified and eliminated. Surfaces on which thin brick are placed must not vary from plane by more than ¼ in. in 10 ft (6 mm in 3.05 m). Taping sheathing joints or fastening sheathing edges with plywood clips can sometimes

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

reduce unevenness. If a surface does not comply with surface tolerances, then a leveling coat must be applied before proceeding.

Walls of wood and steel stud framing should be designed to meet lateral deflection requirements. Exterior walls of wood or steel stud framing require a water-resistive barrier on sheathing. Fasten cement board through sheathing and water-resistive barrier into studs. Joints of cement board should be staggered and offset from sheathing joints. Treat cement board joints with alkali-resistant glass fiber mesh tape embedded in mortar or modified mortar in accordance with cement board manufacturer recommendations. Allow masonry and concrete substrates to cure for 28 days prior to installation of thin brick veneer.

Thick Set Method

Metal lath or wire mesh should be applied over the water-resistive barrier and attached with 11 gauge nails 1½ in. (38 mm) in length with a ⅞ in. (11 mm) head or 16 gauge staples ⅞ in. (22 mm) in length, spaced at a minimum of 6 in. (152 mm) o.c. Lap the lath or mesh a minimum of 2 in. (51 mm) at sides and ends where sheets are joined. Lap mesh one full mesh, wire to wire, where joined.

Attach lath or mesh to wood stud framing with corrosion-resistant fasteners that penetrate a minimum of 1 in. (25 mm) into the stud. For steel stud framing, use corrosion-resistant screws that extend through the steel stud connection a minimum of three exposed threads. For masonry or concrete, use hardened concrete nails or powder-actuated fasteners that penetrate a minimum of 1 in. (25 mm).

Scratch Coat. For thick set systems, a scratch coat of mortar with a nominal thickness of ½ to ¾ in. (12 to 19 mm) is applied to the lath or mesh until it is fully embedded in the mortar. The scratch coat can be applied in one layer or as two nominal ¼ to ⅜ in. (6 to 10 mm) layers, where the first layer fully embeds the lath or mesh. The surface of each layer should be scratched (scored) horizontally when thumbprint hard and allowed to cure before applying the next layer or coat. Installation in a single layer may be preferable during periods of hot or cold weather to avoid potential delamination between layers.

Bond Coat. Apply a bond coat of mortar or modified mortar over a damp scratch coat to a nominal thickness of ⅛ in. (3.2 mm) and groove with a square-notched trowel. For maximum adhesion, covering the entire back of the thin brick with bond coat mortar is recommended. While the coat remains wet and workable, embed the thin brick into the bond coat and fill mortar joints as described in the “Setting Thin Brick” and “Mortar Joints” sections below.

Thin Set Method

An adhesive or modified mortar may be used to bond thin brick to the substrate in thin set applications.

Adhesive. Thin brick may be adhered with a non-sagging adhesive compatible with the thin brick and substrate. These are typically available in tubes and are applied using a pressure gun. Apply the adhesive according to manufacturer's instructions. The adhesive is usually applied in 1 in. diameter (quarter-sized) dabs on the back of the brick at each end. Adhesives should not be applied in a manner that will trap water, resulting in subsequent freezing and thawing. **Figure 10** shows an interior application of thin brick on wood stud framing using the thin set method.

Modified Mortar. Dry components of modified mortar should be pre-blended prior to adding the latex additive. Apply according to manufacturer's instructions. Most manufacturers recommend a nominal ⅛ in. (3.2 mm) thickness. For maximum adhesion, complete coverage of the back of thin brick with bond coat mortar is advised. Apply modified mortar over an area no greater than can be covered by thin brick while the mortar remains workable. Use a notched trowel as recommended by the mortar manufacturer to evenly spread the modified mortar to a nominal ⅛ in. (3.2 mm) thickness. Within 10 minutes of applying the latex-modified mortar on the substrate, completely cover the back of thin brick with modified mortar and embed in substrate mortar coat as indicated in the “Setting Thin Brick” section below.

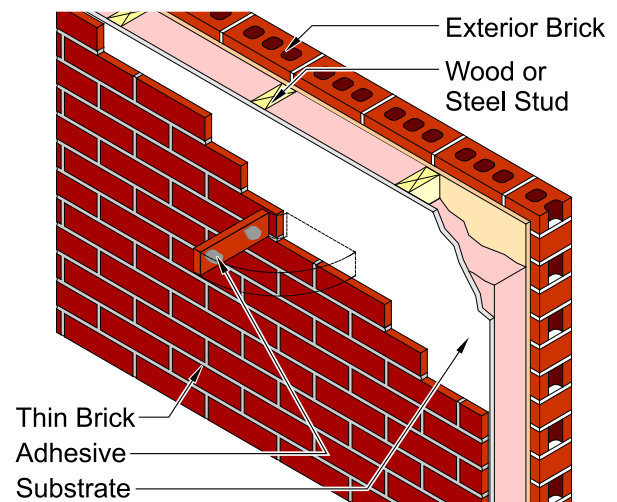


Figure 10
Interior Thin Set Application on Studs

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Setting Thin Brick

Each thin brick should be firmly pressed or tapped into place, taking care to maintain proper spacing and alignment of the joints and bond pattern. Setting each brick with a rubber mallet or a beating block can help to ensure flatness and secure bedding. If mortar or modified mortar is used, a slight excess should squeeze out of the joints between brick during the setting process. Once the thin brick is set, it should not be moved or the bond may be compromised. If a thin brick is inadvertently moved after initial set has begun, it should be removed, along with any bond coat behind it, and a new thin brick unit installed with fresh mortar, modified mortar or adhesive. Proper setting of each thin brick is critical to ensuring a durable thin brick system. Improper setting of the thin brick is the most frequent cause of poor performance.

Mortar Joints

The mortar joints between thin brick must be filled. One method involves filling the joints as the brick are placed, using a striking tool or a trowel to remove the excess. Placing the brick under firm pressure, while sliding them slightly away from and back into desired position, squeezes excess mortar into the joint between units. A second and more common method is to keep the head and bed joint essentially free of mortar during thin brick placement and to fill the joints separately using a mortar gun, grout bag or other mortar delivery device. Allow the bond coat to cure 24 hours or until joints can be filled without displacement of the brick. Tool joints to a concave, vee or grapevine profile once they have achieved sufficient stiffness (thumbprint hard). **Photo 2** shows mortar installation with a grout bag after the brick have been placed.

Modular Panels

Modular panels should be installed according to the instructions provided by the modular panel manufacturer or the manufacturer of the proprietary modular panel system. Installing thin brick on most modular panel systems is similar to the thin set method.

Proprietary modular panel systems may provide all the materials needed to assemble the system, including the modular panel, thin brick, adhesive and mortar. Panels should be fastened in accordance with manufacturer's instructions. The components of such a proprietary system are designed to perform together as a whole; therefore, only the materials and instructions provided by the manufacturer should be used with a proprietary modular panel system.

Most modular panel systems require fastening the panel to the wall before thin brick are installed individually, as shown in **Photo 3**. Some modular panel systems are designed to be transported to the construction site with the thin brick already installed on most of the panel.



Photo 2
Mortar Placement Using a Grout Bag



Photo 3
Installation of Modular Panel

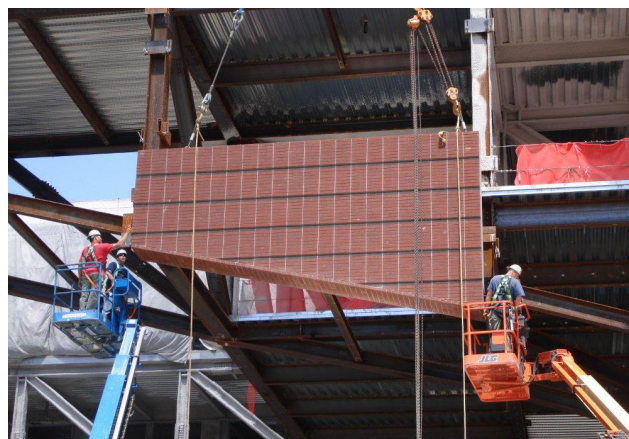


Photo 4
Installation of Prefabricated Panel

Appendix C - 7 Lafayette Street Renovations, Restorations, and Additions

Prefabricated Panels

Brick-faced precast concrete panels and prefabricated wood and steel wall panels are typically attached using anchorage devices embedded in the concrete to the building structural frame or foundation. The panels are typically delivered to the job site by truck and lifted into place using a crane or a hoist, as shown in **Photo 4**. Panels are adjusted to be level, plumb and in alignment with adjacent façade elements before they are bolted or welded in place.

MAINTENANCE

If properly designed, detailed and constructed, minimal maintenance is required for thin brick applications. Brick veneer should be inspected periodically to ascertain performance and to identify any potential problems. Inspections are recommended on an annual basis at a minimum. Such inspections should address sealant joints, any loose units, plumbness of the wall, cracking, etc., to identify repairs and corrections before severe issues develop. For additional information regarding maintenance, refer to *Technical Note 46*.

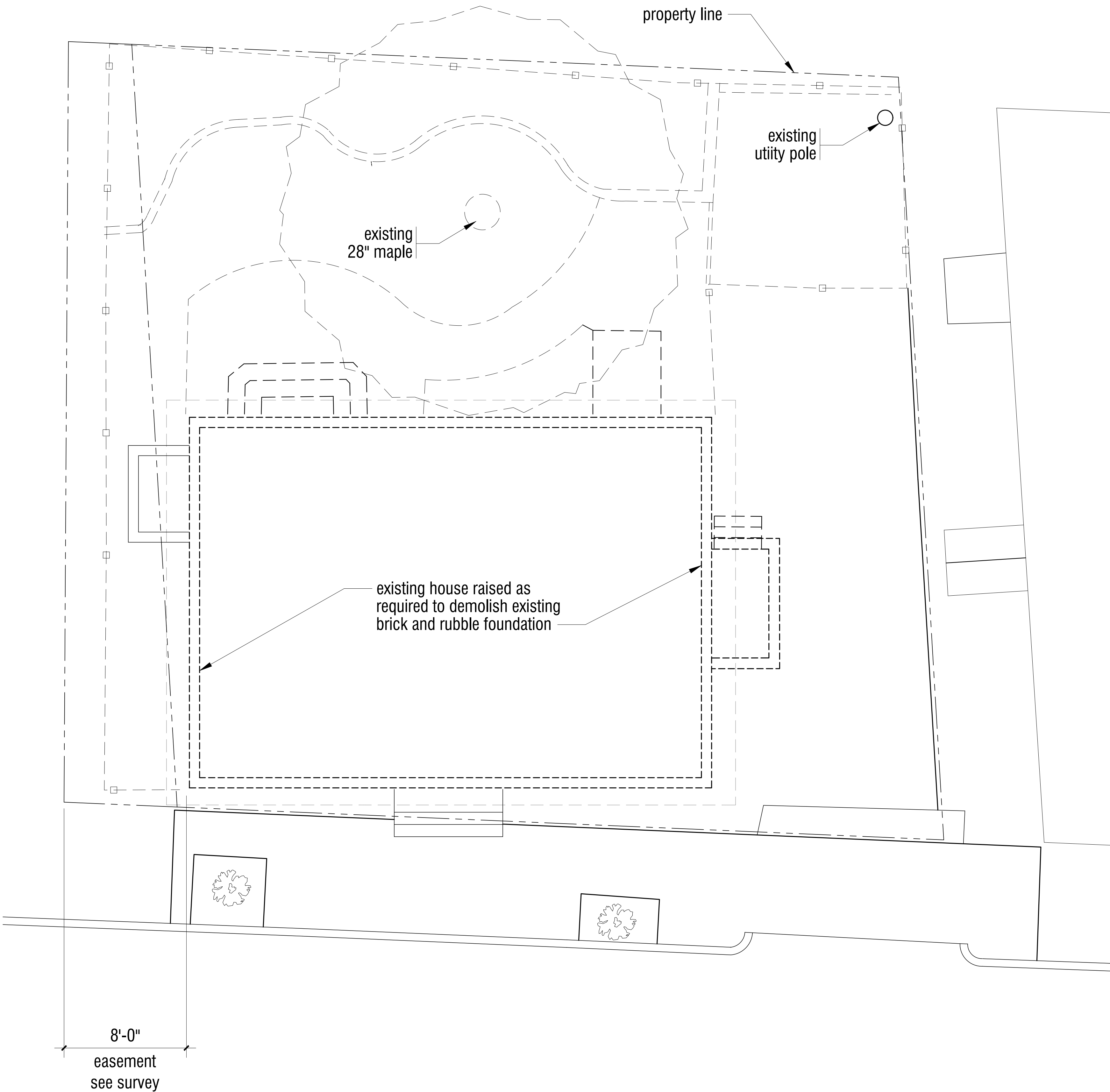
SUMMARY

Thin brick can be installed over a variety of substrates in both exterior and interior applications using thick set, thin set, modular panels or prefabricated panels. This *Technical Note* describes thin brick systems currently in use and includes recommendations on the selection, design, materials and installation of each system.

The information and suggestions contained in this Technical Note are based on the available data and the experience of the engineering staff and members of the Brick Industry Association. The information contained herein must be used in conjunction with good technical judgment and a basic understanding of the properties of brick masonry. Final decisions on the use of the information discussed in this Technical Note are not within the purview of the Brick Industry Association and must rest with the project architect, engineer and owner.

REFERENCES

1. *2012 International Building Code*, International Code Council, Inc., Country Club Hills, IL, 2012.
2. *2012 International Residential Code and Commentary*, International Code Council, Inc., Country Club Hills, IL, 2012.
3. *2013 TCNA Handbook for Ceramic Tile Installation, 50th Anniversary Edition*, Tile Council of North America, Inc., Anderson, SC, 2013.
4. ASTM International, *Annual Book of ASTM Standards*, West Conshohocken, PA, 2013.
Vol 4.01
ASTM C847, Standard Specification for Metal Lath
ASTM C1032, Standard Specification for Woven Wire Plaster Base
Vol. 4.05
ASTM C270, Standard Specification for Mortar for Unit Masonry
ASTM C1088, Standard Specification for Thin Veneer Brick Units Made From Clay or Shale
ASTM C1325, Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units
5. *Building Code Requirements for Masonry Structures* (TMS 402-13/ACI 530-13/ASCE 5-13), The Masonry Society, Boulder, CO, 2013.
6. FSC Tech Matters, "Guide to Attaching Exterior Wall Coverings through Foam Sheathing to Wood or Steel Wall Framing," Foam Sheathing Coalition (of the American Chemistry Council), Washington, DC, December 4, 2012, <http://fsc.americanchemistry.com/Building-Code/Installation-of-Cladding/Guide-to-Attaching-Exterior-Wall-Coverings.pdf>
7. Leslie, Neil P., "Residential Stucco Wall Assembly Moisture Performance Evaluation," *ASHRAE Transactions*, Vol. 114, Part 1, New York, NY 2008.
8. PCI Standard for Embedded Clay Thin Brick, Precast/Prestressed Concrete Institute, Chicago, IL, 2013.



Site Demolition Plan
1/8" = 1'-0"

Project Team

Architect
Josef Chalats
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restortion and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

2024-03-25 Historic Preservation Application

Drawings

Site Demolition

Sheet Title and Number

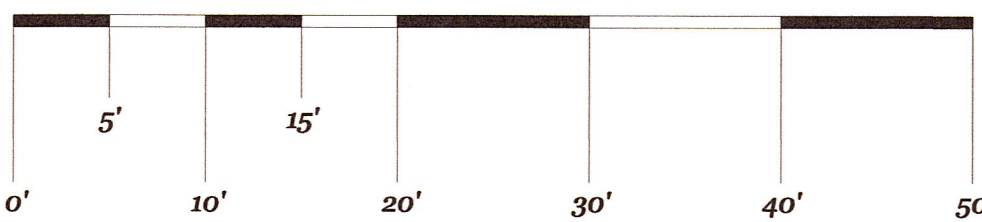
d1.1

Cumberland Avenue

Plan References:

1. Untitled plan of lots on North Street, La Fayette Street, and Merrill Street in Anson & Cummings Plan Book 2, Page 33 on file at City of Portland. Appears to pre-date 1836 and depict land of John Merrill.
2. "Map Of The City Of Portland, Cumberland County, Maine From Original Surveys", dated 1851 by Henry F. Walling, Civil Engineer.
3. Plan of Lots made by A.P. Marshall for M. Gould and E. Clark, dated May 20, 1856, and recorded December 14, 1857, in CCRD Plan Book 1, Page 41.
4. "Map Of Cumberland County Maine From Actual Surveys, By Sidney Baker, C.E. And Others", dated 1857 by J. Chace, Jr., Portland & Philadelphia.
5. Plan of Merrill Street on file at City of Portland Plan 368/1.
6. "Plan Of Merrill Street", dated May 1857 by Charles H. Howe, City C.E., on file at City of Portland Plan 368/28.
7. "Atlas Of Cumberland Co., Maine From Actual Surveys By And Under The Direction Of F.W. Beers, Assisted By Geo. P. Sanford And Others", dated 1871 by F.W. Beers & Co., New York.
8. "Plan Showing Actual Lines Of Streets On Munjoy Hill With Proposed Change Of Record", dated June 1877 on file at City of Portland Plan 62/4 & 71/3.
9. "City Of Portland Revaluation Plans", Sheet No. 14, dated 1882, by Wm. A. Goodwin, City Eng., recorded October 24, 1884, in CCRD Plan Book 5, Page 14.
10. "Portland, Maine", Plate 32, dated October 1886, Published by the Sanborn Map and Publishing Co., New York.
"Insurance Maps Of Portland, Maine", Plate 12, dated 1896, Published by the Sanborn-Perris Map Co. Limited, New York.
"Insurance Maps Of Portland, Maine, Volume One", Plate 3, dated 1909, Published by the Sanborn Map Company, New York.
"Insurance Maps Of Portland, Maine, Volume One", Plate 3, Republished 1954, Edition of 1909 by the Sanborn Map Company, New York.
11. "Richards Standard Atlas Of The City Of Portland, Including The City Of South Portland, Maine", Plate 3, dated 1914, by Richards Map Company.
12. "City Of Portland, Maine Department Of Public Works, Lafayette St.", dated April 1, 1946, on file at City of Portland Plan 617/16.
13. "City Of Portland, Maine Department Of Public Works, Congress St. Sewer, Munjoy Street To Lafayette St., As-Built", approved January 2, 1975, by City Engineer, on file at City of Portland Plan 625/13.
14. "City Of Portland, Maine Department Of Public Works, Lafayette Street Reconstruction, As Built", Sheet 2 of 2, dated January 3, 1979, on file at City of Portland Plan 496/10.
15. "Portland Water District, Portland Sewer System Infiltration-Inflow Analysis System Base Mapping, Study Area IV", dated 1981, last revised February 1, 2001, on file at City of Portland Plan 905/1.
16. "Site Plan, Land Of Paul St. Hilaire, Inc. 95-97 Congress Street, Portland, Maine", dated July 20, 1989, by Herbert P. Gray, Portland, Maine, recorded September 22, 1989, in CCRD Plan Book 181, Page 26.
17. Working plan of "Standard Boundary Survey 8 Merrill Street, Portland, Maine Made For Eric Giguere And Jennifer P. Giguere, 71 Sawyer Street, Westbrook, Maine", dated March 1996 by Ross Boundary Surveys, Scarborough, Maine.
18. "Condominium Plat Of The East End Condominium, 91 Congress Street, Portland, Maine, For: Corey Saenz", dated June 14, 2003, by Back Bay Boundary, Inc., Portland, Maine, recorded August 26, 2003, in CCRD Plan Book 203, Page 493.
19. "Condominium Plat '16-18 Cumberland Avenue Condominium', #16-18 Cumberland Avenue, Portland, Maine Made For Record Owner Dale And Judith Carlson", dated May 12, 2006, recorded July 28, 2006, in CCRD Plan Book 206, Page 475, revised August 30, 2007, recorded November 5, 2007, in CCRD Plan Book 207, Page 704.
20. "Plan Depicting The Results Of A Boundary Survey Made For Munjoy Family Apartments, LLC, Southeasterly Sideline Of Cumberland Avenue, Northeasterly Sideline Of Lafayette Street & Southwesterly Sideline Of Merrill Street, Portland, Maine, dated February 16, 2011, by James D. Nadeau, LLC Professional Land Surveyors, Portland, Maine.

Graphic Scale:



N/F
Munjoy Family Apartments LLC
Book 22133, Page 342
See Plan Reference 20

N/F
Dagavarian & Colpitts
Book 35437, Page 150
See Plan Reference 16

N/F
Chester
Book 37333, Page 300

Magnetic North
(Observed 2008)
(Plan Reference 20)

Locus Deed Reference:

George S. Carhart and Uschi S. Carhart

To
Tanya Mahood, Trustee Of
The Tanya Mahood Revocable Trust
dated and recorded August 19, 2022, at the Cumberland
County Registry of Deeds in Book 39660, Page 248.

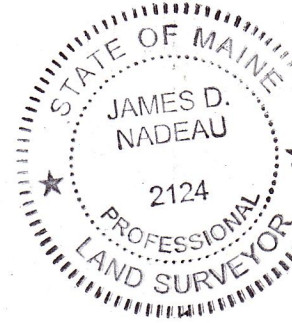
General Notes:

1. This plan is intended to show the location and boundaries of the subject property, not to depict limits or extent of fee title ownership. An opinion of title should be rendered by a title attorney.
2. This office reserves the right to be held harmless by all 3rd party claims.
3. This survey does not purport to reflect any of the following:
 - a. easements other than those that are visible or specifically stated in the referenced documents.
 - b. building setback compliance or restrictive covenants.
 - c. zoning or other land use regulations.
 - d. the location of any underground utilities or structures.
4. This office reserves the right to be held harmless for unknown or unobtainable private records which could affect the results of this survey.
5. Reference is made to "Letter Of Agreement/Qualification" dated February 13, 2023, between Nadeau Land Surveys and the below listed client(s), which shall be considered an integral part of this survey.
6. N/F is an abbreviation for Now or Formerly.
7. All deeds referenced on this plan are recorded at the Cumberland County Registry of Deeds (CCRD).
8. This office does not accept any liability for any errors which may exist in the plans listed in the Plan References hereon, except Plan Reference 20.
9. Locus Parcel is shown on the City of Portland Assessor's Map 14, Block D, as Lot 7, and is listed as 7 Lafayette Street.
10. Area of Locus Parcel is 2,497 square feet (0.06 acre).
11. The apparent right of way lines depicted on this plan are based on the Plan References listed hereon and monumentation found in the field, and City of Portland Engineering Street Notes.
12. The Locus Parcel does not scale in a Special Flood Hazard Area per FEMA Flood Insurance Rate Map Community-Panel Number 230051 0014B, dated July 17, 1986. The parcel scales in Zone C.
13. All building corner offsets, if any, to boundary lines are from cornerboards and not building foundation, unless noted.
14. Call 1-888-DIGSAFE at least three business days before performing ANY excavation.
15. Per City of Portland Records Vol. 6, Page 558, dated February 8, 1849, "La Fayette Street" was laid out as three rods (49.5 feet) wide. Per City of Portland Records Vol. 9, Page 326, dated February 7, 1856, "La Fayette Street" was extended to Quebec Street. Per City of Portland Record of Streets Vol. 38, Page 43, dated October 1, 1877, Lafayette Street was re-run (See Plan Reference 8).
16. Vertical Datum is NGVD29. Project Benchmark is 7" x 7" granite monument with brass plug flush at northerly intersection of Congress and North Streets: City Monument T104-35-3, Elevation = 146.69'.
17. The underground utilities shown have been located from field survey information and existing drawings. This office makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in-service or abandoned. The underground utilities shown are approximate location and are located as accurately as possible from information available. This office has not physically located the underground utilities.
18. Apparent location of abutting property lines are shown for informational purposes only and do not represent a boundary line opinion by this office.
19. Portland was part of Falmouth prior to 1814. Prior to 1820, this area was part of Massachusetts.
20. Apparent encroachment - No record easement has been found.
21. Spot grades, rim and sill elevations are for engineering purposes only, and shall not be used as project benchmarks.

Surveyor's Statement:

Nadeau Land Surveys hereby states exclusively to the client listed hereon that this plan is based on, and the result of, an on the ground field survey and that to the best of our knowledge, information, and belief, it conforms to the Maine Board of Licensure rules and regulations for Professional Land Surveyors.

This plan is not valid without the signature and stamp of the below listed Professional Land Surveyor who prepared this plan as it may contain unauthorized alterations unknown to this office.



Nadeau Land Surveys

James D. Nadeau, P.L.S. #2124 (agent)

Date:

4-7-23

Plan Depicting The Results Of A Boundary Survey & Topography Survey

Made For

The Tanya Mahood Revocable Trust

Northeasterly Sideline Of Lafayette Street

Portland, Maine

PREPARED BY:



Nadeau Land Surveys

918 BRIGHTON AVENUE
PORTLAND, ME 04102

Professional Land Surveyors
Certified Floodplain Managers

PH (207) 878-7870
FAX (207) 878-7871

RECORD OWNER:
The Tanya Mahood Revocable Trust -
Tanya Mahood, Trustee
c/o Wayne Valzania, MS CPM
Red Hook Design & Portland Door Rest.
17-C Westfield St., Portland, ME 04102

DRAWN BY: TPB

PLAN DATE: 4/7/2023

CHECKED BY: JDN/MLC

SURVEY DATE: March 2023

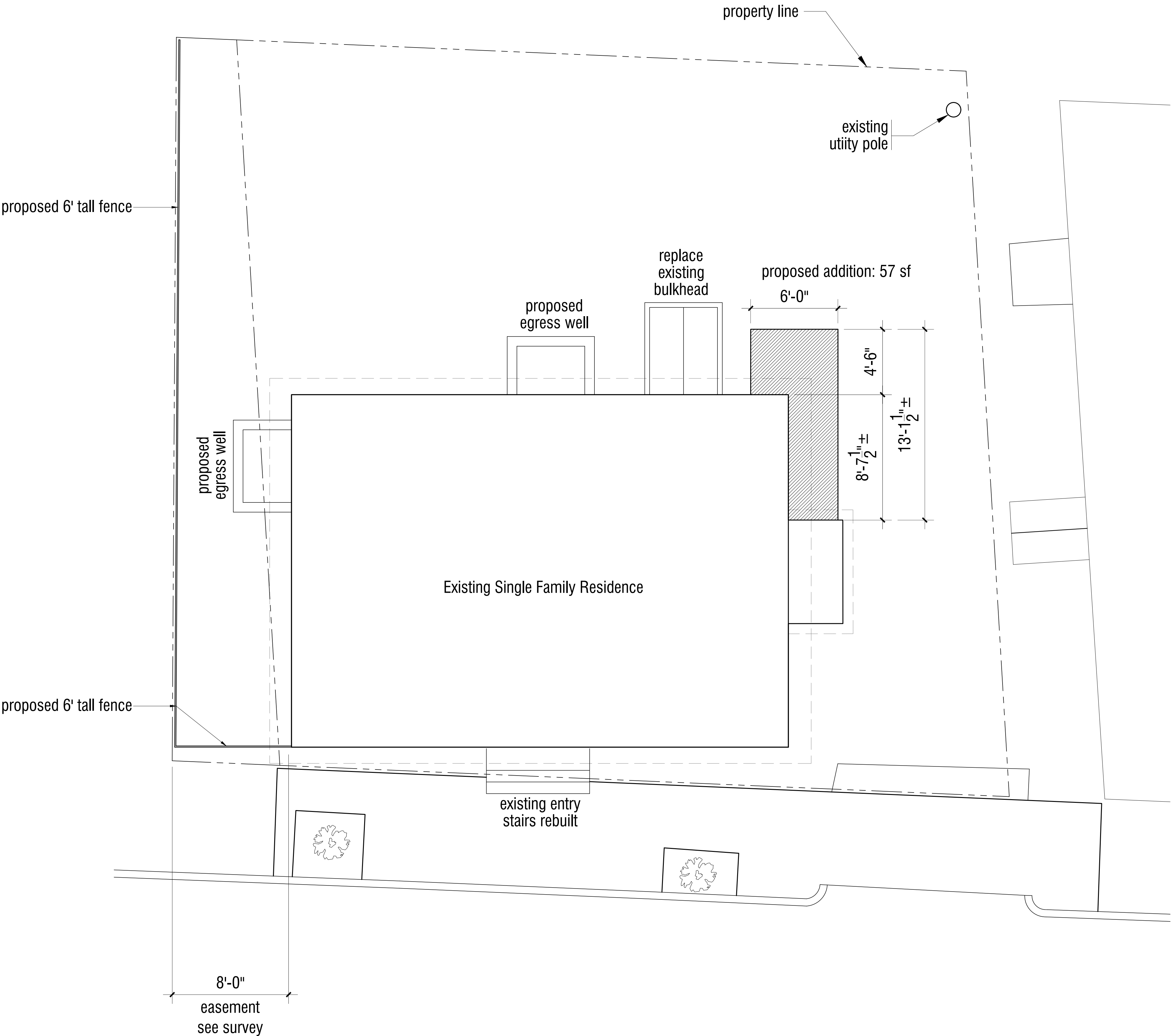
INSTR. Topcon GT-505

SCALE: 1" = 10'

FIELD BOOK: FB 414 & Topcon Tesla

JOB No: 2232262BT

SHEET No: 1 of 1



Location of Property lines and physical elements based on Survey by provided by Nadeau Land Surveys. Refer to the original survey for any questions regarding this site

Proposed Site Plan
1/8" = 1'-0"

Project Team

Architect
Josef Chalats
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restortion and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

2024-03-25 Historic Preservation Application

Drawings

Site Plan

Sheet Title and Number

sd1.1

Project Team

Architect
Josef Chalot
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restortion and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

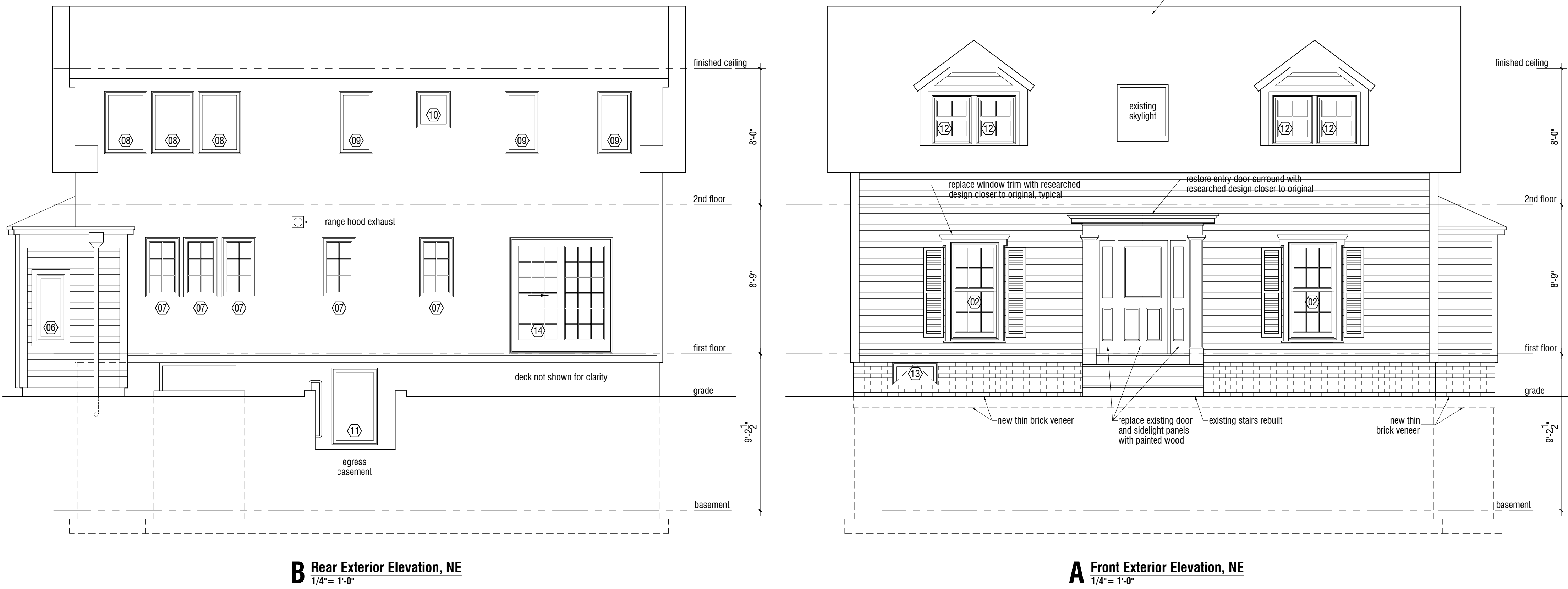
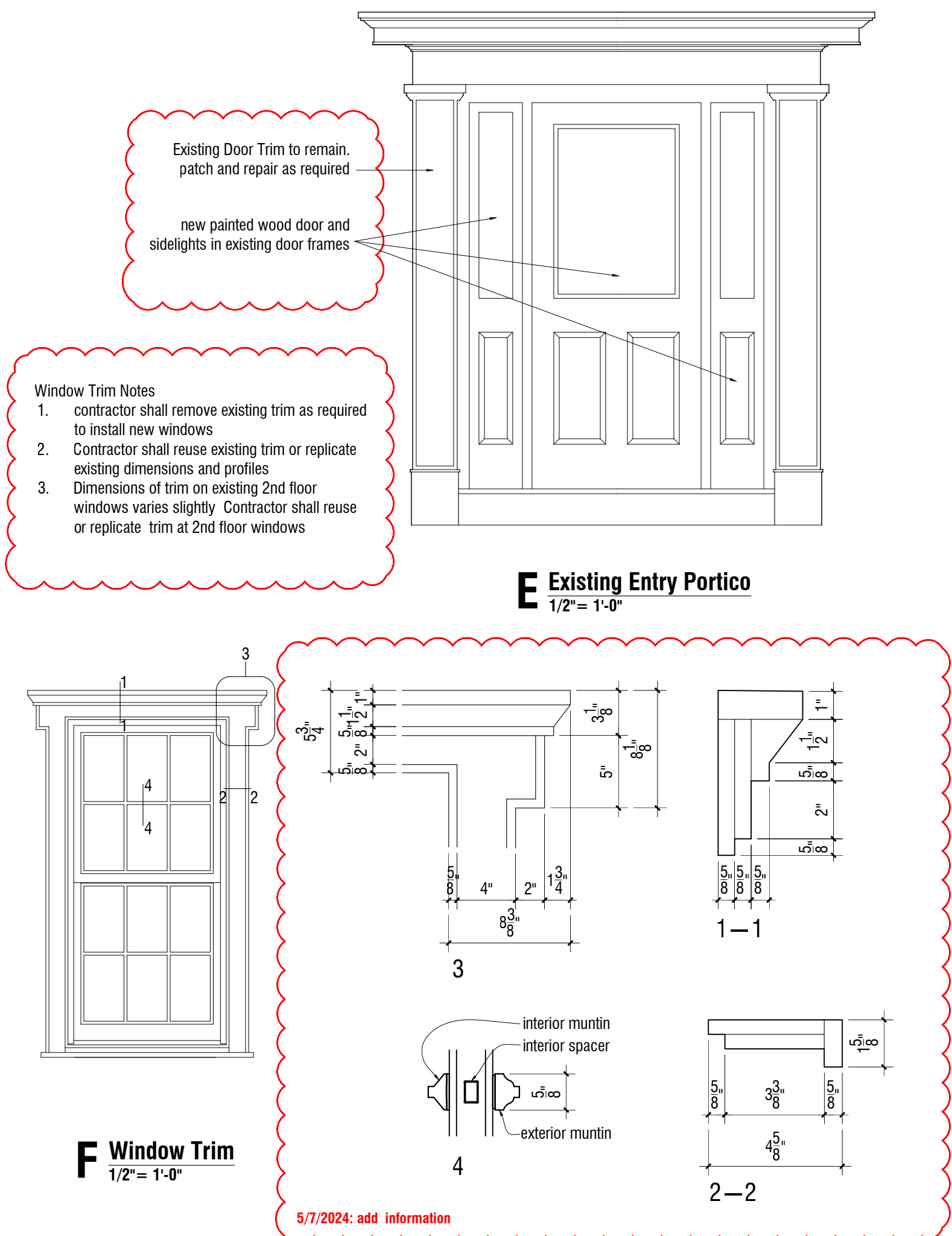
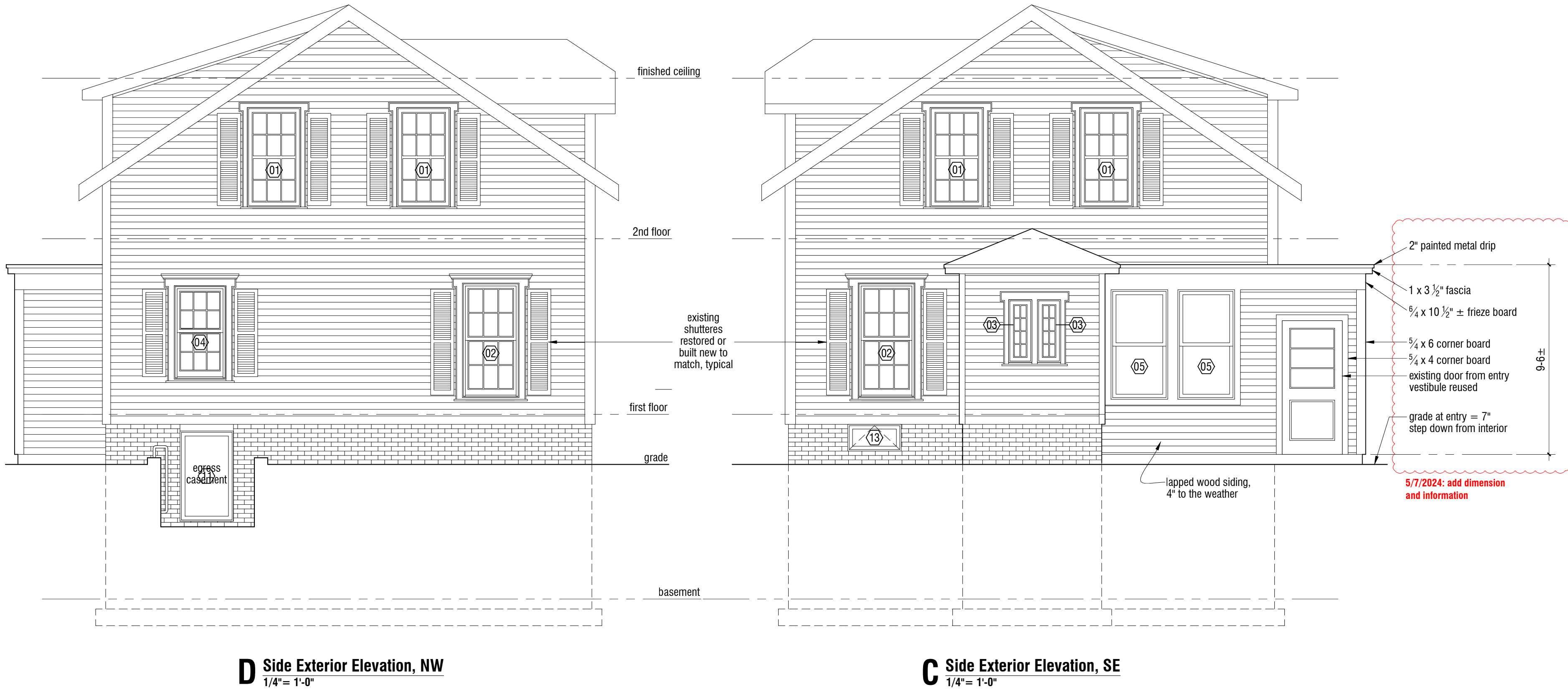
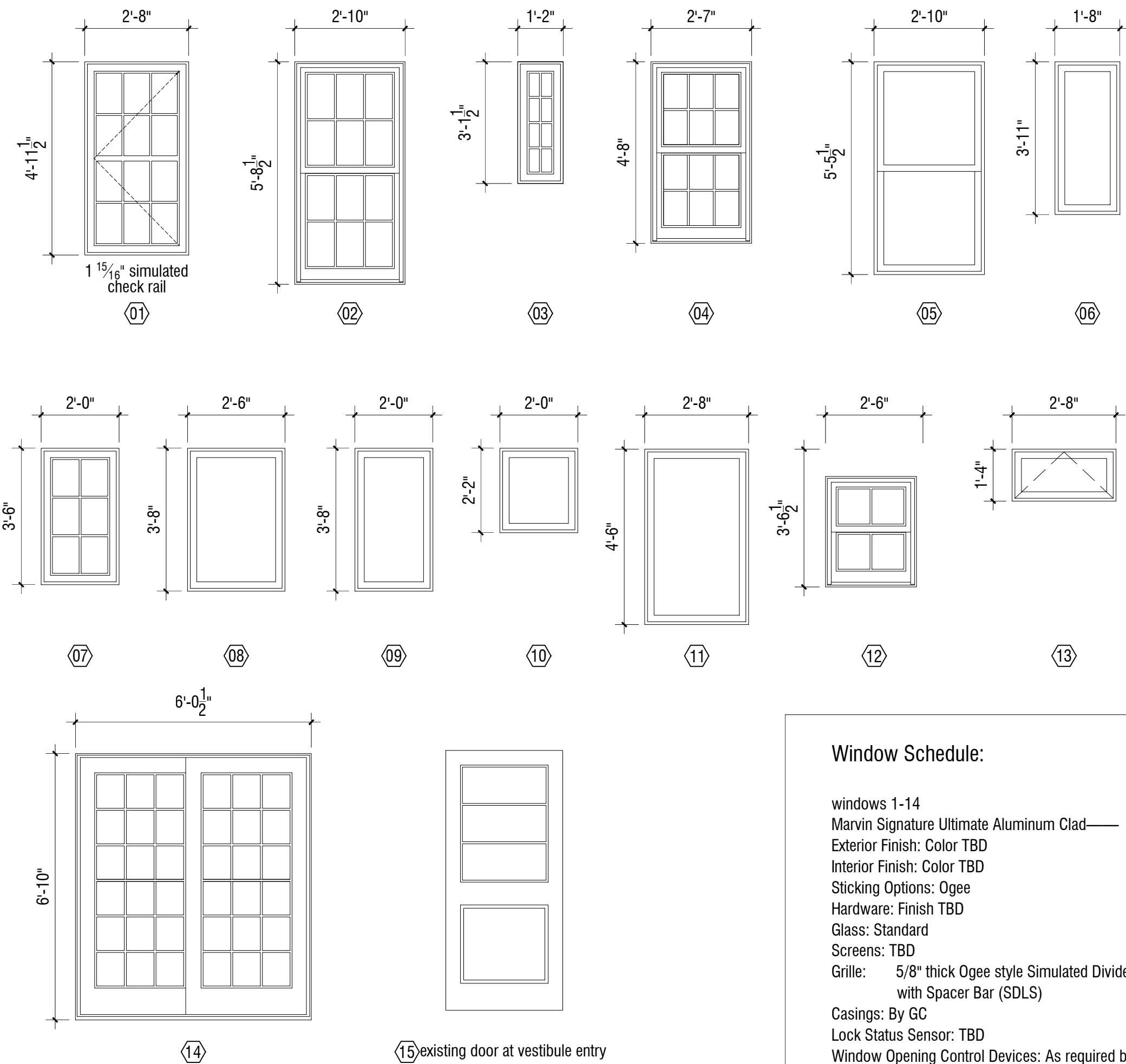
2024-03-25 Historic Preservation Application
2024-05-07 Addition information

Drawings

Exterior Views

Sheet Title and Number

a2.1



Project Team

Architect
Josef Chalats
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restoration and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

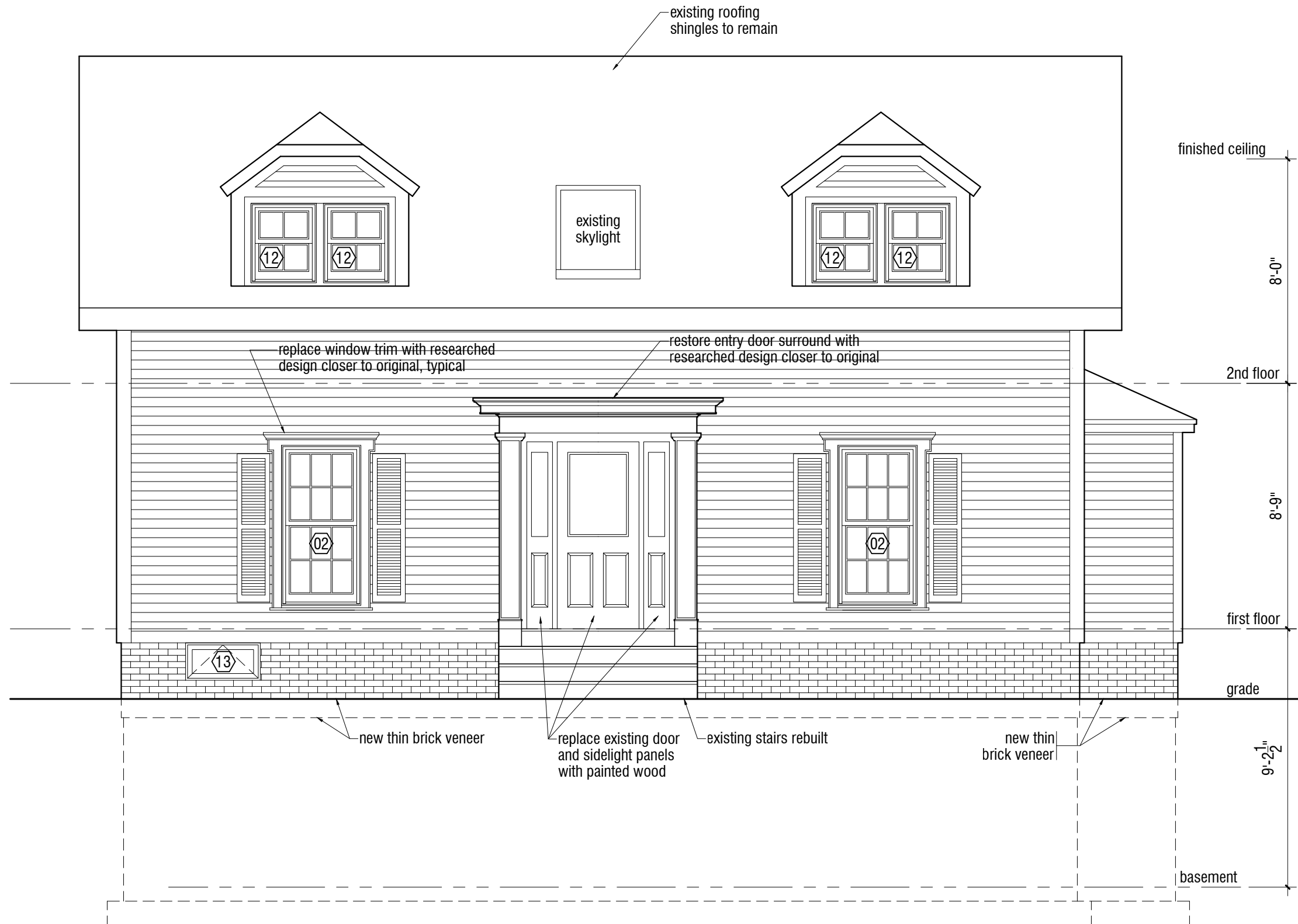
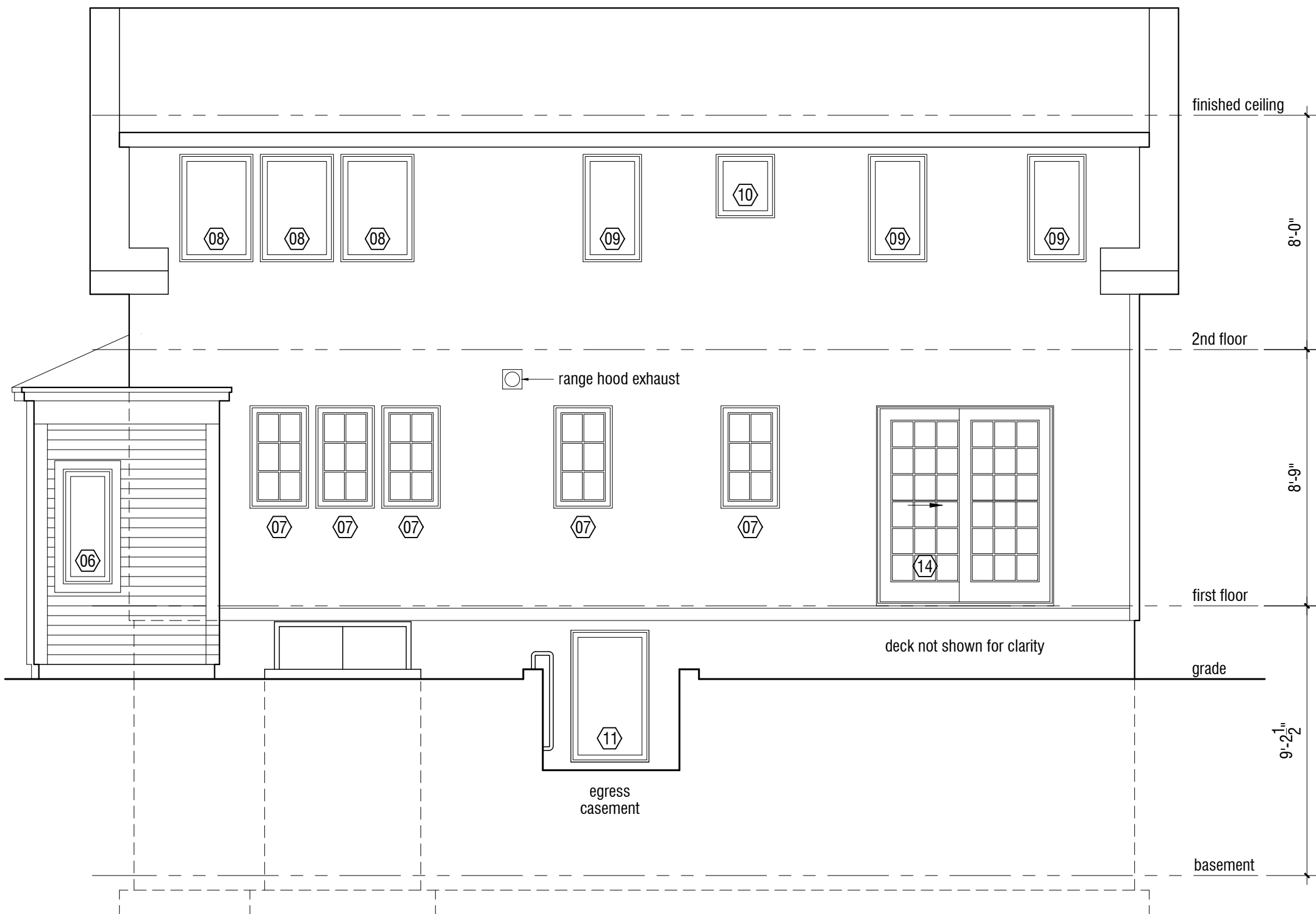
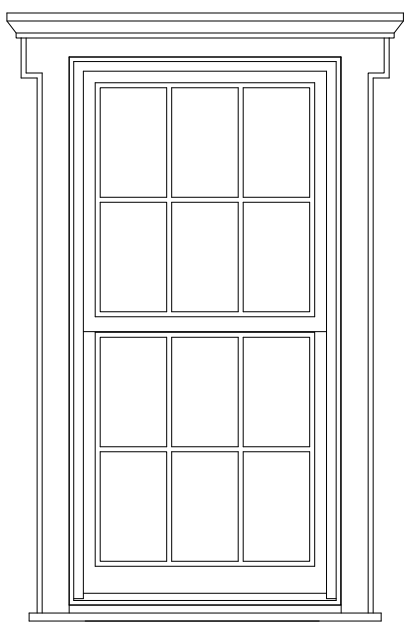
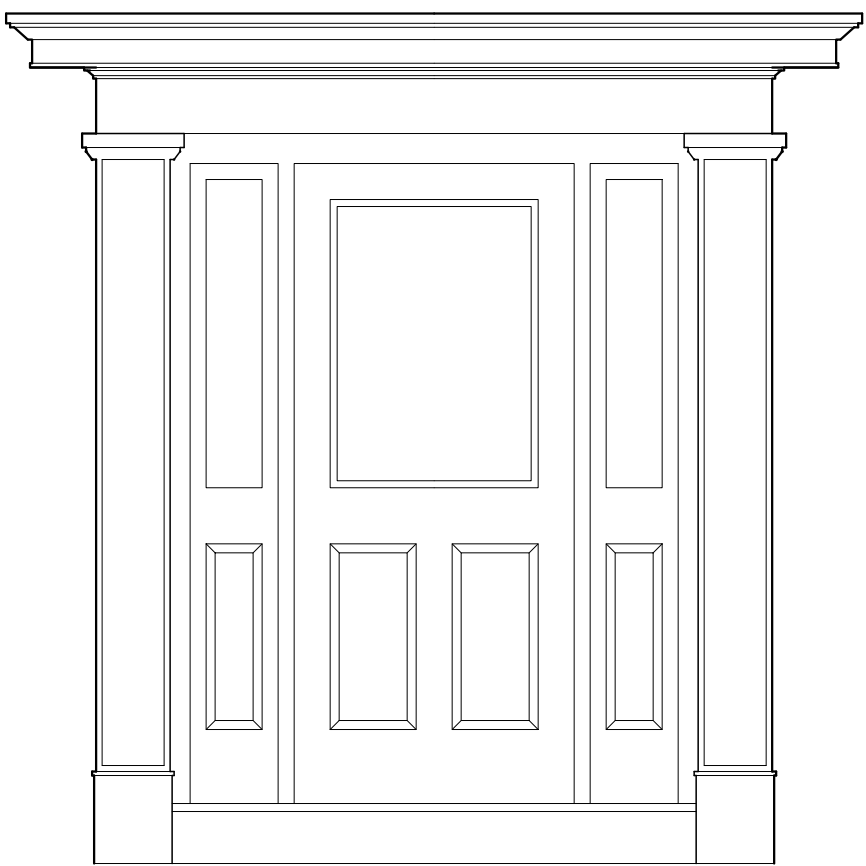
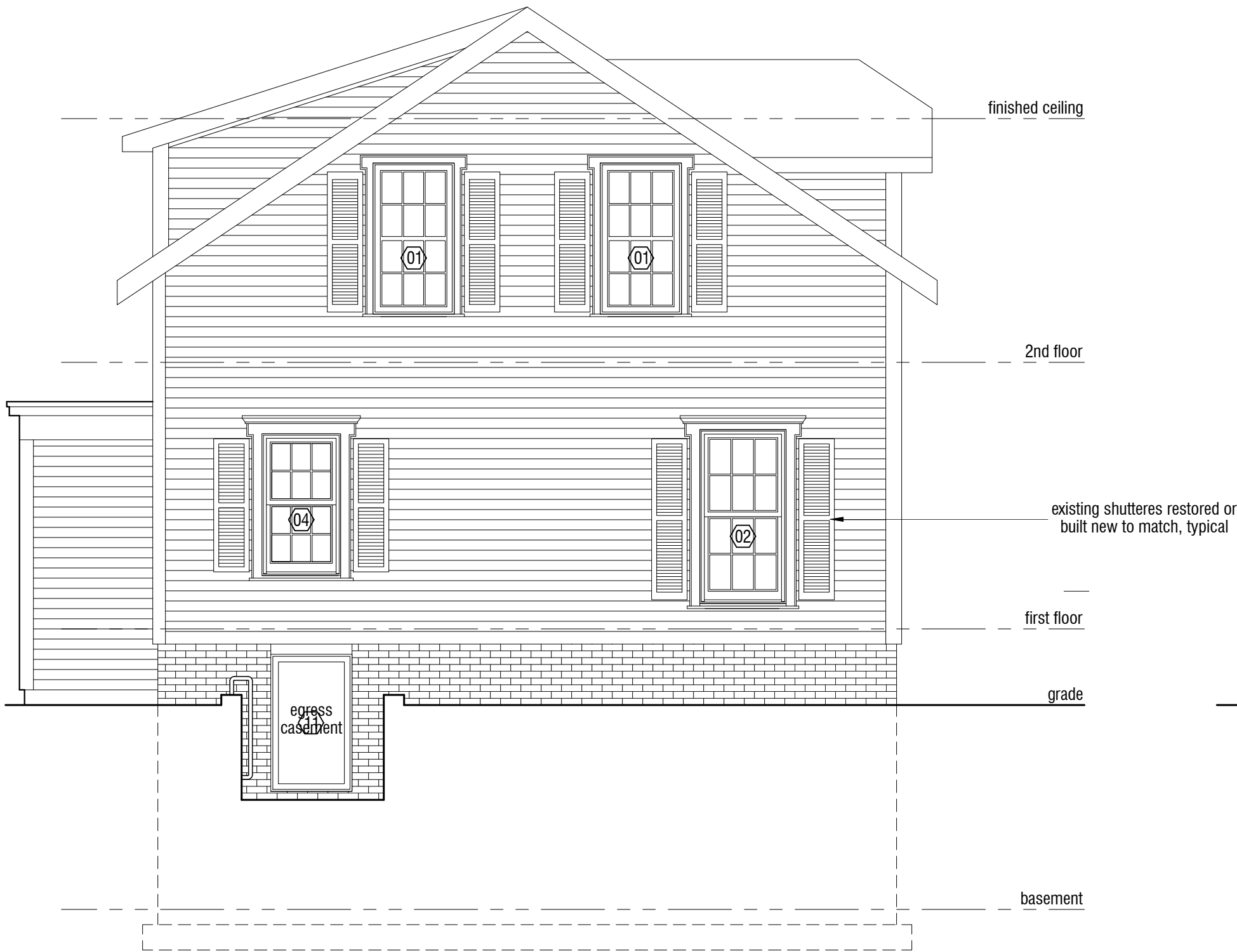
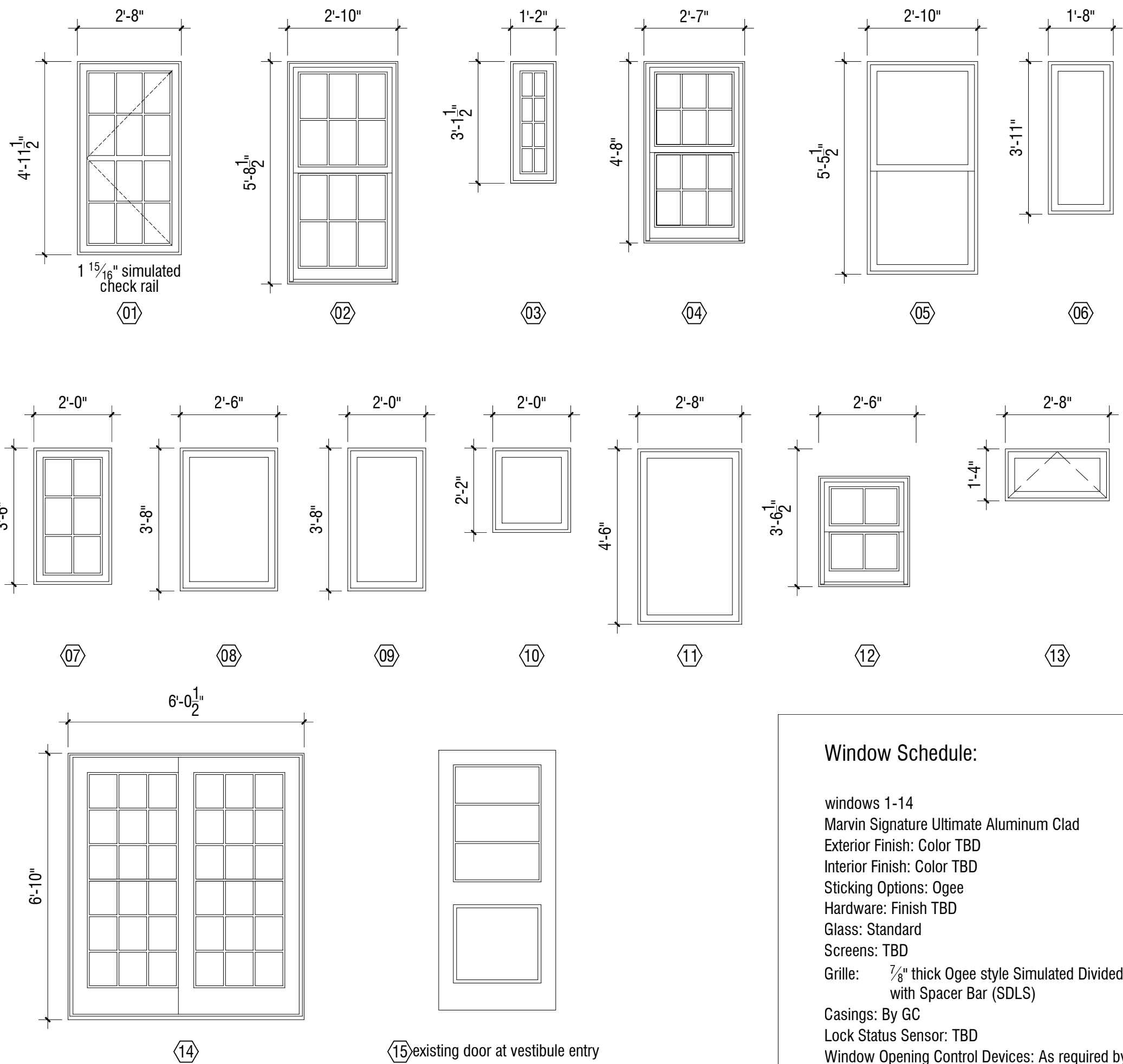
2024-03-25 Historic Preservation Application

Drawings

Exterior Views

Sheet Title and Number

a2.1



Project Team

Architect
Josef Chalât
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restortion and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

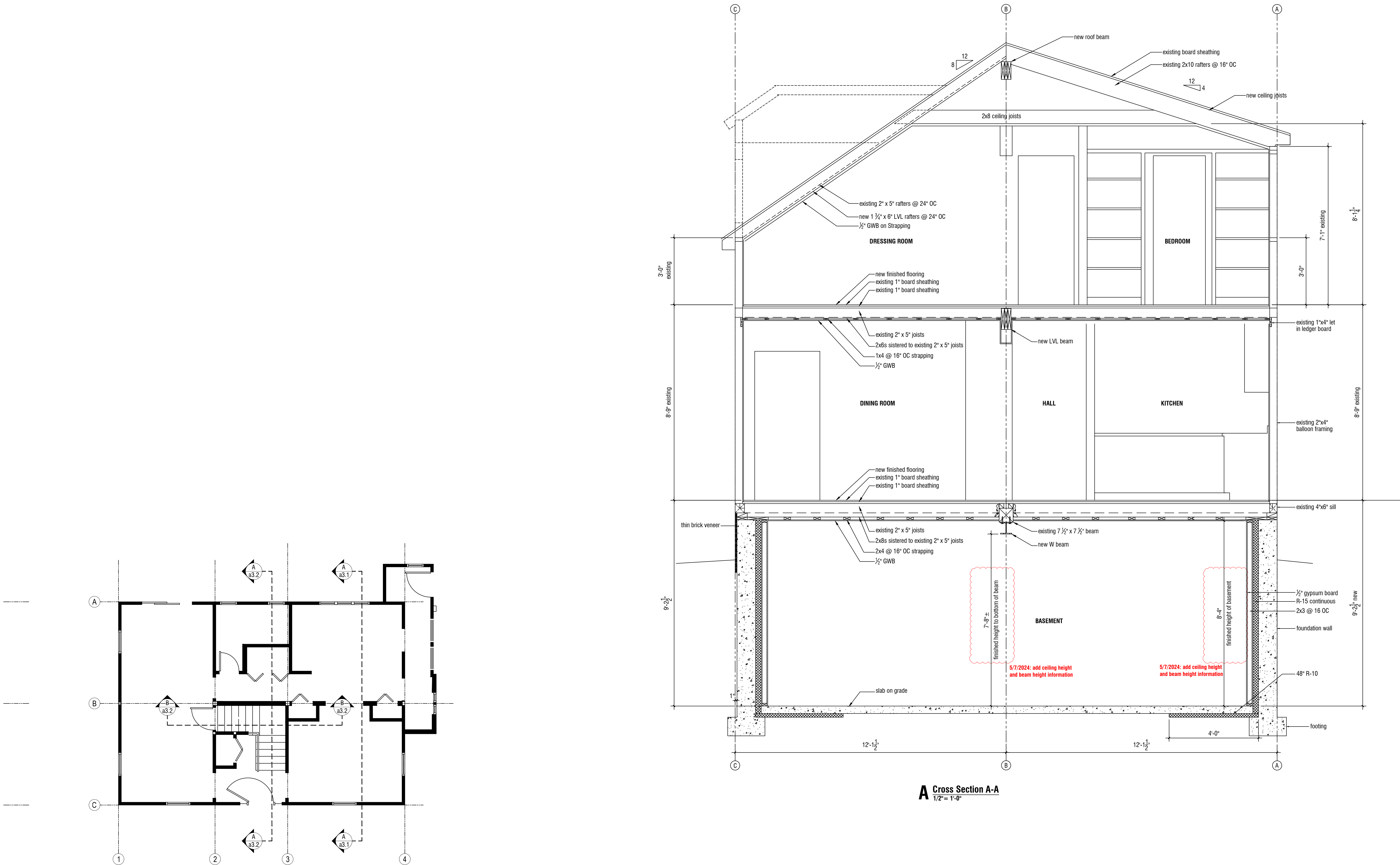
2024-03-25 Historic Preservation Application
2024-05-07 Addition information

Drawings

Cross Sections

Sheet Title and Number

a3.1



Project Team

Architect
Josef Chalats
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restortion and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

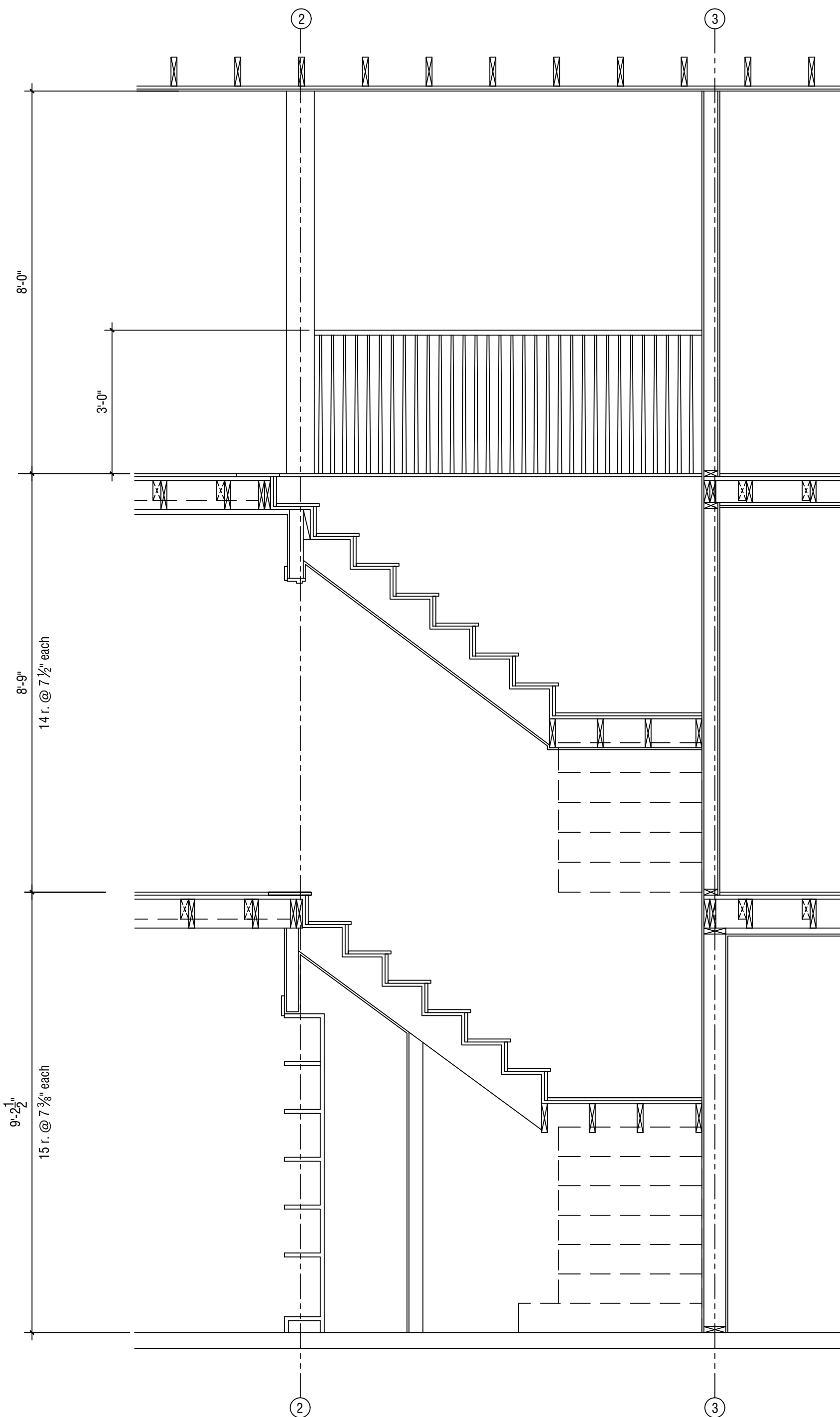
2024-03-25 Historic Preservation Application

Drawings

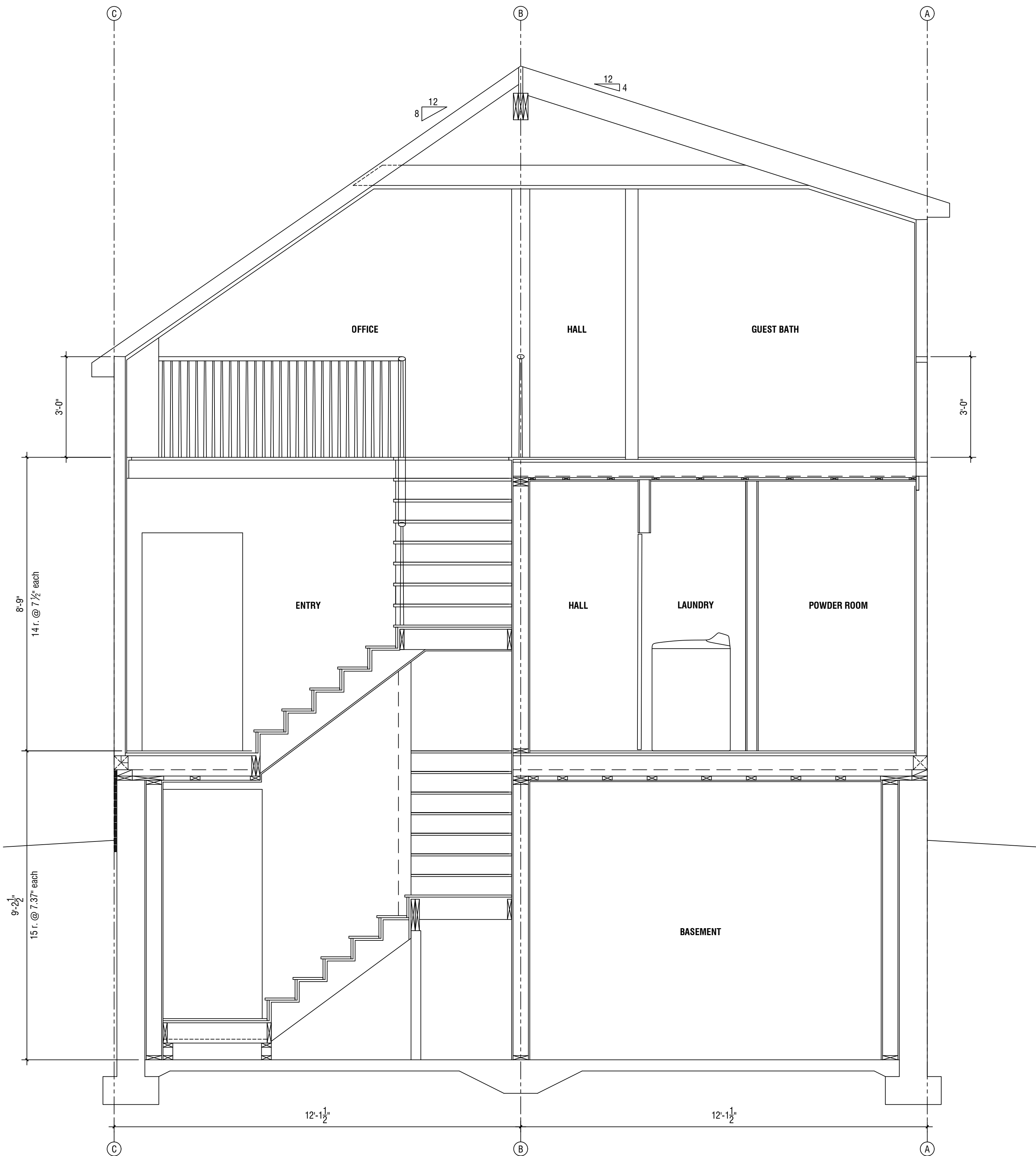
Cross Sections

Sheet Title and Number

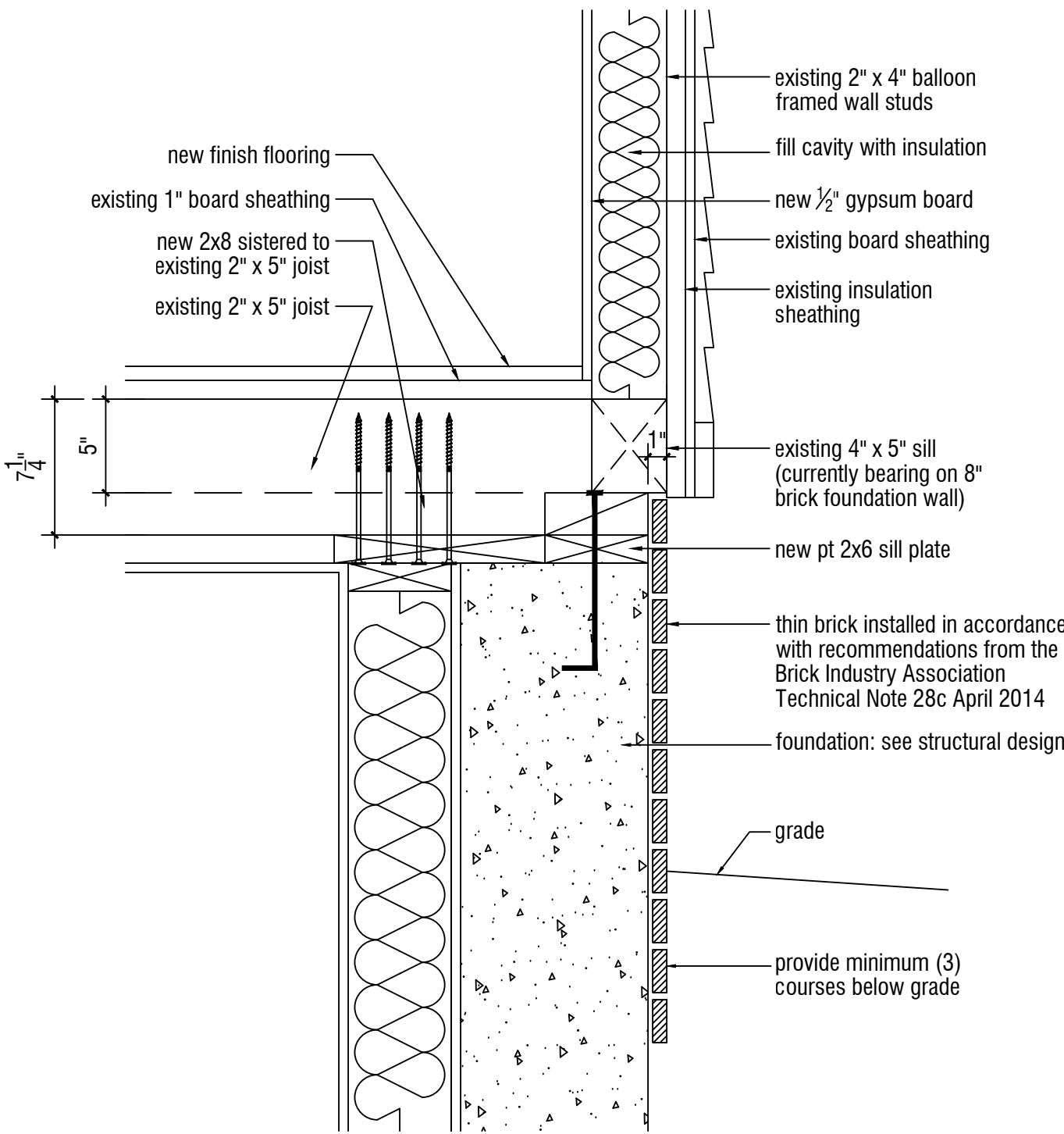
a3.2



C Cross Section C-C
1/4" = 1'-0"



B Cross Section B-B
1/4" = 1'-0"



A Thin Brick Detail
1 1/2" = 1'-0"



Foundation Condition to be Emulated

JOSEF CHALAT ARCHITECT

Project Team

Architect
Josef Chalats
Maine Registered Architect
327 Ocean House Road
Rear Suite
Cape Elizabeth, Maine 04107
(207) 318-3234
AzimuthBlu@gmail.com

Structural Engineer
L&L Engineering
Joseph Leasure PE
6 Q Street
South Portland, Maine 04106

Site Design
to be determined

Contractor
Red Hook Design LLC
Wayne Valzania, Master Builder
(207) 274-4918

Project

Restortion and Additions
The Tanya Mahood Residence
7 Lafayette Street
Portland Maine

Municipal Info

City Of Portland
Parcel: 014 D007001
Map 14 - Block D - Lot 7
Single Family Residence
B1 Zoning District
Lot Size 2497 sf

Individually Designated Landmark
The Henry Rowe House

Dates

2024-03-25 Historic Preservation Application

Drawings

Details

Sheet Title and Number

a5.1



L & L STRUCTURAL

ENGINEERING SERVICES, INC.

Six Q Street

South Portland, ME 04106

Phone: (207) 767-4830

Cell: (207) 329-0445

jleasure@ll-eng.com

April 12, 2024

Azimuth LLC.

Josef Chalot, Architect

327 Ocean House Road, Rear Suite

Cape Elizabeth, Maine 04107

RE: 7 Lafayette Street, Portland, Maine

Dear Josef,

As per your request, we considered the potential of salvaging the existing stone rubble plus 8" thick solid (2 wythe) brick foundation wall and excavating the interior basement floor to obtain a code compliant living space with sufficient ceiling height in the basement. The challenge with executing this option (Option A) is excavating the basement floor sufficiently without undermining the existing foundation to maintain the integrity of the existing foundation wall. This can be accomplished utilizing sheet piling driven at the interior face of the wall which would be difficult to execute and extremely expensive and/or cost prohibitive.

An alternative option (Option B) to accomplish this is to excavate at an angle adjacent to the base of the existing foundation wall to avoid undermining the existing foundation wall and install a concrete footing/buttress to brace the base of the existing foundation wall (see typical Section 1 attached) to obtain usable code compliant living space. This option B is relatively expensive as well yet likely less expensive compared to Option A. However, with Option B there is a considerable loss of usable floor space as there is an approximately 2'-0" (or more depending on the elevation of the floor depression required) loss of usable floor space around the interior perimeter of the basement floor which results in limited usable living space in the basement. By limiting the usable living space, the owner may not be able to achieve the desired objective for the basement space.

Another option (Option C) would be to raise the building super structure and reinforce and/or supplement the existing foundation wall with a reinforced concrete foundation wall placed on the interior face and on top of the existing foundation wall. This Option C would result with exposed concrete above the existing foundation wall which adversely affects the historic value of the existing foundation wall and will create challenges with the entry stoop/stairs that will need to be extended over the property line and sidewalk which isn't a functional option.

7 Lafayette Street
Portland, Maine
Page 2

In conclusion, Option A is extremely expensive and/or cost prohibitive; Option B does not allow sufficient usable code complaint living space; and Option C results in a foundation that does not maintain the historic value of the foundation structure. Therefore, we recommend demolishing the existing wall and constructing a new reinforced concrete foundation which can be faced with thin “historic” brick salvaged from the demolition and/or manufactured to match the existing brick foundation to maintain the historic value of the existing foundation.

Please do not hesitate to call with any questions and/or if you require additional technical assistance.

Sincerely,

Joseph H. Leasure, P.E.
L & L Structural Engineering Services
6 Q Street
South Portland, Maine 04106
Office: (207) 767-4830
Cell: (207) 329-0445
jleasure@ll-eng.com

