tiny desk **designs**
shannon@tinydeskdesigns.com 617-233-3245

**Narrative: 64 Dane St, Somerville, MA 02143 (Littlefield-James House)**
**Replacement/ Demolition of Front Porch (updated)** September 3, 2025

The front “ell” porch on the two and half story gabled house built in 1851 is in need of partial demolition, repair and replacement. The house is on the local historic registry.

The **roof** appears to be in adequate shape but is in need of new asphalt shingles and may need additional framing reinforcement and new beams at the column line. The plan is to brace and maintain the roof during construction. The ceiling will need to be completely replaced since the remaining original boards show signs of rot and water damage and the ceiling areas covered by temporary plywood patches are not aesthetically pleasing or original to the structure. The ceiling will be replaced with tongue and groove wood to match existing orientation.

The pierced **columns** are in various stages of decline. Refer to included letter from structural engineer. They have rot at the base and the corner column had the webbing removed completely to accommodate downspout. ~~A structural engineer has reviewed the existing columns and stated that while the columns could be replaced with replicas they would have to be with larger members that would alter the scale and width of the new replica columns. The homeowner would like to replace the pierced columns with simple square ones of similar proportion to the front facing width of the existing columns, 10”. The capital would replicate the cove crown and the flat base at the bottom proportionally. The column will be cast fiberglass w/ wood crown and fly ash (TruExterior) base, painted.~~
*A structural engineer has reviewed the existing columns and stated that the columns could be replaced with replicas. The replacement columns will be made of wood, replacing what was original with duplicates to be painted.*

The **guardrail** may be able to be reused depending on approval from ISD for allowing a non-code compliant guardrail re-installation. The current railing is 31” tall and code requires it to be at 36”. The railing panels need to be removed during construction and some of the 1-1/2”x1-1/2” square balusters need to be replaced due to rot or breakage. There is nothing aesthetically significant about these railings since they are comprised of readily available dimensional material.

The 1x4 **wood deck** flooring will be replaced completely with 1x4 wood deck in the same layout. The deck will be treated with a clear impregnating sealant.

**Deck structure** is unsound. The three concealed 8x8 brick piers and two 4” steel pipe set into concrete are degraded and need to be replaced and repositioned to better support the loads. The framing needs to be replaced due to rot and degradation.

The existing **screening** under the porch is a combination of mismatched panels comprised of different sized vertical stock and spacing between them. It isn't obvious what is original to the house. The homeowner would like to replace the screening with 1x3 wood flat stock with a smaller equal spacing that allows for airflow but minimizes rodent infestation and visual barrier. This will be painted.

The **front steps** are not original, being replaced perhaps 10 years ago. The newel posts are simple 4x4 wood post w/o cap. The railing on one side has 2x4 top and bottom rail that meets modern code height and 1-1/2"x1-1/2" square balusters. There is no railing on right side of stair. The stairs will be completely replaced. The wood treads will be treated with a clear sealant. The rest of the structure will be painted.

**END**

BOUCHARD ENGINEERING, PLLC

January 21, 2025

Shannon Finley
Tiny Desk Designs
10 Perry Street
Cambridge, MA 02139

Tel: (617) 233-3245
Email: shannon@tinydeskdesigns.com

Project: 64 Dane Street, Somerville, MA
Re: Structural analysis of historic porch posts
Project Number: 25003

Dear Shannon:

Bouchard Engineering (BE) visited the above referenced site on January 13, 2025 to view and measure the porch posts at the front porch of the single-family residence. It is our understanding that you are preparing design drawings for a full renovation to the porch. The residence is in a historic district and the purpose of the visit was to determine if the posts can be maintained or rebuilt in their current form and be adequate to support the loads required by the current building code – including snow drift loading.

The existing posts are double 3"x3" nominal lumber (approximately 2 ¾" x 2 ¾" actual). Many of the posts are in poor condition due to age and rot and will need to be either substantially repaired or fully replaced during the renovation work. The existing foundations and porch floor framing are also in poor condition and will need to be replaced during the work.

BE analyzed the posts to determine if they can be repaired or rebuilt with the same narrow profile and still support the code required loading. **Based on the analysis, the existing posts are too narrow and are inadequate to support the required snow drift loading on the porch roof. BE recommends that the posts be replaced with a larger profile during the renovation project.**

Please contact the undersigned with any questions.

Sincerely,

**Bouchard Engineering, PLLC**

**Keith M. Bouchard, P.E.**
Principal
kmb@bouchard-eng.com

# HANGER GRODD
# FRONT PORCH
# RECONSTRUCTION

## 64 DANE STREET

## SOMERVILLE, MASSACHUSETTS 02143

### DOCUMENT LIST

ARCHITECTURAL DRAWINGS

A0.0 COVER SHEET

A1.0 DEMOLITION AND NEW WORK FRONT PORCH PLANS
A2.0 DEMOLITION-FRONT ELEVATION
A2.1 NEW-FRONT ELEVATION
A2.2 NEW-SIDE ELEVATIONS
A3.0 PORCH MATERIAL DETAIL

STRUCTURAL DRAWINGS

S1.0 STRUCTURAL FOUNDATION PLAN AND SECTION
S1.1 PORCH FRAMING PLAN
S2.0 LEDGER DETAIL AND POST SECTION

REGISTERED ARCHITECT
SHANNON M. PINLEY
No. 20413
CAMBRIDGE, MA
COMMONWEALTH OF MASSACHUSETTS

tiny desk designs
10 Perry Street Cambridge, MA 02139
617-233-3245

PERMIT SET

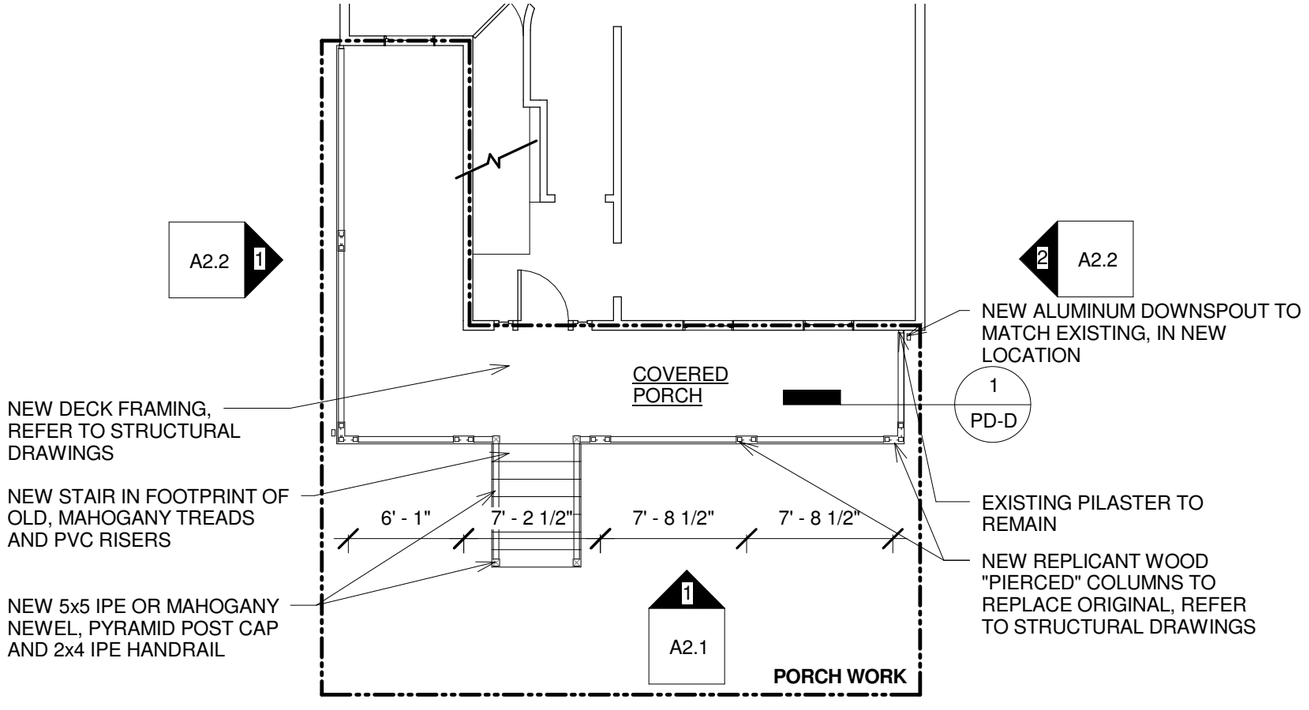
ISSUE DATE 05/16/25
REVISION DATE

COVER SHEET

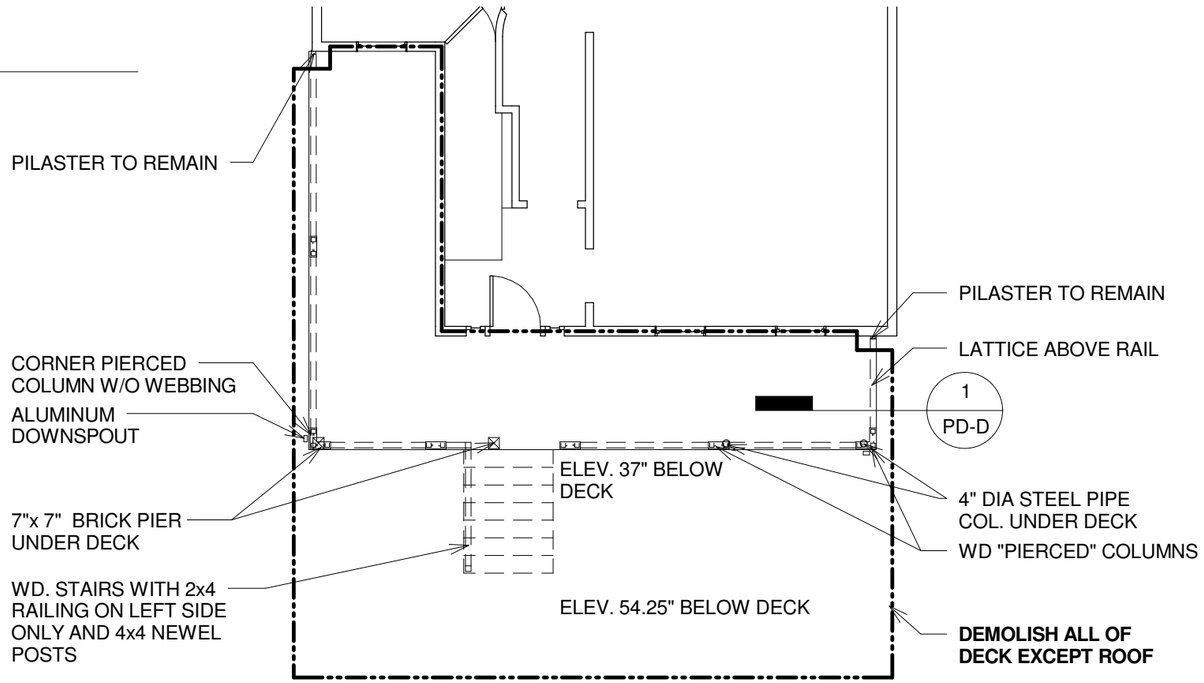
HANGER GRODD RESIDENCE
64 DANE STREET, SOMERVILLE, MA 02143

A0.0

Scale




2 FIRST FLOOR- NEW WORK PLAN
1/8" = 1'-0"




1 FIRST FLOOR- DEMOLITION PLAN
1/8" = 1'-0"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No. 20413
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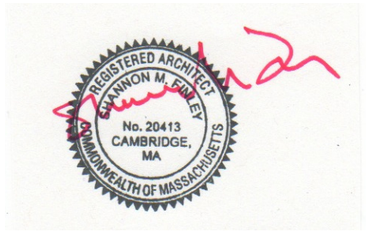
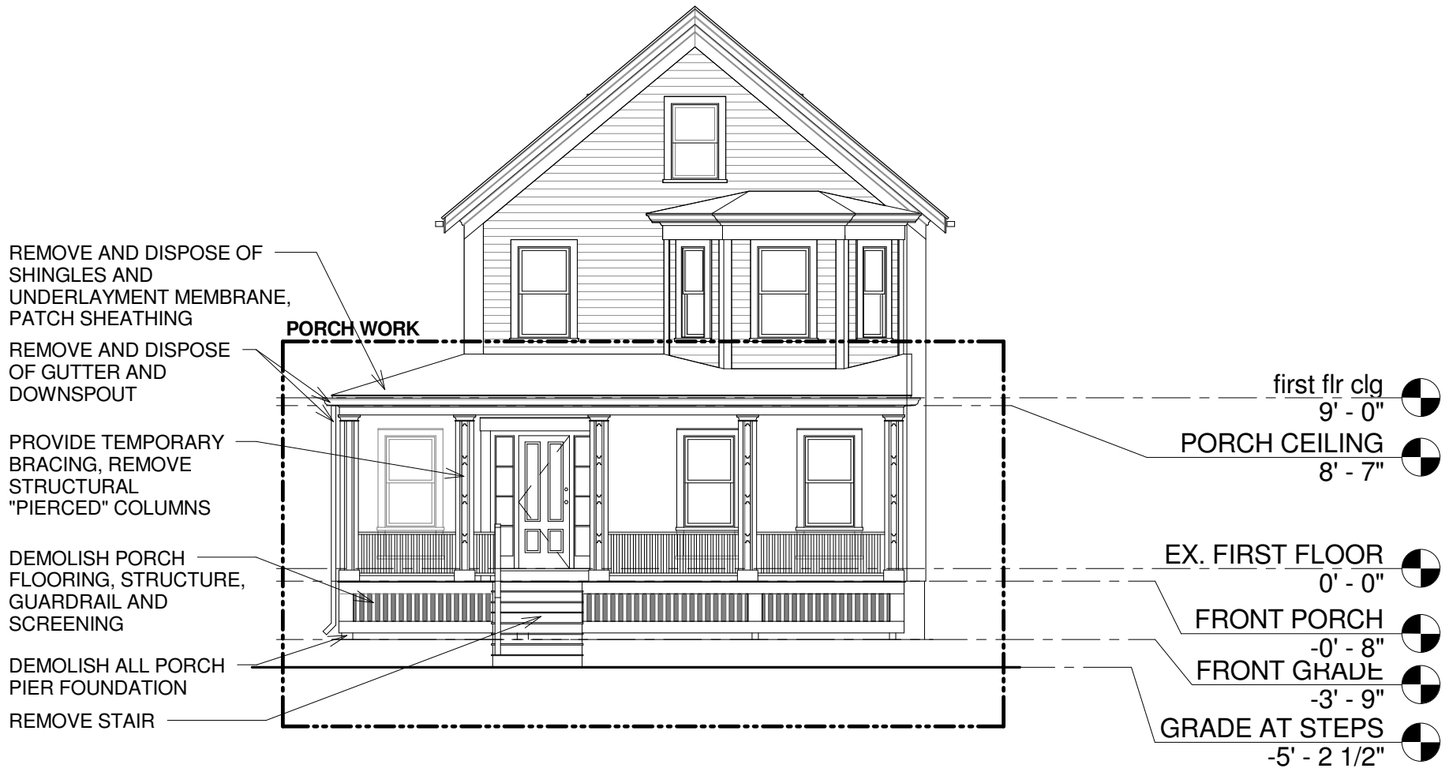
FRONT PORCH–DEMOLITION AND NEW WORK

HANGER GRODD RESIDENCE
64 DANE STREET, SOMERVILLE, MA 02143

A1.0

Scale 1/8" = 1'-0"

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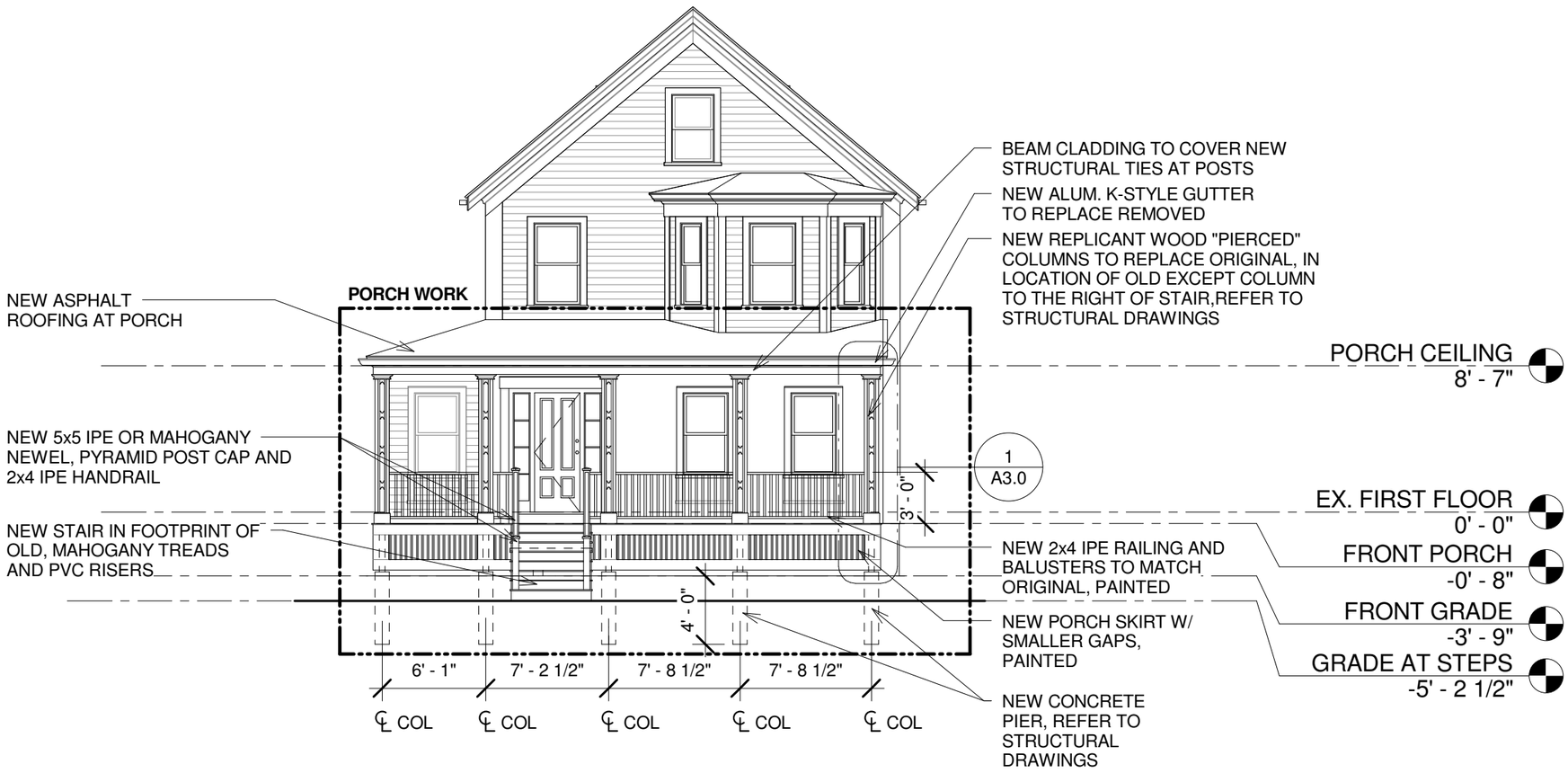
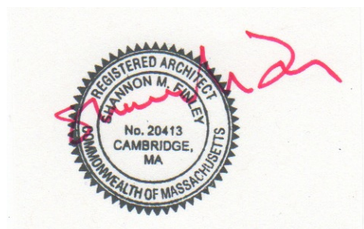
DEMOLITION– FRONT ELEVATION

HANGER GRODD RESIDENCE
64 DANE STREET, SOMERVILLE, MA 02143

A2.0

Scale 1/8" = 1'-0"

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HANGER GRODD RESIDENCE
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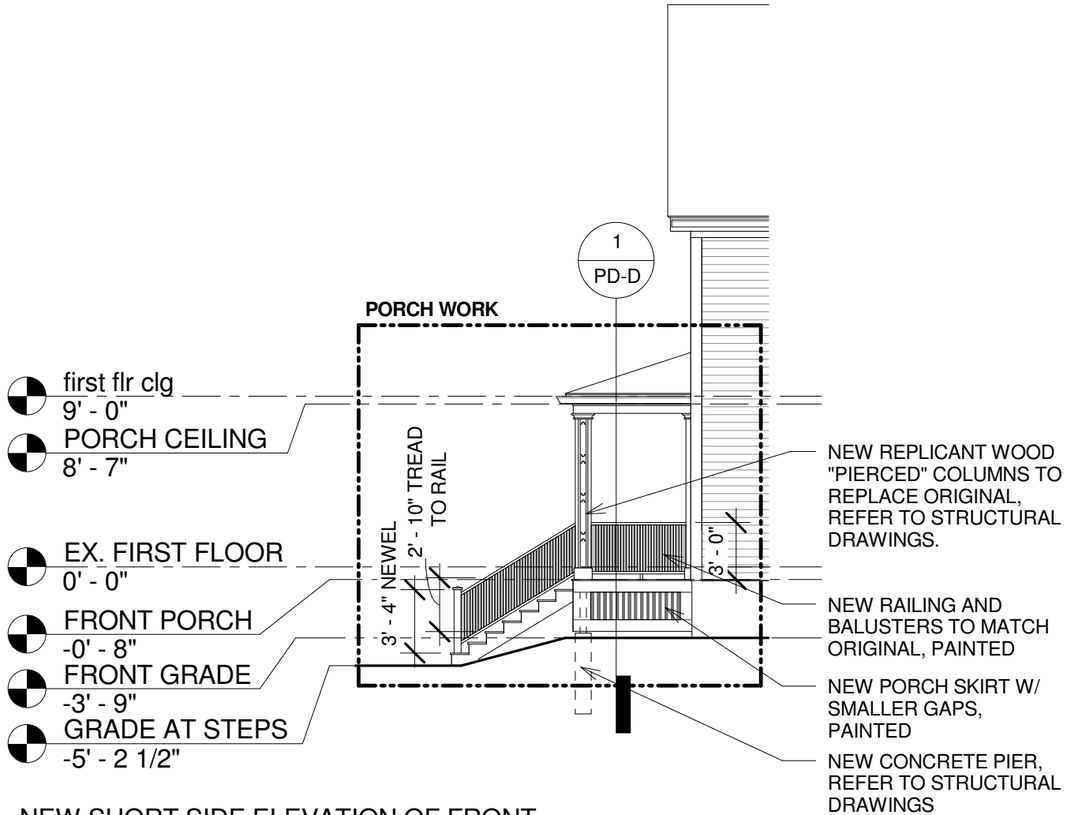
NEW FRONT ELEVATION

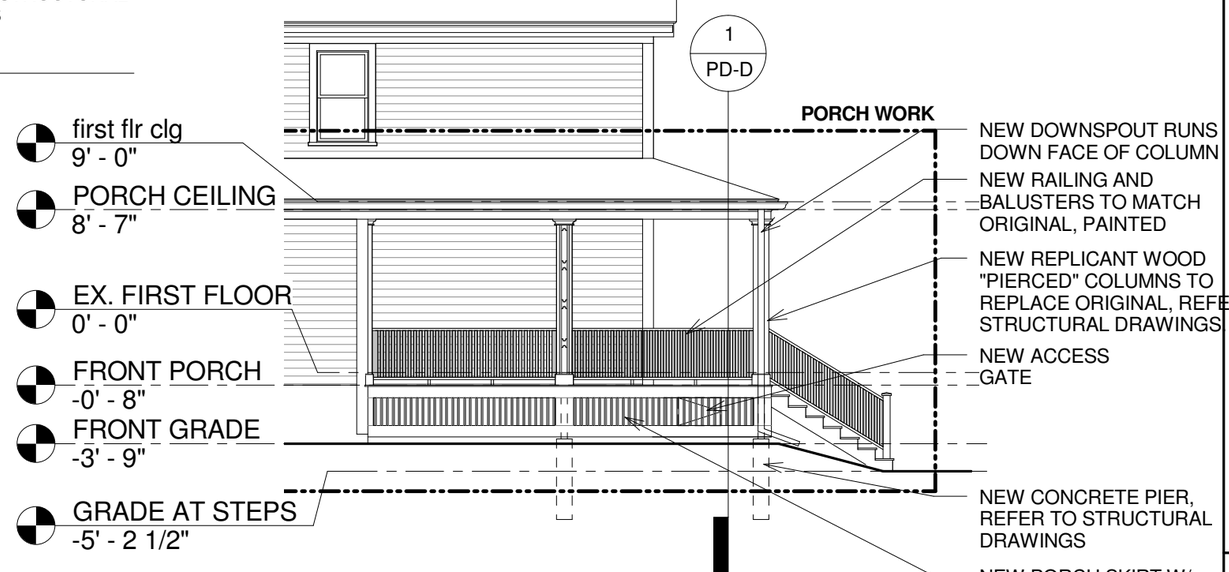
A2.1

Scale 1/8" = 1'-0"




NEW SHORT SIDE ELEVATION OF FRONT PORCH

2 1/8" = 1'-0"




NEW ELEVATION OF LONG SIDE PORCH

1 1/8" = 1'-0"

REGISTERED ARCHITECT
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NEW SIDE ELEVATIONS

HANGER GRODD RESIDENCE
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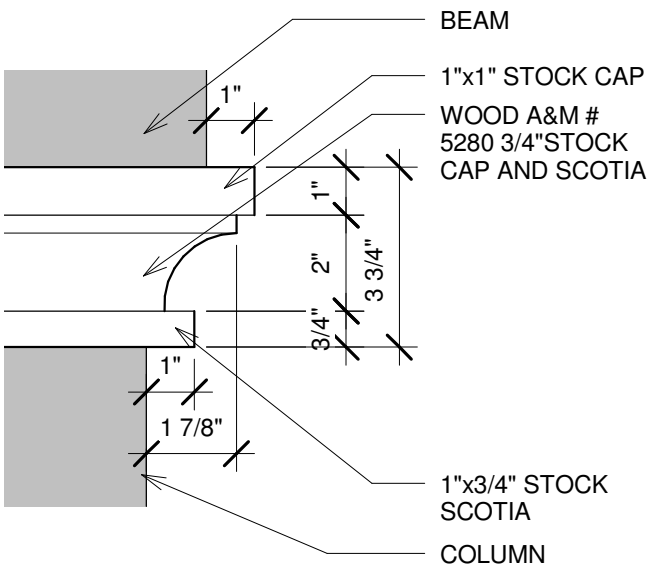
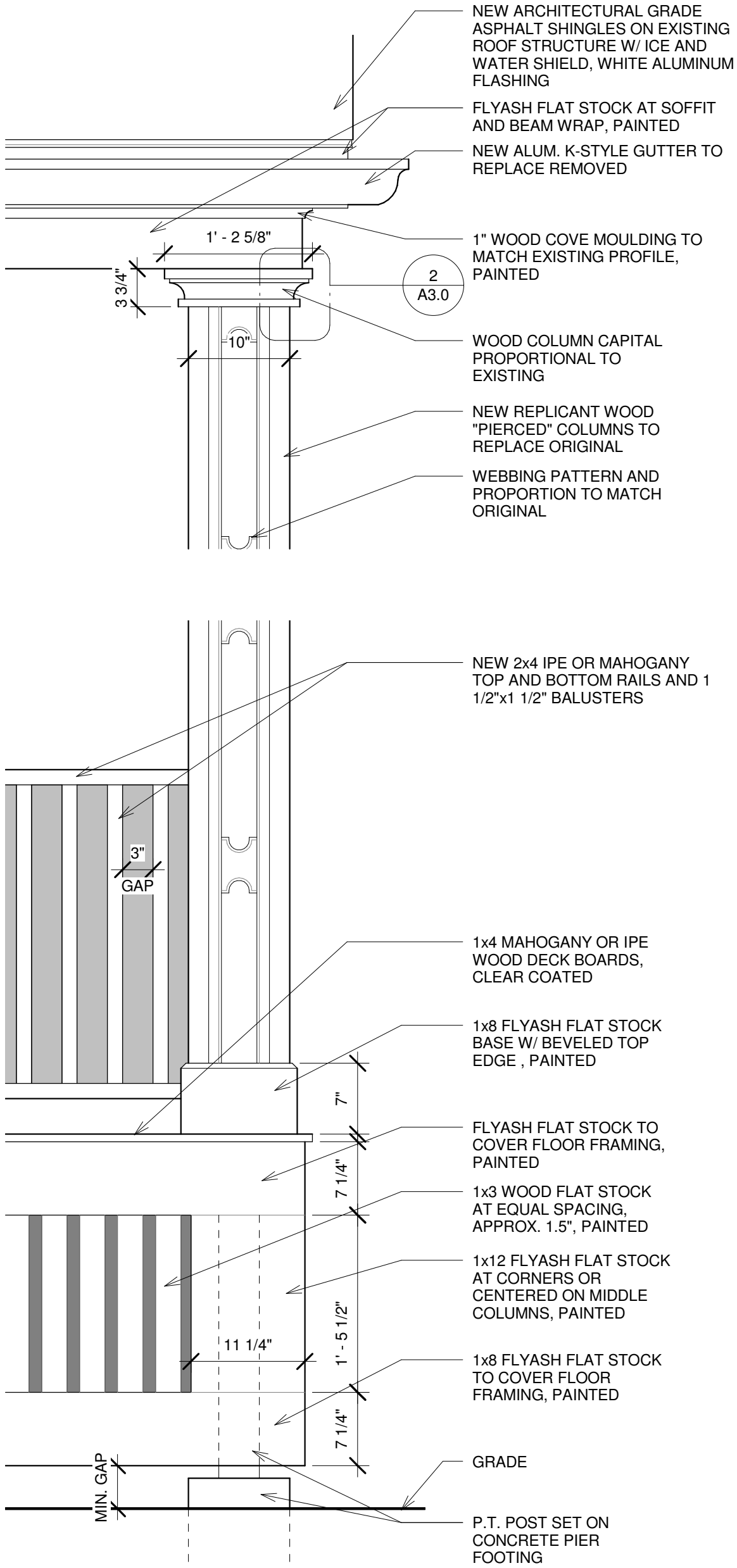
A2.2

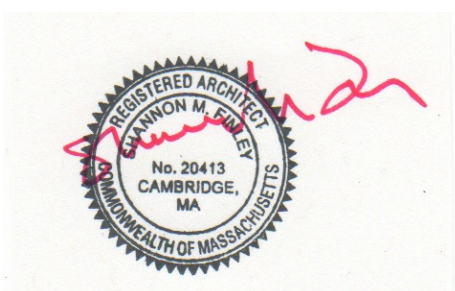
Scale 1/8" = 1'-0"




2 COLUMN CAPITAL DETAIL
3" = 1'-0"




1 COLUMN DETAIL
1" = 1'-0"




A3.0

Scale As indicated

PORCH MATERIAL DETAIL

**PERMIT SET**

HANGER GRODD RESIDENCE
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| | |
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| REVISION DATE | |

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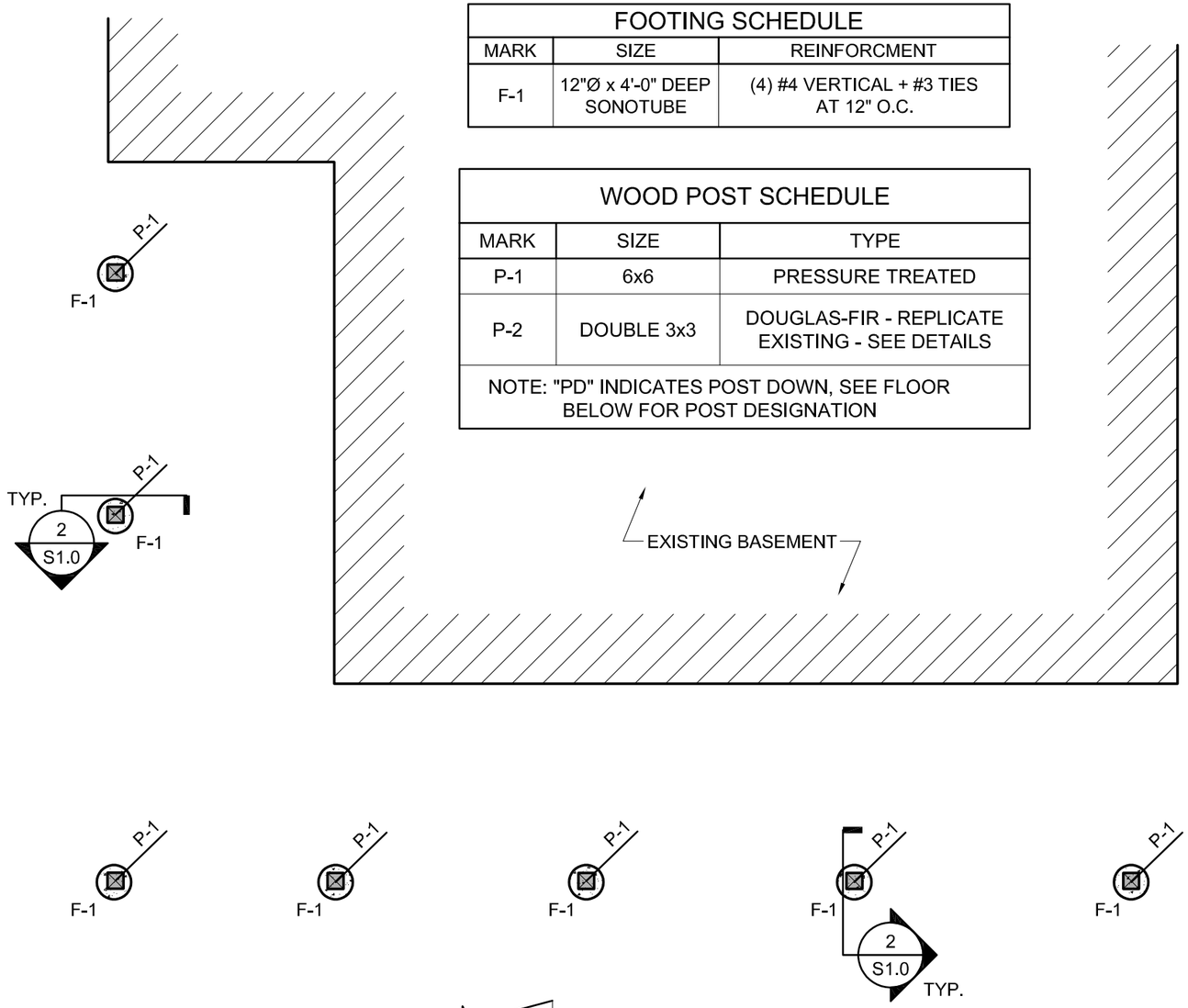
617-233-3245

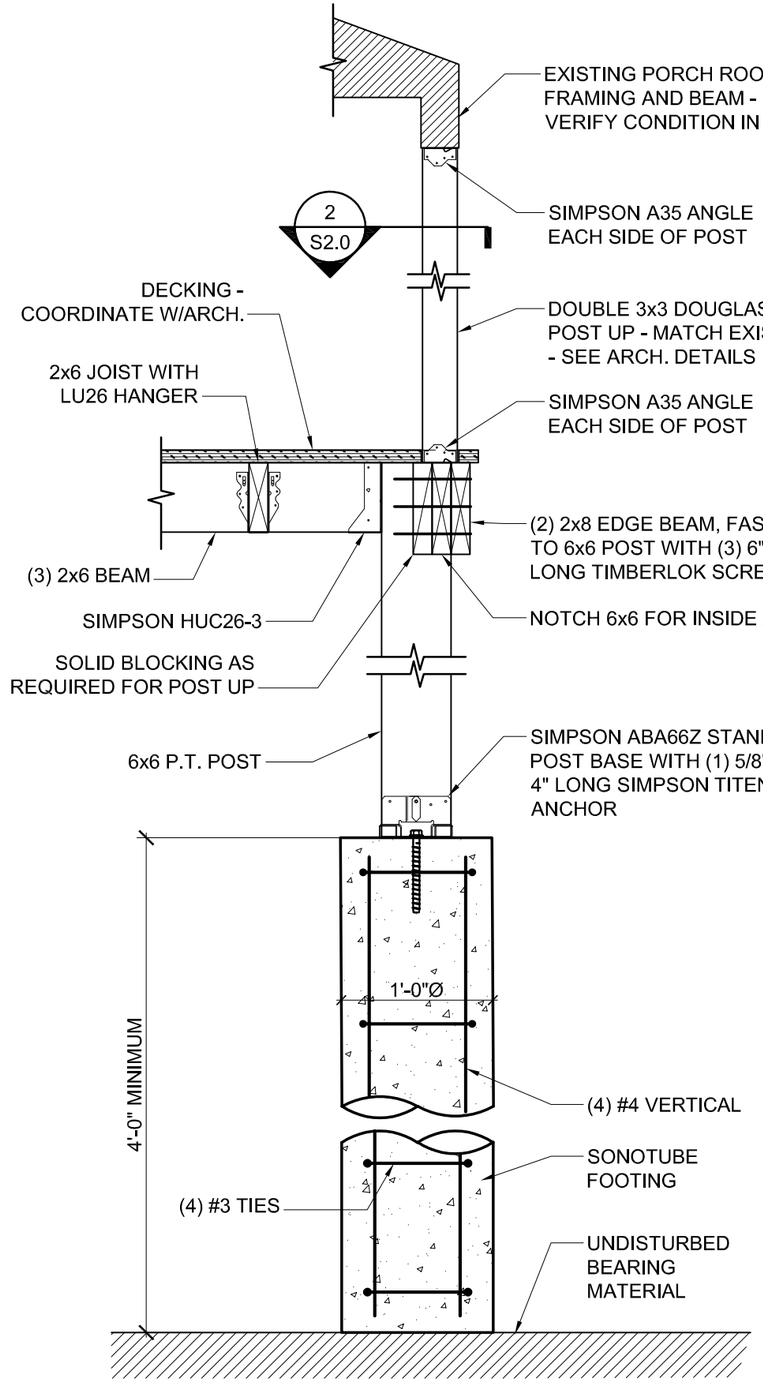
| FOOTING SCHEDULE | | |
|---|---|---|
| MARK | SIZE | REINFORCMENT |
| F-1 | 12"Ø x 4'-0" DEEP SONOTUBE | (4) #4 VERTICAL + #3 TIES AT 12" O.C. |

| WOOD POST SCHEDULE | | |
|---|---|---|
| MARK | SIZE | TYPE |
| P-1 | 6x6 | PRESSURE TREATED |
| P-2 | DOUBLE 3x3 | DOUGLAS-FIR - REPLICATE EXISTING - SEE DETAILS |
| NOTE: "PD" INDICATES POST DOWN, SEE FLOOR BELOW FOR POST DESIGNATION | | |




## 1 PORCH FOUNDATION PLAN

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




## 2 TYPICAL PORCH SECTION

SCALE: 1" = 1'-0"

S1.0

Date: 5/16/2025

Project #: 25003 | Checked: KMB | Scale: As Noted | Rev:

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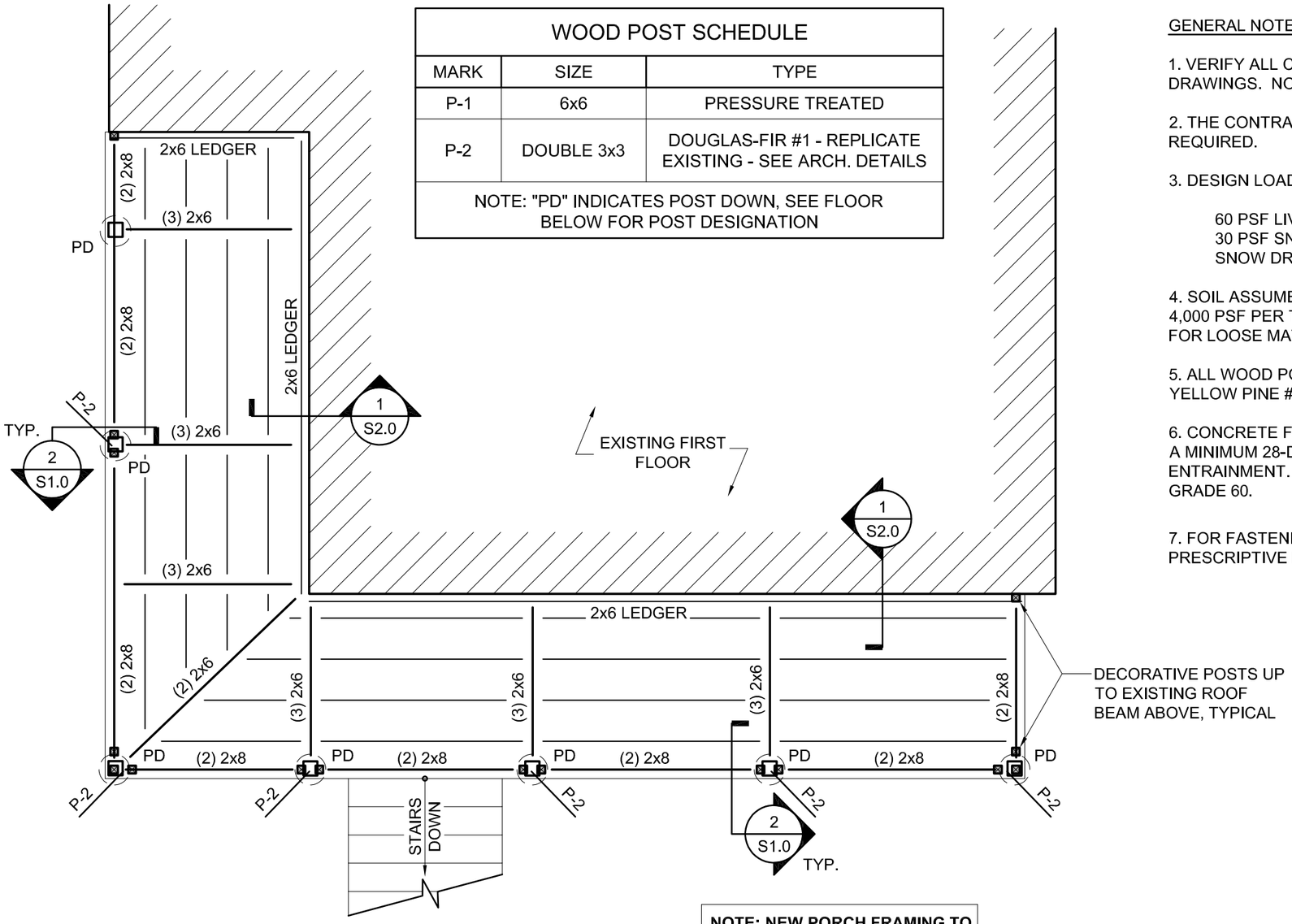
Porch Renovation


BOUCHARD ENGINEERING, PLLC
561 Windsor Street A402
Somerville, MA 02143
t: (617) 334-7442
w: www.bouchard-eng.com

| WOOD POST SCHEDULE | | |
|---|---|---|
| MARK | SIZE | TYPE |
| P-1 | 6x6 | PRESSURE TREATED |
| P-2 | DOUBLE 3x3 | DOUGLAS-FIR #1 - REPLICATE EXISTING - SEE ARCH. DETAILS |
| NOTE: "PD" INDICATES POST DOWN, SEE FLOOR BELOW FOR POST DESIGNATION | | |




**NOTE: NEW PORCH FRAMING TO BE 2x6 @ 16" O.C., TYPICAL**

## 1 PORCH FRAMING PLAN

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

GENERAL NOTES:

1. VERIFY ALL CONDITIONS IN THE FIELD AND WITH THE ARCHITECTURAL DRAWINGS. NOTIFY ARCHITECT WITH ANY DISCREPANCIES.

2. THE CONTRACTOR IS RESPONSIBLE FOR TEMPORARY SHORING WHERE REQUIRED.

3. DESIGN LOADS INCLUDE:

   60 PSF LIVE LOAD (RESIDENTIAL PORCH)
   30 PSF SNOW LOAD
   SNOW DRIFTS AS REQUIRED BY CODE

4. SOIL ASSUMED TO HAVE MINIMUM ALLOWABLE BEARING CAPACITY OF 4,000 PSF PER TABLE 1806.2a OF MASSACHUSETTS STATE BUILDING CODE FOR LOOSE MATERIAL CLASS 9 OR BETTER.

5. ALL WOOD PORCH FRAMING SHALL BE PRESSURE TREATED SOUTHERN YELLOW PINE #2 OR BETTER

6. CONCRETE FOR FOOTINGS, FOUNDATION WALLS, AND SLABS SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3,000 PSI WITH 5 - 7% AIR ENTRAINMENT. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.

7. FOR FASTENING NOT SPECIFIED IN THE PLANS, FOLLOW THE PRESCRIPTIVE REQUIREMENTS OUTLINED IN IBC 2015, TABLE 2304.9.1

S1.1

Date: 5/16/2025

Project #: 25003
Checked: KMB
Scale: As Noted
Rev:

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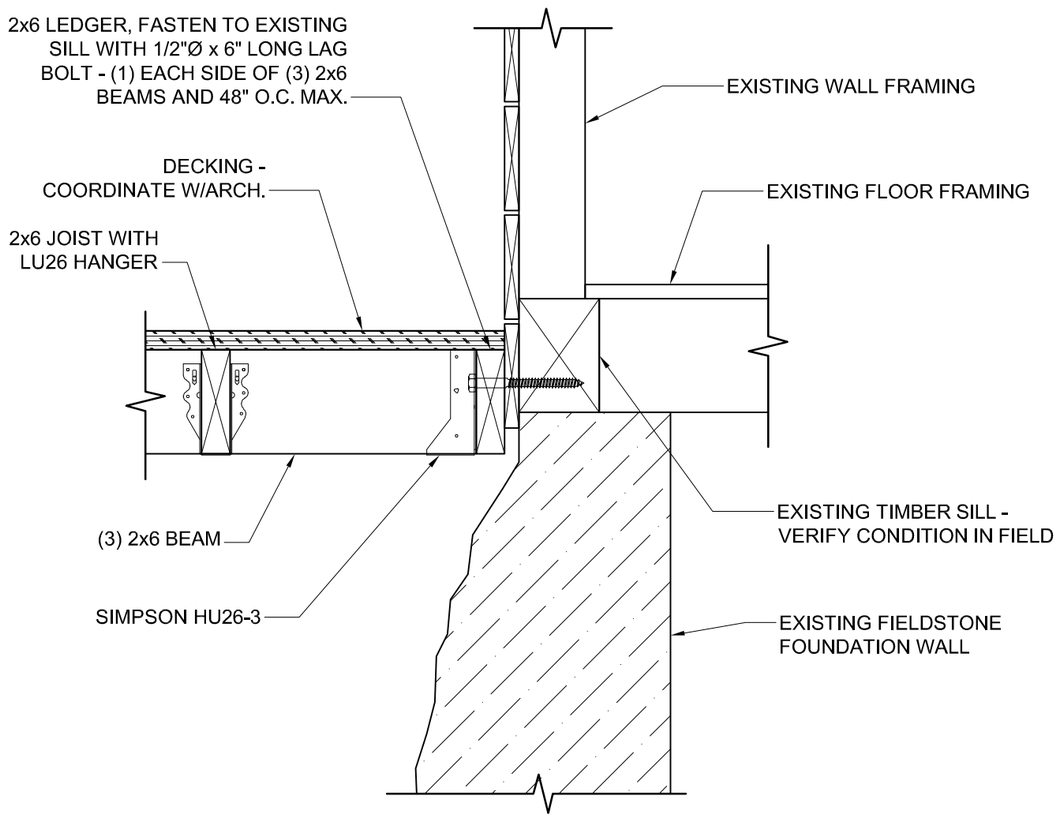
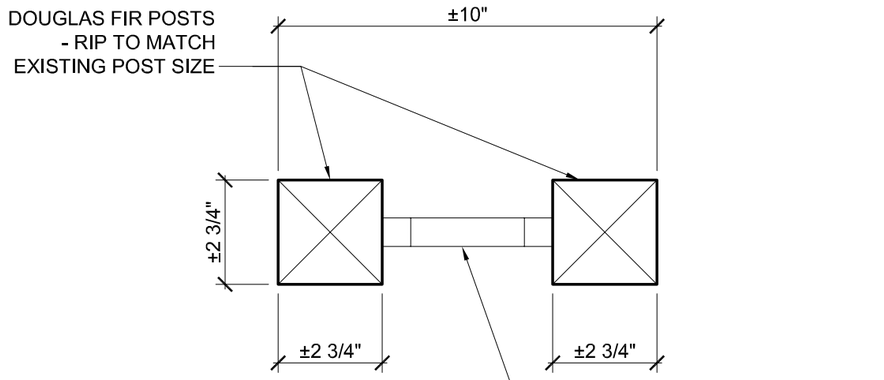



1 TYPICAL LEDGER DETAIL

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




NOTE: SEE ARCHITECTURAL DRAWINGS FOR MORE INFORMATION

2 SCHEMATIC POST SECTION

SCALE: 3" = 1'-0"

S2.0

Date: 5/16/2025

Project #: 25003

Checked: KMB

Scale: As Noted

Rev:

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64 Dane Street, Somerville, MA 02143

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# Anderson & McQuaid Co, Inc.

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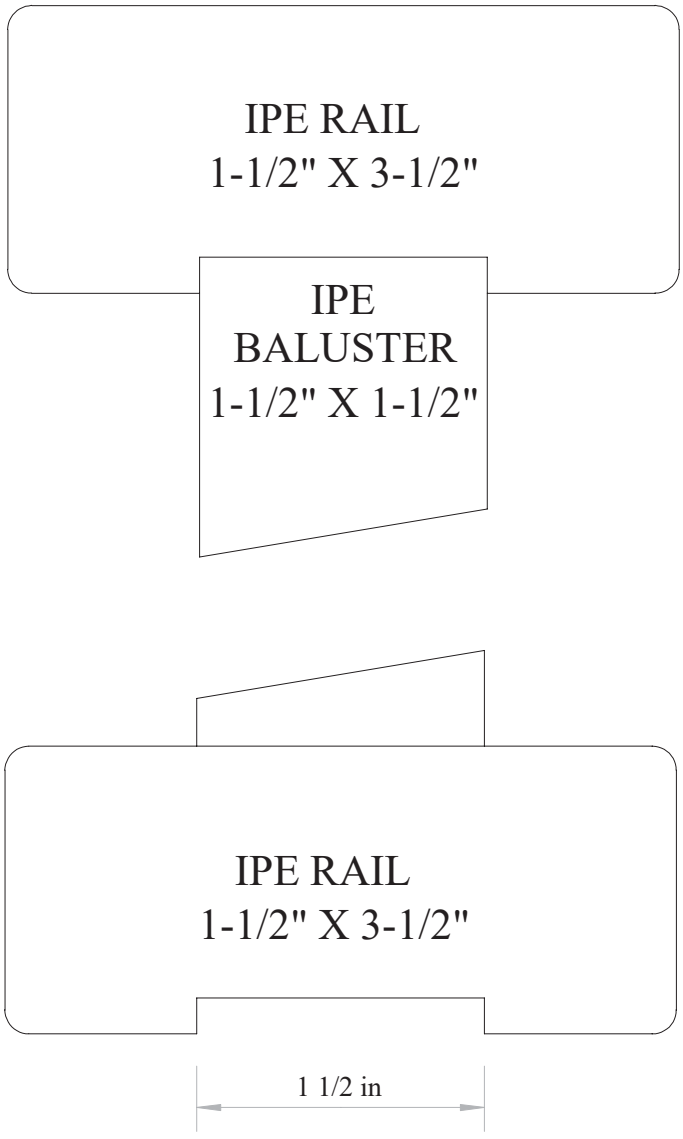


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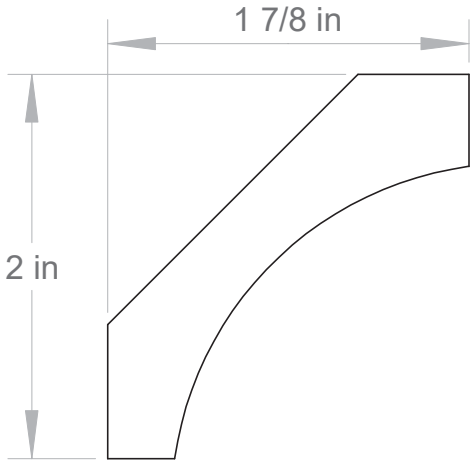
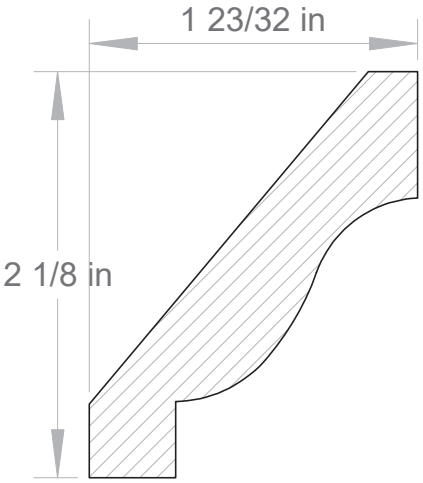
All unshaded profiles available in poplar.
All shaded profiles available in poplar, cherry, maple, sapele and red oak.
All hatched profiles available in sapele.

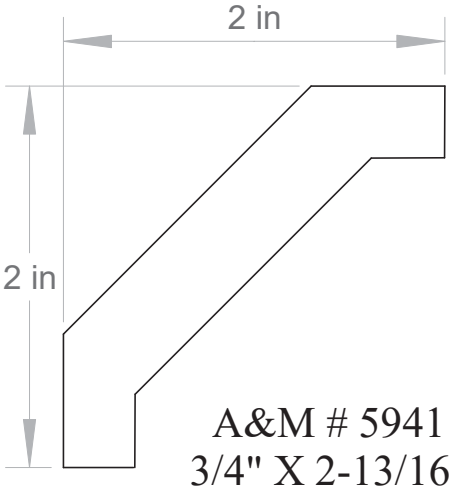
# Anderson & McQuaid Co, Inc.



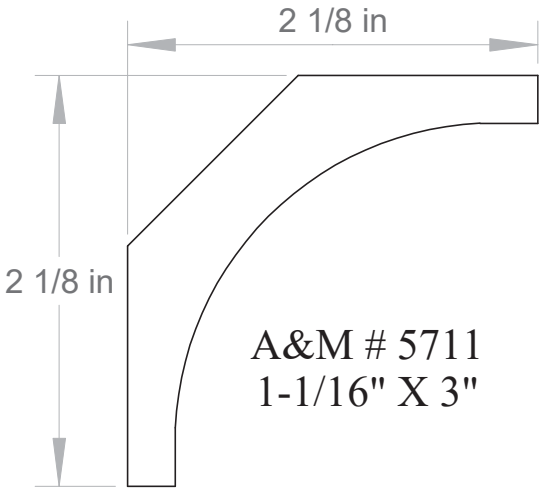

A&M # 5280
3/4" X 2-3/4"



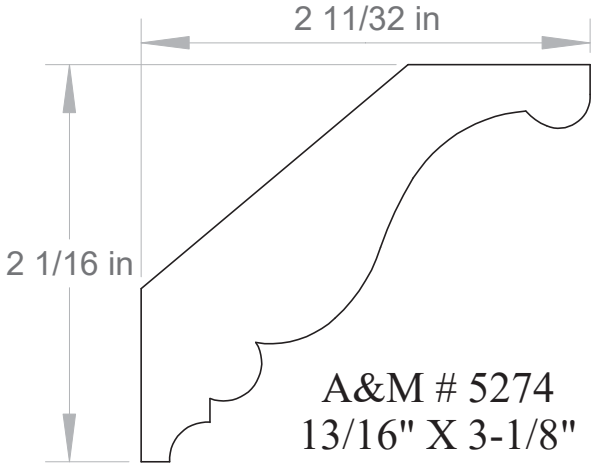

A&M # 5503
9/16" X 2-3/4"
ALSO IN POPLAR



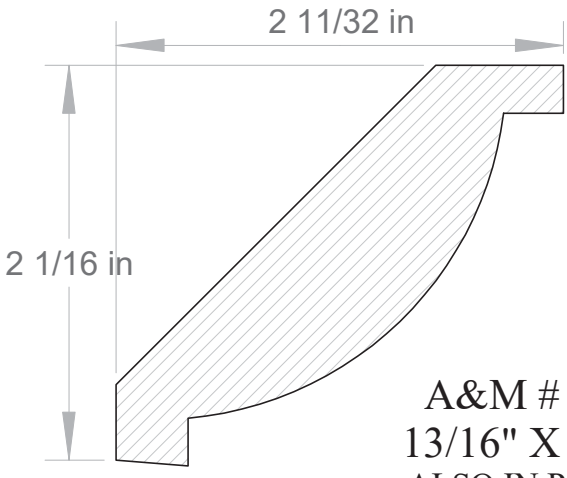

A&M # 5941
3/4" X 2-13/16"



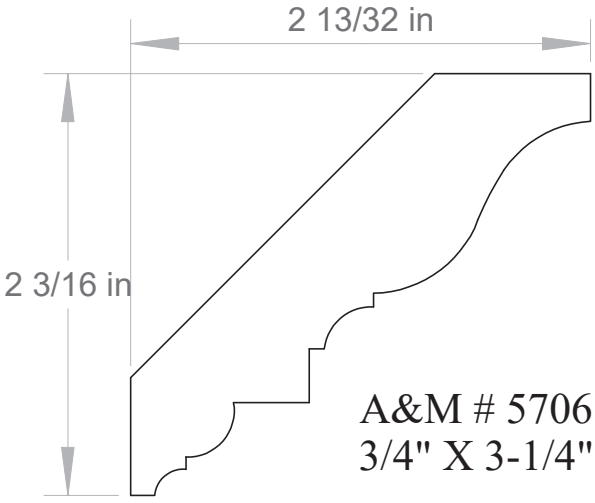

A&M # 5711
1-1/16" X 3"




A&M # 5274
13/16" X 3-1/8"




A&M # 5783
13/16" X 3-1/8"
ALSO IN POPLAR




A&M # 5706
3/4" X 3-1/4"



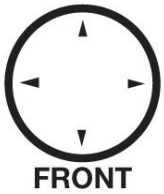
All unshaded profiles available in poplar.
All shaded profiles available in poplar, cherry, maple, sapele and red oak.
All hatched profiles available in sapele.

# CHADSWORTH COLUMNS

1-800-COLUMNS

## PULTRUDED FIBERGLASS COLUMNS – INSTALLATION

### STEP 1




Measure opening in four places: front, back, left & right of the column (see drawing). Mark column accordingly. If column is too long, shorten length from bottom.

### STEP 2

Use an abrasive saw (masonry or carbide tip blade). Fine trim top and bottom with rasp to assure flat surface contact.

### STEP 3

Slip base over top of the column shaft & allow it to slide to base of the shaft. Slip cap over column shaft & allow it to rest on neck molding. Some sanding may be required.

### STEP 4

Apply construction adhesive to top and bottom surfaces of column. **Use a non-acetone based exterior grade construction adhesive.**

### STEP 5

Put assembly in place and plumb. Make sure load is centered over the column shaft and evenly distributed around the bearing surface.

### STEP 6

Mark and drill holes in floor and column shaft for corner/angle brackets (not included).

CHADSWORTH INCORPORATED
277 NORTH FRONT STREET ▪ HISTORIC WILMINGTON, NC 28401 ▪ PHONE: 1.800.486.2118 ▪ FACSIMILE: 1.910.763.3191 ▪ E-MAIL: sales@columns.com

# PULTRUDED FIBERGLASS COLUMNS – INSTALLATION

### STEP 7

Apply construction adhesive to top of capital, press against structure, and screw or nail into place. **Use a non-acetone based exterior grade construction adhesive.**

### STEP 8

Apply construction adhesive to bottom of base and nail or screw to floor. **Use a non-acetone based exterior grade construction adhesive.**

### STEP 9

Mark location for supplied neck molding to a 45° angle. Apply construction adhesive and put neck mold in place. **Use a non-acetone based exterior grade construction adhesive.**

### STEP 10

Pre-drill holes through neck mold into column. Screw neck mold in place or pre-drill and use finish nails.

### STEP 11

Set screws or nails and use caulk to cover the holes.

### PAINTING TIPS

Follow the paint manufacturer's instructions for priming and finishing fiberglass composite column and polyurethane capital and base molding / plinth.

Do not paint using dark colors (dark colors are considered any color that falls within the "L" values of 56 to 0). "L" is a measure of the lightness of an object, and ranges from "0" (black) to "100" (white).

*WARRANTY IS VOID IF INSTALLATION INSTRUCTIONS ARE NOT FOLLOWED*

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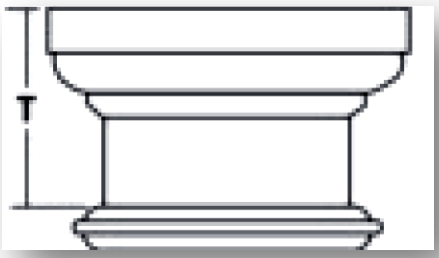
# PULTRUDED FIBERGLASS COLUMNS – INSTALLATION

## *INSTALLATION NOTES AND TIPS*

**NOTE 1:**
***DECORATIVE CAPITALS***

When installing a round Fiberglass column with a decorative capital, subtract the "T" dimension (distance from top of the ornament to the top of the neck molding) and add the height of the decorative capital – this can lengthen or shorten the height of the column.




**NOTE 2:**
***REQUIRED LOADING***

Ensure concentric loading of the column. 100% of the bottom must contact substrate and 75% of top must contact soffit.

**NOTE 3:**
***HAND RAILS***

When attaching hand rails or corner irons to round or square columns, holes must be pre-drilled.

**NOTE 4:**
***CAPITAL AND BASE***

Light sanding may be needed for correct fitting of the base.

**NOTE 5:**

Columns are not designed to be set into masonry.

**NOTE 6:**

Do not fill with concrete. Concrete can be used with a barrier such as sonotube. Leave a minimum ½" gap to allow for expansion and contraction of the concrete.

**NOTE 7:**

Columns are not designed to be used in a free standing application. If used in free standing applications, a structural support must be utilized.

**NOTE 8:**

**Split columns are no longer weight bearing.**

www.COLUMNS.com

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