

E- 3½" SCH. 40 STEEL COLUMN ON 54"x54"x16" CONCRETE PAD WITH (9) #4 BARS EACH WAY (30.4k)

J2 MIN. 11⁷/₈" I-JOISTS @ 16" O.C. [a]

[a]. SERIES TO BE PROVIDED ON SEPARATE LAYOUT BY MANUFACTURER/LUMBER CO. ENGINEER OF RECORD SHALL APPROVE LAYOUT BEFORE SHIPMENT TO SITE

FAMILY ROOM
CARPET FLOOR

BEDROOM 5
CARPET FLOOR

BEDROOM
CARPET FLOOR

BATH

TILE FLOOR

WET BAR

**UNEXCAVATED
GARAGE SLAB**

UNFINISHED

BASEMENT TOTAL SQUARE FOOTAGE
FINISHED AREA: 1397 SF
UNFINISHED: 361 SF

BEAM ABOVE

LOAD BEARING WALL

+++++ = EXTERIOR WALL SHEATHING WITH $\frac{7}{16}$ " OSB APA-RATED
PANELS W/ 8d COMMON NAILS @ 3" O.C. AT EDGES AND
@ 12" O.C. IN THE FIELD. SMART PANEL OR EQUIV.
INSTALLED PER MANUF. SPECIFICATIONS

GENERAL INFORMATION
NOTES:

1. BUILDING PERMIT WILL BE REQUIRED FOR THE PROJECT. THIS SET OF DOCUMENTS TO BE SUBMITTED AS A PERMIT SET OF DRAWINGS.
2. ALL CONTRACTORS SHALL VISIT THE JOB SITE AND SHALL REVIEW THE PERMIT DRAWINGS TO FAMILIARIZE HIMSELF WITH THE REQUIREMENTS AND CONDITIONS OF THE PROJECT. ANY DEFICIENCIES OR DISCREPANCIES DISCOVERED SHALL BE REPORTED FOR REVIEW AND CLARIFICATION PRIOR TO COMMENCING WORK.
3. A NEW CONSTRUCTION SHALL MEET LATEST EDITIONS OF THE INTERNATIONAL RESIDENTIAL CODE BOOKS, INCLUDING CODES 2018 INTERNATIONAL RESIDENTIAL CODES.
4. WORKMANSHIP SHALL BE TO MEET HIGHEST QUALITY AND STANDARDS. ALL CONSTRUCTION SHALL BE DONE IN A MANNER SO AS TO MATCH ADJACENT WORK AND FINISHES AND APPROVED BY OWNER.
5. ALL CONSTRUCTION SHALL BE DONE WITH CONSTRUCTION DEBRIS. ALL CONSTRUCTION DEBRIS SHALL BE CONTAINED PER CITY REQUIREMENTS.
6. AREAS FOR MATERIAL STORAGE, TRASH DISPOSAL, WORKMEN'S PARKING, ETC. SHALL BE COORDINATED WITH THE CITY.
7. ALL DIMENSIONS TO BE VERIFIED BY CONTRACTOR. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO COORDINATE WITH THE CITY TO OBTAIN THE EXACT LOCATION FOR ALL LIGHTING, ELECTRICAL, UTILITIES, TELEPHONE OUTLETS AND MECHANICAL AND PLUMBING SYSTEMS AS REQUIRED.
8. CONTRACTORS SHALL ADDRESS TO THE STATE OR CALL SYSTEM 1-800-344-7233. THE PERSON OR FIRM OBTAINING THE INFORMATION SHALL BE RESPONSIBLE FOR THE SERVICE, TO, AND OBTAIN INFORMATION, UTILITY COMPANIES THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ACCESS HAVE FACILITIES IN THE NEAR VICINITY OF THE CONSTRUCTION TO BE PERFORMED WHEN WORK COMMENCES.
9. CONTRACTOR TO PROVIDE A TOILET FACILITY WITHIN 500 FT. OF THE PROJECT SITE.

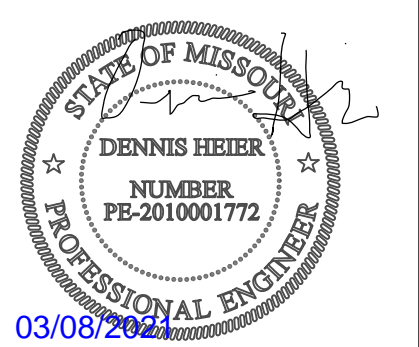


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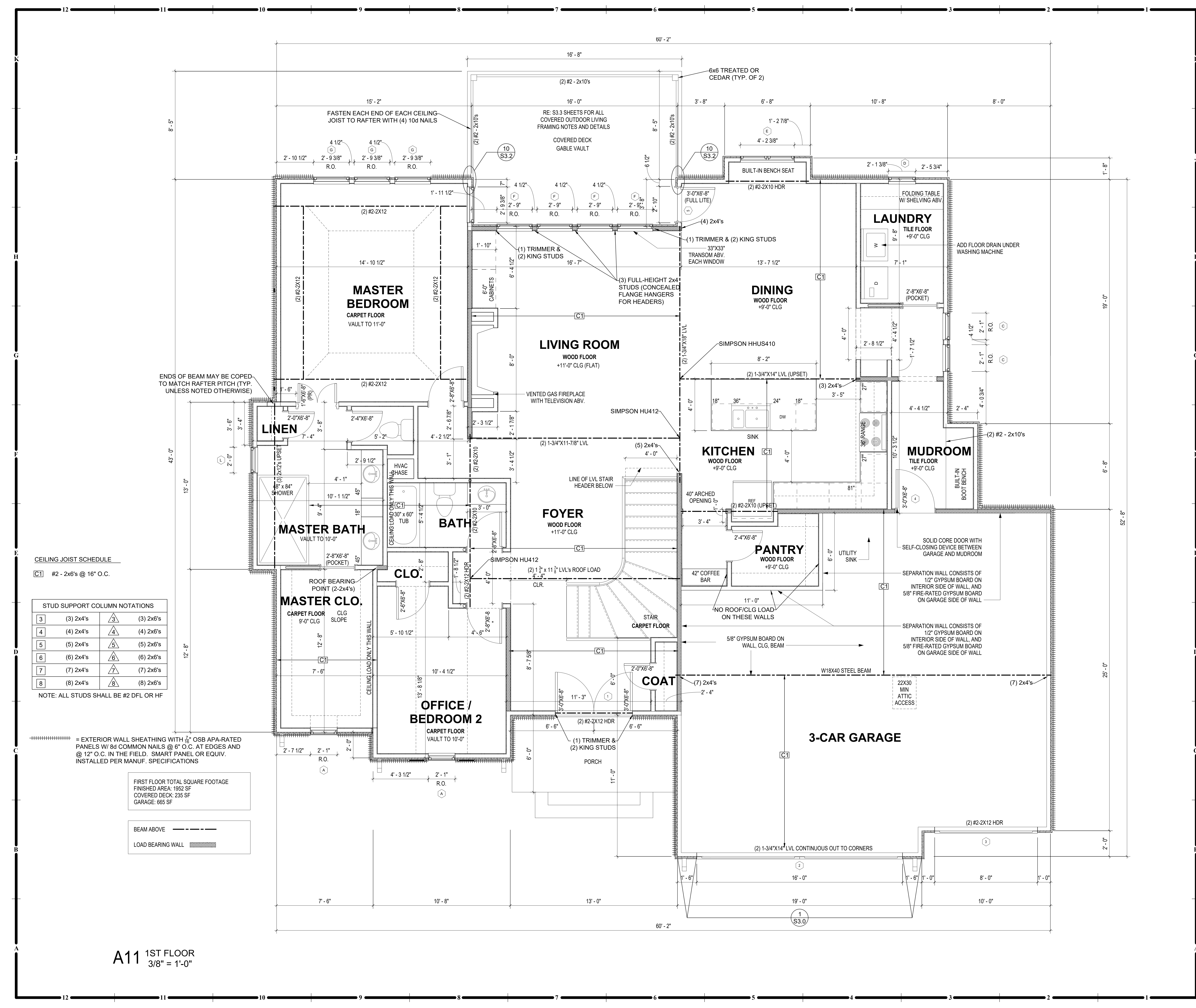
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BASEMENT PLAN

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GENERAL NOTES:

FLOOR PLANS

- ALL EXTERIOR PLATE NOTS TO BE 3/4" UNLESS OTHERWISE NOTED. INTERIOR PLATE NOTS INDICATED IN ROOM CLG HEIGHTS NOTATION.
- ALL STUD WALL FRAMING SHALL BE CONTINUOUS FROM THE FLOOR TO ROOF OR CEILING DIAPHRAGM U.N.O. ALL WALLS OVER 10'-0" ARE TO BE 2X6 @ 16" U.N.O.
- NO HANDRAIL IS REQ'D FOR STEPS HAVING LESS 3 RISERS OR LESS.
- PROVIDE WATER-RESISTANT EXTERIOR WALL COVERING ON ALL FRAMED WALLS TO COMPLY WITH 2018 IRC.
- PROVIDE GFCI ELECTRICAL OUTLETS ON EXTERIOR, IN UNFINISHED BASEMENT, IN BATHROOMS, ABOVE KITCHEN COUNTERS, IN GARAGE, AND WITHIN 6'-0" OF ANY SINK.
- MUST PROVIDE PROTECTION FOR OPEN WEB TRUSSES AND JOISTS BY ONE OF THE FOLLOWING METHODS:
A. SHEETROCK-NO MUD AND TAPE REQ'D
B. PLUMBER INSTALLED RESIDENTIAL SPRINKLER SYSTEM.
C. FACTORY APPLIED, FIRE PROTECTING COATING BY JOIST MANUFACTURER.
- COORDINATE JOISTS LOCATIONS WITH PLUMBING DRAIN LINES AT ALL TOILET LOCATIONS.
- INSTALL CARBON MONOXIDE DETECTORS PER 2018 IRC SECTION 915 OUTSIDE OF EACH SLEEPING AREA.
- INSTALL SMOKE DETECTORS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA, WITH A MINIMUM OF ONE ON EACH FLOOR PER 2018 IRC SECTION 903.4.
- PROVIDE A "UFER" GROUND PER 2018 IRC 3608.1.
- REFER TO STRUCTURAL FOR ALL WALL BRACING DETAILS AND/OR CALCULATIONS.
- INSTALL BLOCKING FOR TP HOLDERS, TOWEL BARS, AND TRIM BEAMS.
- GARAGE DOOR H-FRAME: THE H-FRAME FOR ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2X6 VERTICAL JOISTS RUNNING FROM FLOOR TO CEILING ATTACHED WITH 3 1/4"x120 NAILS @ 7" STAGGERED WITH (7) 3 1/4"x120 NAILS THRU JOIST INTO HEADER MINIMUM 2x6 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.
- OVERHEAD GARAGE DOORS TO MEET 90 MPH WIND LOAD RESISTANCE REQUIREMENTS OF DASHA 108-S AND ASTM E 330-09 PER 2018 IRC SECTION R 609.4.
- MAXIMUM RISER HEIGHT OF STAIRWAYS SHALL NOT EXCEED 7 1/4" AND THE TREADS SHALL PROVIDE A MINIMUM TREAD DEPTH OF 10".
- ALL EXTERIOR AND LOAD BEARING WINDOW AND DOOR HEADERS TO BE (2) 2x10 D.FIR #2 UNLESS NOTED OTHERWISE ON PLANS.
- ALL WINDOW HEADERS (OTHER THAN WINDOWS) TO BE (2) 2x4 STUDS UNLESS NOTED OTHERWISE. WINDOW HEADER BEARING TO BE (1) 2x4 EA END UNLESS NOTED OTHERWISE.
- ANY LUMBER IN DIRECT CONTACT WITH CONCRETE TO BE TREATED.
- ALL EXTERIOR DOORS INCLUDING THE DOOR LEADING FROM THE GARAGE TO THE DWELLING UNIT SHALL MEET ALL PHYSICAL SECURITY REQUIREMENTS.

ENERGY REQUIREMENTS

- CONTRACTOR TO PROVIDE ENERGY AUDIT USING THE HERS ENERGY RATING SYSTEM.
- IN LIEU OF AN ENERGY AUDIT THE FOLLOWING PRESCRIPTIVE REQUIREMENTS MAY BE FOLLOWED:
A. ALL DUCTS, AIR HANDLERS, FILTER BOXES, AND BUILDING CAVITIES TO BE SEALED PER 2018 IRC SECTION N1103.3.2.
B. THE BUILDING THERMAL ENVELOPE IS REQUIRED TO BE SEALED PER 2018 IRC SECTION N1103.4.
C. CONTRACTOR TO SUBMIT "MANUAL J" AND "MANUAL D" CALCULATIONS FOR THE HVAC SYSTEM.
D. INSULATION TO COMPLY WITH IECC 2018 (and/or AMENDMENTS BY THE LOCAL JURISDICTION) AS FOLLOWS:
WALLS: R-13
CEILING (VAULTED): R-38 (NOTE: VAULTED AREA NOT TO EXCEED 500sq ft OR 20% OF ROOF AREA, WHICHEVER IS LESS)
FLOORS OVER UNCONDITIONED SPACE: R-19
CRAWL SPACE WALLS: R-10 (or R-10 CONTINUOUS)
BASEMENT WALLS: R-13 (or R-10 CONTINUOUS)
SLABS: N/A
DUCTWORK: R-8
WINDOWS:
U-FACTOR U 0.35 (MAX)
SHGC 0.40 (MAX)
SKYLIGHTS:
U-FACTOR U 0.55 (MAX)
SHGC 0.40 (MAX)

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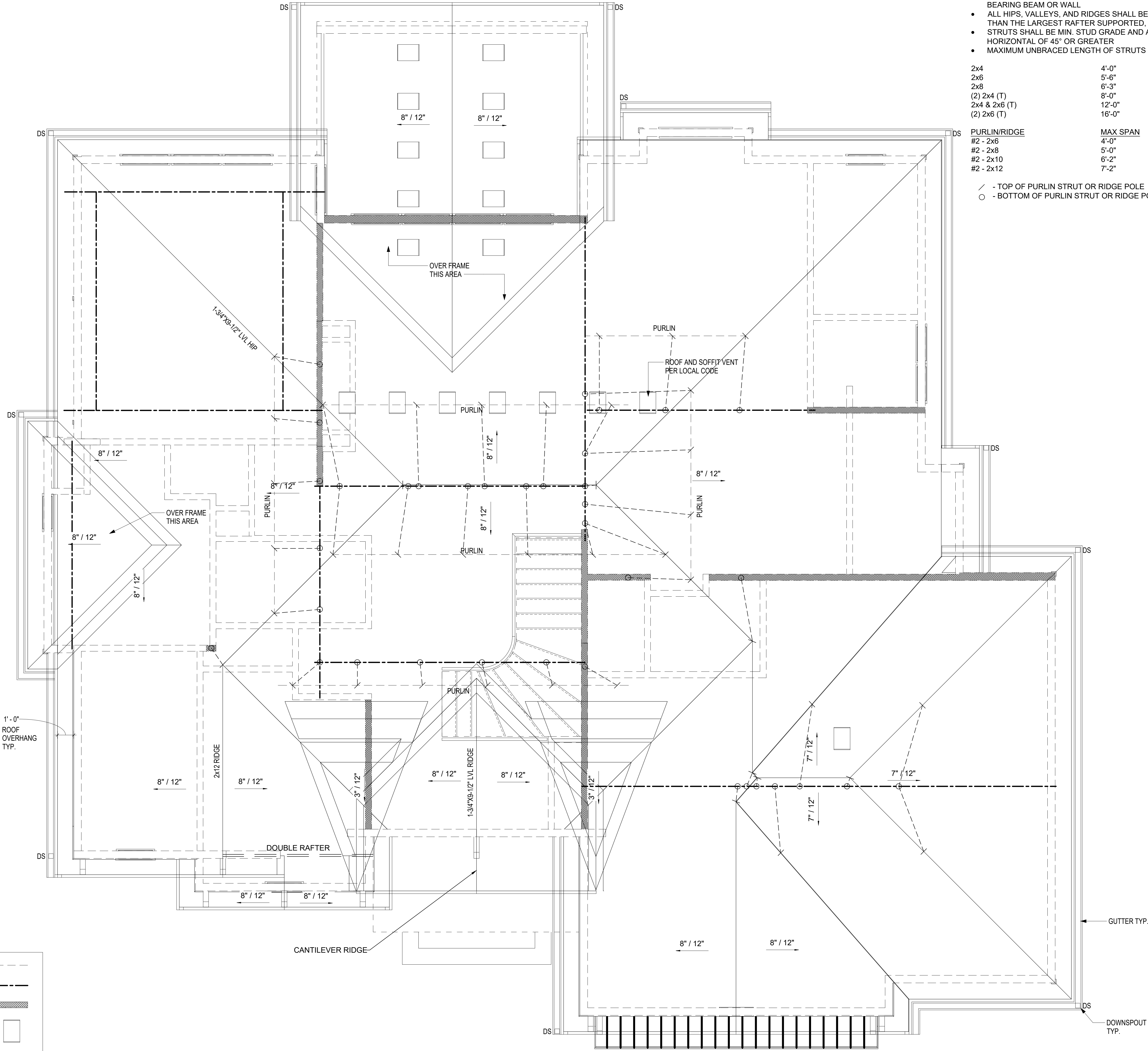
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1ST FLOOR PLAN



A11 ROOF
3/8" = 1'-0"

- ROOF CONSTRUCTION NOTES
- ALL RAFTERS ARE MIN. #2 DFL 2x6'S @ 16" O.C., UNLESS NOTED OTHERWISE
 - ALL RIDGES SHALL BE BRACED AS LISTED IN TABLE BELOW
 - ALL HIP/VALLEY/RIDGE INTERSECTION POINTS SHALL BE BRACED TO BEARING BEAM OR WALL
 - ALL HIP, VALLEYS, AND RIDGES SHALL BE ONE NOMINAL SIZE LARGER THAN THE LARGEST RAFTER SUPPORTED, UNLESS NOTED OTHERWISE
 - STRUTS SHALL BE MIN. STUD GRADE AND AT AN ANGLE WITH THE HORIZONTAL OF 45° OR GREATER
 - MAXIMUM UNBRACED LENGTH OF STRUTS AND RIDGE POLES:
- | 2x4 | 4'-0" |
|---------------|--------|
| 2x6 | 5'-6" |
| 2x8 | 6'-3" |
| (2) 2x4 (T) | 8'-0" |
| 2x4 & 2x6 (T) | 12'-0" |
| (2) 2x6 (T) | 16'-0" |
- PURLIN/RIDGE
- | | MAX SPAN |
|-----------|----------|
| #2 - 2x6 | 4'-0" |
| #2 - 2x8 | 5'-0" |
| #2 - 2x10 | 6'-2" |
| #2 - 2x12 | 7'-2" |
- TOP OF PURLIN STRUT OR RIDGE POLE
○ - BOTTOM OF PURLIN STRUT OR RIDGE POLE

- GENERAL NOTES:
ROOF PLANS
- ALL ROOFING TO BE ASPHALT COMPOSITION UNLESS NOTED OTHERWISE
 - EXACT GUTTER AND DOWNSPOUT LOCATION BY GUTTER INSTALLER
 - ALL ROOF RAFTERS NOT CALLED OUT ARE TO BE 2x6 SPF #1W2 @ 16"
 - ALL CEILING JOISTS NOT CALLED OUT ARE TO BE 2x6 SPF #1W2 @ 16"
 - ALL VAULTS TO BE FURRED DOWN w/2x MATERIAL TO PROVIDE FOR R-38 INSULATION
 - ALL EXTERIOR AND LOAD BEARING WINDOW AND DOOR HEADERS TO BE (2) 2x10 D.FIR #2 UNLESS NOTED OTHERWISE ON PLANS
 - ALL RIDGES, HIP, AND VALLEYS NOT MARKED SHALL BE (1) NOMINAL SIZE LARGER THAN THE INTERSECTING RAFTERS
 - CEILING JOISTS AND RAFTERS SHALL BE NAILED TO EACH OTHER WITH (3) 16d COM (3 12x0 162") NAILS AND THE RAFTER SHALL BE NAILED TO THE TOP WALL PLATE WITH (3) 9d COM (2 12x0 131") NAILS. CEILING JOISTS SHALL BE CONTINUOUS OR SECURELY JOINED WITH (3) 16d COM (3 12x0 162") NAILS WHERE THEY MEET OVER INTERIOR PARTITIONS AND ARE NAILED TO ADJACENT RAFTERS TO PROVIDE A CONTINUOUS TIE ACROSS THE BUILDING WHEN SUCH JOISTS ARE PARALLEL TO THE RAFTERS
 - WHERE CEILING JOISTS ARE NOT CONNECTED TO THE RAFTERS AT THE TOP WALL PLATE (or AT LOCATIONS WHERE C.J. ARE PERPENDICULAR TO RAFTERS), INSTALL 2x4 RAFTER TIES @ 16" WITH (3) 16d COM (3 12x0 162") NAILS EA END, UNLESS NOTED OTHERWISE BY STRUCTURAL ENGINEER
 - RAFTER CONNECTIONS DESIGNED TO RESIST UPLIFT FORCES PER 2018 IRC TABLE 802.4. ROOF HEADERS DO NOT HAVE NOTABLE UPLIFT TO REQUIRE HOLD DOWNS. REFER TO STRUCTURAL DETAIL SHEETS
 - INSTALL 2x4 COLLAR TIES @ 48" IN UPPER 1/3rd OF ROOF RAFTER
 - PROVIDE METAL FLASHING AT ALL ROOF VALLEYS
 - ROOF AND SOFFIT VENTS PER LOCAL CODES. WHERE POSSIBLE, PROVIDE ROOF VENTING ON BACK SIDE OF ROOF. BATH VENTS TO VENT DIRECTLY TO THE OUTSIDE.

- ROOF BRACING
- USE 2x4 STUD GRADE PURLIN PLACED PERPENDICULAR TO RAFTERS (UNLESS NOTED OTHERWISE ON PLANS)
 - STRUTS TO BE 2x4 STUD GRADE w/ MAXIMUM UNBRACED LENGTH OF 8'-0" AND AT 45° ANGLE w/ HORIZONTAL OR GREATER (VERTICAL WHERE POSSIBLE)
 - BRACES LONGER THAN 8'-0" SHALL BE 2x4 STRONG BACK BRACES



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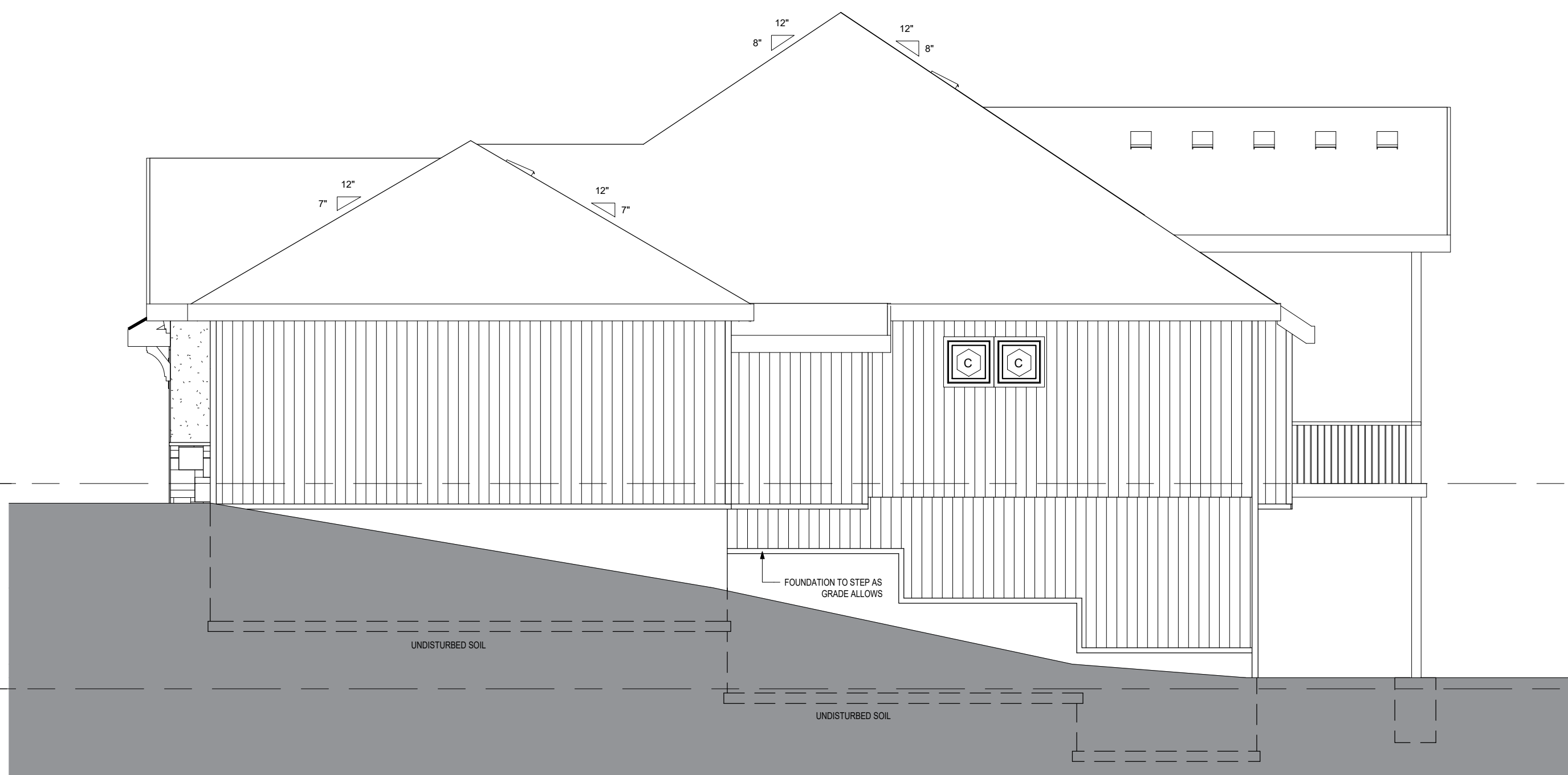
ROOF PLAN



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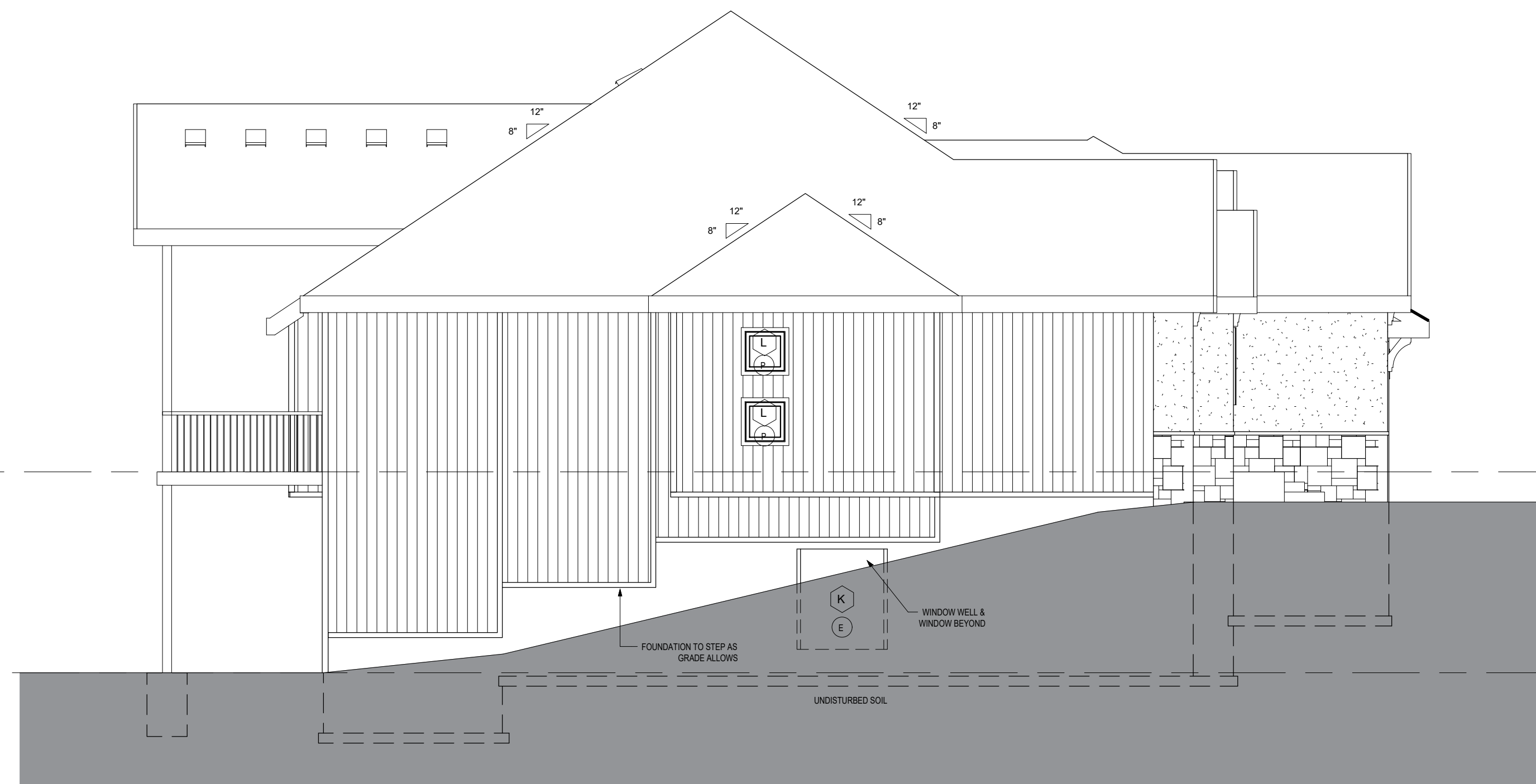
F11 FRONT ELEVATION
3/16" = 1'-0"



F5 SIDE RIGHT ELEVATION
3/16" = 1'-0"



B11 REAR ELEVATION
3/16" = 1'-0"



B5 SIDE LEFT ELEVATION
3/16" = 1'-0"

GENERAL NOTES EXTERIOR ELEVATIONS:

1. FINAL GRADE LINE MAY VARY EXISTING SITE CONDITIONS. REFER TO PLOT PLAN FOR SPECIFIC SITE GRADE CONDITIONS.
2. ALL ROOFING TO BE ASPHALT COMPOSITION UNLESS NOTED OTHERWISE.
3. ROOF AND SOFFIT VENTS PER LOCAL CODE. WHERE POSSIBLE, PROVIDE ROOF VENTING ON BACK SIDE OF ROOF.
4. GUTTER AND DOWNSPOUT LOCATIONS TO BE DETERMINED BY GUTTER INSTALLER.
5. SMART PANEL SIDING ON SIDE AND REAR ELEVATIONS UNLESS NOTED OTHERWISE.
6. REFER TO STRUCTURAL SHEETS FOR EXTERIOR DECK DETAILS.

KEY NOTES EXTERIOR ELEVATIONS:

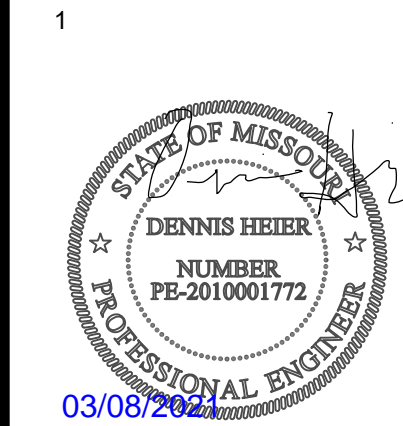
- (X) WINDOW CALLOUT (RE: WINDOW SCHEDULE)
- (E) EGRESS WINDOW
- (T) TEMPERED GLASS ON DOOR OR WINDOW
- (P) PATTERNED RAIN GLASS



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EXTERIOR ELEVATIONS

FASTENER SCHEDULE FOR STRUCTURAL MEMBERS		
DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER	SPACING AND LOCATION
ROOF ¹		
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE, TOE NAIL	4-8d (2½" x 0.113")	TOENAIL
CEILING JOISTS TO PLATE, TOE NAIL	4-8d (2½" x 0.113")	PER JOIST, TOENAIL
CEILING JOISTS NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS, FACE NAIL	4-10d (3" x 0.128")	FACE NAIL
CEILING JOIST TO PARALLEL RAFTER (HEEL JOINT)	TBLE R802.5.2	FACE NAIL
COLLAR TIE TO RAFTER, FACE NAIL OR 1 ½" x 20 GA. RIDGE STRAP TO RAFTER	4-10d (3" x 0.128")	FACE NAIL, EACH RAFTER
RAFTER OR ROOF TRUSS TO PLATE	3-16d BOX NAILS (¾" x 0.135") OR 3-10d COMMON NAILS (3" x 0.148")	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS
ROOF RAFTERS TO RIDGE, VALLEY, OR HIP RAFTERS OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM	4-16d (3 ½" x 0.135") - TOENAIL; 3-16d BOX (3 ½" x 0.135") - END NAIL	TOENAIL, END NAIL
WALL		
STUD TO STUD (NOT AT BRACED WALL PANELS)	10d (3" x 0.128")	16" O.C. FACE NAIL
STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d (3½" x 0.135")	12" O.C. FACE NAIL
BUILT-UP HEADER, TWO PIECES WITH ½" SPACER	16d (3½" x 0.135")	12" O.C. EACH EDGE FACE NAIL
CONTINUOUS HEADER TO STUD	4-8d (2½" x 0.131")	TOENAIL
TOP PLATE TO TOP PLATE	10d (3" x 0.128")	12" O.C. FACE NAIL
DOUBLE TOP PLATE SPLICE	8-16d COMMON (3 ½" x 0.162")	FACE NAIL ON EACH SIDE OF END JOINT (MIN. 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON (3 ½" x 0.162")	16" O.C. FACE NAIL
BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST, OR BLOCKING (AT BRACED WALL PANEL)	3-16d BOX (3 ½" x 0.135")	3 EACH 16" O.C. FACE NAIL
TOP OR SOLE PLATE TO STUD, END NAIL	4-8d BOX (2 ½" x 0.113") - TOENAIL; 3-16d BOX (3 ½" x 0.135") - END NAIL	TOENAIL, END NAIL (SEE LEFT)
TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10d BOX (3" x 0.128")	FACE NAIL
1" BRACE TO EACH STUD AND PLATE	3-8d BOX (2 ½" x 0.113")	FACE NAIL
1"x6" SHEATHING TO EACH BEARING	3-8d BOX (2 ½" x 0.113")	FACE NAIL
1"x8" SHEATHING TO EACH BEARING	3-8d BOX (2 ½" x 0.113") - FACE NAIL; WIDER THAN 1"x8" - 4-8d BOX (2 ½" x 0.113")	FACE NAIL
FLOOR		
JOIST TO SILL, TOP PLATE, OR GIRDER	4-8d BOX (2 ½" x 0.113")	TOE NAIL
RIM JOIST, BAND JOIST, OR BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8d BOX (2 ½" x 0.113")	4" O.C. TOE NAIL
1" x 6" SUBFLOOR OR LESS TO EACH JOIST	3-8d BOX (2 ½" x 0.113")	FACE NAIL
2" SUBFLOOR TO JOIST OR GIRDER	3-16d BOX (3 ½" x 0.135")	BLIND AND FACE NAIL
2" PLANKS (PLAN & BEAM - FLOOR AND ROOF)	3-16d BOX (3 ½" x 0.135")	AT EACH BEARING, FACE NAIL
BAND OR RIM JOIST TO JOIST	3-16d COMMON (3 ½" x 0.162")	END NAIL
BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	10d BOX (3" x 0.128")	24" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16d BOX (3 ½" x 0.135")	AT EACH JOIST OR RAFTER, FACE NAIL
BRIDGING OR BLOCKING TO JOIST	2-10d BOX (3" x 0.128")	EACH END, TOENAIL

FASTNER SCHEDULE FOR STRUCTURAL MEMBERS			
DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER	EDGE SPACING (INCHES)	INTERMEDIATE SUPPORTS (INCHES)
WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLEBOARD WALL SHEATHING TO FRAMING			
¾" - ½"	8d COMMON (2" x 0.113") NAIL (SUBFLOOR, WALL) 8d COMMON NAIL (ROOF)	6	12
⅝" - 1"	8d COMMON NAIL (2½" x 0.131")	6	12
1½" - 1¼"	10d COMMON (3" x 0.148") NAIL OR 8d (2½" x 0.131") DEFORMED NAIL	6	12
OTHER WALL SHEATHING			
½" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 ½" GALVANIZED ROOFING NAIL, ⅝" HEAD DIAMETER, OR 1 ½" LONG 16 GA. STAPLE WITH ⅝" OR 1" CROWN	3	6
⅝" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 ½" GALVANIZED ROOFING NAIL, ⅝" HEAD DIAMETER, OR 1 ½" LONG 16 GA. STAPLE WITH ⅝" OR 1" CROWN	3	6
½" GYPSUM SHEATHING	1½" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1½" LONG; 1½" SCREWS, TYPE W OR S	7	7
¾" GYPSUM SHEATHING	1¾" GALVANIZED ROOFING NAIL; STAPLE GALVANIZED, 1¾" LONG; 1¾" SCREWS, TYPE W OR S	7	7
WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
¾" AND LESS	6d DEFORMED (2" x 0.120") NAIL OR 8d COMMON (2½" x 0.131") NAIL	6	12
⅞" - 1"	8d COMMON (2½" x 0.131") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL	6	12
1½" - 1¼"	10d COMMON (3" x 0.148") NAIL OR 8d DEFORMED (2½" x 0.120") NAIL	6	12

1. IF INFORMATION LISTED ON PLAN SHEETS CONTRADICTS INFORMATION IN THIS TABLE, INFORMATION ON PLANS TAKES PRECEDENCE OVER INFORMATION

FOUNDATION NOTES

- CONCRETE SHALL BE AIR-ENTRAINED BETWEEN 5%-7% WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 2500 PSI FOR BASEMENT AND INTERIOR FLOOR SLABS-ON-GRADE, 3000 PSI FOR FOUNDATION WALLS, AND 3500 PSI FOR PORCHES AND GARAGE FLOOR SLABS
- THE FOUNDATION DESIGN SHALL COMPLY WITH THE ENFORCING JURISDICTION'S RESIDENTIAL FOUNDATION STANDARDS
- PROVIDE A MINIMUM 4"-DIAMETER PERFORATED DRAIN PIPE ALONG PERIMETER OF USABLE SPACE AT FOOTING LEVEL OR OTHER EQUIVALENT MATERIALS PER IRC SECTION R405.1. THE PIPE SHALL BE COVERED WITH A MINIMUM OF 6" OF GRAVEL OR CRUSHED ROCK. THE DRAIN SHALL DAYLIGHT BELOW FOOTING LEVEL OR TERMINATE IN A MINIMUM 20 GALLON SUMP PIT.
- FOUNDATION SHALL BE DESIGNED FOR A BEARING CAPACITY OF 1500 PSF AND FOUNDED ON COMPETENT ORIGINAL SOIL AS DETERMINED AND CONFIRMED BY A LICENSED GEOTECHNICAL ENGINEER OR ENGINEERING GEOLOGIST. ENGINEER OF RECORD ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION NOT VERIFIED TO BE FOUNDED ON ANY SOIL WITH THE AFOREMENTIONED MINIMUM PROPERTIES.
- FOOTINGS SHALL BE A MINIMUM OF 16" WIDE x 8" DEEP AND SHALL HAVE A MINIMUM OF (2) CONTINUOUS GRADE 40 #4 BARS WITH 3" BOTTOM CLEARANCE. BOTTOM OF FOOTING SHALL BE LOCATED A MINIMUM OF 3'-0" BELOW GRADE FOR FROST PROTECTION.
- CONCRETE PADS SUPPORTING COLUMN LOADS SHALL BE NO SMALLER THAN 2'-0" x 2'-0" x 1'-0" DEEP WITH A MINIMUM OF (4) GRADE 40 #4 BARS EACH WAY WITH 3" BOTTOM CLEARANCE
- FOUNDATION WALLS SHALL BE A MINIMUM OF 8" NOMINAL WIDTH AND SHALL HAVE HORIZONTAL GRADE 40 #4 BARS AT 2'-0" O.C. MAX. WITH VERTICAL #4 BARS AS REQUIRED ON FOUNDATION CROSS SECTION ON SHEET S2.0
- REINFORCEMENT SHALL LAP A MINIMUM OF 2'-0" (CLASS B SPLICE)
- INTERIOR BEARING WALLS AND COLUMNS SHALL BE ISOLATED FROM THE BASEMENT FLOOR SLAB
- BASEMENT FLOOR SLAB SHALL BE A MINIMUM OF 4" THICK ON A MINIMUM BASE COURSE OF 4" TO 6" OF SAND, GRAVEL OR CRUSHED ROCK. BETWEEN THE BASE COURSE AND FLOOR SLAB SHALL BE PLACED A 6-MIL POLY VAPOR RETARDER WITH MINIMUM OVERLAP OF 6" AT DISCONTINUITIES
- IF A FLOOR IS TO BE SUPPORTED BY A MINIMUM OF 2'-0" OF GRANULAR FILL OR 8" OF EARTH, BASEMENT SLAB SHALL BE DESIGNED BY A LICENSED ENGINEER
- SILL PLATES SHALL BE ANCHORED TO THE FOUNDATION WALL WITH ½" Ø ANCHOR BOLTS EMBEDDED A MINIMUM OF 7" INTO CENTER OF WALL STEM AND SHALL BE INSTALLED AT A MAXIMUM OF 6'-0" O.C. (OR AS NOTED ON PLANS) AND SHALL BE INSTALLED WITHIN 6" TO 12" OF EACH END OF EACH SILL PLATE LENGTH, PER IRC SECTION R403.1.6
- FOUNDATION WINDOW WELLS SHALL BE PROVIDED WITH MINIMUM DIMENSIONS AS SHOWN IN DETAIL ON SHEET S2.0
- THE GARAGE FLOOR SHALL SLOPE TOWARD THE VEHICLE DOORS OR TO A TRENCH OR UNTRAPPED DRAIN THAT DISCHARGES TO THE EXTERIOR, ABOVE GRADE

FRAMING NOTES

- ALL DIMENSIONAL LUMBER SHALL BE DOUGLAS-FIR-LARCH GRADE #2, UNLESS NOTED OTHERWISE ON PLANS
- ALL INTERIOR LOAD-BEARING AND EXTERIOR WALL HEADERS SHALL BE (2) #2 - 2x10's, UNLESS NOTED OTHERWISE ON PLANS
- BLOCK OVER BEAMS AND AT CANTILEVERS AND DOOR JAMBS
- INTERIOR NON-BEARING WALLS RESTING ON BASEMENT SLAB SHALL BE ISOLATED FROM ABOVE FRAMING BY A MINIMUM OF ½"
- ALL HEADERS/BEAMS SHALL BEAR ON A MINIMUM OF (2) 2x4 POSTS (KING AND JACK STUDS), UNLESS NOTED OTHERWISE
- WHERE JOISTS SPAN PARALLEL TO FOUNDATION, BLOCKING SHALL BE PROVIDED IN THE TWO SPACES MOST ADJACENT TO THE FOUNDATION WALL AT 4'-0" O.C. FOR THE PURPOSE OF TRANSFERRING LATERAL FOUNDATION WALL LOAD TO THE FLOOR DIAPHRAGM. FASTEN JOISTS AND BLOCKING TO SILL PLATE WITH (4) 10d NAILS. IF MECHANICAL DUCTWORK IS INSTALLED IN ONE OF THESE FIRST TWO BAYS, FASTEN 2x4's FLAT AT 4'-0" O.C. BETWEEN JOIST(S) AND/OR SILL AND PROVIDE BLOCKING AS PRESCRIBED ABOVE IN THE NEXT TWO JOIST BAYS. SECURE 2x4's TO JOIST(S)SILL PLATE WITH (4) 10d NAILS.
- ALL WOOD MATERIAL SUPPORTED ON CONCRETE OR MASONRY SHALL BE TREATED OR OF DECAY-RESISTANT MATERIAL
- JOISTS UNDER BEARING PARTITIONS ON PLANS HAVE BEEN SIZED TO SUPPORT THE DESIGN LOAD.
- JOISTS FRAMING INTO THE FACE OF A STEEL OR WOOD BEAM SHALL BE SUPPORTED WITH APPROPRIATE COLD-FORMED STEEL JOIST HANGERS
- JOISTS FRAMED ON TOP OF STRUCTURAL MEMBER SHALL BE SUPPORTED AT EN DS BY FULL-DEPTH SOLID BLOCKING MIN. 1½" IN THICKNESS OR BY FASTENING RIM TO JOISTS PER FASTENING TABLE TO LEFT
- ALL WALL COVERINGS SHALL COMPLY WITH IRC SECTION R702.3
- ALL RAFTERS AND COLLAR TIES SHALL COMPLY WITH IRC SECTION R802.3.
- ALL RAFTERS SHALL HAVE 2x4 COLLAR TIES @ 4'-0" O.C. IN UPPER ½ OF VERTICAL DISTANCE BETWEEN CEILING AND ROOF
- BLOCKING BETWEEN JOISTS UNDER A LOAD-BEARING WALL IS NOT REQUIRED
- PER IRC SECTION 501.3, BOTTOM OF ALL FLOOR ASSEMBLIES ABOVE UNFINISHED AREAS SHALL BE PROVIDED WITH A ½" GYPSUM BOARD MEMBRANE OR RESIDENTIAL FIRE SPRINKLER SYSTEM WHEN FLOOR SYSTEM IS CONSTRUCTED OF OTHER THAN DIMENSION LUMBER OR STRUCTURAL COMPOSITE LUMBER EQUAL TO OR GREATER THAN 2x10 NOMINAL DIMENSION(WHERE REQUIRED BY ENFORCING JURISDICTION)
- ENGINEERED LVL's SHALL HAVE MINIMUM PROPERTIES OF Fb = 2600 psi, E=1900 ksi, AND Fv=285 psi
- ENGINEERED PARALLAMS SHALL HAVE MINIMUM PROPERTIES OF Fb = 2600 psi, E = 2000 ksi, AND Fv = 290 psi
- COLUMN CONNECTION TO STEEL BEAMS SHALL BE WITH A CLIP POST CAP WITH ALL FOUR TAB EARS BENT AROUND THE BOTTOM FLANGE OF THE BEAM. FOR A BEARING PLATE, FOUR HOLES SHALL BE DRILLED IN THE BOTTOM FLANGE OF THE STEEL BEAM TO MATCH THE HOLE PATTERN OF THE PLATE. ½" x 2" BOLTS SHALL THEN BE INSTALLED WITH A FLAT WASHER, LOCK WASHER, AND A NUT IN EACH OF THE HOLES. THE POST CAP MAY BE WELDED TO THE STEEL BEAM IN ACCORDANCE WITH AWS D1.1-92 AS AN ALTERNATIVE, AND WOULD NEED TO BE INSPECTED BY AN AWS-CERTIFIED INSPECTOR.
- WHEN MECHANICAL EQUIPMENT IS LOCATED IN AN ENCLOSED ROOM, THERE SHALL BE (2) 14"x12" VENTS LOCATED IN A WALL COMMON WITH ADDITIONAL LIVING AREA. ONE VENT SHALL BE LOCATED SUCH THAT THE BOTTOM OF THE VENT BEGINS 12" FROM THE FLOOR AND THE OTHER VENT SHALL BE LOCATED SUCH THAT THE TOP OF THE VENT BEGINS 12" FROM THE CEILING.
- ALL ROOF SHEATHING SHALL BE ¾" OSB WITH 8d COMMON NAILS @ 6" O.C. AT PANEL EDGES AND @ 12" O.C. IN FIELD

GLAZING NOTES

- GLAZING IN HAZARDOUS LOCATIONS AS IDENTIFIED IN IRC SECTION R308.4 SHALL BE OF APPROVED SAFETY GLAZING MATERIALS. GLASS IN STORM DOORS, INDIVIDUAL FIXED OR OPENABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 2'-0" ARC OF THE DOOR IN A CLOSED POSITION AND FOR WHICH THE BOTTOM EDGE IS WITHIN 3'-0" OF THE FLOOR, WALLS ENCLOSEING STAIRWAYS AND LANDINGS WHERE THE GLAZING IS WITHIN 5'-0" OF THE TOP OR BOTTOM OF THE STAIR, ENCLOSURES FOR SPAS, TUBS, SHOWERS, AND WHIRLPOLS, GLAZING IN FIXED OR OPENABLE PANELS EXCEEDING NINE SQUARE FEET AND FOR WHICH THE BOTTOM EDGE IS LESS THAN 1'-6" ABOVE THE FLOOR OR WALKING SURFACE WITHIN 3'-0"
- ALL OPERABLE WINDOWS SHALL HAVE FALL PROTECTION PER IRC SECTION R612.2

ATTIC VENTILATION

- ENCLOSED ATTICS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATING OPENINGS SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE MESH, WITH ¾" TO ½" OPENINGS. THE TOTAL FREE VENTILATING AREA SHALL NOT BE LESS THAN ⅓rd OF THE AREA OF SPACE VENTILATED, EXCEPT WHERE THE VENTILATORS ARE LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED - THE REQUIRED AREA MAY BE REDUCED TO 1/300.

EMERGENCY EGRESS

- PROVIDE A MINIMUM OF ONE WINDOW FOR EACH BEDROOM THAT HAS A MINIMUM OPENABLE AREA OF 5.7 SQUARE FEET WITH A MINIMUM OPENABLE HEIGHT OF 2'-0" AND A MINIMUM WIDTH OF 1'-9". IN ADDITION, THE OPENABLE PORTION OF EGRESS WINDOWS SHALL NOT EXCEED 3'-8" ABOVE THE ADJOINING FLOOR OR PERMANENT STEP.
- PROVIDE SMOKE ALARMS IN EACH SLEEPING ROOM, OUTSIDE OF EACH SLEEPING AREA AND ON EACH FLOOR, INCLUDING BASEMENT (IF APPLICABLE). ALARMS SHALL BE HARDWIRED TOGETHER SO THAT THE ACTIVATION OF ONE SMOKE ALARM WILL ACTIVATE ALL SMOKE ALARMS IN THE DWELLING. PROVIDE CARBON MONOXIDE DETECTORS OUTSIDE EACH SLEEPING AREA.

MASONRY VENEER

- MASONRY VENEER SHALL BE ANCHORED TO THE SUPPORTING WALL STUDS WITH CORROSION-RESISTANT METAL TIES EMBEDDED IN MORTAR OR GROUT AND EXTENDING INTO THE VENEER A MINIMUM OF 1½", WITH NOT LESS THAN ¾" MORTAR OR GROUT COVER TO OUTSIDE FACE.
- VENEER TIES, IF STRAND WIRE, SHALL NOT BE LESS IN THICKNESS THAN NO. 9 U.S. GAGE WIRE AND SHALL HAVE A HOOK EMBEDDED IN THE MORTAR JOINT, OR IF SHEET METAL, SHALL BE NOT LESS THAN NO. 22 U.S. GAGE BY ¾" CORRUGATED.
- EACH TIE SHALL SUPPORT NOT MORE THAN 2.67 SQUARE FEET OF WALL AREA AND SHALL BE SPACED NOT MORE THAN 32 INCHES ON CENTER HORIZONTALLY AND 24 INCHES ON CENTER VERTICALLY.
- VENEER TIES AROUND WALL OPENINGS: ADDITIONAL METAL TIES SHALL BE PROVIDED AROUND ALL WALL OPENINGS GREATER THAN 16 INCHES IN EITHER DIMENSION. METAL TIES AROUND THE PERIMETER OF OPENINGS SHALL BE SPACED NOT MORE THAN 3 FEET ON CENTER AND PLACED WITHIN 12 INCHES OF THE WALL OPENING.

GARAGE NOTES

- DOOR(S) BETWEEN THE GARAGE AND DWELLING SHALL BE MINIMUM 1½" SOLID CORE OR HONEY-COMBED STEEL DOOR WITH 20-MINUTE FIRE RATING EQUIPPED WITH A SELF-CLOSING DEVICE
- VEHICLE DOORS AND FRAMES SHALL BE DESIGNED AND INSTALLED TO MEET THE 115-MPH 3-SECOND GUST LOADING PER DASHA 108 AND ASTM E 330-96 PER IRC 2018

GARAGE NOTES (CONTINUED)

- THE GARAGE SHALL BE SEPARATED FROM THE DWELLING AND ITS ATTIC AREAS BY MINIMUM ¾" GYP. BOARD APPLIED TO THE GARAGE SIDE OF FRAMING. WHERE HABITABLE SPACE OCCURS ABOVE THE GARAGE, THE GARAGE CEILING ASSEMBLY SHALL BE PROTECTED WITH A MINIMUM ¾" TYPE X GYP. BOARD. WHERE A FLOOR/CEILING SPACE IS PROVIDED ABOVE THE GARAGE COLUMNS AND BEAMS SUPPORTING THE SEPARATION SHALL ALSO BE PROTECTED WITH ¾" GYP. BOARD.
- GARAGE DOOR HFRAME FOR THE ATTACHMENT OF THE TRACK AND COUNTER BALANCE SHALL CONSIST OF THE FOLLOWING: 2x6 VERTICAL JAMBS RUNNING FROM FLOOR TO CEILING AND SHALL BE FASTENED WITH 2½" x 0.120" NAILS AT 7" O.C. STAGGERED WITH (7) 3½" x 0.120" NAILS THROUGH THE JAMB INTO THE HEADER. MINIMUM 2x8 HEADER FOR ATTACHMENT OF COUNTER BALANCE SYSTEM.

DESIGN LOADING (PER TABLE R301.5)

USE	MINIMUM UNIFORMLY DISTRIBUTED LIVE LOADS (PSF)	
	LIVE LOAD	DEAD LOAD
UNINHABITABLE ATTICS WITHOUT STORAGE	10	10
UNINHABITABLE ATTICS WITH LIMITED STORAGE	20	10
HABITABLE ATTICS AND ATTICS SERVED WITH FIXED STAIRS	30	10
BALCONIES (EXTERIOR) AND DECKS	40	10 ^d
FIRE ESCAPES	40	10
GUARDRAILS AND HANDRAILS ^a	200 ^c	-
GUARDRAIL IN-FILL COMPONENTS ^b	50 ^c	-
PASSENGER VEHICLE GARAGES	50	DEPENDENT UPON SLAB CONSTRUCTION
ROOMS OTHER THAN SLEEPING ROOM	40	10 ^d
SLEEPING ROOM	30	10 ^d
STAIRS	40	10 ^d

- A single concentrated load applied in any direction at any point along the top.
- Guard in-fill components (all those except the handrail), ballusters and panel fillers shall be designed to withstand a horizontally applied normal load of 50 pounds on an area equal to one square foot. This load need not be assumed to act concurrently with any other live load requirement.
- Glazing used in handrail assemblies and guards shall be designed with a safety factor of 4. The safety factor shall be applied to each of the concentrated loads applied to the top of the rail, and to the load on the in-fill components. These loads shall be determined independently of one another, and loads are assumed not to occur with any other live load.
- An additional dead loading of 10 psf shall be applied where thinset tile floor is to be installed. An additional dead loading of 50 psf shall be applied where mudset tile floor is to be installed.

INSULATION/EFFICIENCY

- BUILDING ENVELOPE INSULATION SHALL COMPLY WITH IRC TABLE N1102.1.1 OR THE 2012 IECC (SEE SHEET S3.1 FOR FRAMING DETAILS AND TABLES ON THIS SHEET FOR MORE INFORMATION)
- CATHEDRAL -VAULTED CEILING FRAMING SHALL BE FRAMED WITH A MINIMUM INSULATION VALUE OF R-38. IF VAULTED RAFTERS DO NOT PROVIDE REQUIRED DEPTH TO ACHIEVE R-38 INSULATION BUILDER SHALL FUR DOWN RAFTERS PER DETAILS PROVIDED ON SHEET S3.1.

INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT (TABLE N1102.1.1)	
CLIMATE ZONE	4-A
FENESTRATION U-FACTOR	0.35
SKYLIGHT U-FACTOR	0.55
GLAZED FENSTRATION SHGC	0.40
CEILING R-VALUE	49
WOOD FRAME WALL R-VALUE	15
MASS WALL R-VALUE	8 / 13
FLOOR R-VALUE	19
BASEMENT WALL R-VALUE	10-CONTINUOUS OR 13-CAVITY
SLAB R-VALUE AND DEPTH	10 AT 2'-0"
CRAWL SPACE WALL R-VALUE	10-CONTINUOUS OR 13-CAVITY
DUCTWORK EXPOSED TO OUTSIDE AIR R-VALUE	8
DUCTWORK NOT EXPOSED TO OUTSIDE AIR R-VALUE	6
CATHEDRAL VAULTED CEILING R-VALUE	38

DUCT SEALING

N1103.2.2 (R403.2.2) SEALING (MANDATORY). DUCTS, AIR HANDLERS, AND FILTER BOXES SHALL BE SEALED. JOINTS AND SEAMS SHALL COMPLY WITH SECTION M1601.4.1 OF 2018 IRC.

EXCEPTIONS:

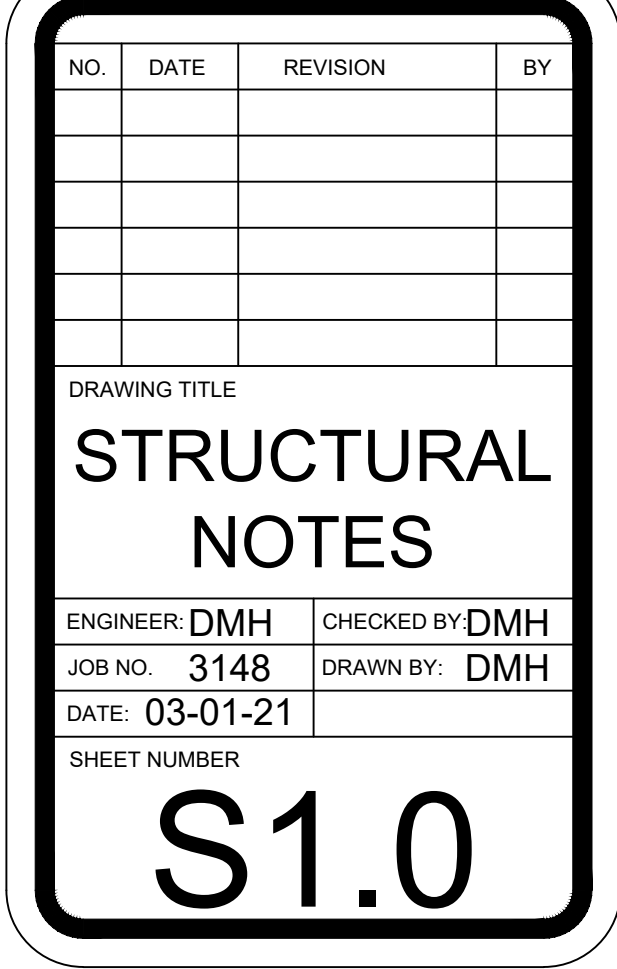
- AIR-IMPERMEABLE SPRAY FOAM PRODUCTS SHALL BE PERMITTED TO BE APPLIED WITHOUT ADDITIONAL JOINT SEALS.
- WHERE A DUCT CONNECTION IS MADE THAT IS PARTIALLY INACCESSIBLE, THREE SCREWS OR RIVETS SHALL BE EQUALLY SPACED ON THE EXPOSED PORTION OF THE JOINT SO AS TO PREVENT A HINGE EFFECT.
- CONTINUOUSLY WELDED AND LOCKING-TYPE LONGITUDINAL JOINTS AND SEAMS IN DUCTS OPERATING AT STATIC PRESSURES LESS THAN 2 INCHES OF WATER COLUMN PRESSURE CLASSIFICATION SHALL NOT REQUIRE ADDITIONAL CLOSURE SYSTEMS.

DUCT TIGHTNESS SHALL BE VERIFIED BY EITHER OF THE FOLLOWING:

- POST-CONSTRUCTION TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE ENTIRE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTER BOOTS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST.
- ROUGH-IN TEST: TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 4 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA WHEN TESTED AT A PRESSURE DIFFERENTIAL OF 0.1 INCHES W.G. ACROSS THE SYSTEM, INCLUDING THE MANUFACTURER'S AIR HANDLER ENCLOSURE. ALL REGISTERS SHALL BE TAPED OR OTHERWISE SEALED DURING THE TEST. IF THE AIR HANDLER IS NOT INSTALLED AT THE TIME OF THE TEST, TOTAL LEAKAGE SHALL BE LESS THAN OR EQUAL TO 3 CFM PER 100 SQUARE FEET OF CONDITIONED FLOOR AREA.

EXCEPTION: THE TOTAL LEAKAGE TEST IS NOT REQUIRED FOR DUCTS AND AIR HANDLERS LOCATED ENTIRELY WITHIN THE BUILDING THERMAL ENVELOPE.

MECHANICAL VENTILATION SYSTEM FAN EFFICACY			
FAN LOCATION	AIR FLOW RATE MINIMUM (CFM)	MINIMUM EFFICACY (CFM/WATT)	AIR FLOW RATE MAXIMUM (CFM)
RANGE HOODS	ANY	2.8	ANY
IN-LINE FAN	ANY	2.8	ANY
BATHROOM, UTILITY ROOM	10	1.4	90
BATHROOM, UTILITY ROOM	90	2.8	ANY



RESIDENTIAL SEISMIC & WIND ANALYSIS					INPUT
DETERMINE WEIGHT OF HOUSE:					CALCULATED VALUE
LOCATION			DEAD LOAD (psf)	AREA (ft ²)	WEIGHT (lbs.)
ROOF			10	2998	29980
CEILING			10	2998	29980
FIRST FLOOR			10	2998	29980
FIRST FLOOR EXT. WALL DL		WALL LENGTH (ft)	WALL HEIGHT (ft)	WALL UNIT WT. (psf)	WEIGHT (lbs)
		238.66	10	10	23866
FIRST FLOOR INT. PARTITION WALL DL			DEAD LOAD (psf)	AREA (ft ²)	WEIGHT (lbs)
			6	2998	17988
PROJECTED AREAS (WIND DESIGN PER 115 MPH 3-SECOND GUST, EXPOSURE C AND MEAN ROOF HEIGHT <= 30 FT ASSUMED)					
FRONT-TO-BACK			SIDE-TO-SIDE		
SLOPED ROOF	AREA	LOAD	SLOPED ROOF	AREA	LOAD
VERT. ROOF	342	2867	VERT. ROOF	582	4952
1ST	219	2681	CUMULATIVE	0	0
BSMT*	715	8754	1ST	597.63	7430
	0	0	BSMT*	128	1812
					12455
					8040
PRESSURE (PSF) - PER ASCE CH. 6					
SLOPED ROOF	ZONE B	9.7	ZONE C	11.3	2a (FIG. 26.6-1, ASCE7)
WALL/VERT. ROOF	ZONE A	14.2	ZONE D	7.7	10.866
MEAN ROOF HT., h		21			

a) If there is a walkout wall to be sheathed, determine tributary wind area and enter here. If no walkout, enter 0 for area.
q_{L10}=0.00256K_eK_dK_zV² (ASCE7-10 Velocity Pressure) q_{L10, ASD}=0.6q_{L10} (Design Velocity Pressure for ASD analysis under ASCE7-10 and IRC/IBC 2012)

1ST FLOOR TRIBUTARY WEIGHT
BASEMENT TRIBUTARY WEIGHT
S_s (SITE GROUND MOTION - %g - FROM ASCE7 SEISMIC MAP)
F_a (from ASCE7 Table 11.4-1)
S_{DS} (= 2/3 * S_s * F_a)
R (from ASCE7 Table 12.2-1)

71893
71893
12.0%
1.6
0.128
6.5

SEISMIC SHEAR		
LOCATION	From ASCE7 (Eq. 12.8-1):	V (= 1.2 * S _{DS} * W / R) (lbs.)
1ST FLOOR		1699
BASEMENT		1699

Sheathing Location	Min. Sheathing Schedule	Fastening Schedule	Allowable Shear (#/LF)	Code Reference
Exterior (Option #1)	7/16" APA Rated Plywood/OSB	1-1/2" 18ga. Staples w/ 1" penetration @ 4" O.C. Edges, 8" O.C. Field For 24" stud spacing, 12" O.C. Field For 16" stud spacing	155	per IRC, Table 2306.3(1)
Exterior (Option #2)	7/16" APA Rated Plywood/OSB	1-1/2" 18ga. Staples w/ 1" penetration @ 4" O.C. Edges, 8" O.C. Field For 24" stud spacing, 12" O.C. Field For 16" stud spacing	230	per IRC, Table 2306.3(1)
Exterior (Option #3)	7/16" APA Rated Plywood/OSB	1-1/2" 18ga. Staples w/ 1" penetration @ 3" O.C. Edges, 8" O.C. Field For 24" stud spacing, 12" O.C. Field For 16" stud spacing	310	per IRC, Table 2306.3(1)
Exterior (Option #4)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing	8d Common Nails w/ 1-3/8" penetration @ 6" O.C. Edges, 12" O.C. Field for 7/16" APA-rated plywood/OSB or shiplap panel sheathing OR @ 4" O.C. Edges, 12" O.C. Field for 3/8" shiplap panel sheathing	220	AF&PA SDPWS Table 4.3A
Exterior (Option #5)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing	8d Common Nails w/ 1-3/8" penetration @ 4" O.C. Edges, 12" O.C. Field for 7/16" APA-rated plywood/OSB or shiplap panel sheathing OR @ 3" O.C. Edges, 12" O.C. Field for 3/8" shiplap panel sheathing	320	AF&PA SDPWS Table 4.3A
Exterior (Option #6)	7/16" APA Rated Plywood/OSB or shiplap panel sheathing, or 3/8" shiplap panel sheathing with tighter nail spacing and double studs at each panel edge	8d Common Nails w/ 1-3/8" penetration @ 3" O.C. Edges, 12" O.C. Field	410	AF&PA SDPWS Table 4.3A
Interior	1/2" Gypsum Board	No. 6- 1 1/4" Type W or S Screws @ 8" O.C. Edges, 12" O.C. Field	60	per IRC, Table 2306.4.4
Interior	16 Ga. Simpson/USP Type WB Steel X-Brace (or equal)	(3) 16d @ end studs & (1) 8d @ intermediate studs (per manufacturer specifications - see detail on sheet S3)	325	

EXTERIOR SHEATHING OPTION FOR FIRST FLOOR	4
EXTERIOR SHEATHING OPTION FOR BASEMENT WALLS	6

WIDTH OF 1ST STORY (FT.)	65	WIDTH OF 2ND STORY (FT.)	1
DEPTH OF 1ST STORY (FT.)	54.33	DEPTH OF 2ND STORY (FT.)	1
BACK WALL OF GARAGE (FT.)	0		
GAR. WALL: 1=F-B, 2=S-S	2		

EXTERIOR STRUCTURAL WALL LENGTHS (ft.) & RESISTANCES								
	SEISMIC				WIND			
	FRONT-TO-BACK	RESISTANCE (lbs.)	SIDE-TO-SIDE	RESISTANCE (lbs.)	FRONT-TO-BACK	RESISTANCE (lbs.)	SIDE-TO-SIDE	RESISTANCE (lbs.)
1ST FLOOR	77	21560	41	11480	77	30184	41	16072
BASEMENT	0	0	13.5	6345	0	0	13.5	8883

	ADDITIONAL RESISTANCE REQUIRED		Anchor Bolt Spacing (in.)		16d Nail Spacing req'd at bottom plate (in.)	
	SEISMIC	WIND	diameter (in.)	Shear value (per NDS)	1st Floor F-B	1st Floor S-S
1ST FLOOR FRONT-TO-BACK	0	0	0.5	944	20	20
1ST FLOOR SIDE-TO-SIDE	0	0	137.0			
BASEMENT FRONT-TO-BACK	0	0	189.2			
BASEMENT SIDE-TO-SIDE	0	0				

RESISTANCE REQUIRED IN ADDITION TO RESISTANCE PROVIDED BY EXTERIOR WALLS**						
	ADDITIONAL RESISTANCE REQUIRED (POUNDS)	PORTAL FRAMES OR PERF. SHEAR WALL RESISTANCE	INTERIOR X-BRACES (325#/BRACE)	INTERIOR WALL LENGTH W/ 1/2" GYPSUM BOARD PER TABLE (FT.)	INT. WALL LENGTH SHEATHED W/ OSB (TOTAL LENGTH, ONE SIDE, FT.)	RESISTANCE PROVIDED BY ADDITIONAL METHODS (POUNDS)
1ST FLOOR FRONT-TO-BACK	0					0
1ST FLOOR SIDE-TO-SIDE	0					0
BASEMENT FRONT-TO-BACK	0					0
BASEMENT SIDE-TO-SIDE	0					0

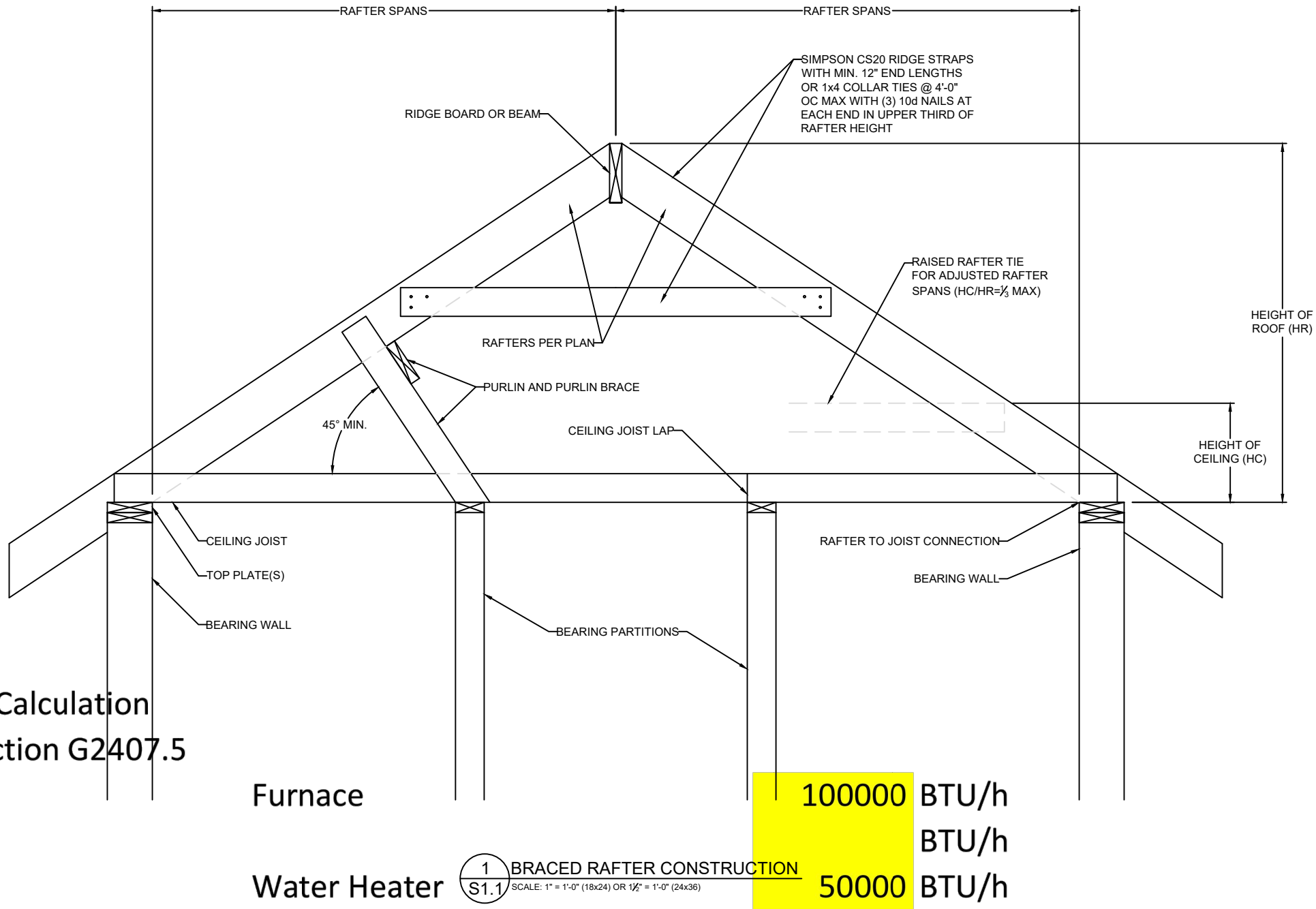
*NOTES: 1) SEE ATTACHED CALCULATIONS FOR PORTAL FRAME OR PERFORATED SHEAR WALL RESISTANCE CAPACITIES (IF APPLICABLE).
2) SEE SHEET S1 FOR INTERIOR STEEL X-BRACE INSTALLATION. 3) INTERIOR WALLS SHEATHED WITH OSB SHALL BE ATTACHED WITH SAME STAPLE/NAILING PATTERN AS EXTERIOR OSB ON SAME FLOOR (SEE TABLE ABOVE) AND ARE ONLY APPLICABLE FOR FULL-HEIGHT SECTIONS OF 2'-8" OR LONGER
ALL LATERAL BRACING ACHIEVED AT EXTERIOR WALLS AND WALLS DIRECTLY ON FOUNDATIONS; THEREFORE, NO INTERIOR BRACING PER 2012 IRC SECTION R502.2.1 IS REQUIRED

WIND UPLIFT ANALYSIS						
ROOF PITCH (MAX)	X/12	DEGREES	PITCH OF 6 OR LESS: EOH -13.3, E -7.2, G -5.2			
	8	33.7				
ASCE 7						
	LENGTH (FT.)	PRESSURE (PSF)	LINEAL FT. OF OH	UPLIFT PER FT* (LBS)		
OVERHANG	1	-1.08	240.66	-1.08		
	TOTAL AREA (FT ²)	ZONE E AREA (FT ²)	ZONE G AREA (FT ²)	PRESSURE ZN. E (PSF)	PRESSURE ZN. G (PSF)	TOTAL FORCE (LBS)
MAIN ROOF**	3531.45	-428.615824	3960.265824	-1.08	-0.36	-963
						FORCE PER LINEAL FT @ PERIMETER (LBS)
						-4.0
*ALONG PERIMETER	TOTAL UPLIFT PER LINEAL FOOT ALONG EXTERIOR (POUNDS)			-5.1	UPLIFT OK	
**INSIDE EXTERIOR WALLS	RESISTANCE DUE TO DEAD WEIGHT & (3) 16d 10ENAILS			251.6		

NOTE FOR CONSTRUCTION:
THE CONTINUOUS STRUCTURAL PANEL SHEATHING BRACING METHOD REQUIRES USE OF THE ABOVE TABLE FOR SHEATHING OF THE ENTIRE STRUCTURE. IN ADDITION, FRAMING MEMBERS SHALL BE @ 16" O.C. MAX., UNBLOCKED, AND W/ SHEATHING APPLIED DIRECTLY TO FRAMING MEMBERS

NOTE FOR DESIGN:
ALL WALLS USED IN THE CALCULATION OF THE RESISTANCE FOR THIS STRUCTURE SHALL HAVE A MINIMUM UNINTERRUPTED HEIGHT OF 8'-0" AND LENGTH OF 2'-8". ALLOWABLE RESISTANCES HAVE BEEN #/FT AND INCREASED BY 40% FOR WIND LOADS, PER VALUES IN 2012 IBC SECTION 2306 AND AF&PA SDPWS TABLE 4.3A. FOR EXAMPLE, 7/16" APA-RATED SHEATHING WITH 8d @ 6" & 12" HAS A SEISMIC SHEAR VALUE OF 240 A WIND SHEAR VALUE OF 335#/FT - 40% GREATER THAN THAT OF SEISMIC)

NOTE: SOIL SITE CLASS ASSUMED TO BE CLASS D. IF SITE CONDITIONS ARE DETERMINED TO BE CLASS E OR F, CONSULT ENGINEER BEFORE PROCEEDING WITH CONSTRUCTION



Combustion Air Calculation
Per 2012 IRC Section G2407.5

Appliance #1

Appliance #2

Appliance #3

Furnace

Water Heater

100000 BTU/h

BTU/h

50000 BTU/h

Total BTU/hr

150000 BTU/h

Area of Combined Space (floor where appliances are located)

Ceiling Height in Usable Space

1033 ft²

8.5 ft

Note: Per 2012 IRC Section G2407.5.3.2, The volumes of spaces in different stories shall be considered as communicating spaces where such spaces are connected by one or more openings in doors or floors having a total minimum free area of 2 square inches per 1,000 BTU/h of total input rating of all appliances

Is floor where appliances are located open to adjacent level?

If Yes, what is the area of open space adjacent to appliance area?

Yes

0

Per 2012 IRC Section G2407.5.1 (Standard Method), the minimum required volume shall be 50 cubic feet per 1,000 BTU/hr
(Total BTU/hr / 1,000 BTU/hr x 50 ft³)

Required air space in combined areas:

7500 ft³

Required combined area:

882 ft²

Area of Combined Space > Required combined area?

OK

Per Section G2407.5.3.1, each opening shall have a minimum free area of 1 square inch per 1,000 BTU/hr of the total input rating of all appliances in the space, but not less than 100 square inches. One opening shall commence within 12 inches of the top and one opening shall commence within 12 inches of the bottom of the enclosure. The minimum dimension of air openings shall be not less than 3 inches.

Minmum required opening area:

Minimum grill size:

Note: two grills required - one within 12" of floor, one within 12" of clg.

150 in²

14 x 11 (inches)



14718 NW DELIA STREET * PORTLAND, OREGON 97229
OFFICE: 971.235.6099 * MOBILE: 971.235.6099 *
* DENNIS@VISTASTRUCTURAL.COM * VISTASTRUCTURAL.COM

CLIENT: JFE CONSTRUCTION

JOB TITLE: 3010 NW THOREAU PLACE
LOT 1472, WINTERSET VALLEY

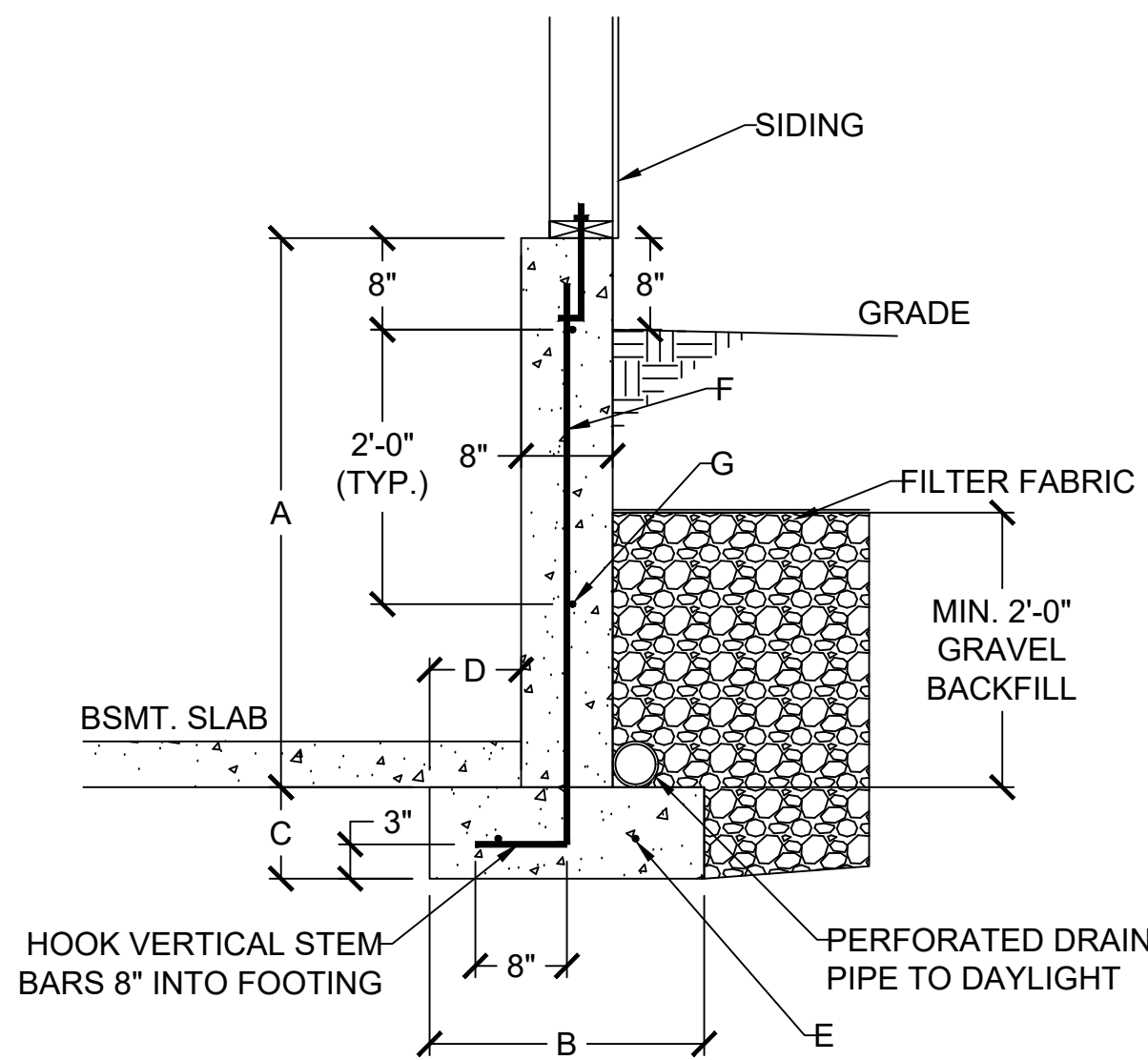
LOCATION: LEE'S SUMMIT, MISSOURI



NO.	DATE	REVISION	BY

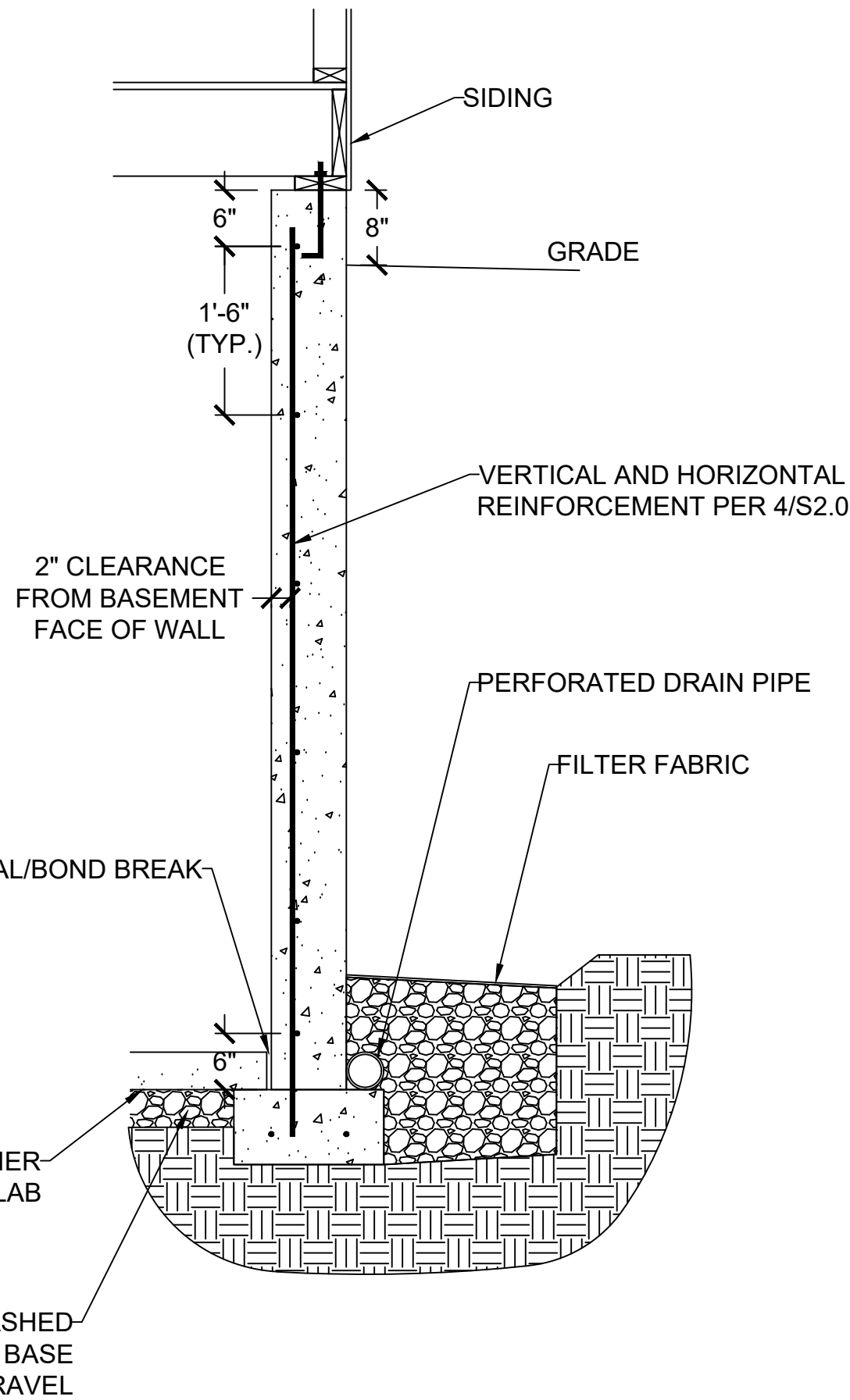
DRAWING TITLE	
STRUCTURAL CALCULATIONS	
ENGINEER: DMH	CHECKED BY: DMH
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DATE: 03-01-21	
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S1.1

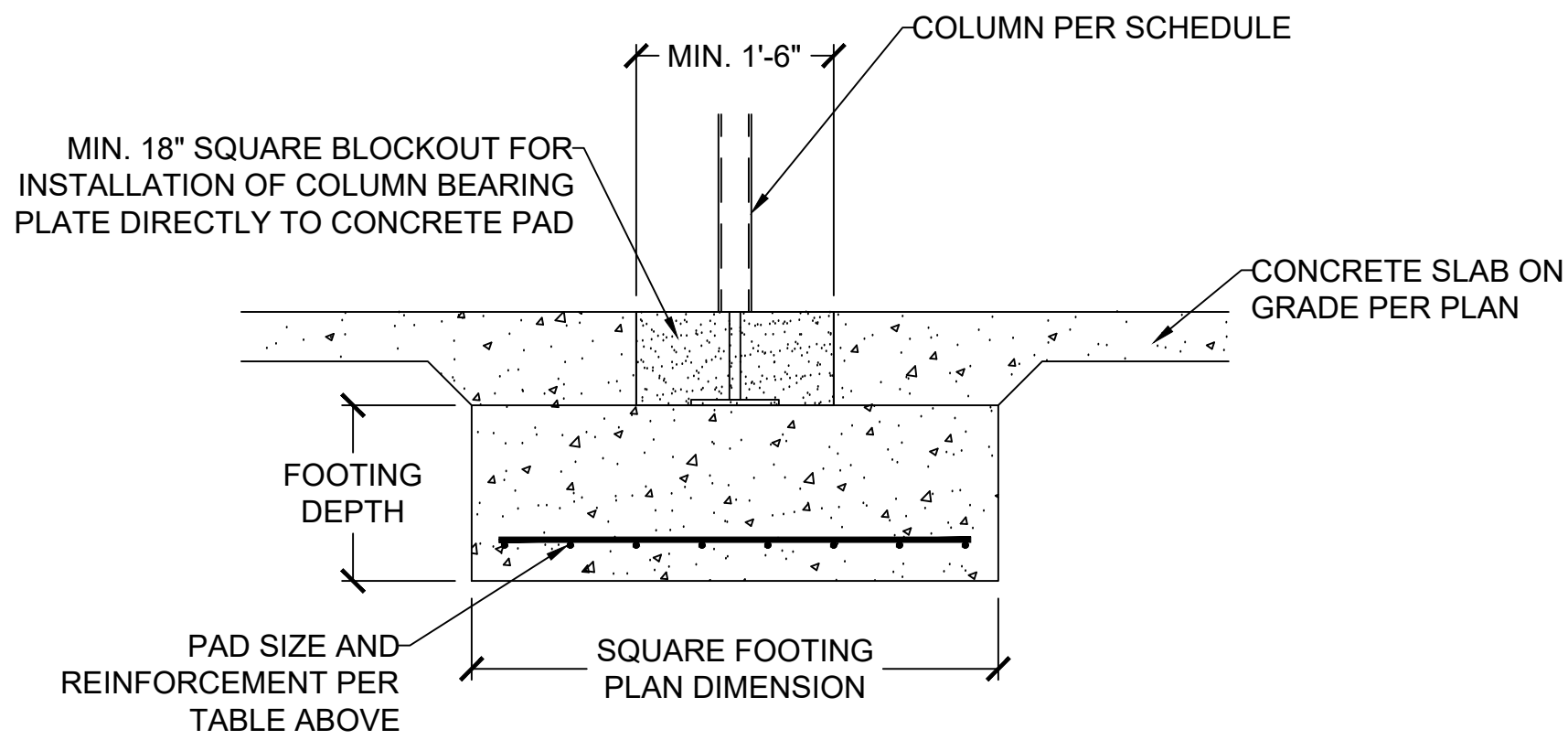


1 DAYLIGHT WALL CONSTRUCTION
S2.0 SCALE: 1/2" = 1'-0" (18x24) OR 3/4" = 1'-0" (24x36)

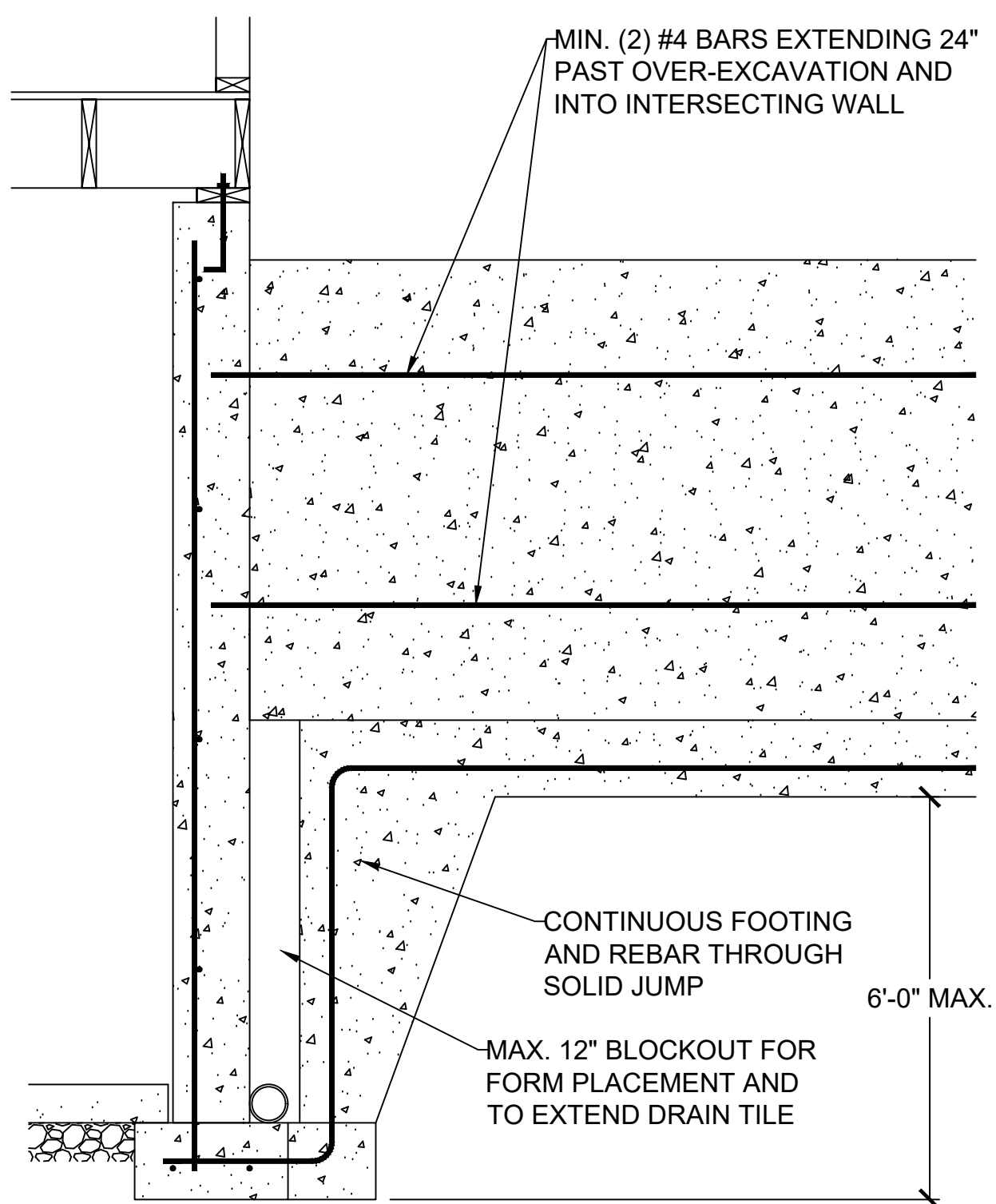
DAYLIGHT BASEMENT WALL SCHEDULE						
A	B	C	D	E	F	G
4'-0"	1'-6"	0'-8"	0'-5"	(2) #4	#4 VERT. @ 12" O.C.	(2) #4 HORIZ.
5'-0"	2'-0"	0'-8"	0'-7"	(2) #4	#4 VERT. @ 12" O.C.	(3) #4 HORIZ.
6'-0"	2'-6"	0'-8"	0'-10"	(3) #4	#4 VERT. @ 12" O.C.	(3) #4 HORIZ.



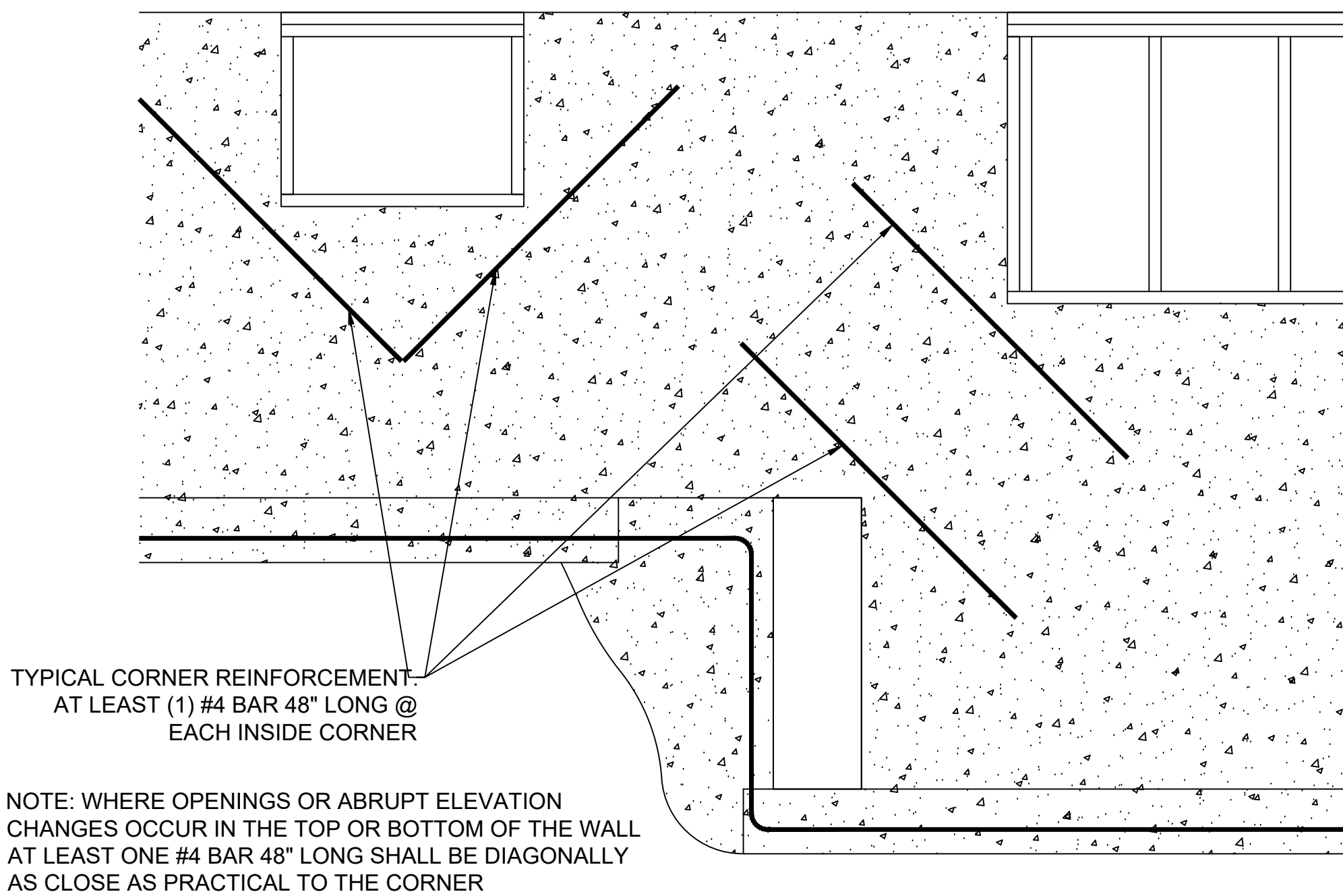
3 CONCRETE WALL SECTION
S2.0 SCALE: 1/2" = 1'-0" (18x24) OR 3/4" = 1'-0" (24x36)



2 COLUMN AND BEARING PAD SCHEDULE
S2.0 SCALE: 1/2" = 1'-0" (18x24) OR 3/4" = 1'-0" (24x36)

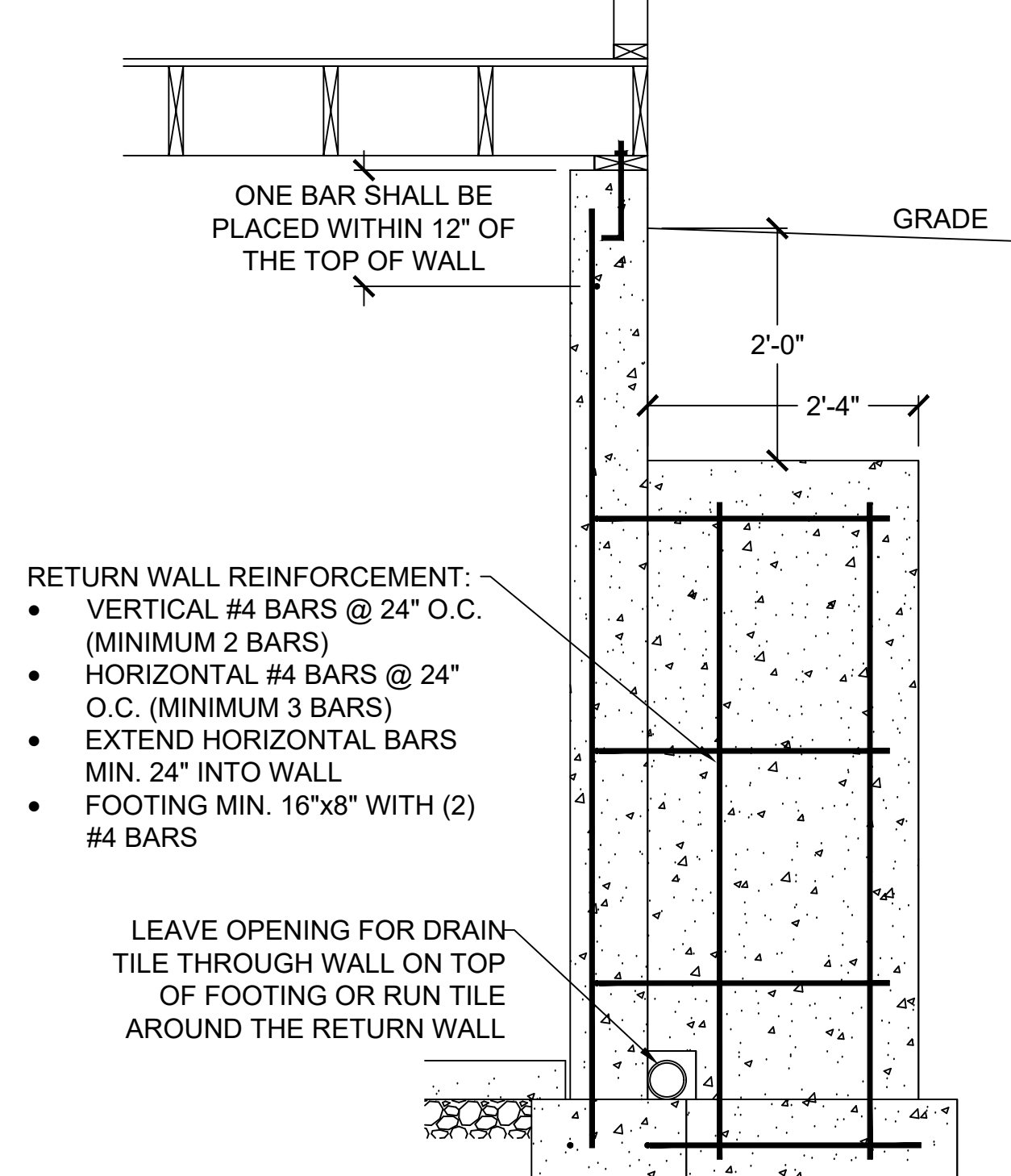


5 SOLID JUMP
S2.0 SCALE: 1/2" = 1'-0" (18x24) OR 3/4" = 1'-0" (24x36)



6 REINFORCEMENT AT OPENING CORNERS AND STEP CORNERS @ INSIDE CORNERS
S2.0 SCALE: 1/2" = 1'-0" (18x24) OR 3/4" = 1'-0" (24x36)

NOTE: WHERE FLOOR JOIST RUNS PARALLEL TO FDN WALL, SOLID BLOCK OUTSIDE 3 JOIST SPACES @ 36" OC ALIGNING BLOCKING WITH THE ANCHOR BOLT

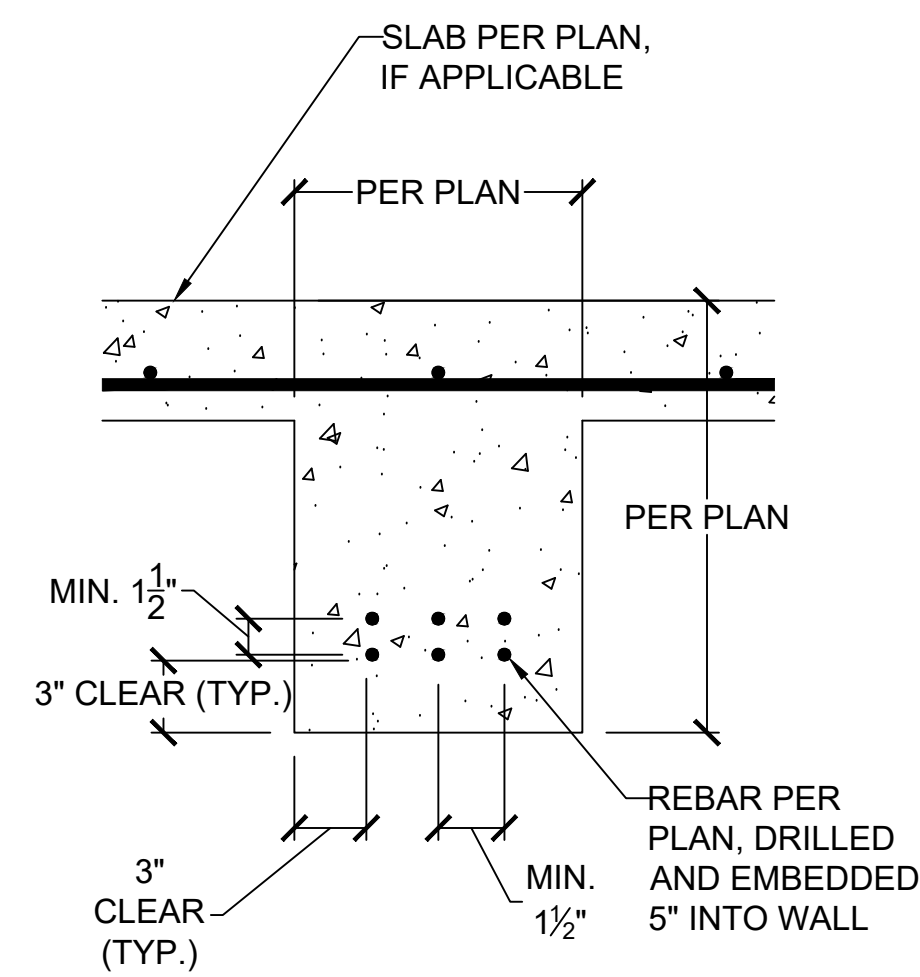


7 RETURN WALL DETAIL
S2.0 SCALE: 1/2" = 1'-0" (18x24) OR 3/4" = 1'-0" (24x36)

VERTICAL REINFORCEMENT SPACING						
CONCRETE STRENGTH/GRADE REINFORCEMENT (#4 BARS)	8" THICK WALL			10" THICK WALL		
	8'	9'	10'	8'	9'	10'
3,000 PSI/ GRADE 40	24	24	16	24	24	18
3,500 PSI/ GRADE 40	24	24	16	24	24	18
3,000 PSI/ GRADE 60	24	24	16	24	24	18
3,500 PSI/ GRADE 60	24	24	16	24	24	18
HORIZONTAL REINFORCEMENT - MINIMUM GRADE 40 STEEL						
ONE BAR 12" FROM TOP OF WALL; MAX. SPACING 24" OC	6-#4	7-#4	7-#4	6-#4	7-#4	7-#4

- FOOTNOTES:
- WALL HEIGHT IS MEASURED FROM THE TOP OF THE WALL TO THE TOP OF THE FLOOR SLAB
 - VERTICAL REINFORCEMENT FOR CONCRETE WALLS THAT ARE NOT FULL HEIGHT, AND FOR REINFORCEMENT SPACING 24" OC, REINFORCEMENT MAY BE PLACED IN THE MIDDLE OF THE WALL. OTHER WALLS SHALL HAVE VERTICAL REINFORCEMENT AS FOLLOWS:
 - 8" WALL - MINIMUM 5" FROM THE OUTSIDE FACE
 - 10" WALL - MINIMUM 6 1/2" FROM THE OUTSIDE FACE
 - EXTEND BARS TO WITHIN 8" OF THE TOP OF THE WALL
 - REINFORCEMENT CLEARANCES:
 - CONCRETE EXPOSED TO EARTH - MINIMUM 1 1/2"
 - NOT EXPOSED TO WEATHER (INTERIOR SIDE OF WALLS) - 3/4"
 - CONCRETE EXPOSED TO WEATHER (TOP CLEARANCE IN GARAGE AND DRIVEWAY SLABS) - 1 1/2"
 - HORIZONTAL REINFORCEMENT:
 - ONE BAR SHALL BE PLACED WITHIN 12" OF THE TOP OF THE WALL
 - OTHER BARS SHALL BE EQUALLY SPACED WITH SPACING NOT TO EXCEED 24" OC
 - HORIZONTAL BARS SHOULD BE AS CLOSE TO THE TENSION FACE AS POSSIBLE (INTERIOR) AND BEHIND THE VERTICAL REINFORCEMENT (I.E. 2" TOWARD THE INSIDE)
 - SUPPLEMENTAL REINFORCEMENT AT CORNERS - PLACE (1) #4 BAR 48" LONG AT 45 DEGREE ANGLE AT CORNERS OF OPENINGS. PLACE REINFORCEMENT WITHIN 6" OF THE EDGE OF INSIDE CORNERS.
 - REINFORCEMENT SHALL BE LAPPED A MINIMUM 24" AT ENDS, SPLICES, AND AROUND CORNERS.
 - AT MASONRY LEDGES THE MINIMUM WALL THICKNESS SHALL BE 3 1/2". LEDGES SHALL NOT EXCEED A DEPTH OF MORE THAN 24" BELOW THE TOP OF THE WALL. FOR WALL THICKNESSES LESS THAN 4" PROVIDE #4 BARS AT MAX. 24" OC TO WITHIN 8" OF THE TOP OF THE WALL.
 - STRAIGHT WALLS MORE THAN 5' TALL AND MORE THAN 16 FEET LONG SHALL BE PROVIDED WITH EXTERIOR BRACED RETURN WALLS. WALL LENGTH SHALL BE MEASURED USING INSIDE THE SHORTEST DIMENSION BETWEEN INTERSECTING WALLS
 - WALL SHALL NOT BE BACKFILLED UNTIL FLOOR SYSTEM AND DIAPHRAGM ARE IN PLACE

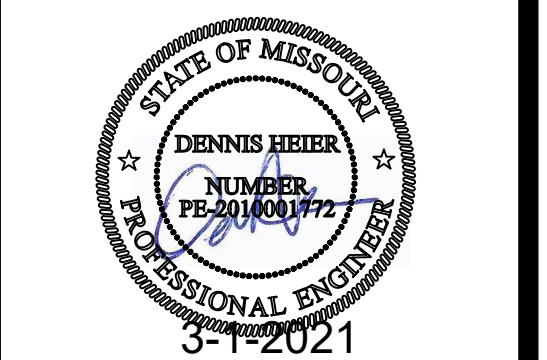
4 FOUNDATION WALL REINFORCEMENT TABLE
S2.0 NO SCALE



8 CONCRETE GRADE BEAM
S2.0 SCALE: 1" = 1'-0" (18x24) OR 1 1/2" = 1'-0" (24x36)

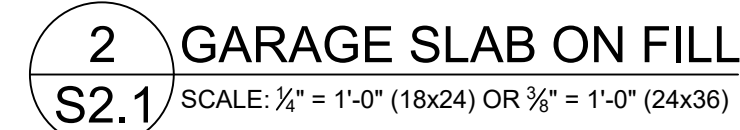
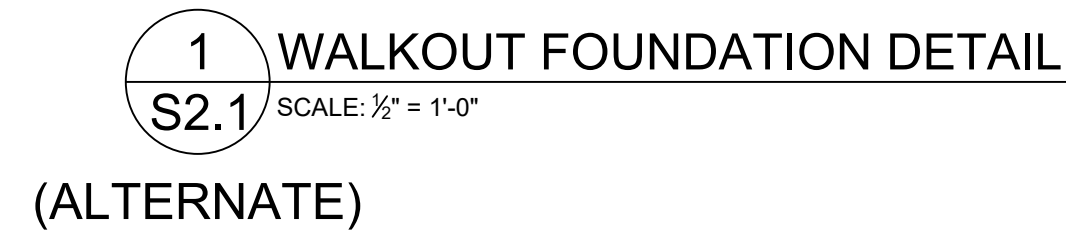
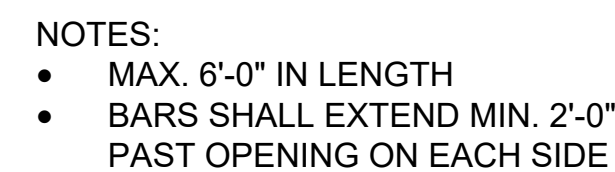
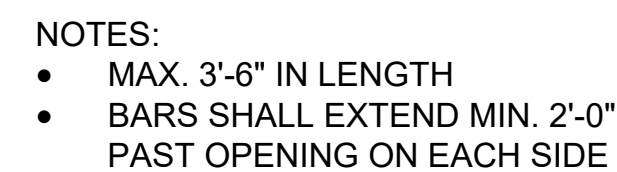
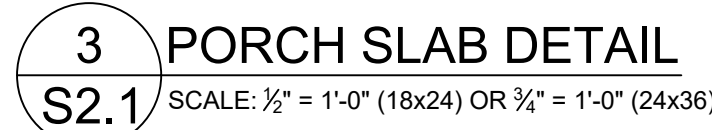
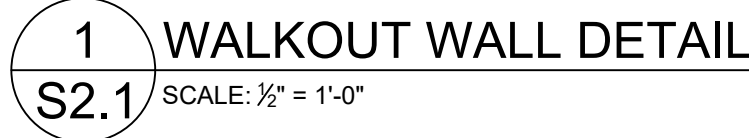


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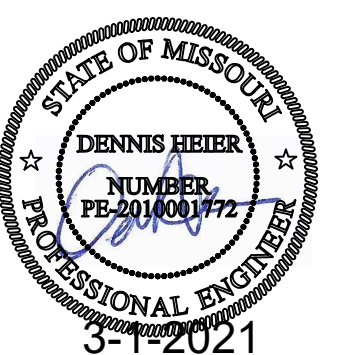
S2.0



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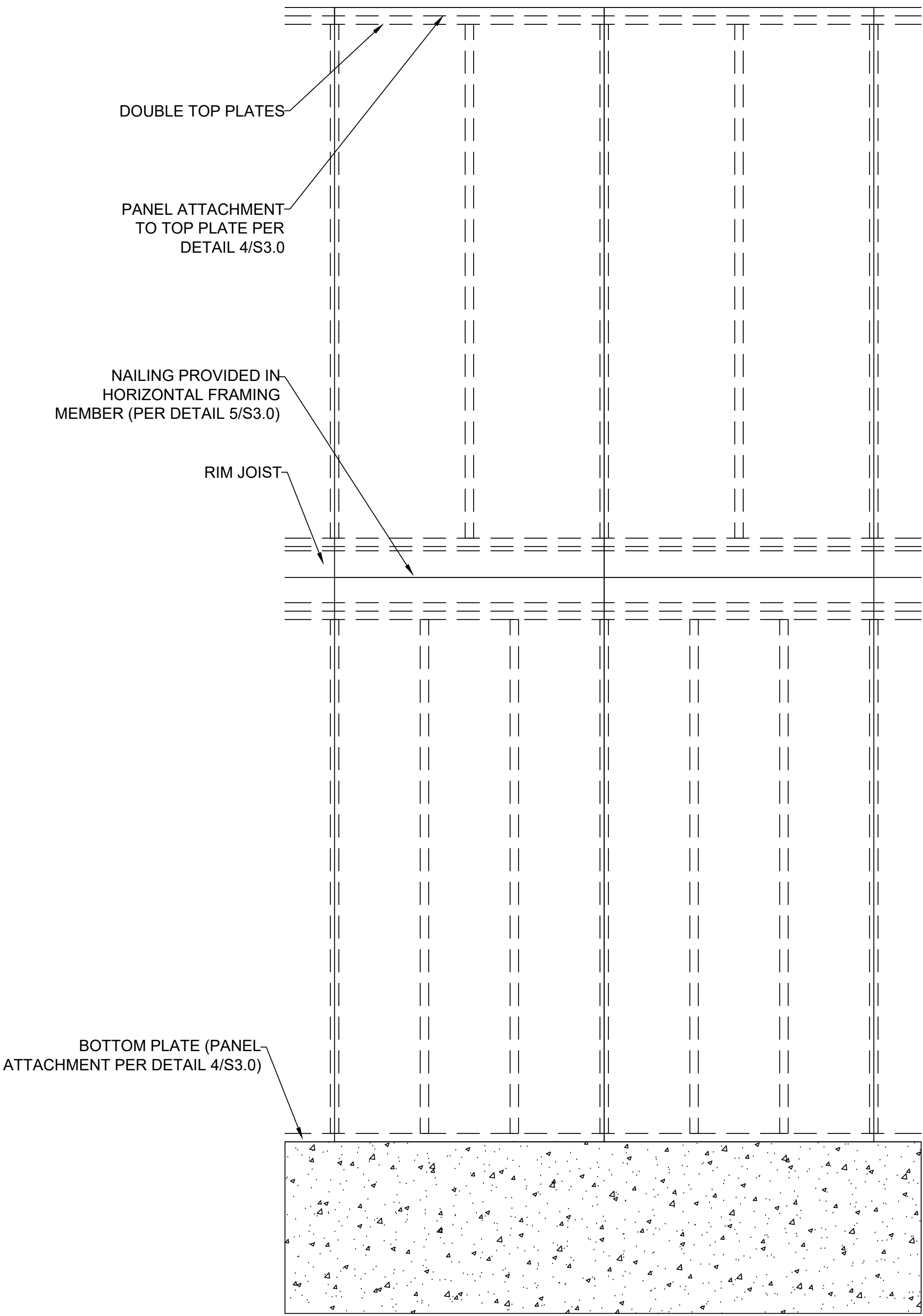
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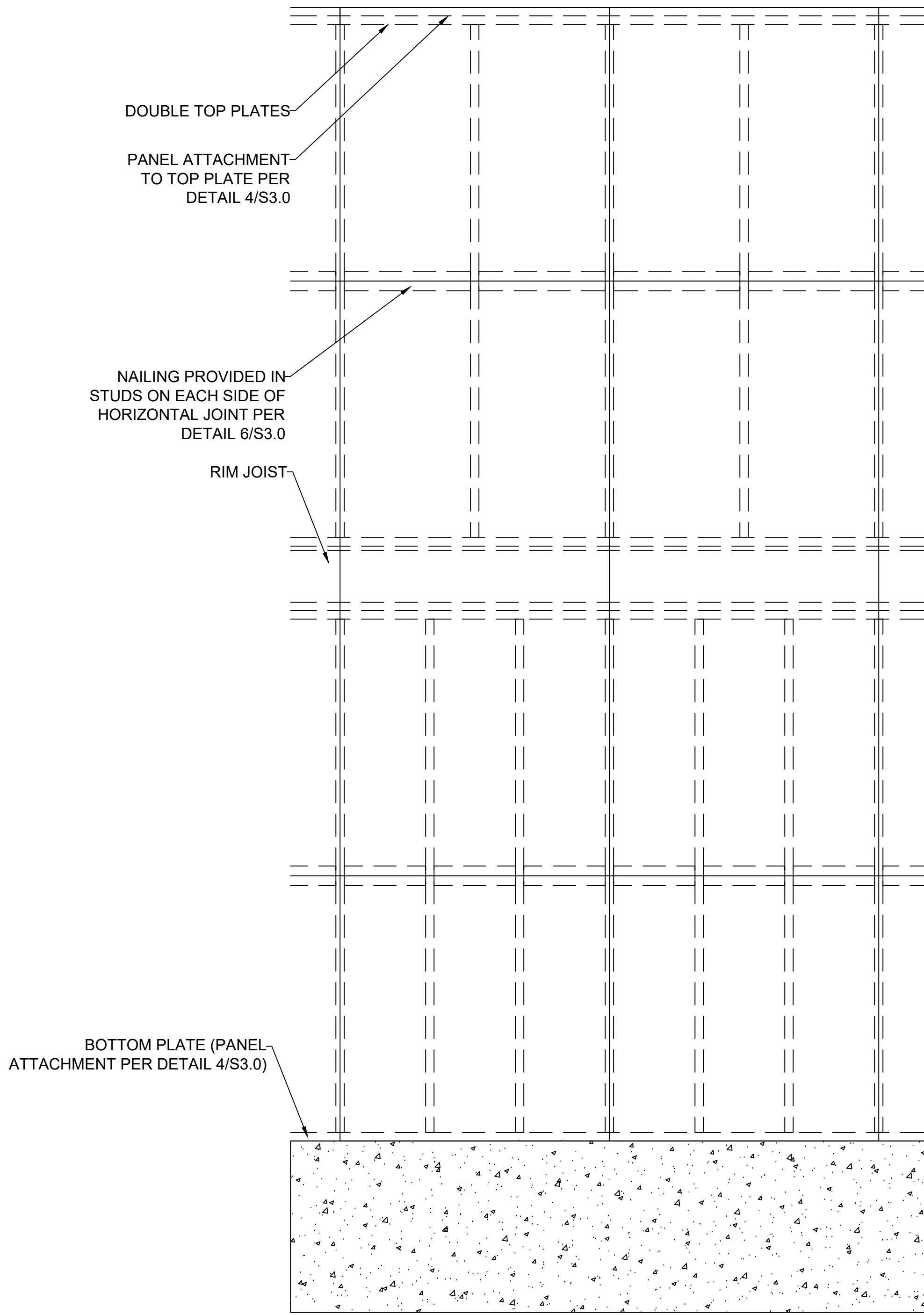
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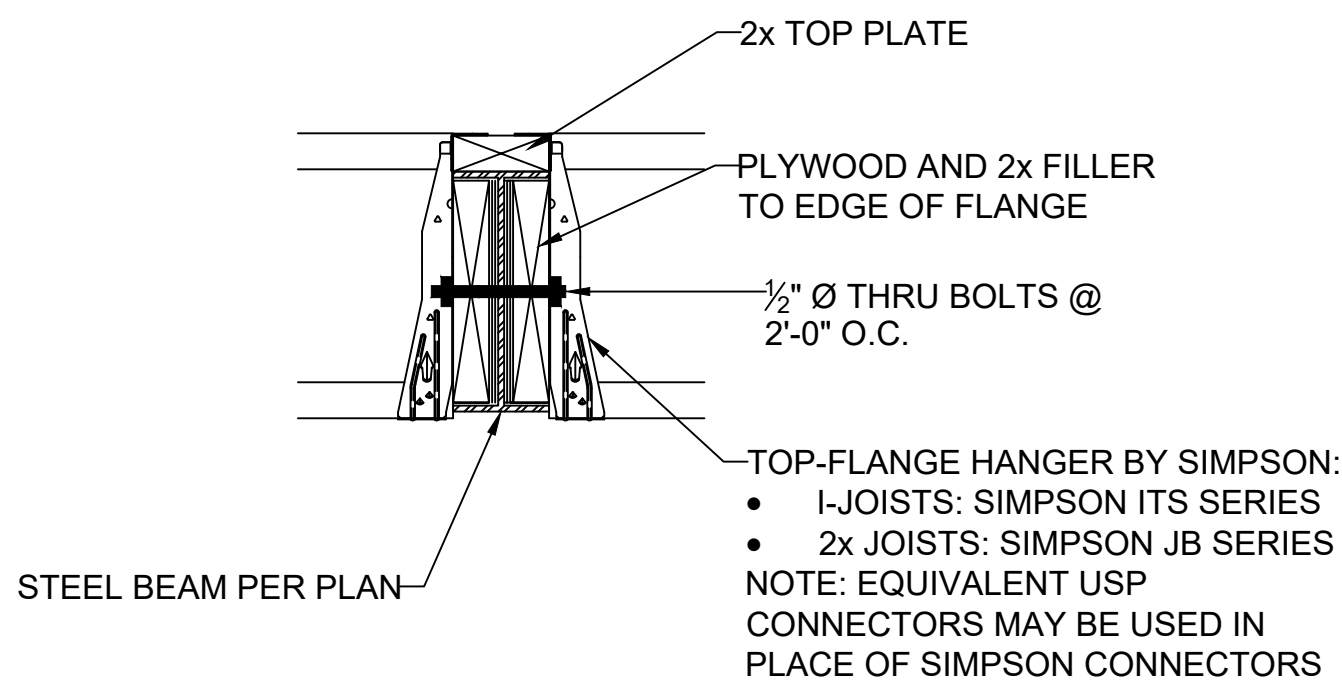
1 EXTERIOR WALL SHEATHING PANEL ATTACHMENT
S3.1 PANEL SPLICE OVER HORIZONTAL FRAMING MEMBER

SCALE: $\frac{1}{2}" = 1'-0"$ (18x24) OR $\frac{3}{4}" = 1'-0"$ (24x36)



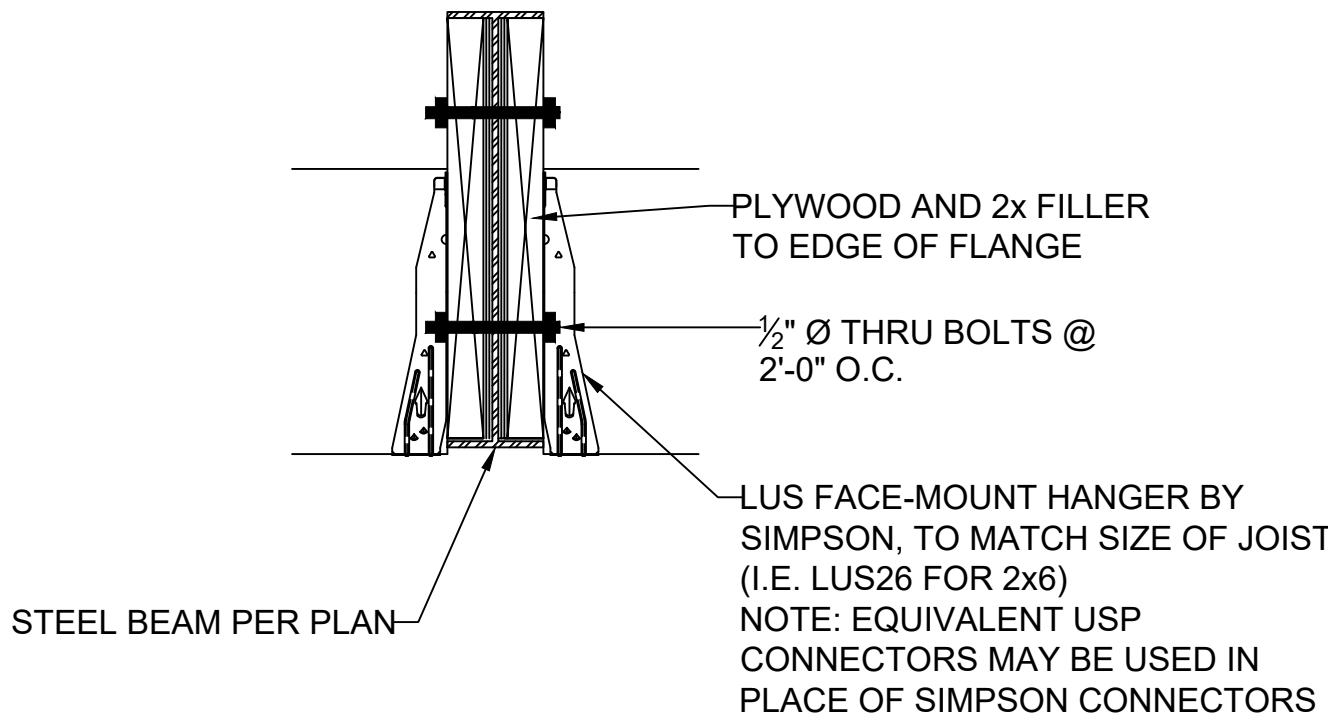
2 EXTERIOR WALL SHEATHING PANEL ATTACHMENT
S3.1 PANEL SPLICE OCCURRING ACROSS STUDS

SCALE: $\frac{1}{2}" = 1'-0"$ (18x24) OR $\frac{3}{4}" = 1'-0"$ (24x36)



4 FLOOR JOIST TO FLUSH STEEL BEAM DETAIL
S3.1

SCALE: $1" = 1'-0"$ (18x24) OR $\frac{1}{2}" = 1'-0"$ (24x36)

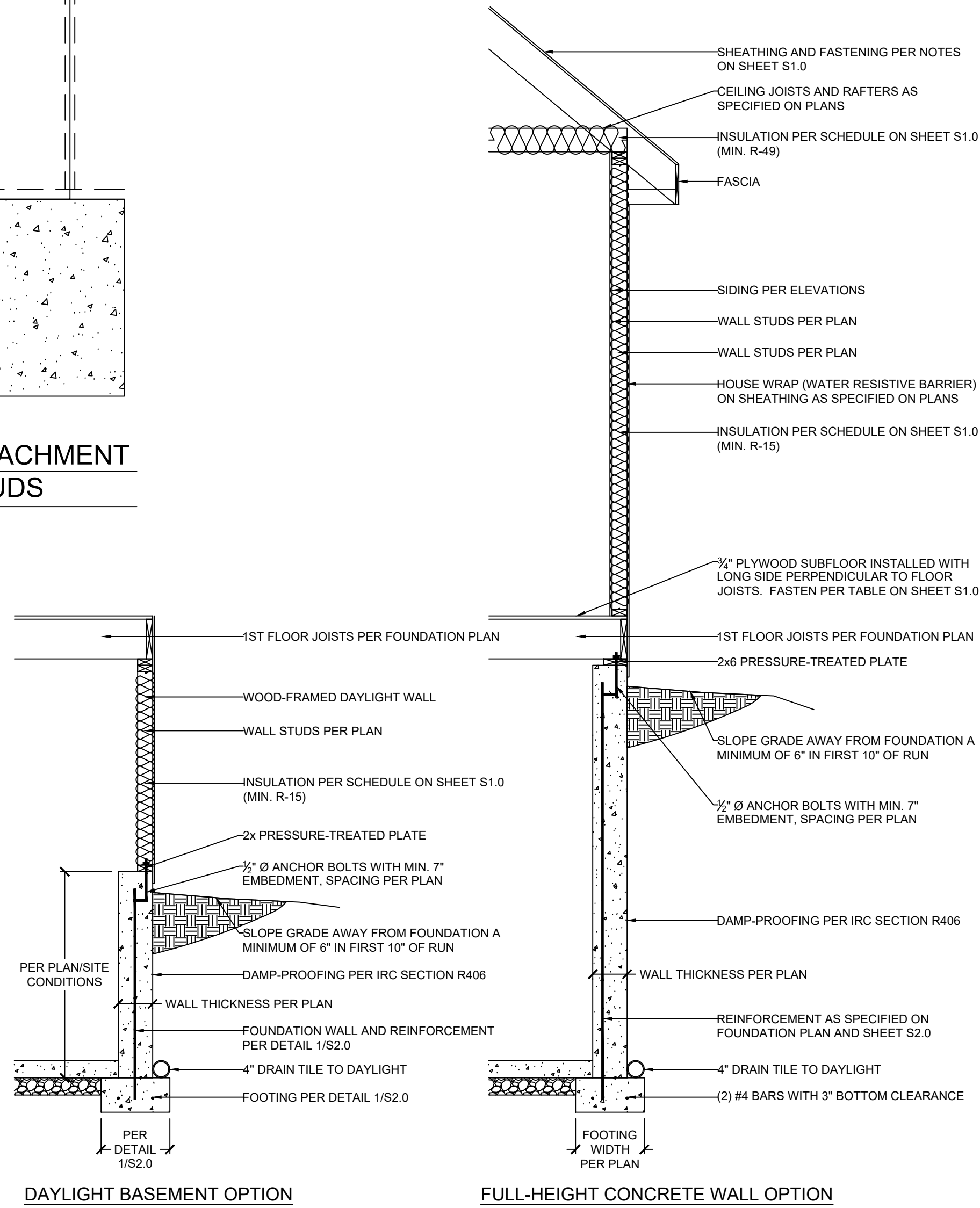


5 CEILING JOIST TO FLUSH STEEL BEAM DETAIL
S3.1

SCALE: $1" = 1'-0"$ (18x24) OR $\frac{1}{2}" = 1'-0"$ (24x36)

3 EXTERIOR WALL SECTION
S3.1

SCALE: $\frac{1}{2}" = 1'-0"$



CLIENT: JFE CONSTRUCTION

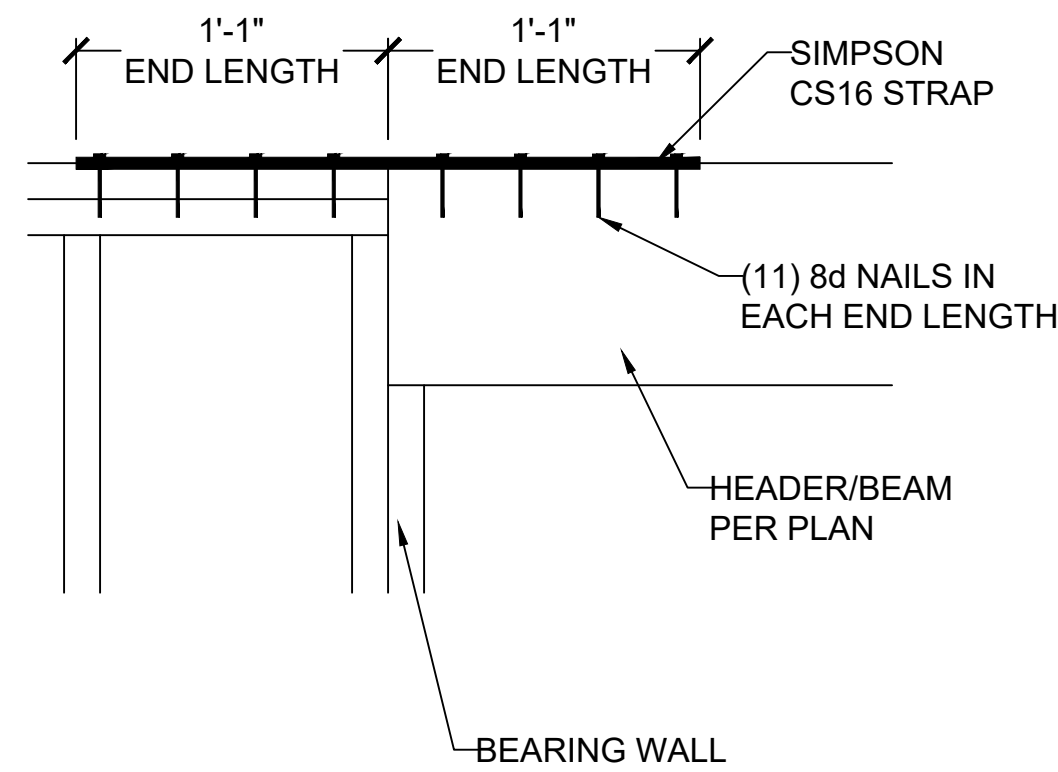
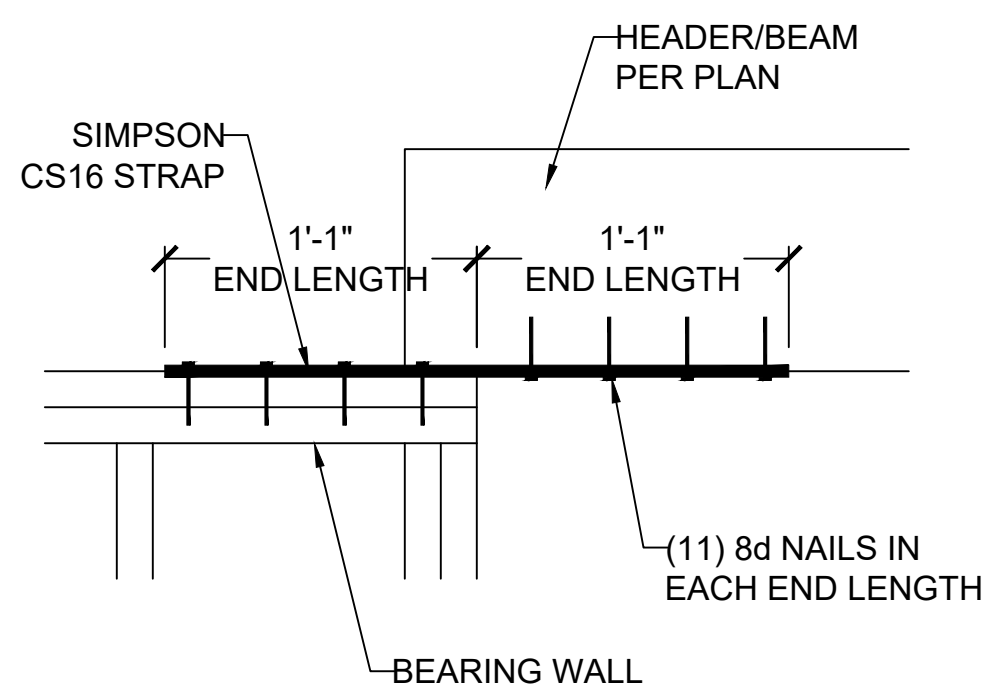
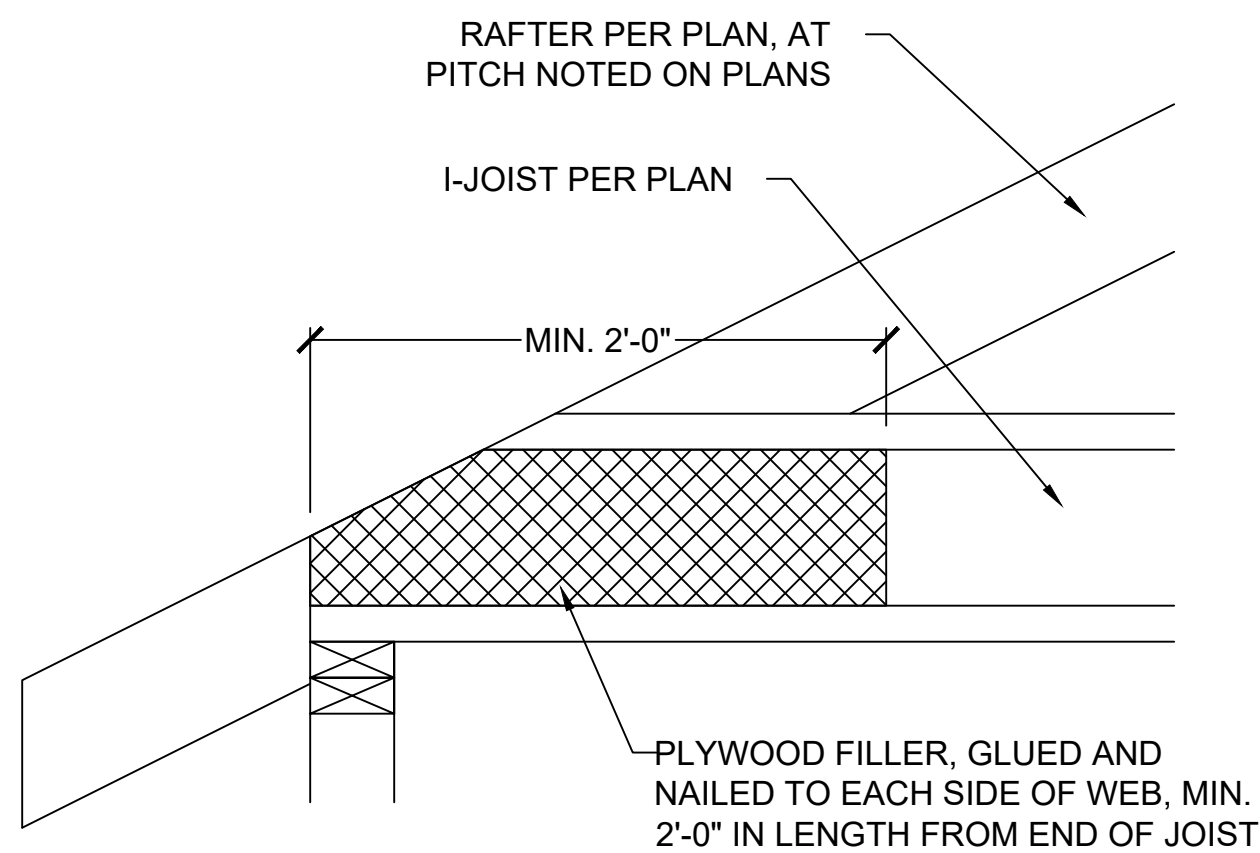
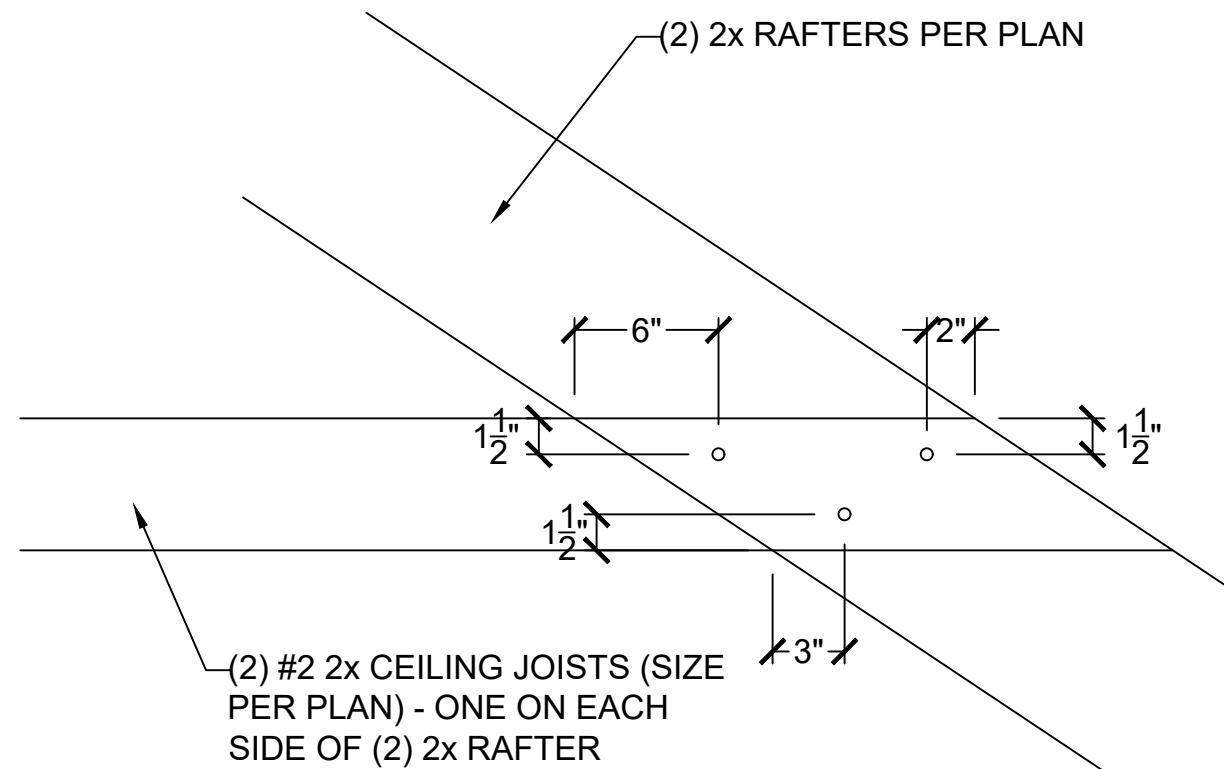
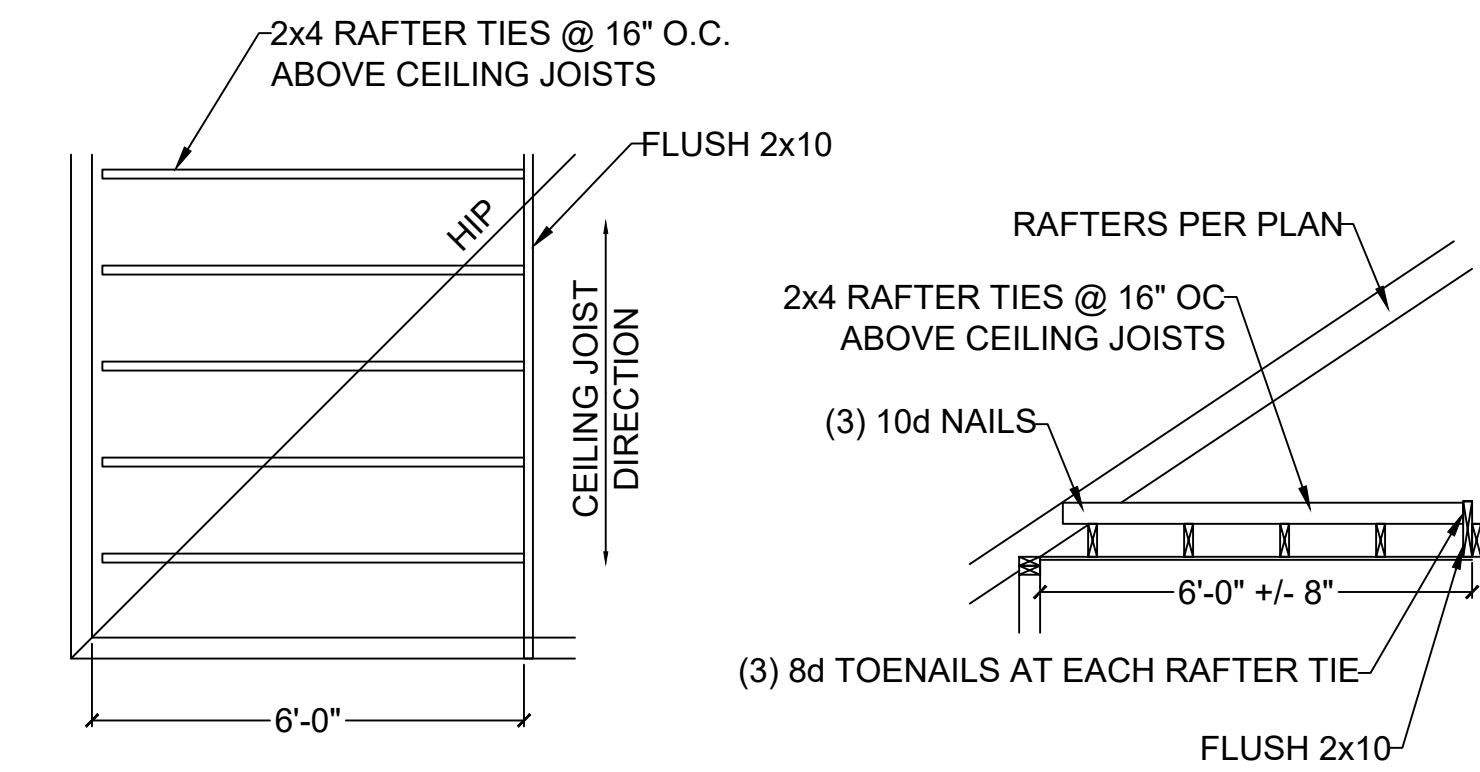
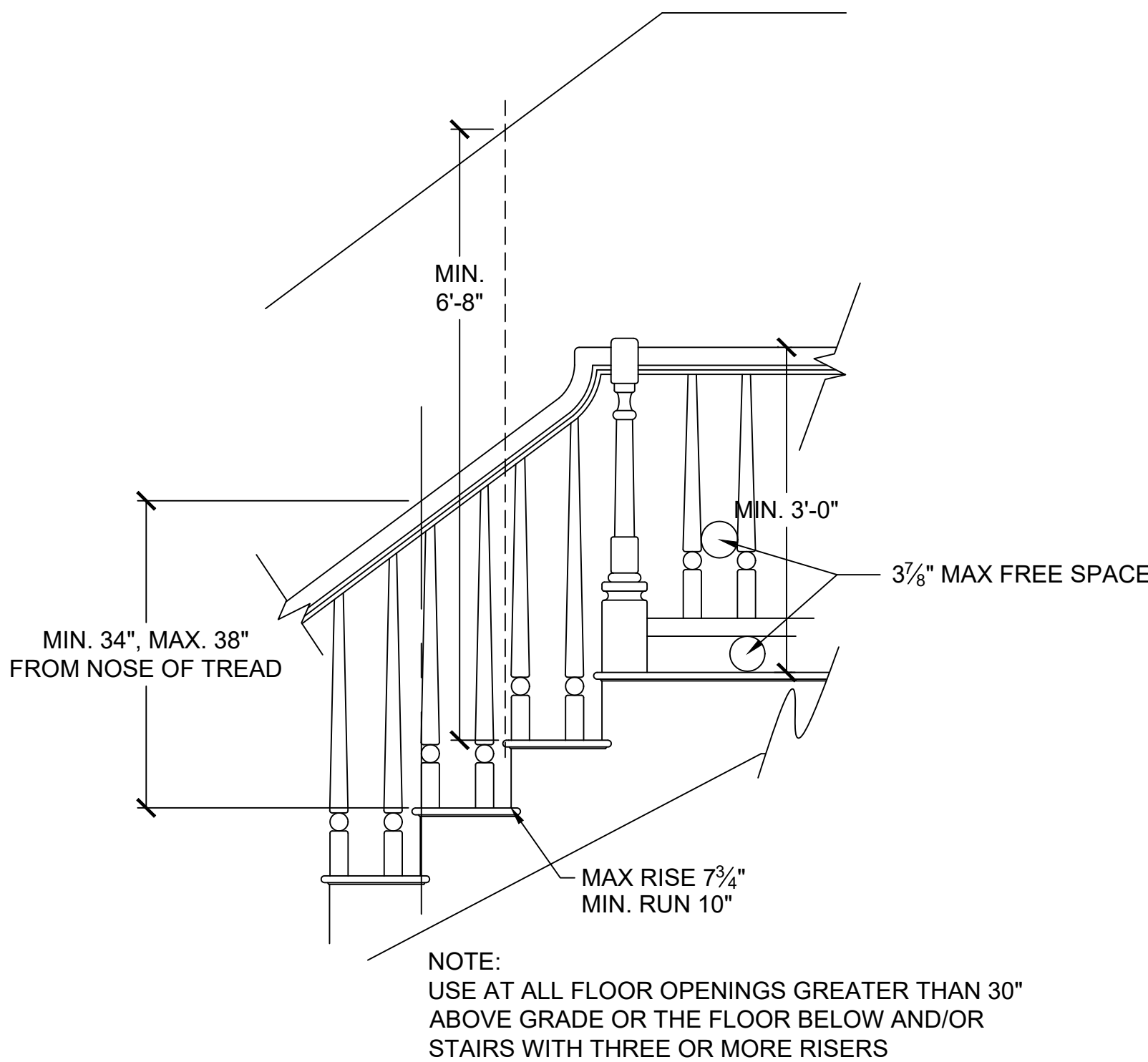
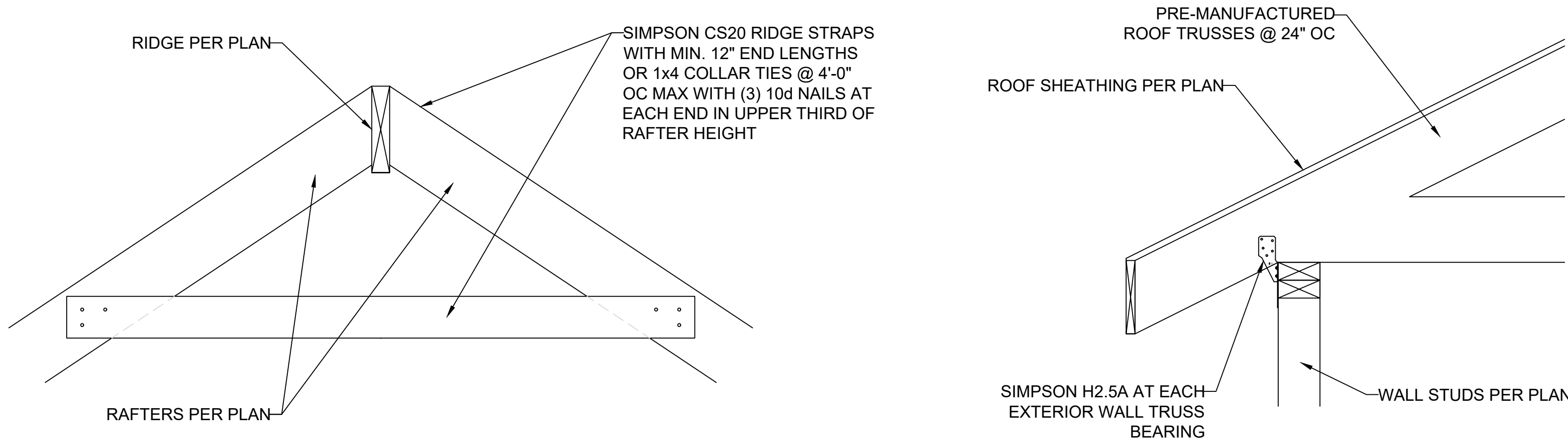
JOB TITLE: 3010 NW THOREAU PLACE
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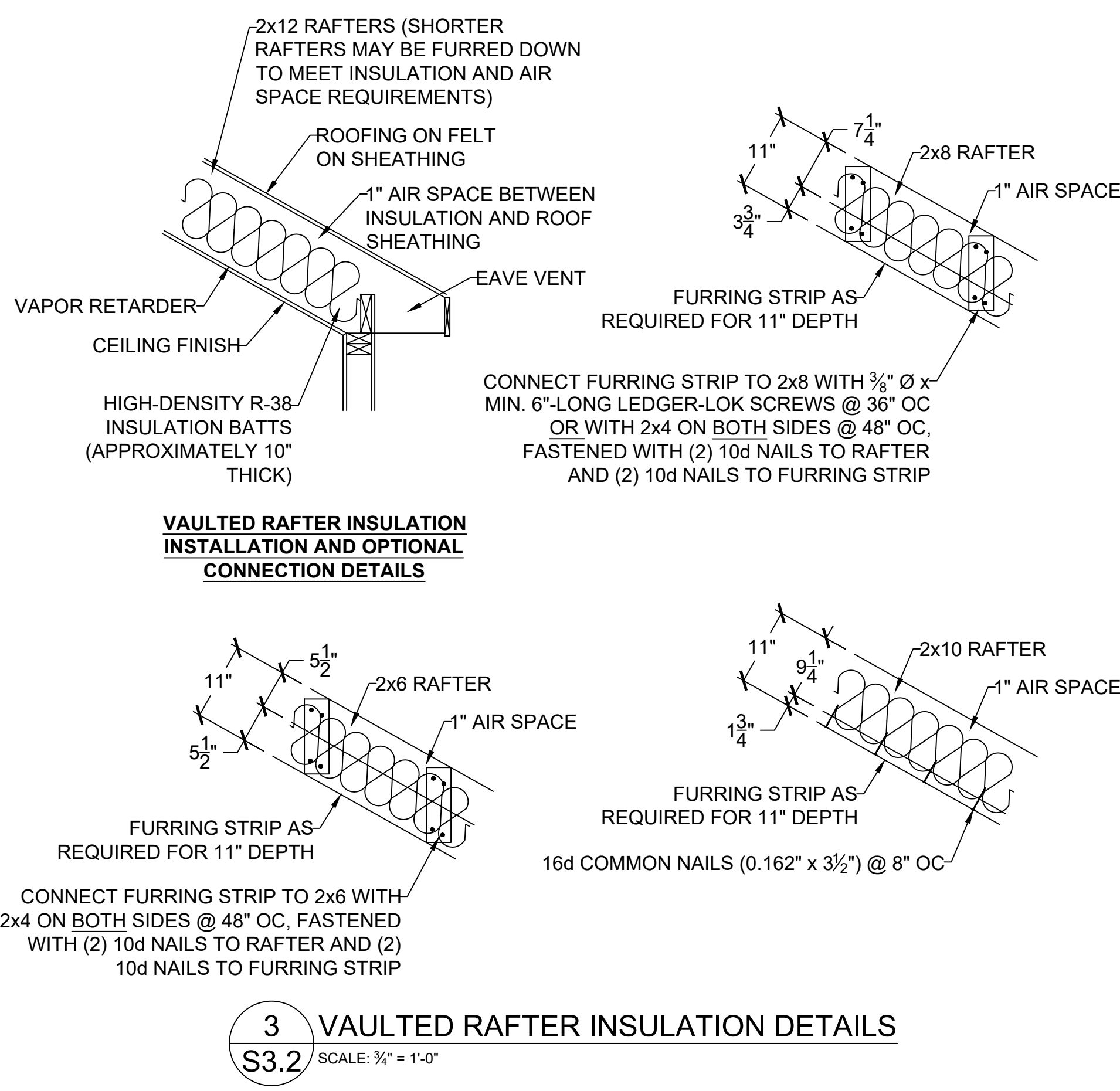
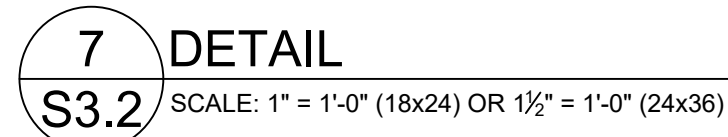


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S3.1



NOT USED



HEIGHT (FT.)	SPACING (INCHES O.C.)			
	24	16	12	8
SUPPORTING A ROOF ONLY				
10 OR LESS	2x4	2x4	2x4	2x4
12	2x6	2x4	2x4	2x4
14	2x6	2x6	2x6	2x4
16	2x6	2x6	2x6	2x4
18	DR	2x6	2x6	2x6
20	DR	DR	2x6	2x6
SUPPORTING ONE FLOOR AND A ROOF				
10 OR LESS	2x6	2x4	2x4	2x4
12	2x6	2x6	2x6	2x4
14	2x6	2x6	2x6	2x6
16	DR	2x6	2x6	2x6
18	DR	2x6	2x6	2x6
20	DR	DR	2x6	2x6
SUPPORTING TWO FLOORS AND A ROOF				
10 OR LESS	2x6	2x6	2x4	2x4
12	2x6	2x6	2x6	2x6
14	2x6	2x6	2x6	2x6
16	DR	2x6	2x6	2x6
18	DR	DR	2x6	2x6
20	DR	DR	DR	2x6

NOTES:
1) DR = DESIGN REQUIRED
2) UTILITY, STANDARD, STUD AND #3 GRADE LUMBER OF ANY SPECIES ARE NOT PERMITTED
3) THIS TABLE DOES NOT APPLY FOR STUDS SUPPORTING MEMBERS WITH A TRIB. LENGTH GREATER THAN 6'-0"

8 MAXIMUM ALLOWABLE LENGTH OF WOOD WALL STUDS (IRC TABLE 602.3.1)

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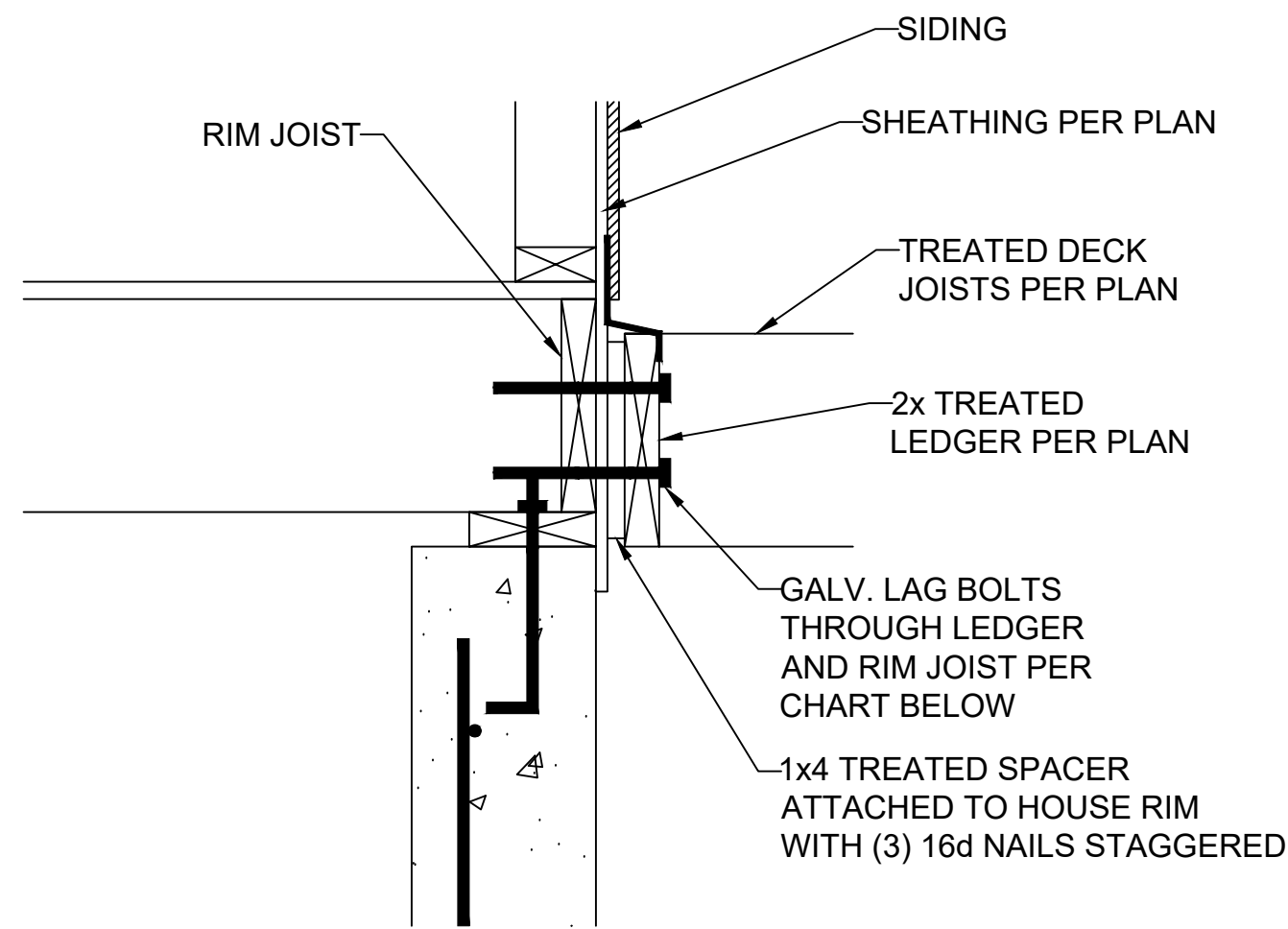
1418 NW DELIA STREET * PORTLAND, OREGON 97229
OFFICE: 971.233.6099 * MOBILE: 971.233.6099 *
* DENNIS@VISTASTRUCTURAL.COM * VISTASTRUCTURAL.COM

CLIENT: JFE CONSTRUCTION
JOB TITLE: 3010 NW THOREAU PLACE
LOT 1472, WINTERSET VALLEY
LOCATION: LEE'S SUMMIT, MISSOURI



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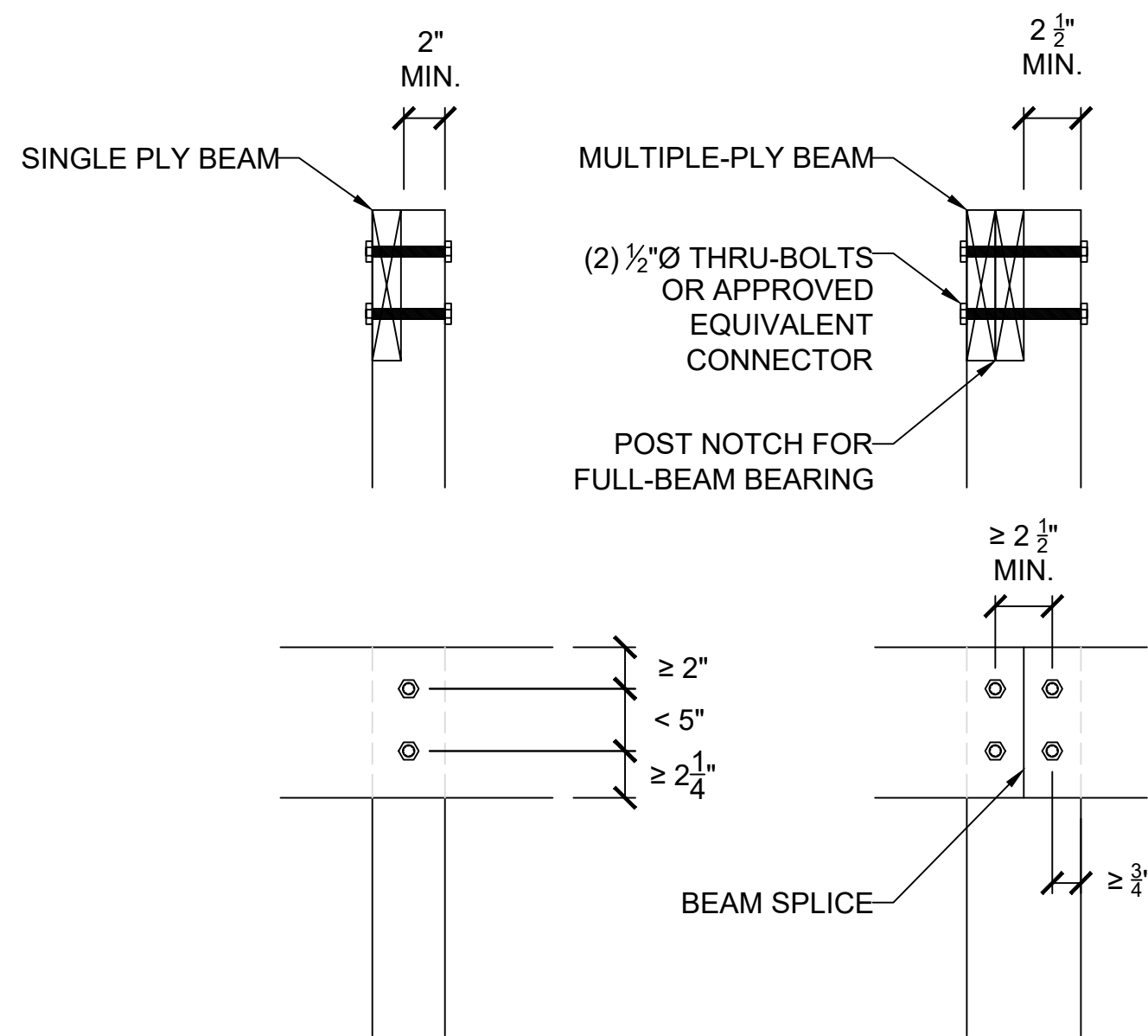
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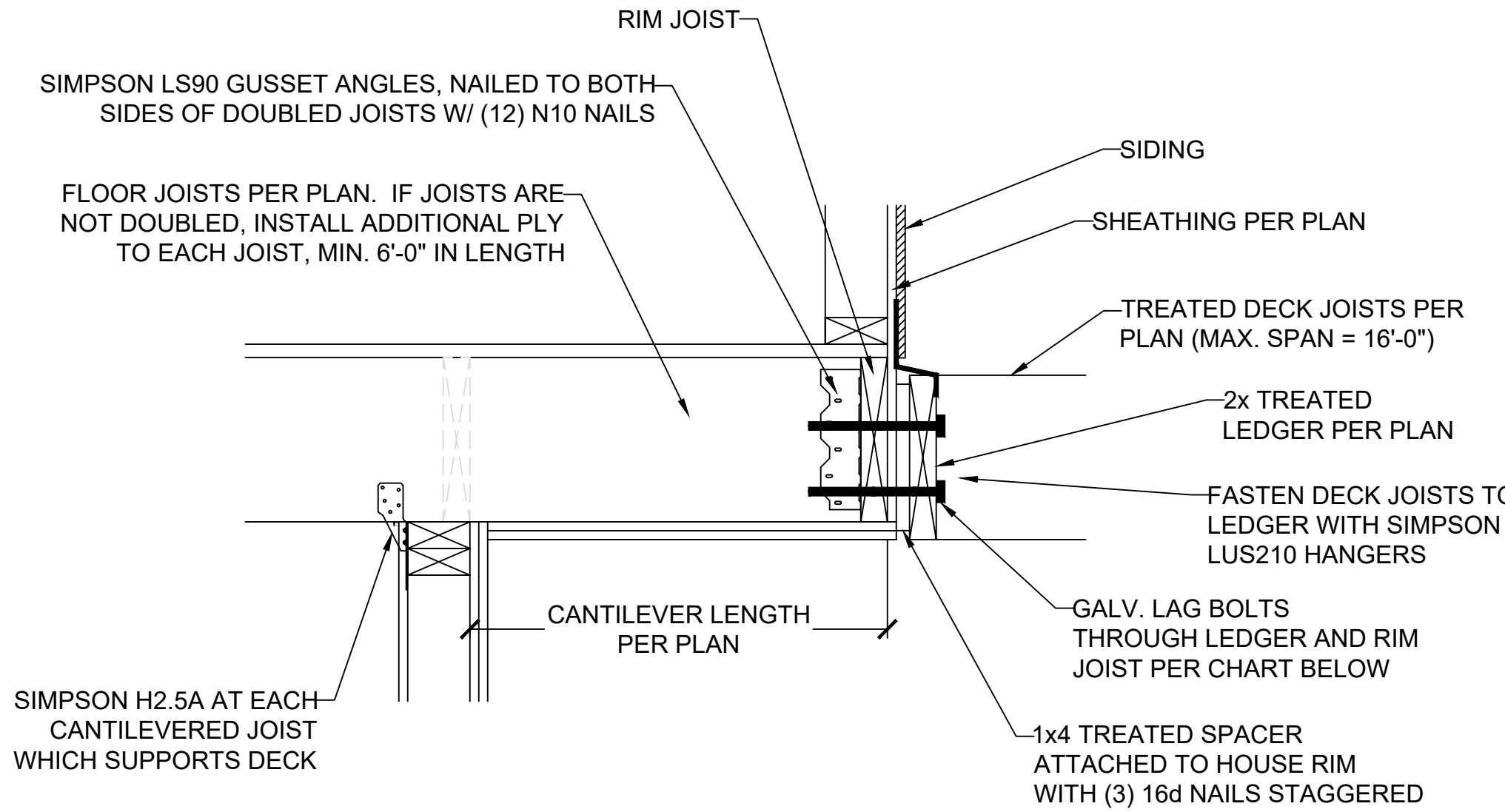
DECK LEDGER ATTACHMENT GUIDE

DECK JOIST SPAN	$\frac{1}{2}$ " Ø GALV. LAG OR $\frac{3}{8}$ " Ø LEDGER-LOK SPACING
10'-0" OR LESS	16" OC
10'-0" - 13'-11"	12" OC OR @ 16" OC DOUBLED EVERY OTHER
14'-0" - 18'-0"	8" OC OR @ 16" OC DOUBLED

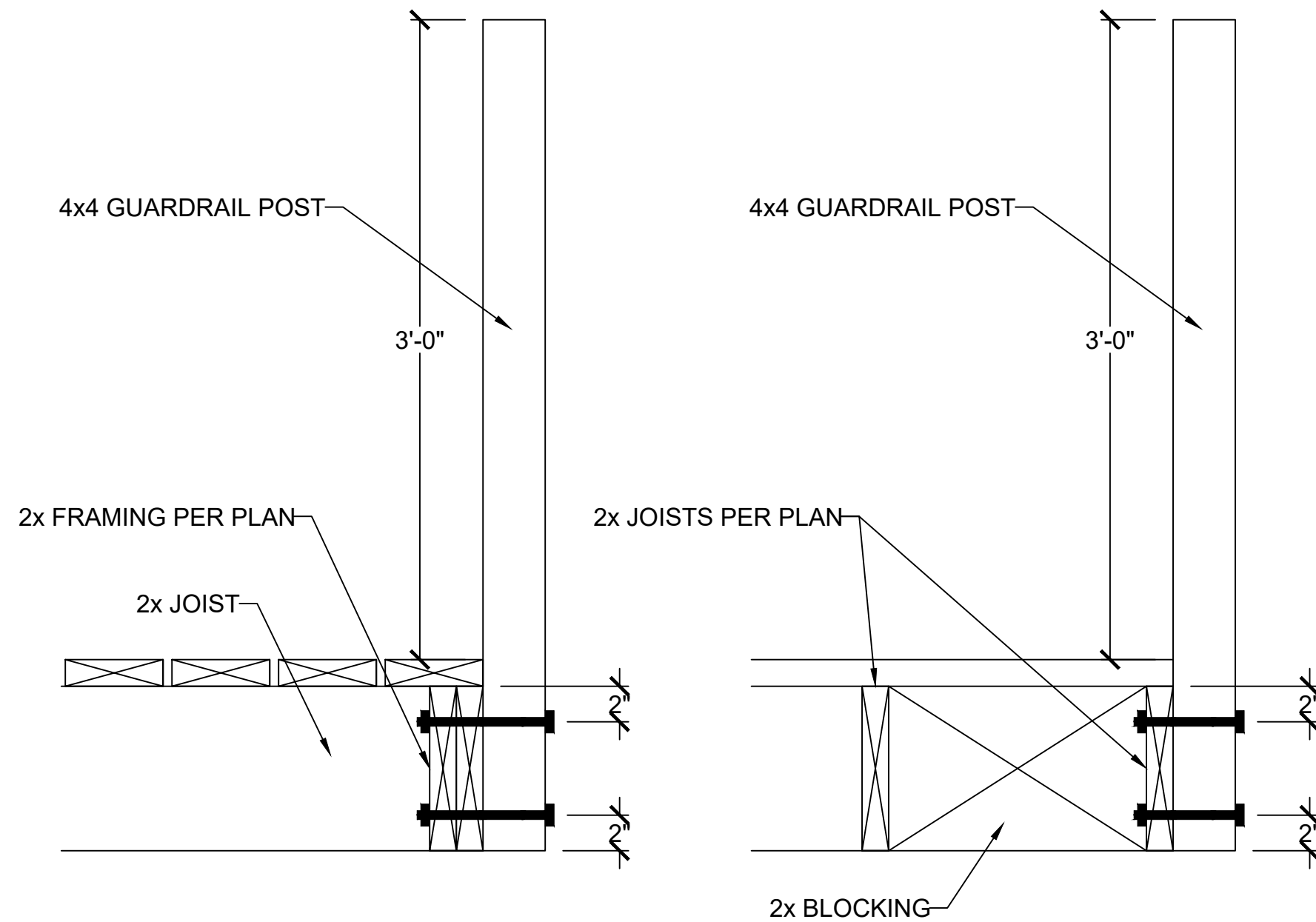
1 LEDGER ATTACHMENT
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



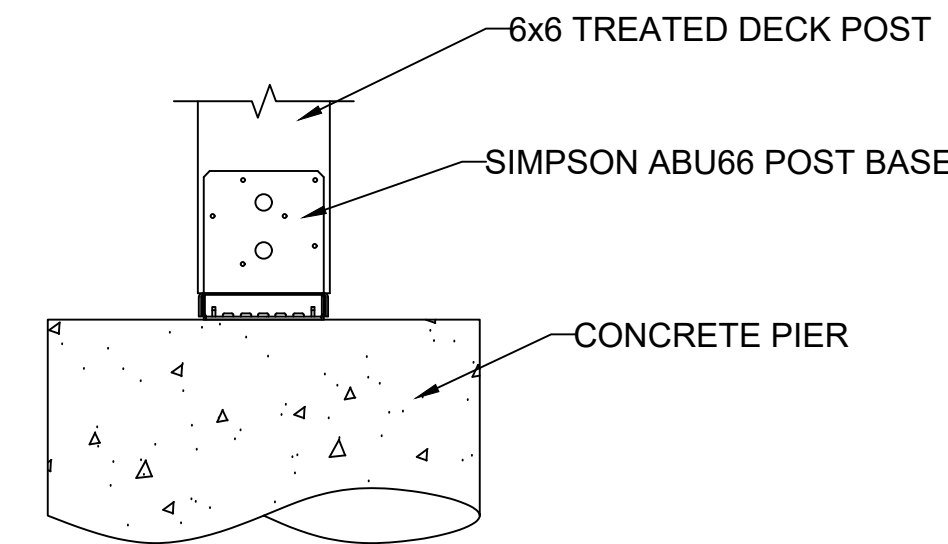
5 LET-IN (COVERED) DECK BEAM CONNECTION
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



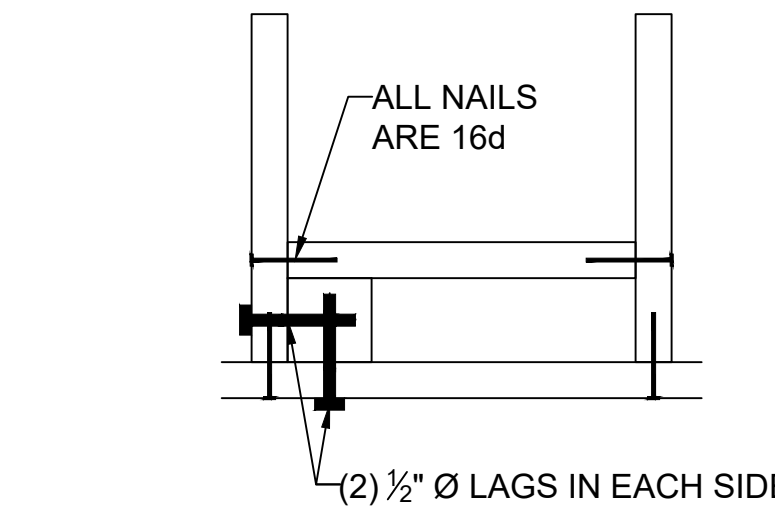
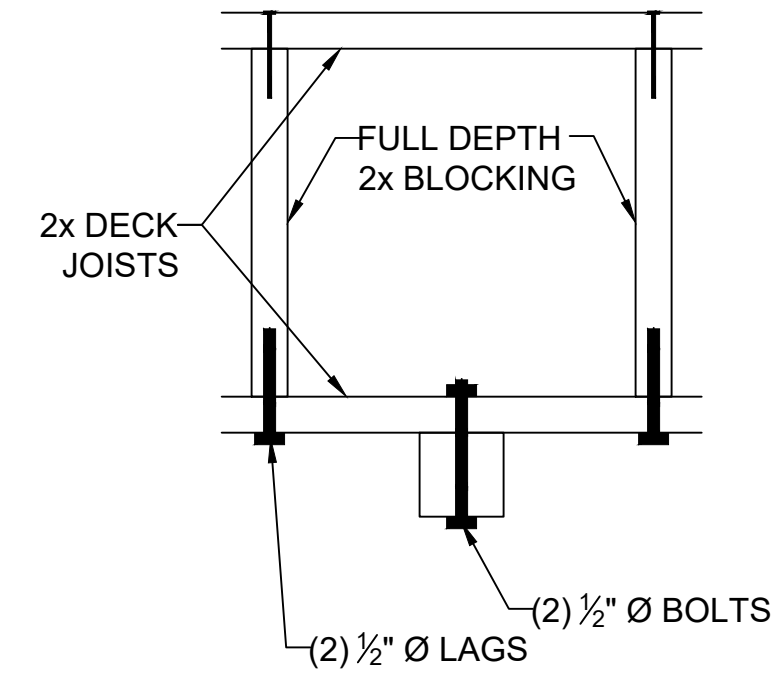
2 CANTILEVER WITH DECK ATTACHMENT
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



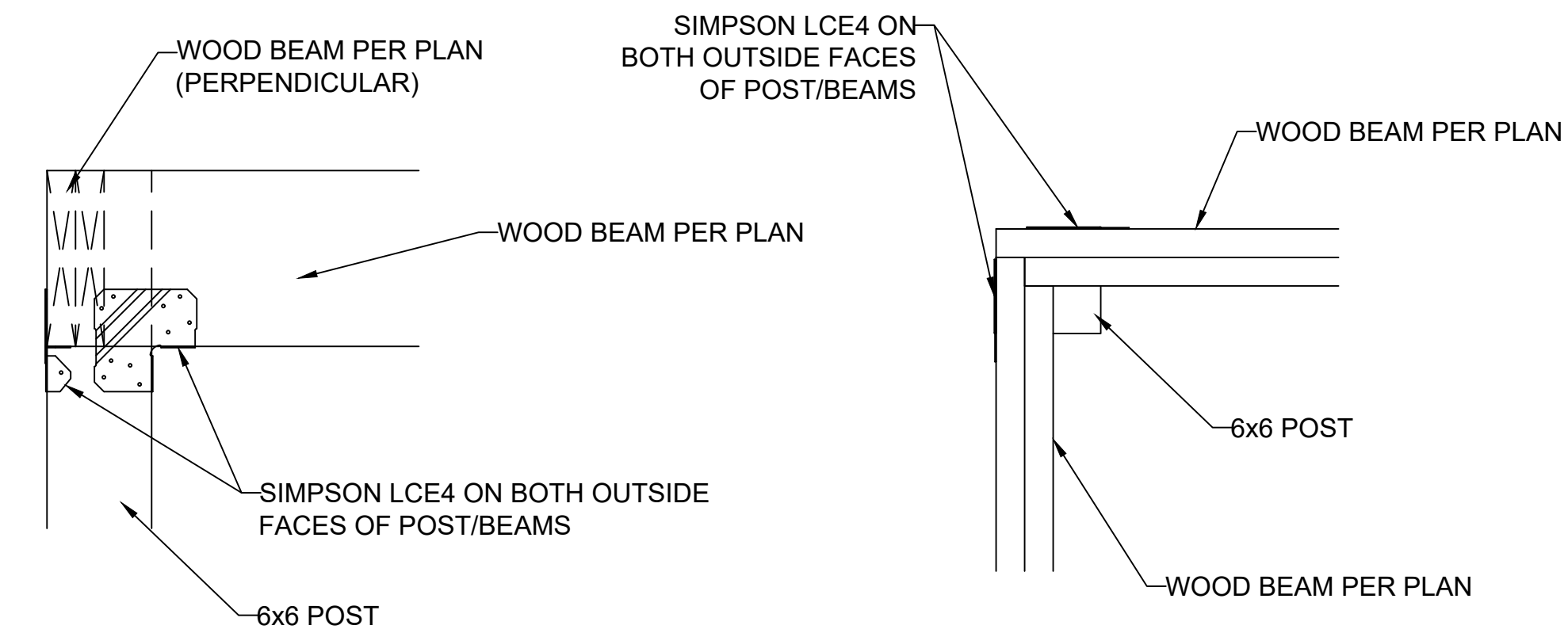
6 GUARDRAIL CONNECTION
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



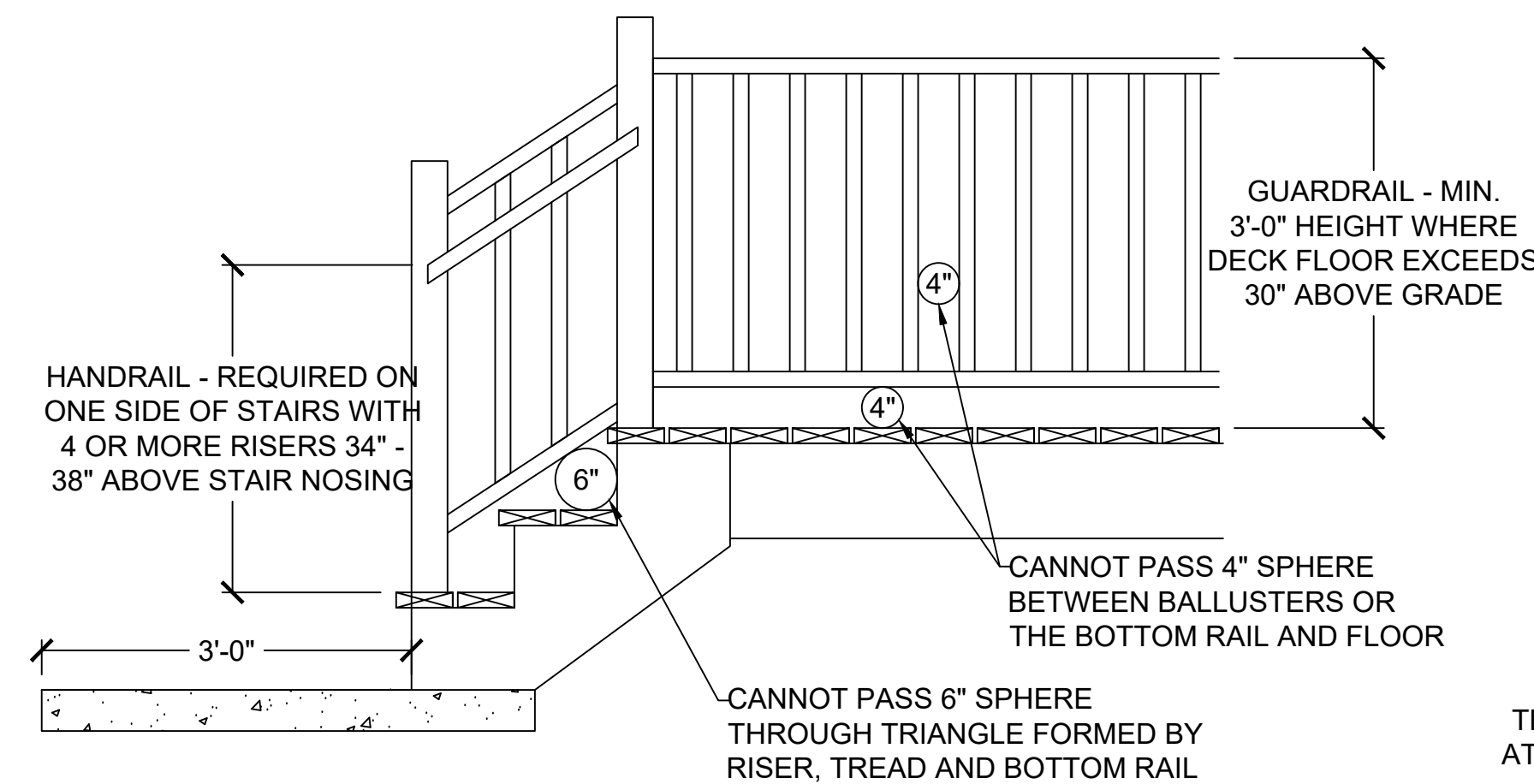
3 DECK POST BASE
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



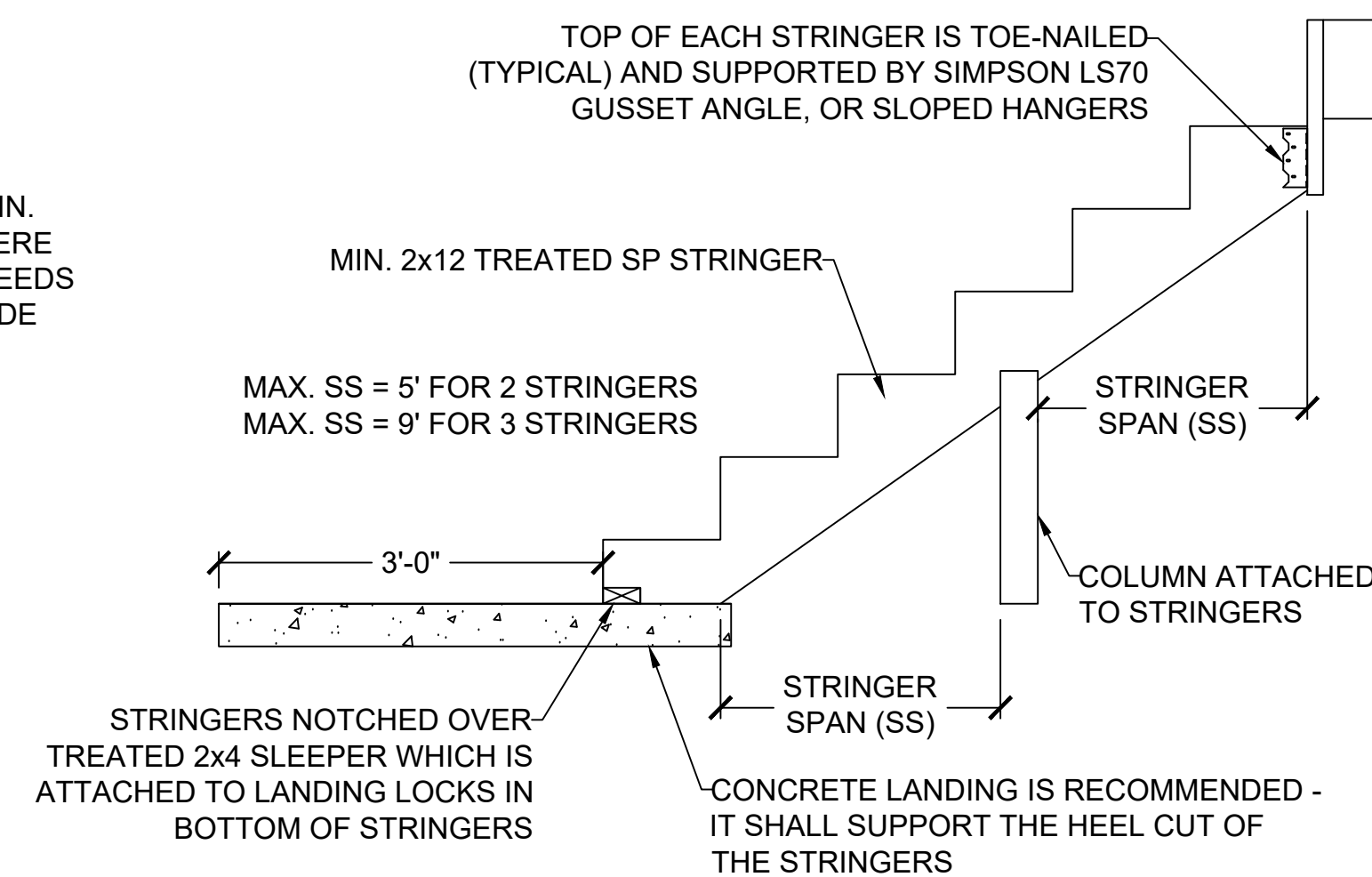
4 REINF. POST CONNECTIONS
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



7 ALTERNATE COVERED DECK/PORCH INTERSECTION
S3.3 SCALE: 1" = 1'-0" (18x24) OR 1½" = 1'-0" (24x36)



8 GUARDRAIL DETAIL
S3.3 SCALE: ½" = 1'-0" (18x24) OR ¾" = 1'-0" (24x36)



9 STAIR STRINGER DETAIL (MAX. 5' STAIR WIDTH)
S3.3 SCALE: ½" = 1'-0" (18x24) OR ¾" = 1'-0" (24x36)

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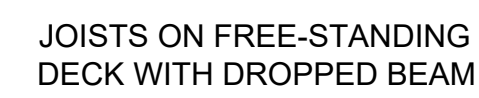
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LOT 1472, WINTERSET VALLEY
LOCATION: LEE'S SUMMIT, MISSOURI

STATE OF MISSOURI
DENNIS HEIER
NUMBER
FE-201001772
PROFESSIONAL ENGINEER
3-1-2021

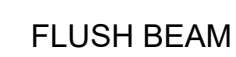
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DROPPED BEAM



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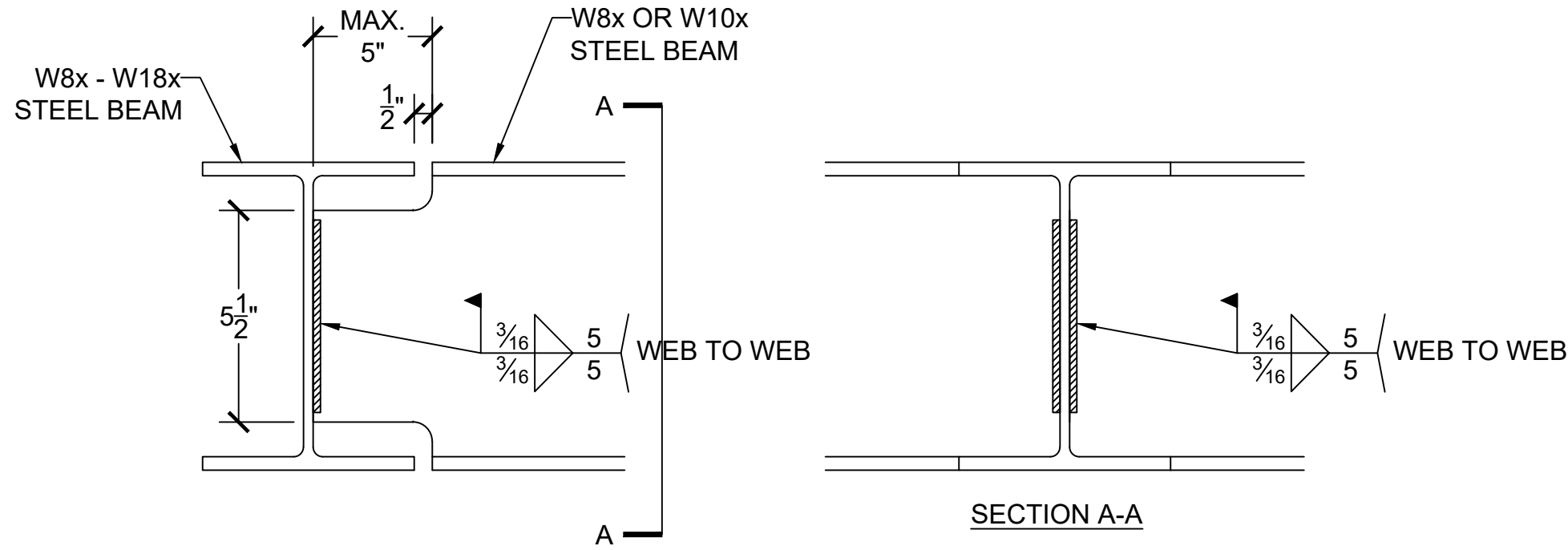
NO.	DATE	REVISION	B'

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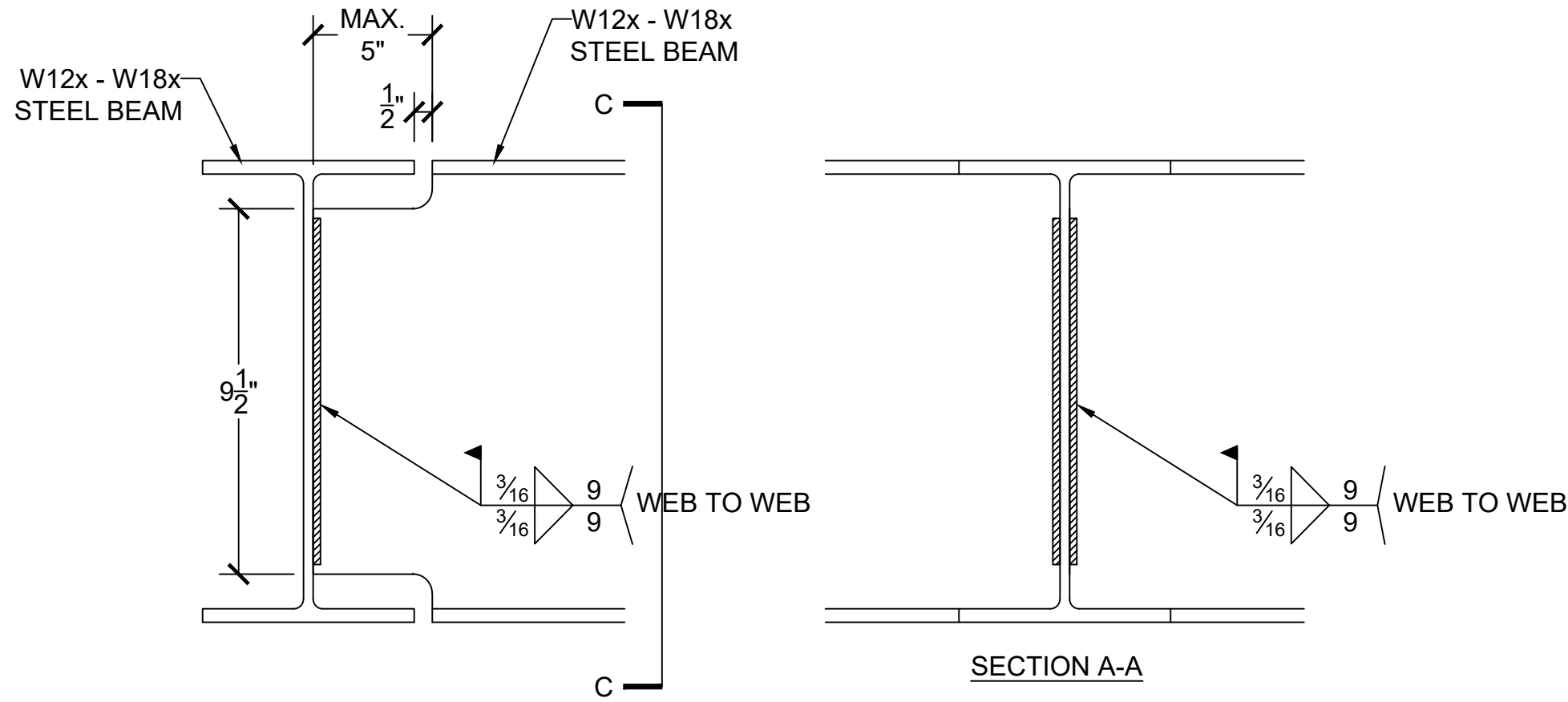
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S3.3b



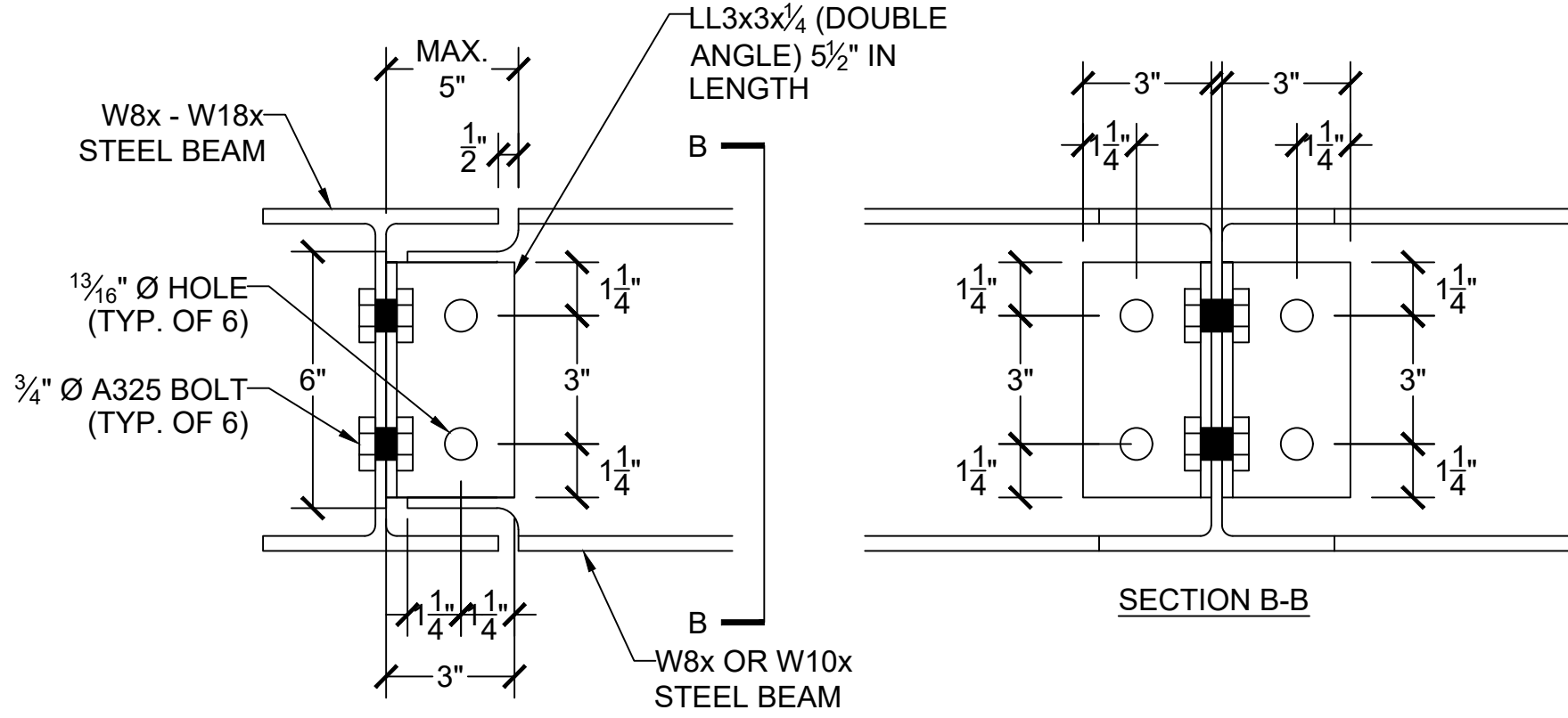
1 WELDED T-BEAM CONNECTION FOR W8x AND W10x BEAMS
S3.4 SCALE: 2" = 1'-0" (18x24) OR 3" = 1'-0" (24x36)

(OPTION #1)



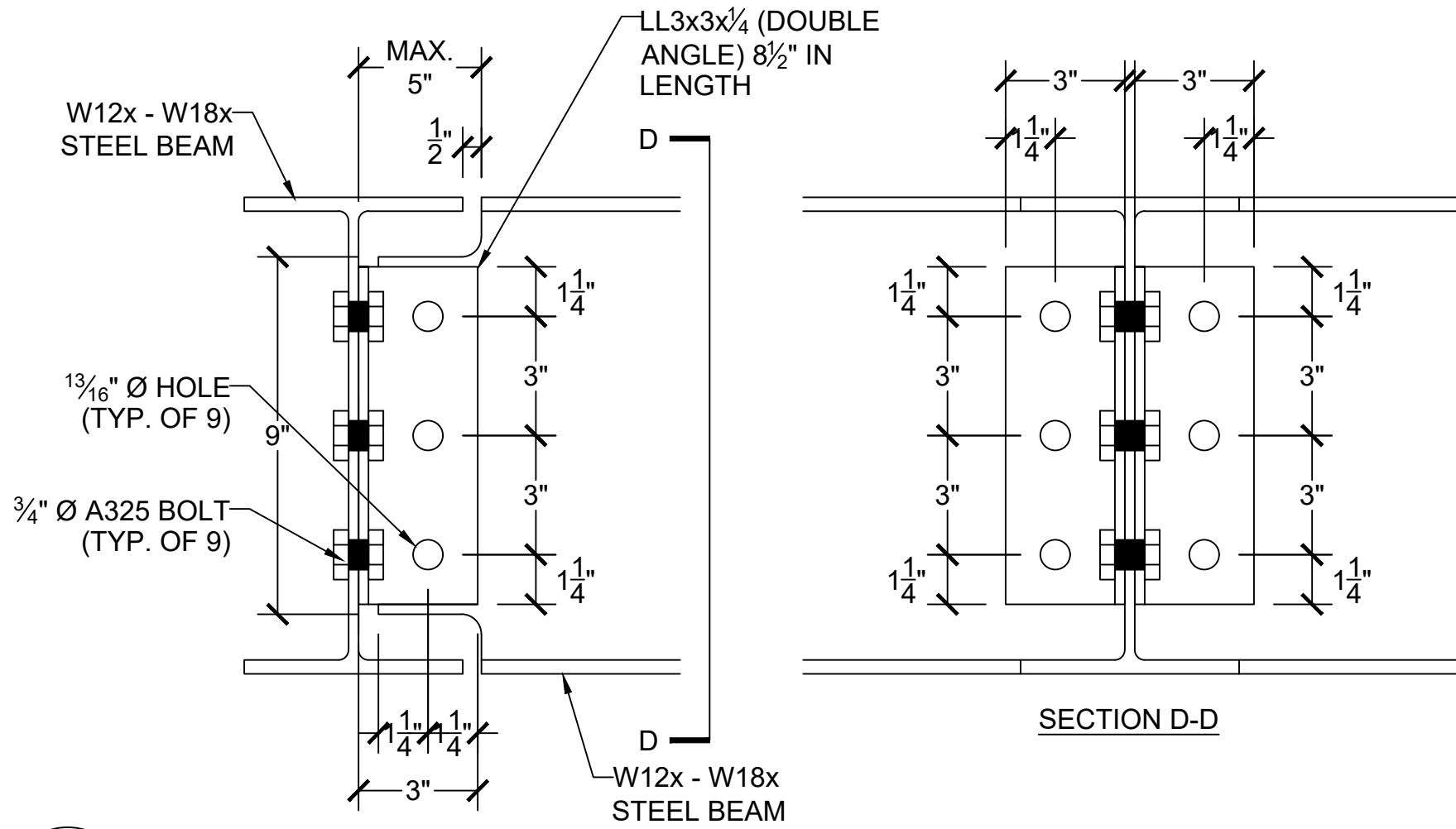
2 WELDED T-BEAM CONNECTION FOR W12x, W14x, W16x & W18x BEAMS
S3.4 SCALE: 2" = 1'-0" (18x24) OR 3" = 1'-0" (24x36)

(OPTION #1)



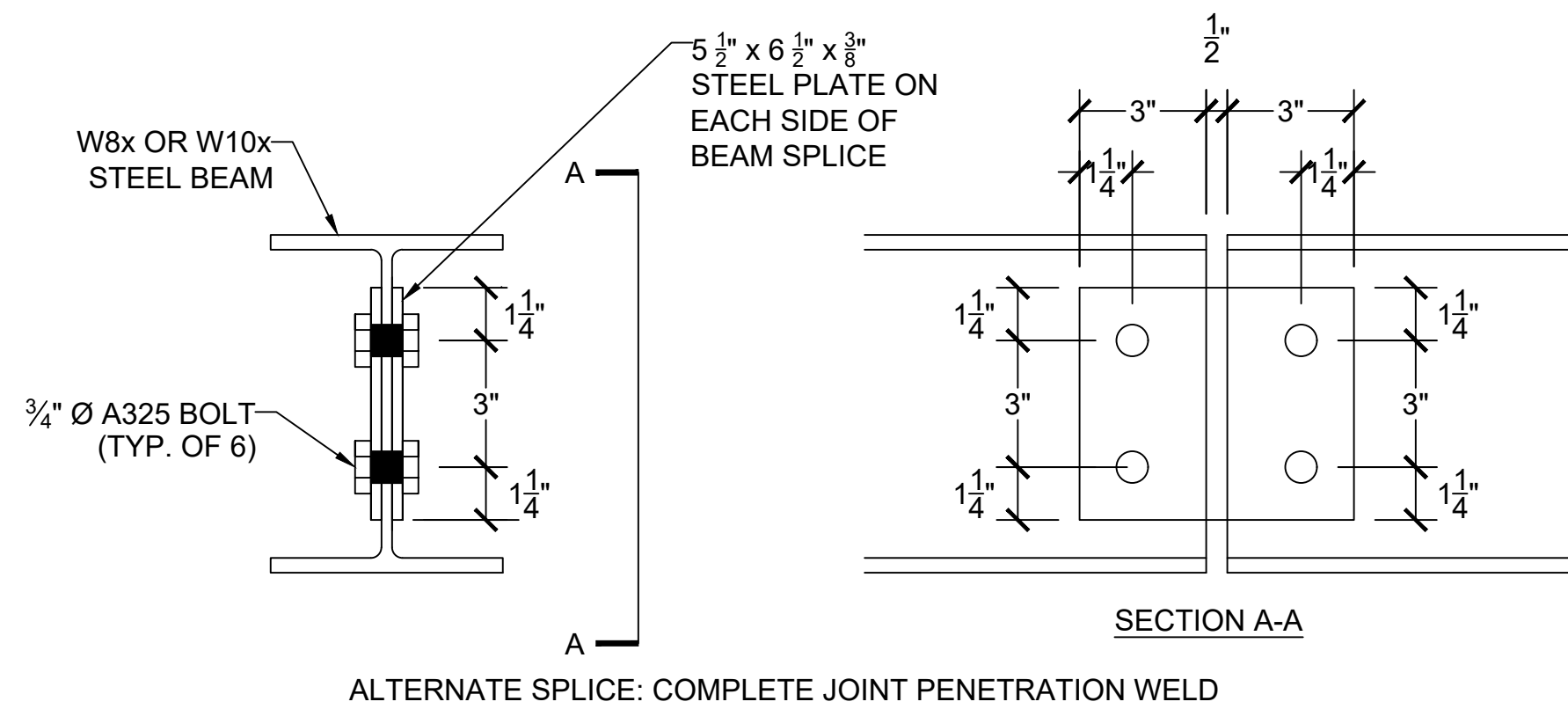
1 BOLTED T-BEAM CONNECTION FOR W8x AND W10x BEAMS
S3.4 SCALE: 2" = 1'-0" (18x24) OR 3" = 1'-0" (24x36)

(OPTION #2)



2 BOLTED T-BEAM CONNECTION FOR W12x, W14x, W16x & W18x BEAMS
S3.4 SCALE: 2" = 1'-0" (18x24) OR 3" = 1'-0" (24x36)

(OPTION #2)



3 BEAM SPLICE CONNECTION FOR W8x AND W10x BEAMS
S3.4 SCALE: 2" = 1'-0" (18x24) OR 3" = 1'-0" (24x36)



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S3.4