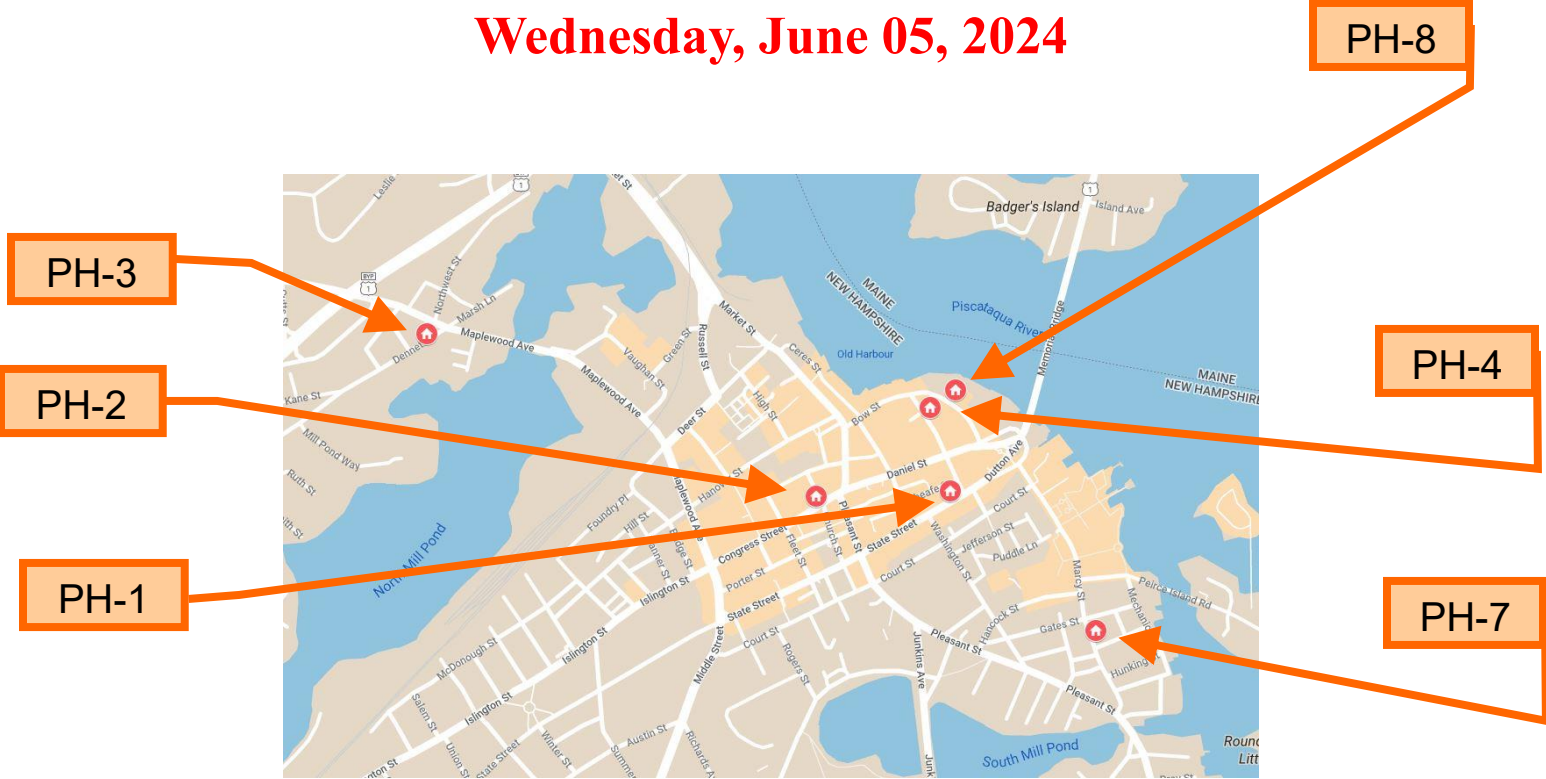


# Historic District Commission Staff Report

Wednesday, June 05, 2024



**Project Address:** 111 STATE STREET

**Permit Requested:** CERTIFICATE OF APPROVAL

**Application:** PUBLIC HEARING 1

**A. Property Information - General:**

**Existing Conditions:**

- Zoning District: CD 4
- Land Use: Mixed-Use
- Land Area: 2,875 SF +/-
- Estimated Age of Structure: c.1825
- Building Style: Federal
- Number of Stories: 2
- Historical Significance: C
- Public View of Proposed Work: State Street and Sheafe Street
- Unique Features: N/A
- Neighborhood Association: Downtown

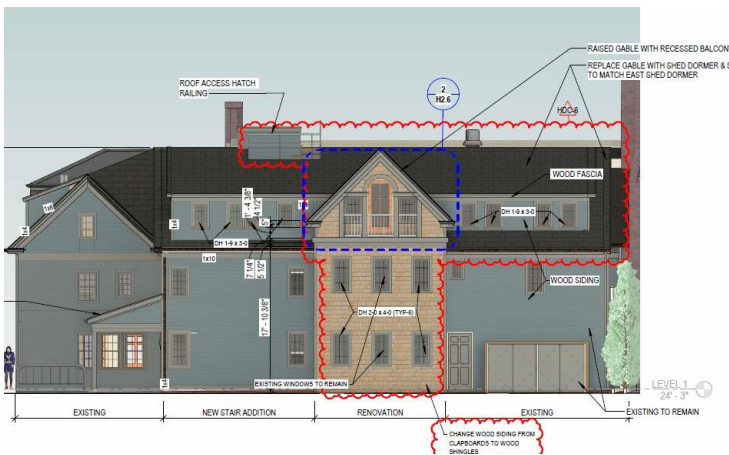


**B. Proposed Work:** Reconfigure rear gable ends to include a recessed porch and dormer, add new windows, change rear center gable siding, modifications to the front entrance doors.

**C. Staff Comments and/ or Suggestions for Consideration:**

The project proposal includes the following:

- Reconstruction of the Sheafe Street facing façade.
- Reconfigure rear gable ends and add a new dormer.
- New windows, siding, and entrance modifications.
- This project has been before the Commission for several Public Hearings and Administrative Approvals for various changes and modifications.



**D. Purpose and Intent:**

1. Preserve the integrity of the District
2. Assessment of the Historical Significance
3. Conservation and enhancement of property values
4. Maintain the special character of the District
5. Complement and enhance the architectural and historic character
6. Promote the education, pleasure and welfare of the District and the city residents and visitors

**E. Review Criteria/Findings of Fact:**

1. Consistent with special and defining character of surrounding properties
2. Compatibility of design with surrounding properties
3. Relation to historic and architectural value of existing structures
4. Compatibility of innovative technologies with surrounding properties

# 111 STATE STREET ADDITION & RENOVATION



**COVENTRY REALTY, LLC**

**HDC- Revision 6  
PUBLIC HEARING  
JUNE 2024**

## **REVISIONS TO PREVIOUSLY APPROVED APPLICATION**

1. RAISE CENTER REAR GABLE, ADD RECESSED PORCH
2. CHANGE REAR WEST GABLE TO SHED DORMER.
3. EXTEND FLAT ROOF BEHIND GABLES
4. ADD FOUR WINDOWS TO EXISTING REAR CENTER GABLE
5. CHANGE WOOD SIDING ON EXISTING CENTER REAR GABLE FROM CLAPBOARDS TO SHINGLES
6. ADD ROOF HATCH AND GUARDRAIL TO SHEAFE ST ROOF
7. FRONT ENTRY DOOR CHANGED FROM DOUBLE TO SINGLE WITH SIDELITES
8. CHANGE STOREFRONTS FROM 'NANA' FOLDING WINDOWS TO 'KOLBE' SLIDING WINDOWS.

## **DRAWING LIST**

- H0.1 COVER
- H0.2 EXISTING CONDITION
- H0.3 3D AXONOMETRIC NORTHEAST
- H1.3 ROOF PLAN
- H2.1 STATE STREET ELEVATION
- H2.4 SHEAFE STREET ELEVATION
- H2.5 CHAPEL STREET ELEVATION
- H2.6 GABLE DETAIL
- H3.0 VIGNETTE - SHEAFE ST EAST
- H3.1 VIGNETTE - SHEAFE ST MIDDLE
- H3.2 VIGNETTE SHEAFE ST WEST
- H4.1 MATERIALS

HDC-6

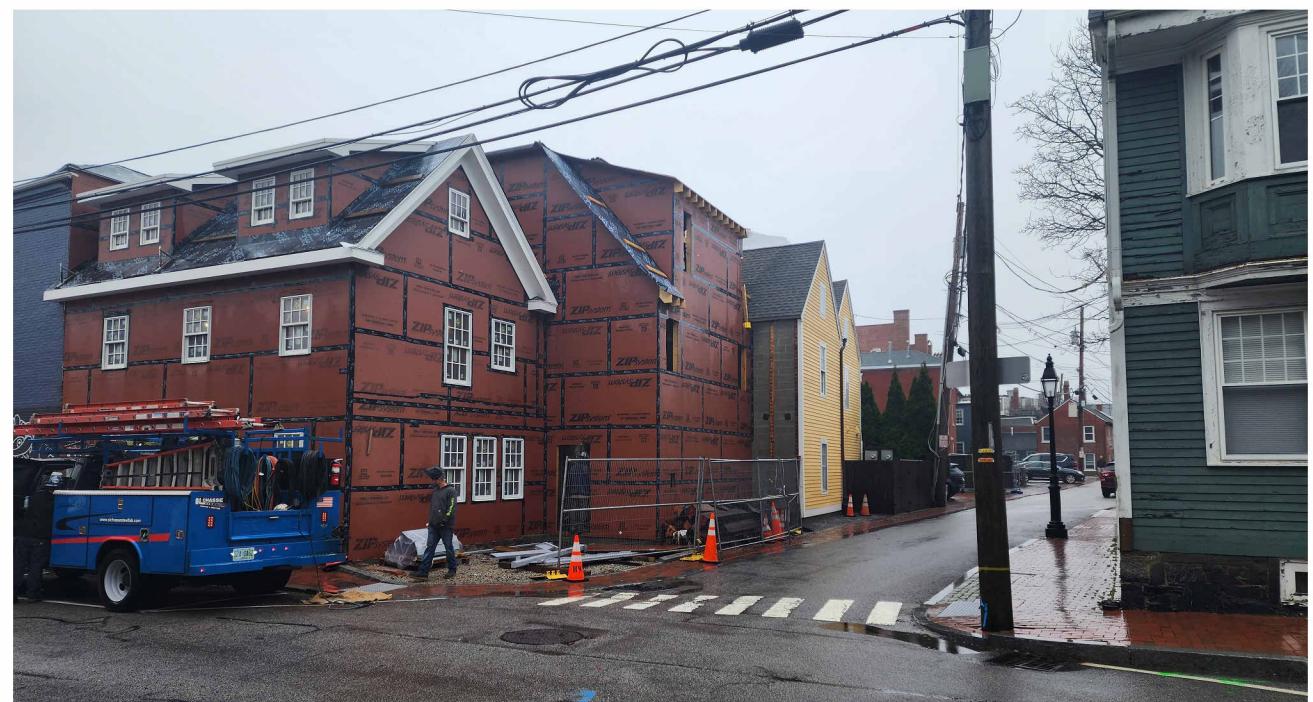
H0.1

**COVER**

**121 STATE STREET**

SCALE:  
05/28/2024

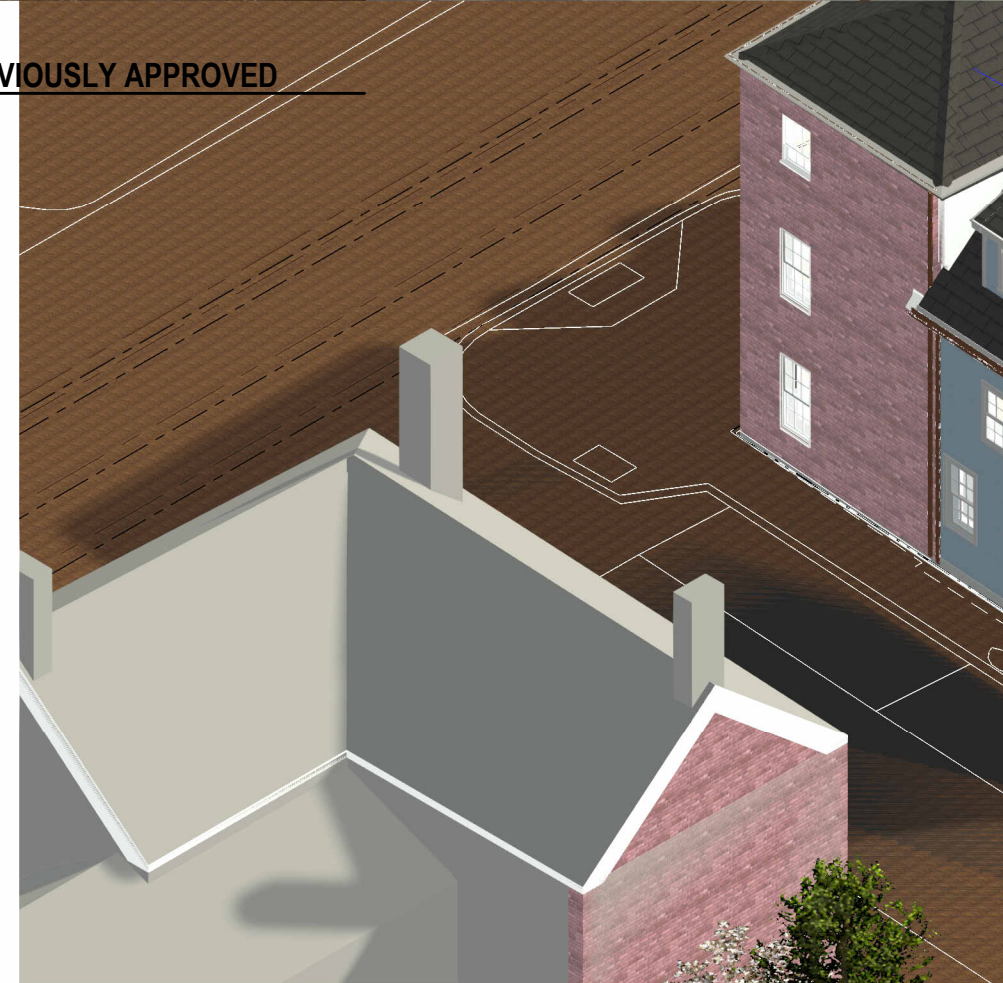




**H0.2** EXISTING CONDITIONS  
111 STATE STREET  
SCALE:  
05/17/2024



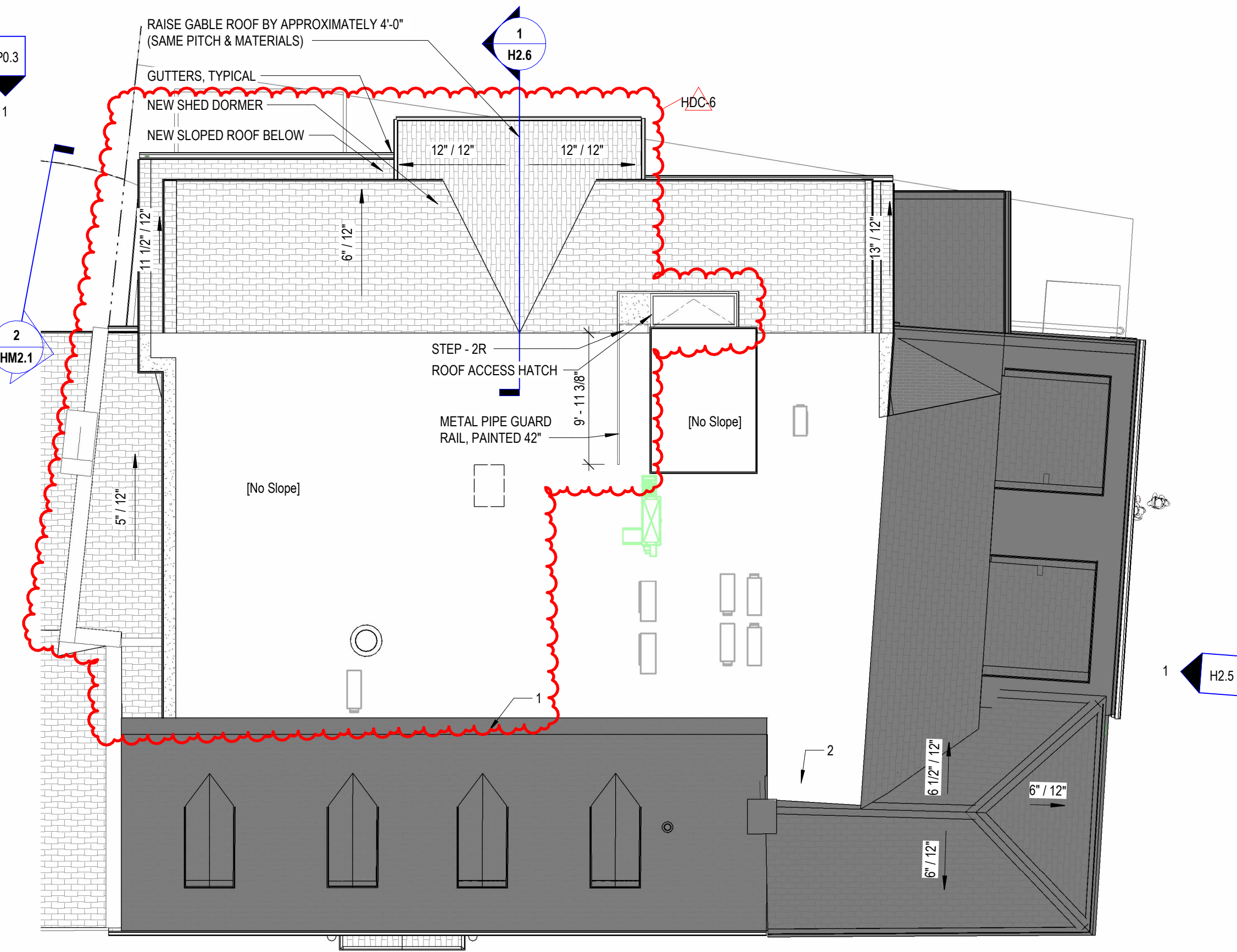
2 AXONOMETRIC, NE PREVIOUSLY APPROVED  
1/4" = 1'-0"






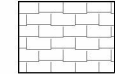
1 AXONOMETRIC, NE PROPOSED

**H0.3** 3D AXONOMETRIC NORTHEAST  
111 STATE STREET

SCALE: 1/4" = 1'-0"  
05/17/2024



**LEGEND**

-  EXISTING ROOF - SHALLOW SLOPE, MEMBRANE
-  EXISTING ROOF - STEEP SLOPED, SHINGLES
-  NEW ROOF - FLAT, MEMBRANE
-  NEW ROOF - SLOPED, SHINGLES

**H1.3 ROOF PLAN**  
**111 STATE STREET**

SCALE: 1/8" = 1'-0"  
 05/17/2024





NOTE: ALL EXISTING TO REMAIN, UNLESS OTHERWISE NOTED



EXISTING

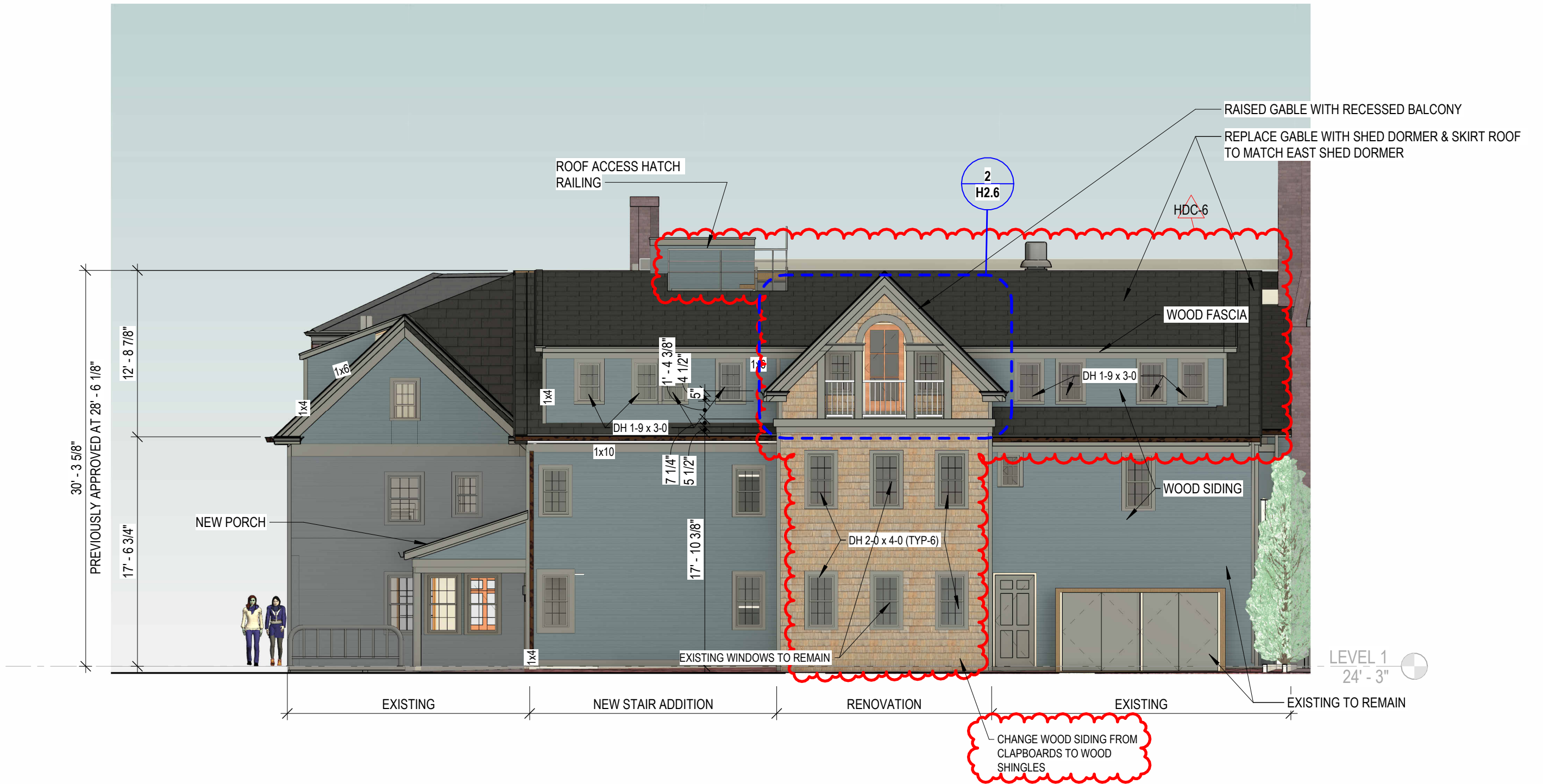
**H2.1 STATE STREET ELEVATION  
121 STATE STREET**

SCALE: 1/8" = 1'-0"  
05/28/2024



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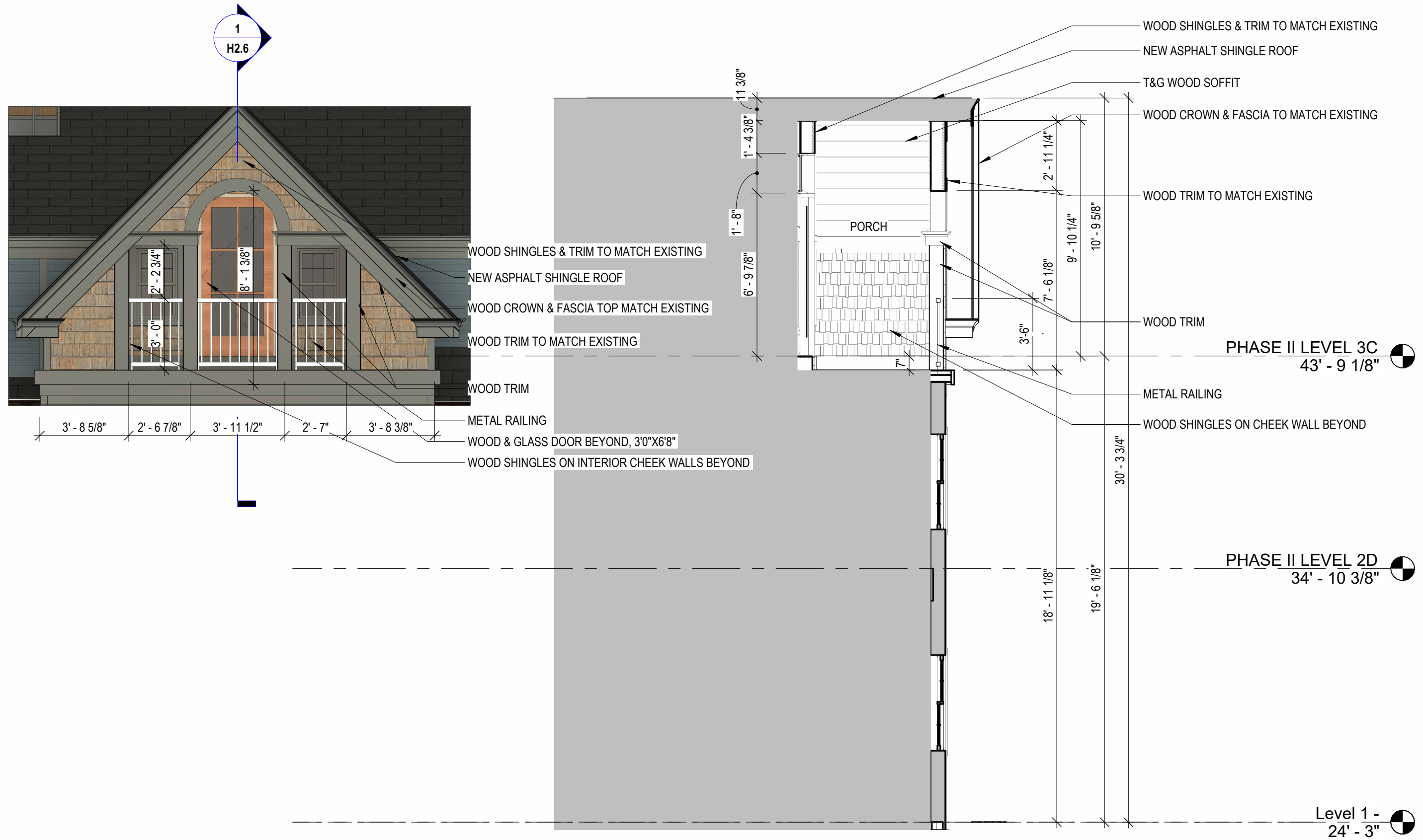
**H2.4 SHEAFE STREET ELEVATION**  
**111 STATE STREET**

SCALE: 1/8" = 1'-0"  
05/17/2024



**H2.5 CHAPEL STREET ELEVATION  
111 STATE STREET**

SCALE: 1/8" = 1'-0"  
05/17/2024



ASI-4

**H2.6** **ROOF HEIGHT DETAIL - SHEAFE STREET**  
**111 STATE STREET**  
SCALE: 1/4" = 1'-0"  
05/17/2024



H3.0

**VIGNETTE - SHEAFE ST EAST**  
**111 STATE STREET**

SCALE:  
05/17/2024



H3.1

**VIGNETTE - SHEAFE ST MIDDLE**  
**111 STATE STREET**

SCALE:  
05/17/2024



**H3.2** VIGNETTE - SHEAFE ST WEST  
111 STATE STREET

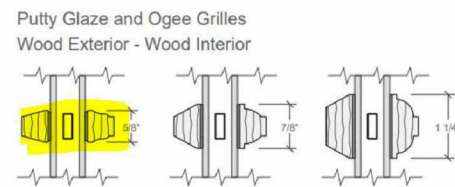
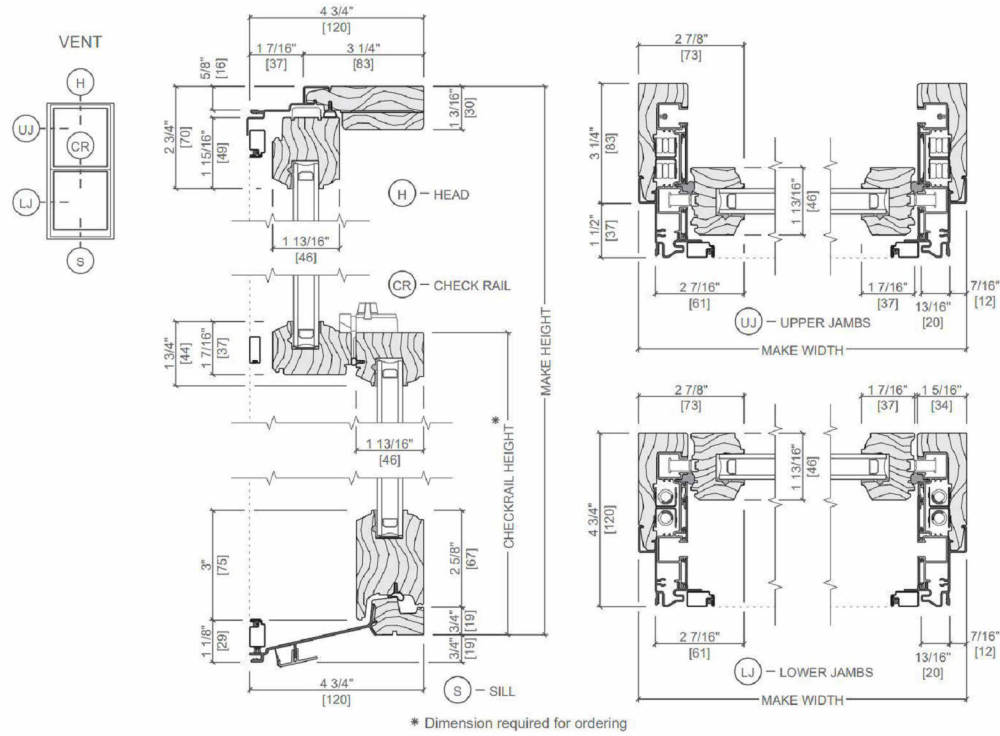
SCALE:  
05/17/2024



# WOOD DOUBLE HUNG WINDOWS - PELLA

Architect Series® Traditional Precision-Fit Hung Window

Unit Section - Wood Exterior Sash Putty Exterior Glazing Profile

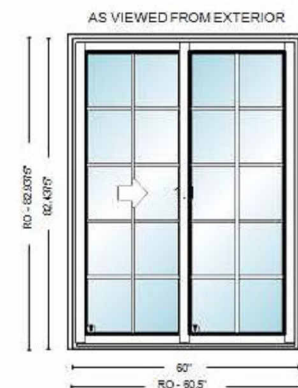


AS PREVIOUSLY APPROVED

# KOLBE - SLIDING WOOD WINDOWS

HERITAGE SERIES Window and Door Details

Line Number	002-1	Left Slab - Slab Height	79 21/32"
Label	None Assigned	Right Slab - Slab Width	30 1/4"
Product Name	Heritage Rectangle Sliding Door (GAW5068)	Right Slab - Slab Height	79 21/32"
Configured in PK Version	784	Glass Width	25 9/32"
		Glass Height	75"



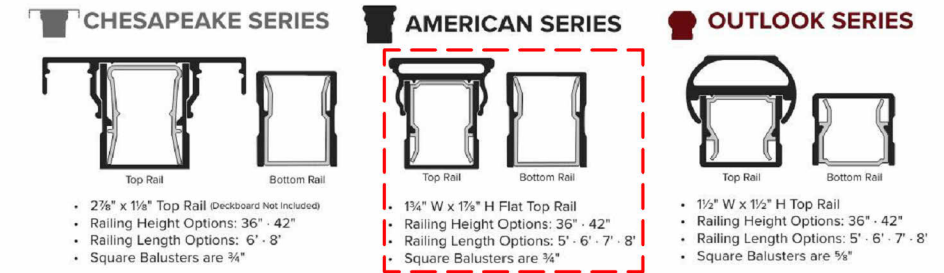
Scaled To Fit

\*\*\* Casing-Jambs-Trim \*\*\*

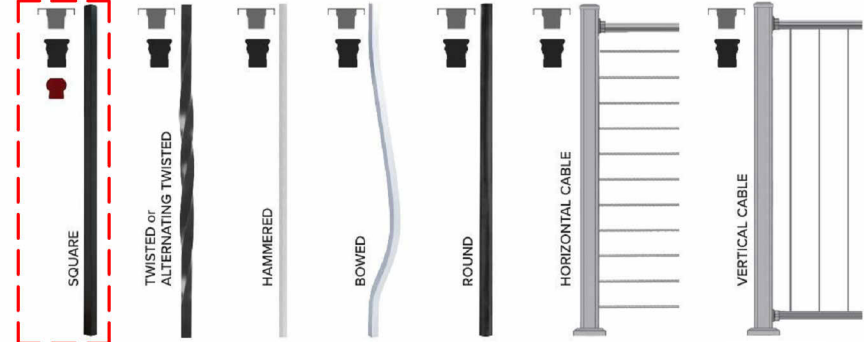
Exterior Casing/Accessories	Standard Brickmould
Back Bevel	No
Extended Horns	No
Apply Exterior Casing/Accessories	Yes
Back Priming of Casing	No
Back Priming of Frame	No
Jamb Depth	5"
Jambs Exact	No
Modern Trim Extension Jamb	No
Installation Clips	None
Kolbe Installation Consulting	No

**H4.1 MATERIALS**  
**121 STATE STREET**  
 SCALE:  
 05/28/2024

# METAL RAILING: KEY-LINK



## INFILL OPTIONS



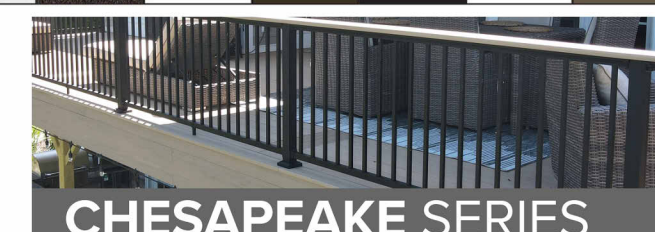
## KEY-LINK'S STANDARD COLOR OPTIONS



## KEY-LINK'S SPECIAL ORDER COLOR OPTIONS\*

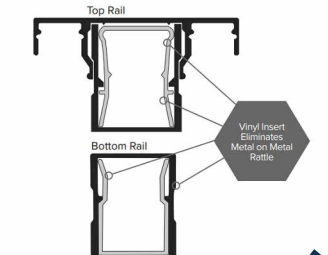


## KEY-LINK'S COASTAL UPGRADE COLOR OPTIONS\*



## PRODUCT DETAILS

- Level and stair rail lengths come in 6' or 8' sections
- Available in 36" or 42" heights
- Meets IRC and IBC (42" only) code requirements
- Boxed sections include top and bottom rails, mounting brackets and hardware, infill and the installation guide



Pictured Above:  
 a. White with Horizontal Cable Infill  
 b. Textured Black with Square Infill  
 c. Textured Bronze Chesapeake with Square Infill



**Project Address:** 1 CONGRESS STREET  
**Permit Requested:** CERTIFICATE OF APPROVAL  
**Application:** PUBLIC HEARING 2



**A. Property Information - General:**

**Existing Conditions:**

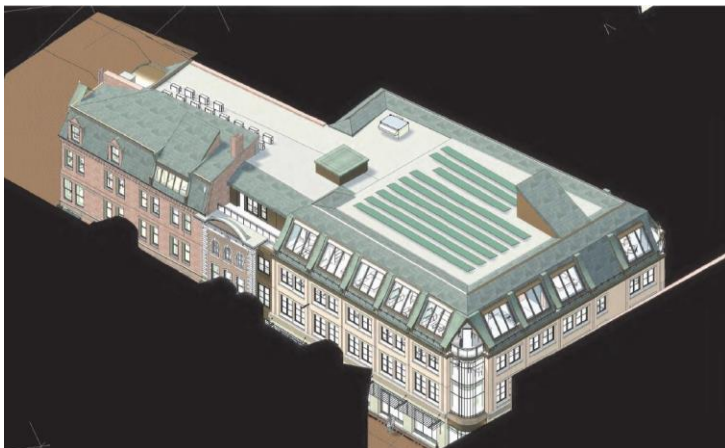
- Zoning District: CD 4
- Land Use: Mixed-Use
- Land Area: 7,185 SF +/-
- Estimated Age of Structure: c.1892
- Building Style: Richardsonian Romanesque
- Number of Stories: 3
- Historical Significance: Focal
- Public View of Proposed Work: Congress and High Streets
- Unique Features: N/A
- Neighborhood Association: Downtown

**B. Proposed Work:** A second one-year extension of the Certificate of Approval granted on August 02, 2022 for renovations to the Congress and High Street facades and the construction of a 4-story addition to replace the existing rear shed addition.

**C. Staff Comments and/ or Suggestions for Consideration:**

The project proposal includes the following:

- This project has received a Certificate of Approval and a one-year extension.



**HISTORIC  
SURVEY  
RATING  
Focal**



**D. Purpose and Intent:**

7. Preserve the integrity of the District
8. Assessment of the Historical Significance
9. Conservation and enhancement of property values
10. Maintain the special character of the District
11. Complement and enhance the architectural and historic character
12. Promote the education, pleasure and welfare of the District and the city residents and visitors

**E. Review Criteria/Findings of Fact:**

5. Consistent with special and defining character of surrounding properties
6. Compatibility of design with surrounding properties
7. Relation to historic and architectural value of existing structures
8. Compatibility of innovative technologies with surrounding properties



City of Portsmouth  
Planning Department & Historic District Commission  
1 Junkins Avenue  
Portsmouth, NH 03801

May 20, 2024, rev.

Re: **1 Congress Street (LU-22-12)**  
SECOND REQUEST FOR A ONE-YEAR EXTENSION of HDC Approval

Dear Ms Ruedig & Historic District Commission members:

The Historic District Commission granted approval for renovations and additions to 1 Congress Street on August 3, 2022. This approval initially expired on August 3, 2023. A first one-year extension was granted, expiring on August 3<sup>rd</sup>, 2024. This request is for a second one-year extension.

The project was initially delayed pending coordination with City for offsite improvements. Construction start is now delayed pending coordination of improvements in coordination with the City and with the owner's recent acquisition of abutting JJ Newberry property at 15 Congress Street.

A second one-year extension of the HDC approval is respectfully requested.

Very truly yours,

A handwritten signature in black ink that reads "Tracy S. Kozak".

Tracy S. Kozak  
Arcove Architects, Principal

Cc: Mark McNabb & Marie Bodi; McNabb Properties Ltd.

DRAWING INDEX - REVISED SHEETS

H5.01 COVER  
H5.13 ROOF PLAN  
H5.14 FIRST FLOOR PLAN

H5.17 ROOF AREAS CALCULATIONS

H5.20 ROOF HEIGHT DETAIL - HAVEN CT  
H5.21 ELEVATION - CONGRESS STREET  
H5.22 ELEVATION - HIGH STREET  
H5.23 ELEVATION - HAVEN COURT  
H5.24 ELEVATION - REAR (WEST) ALLEY

H5.31 AXONOMETRIC  
H5.33 VINGNETTE - HIGH ST FROM CONGRESS ST  
H5.34 VINGNETTE - HIGH ST FROM STARBUCKS  
H5.35 VINGNETTE - HAVEN CT FROM LADD ST  
H5.36 VINGNETTE - HIGH ST AT LADD ST & HAVEN CT  
H5.37 VINGNETTE - HAVEN COURT AT NEWBERRY'S

H5.55 MATERIALS - STOREFRONT & LIGHTING SCONCE

**MINOR REVISIONS TO PREVIOUSLY APPROVED APPLICATION**

UPDATES ASSOCIATED WITH CHANGE OF BUILDING USE FROM HOTEL & RESTAURANT, TO MIXED-USE: APARTMENTS, OFFICE, & RETAIL:

- A. FILLED IN DRIVE-THROUGH UNDERPASS ON HIGH STREET WITH RETAIL STOREFRONT. CHANGE FOLDING LIFTING STOREFRONTS ON HAVEN COURT TO FIXED STOREFRONTS.
- B. BUILDING HEIGHT INCREASE BY 11 INCHES, TO ALIGN UPPER FLOORS WITH EXISTING ATTACHED BUILDING FOR HANDICAPPED ACCESSIBILITY
- C. RELOCATED ELEVATOR OVER-RUN AND STAIR ACCESS TO ROOF
- D. ADJUST SETBACK ROOF EDGE BEHIND ROOF DECK ON HIGH STREET (STRAIGHTENED AND MOVED FORWARD)
- E. OMIT 3 WINDOWS ON HAVEN COURT AT EGRESS STAIR (FOR TRASH CHUTE BEHIND WALL).
- F. SOLAR ARRAY AND MECHANICAL ROOFTOP EQUIPMENT SHOWN
- G. ADDED WALL SCONCE LIGHT FIXTURES TO PIERS BETWEEN STOREFRONTS
- H. ADJUST LOCATIONS OF DOORS, WINDOWS ON REAR WEST ALLEY FACADE TO COORDINATE WITH REVISED PROGRAM.
- I. REDUCE WIDTH AND ALIGN DOOR AND WINDOWS AT WALL BEHIND REAR RECESSED ROOF DECK (AT SOUTH WALL BEHIND CONGRESS STREET BUILDINGS).
- J. CHANGE TWO SINGLE DOORS AT MAIN ENTRANCE ON HIGH STREET TO ONE SINGLE DOOR



# ONE CONGRESS STREET RENOVATION & ADDITION

ONE MARKET SQUARE, LLC

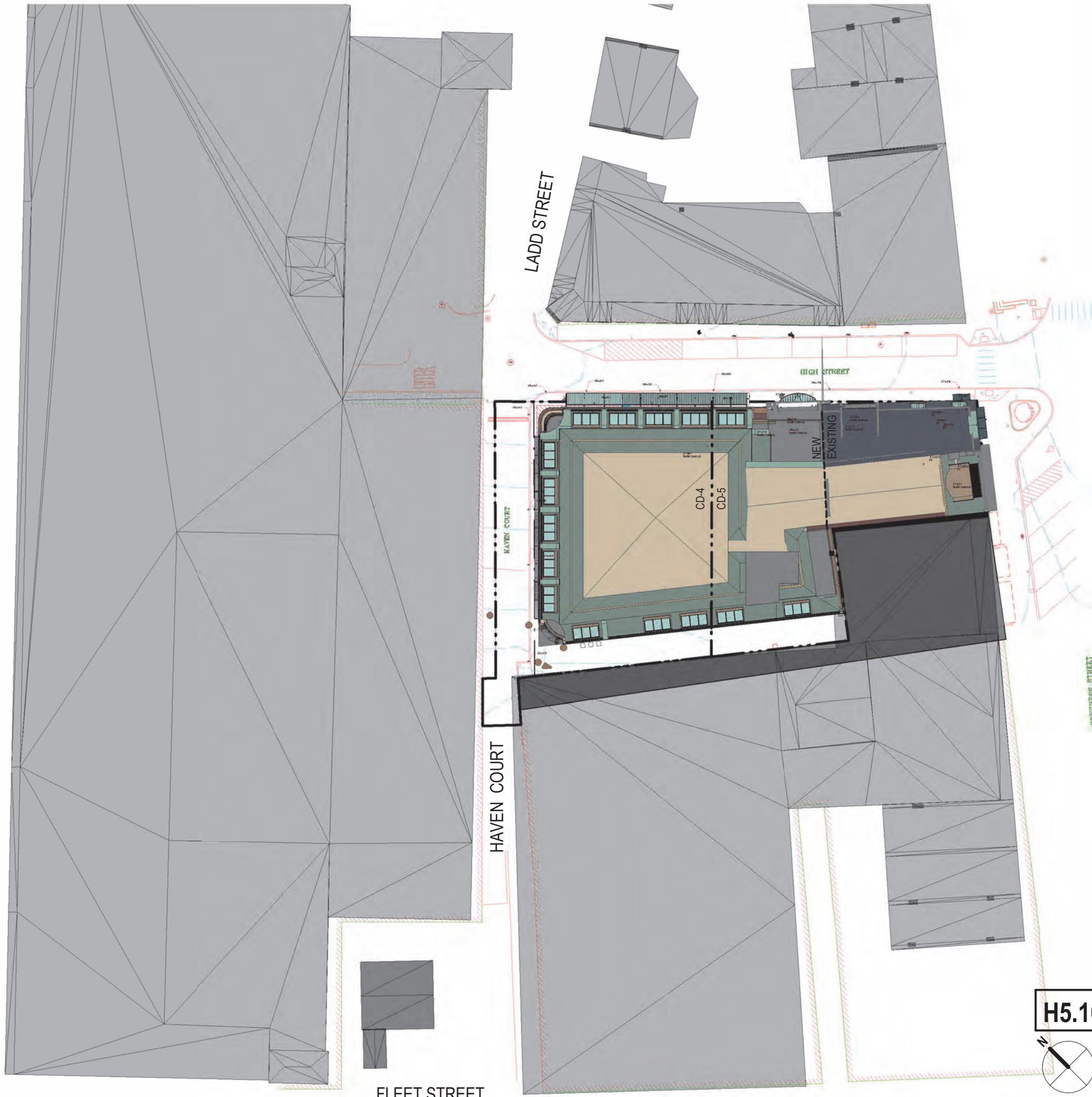


**HISTORIC DISTRICT COMMISSION -  
PUBLIC HEARING  
November, 2022**

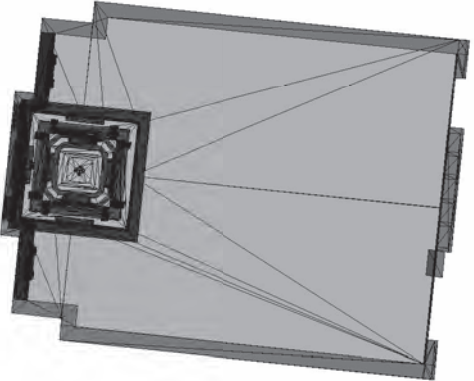
COMPLETE COMPILED SET - MAY 20, 2024

**H5.01 COVER**  
**1 CONGRESS STREET**  
SCALE:  
10/14/2022

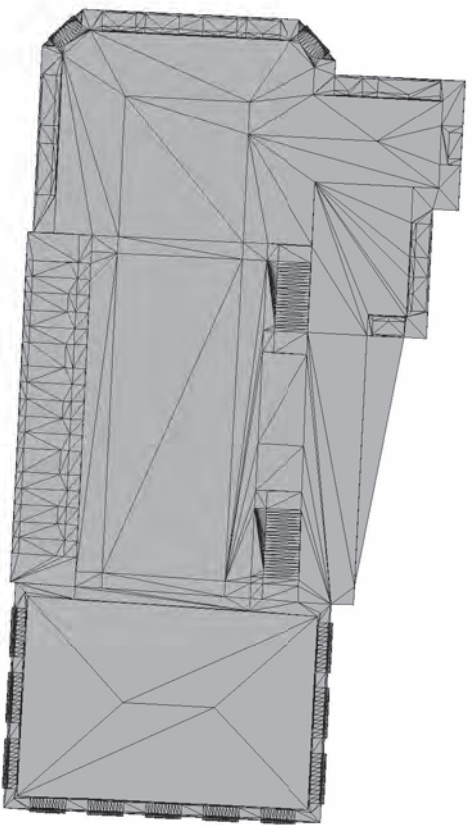




PLEASANT STREET



CHURCH STREET



CONGRESS STREET

LADD STREET

HIGH STREET

HAVEN COURT

CD-4

CD-5

NEW  
EXISTING

FLEET STREET

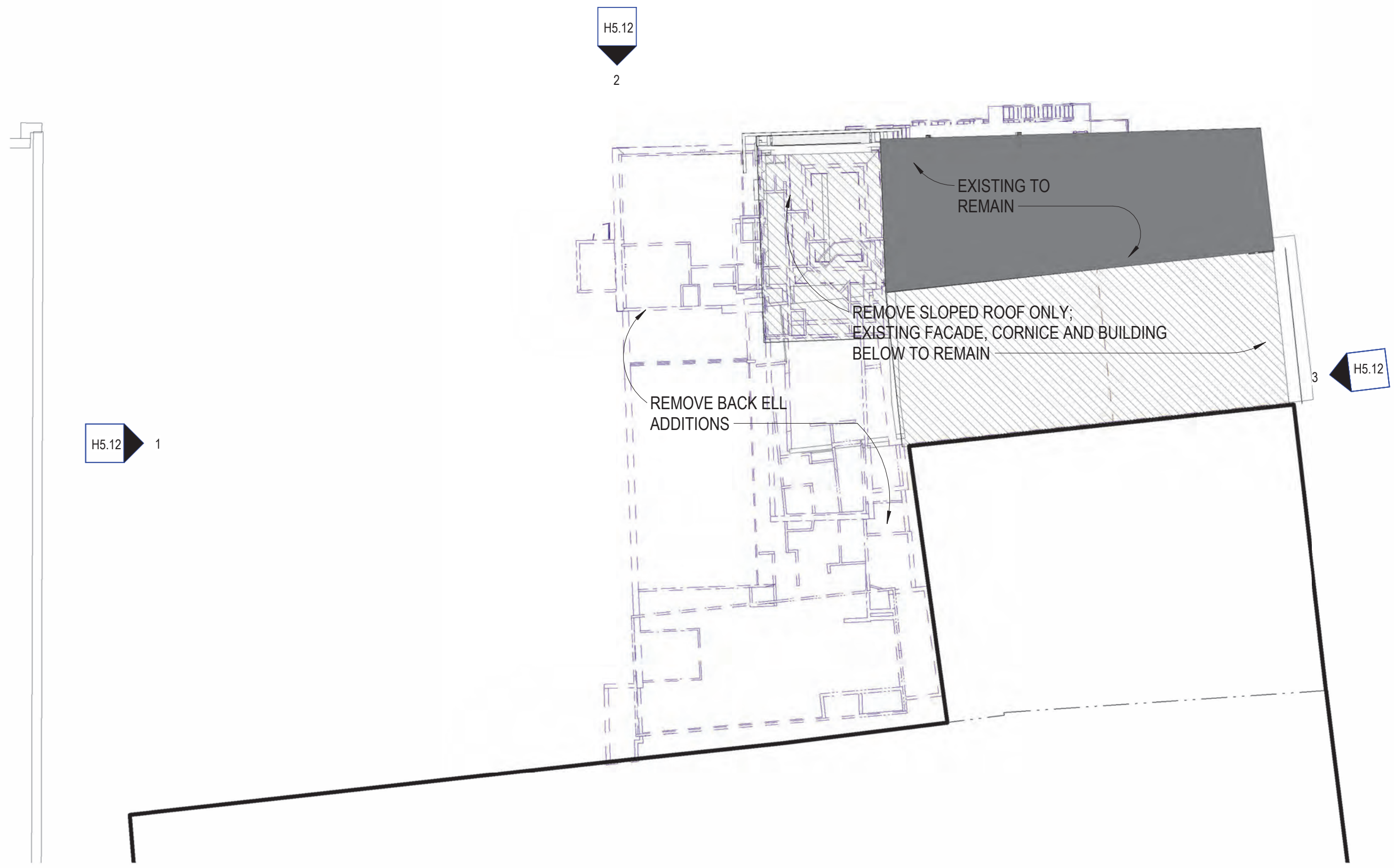


**SITE PLAN**  
**1 CONGRESS STREET**

SCALE: 1" = 40'-0"  
8/03/2022

GRAPHIC SCALE: 1" = 40'-0"





H5.12 1

H5.12  
2

H5.12  
3

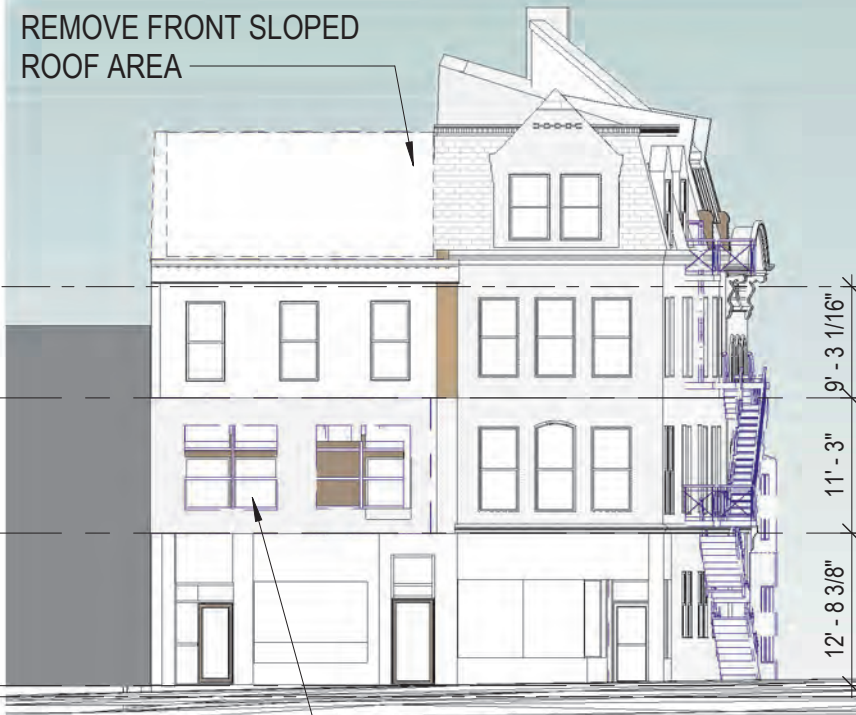
H5.11  
N

**DEMOLITION PLAN**  
**1 CONGRESS STREET**

SCALE: 1/16" = 1'-0"  
8/03/2022

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





**3 PROPOSED ELEVATION - CONGRESS ST**  
1/16" = 1'-0"

EXISTING ATTIC  
61' - 3 3/4"

EXISTING-Level 3  
52' - 0 5/8"

EXISTING-Level 2  
40' - 9 5/8"

EXISTING-Level 1  
28' - 1 1/4"

AVG GRADE CD5  
EXISTING\*  
27' - 2 1/8"



**1 REAR DEMOLITION ELEVATION - NW - HAVEN COURT**  
1/16" = 1'-0"

ATTIC  
61' - 3 3/4"

EXISTING-Level 3  
52' - 0 5/8"

EXISTING-Level 2  
40' - 9 5/8"

EXISTING-Level 1  
28' - 1 1/4"



**2 SIDE DEMOLITION ELEVATION - NE - HIGH STREET**  
1/16" = 1'-0"

AVG GRADE CD5  
EXISTING\*  
27' - 2 1/8"

REMOVE REPLACED STOREFRONTS

REMOVE FIRE ESCAPES

REMOVE AREA OF REPLACED STOREFRONT

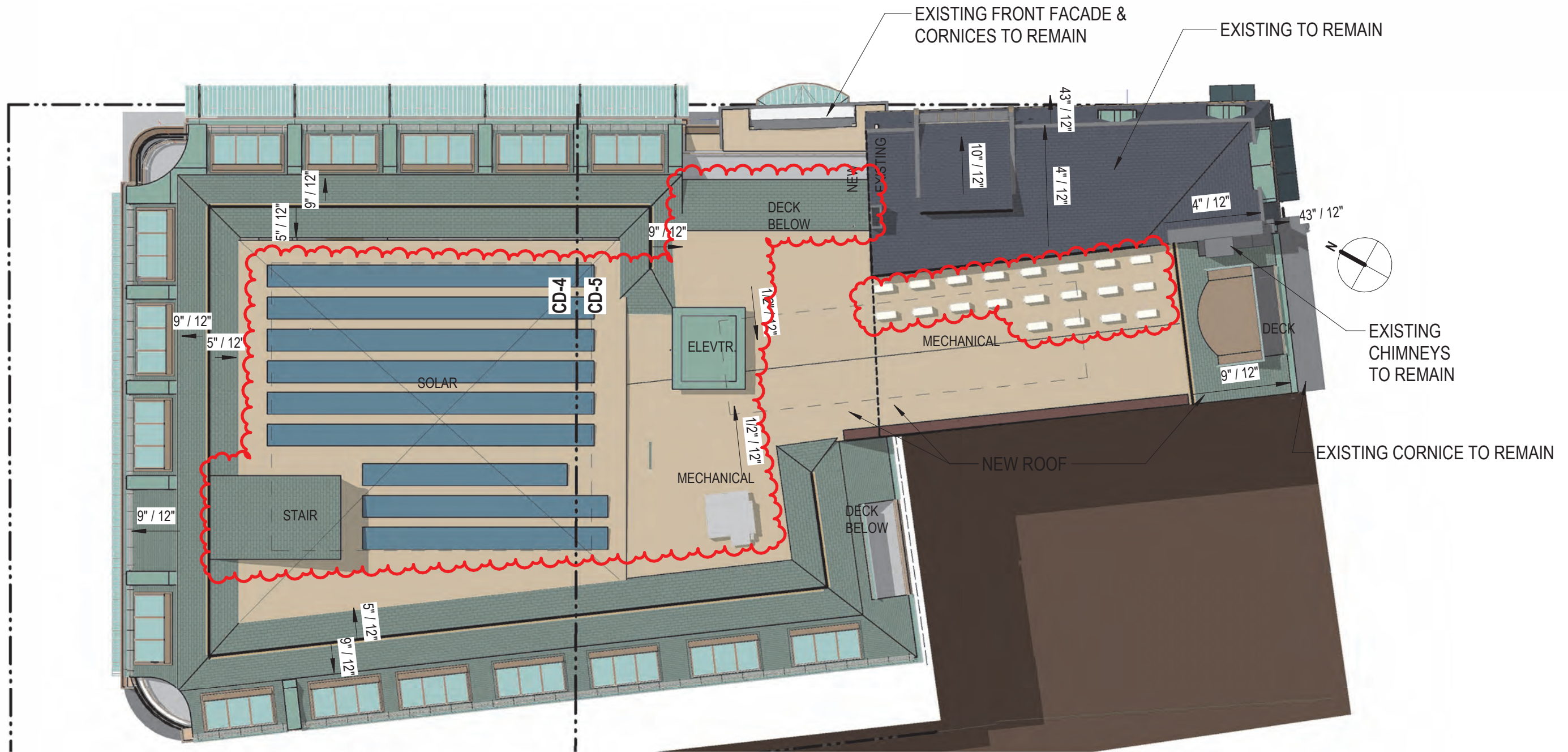
REMOVE REAR ADDITIONS

**H5.12 DEMOLITION ELEVATIONS**  
**1 CONGRESS STREET**

SCALE: 1/16" = 1'-0"  
8/03/2022



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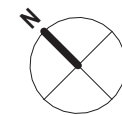
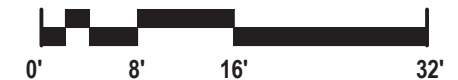


H5.13

**ROOF PLAN**  
**1 CONGRESS STREET**

SCALE: 1/16" = 1'-0"  
10/14/2022

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



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BUILDING ABOVE

5  
H5.41

9' - 6 1/2"

73' - 4"

9' - 7"

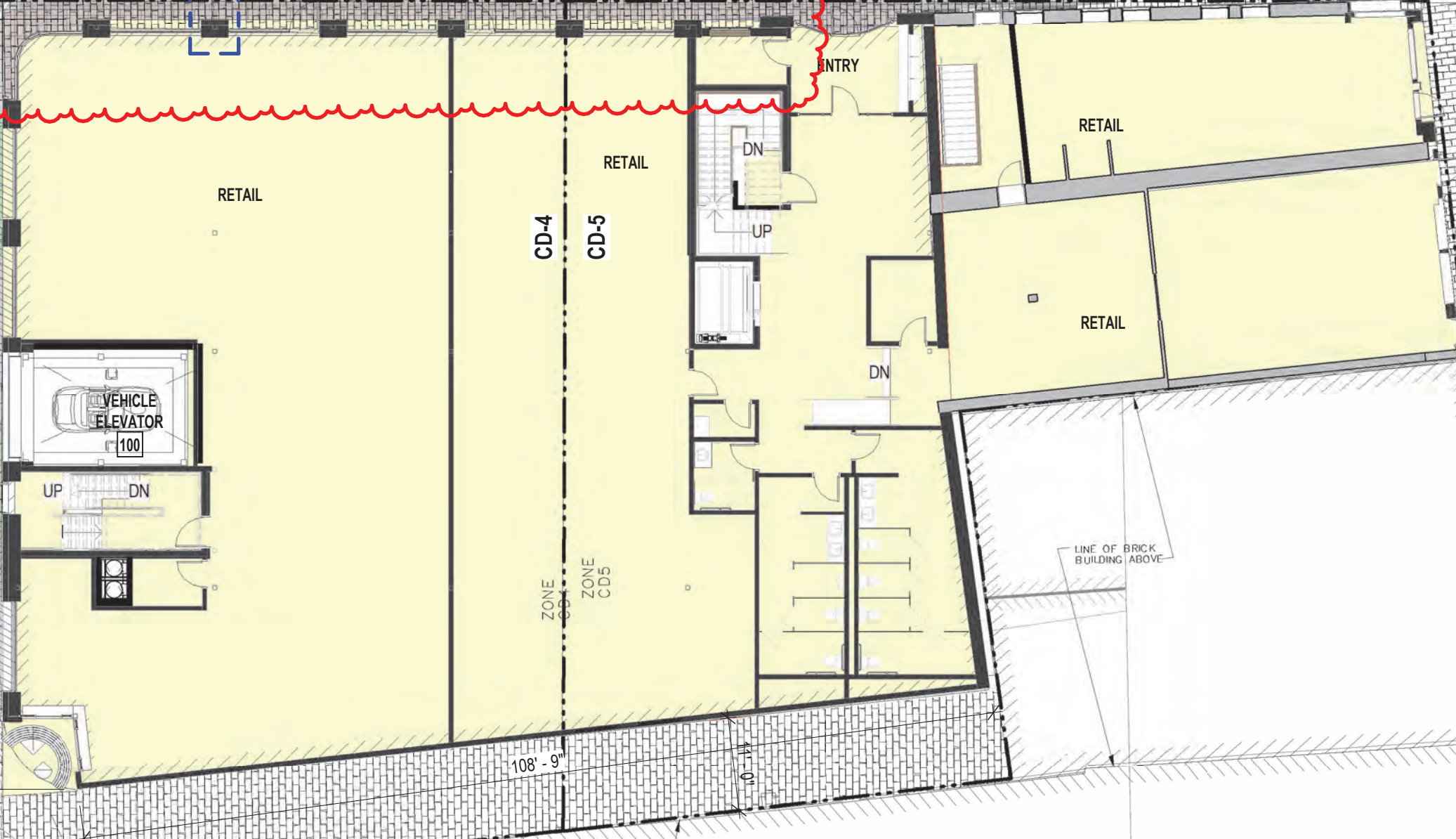
73' - 7 3/8"

8' - 0"

108' - 9"

10' - 11"

42' - 9 1/2"



SEALING  
ARCH (TBD)  
DISK/STONE/VEIL PLANNERS  
FLOOR FINISHES  
MURALS (TBD)  
CATENARY LIGHT CABLES (TYP)  
AVING

DEFECTABLE WARNING TYPE  
PROPERTY LINE HIGHLIGHTED

LINE OF BRICK BUILDING ABOVE

PROPERTY LINE HIGHLIGHTED

LINE OF BRICK BUILDING ABOVE



**H5.14** FIRST FLOOR PLAN  
**1 CONGRESS STREET**

SCALE: 1/16" = 1'-0"  
10/14/2022

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





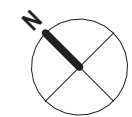


H5.15

**BASEMENT PLAN**  
**1 CONGRESS STREET**

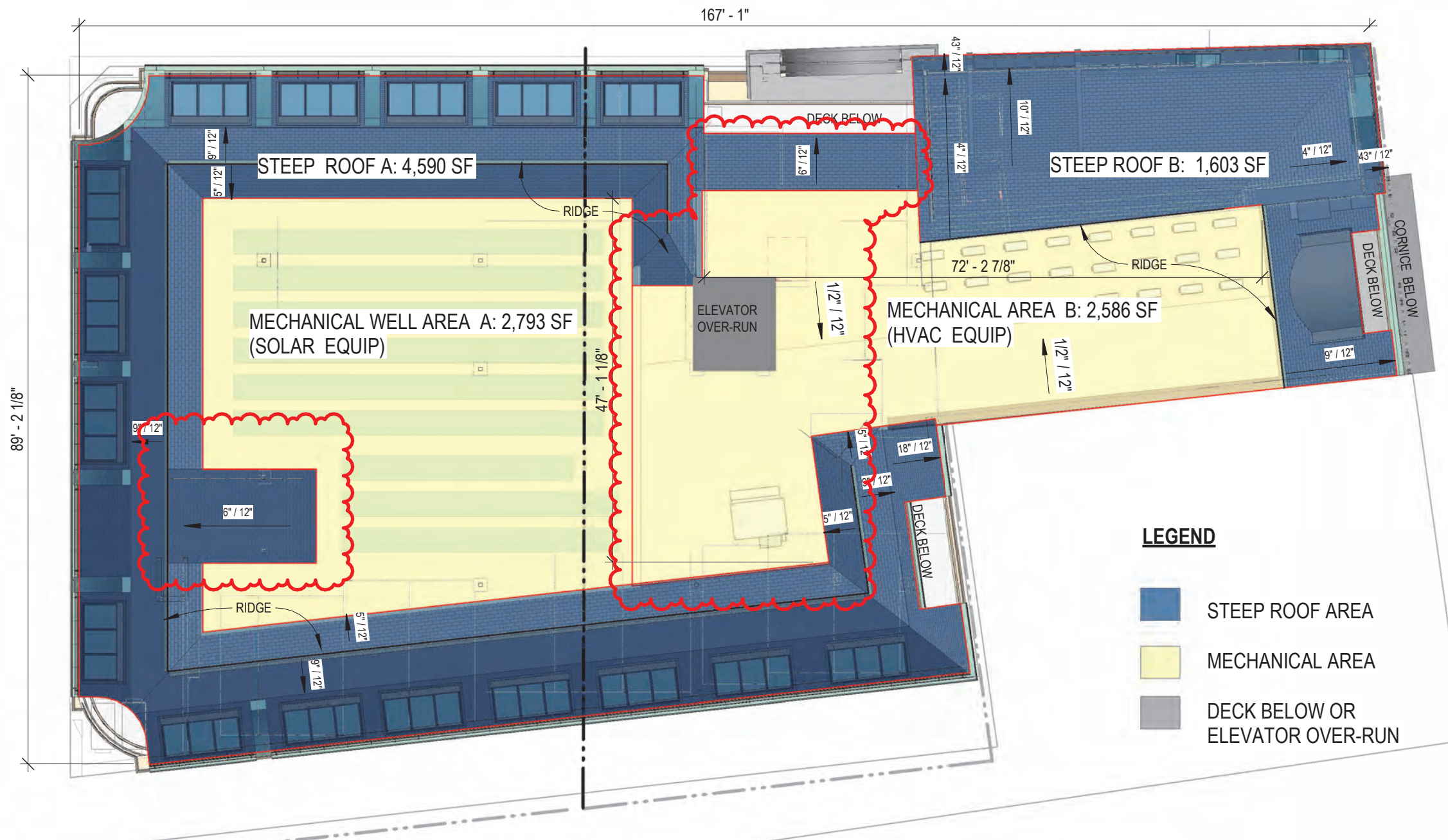
SCALE: 1/16" = 1'-0"  
 8/03/2022

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



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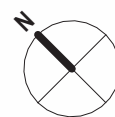




**LEGEND**

- STEEP ROOF AREA
- MECHANICAL AREA
- DECK BELOW OR ELEVATOR OVER-RUN

HIP TOP MANSARD ROOF	
1 Congress Street	
10/13/2022	
<b>SLOPED ROOF AREAS</b>	
STEEP ROOF AREA A	4,590
STEEP ROOF AREA B	1,603
<b>Total</b>	<b>6,193</b>
<b>MECHANICAL AREAS</b>	
MECHANICAL AREA A	2,793
MECHANICAL AREA B	2,586
<b>Total</b>	<b>5,379</b>
<b>TOTAL ROOF AREA</b>	<b>11,572</b>
Slope roof % of total	53.52%
<b>Flat roof % of total</b>	<b>46.48%</b>



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

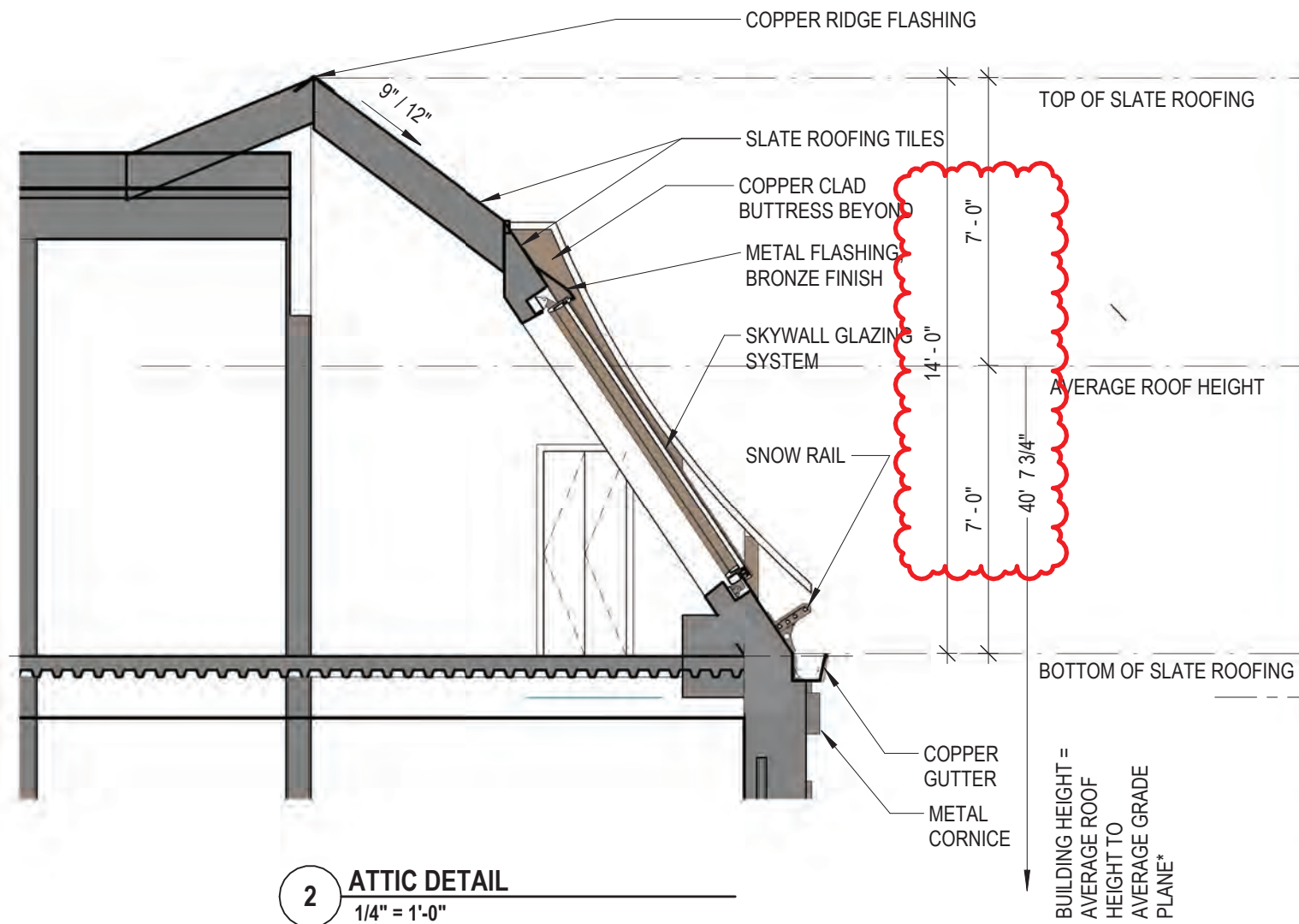


**H5.17 ROOF AREA CALCULATIONS  
1 CONGRESS STREET**

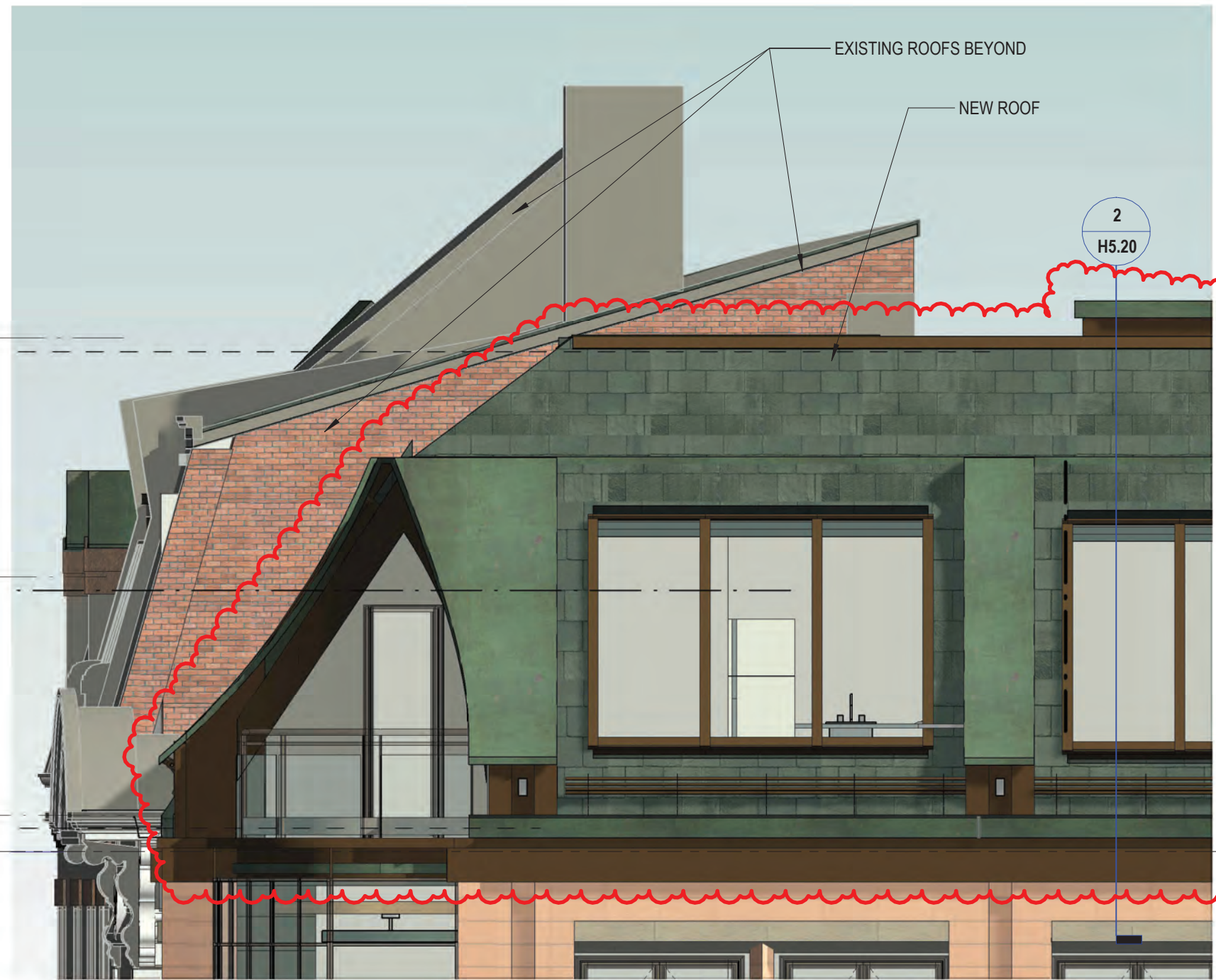
SCALE: 1/16" = 1'-0"  
10/14/2022



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**2 ATTIC DETAIL**  
1/4" = 1'-0"



**1 PROPOSED ELEVATION - NW HAVEN COURT**  
1/4" = 1'-0"

**H5.20 ROOF HEIGHT DETAIL - HAVEN CT  
1 CONGRESS STREET**

SCALE: 1/4" = 1'-0"  
10/14/2022

\* FOR AVERAGE GRADE PLANE OF TOTAL BUILDING SEE SHEET H5.16



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**1 PROPOSED ELEVATION - CONGRESS STREET**  
3/32" = 1'-0"



- RESTORE & RECREATE ORIGINAL GRANITE AND CAST IRON STOREFRONT
- REPLICATE EARLY 20TH CENTURY STAINED GLASS TRANSOMS
- REPLICATE HISTORIC PEDIMENTS
- REPLICATE ORIGINAL CAST IRON STOREFRONT THIS SIDE

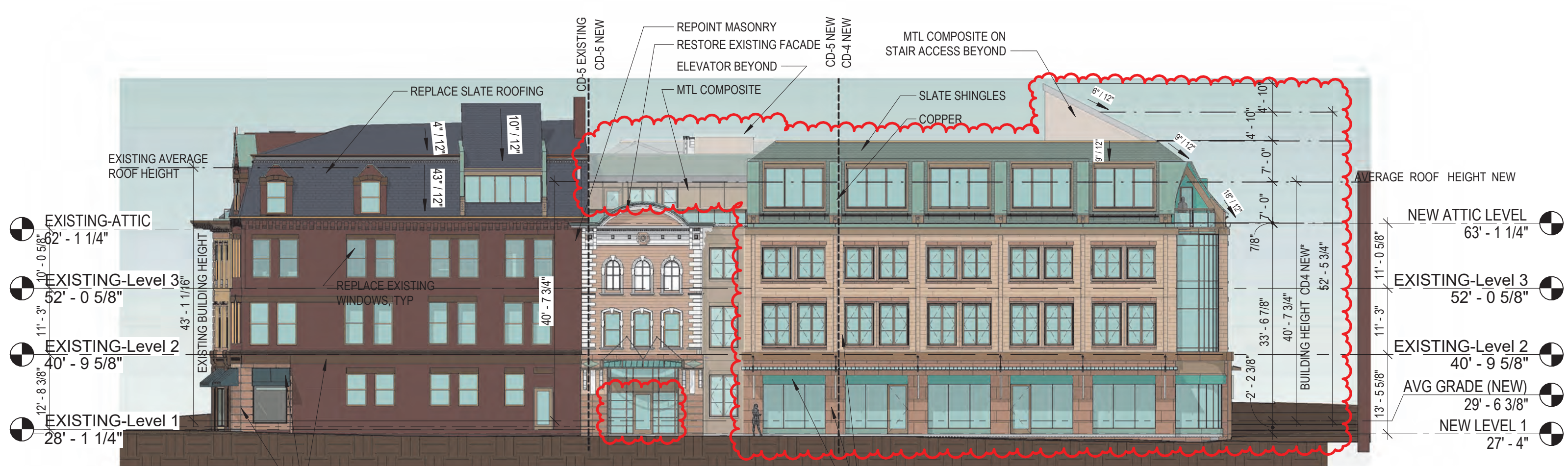
NEW CANVAS AWNINGS

**H5.21 ELEVATION - CONGRESS STREET**  
**1 CONGRESS STREET**

SCALE: As indicated  
10/14/2022



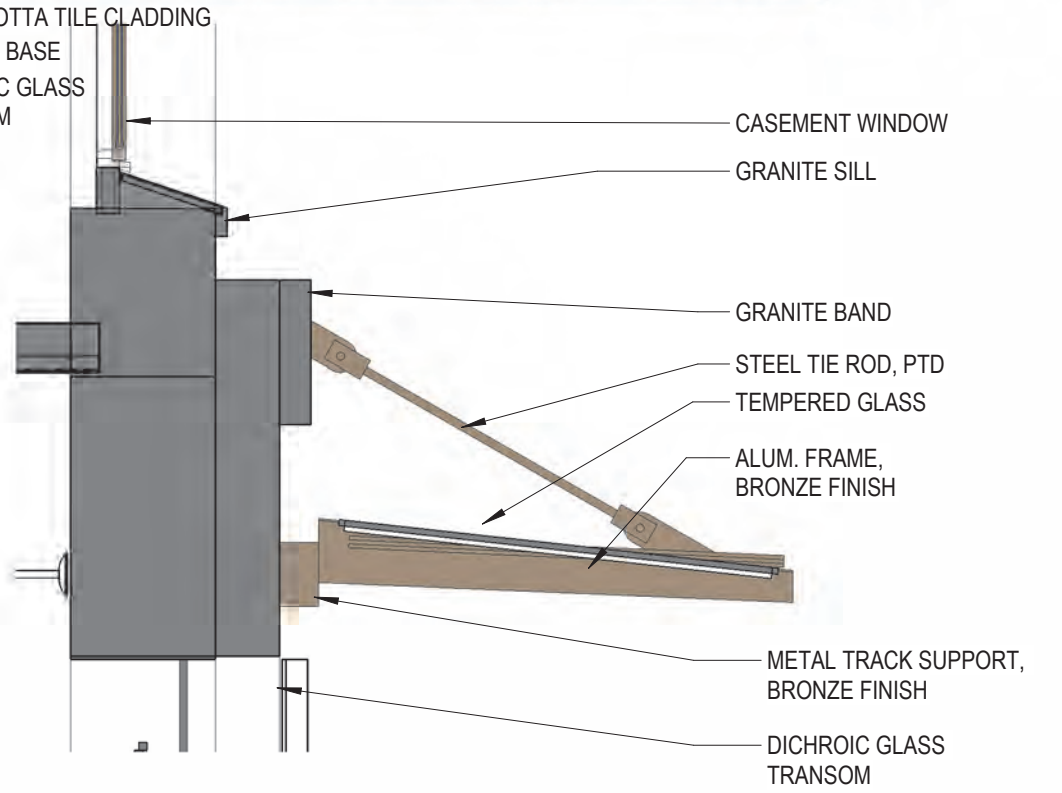
**2 PROPOSED ELEVATION - CONGRESS STREET**  
1/8" = 1'-0"



**1 PROPOSED ELEVATION - NE - HIGH STREET**  
 1/16" = 1'-0"



**2 PROPOSED ELEVATION - NE - HIGH STREET**  
 1/8" = 1'-0"



**3 HDC AWNING DETAIL**  
 1/2" = 1'-0"

**H5.22 ELEVATION - HIGH STREET**  
**1 CONGRESS STREET**

SCALE: As indicated  
 10/14/2022





2 NORTH ELEVATION - HIGH STREET & HAVEN COURT (OBLIQUE)  
 1/16" = 1'-0"



1 PROPOSED ELEVATION - NW HAVEN COURT  
 1/16" = 1'-0"

- NEW ATTIC LEVEL 63' - 1 1/4"
- EXISTING-Level 3 52' - 0 5/8"
- EXISTING-Level 2 40' - 9 5/8"
- AVG GRADE (NEW) 29' - 6 3/8"
- NEW LEVEL 1 27' - 4"

**ELEVATIONS - HAVEN COURT**  
**1 CONGRESS STREET**

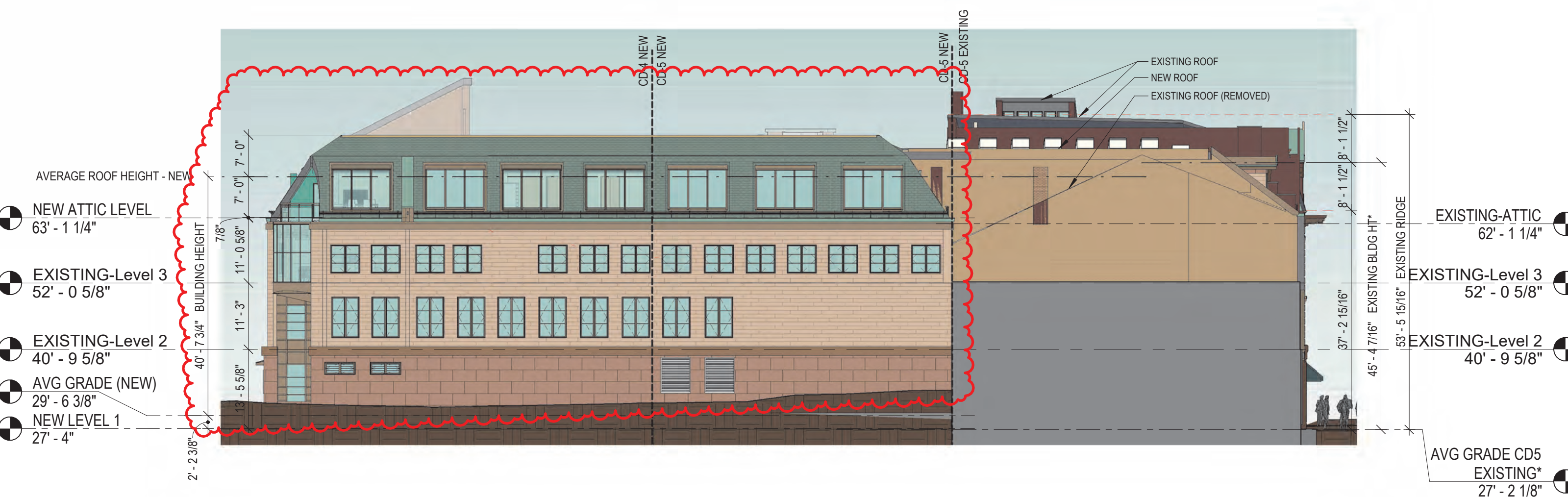
SCALE: 1/16" = 1'-0"  
 10/14/2022

H5.23

\* FOR AVERAGE GRADE PLANE OF TOTAL BUILDING SEE SHEET H5.16



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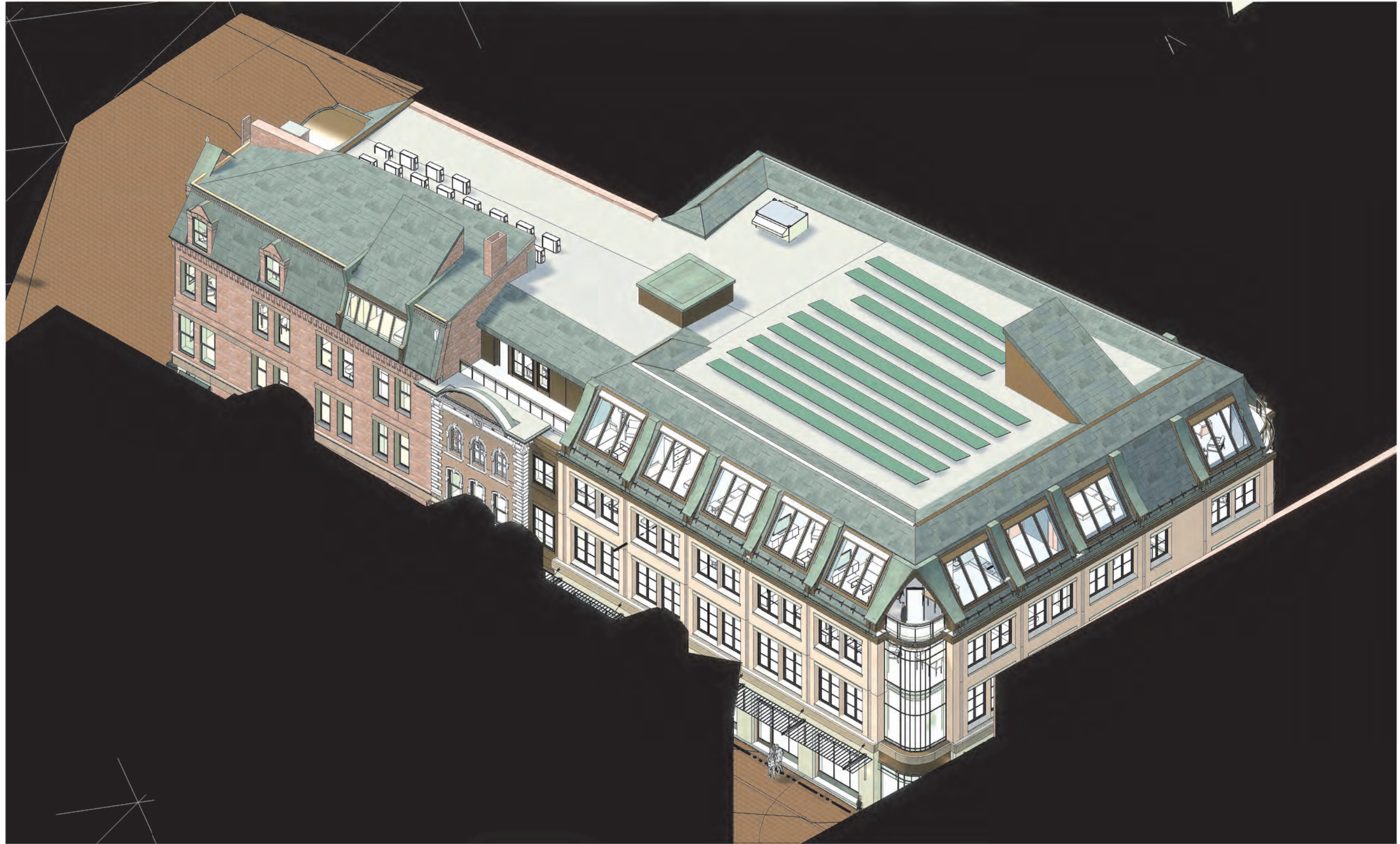


**H5.24 SW ELEVATION - REAR ALLEY  
1 CONGRESS STREET**

SCALE: 1/16" = 1'-0"  
10/14/2022







**H5.31** BIRDSEYE AXONOMETRIC  
1 CONGRESS STREET

SCALE:  
10/14/2022



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**H5.32** VIGNETTE - CONGRESS STREET  
1 CONGRESS STREET

SCALE:  
8/03/2022



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**H5.33 VIGNETTES - HIGH FROM CONGRESS  
1 CONGRESS STREET**

SCALE:  
10/14/2022





**H5.34** **HIGH STREET FROM STARBUCKS**  
**1 CONGRESS STREET**

SCALE:  
10/14/2022



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**H5.35. VIGNETTE - HAVEN CT FROM LADD ST  
1 CONGRESS STREET**

SCALE:  
10/14/2022



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H5.36

VIGNETTE - HIGH AT LADD & HAVEN  
1 CONGRESS STREET

SCALE:  
10/14/2022

TANGRAM 3DS



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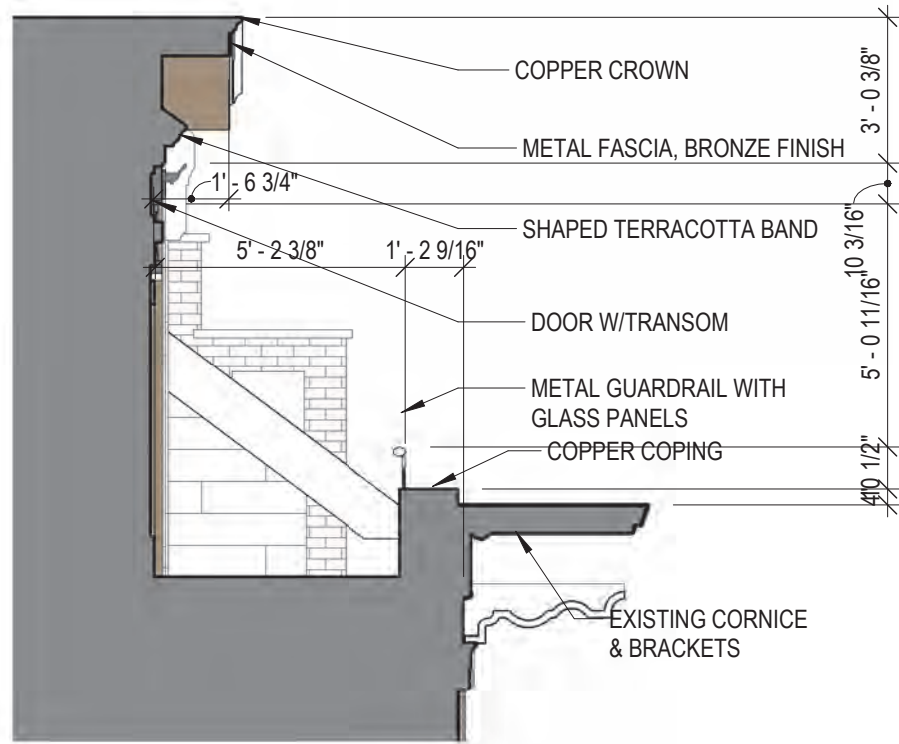


**H5.37** VIGNETTE - HAVEN CT AT NEWBERRY  
1 CONGRESS STREET

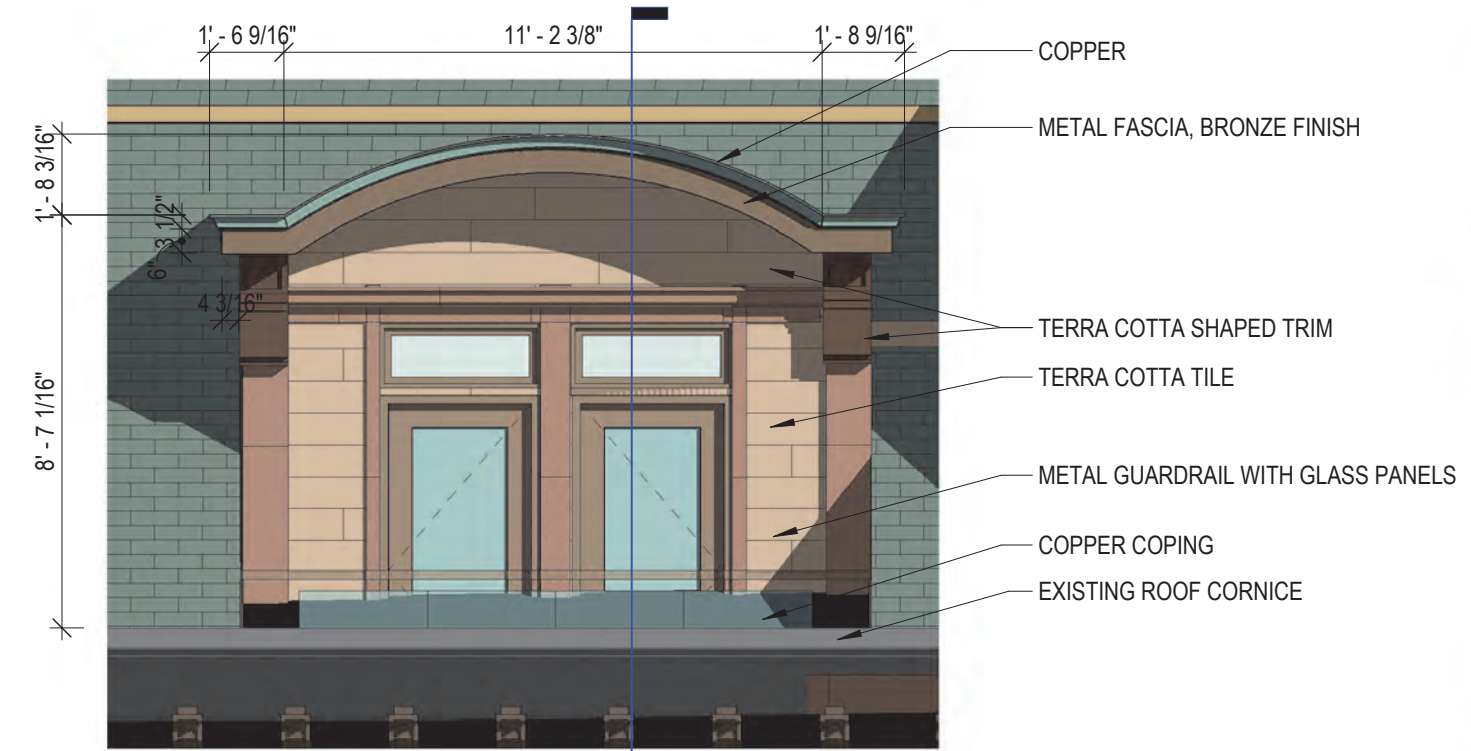
SCALE:  
10/14/2022



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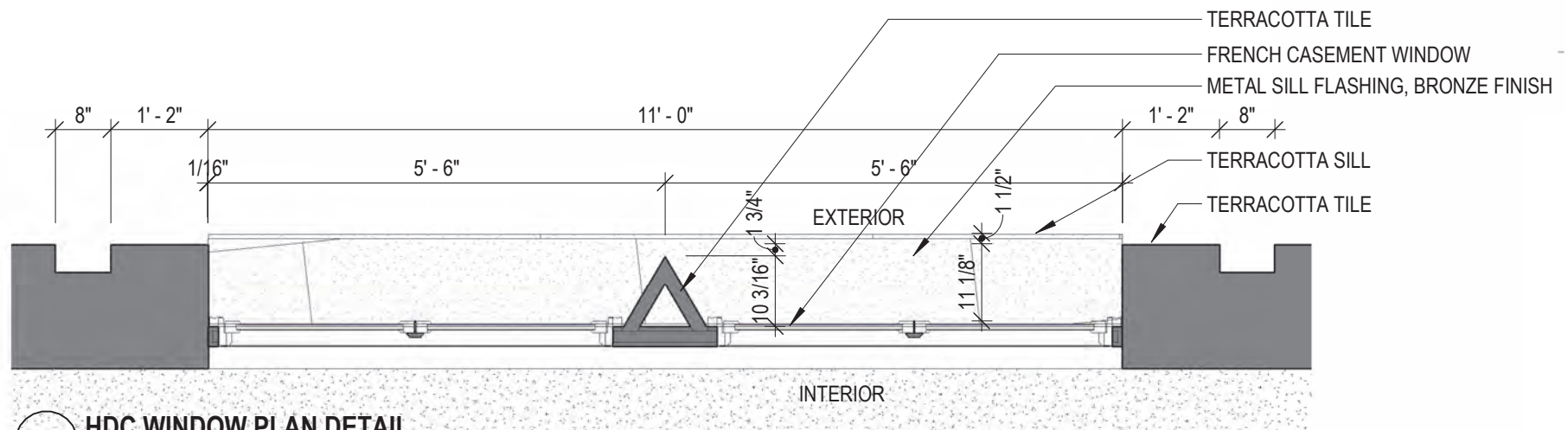
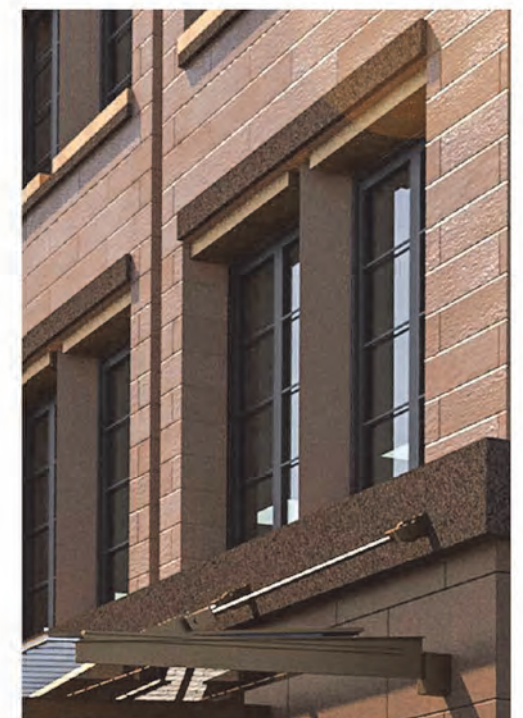


**2 HDC DORMER SECTION**  
1/4" = 1'-0"



**1 HDC DORMER ELEVATION**  
1/4" = 1'-0"

**2**  
H5.41



**4 HDC WINDOW PLAN DETAIL**  
1/2" = 1'-0"

**H5.41** **DETAILS**  
**1 CONGRESS STREET**  
SCALE: As indicated  
8/03/2022





# Pella Architect Series®

## Traditional Wood & Clad/Wood



Expertly crafted wood windows and patio doors with nearly endless possibilities.



- Designed with distinguished details**  
 Crafted with classic sensibilities to make a statement and add architectural interest to your project, inside and out.
- Enhanced style options and custom capabilities**  
 Maximum design flexibility with dramatic sizes, custom colors, finishes, profiles, product types and more.
- Authentic look of true divided light**  
 Pella's Integral Light Technology® grilles use a metal spacer to create the authentic look of true divided light by casting a more realistic shadow.
- Interior finish options**  
 From light to dark, Architect Series - Traditional wood windows and patio doors are available in an array of classic and on-trend colors. Fine interiors are available in a variety of paint and stain colors.
- Beautiful hardware**  
 Choose from Pella's collection of rich patinas and other timeless finishes.
- Optional integrated security sensors**  
 Built-in security sensors allow homeowners to know when their windows and doors are open or locked, while being virtually invisible when the product is closed.
- ENERGY STAR® certified!**  
 Pella products offer energy-efficient options that will meet or exceed ENERGY STAR guidelines in all 50 states. Pella Architect Series - Traditional products with triple-pane glass have been awarded the ENERGY STAR Most Efficient Mark in 2022.<sup>1</sup>
- Long-lasting durability**  
 Aluminum-clad exteriors with EnduraClad® finish is applied in an overlapping fashion on windows for exceptional protection. Pella's exclusive EnduraGuard® wood protection is applied after the pieces have been cut and milled, but prior to final assembly.
- Best limited lifetime warranty<sup>2</sup>**  
 Pella Architect Series - Traditional products are covered by the best limited lifetime warranty in the industry for wood windows and patio doors.<sup>2</sup>
- Testing beyond requirements**  
 At Pella, our products are tested beyond requirements to help ensure they have long-lasting performance and reduce call-backs for you.

Available in these window and patio door styles:



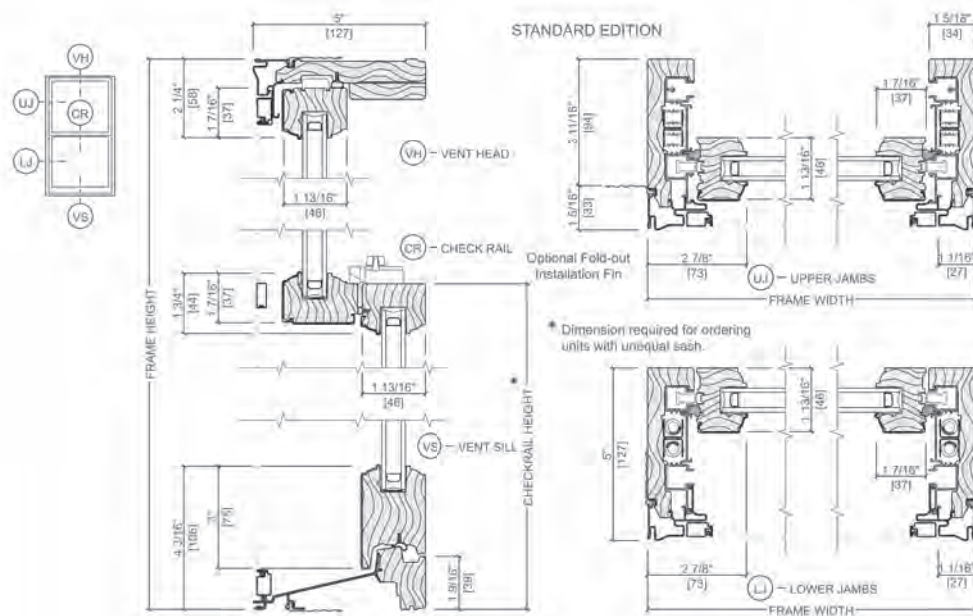
<sup>1</sup>Energy Star Most Efficient Mark in 2022.

<sup>2</sup>See Pella.com for details.



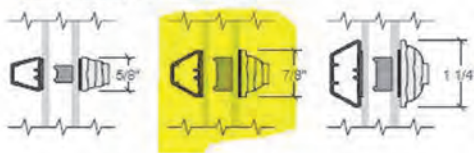
## Architect Series® Traditional Hung Window

SE Unit Sections - Aluminum-Clad Ogee Exterior Glazing Profile

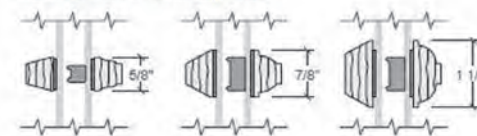


### Integral Light Technology®

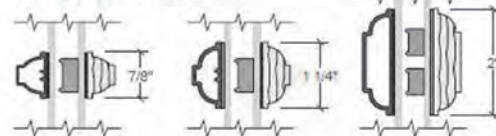
Putty and Ogee Glaze Grilles  
Clad Exterior - Wood Interior



Putty and Ogee Glaze Grilles  
Wood Exterior - Wood Interior



Ogee Glaze Grilles  
Clad Exterior - Wood Interior



Contoured Aluminum -  
Grilles-Between-the-Glass



### Colors

#### Wood Types

Wood species for complementing your project's interior.



#### Prefinished Pine Interior Colors

Custom interior finishes, unfinished or primed and ready-to-paint are also available.



#### Aluminum-Clad Exterior Colors

Our low-maintenance EnduraClad® exterior finish resists fading. Take durability one step further with EnduraClad Plus which also resists chalking and corrosion.<sup>3</sup>

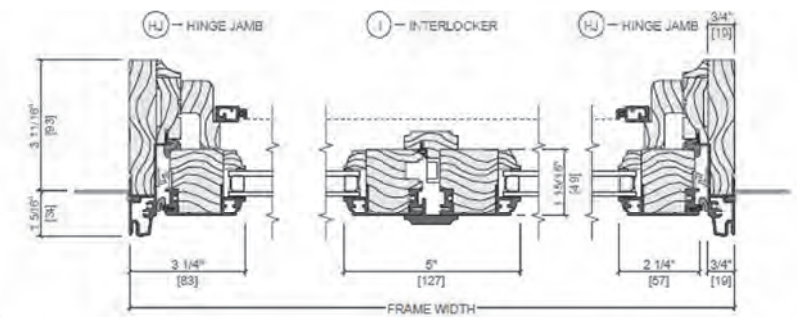
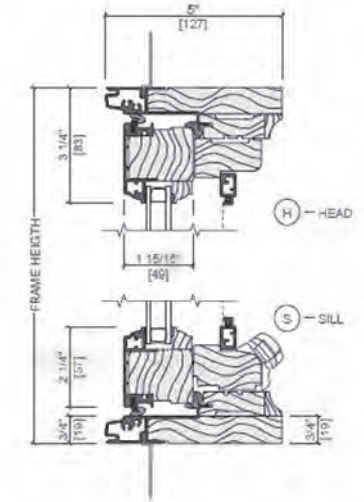
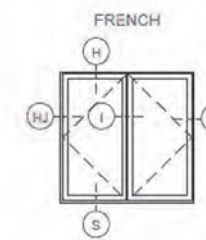


Custom colors are also available.



## Pella® Reserve™ Out-Swing French Casement Window

Unit Sections - Aluminum-Clad Exterior



**H5.50 MATERIALS - WINDOWS**  
**1 CONGRESS STREET**

SCALE:  
8/03/2022



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## Northlight 25-90°

Similar to Longlights, Northlights are bands of VELUX Modular Skylights. The characteristic upright design is primarily for installations that are directed towards the northern hemisphere for soft and reflected lighting. Northlight installations are applicable for a pitch of 25 to 90°.

At the bottom, Northlights are mounted on a standard steel profile, 100 mm wide (not a VELUX component) and fixed with clamps holding the skylight in place. At the top, the brackets are fixed to the sub-construction with screws meant for wood.

The prefabricated modular flashing ensures easy integration in the roof surface. All flashings are easily installed. The roof surface underneath the flashing must be appropriate for screw fixation.

Please observe a max. 10 mm wall height above skylight module, when installed in a sloped roof. Take notice that the top flashing changes in size above and below 54°, see sectional drawing page 59.

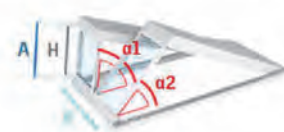


Download  
CAD & BIM  
objects

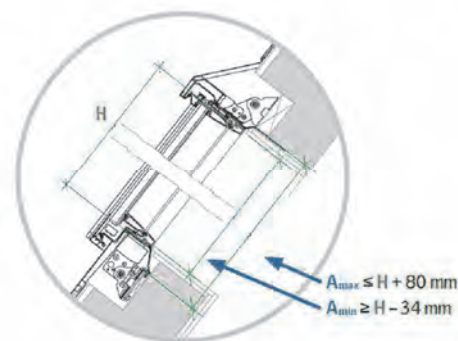
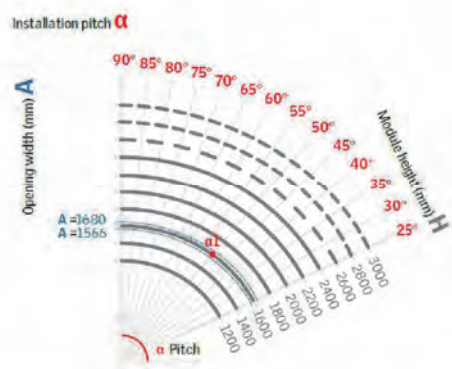
Sub-construction for  
Northlight at:  
[veluxcommercial.com](http://veluxcommercial.com)

### Defining module size to your project

Example:  
 $\alpha 1$ :  $H = 1600$  mm at an installation pitch of  $50^\circ$   
 $A_{max} = 1680$  mm  
 $A_{min} = 1566$  mm



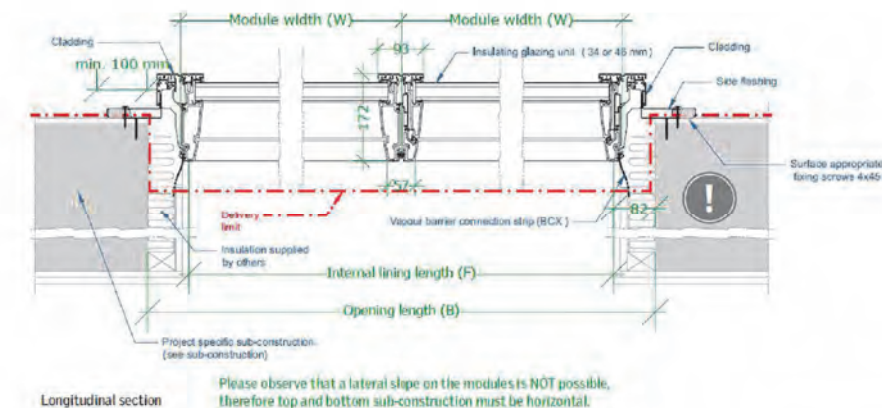
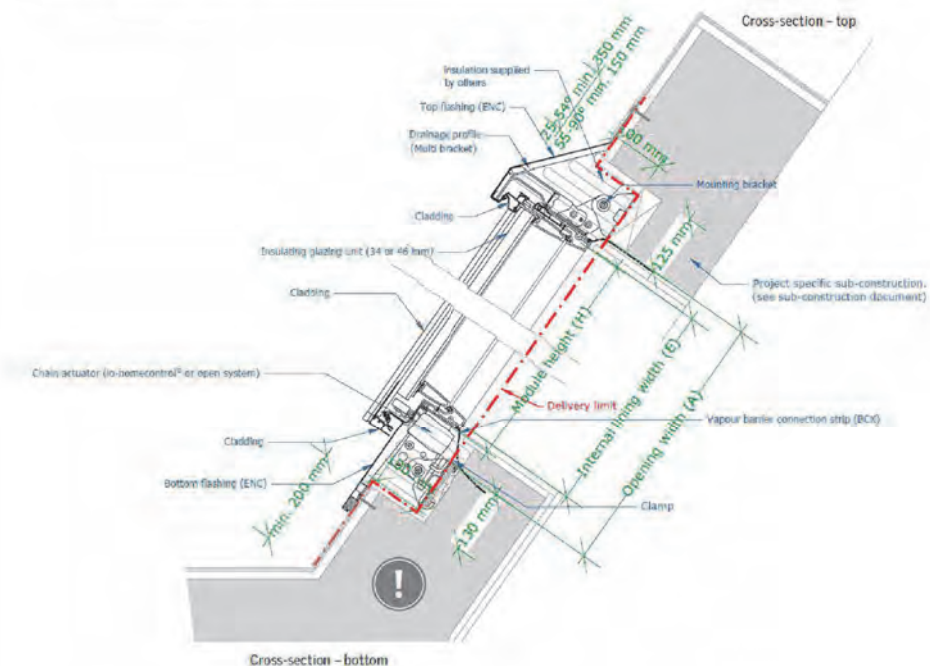
H: Module height  
 $\alpha$ : Installation pitch  
A: Opening width  
L: Opening length



58 --- Not available as venting modules as default.

## ROOF WINDOWS - VELUX "NORTHLIGHT"

## Sectional drawings



VELUX Commercial 59

H5.51

MATERIALS - FENESTRATION  
1 CONGRESS STREET

SCALE:  
8/03/2022



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STOREFRONTS

WINDOWS • CURTAIN WALLS • ENTRANCES • STOREFRONTS

**Series 403X**  
2' x 4 1/2' Thermal Storefront Framing



**CONFIGURATIONS**  
**Shear Block • Screw Spline**  
This innovative flush glaze storefront framing system utilizes a dual pour and debridge thermal barrier that provides outstanding energy efficiency. Available in either shearblock or screw spline construction, the 403X Series can be used in conjunction with virtually all EFCO entrance system and V410 vents. A variety of options are available for use with this system, including sunshade mullions and variable sight line horizontals. Steel reinforcement is also available to enhance structural capability.

<b>Features</b>	<b>Benefits</b>
Dual pocket thermal barrier framing	Enhanced thermal performance and reduced energy cost
Screw spline or shearblock construction	Decreases installation labor and cost
The optional Roto-Vent™ ventilator	Ability to erect on the job site
2-way (90° and 135°) and 3-way corner mullions	Allows fresh air into the room, yet maintains security
0°-15° and 15°-30° variable mullions	Multifaceted elevations for design flexibility
Accommodates up to 1 1/16" glazing	Increased design flexibility
Uniform glazing gasket is used for exterior and interior	Expands design and energy savings options
Various height intermediate horizontals and sills	Allows optimized use of gasket and reduces inventory
Accessory line of perimeter anchors, pocket fillers, door adaptors, etc.	Simplifies ordering and installation
Anodized or painted finishes available	Ability to maintain desired sight line
	Increased product versatility
	Multiple options to answer economic and aesthetic concerns

**EFCO** COATINGS FINISHES COLORS

**ULTRAPON (70% PVDF)**

STANDARD				FEATURED	

**ULTRA-ESCENT II (70% PVDF MICA\*)**

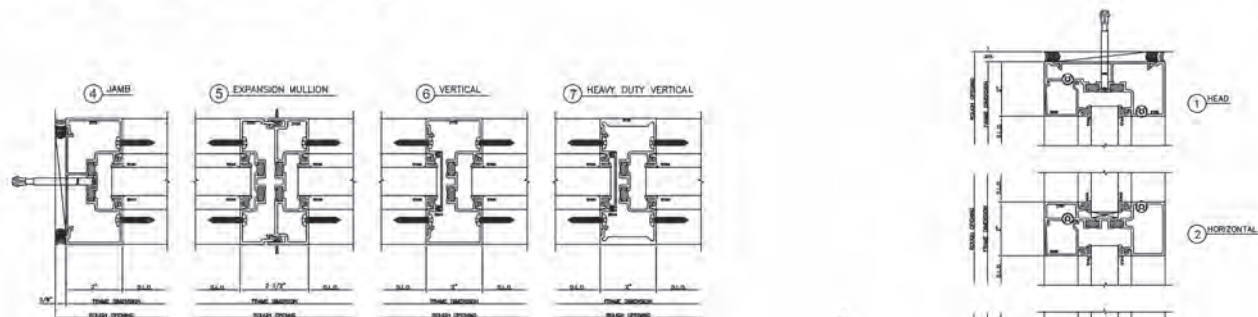
STANDARD				FEATURED	

**ANODIZE**

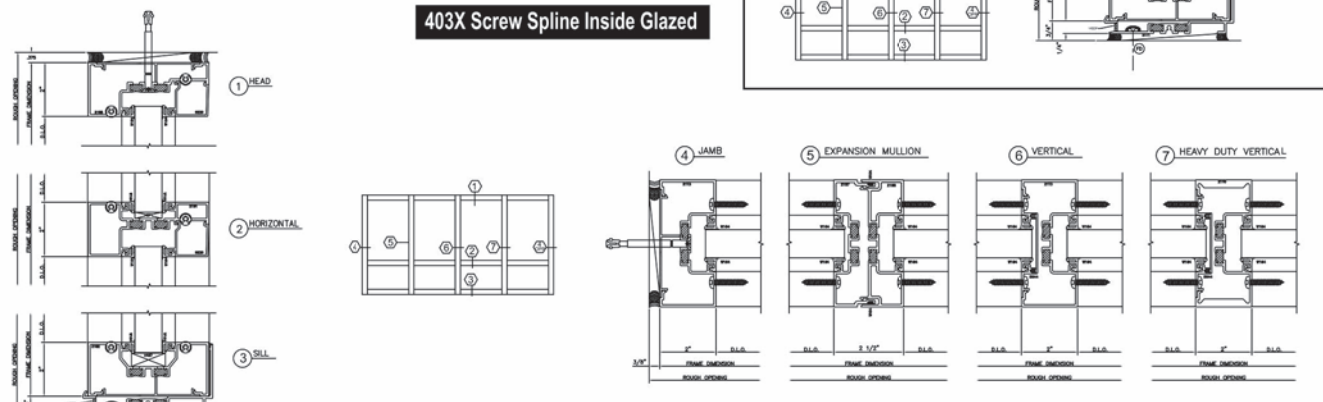
--	--	--	--	--	--

\* The color samples shown are in a standard finish. These colors may require the production of a color chip to be used in conjunction with the color chip. Additional charges may apply to some colors that require a clear finish, metallic, or other special color finishes.  
\* Color variations in relation to light should be expected with ultra films. Exact shade may vary. Color variations in relation to light should be expected with ultra films. Exact shade may vary. Color variations in relation to light should be expected with ultra films. Exact shade may vary.

403X Screw Spline Outside Glazed Steps Down



403X Screw Spline Inside Glazed



reproduction 05/15

STOREFRONT TRANSOMS

3M™ Dichroic Film for Laminated Glass

Compatible with EVA, SentryGlas® or PVB interlayer adhesives. Available in gold-blue or copper-bronze colors.

**Flexible**

Film can be printed, cut, patterned, bent, or combined with different glass types or interlayer adhesives.

**Versatile**

Applications include shading fins, balustrades, exterior glass, partition walls, shower doors, artistic glass and furniture.

**Gold-Blue Dichroic Film**



**In Transmission (Shown)** Yellow ▶ Magenta ▶ Blue  
**In Reflection** Gold (straight) Blue (angle)

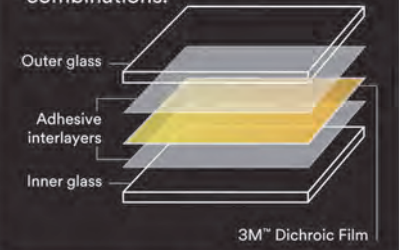
**Copper-Bronze Dichroic Film**



**In Transmission (Shown)** Magenta ▶ Blue ▶ Aqua  
**In Reflection** Copper (straight) Bronze (angle)

**How is it made?**

3M™ Dichroic Film is easily laminated between sheets of adhesive interlayers. It's conformable for bent glass applications and works with different glass and PVB combinations.



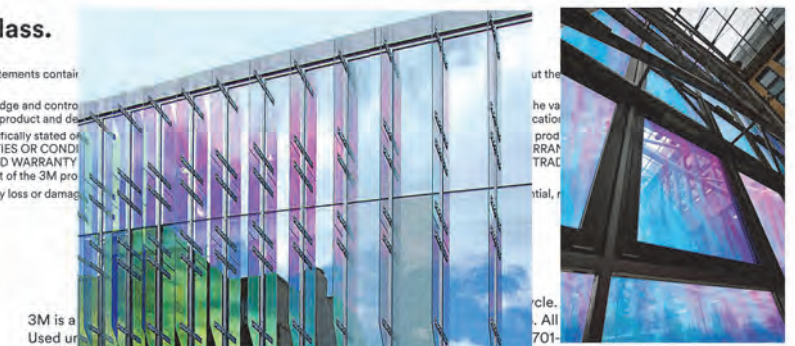
Solar performance of clear laminated glass

	Reflection Visible	Transmission Visible	Transmitted Energy	Reflected Energy	Absorbed Energy	TSER	SHGC
Gold-Blue Dichroic Glass	89%	11%	56%	29%	15%	39%	0.61
Copper-Bronze Dichroic Glass	29%	71%	55%	29%	17%	41%	0.59

Make an impression at 3M.com/Glass.

**Technical Information:** The technical information, recommendations and other statements contain information is not guaranteed.  
**Product Use:** Many factors beyond 3M's control and uniquely within user's knowledge and control and performance of a 3M product, user is solely responsible for evaluating the 3M product and determining its suitability for the intended application.  
**Warranty, Limited Remedy, and Disclaimer:** Unless an additional warranty is specifically stated on the product, 3M MAKES NO OTHER WARRANTIES OR CONDITIONS OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY IMPLIED WARRANTY TO THIS WARRANTY, then the sole and exclusive remedy is, at 3M's option, replacement of the 3M product.  
**Limitation of Liability:** Except where prohibited by law, 3M will not be liable for any loss or damage, including warranty, contract, negligence or strict liability.

**3M**  
Renewable Energy Division  
3M Center, Building 235-25-27  
St. Paul, MN 55144-1000  
3M.com/glass

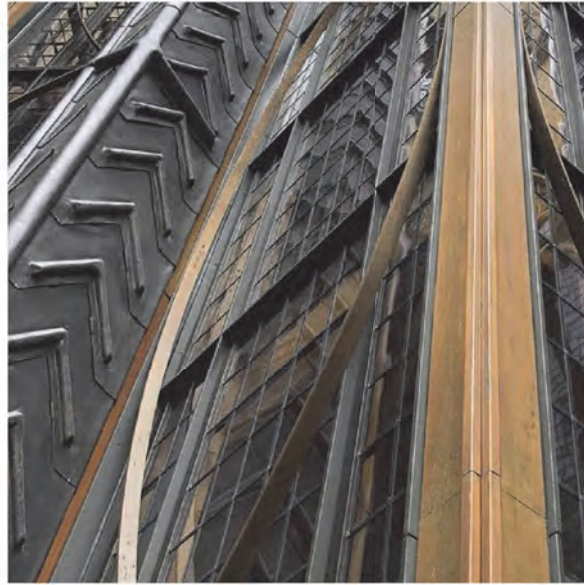


**H5.52 MATERIALS - ARCADE FENESTRATION**  
**1 CONGRESS STREET**

SCALE:  
8/03/2022



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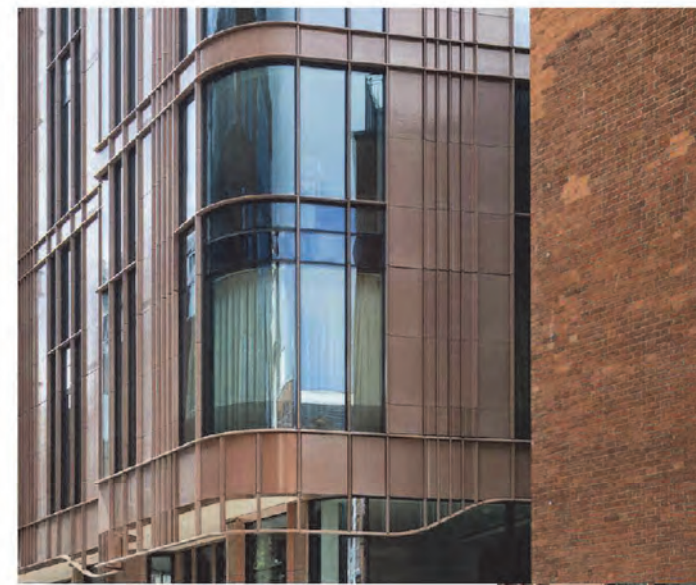


BRONZE FINISH - METAL ACCENTS - WINDOW & DOOR FRAMES, AWNINGS, DORMER LEVEL CLADDING.

Upper walls, cladding

Terra Cotta, glazed tile

TERREAL, PITERAK SLIM



Marylebone Lane Mansion  
London

Glaze color: Tea with Milk



Lower walls, cladding

Granite



Deer Isle

At restored Facades



Carolina Coral

First floor addition, field color



Autumn Pink

First floor addition - accent color



Piterak Slim Terracotta Cladding

**H5.53** MATERIALS - CLADDING  
**1 CONGRESS STREET**

SCALE:  
8/03/2022



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## SOFFIT-CEILING AT ARCADE DROP-OFF



- thermally broken
- made of light weight aluminum
- supports continuous insulation
- creates a rain screen
- response time within 24 hours
- supports other cladding up to 8 lbs per sq ft.
- adjustable for sub-wall misalignment
- health product declarations
- support for specifications + drawings
- built for seismic zones



easy to use	quick delivery
solid warranty	durable finishes

longboardproducts.com



LONGBOARD®

### WOODGRAIN OPTIONS

Our woodgrain options are divided into four categories based on the consistency of the wood grain pattern.

#### CONSISTENT



## COMPOSITE WALL PANELS (ELEVATOR OVER-RUN AND RECESSED ACCENTS)

### ALUCOBOND Products



#### PROPERTIES AND BENEFITS

- Flatness and Rigidity
- Lightweight
- Durability
- Custom color expertise
- Formability
- Ease of fabrication
- Perforation capabilities
- 89 stocked ACM colors
- Complementary flat aluminum sheet colors
- Can contribute toward LEED points
- 100% recyclable
- Zero VOC's emitted in use
- EPD in compliance with International ISO Standards

#### ALUCOBOND® PLUS

4mm ACM comprised of two sheets of smooth .020" aluminum thermobonded to a solid, fire retardant core. Developed exclusively to meet fire performance requirements while providing the benefits & versatility of ACM.

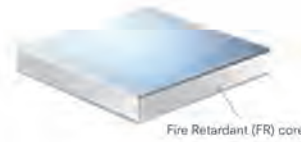
#### ALUCOBOND® AXCENT™

A solid .040" flat aluminum sheet that offers the perfect complement to ALUCOBOND PLUS. AXCENT is excellent for columns, parapet caps, canopies, soffits, and trim.

#### ALUCOBOND® EasyFix™

ALUCOBOND EasyFix is a cost-effective installation method for wood-frame construction in multifamily and mixed-use sectors. The simple installation method utilizes an innovative design for attachment of ALUCOBOND PLUS panels. The design provides an aesthetic solution similar to traditional ACM systems.

- ALUCOBOND EasyFix must be used with:
- ALUCOBOND PLUS
  - ALUCOBOND EasyFix: Clips or Rails



#### Product Properties

Thickness of aluminum skin	0.020" (nominal)
Product thickness	0.157" (4mm nominal)
Weight	1.56 lb/ft <sup>2</sup>
Standard panel dimension*	62" x 196"
Maximum width**	62"
Maximum length**	400"

#### Product Properties

Product thickness	0.040" (nominal)
Weight	0.56 lb/ft <sup>2</sup>
Standard width	48"
Standard length	120"

#### Product Properties

Weight	1.9 lb/ft <sup>2</sup>
Weight	1.56 lb/ft <sup>2</sup>
Standard panel dimension*	40" x 196"
Maximum panel width/length	62"/400"
Clip length	3"
Rail length	12'

\* Exceptions to standard dimensions include mirror, print, and others. Refer to product range table on next page.  
\*\* Sheets will be fabricated to meet custom panel sizes within product range above.

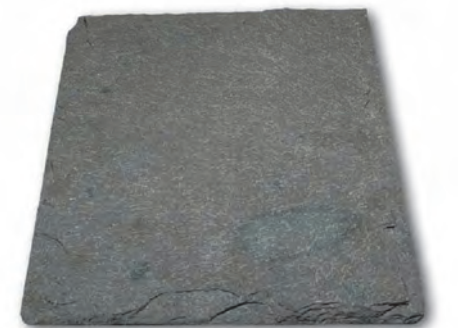
#### The Classic Collection



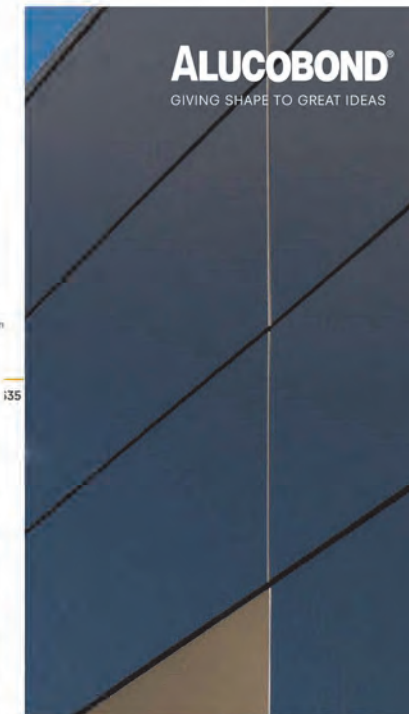
#### The Classic Collection



## ROOFING - NATURAL SLATE



GRAY-GREEN, SEMI-WEATHERING NATURAL SLATE; VERMONT SLATE



H5.54 MATERIALS - CLADDING  
1 CONGRESS STREET

SCALE:  
8/03/2022



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**RAVEN™**  
OW1340/OW1342/OW1344/OW1346/OW1348  
Outdoor models with Accent Bars

Rev. 20210523



VisaLighting.com/products/Raven



**DIMENSIONS<sup>1</sup>**  
L = Length D = Depth W = Width WT = Weight

	OW1348	OW1340	OW1342	OW1344	OW1346
L	18-1/2" (470 mm)	24-3/4" (629 mm)	36-1/2" (927 mm)	48-5/8" (1229 mm)	60-1/8" (1527 mm)
D	4" (102 mm)				
W	3-5/8" (86 mm)				

- FEATURES**
- Integral driver
  - Vertical or horizontal mounting
  - Mounts to 2 X 4 electrical junction box (by others) with provided hardware. Requires auxiliary mounting fasteners (provided). Orient junction box to match fixture's linear dimension (horizontal or vertical).
  - Tamper resistant fasteners
  - High impact extruded aluminum backplate/side rails, die-cast end caps and trim bars, gasketed and sealed construction
  - Extruded clear prismatic performance lens and extruded white acrylic diffuser
  - High impact extruded white acrylic, FI rated, UV stable, 18-24 MB Flame Class rated
  - No VOC powder coat finish
  - ETL listed for wet location mounting 4' above grade



800-788-VISA VisaLighting.com Page 1

**RAVEN (cont.)**  
OW1340/OW1342/OW1344/OW1346/OW1348  
Outdoor models with Accent Bars



**FINISHES**  
Specify color code when ordering. For accurate color matching, individual paint and finish samples are available upon request. For more information about our finishes visit [www.visalighting.com/finishes](http://www.visalighting.com/finishes)

AGGY Agate Grey	ALGN Alpine Green	BJBG Baja Beige	BMAT Bronze Matt	<b>BRZ Bronze</b>	BSL Blade Silver	CVBL Cove Blue
DEOR Deoro Gold	GLWT Glacier White	GSL Graphite Silver	HRGR Harbor Grey	JTBK Jet Black	OCLB Ocean Blue	SHGR Shoreline Grey
SIGN Sagebrush Green	SLGR Slate Grey	SSTP Sierra Taupe	TRCN Terracotta Canyon	TRWT Traffic White	VLBK Velvet Black	VNRD Vineyard Red



**WALL SCONCE LIGHT FIXTURES**

**TRIFAB® VG (VERSAGLAZE®)**  
TRIFAB® VG 450, 451 & 451T (THERMAL) FRAMING SYSTEMS & TRIFAB® 451UT (ULTRA THERMAL) FRAMING SYSTEM

**Design + Performance**  
Versatility with Unmatched Fabrication Flexibility



Trifab® VersaGlaze® is built on the proven and successful Trifab® platform – with all the versatility its name implies. There are enough framing system choices, fabrication methods, design options and performance levels to please the most discerning building owner, architect and installer. The 4.5" depth Trifab® VersaGlaze® Framing System family is available with non-thermal, thermal and ultra-thermal performance levels. The ultra-thermal Trifab® 451UT Framing System, is designed for the most demanding thermal performance and employs a dual IsoLock® thermal break.

**AESTHETICS**  
Trifab® VersaGlaze® Framing Systems offer front-, center-, back- or multi-plane glass

**STOREFRONT**

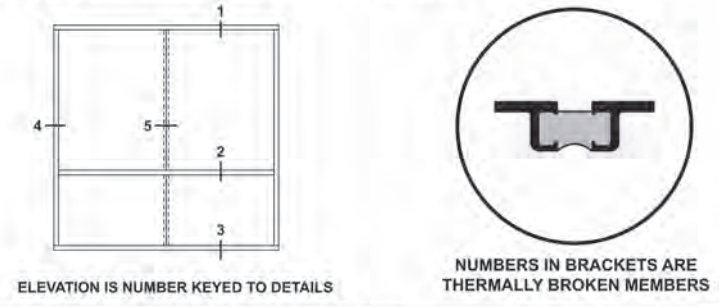
BLACK	BOYSBERRY	HARTFORD GREEN
SANDSTONE	CLASSIC BRONZE	MILITARY BLUE
BONE WHITE	COLONIAL WHITE	ANTIQUA BRONZE
DOVE GRAY	DARK IVY	CHARCOAL
REGWOOD	SEA WOLF	MEDIUM BRONZE

glazing (SSG) and weatherseal glazing options further expand designers' choices, allowing for a greater range of possibilities for specific project requirements and architectural styles. All systems have a 4-1/2" frame depth; Trifab® VersaGlaze® 450 has 1-3/4" sightlines, while Trifab® VersaGlaze® 451/451T and Trifab® 451UT have 2" sightlines.

With seamless incorporation of Kawneer entrances or windows, including GLASSvent® visually frameless ventilators, Trifab® framing can be used on almost any project. These framing systems can also be



Additional information and CAD details are available at [www.kawneer.com](http://www.kawneer.com)

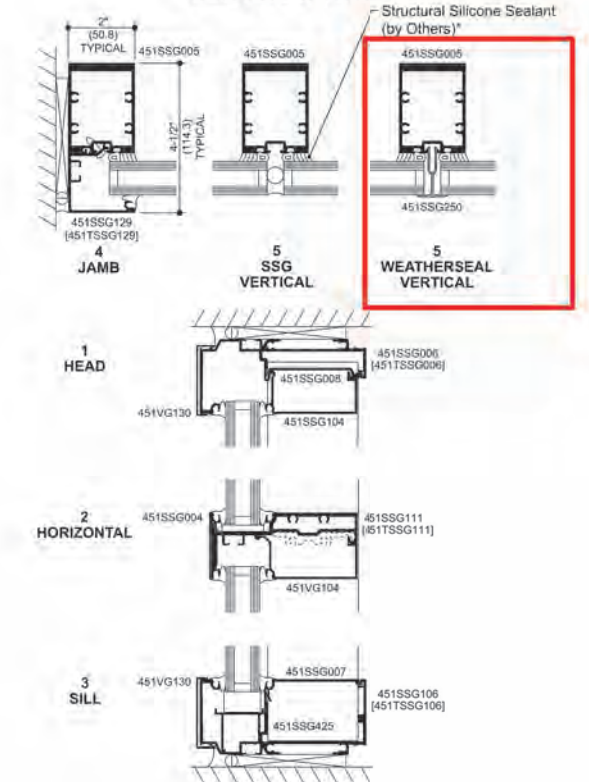


ELEVATION IS NUMBER KEYED TO DETAILS

NUMBERS IN BRACKETS ARE THERMALLY BROKEN MEMBERS

**STICK (INSIDE GLAZED) TWO COLOR OPTION**

**SSG RECEPTOR**



**INSTALLER NOTE:** Installer is responsible for all required compatibility review and approvals with the Structural Silicone Manufacturer and the Insulating Glass Unit Manufacturer.



ADMCD40EN

kawneer.com

**H5.55**

**MATERIALS STOREFRONT & SCONCE**  
**1 CONGRESS STREET**

SCALE:  
10/14/2022



Kawneer reserves the right to change configuration without prior notice when deemed necessary for product improvement.  
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**Project Address:** 324 MAPLEWOOD AVENUE  
**Permit Requested:** CERTIFICATE OF APPROVAL  
**Application:** PUBLIC HEARING 3



**A. Property Information - General:**

**Existing Conditions:**

- Zoning District: CD4-L2
- Land Use: Mixed-Use
- Land Area: 5,475 SF +/-
- Estimated Age of Structure: c.1820
- Building Style: Greek Revival
- Number of Stories: 2.5
- Historical Significance: C
- Public View of Proposed Work: Maplewood Avenue and Dennett Street
- Unique Features: N/A
- Neighborhood Association: West End

**B. Proposed Work:** Replace all siding, repair exterior stairs, corner boards, and window trim as needed and replace the store front windows.

**C. Staff Comments and/ or Suggestions for Consideration:**

The project proposal includes the following:

- Exterior repairs to the structure: replace rotted trim, siding, and corner boards.
- Replace store front windows.



**D. Purpose and Intent:**

13. Preserve the integrity of the District
14. Assessment of the Historical Significance
15. Conservation and enhancement of property values
16. Maintain the special character of the District
17. Complement and enhance the architectural and historic character
18. Promote the education, pleasure and welfare of the District and the city residents and visitors

**E. Review Criteria/Findings of Fact:**

9. Consistent with special and defining character of surrounding properties
10. Compatibility of design with surrounding properties
11. Relation to historic and architectural value of existing structures
12. Compatibility of innovative technologies with surrounding properties

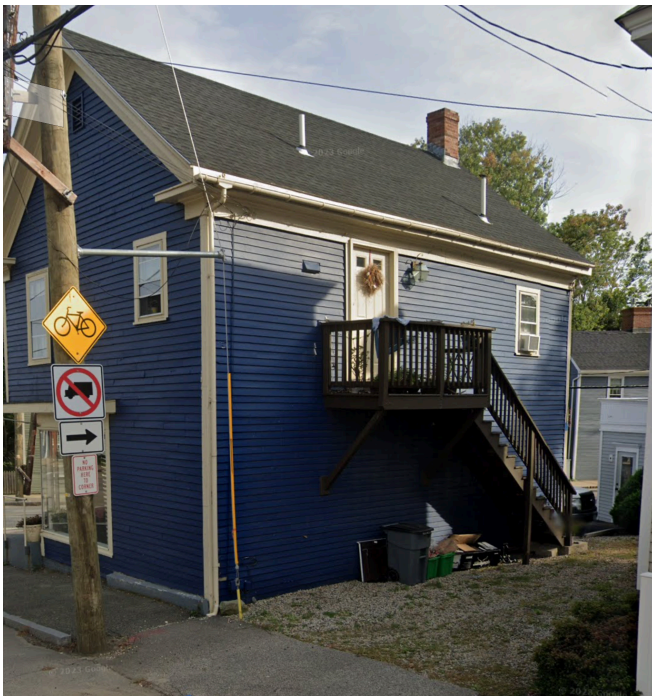




Facade facing Dennett Street



Facade facing Maplewood Ave



Facade view from Maplewood



Rear facade abutting neighbor on Dennett St

**Project Address:** 101 CHAPEL STREET

**Permit Requested:** CERTIFICATE OF APPROVAL

**Application:** PUBLIC HEARING 4

**A. Property Information - General:**

**Existing Conditions:**

- Zoning District: Civic, Downtown Overlay
- Land Use: Religious (St. John's Church)
- Land Area: 26,737 SF +/-
- Estimated Age of Structure: c.1807
- Building Style: Federal
- Number of Stories: 2.5
- Historical Significance: C
- Public View of Proposed Work: Bow Street, Chapel Street, and Daniel Street
- Unique Features: N/A
- Neighborhood Association: Downtown

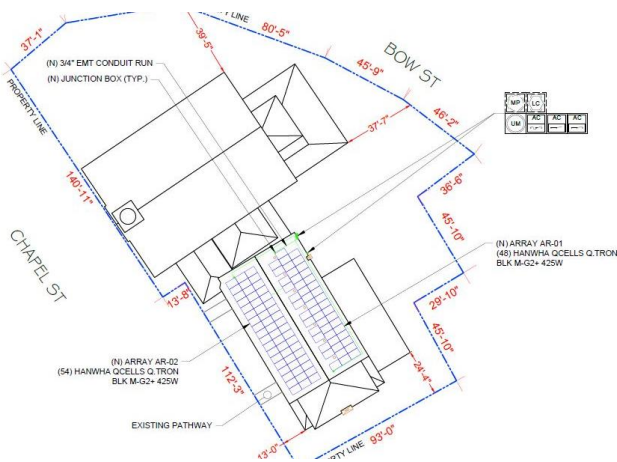


**B. Proposed Work:** Install rooftop solar panels.

**C. Staff Comments and/ or Suggestions for Consideration:**

The project proposal includes the following:

- Installation of roof top mounted solar panels.



**HISTORIC  
SURVEY  
RATING  
C**

**D. Purpose and Intent:**

19. Preserve the integrity of the District
20. Assessment of the Historical Significance
21. Conservation and enhancement of property values
22. Maintain the special character of the District
23. Complement and enhance the architectural and historic character
24. Promote the education, pleasure and welfare of the District and the city residents and visitors

**E. Review Criteria/Findings of Fact:**

13. Consistent with special and defining character of surrounding properties
14. Compatibility of design with surrounding properties
15. Relation to historic and architectural value of existing structures
16. Compatibility of innovative technologies with surrounding properties

## SCOPE OF WORK

**SYSTEM SIZE:** 43.35kW DC, 33.15kW AC  
**MODULES:** (102) HANWHA QCELLS Q.TRON BLK M-G2+ 425W  
**INVERTERS:** (102) ENPHASE: IQ8M-72-2-US MICROINVERTERS  
**RACKING:** IRONRIDGE AIRE RAIL A1  
**ATTACHMENT:** IRONRIDGE AIRE DOCK, WITH L-FOOT

ARRAY TILT: #1 - 27°  
 #2 - 27°  
 ARRAY AZIMUTH: #1 - 59°  
 #2 - 239°

ELECTRICAL INFORMATION  
 UTILITY COMPANY: EVERSOURCE  
 MAIN SERVICE AMPERAGE: 400A

BUILDING INFORMATION: TWO STORY HOUSE  
 APN #: PRSM106553  
 ROOF TYPE: COMP. SHINGLE  
 NUMBER OF LAYERS: 01  
 ROOF TRUSSES: 2"X8" @ 24" O.C.

## CODE SUMMARY

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING CODE  
 2018 FIRE CODE AS AMENDED BY SAF-FMO 300  
 2018 INTERNATIONAL BUILDING CODE (IBC)  
 2018 INTERNATIONAL RESIDENTIAL CODE (IRC)  
 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IEC)  
 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)  
 2018 INTERNATIONAL MECHANICAL CODE (IMC)  
 2018 INTERNATIONAL PLUMBING CODE (IPC)  
 2020 NATIONAL ELECTRICAL CODE (NEC)  
 STATE FIRE CODE SAF-C 6000

## SHEET INDEX

PV-0 COVER SHEET  
 PV-1 SITE PLAN  
 PV-2 ARRAY DETAIL  
 PV-2A STRING LAYOUT  
 PV-3 ATTACHMENT DETAILS  
 PV-4 ELECTRICAL LINE DIAGRAM  
 PV-5 ELECTRICAL CALCULATION  
 PV-6 PLACARDS  
 PV-7+ MANUFACTURER SPEC SHEET


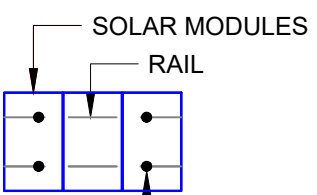

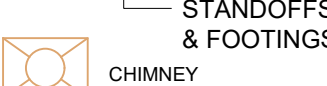





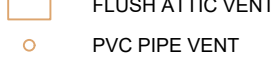

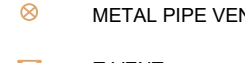



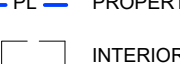

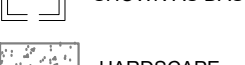



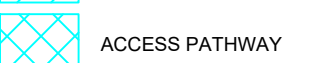




## ADDITIONAL NOTE:

- 400AMP SINGLE PHASE SERVICE.
- LOWER EDGE OF EACH ROOF HAS A STANDING SEAM METAL SECTION.
- THERE IS AN ATTIC SPACE ON THE NORTHERN SIDE OF THE BUILDING (ABOVE A STAGE).

## GENERAL NOTES:

- PV INSTALLATION COMPLIES WITH THE NEC 2020 ARTICLE 690.12(B)(2).
- PHOTOVOLTAIC SYSTEM IS UNGROUNDED. NO CONDUCTORS ARE SOLIDLY GROUNDED IN THE INVERTER. SYSTEM COMPLIES WITH 690.35.
- MODULES CONFORM TO AND ARE LISTED UNDER UL 1703.
- INVERTER CONFORMS TO AND IS LISTED UNDER UL 1741.
- RACKING CONFORMS TO AND IS LISTED UNDER UL 2703.
- RAPID SHUTDOWN REQUIREMENTS MET WHEN INVERTERS AND ALL CONDUCTORS ARE WITHIN ARRAY BOUNDARIES PER NEC 690.12(1).
- CONSTRUCTION FOREMAN TO PLACE CONDUIT RUN PER 690.31(G).
- ARRAY DC CONDUCTORS ARE SIZED FOR DERATED CURRENT.
- 13.49 AMPS MODULE SHORT CIRCUIT CURRENT.
- 21.04 AMPS DERATED SHORT CIRCUIT CURRENT [690.8 (a) & 690.8 (b)].

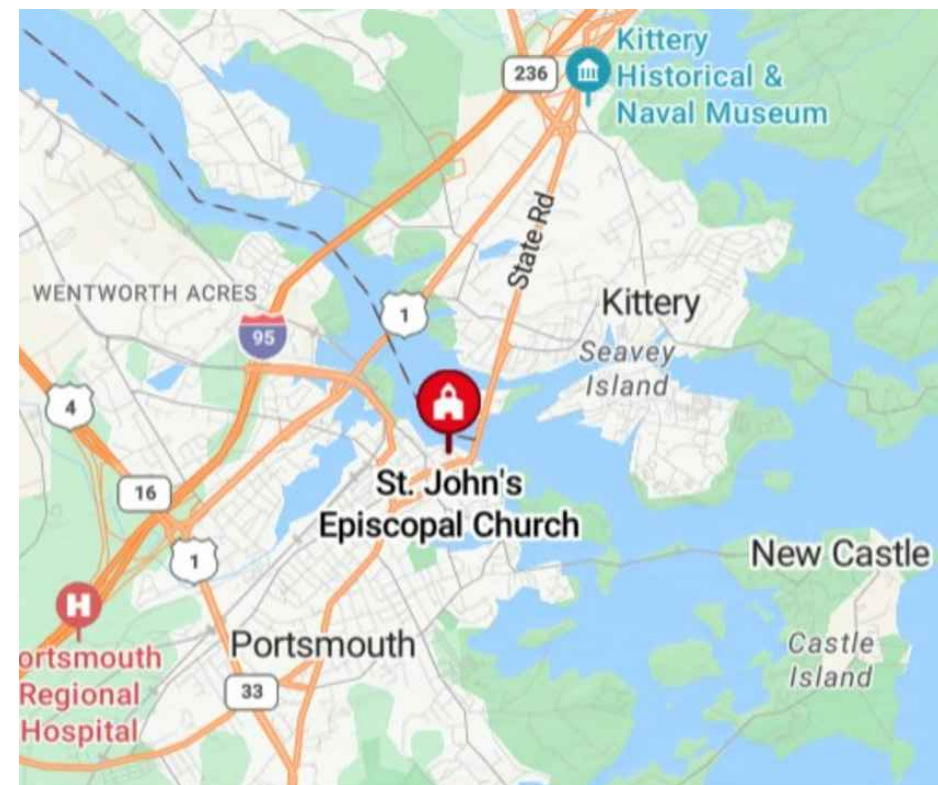
## LEGEND AND ABBREVIATIONS

 UTILITY METER		A AMPERE	AMPERE
 MAIN PANEL		AC ALTERNATING CURRENT	ALTERNATING CURRENT
 SUB-PANEL		AFCI ARC FAULT CIRCUIT INTERRUPTER	ARC FAULT CIRCUIT INTERRUPTER
 PV LOAD CENTER		AZIM AZIMUTH	AZIMUTH
 DEDICATED PV METER		COMP COMPOSITION	COMPOSITION
 INVERTER(S) WITH INTEGRATED DC DISCONNECT AND AFCI		DC DIRECT CURRENT	DIRECT CURRENT
 AC DISCONNECT(S)		(E) EXISTING	EXISTING
 DC DISCONNECT(S)		EXT EXTERIOR	EXTERIOR
 FUSED AC DISCONNECT		FRM FRAMING	FRAMING
 COMBINER BOX		INT INTERIOR	INTERIOR
 AUTOMATIC TRANSFER SWITCH		LBW LOAD BEARING WALL	LOAD BEARING WALL
 ENPHASE MICROINVERTER		MAG MAGNETIC	MAGNETIC
		MSP MAIN SERVICE PANEL	MAIN SERVICE PANEL
		(N) NEW	NEW
		NTS NOT TO SCALE	NOT TO SCALE
		OC ON CENTER	ON CENTER
		PRE-FAB PRE-FABRICATED	PRE-FABRICATED
		PSF POUNDS PER SQUARE FOOT	POUNDS PER SQUARE FOOT
		PV PHOTOVOLTAIC	PHOTOVOLTAIC
		TL TRANSFORMERLESS	TRANSFORMERLESS
		TYP TYPICAL	TYPICAL
		V VOLTS	VOLTS
		W WATTS	WATTS

SCALE: NTS



1 | AERIAL VIEW  
 PV-0 | SCALE: NTS



2 | VICINITY MAP  
 PV-0 | SCALE: NTS



**603 SOLAR**  
 24 CHARTER ST.  
 EXETER, NH 03833  
 (603) 570-2607

### REVISIONS

DESCRIPTION	DATE	REV

### PROJECT NAME & ADDRESS

**ST. JOHN'S EPISCOPAL CHURCH**  
 100 CHAPEL ST,  
 PORTSMOUTH, NH 03801  
 PHONE #: (603) 988-8347  
 EMAIL: reginnhny@outlook.com  
 43.35kW DC PHOTOVOLTAIC SYSTEM

### SALES PERSON

STEVE

### SHEET NAME

COVER SHEET

### SHEET SIZE

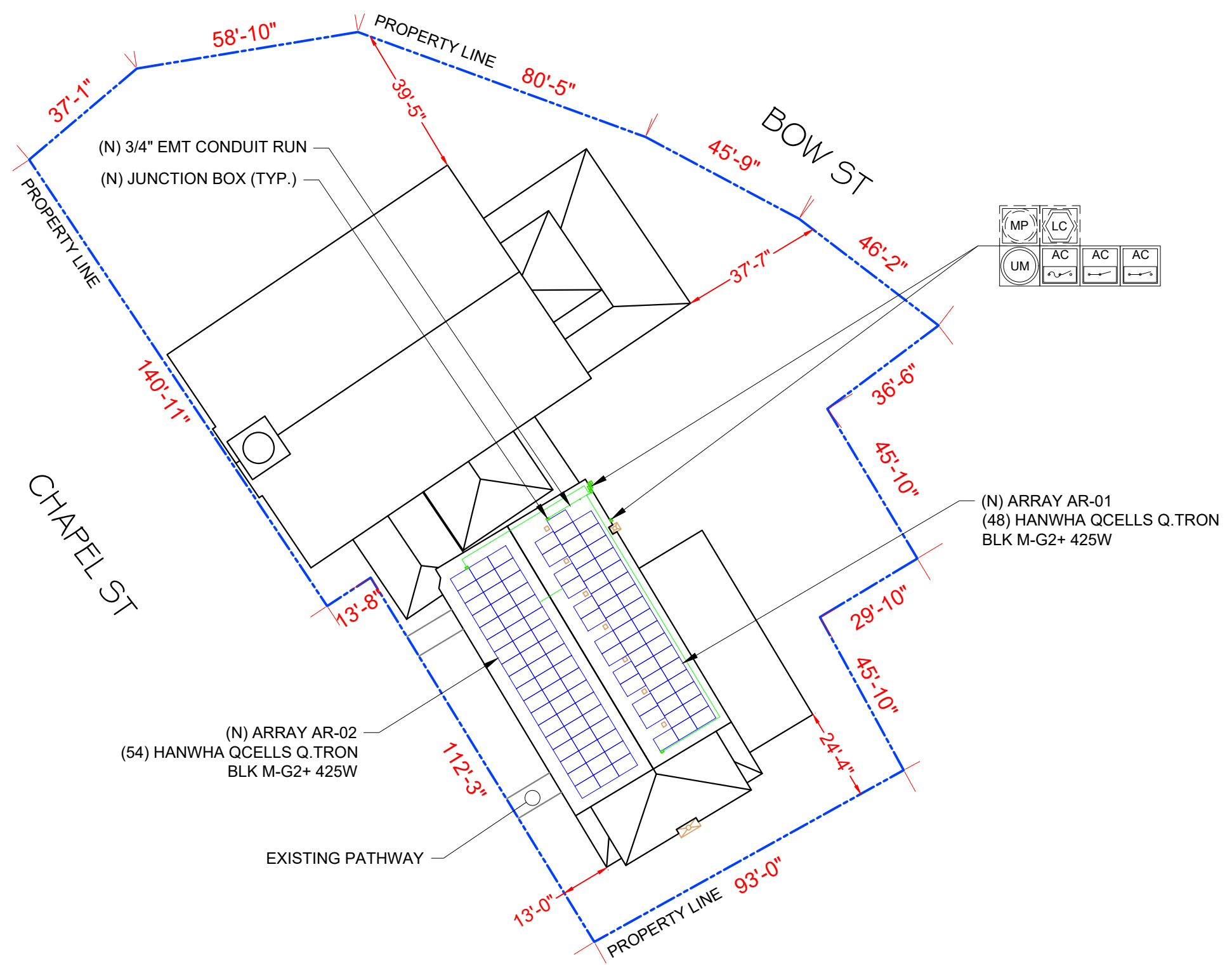
ANSI B  
 11" X 17"

### SHEET NUMBER

PV-0



**603 SOLAR**  
 24 CHARTER ST.  
 EXETER, NH 03833  
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REVISIONS		
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PROJECT NAME & ADDRESS

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 100 CHAPEL ST,  
 PORTSMOUTH, NH 03801  
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 EMAIL: reginnhny@outlook.com  
 43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON  
 STEVE

SHEET NAME  
**SITE PLAN**

SHEET SIZE  
 ANSI B  
 11" X 17"

SHEET NUMBER  
**PV-1**

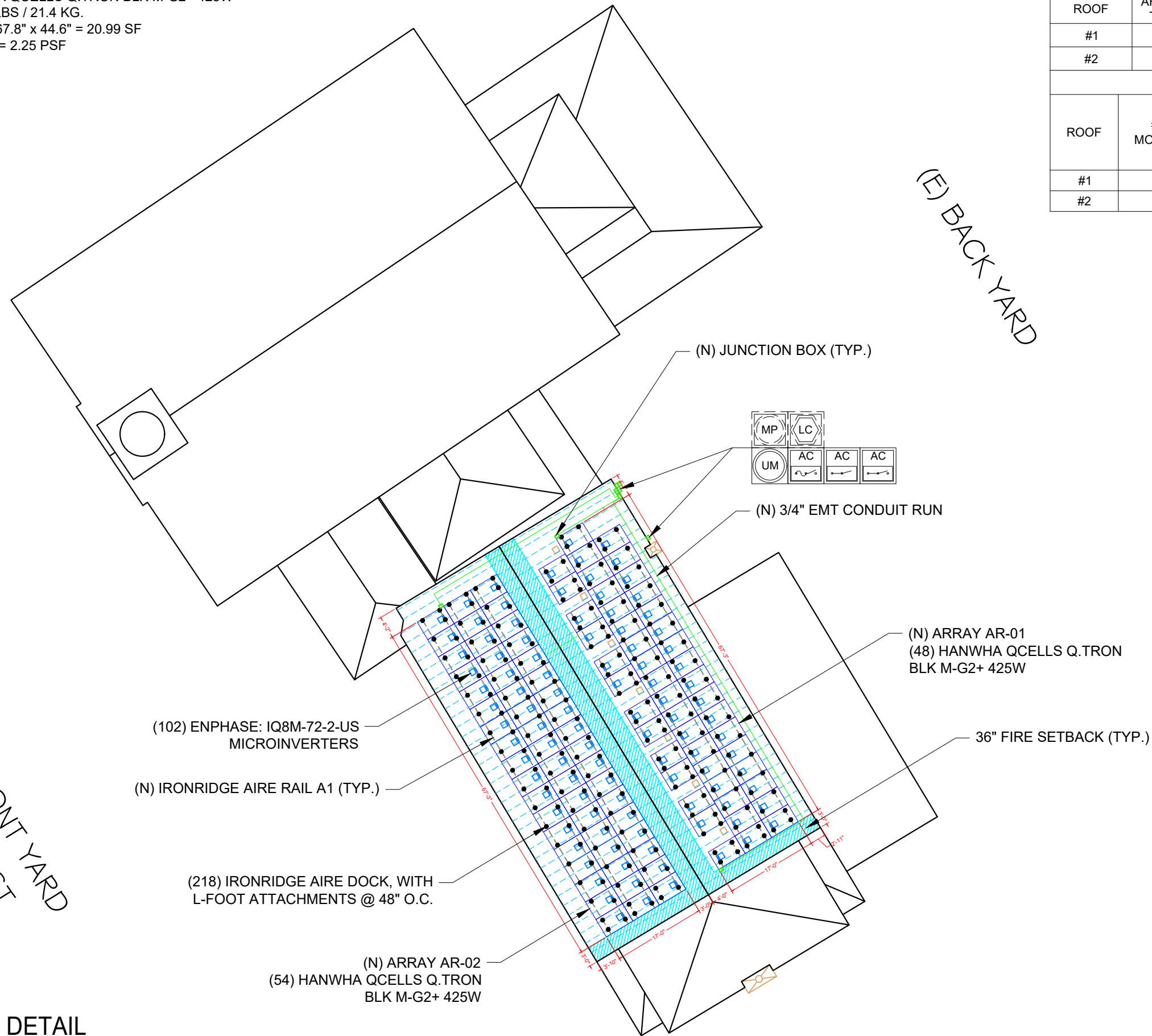
**MODULE TYPE, DIMENSIONS & WEIGHT**

NUMBER OF MODULES = 102 MODULES  
 MODULE TYPE = HANWHA QCELLS Q.TRON BLK M-G2+ 425W  
 MODULE WEIGHT = 47.2 LBS / 21.4 KG.  
 MODULE DIMENSIONS = 67.8" x 44.6" = 20.99 SF  
 UNIT WEIGHT OF ARRAY = 2.25 PSF



(E) FRONT YARD  
 CHAPEL ST

(E) BACK YARD



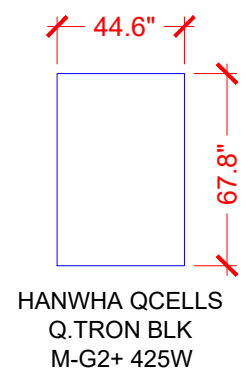
ROOF DESCRIPTION				
ROOF TYPE			COMP. SHINGLE	
ROOF	ARRAY TILT	AZIMUTH	TRUSSES SIZE	TRUSSES SPACING
#1	27°	59°	2"X8"	24" O.C.
#2	27°	239°	2"X8"	24" O.C.
ARRAY AREA				
ROOF	# OF MODULES	ARRAY AREA (Sq. Ft.)	ROOF AREA (Sq. Ft.)	ROOF AREA COVERED BY ARRAY (%)
#1	48	2140.98	6677.88	32.06
#2	54			

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REVISIONS		
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 PORTSMOUTH, NH 03801  
 PHONE #: (603) 988-8347  
 EMAIL: reginnhny@outlook.com  
 43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON STEVE
SHEET NAME <b>ARRAY DETAIL</b>
SHEET SIZE <b>ANSI B 11" X 17"</b>
SHEET NUMBER <b>PV-2</b>



(102) HANWHA QCELLS Q.TRON BLK M-G2+ 425W MODULE

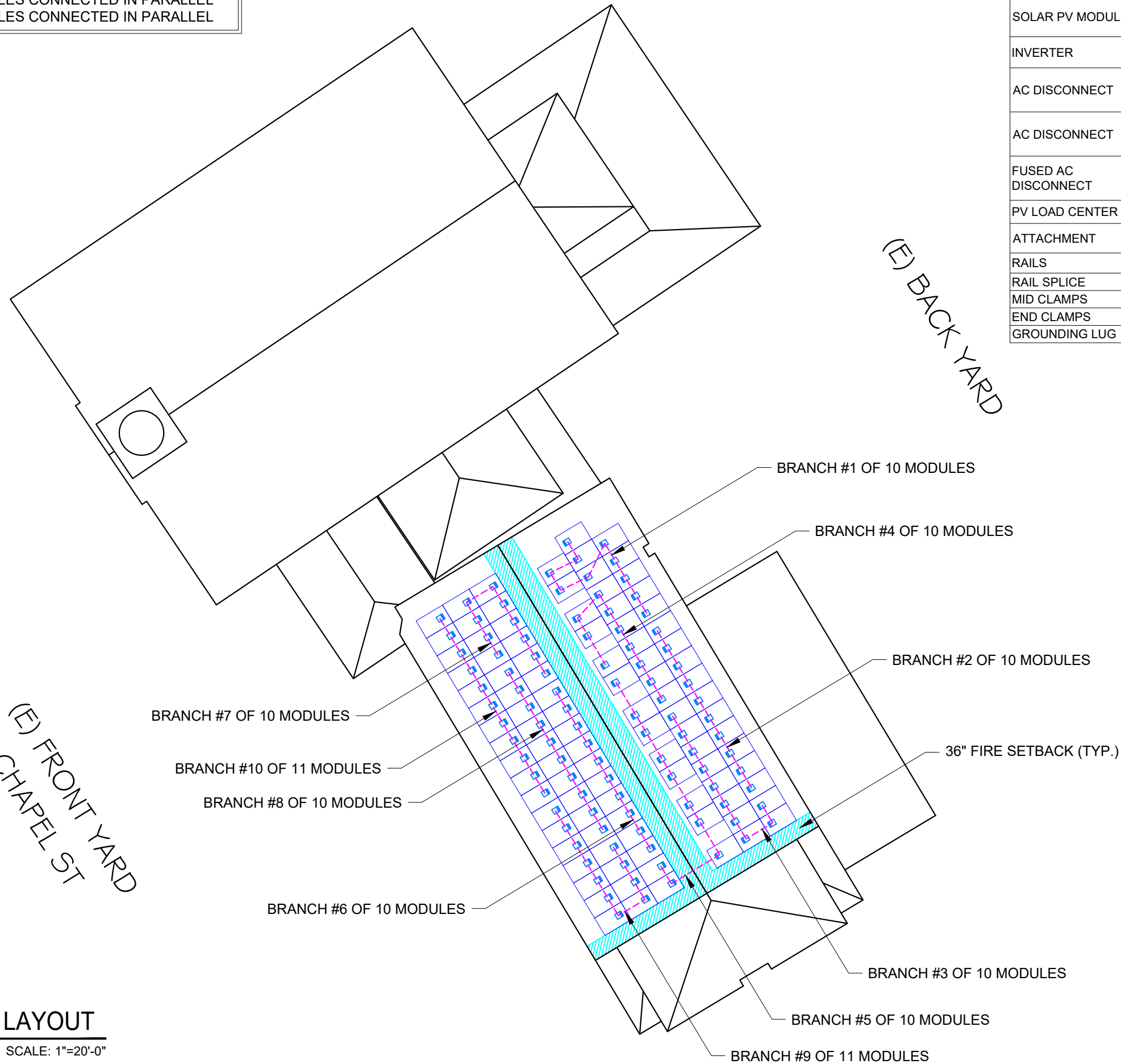
(8) BRANCH OF 10 MODULES CONNECTED IN PARALLEL

(2) BRANCH OF 11 MODULES CONNECTED IN PARALLEL



(E) FRONT YARD  
CHAPEL ST

(E) BACK YARD



BILL OF MATERIALS		
EQUIPMENT	QTY	DESCRIPTION
SOLAR PV MODULE	102	HANWHA QCELLS Q.TRON BLK M-G2+ 425W MODULES
INVERTER	102	ENPHASE: IQ8M-72-2-US MICROINVERTERS
AC DISCONNECT	1	AC DISCONNECT: 240V, 200AMP, NEMA 3R, UL LISTED LOCKABLE AND NON-FUSIBLE
AC DISCONNECT	1	AC DISCONNECT: 240V, 200AMP, LOCKABLE KNIFE HANDLE DISCONNECT
FUSED AC DISCONNECT	1	AC DISCONNECT: 240V, 200AMP, FUSED NEMA 3R, UL LISTED WITH 175A FUSES
PV LOAD CENTER	1	200A PV LOAD CENTER, 240V
ATTACHMENT	218	IRONRIDGE AIRE DOCK, WITH L-FOOT ATTACHMENTS
RAILS	51	IRONRIDGE AIRE RAIL A1 170"
RAIL SPLICE	40	SPLICE KIT
MID CLAMPS	180	MID CLAMP
END CLAMPS	48	END CLAMP
GROUNDING LUG	12	IRONRIDGE LUG



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REVISIONS

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100 CHAPEL ST,  
PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
EMAIL: reginnhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON

STEVE

SHEET NAME

**STRING LAYOUT**

SHEET SIZE

**ANSI B  
11" X 17"**

SHEET NUMBER

**PV-2A**

**1 STRING LAYOUT**

PV-2A

SCALE: 1"=20'-0"

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

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PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
EMAIL: regimhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON

STEVE

SHEET NAME

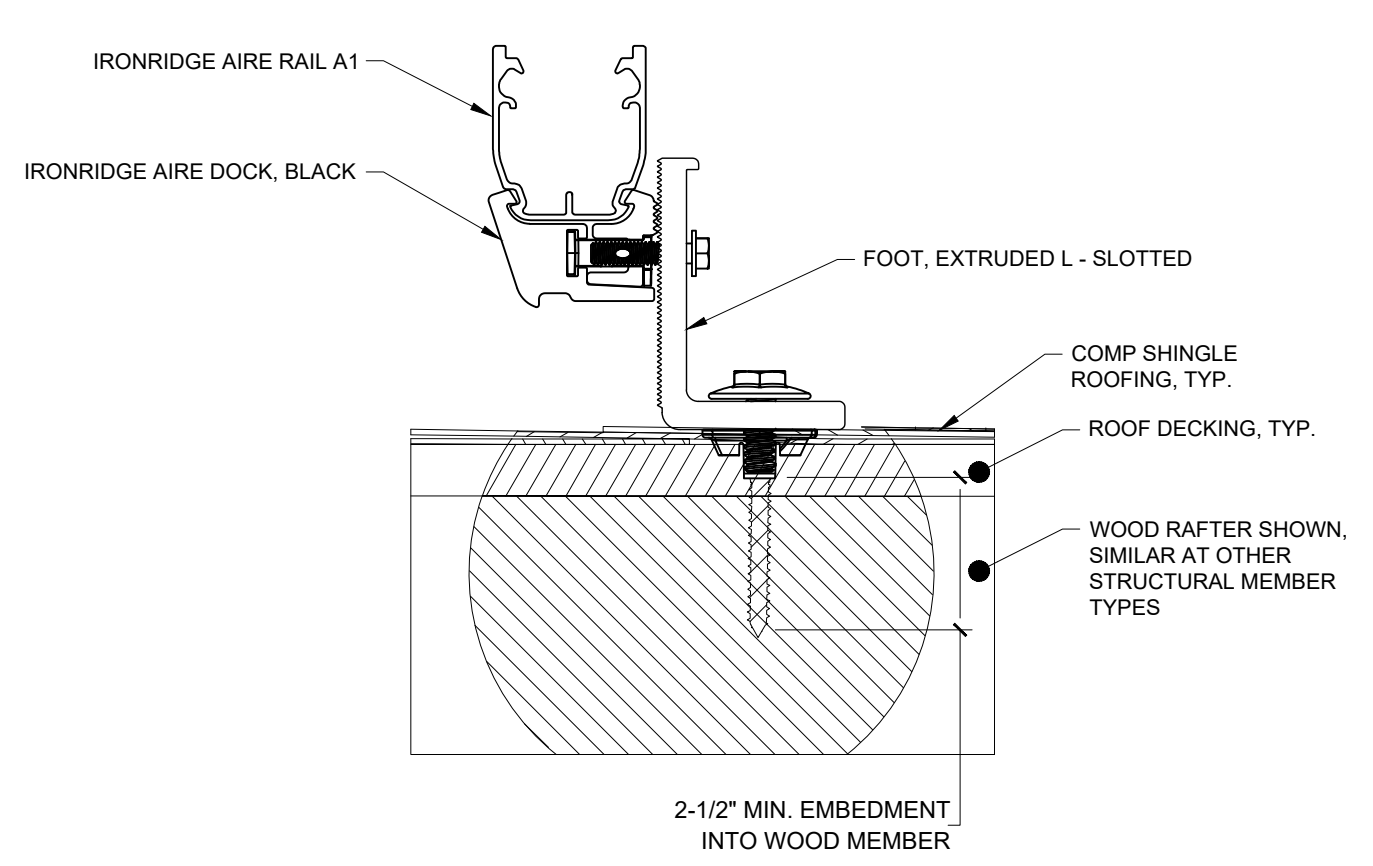
**ATTACHMENT  
DETAILS**

SHEET SIZE

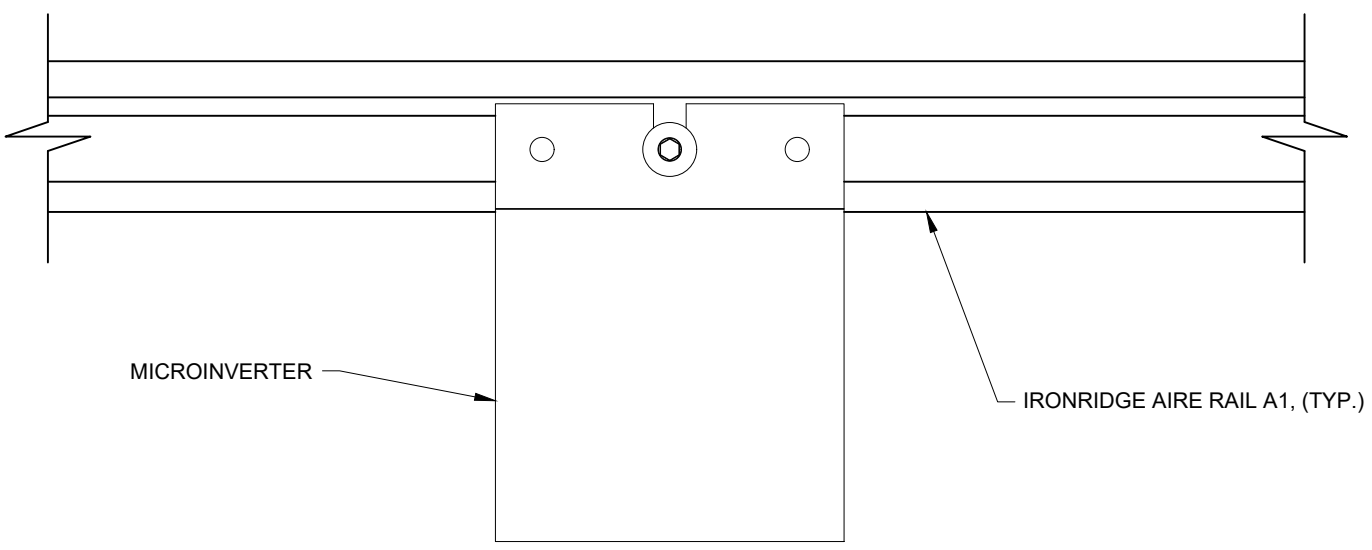
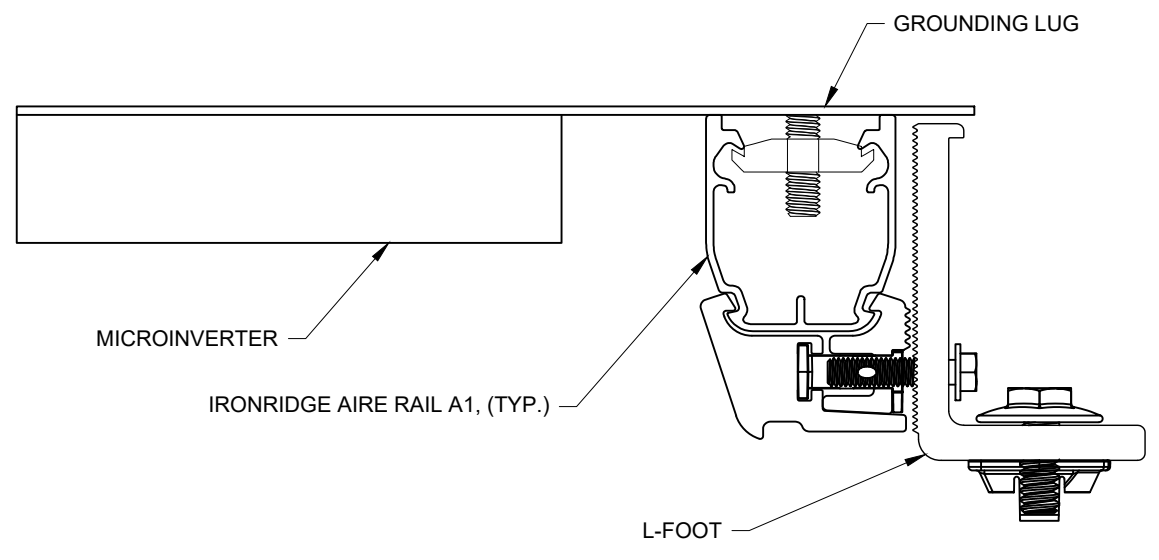
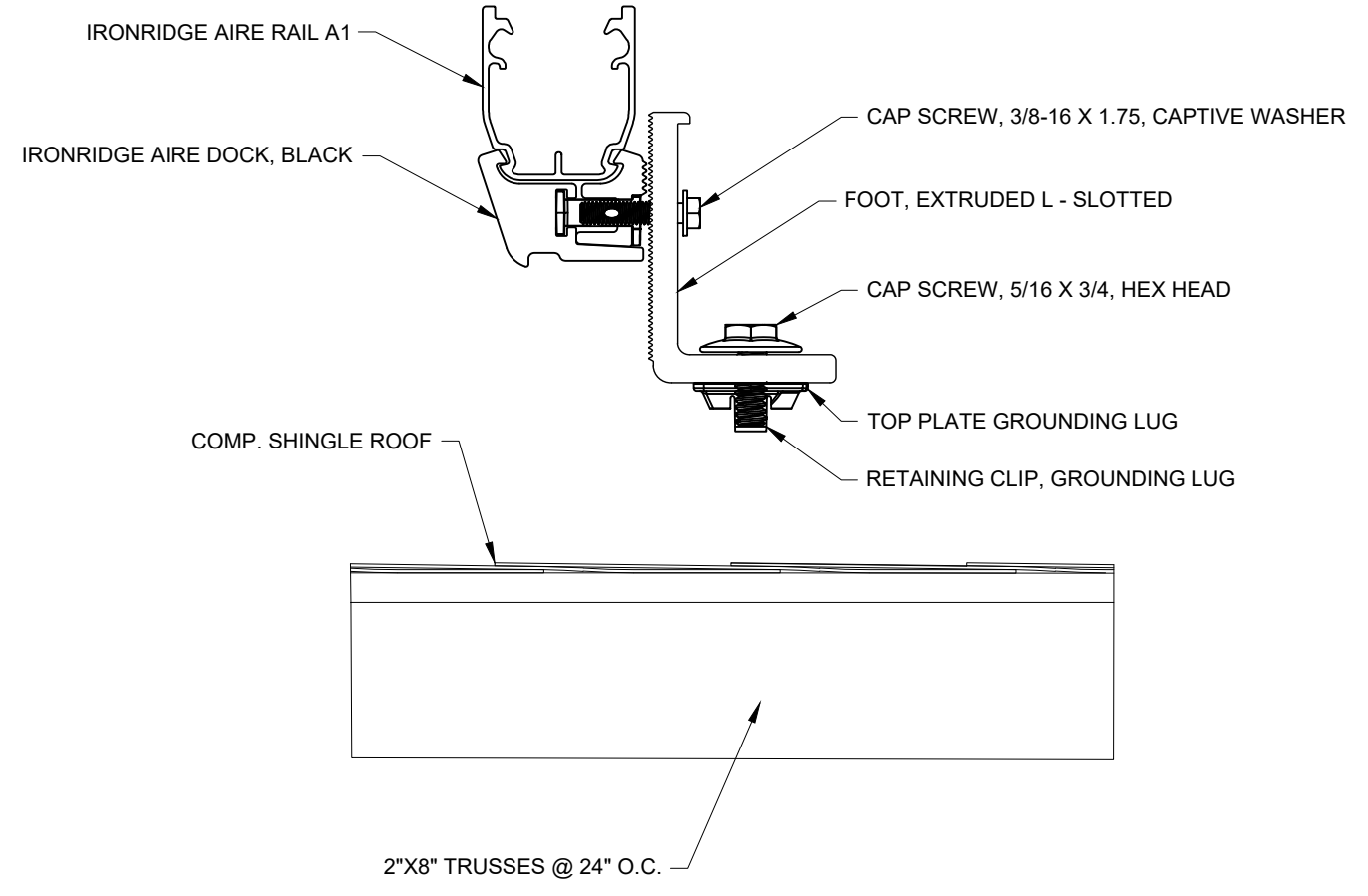
**ANSI B  
11" X 17"**

SHEET NUMBER

**PV-3**

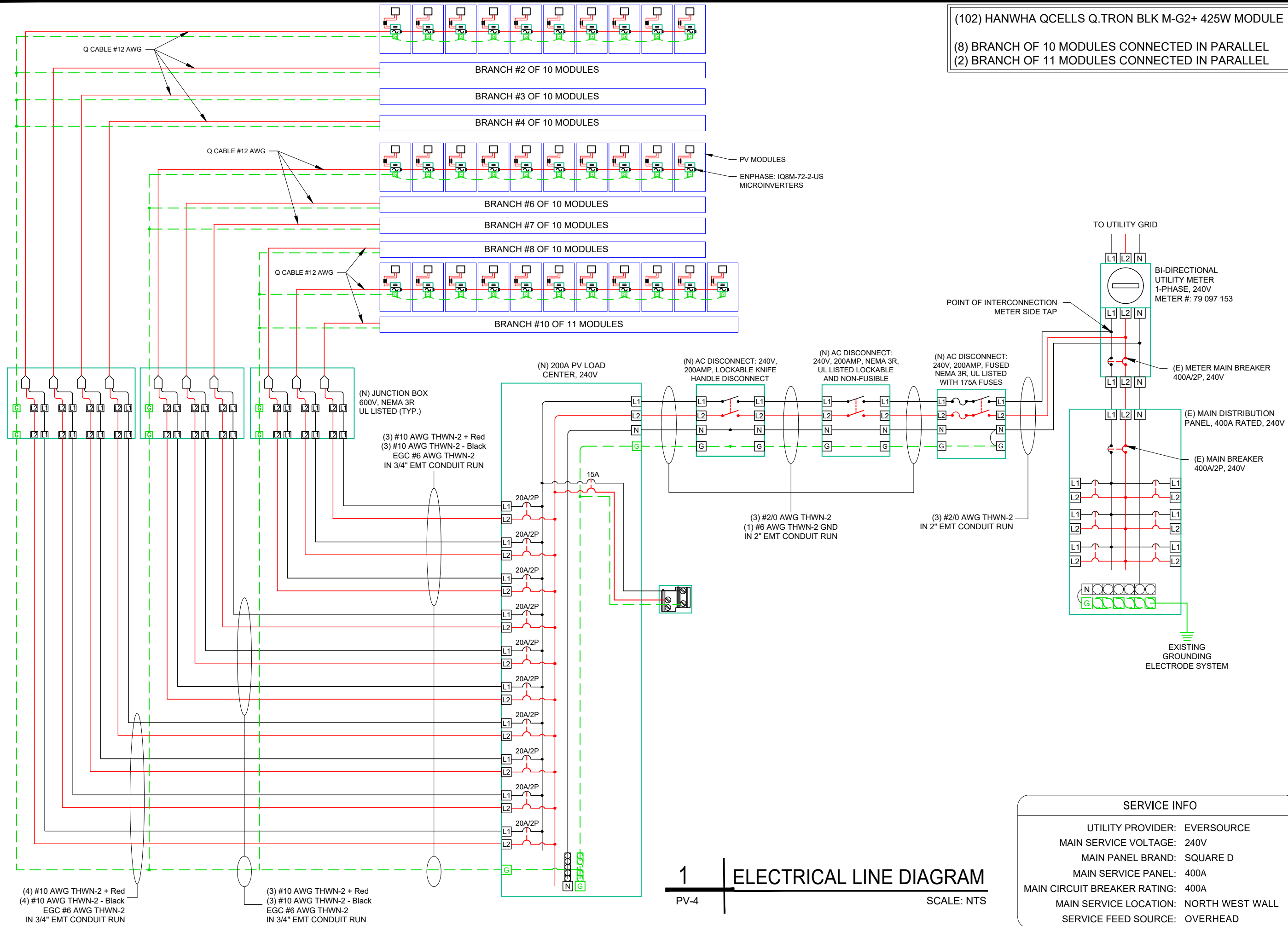


**1 ATTACHMENT DETAIL**  
PV-3 SCALE: NTS



**2 MICROINVERTER DETAIL**  
PV-3 SCALE: NTS





(102) HANWHA QCELLS Q.TRON BLK M-G2+ 425W MODULE  
 (8) BRANCH OF 10 MODULES CONNECTED IN PARALLEL  
 (2) BRANCH OF 11 MODULES CONNECTED IN PARALLEL



**603 SOLAR**  
 24 CHARTER ST.  
 EXETER, NH 03833  
 (603) 570-2607

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

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 100 CHAPEL ST.,  
 PORTSMOUTH, NH 03801  
 PHONE #: (603) 988-8347  
 EMAIL: reginnhny@outlook.com  
 43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON  
 STEVE

SHEET NAME  
**ELECTRICAL  
 LINE DIAGRAM**

SHEET SIZE  
**ANSI B  
 11" X 17"**

SHEET NUMBER  
**PV-4**

SERVICE INFO	
UTILITY PROVIDER:	EVERSOURCE
MAIN SERVICE VOLTAGE:	240V
MAIN PANEL BRAND:	SQUARE D
MAIN SERVICE PANEL:	400A
MAIN CIRCUIT BREAKER RATING:	400A
MAIN SERVICE LOCATION:	NORTH WEST WALL
SERVICE FEED SOURCE:	OVERHEAD

**1 | ELECTRICAL LINE DIAGRAM**  
 PV-4 | SCALE: NTS

## AC CONDUCTOR AMPACITY CALCULATIONS: FROM ROOF TOP JUNCTION BOX TO PV LOAD CENTER

AMBIENT TEMPERATURE ADJUSTMENT FOR EXPOSED CONDUIT  
PER NEC 310.15(B)(2)(c): + 22°  
EXPECTED WIRE TEMP (°C): 33° + 22°  
TEMP CORRECTION PER TABLE 310.15: 0.76  
#OF CURRENT CARRYING CONDUCTORS: 8  
CONDUIT FILL CORRECTION PER NEC 310.15(B)(2)(a): 0.70  
CIRCUIT CONDUCTOR SIZE: 10 AWG  
CIRCUIT CONDUCTOR AMPACITY: 40A

REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(A&B):  
1.25 X MAX AC OUTPUT CURRENT X # OF INVERTERS PER STRING  
BRANCH #1 TO #8 : 1.25 X 1.35 X 10 = 16.88A  
BRANCH #9 & #10 : 1.25 X 1.35 X 11 = 18.57A

DERATED AMPACITY OF CIRCUIT CONDUCTOR PER NEC TABLE 310.15  
TEMP CORR. PER NEC TABLE 310.15 X  
CONDUIT FILL CORR. PER NEC 310.15(B)(2)(a) X  
CIRCUIT CONDUCTOR AMPACITY = 0.76 X 0.70 X 40 = 21.28A

## AC CONDUCTOR AMPACITY CALCULATIONS: FROM PV LOAD CENTER TO FUSED AC DISCONNECT

EXPECTED WIRE TEMP (°C): 33°  
TEMP CORRECTION PER NEC TABLE 310.15: 0.96  
CIRCUIT CONDUCTOR SIZE: 2/0 AWG  
CIRCUIT CONDUCTOR AMPACITY: 195A  
#OF CURRENT CARRYING CONDUCTORS: 3  
CONDUIT FILL PER NEC 310.15(B)(2)(a): 1  
REQUIRED CIRCUIT CONDUCTOR AMPACITY PER NEC 690.8(B):  
1.25 X OUTPUT CURRENT OF LOAD CENTER  
1.25 X 1.35 X 102 = 172.13A

DERATED AMPACITY OF CIRCUIT CONDUCTORS PER NEC TABLE 310.15:  
TEMP CORR. PER NEC 310.15 X  
CONDUIT FILL CORR. PER NEC 310.15(B)(2)(a) X  
CIRCUIT CONDUCTOR AMPACITY =  
0.96 X 1.00 X 195 = 187.2A

### ELECTRICAL NOTES

- NO DC CONDUCTORS PRESENT.
- ALL EQUIPMENT TO BE LISTED BY UL OR OTHER NRTL, AND LABELED FOR ITS APPLICATION.
- ALL CONDUCTORS SHALL BE COPPER, RATED FOR 600 V AND 90 DEGREE C WET ENVIRONMENT.
- WORKING CLEARANCES AROUND ALL NEW AND EXISTING ELECTRICAL EQUIPMENT SHALL COMPLY WITH NEC 110.26.
- DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS. CONTRACTOR SHALL FURNISH ALL NECESSARY OUTLETS, SUPPORTS, FITTINGS AND ACCESSORIES TO FULFILL APPLICABLE CODES AND STANDARDS.
- WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, THE CONTRACTOR SHALL SIZE THEM ACCORDINGLY.
- ALL WIRE TERMINATIONS SHALL BE APPROPRIATELY LABELED AND READILY VISIBLE.
- MODULE GROUNDING CLIPS TO BE INSTALLED BETWEEN MODULE FRAME AND MODULE SUPPORT RAIL, PER THE GROUNDING CLIP MANUFACTURER'S INSTRUCTION AND WHERE REQUIRED.
- MODULE SUPPORT RAIL TO BE BONDED TO COPPER G.E.C. VIA WEEB LUG OR ILSKO GBL-4DBT LAY-IN LUG.
- THE POLARITY OF THE GROUNDED CONDUCTORS IS NEGATIVE.

ENPHASE: IQ8M-72-2-US MICROINVERTERS		
Input Data (DC)		
Recommended Input Power (STC)		260-460W +
Maximum Input DC Voltage		60V
Peak Power Tracking Voltage		16V-58V
Operating Range		22V-58V
Min. / Max. Start Voltage		60V
Max DC Short Circuit Current		25A
Output Data (AC)		
Maximum Output Power		325W
Nominal Output Current		1.35A
Nominal Voltage / Range		240V/211-264V
Nominal Frequency / Range		60 Hz
Extended Frequency / Range		47-68 Hz
Power Factor at rated power		1.0
Maximum unit per 20A Branch Circuit		11 (240 VAC)

PERCENT OF VALUES	NUMBER OF CURRENT CARRYING CONDUCTORS IN EMT
.80	4-6
.70	7-9
.50	10-20

AMBIENT TEMPERATURE SPECS	
RECORD LOW TEMP	-21°
AMBIENT TEMP (HIGH TEMP 2%)	33°
CONDUIT HEIGHT	0.5"
ROOF TOP TEMP	55°
CONDUCTOR TEMPERATURE RATE	90°



**603 SOLAR**  
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#### REVISIONS

DESCRIPTION	DATE	REV

#### PROJECT NAME & ADDRESS

**ST. JOHN'S EPISCOPAL CHURCH**  
100 CHAPEL ST.  
PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
EMAIL: regimhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

#### SALES PERSON

STEVE

#### SHEET NAME

**ELECTRICAL  
CALCULATION**

#### SHEET SIZE

**ANSI B  
11" X 17"**

#### SHEET NUMBER

**PV-5**

**! WARNING**  
ELECTRICAL SHOCK HAZARD

TERMINALS ON LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL LOCATION:  
INVERTER(S), AC DISCONNECT(S), AC COMBINER PANEL (IF APPLICABLE).

**! WARNING**  
DUAL POWER SUPPLY

SOURCES: UTILITY GRID AND PV SOLAR ELECTRIC SYSTEM

LABEL LOCATION:  
UTILITY SERVICE METER AND MAIN SERVICE PANEL.

**! WARNING**  
INVERTER OUTPUT CONNECTION

DO NOT RELOCATE THIS OVERCURRENT DEVICE

LABEL LOCATION:  
ADJACENT TO PV BREAKER (IF APPLICABLE).

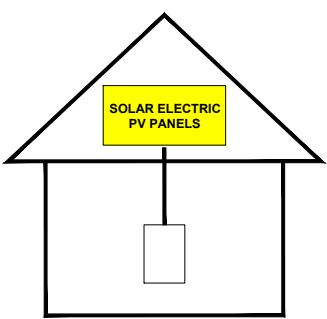
**! WARNING**  
PHOTOVOLTAIC SYSTEM COMBINER PANEL

DO NOT ADD LOADS

LABEL LOCATION:  
PHOTOVOLTAIC AC COMBINER (IF APPLICABLE).

**SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN**

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY.



LABEL LOCATION:  
ON OR NO MORE THAN 1 M (3 FT) FROM THE SERVICE DISCONNECTING MEANS TO WHICH THE PV SYSTEMS ARE CONNECTED.

**PHOTOVOLTAIC AC DISCONNECT**

MAXIMUM AC OPERATING CURRENT: 172.13 AMPS  
NOMINAL OPERATING AC VOLTAGE: 240 VAC

LABEL LOCATION:  
AC DISCONNECT(S), PHOTOVOLTAIC SYSTEM POINT OF INTERCONNECTION.

DATA PER PANEL

NOMINAL OPERATING AC VOLTAGE -	240	V
NOMINAL OPERATING AC FREQUENCY-	60	Hz
MAXIMUM AC POWER-	325	VA
MAXIMUM AC CURRENT-	1.35	A
MAXIMUM OVERCURRENT DEVICE RATING FOR AC MODULE PROTECTION PER CIRCUIT-	20	A

LABEL LOCATION:  
COMBINER BOX

NOTES AND SPECIFICATIONS:

- SIGNS AND LABELS SHALL MEET THE REQUIREMENTS OF THE 2020 ARTICLE 110.21(B), UNLESS SPECIFIC INSTRUCTIONS ARE REQUIRED BY SECTION 690, OR IF REQUESTED BY THE LOCAL AHJ.
- SIGNS AND LABELS SHALL ADEQUATELY WARN OF HAZARDS USING EFFECTIVE WORDS, COLORS AND SYMBOLS.
- LABELS SHALL BE PERMANENTLY AFFIXED TO THE EQUIPMENT OR WIRING METHOD AND SHALL NOT BE HAND WRITTEN.
- LABEL SHALL BE OF SUFFICIENT DURABILITY TO WITHSTAND THE ENVIRONMENT INVOLVED.
- SIGNS AND LABELS SHALL COMPLY WITH ANSI Z535.4-2011, PRODUCT SAFETY SIGNS AND LABELS, UNLESS OTHERWISE SPECIFIED.
- DO NOT COVER EXISTING MANUFACTURER LABELS.



**603 SOLAR**  
24 CHARTER ST.  
EXETER, NH 03833  
(603) 570-2607

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

**ST. JOHN'S EPISCOPAL CHURCH**  
100 CHAPEL ST,  
PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
EMAIL: reginnhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON

STEVE

SHEET NAME

PLACARDS

SHEET SIZE

ANSI B  
11" X 17"

SHEET NUMBER

PV-6

# Q.TRON BLK M-G2+ SERIES

410-430Wp | 108 Cells  
22.4% Maximum Module Efficiency

MODEL Q.TRON BLK M-G2+

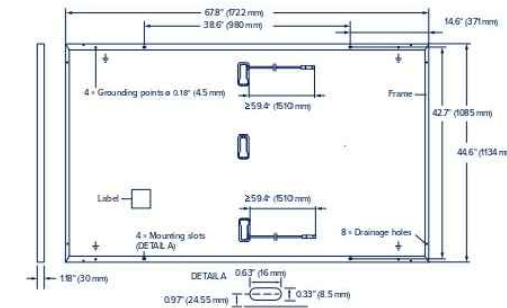


PRELIMINARY

## Q.TRON BLK M-G2+ SERIES

### Mechanical Specification

Format	67.8 in × 44.6 in × 1.18 in (including frame) (1722 mm × 1134 mm × 30 mm)
Weight	47.2 lbs (21.4 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodised aluminium
Cell	6 × 18 monocrystalline Q.ANTUM NEO solar half cells
Junction box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), Protection class IP67, with bypass diodes
Cable	4 mm <sup>2</sup> Solar cable; (+) ≥ 59.4 in (1510 mm), (-) ≥ 59.4 in (1510 mm)
Connector	Stäubli MC4; IP68



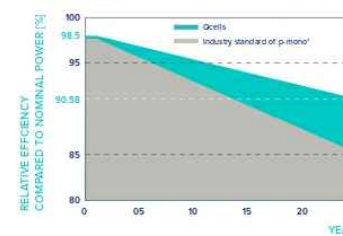
### Electrical Characteristics

POWER CLASS		410	415	420	425	430
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC <sup>1</sup> (POWER TOLERANCE +5W/-0W)						
Power at MPP <sup>1</sup>	P <sub>MPP</sub> [W]	410	415	420	425	430
Short Circuit Current <sup>1</sup>	I <sub>SC</sub> [A]	13.39	13.42	13.46	13.49	13.53
Open Circuit Voltage <sup>1</sup>	V <sub>OC</sub> [V]	38.58	38.61	38.64	38.67	38.70
Current at MPP	I <sub>MPP</sub> [A]	12.68	12.75	12.82	12.88	12.95
Voltage at MPP	V <sub>MPP</sub> [V]	32.32	32.55	32.77	32.98	33.20
Efficiency <sup>1</sup>	η [%]	≥ 21.4	≥ 21.6	≥ 21.9	≥ 22.2	≥ 22.4

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT <sup>2</sup>						
Power at MPP	P <sub>MPP</sub> [W]	310.0	313.8	317.6	321.4	325.2
Short Circuit Current	I <sub>SC</sub> [A]	10.79	10.82	10.84	10.87	10.90
Open Circuit Voltage	V <sub>OC</sub> [V]	36.61	36.63	36.66	36.69	36.71
Current at MPP	I <sub>MPP</sub> [A]	9.97	10.03	10.09	10.15	10.21
Voltage at MPP	V <sub>MPP</sub> [V]	31.09	31.29	31.48	31.66	31.85

<sup>1</sup>Measurement tolerances P<sub>MPP</sub> ± 3%; I<sub>SC</sub>; V<sub>OC</sub> ± 5% at STC: 1000 W/m<sup>2</sup>, 25 ± 2°C, AM 1.5 according to IEC 60904-3 • 2800 W/m<sup>2</sup>, NMOT, spectrum AM 1.5

### Qcells PERFORMANCE WARRANTY

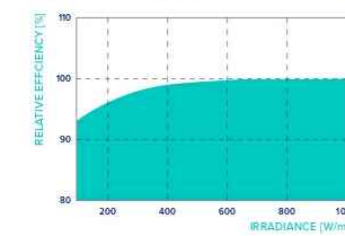


At least 98.5% of nominal power during first year. Thereafter max. 0.33% degradation per year. At least 95.53% of nominal power up to 10 years. At least 90.58% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Qcells sales organisation of your respective country.

<sup>1</sup>Standard terms of guarantee for the 5 PV companies with the highest production capacity in 2021 (February 2021)

### PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25°C, 1000 W/m<sup>2</sup>).

### TEMPERATURE COEFFICIENTS

Temperature Coefficient of I <sub>SC</sub>	α [%/K]	+0.04	Temperature Coefficient of V <sub>OC</sub>	β [%/K]	-0.24
Temperature Coefficient of P <sub>MPP</sub>	γ [%/K]	-0.30	Nominal Module Operating Temperature	NMOT [°F]	109 ± 5.4 (43 ± 3 °C)

### Properties for System Design

Maximum System Voltage	V <sub>sys</sub> [V]	1000 (IEC)/1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI/UL 61730	C / TYPE 2
Max. Design Load, Push/Pull <sup>2</sup>	[lbs / ft <sup>2</sup> ]	75 (3600 Pa) / 50 (2400 Pa)	Permitted Module Temperature on Continuous Duty	-40°F up to +185°F (-40°C up to +85°C)
Max. Test Load, Push/Pull <sup>3</sup>	[lbs / ft <sup>2</sup> ]	113 (5400 Pa) / 75 (3600 Pa)		

<sup>3</sup> See Installation Manual

### Qualifications and Certificates

Quality Controlled PV - TÜV Rheinland; IEC 61215:2016; IEC 61730:2016. This data sheet complies with DIN EN 50380.



Qcells pursues minimizing paper output in consideration of the global environment.

Note: Installation instructions must be followed. Contact our technical service for further information on approved installation of this product.  
Hanwha Q CELLS America Inc. 400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL: +1 949 748 99 96 | EMAIL: hcq-inquiry@qcells.com | WEB: www.qcells.com



### High performance Qcells N-type solar cells

Q.ANTUM NEO Technology with optimized module layout boosts module efficiency up to 22.4%.



### A reliable investment

Inclusive 25-year product warranty and 25-year linear performance warranty<sup>1</sup>.



### Enduring high performance

Long-term yield security with Anti LeTID Technology, Anti PID Technology<sup>2</sup>, Hot-Spot Protect.



### Extreme weather rating

High-tech aluminium alloy frame, certified for high snow (5400 Pa) and wind loads (3600 Pa).



### Innovative all-weather technology

Optimal yields, whatever the weather with excellent low-light and temperature behaviour.



### The most thorough testing programme in the industry

Qcells is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

<sup>1</sup> See data sheet on rear for further information.

<sup>2</sup> APT test conditions according to IEC/TS 62804-1:2015, method A (-1500V, 96 h)

The ideal solution for:



603 SOLAR  
24 CHARTER ST.  
EXETER, NH 03833  
(603) 570-2607

### REVISIONS

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100 CHAPEL ST.,  
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PHONE #: (603) 988-8347  
EMAIL: reginnhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

### SALES PERSON

STEVE

### SHEET NAME

DATA SHEET

### SHEET SIZE

ANSI B  
11" X 17"

### SHEET NUMBER

PV-7

Specifications subject to technical changes © Qcells Q.TRON\_BLK\_M-G2+\_series\_410-430\_2022-09\_Rev01.NA



## IQ8M and IQ8A Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.



Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.



IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.



Connect PV modules quickly and easily to IQ8 Series Microinverters using the included O-DCC-2 adapter cable with plug-n-play MC4 connectors.



IQ8 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations, when installed according to manufacturer's instructions.

\*Only when installed with IQ System Controller 2, meets UL 1741.  
\*\*IQ8M and IQ8A support split-phase, 240V installations only.

### Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

### High productivity and reliability

- Produce power even when the grid is down\*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

### Microgrid-forming

- Complies with the latest advanced grid support\*\*
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3<sup>rd</sup> Ed.)

### Note:

IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc.) in the same system.

## IQ8M and IQ8A Microinverters

INPUT DATA (DC)		IQ8M-72-2-US	IQ8A-72-2-US
Commonly used module pairings <sup>1</sup>	W	260 – 460	295 – 500
Module compatibility		54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell	
MPPT voltage range	V	30 – 45	32 – 45
Operating range	V		16 – 58
Min. / Max. start voltage	V		22 / 58
Max. input DC voltage	V		60
Max. continuous input DC current	A		12
Max. input DC short-circuit current	A		25
Max. module I <sub>sc</sub>	A		20
Overvoltage class DC port			II
DC port backfeed current	mA		0
PV array configuration		1x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		IQ8M-72-2-US	IQ8A-72-2-US
Peak output power	VA	330	366
Max. continuous output power	VA	325	349
Nominal (L-L) voltage / range <sup>2</sup>	V		240 / 211 – 264
Max. continuous output current	A	1.35	1.45
Nominal frequency	Hz		60
Extended frequency range	Hz		47 – 68
AC short circuit fault current over 3 cycles	Arms		2
Max. units per 20 A (L-L) branch circuit <sup>3</sup>			11
Total harmonic distortion			<5%
Overvoltage class AC port			III
AC port backfeed current	mA		30
Power factor setting			1.0
Grid-tied power factor (adjustable)			0.85 leading – 0.85 lagging
Peak efficiency	%	97.8	97.7
CEC weighted efficiency	%	97.5	97
Night-time power consumption	mW		60
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (H x W x D)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3 <sup>rd</sup> Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at <https://link.enphase.com/module-compatibility>. (2) Nominal voltage range can be extended beyond nominal if required by the utility. (3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

### REVISIONS

DESCRIPTION	DATE	REV

### PROJECT NAME & ADDRESS

ST. JOHN'S EPISCOPAL CHURCH  
100 CHAPEL ST,  
PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
EMAIL: reginnhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

### SALES PERSON

STEVE

### SHEET NAME

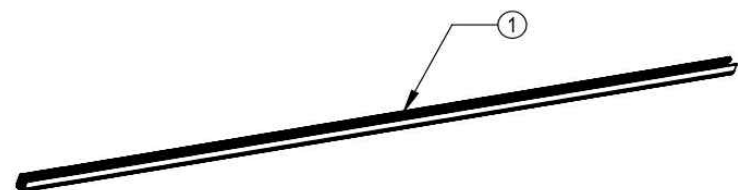
DATA SHEET

### SHEET SIZE

ANSI B  
11" X 17"

### SHEET NUMBER

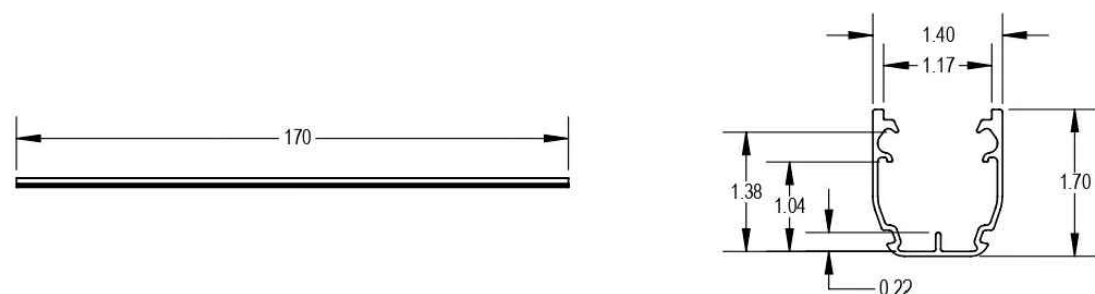
PV-8



ITEM NO	DESCRIPTION	QTY IN KIT
1	Aire Rail, A1, Black(or Clear), 170	1

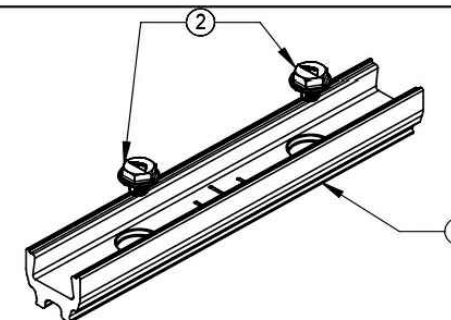
Part Number	Description
AE-A1-170B	AIRE RAIL, A1, BLACK, 170
AE-A1-170M	AIRE RAIL, A1, MILL, 170

1) Aire A1



Part Number	Material	Value
AE-A1-170B	6000-Series Aluminum	Black
AE-A1-170M	6000-Series Aluminum	Clear

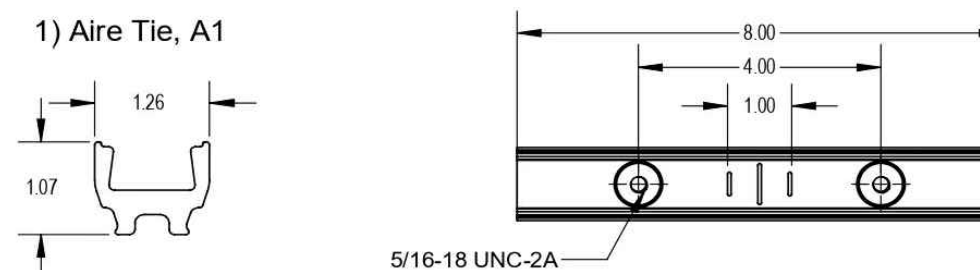
v1.0



ITEM NO	DESCRIPTION	QTY IN KIT
1	Aire Tie, A1	1
2	Aire Splc Bolt, Hex	2

Part Number	Description
AE-A1TIE-01-M1	AIRE TIE, A1 (BONDED SPLICE)

1) Aire Tie, A1



Property	Value
Material	6000 Series Aluminum
Finish	Mill

2) Aire Splc Bolt, Hex



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

v1.0

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

ST. JOHN'S EPISCOPAL CHURCH

100 CHAPEL ST,  
PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
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43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON

STEVE

SHEET NAME

DATA SHEET

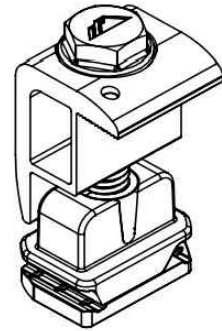
SHEET SIZE

ANSI B  
11" X 17"

SHEET NUMBER

PV-9

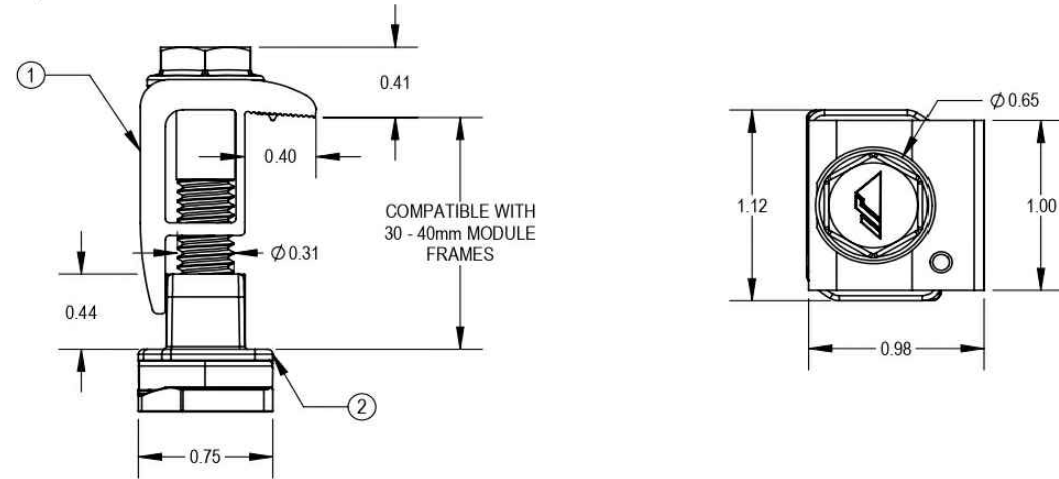
## AIRE LOCK END



ITEM NO	DESCRIPTION	QTY IN KIT
1	Aire Lock End, Black	1

Part Number	Description
AE-END-01-B1	AIRE LOCK END, BLACK

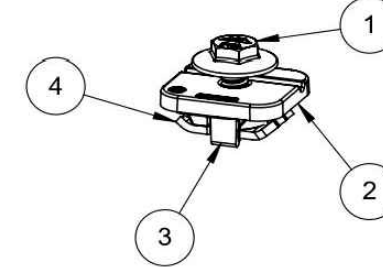
1) Aire Lock End



Item No	Material	Value
1	300 Series Stainless Steel	Clear and Black
2	Polypropelene	Black

v1.0

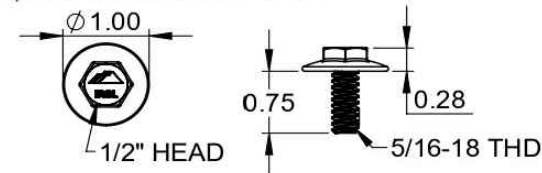
## AIRE LUG



ITEM NO.	DESCRIPTION	QTY IN KIT
1	CAP SCREW, 5/16 X 3/4, HEX HEAD	1
2	TOP PLATE GROUNDING LUG	1
3	RETAINING CLIP, GROUNDING LUG	1
4	T-NUT, SHEET METAL	1

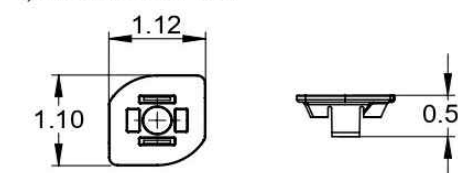
PART NUMBER	DESCRIPTION	WIRE SIZE RANGE (AWG)
AE-LUG-01-M1	AIRE LUG	6-10

1) CAP SCREW, 5/16 X 3/4



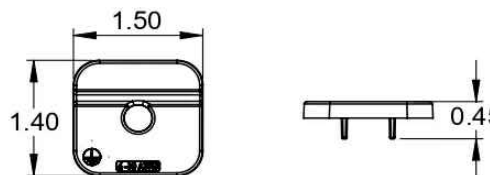
Property	Value
Material	300 Series Stainless Steel
Finish	Clear

3) RETAINING CLIP



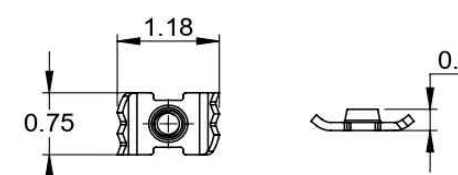
Property	Value
Material	Polypropylene
Finish	Black

2) TOP PLATE



Property	Value
Material	Tin Plated Aluminum
Finish	Clear Matte

4) T-NUT, SHEET METAL



Property	Value
Material	300 Series Stainless Steel
Finish	Clear

v1.0

REVISIONS

DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

ST. JOHN'S EPISCOPAL CHURCH

100 CHAPEL ST.,  
PORTSMOUTH, NH 03801  
PHONE #: (603) 988-8347  
EMAIL: reginnhny@outlook.com  
43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON

STEVE

SHEET NAME

DATA SHEET

SHEET SIZE

ANSI B  
11" X 17"

SHEET NUMBER

PV-10

ITEM NO	DESCRIPTION	QTY IN KIT
1	FOOT, EXTRUDED L - SLOTTED	4

PART NUMBER	DESCRIPTION
FM-LFT-003	Kit, 4Pcs, Slotted L-Foot, Mill
FM-LFT-003-B	Kit, 4Pcs, Slotted L-Foot, Black

1) Foot, Extruded L - Slotted

v1.11

REVISIONS		
DESCRIPTION	DATE	REV

PROJECT NAME & ADDRESS

**ST. JOHN'S EPISCOPAL CHURCH**  
 100 CHAPEL ST,  
 PORTSMOUTH, NH 03801  
 PHONE #: (603) 988-8347  
 EMAIL: reginnhny@outlook.com  
 43.35kW DC PHOTOVOLTAIC SYSTEM

SALES PERSON  
 STEVE

SHEET NAME  
**DATA SHEET**

SHEET SIZE  
**ANSI B  
 11" X 17"**

SHEET NUMBER  
**PV-11**



**Project Address:** 235 MARCY STREET

**Permit Requested:** CERTIFICATE OF APPROVAL

**Application:** PUBLIC HEARING 7

**A. Property Information - General:**

**Existing Conditions:**

- Zoning District: General Residence B (GRB)
- Land Use: Residential
- Land Area: 3,688 SF +/-
- Estimated Age of Structure: c.1850
- Building Style: Greek Revival
- Number of Stories: 2.5
- Historical Significance: C
- Public View of Proposed Work: Marcy Street
- Unique Features: Asphalt single siding
- Neighborhood Association: South End



1) EXISTING WEST ELEVATION



2) EXISTING SOUTH ELEVATION

**B. Proposed Work:** For exterior renovations (replace siding, windows, repair or replace trim and casings, install wood corner boards and install copper gutter system). This proposal also includes the removal of the 1-story rear shed and add a new 2-story rear garage addition.

**C. Staff Comments and/ or Suggestions for Consideration:**

The project proposal includes the following:

- Replace windows, siding, install gutter system and wood corner boards.
- Remove 1 story rear shed and construct 2 story rear garage addition.
- This project has received Board of Adjustment Approval.



PROPOSED SOUTHEAST VIEW



**D. Purpose and Intent:**

25. Preserve the integrity of the District
26. Assessment of the Historical Significance
27. Conservation and enhancement of property values
28. Maintain the special character of the District
29. Complement and enhance the architectural and historic character
30. Promote the education, pleasure and welfare of the District and the city residents and visitors

**E. Review Criteria/Findings of Fact:**

17. Consistent with special and defining character of surrounding properties
18. Compatibility of design with surrounding properties
19. Relation to historic and architectural value of existing structures
20. Compatibility of innovative technologies with surrounding properties



1) EXISTING WEST ELEVATION



2) EXISTING SOUTH ELEVATION



3) EXISTING EAST ELEVATION



4) EXISTING NORTH ELEVATION



**LETTER OF AGENDA**

We respectfully submit this Application for Approval for the Renovation of the existing Historic structure at 235 Marcy Street, demolition of an existing one-story unconditioned shed, and the addition of an attached garage with living space above.

**Renovation of the Historic structure at 235 Marcy Street**  
Considerations:

1. Remove asphalt siding and roofing.
2. Restore and reinstall windows found to be original.
3. Repair or replace in kind existing original trim and casings.
4. Install new clapboard siding and corner boards.
5. Remove existing attached one story unconditioned shed on loose brick.
6. Install new k-style gutters and down spouts.

**Addition of an Attached Garage with Living Space above**  
Considerations:

1. Construct new attached single car garage.
2. Replicate existing trim, rake, and eave details.
3. Install new k-style gutters and down spouts.
4. Install new fiberglass windows as required.

Thank you for your consideration.  
Sincerely, Carla Goodknight, AIA, NCARB  
Principal, CJ Architects

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

AGENDA, AERIAL VIEW &  
EXISTING ELEVATIONS  
HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



235 MARCY STREET



1) VIEW FROM SITE LOOKING NORTH



2) VIEW FROM SITE LOOKING SOUTH



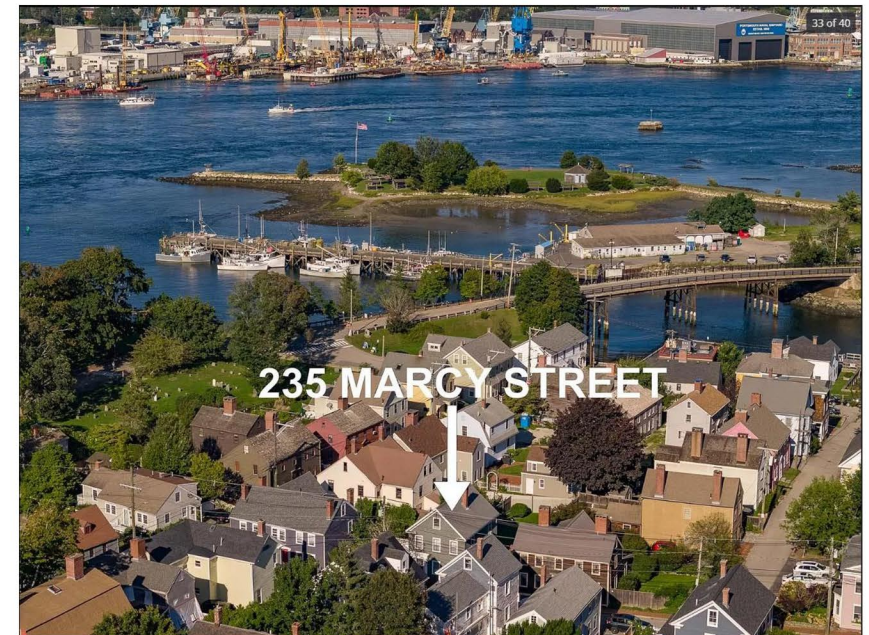
EXISTING AERIAL VIEW



3) VIEW FROM SOUTH OF MARCY STREET



4) VIEW FROM NORTH OF MARCY STREET



EXISTING AERIAL VIEW

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

EXISTING STREET VIEWS

HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



1.0



1) VIEW OF EXISTING FRONT ENTRY



2) VIEW OF TYPICAL ABUTTERS DORMERS



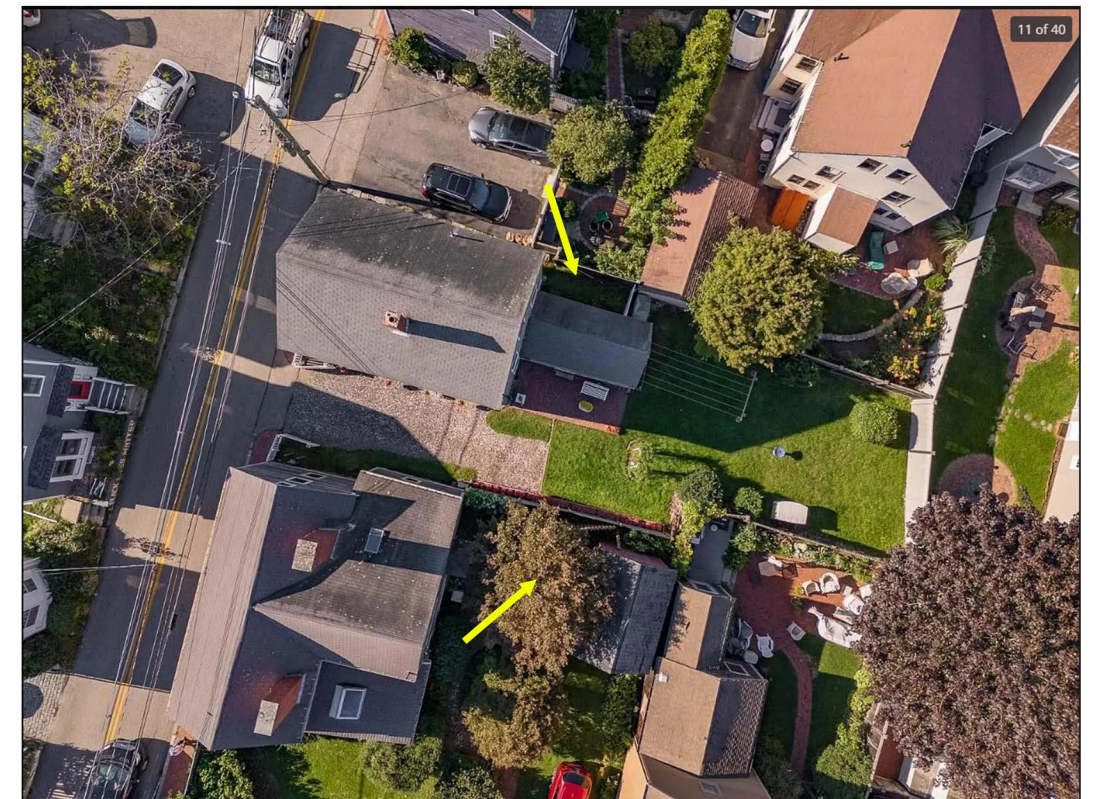
3) VIEW OF ABUTTERS GARAGE TO THE EAST



4) VIEW OF EXISTING WINDOW CASING



5) VIEW OF EXISTING FOUNDATION AT ATTACHED SHED



6) AERIAL VIEW OF ABUTTERS AND SURROUNDING GARAGES

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

## EXISTING CONDITIONS

HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



2.0



EXISTING NORTHWEST VIEW



EXISTING SOUTHWEST VIEW



PROPOSED NORTHWEST VIEW



PROPOSED SOUTHWEST VIEW

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

EXISTING & PROPOSED VIEWS

HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



3.0



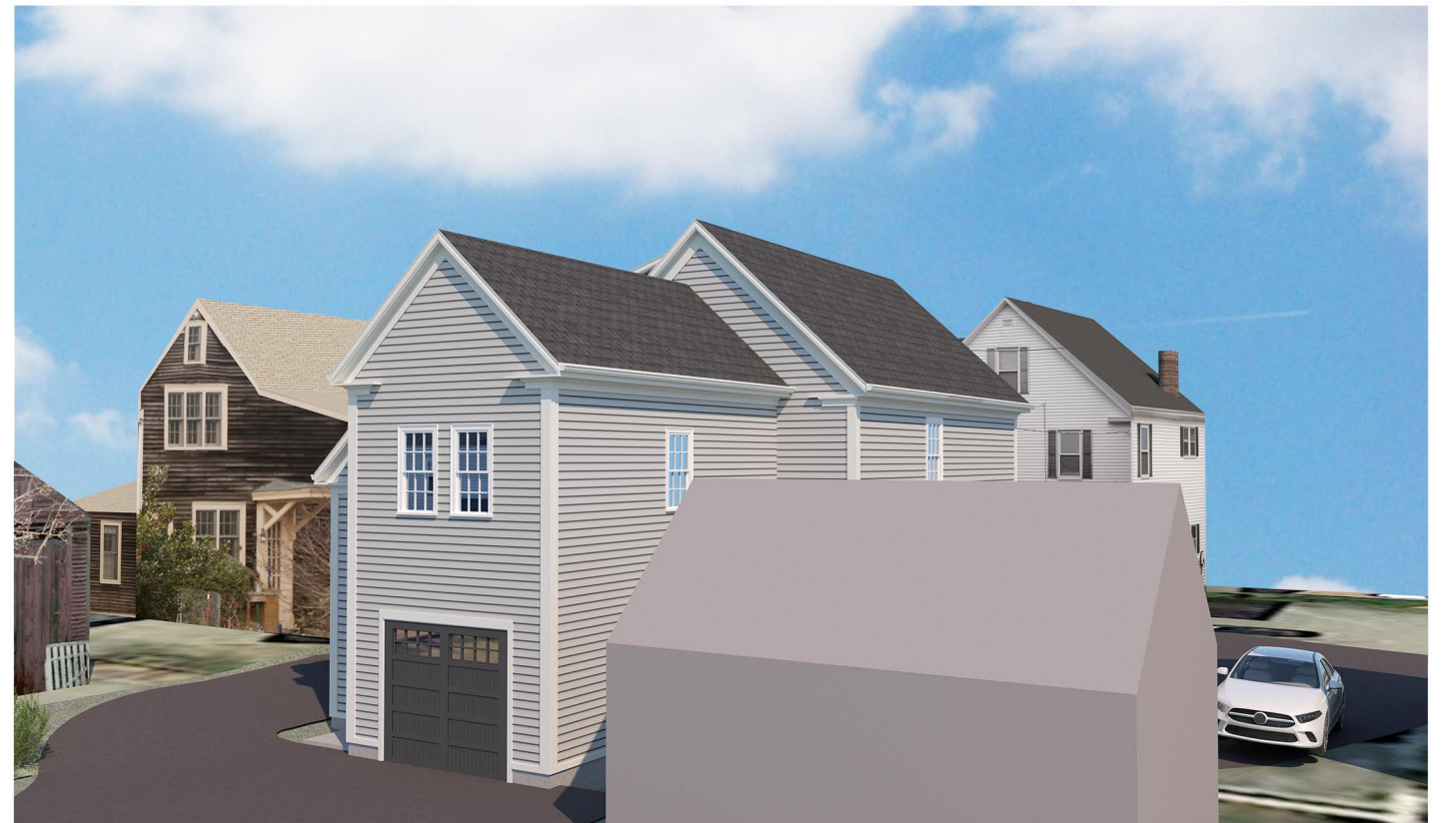
EXISTING SOUTHEAST VIEW



EXISTING NORTHEAST VIEW



PROPOSED SOUTHEAST VIEW



PROPOSED NORTHEAST VIEW

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

### EXISTING & PROPOSED VIEWS

HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024





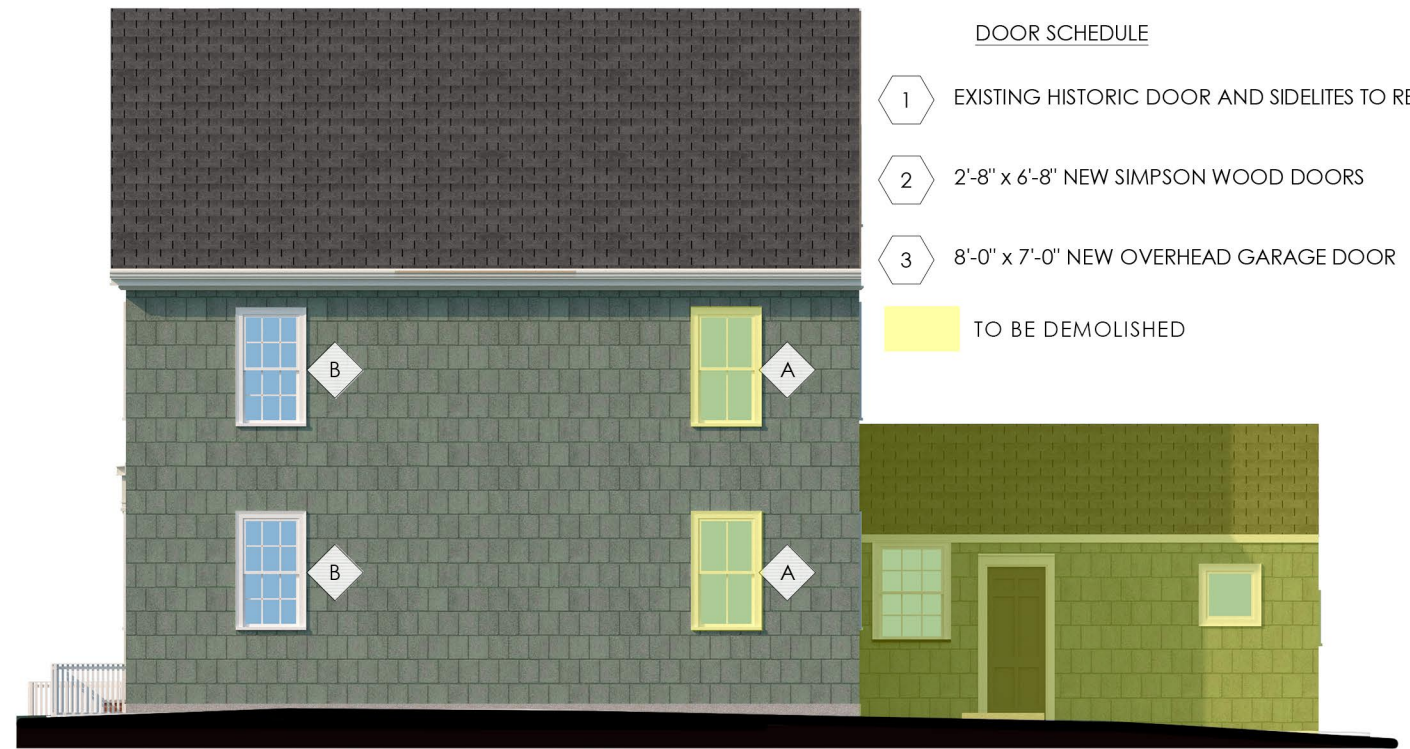
1 EXISTING WEST ELEVATION  
1/8" = 1'-0"

WINDOW SCHEDULE

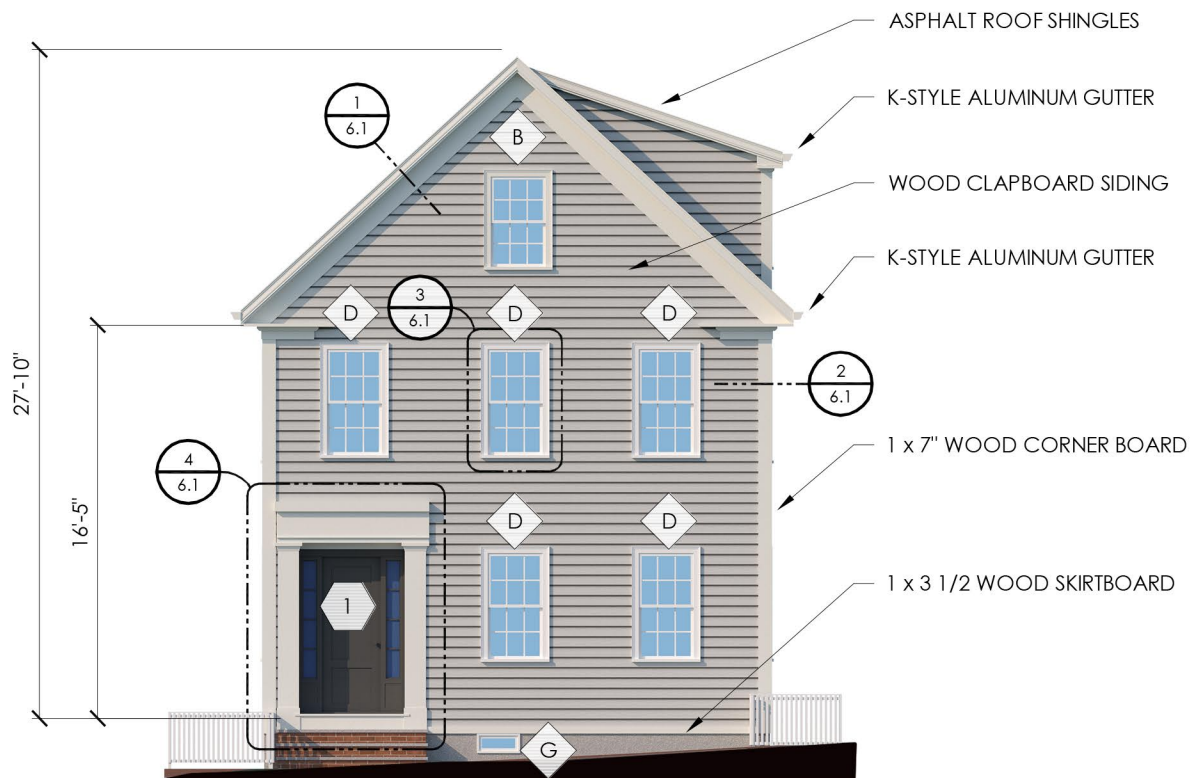
- A EXISTING REPLACEMENT WINDOWS TO BE DEMOLISHED
- B EXISTING HISTORIC WINDOWS TO BE RESTORED & REINSTALLED - SEE EXISTING AND PROPOSED ELEVATIONS FOR LOCATIONS
- C 2'-8" x 1'-7 1/8" NEW MARVIN ELEVATE FIXED WINDOW (ELCAP3319)
- D 2'-5 1/2" x 4'-7 3/4" NEW MARVIN ELEVATE DOUBLE HUNG WINDOWS (ELDH3056)
- E 2'-5 1/2" x 3'-11 3/4" NEW MARVIN ELEVATE DOUBLE HUNG WINDOWS (ELDH3048)
- F 2'-2 1/2" x 3'-11 3/4" NEW MARVIN ELEVATE DOUBLE HUNG WINDOWS (ELDH2648)
- G 2'-0" x 1'-7 1/8" NEW MARVIN ELEVATE FIXED WINDOW (ELCAP2519)

DOOR SCHEDULE

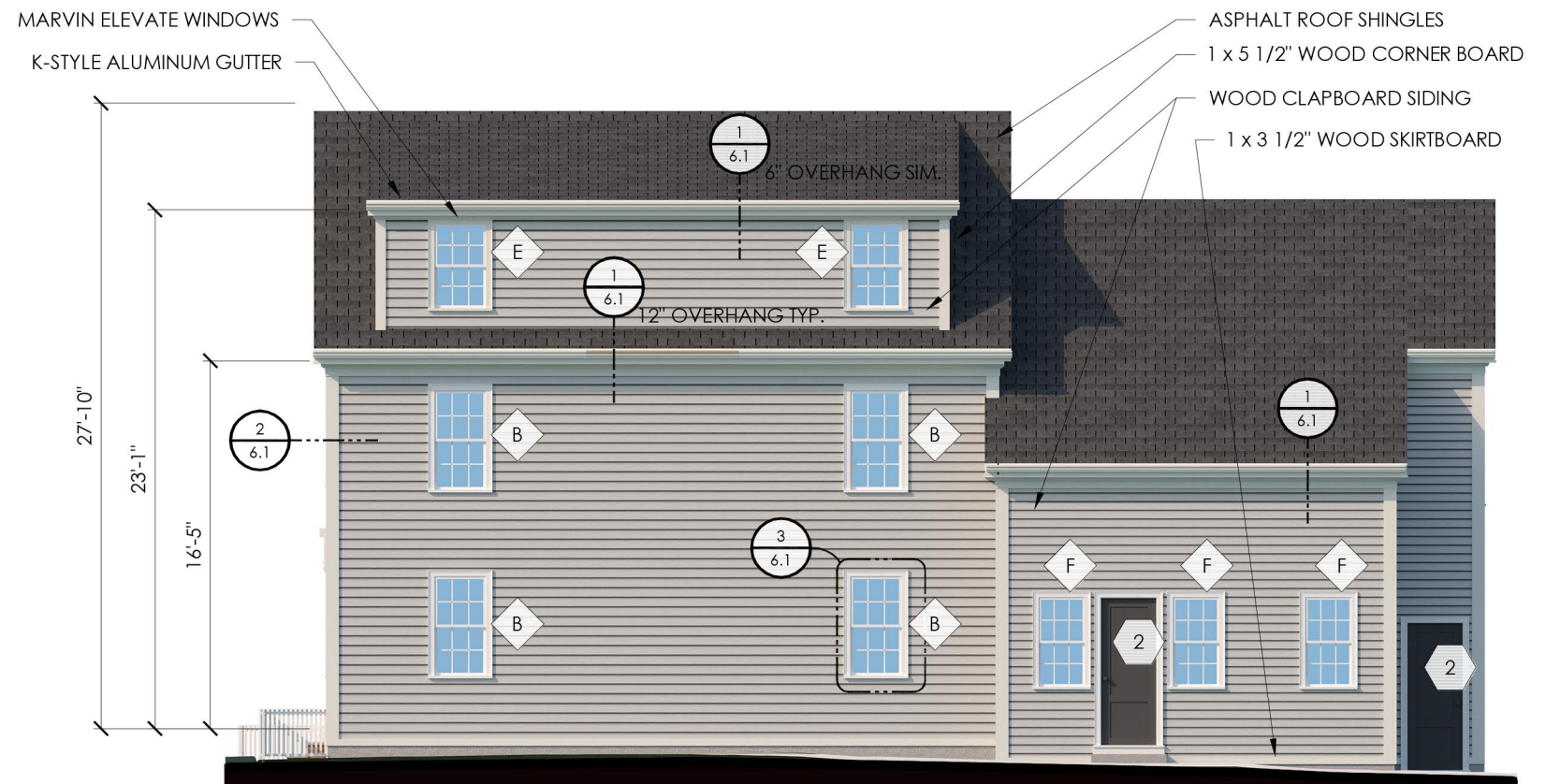
- 1 EXISTING HISTORIC DOOR AND SIDELITES TO REMAIN
- 2 2'-8" x 6'-8" NEW SIMPSON WOOD DOORS
- 3 8'-0" x 7'-0" NEW OVERHEAD GARAGE DOOR
- TO BE DEMOLISHED



3 EXISTING SOUTH ELEVATION  
1/8" = 1'-0"



2 PROPOSED WEST ELEVATION  
1/8" = 1'-0"



4 PROPOSED SOUTH ELEVATION  
1/8" = 1'-0"

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

EXISTING & PROPOSED ELEVATIONS  
SCALE: 1/8" = 1'-0"  
HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



4.0

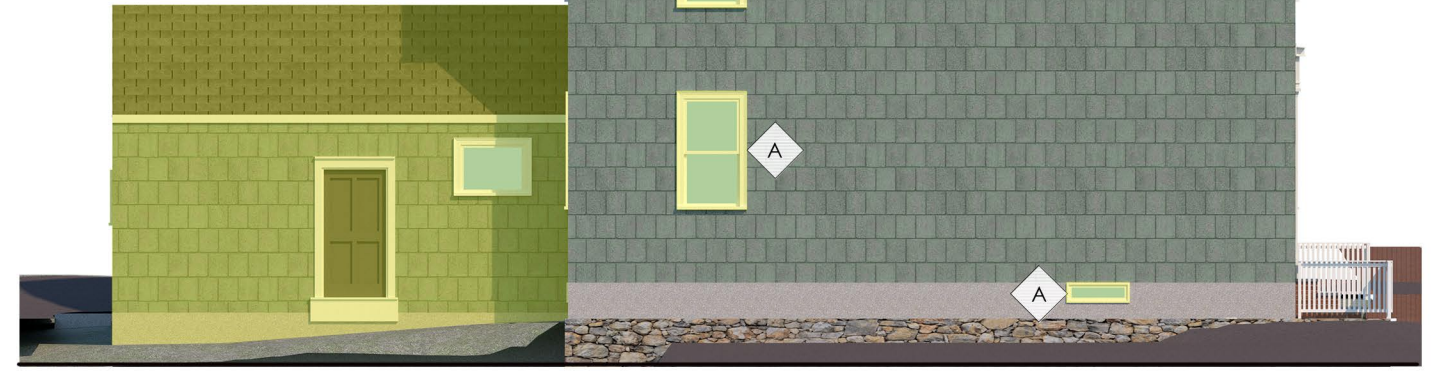




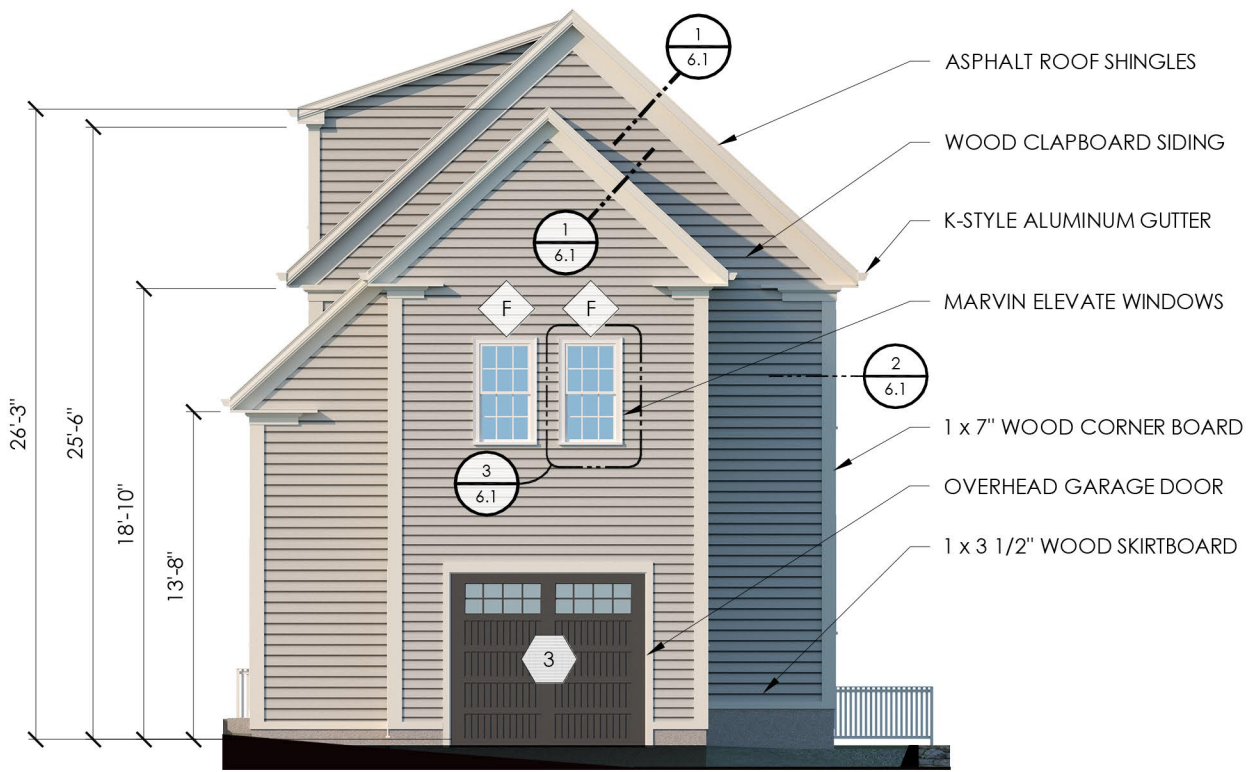
1 EXISTING EAST ELEVATION  
1/8" = 1'-0"

- WINDOW SCHEDULE**
- A EXISTING REPLACEMENT WINDOWS TO BE DEMOLISHED
  - B EXISTING HISTORIC WINDOWS TO BE RESTORED & REINSTALLED - SEE EXISTING AND PROPOSED ELEVATIONS FOR LOCATIONS
  - C 2'-8" x 1'-7 1/8" NEW MARVIN ELEVATE FIXED WINDOW (ELCAP3319)
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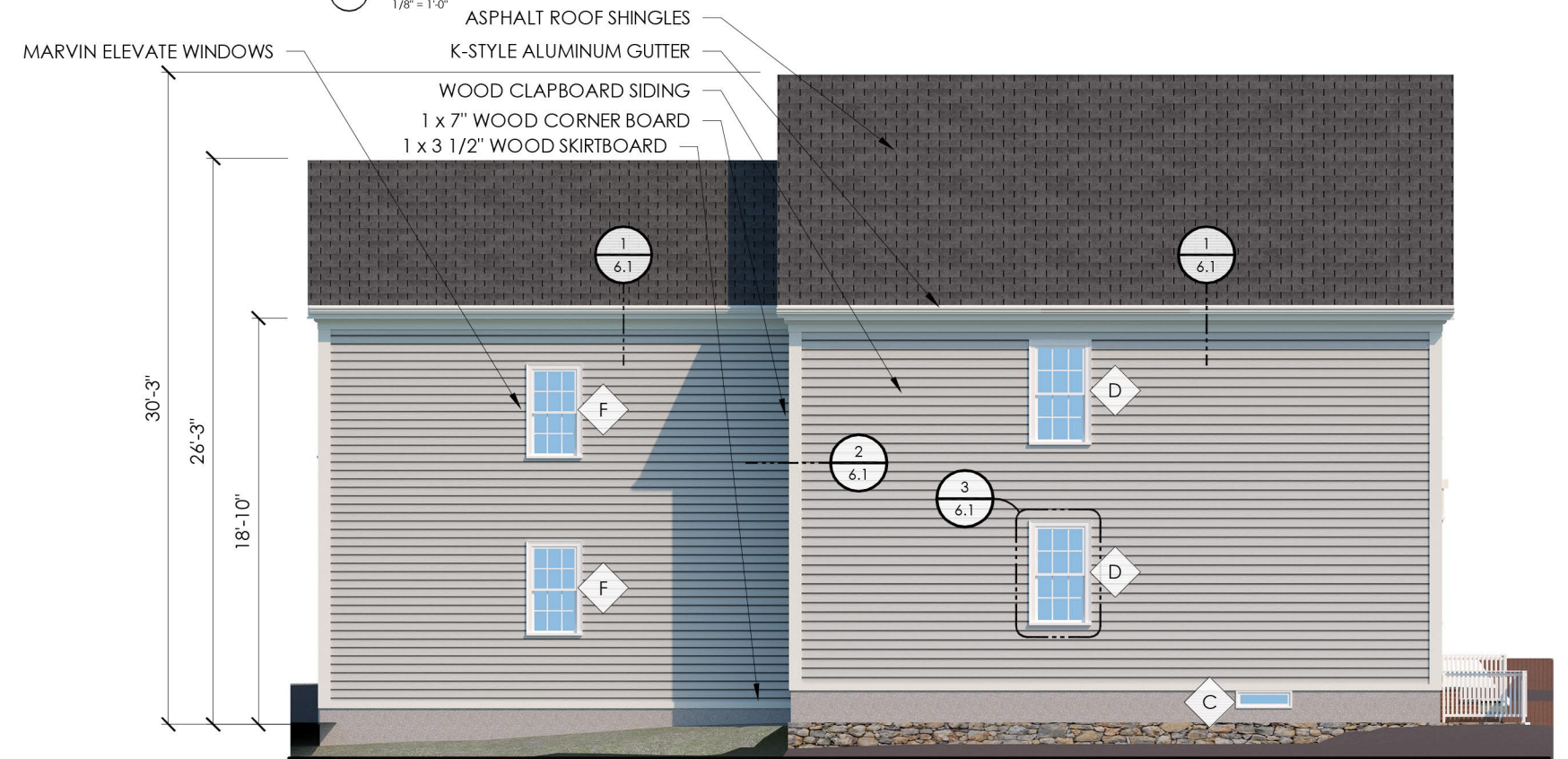
- DOOR SCHEDULE**
- 1 EXISTING HISTORIC DOOR AND SIDELITES TO REMAIN
  - 2 2'-8" x 6'-8" NEW SIMPSON WOOD DOORS
  - 3 8'-0" x 7'-0" NEW OVERHEAD GARAGE DOOR
- TO BE DEMOLISHED



3 EXISTING NORTH ELEVATION  
1/8" = 1'-0"



2 PROPOSED EAST ELEVATION  
1/8" = 1'-0"



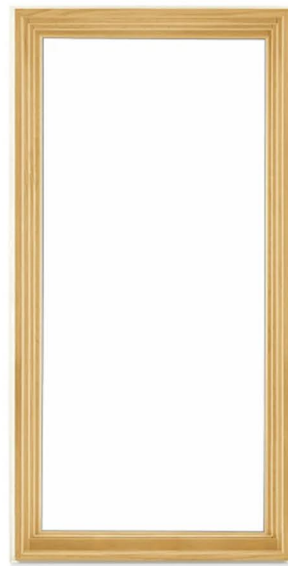
4 PROPOSED NORTH ELEVATION  
1/8" = 1'-0"

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

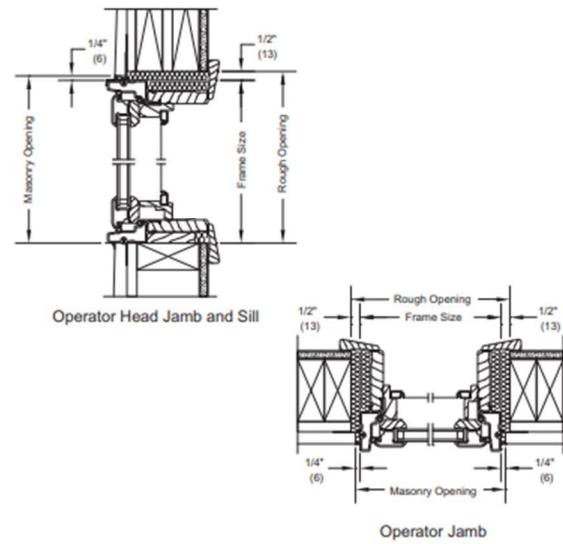
EXISTING & PROPOSED ELEVATIONS  
SCALE: 1/8" = 1'-0"  
HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024







**Construction Details**



**FIXED WINDOWS**

**MANUFACTURER:** MARVIN WINDOWS  
**COLOR:** WHITE  
**SPECIFICATION:** ELEVATE / FIBERGLASS EXT. & WOOD INT.

**WINDOW SCHEDULE**

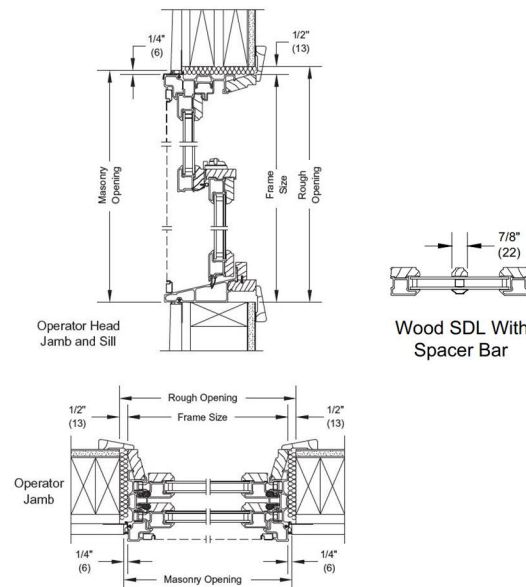
- A** EXISTING REPLACEMENT WINDOWS TO BE DEMOLISHED
- B** EXISTING HISTORIC WINDOWS TO BE RESTORED & REINSTALLED - SEE EXISTING AND PROPOSED ELEVATIONS FOR LOCATIONS
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- F** 2'-2 1/2" x 3'-11 3/4" NEW MARVIN ELEVATE DOUBLE HUNG WINDOWS (ELDH2648)
- G** 2'-0" x 1'-7 1/8" NEW MARVIN ELEVATE FIXED WINDOW (ELCAP2519)

**DOOR SCHEDULE**

- 1** EXISTING HISTORIC DOOR AND SIDELITES TO REMAIN
- 2** 2'-8" x 6'-8" NEW SIMPSON WOOD DOORS
- 3** 8'-0" x 7'-0" NEW OVERHEAD GARAGE DOOR



**Construction Details**



**DOUBLE HUNG WINDOWS**

**MANUFACTURER:** MARVIN WINDOWS  
**COLOR:** WHITE  
**SPECIFICATION:** ELEVATE / FIBERGLASS EXT. & WOOD INT.



**DOORS**

**MANUFACTURER:** SIMPSON DOOR COMPANY  
**COLOR:** T.B.D.  
**SPECIFICATION:** TRADITIONAL SERIES / WOOD



**OVERHEAD GARAGE DOOR**

**MANUFACTURER:** C.H.I. OVERHEAD DOORS  
**COLOR:** T.B.D.  
**SPECIFICATION:** RECESSED PANEL / INSULATED FIBERGLASS

**MATERIALS**

235 MARCY STREET  
 PORTSMOUTH, NEW HAMPSHIRE

HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



6.0



**SIDING**

**MANUFACTURER:**  
**COLOR:** T.B.D.  
**SPEC:** PRIMED WOOD  
CLAPBOARD 4" REVEAL  
TO MATCH EXISTING



**ROOFING**

**MANUF:** CERTAINTEED - LANDMARK SERIES  
**COLOR:** CHARCOAL BLACK  
**SPECIFICATION:** ASPHALT ROOF SHINGLES



**GUTTERS**

**MANUFACTURER:** -  
**COLOR:** T.B.D.  
**SPECIFICATION:** K-STYLE ALUMINUM



**1. RAKE & EAVE**

**ASSEMBLY TO MATCH EXISTING**



**2. CORNERBOARD**

**7" TO MATCH EXISTING**



**3. WINDOW CASING & SILL**

**MATCH EXISTING PROFILES**

**MATERIALS**



EXISTING STEPS AND RAILS TO REMAIN

**4. FRONT ENTRY TRIM**

**REPAIR**

235 MARCY STREET  
PORTSMOUTH, NEW HAMPSHIRE

HISTORIC DISTRICT COMMISSION APPLICATION FOR APPROVAL: JUNE 5, 2024



**Project Address:** 117 BOW STREET

**Permit Requested:** CERTIFICATE OF APPROVAL

**Application:** PUBLIC HEARING 8

**A. Property Information - General:**

**Existing Conditions:**

- Zoning District: CD 4
- Land Use: Residential, Condominium Assoc.
- Land Area: 17,859 SF +/-
- Estimated Age of Structure: c.1985
- Building Style: Greek Revival
- Number of Stories: 3
- Historical Significance: Not in 1984 Survey
- Public View of Proposed Work: Bow Street and Piscataqua River
- Unique Features: N/A
- Neighborhood Association: Downtown



**B. Proposed Work:** For the removal and replacement of the existing slate roof with a faux slate roof.

**C. Staff Comments and/ or Suggestions for Consideration:**

The project proposal includes the following:

- Replace the existing slate roof with a faux slate roof.



**D. Purpose and Intent:**

31. Preserve the integrity of the District
32. Assessment of the Historical Significance
33. Conservation and enhancement of property values
34. Maintain the special character of the District
35. Complement and enhance the architectural and historic character
36. Promote the education, pleasure and welfare of the District and the city residents and visitors

**E. Review Criteria/Findings of Fact:**

21. Consistent with special and defining character of surrounding properties
22. Compatibility of design with surrounding properties
23. Relation to historic and architectural value of existing structures
24. Compatibility of innovative technologies with surrounding properties

Riveredge Condominium Association  
C/O JPK Property Management  
1 New Hampshire Ave. #125  
Portsmouth, NH 03801

May 22, 2024

Pro Builders Inc.  
Attention: Felipe

RE: Slate Roof Replacement 117 Bow Street Unit 201

Dear Felipe,

Per our recent site inspection and follow up discussions this correspondence shall serve as a letter of support that the Riveredge HOA approves of your outline to replace the existing slate shingle roof system on Unit 201 with the composite slate shingle product that was requested by unit owner, Sally Stebbins.

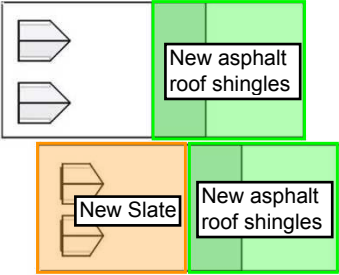
Please provide this letter to the city planning office as you obtain your permit and approval from the city. Please also inform the city that this project is considered an emergency request due to the failure of the current slate nails/fasteners which have rusted and are now breaking to the point where the slates are falling from the roof area and endangering the safety of those who are accessing the condominium unit.

If I can provide any further information to you please do not hesitate to contact me at your convenience.

Sincerely,

  
Jeff Sabin  
Property Manager

603-766-4993 Office  
603-674-2359 Mobile



In this 3D model, facets appear as semi-transparent to reveal overhangs.

**PREPARED FOR**

Contact: Felipe Ramos  
 Company: Pro Builders Inc.  
 Address: , MA  
 Phone:

**TABLE OF CONTENTS**

Images .....1  
 Length Diagram .....4  
 Pitch Diagram .....5  
 Area Diagram .....6  
 Notes Diagram .....7  
 Penetrations Diagram .....8  
 Report Summary .....9

**MEASUREMENTS**

- Total Roof Area =1,613 sq ft
- Total Roof Facets =14
- Predominant Pitch =12/12
- Number of Stories >1
- Total Ridges/Hips =57 ft
- Total Valleys =31 ft
- Total Rakes =14 ft
- Total Eaves =96 ft
- Total Penetrations =13
- Total Penetrations Perimeter = 68 ft
- Total Penetrations Area = 23 sq ft

Measurements provided by [www.eagleview.com](http://www.eagleview.com)



**Certified Accurate**

[www.eagleview.com/Guarantee.aspx](http://www.eagleview.com/Guarantee.aspx)



## IMAGES

The following aerial images show different angles of this structure for your reference.

Top View



# IMAGES

North Side

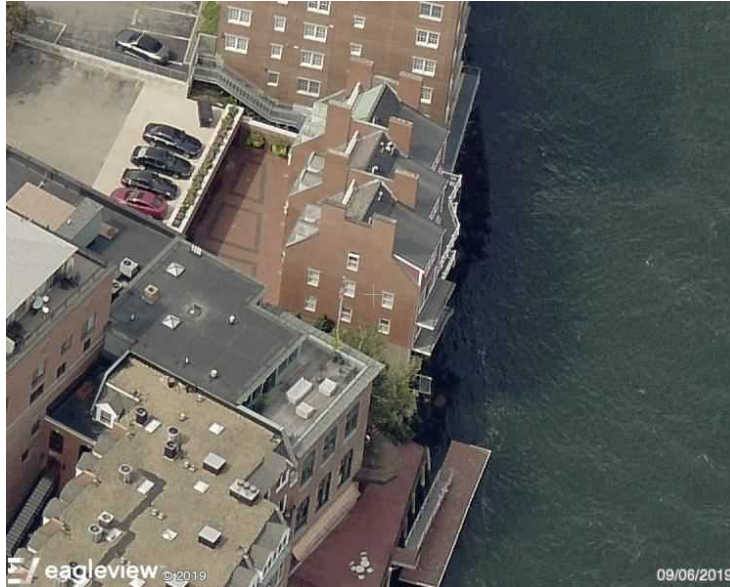


South Side



# IMAGES

East Side



West Side



# LENGTH DIAGRAM

Total Line Lengths:

**Ridges = 57 ft**

**Hips = 0 ft**

Valleys = 31 ft

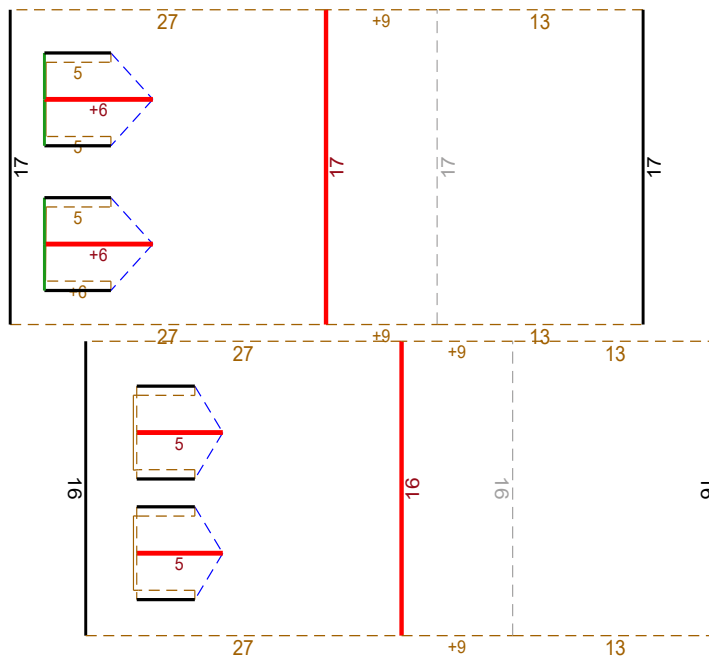
Rakes = 14 ft

Eaves = 96 ft

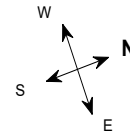
Flashing = 20 ft

Step flashing = 251 ft

Parapets = 0 ft



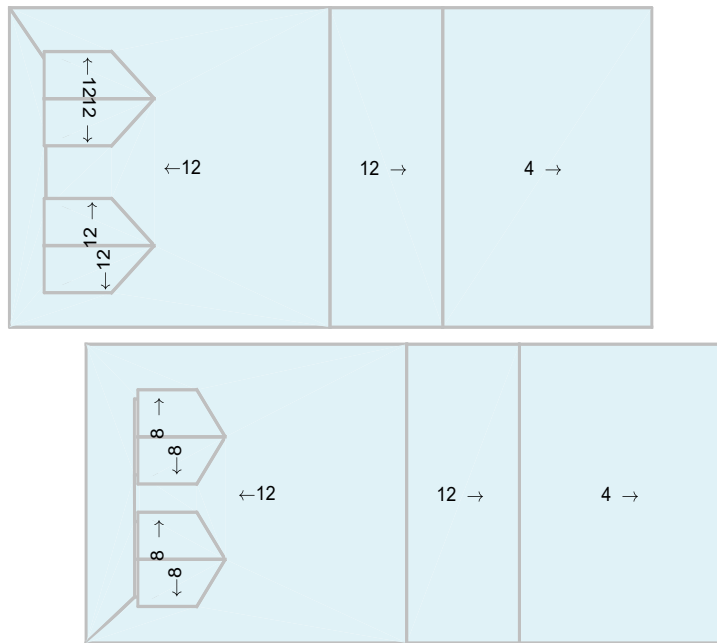
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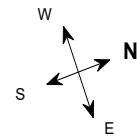
**Note:** This diagram contains segment lengths (rounded to the nearest whole number) over 5.0 Feet. In some cases, segment labels have been removed for readability. Plus signs preface some numbers to avoid confusion when rotated (e.g. +6 and +9).

# PITCH DIAGRAM

Pitch values are shown in inches per foot, and arrows indicate slope direction. The predominant pitch on this roof is 12/12



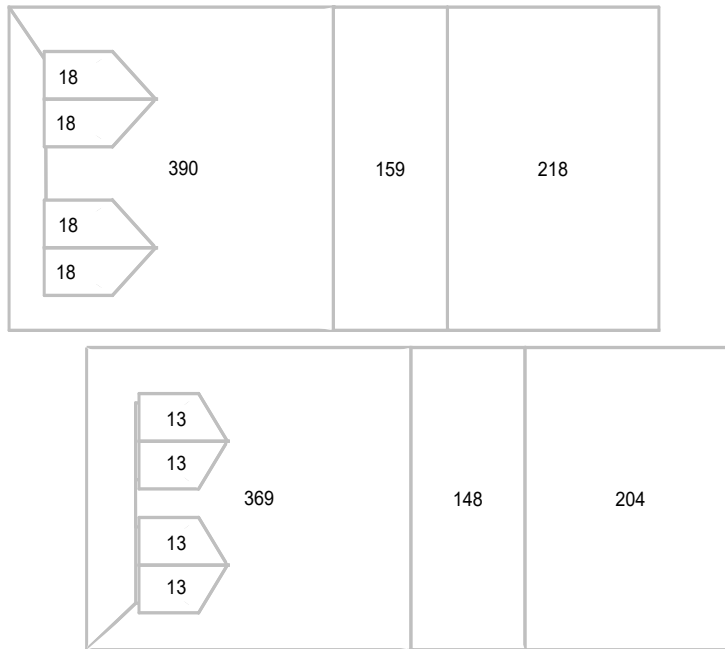
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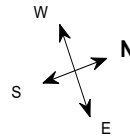
Note: This diagram contains labeled pitches for facet areas larger than 20.0 square feet. In some cases, pitch labels have been removed for readability. Blue shading indicates a pitch of 3/12 and greater.

# AREA DIAGRAM

Total Area = 1,613 sq ft, with 14 facets.



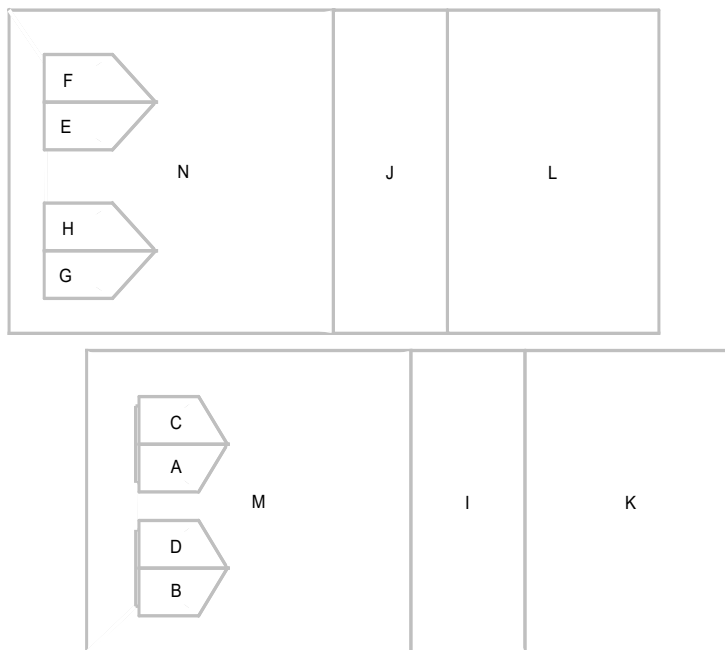
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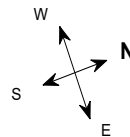
**Note:** This diagram shows the square feet of each roof facet (rounded to the nearest Foot). The total area in square feet, at the top of this page, is based on the non-rounded values of each roof facet (rounded to the nearest square foot after being totaled).

# NOTES DIAGRAM

Roof facets are labeled from smallest to largest (A to Z) for easy reference.



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# PENETRATIONS NOTES DIAGRAM

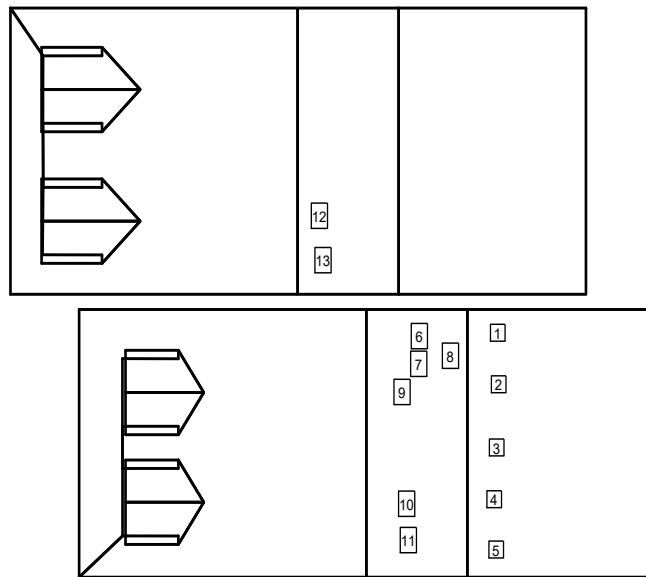
Penetrations are labeled from smallest to largest for easy reference.

Total Penetrations = 13

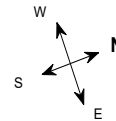
Total Penetrations Area = 23 sq ft

Total Penetrations Perimeter = 68 ft

Total Roof Area Less Penetrations = 1,590 sq ft



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## REPORT SUMMARY

### All Structures

Areas per Pitch			
Roof Pitches	4/12	8/12	12/12
Area (sq ft)	421.5	51.6	1139.3
% of Roof	26.1%	3.2%	70.6%

The table above lists each pitch on this roof and the total area and percent (both rounded) of the roof with that pitch.

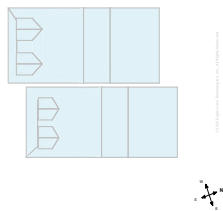
Waste Calculation Table							
Waste %	0%	10%	12%	15%	17%	20%	22%
Area (sq ft)	1,613	1774.3	1806.6	1855.0	1887.2	1935.6	1967.9
Squares	16.1	17.7	18.1	18.5	18.9	19.4	19.7

This table shows the total roof area and squares (rounded up to the nearest decimal) based upon different waste percentages. The waste factor is subject to the complexity of the roof, individual roofing techniques and your experience. Please consider this when calculating appropriate waste percentages. Note that only roof area is included in these waste calculations. Additional materials needed for ridge, hip, valley, and starter lengths are not included.

Penetrations	1-5	6-13							
Area (sq ft)	1	2.2							
Perimeter (ft)	4	6							

Any measured penetration smaller than 3.0x3.0 Feet may need field verification. Accuracy is not guaranteed. The total penetration area is not subtracted from the total roof area.

### All Structures Totals



Total Roof Facets = 14  
Total Penetrations = 13

#### Lengths, Areas and Pitches

Ridges = 57 ft (6 Ridges)  
Hips = 0 ft (0 Hips)  
Valleys = 31 ft (8 Valleys)  
Rakes† = 14 ft (4 Rakes)  
Eaves/Starter‡ = 96 ft (12 Eaves)  
Drip Edge (Eaves + Rakes) = 110 ft (16 Lengths)  
Parapet Walls = 0 (0 Lengths)  
Flashing = 20 ft (12 Lengths)  
Step flashing = 251 ft (28 Lengths)  
Total Penetrations Area = 23 sq ft  
Total Roof Area Less Penetrations = 1,590 sq ft  
Total Penetrations Perimeter = 68 ft  
Predominant Pitch = 12/12  
**Total Area (All Pitches) = 1,613 sq ft**

#### Property Location

Longitude = -70.7550043  
Latitude = 43.0790892

#### Notes

This was ordered as a commercial property. There were no changes to the structure in the past four years.

† Rakes are defined as roof edges that are sloped (not level).  
‡ Eaves are defined as roof edges that are not sloped and level.

17 Bow St, Portsmouth, NH 03801

Report: 57639604

**Online Maps**

Online map of property

[http://maps.google.com/maps?f=q&source=s\\_q&hl=en&geocode=&q=17+Bow+St,Portsmouth,NH,03801](http://maps.google.com/maps?f=q&source=s_q&hl=en&geocode=&q=17+Bow+St,Portsmouth,NH,03801)

Directions from Pro Builders Inc. to this property

[http://maps.google.com/maps?f=d&source=s\\_d&saddr=MA,&daddr=17+Bow+St,Portsmouth,NH,03801](http://maps.google.com/maps?f=d&source=s_d&saddr=MA,&daddr=17+Bow+St,Portsmouth,NH,03801)

17 Bow St, Portsmouth, NH 03801

Report: 57639604

## IMPORTANT LEGAL NOTICE AND DISCLAIMER

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Contractors agree to always conduct a preliminary site survey to verify Roof Report ordered. In the event of an error in a Report, your sole remedy will be a refund of the fees paid by you to obtain this Report.





# Sustainable Roofing



## Majestic Slate



*Environmentally friendly synthetic slate roofing tiles proudly made in the USA*

*Pioneers of sustainable roofing since 1993*

# Majestic Slate

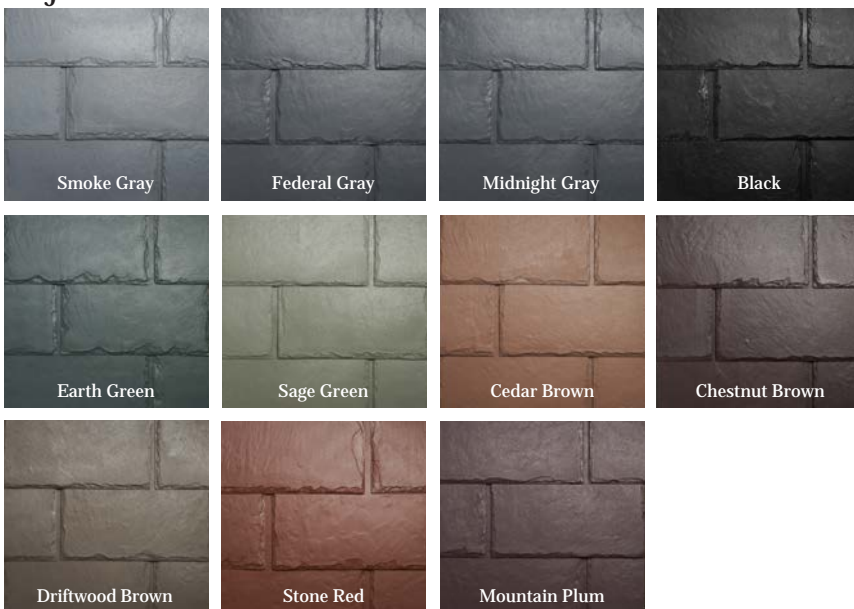


Historically, natural slate is one of the most appealing roofing choices, combining unmatched durability with aesthetic appeal. The cost of natural slate, as well as its weight and difficulty in finding a qualified slate installer, often makes its use prohibitive. EcoStar LLC, the leading manufacturer of premium synthetic steep-slope roofing products, combines classic appeal with modern technology to offer the lightweight and affordable alternative – Majestic Slate™.

Created with recycled rubber and plastics, Majestic Slate offers a sustainable, lighter and easy-to-install roofing product that provides the appearance of natural slate with lower application costs. Available in two widths and designer accents, this slate alternative offers endless possibilities for residential and commercial projects. The architectural detail of a project, whether historic or new construction, is further enhanced by a wide range of available color combinations using the palette of 11 standard color choices and array of custom options.

Curb appeal is everything when it comes to the look of your home, but protection from the elements must be a priority. Majestic Slate offers both.

## Majestic Slate Color Palette



Note: Sample pieces, photographs or color samples may not accurately represent the true color level or variations of color blends that will appear on the roof. Before installation, ten tiles or so should be laid out and reviewed for conformity to desired color level. If color levels are unsatisfactory, advise your dealer before proceeding with installation. Colors and specifications subject to change without notice. EcoStar is not liable for color variations or shading. Tiles must be randomly blended for best results. Limited warranties carry terms and conditions. <sup>1</sup>Significant property insurance discounts may be available when upgrading or building a roof to protect against hail, wind or fire damage in regions where severe weather is common. EcoStar tiles meet or exceed industry standards for Impact Resistance and Fire Resistance. Contact your insurance provider for details.

01/19 © 2019 by EcoStar LLC. EcoStar and Majestic Slate are trademarks of EcoStar LLC. See [www.ecostarllc.com](http://www.ecostarllc.com) for available warranties. P/N-602689 MAJESTIC SLATE CUT SHEET

## Advantages

- Weighs 1/3 to 1/2 as much as natural slate
- Easy application keeps installation costs down
- Significant property insurance discounts may be available when upgrading or building a roof to protect against hail<sup>1</sup>

## Architectural Flexibility

- Designer Series tiles can be blended together to add personal style to your home
- Staggered and offset installations accentuate roof texture and depth
- Available in 11 standard colors
- Enhance the historical look in both residential and commercial buildings

## Strength & Durability

- Provides superior durability and protection from extreme weather conditions that include wind, hail and driving rain
- Significant life cycle savings

## Warranty Options

- 50-Year Limited Material Warranty available
- 50-Year Gold Star Labor & Material Warranty available
- 90 mph (145 kph) Wind Warranty (standard)

## Environmental Sustainability

- Manufactured with post-industrial recycled rubber and plastics

## Technical Information

- UL listed Class C fire resistance (UL 790)
- UL Class 4 impact resistance (UL 2218)
- Wind resistance to 110 mph (ASTM D3161)
- Prolonged UV Exposure (ASTM G155)
- UL Evaluation Report to ICC AC07 (R18920-02)
- Texas Dept. of Insurance Evaluation (RC-135)
- May contribute to LEED® points
- Manufactured in strict adherence to ISO 9001:2015 Quality Management



42 Edgewood Drive | Holland, NY 14080  
800.211.7170 | [www.ecostarllc.com](http://www.ecostarllc.com)

## Why Choose EcoStar?

- Innovators in synthetic roofing since 1993
- Breadth of slate, shake and modern tile product offering
- Made with up to 25% upcycled polymer & rubber (not tires)
- Designed with up to 6" headlap for installation integrity
- Easy application keeps installation costs down
- Proven products providing superior protection against fire, ice, snow, wind, rain and hail
- Manufactured in the USA

## Protection Overview

- Miami Dade prolonged and accelerated weathering @ 4,500 hours
- Miami Dade Wind TAS100 & TAS125 (NOA # 23-0601.01)
- Canadian Code Compliance Evaluation (CCMC-14174-R)
- UL listed Class A fire resistance (UL 790)
- UL Class 4 (highest rating) hail impact resistance (UL 2218)
- Job lot control produces uniform roof tile weathering
- ISO 9001:2015 Quality Management Standards
- 50-Year Material Warranty
- 50-Year Transferable Labor and Material Warranty available



## Slate Products

- Realistic appearance of natural slate roofing
- Weighs significantly less than natural slate systems
- Staggered and offset installations accentuate roof texture and depth
- Solid profiles: 12" and 10" Traditional, 12", 9" and 6" Random Width Blend, 12" Chisel Point, Beveled Edge, Beaver Tail
- Cavity-back profiles: 14"w, 12"w and 10"w Niagara with increased 5/8" thickness creates bold shadow lines for maximum aesthetic appeal



## Shake Products

- Look of traditional wood shake while providing an eco-friendly, durable alternative to wood
- Can be installed to create a unique replication of staggered cedar shake
- No interlacing of underlayment required
- "Aspen Blend" replicates thick, hand-split wood by using a combination of 2/3 Shake and 1/3 Shake Plus tiles

## Modern Roofing Products

### Concrete Flat Tile & Island Groove

- The look of modern roofing
- Direct to deck application – no battens required
- Lightweight – no loading service required
- Competitive installed cost/square
- Color through material - no recoating required
- Low waste factor - no breakage



## Installation Benefits

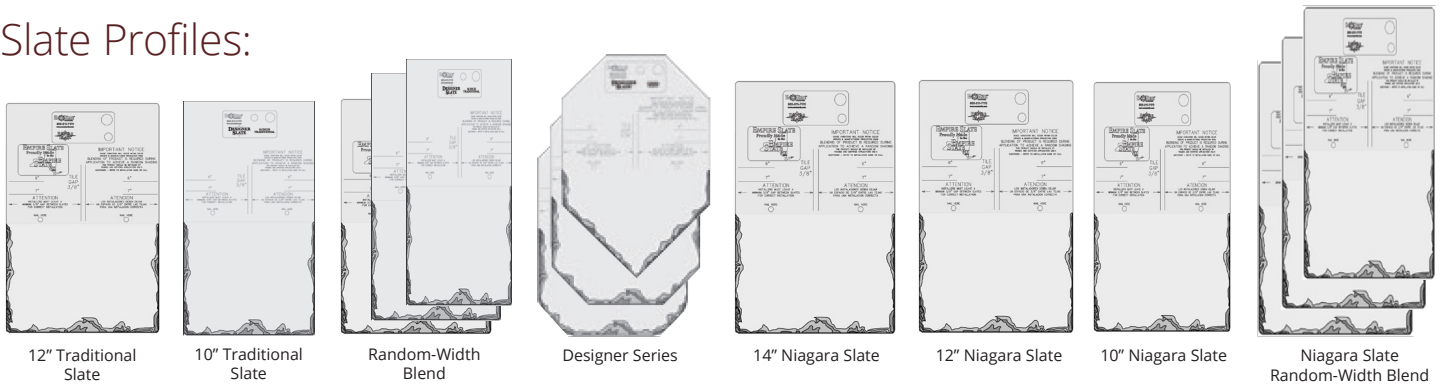
- Readily available with minimal lead times
- Easy application keeps installation costs down
- Products require minimal maintenance
- Factory pre-blended for color & width
- Only 2 profiles – field tile and ridge/rake tile
- Competitive installed cost/square

NOTE: Empire is approved for Miami Dade, Majestic is approved to Florida. Island Groove and Concrete Flat Tile not tested to CCMC.

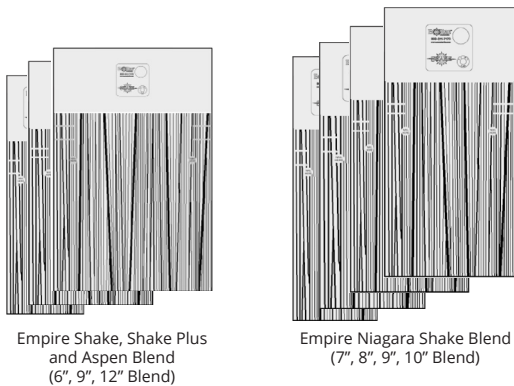
### Empire Products

	Slate	Niagara Slate	Shake	Shake Plus	Niagara Shake	Niagara Flat Tile	Island Groove
Recycled Material	25%						
Tile Width	12", 10", 9", 6"	14", 12", 10"	12", 9", 6" blend	12", 9", 6" blend	10", 9", 8", 7" blend	12"	12"
Profile	Solid	Cavity-back	Solid	Cavity-back	Cavity-back	Cavity-back	Cavity-back
Tile Thickness	1/4"	5/8"	3/8"	3/4"	3/4"	3/4"	3/4"
Maximum Reveal	8" (7", 6")	10" (9")	9" (8", 7")	9" (8", 7")	10" (9")	10" (9")	10" (9")
Weight/Sq at Max. Reveal	308 lbs.	290 lbs.	277 lbs.	371 lbs.	250 lbs.	279 lbs.	279 lbs.
Fire Rating	Class C/A						
Impact Rating	Class 4						
Miami-Dade	Yes						No
Standard Colors	14						
Factory Blends	10						
Cool Roof Colors	11						
Custom/Marbled Colors	Yes						

### Slate Profiles:



### Shake Profiles:



### Flat Tiles:

