



TSO ADDITION

8802 SE 37TH ST
MERCER ISLAND, WA
98040

DRAWING INFO

ISSUE DATE 07-21-23

ISSUED FOR PERMIT

PROJECT NO.22126

ENGINEER BB

REVISION SCHEDULE

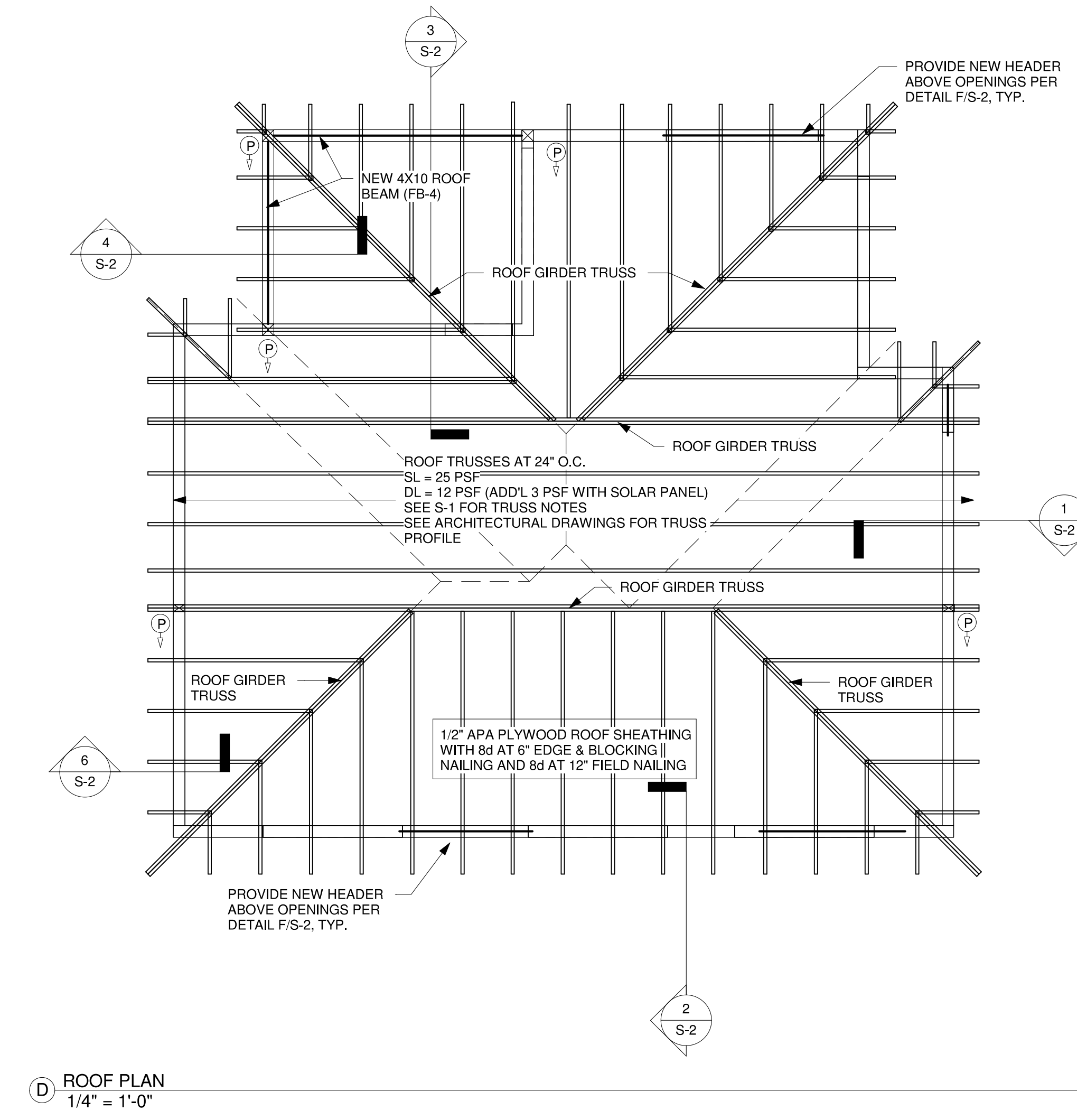
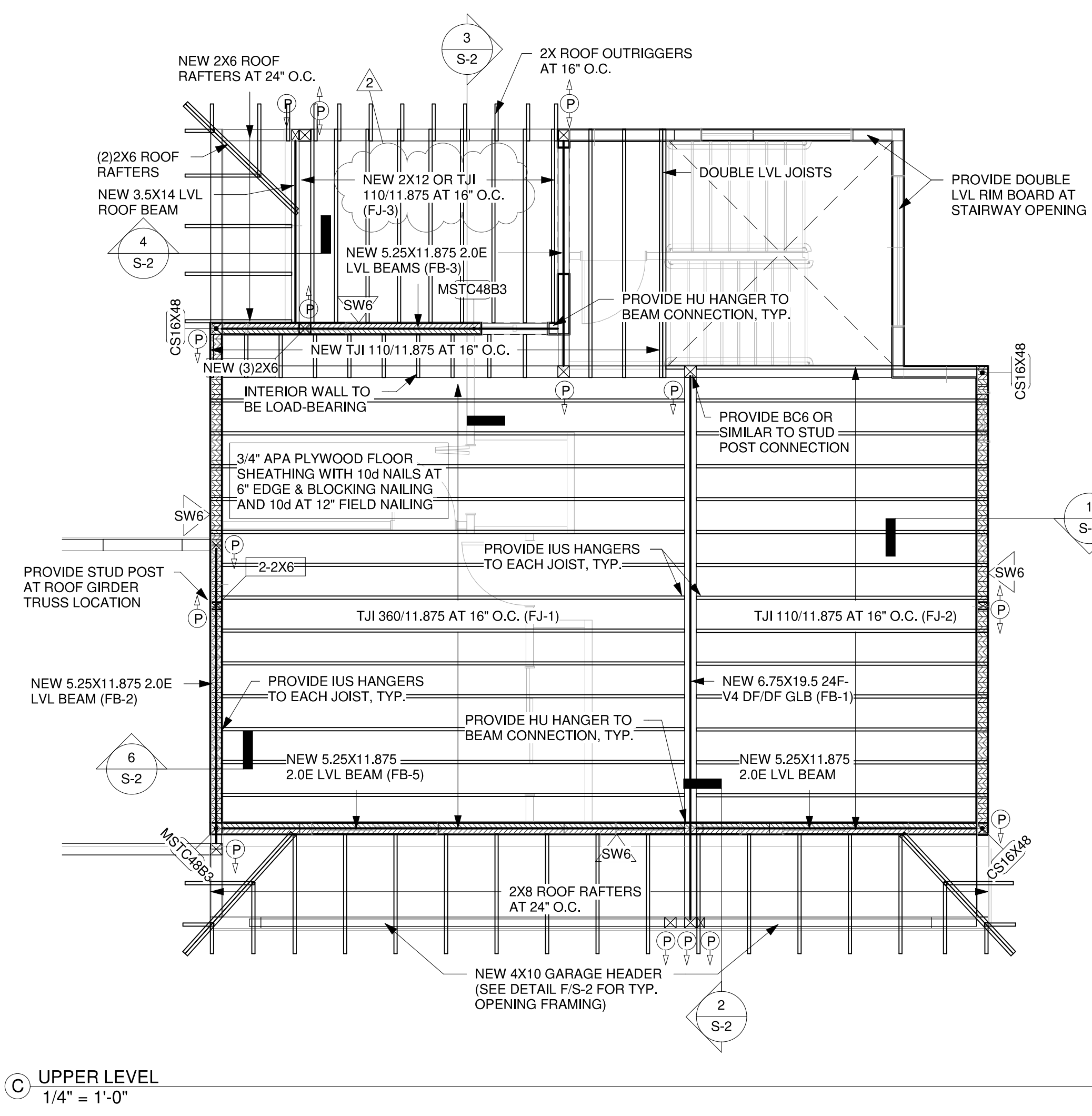
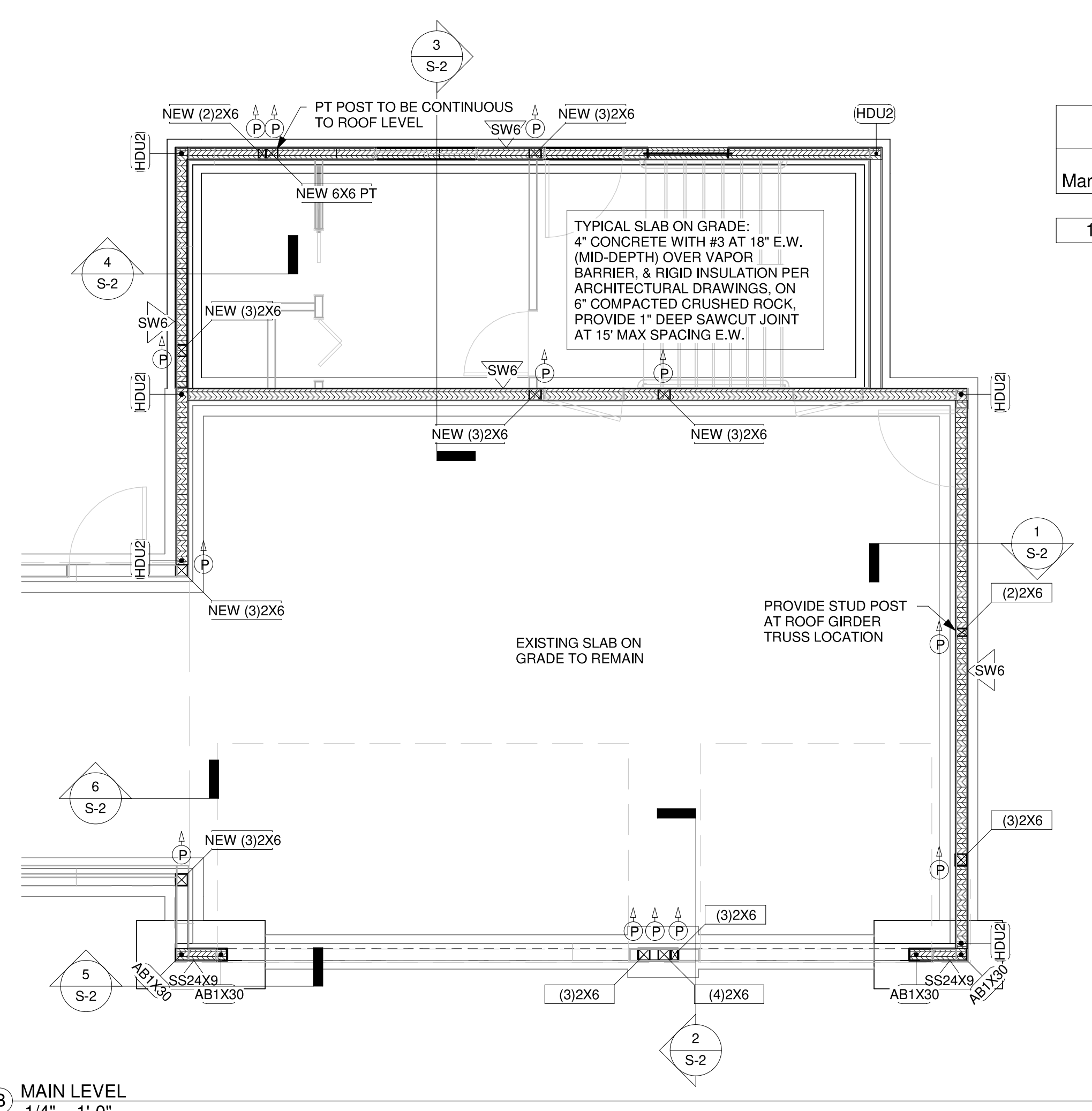
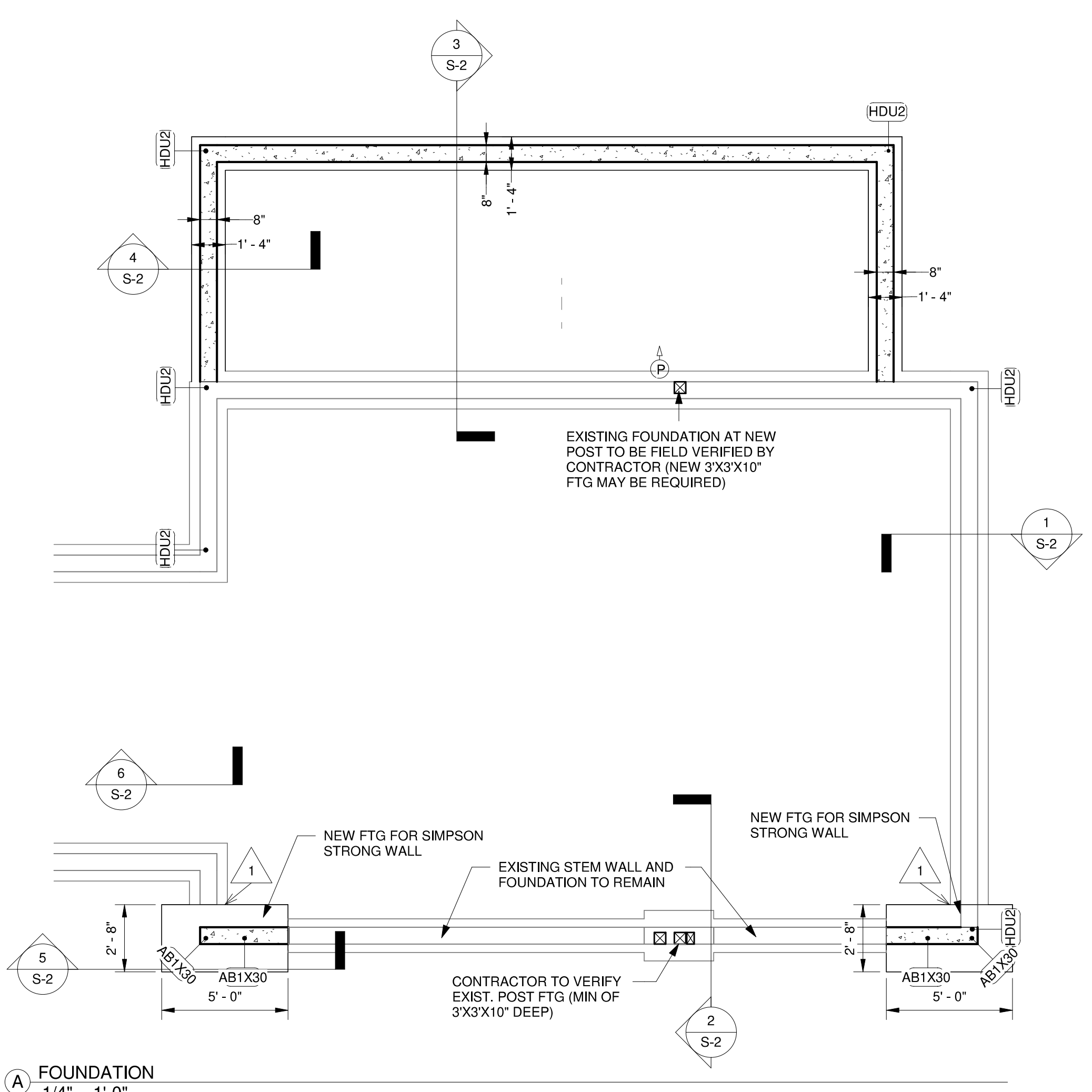
NO.	DATE	DESCRIPTION
1	03-20-23	Revision 1
2	11-29-23	Revision 2

FRAMING PLANS

S-1

FOOTING SCHEDULE

Mark Δ	TYPE	WIDTH / DIAMETER	LENGTH / DIAMETER	THICKNESS	COUNT	REINFORCEMENT
1	Footing-Rectangular	2' - 8"	5' - 0"	1' - 0"	2	3 - #4 E.W.



IMPORTANT NOTES ON DRAWING REVIEW, FIELD VERIFICATION, TEMPORARY SHORING AND WATERPROOFING:

- CONTRACTOR MUST REVIEW STRUCTURAL DRAWINGS PRIOR TO CONSTRUCTION & NOTIFY DESIGN TEAM/OWNER OF ANY DISCREPANCY IN COMPARISON WITH ARCHITECTURAL DOCUMENTS OR FIELD CONDITIONS.
- IN REMODEL/RETROFIT PROJECTS, CONTRACTOR MUST FIELD VERIFY & NOTIFY DESIGN TEAM/OWNER OF EXISTING MECHANICAL, PLUMBING, AND ELECTRICAL LINES THAT MAY INTERFERE WITH STRUCTURAL WORK PRIOR TO CONSTRUCTION. STRUCTURAL DRAWINGS MAY NOT REFLECT ALL EXISTING FRAMING CONDITIONS DUE TO LIMITED AVAILABLE INFORMATION.
- CONTRACTOR IS SOLELY RESPONSIBLE IN PROVIDING PROPER TEMPORARY SHORING PRIOR TO REMOVING ANY STRUCTURAL ELEMENTS.
- ENGINEER IS NOT RESPONSIBLE FOR WATERPROOFING SYSTEM OR DETAILS. CONTRACTOR/OWNER SHALL CONSULT WITH QUALIFIED PROFESSIONALS AS REQUIRED.

IMPORTANT NOTES ON FOUNDATION AND FRAMING:

- ALL FOOTINGS SHALL BEAR ON SUITABLE SOIL SUCH AS MIN. OF MEDIUM DENSE NATIVE SOIL OR COMPACTED STRUCTURAL FILL (NO SOFT OR ORGANIC MATERIALS). GEOTECHNICAL ENGINEER MAY BE REQUIRED TO ASSESS EXISTING SOIL CONDITIONS.
- FOR FRAMING LUMBER TYPES AND GRADES, AND CONCRETE MIX REQUIREMENTS PLEASE SEE S-0
- FOR PLYWOOD/OSB SHEARWALL SCHEDULE, PLEASE SEE S-XX
- FOR COMMON HEADER FRAMING DETAIL AND HEADER SIZE, SEE S-XX
- PROVIDE (2) 2X6 OR (3) 2X4 STUD POSTS AT EACH END OF BEAMS, UNLESS NOTED OTHERWISE ON PLAN
- SLAB ON GRADE SHALL BE MIN. 4" THICK WITH #3 AT 18" EACH WAY (AT MID-DEPTH) ON 6" COMPACTED CRUSHED ROCK, SAWCUT JOINT (1" DEEP) AT 15 FT MAX. SPACING EACH WAY SHALL BE DONE WITHIN 4 TO 12 HOURS AFTER FINISHING, DEPENDING ON WEATHER.
- FLOOR SHEATHING SHALL BE 3/4" PLYWOOD OR OSB WITH 10d AT 6" NAILING AT EDGES & BLOCKING AND AT 12" AT FIELD
- ROOF SHEATHING SHALL BE 1/2" PLYWOOD OR OSB WITH 8d AT 6" NAILING AT EDGES & BLOCKING AND AT 12" AT FIELD

IMPORTANT NOTES ON TRUSS AND LUMBER PACKAGE/LUMBER PACKAGE REVIEW:

- TRUSS FRAMING LAYOUT SHOWN IS GENERAL CONCEPT ONLY, CONTRACTOR/TRUSS SUPPLIER MUST SUBMIT TRUSS SHOP DRAWINGS INCLUDING TRUSS TEMPORARY PERMANENT BRACING PLANS FOR ENGINEERS REVIEW
- TRUSS FRAMING PROFILE/ LAYOUT SHOULD CONFORM TO BOTH STRUCTURAL AND ARCHITECTURAL DRAWINGS. ANY DEVIATIONS SHALL BE APPROVED BY ENGINEER/ARCHITECT PRIOR TO TRUSS DESIGN WORK.
- TRUSS DEFLECTION CRITERIA:
FLOOR/DECK TOTAL LOAD = L/480
FLOOR/DECK LIVE LOAD = L/600
ROOF TOTAL LOAD = L/240
ROOF SNOW LOAD = L/300
** MAXIMUM TOTAL LOAD DEFLECTION SHOULD NOT EXCEED 1.0" IN ALL CASES
- FLOOR/ROOF FRAMING LAYOUT AND CONNECTORS (SUCH AS LUMBER PACKAGE BY SUPPLIERS) MUST BE SUBMITTED FOR ENGINEERS REVIEW PRIOR TO CONSTRUCTION

FRAMING SYMBOLS:

	SIMPSON WSW WOOD STRONG WALL (24" WIDE)		CONTINUOUS POST
	PLYWOOD SHEARWALL		POST STOPS BELOW THIS FLOOR
	SHEARWALL HOLDOWN		POST STARTS AT THIS FLOOR

LEGEND AND NOTES
1/4" = 1'-0"



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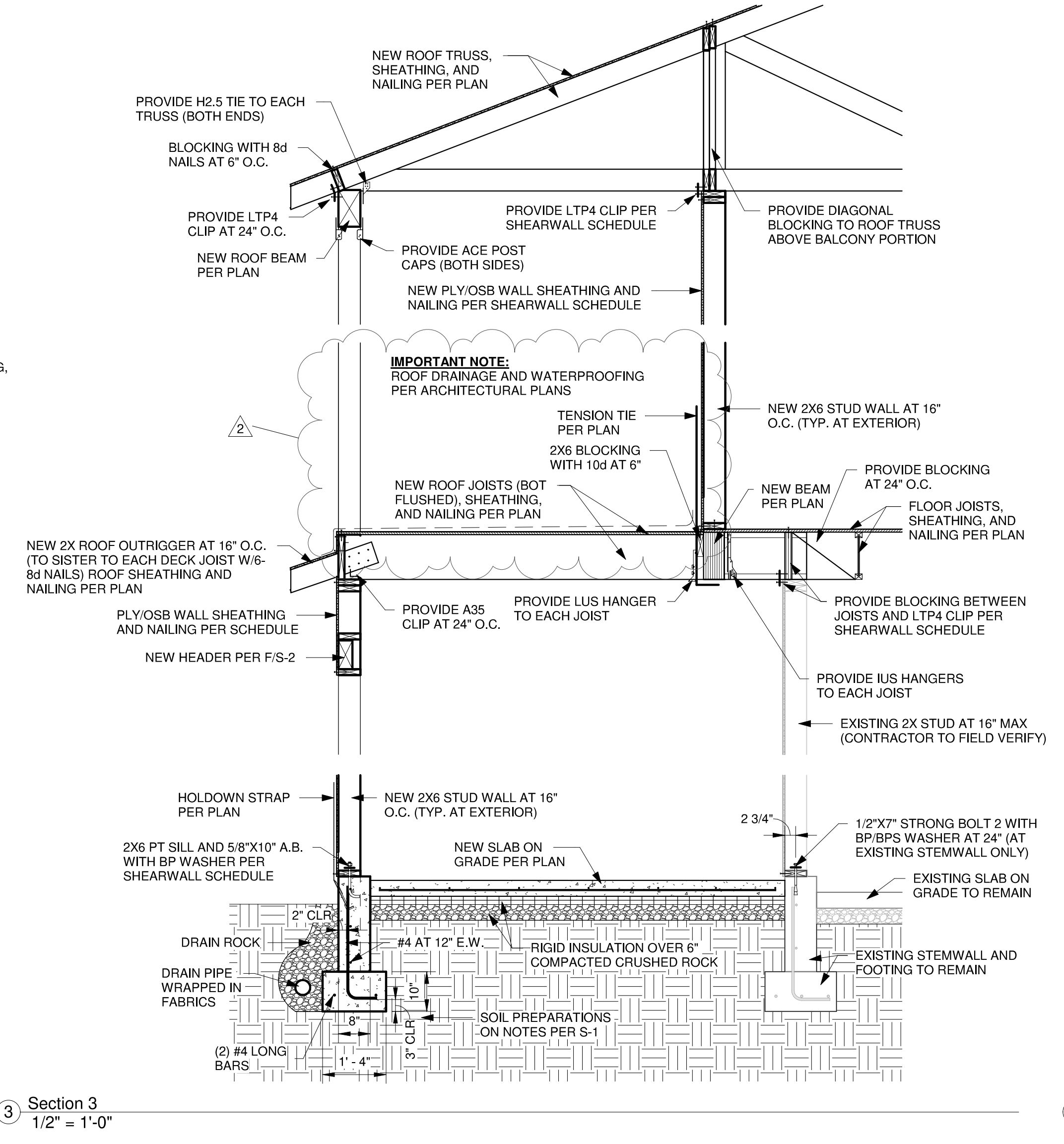
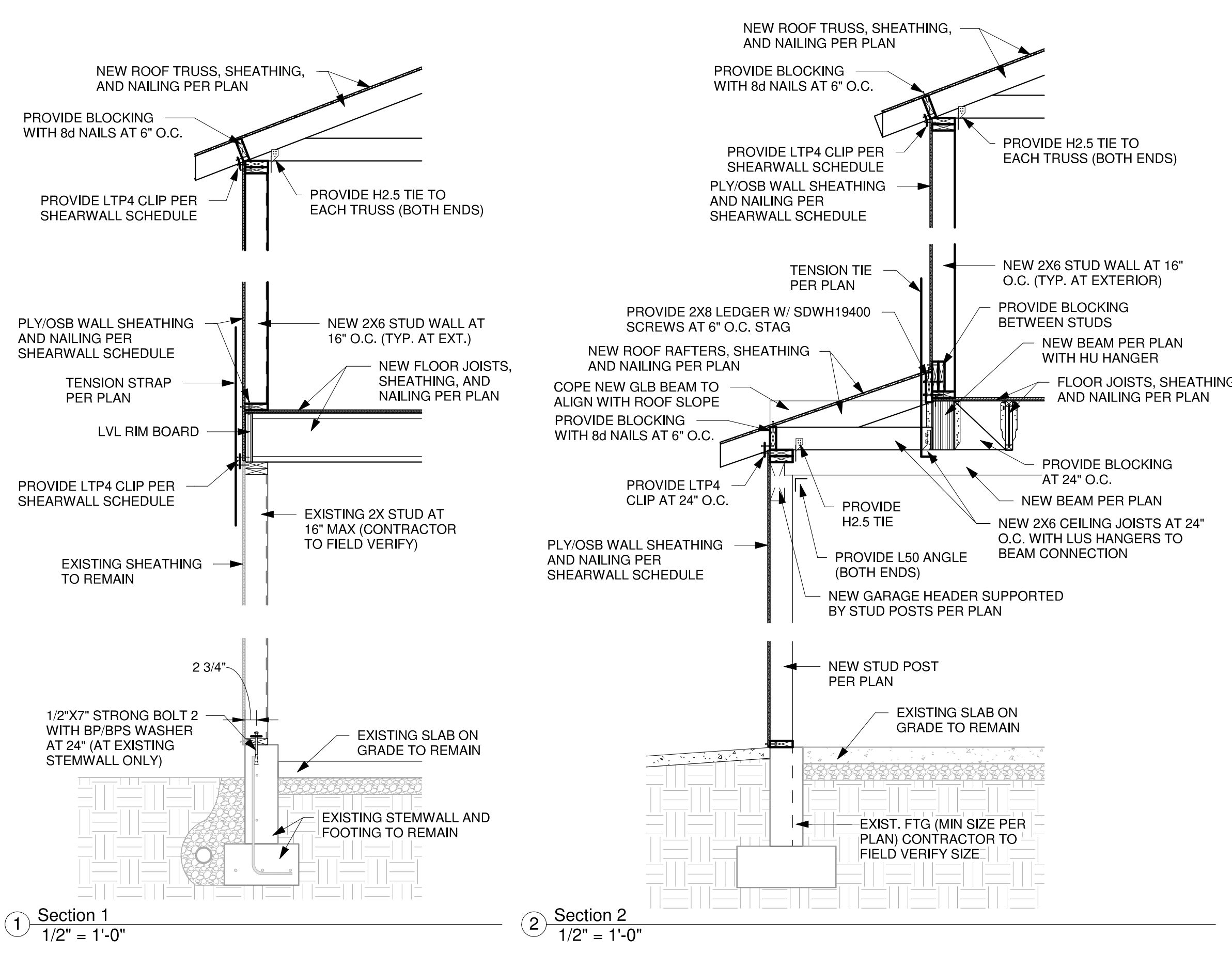
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2	11-29-23	Revision 2

FRAMING DETAILS

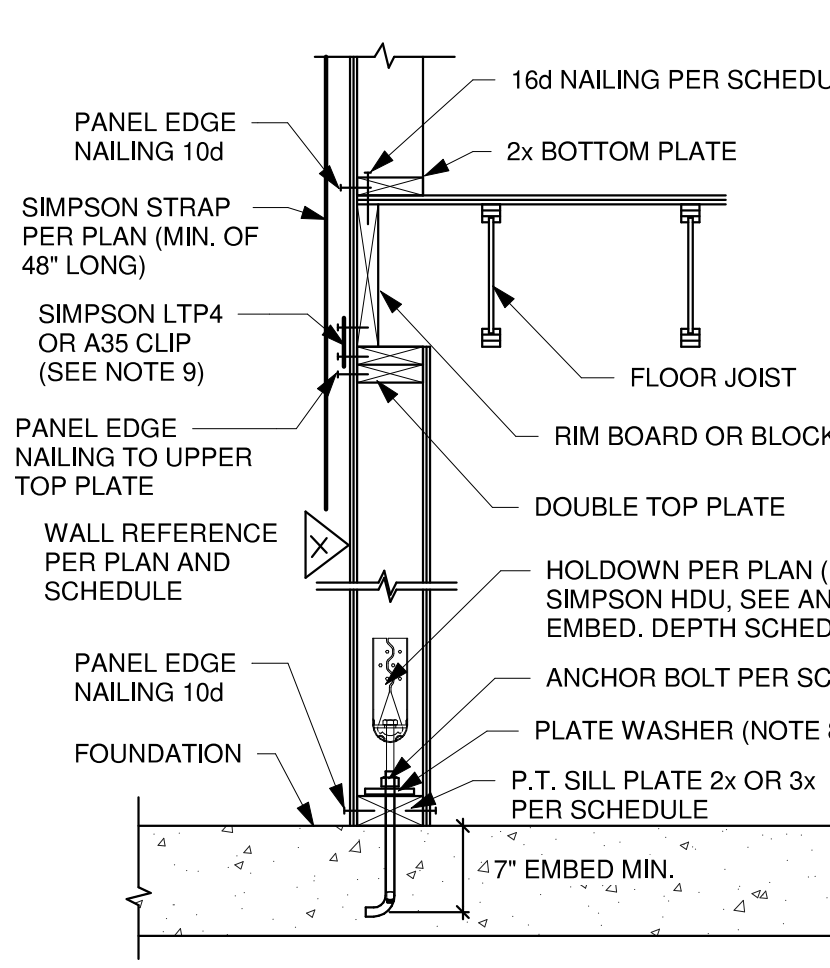
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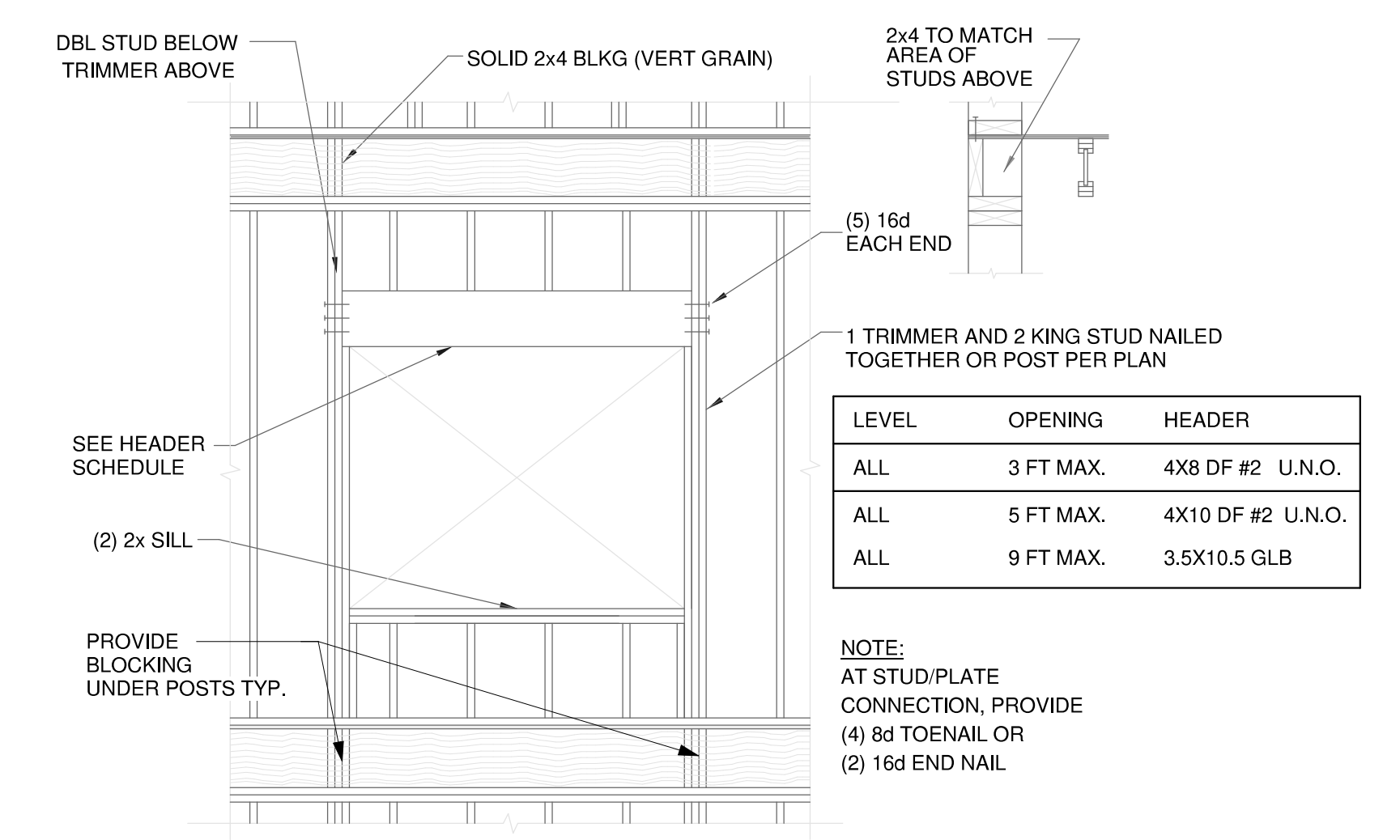
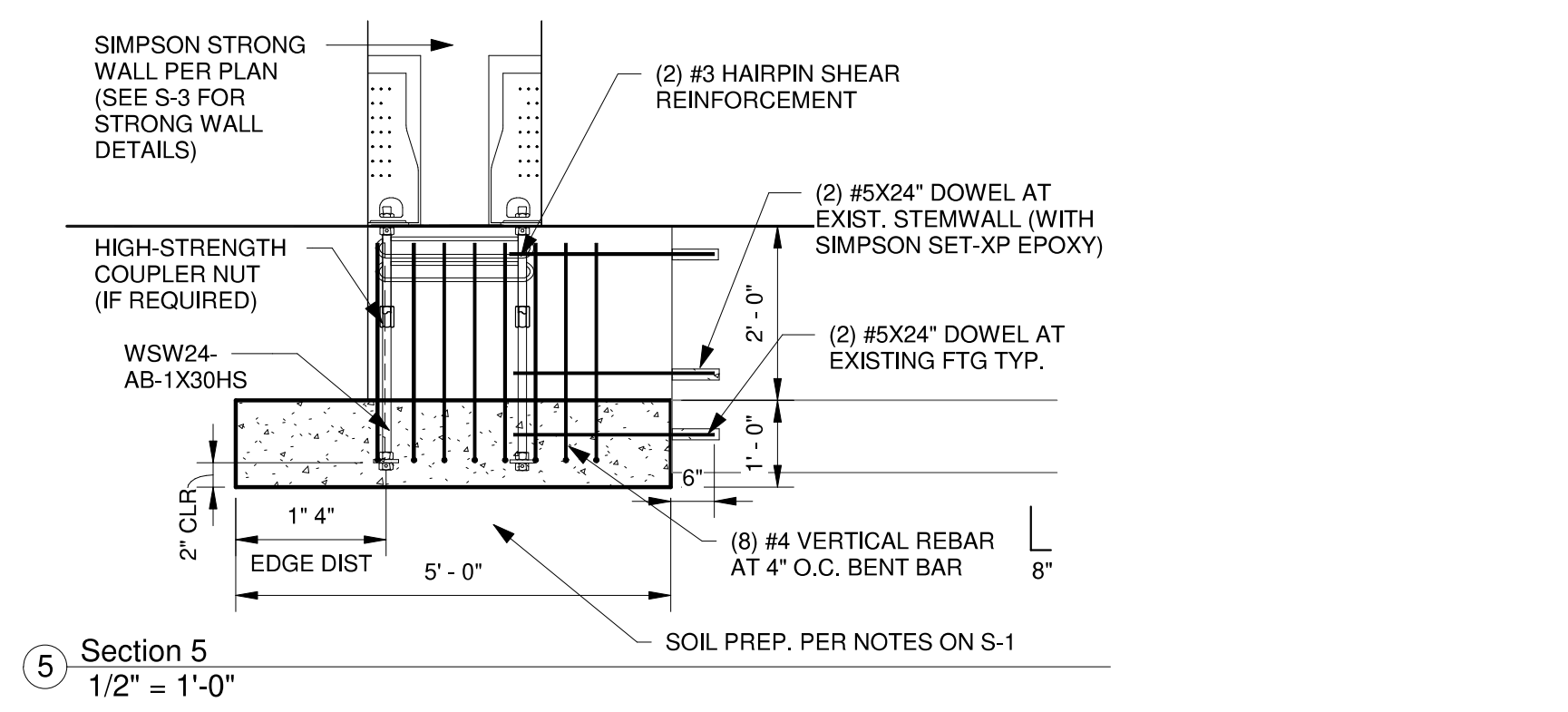
TYPE	PLYWOOD OR OSB SHEATHING (NOTE 7)	PANEL EDGE NAILING (NOTE 4)	PANEL EDGE STUDS AND BLKG	ANCHOR BOLTS AT SILL PLATE (NOTE 8)	TOP/SILL PLATE TO BLOCKING/ RIM (NOTE 9)	BOTTOM PLATE TO BLOCKING/ RIM (NOTE 4)	CAPACITY (LRFD) (SEISMIC/WIND)
SW6	15/32" PLY/OSB ONE SIDE	10d COM AT 6"	2x	5/8" AT 36" O.C.-2x	SIMPSON LTP4 AT 24" O.C.	16d COM AT 6" O.C.-NARROW	496 PLF/ 696 PLF
SW4	15/32" PLY/OSB ONE SIDE	10d COM AT 4"	2x (SEE NOTE 5)	5/8" AT 24" O.C.-2x	SIMPSON LTP4 AT 16" O.C.	16d COM AT 4" O.C.-NARROW	736 PLF/ 1032 PLF
SW3	15/32" PLY/OSB ONE SIDE	10d COM AT 3"	3x	5/8" AT 18" O.C.-2x	SIMPSON LTP4 AT 12" O.C.	16d COM AT 3" O.C.-WIDE	960 PLF/ 1344 PLF
SW2	15/32" PLY/OSB ONE SIDE	10d COM AT 2"	3x	5/8" AT 12" O.C.-2x	SIMPSON LTP4 AT 8" O.C.	16d COM AT 2" O.C.-WIDE	1232 PLF/ 1724 PLF
SW44	15/32" PLY/OSB TWO SIDES	10d COM AT 4"	2x	5/8" AT 18" O.C.-3x	SIMPSON LTP4 AT 16" O.C. B.S.	(2) 16d COM AT 4" O.C.-WIDE	1472 PLF/ 2064 PLF
SW33	15/32" PLY/OSB TWO SIDES	10d COM AT 3"	3x	5/8" AT 16" O.C.-3x	SIMPSON LTP4 AT 12" O.C. B.S.	(2) 16d COM AT 3" O.C.-WIDE	1920 PLF/ 2688 PLF
SW22	15/32" PLY/OSB TWO SIDES	10d COM AT 2"	3x	5/8" AT 12" O.C.-3x	SIMPSON LTP4 AT 8" O.C. B.S.	(2) 16d COM AT 2" O.C.-WIDE	2464 PLF/ 3448 PLF

SHEARWALL SCHEDULE NOTES:

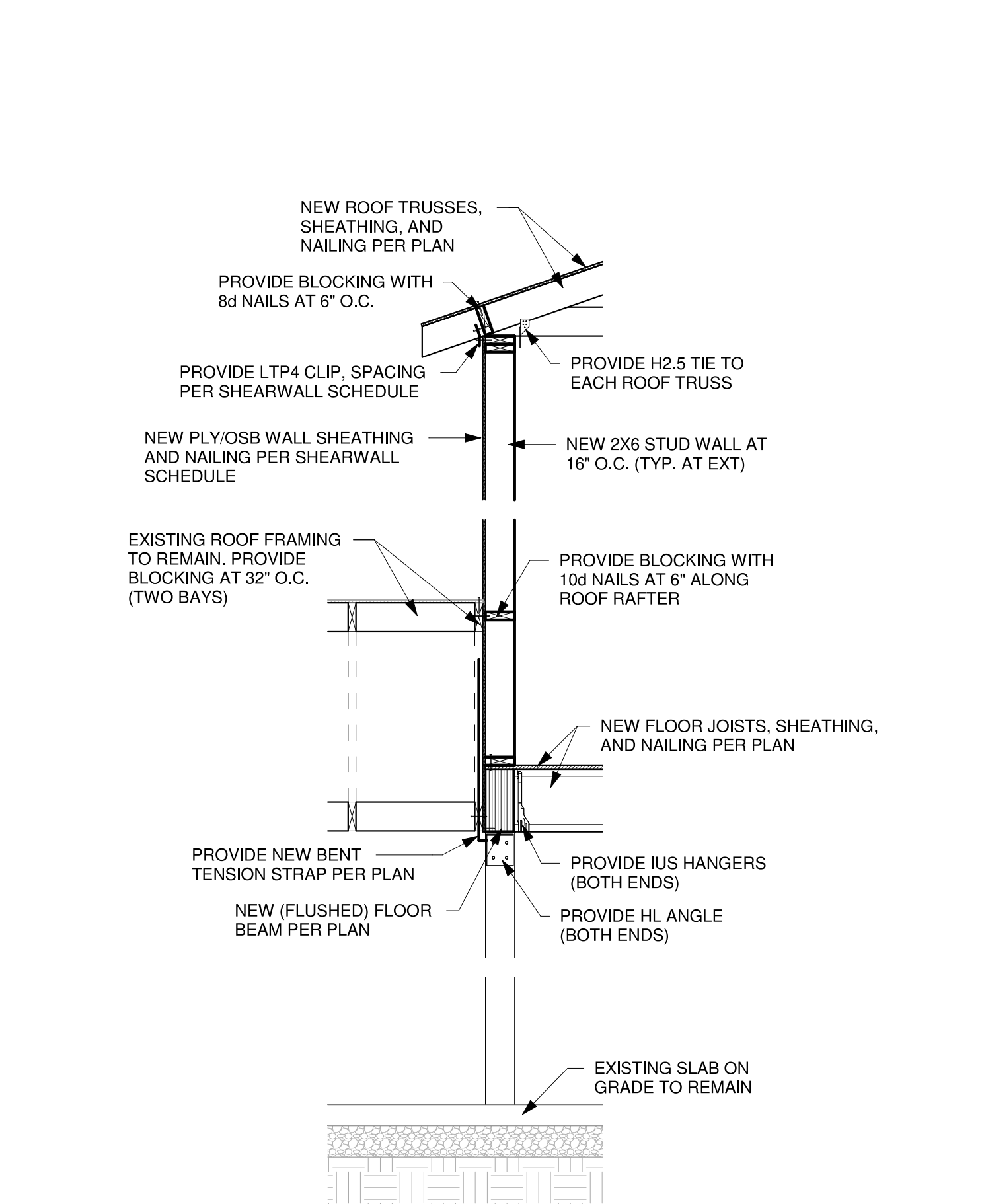
- ALL PANEL EDGES TO OCCUR OVER STUDS, PLATES, RIMS OR HORIZONTAL BLOCKING AT WALLS
- NAIL SHEATHING TO INTERMEDIATE SUPPORTS/ FIELD NAILING 10d AT 12" O.C.
- ALL NAILS INTO 3x MEMBERS SHALL BE STAGGERED. (2)2x STUDS MAY BE USED IN LIEU OF 3x STUDS AT PANEL JOINTS. NAIL STUDS TOGETHER W/2 ROWS 16d COMMON AT 6" O.C. AT SINGLE SIDE SHEATHING AND NAIL WITH 2 ROWS OF 16d COMMON AT 3" O.C. AT DOUBLE SHEATHED WALLS.
- COM DENOTES COMMON NAILS. MIN. NAIL PENETRATION INTO PLATE, RIM OR BLOCKING SHALL BE 1 5/8". STAGGER BOTTOM PLATE NAILING
- FOR SHEARWALL SW4, ALL FRAMING MEMBERS RECEIVING EDGE NAILINGS FROM ABUTTING PANELS SHALL BE 3X OR (2) 2X NAILED TOGETHER WITH 16d AT 6"
- WHERE SHEATHING IS APPLIED TO BOTH SIDES OF WALL, OFFSET PANEL EDGES TO FALL ON DIFFERENT STUDS.
- PROVIDE SHEAR WALL SHEATHING AND NAILING FOR ENTIRE LENGTH OF WALLS NOTED ON PLAN. PROVIDE HOLD-DOWNS PER PLAN AT EACH END OF WALL, UNO. PROVIDE (2) 2X STUDS AT ENDS OF ALL SHEARWALL. FACE NAIL MULTIPLE STUDS WITH 16d AT 12" PROVIDE PANEL EDGE NAILING IN EACH HOLD-DOWN STUD AT END OF WALL.
- ALL FOUNDATION SILL PLATES SHALL BE PT MEMBERS AND THE ANCHOR BOLTS SHALL HAVE MIN. OF 7" EMBEDMENT WITH SIMPSON'S BP/ BPS WASHER PLATE. END OF WALL ANCHOR BOLTS SHALL BE LOCATED MAX 12" AND MIN 5" FROM END OF THE PLATE.
- WHERE NOTED IN DETAILS, USE SIMPSON A35 IN LIEU OF LTP4 PLATES SPACE AT 2/3 OF LTP4 SPACING.



E SHEARWALL SCHEDULE
3/4" = 1'-0"



F TYP. WALL OPENING FRAMING
3/4" = 1'-0"



G Section 6
1/2" = 1'-0"



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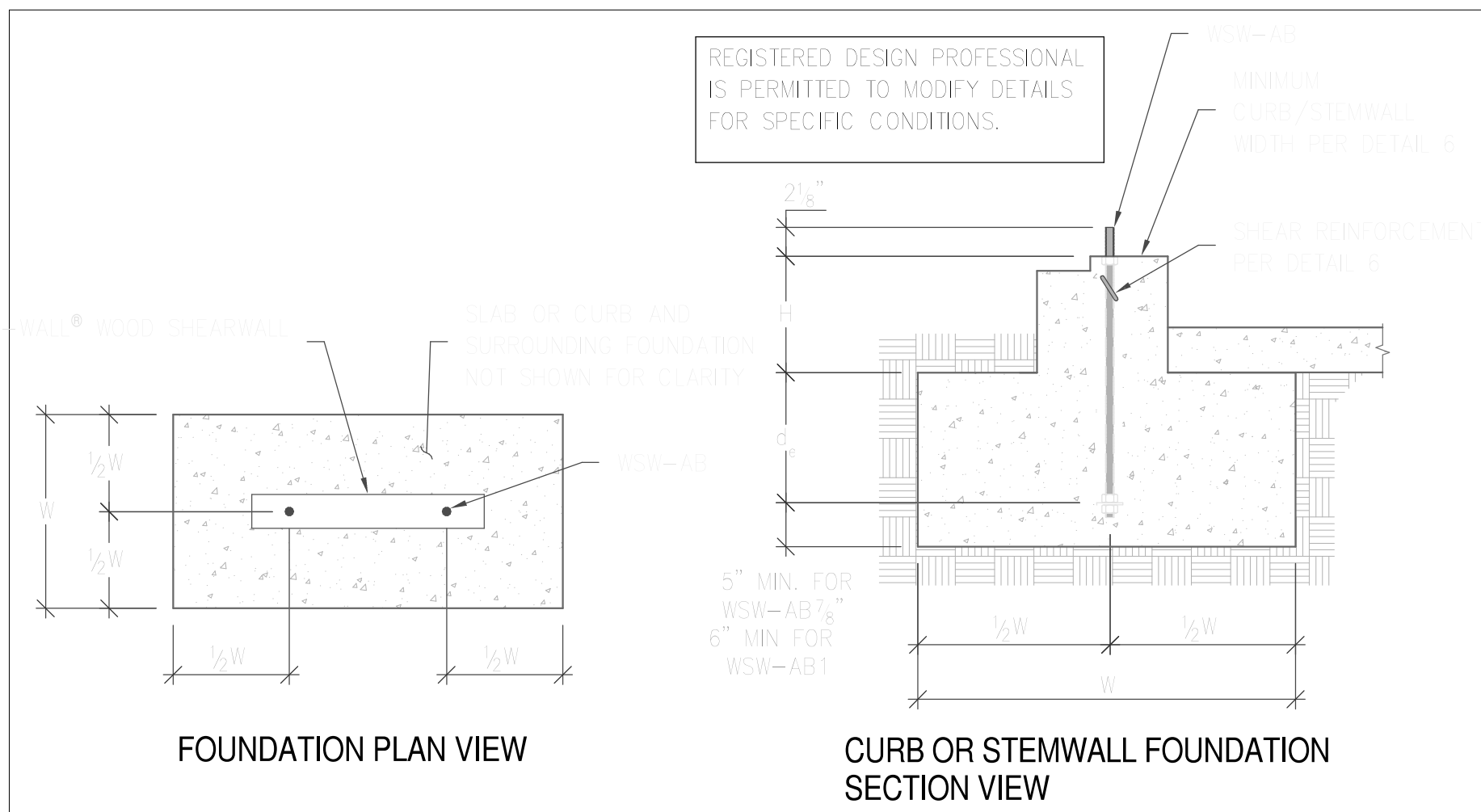
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WSW DETAILS

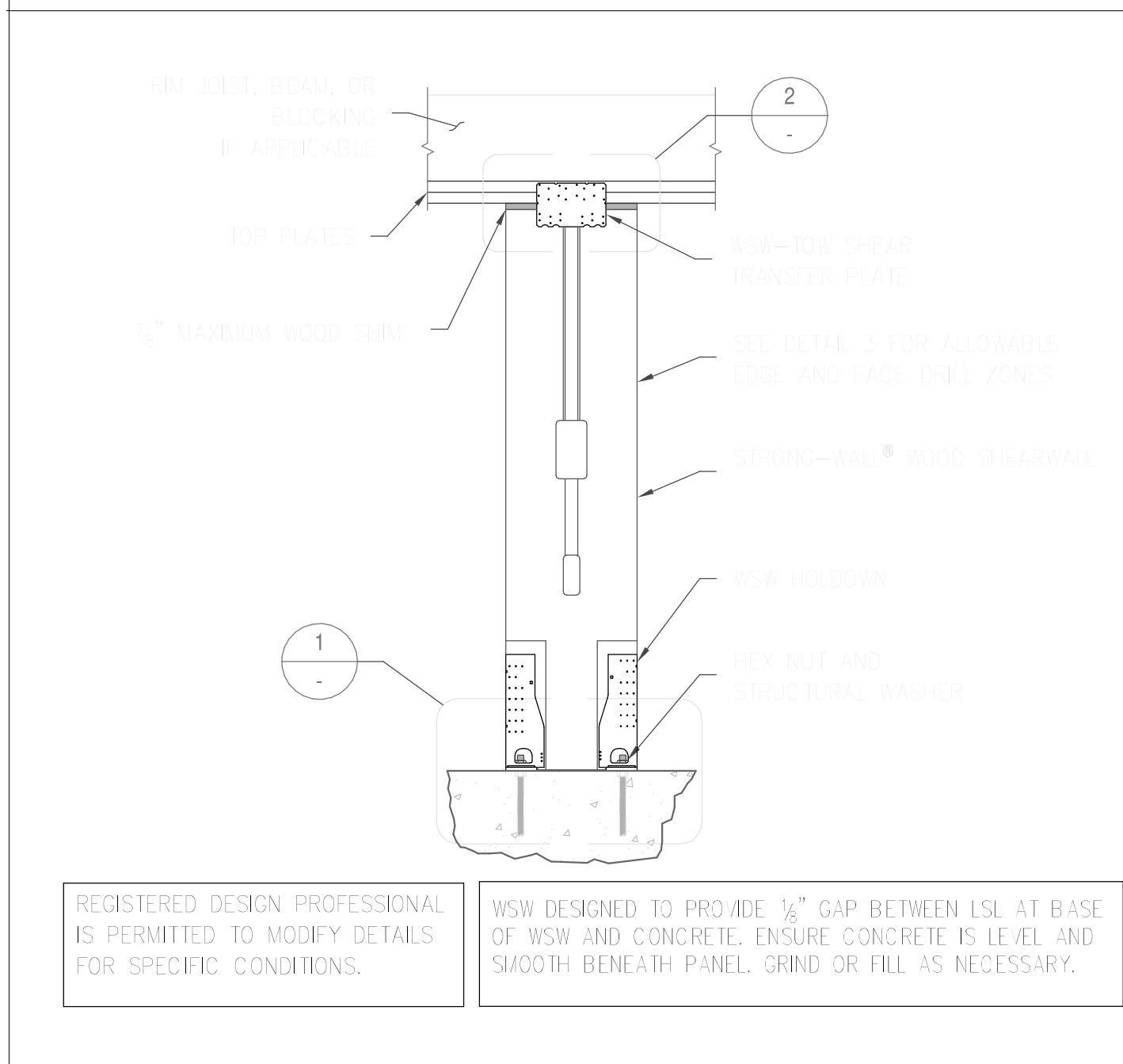
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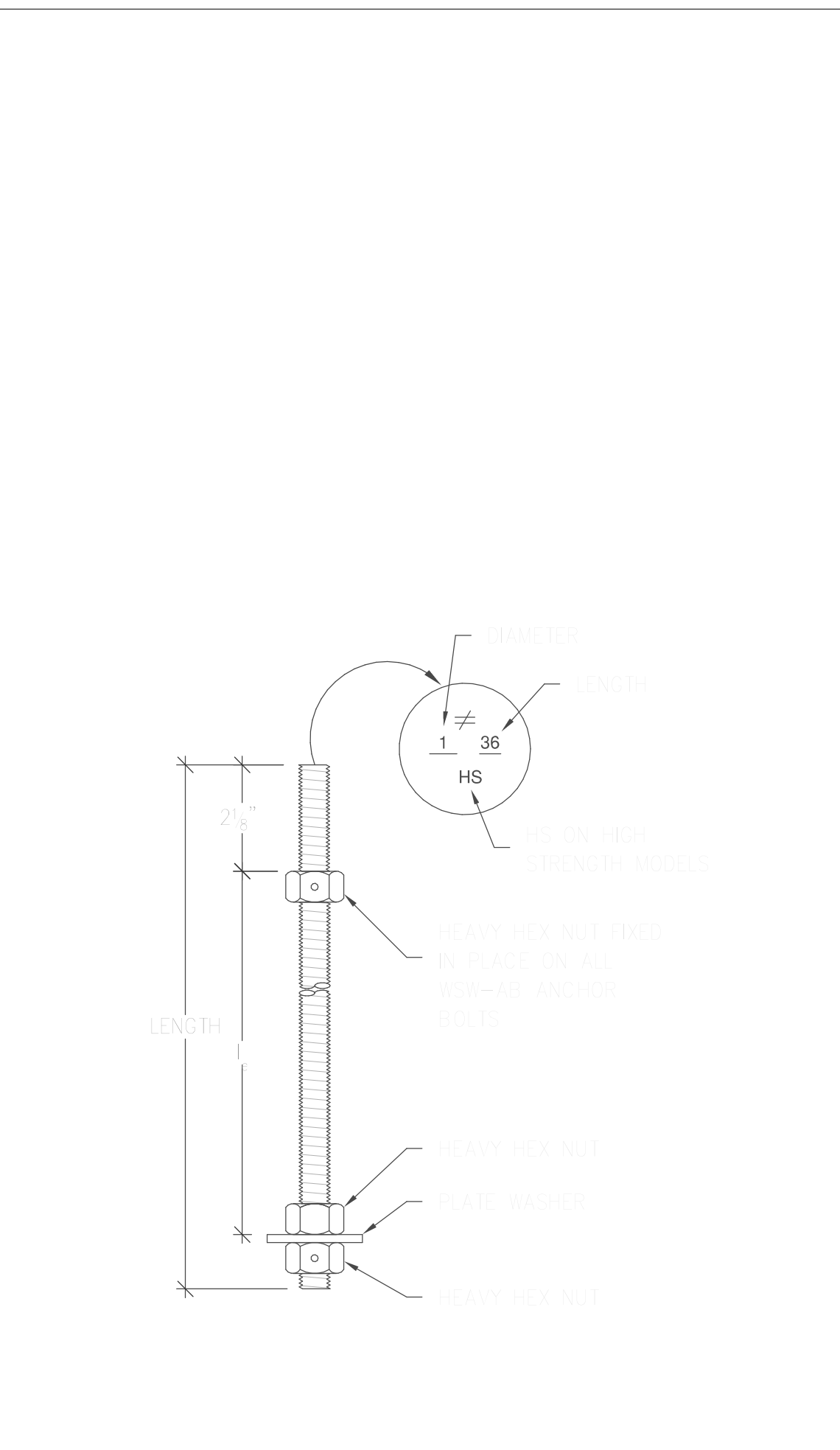
WSW ANCHORAGE SOLUTIONS FOR 2500 PSI CONCRETE								
DESIGN CRITERIA	CONCRETE CONDITION	ANCHOR STRENGTH ASD	WSW-AB 1/2 ANCHOR BOLT			WSW-AB1 ANCHOR BOLT		
			ALLOWABLE UPLIFT	W (lbs/in)	de (in)	ALLOWABLE UPLIFT (lbs)	W (in)	de (in)
SEISMIC	CRACKED	STANDARD	11,900	27	9	16,100	33	11
		HIGH STRENGTH	13,100	29	10	17,100	35	12
		HIGH STRENGTH (HS)	24,900	43	15	33,000	51	17
	UNCRAKED	STANDARD	27,100	46	16	35,300	54	18
		HIGH STRENGTH	12,500	24	8	15,700	28	10
		HIGH STRENGTH	15,100	25	9	17,100	30	10
WIND	CRACKED	STANDARD	25,300	38	13	32,300	44	15
		HIGH STRENGTH	27,100	40	14	35,300	47	16
		HIGH STRENGTH (HS)	5,100	14	6	6,200	18	6
		HIGH STRENGTH	8,700	20	7	11,400	24	8
		HIGH STRENGTH	13,100	27	9	17,100	32	11
		HIGH STRENGTH	15,900	30	10	21,100	36	12
	UNCRAKED	STANDARD	18,400	33	11	27,300	42	14
		HIGH STRENGTH	23,100	38	13	31,800	46	16
		HIGH STRENGTH	27,100	42	14	35,300	50	17
		HIGH STRENGTH	5,000	12	6	6,400	14	6
		HIGH STRENGTH	9,300	18	8	12,500	22	8
		HIGH STRENGTH	13,100	23	8	17,100	28	10

- NOTES:
- ANCHORAGE DESIGNS CONFORM TO ACI 318-11 APPENDIX D AND ACI 318-14 WITH NO SUPPLEMENTARY REINFORCEMENT FOR CRACKED OR UNCRACKED CONCRETE AS NOTED.
 - ANCHOR STRENGTH INDICATES REQUIRED GRADE OF WSW-AB ANCHOR BOLT. STANDARD (ASTM F1554 GRADE 36) OR HIGH STRENGTH (HS) (ASTM A449).
 - SEISMIC INDICATES SEISMIC DESIGN CATEGORY C-F. DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS. SEISMIC ANCHORAGE DESIGNS CONFORM TO ACI 318-11 SECTION D.3.3.4.3 AND ACI 318-14 SECTION 17.2.3.4.3.
 - WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
 - FOUNDATION DIMENSIONS ARE FOR ANCHORAGE ONLY. FOUNDATION DESIGN (SIZE AND REINFORCEMENT) BY OTHERS.
 - THE REGISTERED DESIGN PROFESSIONAL MAY SPECIFY ALTERNATE EMBEDMENT, FOOTING SIZE OR ANCHOR BOLT.
 - REFER TO SECTION VIEW FOR d_s.

2500 PSI CONCRETE ANCHORAGE SOLUTIONS 4

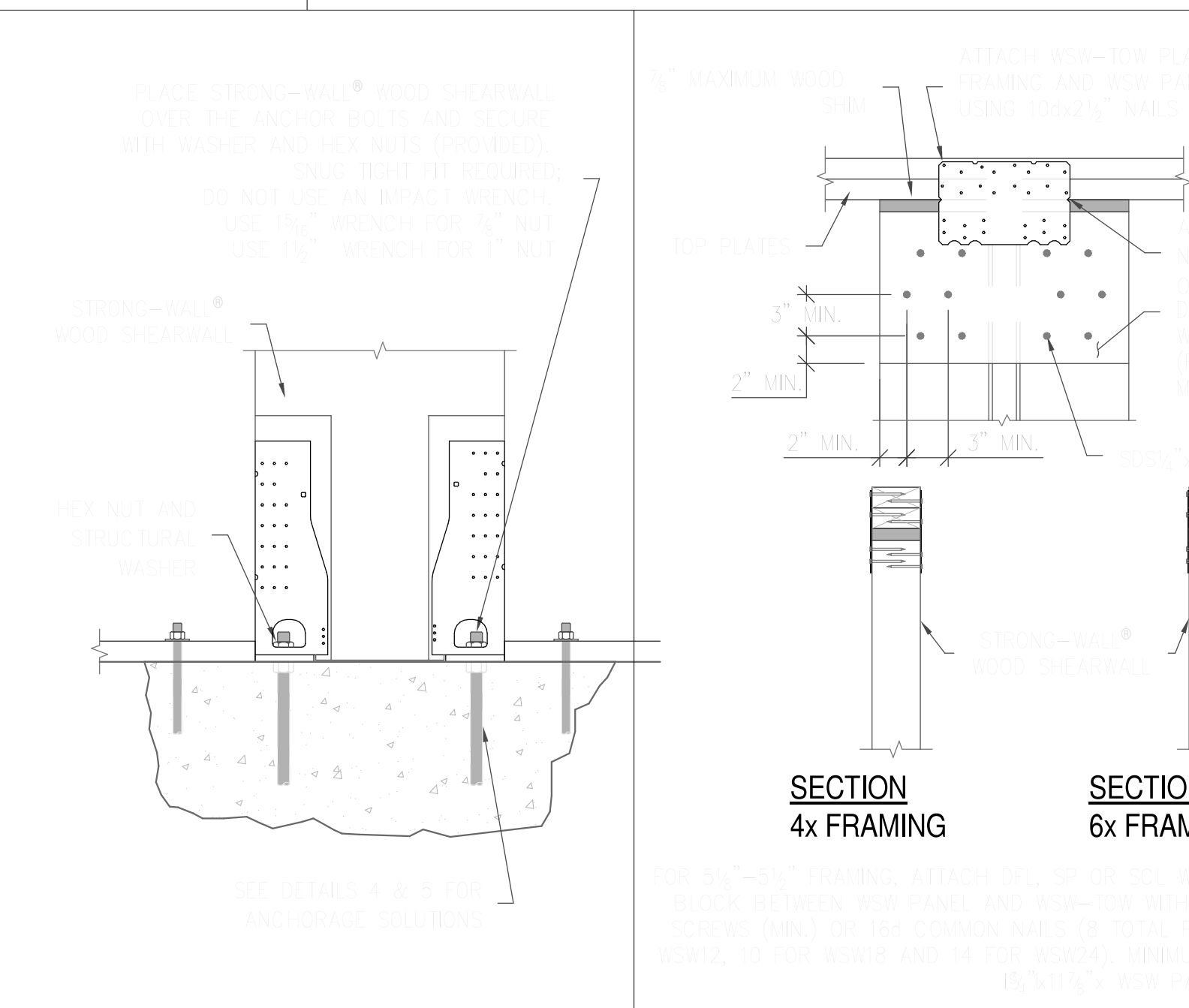


SINGLE STORY WSW ON CONCRETE 0

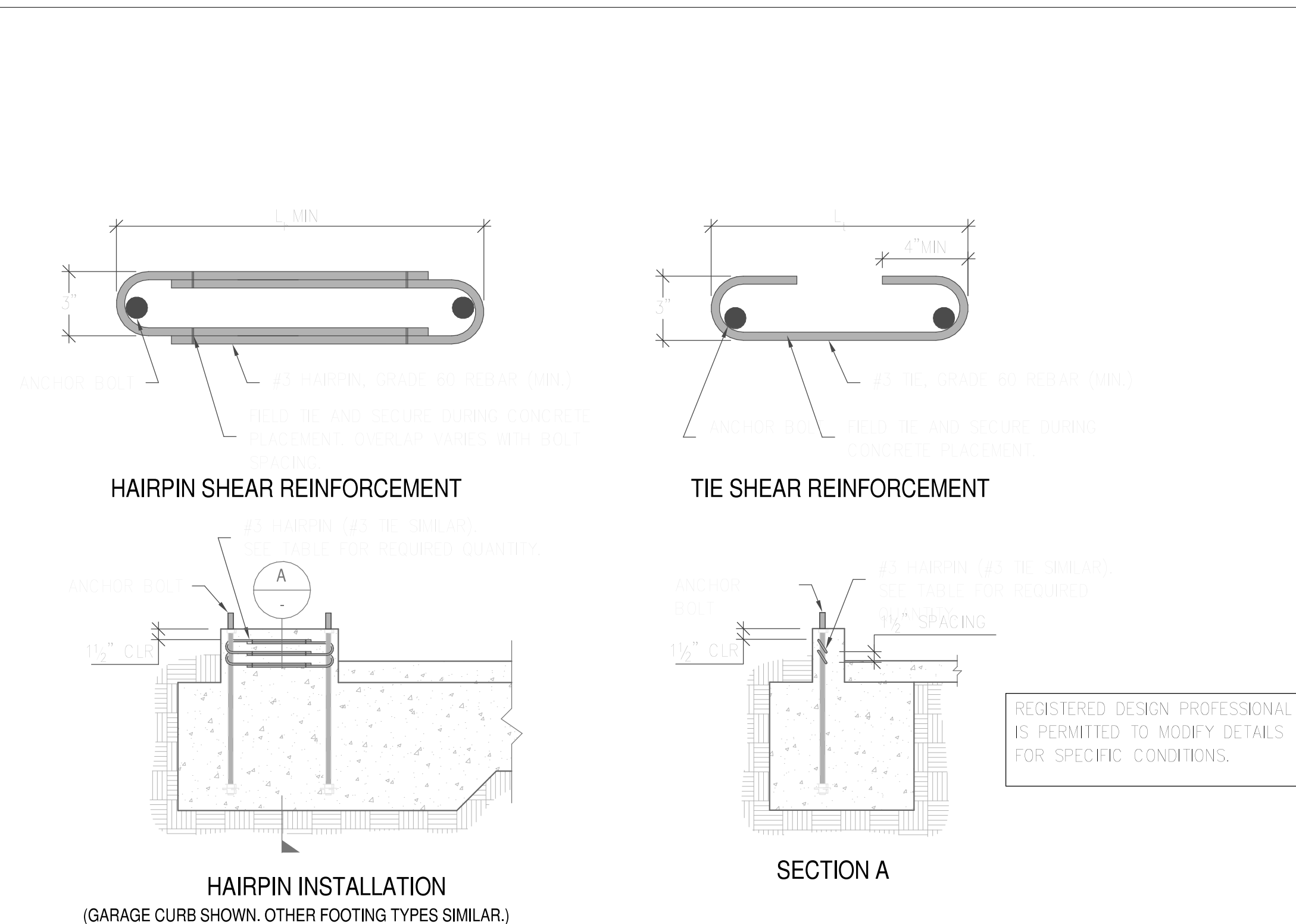


WSW PANEL MODEL	MODEL NO.	DIAMETER	LENGTH	l _e
WSW12 AND WSW18	WSW-AB 1/2x24	3/8"	24"	20"
	WSW-AB 1/2x24HS	3/8"	24"	20"
	WSW-AB 1/2x30	3/8"	30"	26"
	WSW-AB 1/2x30HS	3/8"	30"	26"
	WSW-AB 1/2x36HS	3/8"	36"	32"
WSW24	WSW-AB1x24	1"	24"	20"
	WSW-AB1x24HS	1"	24"	20"
	WSW-AB1x30	1"	30"	26"
	WSW-AB1x30HS	1"	30"	26"
	WSW-AB1x36HS	1"	36"	32"

WSW ANCHOR BOLTS 5



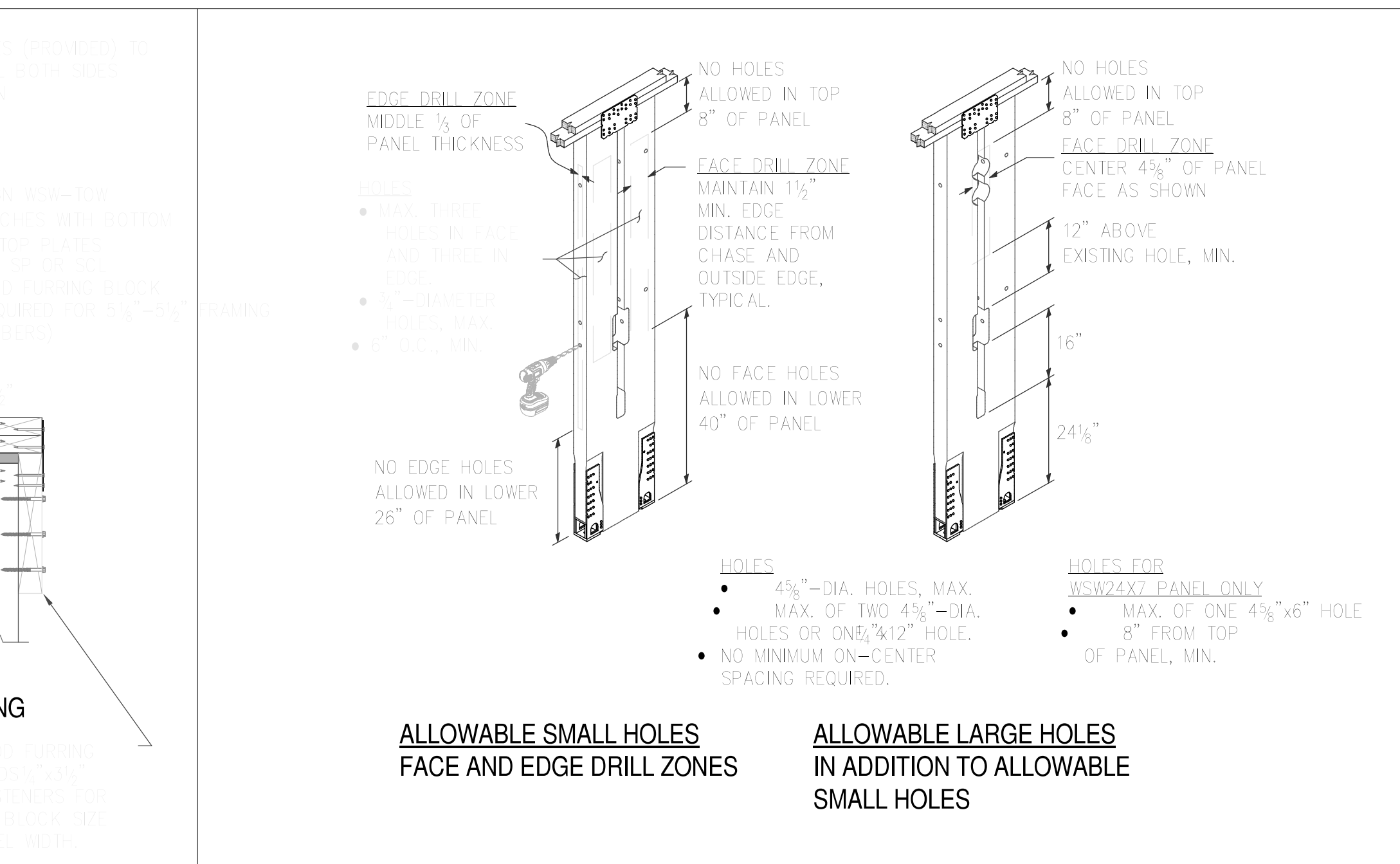
STANDARD TOP CONNECTION 2



STRONG-WALL® WOOD SHEARWALL SHEAR ANCHORAGE							
MODEL	L OR L _i (in.)	SEISMIC ²	SHEAR REINFORCEMENT	MIN. CURB/STEMWALL WIDTH (in.)	SHEAR REINFORCEMENT	WIND ⁴	
						ASD ALLOWABLE SHEAR LOAD V (lbs.) ⁶	
						6" MIN CURB/STEMWALL WIDTH (in.)	
						UNCRAKED	CRACKED
WSW12	10 1/2"	(1) #3 TIE	8 ⁵	SEE NOTE 6	6	1,035	740
WSW18	15	(1) #3 HAIRPIN	8 ⁵	(1) #3 HAIRPIN	6	HAIRPIN REINFORCEMENT ACHIEVES MAXIMUM ALLOWABLE SHEAR LOAD OF THE WSW	
WSW24	19	(2) #3 HAIRPIN	8 ⁵	(1) #3 HAIRPIN	6		

- NOTES:
- SHEAR ANCHORAGE DESIGNS CONFORM TO ACI 318-11 AND ACI 318-14 AND ASSUME MINIMUM 2,500 PSI CONCRETE.
 - SHEAR REINFORCEMENT IS NOT REQUIRED FOR INTERIOR FOUNDATION APPLICATIONS (PANEL INSTALLED AWAY FROM EDGE OF CONCRETE), OR BRACED WALL PANEL APPLICATIONS.
 - SEISMIC INDICATES SEISMIC DESIGN CATEGORY C THROUGH F, DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C MAY USE WIND ANCHORAGE SOLUTIONS.
 - WIND INCLUDES SEISMIC DESIGN CATEGORY A AND B AND DETACHED 1 AND 2 FAMILY DWELLINGS IN SDC C.
 - WHERE NOTED, MINIMUM CURB/STEMWALL WIDTH IS 6 INCHES WHEN STANDARD STRENGTH ANCHOR BOLT IS USED.
 - USE (1) #3 TIE FOR WSW12 WHEN PANEL DESIGN SHEAR FORCE EXCEEDS TABULATED ANCHORAGE ALLOWABLE SHEAR LOAD.
 - #4 GRADE 40 SHEAR REINFORCEMENT MAY BE SUBSTITUTED FOR WSW SHEAR ANCHORAGE SOLUTIONS.

STRONG-WALL® WSW SHEAR ANCHORAGE SCHEDULE AND DETAILS 6



TRIM ZONE AND ALLOWABLE HOLES 3

S-3