

**GENERAL CONDITIONS**

- G. C. MUST BUILD EXACTLY WHAT IS SHOWN ON STRUCTURAL DRAWINGS. ANY PROPOSED DEPARTURES FROM WHAT IS INDICATED MUST BE REVIEWED WITH THE ENGINEER PRIOR TO CONSTRUCTION. ALL UNAUTHORIZED CHANGES TO THE APPROVED DRAWINGS MUST BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL CAREFULLY VERIFY ALL DIMENSIONS AND CONDITIONS SHOWN ON DRAWINGS PRIOR TO COMMENCEMENT OF THE WORK, AND SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ENGINEERING AND ARCHITECTURAL DOCUMENTS.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL MEANS AND METHODS OF TEMPORARY SHORING, BRACING, OR OTHERWISE PROTECTING ANY PORTION OF THE STRUCTURE, SITE AND UTILITIES FROM DAMAGE DURING CONSTRUCTION. THE ENGINEER IS SPECIFYING THE FINISHED CONDITION ONLY, WITHOUT ASSUMING KNOWLEDGE NOR RESPONSIBILITY FOR HOW THE CONTRACTOR WILL ACHIEVE THIS RESULT.
- FOR RENOVATION WORK STRUCTURAL DRAWINGS PRODUCED WITH ASSUMPTIONS MADE REGARDING EXISTING CONDITIONS. IF CONTRACTOR FINDS EXISTING CONDITIONS NOT AS ASSUMED CONTACT ENGINEER IMMEDIATELY. REVISIONS TO THE STRUCTURAL FRAMING MAY BE REQUIRED.
- FOR EXACT LOCATIONS OF FLOOR AND ROOF OPENINGS, POSTS, ETC., SEE ARCHITECTURAL DRAWINGS.

**FOUNDATIONS**

- WHERE FOUNDATIONS ARE EXISTING, DESIGN HAS BEEN COMPLETED ASSUMING FOUNDATIONS ARE SUITABLE TO SUPPORT PROPOSED RENOVATION. CONTRACTOR RESPONSIBLE FOR VERIFYING THAT THE EXISTING FOUNDATION CONFORMS TO BUILDING CODE REQUIREMENTS AND REPORT FOOTING CONDITIONS TO ENGINEER FOR VERIFICATION.
- EXCAVATE TO LINES AND GRADES REQUIRED TO PROPERLY INSTALL THE FOUNDATIONS ON INORGANIC, UNDISTURBED SOIL OR CONTROLLED STRUCTURAL BACKFILL AS REQUIRED BY THE ARCHITECT. ALL EXCAVATIONS SHALL BE DRY BEFORE PLACING ANY CONCRETE.
- EXTERIOR FOOTINGS SHALL BE PLACED ON APPROVED SOIL AT A MINIMUM DEPTH OF 4 FEET, OR AS MODIFIED BY THE STRUCTURAL ENGINEER, BELOW THE LOWEST ADJACENT GROUND EXPOSED TO FREEZING. ANY ADJUSTMENT OF FOOTING ELEVATIONS DUE TO FIELD CONDITIONS MUST HAVE THE APPROVAL OF THE ARCHITECT.
- SOIL BEARING CAPACITY: FOOTINGS MUST BE PLACED ON SOIL WITH A MINIMUM BEARING CAPACITY OF 4000 POUNDS PER SQUARE FOOT.
- BACKFILL BELOW FOOTINGS AND SLABS SHALL BE MADE WITH APPROVED GRANULAR MATERIALS PLACED IN 6" LAYERS. LAYERS SHALL BE COMPACTED TO 96% DENSITY AT OPTIMUM MOISTURE CONTENT, AS DEFINED BY ASTM D1557.
- BACKFILLING AGAINST WALLS OR PIERS MAY ONLY BE DONE AFTER WALLS OR PIERS ARE BRACED TO PREVENT MOVEMENT. FOR WOOD FRAMED RESIDENTIAL CONSTRUCTION, NO BACKFILLING OF WALLS MAY TAKE PLACE UNTIL THE FIRST FLOOR DECK HAS BEEN FRAMED AND SHEATHED, UNLESS WRITTEN APPROVAL IS GIVEN BY THE ARCHITECT OR ENGINEER.
- PROVIDE FOUNDATION DRAINAGE, WATERPROOFING/DAMP-PROOFING, AND FOUNDATION WALL INSULATION AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

**CONCRETE**

- ALL CONCRETE WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE LATEST EDITION OF ACI-318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE".
- CONCRETE SHALL ACHIEVE A MINIMUM 28 DAY DESIGN STRENGTH AS FOLLOWS: FOOTINGS, WALLS, INTERIOR SLABS-ON-GRADE, AND OTHER CONCRETE NOT OTHERWISE SPECIFIED - 3000 PSI. EXTERIOR SLABS EXPOSED TO WEATHER - 4000 PSI.
- SLUMP AT THE POINT OF DISCHARGE FROM THE READY-MIX TRUCK SHALL BE 3-5".
- REINFORCING STEEL: TYPICAL - ASTM A615, GRADE 60, FIELD BENT - ASTM A615, GRADE 40 WELDED WIRE FABRIC - ASTM A185.

**DESIGN LOADS**

- LIVE LOADS**
- GROUND SNOW LOAD: 40 PSF
- UNINHABITABLE ATTICS WITHOUT STORAGE: 10 PSF
- UNINHABITABLE ATTICS WITH LIMITED STORAGE: 20 PSF
- HABITABLE ATTICS AND SLEEPING AREAS: 30 PSF
- ALL OTHER AREAS EXCEPT DECKS AND BALCONIES: 40 PSF

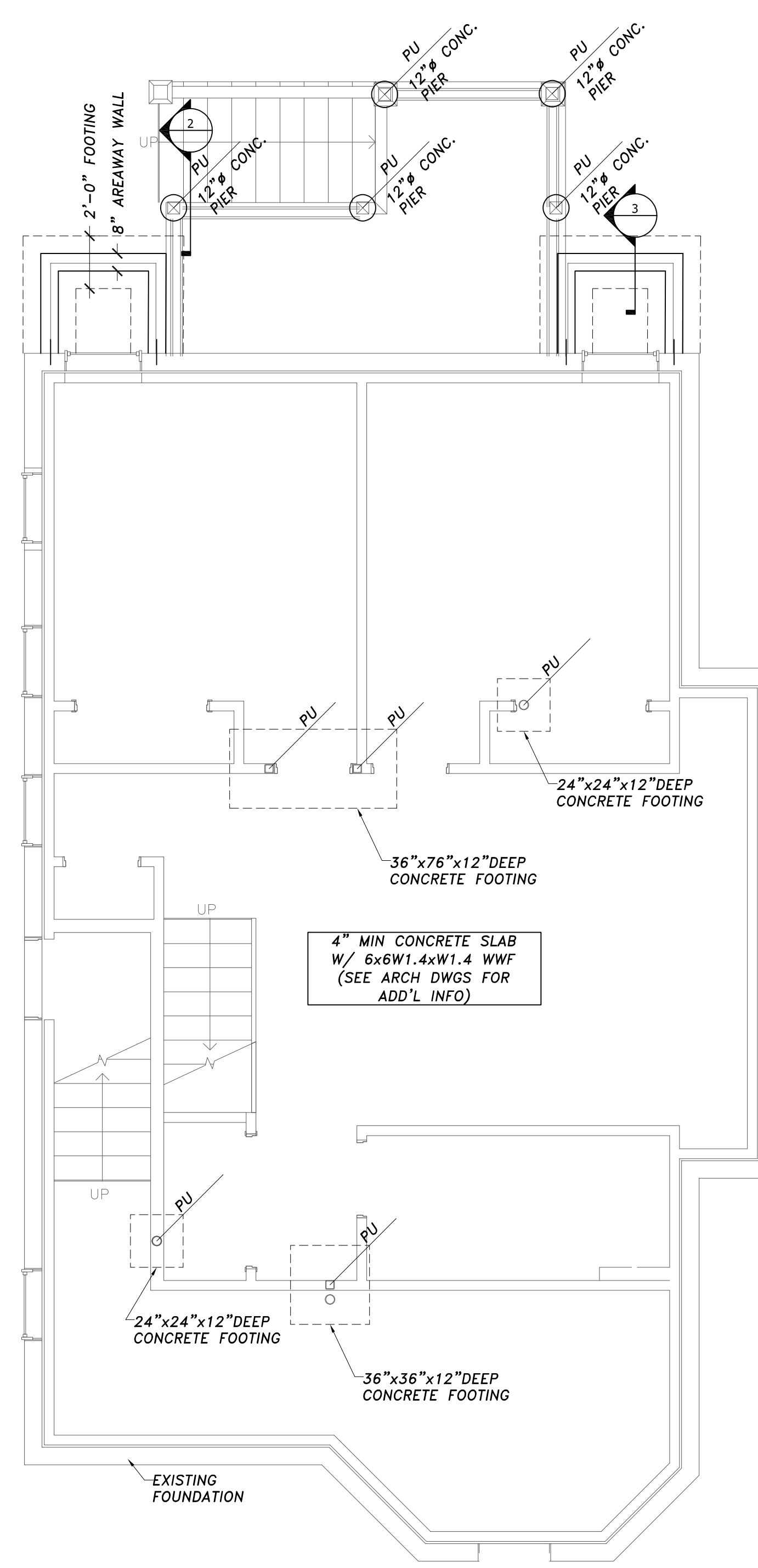
- WIND LOADS**
- MASSACHUSETTS STATE BUILDING CODE 128 MPH, EXP. B

- DEAD LOAD**
- WEIGHTS OF MATERIALS AND CONSTRUCTION

HANGER SIZES (UNLESS NOTED OTHERWISE IN DRAWINGS)			
MEMBER	QT	1	2
2X8	LUS28	LUS28-2	LUS28-3
2X10	LUS210	LUS210-2	LUS210-3
2X12	LUS210	LUS210-2	LUS210-3
9/8"LVL		HHUS410	HHUS5.50/10
1 1/8"LVL		HHUS410	HHUS5.50/10
1 1/4"LVL		HHUS410	HHUS5.50/10
2 1/4"FLG I-JOIST	IUS 2.37		
2 1/2"FLG I-JOIST	IUS 2.56		
3 1/2"FLG I-JOIST	IUS 3.56		

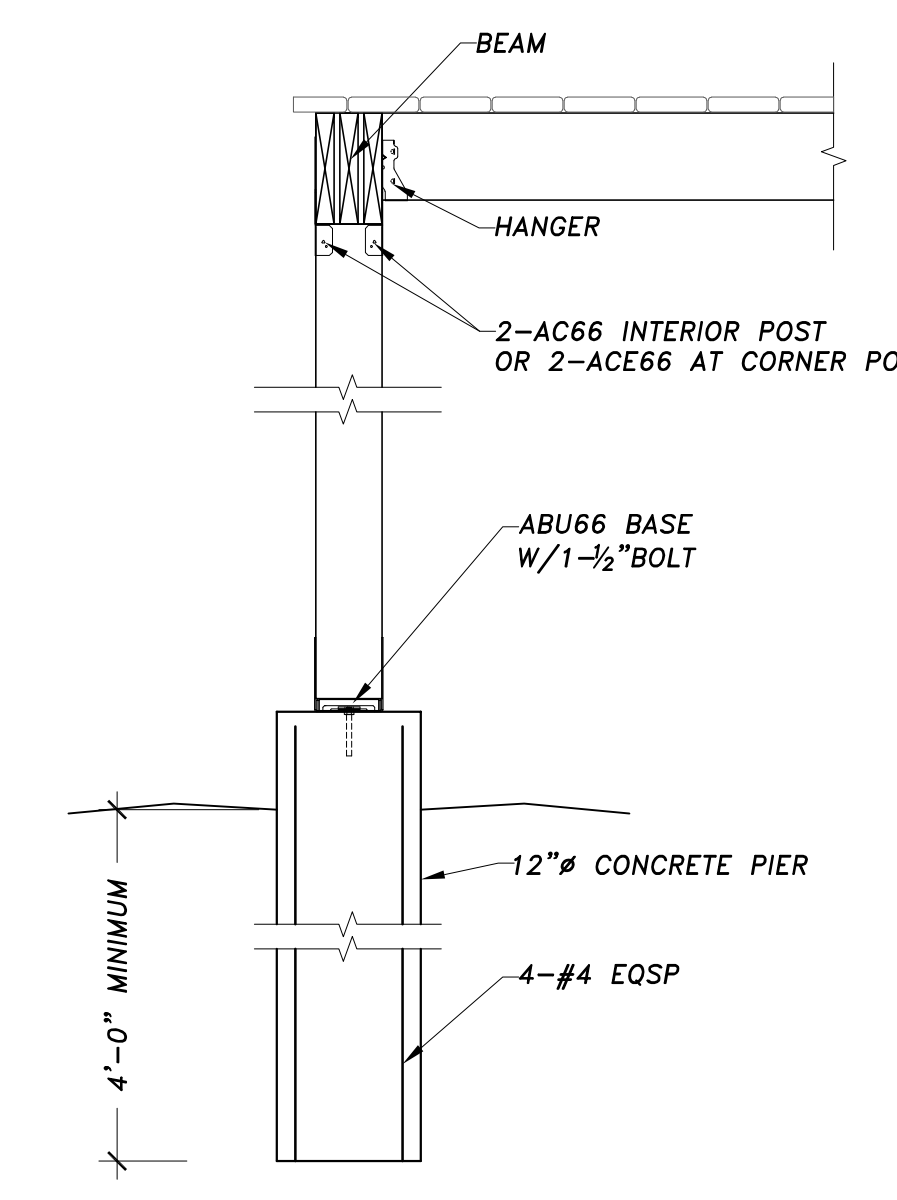
**ROUGH CARPENTRY**

- ALL ROUGH CARPENTRY WORK SHALL BE EXECUTED IN CONFORMANCE WITH THE LATEST EDITION OF THE MASSACHUSETTS BUILDING CODE FOR ONE AND TWO FAMILY DWELLINGS (MBC 1&2) AND THE INTERNATIONAL RESIDENTIAL CODE FOR ONE AND TWO FAMILY DWELLINGS (IRC 1&2).
- REFER TO THE MBC 1&2 AND IRC 1&2 FOR FRAMING COMPONENTS NOT SPECIFIED IN PLANS AND SECTIONS. NOTIFY THE ENGINEER OF ANY COMPONENT NOT DEFINED IN EITHER THE MBC 1&2 AND IRC 1&2 OR IN THESE DRAWINGS.
- REFER TO THE IRC 1&2 FASTENER SCHEDULE FOR STRUCTURAL MEMBERS TABLE 602.3 FOR CONNECTION FASTENING NOT IDENTIFIED IN THESE PLANS OR DETAILS.
- ENGINEER MAKES NO CLAIMS TOWARDS EXISTING CONDITIONS.
- WHEN NOT OTHERWISE IDENTIFIED, ALL WOOD BEAMS, JOISTS, RAFTERS, HEADERS, STRINGERS, PLATES, AND SILLS SHALL BE SPRUCE PINE FIR #2 OR BETTER, WITH A MINIMUM Fb = 875 PSI (SINGLE USE) AND Fb = 1000 PSI (REPETITIVE USE), AND E SHALL BE 1,400,000 PSI OR BETTER.
- WOOD STUDS MAY BE EASTERN HEMLOCK, EASTERN SPRUCE, OR HEM-FIR, GRADED "STUD" GRADE, #2 OR BETTER.
- LVL BEAMS, AS NOTED ON PLANS, SHALL HAVE A MINIMUM Fb = 3100 PSI, E = 2,000,000 PSI, AND Fv = 285 PSI. LVL BEAMS SHALL BE "VERSALAM" BY BOISE CASCADE. NO SUBSTITUTIONS WILL BE ACCEPTED, UNLESS THE ENGINEER SPECIFICALLY APPROVES ANOTHER PRODUCT SUBMITTED BY THE CONTRACTOR.
- WOOD "I" BEAMS SHALL BE BY BOISE CASCADE. NO SUBSTITUTIONS WILL BE ACCEPTED, UNLESS THE ENGINEER SPECIFICALLY APPROVES ANOTHER PRODUCT SUBMITTED BY THE CONTRACTOR. MANUFACTURER'S RECOMMENDATIONS FOR BEARING, REINFORCING, CUTS, CANTILEVERS, FASTENING, ETC., SHALL BE STRICTLY ADHERED TO.
- ENGINEERED WOOD POSTS (VERSA COLUMNS), AS NOTED ON PLANS, SHALL BE VERSA-LAM 1.7 265A.
- PLYWOOD WALL SHEATHING, ROOF SHEATHING, AND SUBFLOORING SHALL BE APA GRADE, TRADEMARKED C-D INTERIOR WITH EXTERIOR GLUE. SUBFLOORING SHALL BE 3/4" THICK TONGUE AND GROOVE, AND SHALL BE GLUED TO FLOOR JOISTS WITH AN APPROVED ADHESIVE PRIOR TO NAILING. ROOF SHEATHING SHALL BE 1/2" THICK AND WALL SHEATHING SHALL BE 1/2" THICK.
- ALL WOOD HAVING DIRECT CONTACT WITH CONCRETE OR MASONRY, AND WHEREVER WOOD IS WITHIN 8" OF FINISHED GRADE OR PART OF OPEN DECK CONSTRUCTION, SHALL BE PRESSURE TREATED.
- ALL METAL CONNECTORS INCLUDING JOIST AND BEAM HANGERS AND COLUMN CAP AND BASES SHALL BE BY SIMPSON STRONG-TIE CORP. THE CONTRACTOR SHALL STRICTLY ADHERE TO MANUFACTURER'S FASTENING REQUIREMENTS. CONTRACTOR TO VERIFY ALL CONNECTOR SIZES TO FRAMING ELEMENTS BEFORE ORDERING.
- UNLESS DETAILED OR SPECIFIED OTHERWISE ON THE PLANS, HEADERS AND BEAMS SHALL BE SUPPORTED BY AT LEAST ONE JACK STUD AND ONE KING STUD.
- FOR WOOD JOIST SPANS UP TO 14 FEET, PROVIDE A SINGLE ROW OF FULL DEPTH BLOCKING BETWEEN JOISTS AT MIDSPAN. FOR SPANS EXCEEDING 14 FEET, PROVIDE TWO ROWS OF FULL DEPTH BLOCKING BETWEEN JOISTS AT THIRD POINTS OF THE SPAN.
- MEMBERS WITHIN BUILT-UP BEAMS, WHETHER MADE OF SAWN OR ENGINEERED LUMBER, SHALL ONLY BE SPLICED OVER SUPPORTS.
- PROVIDE SIMPSON H1 OR H2.5 HURRICANE TIES BETWEEN EACH RAFTER BOTTOM AND ITS BEARING POINT.
- CONTRACTOR SHALL CAREFULLY COORDINATE THE WORK OF ALL TRADES TO MINIMIZE THE NEED FOR CUT, BORED OR NOTCHED IN FRAMING LUMBER. STRUCTURAL FLOOR MEMBERS SHALL NOT BE CUT, BORED OR NOTCHED IN EXCESS OF THE LIMITATIONS SPECIFIED IN THE BUILDING CODE WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.
- AT WOOD POSTS LANDING ON FLOOR DECK, PROVIDE SOLID VERTICAL WOOD BLOCKING WITHIN DECK SANDWICH TO LINK UPPER POST WITH LOWER SUPPORT. BLOCKING TO MATCH UPPER POST SIZE.
- BEAMS COMPRISED OF 3 LVLs OR MORE SHALL BE BOLTED TOGETHER WITH A MINIMUM OF 2-1/2" BOLTS AT 16" ON CENTER OR 3-1/4" DIAMETER SELF TAPPING LAG SCREWS AT 16" ON CENTER, ALTERNATING INSERTION SIDES, FOLLOW MANUF. SPECS, UNLESS NOTED OTHERWISE ON DRAWING.
- IN ADDITION TO THE FLOOR JOIST SHOWN IN THE PLANS, CONTRACTOR SHALL INSTALL DOUBLE JOISTS UNDER ALL PARTITIONS WALLS RUNNING PARALLEL TO THE DIRECTION OF FRAMING.
- MINIMUM BEAM BEARING TO BE 3 INCHES UNLESS NOTED OTHERWISE ON PLAN.
- BEARING WALL SCHEDULE**  
-ALL EXTERIOR WALLS:  
2x6@16"OC WITH 2 ROWS OF HORIZONTAL BLOCKING AT 1/3 POINTS  
-1ST FLOOR INTERIOR BEARING WALLS:  
2x6@16"OC WITH 2 ROWS OF HORIZONTAL BLOCKING AT 1/3 POINTS  
-2ND & 3RD FLOOR INTERIOR BEARING WALLS:  
2x6@16"OC WITH 1 ROW OF HORIZONTAL BLOCKING AT MID-HEIGHT OF WALL

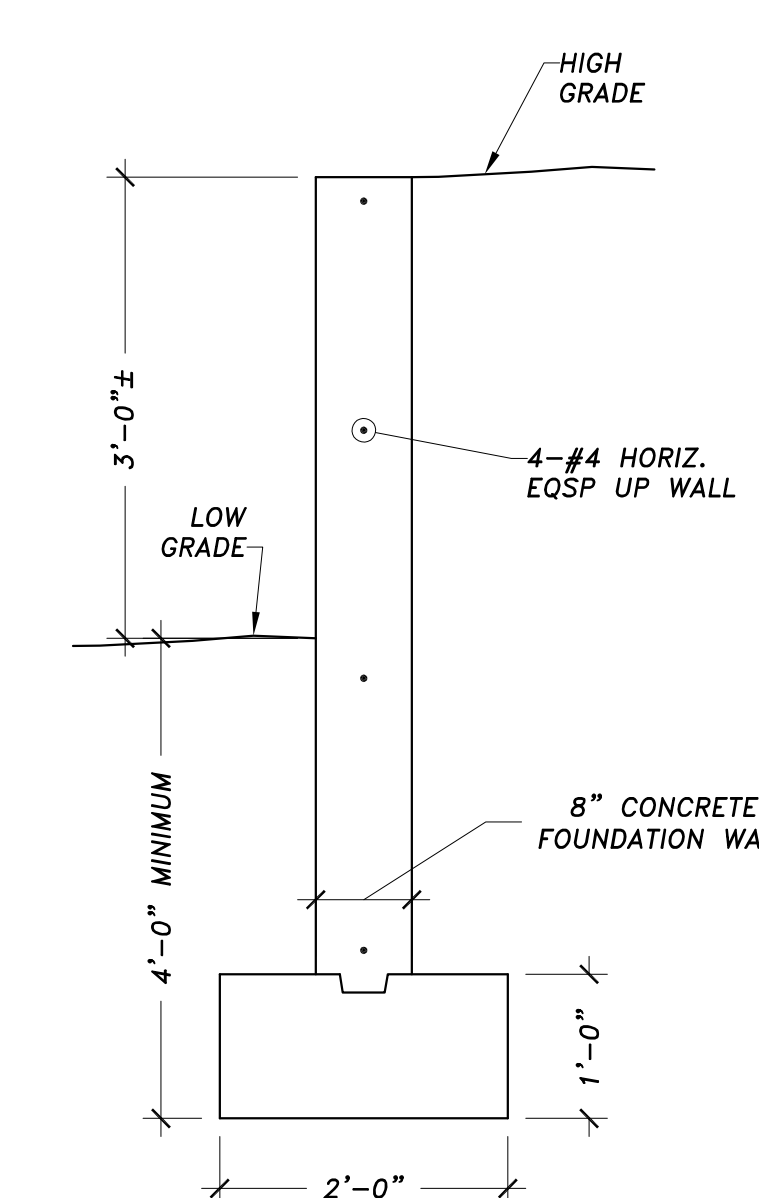


**FOUNDATION**  
Scale: 1/4"=1'-0"

- FOUNDATION NOTES:**
- EXISTING STONE FOUNDATION UNDER POST TO BE EVALUATED FOR ADEQUACY AFTER EXCAVATION. LOCALIZED REBUILDING OF WALL MAY BE REQUIRED.
  - CLEAN EXISTING STONE REMOVING MORTAR AND LOOSE MATERIAL FOR TOOTHING OF NEW CONCRETE. CONDITIONS AND ARCHITECTURAL DRAWINGS.
  - DOWEL NEW FOUNDATION TO EXISTING WITH #4 BARS @24"OC, LENGTH = 16".



**2 PORCH DETAIL**  
Scale: 3/4"=1'-0"



**3 AREAWAY DETAIL**  
Scale: 3/4"=1'-0"

**LEGEND**

BW = BEARING WALL  
FVP = FLAT VALLEY PLATE  
(E) = EXISTING  
(N) = NEW  
TBR = TO BE REMOVED

**POST LOCATION**

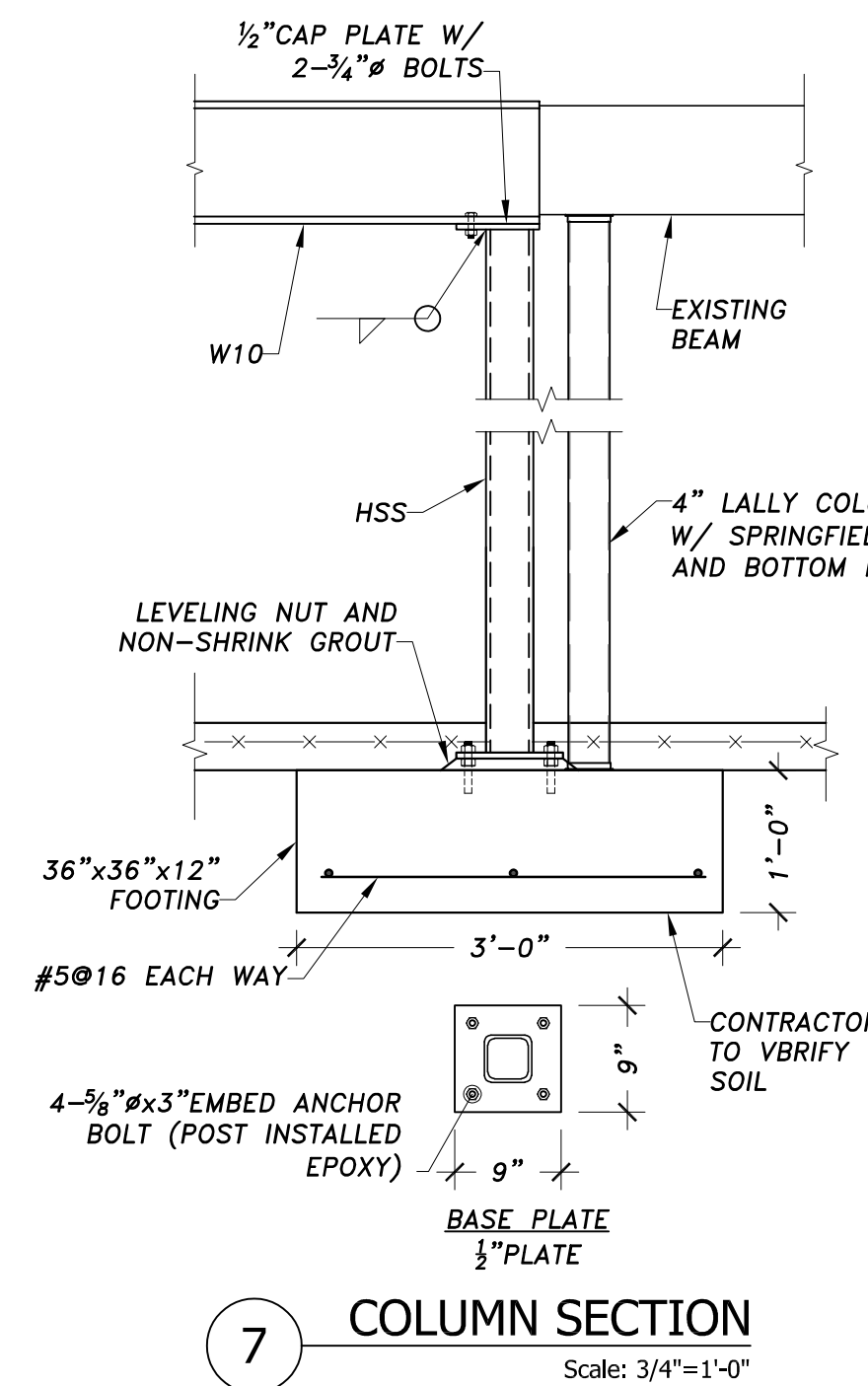
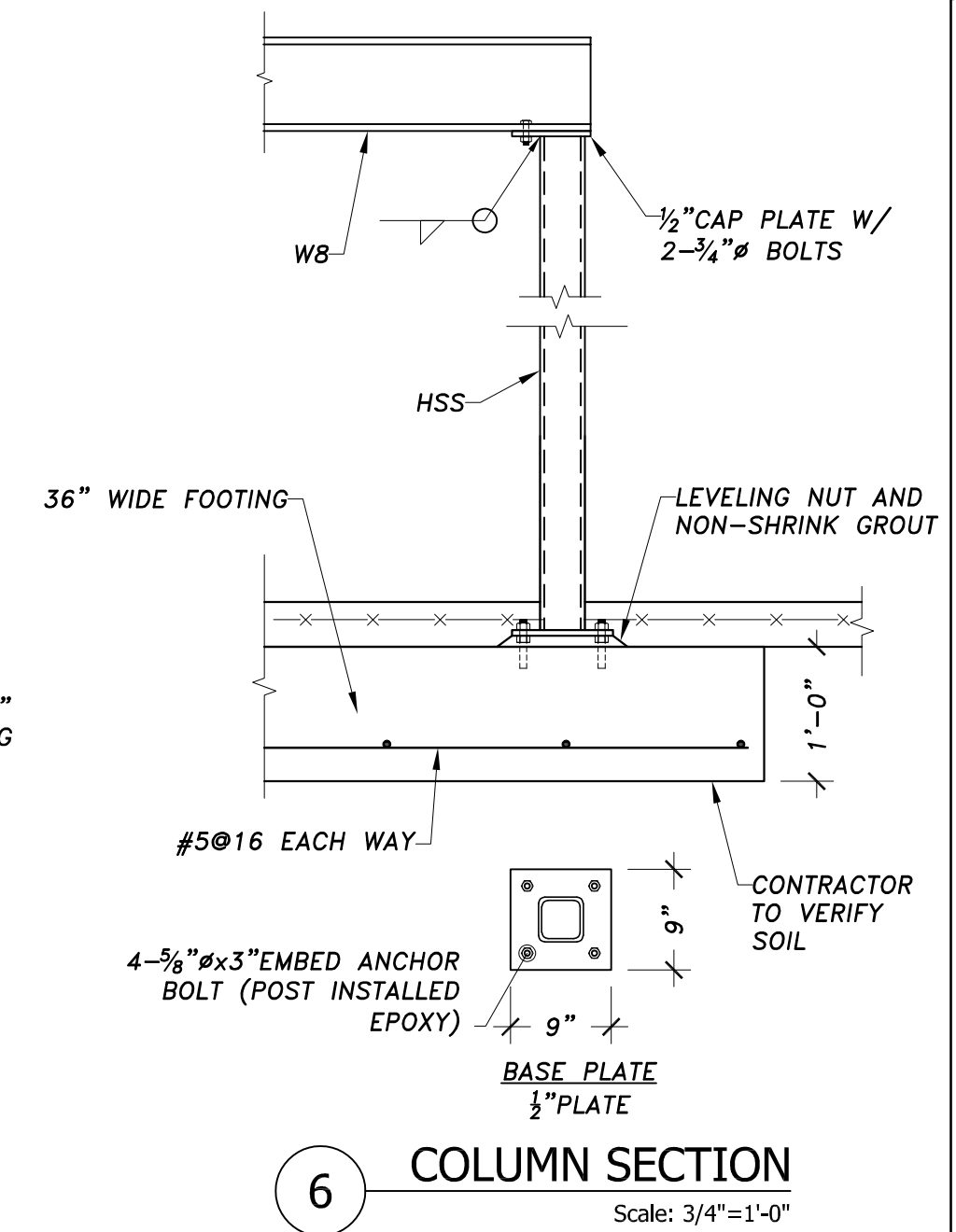
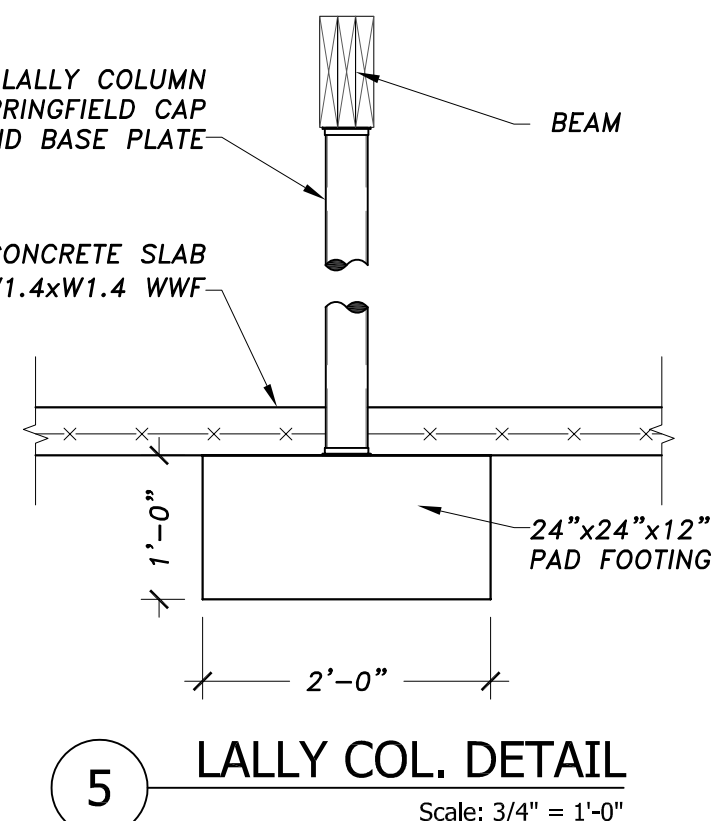
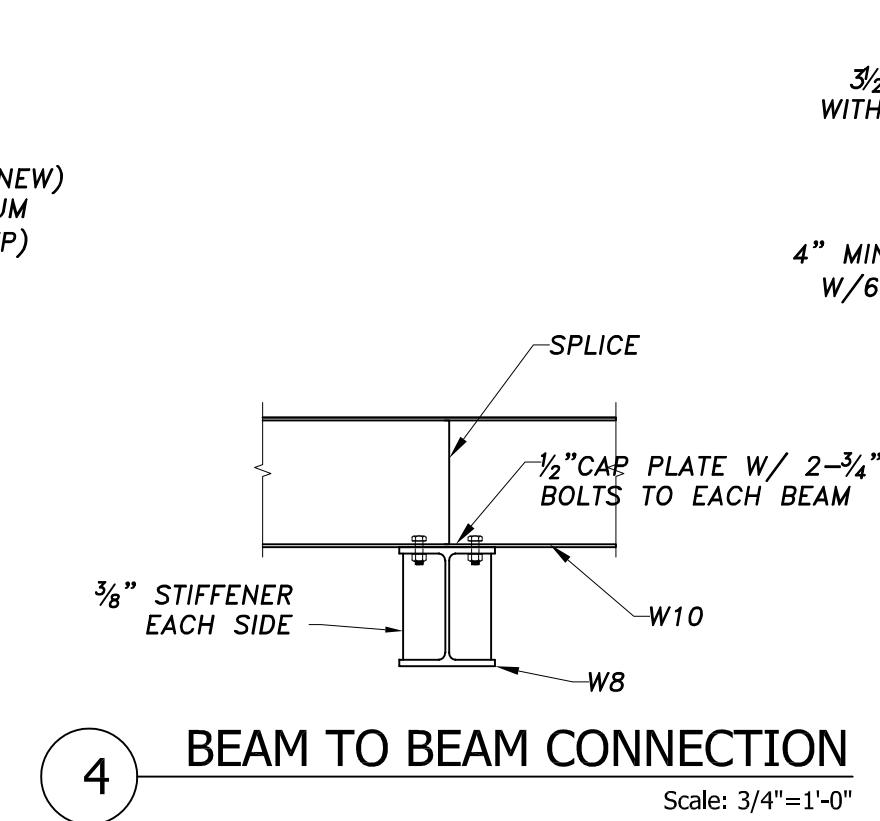
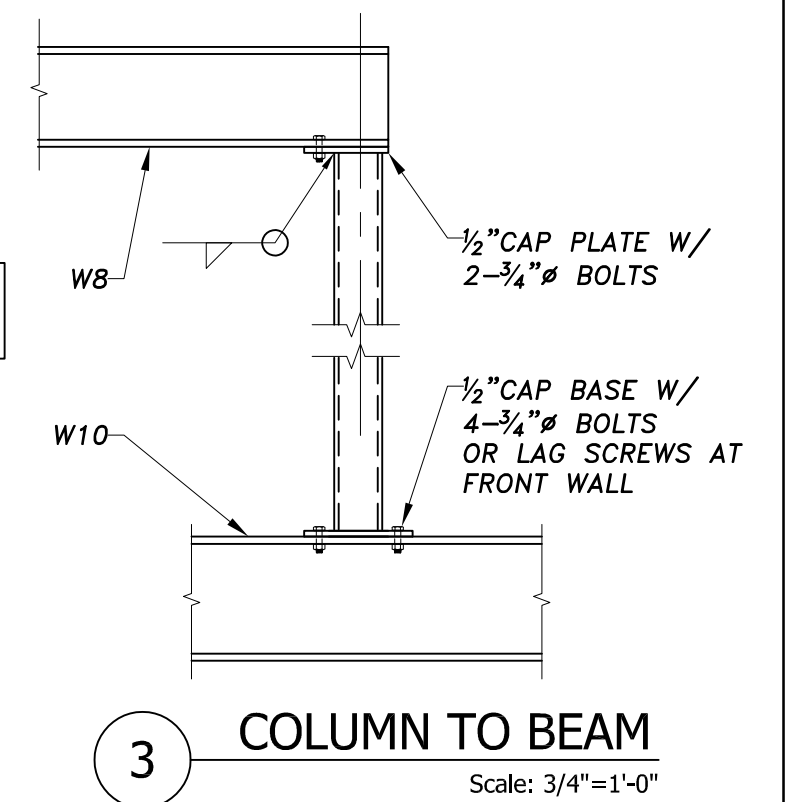
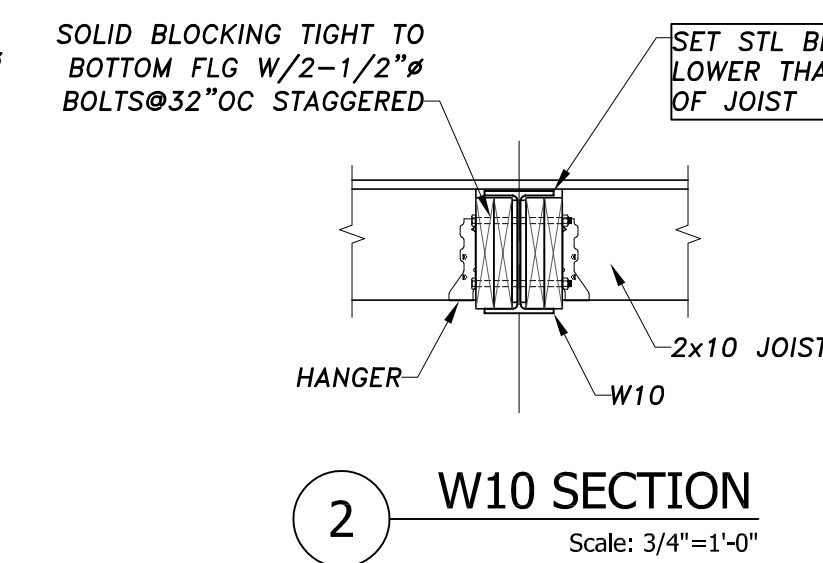
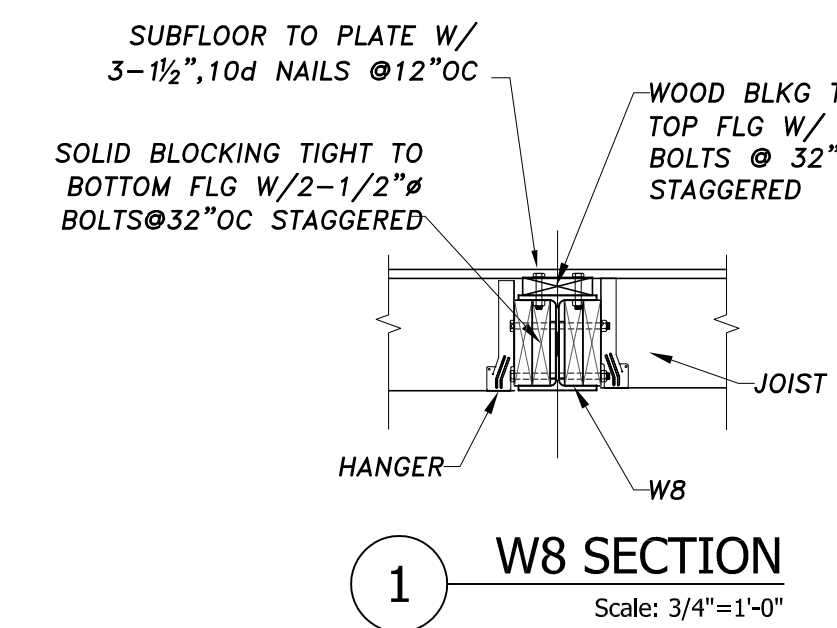
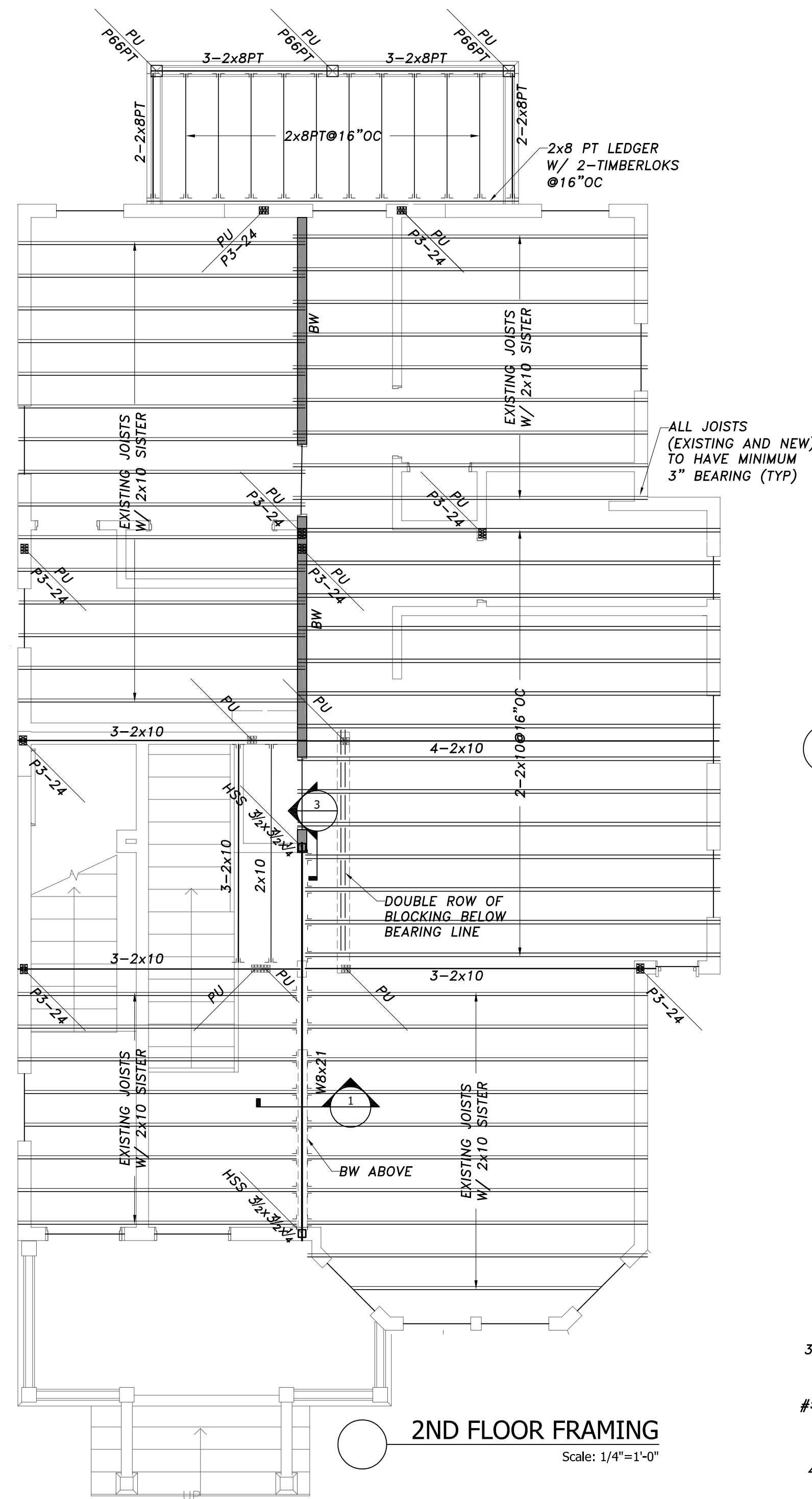
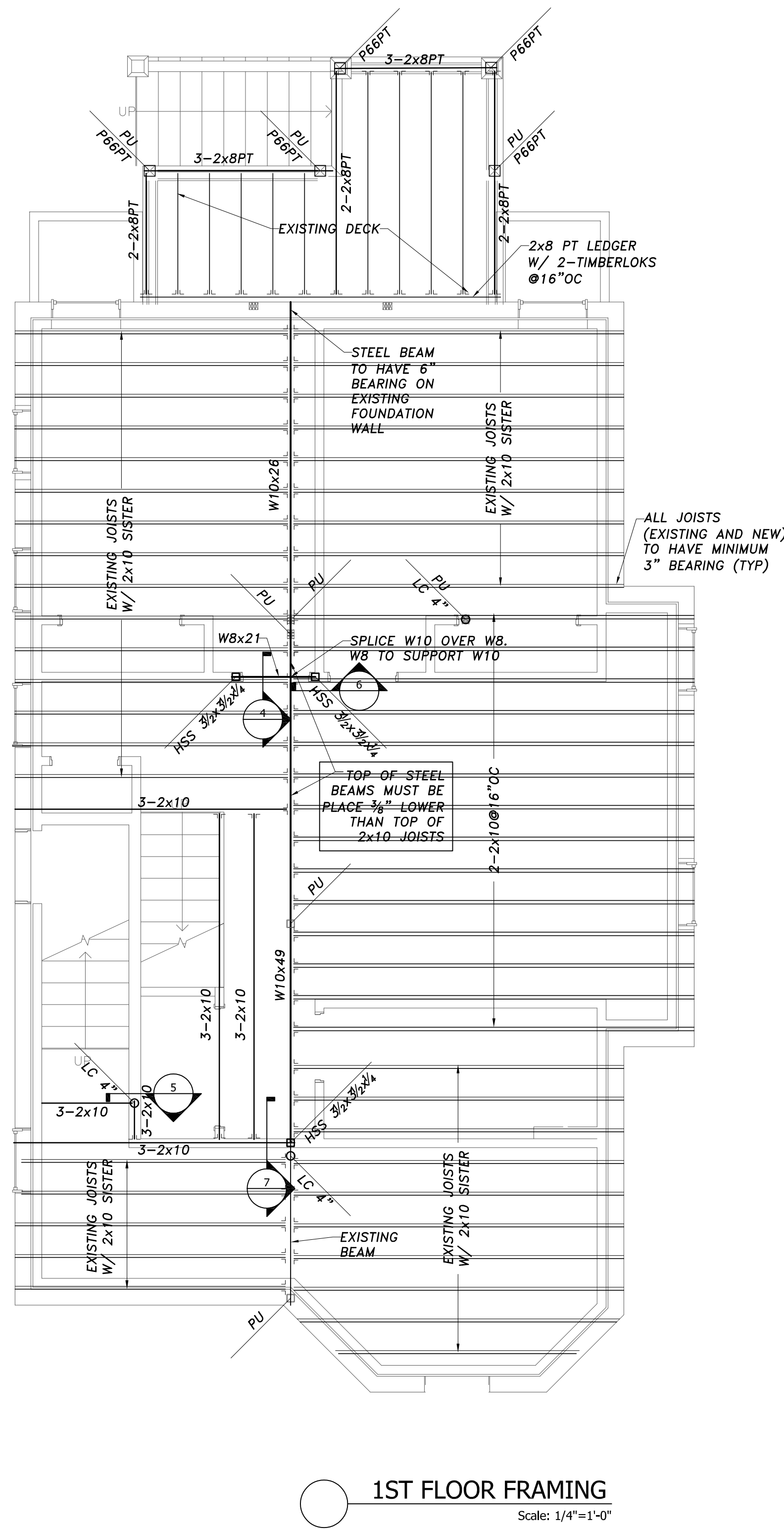
POST UP (ABOVE LINE)  
POST DOWN (BELOW LINE)

**DIM. LUMBER POST**

NUMBER OF STUDS  
P3-26 - SIZE OF STUD  
TYPE OF POST:  
P-POST, J-JACK,

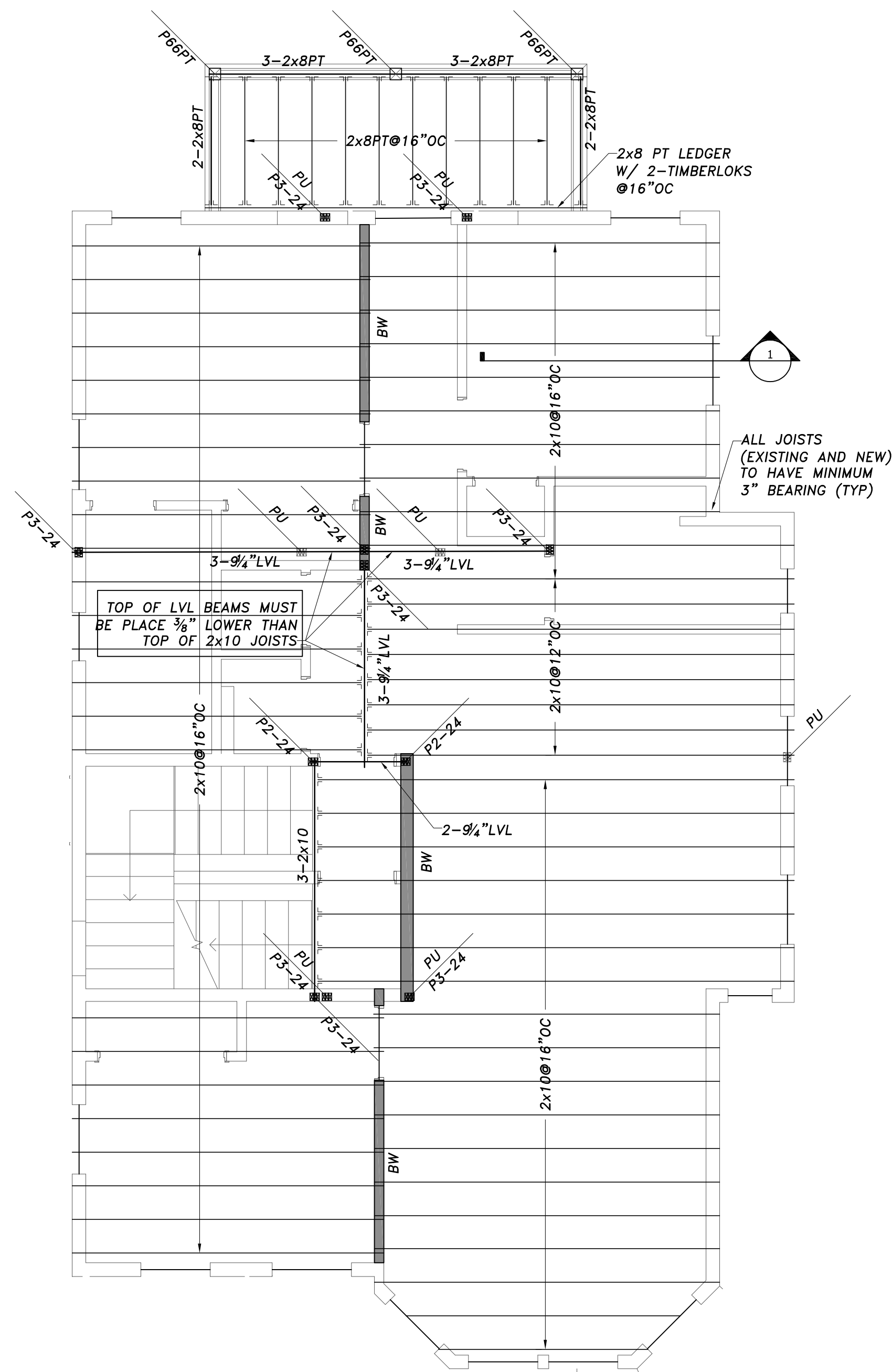
**ENGINEERED POST**

LC 3 1/2" - SIZE  
TYPE OF POST:  
VC-VERSA COLUMN, LC-LALLY COLUMN, HSS-TUBE STEEL



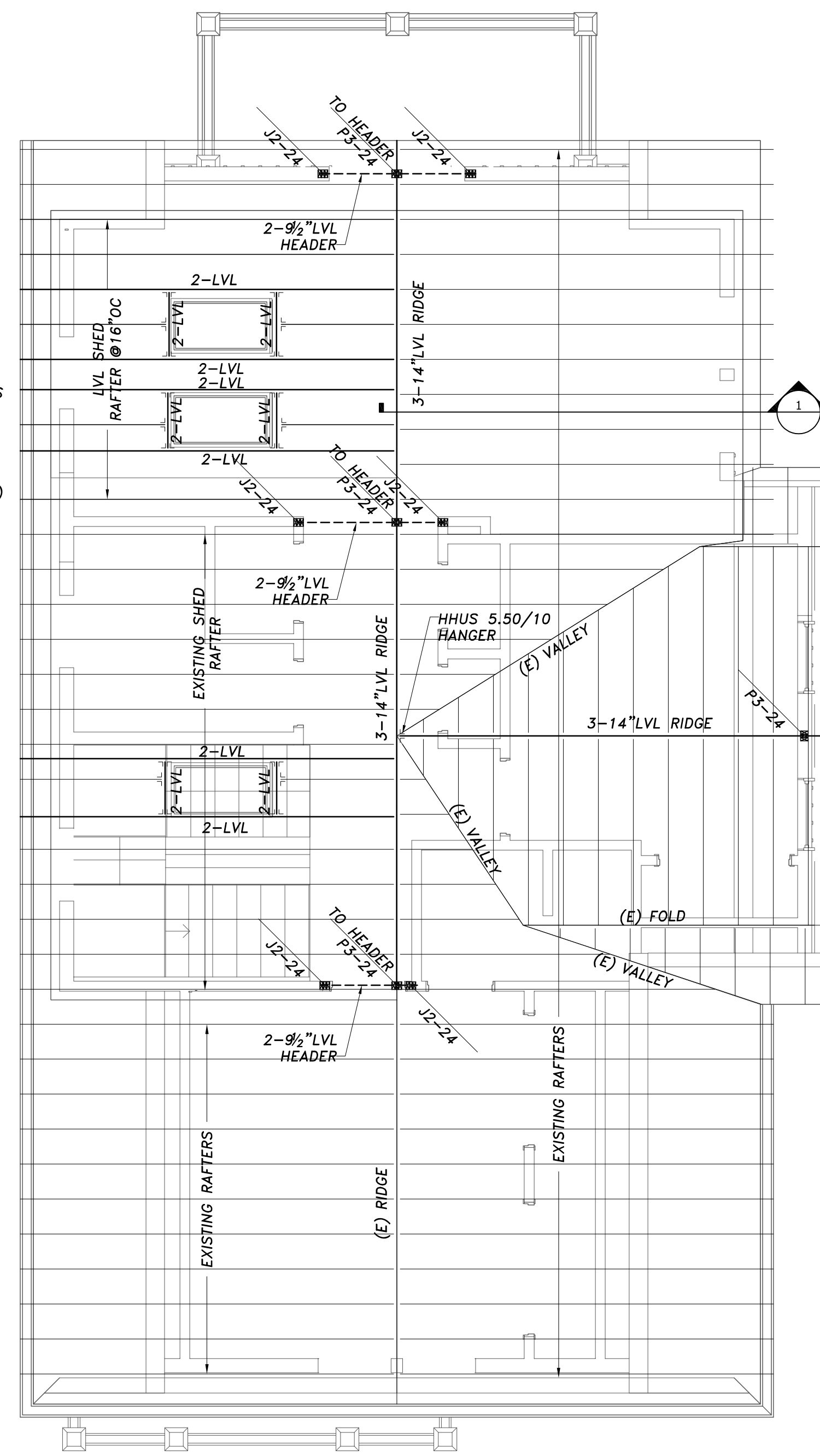
**LEGEND**

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(E) = EXISTING
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TBR = TO BE REMOVED
POST LOCATION
POST UP (ABOVE LINE)
POST DOWN (BELOW LINE)
DIM. LUMBER POST
NUMBER OF STUDS
P3-26 SIZE OF STUD
TYPE OF POST: P-POST, J-JACK,
ENGINEERED POST
LC 3 1/2" SIZE
TYPE OF POST: VC-VERSA COLUMN, LC-LALLY COLUMN, HSS-TUBE STEEL

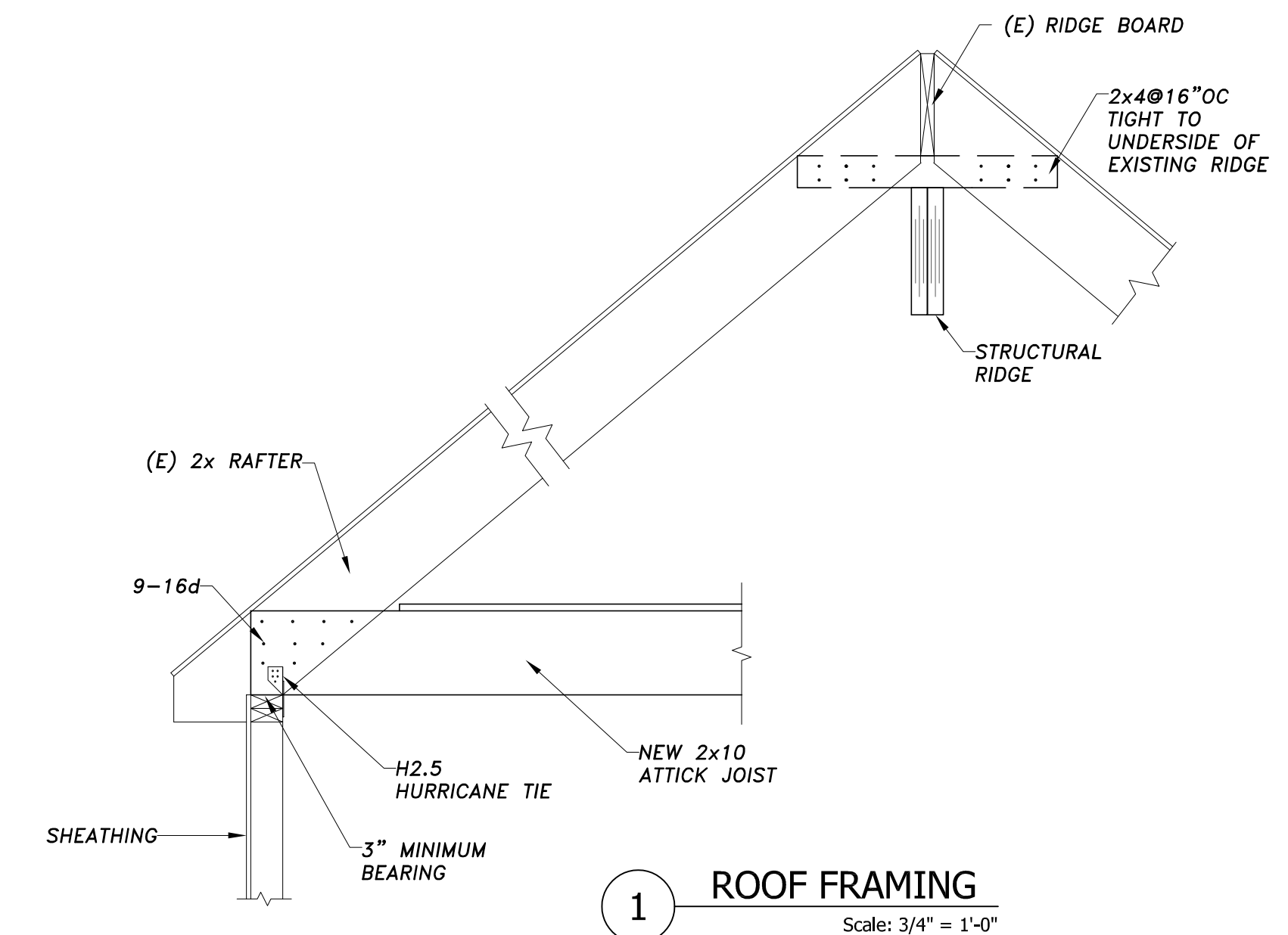


3RD FLOOR FRAMING  
Scale: 1/4"=1'-0"

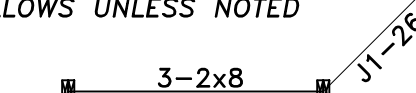
NOTE:  
ALL RAFTERS  
TO BE LVL  
JOISTS  
RIPPED TO  
FIT EXISTING  
RAFTER  
DEPTH (6"±)



ROOF FRAMING  
Scale: 1/4"=1'-0"



NOTES

1. ALL INDIVIDUAL LVLS ARE 1 3/4" THICK UNLESS NOTED OTHERWISE ON PLAN.
2. ALL CEILING TO RAFTER CONNECTIONS TO BE MADE W/ A MINIMUM OF 8-12d NAILS.
3. PROVIDE SIMPSON H2.5 HURRICANE TIES CONNECTING EACH RAFTER TO STRUCTURE BELOW. TIE TO BE PLACED OVER THE OUTSIDE WALL SHEATHING.
4. HEADERS ARE AS FOLLOWS UNLESS NOTED OTHERWISE:  

5. BEAMS COMPRISED OF 3 LVLS OR MORE SHALL BE BOLTED TOGETHER WITH A MINIMUM OF 2-1/2" BOLTS AT 16" ON CENTER OR 3-1/4" DIAMETER SELF TAPPING LAG SCREWS AT 16" ON CENTER, ALTERNATING INSERTION SIDES, FOLLOW MANUF. SPECS, UNLESS NOTED OTHERWISE ON DRAWING.
6. BW DENOTES BEARING WALLS CONSISTING OF 2x6@16"OC. SEE FRAMING NOTES FOR HORIZ. BRACING.

LEGEND

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POST LOCATION	POST UP (ABOVE LINE) POST DOWN (BELOW LINE)
DIM. LUMBER POST	NUMBER OF STUDS
P3-26	SIZE OF STUD
	TYPE OF POST: P-POST, J-JACK,
ENGINEERED POST	SIZE
LC 3 3/8	TYPE OF POST: VC-VERSA COLUMN, LC-LALLY COLUMN, HSS-TUBE STEEL