



CarriageHouseStudio

architects

Reviewed for Code Compliance
Permitting and Inspections Department
Approved with Conditions

12/03/2018

November 30, 2018

Brian Stephens, Plan Reviewer
City of Portland Permitting & Inspections Department
389 Congress Street
Portland, Maine 04101

RE: 32 May St BLDR2018-00415
Response to review comments dated November 27, 2018

Dear Brian,

Thank you talking to me today about your review of the building application for 32 May Street. Below are responses to each of your concerns.

TECHNO METAL POSTS

The gravity/vertical load on each of the two Techno Posts in the corners of the building is approximately 4,000# which is less than the 9,600# specified capacity for the Techno Post Model P2, which we will use for this project. Product information for the P2 post is attached.

GLAZING

Thank you for spotting this. We are re-using an original historic window near the shower. We propose to apply 3M Safety Window Film with 3M adhesive attachment system to each pane of the window, to bring the antique glass in compliance with CPSC 16 CFR 1201 Class II requirements of IRC Section R308. 3M's product info sheet is attached.

ROOF INSULATION

Per IECC Section 402.2.2 Ceilings without attic spaces, we may provide R-30 insulation in lieu of R-49 in the attic if both of the following bullets are met:

- There is not enough space for the required R-49 insulation. Because we are preserving the historic cornice of the original house, as preferred by historic preservation (see photo next page), attic space is limited.
- The area of the roof is below 500sf (we comply with this) or less than 20% of the total insulated ceiling area, whichever is less (we do not comply with this).

It is worth noting that in the 2015 IRC Code - Chapter 11 Energy Efficiency, a similar paragraph (N1102.2.2) does not include the maximum 20% of roof area provision. The same is true of the 2009 IRC Code that was the standard in Maine until the new codes were adopted earlier this year.

As I mentioned in our phone conversation on Friday, the owners intend to keep the door from the house to the bathroom open when the bathroom is not in use, to let light into the library. Heat will flow from the bathroom to the higher-ceilinged library. Adding more insulation to the bathroom roof will not prevent this heat flow.

I hope that you will consider these conditions and allow the reduction to R-30 insulation in the bathroom roof.

FLOOR INSULATION

Here we are utilizing Table 402.1.2, which requires R30 insulation in the floor with the exception provided by footnote g. which states "Or insulation sufficient to fill the framing cavity, R-19 minimum." We've clearly taken some liberties here, as we are not filling the cavity because of the plumbing pipes in that space. We prefer the good seal that closed cell spray foam provides at the band joist and low in the joist bay, combined with rigid insulation boards below the joists.

144 Vaughan Street . Portland . Maine 04102 . CHStudio@maine.r.com . 207.318.0731

www.carriagehousestudio.com



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Corrections to the drawings: the closed cell spray foam at 2" thick provides R-13. The rigid insulation should be 2" thick for R-10, not 1/2". Total proposed insulation R-value is R-23. If the rigid insulation is thicker, it will become impractical to install it and the protection board to the bottom of the joists as there is not a lot of clearance to grade. We are hoping that you will agree that we are doing the best we can given the existing conditions.

SOIL PIPE SPACE

You raise a good point. The toilet is next to the wall of the house (18" to the centerline of the toilet) so the 4" soil pipe will not have far to go before it is in the existing basement. The elbow will be between the joists. If we need to furr below the joists in that corner of the addition to allow for adequate insulation, we will do so.

Thanks again for your comments. If accepted, the notes in this letter will be included as part of the on-site documents for construction.

Sincerely,

Carol De Tine AIA



attachments: Techno Metal Posts information
3M Window Film information
Drawing set - 3 pages



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techno Metal Post™

1700, Setlakwe Street
 Thefford Mines (QC) G6G 8B2
 CANADA
 www.technometalpost.com

CONFIDENTIAL

THE INFORMATIONS CONTAINED
 IN THIS DRAWING IS THE SOLE
 PROPERTY OF TECHNO PIEUX INC.
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 AS A WHOLE WITHOUT THE WRITTEN
 PERMISSION OF TECHNO METAL POST INC.
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REVISIONS

DATE	DESCRIPTION	REV.
26/06/2013	Revised Load capacity.	1

Client :

Client address :

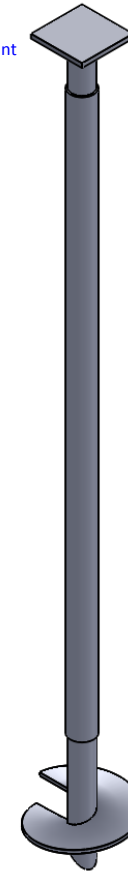
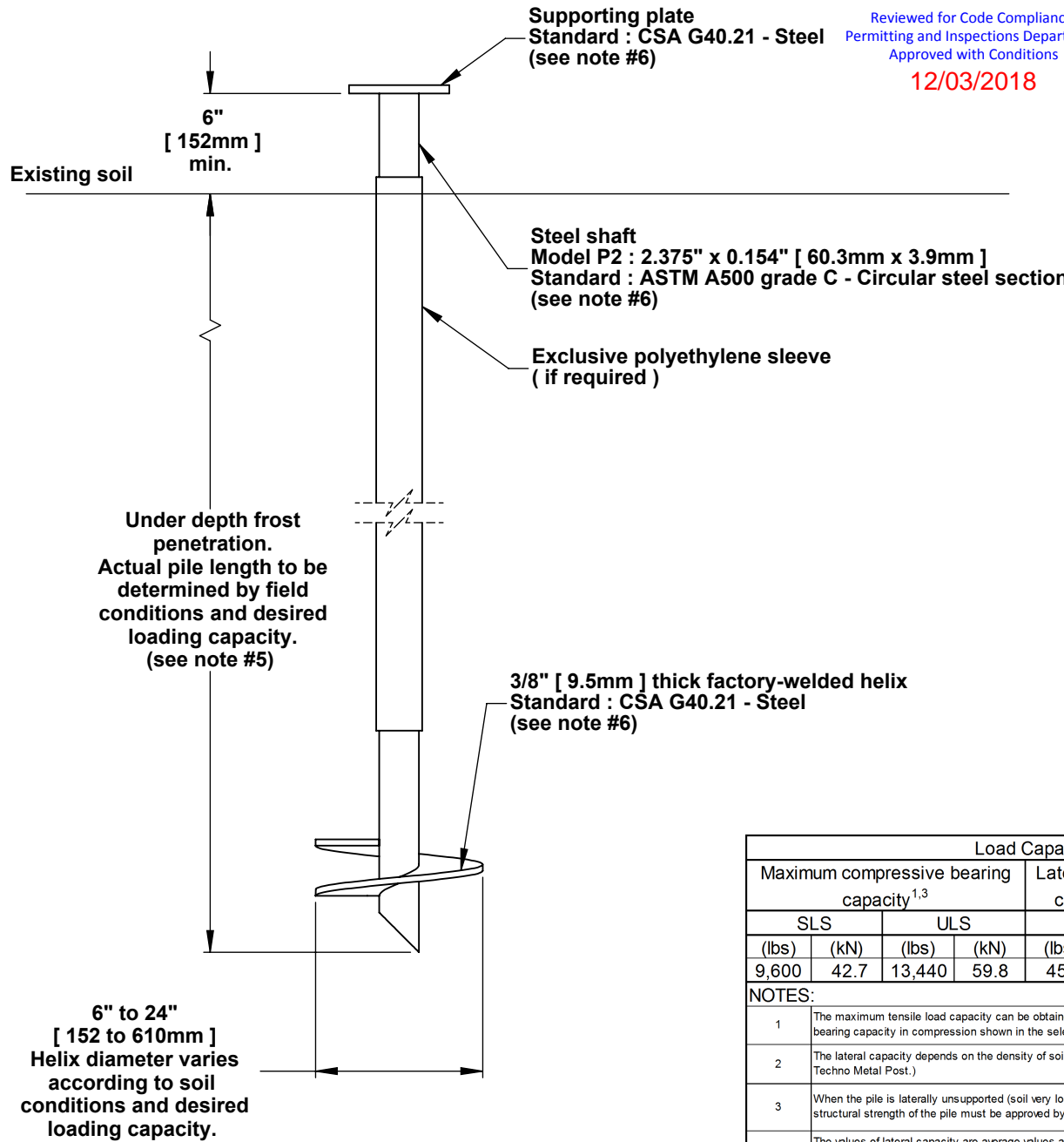
Project :

Drawing : **Techno Metal Post Model P2 (Above ground light structure)**

Approved by :

Date : 2011-10-31
 Scale : N/A

Drawing no: P2-G-R1-A
 Page number : SHEET 1 OF 1



Load Capacity							
Maximum compressive bearing capacity ^{1,3}				Lateral bearing capacity ^{2,4}		Factored bending resistance	
SLS		ULS		SLS		ULS	
(lbs)	(kN)	(lbs)	(kN)	(lbs)	(kN)	(lbs.ft)	(kN.m)
9,600	42.7	13,440	59.8	450	2.0	1,785	2.4

NOTES:

- The maximum tensile load capacity can be obtained, conservatively, by halving the values of the bearing capacity in compression shown in the selection table.
- The lateral capacity depends on the density of soil (to validate consult technical department of Techno Metal Post.)
- When the pile is laterally unsupported (soil very loose / soft, liquefiable soils, water and air), the structural strength of the pile must be approved by the technical department of Techno Metal Post.
- The values of lateral capacity are average values and can be modified, more or less, depending on the characteristics of the existing soil.
- If required, piles may be field welded with extensions to achieve greater loading capacities in poor soil conditions.
- If required, the helical pile and the supporting plate can be galvanized in compliance with standard CAN / CSA G-164-M92 610g / m²



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3M Science.
Applied to Life.™

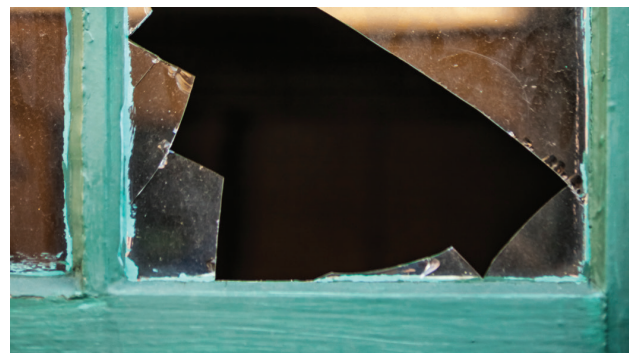
Using 3M™ Window
Films to upgrade
glass to code can be
7X
less expensive than
installing new windows

Protect people and upgrade to code.*

**3M™ Safety Window Films &
Attachment Systems —
Safety Glazing**

- ▶ Tested to meet safety glazing impact requirements
- ▶ Can be a cost effective solution to replacing windows
- ▶ Can reduce risk of cutting or piercing injuries

*Building codes vary. Consult with a local building code official.



Protected by 3M™ Window Film



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Proven to perform.

Building code references safety glass standards such as ANSI Z97.1 or 16 CFR 1201. 3M™ Safety Window Films have been impact tested to these and other safety glass standards, and third party test reports are available from independent test labs, such as those that may be accredited by the Safety Glazing Certification Council to facilitate approval by a local code official.

Cost effective and up to code.*

Building code may specify that glass in certain hazardous locations, such as glazing near wet surfaces, doors, floors, ramps and stairs meet certain safety glazing requirements. 3M™ Safety Windows Films & Attachment Systems can help you quickly and easily meet safety glazing impact requirements at a fraction of the cost of replacing windows.**

Your practical solution.

If the wrong glass was installed on your new construction project, 3M™ Safety Windows Films & Attachment Systems can be a cost effective solution without replacing them — and without significant delays.

A wider margin of safety.

3M is committed to providing products that enhance and improve homes, businesses and lives. 3M science helps you cost effectively fortify existing windows with 3M™ Safety Windows Films & Attachment Systems. You can use our strong, micro-layered, tear resistant films to help keep people safe while you upgrade to code. Once the film is applied, if windows break they are designed to break in a manner that reduces the risk of cutting or piercing injuries.

Save money fast.

3M™ Safety Windows Films & Attachment Systems can also include solar energy rejection features to help reduce air conditioning costs and save you money. In fact, you can recoup your 3M™ Window Films investment in as little as three years.

Enhance glass safety at 3M.com/WindowFilm.

Warranty and Limited Remedy: 3M warrants that each 3M product meets the applicable 3M product specification at the time 3M ships the product. 3M MAKES NO OTHER EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. If the 3M product does not conform to this warranty, the sole and exclusive remedy is, at 3M's option, replacement of the 3M product or refund of the purchase price. **Limitation of Liability:** Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted.



3M Commercial Solutions Division
3M Center, Building 220-12E-04
St. Paul, MN 55144-1000
3M.com/windowfilm

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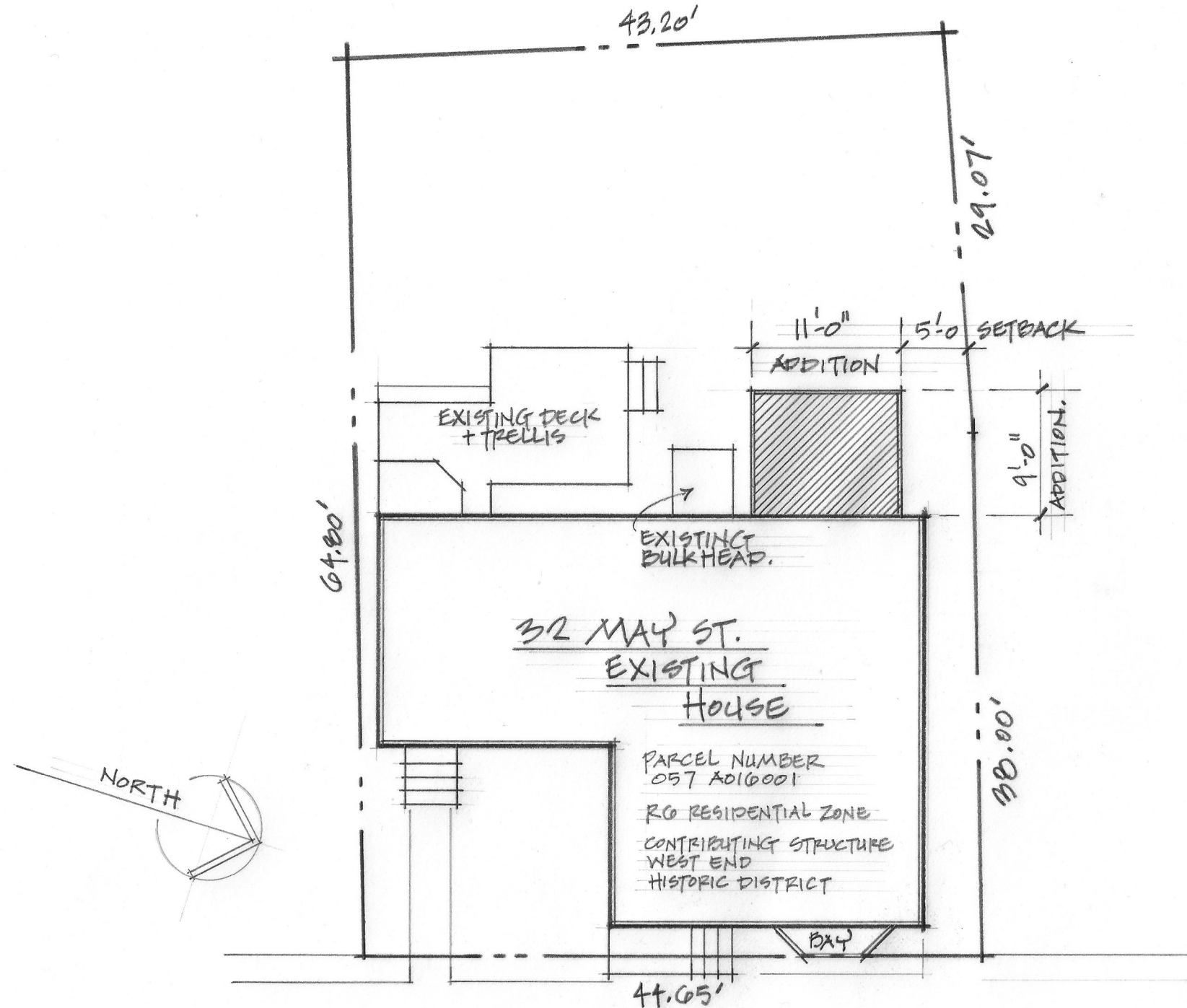
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*Building codes vary. Consult with a local building code official.
**According to 16 CFR 1201 Safety Standard for Architectural Glazing Materials. Local building codes vary, consult a local code official for requirements and approval criteria.



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NOTES -

1. SURVEY INFORMATION PROVIDED BY DANIEL J. DALFONSO LAND SURVEYOR IN BOUNDARY SURVEY PLAN DATED 10.20.07.
2. DECK + TRELLIS INFORMATION PROVIDED BY OWNER.
3. LOT AREA ± 2900 SF
RES'D 2000 SF
4. LOT COVERAGE - MAX 60%
EXISTING 1340 SF - 46%
PROPOSED 1440 SF - 50%

M A Y S T R E E T

SITE PLAN.

SCALE - 1" = 10'

5 OCT. 2018



BUILDING PERMIT APPLICATION

32 MAY ST. BATHROOM ADDITION.

CARRIAGE HOUSE STUDIO ARCHITECTS LLC

PAGE 1 OF 3.



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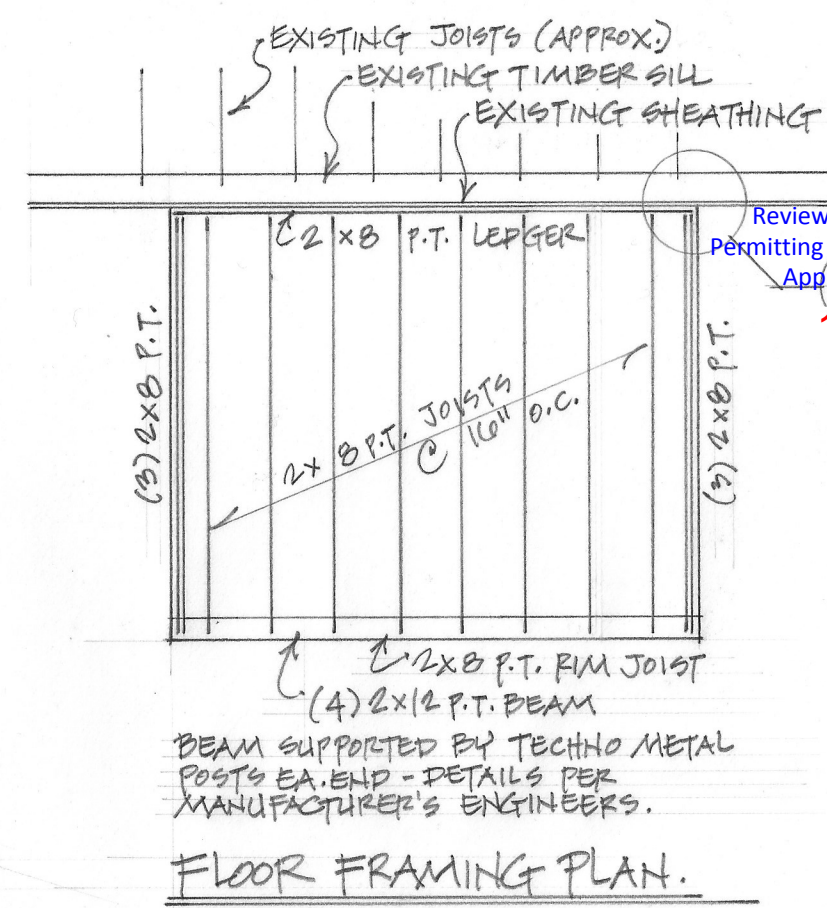
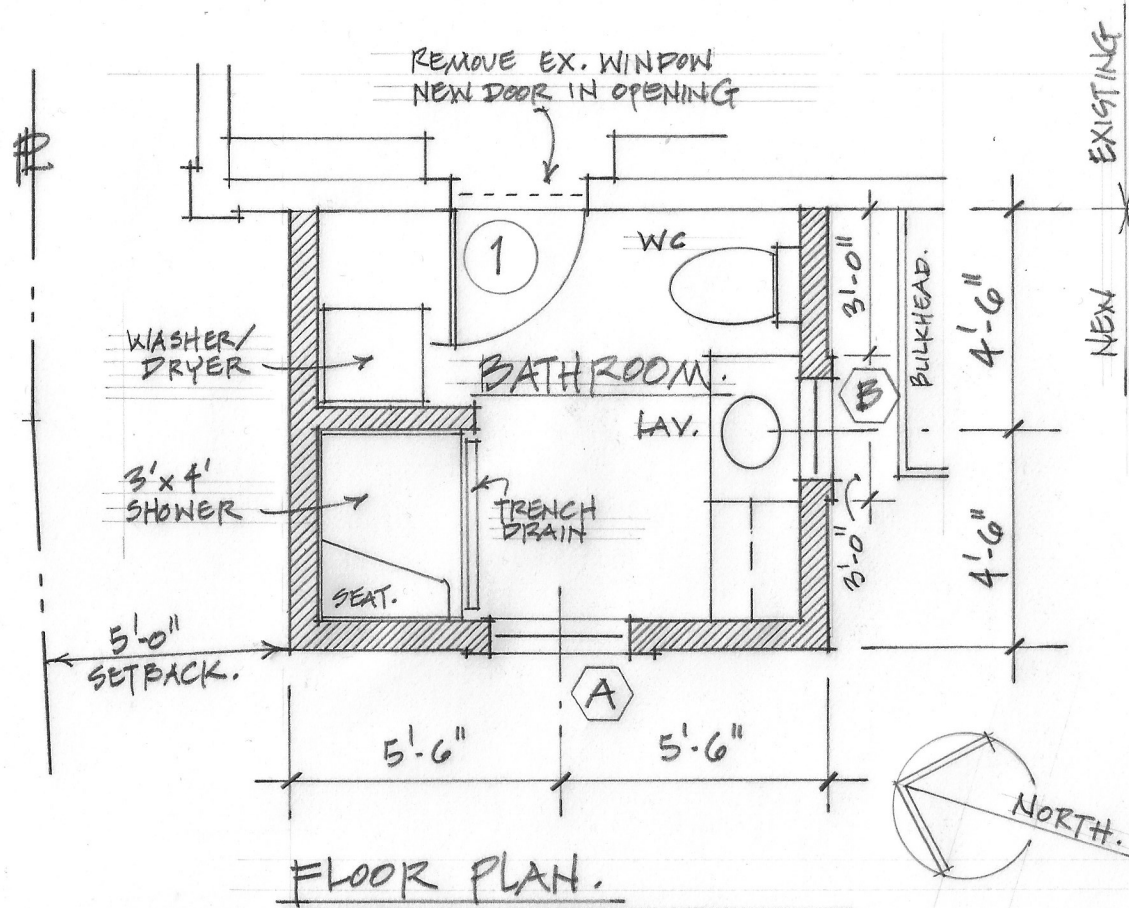
WINDOW SCHEDULE

- A** INSTALL SALVAGED HISTORIC WOOD WINDOW SASH, FRAME, STORM WINDOW + EXTERIOR TRIM
- B** MARVIN WOOD WINDOW W/SH 2020 - SINGLE HUNG - WOOD HALF SCREEN - 2 OVER 2 DIVIDED LITES - U FACTOR - 0.33.

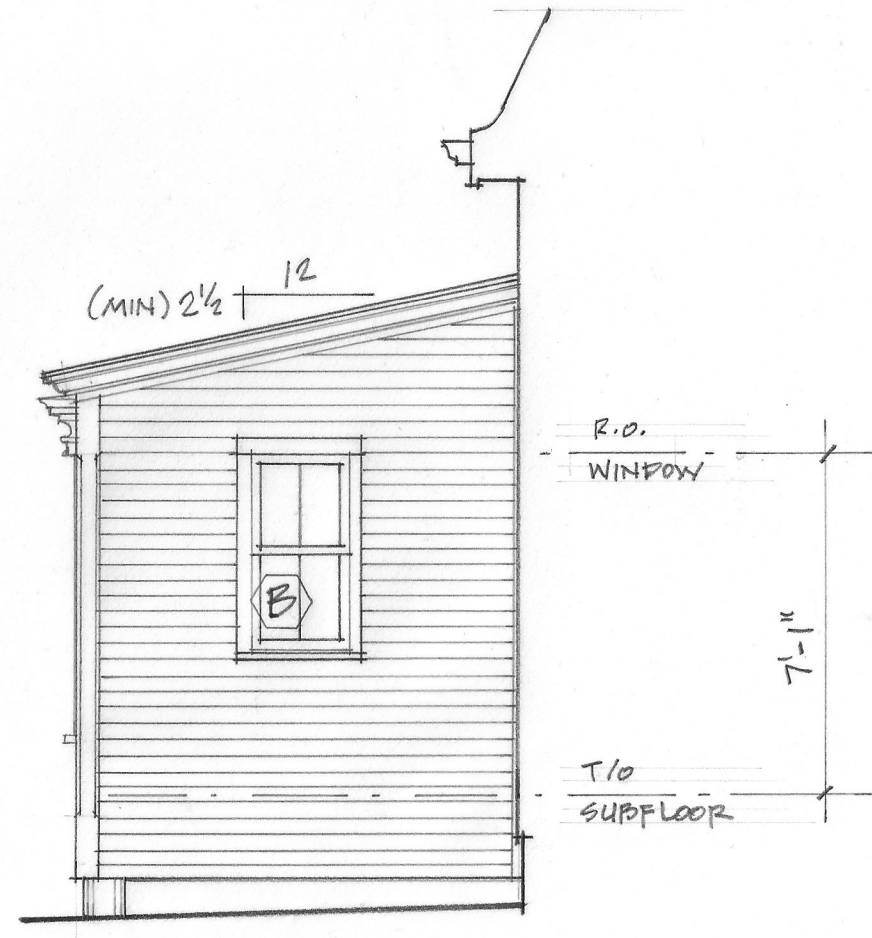
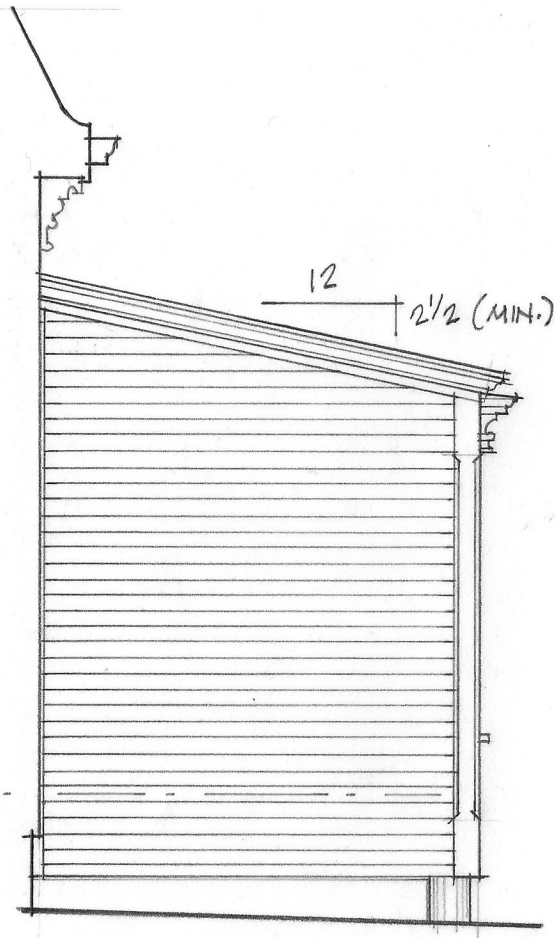
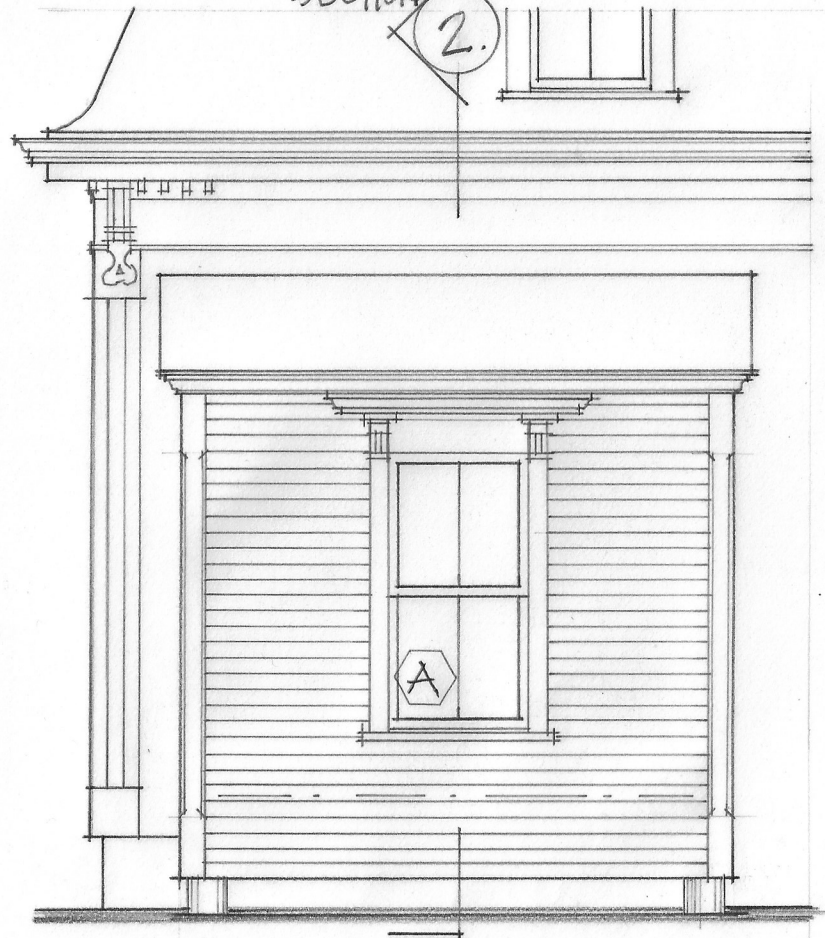
DOOR SCHEDULE

- 1** SALVAGED HISTORIC WOOD DOOR TO MATCH EXISTING DOORS OR CUSTOM-BUILT DOOR ALSO TO MATCH EXISTING DOORS.

SCALE 1/4" = 1'-0"



SECTION 2

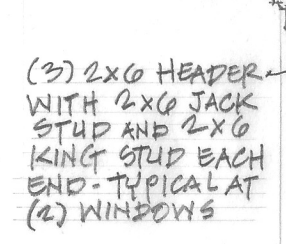
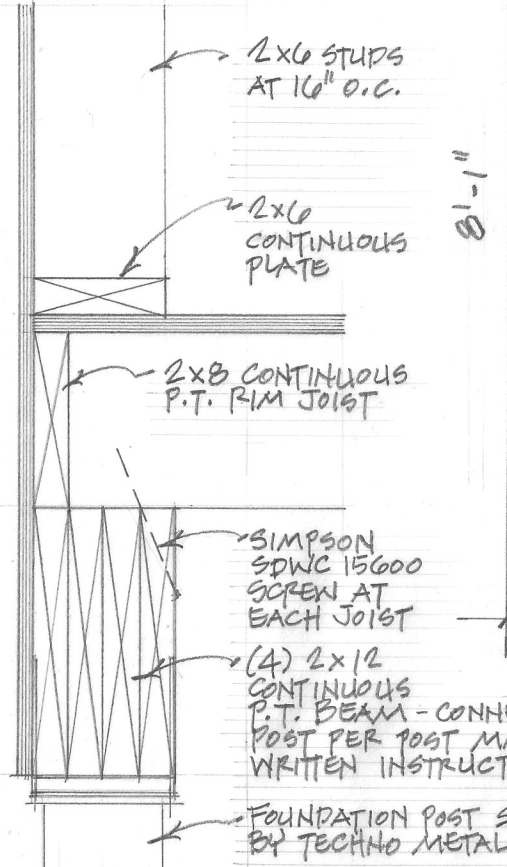
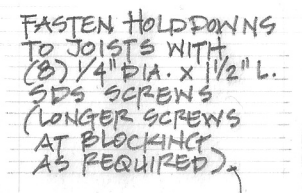
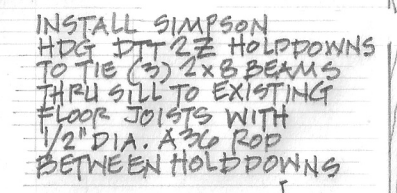
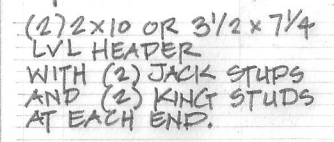
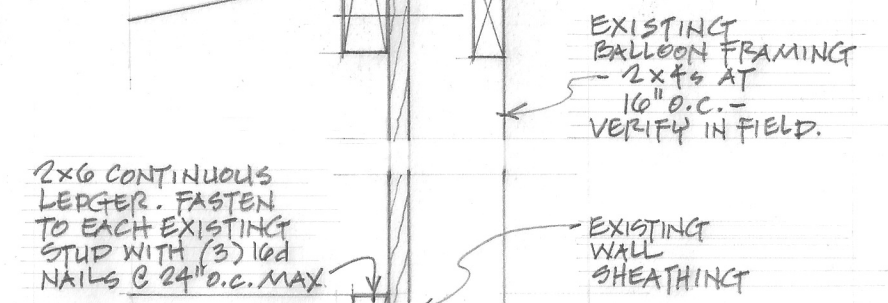
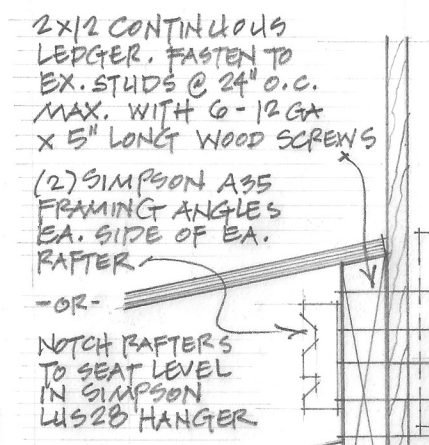
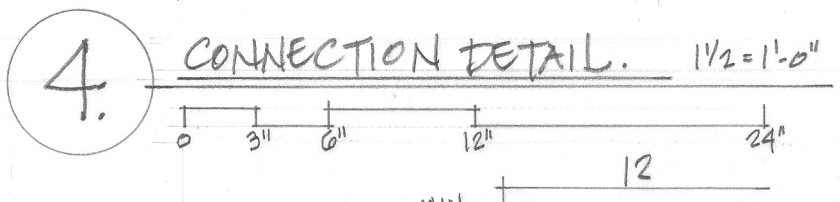
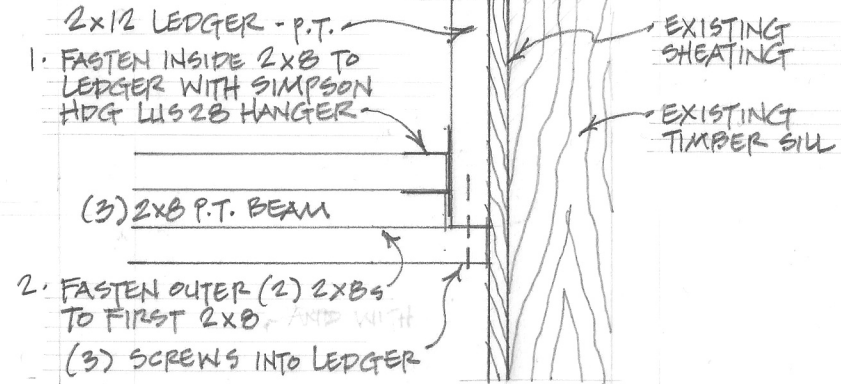
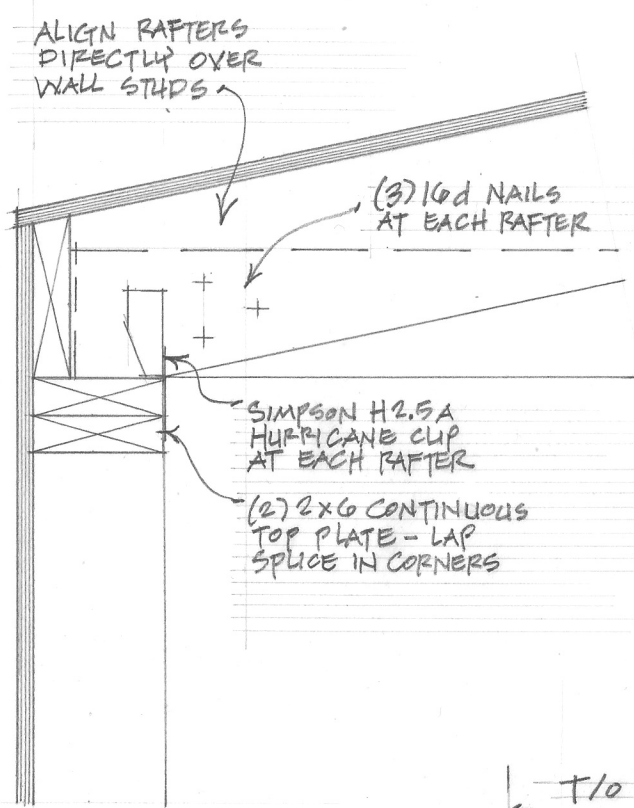


32 MAY ST. PAGE 2 OF 3.



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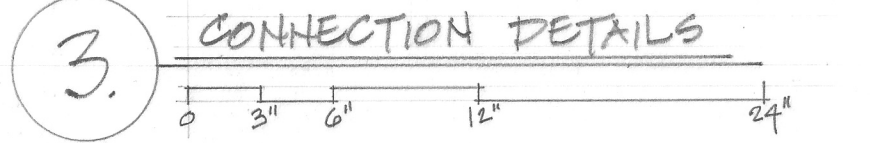
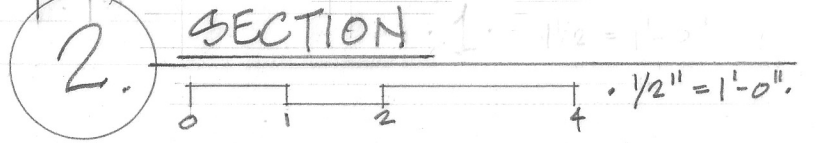
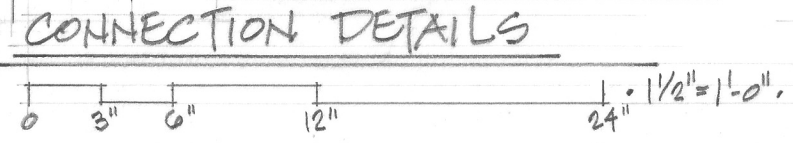
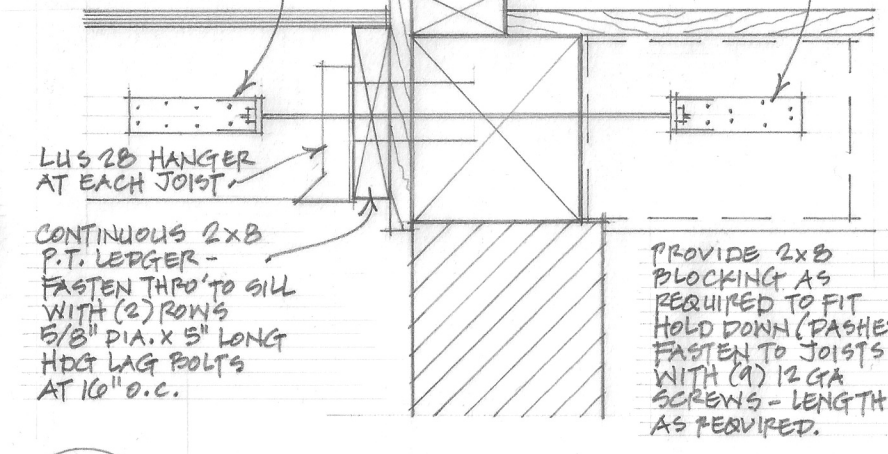
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- ROOF CONSTRUCTION:**
- ASPHALT SHINGLES
 - ICE + WATERSHIELD
 - 5/8" APA RATED SHEATHING
 - 2x8 RAFTERS @ 16" O.C.
 - MIN. 5" (R36) CLOSED CELL FOAM INSULATION BETWEEN RAFTERS
 - 2x6 CEILING JOISTS @ 16" O.C.
 - 1x FURRING @ 16" O.C.
 - 5/8" M.R. GWB OVER V.B.

- WALL CONSTRUCTION:**
- WOOD CLAPBOARDS
 - 1x WOOD FURRING - VERT. @ 16" O.C.
 - 1/2" POLYISO RIGID INSUL. R5
 - 1/2" APA RATED WALL SHEATHING
 - 2x6 STUPS @ 16" O.C. WITH R19 BATT BETWEEN
 - 1/2" M.R. GWB OVER V.B.

- FLOOR CONSTRUCTION:**
- TILE/STONE OVER UNDERLAYMENT
 - 3/4" APA-RATED FLOOR SHEATHING
 - 2x8 P.T. JOISTS @ 16" O.C.
 - MIN. 2" CLOSED CELL SPRAY FOAM BETWEEN JOISTS - R14.4
 - 1/2" POLYISO RIGID INSUL. R10 BELOW JOISTS
 - PROTECTION BOARD



912 MAY ST. PAGE 3 OF 3.