

# GENERAL NOTES

## RESIDENTIAL STANDARD NOTES

### DESIGN LOADS:

- 1) Design loads are all dead loads plus:
  - A) Sleeping rooms..... 30 PSF
  - B) All other floors ..... 40 PSF
  - C) Balconies ..... 60 PSF
  - D) Attic floor live loading with the following:
    - i) Area accessible by stairs ..... 30 PSF
    - ii) Roof slopes > 3:12 ..... 20 PSF
    - iii) Roof slopes < 3:12 ..... 10 PSF
  - E) Roof Live Load ..... 20 PSF
  - G) Snow Load ..... 10 PSF
  - H) Wind Load ..... 150 MPH
  - I) Exposure Category ..... C
  - J) DP Rating ..... .50 PSF (ASD)
  - K) Seismic Category ..... D2
  - L) Occupancy Category ..... II
- 2) All designs are in accordance with the 2018 International Residential Code. Refer to the relevant Code for any additional information not covered in these notes or the designs.
- 3) Engineering design is for structural information only. The Engineer of Record does not accept responsibility for dimension errors, architectural errors, detailing of waterproofing, plumbing, electrical, or mechanical information or any part of the plan not relevant to the structural information.

### RESIDENTIAL FOUNDATIONS:

- 1) All rebar splices shall be a minimum of 25" U.N.O.
- 2) Shallow foundations are designed for an assumed soil bearing capacity of 2,000 psf. The contractor is responsible for notifying the Engineer of Record if any soils are found to be unsuitable for this bearing capacity. The contractor is responsible for obtaining soil testing to ensure that the bearing capacity of the soil meets or exceeds this value. All fill is to be compacted to 95% density as measured by the Standard Proctor Test (ASTM D-698).
- 3) All soils and fill under floors and/or within or under buildings shall have preconstruction soil treatment for protection against termites. Certification of Compliance shall be issued to the Building Department by a licensed pest control company.
- 4) All footing excavations shall be neat, straight, and level in the proper elevations to receive the concrete. Excessive variations in the dimensions of footings or slabs will not be permitted. Reinforcing steel and mesh shall be accurately placed and supported to maintain their position during the concrete pouring. Edge forms shall be used for concrete that will be exposed.
- 5) All slab penetrations are to be the responsibility of the contractor. Penetrations interfering with reinforcing shall be approved by the Engineer of Record prior to the placement of concrete.
- 6) Elevations differences between the bottom of adjacent footings shall be less than their horizontal distance less one foot. Differential heights between footings can become excessive usually where a pier footing in a crawlspace or garage footing is next to a basement wall footing.

### FRAMING CONSTRUCTION – OTHER THAN ROOF:

- 1) See Table R602.3(1) of the Code for a fastener schedule for structural members.
- 2) Built-up wood columns consisting of multiple studs shall have each lamination face nailed with 10d nails at 16" o/c.
- 3) To avoid objectionable cracking in finished hardwood floors over any girders, use the following procedure:
  - A) Nailing
    - i) All floor joists must be toenailed to their support girders with a minimum of 3-8d nails at each end. Larger nails will split and render the toenail ineffective. No end nailing through the girder or band is permitted.
    - ii) If dropped girders are used, end lap all joists and side nail each with a minimum of 3-16d nails at each end of each joist. Ledger strips should be spaced 3' apart and nailed with 3-16d nails at each joist end.
    - iii) Nail multiple member built-up girders with two rows of 16d nails staggered at 32" o/c, 2' down from the top and 2' up from the bottom with 3-16d nails at each end of each piece in the joist through the members making up the multiple girder.
    - iv) This nailing pattern will ensure a tight floor from the outside of the house to the outside so that when the framing shrinks during the first heating season, the shrinkage will be uniformly distributed over the entire floor. If the girder nailing pattern is omitted, then the shrinkage will accumulate over the girders and an objectionable crack will develop in the finished hardwood floor over the girder line.
  - B) At all girders where the joists change direction, install bridging at 6' o/c for a minimum of six joist spacings beyond any joist direction change. This will insure shrinkage distribution over the floor and not let it accumulate at the girder.
  - C) There must be wood blocking thru bolted to the steel beam with joists toenailed or attached to the beam with metal hangers under any hardwood floors that pass over a steel beam supporting floor joists. This condition often exists over basement areas.
- 4) All lumber to be Southern Pine #2 unless noted otherwise.
- 5) Steel beams must have 5-2x 4 stud jacks under each end support unless noted otherwise.
- 6) 'Lam' beams must have 3-2x4 stud jacks under each end support unless noted otherwise.
- 7) Brick Veneer to be anchored to studs w/ corrosion resistant metal ties embedded in mortar or grout and extending into the veneer a minimum of 1 1/2" w/ not less than 3/8" mortar or grout cover to outside face. If strand wire, ties shall not be less than No.9 U.S. Gage by 7/8" corrugated. Each tie shall be spaced at 16" O.C. horizontally and 16" O.C. vertically. Each tie shall not support more than 2 square feet of wall area. Additional metal ties shall be provided around wall openings greater than 16" in either dimension. Metal ties around the perimeter of openings shall be spaced not more than 16" O.C. and placed within 12" of the wall opening.
- 8) Weepholes shall be provided in the outside wythe of masonry walls at a maximum spacing of 33" O.C. Weepholes shall be not less than 3/8" in diameter. Weepholes shall be located immediately above the flashing.
- 9) Flashing shall be installed per Section R703.8.5
- 10) Brick Masonry lintels:
  - A) Masonry lintels to be per Table R703.8.3.1 U.N.O. on plans
  - B) For spans 9-feet to 18-feet lap all 9-gauge wire splices a minimum of 12" and extend wires a minimum of 12" into jambs. Temporarily support the steel angles before laying masonry. The shoring may be removed five days following the installation of masonry.
  - C) When structural steel beams with bottom plates are used to support masonry, the bottom plate must extend the full length of the steel beam. This provides support to the ends of the plate by bearing on the adjacent masonry jambs. The beam should be temporarily shored prior to laying the masonry. The shoring may be removed five days after laying the masonry.
  - 8) All brick veneer over lower roofs (brick climbs) must have a structural angle lag screwed to an adjacent stud wall in accordance with detail, with steel brick stops to prevent sliding of brick.
  - 9) All rafter braces must have two studs from plate through all floors to the foundation or supporting beam below. No braces shall be attached to top wall plate without studs directly under them.

- 10) Unless otherwise recommended by joist/truss manufacturer, where partitions fall between floor joists or trusses, 2 x 4 ladders at 16" o/c must be placed perpendicular to the trusses to support the plywood decking. The ladders shall be supported with Simpson 'Z' clip or similar device.
- 11) All wood I-joists and open joists must be braced in accordance with the manufacturer's directions plus details shown on plans. Load-bearing partitions, jacks, beams and column supports must be solid blocked through floor. Trusses and plywood shall not carry concentrated point loads. I-joist material should not be used as blocking under concentrated point loads. All point loads must be carried to foundations with adequate blocking and/or beams.
- 12) Gable end walls at rooms with vaulted ceiling joists: Balloon frame wall and provide triple king stud on each side of openings, nailed securely to the header.
- 13) Unless otherwise recommended by floor truss manufacturer, continuous 2 x 6 bridging shall be nailed to diagonal or vertical web members of all open-web floors trusses over 10' long. They shall be installed near mid-span as a load distribution member. If the 2 x 6 bridging is not continuous, lab ends of bridging one truss space.
- 14) Ceiling joists when erected parallel to rafters must be face nailed to rafters with 8-16d nails at each rafter. If a kneewall is used and ceiling joists cannot touch rafters, or if ceiling joists run perpendicular to rafters, see rafter tie connection detail.
- 15) Ends of ceiling joists shall be lapped not less than 3-inches and shall be face nailed to lapped joist with 8-16d nails
- 16) At all exterior diagonal wall panels, each panel shall be nailed to each adjacent panel with 5-16d nails or tied together with metal stripping nailed at four locations between floors with a minimum of 2-16d nails into each panel at each strap. This will avoid vertical cracking in panel joints due to horizontal oscillating panels.
- 17) At all stairs, every stud at each stringer must be nailed to each stringer with a minimum of 2-16d nails. This will avoid cracking between wallboard and top of base molding due to vertical oscillation of stair stringers.
- 18) All structural framing lumber exposed directly to the weather or bearing directly on exterior masonry piers or concrete shall be treated. All wood in contact with the ground is to be ground-contact approved. All wood exposed directly to the weather shall be protected to prevent the occurrence of rot.
- 19) Unless otherwise detailed, all stick-built "false chimneys" shall be constructed with 2 x 4 studs at 12" o/c, balloon-framed from attic ceiling or floor. Fasten 15/32" CDX plywood on all sides of the chimney along the full length of the studs. Fasten each stud to the supporting beam or ceiling joist with a 1 1/2" x 24", 18-gauge metal strap, or a similar connector.
- 20) ALL POINT LOADS FROM ROOF BRACES, JACK STUDS, BEAM SUPPORTS – WHETHER WOOD OR STEEL – CANNOT BEAR ON SHEATHING ALONE. BLOCKING EQUAL TO OR BETTER THAN THE POINT LOAD SUPPORTS ABOVE MUST BE CARRIED THROUGH ALL CONSTRUCTION TO THE FOUNDATION.
- 21) Note to apply to all hard coat stucco exterior finishes:
  - A) Joints are necessary at the following locations:
    - i) Horizontally at each floor line.
    - ii) No areas larger than 144 S.F. surface exposed.
    - iii) No dimension longer than 18'.
    - iv) No dimension longer than 2 1/2 times the shortest dimension.
  - B) Drip screed required at the bottom of all walls 2' above paved areas and 4' above grade.
  - C) See ASTM 926 and 1063 for further information.
  - D) Application of an approved chemical curing compound.
  - E) The curing shall continue until the cumulative number or days when the ambient temperature above 50°F has totaled seven. During curing, the concrete shall be protected from any mechanical injury, load stresses, shock, vibration, or damage to finished surfaces.

### ROOF CONSTRUCTION:

- 1) All roof trusses must be built in accordance with truss manufacturers' requirements. Tie-down connections to resist uplift shall be installed where required. When roof truss manufacturers do not provide the required connectors, it is the responsibility of the contractor to notify the roof truss engineer or the Engineer of Record to provide an adequate connector.
- 2) Roof trusses that have non-bearing partitions passing under them should be nailed to the partition plates to avoid ceiling-wall cracking.
- 3) Roof trusses close to side walls framing and used as dead wood for sheetrock boards should be nailed to the wall framing to prevent ceiling-wall cracking.
- 4) All lower ends of valley and hip members which bear on a top plate use a Simpson HCP or equivalent connector.
- 5) A minimum of three collar ties shall be used at all ridges even if two ties must be put on one set of rafters.
- 6) Rafters may be spliced over hogs. Splice rafter hogs only at a roof brace.
- 7) Maximum spacing of roof braces is to be 4'-0" O.C.
- 8) Braces longer than 8-feet must be braced horizontally in 2 directions at mid height

### MATERIAL SPECIFICATIONS:

#### LUMBER GENERAL NOTES:

- 1) All common framing lumber is to meet the following minimum specifications at 19% moisture content:
 

MATERIAL	Fb (psi)	Ft (psi)	Fc (psi)(Perp)	Fc (psi)(Parallel)	E (psi)
#2 Spruce Pine Fir	875	450	425	1150	1,400,000
#2 Southern Pine	750	450	565	1250	1,400,000

- 2) All Structural Composite Lumber (LVL, LSL, PSL) is to meet the following minimum specifications:
 

APPLICATION	Fb (psi)	Fc (psi)(Parallel)	Fc (psi)(Perp.)	E (psi)
Girders & Beams (LVL)	2,600	2,510	750	2,000,000
Columns (PSL)	2,900	2,900	750	1,800,000
1 1/2" Rimboards (LSL)	1,700	1,835	710	1,300,000

- 3) All Glue Laminated Timber (Glu-lam) is to meet the following minimum specifications:
 

APPLICATION	Fb (psi)	Fc (psi)(Parallel)	Fc (psi)(Perp.)	E (psi)
Girders & Beams	2,400	1,600	650	1,800,000
Columns	2,400	1,600	650	1,800,000

- 4) Open Web Floor Trusses:
 

APPLICATION	fb		
Top & Bottom Chords	Per Truss Manf.	Per Truss Manf.	
Columns (LSL) & Rimboards	950	1.4E Lumber	

### CONCRETE GENERAL NOTES:

- 1) Except where otherwise noted, for all concrete, the proportions of cement, aggregate, and water to attain required plasticity and compressive strength shall be in accordance with ACI 301 Code. Concrete shall be 3,000 psi in 28 days unless noted otherwise.
- 2) Before placing concrete, all debris, water and other deleterious material shall be removed from the places to be occupied by the concrete. The placing of all concrete shall be in accordance with ACI 318 and ACI 301 requirements. Concrete shall be rapidly handled from the mixer to forms and deposited as nearly as possible to its final position to avoid segregation due to rehandling. Concrete to be spaded and worked by hand and vibrated to assure close contact with all surfaces of forms and reinforcing steel and leveled off at proper grade to receive finish. All concrete shall be placed upon clean, damp surfaces. Vibration shall be applied directly to the concrete and shall be sufficient to cause flow of settlement but not long enough to cause segregation of the mix.
- 3) Construction joints shall be located in accordance with ACI 224. All reinforcing steel shall be continuous across joints. In slabs on grade, saw contraction joints shall not be over 12 feet center to center each way. Joints shall be sawn a depth of one-third of the slab thickness. Sawing of the joints shall commence as soon as the concrete has hardened sufficiently to permit sawing without excessive raveling. Fill the saw cuts with approved joint filler after the concrete has cured.
- 4) Concrete, when deposited, shall have a temperature not below 50°F and not above 90°F. The methods and recommended practices as described in ACI 306 shall be followed for cold weather concreting and ACI 305 for hot weather concreting.
- 5) Freshly placed concrete shall be protected from premature drying by one of the following methods:
  - A) Ponding or continuous sprinkling.
  - B) Absorptive mat or fabric kept continuously wet.
  - C) Waterproof paper conforming to ASTM C171
  - D) Application of an approved chemical curing compound.

The curing shall continue until the cumulative number or days when the ambient temperature above 50°F has totaled seven. During curing, the concrete shall be protected from any mechanical injury, load stresses, shock, vibration, or damage to finished surfaces.
- 6) Reinforcing steel bars shall be deformed in accordance with ASTM A305 and or A408 and formed of ASTM A615-78 Grade 60 steel. Welded wire fabric reinforcing to be ASTM A185 steel wire. Accessories shall conform to the CRSI 'Manual of Standard Practice.' The following minimum concrete cover shall be provided over reinforcing bars:
  - A) Exposed to Earth ..... 3"
  - B) Exposed to Weather ..... 1 1/2" (#3 bars - #5 bars)  
..... 2" (> #5 bars)
  - C) Slabs not Exposed to Weather ..... 3/4"
  - D) Beams and Columns ..... 1 1/2"

### MASONRY GENERAL NOTES:

- 1) Masonry walls are to be of the sizes and in the locations shown on the plans and shall be constructed in accordance with the provisions of ACI 530.
- 2) Hollow Load Bearing Units: ASTM C90 made with lightweight or normal weight aggregates.
- 3) Concrete Building Brick: ASTM C55 made with lightweight or normal aggregates.
- 4) Mortar: ASTM C270, Type S prepackaged mortar mix which shall not contain any non-cementitious fillers combined with not more than three parts sand per on part mix.
- 5) Reinforcing Steel: ASTM A615 Grade 60 steel deformed bars where indicated on the plans. Where reinforcing bars are installed in the cells of concrete masonry units, they shall be secured with wire ties at intervals not exceeding 24" o/c to maintain the bars location in the cell. The tolerance for spacing of vertical bars is ± 2 inches along the length of the wall. The tolerance for the distance between the face of the concrete masonry unit and the center of the bar shall not exceed ± 1/8".
- 6) Mortar protrusion shall be less than 1/8". A protrusion of 1/8" or greater must be removed before grouting.
- 7) Horizontal Joint Reinforcement: ASTM A62 fabricated from cold drawn steel wire and hot dip zinc coated (ASTM A153). It shall consist of two or more parallel, longitudinal wires 0.1875" in diameter with weld-connected cross wires 0.1483" in diameter at a minimum of 16" o/c. Joint reinforcement is to be installed in every other course and in the first two courses at the bottom and top of wall openings and shall extend not less than 24" past the opening. Splices shall overlap not less than 12".
- 8) Execution: Masonry units shall be laid in a running bond pattern unless noted otherwise. The walls shall be carried up level and plumb within the tolerances specified in ACI 530.1, Section 3.3. If nonstandard dimensions are encountered, block shall be cut with a masonry saw to fit, not by stretching or shrinking joints. Unfinished work shall be stepped back for joining with new work. Toothing will not be permitted except where specifically approved. Damaged units are to be cut out and new units set in place.
- 9) The filled cells and bond beam blocks of reinforced masonry walls are to be filled with ASTM C476, Grout for Masonry with minimum compressive stress of 2,000 psi and slump range or 8" to 11". The outside face of the bottom block of each cell is to be broken out for inspection of reinforcing and clean out of mortar droppings in cell. The grout is to be pumped into the cell in maximum five foot lifts and immediately vibrated to minimize any voiding of the grout. Reconsolidate each lift by vibrating several inches into the preceding lift before plasticity is lost. Reconsolidate the top lift and fill with grout any space left by settlement shrinkage.

### STEEL GENERAL NOTES:

- 1) All steel wide flange beams shall conform to ASTM A572 having a minimum yield stress of 50,000 psi.
- 2) All steel pipes shall be Schedule 40 or better with a minimum yield stress of 35,000 psi.
- 3) All steel tubes shall conform to ASTM A500, Grade B, having a minimum yield stress of 46,000 psi.
- 4) All other shapes not listed above shall conform to ASTM A36 having a minimum yield stress of 36,000 psi.
- 5) Unless otherwise noted, all welds shall be fillet type with a minimum 3/16" leg. Welding electrodes shall be E70xx type having a minimum yield strength of 70,000 psi. Welding work and materials shall conform to the American Welding Society Code (AWS D.1).
- 6) Bolted connections shall include high strength bolts conforming to ASTM A325. Foundation anchor bolts or tie rods shall conform to ASTM A36 having a minimum yield strength of 36,000 psi.



**Residential Structures, P.C.**  
 Engineering and Design  
 Charoite: 704-332-5460  
 Charleston: 843-406-7174  
 Myrtle Beach/Florence: 704-301-9521  
 www.residentialstructurespc.com



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SC COA No. 3835

Residential Structures, P.C.  
 930-A Folly Road  
 Charleston, SC 29412

Plans to be used in conjunction  
 with Residential Structures P.C.  
 general notes

100 Farmfield Ave.  
 Charleston, SC


REV.	DATE	DESCRIPTION
DESIGNER:		CCM

DRAFTER:	JKL
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SCALE:	AS NOTED
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DATE:	07/05/2022
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General Notes

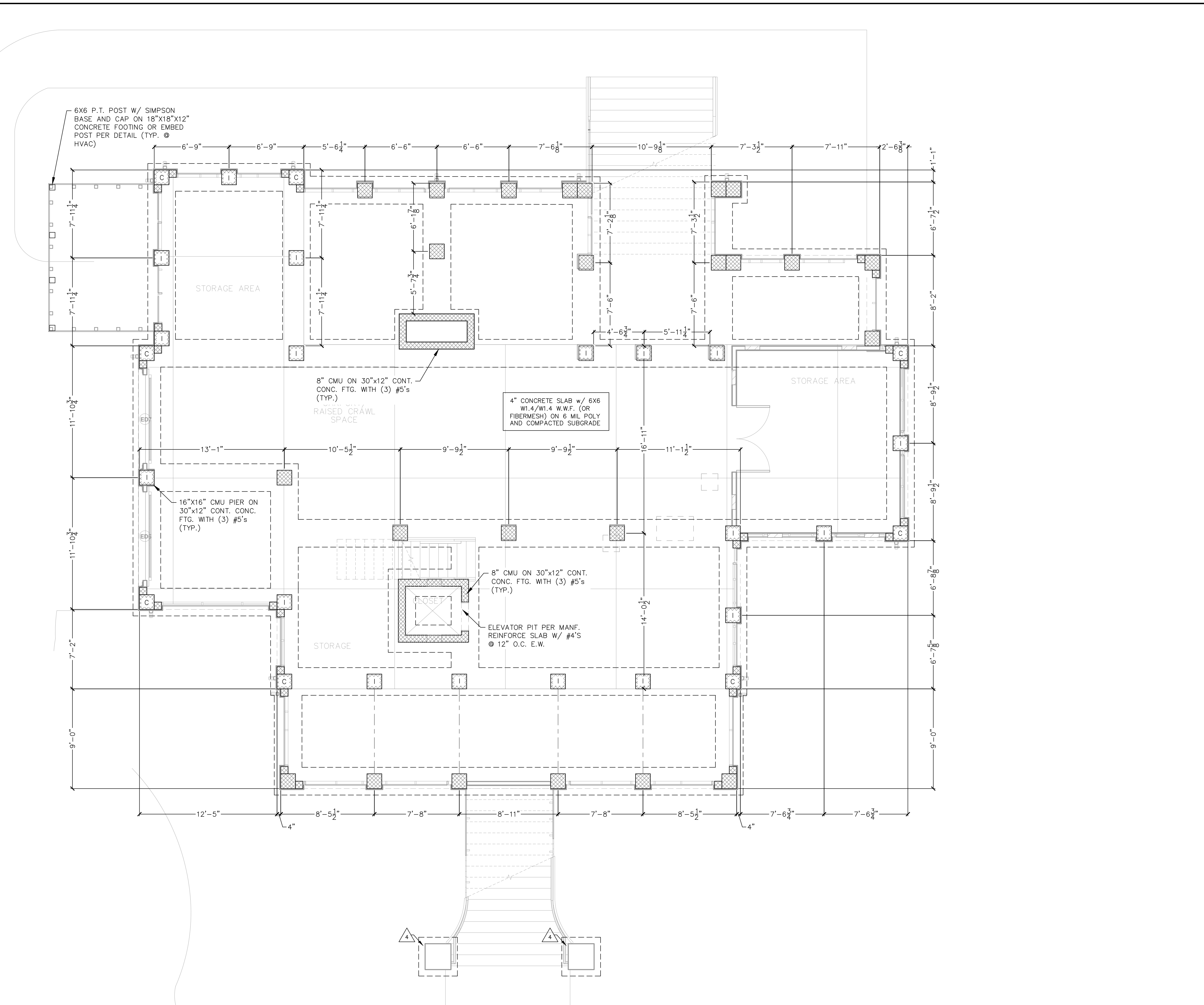
SHEET:  
  
GN

- FOUNDATION NOTES:**
1. ALL DIMENSIONS ARE BASED ON ARCHITECTURAL FILES/LAYOUTS PROVIDED. ENGINEER IS NOT RESPONSIBLE FOR DIMENSIONAL ERRORS.
  2. SEE DETAILS FOR TYPICAL FOUNDATION REINFORCEMENT
  3. TRANSFER ALL POINT LOADS ABOVE TO FOUNDATION WITH AN EQUAL NUMBER OF STUDS
  4. ALL CONCRETE TO BE 3000 PSI (MIN)
  5. SOIL TO HAVE A MIN 2000 PSF BEARING CAPACITY
  6. ALL FOOTINGS TO BEAR MIN 12" BELOW GRADE OR AS RECOMMENDED PER GEOTECHNICAL EVALUATION

- FOUNDATION LEGEND**
- ☒ = 16X16 CMU PIER
  - C = EXTERIOR CORNER PIER CONNECTION (SEE DETAILS)
  - CA = EXTERIOR CANTILEVER PIER CONNECTION (SEE DETAILS)
  - I = EXTERIOR INTERMEDIATE PIER CONNECTION (SEE DETAILS)

**FOOTING SCHEDULE**

MARK	SIZE	REBAR
△1	24"X24"X12"	(3) #4'S EACH WAY OR: (2) #5'S EACH WAY
△2	30"X30"X12"	(4) #4'S EACH WAY OR: (3) #5'S EACH WAY
△3	36"X36"X12"	(5) #4'S EACH WAY OR: (3) #5'S EACH WAY
△4	42"X42"X12"	(6) #4'S EACH WAY OR: (4) #5'S EACH WAY
△5	48"X48"X12"	(6) #4'S EACH WAY OR: (4) #5'S EACH WAY
△6	54"X54"X12"	(7) #4'S EACH WAY OR: (5) #5'S EACH WAY
△7	60"X60"X12"	(6) #5'S EACH WAY



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 general notes

**100 Farmfield Ave.  
 Charleston, SC**

REV.	DATE	DESCRIPTION
DESIGNER:		CCM
DRAFTER:		JKL
SCALE:		1/4"=1'-0"
DATE:		07/05/2022

**Foundation Plan**

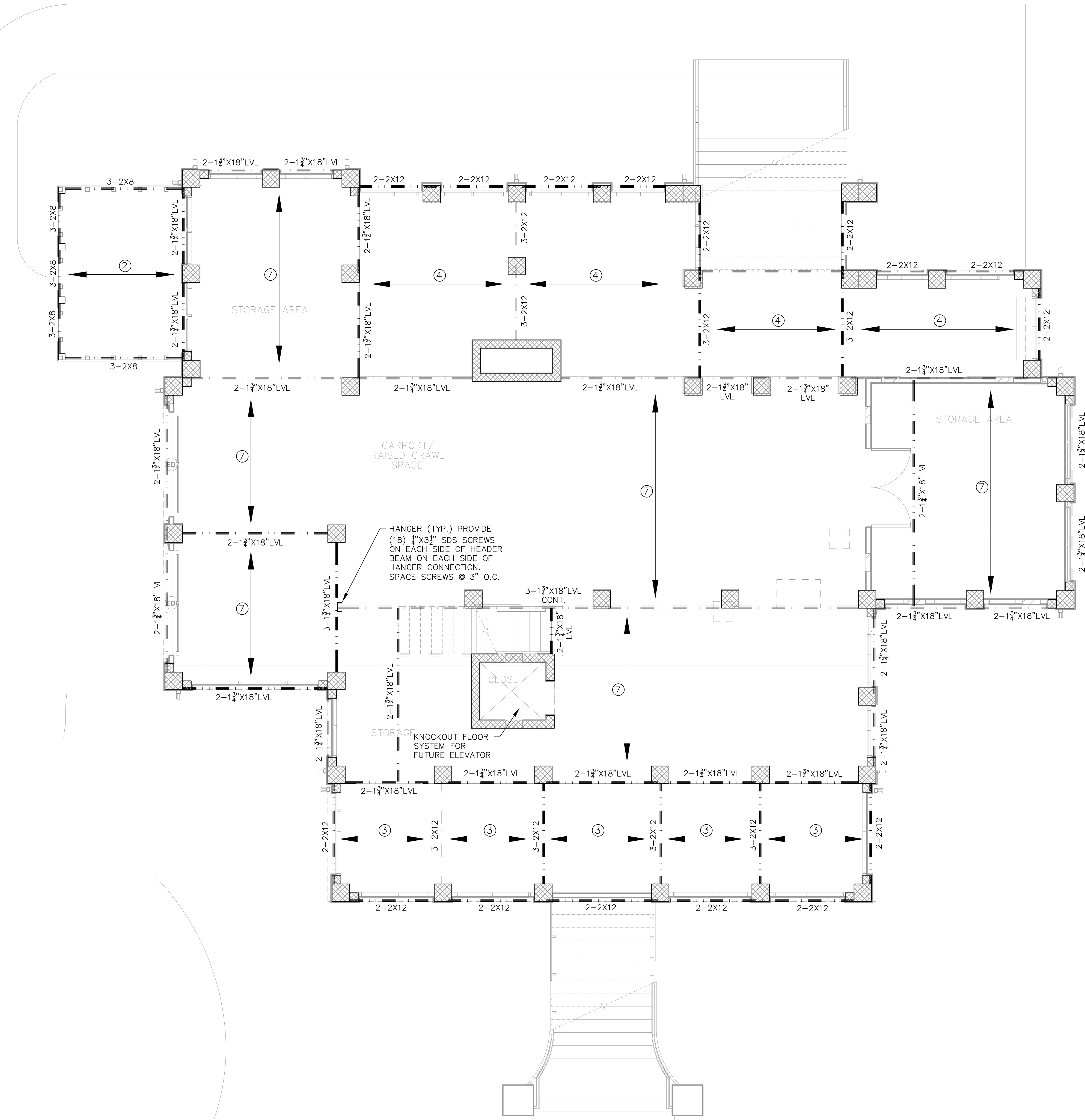
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**S1**

**FRAMING NOTES**

- ALL RAFTERS TO BE MIN 2X8s (SYP #2) @ 16" O.C. U.N.O
- ALL RIDGES AND HIPS ARE CONSIDERED NON-STRUCTURAL U.N.O.
- ALL RAFTERS FRAMING INTO NON-STRUCTURAL RIDGES AND HIPS MUST BE CONNECTED TO CEILING JOISTS OR HAVE RAFTER TIES AS DETAILED ON SHEET SD1.0
- ALL RIDGES, HIPS, AND VALLEYS TO BE DIMENSIONAL LUMBER (SYP#2) MINIMUM 1 SIZE LARGER THAN ASSOCIATED RAFTERS U.N.O.
- ALL RAFTERS/TRUSSES TO BE TIED TO ALL SUPPORTING WALL PLATES WITH (2) SIMPSON H2.5A TIES OR (1) H10A OR AS NOTED ON PLANS) NAILED PER MANUFACTURER SPECIFICATIONS.
- AT CLIP LINES, CEILING JOISTS TO BE NAILED TO RAFTERS w/ (5)16d NAILS U.N.O.
- INSTALL SIMPSON CS16 STRAP TIES AT EACH END OF ALL EXTERIOR HEADERS FOR UPLIFT CONNECTIONS. PROVIDE (1) STRAP @ EACH END FOR EVERY 6'-0" WIDTH OF OPENING. PROVIDE EXTRA STUDS AS NECESSARY FOR CONNECTIONS.
- INSTALL SIMPSON CS16 STRAP TIES ALONG EXTERIOR WALLS INLINE WITH ALL HEADER UPLIFT CONNECTIONS ABOVE. STRAPS TO BE CENTERED AT 2nd FLOOR SYSTEM
- INSTALL AN EXTRA JOIST UNDER ALL PARALLEL PARTITION WALLS. NOTE, NOT ALL EXTRA JOISTS SHOWN FOR CLARITY
- TRANSFER ALL POINT LOADS FROM ABOVE THROUGH FLOOR SYSTEMS w/ AN EQUAL AMOUNT OF STUD MATERIAL
- ALL 2-PLY LVL'S TO HAVE PLYS ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. (U.N.O.)
- ALL 3-PLY LVL'S TO HAVE PLYS ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. EACH SIDE (U.N.O.)
- ALL 4-PLY LVL'S TO HAVE PLYS ATTACHED W/ (2) ROWS 1x6" SDS SCREWS @ 24" O.C. EACH SIDE (U.N.O.)
- ALL HOLDOWNS REFERENCED ARE SIMPSON PRODUCTS U.N.O.
- FLOOR DIAPHRAGM WILL BE 3/4" T&G PLYWOOD SHEATHING FASTENED TO FRAMING W/ 10d NAILS @ 6" O.C. EDGE AND 12" O.C. ALONG INTERMEDIATE MEMBERS. PROVIDE 2X BLOCKING @ 48" O.C. IN 1ST 2 BAYS OF DIAPHRAGM.
- THE ROOF SHEATHING WILL BE MINIMUM 5/8" STRUCTURAL SHEATHING ATTACHED W/ 8d NAILS @ 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL OTHER SUPPORTING MEMBERS. THE ROOF SHEATHING WILL BE ATTACHED WITH 8d NAILS @ 4" O.C. AT THE GABLE END FRAMING. SEE FRAMING DETAILS FOR BLOCKING REQUIREMENTS.
- ALL STRUCTURAL RIDGE BEAMS MUST BE TIED TO THEIR RESPECTIVE STUD SUPPORTS WITH (2) SIMPSON MSTA24 STRAP TIES WITH A MINIMUM 9-10d NAILS AT EACH STRAP END. THE SUBJECT BEAM STUD SUPPORTS MUST ALSO BE TIED TO THE FLOOR SYSTEM USING IDENTICAL STRAPPING PROCEDURES.
- ALL ROOF GIRDER TRUSSES TO BE TIED TO THE WALL USING (1) SIMPSON VGT GIRDER TIE DOWNS w/ HDU4s OR (2) TS22 STRAPS UNLESS NOTED OTHERWISE ON THE PLAN OR AS RECOMMENDED BY TRUSS MANUFACTURER.
- ALL TIES/STRAPS/HOLDOWNS REFERENCED ON PLANS ARE SIMPSON PRODUCTS. ALL TIES/STRAPS/HOLDOWNS MUST BE INSTALLED AT THE PLAN INDICATED LOCATIONS PER MANUFACTURER SPECIFICATIONS. ALL HOLDOWNS TO BE INSTALLED TO SYP STUDS.

**FRAMING LEGEND**

- ROOF TRUSSES PER MANF. @ MAX 24" O.C.
- R.T. = TRUSS DESIGN TO HAVE NO INTERMEDIATE BEARING U.N.O.
- G.T. = GIRDER TRUSS PER MANF.
- B.B. = BEAM BELOW
- D.R. = DOUBLE RAFTER
- T.R. = TRIPLE RAFTER
- R.B. = RAFTER BRACE
- R.F.V. = RAFTERS FORM VAULT
- B.R.O.W. = BRACE RAFTERS ON WALL
- D.J. = DOUBLE JOIST
- E.O.R. = ENGINEER OF RECORD
- E.E. = EACH END
- E.S. = EACH SIDE
- E.W. = EACH WAY
- HDR = HEADER
- B.W.A. = BEARING WALL ABOVE. PROVIDE BLOCKING b/n JOISTS/TRUSSES
- ⊗ = ROOF BRACE POINT AND BRACE TO POINT
- ▨ = AREA TO BE OVERFRAMED
- ▧ = INTERIOR BEARING WALL
- # = NUMBER OF STUDS. STUDS TO BE SAME SIZE AS ASSOCIATED WALL FRAMING STUDS U.N.O.
- Ⓝ = NOTE: STUD COUNTS DO NOT ACCOUNT FOR KING STUDS. SEE KING STUD CHART FOR REQUIRED KING STUDS.
- \* = PROVIDE 6"x4"x1/2" STEEL ANGLE ATTACHED TO HEADER/BEAM FRAMING w/ (2) ROWS 1x4" LAGS @ 16" O.C. FOR BRICK SUPPORT
- \*\* = ATTACH LVL PLYS w/ (2) ROWS 1x3x3" SDS SCREWS @ 16" O.C.
- \*\*\* = ATTACH LVL PLYS w/ (2) ROWS 1x3x3" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
- \*\*\*\* = ATTACH LVL PLYS w/ (2) ROWS 1x6" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
- ① = 2X6 (SYP#2) @ 16" O.C.
- ② = 2X8 (SYP#2) @ 16" O.C.
- ③ = 2X10 (SYP#2) @ 16" O.C.
- ④ = 2X12 (SYP#2) @ 16" O.C.
- ⑤ = MIN. 12" OPEN WEB FLOOR TRUSSES PER MANF.
- ⑥ = 24" OPEN WEB FLOOR TRUSSES PER MANF.
- ⑦ = 18" OPEN WEB FLOOR TRUSSES PER MANF.



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 www.residentialstructurespc.com



SEAL FOR STRUCTURAL ONLY



SC COA NO. 3835

Residential Structures, P.C.  
 930-A Folly Road  
 Charleston, SC 29412

Plans to be used in conjunction with Residential Structures P.C. general notes

**100 Farmfield Ave.  
 Charleston, SC**

REV.	DATE	DESCRIPTION
DESIGNER:		CCM
DRAFTER:		JKL
SCALE:		1/4" = 1'-0"
DATE:		07/05/2022

**1st Floor Framing Plan**

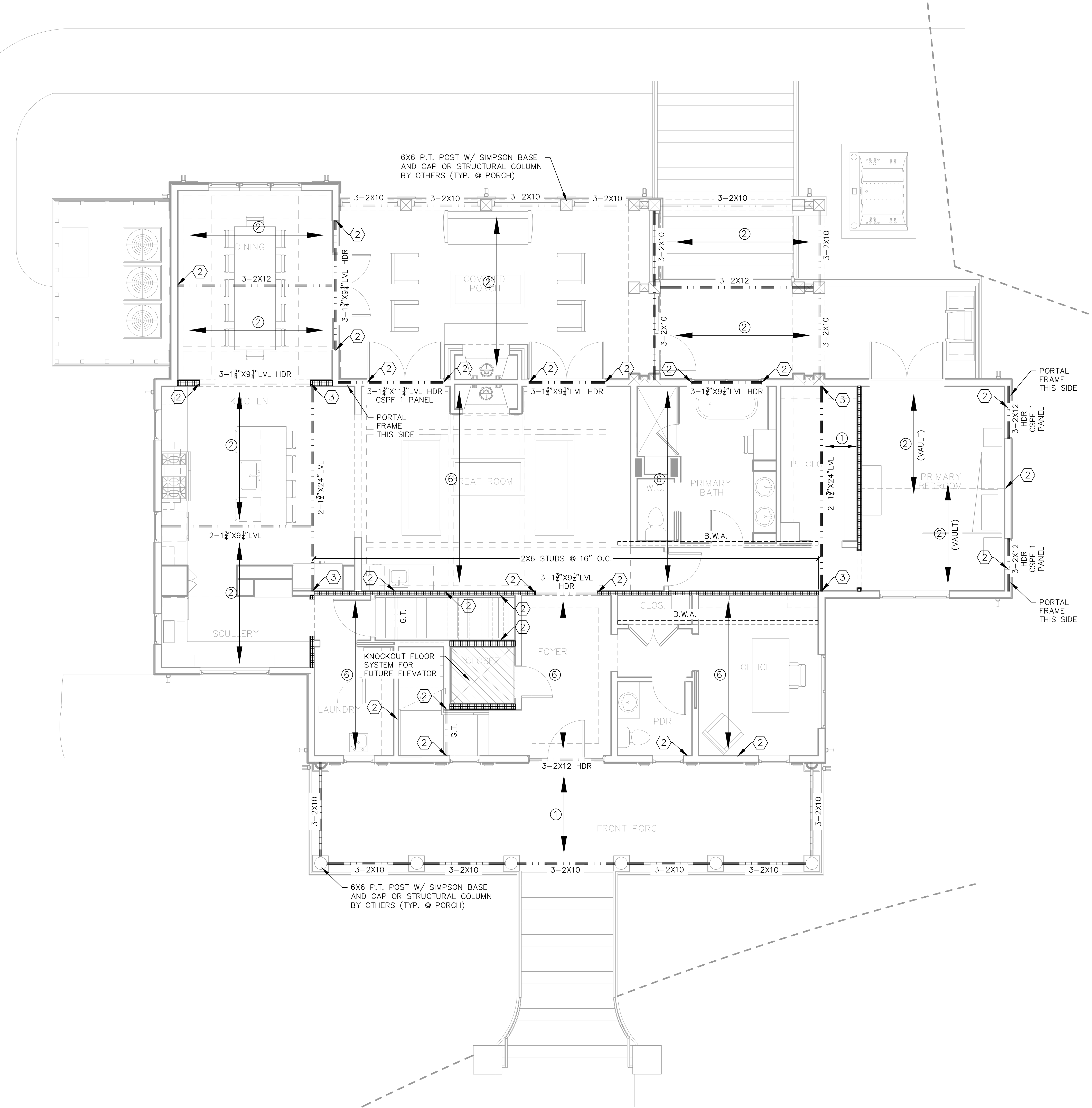
SHEET:  
**S2**

**FRAMING NOTES**

- ALL RAFTERS TO BE MIN 2X8's (SYP #2) @ 16" O.C. U.N.O
- ALL RIDGES AND HIPS ARE CONSIDERED NON-STRUCTURAL U.N.O.
- ALL RAFTERS FRAMING INTO NON-STRUCTURAL RIDGES AND HIPS MUST BE CONNECTED TO CEILING JOISTS OR HAVE RAFTER TIES AS DETAILED ON SHEET SD1.0
- ALL RIDGES, HIPS, AND VALLEYS TO BE DIMENSIONAL LUMBER (SYP#2) MINIMUM 1 SIZE LARGER THAN ASSOCIATED RAFTERS U.N.O.
- ALL RAFTERS/TRUSSES TO BE TIED TO ALL SUPPORTING WALL PLATES WITH (2) SIMPSON H2.5A TIES OR (1) H10A OR AS NOTED ON PLANS) NAILED PER MANUFACTURER SPECIFICATIONS.
- AT CLIP LINES, CEILING JOISTS TO BE NAILED TO RAFTERS w/ (5)16d NAILS U.N.O.
- INSTALL SIMPSON CS16 STRAP TIES AT EACH END OF ALL EXTERIOR HEADERS FOR UPLIFT CONNECTIONS. PROVIDE (1) STRAP @ EACH END FOR EVERY 6'-0" WIDTH OF OPENING. PROVIDE EXTRA STUDS AS NECESSARY FOR CONNECTIONS.
- INSTALL SIMPSON CS16 STRAP TIES ALONG EXTERIOR WALLS INLINE WITH ALL HEADER UPLIFT CONNECTIONS ABOVE. STRAPS TO BE CENTERED AT 2nd FLOOR SYSTEM
- INSTALL AN EXTRA JOIST UNDER ALL PARALLEL PARTITION WALLS. NOTE, NOT ALL EXTRA JOISTS SHOWN FOR CLARITY
- TRANSFER ALL POINT LOADS FROM ABOVE THROUGH FLOOR SYSTEMS w/ AN EQUAL AMOUNT OF STUD MATERIAL
- ALL 2-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. (U.N.O.)
- ALL 3-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. EACH SIDE (U.N.O.)
- ALL 4-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (2) ROWS 1/2"x8" SDS SCREWS @ 24" O.C. EACH SIDE (U.N.O.)
- ALL HOLDOWNS REFERENCED ARE SIMPSON PRODUCTS U.N.O.
- FLOOR DIAPHRAGM WILL BE 3/4" T&G PLYWOOD SHEATHING FASTENED TO FRAMING W/ 10d NAILS @ 9" O.C. EDGE AND 12" O.C. ALONG INTERMEDIATE MEMBERS. PROVIDE 2X BLOCKING @ 48" O.C. IN 1ST 2 BAYS OF DIAPHRAGM.
- THE ROOF SHEATHING WILL BE MINIMUM 5/8" STRUCTURAL SHEATHING ATTACHED W/ 8d NAILS 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL OTHER SUPPORTING MEMBERS. THE ROOF SHEATHING WILL BE ATTACHED WITH 8d NAILS @ 4" O.C. AT THE GABLE END FRAMING. SEE FRAMING DETAILS FOR BLOCKING REQUIREMENTS.
- ALL STRUCTURAL RIDGE BEAMS MUST BE TIED TO THEIR RESPECTIVE STUD SUPPORTS WITH (2) SIMPSON MSTA24 STRAP TIES WITH A MINIMUM 9-10d NAILS AT EACH STRAP END. THE SUBJECT BEAM STUD SUPPORTS MUST ALSO BE TIED TO THE FLOOR SYSTEM USING IDENTICAL STRAPPING PROCEDURES.
- ALL ROOF GIRDER TRUSSES TO BE TIED TO THE WALL USING (1) SIMPSON VGT GIRDER TIE DOWNS w/ HDU4's OR (2) TS22 STRAPS UNLESS NOTED OTHERWISE ON THE PLAN OR AS RECOMMENDED BY TRUSS MANUFACTURER.
- ALL TIE STRAPS/HOLDOWNS REFERENCED ON PLANS ARE SIMPSON PRODUCTS. ALL TIE STRAPS/HOLDOWNS MUST BE INSTALLED AT THE PLAN INDICATED LOCATIONS PER MANUFACTURER SPECIFICATIONS. ALL HOLDOWNS TO BE INSTALLED TO SYP STUDS.

**FRAMING LEGEND**

- ROOF TRUSSES PER MANF. @ MAX 24" O.C.
- R.T. = TRUSS DESIGN TO HAVE NO INTERMEDIATE BEARING U.N.O.
- G.T. = GIRDER TRUSS PER MANF.
- B.B. = BEAM BELOW
- D.R. = DOUBLE RAFTER
- T.R. = TRIPLE RAFTER
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- ⊗ = ROOF BRACE POINT AND BRACE TO POINT
- ▨ = AREA TO BE OVERFRAMED
- ▧ = INTERIOR BEARING WALL
- # = NUMBER OF STUDS. STUDS TO BE SAME SIZE AS ASSOCIATED WALL FRAMING STUDS U.N.O.
- NOTE: STUD COUNTS DO NOT ACCOUNT FOR KING STUDS. SEE KING STUD CHART FOR REQUIRED KING STUDS.
- PROVIDE 6"x4"x1/2" STEEL ANGLE ATTACHED TO \* = HEADER/BEAM FRAMING w/ (2) ROWS 1/2"x4" LAGS @ 16" O.C. FOR BRICK SUPPORT
- \*\* = ATTACH LVL PLY'S w/ (2) ROWS 1/2"x3 1/2" SDS SCREWS @ 16" O.C.
- \*\*\* = ATTACH LVL PLY'S w/ (2) ROWS 1/2"x3 1/2" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
- \*\*\*\* = ATTACH LVL PLY'S w/ (2) ROWS 1/2"x6" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
- ① = 2X6 (SYP#2) @ 16" O.C.
- ② = 2X8 (SYP#2) @ 16" O.C.
- ③ = 2X10 (SYP#2) @ 16" O.C.
- ④ = 2X12 (SYP#2) @ 16" O.C.
- ⑤ = MIN. 12" OPEN WEB FLOOR TRUSSES PER MANF.
- ⑥ = 24" OPEN WEB FLOOR TRUSSES PER MANF.
- ⑦ = 18" OPEN WEB FLOOR TRUSSES PER MANF.



**FRAMING NOTE:**  
ALL EXTERIOR WALLS THIS LEVEL TO BE MIN 2X8 @ 16" O.C. U.N.O. (SEE EXTERIOR STUD WALL REQUIREMENTS CHART FOR ADDITIONAL REQUIREMENTS)

**FRAMING NOTE:**  
ALL EXTERIOR WALL HEADERS THIS LEVEL TO BE MIN 3-2X8 (SYP#2) (U.N.O) w/ (1) JACK @ EACH END (U.N.O.). SEE KING STUD CHART FOR COUNTS PER OPENING SIZE (U.N.O. ON PLANS)

**FRAMING NOTE:**  
ALL INTERIOR LOAD BEARING WALL HEADERS THIS LEVEL TO BE 2-2X10 (SYP#2) w/ (1) JACK @ EACH END (U.N.O.)

**TYPICAL HANGERS**

MEMBER	HANGER
2X8	LUS28
2X10	LUS210
2X12	LUS210
(2) 2X8	HUS28-2
(2) 2X12	HUS210-2
(2) 2X8	HUS28-3
(3) 2X10	LUS210-3
(3) 2X12	LUS210-3
(2) 9 1/2" / (2) 11 1/2" LVL	HGUS410
(2) 14" / (2) 16" / (2) 18" LVL	HGUS414
(3) 9 1/2" LVL	HGUS5.50/10
(3) 11 1/2" LVL	HGUS5.50/12
(3) 14" / (3) 16" / (3) 18" LVL	HGUS5.50/14
(4) 9 1/2" LVL	HGUS7.25/10
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**EXTERIOR WALL STUD REQUIREMENTS**

EXT. STUD HEIGHT (h)	MIN. STUD SIZE AND SPACING U.N.O. IN FRAMING NOTES OR ON FRAMING PLANS
h ≤ 10'-0"	SEE FRAMING NOTES
10'-0" < h ≤ 13'-0"	2X6 @ 16" O.C.
13'-0" < h ≤ 16'-0"	2X6 @ 12" O.C.
16'-0" < h ≤ 20'-0"	2-2X6 @ 16" O.C.
h > 20'-0"	CONSULT ENGINEER

**EXTERIOR WALL KING STUD CHART**

OPENING WIDTH (W)	# OF KINGS (U.N.O. ON PLANS)
0' < W ≤ 3'	1 EACH END
3' < W ≤ 6'	2 EACH END
6' < W ≤ 9'	3 EACH END
9' < W ≤ 12'	4 EACH END
12' < W ≤ 15'	5 EACH END
15' < W ≤ 18'	6 EACH END
18' < W ≤ 21'	7 EACH END

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2nd Floor Framing Plan

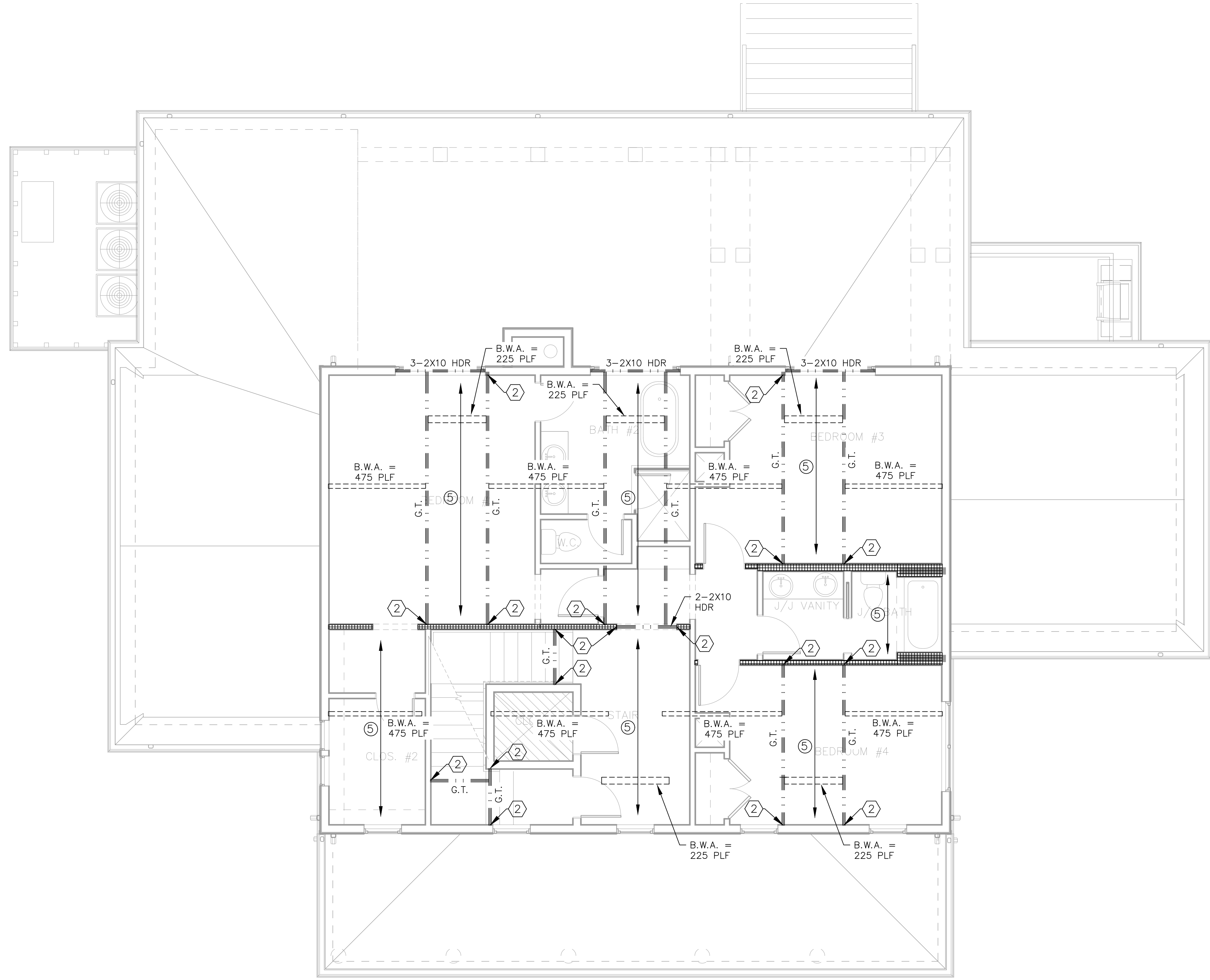
SHEET: **S3**

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**FRAMING NOTE:**  
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3rd Floor Framing Plan

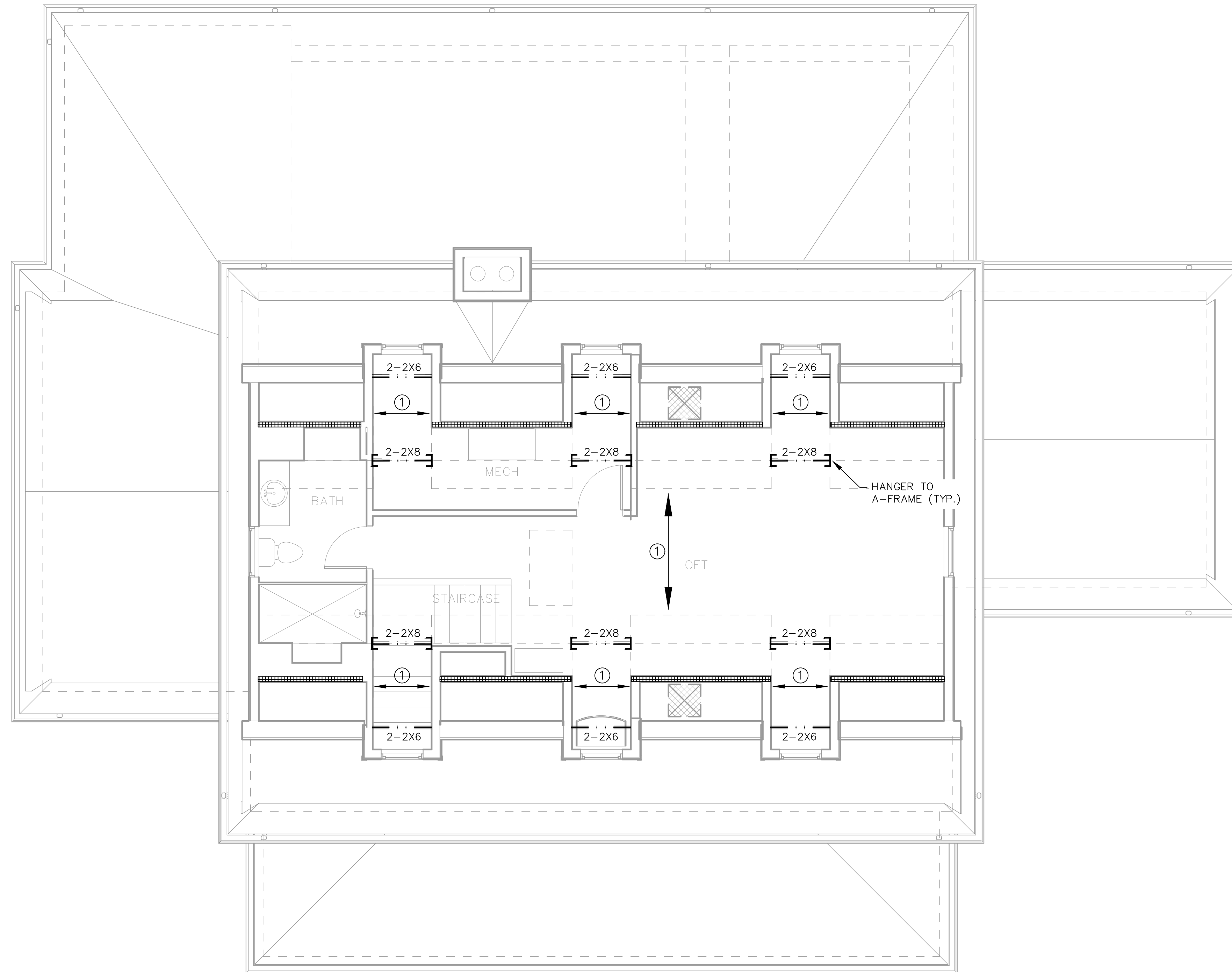
SHEET: **S4**

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- ⑦ = 18" OPEN WEB FLOOR TRUSSES PER MANF.



**FRAMING NOTE:**  
ALL EXTERIOR WALLS THIS LEVEL TO BE MIN 2X6 @ 16" O.C. U.N.O. (SEE EXTERIOR STUD WALL REQUIREMENTS CHART FOR ADDITIONAL REQUIREMENTS)

**FRAMING NOTE:**  
ALL EXTERIOR WALL HEADERS THIS LEVEL TO BE MIN 3-2X6 (SYP#2) (U.N.O.) w/ (1) JACK @ EACH END (U.N.O.). SEE KING STUD CHART FOR COUNTS PER OPENING SIZE (U.N.O. ON PLANS)

**FRAMING NOTE:**  
ALL INTERIOR LOAD BEARING WALL HEADERS THIS LEVEL TO BE 2-2X10 (SYP#2) w/ (1) JACK @ EACH END (U.N.O.)

**TYPICAL HANGERS**

MEMBER	HANGER
2X8	LUS28
2X10	LUS210
2X12	LUS210
(2) 2X8	HUS28-2
(2) 2X10	HUS210-2
(2) 2X12	HUS212-2
(3) 2X8	LUS28-3
(3) 2X10	LUS210-3
(3) 2X12	LUS210-3
(2) 9 1/2" / (2) 11 1/2" LVL	HGUS410
(2) 14" / (2) 16" / (2) 18" LVL	HGUS414
(3) 9 1/2" LVL	HGUS5.50/10
(3) 11 1/2" LVL	HGUS5.50/12
(3) 14" / (3) 16" / (3) 18" LVL	HGUS5.50/14
(4) 9 1/2" LVL	HGUS7.25/10
(4) 11 1/2" LVL	HGUS7.25/12
(4) 14" / (4) 16" / (4) 18" LVL	HGUS7.25/14

**EXTERIOR WALL STUD REQUIREMENTS**

EXT. STUD HEIGHT (h) NOTE: HEIGHT IS FOR STUDS ONLY AND DOES NOT INCLUDE TOP PLATE	MIN. STUD SIZE AND SPACING U.N.O. IN FRAMING NOTES OR ON FRAMING PLANS
h ≤ 10'-0"	SEE FRAMING NOTES
10'-0" < h ≤ 13'-0"	2X6 @ 16" O.C.
13'-0" < h ≤ 16'-0"	2X6 @ 12" O.C.
16'-0" < h ≤ 20'-0"	2-2X6 @ 16" O.C.
h > 20'-0"	CONSULT ENGINEER

**EXTERIOR WALL KING STUD CHART**

OPENING WIDTH (W)	# OF KINGS (U.N.O. ON PLANS)
0' < W ≤ 3'	1 EACH END
3' < W ≤ 6'	2 EACH END
6' < W ≤ 9'	3 EACH END
9' < W ≤ 12'	4 EACH END
12' < W ≤ 15'	5 EACH END
15' < W ≤ 18'	6 EACH END
18' < W ≤ 21'	7 EACH END



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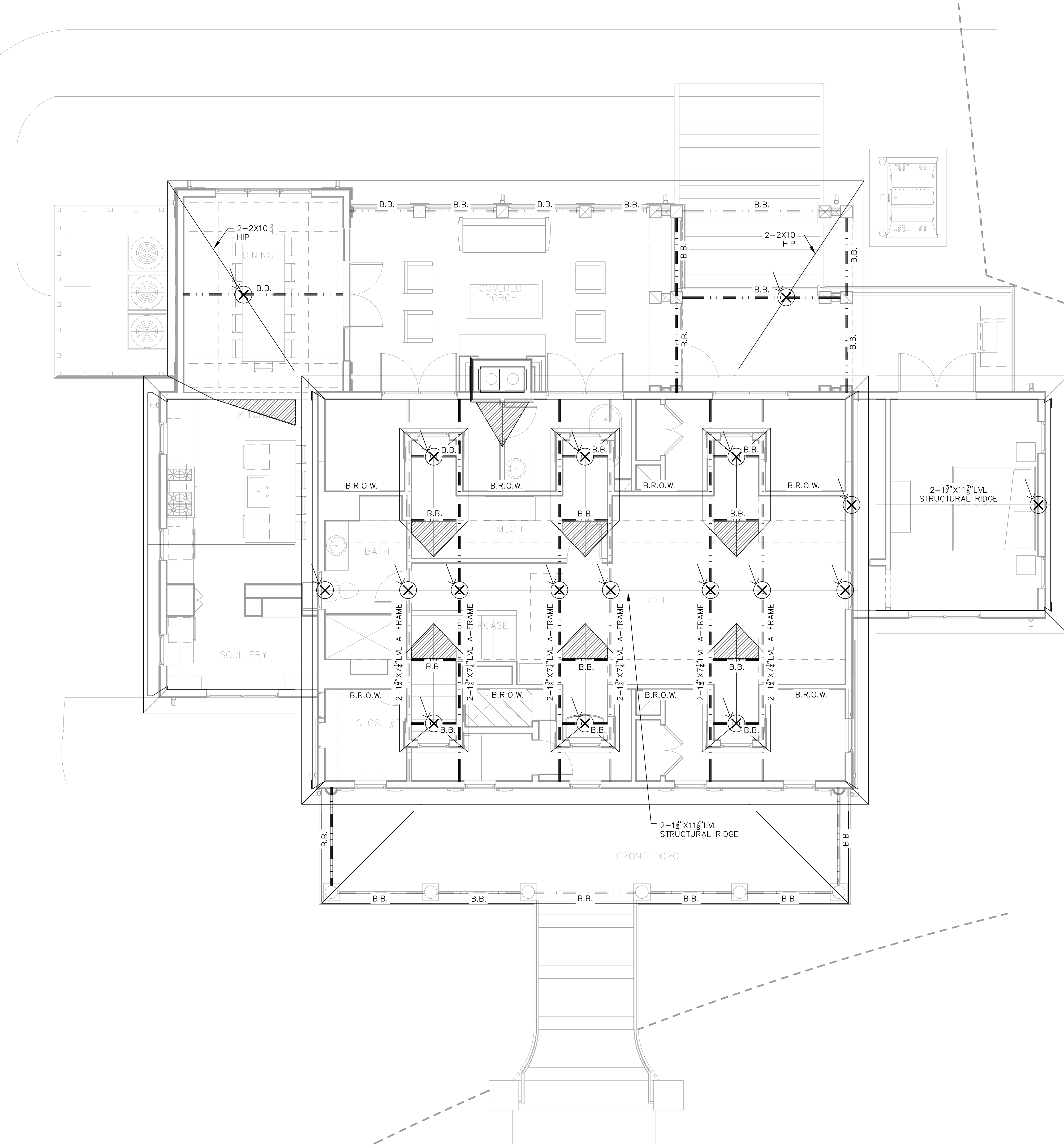
REV.	DATE	DESCRIPTION
DESIGNER:		CCM
DRAFTER:		JKL
SCALE:		1/4"=1'-0"
DATE:	07/05/2022	

**Ceiling Framing Plan**

SHEET:  
**S5**

- FRAMING NOTES**
- ALL RAFTERS TO BE MIN 2X8's (SYP #2) @ 16" O.C. U.N.O
  - ALL RIDGES AND HIPS ARE CONSIDERED NON-STRUCTURAL U.N.O.
  - ALL RAFTERS FRAMING INTO NON-STRUCTURAL RIDGES AND HIPS MUST BE CONNECTED TO CEILING JOISTS OR HAVE RAFTER TIES AS DETAILED ON SHEET SD1.0
  - ALL RIDGES, HIPS, AND VALLEYS TO BE DIMENSIONAL LUMBER (SYP#2) MINIMUM 1 SIZE LARGER THAN ASSOCIATED RAFTERS U.N.O.
  - ALL RAFTERS/TRUSSES TO BE TIED TO ALL SUPPORTING WALL PLATES WITH (2) SIMPSON H2.5A TIES OR (1) H10A OR AS NOTED ON PLANS) NAILED PER MANUFACTURER SPECIFICATIONS.
  - AT CLIP LINES, CEILING JOISTS TO BE NAILED TO RAFTERS w/ (5)16d NAILS U.N.O.
  - INSTALL SIMPSON CS16 STRAP TIES AT EACH END OF ALL EXTERIOR HEADERS FOR UPLIFT CONNECTIONS. PROVIDE (1) STRAP @ EACH END FOR EVERY 6'-0" WIDTH OF OPENING. PROVIDE EXTRA STUDS AS NECESSARY FOR CONNECTIONS.
  - INSTALL SIMPSON CS16 STRAP TIES ALONG EXTERIOR WALLS INLINE WITH ALL HEADER UPLIFT CONNECTIONS ABOVE. STRAPS TO BE CENTERED AT 2nd FLOOR SYSTEM
  - INSTALL AN EXTRA JOIST UNDER ALL PARALLEL PARTITION WALLS. NOTE, NOT ALL EXTRA JOISTS SHOWN FOR CLARITY
  - TRANSFER ALL POINT LOADS FROM ABOVE THROUGH FLOOR SYSTEMS w/ AN EQUAL AMOUNT OF STUD MATERIAL
  - ALL 2-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. (U.N.O.)
  - ALL 3-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. EACH SIDE (U.N.O.)
  - ALL 4-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (2) ROWS 1"X6" SDS SCREWS @ 24" O.C. EACH SIDE (U.N.O.)
  - ALL HOLDOWNS REFERENCED ARE SIMPSON PRODUCTS U.N.O.
  - FLOOR DIAPHRAGM WILL BE 3/4" T&G PLYWOOD SHEATHING FASTENED TO FRAMING W/ 10d NAILS @ 9" O.C. EDGE AND 12" O.C. ALONG INTERMEDIATE MEMBERS. PROVIDE 2X BLOCKING @ 48" O.C. IN 1ST 2 BAYS OF DIAPHRAGM.
  - THE ROOF SHEATHING WILL BE MINIMUM 5/8" STRUCTURAL SHEATHING ATTACHED W/ 8d NAILS 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL OTHER SUPPORTING MEMBERS. THE ROOF SHEATHING WILL BE ATTACHED WITH 8d NAILS @ 4" O.C. AT THE GABLE END FRAMING. SEE FRAMING DETAILS FOR BLOCKING REQUIREMENTS.
  - ALL STRUCTURAL RIDGE BEAMS MUST BE TIED TO THEIR RESPECTIVE STUD SUPPORTS WITH (2) SIMPSON MSTA24 STRAP TIES WITH A MINIMUM 9-10d NAILS AT EACH STRAP END. THE SUBJECT BEAM STUD SUPPORTS MUST ALSO BE TIED TO THE FLOOR SYSTEM USING IDENTICAL STRAPPING PROCEDURES.
  - ALL ROOF GIRDER TRUSSES TO BE TIED TO THE WALL USING (1) SIMPSON VGT GIRDER TIE DOWNS w/ HDU4's OR (2) TS22 STRAPS UNLESS NOTED OTHERWISE ON THE PLAN OR AS RECOMMENDED BY TRUSS MANUFACTURER.
  - ALL TIE STRAPS/HOLDOWNS REFERENCED ON PLANS ARE SIMPSON PRODUCTS. ALL TIE STRAPS/HOLDOWNS MUST BE INSTALLED AT THE PLAN INDICATED LOCATIONS PER MANUFACTURER SPECIFICATIONS. ALL HOLDOWNS TO BE INSTALLED TO SYP STUDS.

- FRAMING LEGEND**
- ROOF TRUSSES PER MANF. @ MAX 24" O.C.
  - R.T. = TRUSS DESIGN TO HAVE NO INTERMEDIATE BEARING U.N.O.
  - G.T. = GIRDER TRUSS PER MANF.
  - B.B. = BEAM BELOW
  - D.R. = DOUBLE RAFTER
  - T.R. = TRIPLE RAFTER
  - R.B. = RAFTER BRACE
  - R.F.V. = RAFTERS FORM VAULT
  - B.R.O.W. = BRACE RAFTERS ON WALL
  - D.J. = DOUBLE JOIST
  - E.O.R. = ENGINEER OF RECORD
  - E.E. = EACH END
  - E.S. = EACH SIDE
  - E.W. = EACH WAY
  - HDR = HEADER
  - B.W.A. = BEARING WALL ABOVE. PROVIDE BLOCKING b/n JOISTS/TRUSSES
  - ⊗ = ROOF BRACE POINT AND BRACE TO POINT
  - ▨ = AREA TO BE OVERFRAMED
  - ▧ = INTERIOR BEARING WALL
  - NUMBER OF STUDS. STUDS TO BE SAME SIZE AS ASSOCIATED WALL FRAMING STUDS U.N.O.
  - # = NOTE: STUD COUNTS DO NOT ACCOUNT FOR KING STUDS. SEE KING STUD CHART FOR REQUIRED KING STUDS.
  - \* = PROVIDE 6"X4"X1/2" STEEL ANGLE ATTACHED TO HEADER/BEAM FRAMING w/ (2) ROWS 1/2"X4" LAGS @ 16" O.C. FOR BRICK SUPPORT
  - \*\* = ATTACH LVL PLY'S w/ (2) ROWS 1/2"X3/8" SDS SCREWS @ 16" O.C.
  - \*\*\* = ATTACH LVL PLY'S w/ (2) ROWS 1/2"X3/8" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
  - \*\*\*\* = ATTACH LVL PLY'S w/ (2) ROWS 1/2"X6" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
  - ① = 2X6 (SYP#2) @ 16" O.C.
  - ② = 2X8 (SYP#2) @ 16" O.C.
  - ③ = 2X10 (SYP#2) @ 16" O.C.
  - ④ = 2X12 (SYP#2) @ 16" O.C.
  - ⑤ = MIN. 12" OPEN WEB FLOOR TRUSSES PER MANF.
  - ⑥ = 24" OPEN WEB FLOOR TRUSSES PER MANF.
  - ⑦ = 18" OPEN WEB FLOOR TRUSSES PER MANF.



**FRAMING NOTE:**  
ATTACH RAFTERS TO STRUCTURAL RIDGES AND ROOF BEAMS WITH (2) SIMPSON L50's OR SLOPABLE HANGER



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SCALE:		1/4"=1'-0"
DATE:	07/05/2022	

Roof Framing Plan

SHEET:  
**S6**

**SHEAR WALL NOTES**

1. ALL EXTERIOR WALLS MUST BE CONTINUOUSLY SHEATHED USING 7/16" STRUCTURAL SHEATHING ON THE OUTSIDE, WITH PANELS SECURED DIRECTLY TO THE FRAMING (SEE SHEARWALL LEGEND BELOW AND SHEATHING DETAILS FOR NAILING PATTERNS). BLOCKING MUST BE PROVIDED AT ALL SHEATHING PANEL JOINTS. THE INTERIOR SIDE OF ALL EXTERIOR SHEAR WALLS MUST BE SHEATHED AS DEFINED IN NOTE 2.
2. THE INTERIOR SIDE OF ALL EXTERIOR SHEAR WALLS MUST BE CONSTRUCTED USING 1/2" GYPSUM SHEATHING ON EACH SIDE SECURED WITH NO. 6 DRYWALL SCREWS AT 4" O.C. ON ALL PANEL EDGES AND 12" O.C. IN THE FIELD WITH A 1/4" MINIMUM PENETRATION.
3. ALL INTERIOR SHEAR WALLS MUST BE SHEATHED ON ONE SIDE WITH 7/16" STRUCTURAL SHEATHING NAILED PER NOTE A ABOVE WITH SHEETROCK ON MIN. 1 SIDE OF THE WALL WITH ATTACHMENT PER NOTE B ABOVE. (SEE SHEARWALL LEGEND BELOW AND SHEATHING DETAILS FOR NAILING PATTERNS) (NOTE: THIS DOES NOT APPLY TO WALLS NOTED AS METHOD GB. SEE DETAILS FOR METHOD GB REQUIREMENTS)
4. ALL SHEAR WALLS MUST BE PROPERLY ATTACHED TO UPPER AND LOWER ROOF/FLOOR DIAPHRAGMS. SEE DETAILS FOR ATTACHMENTS.

**WINDBORNE DEBRIS PROTECTION**

1. BUILDING IS DESIGNED TO REMAIN A CLOSED ENVELOPE DURING WIND EVENTS.
2. ALL EXTERIOR WINDOWS AND DOORS SHALL BE RATED FOR THE DESIGN PRESSURE REFERENCED IN THE GENERAL NOTES.
3. ALL FENESTRATION SHALL BE TESTED BY AN APPROVED INDEPENDENT LABORATORY LISTED BY AN APPROVED ENTITY AND SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF ASTM E1886 AND ASTM E1996 OR AAMA 506.
4. ALL EXTERIOR GLAZED OPENINGS SHALL BE PROTECTED FROM WINDBORNE DEBRIS. PROTECTION SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E1996 AND ASTM E1886. GARAGE DOOR GLAZED OPENING PROTECTION SHALL MEET THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTING STANDARD OR ANSIDASMA 115.
5. WINDBORNE DEBRIS PROTECTION MAY BE ACHIEVED THROUGH IMPACT RESISTANT GLASS RATED IN ACCORDANCE WITH STANDARDS NOTED ABOVE OR WOOD STRUCTURAL PANELS. WOOD STRUCTURAL PANELS MAY BE USED FOR OPENINGS 8-FEET OR LESS ONLY. GLAZED OPENINGS GREATER THAN 8-FEET MUST USE IMPACT RESISTANT GLASS OR OTHER PRE-MANUFACTURED SYSTEM IN ACCORDANCE WITH ABOVE REQUIREMENTS.
6. WINDBORNE DEBRIS PROTECTION UTILIZING WOOD STRUCTURAL PANELS SHALL UTILIZE PANELS NOT LESS THAN 7/16-INCHES THICK AND NOT SPANNING MORE THAN 8-FEET. THE ATTACHMENT METHOD SHALL UTILIZE A PRE-MANUFACTURED SCREW BASED SYSTEM TO BE PERMANENTLY ATTACHED TO THE BUILDING AND MUST BE RATED FOR THE FOR THE DESIGN PRESSURE REFERENCED ABOVE. ALL SCREWS/HARDWARE SHALL BE CORROSION RESISTANT AND SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS. ADDITIONAL STUDS MAY BE ADDED AS NECESSARY TO ALLOW FOR SCREWHARDWARE INSTALLATION TO BE IN ACCORDANCE w/ MANUFACTURER SPECIFICATIONS.
7. IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO SUBMIT/PROVIDE ALL REQUIRED DOCUMENTATION RELATED TO WINDBORNE DEBRIS PROTECTION AS REQUIRED FOR APPROVAL BY THE GOVERNING REVIEW AGENCY.

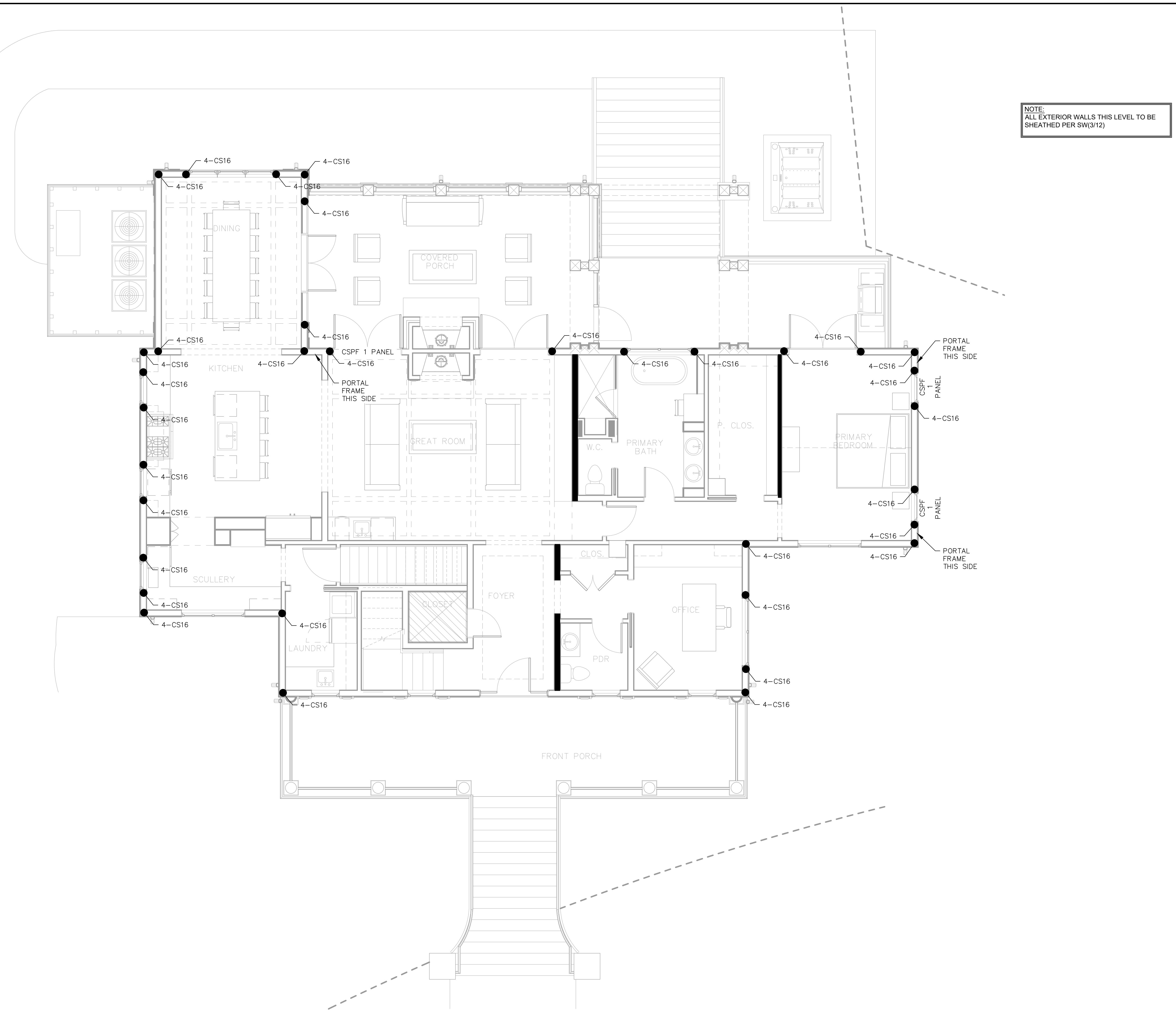
**SHEAR WALL LEGEND:**

- ▨ INTERIOR SHEAR WALL. ALL INTERIOR SHEAR WALLS IDENTIFIED TO BE SHEATHED PER SW(6/12) U.N.O. (SEE DETAILS)
- Method G.B. (NOTE: METHOD G.B. IS CONSIDERED A WALL BRACING METHOD AND NOT AN INTERIOR SHEAR WALL. OSB/PLYWOOD IS NOT REQUIRED IN THIS INSTALLATION AND FRAMING NOTES RELATED TO INTERIOR SHEAR WALL CONSTRUCTION IS NOT APPLICABLE. SEE METHOD G.B. DETAIL FOR REQUIREMENTS)
- HOLD DOWN LOCATIONS (ALL HOLD DOWNS ARE SIMPSON PRODUCTS U.N.O.)

**SHEAR WALL NAILING LEGEND**

NOTE: ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED (METHOD CS-WSP) PER HIGH WIND NOTE 1A, U.N.O. INTERIOR SHEAR WALLS ARE INDICATED ON PLANS AND SHEATHED SHEAR WALL NOTE 1, NAILING PATTERN FOR ALL SHEAR WALLS AS INDICATED BELOW. ALL SHEAR WALLS TO BE ATTACHED PER SW (6/12) U.N.O. ON PLANS. (SEE SHEATHING DETAILS FOR NAILING PATTERNS).

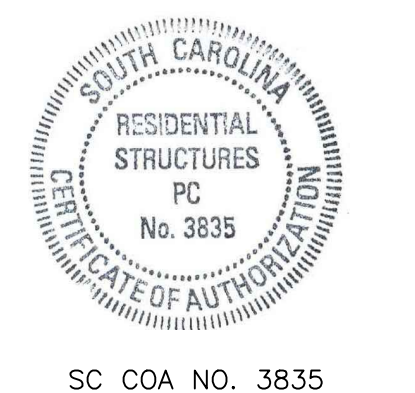
FIELD FASTENER SPACING  
EDGE FASTENER SPACING  
SW = SHEAR WALL → SW (6/12)



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DRAFTER:		JKL
SCALE:		1/4"=1'-0"
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**1st Floor Shear Wall,  
Method GB and  
Hold Down Plan**

SHEET:  
**S7**






**SHEAR WALL NOTES**

1. ALL EXTERIOR WALLS MUST BE CONTINUOUSLY SHEATHED USING 7/16" STRUCTURAL SHEATHING ON THE OUTSIDE, WITH PANELS SECURED DIRECTLY TO THE FRAMING (SEE SHEARWALL LEGEND BELOW AND SHEATHING DETAILS FOR NAILING PATTERNS). BLOCKING MUST BE PROVIDED AT ALL SHEATHING PANEL JOINTS. THE INTERIOR SIDE OF ALL EXTERIOR SHEAR WALL MUST BE SHEATHED AS DEFINED IN NOTE 2.
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3. ALL INTERIOR SHEAR WALLS MUST BE SHEATHED ON ONE SIDE WITH 7/16" STRUCTURAL SHEATHING NAILED PER NOTE A ABOVE WITH SHEETROCK ON MIN. 1 SIDE OF THE WALL WITH ATTACHMENT PER NOTE B ABOVE. (SEE SHEARWALL LEGEND BELOW AND SHEATHING DETAILS FOR NAILING PATTERNS) (NOTE: THIS DOES NOT APPLY TO WALLS NOTED AS METHOD GB. SEE DETAILS FOR METHOD GB REQUIREMENTS)
4. ALL SHEAR WALLS MUST BE PROPERLY ATTACHED TO UPPER AND LOWER ROOF/FLOOR DIAPHRAGMS. SEE DETAILS FOR ATTACHMENTS.

**WINDBORNE DEBRIS PROTECTION**

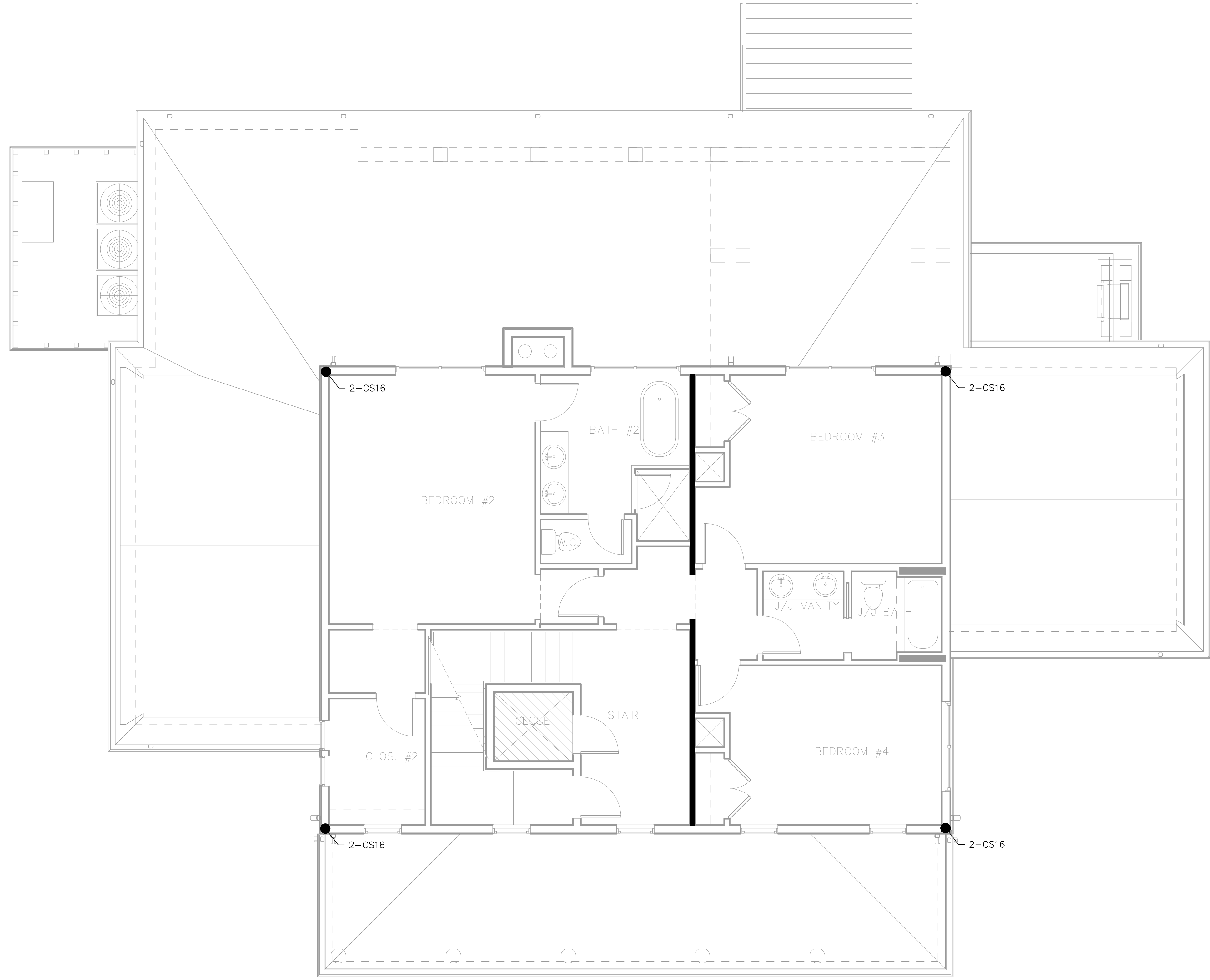
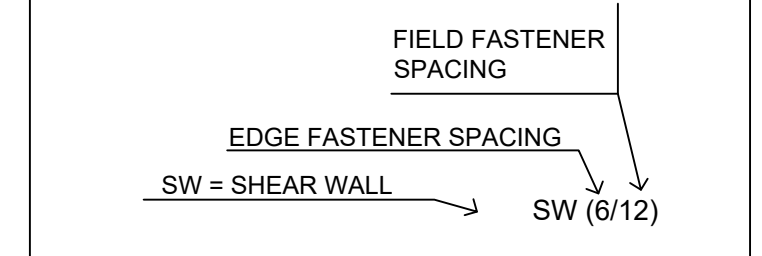
1. BUILDING IS DESIGNED TO REMAIN A CLOSED ENVELOPE DURING WIND EVENTS.
2. ALL EXTERIOR WINDOWS AND DOORS SHALL BE RATED FOR THE DESIGN PRESSURE REFERENCED IN THE GENERAL NOTES.
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4. ALL EXTERIOR GLAZED OPENINGS SHALL BE PROTECTED FROM WINDBORNE DEBRIS. PROTECTION SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E1996 AND ASTM E1886. GARAGE DOOR GLAZED OPENING PROTECTION SHALL MEET THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTING STANDARD OR ANSIDASMA 115.
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6. WINDBORNE DEBRIS PROTECTION UTILIZING WOOD STRUCTURAL PANELS SHALL UTILIZE PANELS NOT LESS THAN 7/16-INCHES THICK AND NOT SPANNING MORE THAN 8-FEET. THE ATTACHMENT METHOD SHALL UTILIZE A PRE-MANUFACTURED SCREW BASED SYSTEM TO BE PERMANENTLY ATTACHED TO THE BUILDING AND MUST BE RATED FOR THE FOR THE DESIGN PRESSURE REFERENCED ABOVE. ALL SCREWS/HARDWARE SHALL BE CORROSION RESISTANT AND SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS. ADDITIONAL STUDS MAY BE ADDED AS NECESSARY TO ALLOW FOR SCREWHARDWARE INSTALLATION TO BE IN ACCORDANCE w/ MANUFACTURER SPECIFICATIONS.
7. IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO SUBMIT/PROVIDE ALL REQUIRED DOCUMENTATION RELATED TO WINDBORNE DEBRIS PROTECTION AS REQUIRED FOR APPROVAL BY THE GOVERNING REVIEW AGENCY.

**SHEAR WALL LEGEND:**

-  INTERIOR SHEAR WALL. ALL INTERIOR SHEAR WALLS IDENTIFIED TO BE SHEATHED PER SW(6/12) U.N.O. (SEE DETAILS)
-  METHOD G.B. (NOTE: METHOD G.B. IS CONSIDERED A WALL BRACING METHOD AND NOT AN INTERIOR SHEAR WALL. OSB/PLYWOOD IS NOT REQUIRED IN THIS INSTALLATION AND FRAMING NOTES RELATED TO INTERIOR SHEAR WALL CONSTRUCTION IS NOT APPLICABLE. SEE METHOD G.B. DETAIL FOR REQUIREMENTS)
-  HOLD DOWN LOCATIONS (ALL HOLD DOWNS ARE SIMPSON PRODUCTS U.N.O.)

**SHEAR WALL NAILING LEGEND**

NOTE: ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED (METHOD CS-WSP) PER HIGH WIND NOTE 1A, U.N.O. INTERIOR SHEAR WALLS ARE INDICATED ON PLANS AND SHEATHED SHEAR WALL NOTE 1. NAILING PATTERN FOR ALL SHEAR WALLS AS INDICATED BELOW. ALL SHEAR WALLS TO BE ATTACHED PER SW (6/12) U.N.O. ON PLANS. (SEE SHEATHING DETAILS FOR NAILING PATTERNS).



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**2nd Floor Shear Wall,  
 Method GB and  
 Hold Down Plan**

SHEET:  
**S8**

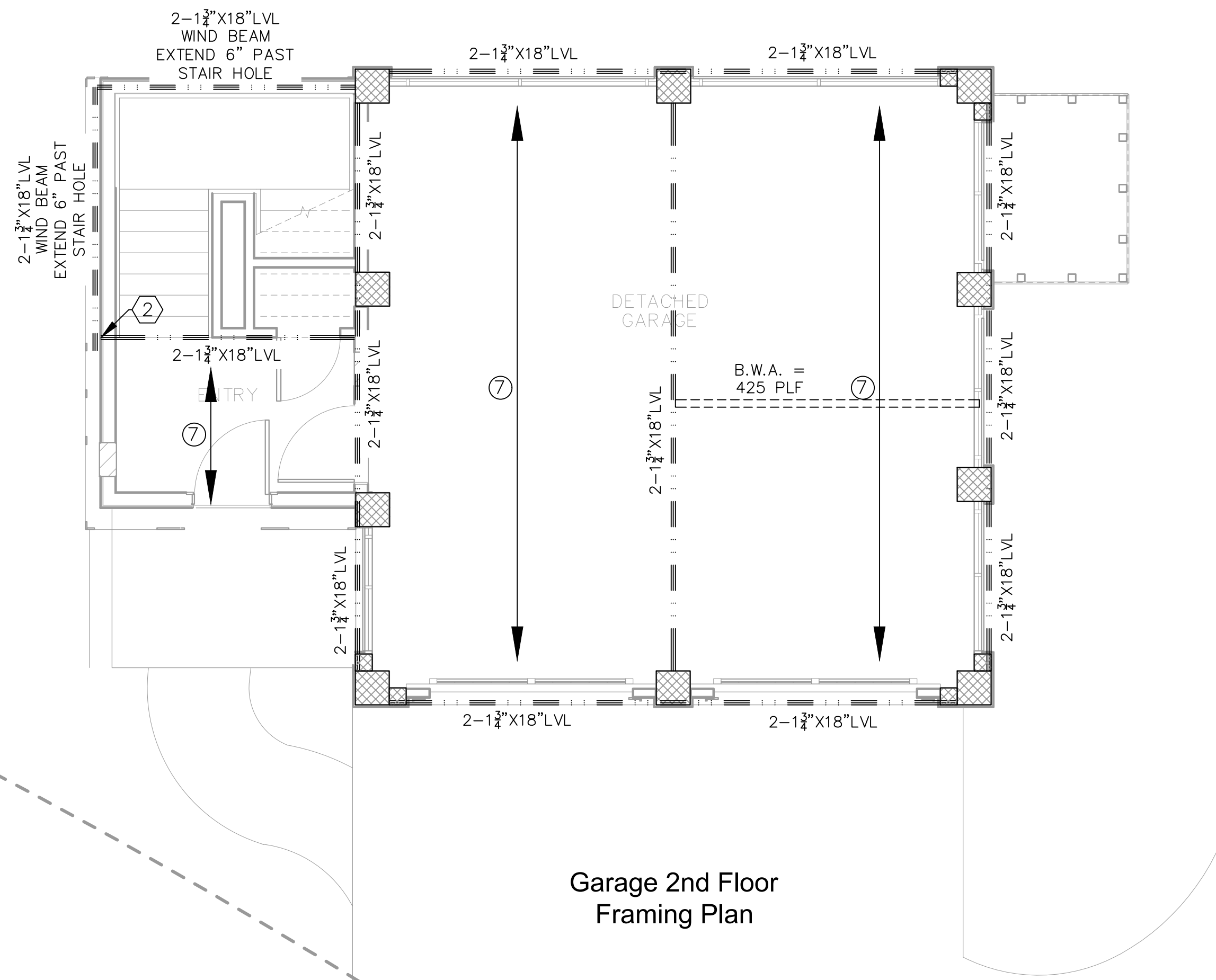
- FOUNDATION NOTES:**
- ALL DIMENSIONS ARE BASED ON ARCHITECTURAL FILES/LAYOUTS PROVIDED. ENGINEER IS NOT RESPONSIBLE FOR DIMENSIONAL ERRORS.
  - SEE DETAILS FOR TYPICAL FOUNDATION REINFORCEMENT
  - TRANSFER ALL POINT LOADS ABOVE TO FOUNDATION WITH AN EQUAL NUMBER OF STUDS
  - ALL CONCRETE TO BE 3000 PSI (MIN)
  - SOIL TO HAVE A MIN 2000 PSF BEARING CAPACITY
  - ALL FOOTINGS TO BEAR MIN 12" BELOW GRADE OR AS RECOMMENDED PER GEOTECHNICAL EVALUATION

- FOUNDATION LEGEND**
- = 16X16 CMU PIER
  - = EXTERIOR CORNER PIER CONNECTION (SEE DETAILS)
  - = EXTERIOR CANTILEVER PIER CONNECTION (SEE DETAILS)
  - = EXTERIOR INTERMEDIATE PIER CONNECTION (SEE DETAILS)

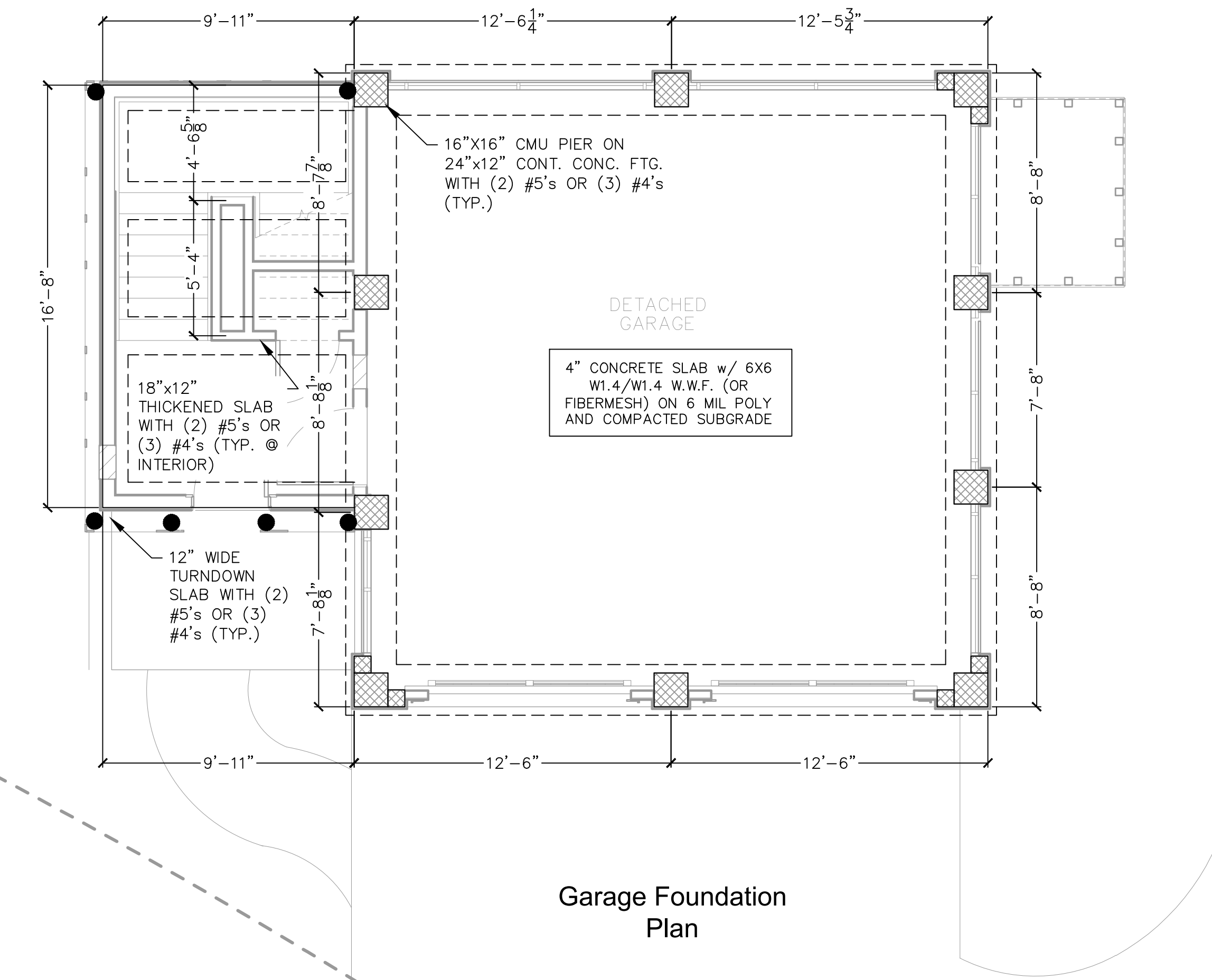
FOOTING SCHEDULE		
MARK	SIZE	REBAR
①	24"x24"x12"	(3) #4'S EACH WAY OR: (2) #5'S EACH WAY
②	30"x30"x12"	(4) #4'S EACH WAY OR: (3) #5'S EACH WAY
③	36"x36"x12"	(5) #4'S EACH WAY OR: (3) #5'S EACH WAY
④	42"x42"x12"	(6) #4'S EACH WAY OR: (4) #5'S EACH WAY
⑤	48"x48"x12"	(6) #4'S EACH WAY OR: (4) #5'S EACH WAY
⑥	54"x54"x12"	(7) #4'S EACH WAY OR: (5) #5'S EACH WAY
⑦	60"x60"x12"	(6) #5'S EACH WAY

- FRAMING NOTES**
- ALL RAFTERS TO BE MIN 2X8'S (SYP #2) @ 16" O.C. U.N.O
  - ALL RIDGES AND HIPS ARE CONSIDERED NON-STRUCTURAL U.N.O.
  - ALL RAFTERS FRAMING INTO NON-STRUCTURAL RIDGES AND HIPS MUST BE CONNECTED TO CEILING JOISTS OR HAVE RAFTER TIES AS DETAILED ON SHEET SD1.0
  - ALL RIDGES, HIPS, AND VALLEYS TO BE DIMENSIONAL LUMBER (SYP#2) MINIMUM 1 SIZE LARGER THAN ASSOCIATED RAFTERS U.N.O.
  - ALL RAFTERS/TRUSSES TO BE TIED TO ALL SUPPORTING WALL PLATES WITH (2) SIMPSON H2.5A TIES OR (1) H10A OR AS NOTED ON PLANS) NAILED PER MANUFACTURER SPECIFICATIONS.
  - AT CLIP LINES, CEILING JOISTS TO BE NAILED TO RAFTERS W/ (5) 16d NAILS U.N.O.
  - INSTALL SIMPSON CS16 STRAP TIES AT EACH END OF ALL EXTERIOR HEADERS FOR UPLIFT CONNECTIONS. PROVIDE (1) STRAP @ EACH END FOR EVERY 6'-0" WIDTH OF OPENING. PROVIDE EXTRA STUDS AS NECESSARY FOR CONNECTIONS.
  - INSTALL SIMPSON CS16 STRAP TIES ALONG EXTERIOR WALLS INLINE WITH ALL HEADER UPLIFT CONNECTIONS ABOVE. STRAPS TO BE CENTERED AT 2nd FLOOR SYSTEM
  - INSTALL AN EXTRA JOIST UNDER ALL PARALLEL PARTITION WALLS. NOTE, NOT ALL EXTRA JOISTS SHOWN FOR CLARITY
  - TRANSFER ALL POINT LOADS FROM ABOVE THROUGH FLOOR SYSTEMS W/ AN EQUAL AMOUNT OF STUD MATERIAL
  - ALL 2-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. (U.N.O.)
  - ALL 3-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. EACH SIDE (U.N.O.)
  - ALL 4-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (2) ROWS 1/2"x6" SDS SCREWS @ 24" O.C. EACH SIDE (U.N.O.)
  - ALL HOLD-DOWNS REFERENCED ARE SIMPSON PRODUCTS U.N.O.
  - FLOOR DIAPHRAGM WILL BE 3/4" T&G PLYWOOD SHEATHING FASTENED TO FRAMING W/ 8d NAILS @ 6" O.C. EDGE AND 12" O.C. ALONG INTERMEDIATE MEMBERS. PROVIDE 2X BLOCKING @ 48" O.C. IN 1ST 2 BAYS OF DIAPHRAGM.
  - THE ROOF SHEATHING WILL BE MINIMUM 5/8" STRUCTURAL SHEATHING ATTACHED W/ 8d NAILS @ 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL OTHER SUPPORTING MEMBERS. THE ROOF SHEATHING WILL BE ATTACHED WITH 8d NAILS @ 4" O.C. AT THE GABLE END FRAMING. SEE FRAMING DETAILS FOR BLOCKING REQUIREMENTS.
  - ALL STRUCTURAL RIDGE BEAMS MUST BE TIED TO THEIR RESPECTIVE STUD SUPPORTS WITH (2) SIMPSON MSTA24 STRAP TIES WITH A MINIMUM 9-10d NAILS AT EACH STRAP END. THE SUBJECT BEAM STUD SUPPORTS MUST ALSO BE TIED TO THE FLOOR SYSTEM USING IDENTICAL STRAPPING PROCEDURES.
  - ALL ROOF GIRDER TRUSSES TO BE TIED TO THE WALL USING (1) SIMPSON VGT GIRDER TIE DOWNS W/ HDU4'S OR (2) TS22 STRAPS UNLESS NOTED OTHERWISE ON THE PLAN OR AS RECOMMENDED BY TRUSS MANUFACTURER.
  - ALL TIES/STRAP/HOLD-DOWNS REFERENCED ON PLANS ARE SIMPSON PRODUCTS. ALL TIES/STRAP/HOLD-DOWNS MUST BE INSTALLED AT THE PLAN INDICATED LOCATIONS PER MANUFACTURER SPECIFICATIONS. ALL HOLD-DOWNS TO BE INSTALLED TO SYP STUDS.

- FRAMING LEGEND**
- ROOF TRUSSES PER MANF. @ MAX 24" O.C.
  - R.T. = TRUSS DESIGN TO HAVE NO INTERMEDIATE BEARING U.N.O.
  - G.T. = GIRDER TRUSS PER MANF.
  - B.B. = BEAM BELOW
  - D.R. = DOUBLE RAFTER
  - T.R. = TRIPLE RAFTER
  - R.B. = RAFTER BRACE
  - R.F.V. = RAFTERS FORM VAULT
  - B.R.O.W. = BRACE RAFTERS ON WALL
  - D.J. = DOUBLE JOIST
  - E.O.R. = ENGINEER OF RECORD
  - E.E. = EACH END
  - E.S. = EACH SIDE
  - E.W. = EACH WAY
  - HDR = HEADER
  - B.W.A. = BEARING WALL ABOVE. PROVIDE BLOCKING b/n JOISTS/TRUSSES
  - = ROOF BRACE POINT AND BRACE TO POINT
  - = AREA TO BE OVERFRAMED
  - = INTERIOR BEARING WALL
  - = NUMBER OF STUDS. STUDS TO BE SAME SIZE AS ASSOCIATED WALL FRAMING STUDS U.N.O.
  - = NOTE: STUD COUNTS DO NOT ACCOUNT FOR KING STUDS. SEE KING STUD CHART FOR REQUIRED KING STUDS.
  - \* = PROVIDE 6"x4"x1/2" STEEL ANGLE ATTACHED TO HEADER/BEAM FRAMING W/ (2) ROWS 1/2"x4" LAGS @ 16" O.C. FOR BRICK SUPPORT
  - \*\* = ATTACH LVL PLY'S W/ (2) ROWS 1/2"x3" SDS SCREWS @ 16" O.C.
  - \*\*\* = ATTACH LVL PLY'S W/ (2) ROWS 1/2"x3" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
  - \*\*\*\* = ATTACH LVL PLY'S W/ (2) ROWS 1/2"x6" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
  - ① = 2X6 (SYP#2) @ 16" O.C.
  - ② = 2X8 (SYP#2) @ 16" O.C.
  - ③ = 2X10 (SYP#2) @ 16" O.C.
  - ④ = 2X12 (SYP#2) @ 16" O.C.
  - ⑤ = MIN. 12" OPEN WEB FLOOR TRUSSES PER MANF.
  - ⑥ = 24" OPEN WEB FLOOR TRUSSES PER MANF.
  - ⑦ = 18" OPEN WEB FLOOR TRUSSES PER MANF.



Garage 2nd Floor Framing Plan



Garage Foundation Plan

**FRAMING NOTE:**  
ALL EXTERIOR WALLS THIS LEVEL TO BE MIN 2X6 @ 16" O.C. U.N.O. (SEE EXTERIOR STUD WALL REQUIREMENTS CHART FOR ADDITIONAL REQUIREMENTS)

**FRAMING NOTE:**  
ALL EXTERIOR WALL HEADERS THIS LEVEL TO BE MIN 2-2X8 (SYP#2) (U.N.O.) W/ (1) JACK @ EACH END (U.N.O.). SEE KING STUD CHART FOR COUNTS PER OPENING SIZE (U.N.O. ON PLANS)

**FRAMING NOTE:**  
ALL INTERIOR LOAD BEARING WALL HEADERS THIS LEVEL TO BE 2-2X8 (SYP#2) W/ (1) JACK @ EACH END (U.N.O.)

**TYPICAL HANGERS**

MEMBER	HANGER
2X8	LUS28
2X10	LUS210
2X12	LUS210
(2) 2X8	HUS28-2
(2) 2X10	HUS210-2
(2) 2X12	HUS212-2
(3) 2X8	LUS28-3
(3) 2X10	LUS210-3
(3) 2X12	LUS210-3
(2) 9/8" / (2) 1 1/8" LVL	HGUS410
(2) 14" / (2) 16" / (2) 18" LVL	HGUS414
(3) 9/8" LVL	HGUS5.50/10
(3) 1 1/8" LVL	HGUS5.50/12
(3) 14" / (3) 16" / (3) 18" LVL	HGUS5.50/14
(4) 9/8" LVL	HGUS7.25/10
(4) 1 1/8" LVL	HGUS7.25/12
(4) 14" / (4) 16" / (4) 18" LVL	HGUS7.25/14

**EXTERIOR WALL STUD REQUIREMENTS**

EXT. STUD HEIGHT (h) NOTE: HEIGHT IS FOR STUDS ONLY AND DOES NOT INCLUDE TOP PLATE	MIN. STUD SIZE AND SPACING U.N.O. IN FRAMING NOTES OR ON FRAMING PLANS
h ≤ 10'-0"	SEE FRAMING NOTES
10'-0" < h ≤ 13'-0"	2X6 @ 16" O.C.
13'-0" < h ≤ 16'-0"	2X6 @ 12" O.C.
16'-0" < h ≤ 20'-0"	2-2X6 @ 16" O.C.
h > 20'-0"	CONSULT ENGINEER

**EXTERIOR WALL KING STUD CHART**

OPENING WIDTH (W)	# OF KINGS (U.N.O. ON PLANS)
0' < W ≤ 3'	1 EACH END
3' < W ≤ 6'	2 EACH END
6' < W ≤ 9'	3 EACH END
9' < W ≤ 12'	4 EACH END
12' < W ≤ 15'	5 EACH END
15' < W ≤ 18'	6 EACH END
18' < W ≤ 21'	7 EACH END



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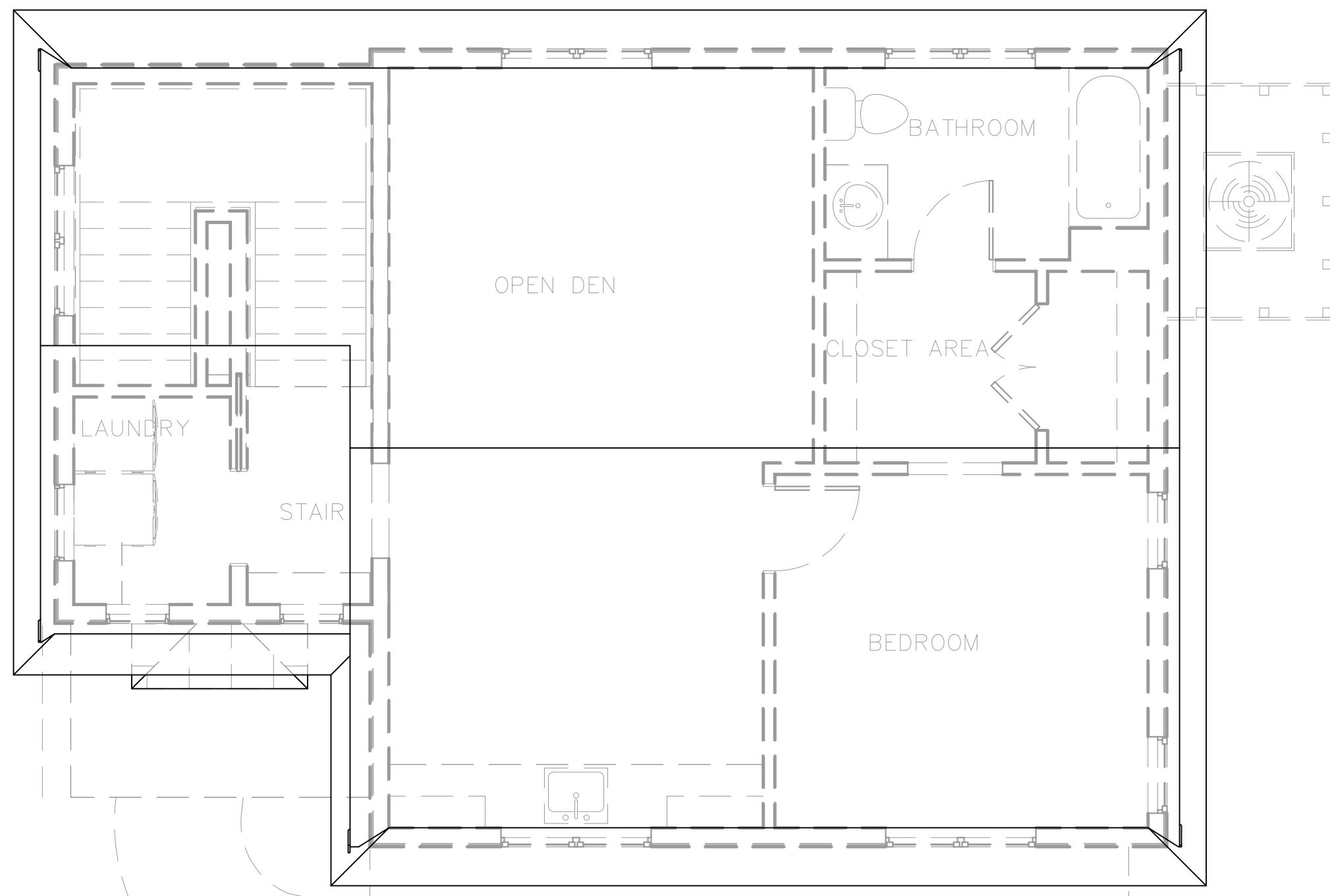
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Garage Structural Plans

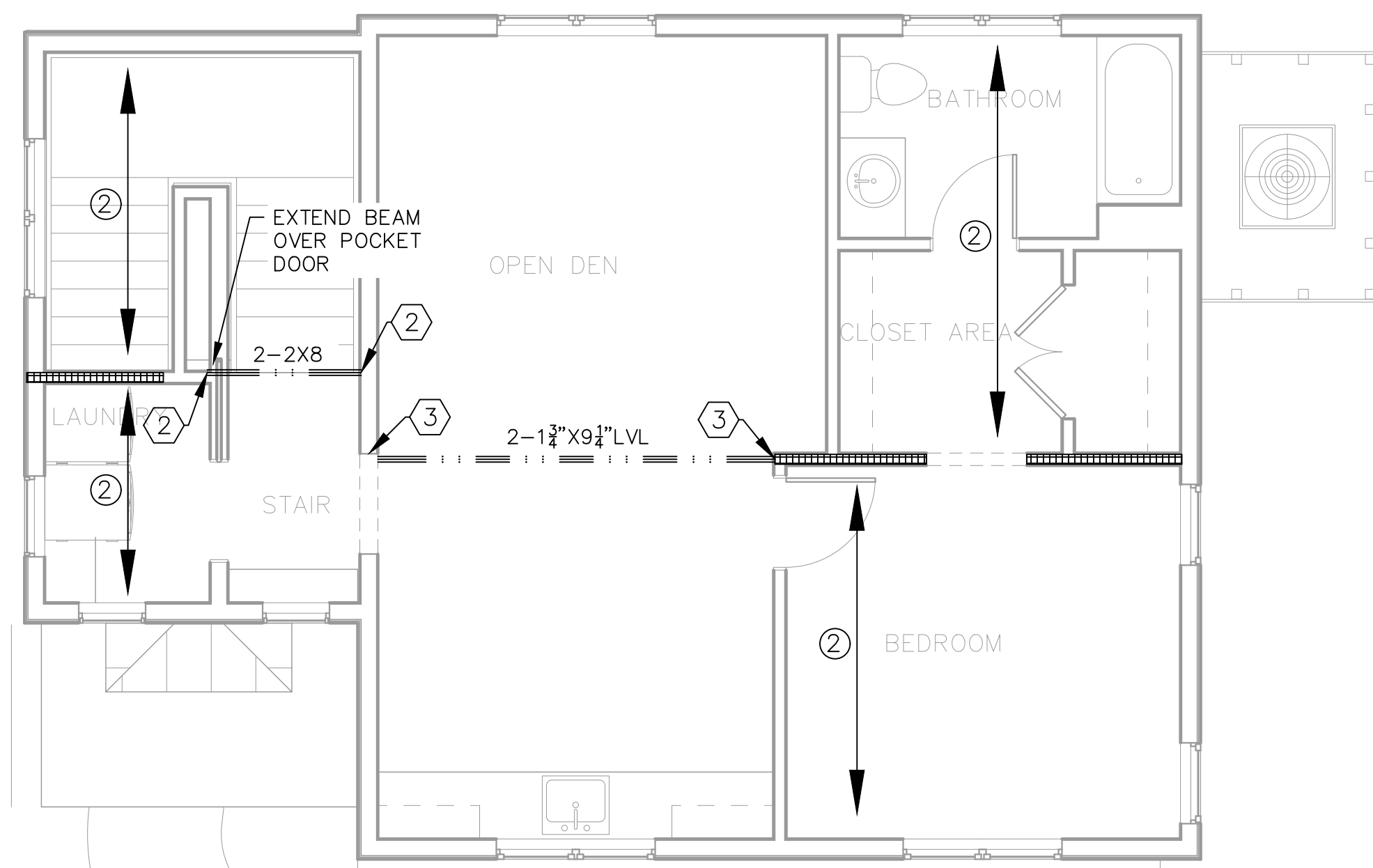
SHEET:  
**S9**

- FRAMING NOTES**
- ALL RAFTERS TO BE MIN 2X8's (SYP #2) @ 16" O.C. U.N.O
  - ALL RIDGES AND HIPS ARE CONSIDERED NON-STRUCTURAL U.N.O.
  - ALL RAFTERS FRAMING INTO NON-STRUCTURAL RIDGES AND HIPS MUST BE CONNECTED TO CEILING JOISTS OR HAVE RAFTER TIES AS DETAILED ON SHEET SD1.0
  - ALL RIDGES, HIPS, AND VALLEYS TO BE DIMENSIONAL LUMBER (SYP#2) MINIMUM 1 SIZE LARGER THAN ASSOCIATED RAFTERS U.N.O.
  - ALL RAFTERS/TRUSSES TO BE TIED TO ALL SUPPORTING WALL PLATES WITH (2) SIMPSON H2.5A TIES OR (1) H10A OR AS NOTED ON PLANS) NAILED PER MANUFACTURER SPECIFICATIONS.
  - AT CLIP LINES, CEILING JOISTS TO BE NAILED TO RAFTERS w/ (5)16d NAILS U.N.O.
  - INSTALL SIMPSON CS16 STRAP TIES AT EACH END OF ALL EXTERIOR HEADERS FOR UPLIFT CONNECTIONS. PROVIDE (1) STRAP @ EACH END FOR EVERY 6'-0" WIDTH OF OPENING. PROVIDE EXTRA STUDS AS NECESSARY FOR CONNECTIONS.
  - INSTALL SIMPSON CS16 STRAP TIES ALONG EXTERIOR WALLS INLINE WITH ALL HEADER UPLIFT CONNECTIONS ABOVE. STRAPS TO BE CENTERED AT 2ND FLOOR SYSTEM
  - INSTALL AN EXTRA JOIST UNDER ALL PARALLEL PARTITION WALLS. NOTE, NOT ALL EXTRA JOISTS SHOWN FOR CLARITY
  - TRANSFER ALL POINT LOADS FROM ABOVE THROUGH FLOOR SYSTEMS w/ AN EQUAL AMOUNT OF STUD MATERIAL
  - ALL 2-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. (U.N.O.)
  - ALL 3-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (3) ROWS 10d NAILS @ 12" O.C. EACH SIDE (U.N.O.)
  - ALL 4-PLY LVL'S TO HAVE PLY'S ATTACHED W/ (2) ROWS 1"X8" SDS SCREWS @ 24" O.C. EACH SIDE (U.N.O.)
  - ALL HOLD-DOWNS REFERENCED ARE SIMPSON PRODUCTS U.N.O.
  - FLOOR DIAPHRAGM WILL BE 3/4" T&G PLYWOOD SHEATHING FASTENED TO FRAMING W/ 10d NAILS @ 6" O.C. EDGE AND 12" O.C. ALONG INTERMEDIATE MEMBERS. PROVIDE 2X BLOCKING @ 48" O.C. IN 1ST 2 BAYS OF DIAPHRAGM.
  - THE ROOF SHEATHING WILL BE MINIMUM 5/8" STRUCTURAL SHEATHING ATTACHED W/ 8d NAILS 6" O.C. AT ALL PANEL EDGES AND 12" O.C. AT ALL OTHER SUPPORTING MEMBERS. THE ROOF SHEATHING WILL BE ATTACHED WITH 8d NAILS @ 4" O.C. AT THE GABLE END FRAMING. SEE FRAMING DETAILS FOR BLOCKING REQUIREMENTS.
  - ALL STRUCTURAL RIDGE BEAMS MUST BE TIED TO THEIR RESPECTIVE STUD SUPPORTS WITH (2) SIMPSON MSTA24 STRAP TIES WITH A MINIMUM 9-10d NAILS AT EACH STRAP END. THE SUBJECT BEAM STUD SUPPORTS MUST ALSO BE TIED TO THE FLOOR SYSTEM USING IDENTICAL STRAPPING PROCEDURES.
  - ALL ROOF GIRDER TRUSSES TO BE TIED TO THE WALL USING (1) SIMPSON VGT GIRDER TIE DOWNS w/ HDU4's OR (2) TS22 STRAPS UNLESS NOTED OTHERWISE ON THE PLAN OR AS RECOMMENDED BY TRUSS MANUFACTURER.
  - ALL TIES/STRAPS/HOLD-DOWNS REFERENCED ON PLANS ARE SIMPSON PRODUCTS. ALL TIES/STRAPS/HOLD-DOWNS MUST BE INSTALLED AT THE PLAN INDICATED LOCATIONS PER MANUFACTURER SPECIFICATIONS. ALL HOLD-DOWNS TO BE INSTALLED TO SYP STUDS.

- FRAMING LEGEND**
- ROOF TRUSSES PER MANF. @ MAX 24" O.C.
  - R.T. = TRUSS DESIGN TO HAVE NO INTERMEDIATE BEARING U.N.O.
  - G.T. = GIRDER TRUSS PER MANF.
  - B.B. = BEAM BELOW
  - D.R. = DOUBLE RAFTER
  - T.R. = TRIPLE RAFTER
  - R.B. = RAFTER BRACE
  - R.F.V. = RAFTERS FORM VAULT
  - B.R.O.W. = BRACE RAFTERS ON WALL
  - D.J. = DOUBLE JOIST
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  - E.S. = EACH SIDE
  - E.W. = EACH WAY
  - HDR = HEADER
  - B.W.A. = BEARING WALL ABOVE. PROVIDE BLOCKING b/n JOISTS/TRUSSES
  - ⊗ = ROOF BRACE POINT AND BRACE TO POINT
  - ▨ = AREA TO BE OVERFRAMED
  - ▧ = INTERIOR BEARING WALL
  - ①-⑦ = NUMBER OF STUDS. STUDS TO BE SAME SIZE AS ASSOCIATED WALL FRAMING STUDS U.N.O.
  - ① = NOTE: STUD COUNTS DO NOT ACCOUNT FOR KING STUDS. SEE KING STUD CHART FOR REQUIRED KING STUDS.
  - \* = PROVIDE 6"X4"X8" STEEL ANGLE ATTACHED TO HEADER/BEAM FRAMING w/ (2) ROWS 1"X4" LAGS @ 16" O.C. FOR BRICK SUPPORT
  - \*\* = ATTACH LVL PLY'S w/ (2) ROWS 1"X3" SDS SCREWS @ 16" O.C.
  - \*\*\* = ATTACH LVL PLY'S w/ (2) ROWS 1"X3" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
  - \*\*\*\* = ATTACH LVL PLY'S w/ (2) ROWS 1"X6" SDS SCREWS @ 16" O.C. ON E.S. OF BEAM
  - ① = 2X6 (SYP#2) @ 16" O.C.
  - ② = 2X8 (SYP#2) @ 16" O.C.
  - ③ = 2X10 (SYP#2) @ 16" O.C.
  - ④ = 2X12 (SYP#2) @ 16" O.C.
  - ⑤ = MIN. 12" OPEN WEB FLOOR TRUSSES PER MANF.
  - ⑥ = 24" OPEN WEB FLOOR TRUSSES PER MANF.
  - ⑦ = 18" OPEN WEB FLOOR TRUSSES PER MANF.



Garage Roof Framing Plan



Garage Ceiling Framing Plan

**FRAMING NOTE:**  
ALL EXTERIOR WALLS THIS LEVEL TO BE MIN 2X4 @ 16" O.C. U.N.O. (SEE EXTERIOR STUD WALL REQUIREMENTS CHART FOR ADDITIONAL REQUIREMENTS)

**FRAMING NOTE:**  
ALL EXTERIOR WALL HEADERS THIS LEVEL TO BE MIN 2-2X8 (SYP#2) (U.N.O) w/ (1) JACK @ EACH END (U.N.O.). SEE KING STUD CHART FOR COUNTS PER OPENING SIZE (U.N.O ON PLANS)

**FRAMING NOTE:**  
ALL INTERIOR LOAD BEARING WALL HEADERS THIS LEVEL TO BE 2-2X8 (SYP#2) w/ (1) JACK @ EACH END (U.N.O.)

**TYPICAL HANGERS**

MEMBER	HANGER
2X8	LUS28
2X10	LUS210
2X12	LUS210
(2) 2X8	HUS28-2
(2) 2X10	HUS210-2
(2) 2X12	HUS212-2
(3) 2X8	LUS28-3
(3) 2X10	LUS210-3
(3) 2X12	LUS210-3
(2) 9 1/2" / (2) 1 1/2" LVL	HGUS410
(2) 14" / (2) 16" / (2) 18" LVL	HGUS414
(3) 9 1/2" LVL	HGUS5.50/10
(3) 1 1/2" LVL	HGUS5.50/12
(3) 14" / (3) 16" / (3) 18" LVL	HGUS5.50/14
(4) 9 1/2" LVL	HGUS7.25/10
(4) 1 1/2" LVL	HGUS7.25/12
(4) 14" / (4) 16" / (4) 18" LVL	HGUS7.25/14

**EXTERIOR WALL STUD REQUIREMENTS**

EXT. STUD HEIGHT (h) NOTE: HEIGHT IS FOR STUDS ONLY AND DOES NOT INCLUDE TOP PLATE	MIN. STUD SIZE AND SPACING U.N.O. IN FRAMING NOTES OR ON FRAMING PLANS
h ≤ 10'-0"	SEE FRAMING NOTES
10'-0" < h ≤ 13'-0"	2X6 @ 16" O.C.
13'-0" < h ≤ 16'-0"	2X6 @ 12" O.C.
16'-0" < h ≤ 20'-0"	2-2X6 @ 16" O.C.
h > 20'-0"	CONSULT ENGINEER

**EXTERIOR WALL KING STUD CHART**

OPENING WIDTH (W)	# OF KINGS (U.N.O. ON PLANS)
0' < W ≤ 3'	1 EACH END
3' < W ≤ 6'	2 EACH END
6' < W ≤ 9'	3 EACH END
9' < W ≤ 12'	4 EACH END
12' < W ≤ 15'	5 EACH END
15' < W ≤ 18'	6 EACH END
18' < W ≤ 21'	7 EACH END



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REV.	DATE	DESCRIPTION
DESIGNER:		CCM
DRAFTER:		JKL
SCALE:		1/4"=1'-0"
DATE:	07/05/2022	

Garage Structural Plans

SHEET: **S10**

**SHEAR WALL NOTES**

1. ALL EXTERIOR WALLS MUST BE CONTINUOUSLY SHEATHED USING 7/16" STRUCTURAL SHEATHING ON THE OUTSIDE, WITH PANELS SECURED DIRECTLY TO THE FRAMING (SEE SHEARWALL LEGEND BELOW AND SHEATHING DETAILS FOR NAILING PATTERNS). BLOCKING MUST BE PROVIDED AT ALL SHEATHING PANEL JOINTS. THE INTERIOR SIDE OF ALL EXTERIOR SHEAR WALL MUST BE SHEATHED AS DEFINED IN NOTE 2.
2. THE INTERIOR SIDE OF ALL EXTERIOR SHEAR WALLS MUST BE CONSTRUCTED USING 1/2" GYPSUM SHEATHING ON EACH SIDE SECURED WITH NO. 6 DRYWALL SCREWS AT 4" O.C. ON ALL PANEL EDGES AND 12" O.C. IN THE FIELD WITH A 1 1/2" MINIMUM PENETRATION.
3. ALL INTERIOR SHEAR WALLS MUST BE SHEATHED ON ONE SIDE WITH 7/16" STRUCTURAL SHEATHING NAILED PER NOTE A ABOVE WITH SHEETROCK ON MIN. 1 SIDE OF THE WALL WITH ATTACHMENT PER NOTE B ABOVE. (SEE SHEARWALL LEGEND BELOW AND SHEATHING DETAILS FOR NAILING PATTERNS) (NOTE: THIS DOES NOT APPLY TO WALLS NOTED AS METHOD GB. SEE DETAILS FOR METHOD GB REQUIREMENTS)
4. ALL SHEAR WALLS MUST BE PROPERLY ATTACHED TO UPPER AND LOWER ROOF/FLOOR DIAPHRAGMS. SEE DETAILS FOR ATTACHMENTS.

**WINDBORNE DEBRIS PROTECTION**

1. BUILDING IS DESIGNED TO REMAIN A CLOSED ENVELOPE DURING WIND EVENTS.
2. ALL EXTERIOR WINDOWS AND DOORS SHALL BE RATED FOR THE DESIGN PRESSURE REFERENCED IN THE GENERAL NOTES.
3. ALL FENESTRATION SHALL BE TESTED BY AN APPROVED INDEPENDENT LABORATORY LISTED BY AN APPROVED ENTITY AND SHALL BE IN COMPLIANCE WITH THE REQUIREMENTS OF ASTM E1886 AND ASTM E1996 OR AAMA 506.
4. ALL EXTERIOR GLAZED OPENINGS SHALL BE PROTECTED FROM WINDBORNE DEBRIS. PROTECTION SHALL MEET THE REQUIREMENTS OF THE LARGE MISSILE TEST OF ASTM E1996 AND ASTM E1886. GARAGE DOOR GLAZED OPENING PROTECTION SHALL MEET THE REQUIREMENTS OF AN APPROVED IMPACT-RESISTING STANDARD OR ANS/DASMA 115.
5. WINDBORNE DEBRIS PROTECTION MAY BE ACHIEVED THROUGH IMPACT RESISTANT GLASS RATED IN ACCORDANCE WITH STANDARDS NOTED ABOVE OR WOOD STRUCTURAL PANELS. WOOD STRUCTURAL PANELS MAY BE USED FOR OPENINGS 8-FEET OR LESS ONLY. GLAZED OPENINGS GREATER THAN 8-FEET MUST USE IMPACT RESISTANT GLASS OR OTHER PRE-MANUFACTURED SYSTEM IN ACCORDANCE WITH ABOVE REQUIREMENTS.
6. WINDBORNE DEBRIS PROTECTION UTILIZING WOOD STRUCTURAL PANELS SHALL UTILIZE PANELS NOT LESS THAN 7/16-INCHES THICK AND NOT SPANNING MORE THAN 8-FEET. THE ATTACHMENT METHOD SHALL UTILIZE A PRE-MANUFACTURED SCREW BASED SYSTEM TO BE PERMANENTLY ATTACHED TO THE BUILDING AND MUST BE RATED FOR THE FOR THE DESIGN PRESSURE REFERENCED ABOVE. ALL SCREWS/HARDWARE SHALL BE CORROSION RESISTANT AND SHALL BE INSTALLED PER MANUFACTURER SPECIFICATIONS. ADDITIONAL STUDS MAY BE ADDED AS NECESSARY TO ALLOW FOR SCREWHARDWARE INSTALLATION TO BE IN ACCORDANCE w/ MANUFACTURER SPECIFICATIONS.
7. IT IS THE RESPONSIBILITY OF THE BUILDER/CONTRACTOR TO SUBMIT/PROVIDE ALL REQUIRED DOCUMENTATION RELATED TO WINDBORNE DEBRIS PROTECTION AS REQUIRED FOR APPROVAL BY THE GOVERNING REVIEW AGENCY.

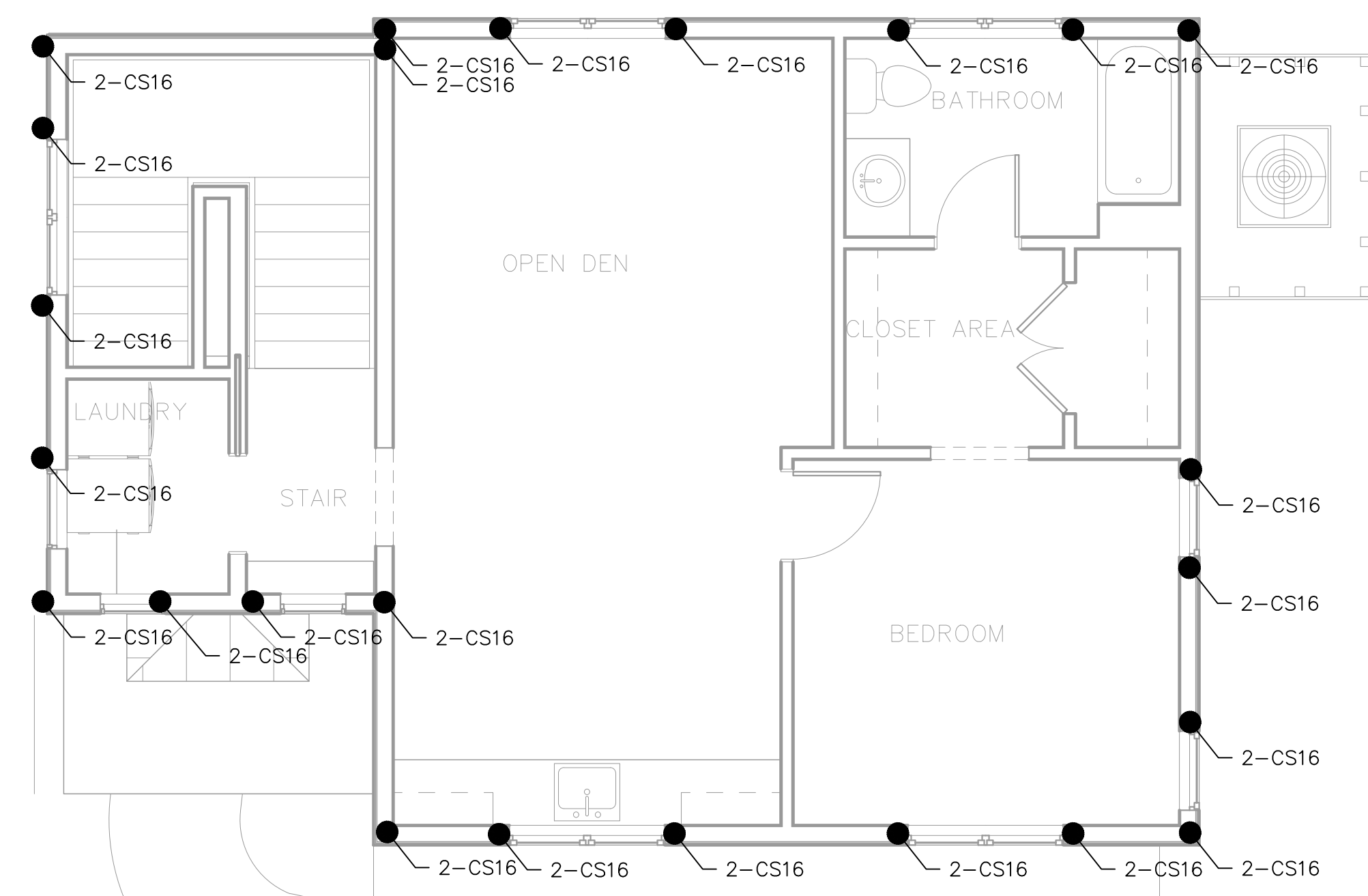
**SHEAR WALL LEGEND:**

- ▨ INTERIOR SHEAR WALL. ALL INTERIOR SHEAR WALLS IDENTIFIED TO BE SHEATHED PER SW(6/12) U.N.O. (SEE DETAILS)
- METHOD G.B. (NOTE: METHOD G.B. IS CONSIDERED A WALL BRACING METHOD AND NOT AN INTERIOR SHEAR WALL. OSB/PLYWOOD IS NOT REQUIRED IN THIS INSTALLATION AND FRAMING NOTES RELATED TO INTERIOR SHEAR WALL CONSTRUCTION IS NOT APPLICABLE. SEE METHOD G.B. DETAIL FOR REQUIREMENTS)
- HOLD DOWN LOCATIONS (ALL HOLD DOWNS ARE SIMPSON PRODUCTS U.N.O.)

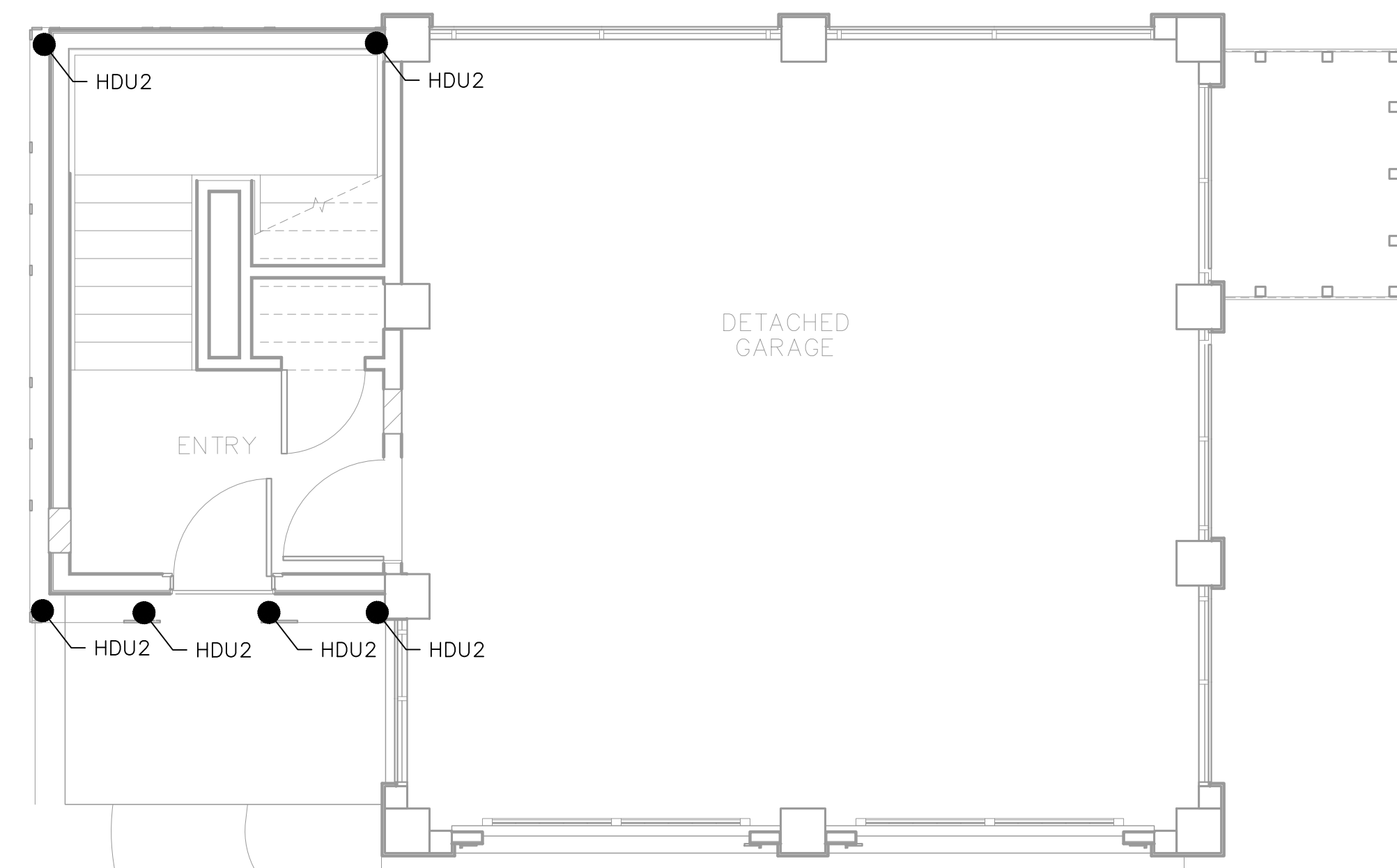
**SHEAR WALL NAILING LEGEND**

NOTE: ALL EXTERIOR WALLS ARE CONTINUOUSLY SHEATHED (METHOD CS-WSP) PER HIGH WIND NOTE 1A, U.N.O. INTERIOR SHEAR WALLS ARE INDICATED ON PLANS AND SHEATHED SHEAR WALL NOTE 1. NAILING PATTERN FOR ALL SHEAR WALLS AS INDICATED BELOW. ALL SHEAR WALLS TO BE ATTACHED PER SW (6/12) U.N.O. ON PLANS. (SEE SHEATHING DETAILS FOR NAILING PATTERNS).

FIELD FASTENER SPACING  
EDGE FASTENER SPACING  
SW = SHEAR WALL      SW (6/12)



Garage 2nd Floor Shear Wall, Method GB and Hold Down Plan



Garage 1st Floor Shear Wall, Method GB and Hold Down Plan



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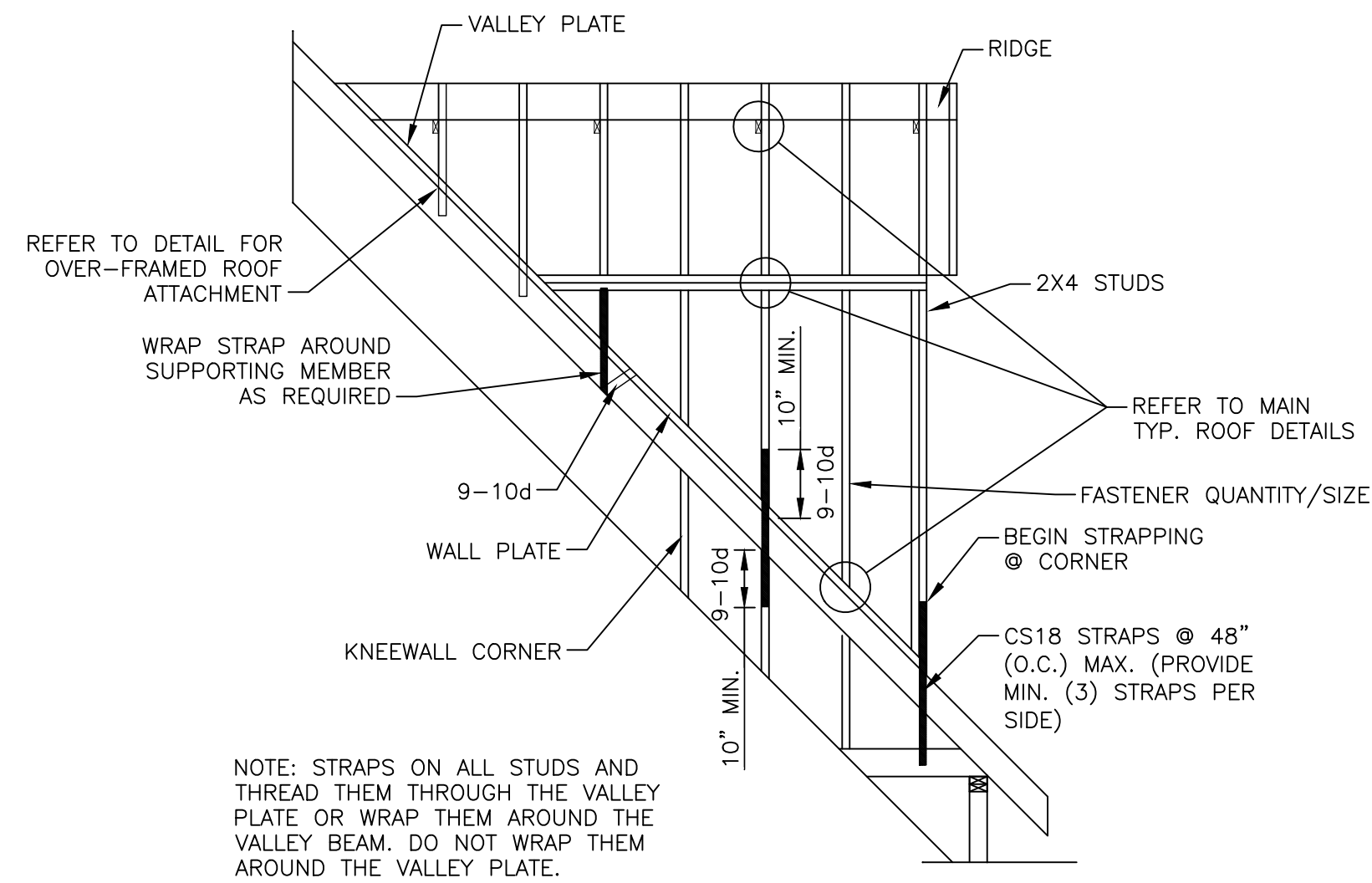
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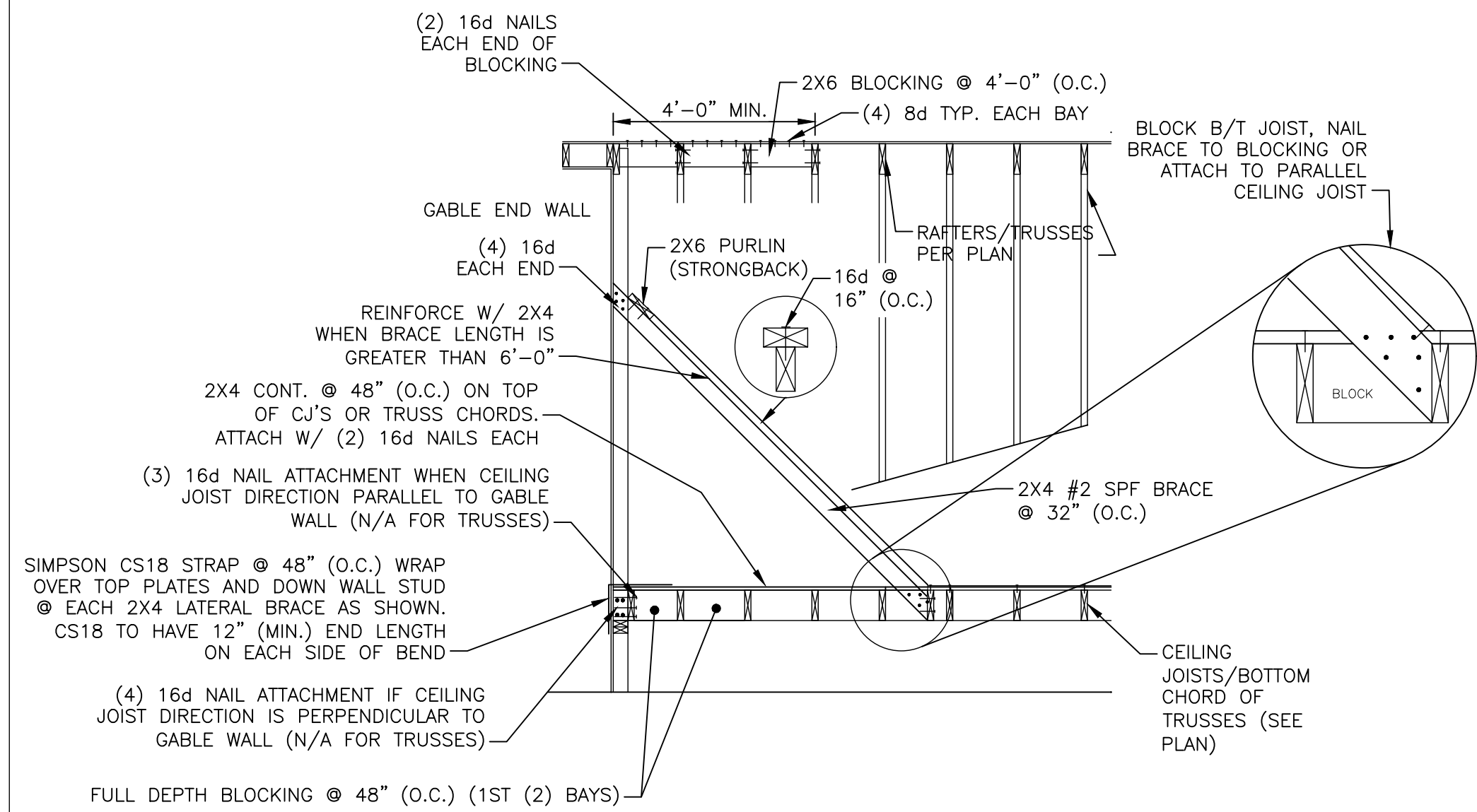
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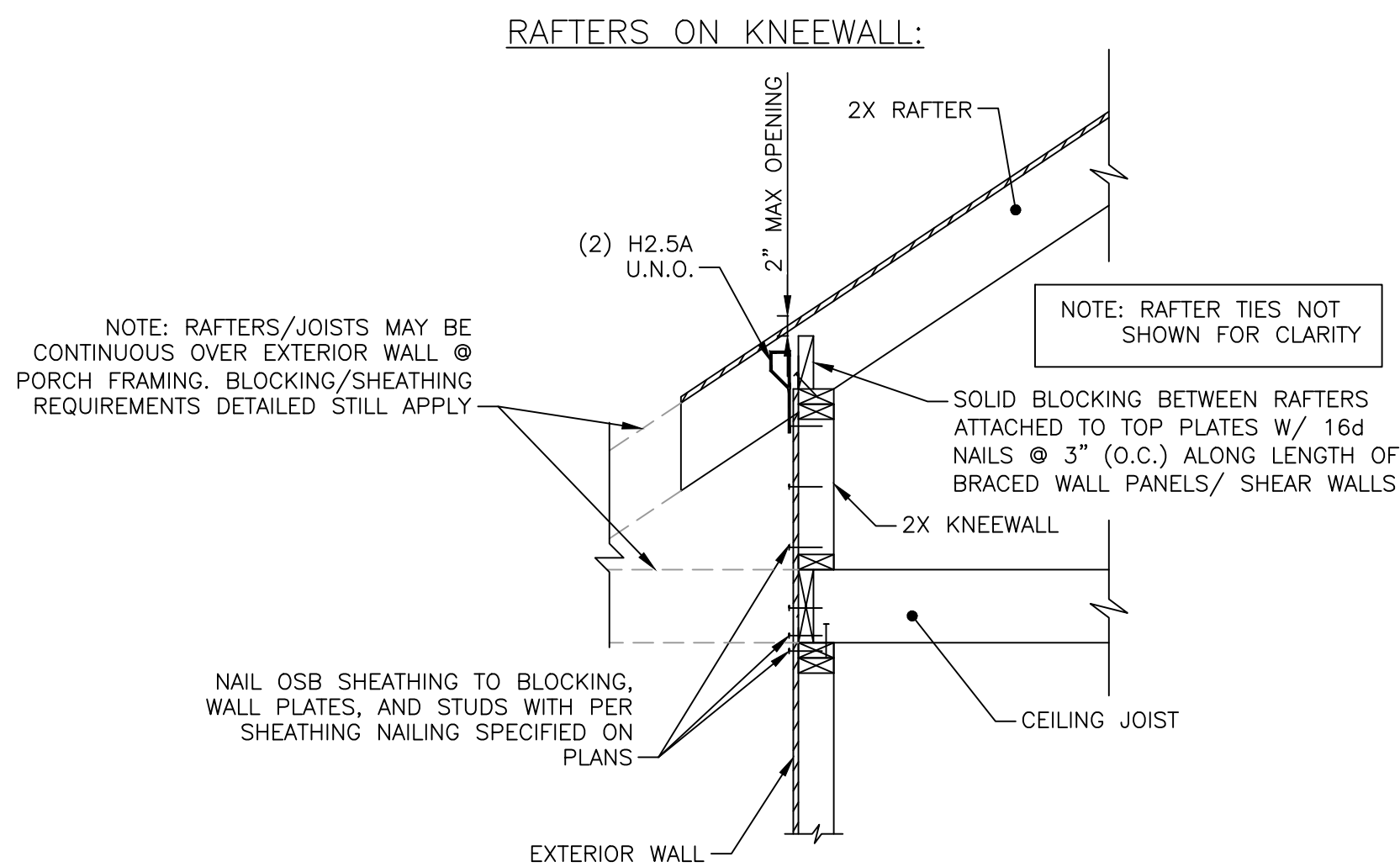
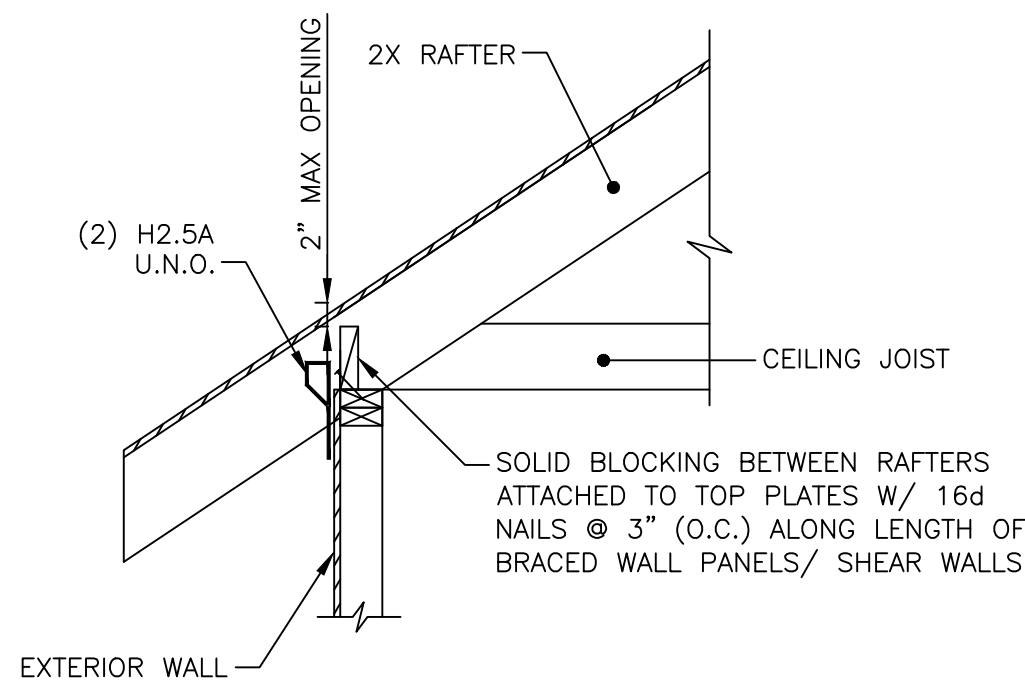
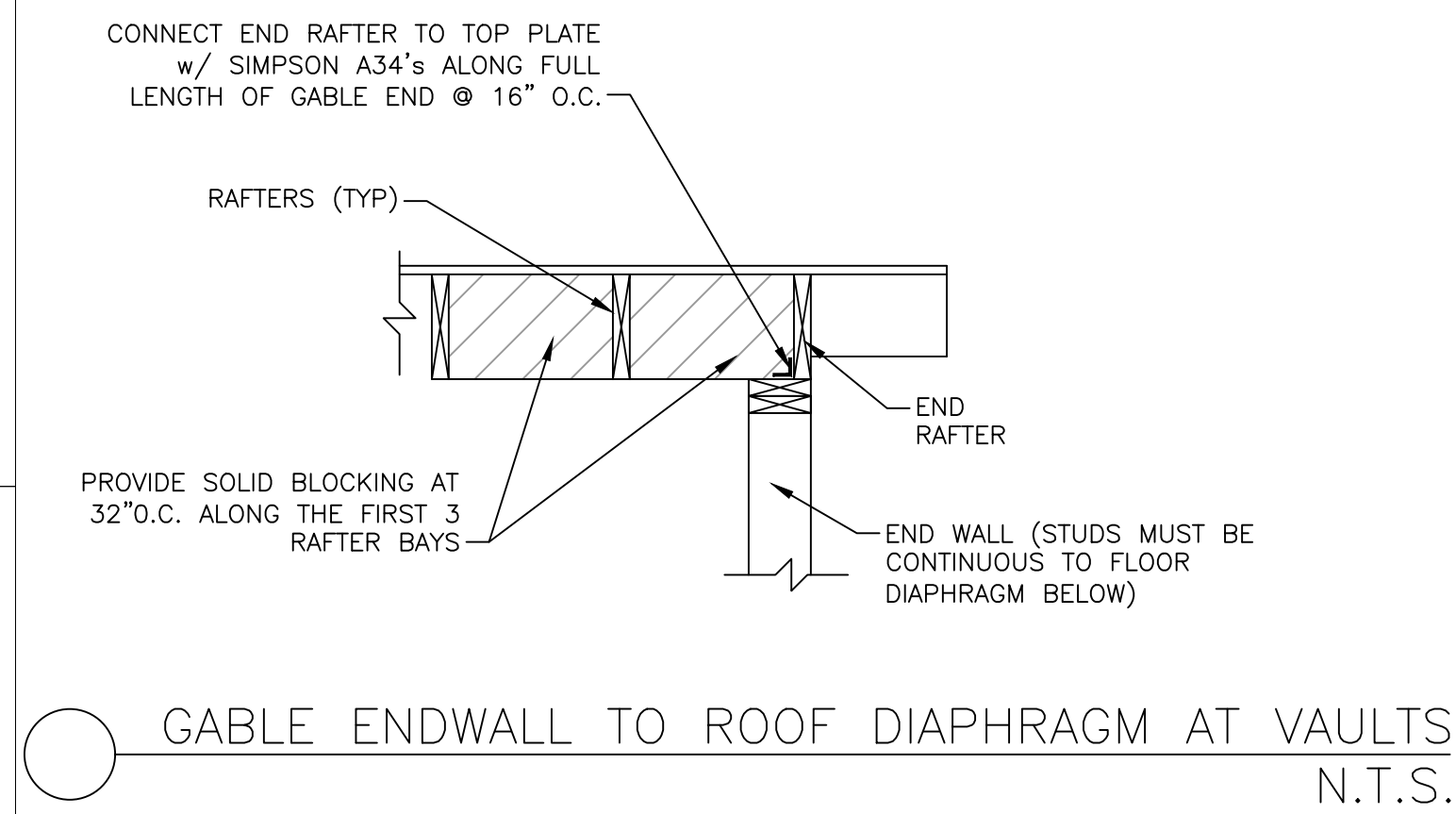
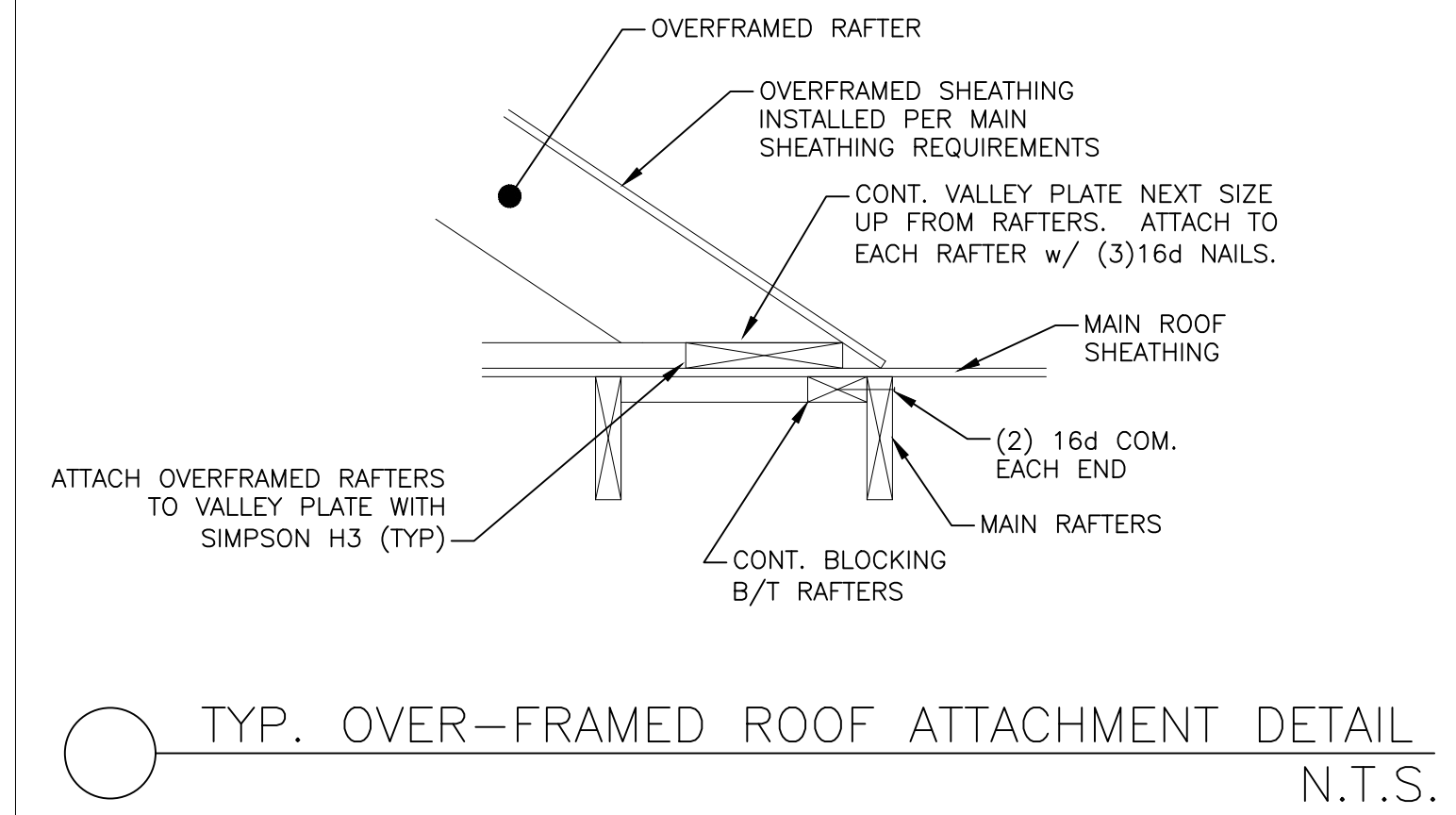
SHEET:  
**S11**



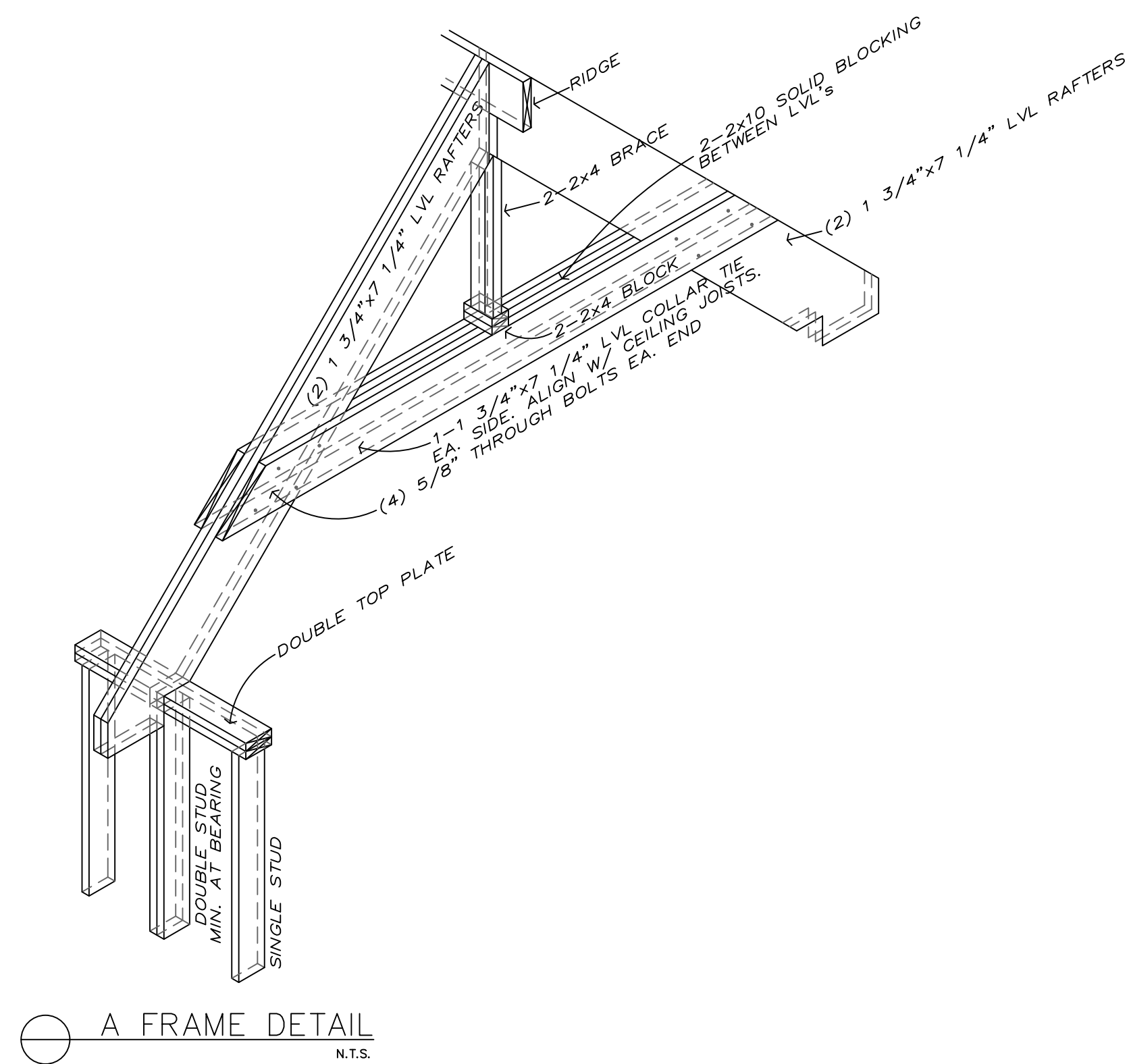
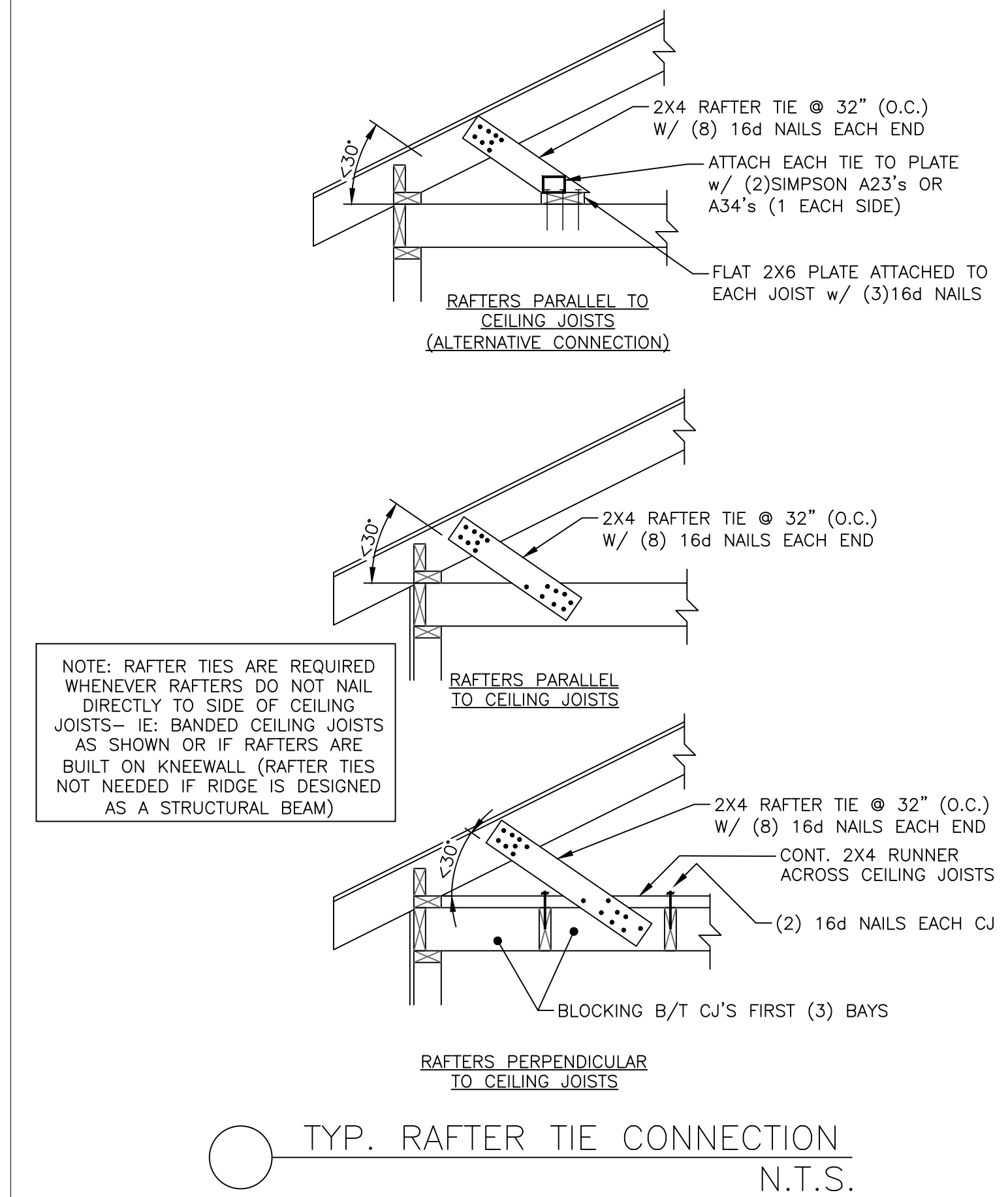
○ TYP. FRAMING AT DORMER  
N.T.S.



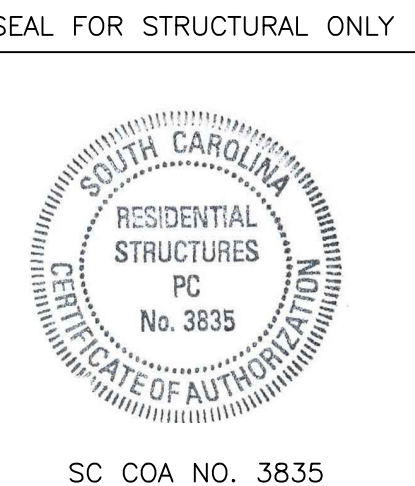
○ GABLE END WALL BRACING (IF NOT BALLOON FRAMED)  
N.T.S.



○ RAFTER BLOCKING REQUIREMENTS  
N.T.S.



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Myrtle Beach/Florence: 704-301-9521  
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Charleston, SC 29412

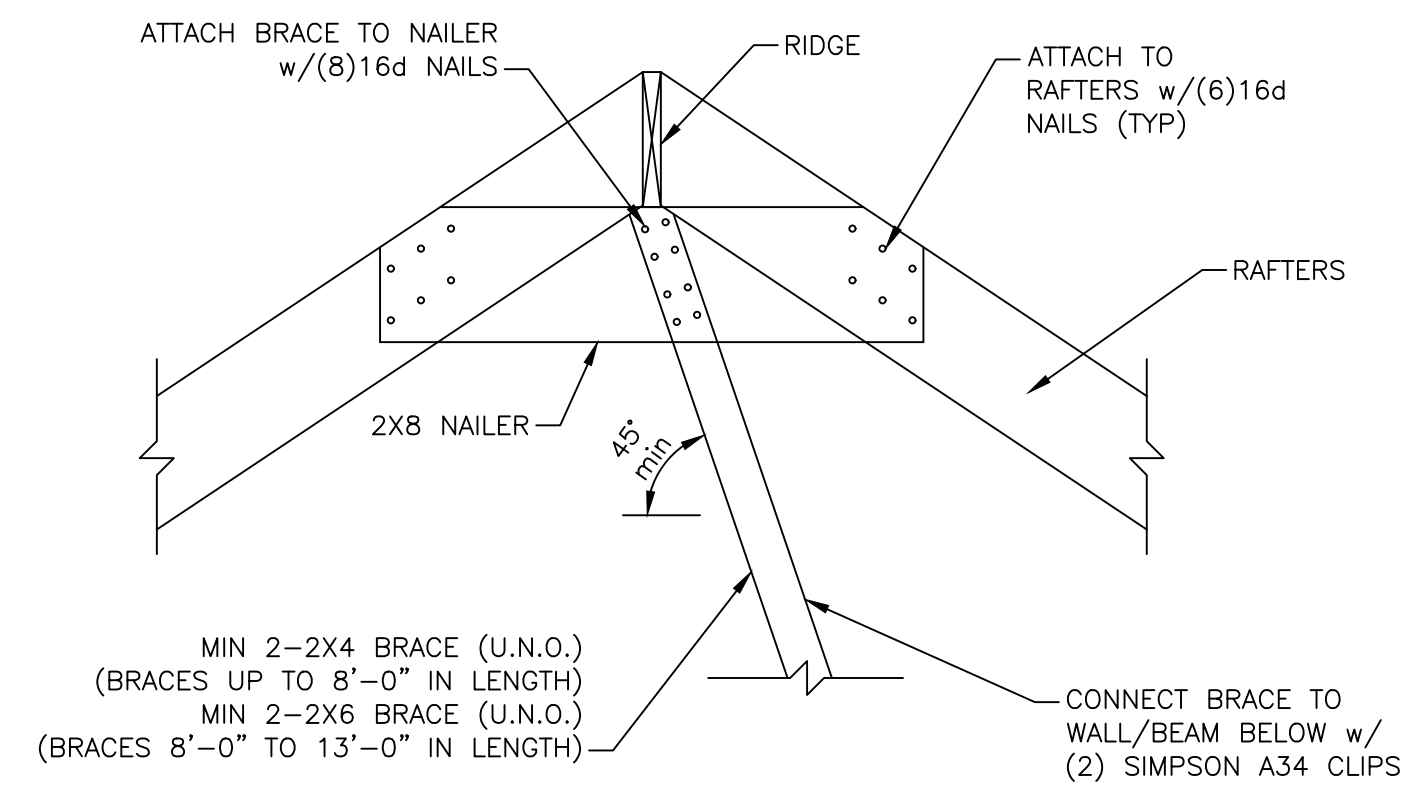
Plans to be used in conjunction with Residential Structures P.C. general notes

100 Farmfield Ave.  
Charleston, SC

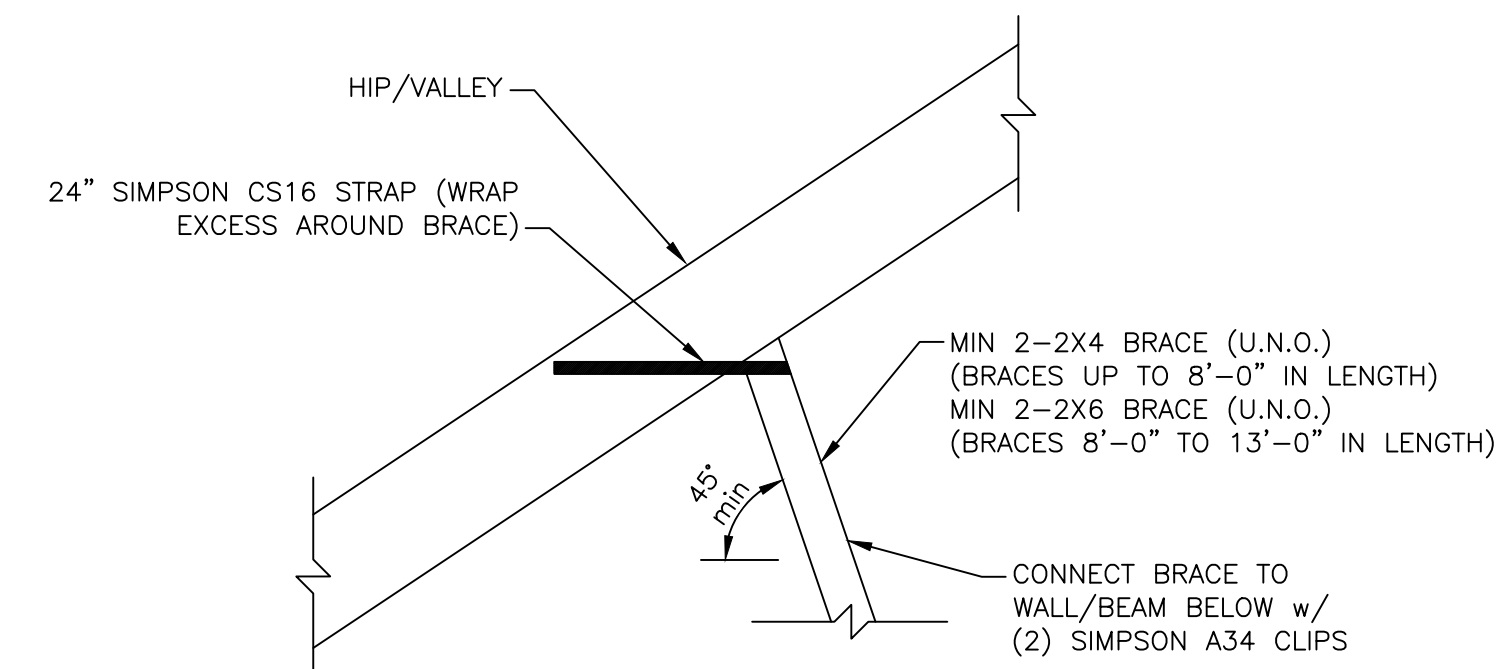
REV.	DATE	DESCRIPTION
DESIGNER:		CCM
DRAFTER:		JKL
SCALE:		AS NOTED
DATE:	07/05/2022	

ROOF FRAMING DETAILS

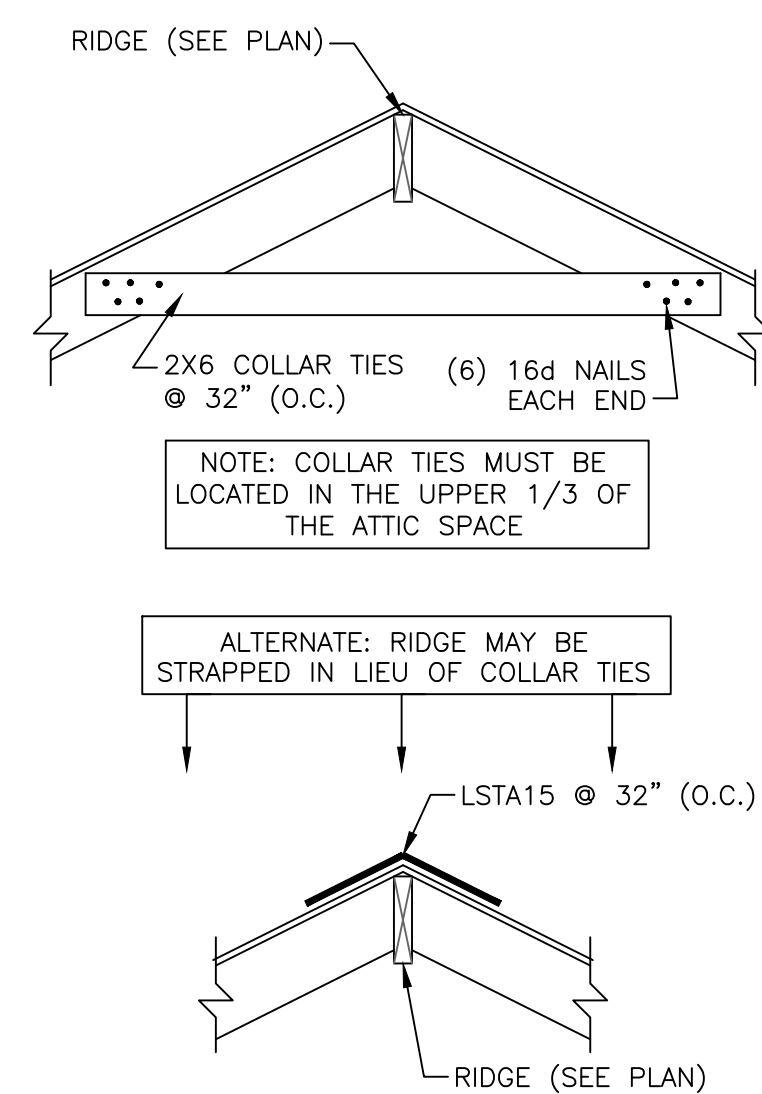
SHEET:  
SD1.0



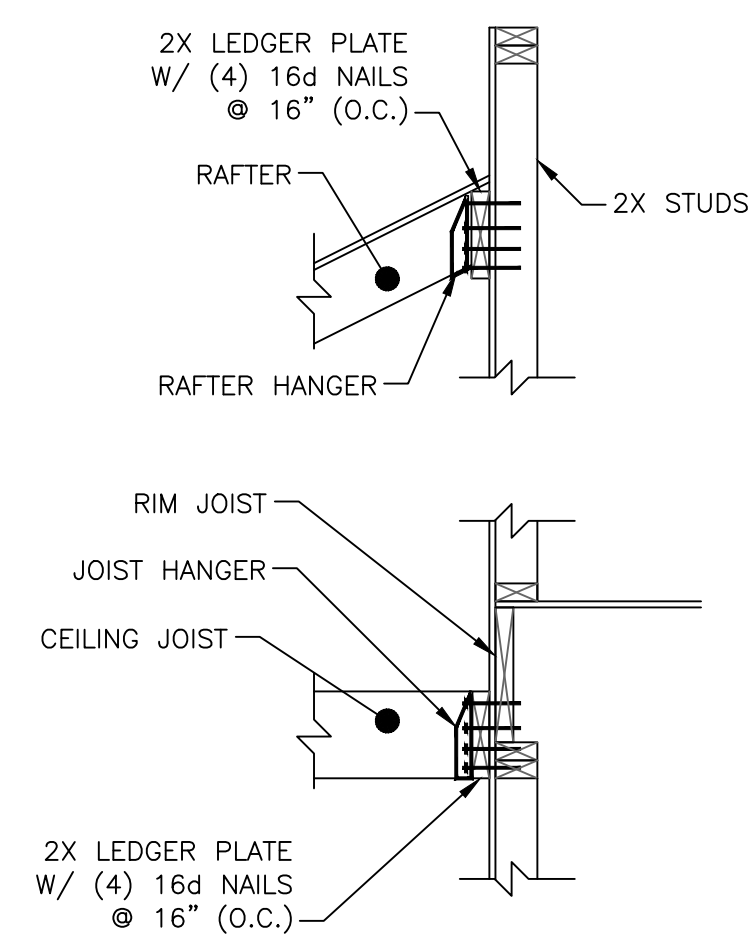
○ TYP. ROOF BRACE CONNECTION @ RIDGE  
N.T.S.



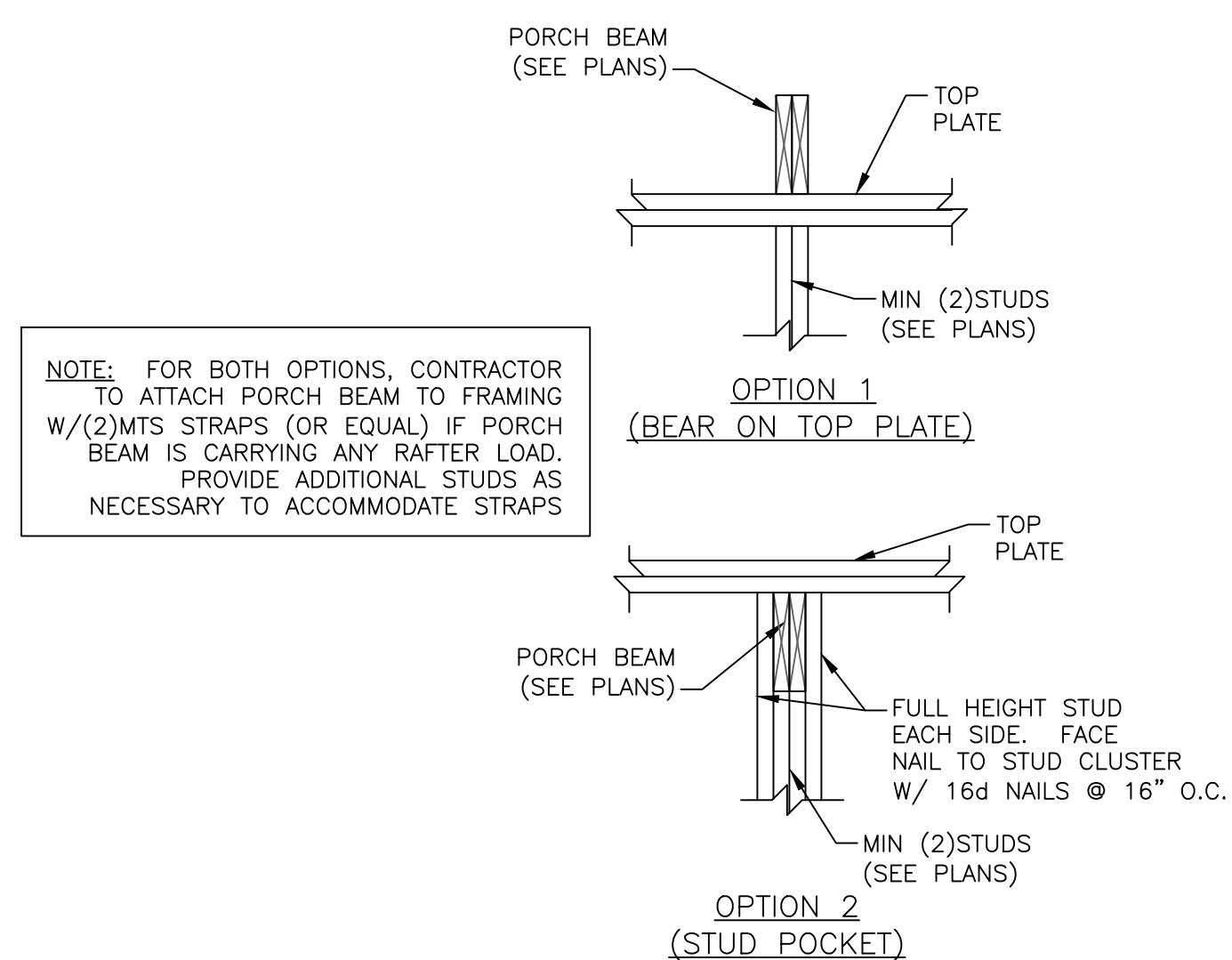
○ TYP. ROOF BRACE CONNECTION @ HIP/VALLEY  
N.T.S.



○ TYP. RIDGE CONNECTION  
N.T.S.



○ PORCH RAFTER/CEILING JOIST LEDGER PLATE DETAIL  
N.T.S.



○ TYP. PORCH BEAM SUPPORT AT EXTERIOR WALL  
N.T.S.



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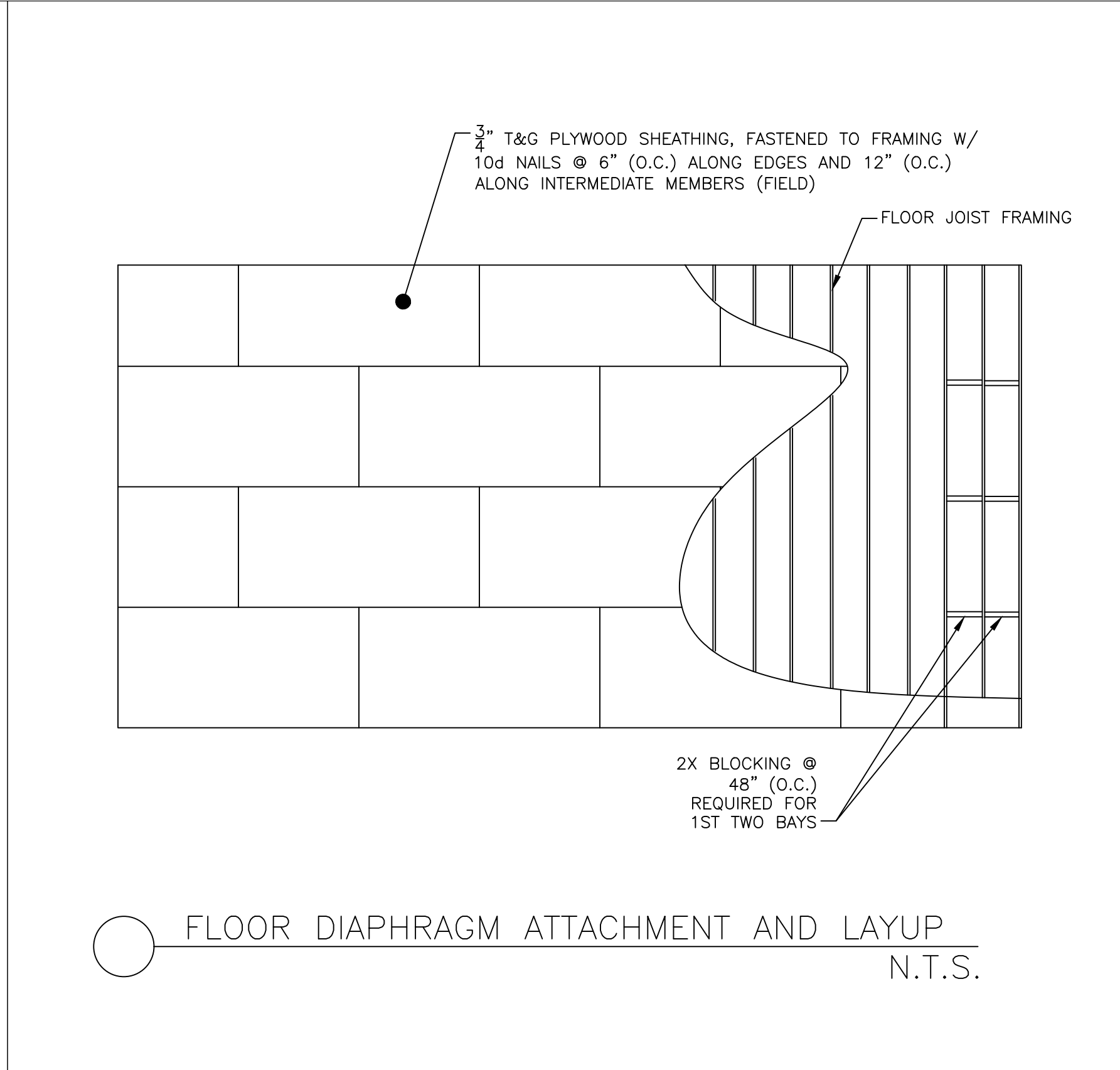
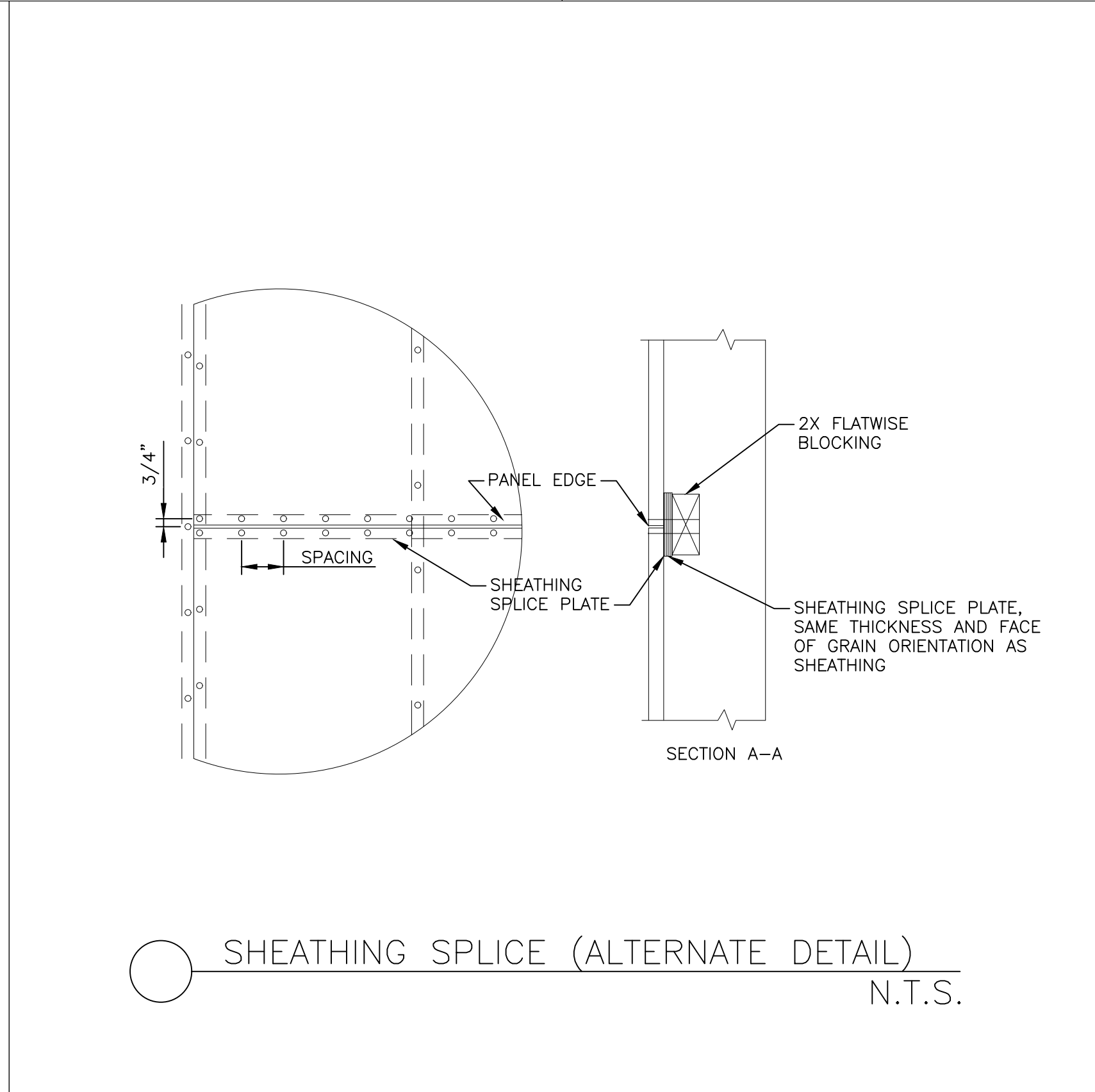
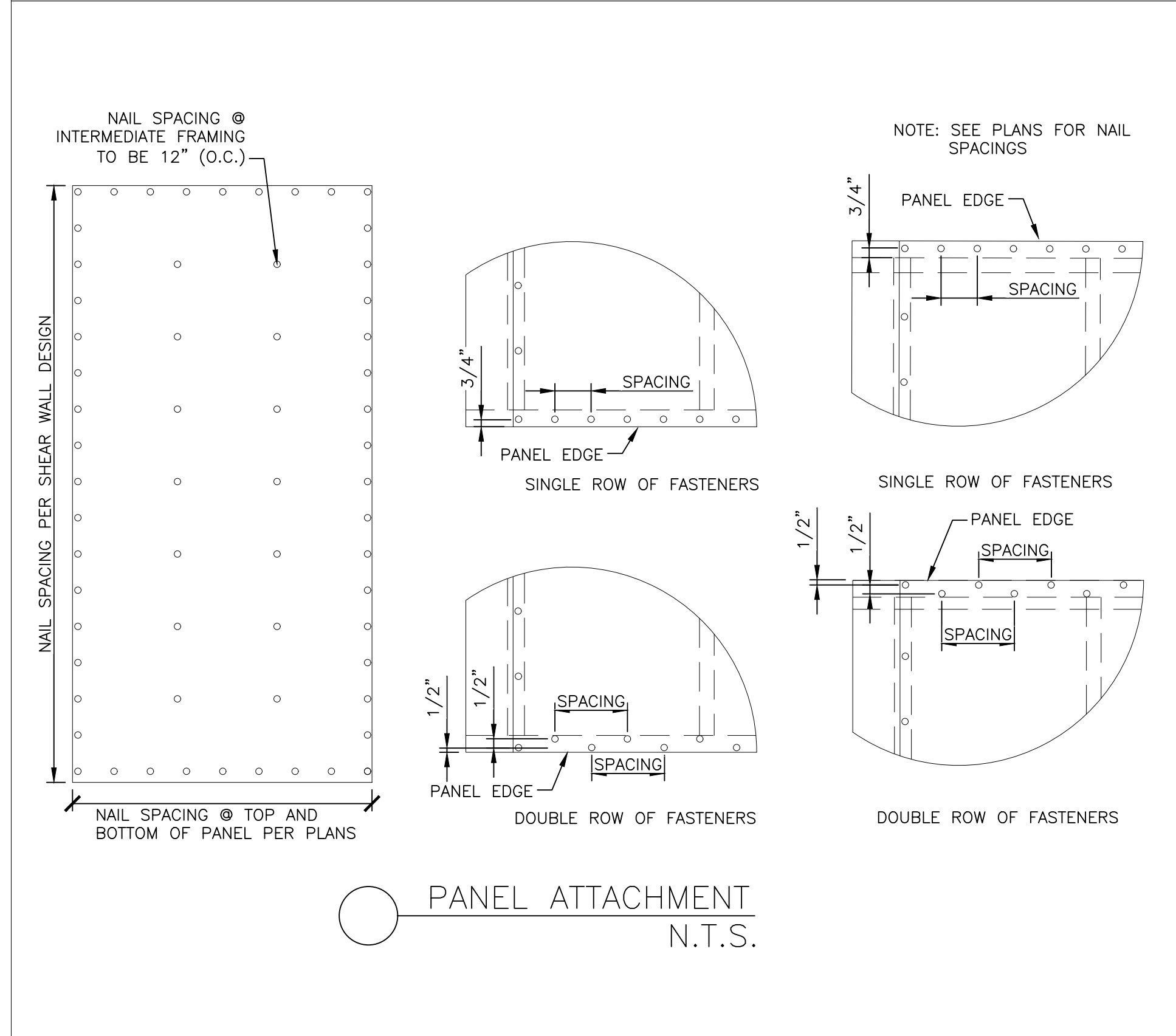
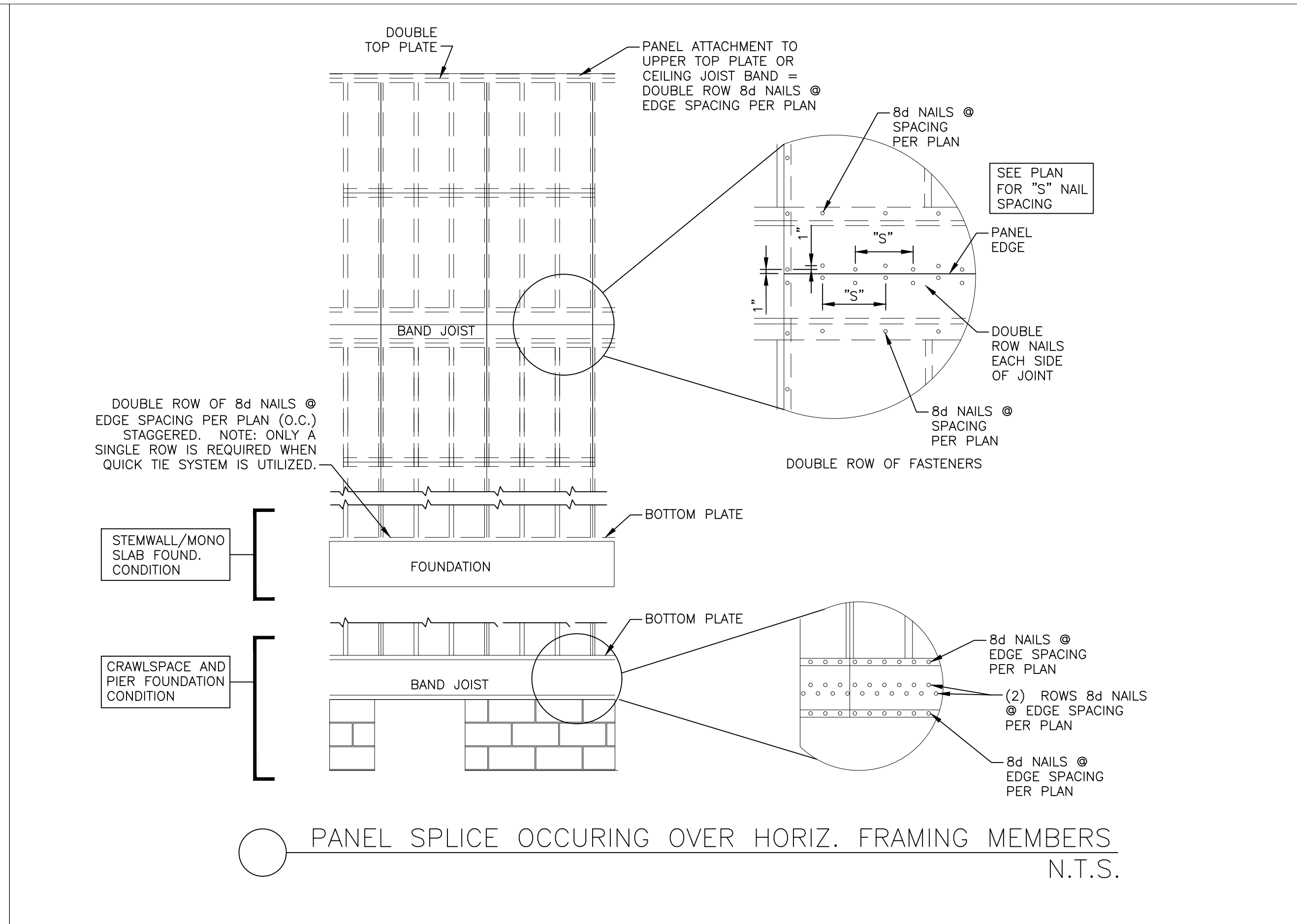
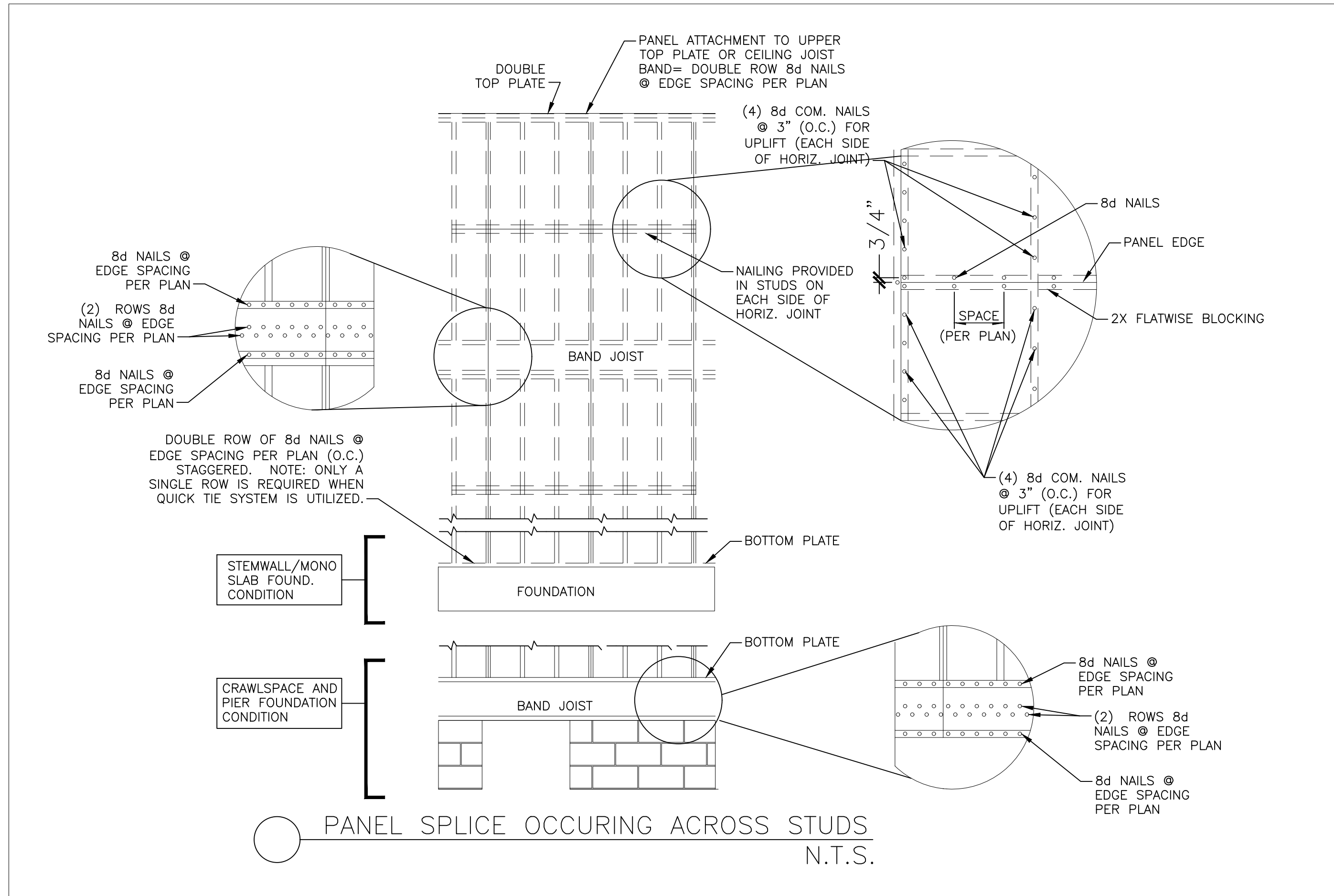
Plans to be used in conjunction  
with Residential Structures P.C.  
general notes


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DESIGNER:		CCM
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ROOF FRAMING DETAILS

SHEET:  
SD1.1






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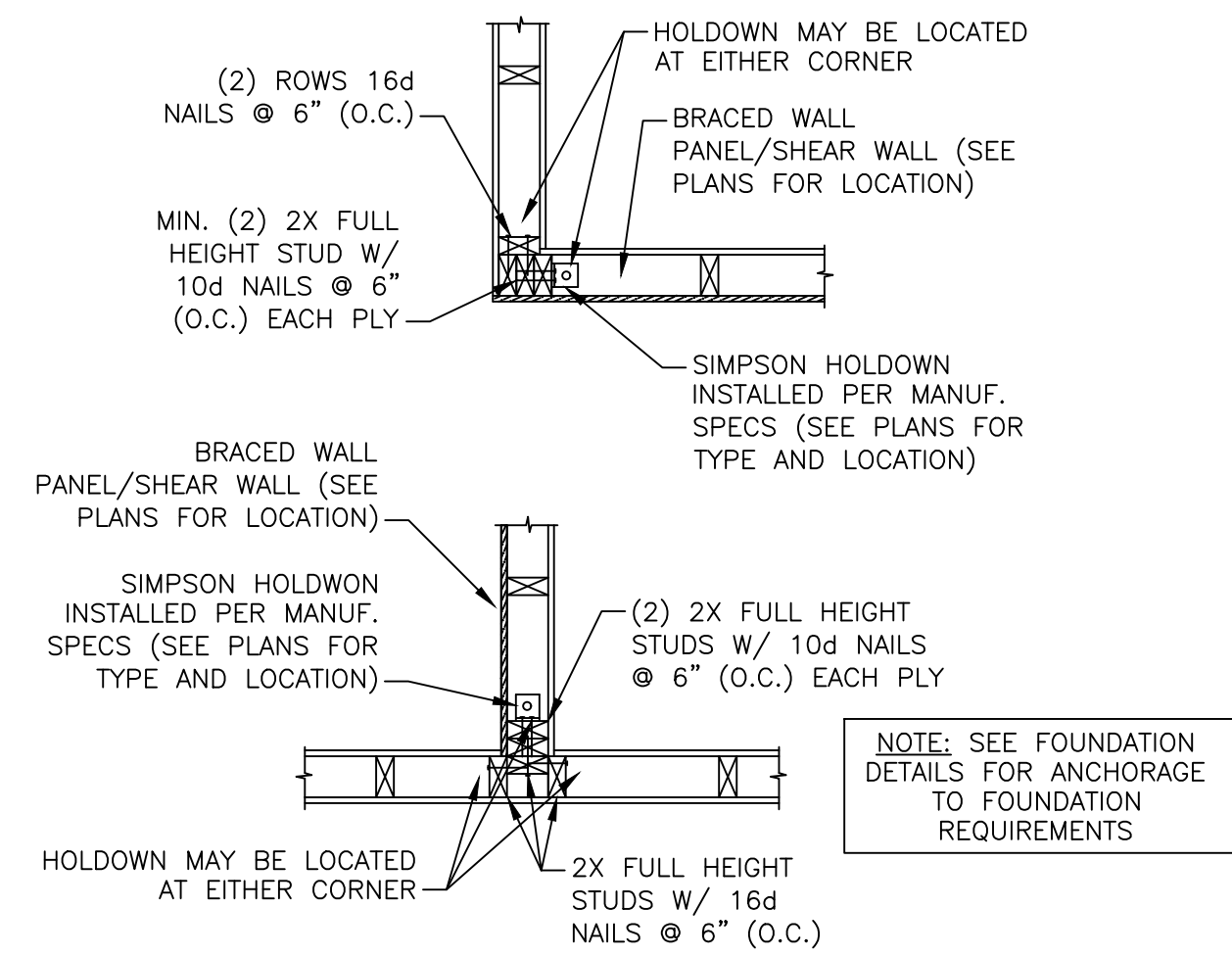
Plans to be used in conjunction with Residential Structures P.C. general notes

100 Farmfield Ave.  
Charleston, SC

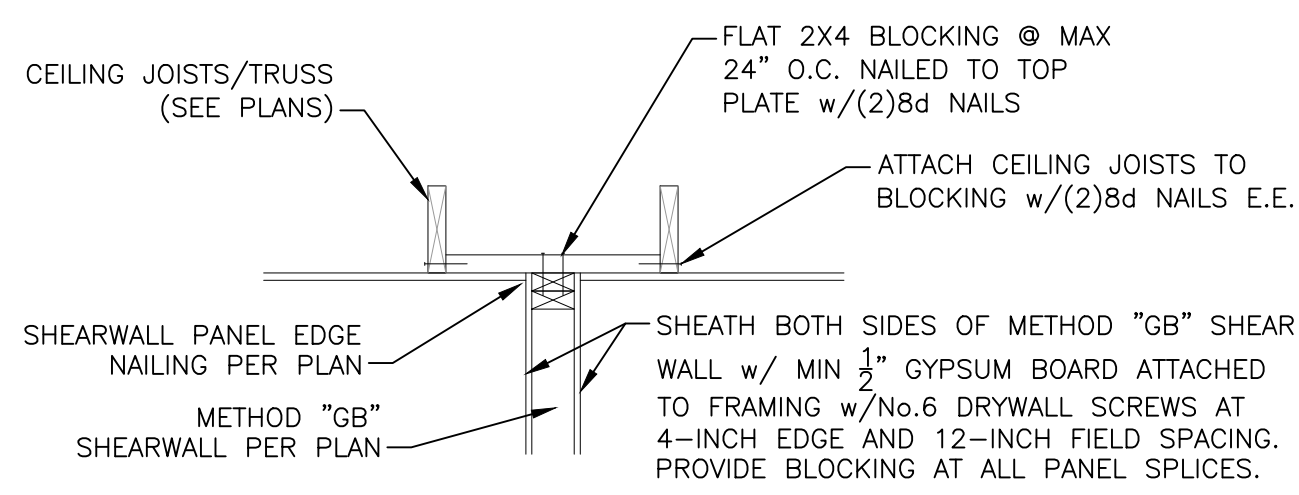
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DRAFTER:		JKL
SCALE:		AS NOTED
DATE:	07/05/2022	

FRAMING  
DETAILS

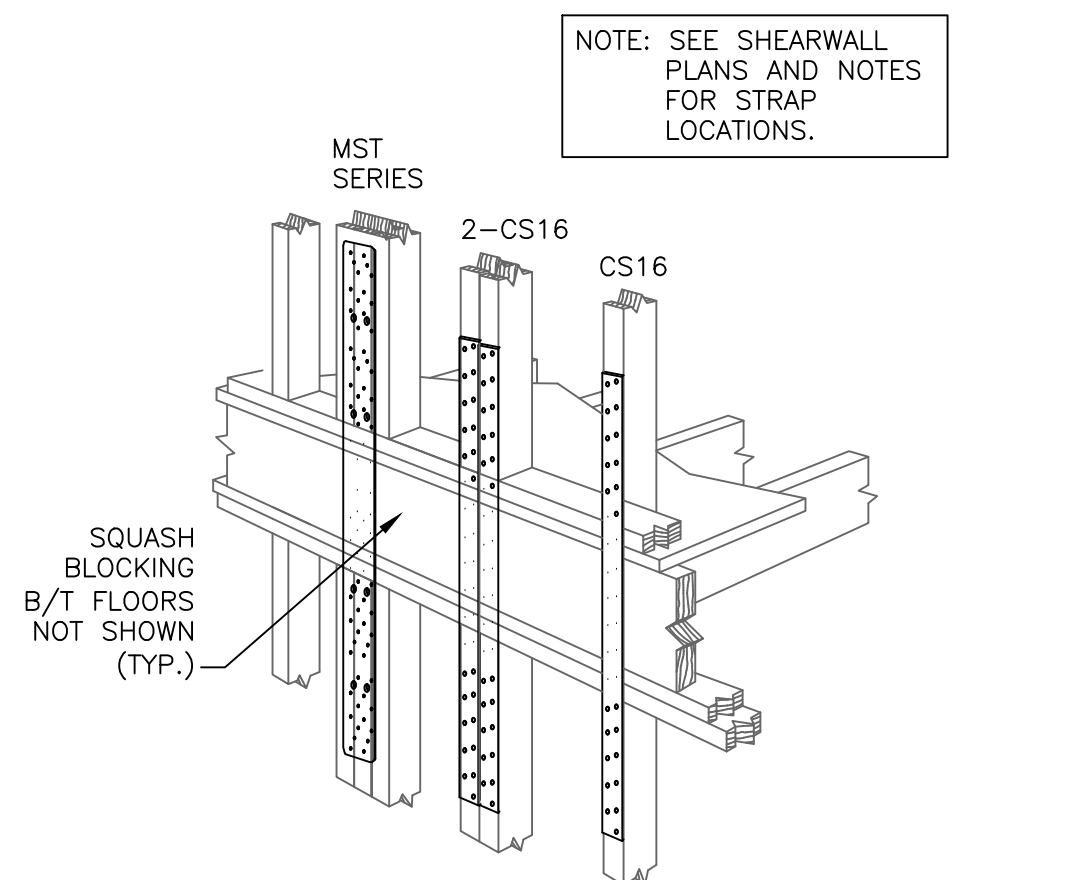
SHEET:  
SD2.0



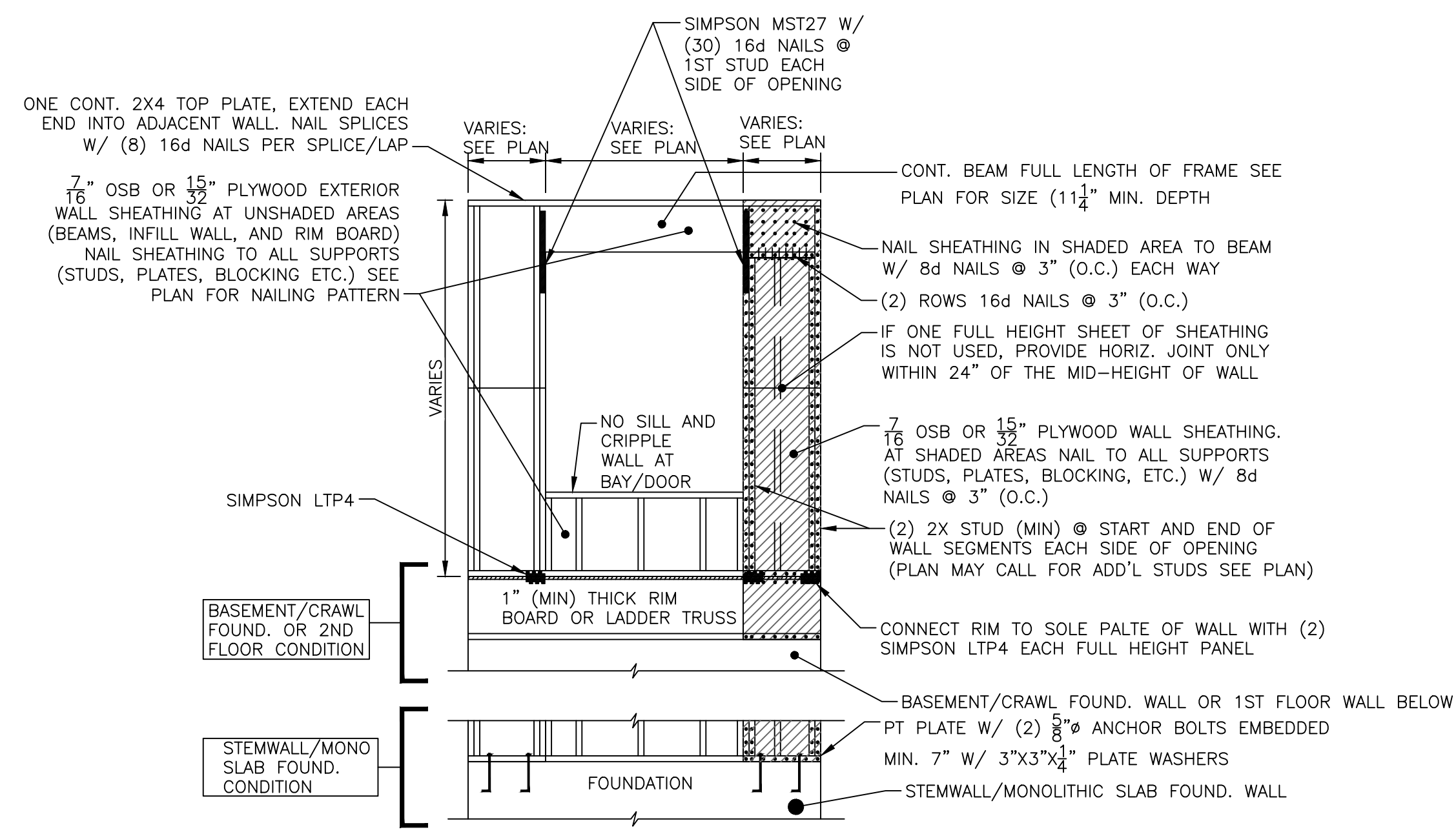
TYP. HOLDOWN DETAIL @  
WALL CORNER/INTERSECTION  
N.T.S.



TYP. INTERIOR METHOD GB CONNECTION  
N.T.S.



TYP. HOLDOWN STRAPPING  
BETWEEN FLOORS (EXTERIOR)  
N.T.S.



METHOD CS-PF: CONTINUOUS PORTAL FRAME (1 PANEL)  
N.T.S.



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general notes

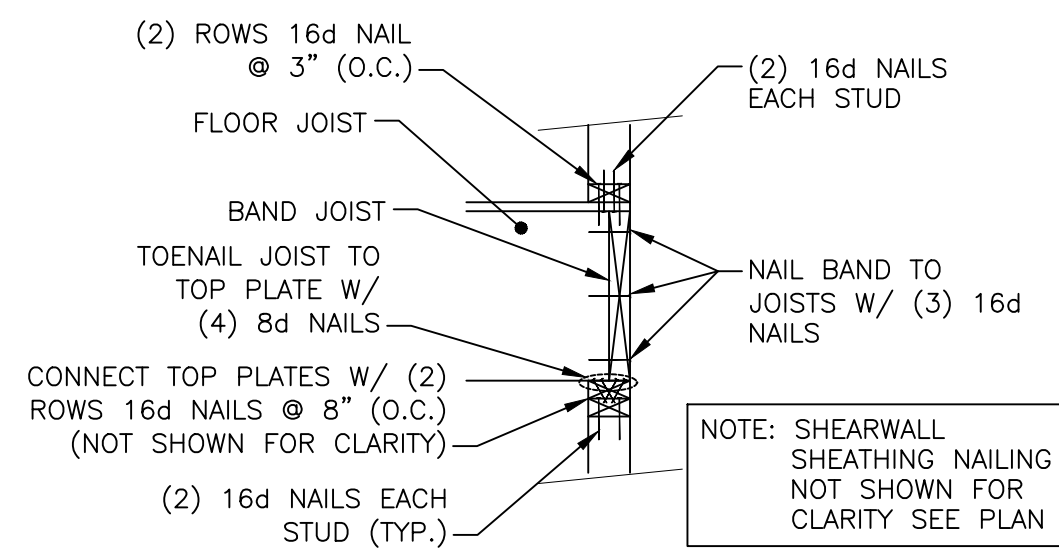
100 Farmfield Ave.  
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REV.	DATE	DESCRIPTION
DESIGNER:		CCM
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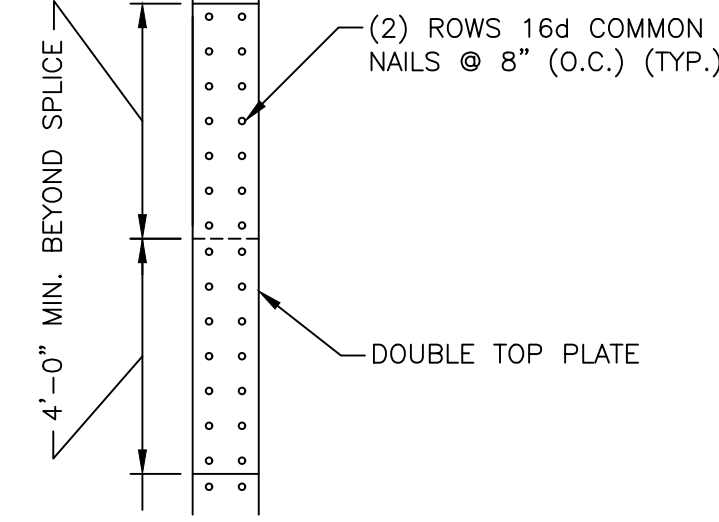
FRAMING  
DETAILS

SHEET:  
**SD2.1**

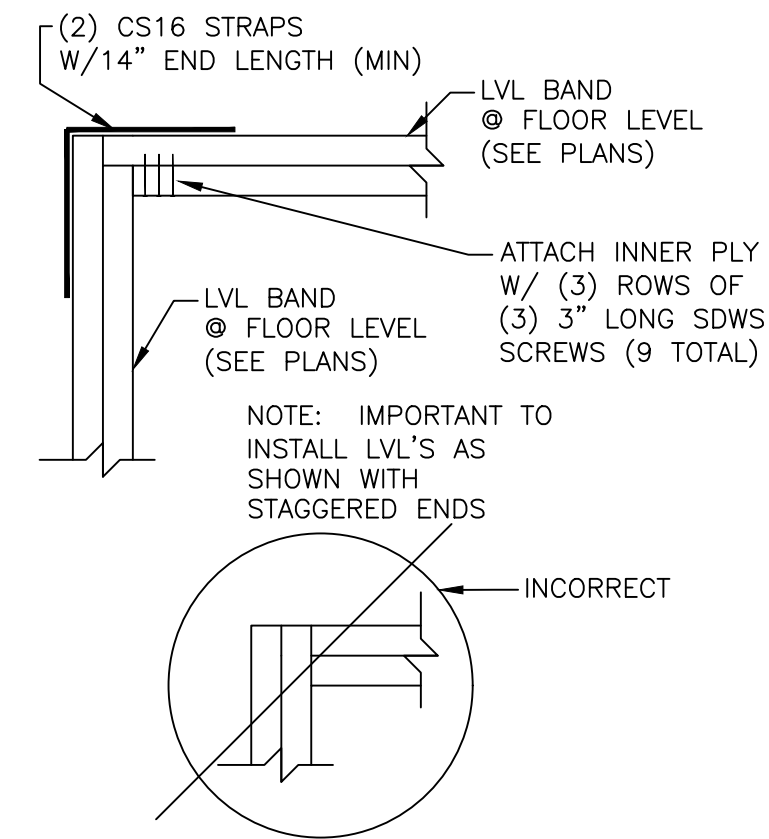




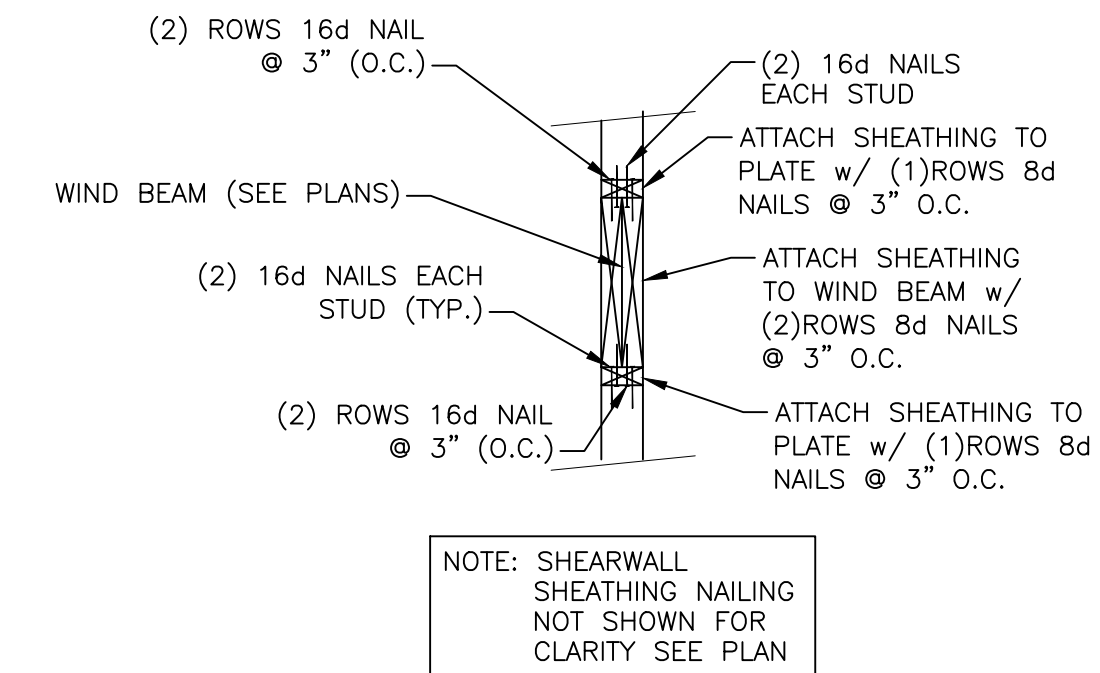
FLOOR TO FLOOR FRAMING  
N.T.S.



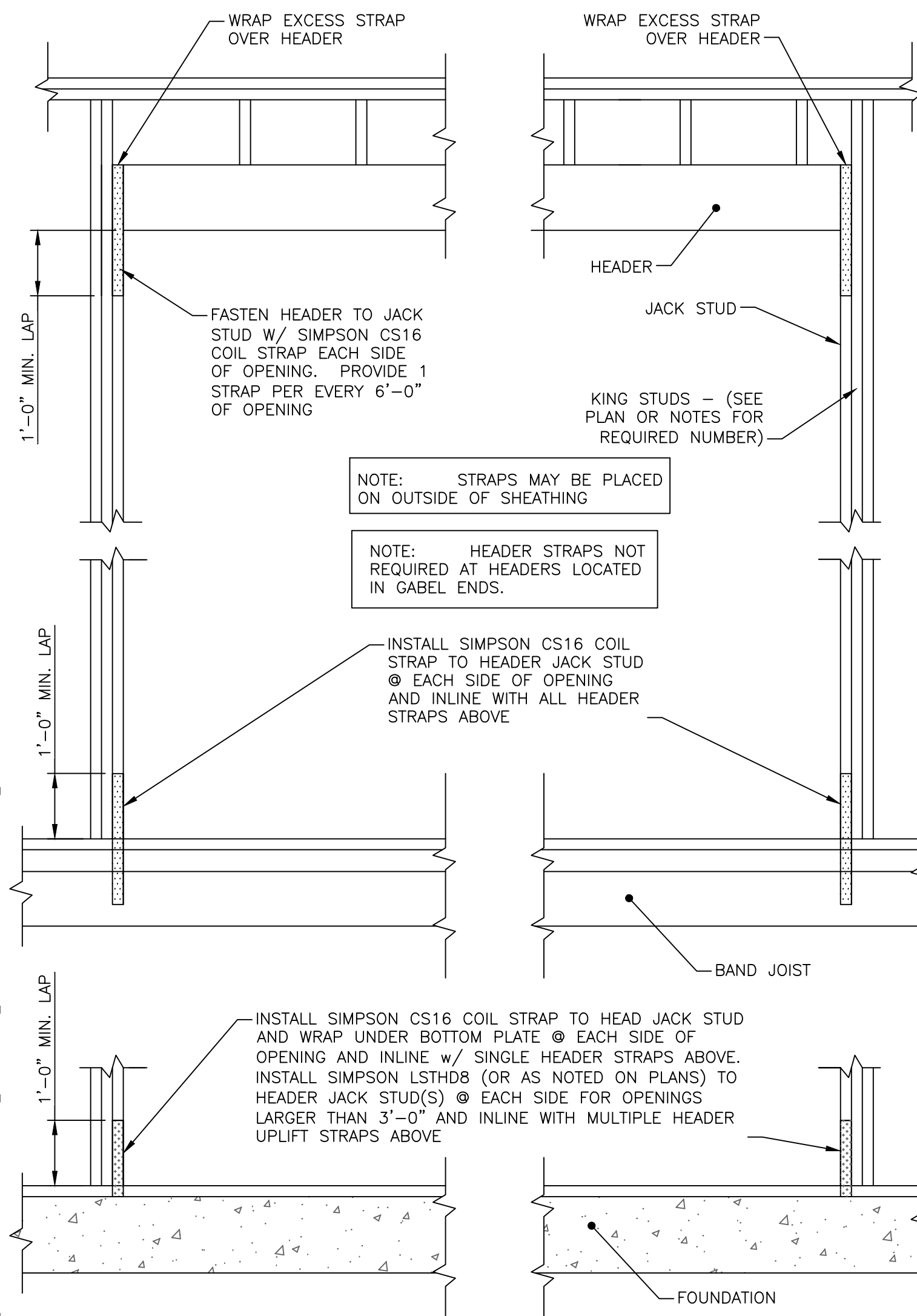
TOP PLATE SPLICE DETAIL  
N.T.S.



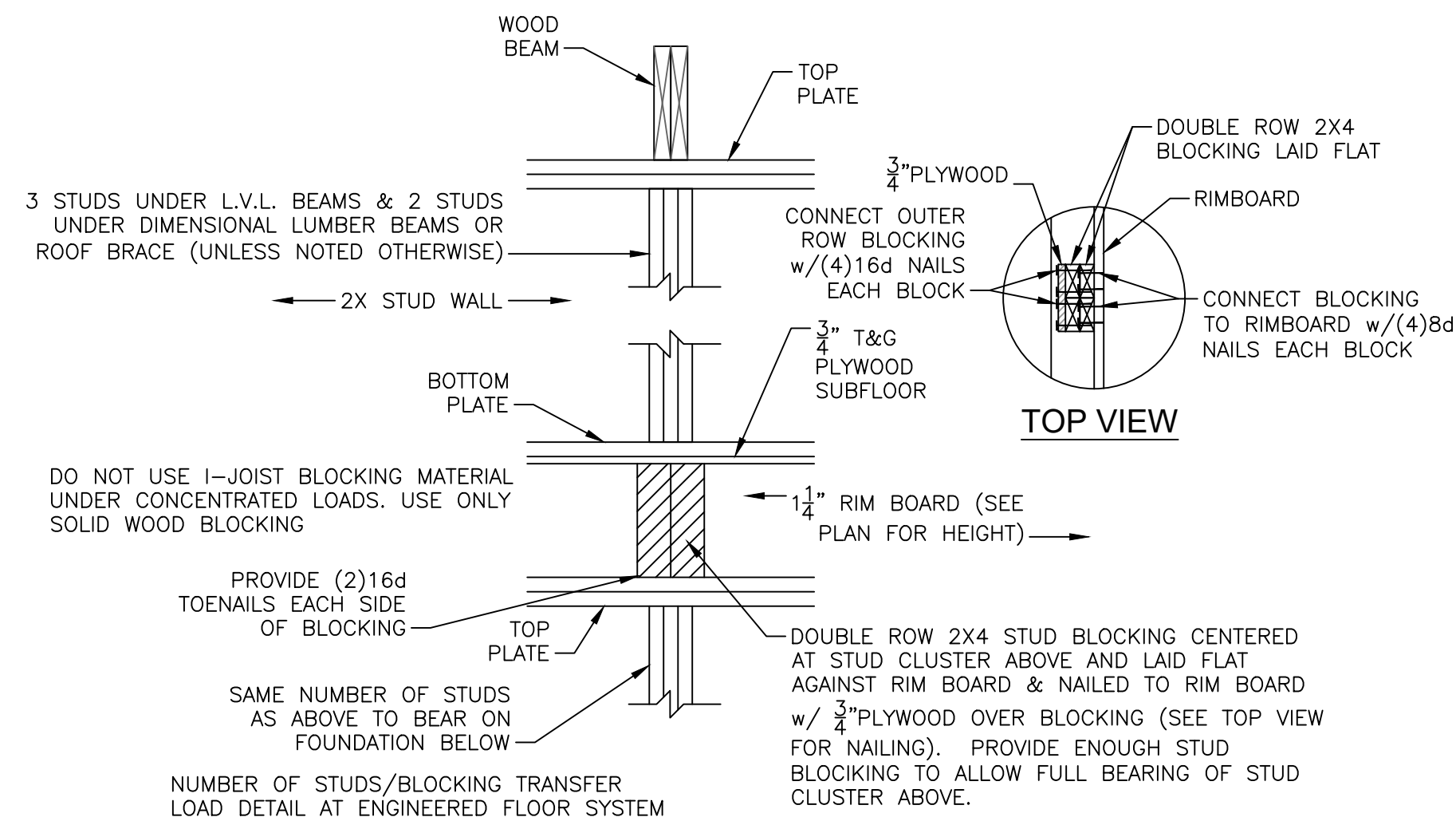
WIND BEAM CORNER DETAIL  
N.T.S.



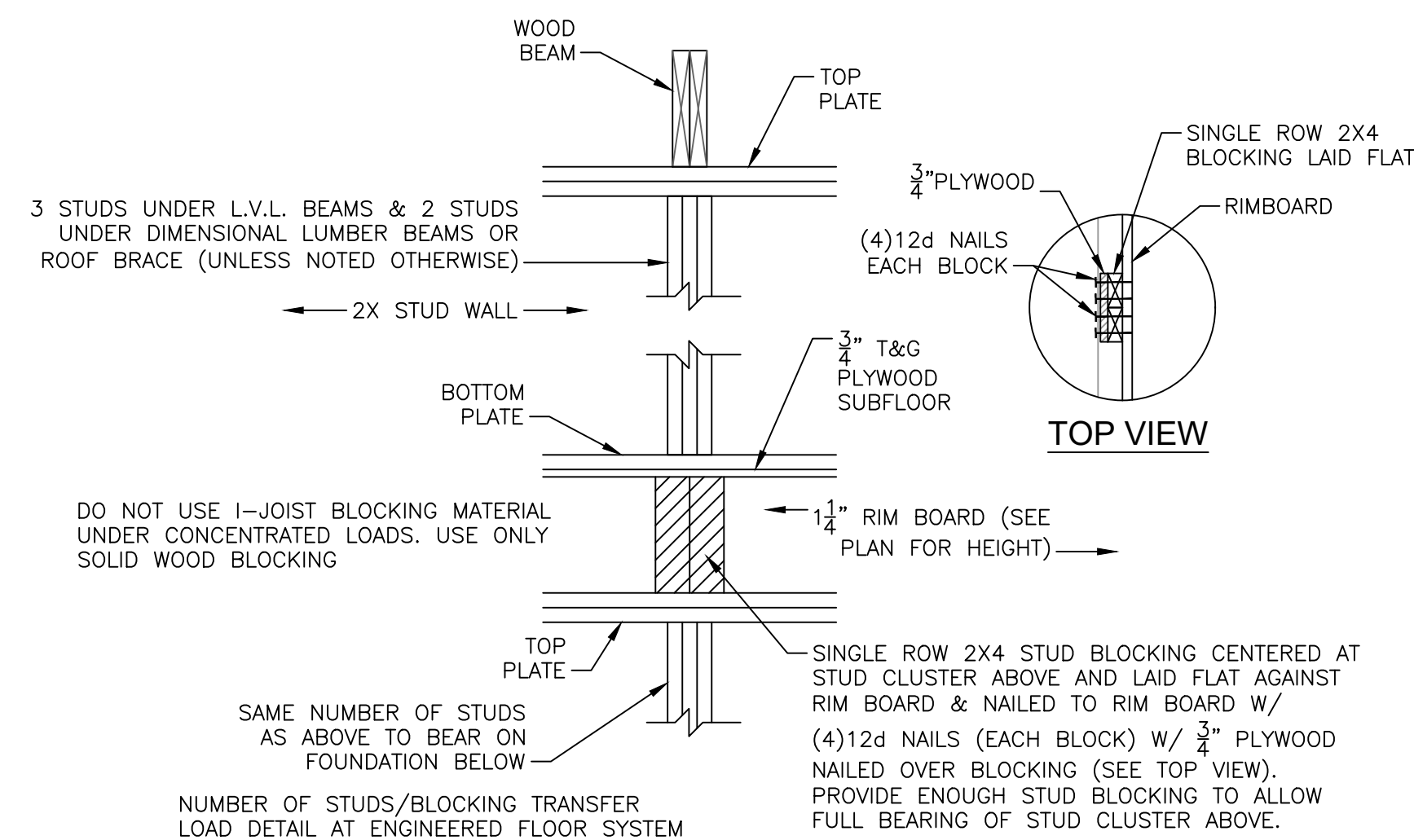
STUD CONNECTIONS AT WIND BEAM (PROFILE)  
N.T.S.



EXTERIOR WINDOW/DOOR STRAPPING DETAIL  
N.T.S.



TYP. WOOD BEAM BEARING/LOAD TRANSFER B/N FLOORS DETAIL (2X6 WALL ABOVE)  
N.T.S.



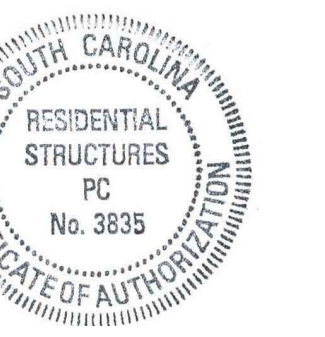
TYP. WOOD BEAM BEARING/LOAD TRANSFER B/N FLOORS DETAIL (2X4 WALL ABOVE)  
N.T.S.



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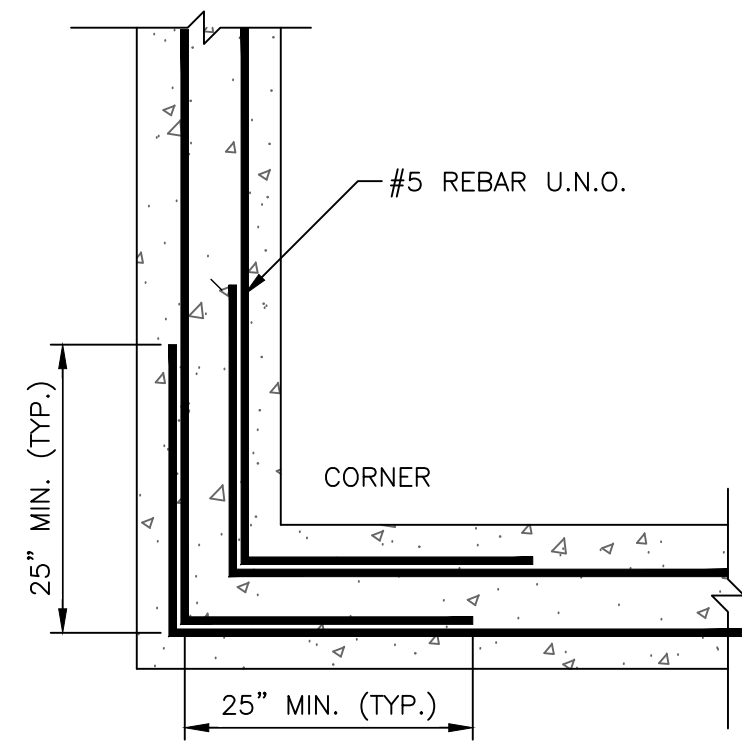
Plans to be used in conjunction with Residential Structures P.C. general notes

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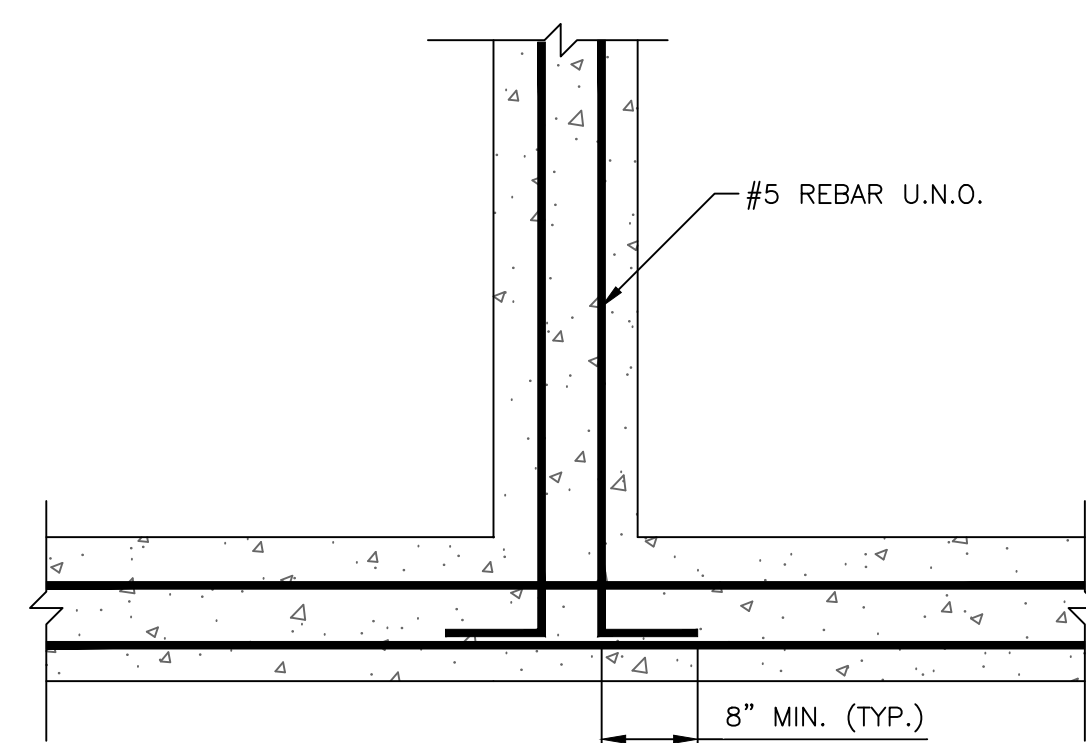
REV.	DATE	DESCRIPTION
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DRAFTER:		JKL
SCALE:		AS NOTED
DATE:	07/05/2022	

FRAMING DETAILS

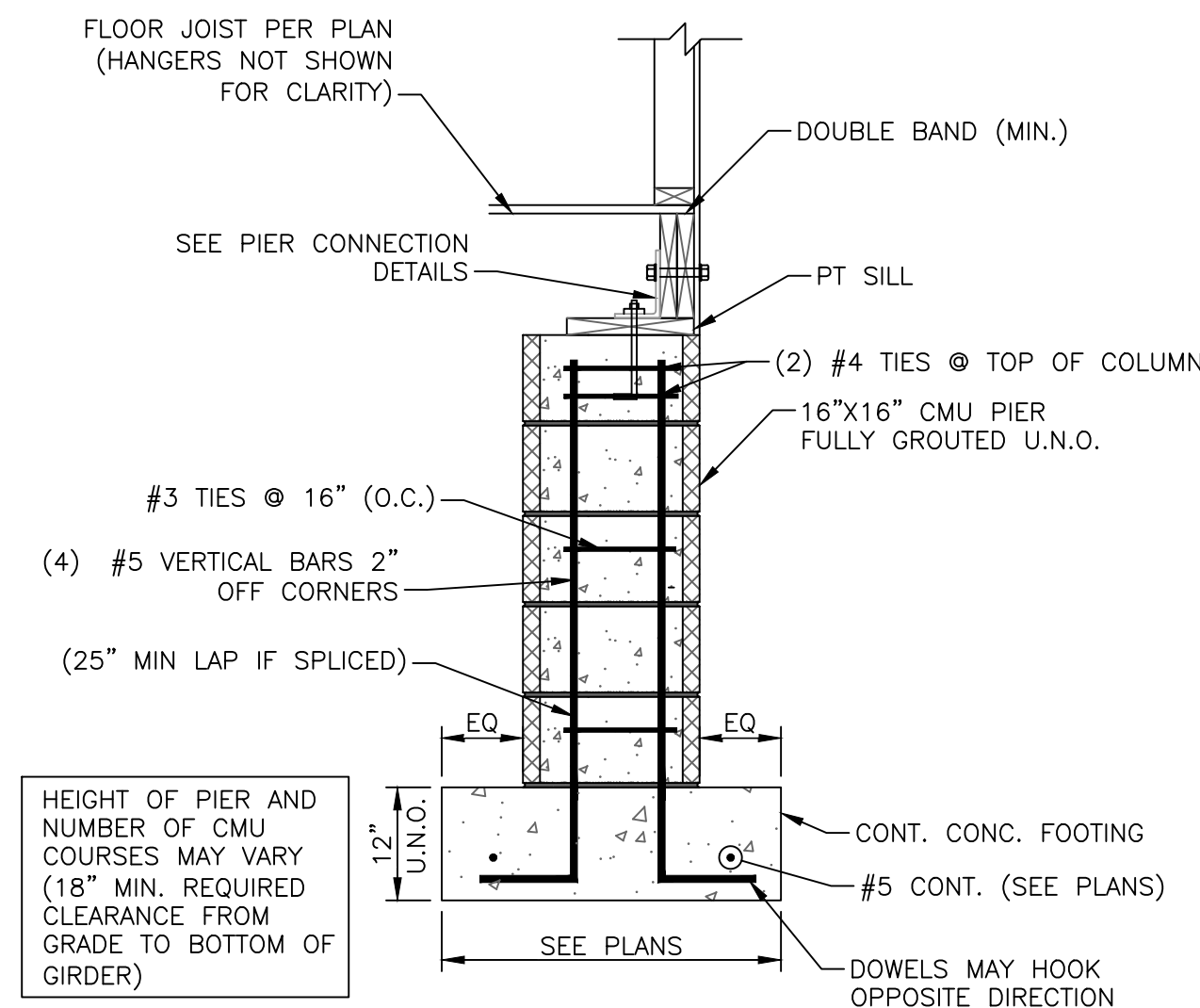
SHEET:  
SD2.2



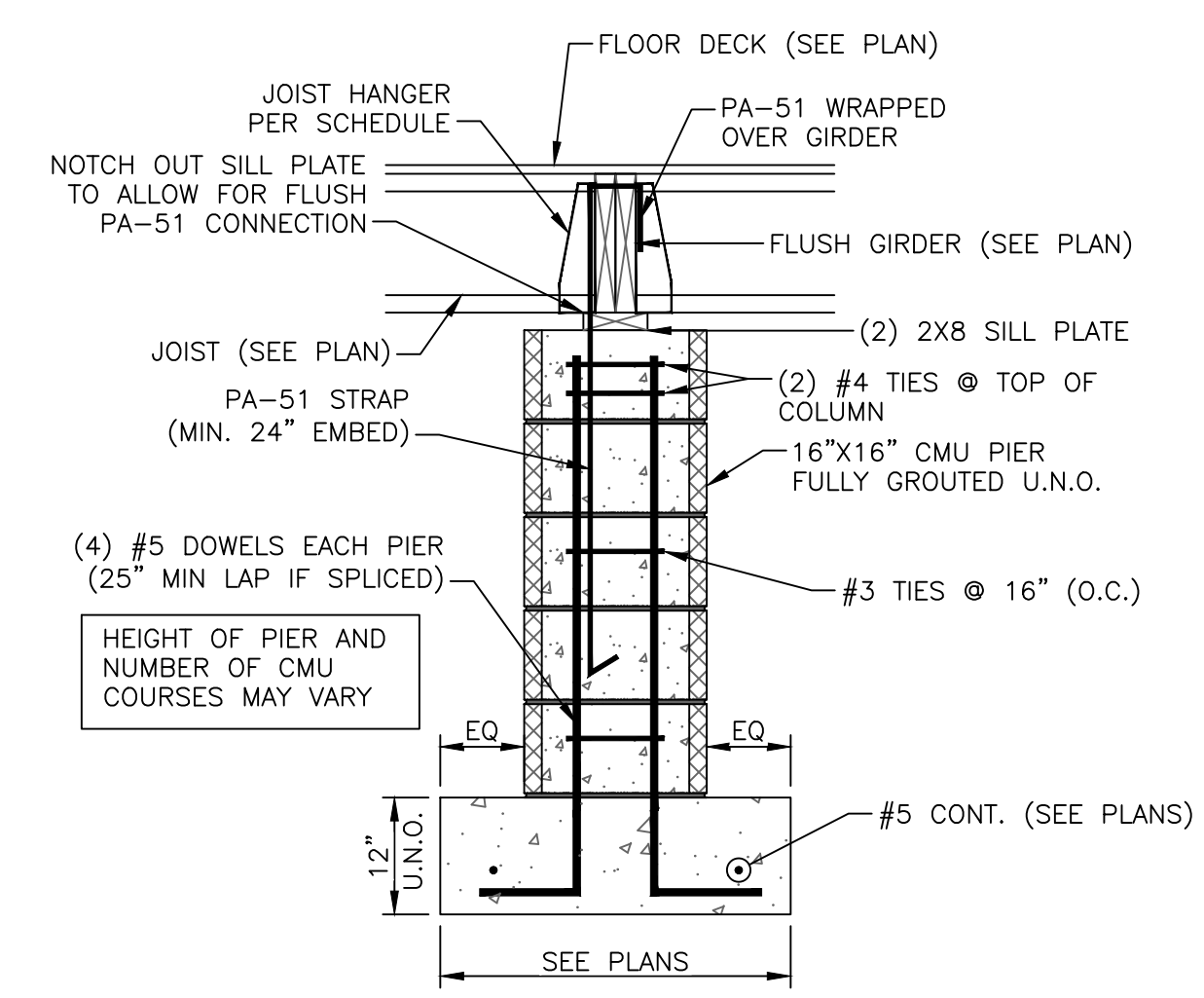
TYP. REBAR LAP @ CORNER  
N.T.S.



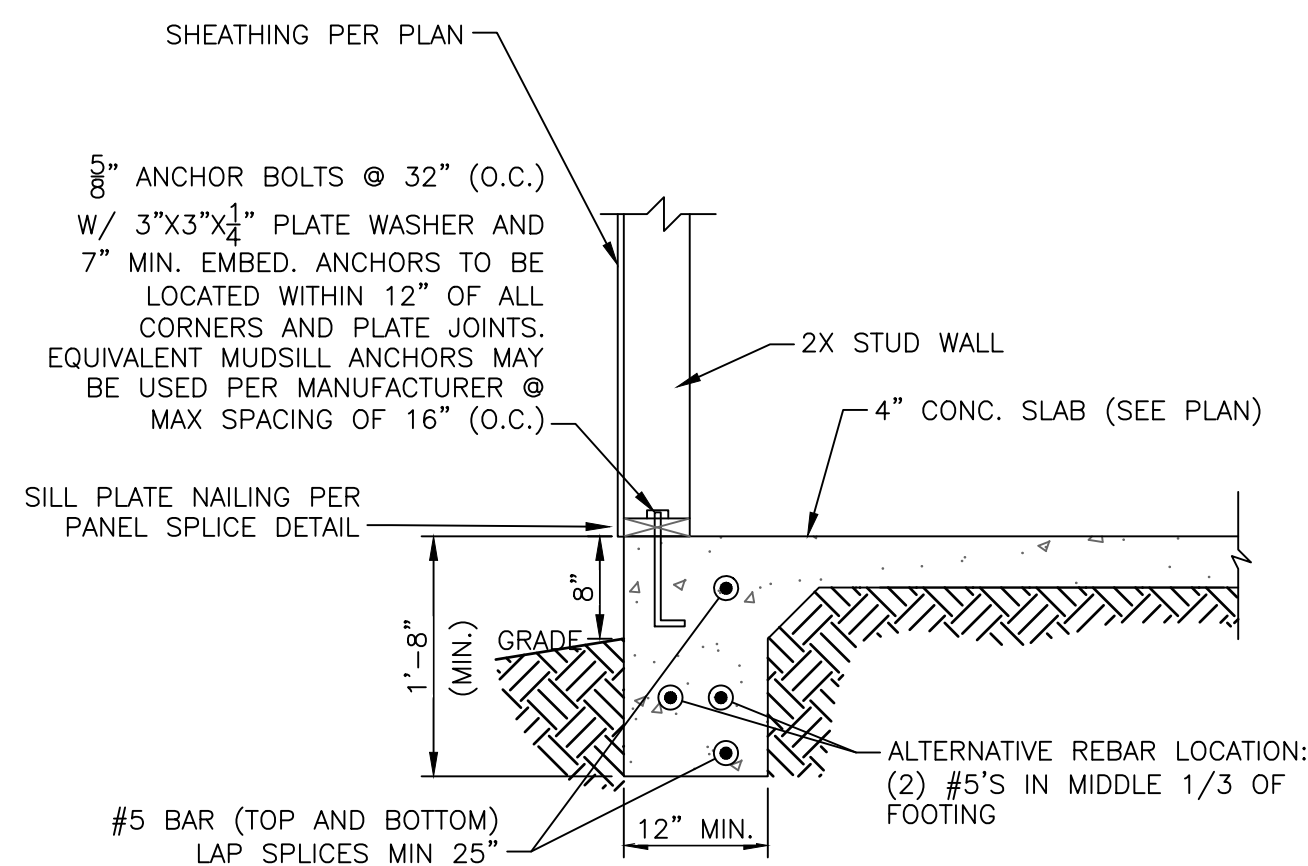
TYP. REBAR LAP @ INTERSECTION  
N.T.S.



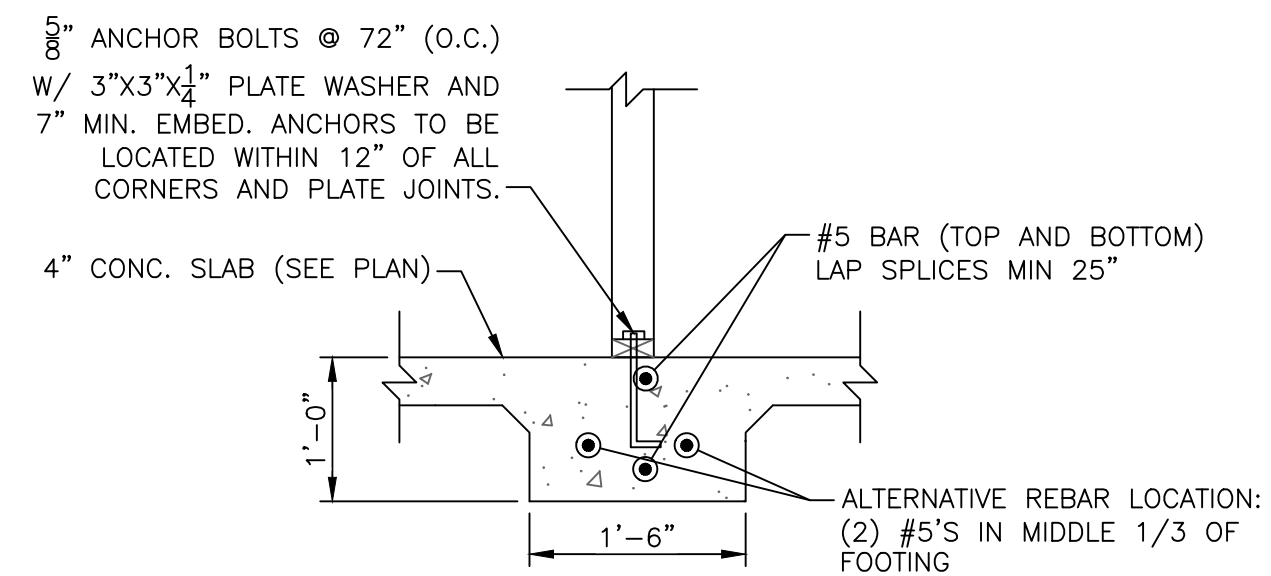
TYP. 16X16 EXTERIOR CMU PIER  
N.T.S.



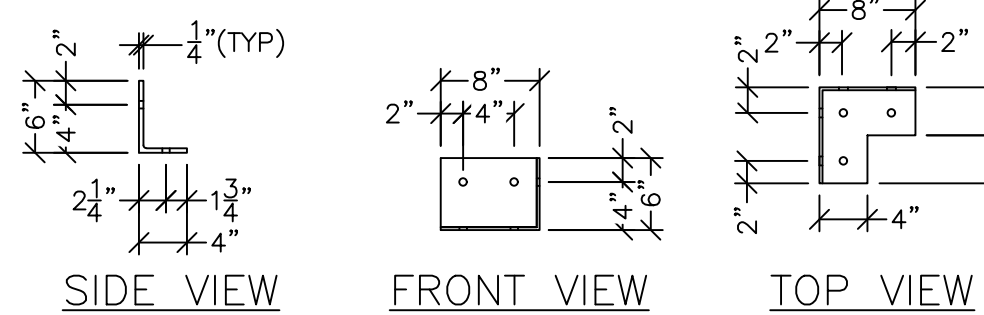
TYP. 16X16 INTERIOR CMU PIER  
N.T.S.



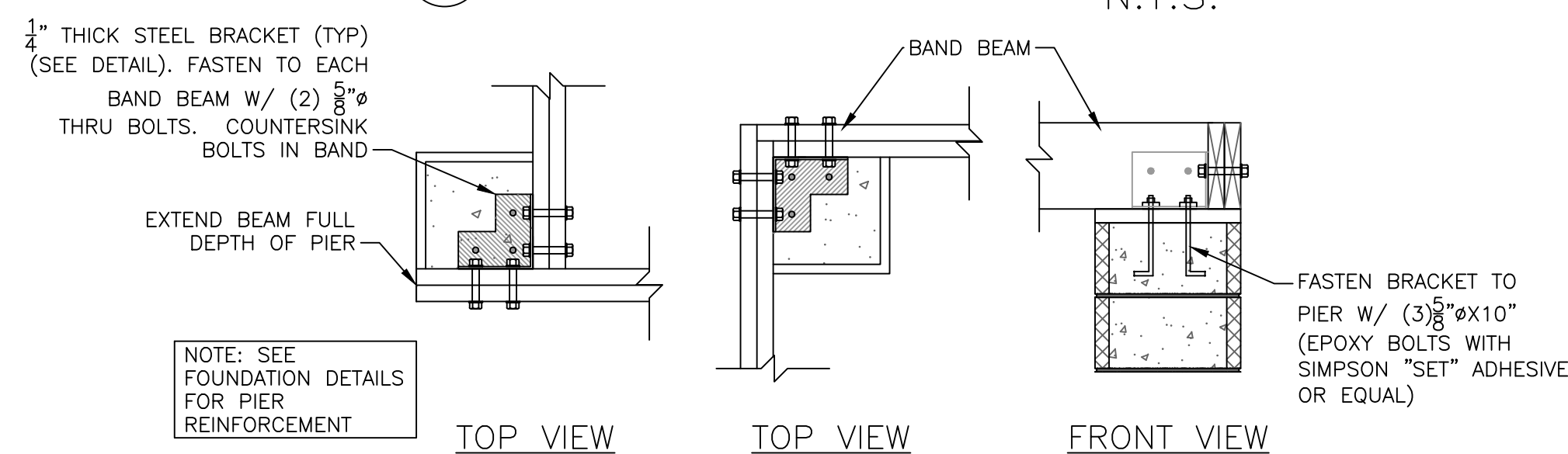
TYP. TURN DOWN SLAB FOUNDATION  
W/ SIDING OR STONE VENEER  
N.T.S.



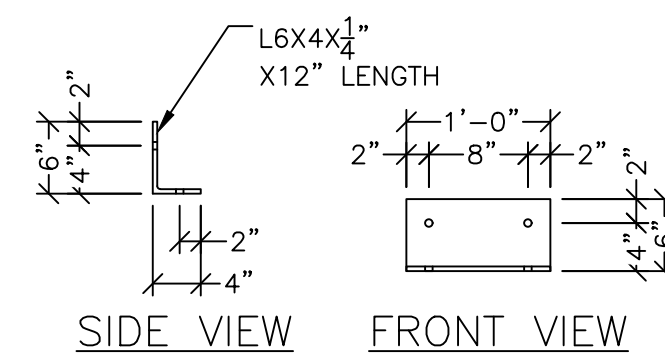
TYP. INTERIOR BEARING WALL FOOTING  
N.T.S.



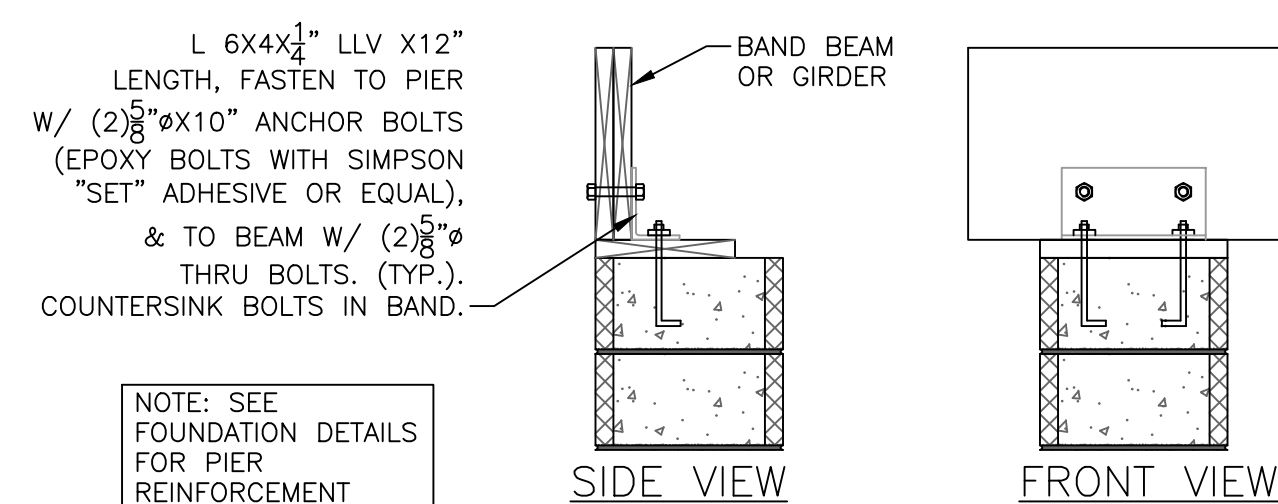
CORNER STEEL BRACKET DETAIL  
N.T.S.



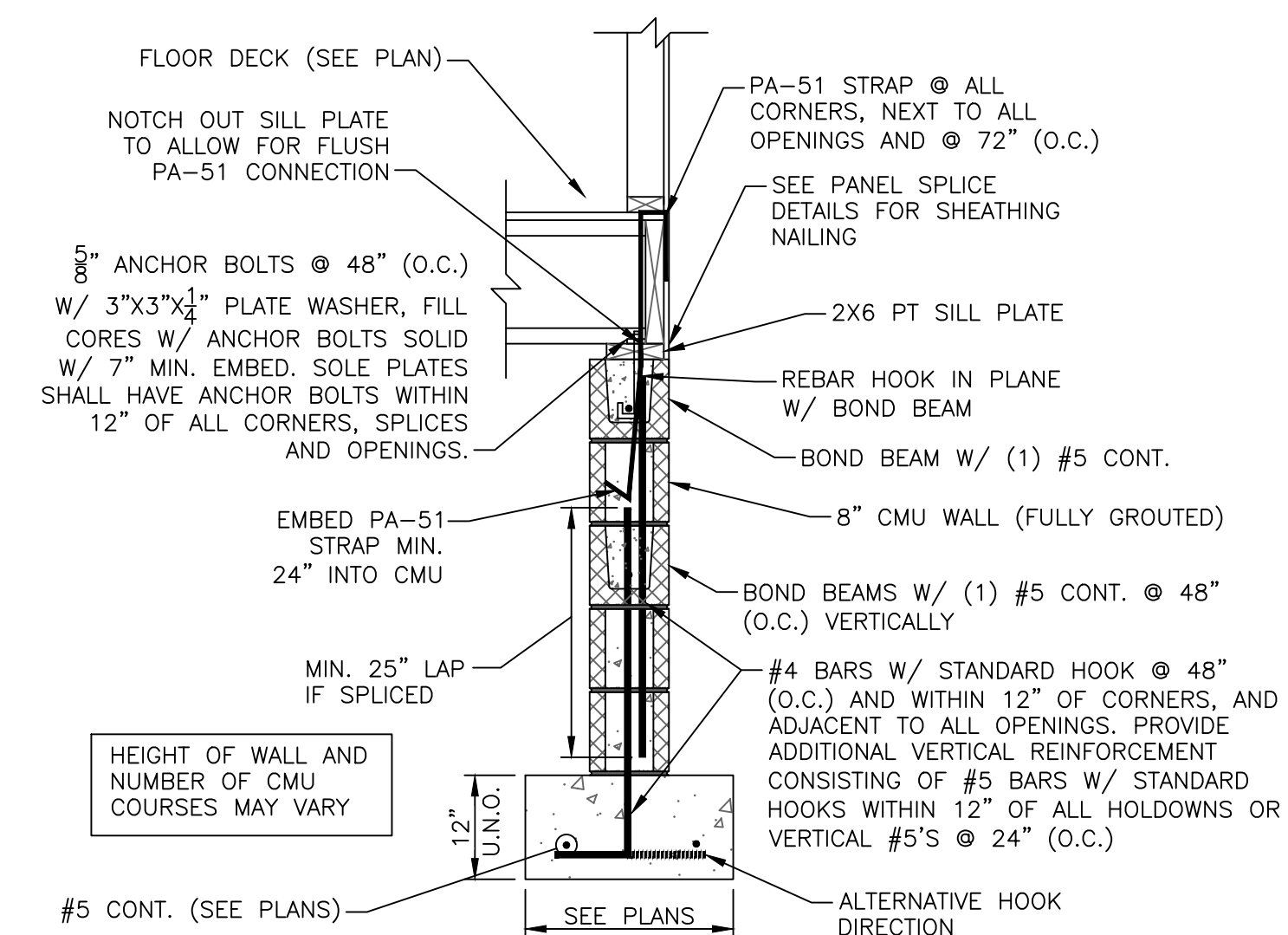
EXTERIOR CORNER PIER CONNECTION DETAIL  
N.T.S.



INTERMEDIATE STEEL BRACKET DETAIL  
N.T.S.



EXTERIOR INTERMEDIATE PIER CONNECTION DETAIL  
N.T.S.



TYP. 8" CMU EXTERIOR WALL SECTION  
N.T.S.



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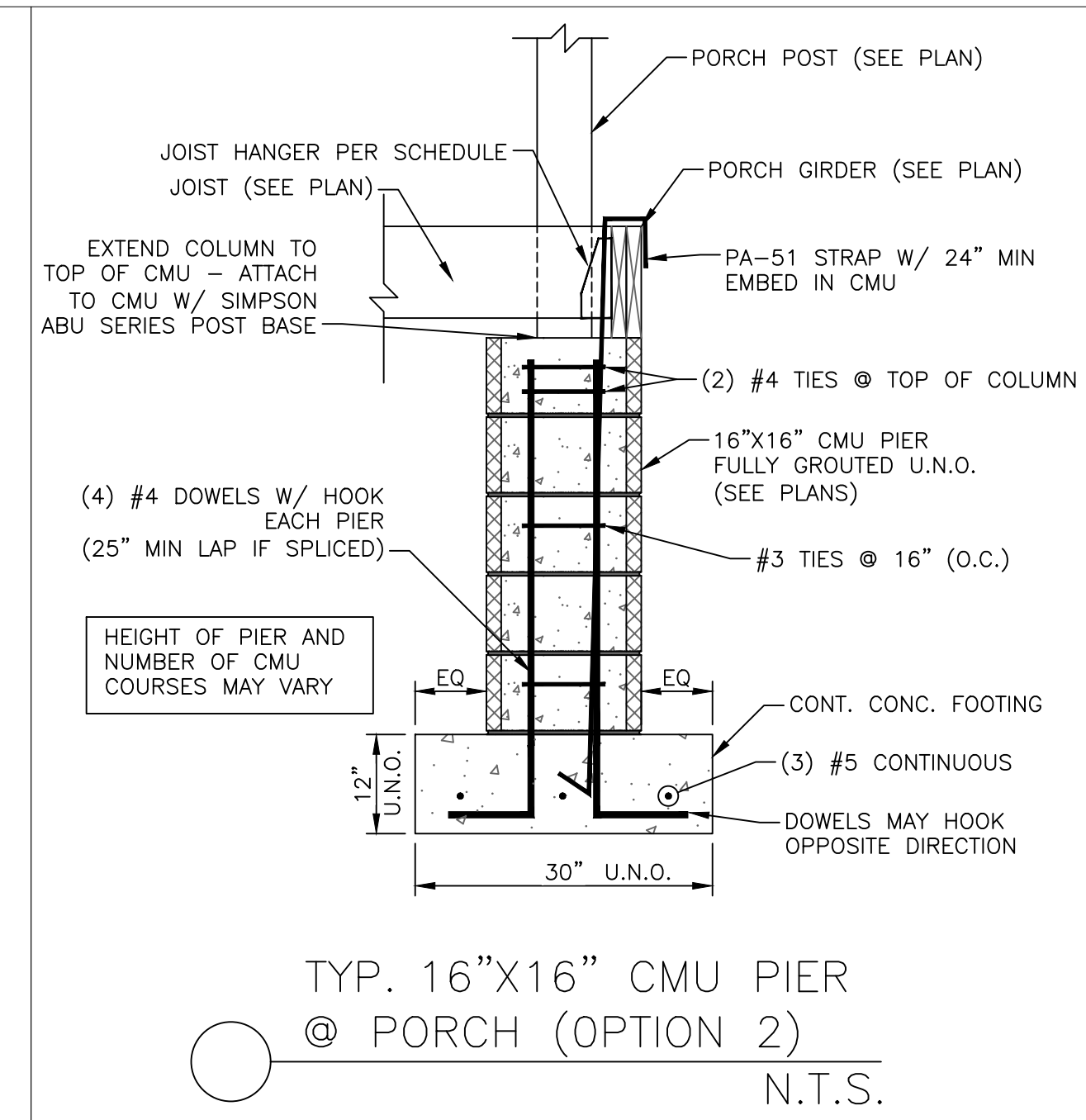
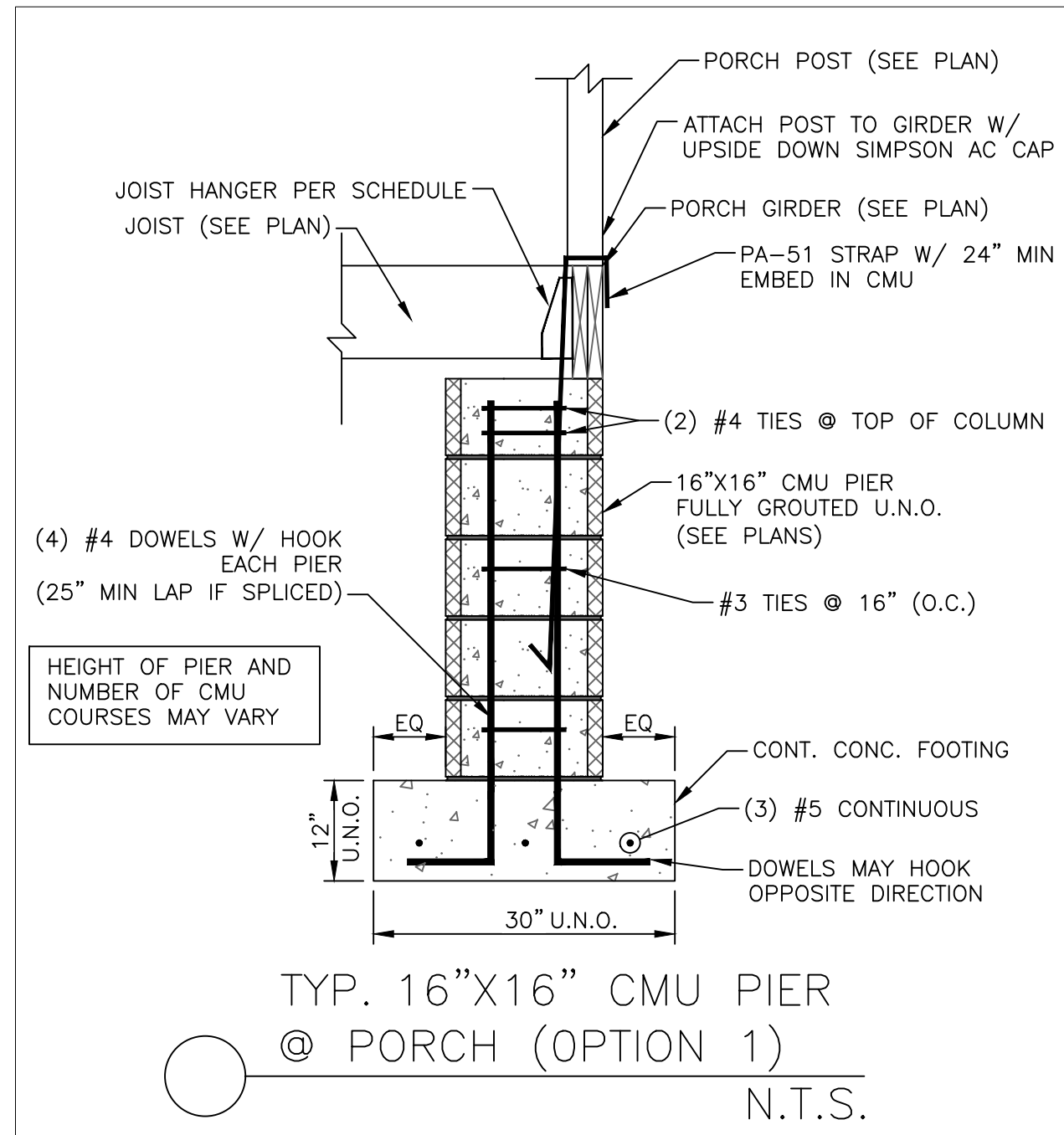
Plans to be used in conjunction  
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general notes

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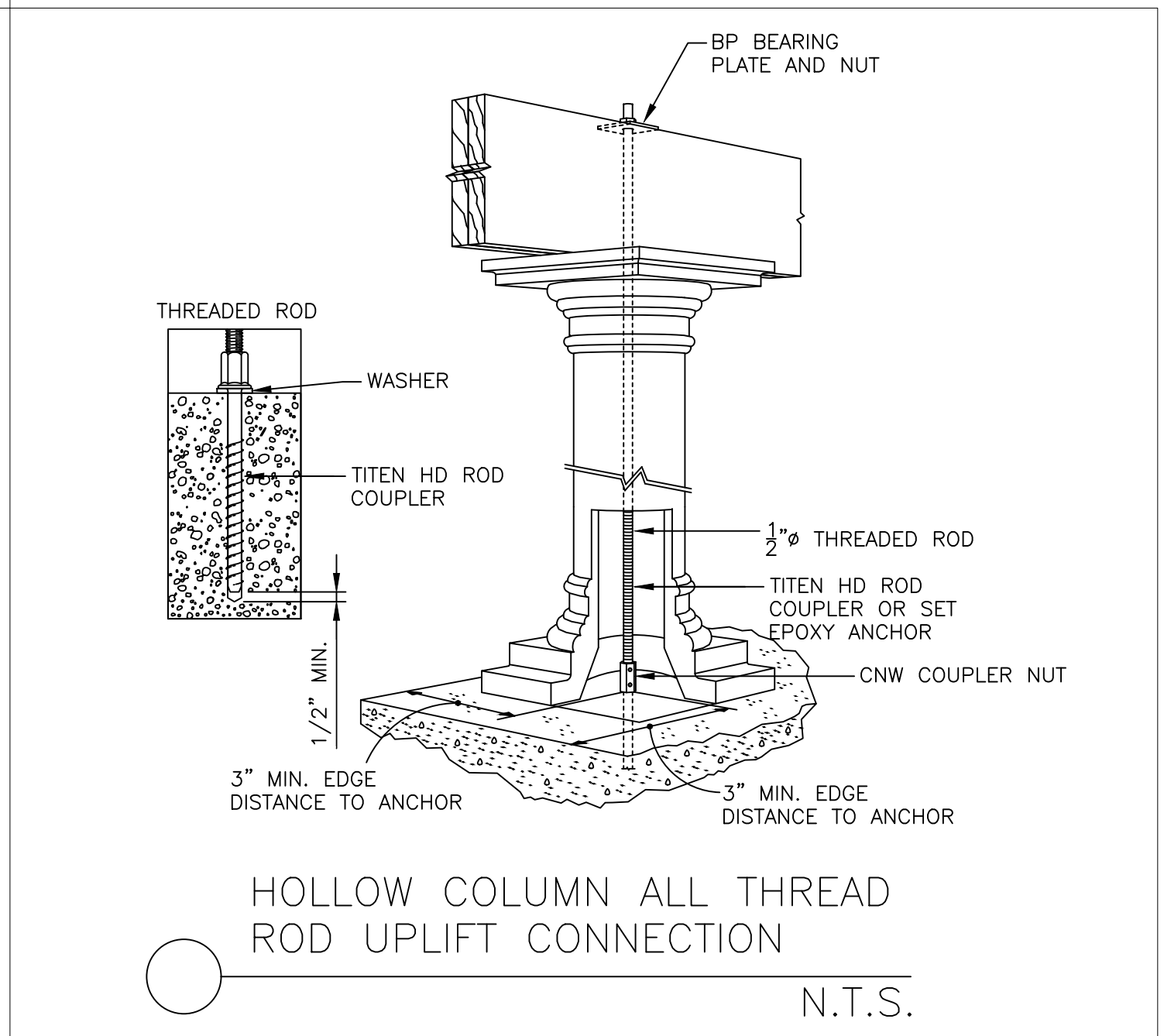
PIER FOUNDATION  
DETAILS

SHEET:  
SD3.0

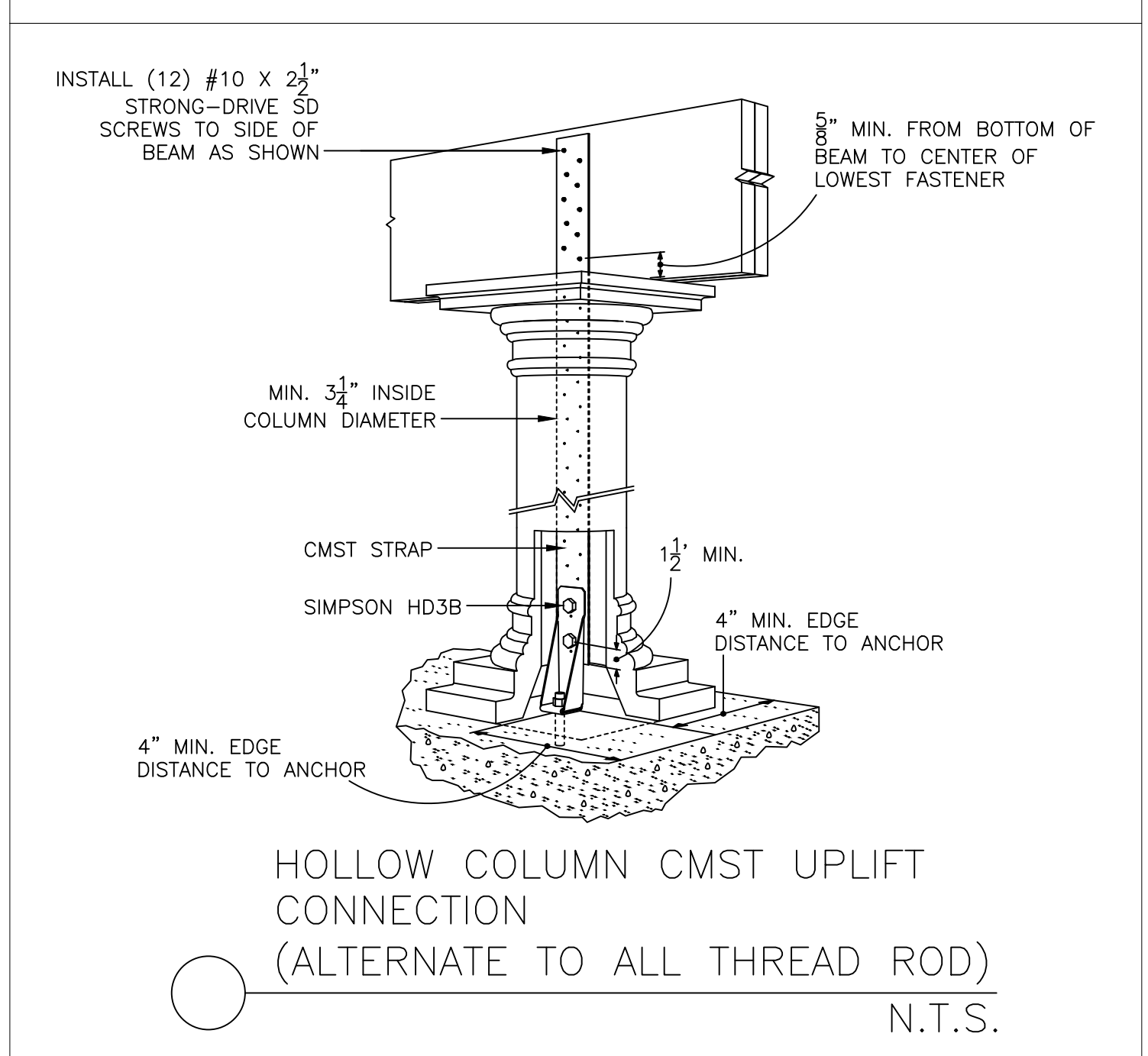


TYP. 16"X16" CMU PIER  
@ PORCH (OPTION 1)  
N.T.S.

TYP. 16"X16" CMU PIER  
@ PORCH (OPTION 2)  
N.T.S.



HOLLOW COLUMN ALL THREAD  
ROD UPLIFT CONNECTION  
N.T.S.



HOLLOW COLUMN CMST UPLIFT  
CONNECTION  
(ALTERNATE TO ALL THREAD ROD)  
N.T.S.



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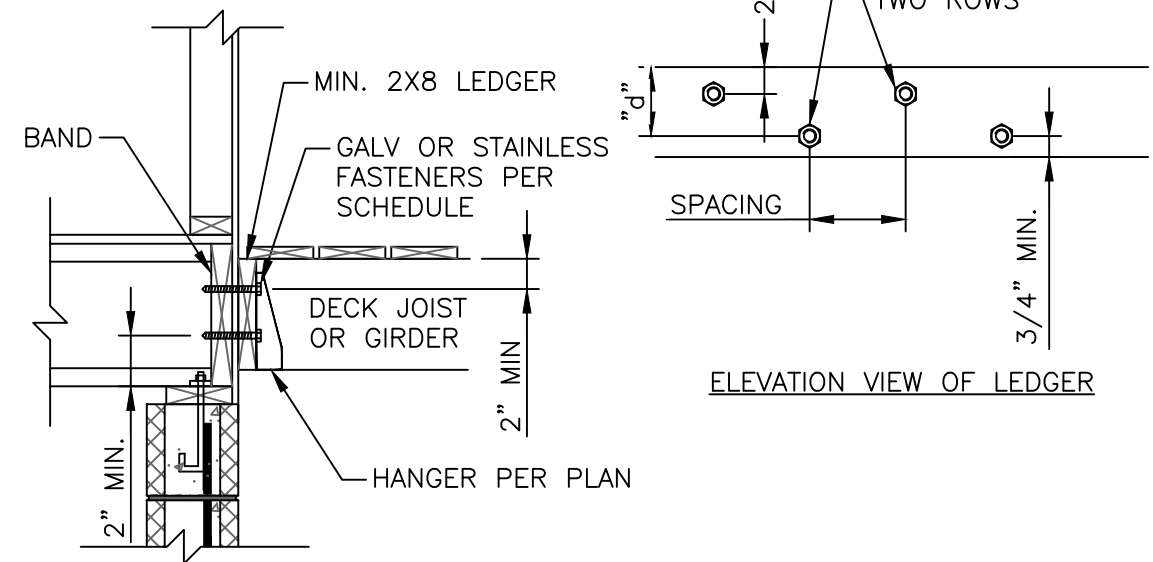
REV.	DATE	DESCRIPTION
DESIGNER:		CCM
DRAFTER:		JKL
SCALE:		AS NOTED
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PORCH DETAILS

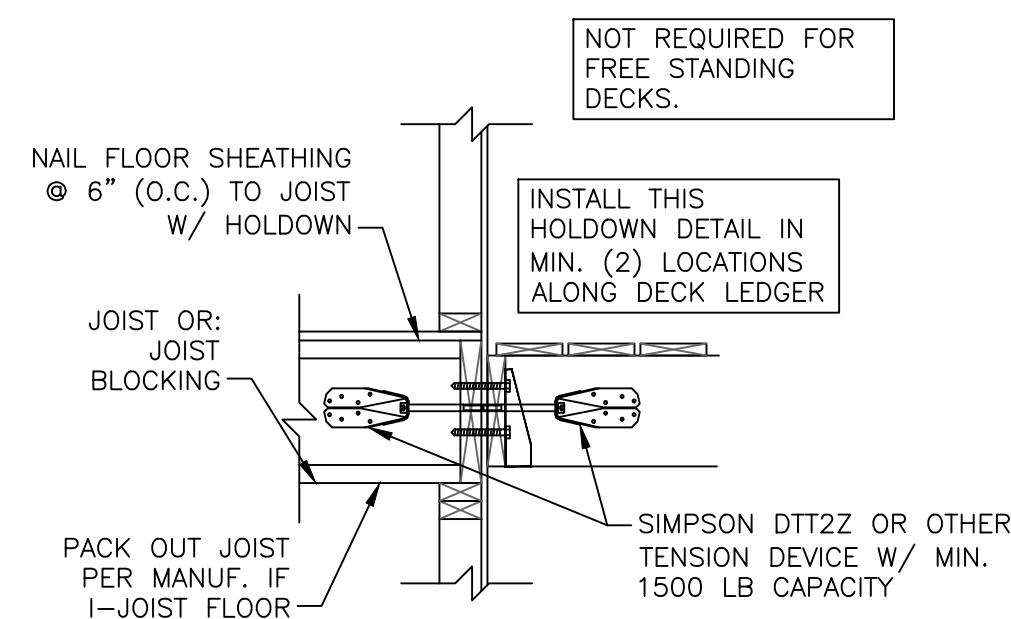
SHEET:  
**SD4.0**

FASTENER SPACING (INCHES)				
PORCH JOISTS	2X6 JOISTS	2X8 JOISTS	2X10 JOISTS	2X12 JOISTS
SPACING	14"	12"	10"	8"
"d"	5½"	5½"	6½"	7½"

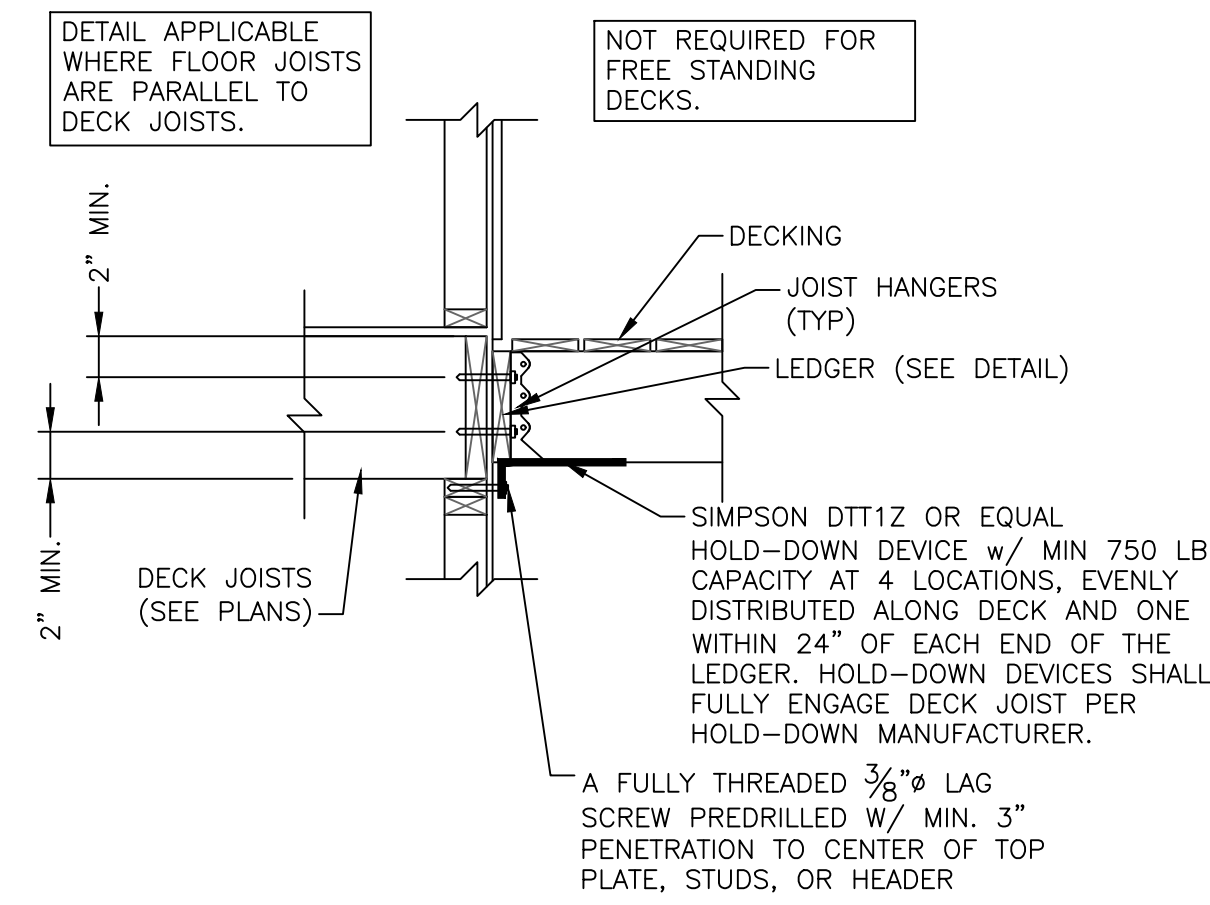
FASTENERS MAY BE: ½" LAG SCREWS OR: ½" THRU BOLTS W/ NUT. MUST BE GALV OR STAINLESS STEEL AND LONG ENOUGH TO PENETRATE HOUSE BAND 1½" MIN. AT ALL LOCATIONS WHERE GIRDER BEAMS CONNECT TO LEDGER, PROVIDE MIN 2 ADDITIONAL FASTENERS ON EACH SIDE OF GIRDER HANGER



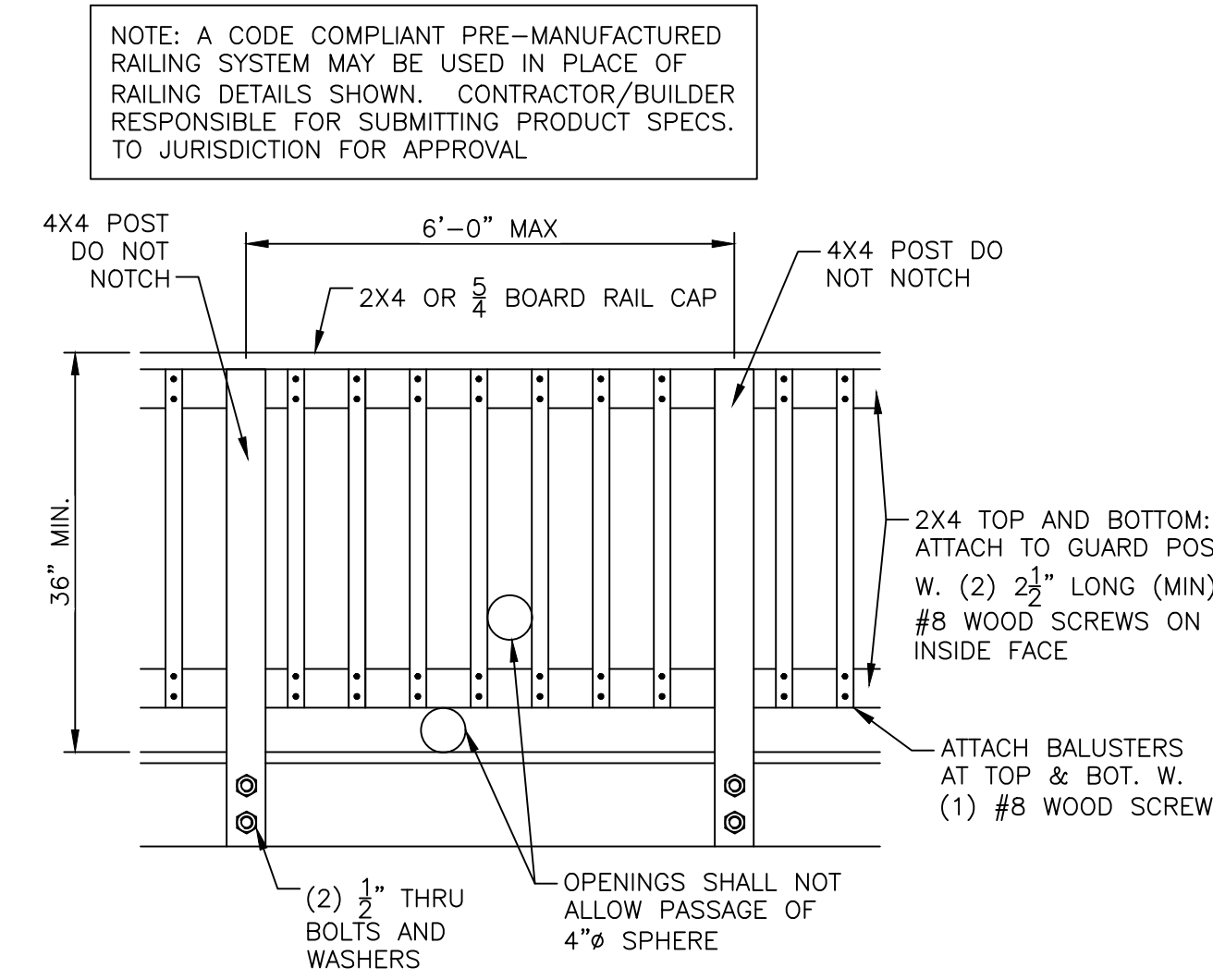
TYP. DECK LEDGER ATTACHMENT  
N.T.S.



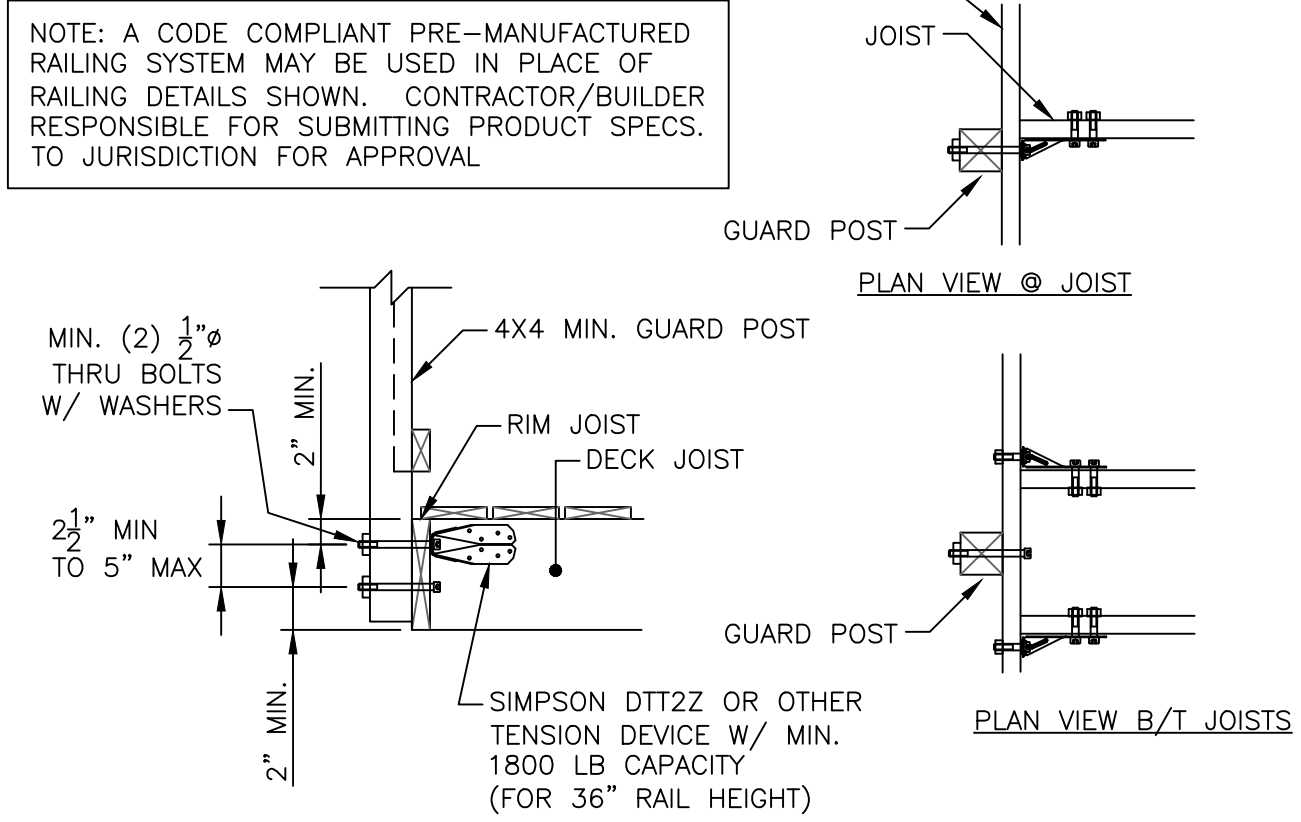
TYP. DECK ATTACHMENT FOR LATERAL STABILITY (OPTION 1)  
N.T.S.



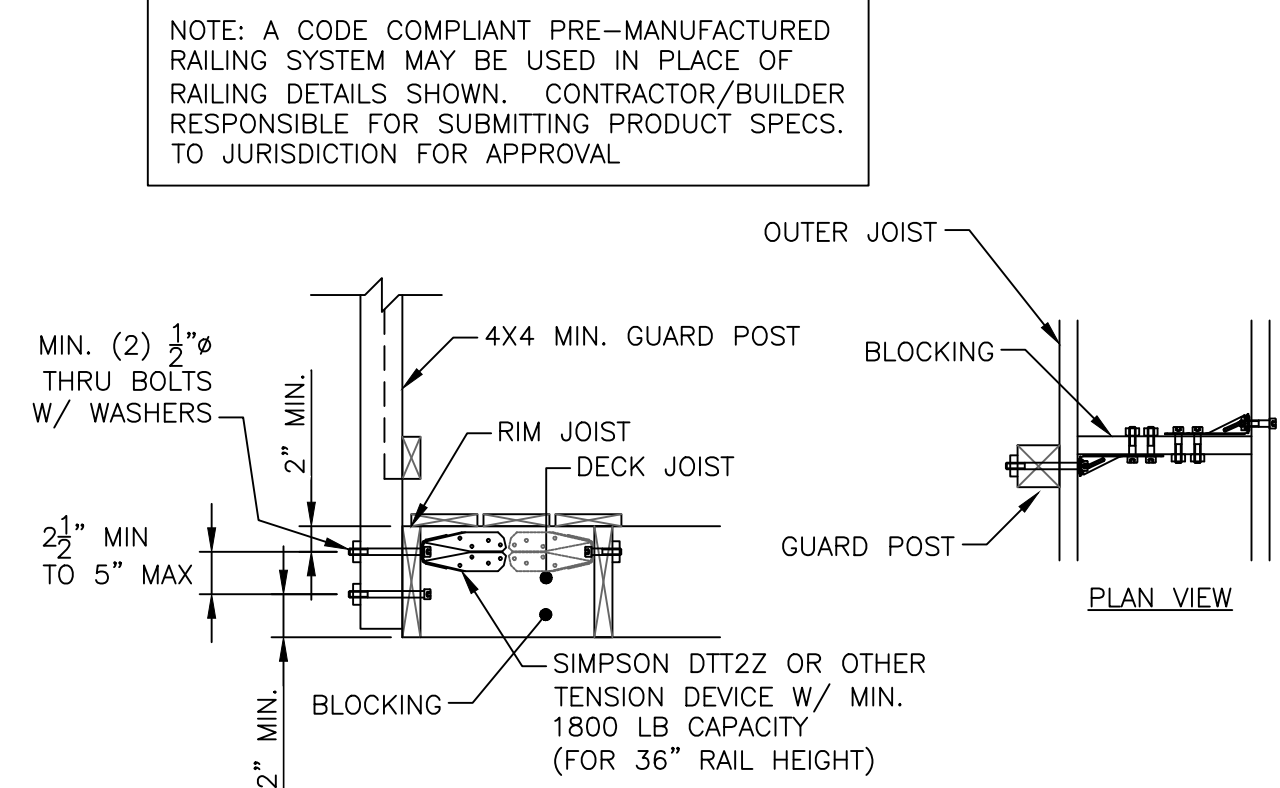
TYP. DECK ATTACHMENT FOR LATERAL STABILITY (OPTION 2)  
N.T.S.



TYP. DECK RAILING DETAIL  
N.T.S.



TYP. GUARD POST ATTACHMENT TO RIM JOIST  
N.T.S.



TYP. GUARD POST ATTACHMENT TO OUTSIDE JOIST  
N.T.S.



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PORCH DETAILS

SHEET:  
SD4.1