

C. CONCRETE

1. The contractor shall verify all dimensions prior to starting construction. The architect shall be notified of any discrepancies or inconsistencies.
2. Dimensions shall take precedence over scale shown on drawings.
3. Notes and details on drawings shall take precedence over general notes and typical notes.
4. All work shall conform to the minimum standards of the following code. The International Building Code, 2018 Edition, and any other regulating agencies which have authority over any portion of the work, and those codes and standards listed in these notes and specifications.
5. See architectural drawings for the following:
 - Size and location of all door and window openings, except as noted.
 - Size and location of all interior and exterior nonbearing partitions.
 - Size and location of all concrete curbs, floor drains, slopes, depressed areas, changes in level, chamfers, grooves, inserts, etc.
 - Size and location of floor and roof openings except as shown
 - Floor and roof finishes
 - Stair framing and details (except as shown)
6. See mechanical, plumbing, and electrical drawings for the following:
 - Pipe runs, sleeves, hangers, trenches, wall and slab openings, etc. Except as shown or noted.
 - Electrical conduit runs, boxes, outlets in walls and slabs.
 - Concrete inserts for electrical, mechanical or plumbing fixtures.
 - Size and location of machine or equipment bases, anchor bolts for mounts.
7. The contract structural drawings and specifications represent the finished structure. They do not indicate the method of construction. The contractor shall provide all measures necessary to protect the structure during construction. Such measure shall include, but not be limited to, bracing, shoring for loads due to construction equipment, etc. Observation visits to the site by the structural engineer shall not include inspection of the above structural members.
8. Openings, pockets, etc. larger than 6 inches shall not be placed in slabs, decks, beams, joists, columns, walls, etc. unless specifically detailed on the structural drawings. Notify the structural engineer when drawings by others show openings, pockets, etc. not shown on the structural drawings but which are located on structural members.
9. ASTM specifications noted shall be the latest revision.
10. Contractor shall investigate site during clearing and earthwork operations for filled excavations or buried structures such as cesspools, cisterns, foundations, etc. If any such structures are found, the structural engineer shall be notified immediately.
11. Construction materials shall be spread out if placed on floors or roof. Load shall not exceed the design live load per square foot. Provide adequate shoring and/or bracing where structure has not attained design strength.
12. Design Loads:
 - Roof:
 - 26 psf DEAD
 - 20 psf LIVE
 - Wind:
 - Velocity 99 mph (3 sec. Gust)
 - Exposure "C"
 - Risk Category = II
 - Seismic:
 - 1. Importance Factor: $I = 1$
 - 2. $S_s = 0.653$ $S_1 = 0.215$
 - 3. Site Class: "D"
 - 4. $S_{ms} = 0.556$ $S_{m1} = 0.311$
 - 5. Seismic Design Category "D"
 - 6. Seismic Force Resisting System: Timber roof diaphragm with wood shear walls.
 - 7. Base Shear:
 - $V = 1.9$ kips
 - 8. $C_s = 0.086$
 - 9. $R = 6.5$
 - 10. Analysis Procedure: Equivalent lateral force procedure.
 - 11. Risk Category: "II"

1. Footings are designed based on an allowable soil pressure of 1000 PSF. Vector Structural Engineering strongly recommends independent soils testing be performed by a licensed geotechnical engineer to verify soil bearing capacity, slope stability, and any other related soil parameters, as required.
2. Contractor shall provide for proper de-watering of excavations from surface water, ground water, seepage, etc.
3. Footings shall be placed according to depths shown on the drawings.
4. Footing back fill and utility trench back fill within building area shall be mechanically compacted in layers. Flooding will not be permitted.
5. All abandoned footings, utilities, etc. that interfere with new construction shall be removed.
6. The soil under perimeter beams and slabs shall be above optimum moisture prior to concrete placement.
7. Hold-down anchor bolts shall meet the requirements of detail 1/SD-1.
8. All $\phi 1/2"$ anchor bolts may be replaced with one of these options, at the spacing indicated below:
 - ICC approved $\phi 1/2"$ Titen HD screws with 4" min. embed
 - $\phi 1/2"$ all thread rod in #5/8" hole with 4" embed using Simpson SET-XP epoxy

WALL TYPE	RETROFIT Ø1/2" TITEN OR ALL-THREAD ROD SPACING
S1, S2, NON-SHEAR	SAME AS Ø1/2" A.B.
S3 & S4	12" O.C.

1. All phases of work pertaining to the concrete construction shall conform to the "Building Code Requirements for Reinforced Concrete" (ACI 318 latest approved edition) with modifications as noted in the drawings and specifications.
2. Reinforced concrete design is by the "Ultimate Strength Design Method", ACI 318—(latest edition)
3. Schedule of structural concrete 28-day strengths and types:

Location in structure	Strength PSI	Type
Slabs on Grade	4500	Hard rock
Footings	4500	Hard rock

Design based on 2500 PSI, 28-day strength, special inspection is not required unless noted otherwise in note M/S1.
4. Concrete mix design shall be submitted to the engineer for approval with the following requirements:
 - a. Compressive strength at age 28 days as specified above.
 - b. Large aggregate—hardrock, 3/4" maximum size conforming to ASTM C-33
 - c. Cement—ASTM C-150, Type V Portland cement
 - d. Maximum slump 5-inches, max water cement ratio: 0.45
 - e. No admixtures, except for entrained air, and as approved by the engineer.
5. Concrete mixing operations, etc. shall conform to ASTM C-94
6. Placement of concrete shall conform to ACI standard 514 and project specifications.
7. Clear coverage of concrete over outer reinforcing bars shall be as follows: Concrete poured directly against earth — 3 inches clear, structural slabs — 3/4 inches clear (top and bottom), formed concrete with earth back log — 2 inches clear.
8. All reinforcing bars, anchor bolts and other concrete inserts shall be well secured in position prior to placing concrete.
9. Provide sleeves for plumbing and electrical openings in concrete before placing. Do not cut any reinforcing that may conflict. Coring in concrete is not permitted except as shown. Notify the structural engineer in advance of conditions not shown on the drawings.
10. Conduit or pipe size (O.D.) shall not exceed 30% of slab thickness and shall be placed between the top and bottom reinforcing, unless specifically detailed otherwise. Concentrations of conduits or pipes shall be avoided except where detailed openings are provided.
11. Modulus of elasticity of concrete, when tested in accordance with ASTM C-460, shall be at least the value given by the equations in section 8.5.1 of ACI 318 for the specified 28-day strength.
12. Shrinkage of concrete, when tested in accordance with ASTM C-157, shall not exceed 0.0004 inches/inch.

1. Reinforcing bars shall conform to the requirements of ASTM A-615 grade 60.
2. All reinforcing bar bends shall be made cold
3. Minimum lap of welded wire fabric shall be 6 inches or one full mesh and one half, which ever is greater.
4. All bars shall be marked so their identification can be made when the final in-place inspection is made.
5. Rebar splices are to be: Class "B"
6. Reinforcing splices shall be made only where indicated on the drawings.
7. Dowels between footings and walls or columns shall be the same grade, size and spacing or number as the vertical reinforcing, respectively.

1. Framing Lumber
 - a. Douglas fir larch No. 2 grade for 2x and 4x framing except for 2x4, 2x6 studs use Douglas fir stud grade, U.N.O.
 - b. 6x framing DFL No. 1 grade
2. Bolt holes shall be 1/16" maximum larger than the bolt size. Re-tighten all nuts prior to closing in.
3. Standard cut washers shall be used under all sill plate anchor bolts, U.N.O. at shear walls. See the Shear Wall Schedule on sheet S1.1 for anchor bolt spacing and washer requirements at shear walls.
4. All sills or plates resting on concrete or masonry shall be preservative treated Douglas Fir. Bolts shall be placed 9 inches from the end of a plate, or from a notch greater than 1/2 the width of the plate, and spaced at intervals noted.
5. Do not notch joists, rafters or beams except where shown in details. Obtain engineer's approval for any holes or notches not detailed. Holes through sills, plates, studs and double plates in interior, bearing and shear walls shall conform with detail 7/SD-1.
6. Connection hardware shall be by USP or Simpson Strong-Tie, or ICC approved equal.

DUAL SPECIFICATION TABLE					
SIMPSON CONNECTOR		USP CONNECTOR	SIMPSON CONNECTOR		USP CONNECTOR
CS16		RS150	HDU2		PHD2A
ST6224		KST224	HDU4		PHD4A
A35		MPA1	HDU5		PHD5A
LUS24—2		JUS24—2	HDU8		PHD8
H1		RT15	HDU11		UPHD11
H10		RT16A			
LTP4		MP4F	STD10		STAD10
LSSU		LSSH	STD14		STAD14

7. Fastening schedule per International Building Code, 2018 Edition, table No. 2304.10.1. Unless noted otherwise.
8. All nails, bolts, holdowns, straps or other steel fasteners in contact with preservative treated timber shall be hot-dipped galvanized, stainless steel or otherwise treated or isolated to prevent chemical attack. Contractor shall verify treatment method and confirm appropriate corrosion resistance be provided in accordance with hardware supplier recommendations.
9. Non-bearing, non-shear interior walls to be anchored to floor and/or roof as indicated on detail 10/S1.1.
10. All exposed deck members shall be preservative treated lumber. Members in contact with ground shall be rated for ground contact exposure.

1. Prefabricated wood roof trusses shall be as designed by the truss manufacturer. Bridging size and spacing by truss manufacturer unless noted otherwise. Contractor shall submit shop drawings, erection drawings and design calculations sealed by an engineer, registered in the state of Nevada, for review prior to manufacture. Calculations and shop drawings shall show any special details required at bearing points. All connectors shall be Simpson or equivalent with current ICC approval.
2. Truss manufacturer to design trusses for lateral load (LAT. = xxxx) in pounds, as shown on plans. Lateral loads are ASD level loads.
3. Additional trusses shall be supplied as required to support mechanical equipment.
4. All truss-to-truss and truss-to-beam connectors per truss manufacturer.

1. Glue laminated beams shall be 24F-V4 (cantilevers and continuous beams shall be 24F-V8) and have the following minimum properties: fb=2400 psi, Fv=265 psi, Fc (perpendicular)=650 psi, E=1,800,000 psi. All beams shall be fabricated using waterproof glue. Fabrication and handling per latest AITC or APA standards. Beams to bear gear stamp and AITC or APA stamp and certificate. Moisture content shall be limited to 12% or less.

1. Laminated veneer product to have: $F_b=2600$ psi, $F_v=285$ psi, $E=1.9 \times 10^6$ psi
2. Double & triple LVL beams shall be nailed together as follows:
 - Provide (2) rows of 16d sinkers at 12" O.C. for beams < 11 7/8" deep
 - Provide (3) rows of 16d sinkers at 12" O.C. for beams > 11 7/8" deep
3. Beams w/ (4) or more plies shall be bolted together as indicated in the manufacturer's written specifications.
4. PSL beams of equal dimension, and all properties equal or greater than those listed in item 1, may be substituted without any additional review.

1. All wood structural panels shall be plywood or APA rated oriented strand board. Panels shall bear the stamp of an approved agency. Panels shall be of the span/index rating shown on the plans. Fastening shall be indicated on the plans.
2. All plywood shall be C-D interior sheathing with exterior glue. Plywood shall be 4-ply, minimum.

1. Shop drawings shall be submitted for all structural items in addition to items required by architectural specifications.
2. The contractor shall review all shop drawings prior to submittal. Items not in accordance with contract drawings shall be flagged for review.
3. Verify all dimensions with architect.
4. Any changes, substitutions, or deviations from original contract drawings shall be redlined or flagged by submitting parties, shall be considered approved after engineers review, unless noted otherwise.
5. The engineer has the right to approve or disapprove any changes to the original drawings at anytime before or after shop drawings review.
6. The shop drawings do not replace the original contract drawings. Items omitted or shown incorrectly and are not flagged by the structural engineer or architect are not to be considered changes to the original contract drawings.
7. The adequacy of engineering designs and layout performed by the others rests with the designing or submitting authority.
8. Reviewing is intended only as an aid to the contractor in obtaining correct shop drawings. Responsibility for corrections shall rest with the contractor.

1. Roof sheathing
15/32" wood structural panel: plywood or oriented strand board (O.S.B.) panel index = 32/16, unblocked, nail with 8d common nails at 6" O.C. at all boundaries and supported edges, 12" O.C. field. Minimum penetration 1" in supporting member (NER 272).
2. Shear wall sheathing
Sheathing for shear walls shall be as indicated on the shear wall plans and schedules. Sheathing at shear walls may be installed with panels horizontal or vertical. All shear wall panels shall have minimum wood structural panel span rating of 24/0 or "Wall-16."

1. Hot-rolled structural steel shapes & plates shall be per ASTM A36 with the following exception. All W-Flange shapes shall be per ASTM A992.
2. Structural steel pipe shall be per ASTM A53 grade B, Tube steel per ASTM A500 Grade B.
3. Nuts & bolts in structural steel connections shall be per ASTM 325N, with hardened washers. Design is based upon bearing type connections with thread not excluded, therefore, no special inspection required, U.N.O. in note M below.
4. Anchor bolts shall be per ASTM F1554, U.N.O.
5. Welds shall be by E70XX, low hydrogen electrodes, all welding shall be performed in a shop approved by the building official.
6. Grout material for base plates shall be non-metallic, non-shrink, pre-packaged grout conforming to ASTM C 1107.

1. The seismic lateral load resisting system consists of timber roof & floor diaphragms with wood shear walls.
2. Special inspections shall be required:
 - All post-installed anchorage to concrete (periodic)
 - a. The owners shall employ special inspectors who shall provide additional inspections during construction in accordance with IBC section 17.
 - b. All special inspections shall be performed by an independent certified inspector from an established testing agency, licensed and approved by the building department.
 - c. The testing agency shall send copies of all structural testing and inspection reports directly to Vector Structural Engineering and all interested parties.
3. Structural testing is not required.
4. All reports shall be distributed on a monthly basis to the engineer of record, owner, contractor, and to the building official.
5. No structural observation is required. However, the engineer of record reserves the right to make field observations during construction approximately once per week.

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ENGINEERS

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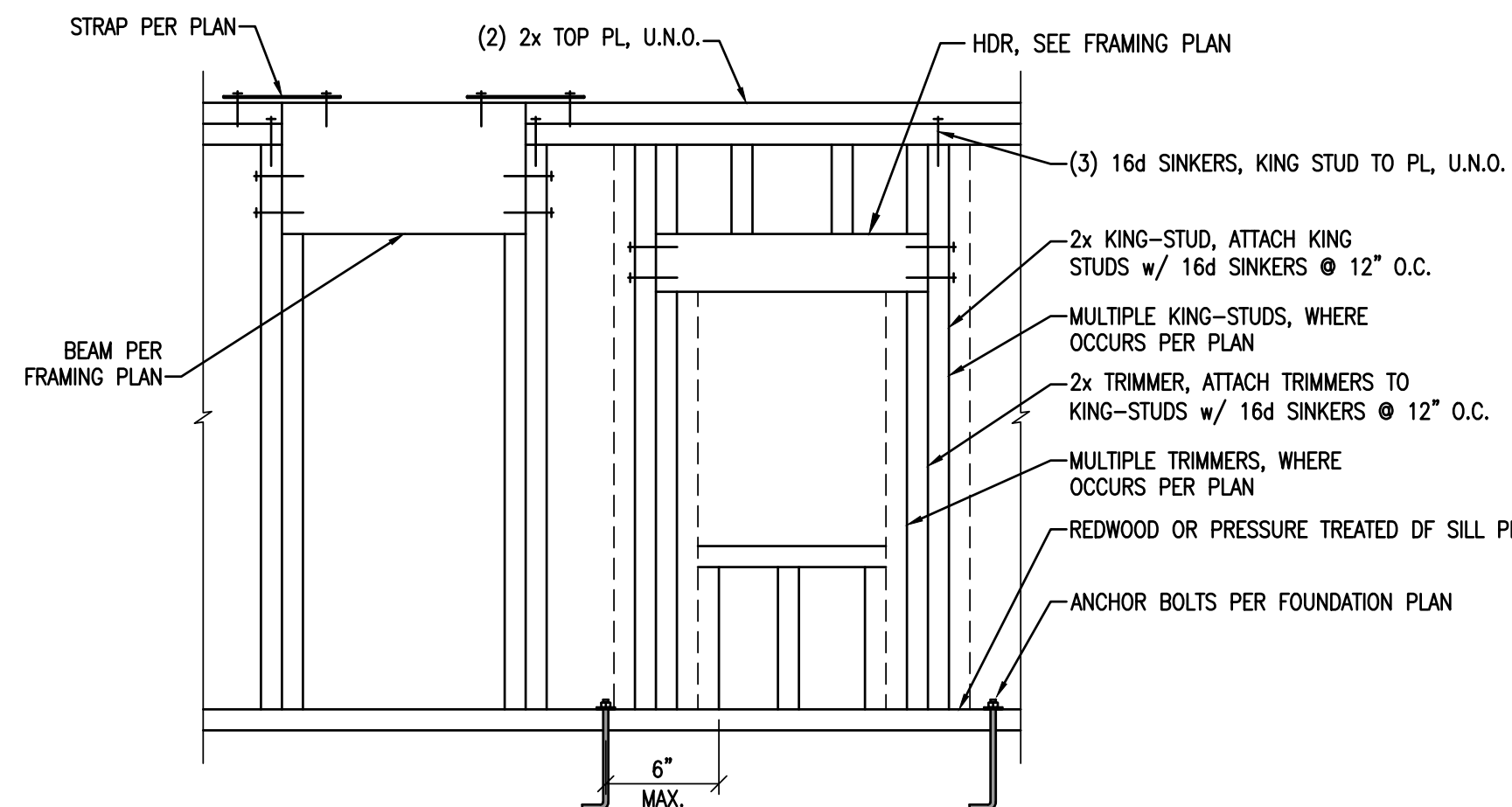
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STUD WALL TYPE		BEARING AND/OR SHEAR WALLS (MAX. HEIGHT)		NON-BEARING AND NON-SHEAR WALLS (MAX. HEIGHT)
		EXTERIOR	INTERIOR	INTERIOR ONLY
2x4 STUD @ 16" O.C.		8'-6"	10'-0"	13'-0"
2x4 STUD @ 12" O.C.		9'-6"	11'-6"	14'-0"
(2) 2x4 STUD @ 16" O.C.		12'-0"	13'-6"	14'-0"
2x4 DFL #2 @ 16" O.C.		9'-0"	11'-0"	13'-0"
2x4 DFL #2 @ 12" O.C.		10'-6"	13'-0"	14'-0"
(2) 2x4 DFL #2 @ 16" O.C.		13'-0"	13'-6"	14'-0"
2x6 STUD @ 16" O.C.		14'-6"	19'-0"	20'-0"
2x6 STUD @ 12" O.C.		17'-0"	21'-0"	22'-0"
(2) 2x6 STUD @ 16" O.C.		21'-0"	22'-0"	22'-6"
2x6 DFL #2 @ 16" O.C.		16'-6"	19'-6"	20'-0"
2x6 DFL #2 @ 12" O.C.		18'-6"	21'-6"	22'-0"
(2) 2x6 DFL #2 @ 16" O.C.		22'-6"	22'-6"	22'-6"
2x8 DFL #2 @ 16" O.C.		22'-0"	26'-6"	27'-0"
2x8 DFL #2 @ 12" O.C.		25'-6"	28'-0"	30'-0"
(2) 2x8 DFL #2 @ 16" O.C.		29'-6"	29'-6"	30'-0"
1-3/4 x 7-1/4 LVL STUDS @ 16" O.C.		27'-0"	30'-0"	30'-0"
1-3/4 x 5-1/2 LVL STUDS @ 16" O.C.		20'-6"	21'-6"	22'-0"

NOTES:









1. THIS TABLE ASSUMES IBC WIND LOADS $w/115$ mph, EXP. "C" AT EXTERIOR WALLS & 5 psf LATERAL LOAD AT INTERIOR WALLS.
2. THIS TABLE ASSUMES AXIAL DL = 710 lb/ft, LL = 760 lb/ft. AT EXTERIOR AND INTERIOR WALLS.
3. THIS TABLE ASSUMES IBC 5psf LATERAL LOAD @ INTERIOR WALLS.





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SHEAR WALL SCHEDULE						
MARK	MIN. MATERIAL	EDGE / BOUNDARY NAILING	FIELD NAILING	SOLE PL. NAILING, WHERE OCCURS	WALL CAPACITY SEISMIC WIND	DEFAULT SILL ANCHORAGE, U.N.O.
	3/8" PLYWOOD OR O.S.B.	8d COMMON NAILS @ 6" O.C.	8d COMMON NAILS @ 12" O.C.	16d SINKERS @ 6" O.C.	260 plf 365 plf	
	3/8" PLYWOOD OR O.S.B.	8d COMMON NAILS @ 4" O.C.	8d COMMON NAILS @ 12" O.C.	16d SINKERS @ 4" O.C.	365 plf 520 plf	
	3/8" PLYWOOD OR O.S.B.	8d COMMON NAILS @ 3" O.C.	8d COMMON NAILS @ 12" O.C.	16d SINKERS @ 3" O.C.	490 plf 685 plf	
	3/8" PLYWOOD OR O.S.B.	8d COMMON NAILS @ 2" O.C.	8d COMMON NAILS @ 12" O.C.	16d SINKERS @ 2" O.C.	640 plf 895 plf	

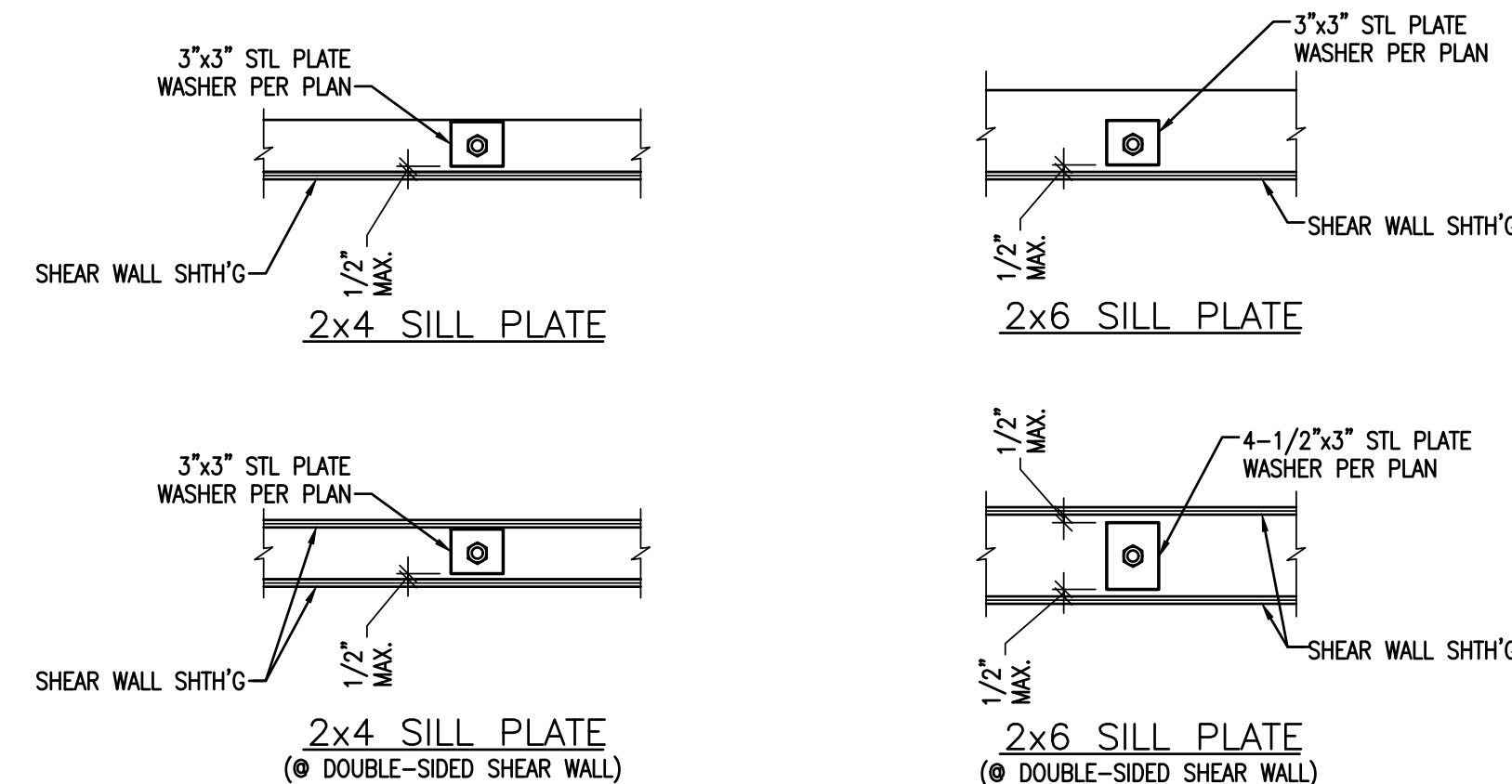
SILL ANCHORAGE SCHEDULE				
MARK	NOMINAL SILL PL THICKNESS	#1/2" A.B. SPACING	#5/8" A.B. SPACING	CAPACITY
	2x	32" O.C.	48" O.C.	370 plf
	2x	24" O.C.	32" O.C.	520 plf
	2x	16" O.C.	24" O.C.	740 plf
	2x	12" O.C.	16" O.C.	1040 plf

SHEAR WALL LENGTH TOLERANCES	
SPECIFIED SHEAR WALL LENGTH	ACCEPTABLE SHEAR WALL TOLERANCE
UP TO 3'-0"	± 2"
OVER 3'-0" AND UP TO 5'-0"	± 3"
OVER 5'-0" AND UP TO 7'-0"	± 4"
OVER 7'-0" AND UP TO 10'-0"	± 6"
OVER 10'-0"	± 8"

1. ALL SHEAR WALLS SHALL BE FRAMED TO THE MINIMUM LENGTHS SHOWN ON THE PLANS WITH THE TOLERANCES INDICATED ON THE TABLE ABOVE, U.N.O. ON PLAN W/ MINIMUM WALL LENGTH.
2. ALL SHEAR WALLS SHALL TERMINATE ON AT LEAST (1) FULL HEIGHT STUD. ADDITIONAL STUDS OR SOLID POSTS SHALL BE INSTALLED AS REQUIRED FOR HOLDOWNS WHERE THEY OCCUR.
3. 8d COMMON NAIL SHANK DIAMETER = .131", 16d SINKER SHANK DIAMETER = .148"
FOR "P3" AND "P4" SHEAR WALLS, ALL FRAMING RECEIVING EDGE NAILING FROM ADJOINING PANEL EDGES SHALL BE 3-INCH NOMINALLY WIDER ANCHOR BOLTS SHALL BE PLACED AT AN ALTERNATE, (2) 2x STUDS MAY BE USED PROVIDED THEY ARE NAILED TOGETHER W/ (2) 16d SINKERS @ 6" O.C. FULL HEIGHT.
4. FOR "P2", "P3" AND "P4" DOUBLE-SIDED SHEAR WALLS, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS, OR FRAMING SHALL BE 3-INCH NOMINALLY OR WIDER AT ADJOINING PANEL EDGES AND NAILS ON EACH SIDE SHALL BE STAGGERED.
5. ALL ANCHOR BOLTS SHALL HAVE 7" MINIMUM EMBEDMENT.
6. ALL SHEAR WALL ANCHOR BOLTS SHALL INCLUDE A STEEL 3"x3"x0.229" PLATE WASHER BETWEEN THE SILL PL. & NUT. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/8" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1X". PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT. THE ANCHOR BOLT SHALL BE OFFSET TOWARD THE SHEATHED WALL EDGE TO LIMIT THE GAP BETWEEN THE EDGE OF WASHER TO SHEATHING TO A MAXIMUM OF 1/2". WHERE BOTH SIDES OF A 2x6 WALL IS SHEATHED A STEEL 4-1/2"x3"x0.229" PLATE WASHER SHALL BE CENTERED ON THE SILL PLATE, PER DTL 2/1-.

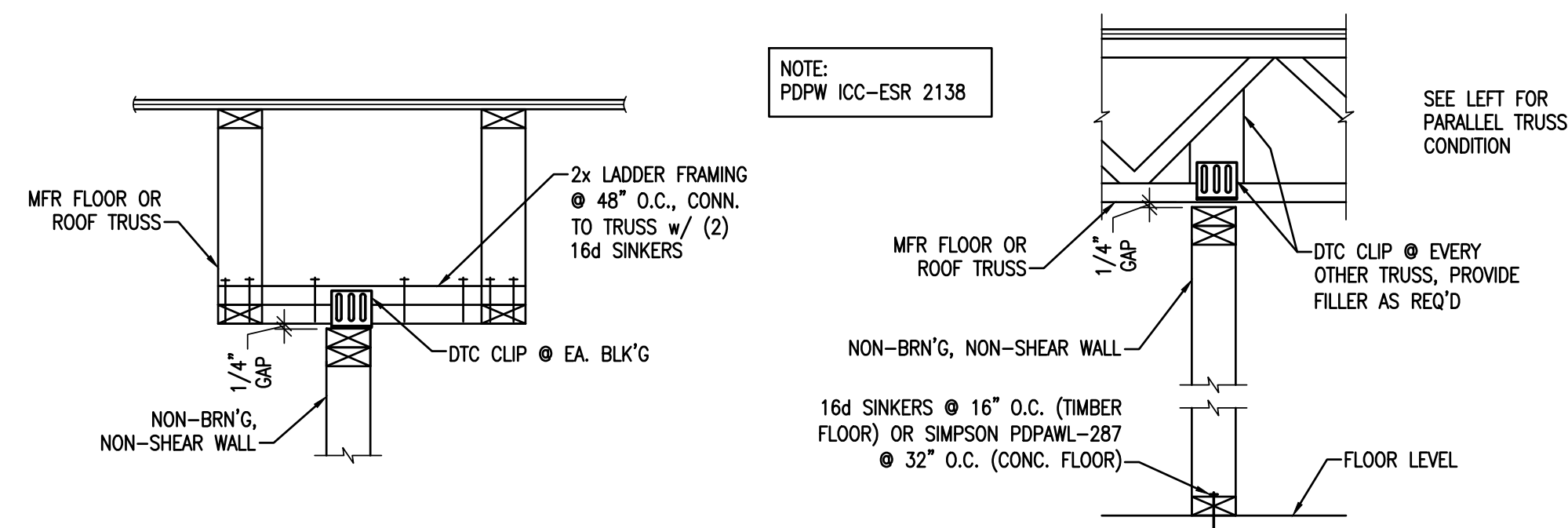
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FOOTING SCHEDULE		
MARK	SIZE	REINFORCING, BOTTOM
F2.0	2'-0" SQ. x 12" THICK	(3) #4 EACH WAY
F2.5	2'-6" SQ. x 12" THICK	(4) #4 EACH WAY
F3.0	3'-0" SQ. x 12" THICK	(4) #4 EACH WAY
F3.5	3'-6" SQ. x 12" THICK	(5) #4 EACH WAY
F4.0	4'-0" SQ. x 12" THICK	(6) #4 EACH WAY
F4.5	4'-6" SQ. x 12" THICK	(6) #4 EACH WAY
F5.0	5'-0" SQ. x 12" THICK	(7) #4 EACH WAY
F5.5	5'-6" SQ. x 12" THICK	(8) #4 EACH WAY

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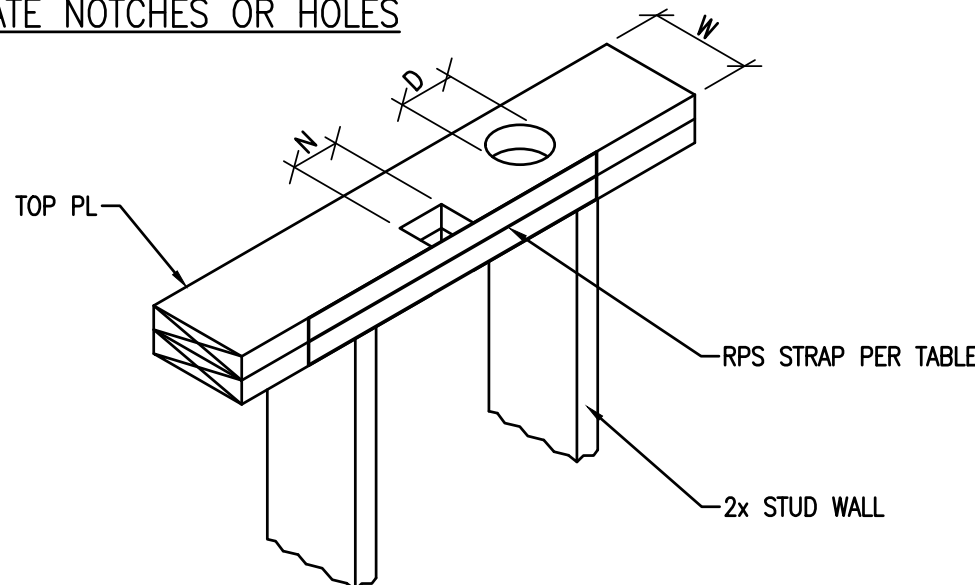


FOUNDATION PLAN

ROOF FRAMING PLAN

S2

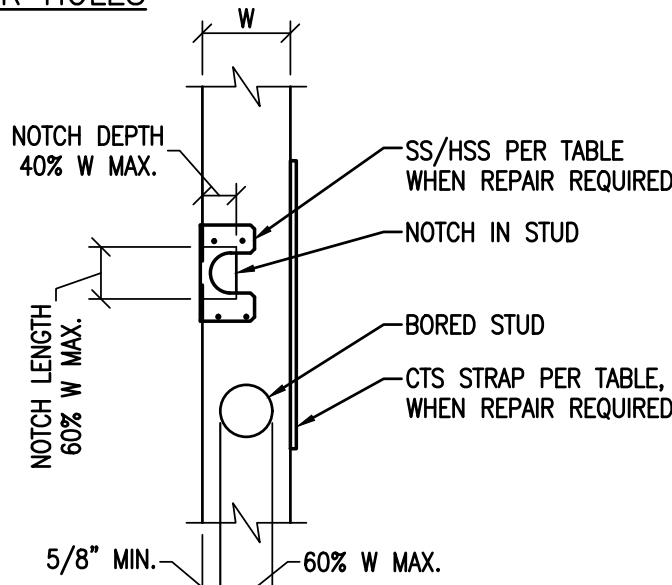
PLATE NOTCHES OR HOLES



2x4 STUD HOLE DIA. 'D'	2x6 STUD HOLE DIA. 'D'	2x4 & 2x6 PLATE NOTCH WIDTH 'N' (MAX. NOTCH DEPTH = W/2)	RPS STRAP
≤ 7/8"	≤ 1"	≤ 1"	NONE
≤ 1"	≤ 1 3/8"	≤ 2 1/2"	(1) RPS18
≤ 1 3/8"	≤ 2 1/8"	≤ 5 1/2"	(2) RPS18
≤ 2"	≤ 3 1/4"	≤ 12"	(2) RPS28

- NOTES:
- USE RPSZ FOR SILL PLATE.
 - CENTER STRAPS @ NOTCH OR HOLE.
 - WHERE ROOF TRUSS OR FLOOR JOIST IS BEARING WITHIN STUD BAY OF THE HOLE OR NOTCH, INSTALL AN ADDITIONAL STUD DIRECTLY BELOW THE TRUSS OR JOIST UNLESS NO RPS STRAP IS REQUIRED OR WHERE EXISTING STUD FACE IS WITHIN 3" OF TRUSS OR JOIST FACE.
 - NOTCHES & HOLES MUST BE SEPARATED BY "2x0" OR "2xN".
 - WHERE MULTIPLE HOLES ARE LOCATED ADJACENT TO EACH OTHER, THE STRAP REPAIR MAY BE WITH A CS16 STRAP ON EACH SIDE OF THE UPPER PLATE. THE STRAPS AND NAILING SHALL EXTEND AT LEAST 8" BEYOND EACH END OF THE WHOLE GROUP. NAILING BETWEEN THE HOLES IS NOT REQUIRED. NAILS IN THE CS16 STRAPS MAY BE N6'S OR N10'S.

STUD NOTCHES OR HOLES



ALLOWABLE HOLES OR NOTCHES FOR NON-BEARING, NON-SHEAR OR INTERIOR PARTITIONS (NO REPAIR REQ'D)

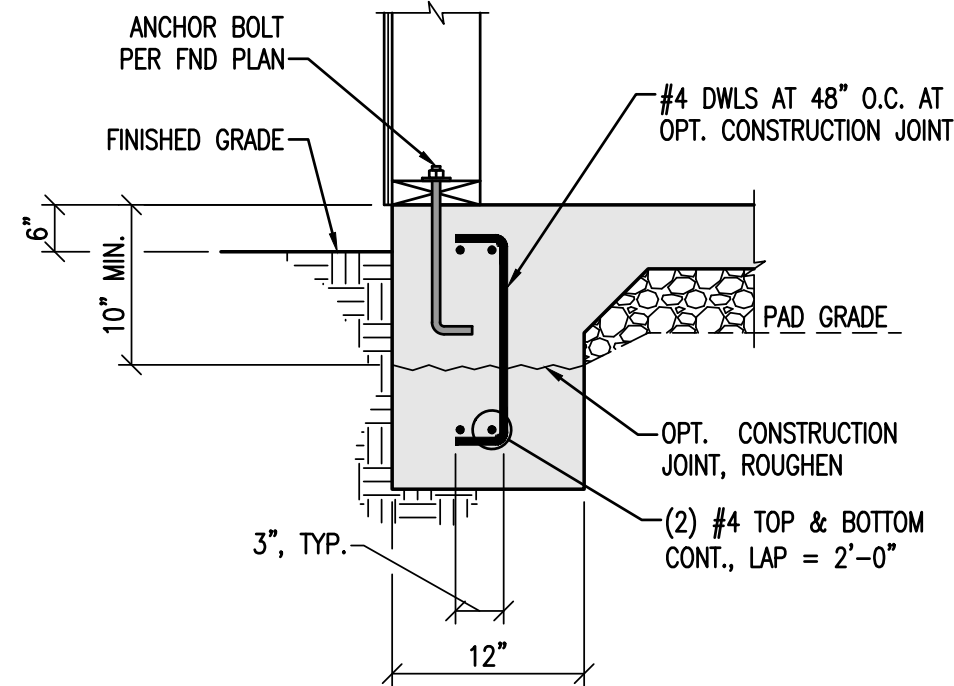
HOLE / NOTCH SCHEDULE			
HOLE / NOTCH % OF 'W'	2x4 STUD	2x6 STUD	
25%	3/4"	1-3/8"	
40%	1-3/8"	2-1/8"	
60%	2"	3-1/4"	

- NOTES:
- HOLES & NOTCHES SHALL NOT OCCUR IN THE SAME STUD.
 - WHERE HOLES OR NOTCHES EXCEED THOSE SHOWN ABOVE, REPAIR PER TABLE BELOW.
 - ALL NOTCHES IN BEARING OR SHEAR OR EXTERIOR WALLS REQUIRE REPAIRS.

STUD HOLE REPAIR			
	2x4 STUD	2x6 STUD	REPAIR
	HOLE DIA. 'D'	HOLE DIA. 'D'	
NON-BEARING & NON-SHEAR & INTERIOR	≤ 2 3/4"	≤ 4 1/2"	(1) CTS218 w/ 10d
BEARING OR SHEAR OR EXTERIOR WALL	≤ 3/4"	≤ 1 3/8"	(1) CTS218 w/ 10d
BEARING OR SHEAR OR EXTERIOR	≤ 2 3/4"	≤ 4 1/2"	(2) CTS218 TWO-SIDED w/ 10d

STUD NOTCH REPAIR					
	2x4 STUD	2x4 STUD	2x6 STUD	2x6 STUD	REPAIR
	NOTCH DEPTH	NOTCH LENGTH	NOTCH DEPTH	NOTCH LENGTH	
NON-BEARING & NON-SHEAR & INTERIOR	≤ 2 1/2"	≤ 4 1/2"	≤ 3 3/4"	≤ 4 1/2"	(1) CTS218 w/ 10d
BEARING OR SHEAR OR EXTERIOR WALL	≤ 2 1/2"	≤ 2 1/2"	≤ 2 1/2"	≤ 2 1/2"	SS w/ 10d
BEARING OR SHEAR OR EXTERIOR	≤ 2 3/4"	≤ 4 1/2"	≤ 4 1/2"	≤ 4 1/2"	(2) CTS218 TWO-SIDED w/ 10d

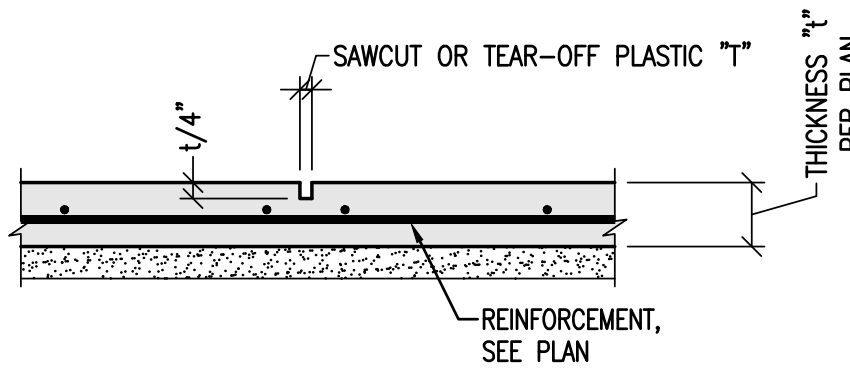
N.T.S.



NOTE: BOTTOM OF FOOTING TO BE 12" BELOW LOWEST ADJACENT GRADE. PROVIDE GREATER DEPTH AS REQ'D FOR HOLDOWN ANCHOR BOLTS.

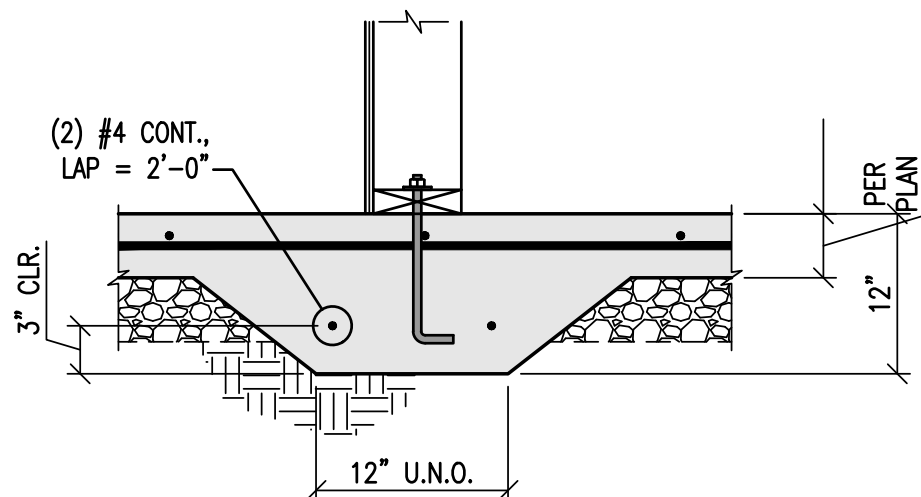
N.T.S.

3



N.T.S.

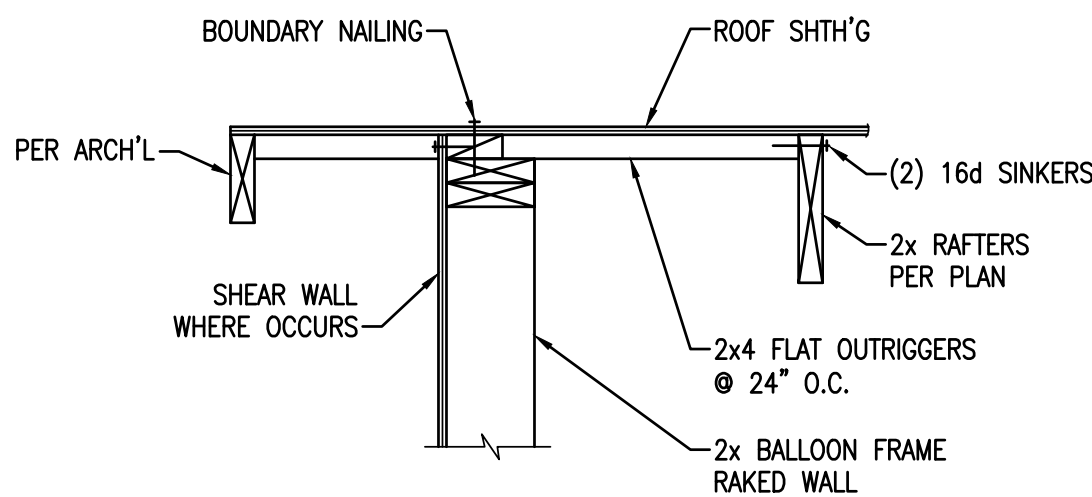
4



NOTE: DEEPEN AS REQ'D FOR HOLDOWN ANC. BOLTS

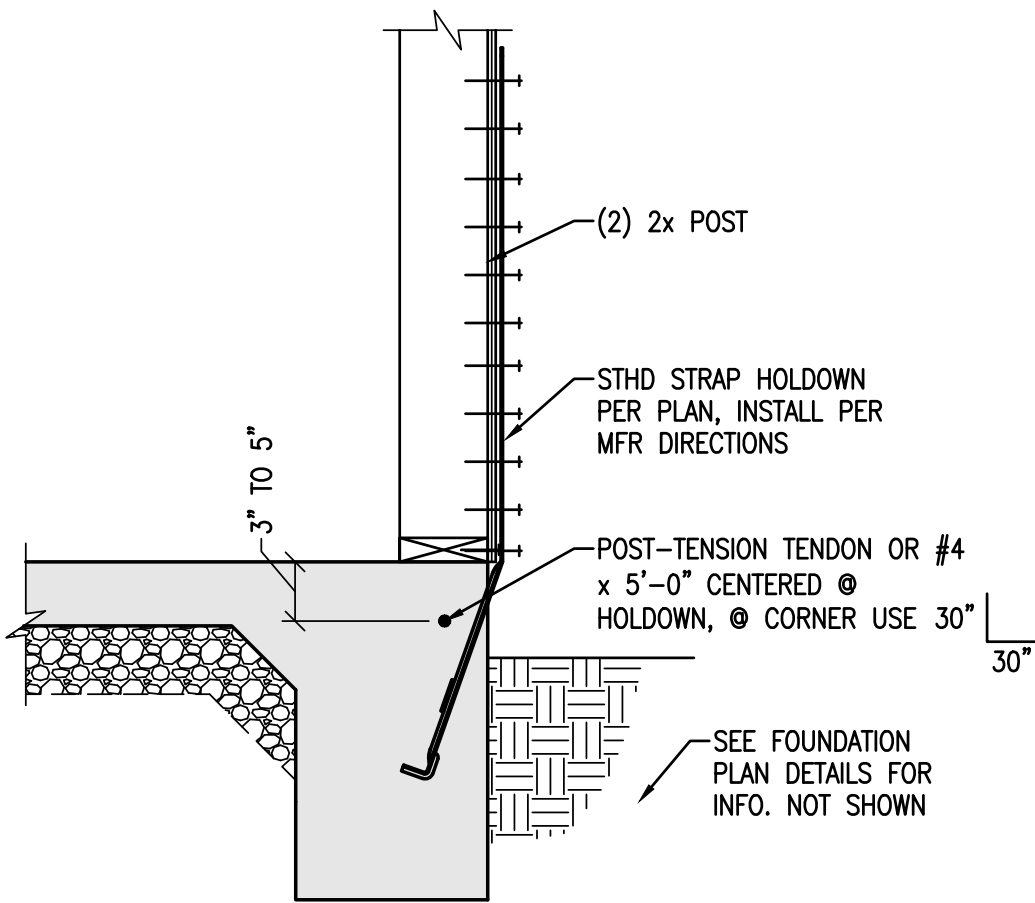
N.T.S.

5

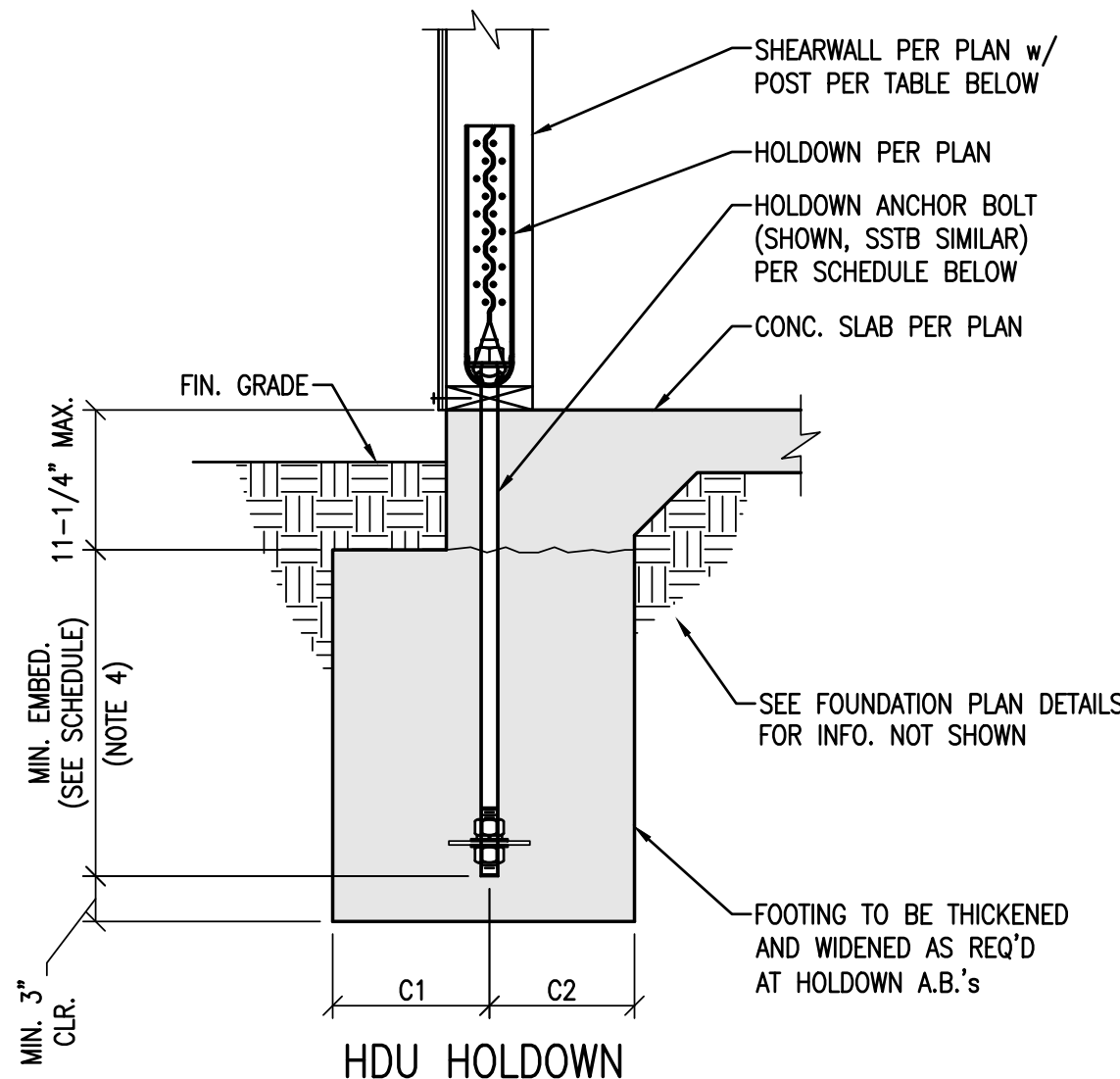


N.T.S.

6



STRAP HOLDOWN



HDU HOLDOWN

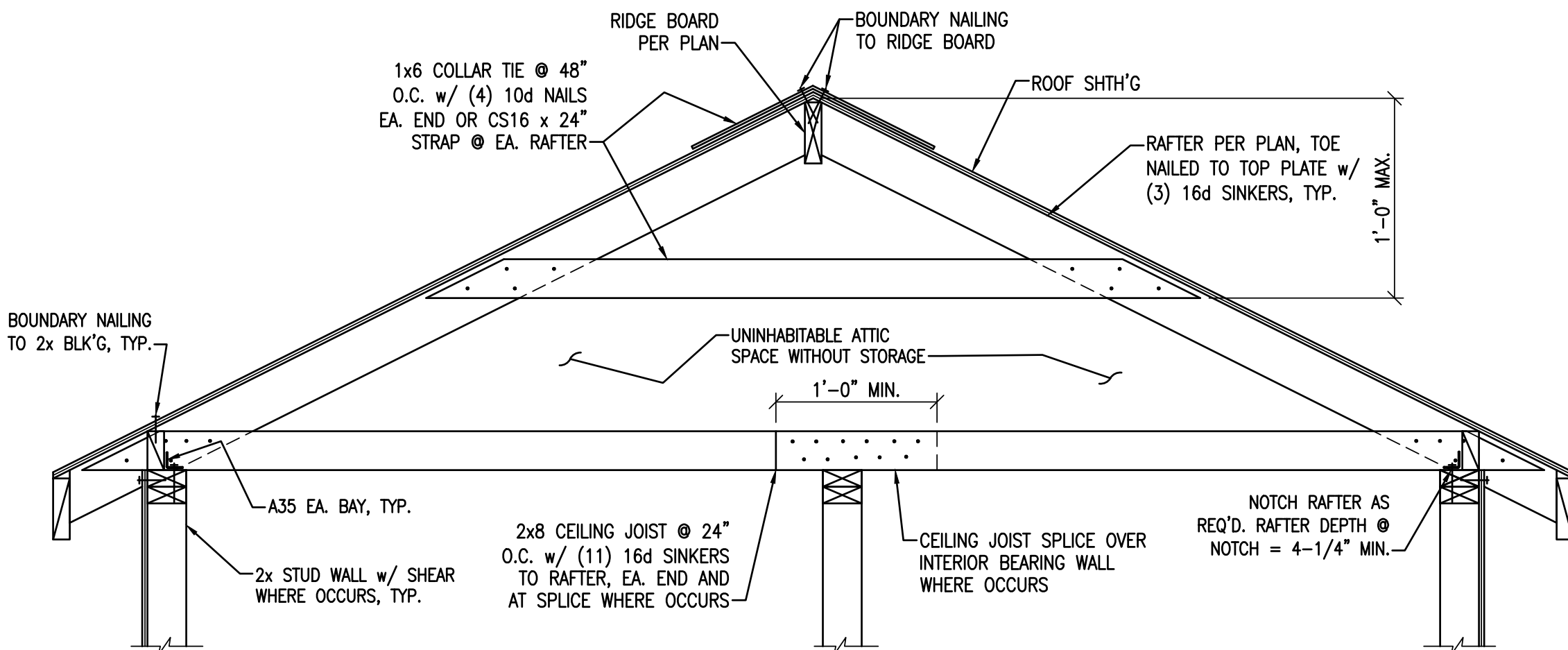
N.T.S.

1

ANCHORAGE								
HOLDOWN	ANCHORAGE (CAST IN PLACE)		ANCHORAGE (RETROFIT)		CAST IN PLACE OR RETROFIT			
	SSTB	ALL THREAD ROD (NOTE 1)	ALL THREAD ROD (NOTE 2 & 3)	HOLE DIAMETER	EMBEDMENT	C1	C2	FOOTING
HDU2 - SDS2.5	SSTB24	#5/8" F1554	#5/8" F1554	3/4"	10"	8"	8"	(2) 2x PER FOUNDATION DETAILS
HDU4 - SDS2.5	SSTB24	#5/8" F1554	#5/8" F1554	3/4"	11.5"	10"	10"	(2) 2x PER FOUNDATION DETAILS
HDU5 - SDS2.5	NONE	#5/8" F1554	#5/8" F1554	3/4"	12.5"	12"	12"	(2) 2x SPREAD FOOTING REQUIRED
HDU8 - SDS2.5	NONE	#7/8" F1554	#7/8" F1554	1"	16.5"	15"	15"	(3) 2x SPREAD FOOTING REQUIRED
HDU11 - SDS2.5	NONE	#1" F1554	#1" F1554	1-1/4"	20"	18"	18"	6x6 SPREAD FOOTING REQUIRED

NOTES:

- PROVIDE 2-1/8"x2-1/8"x3/8" STEEL PLATE w/ (2) NUTS @ CAST IN PLACE ANCHORS.
- RETROFIT ALL-THREAD ROD IN HOLES w/ SIMPSON SET-XP EPOXY. PREPARE HOLES & INSTALL EPOXY PER MFR DIRECTIONS w/ EMBEDMENT AND EDGE DISTANCES AS SHOWN.
- SIMPSON SET-XP EPOXY PER ICC-ES 2508.
- INCREASE FOOTING DEPTH AS REQUIRED FOR 3" MIN. COVER BELOW BOLT & COORDINATE EXACT LOCATIONS WITH THE FRAMING CONTRACTOR.
- HOLDOWNS MAY BE INSTALLED 4" MAX. FROM SHEAR WALL EDGE. BOUNDARY NAILING MUST BE PROVIDED @ STUDS ALIGNED WITH HOLDOWNS.



N.T.S.

2

DATE	ENG-JAB	CHK-EAS	DESCRIPTION
04-13-2022			
REV. #	DATE	BY	

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