

GENERAL STRUCTURAL NOTES

GENERAL

- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CONDITIONS OF ALL WORK AND MATERIALS INCLUDING THOSE FURNISHED BY SUB-CONTRACTORS. STRUCTURAL ENGINEER OF RECORD SHALL BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES FROM STRUCTURAL PLANS.
- ALL MATERIALS AND WORKMANSHIP SHALL BE PERFORMED IN ACCORDANCE WITH 2022 CALIFORNIA BUILDING CODE.
- ALL DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALE SHOWN ON PLANS, SECTIONS AND DETAILS.
- NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.
- WHERE NO DETAILS SHOWN OR NOTED ON THE DRAWINGS, THE DETAILS SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
- OPENINGS, POCKETS, SLEEVES, ETC., SHALL NOT BE PLACED IN SLABS, BEAMS, WALLS, COLUMNS AND FOOTINGS UNLESS SPECIFICALLY DETAILED ON THE STRUCTURAL DRAWINGS.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOORS OR ROOF. LOADS SHALL NOT EXCEED DESIGN LIVE LOADS FOR EACH PARTICULAR LEVEL. PROVIDE ADEQUATE SHORING AND BRACING IF LOAD EXCEED DESIGN LIVE LOAD OR WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
- THIS SET OF DRAWINGS REPRESENT THE FINISHED STRUCTURE. METHOD OF CONSTRUCTION NOT NECESSARY INDICATED. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS AND OTHER PERSONS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LIMITED TO BRACING, SHORING, SCAFFOLDING, ETC.

FOUNDATION

- THE SOILS BEARING PRESSURE = 1,600 p.s.f.
- FOUNDATION DESIGN SHALL BE 18" MIN. DEPTH OF FTG BELOW LOWEST ADJACENT FINAL GRADE, AND 12" MINIMUM WIDTH FOR 1 STORY, 15" MIN. WIDTH FOR 2 STORY, BEAR ON FIRM NATIVE OR PROPERLY COMPACTED SOILS.
- NOT USED
- GEOTECHNICAL ENGINEER OR DEPUTY INSPECTOR SHALL VERIFY THAT CONSTRUCTION AT THE SITE IS IN ACCORDANCE WITH THE RECOMMENDATIONS AND CONCLUSIONS OF HIS REPORT. FINISHED EXCAVATION FOR FOUNDATION SHALL BE NEAT AND TRUE TO LINE WITH ALL LOOSE MATERIAL AND STANDING WATER REMOVED FROM EXCAVATIONS.
- BEFORE ANY CONCRETE IS PLACED, EXCAVATIONS SHALL BE CHECKED AND APPROVED BY A QUALIFIED SOILS ENGINEER OR DEPUTY INSPECTOR TO ENSURE COMPLIANCE WITH THE REQUIREMENTS.
- ALL FILL MATERIAL IS TO BE APPROVED BY THE SOILS ENGINEER OR DEPUTY INSPECTOR AND APPROVED BY A QUALIFIED SOILS ENGINEER OR DEPUTY INSPECTOR TO ENSURE COMPLIANCE WITH THE REQUIREMENTS.
- SUBGRADE SHALL BE 2".
- SIDE OF FOUNDATION MAY BE POURED AGAINST STABLE EARTH UNLESS SHOWN OR NOTED OTHERWISE.
- CONTRACTOR SHALL PROVIDE TEMPORARY AND PERMANENT DEWATERING FOR EITHER SURFACE WATER, GROUND WATER OR SEEPAGE WATER.
- CONTRACTOR SHALL PROTECT ALL UTILITY LINES, ETC. ENCOUNTERED DURING EXCAVATIONS AND BACKFILLING.
- CONTRACTOR SHALL PROVIDE AND INSTALL ALL CRIBBING SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN THE EARTH BANK.
- FOOTING BACKFILL AND UTILITY TRENCH BACKFILL SHALL BE PROPERLY COMPACTED.
- CONTRACTOR SHALL BRACE OR PROTECT FROM LATERAL LOADS FOR THE PIT AND RETAINING WALLS UNTILL ATTACHING SLABS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH.
- NO VERTICAL EXCAVATIONS 4'-0" OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND SHALL BE PERMITTED.

STRUCTURAL DESIGN CRITERIA

ROOF LOAD: DL = 17 PSF LL = 20 PSF

WIND DESIGN DATA:
 BASIC WIND SPEED 100 MPH
 IMPORTANCE FACTOR I 1
 RISK CATEGORY II
 WIND EXPOSURE C

EARTHQUAKE DESIGN DATA:
 IMPORTANCE FACTOR I 1
 SITE CLASS D (D-DDEFAULT)
 Ss 1.8
 S1 0.64
 SDs 1.45
 SD1 0.84
 SEISMIC DESIGN CATEGORY D

BASIC SEISMIC FORCE-REISISTING SYSTEM ...A-15 (ASCE 7-16 TABLE 12.2-1)
 DESIGN BASE SHEAR 0.7V=0.156*W (ASD LEVEL)
 Cs 0.224
 R 6.5
 USE EQUIVALENT LATERAL FORCE PROCEDURE

EPOXY ANCHORS

- EPOXY FOR EPOXY ANCHORS SHALL BE SET-XP EPOXY BY "SIMPSON STRONG-TIE" (ICC ESR. #2509)
- ANCHORS USED FOR EPOXY ANCHORS SHALL BE ASTM A-307 THREADED RODS UNO. SIZE AND EMBEDMENT SHALL BE AS INDICATED ON PLANS.
- ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE EPOXY MANUFACTURER'S RECOMMENDATIONS AND THE CURRENT ICC REPORT.
- SPECIAL INSPECTION SHALL BE PROVIDED IN ACCORDANCE WITH CBC-2022 SECTION 1704 AND IN ACCORDANCE WITH THE SPECIFIC SPECIAL INSPECTION REQUIREMENTS SET FORTH IN THE CORRESPONDING ICC REPORT.
- DRILLED HOLES SHALL BE CLEANED OF DUST AND ANY DEBRIS USING NYLON BRUSH AND COMPRESSED AIR. OIL, SCALE, AND RUST SHALL BE REMOVED FROM THREADED RODS PRIOR TO INSTALLATION.
- UNLESS NOTED OTHERWISE IN THE PLANS, EPOXY ANCHORS SHALL HAVE THE FOLLOWING MINIMUM EMBEDMENT

BAR SIZE	MINIMUM EMBEDMENT *	REMARKS
#3	3 1/2"	
#4 OR 1/2"	4 1/4"	
#5 OR 5/8"	5 1/2"	
#6 OR 3/4"	6 3/4"	

* UNLESS NOTED OR DETAILED

CONCRETE

- ALL CONCRETE SHALL BE NORMAL WEIGHT CONFORMING TO THE FOLLOWING:

LOCATION	28-DAY MIN. COMPRESSIVE STRENGTH	MAXIMUM AGGREGATE SIZE (IN.)	MIX DESIGN SLUMP (INCHES)
A. SLAB ON GRADE	3000 psi	1	3 (4" MAX)
B. FOOTING	3000 psi	1	4 (5" MAX)

 W/C=0.45
- ALL CONCRETE MIX DESIGN SHALL BE REVIEWED BY THE ENGINEER PRIOR TO CONSTRUCTION.
- PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE V CEMENT.
- AGGREGATE SHALL CONFORM TO ASTM C-33.
- WATER SHALL BE CLEAN, FREE FROM DELETERIOUS AMOUNTS OF ACIDS, ALKALIS OR ORGANIC MATERIALS, OILS, SALTS AS PER ACI 318.
- CONCRETE MIXING OPERATIONS, ETC. SHALL CONFORM TO ASTM C-94. WATER-CEMENT RATIO IS LESS THAN 0.50
- UNLESS SHOWN OR NOTED OTHERWISE, CONCRETE COVERAGE FOR REINFORCING BAR TO FACE OF BAR SHALL BE AS FOLLOWS:

A. CONCRETE IN CONTACT WITH EARTH, UNFORMED	3"
B. CONCRETE IN CONTACT WITH EARTH, FORMED	2"
C. WALLS	1.5"
D. BEAMS, GIRDERS & COLUMNS (TO TIES OR STIRRUPS)	1.5"
- CONDUIT PLACED IN A CONCRETE SLAB SHALL NOT EXCEED 1/3 OF THE THICKNESS OF THE SLAB AND SHALL BE PLACED BETWEEN THE TOP AND BOTTOM REINFORCING STEEL. MINIMUM CLEAR DISTANCE BETWEEN CONDUITS SHALL BE 6".
- CONSTRUCTION JOINTS:
 THE SURFACES OF ALL CONSTRUCTION JOINTS SHALL BE CLEAN, FREE FROM LOOSE DEBRIS. IMMEDIATELY BEFORE NEW CONCRETE IS PLACED, ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED.
- CONCRETE SHALL BE CURED IN ACCORDANCE WITH SECT 1905.11 OF 2022 C.B.C.
- REMOVAL OF CONCRETE FORMS AND SHORES SHALL BE IN ACCORDANCE WITH SECTION 1906.2 OF 2022 C.B.C.
- CONDUITS AND PIPES EMBEDDED IN CONCRETE SHALL COMPLY WITH THE PROVISION OF SECTION 1906.3 OF 2022 C.B.C.
- DESIGN AND CONSTRUCTION OF CONCRETE FORMWORK SHALL CONFORM TO ACI 347 "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK".
- ALL SAW CUTS IN SLAB ON GRADE SHALL BE MADE NOT LATER THAN 24 HOURS AFTER PLACING CONCRETE.

REINFORCING STEEL

- ALL REINFORCING BARS SHALL BE ASTM A-615 GRADE 60 DEFORMED BILLET STEEL BARS.
- GRADE 60 BARS SHALL BE MARKED SO ITS IDENTIFICATION CAN BE MADE WHEN THE FINAL IN PLACE INSPECTION IS MADE.
- THE TIE WIRE USED SHALL BE BLACK ANNEALED WIRE, 16 GA. OR HEAVIER.
- BAR SUPPORTS SHALL CONFORM TO THE BAR SUPPORT SPECIFICATIONS CONTAINED IN THE "MANUAL OF STANDARD PRACTICE" BY ACI.
- A CERTIFIED COPY OF MILL TEST ON EACH HEAT OF REINFORCING STEEL DELIVERED SHOWING PHYSICAL AND CHEMICAL ANALYSIS SHALL BE PROVIDED UPON REQUEST AT THE TIME OF SHIPMENT.
- ALL REQUIREMENT OF CONCRETE REINFORCEMENT NOT COVERED ON THE DRAWINGS SHALL BE IN ACCORDANCE WITH ACI "MANUAL OF STANDARD PRACTICE".
- REINFORCING STEEL AT THE TIME OF THE CONCRETE IS PLACED SHALL BE FREE FROM MUD, OIL, OR OTHER NON METALLIC COATINGS THAT ADVERSELY AFFECT BONDING CAPACITY.
- ALL HOOKS SHALL CONFORM TO THE BEND DIMENSION PER ACI "STANDARD HOOK" UNLESS OTHERWISE SHOWN ON THE DRAWINGS.
- REINFORCING BARS SHALL NOT BE BENT OR STRAIGHTENED IN A MANNER THAT WILL INJURE THE MATERIAL.
- REINFORCING BARS SHALL CONFORM ACCURATELY TO THE DIMENSIONS SHOWN ON THE DRAWINGS WITH THE FABRICATING TOLERANCES PER ACI "MANUAL OF STANDARD PRACTICE."
- BARS SHALL BE SECURELY TIED TO PREVENT DISPLACEMENT DURING THE CONCRETE OPERATION AND ALL DOWELS SHALL BE WIRE IN PLACE BEFORE DEPOSITING CONCRETE.
- DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL HAVE SAME SIZE AS THE VERTICAL REINFORCEMENT, EMBEDMENT OF DOWELS SHALL BE 36 BAR DIAMETER OR 2'-0" MINIMUM UNLESS OTHERWISE SHOWN.
- MINIMUM LAP OF MESH SHALL BE NOT LESS THAN THE SPACING OF THE CROSS WIRE PLUS TWO INCHES OR 60 DIA. OR 8 IN. WHICHEVER IS GREATER.

NOTES:

- ALL THE FASTENERS IN PRESSURE-TREATED AND FIRE-RETARDANT, TREATED WOOD SHALL BE OF HOT-DIPPED, ZINC-COATED GALVANIZED STEEL, STAINLESS, SILICON BRONZE OR COPPER.
- SHEAR WALL ANCHOR BOLTS AND HOLD-DOWN HARDWARE MUST BE SECURED IN PLACE PRIOR TO FOUNDATION INSPECTION.
- SILLS AND SLEEPERS IN DIRECT CONTACT WITH CONCRETE OR MASONRY THAT IS IN DIRECT CONTACT WITH THE GROUND AND GIRDERS WITH LESS THAN 1/2" CLEARANCE TO MASONRY AND CONCRETE SHALL BE PRESSURE TREATED OR NATURALLY DURABLE TO DECAY.
- ALL WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8" TO THE EXPOSED GROUND SHALL BE PRESSURE TREATED OR NATURALLY DURABLE TO DECAY.

WOOD

- ALL LUMBER SHALL BE GRADE MARKED DOUGLAS FIR-LARCH AND SHALL HAVE THE FOLLOWING GRADES, UNLESS NOTED OTHERWISE:

JOISTS & RAFTERS	GRADE NO. 2 OR BETTER
BEAMS & STRINGERS	GRADE NO. 1 AND BETTER
DOUBLE TOP PLATES	GRADE NO. 1 AND BETTER
2X4 STUDS	CONSTRUCTION GRADE OR BETTER
3X4 & 2X6 STUDS	GRADE NO. 2 OR BETTER
POSTS AND TIMBERS	GRADE NO. 1 AND BETTER
LAGGING	GRADE NO. 2 AND BETTER
- PLYWOOD SHEATHING SHALL BE FULL SIZE SHEET WHERE POSSIBLE WITH 48" X 32" MINIMUM SHEET SIZE AND LAID CONTINUOUSLY OVER TWO OR MORE SPANS WITH FACE GRAIN PERPENDICULAR TO SUPPORTS.

A. FLOOR OR TERRACE SHEATHING SHALL BE GRADE MARKED "D.F.P.A. EXTERIOR SHEATHING C-D GRADE" 3/4" THICK WITH EXTERIOR GLUE. PANEL I.D. RATING 32/16 OR BETTER. EDGES SHALL HAVE APPROVED TONGUE-AND-GROOVE JOINTS. NAILED WITH 10d DEFORMED SHANK NAILS AT 6" O.C. AT EDGES AND BOUNDARIES, AT 10" O.C. IN FIELD. U.N.O.
B. ROOF SHEATHING SHALL BE GRADE MARKED "D.F.P.A. EXTERIOR SHEATHING C-D GRADE" 1/2" THICK WITH EXTERIOR GLUE. PANEL SPAN RATING 24/0 OR BETTER. NAILED WITH 8d COMMON NAILS AT 6" O.C. AT EDGES AND BOUNDARIES, AT 12" O.C. IN FIELD UNLESS NOTED OTHERWISE.
C. WOOD STRUCTURAL PANELS, WHEN USED STRUCTURALLY, SHALL CONFORM TO THE REQUIREMENTS FOR THEIR TYPE IN DOC PS 1-09 AND PS 2-10.
- ALL NAILS SHALL BE COMMON WIRE NAILS UNLESS NOTED OTHERWISE. SEE FRAMING PLANS OR DETAILS FOR NAIL SIZES AND SPACINGS. NAILS THAT NOT DETAILED OR NOTED SHALL BE IN ACCORDANCE WITH 2022 CBC TABLE 2304.10.1 - FOR NAILING SCHEDULE.
- ALL JOIST HANGERS AND FRAMING CONNECTORS SHALL BE "SIMPSON" OR APPROVED EQUAL.
- NO STRUCTURAL MEMBER SHALL BE CUT FOR PIPES, ETC. UNLESS SPECIFICALLY NOTED.
- BOLT HOLES SHALL BE SAME DIAMETER AS THAT OF THE BOLTS. PROVIDE WASHERS BETWEEN BOLT HEADS OR NUTS AND WOOD MEMBERS.
- A PROPERLY SIZED NUT AND WASHER SHALL BE TIGHTENED ON EACH ANCHOR BOLT TO THE PLATE BEFORE CLOSING IN COMPLETION OF JOB.
- ALL SILL PLATES RESTING ON CONCRETE OR MASONRY THAT ARE LESS THAN 8" ABOVE GRADE SHALL BE PRESSURE TREATED DOUGLAS FIR.
- ALL SILL BOLTS SHALL BE PLACED STARTING 9" FROM THE ENDS OF A BOARD OR FROM A NOTCH AND SPACED AT INTERVALS AS NOTED ON THE PLANS.
- BLOCKING OR BRIDGING SHALL BE PROVIDED AS REQUIRED PER C.B.C.
- PROVIDE DOUBLE JOISTS UNDER ALL PARTITIONS THAT ARE PARALLEL TO JOISTS. USE 2-16d NAILS AT 16" O.C. TO NAIL THE DOUBLE JOISTS TOGETHER.
- TOP PLATES FOR ALL STUD WALLS SHALL BE 2-2X. LAP FOR TOP PLATES SHALL BE 48" LONG MINIMUM NAILED WITH 16d AT 4" AT EACH LAP UNLESS NOTED OTHERWISE. SPLICES IN UPPER AND LOWER PLATES SHALL BE STAGGERED 10'-0" MINIMUM.
- PRE-DRILL FOR NAILING AS REQUIRED WHEN NAIL SPACING RESULTS IN WOOD SPLITTING. PRE-DRILL HOLES SHALL BE SMALLER THAN THE DIAMETER OF THE NAILS.
- ALL WOOD STUD WALLS SHALL HAVE 2X4 STUDS AT 16" O.C. WHEN HEIGHT BETWEEN LATERAL SUPPORTS LESS THAN 10'-0", WHEN HEIGHT BETWEEN LATERAL SUPPORTS MORE THAN 10'-0", USE 2X6 STUDS AT 16" O.C. UNLESS NOTICED OTHERWISE.
- THE BOLT HOLES SHALL BE 1/16" (MAX.) OVERSIZED AT THE CONNECTOR OF THE HOLD-DOWN TO THE POST. "INSPECTOR TO VERIFY."
- THE HOLD-DOWN CONNECTORS SHALL BE TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.
- APPROVED PLATE WASHERS, IN-LIEU OF CUT WASHERS, SHALL BE PROVIDED FOR ALL PLYWOOD SHEARWALL SILL PLATE ANCHOR BOLTS.
- THE SILL PLATE ANCHOR BOLTS AND HOLD-DOWN CONNECTOR BOLTS AT ALL PLYWOOD SHEARWALL SHALL HAVE THE PLATE WASHERS AS LISTED IN ITEM 20.
- CUTTING OR NOTCHING OF WOOD STUDS OR PLATES SHALL NOT EXCEED 25% OF THE STUD/PLATE WIDTH WITH THE EXTERIOR AND BEARING WALL AND NOT TO EXCEED 40% OF THE STUD/PLATE WIDTH IN NONBEARING PARTITIONS. BORED HOLES DIAMETER IS LIMITED TO 40% OF THE STUD/PLATE WIDTH IN ANY STUD AND MAY BE 60% IN NONBEARING PARTITIONS OR WHEN THE BORED STUD IS DOUBLED.
- PLATE WASHERS FOR ALL ANCHOR BOLTS PARTIALLY:

BOLT SIZE	PLATE SIZE (ASTM A-36)	MIN. EDGE DISTANCE (in)
5/8"	0.229"x3"x3"	1 7/8
3/4"	0.229"x3"x3"	2 1/2
7/8"	5/16"x3"x3"	2 5/8
1 1/4"	3/8"x3 1/2"x3 1/2"	3 3/4

NOTE:

- APPROVE PLATE WASHERS TO BE USED FOR PLYWOOD SHEARWALL SILL PLATE ANCHOR BOLTS AND FOR HOLDDOWN CONNECTOR BOLTS AT SHEARWALLS, FOR WOOD TO WOOD OR WOOD TO STEEL CONNECTION.

FASTENING SCHEDULE

CONNECTION	NAILING *
1. JOIST TO SILL OR GIRDER, TOENAIL	3-8d
2. BRIDGING TO JOIST, TOENAIL EACH END	2-8d
3. 1" X 8" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d
4. WIDER THAN 1" X 8" SUBFLOOR TO EACH JOIST, FACE NAIL	3-8d
5. 2" SUBFLOOR TO JOIST OR GIRDER, BUND AND FACE NAIL	2-16d
6. SOLE PLATE TO JOIST OR BLOCKING FACE NAIL	16d AT 16" O.C.
7. SOLE PLATE TO JOIST, AT BRACED WALL PANEL	3"-16d PER 16"
8. TOP PLATE TO STUD, END NAIL	2-16d
9. STUD TO SOLE PLATE	4-8d, TOE NAIL OR SUPERSEDE THE SPECIFICATIONS OF WPSE(END NAIL)
10. DOUBLE STUDS, FACE NAIL	2-16d, END NAIL
11. DOUBLE TOP PLATES, FACE NAIL	16d AT 24" O.C.
12. DOUBLE TOP PLATES, LAP SPICE	16d AT 16" O.C.
13. BLOCKING BETWEEN JOIST OR RAFTERS TO TOP PLATE, TOE NAIL	8-16d
14. RIM JOIST TO TOP PLATE, TOE NAIL	8d AT 6" O.C.
15. TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
16. CONTINUOUS HEADER TO STUD, TOE NAIL	16d AT 16" O.C.
17. CEILING JOISTS TO PLATE, TOE NAIL	ALONG EACH EDGE 3-8d
18. CONTINUOUS HEADER TO STUD, TOE NAIL	4-8d
19. CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
20. CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
21. RAFTER TO PLATE, TOE NAIL	3-8d
22. 1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d
23. 1" X 8" SHEATHING OR LESS TO EACH BEARING, FACE NAIL	3-8d
24. WIDER THAN 1" X 8" SHEATHING TO EACH BEARING, FACE NAIL	3-8d
25. BUILT-UP CORNER STUDS	16d AT 24" O.C.
26. BUILT-UP GIRDER AND BEAMS	20d AT 32" O.C. AT TOP AND BOTTOM AND STAGGERED 2-20d AT ENDS AND AT EACH SPLICE
27. 2" PLANKS	2-16d AT EACH BEARING
28. COLLAR TIE TO RAFTER	3-10d
29. JACK RAFTER TO HIP	3-10d
30. ROOF RAFTER TO 2-BY RIDGE BEAM	2-16d TOENAIL
31. JOIST TO BAND JOIST	2-16d

* NOTE: COMMON OR BOX NAILS MAY BE USED (U.N.O.)

GLUED LAMINATED WOOD

- MATERIALS, MANUFACTURE, AND QUALITY CONTROL FOR STRUCTURAL GLUED LAMINATED TIMBER SHALL BE IN CONFORMANCE WITH AMERICAN NATIONAL STANDARD ANSI/AITC A190.1-1993, "STRUCTURAL GLUED LAMINATED TIMBER", AND AITC 117, "DESIGN AND MANUFACTURING".
- ALL GLU-LAM BEAMS SHALL BE FABRICATED USING EXTERIOR GLUE (WATERPROOF). ADHESIVES SHALL MEET THE REQUIREMENTS FOR DRY CONDITIONS OF SERVICE FOR INTERIOR USE AND WET CONDITIONS OF SERVICE FOR EXTERIOR BEAMS EXCEPT AS NOTED.
- ALL GLU-LAM BEAMS SHALL BE IN ACCORDANCE WITH UBC TABLE 23A-1 AND SHALL HAVE THE FOLLOWING COMBINATION:
 SIMPLE SPAN 24E-V4 DF/DF
 CANTILEVER 24E-V8 DF/DF
- MANUFACTURER OF GLU-LAM BEAMS SHALL STAMP MEMBERS WITH AN I.D. MARK OF A QUALIFIED CENTRAL INSPECTION ORGANIZATION AND A CERTIFICATE OF PERFORMANCE SHALL BE SUBMITTED TO THE BUILDING INSPECTION DEPARTMENT AND ENGINEERS PRIOR TO INSTALLATION.
- ALL GLU-LAM BEAMS EXPOSED TO WEATHER SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN SECTION 2306.12 OF THE IBC.
- ALL LAMINATIONS SHALL BE 1 1/2" THICK. LAMINATION COMBINATIONS SHALL MEET REQUIREMENTS OF PS 96 LATEST EDITION.
- MOISTURE CONTENT SHALL BE BETWEEN 6 AND 16 PERCENT.
- APPEARANCE SHALL BE INDUSTRIAL GRADE UNO.
- PROVIDE TEMPORARY BRACING, BRIDGING AND SUPPORT UNTIL ROOF AND/OR FLOOR DIAPHRAGMS ARE SECURELY NAILED IN PLACE.
- USE STANDARD CAMBER FOR ALL GIVE-LAM BEAM, U.N.O. ON FRAMING PLAN.
- ADHESIVES SHALL MEET THE REQUIREMENTS FOR DRY CONDITIONS OF SERVICE FOR INTERIOR USE AND WET CONDITIONS OF SERVICE FOR EXTERIOR BEAMS EXCEPT AS NOTED.

SHEET INDEX

SN-1 GENERAL NOTES	SD-1 STRUCTURAL DETAILS
S-1 FOUNDATION PLAN	SD-2 STRUCTURAL DETAILS
S-2 ROOF FRAMING PLAN	SD-3 STRUCTURAL DETAILS
	SD-4 STRUCTURAL DETAILS
	HF1 HARDY FRAME DETAILS
	HF2 HARDY FRAME DETAILS

MANUFACTURED WOOD MEMBERS

- WHERE PARALLAM "PSL" MEMBERS ARE INDICATED ON THE PLANS AND SCHEDULES THEY SHALL BE MANUFACTURED BY THE LEVEL TRUSS-JOIST
 *PSL" (ICC ESR-1387), GRADE: 2.0E. E=2000ksi, Fb=2900psi, Fv=290psi
- PLYWOOD WEB JOISTS DENOTED TJ ARE TO BE MANUFACTURED

#	REVISION	DATE

AQX ENGINEERING INC.

1520 Brookhollow, Suite #45
 Santa Ana, CA 92705
 Off: (714) 662-0510
 Fax: (714) 662-0559
 Mahdi@aqxeng.com

PROJECT NAME

THE REMLINGER RESIDENCE

5152 GRANDVIEW AVE.
 YORBA LINDA,
 CALIFORNIA, 92886

SHEET TITLE

GENERAL NOTES

PROJECT#: DM23-014

DATE 09/10/2023

SCALE AS REFERENCED

SHEET NO.

SN-1

GENERAL STRUCTURAL NOTES

STRUCTURAL OBSERVATION

- STRUCTURAL OBSERVATIONS BY AN INDEPENDENT ENGINEER OR THE ENGINEER OF RECORD SHALL BE MADE IN ACCORDANCE WITH SECTION 1709 OF THE CALIFORNIA BUILDING CODE AT THE EXPENSE OF THE OWNER TO REVIEW THE CONSTRUCTION OF THE PROJECT. STRUCTURAL OBSERVATION NEED TO BE PERFORMED AS DEFINED IN SECTION 1702. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES, AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATIONS. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR(S).
- THE OWNER SHALL EMPLOY THE STRUCTURAL ENGINEER OR ARCHITECT OF RECORD OR THEIR DESIGNATED AGENT TO PERFORM THE STRUCTURAL OBSERVATION.
- EVIDENCE OF EMPLOYMENT BY THE OWNER SHALL BE PROVIDED TO THE BUILDING INSPECTOR BEFORE THE FIRST SITE VISIT. THE OWNER SHALL BE MADE AWARE OF ANY PRECONSTRUCTION MEETING TO BE ATTENDED BY THE STRUCTURAL OBSERVER.
- IN THE PRECONSTRUCTION MEETING ATTENDED BY THE GENERAL CONTRACTOR, APPROPRIATE SUBCONTRACTORS, AND DEPUTY INSPECTORS, THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS WHICH REQUIRE STRUCTURAL OBSERVATION WILL BE IDENTIFIED. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT.
- REQUIRED OBSERVATIONS ARE TO OCCUR AT THE FOLLOWING STAGES OF CONSTRUCTION AS A MINIMUM, FOR EACH BUILDING. NOTIFY ENGINEER 72 HOURS PRIOR TO EACH OBSERVATION.

REQUIRED IF CHECKED	ITEMS
●	A. PRIOR TO PLACEMENT OF CONCRETE FOR THE FIRST FOUNDATION POUR.
	B. REBAR LAYOUTS AND HOLDOWN ANCHORS AT BASEMENT WALLS
●	C. AFTER NAILING OF ALL OR ANY PLYWOOD SHEAR WALLS AND ALL HOLDOWNS, DRAGS, STRAPS ARE IN PLACE. PRIOR TO COVERING.
	D. AFTER NAILING OF FLOOR PLYWOOD DIAPHRAGM(S); PRIOR TO COVERING.
●	E. AFTER NAILING OF ROOF PLYWOOD DIAPHRAGM(S); PRIOR TO COVERING.

- A REPORT PREPARED ON DEPARTMENT FORMS OR FORMS PREPARED BY THE ENGINEER OR ARCHITECT OF RECORD FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED, SHALL BE SENT TO THE CONTRACTOR OR LEFT AT THE PROJECT SITE FOR THE CONTRACTOR TO FORWARD TO THE BUILDING INSPECTOR. THE FORMS SHALL BE WET SIGNED AND SEALED BY THE RESPONSIBLE STRUCTURAL OBSERVER, AN ADDITIONAL SIGNED COPY OF THE REPORT SHALL BE PROVIDED TO THE OWNER, CONTRACTOR, AND DEPUTY INSPECTOR AS REQUESTED.
- A FINAL OBSERVATION REPORT MUST BE SUBMITTED TO THE BUILDING OFFICIAL WHICH SHOWS THAT THE STRUCTURAL SYSTEM GENERALLY CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS. IF ALL DEFICIENCIES HAVE NOT BEEN ADEQUATELY ADDRESS TO THE STRUCTURAL ENGINEERS KNOWLEDGE, THIS FINAL OBSERVATION REPORT WILL DELINEATE OUTSTANDING ISSUES.
- IF THE OWNER ELECTS TO CHANGE THE STRUCTURAL OBSERVER OF RECORD, THE OWNER SHALL:
 - NOTIFY THE BUILDING INSPECTOR IN WRITING BEFORE THE NEXT INSPECTION.
 - CALL AN ADDITIONAL PRECONSTRUCTION MEETING, AND, FURNISH THE REPLACEMENT STRUCTURAL OBSERVER WITH A COPY OF PREVIOUS OBSERVER REPORTS.
 - THE NEW OBSERVER SHALL BE RESPONSIBLE FOR APPROVAL OF THE CORRECTION OF ALL THE ORIGINAL OBSERVED NOTED DEFICIENCIES.
- THE ENGINEER OR ARCHITECT OF RECORD SHALL DEVELOP ALL CHANGES TO THE STRUCTURAL SYSTEMS AT THE CONTRACTORS EXPENSE.

SPECIAL INSPECTION PROGRAM AND STRUCTURAL TEST

- THIS SECTION APPLIES TO THE STRUCTURAL PORTIONS OF THE PROJECT REQUIRING SPECIAL INSPECTION. THE SPECIAL INSPECTOR'S DUTIES ARE AS DESCRIBED IN CBC 1701.1 AND CBC 1704.4. COPIES OF TEST RESULTS AND FINAL REPORTS SHALL BE FURNISHED TO THE ENGINEER IN ADDITION TO OTHER NORMAL DISTRIBUTIONS WITHIN ONE WEEK OF THE TEST OR INSPECTION.
- ALL TEST AND INSPECTIONS SHALL BE PERFORMED BY AN INDEPENDENT TESTING AND INSPECTION AGENCY EMPLOYED BY THE OWNER OR THE ENGINEER OR THE ARCHITECT AND NOT THE CONTRACTOR PER CBC SECTION 106.3.5. JOB SITE VISITS BY THE STRUCTURAL ENGINEER DO NOT CONSTITUTE A SPECIAL INSPECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE TEST AND INSPECTION FIRM WITH A SCHEDULE TO FACILITATE THE PROPER COORDINATION OF WORK.
- IN ADDITION TO THE REQUIRED INSPECTIONS, THE FOLLOWING CHECKED ITEMS WILL REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH SECTION 1704.5 OF THE CALIFORNIA BUILDING CODE.

ITEM	RECD. IF CHECKED	REMARKS
GRADING AND SOILS COMPLIANCE PRIOR TO FOUNDATION INSPECTION SEE FOUNDATION THIS SHEET.		TO BE PROVIDED BY THE GEOTECHNICAL ENGINEER
DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL REINFORCED CONCRETE, WITH THE EXCEPTION OF FOUNDATION CONCRETE WHEN THE STRUCTURAL DESIGN STRENGTH IS GREATER THAN $P_c = 2500$ PSI, U.N.O.	●	SLAB ON GRADE DOES NOT REQUIRE SPECIAL INSPECTION
DURING PLACING OF AND STRESSING OF FT TENDONS		
ALL STRUCTURAL FIELD WELDING, INCLUDING WELDING OF STRUCTURAL STEEL, REINFORCING STEEL, AND STEEL DECKING.		
INSTALLATION AND TIGHTENING OPERATIONS FOR ALL HIGH-STRENGTH FRICTION BOLTING (AS25F) AND (A490P). INSTALLATION AND TIGHTENING OPERATIONS FOR HIGH-STRENGTH ANCHOR BOLTS.		HARDY FRAME
DURING INSTALLATION OF EPOXY AND/OR EXPANSION ANCHORS.	●	FOR REPAIR ONLY
DURING THE PLACEMENT OF AND TAKING OF TEST SPECIMENS FOR ALL MASONRY UNLESS SPECIFICALLY INDICATED AS NOT REQUIRING SPECIAL INSPECTION.		
DURING PLACING OF REINFORCING STEEL.		
ANCHOR BOLTS IN CONCRETE AND/OR MASONRY.		INCLUDING HARDY FRAMES, HDU
WOOD SHEAR WALLS AND DIAPHRAGMS WITH NAILING 4" O. C. OR LESS.	●	

- APPROVED FABRICATORS: (MUST SUBMIT CERTIFICATE OF COMPLIANCE) FOR ALL OFFSITE FABRICATION SUCH AS STRUCTURAL STEEL, GLU-LAMS, PRECAST CONCRETE, ETC.
- ALL STRUCTURAL CONCRETE SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 1905.6. RESULTS OF TESTS SHALL BE SUBMITTED BY THE TESTING AGENCY TO THE ENGINEER FOR REVIEW. WHERE STRENGTH TEST RESULTS INDICATE A STRENGTH LOWER THAN THE SPECIFIED COMPRESSIVE STRENGTH, FURTHER INVESTIGATION SHALL BE MADE PER CBC SECTION 1905.6.4 AT THE EXPENSE OF THE CONTRACTOR.
- ALL STRUCTURAL MASONRY SHALL BE TESTED IN ACCORDANCE WITH CBC SECTION 2105 (INCLUDING MORTAR AND GROUT). MASONRY PRISMS SHALL BE PREPARED AND TESTED IN ACCORDANCE WITH CBC STANDARD 21-17. (NOTE - FULL ALLOWABLE MASONRY STRESSES HAVE BEEN USED IN DESIGN) ADDITIONAL TESTING AND WORK REQUIRED AS A RESULT OF DEFICIENT MASONRY STRENGTH SHALL BE AT THE EXPENSE OF THE CONTRACTOR. TEST RESULTS SHALL BE SUBMITTED BY THE TESTING AGENCY TO THE ENGINEER FOR REVIEW.

STANDARD ABBREVIATIONS:

A.B.	ANCHOR BOLT	HDR.	HEADER
A.W.P.A.	ALIGN WITH POST ABOVE	HT.	HEIGHT
ABV./A.	ABOVE	HORIZ.	HORIZONTAL
B	BOTTOM	JT.	JOINT
BAR	REINF. BAR	K	KIPS
BD	BOARD	KCJ	KEYED CONTROL JOINT
BLD'G.	BUILDING	KSF	KIPS PER SQUARE FOOT
BLW.	BELOW	L	LENGTH
BM	BEAM	LT.	LIGHT
B.N.	BOUNDARY NAIL	LT.WT.	LIGHT WEIGHT
BOT.	BOTTOM	MAS.	MASONRY
B.W.	BOTH WAYS	MAT'L	MATERIAL
C	CHANNEL	MAX.	MAXIMUM
CANT.	CANTILEVERED MEMBER	MIN.	MINIMUM
C/F	CONTINUOUS FOOTING	M.B.	MACHINE BOLT
C/J	CEILING JOIST	(N)	NEW
CL	CENTERLINE	N.G.	NATURAL GRADE
CLR.	CLEAR	O/C	ON CENTER
COL.	COLUMN	P.	POST
CONC.	CONCRETE	PJ	POUR JOINT
CONN.	CONNECTION	PL.	PLATE
CONT.	CONTINUOUS	PLYWD	PLYWOOD
D	DEPTH	PSI	POUNDS PER SQUARE INCH
db	DIAMETER OF BAR	P.T.	PRESSURE TREATED
DBA	DEFORMED BAR ANCHOR	P.T.	POST-TENSIONED
DBL	DOUBLE	REVE.	REVERSE
DIA.	DIAMETER	REINF.	REINFORCING
DIM.	DIMENSION	REQ'D	REQUIRED
DO	DITTO	RF	ROOF
(E)	EXISTING	RJ	ROOF JOIST
EA	EACH	RR	ROOF RAFTER
E.F.	EACH FACE	SECT.	SECTION
EL.	ELEVATION	SHT.	SHEET
E.J.	EXPANSION JOINT	SHT'G	SHEATHING
E.N.	EDGE NAILING	SIM	SIMILAR
E.O.S.	EDGE OF SLAB	SIMP.	SIMPSON PRODUCT
EQ.	EQUAL	SO.	SQUARE
E.S.	EDGE SCREW	STD.	STANDARD
E/W	EACH WAY	STL	STEEL
EXP.	EXPANSION	SW	SHEAR WALL
FB	FLOOR BEAM	T	TOP
F.D.	FOUNDATION DRAIN	T.F.	TOP OF FOOTING
FDN.	FOUNDATION	THK.	THICK
FG	FINISH GRADE	T.O.B.	TOP OF BEAM
F/J	FLOOR JOIST	T.O.C.	TOP OF CONCRETE
FL.	FLUSH	T.O.L.	TOP OF LEDGER
FLR.	FLOOR	T.O.M.	TOP OF MASONRY
FMG.	FRAMING	T.O.S.	TOP OF STEEL/SHT'G/SLAB
F.N.	FIELD NAILING	T.O.W.	TOP OF WALL
		TS	TUBE STEEL

Notes :

- All concrete shall be $P_c=4500$ psi(minimum) with type V cement maximum water cement ratio of 0.45. No special inspection required if concrete truck mix ticket is provided.
- The contractor shall notify inspector prior to starting excavations or any grading work.
- extend all excavations for footings below natural grade as shown on structural drawing.
- all excavations for footings must be inspected and approved by inspector prior to pouring of concrete.
- All fill shall be placed in maximum 2" layers and compacted to 90% density to support footings.
- Sill plates shall be 8" min. above grade. Reminder: alternate detail of 3 1/2" wide, 2" tall curb can be added on to meet the requirement.
- Pre-construction meeting with the city inspector is required.
- Verify the size of existing footing, show the depth and width to be verified.

#	REVISION	DATE

AQX ENGINEERING INC.

1520 Brookhollow, Suite #45
Santa Ana, CA 92705
Off. (714) 662-0510
Fax. (714) 662-0559
Mahdi@aqxeng.com



PROJECT NAME

THE REMLINGER RESIDENCE

5152 GRANDVIEW AVE.
YORBA LINDA,
CALIFORNIA, 92886

SHEET TITLE

GENERAL NOTES

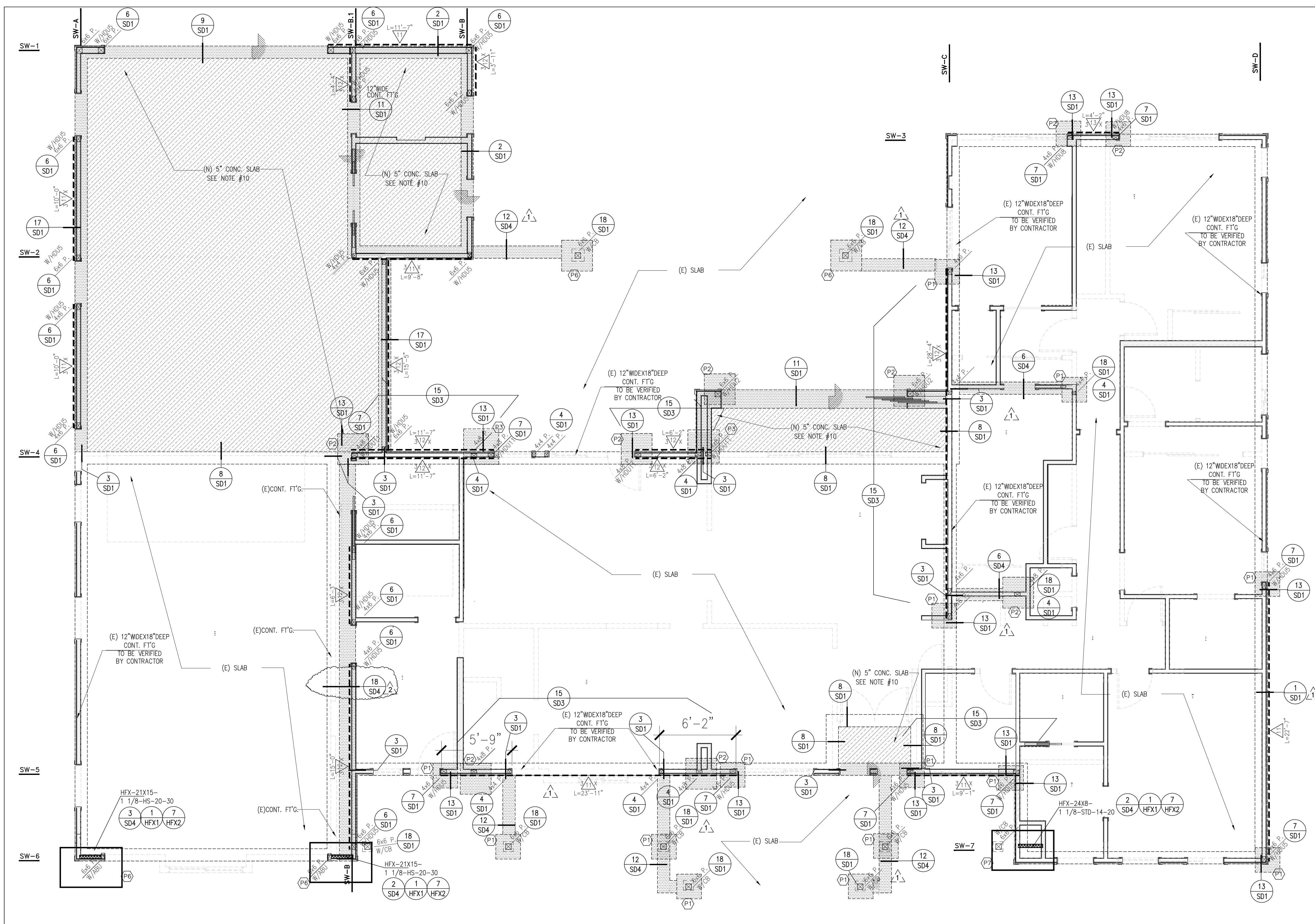
PROJECT#: **DM23-014**

DATE: 09/10/2023

SCALE: AS REFERENCED

SHEET NO.

SN-2



SYMBOLS & LEGENDS

- (N) CONTINUE/PAD FTG.
- (E) CONTINUE FTG.
- DETAIL NUMBER
DETAIL SHEET NUMBER
- HARDY FRAME (ICC-ES ESR-2089)
SEE HFX-1 THRU HFX-3 FOR ADDITIONAL DETAILS
- STUD OR 4x POST AS REQUIRED FOR HARDY FRAME INSTALLATION
- SHEAR PANEL NUMBER, MIN. LENGTH NOTED, REFER TO DETAIL 14/SD2 FOR PANEL TYPE
- WOOD STUD WALL
- (N) STUD WALL

PAD FOOTING SCHEDULE

NO.	SIZE	THICKNESS	REINFORCEMENT EACH WAY
P1	2'-0" SQ.	1'-0"	(3)-#4, BOTTOM
P2	2'-6" SQ.	1'-0"	(3)-#4, BOTTOM
P3	3'-0" SQ.	1'-0"	(4)-#5, BOTTOM
P4	3'-6" SQ.	1'-0"	(4)-#5, BOTTOM
P5	4'-0" SQ.	1'-0"	(4)-#5, BOTTOM
P6	5'-0"x4'-6"	12"	#5@6"O.C. @TOP&BOTTOM
P7	5'-9"x4'-6"	12"	#5@6"O.C. @TOP&BOTTOM

CONTRACTOR NOTE:
CONTRACTOR TO VERIFY ALL EXISTING FRAMING/CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IMMEDIATELY PRIOR TO COMMENCING ANY WORK.

IMPORTANT (E) POST TENSION SLAB VERIFICATION NOTE:
CONTRACTOR SHALL BE VERIFIED & PROTECTED THE (E)CABLES AT THE (E) POST TENSION SLAB (WHERE OCCURS) DURING THE CONSTRUCTION TASK.

FOUNDATION NOTES

- SEE SPECIFICATIONS ON SHEET SN-1 FOR ADDITIONAL INFORMATION.
- BUILDING PAD SOIL BEARING VALUE SHOULD BE AT LEAST 1500 p.s.f.
- CEMENT USED IN FOUNDATIONS SHALL BE TYPE V UNLESS OTHERWISE REQUIRED BY THE SOIL ENGINEER.
- THE FLOOR SLAB SHALL BE POURED LEVEL TO WITHIN 1/8 INCH IN 10 FEET.
- THE FLOOR SLAB AND FOUNDATION MAY BE POURED HOMOGENEOUSLY (AT THE SAME TIME) OR IN TWO POURS, WITH A COLD JOINT BETWEEN THE SLAB AND FOUNDATION, AT THE CONTRACTORS DISCRETION. THE DETAILS DRAWN GENERALLY SHOW TWO POURS.

- ANCHOR BOLTS: AT ALL EXTERIOR WALLS, INSTALL A 5/8" DIA. ANC. BOLTS @ 48" O.C. WITH MINIMUM EMBEDMENT OF 7 INCHES INTO CONCRETE (U.N.O. ON SHEAR WALL SCHED.) INCLUDING AT LEAST ONE WITHIN A MAXIMUM OF 12" FROM EACH END. PLATES SMALLER THAN 24" IN LENGTH, SHALL BE PROVIDED WITH AT LEAST TWO ANC. BOLTS UNLESS OTHERWISE INDICATED ON PLANS. PROVIDE ALL EXTERIOR WALLS AS INDICATED ON PLANS. SEE FLOOR FRAMING PLAN FOR REFERENCE IN PROVIDING AN EXTENSION OF ANCHOR BOLTS ABOVE CONCRETE. HARDWARE SHALL BE TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE.
 - ANY PENETRATIONS INTO PRESSURE TREATED WOOD MUST BE GALVANIZED, STAINLESS STEEL, SILICON BRONZE OR COPPER NAILS.
 - FOUNDATION SILL PLATE SHALL BE TREATED LUMBER OR FOUNDATION RED WOOD.
 - HOLD-DOWNS: SEE FOUNDATION PLAN OR FLOOR FRAMING PLAN FOR REFERENCE TO HOLD-DOWN LOCATION AND HARDWARE EXTENSIONS TO CONCRETE FOUNDATION.
- SEE: FOR HOLD-DOWN DETAILS.

- RESIDENTIAL FLOOR SLAB: PLACE SLAB REINFORCEMENT IN CENTER OF SLAB. REINFORCEMENT SHALL BE CHAIRED AND TIED IN PLACE PRIOR TO PLACEMENT OF CONCRETE. A VISQUEEN VAPOR BARRIER SHALL BE PLACED AT ALL MOISTURE SENSITIVE FLOOR AREAS. PROVIDE SEAMS WITH AT LEAST A 6" OVERLAP AND SEAL TAPE.
- | FLOOR SLAB THICKNESS | FLOOR SLAB REINFORCEMENT | VISQUEEN | LOWER SAND LAYER |
|----------------------|------------------------------|--------------------------------|--|
| 5" | #4 BARS AT 16" O.C. EACH WAY | 10 MIL LOCATED UNDER THE SLAB. | 4" THK. BASE OF 1/2" OR LARGER CLEAR AGGREGATE |
- REFER TO ARCH. DWG. FOR TOP-OF-SLAB ELEVATIONS.
 - NEW / EXISTING OR DEMO STUD WALLS NEED TO BE VERIFIED WITH ARCH. DRAWINGS.
 - ALL HOLD-DOWNS ANCHOR BOLTS AND STRAPS MUST BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION AND POURING CONCRETE.

- SHOT PINS: AT ALL INTERIOR, NON BEARING, NON SHEAR WALLS AND PARTITIONS, INSTALL A 0.145" DIA. X 2.875" LONG, SHANK AND METAL PLATE WASHER AT 36" O.C. ADDING ONE AT EACH END. PLATES SMALLER THAN 16" IN LENGTH SHALL HAVE A MINIMUM OF TWO FASTENERS, ONE AT EACH END. PLATES 16" OR LONGER AND INDICATED AS SHEAR WALLS, PLACE TWO ADDITIONAL FASTENERS, ONE AT 6" AND ANOTHER AT 10" FROM EACH END.
- COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCHITECT DRAWINGS.

FOUNDATION PLAN

SCALE: 1/4" = 1'-0" NOTE: COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCH'L DRAWINGS

#	REVISION	DATE
	PLAN CHECK CORRECTIONS	11/13/23
	PLAN CHECK CORRECTIONS	12/13/23

AOX ENGINEERING INC.

1520 Brookhollow, Suite #45
Santa Ana, CA 92705
Off. (714) 662-0510
Fax. (714) 662-0559
Mandl@aqxeng.com

THE REMLINGER RESIDENCE
5152 GRANDVIEW AVE.
YORBA LINDA,
CALIFORNIA, 92886

PROJECT NAME

SHEET TITLE

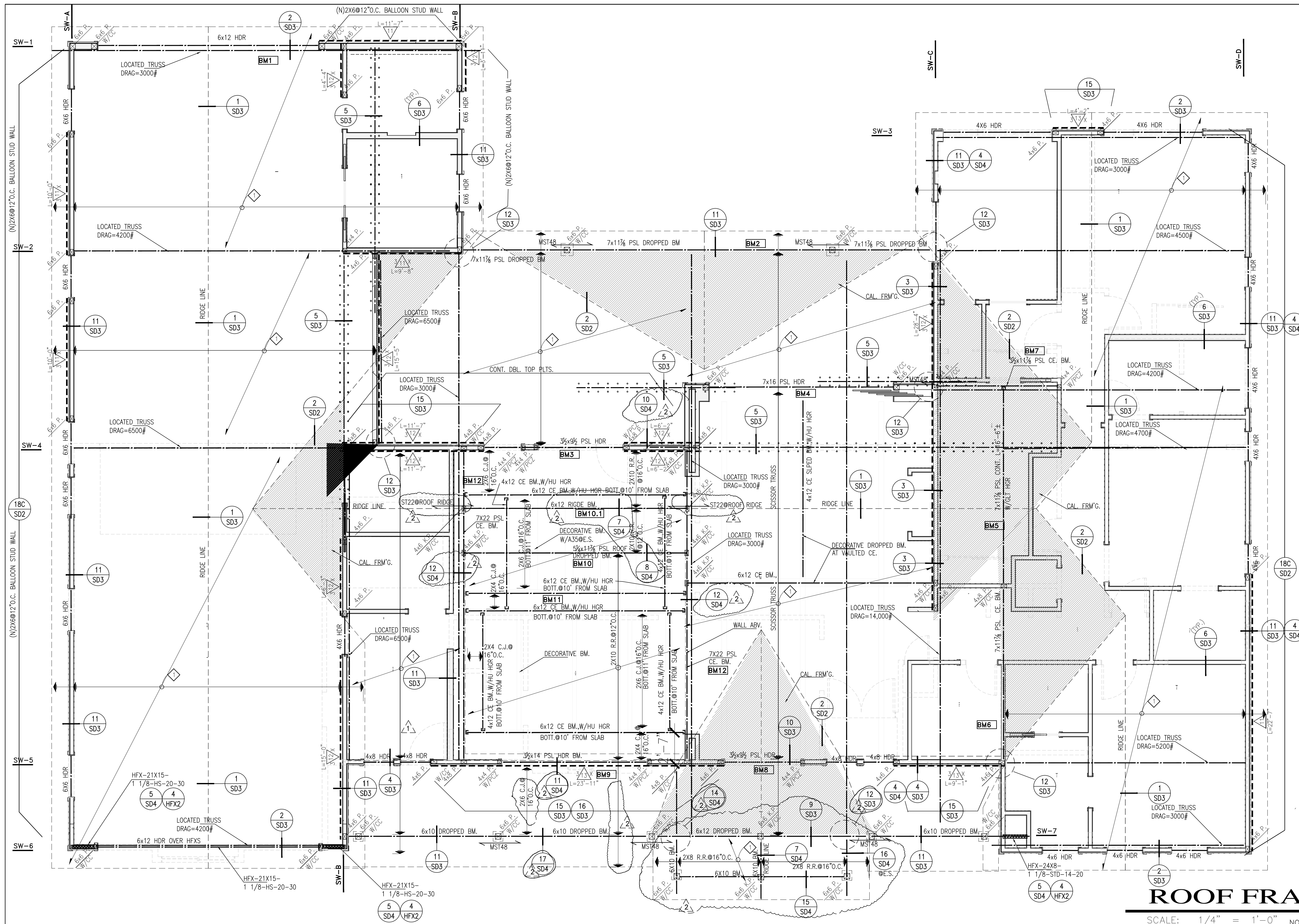
FOUNDATION PLAN

PROJECT#: DM23-014

DATE 09/10/2023

SCALE AS REFERENCED

SHEET NO.



ROOF FRAMING PLAN

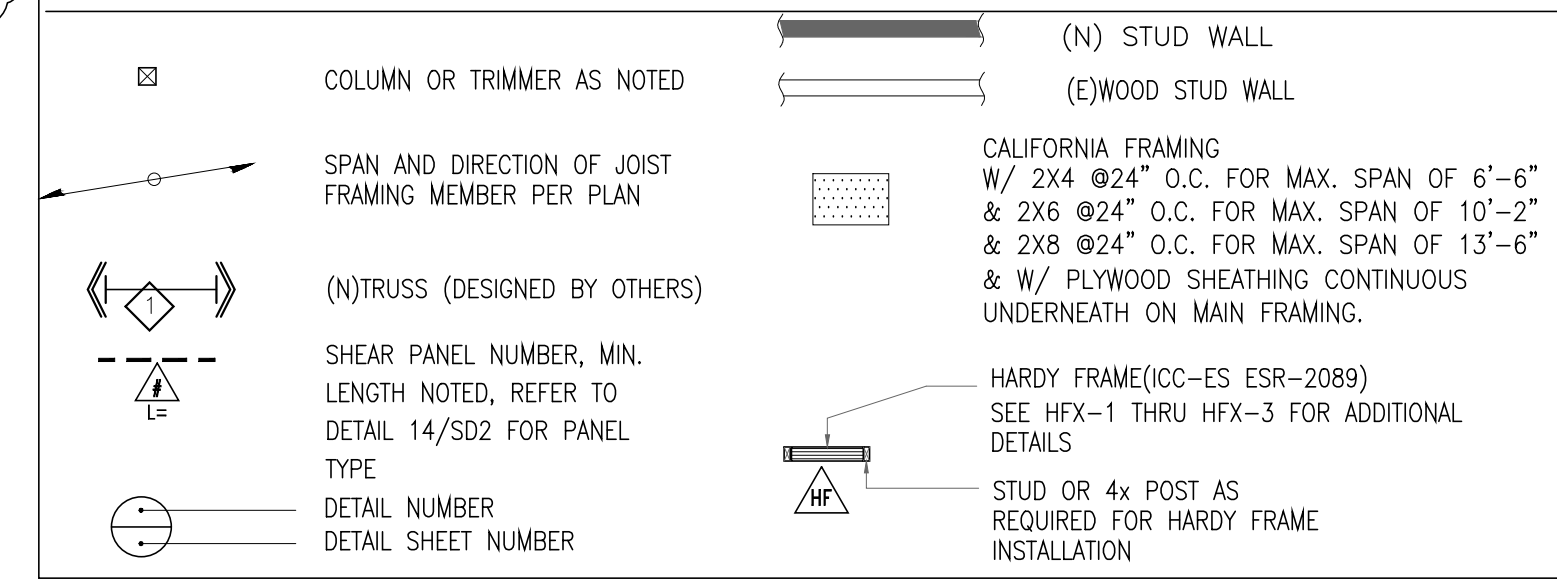
SCALE: 1/4" = 1'-0" NOTE: COORDINATE AND VERIFY ALL DIMENSIONS WITH ARCH'L DRAWINGS

FRAMING NOTES

- FOR GENERAL NOTE SEE SN-1.
- VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. FOR DIMENSIONS NOT SHOWN SEE ARCHITECTURAL DRAWINGS.
- DOUBLE TOP PLATES SHOULD BE CONTINUOUS OVER ALL HEADERS. U.N.O. ON FRAMING PLAN OR DETAILS, SEE 18/SD2 FOR DOUBLE TOP PLATES SPLICES.
- ALL BEAMS AT HARDY FRAME SHEAR LINES, SHOULD BE CONTINUED OVER HARDY-FRAMES, (U.N.O. ON FRAMING PLAN OR RELATED DETAILS. SEE DETAIL PER PLAN.
- ALL BEAMS WITH WIDTH 5 1/2" OR MORE, OR MARKED AS "DRAG" NEED TO HAVE (2) ROWS OF B.N.
- FOR PLYWOOD SHEAR WALL SCHEDULE SILL PLATE AND ANCHOR BOLT REQUIREMENTS SEE DETAIL 14/SD2 FOR NAILING SCHEDULE SEE
- FOR TYPICAL DIAPHRAGM DET. SEE
FOR ROOF DIAPHRAGM 1/2" CDX, PLYWOOD W/8d @ 6:6:12 (COMMON NAIL) PANEL SPAN RATING 24/0 OR BETTER.
FLOOR/DECK DIAPHRAGM 3/4" CDX, PLYWOOD W/10d @ 6:6:10 (COMMON NAIL), U.N.O. PANEL I.D. RATING 32/16 OR BETTER, 1&G.
- NOT USED.
- FOR LOCATION AND FRAMING OF NON-BEARING WALLS, SEE ARCHITECTURAL DRAWINGS.

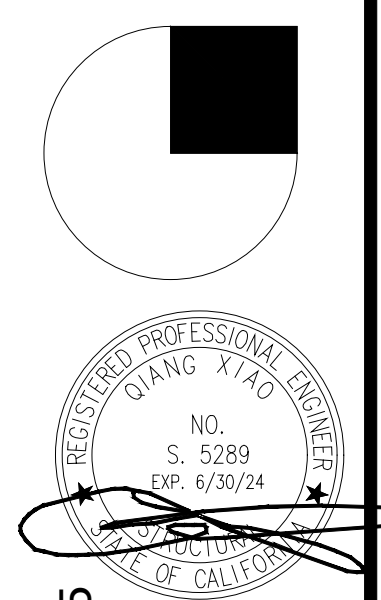
- TRUSS PLANS AND CALCULATIONS SHALL BE SUBMITTED TO THE PROJECT ENGINEER AND BUILDING DEPARTMENT PRIOR TO APPROVAL.
- ALL GLU-LAM BEAMS SHALL BE 24" V4 D/F U.N.O.
- MULTIPLE ELEMENT MEMBERS (i.e. DBL JOISTS, DBL STUDS, etc.) SHALL BE NAILED TOGETHER W/ 16d's @ 16" O.C. STAGGERED. BEAMS COMPOSED OF MULTIPLE PIECES (4x OR LARGER) SHALL BE BOLTED TOGETHER W/ 5/8" M.B.'S @ 12" O.C., STAG'D. ALSO SEE DET. 1/SD2 FOR DBL JOIST CONNECTION.
- WALL STUDS:
 - EXTERIOR WALLS:
 - 2x6 STUDS @ 16" O.C., U.N.O. ON ARCHITECTURAL PLAN.
 - ALL OUTSIDE WALL OF EXTERIOR WALL ARE BEARING WALL (U.N.O.).
 - INTERIOR WALLS:
 - ALL INTERIOR SHEAR/ BEARING WALLS SHALL BE 2x4 MIN. STUD GRADE OR BETTER STUDS @ 16" O.C., FOR 4" WALLS & 2x6 MIN. DFL STUD GRADE OR BETTER STUDS @ 16" O.C., FOR 6" WALLS.
 - ALL INTERIOR NON-BEARING/ NON-SHEAR WALL SHALL BE 2x4 OR 2x6 STUD GRADE OR BETTER STUDS @ 16" O.C. U.N.O.

SYMBOLS & LEGENDS



#	REVISION	DATE
1	PLAN CHECK CORRECTIONS	11/13/23
2	PLAN CHECK CORRECTIONS	12/13/23

AQX ENGINEERING INC.

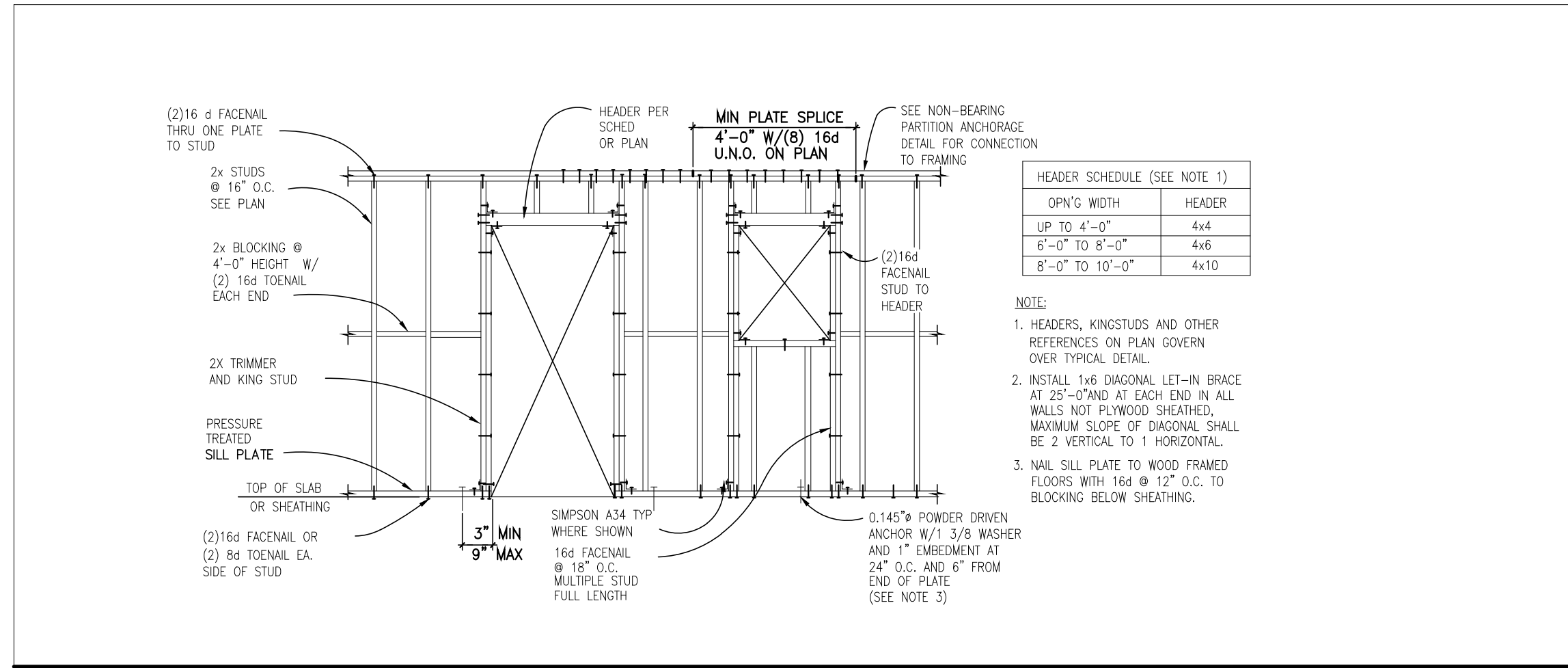


1520 Brookhollow, Suite #45
Santa Ana, CA 92705
Off: (714) 662-0510
Fax: (714) 662-0559
Mahdi@aqxeng.com

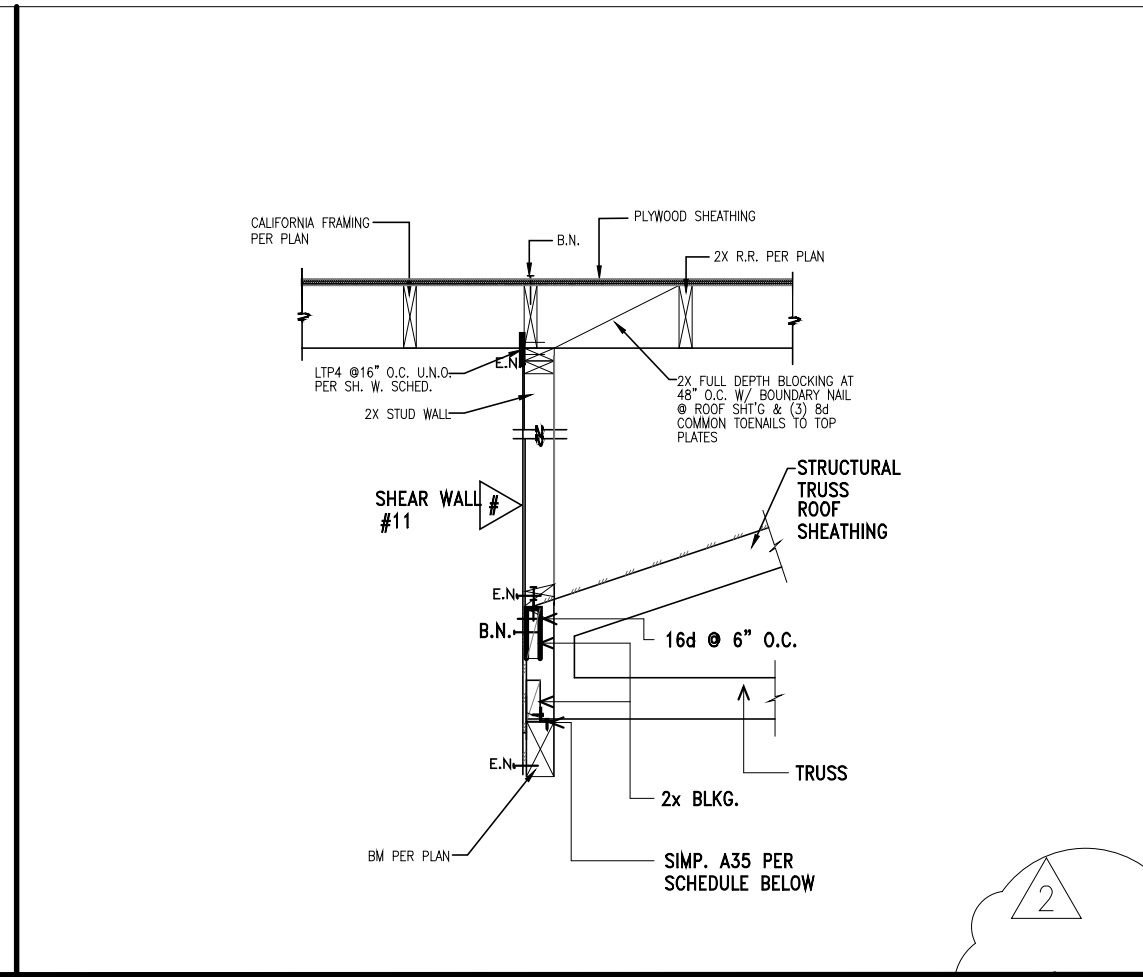
PROJECT NAME
THE REMLINGER RESIDENCE

5152 GRANDVIEW AVE.
YORBA LINDA,
CALIFORNIA, 92886

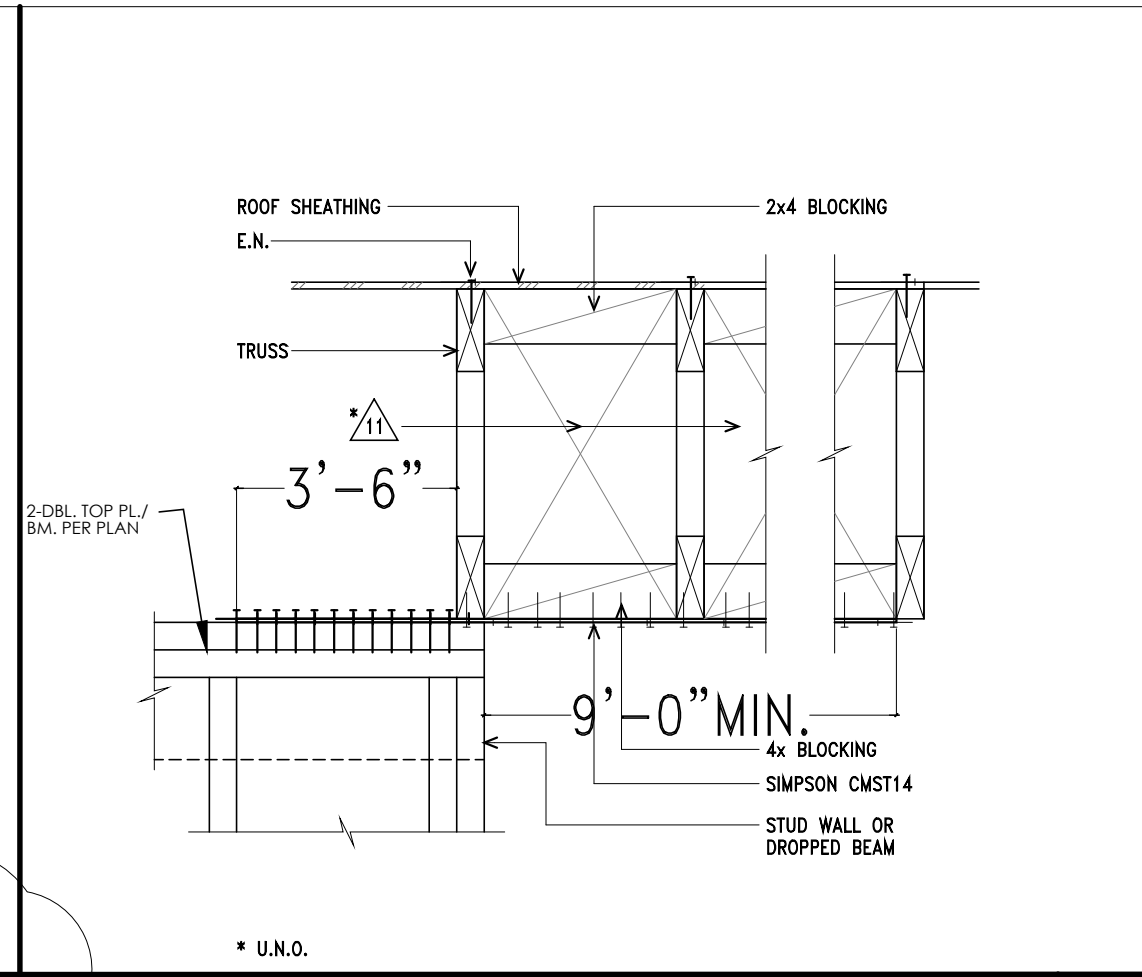
PROJECT#: DM23-014
DATE: 09/10/2023
SCALE: AS REFERENCED
SHEET NO.:



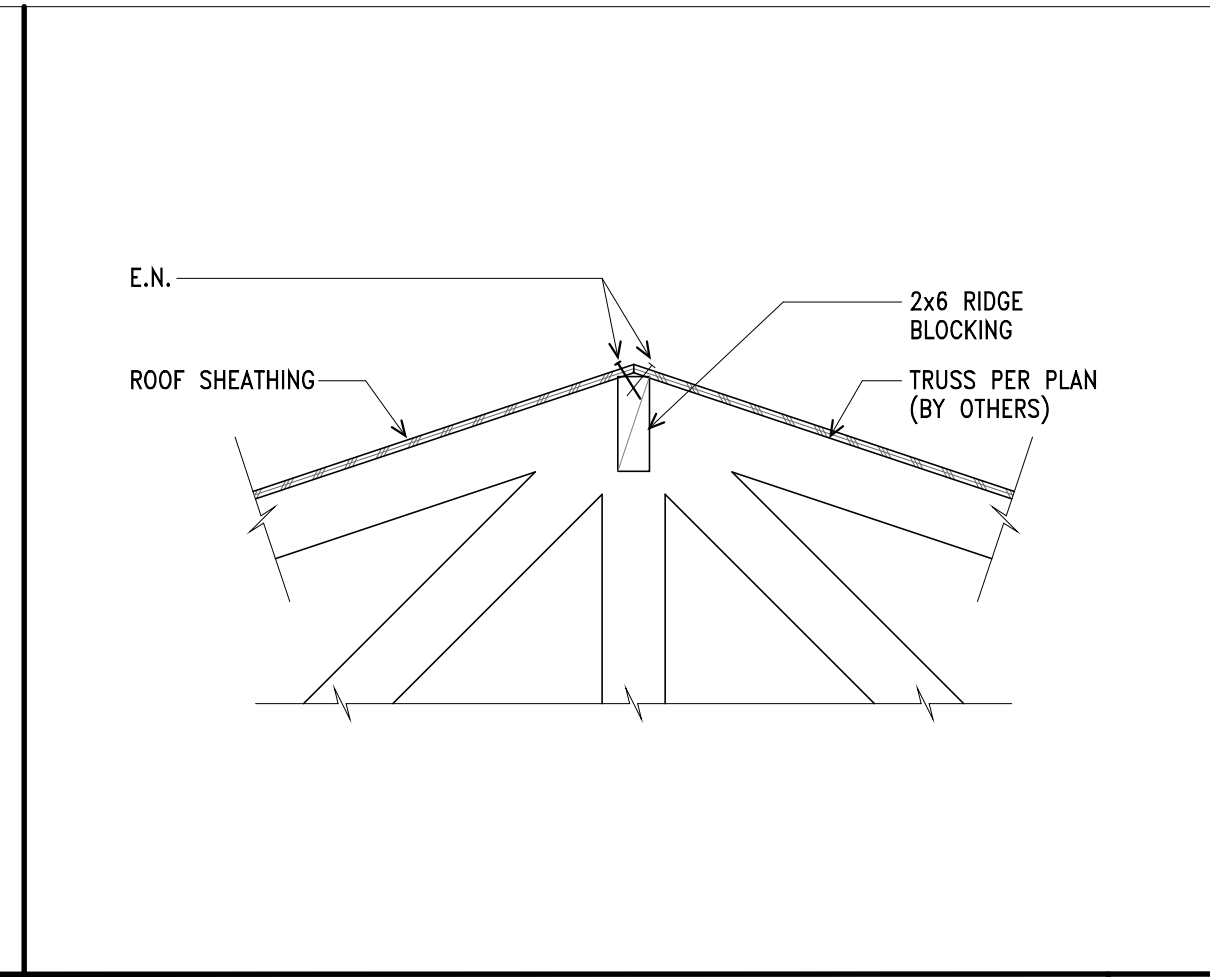
INTERIOR NON-BEARING STUD WALL FRAMING **13**



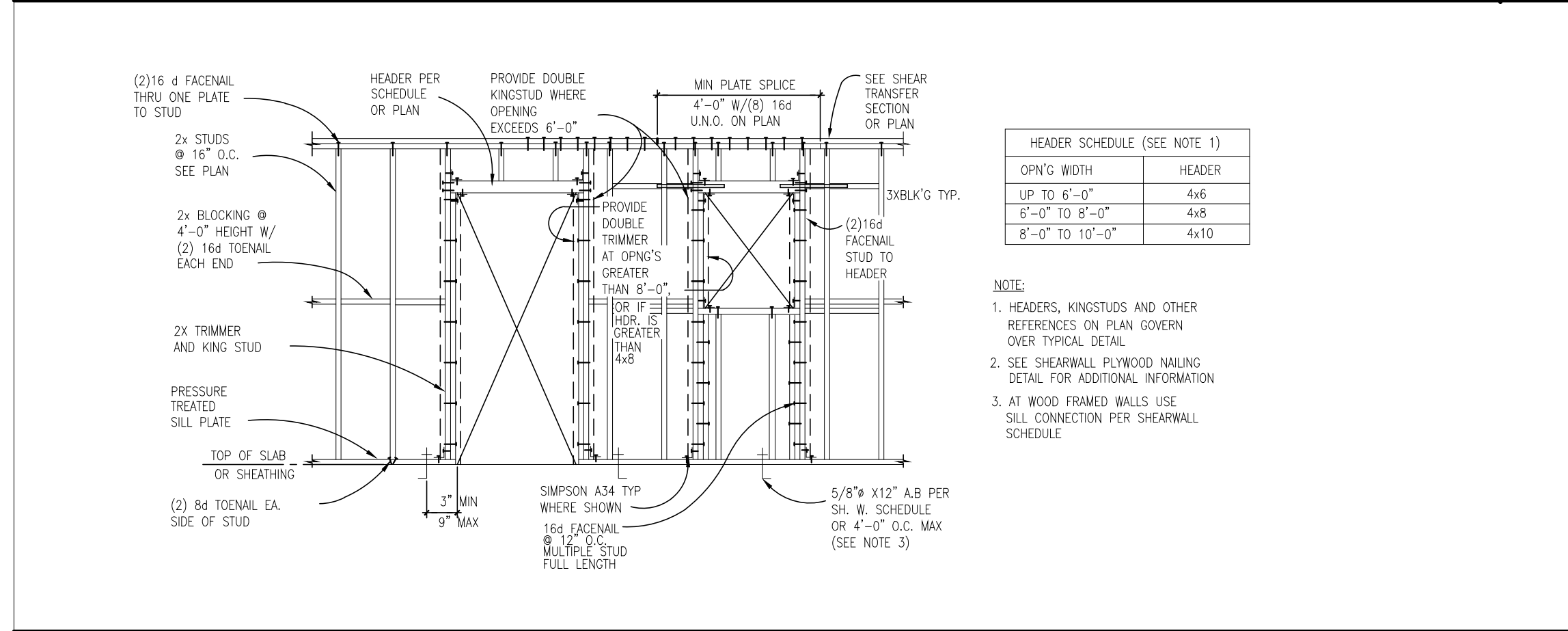
9 SHEAR TRANSFER DETAIL **5**



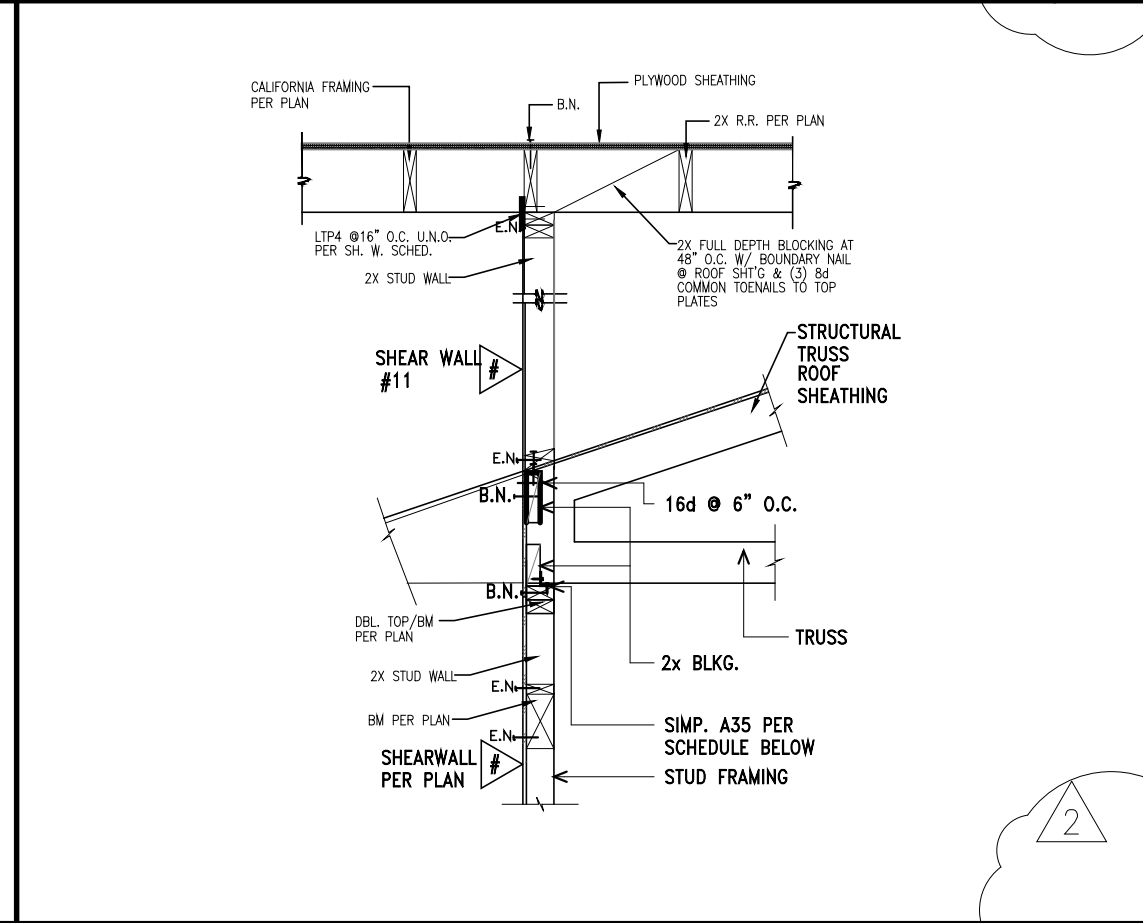
10 ROOF FRAMING DETAIL **6**



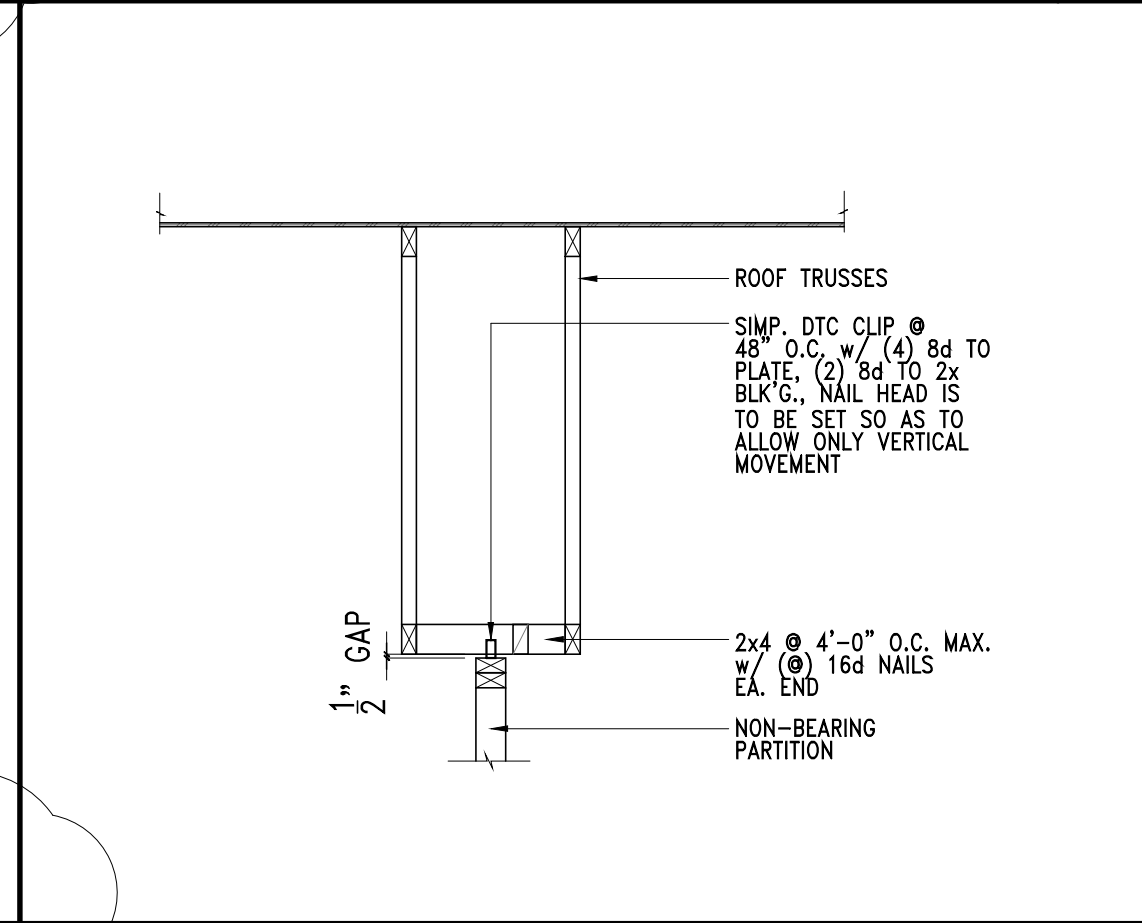
1 SHEAR TRANSFER DETAIL **1**



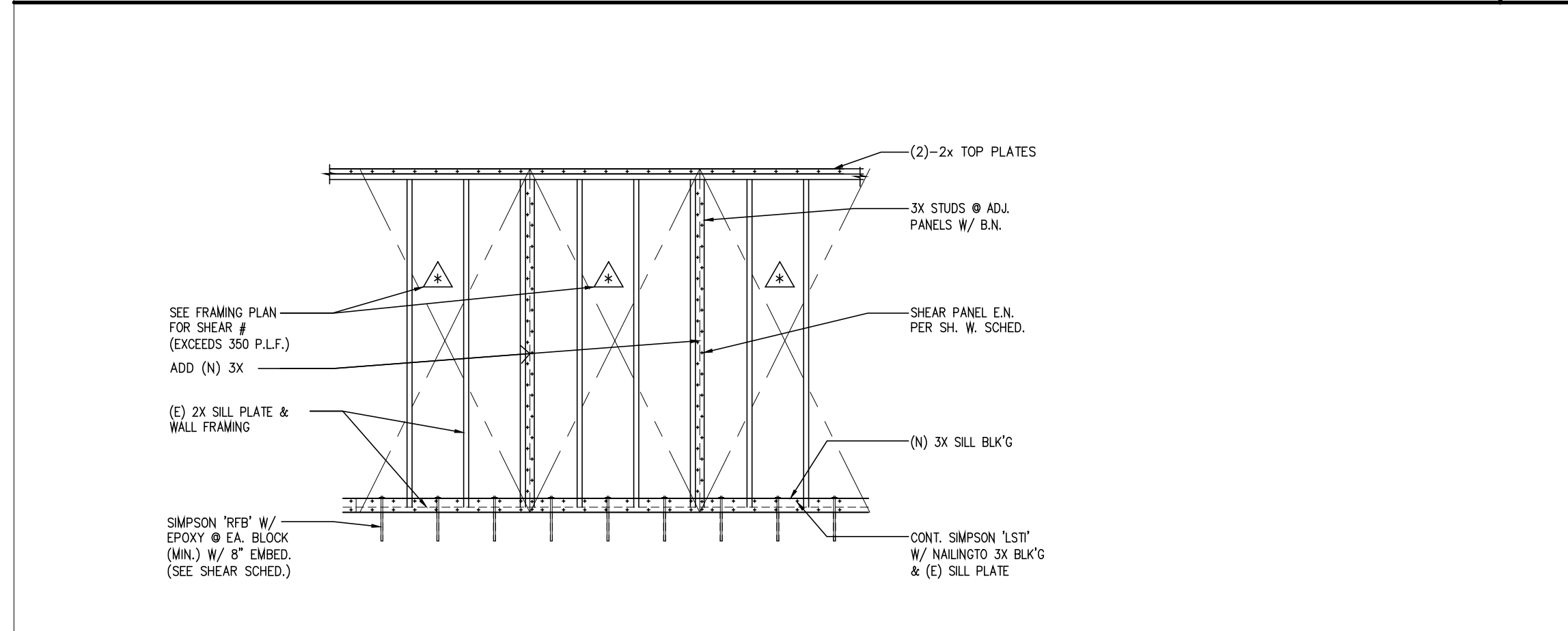
EXTERIOR AND INTERIOR BEARING/SHEAR WALL FRAMING **14**



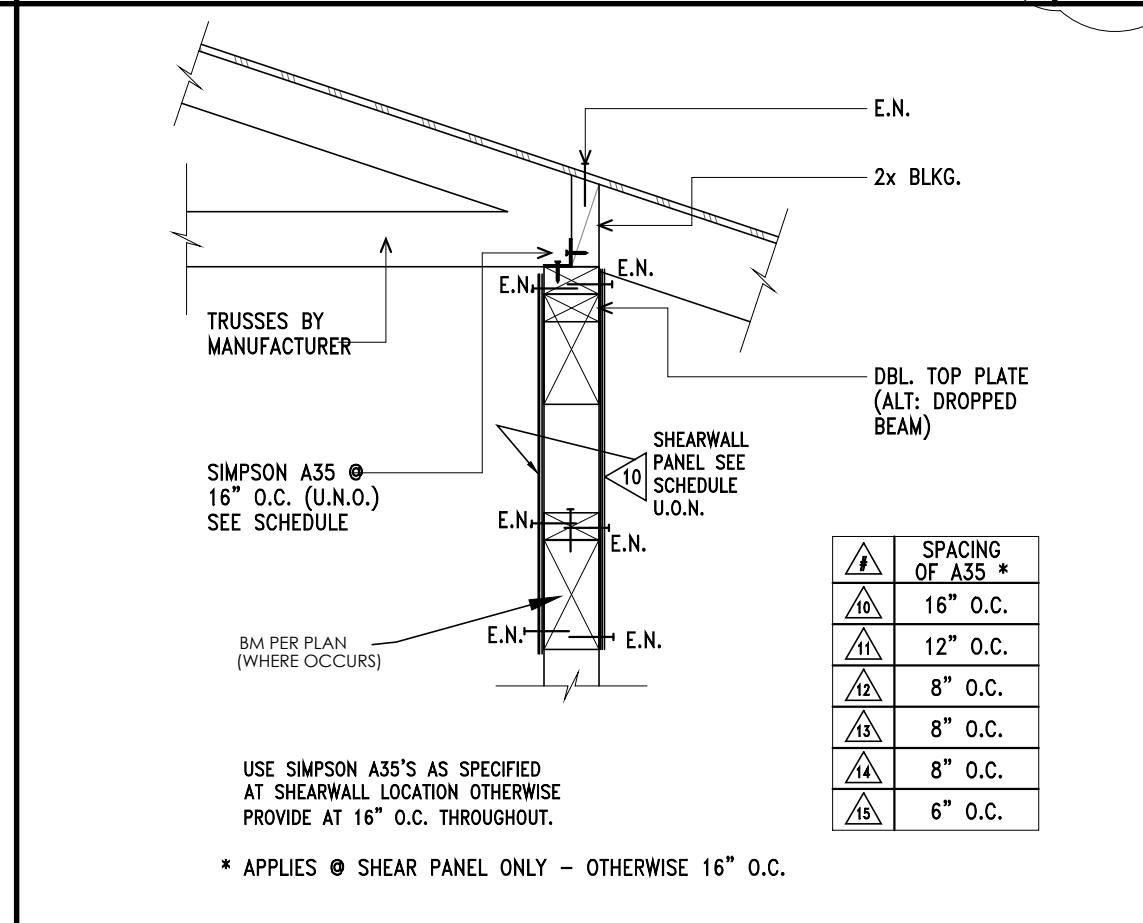
6 NON-BEARING WALL **10**



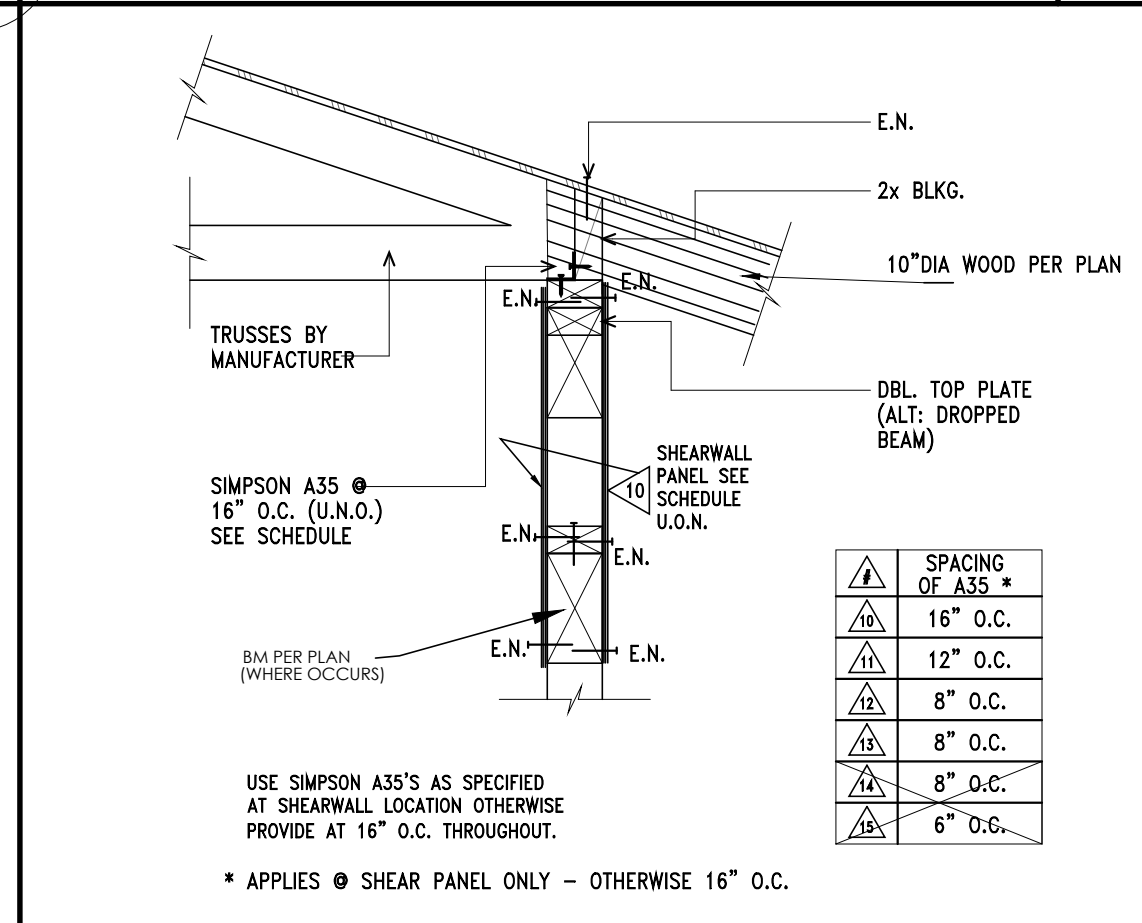
2 SHEAR TRANSFER DETAIL **2**



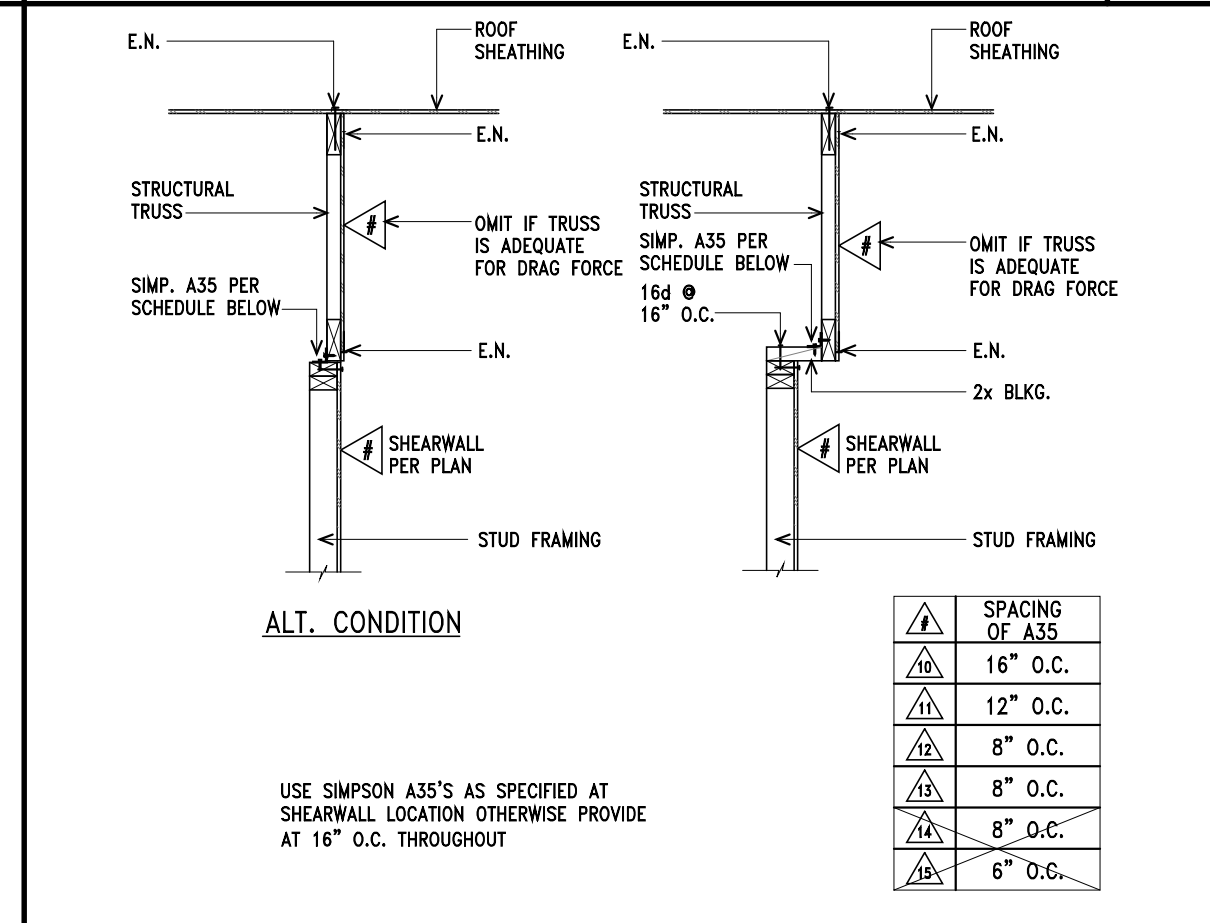
SPECIAL SHEAR @ EXISTING WALLS **15**



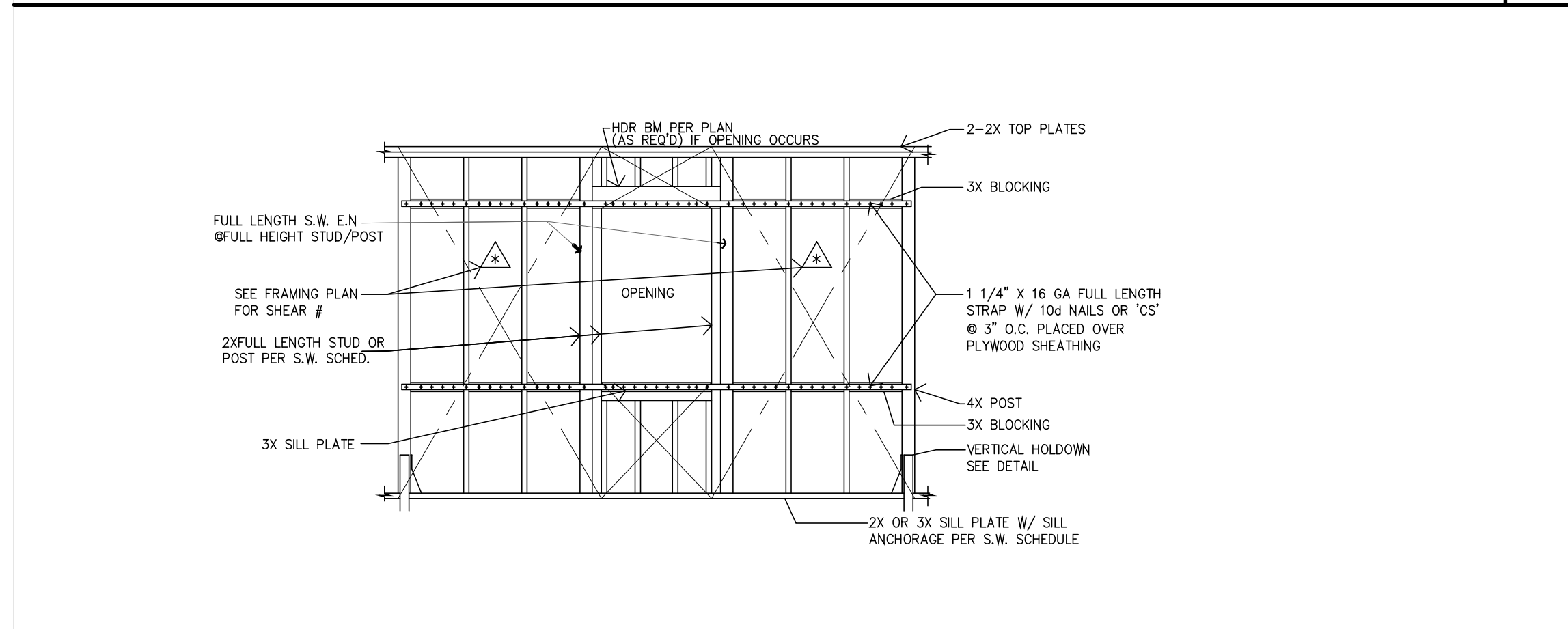
11 SHEAR TRANSFER DETAIL **7**



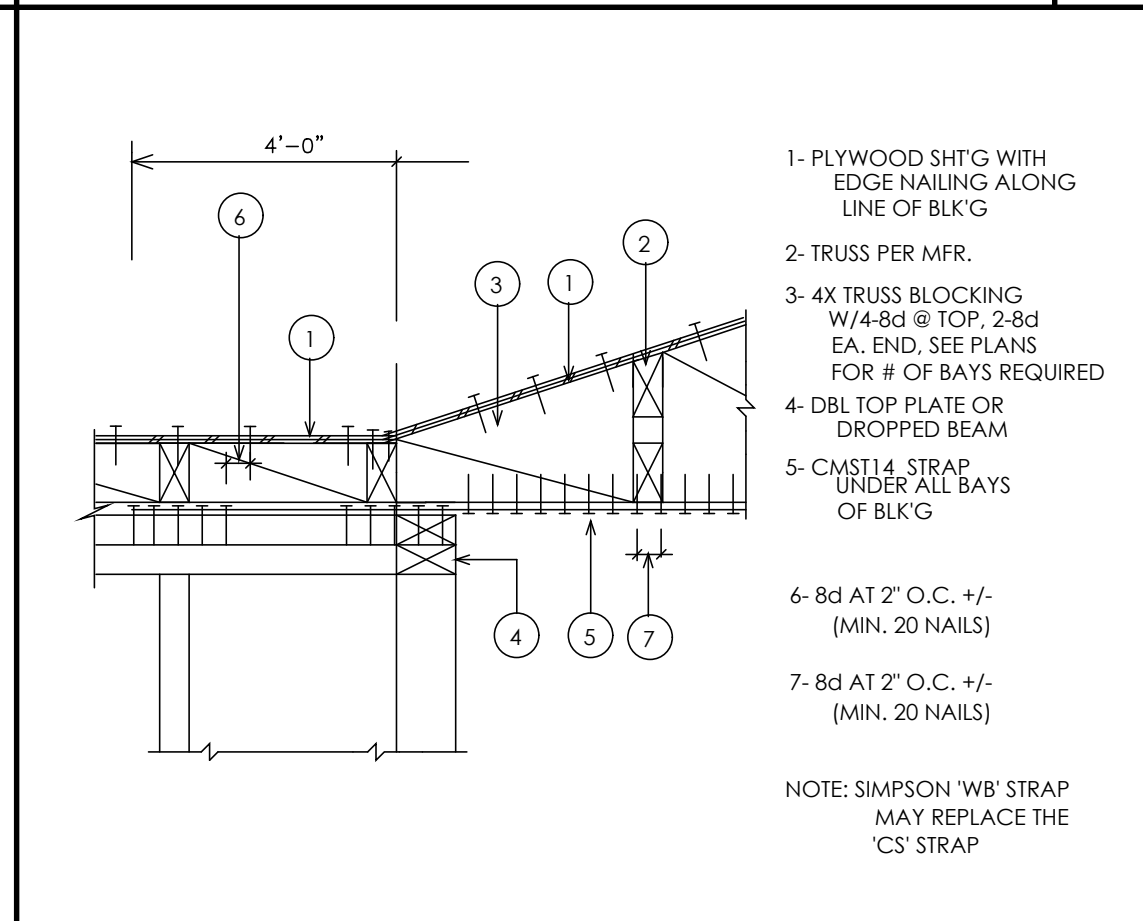
7 SHEAR TRANSFER DETAIL **7**



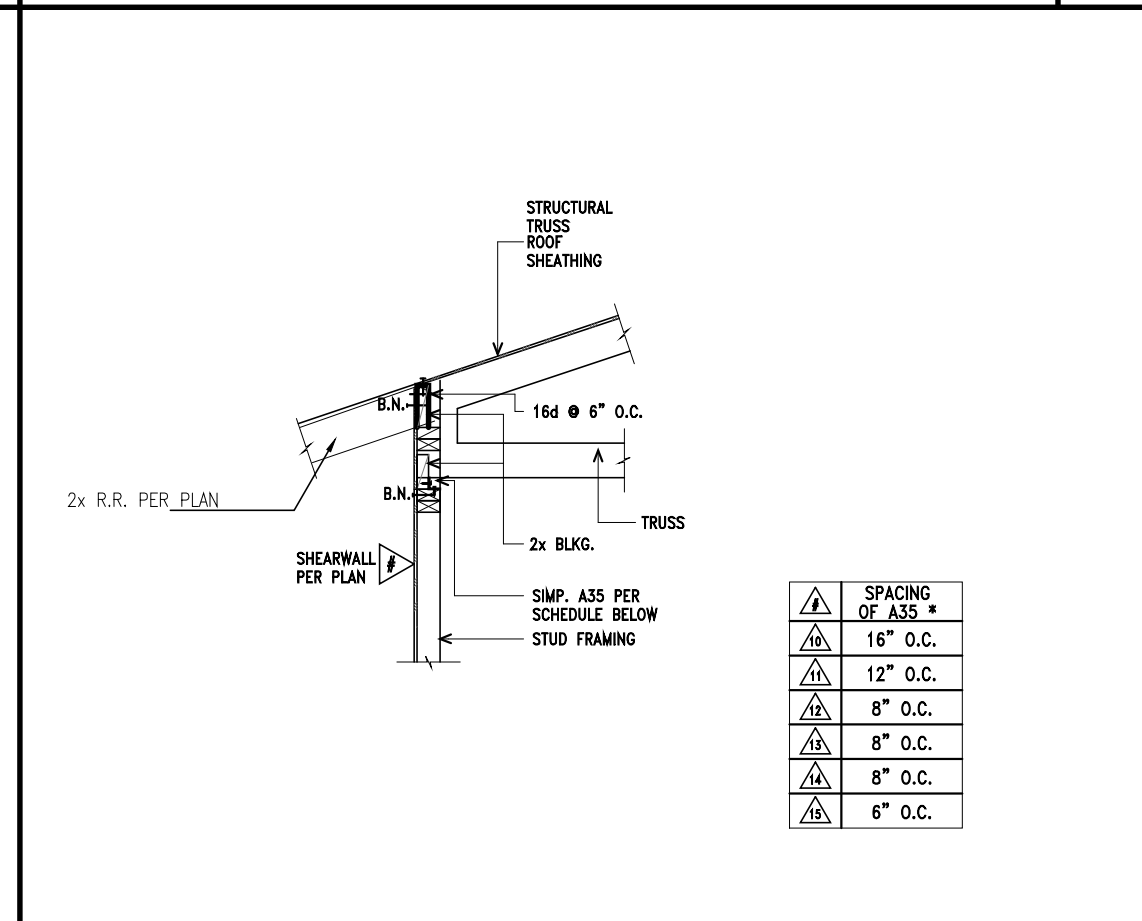
3 SHEAR TRANSFER DETAIL **3**



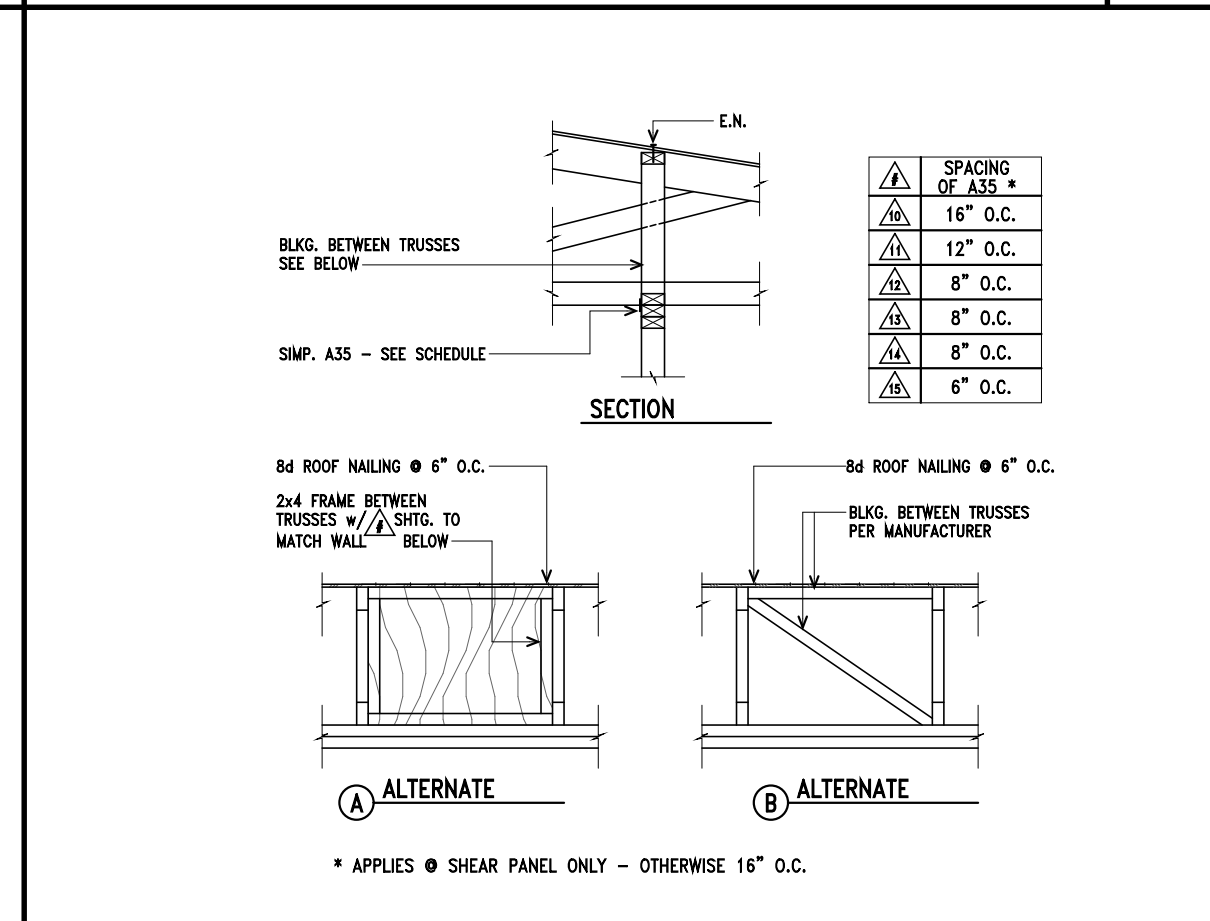
TYP. PIER WALL DETAIL **16**



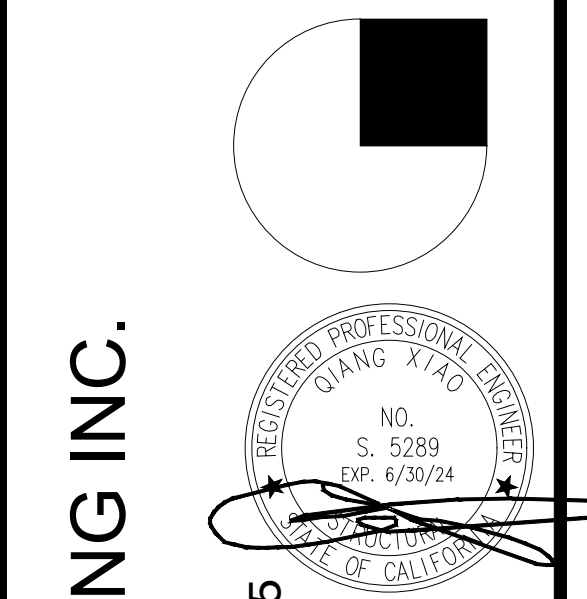
12 DRAG DETAIL **12**



8 ROOF CONNECTION **8**



4 SHEAR TRANSFER DETAIL **4**



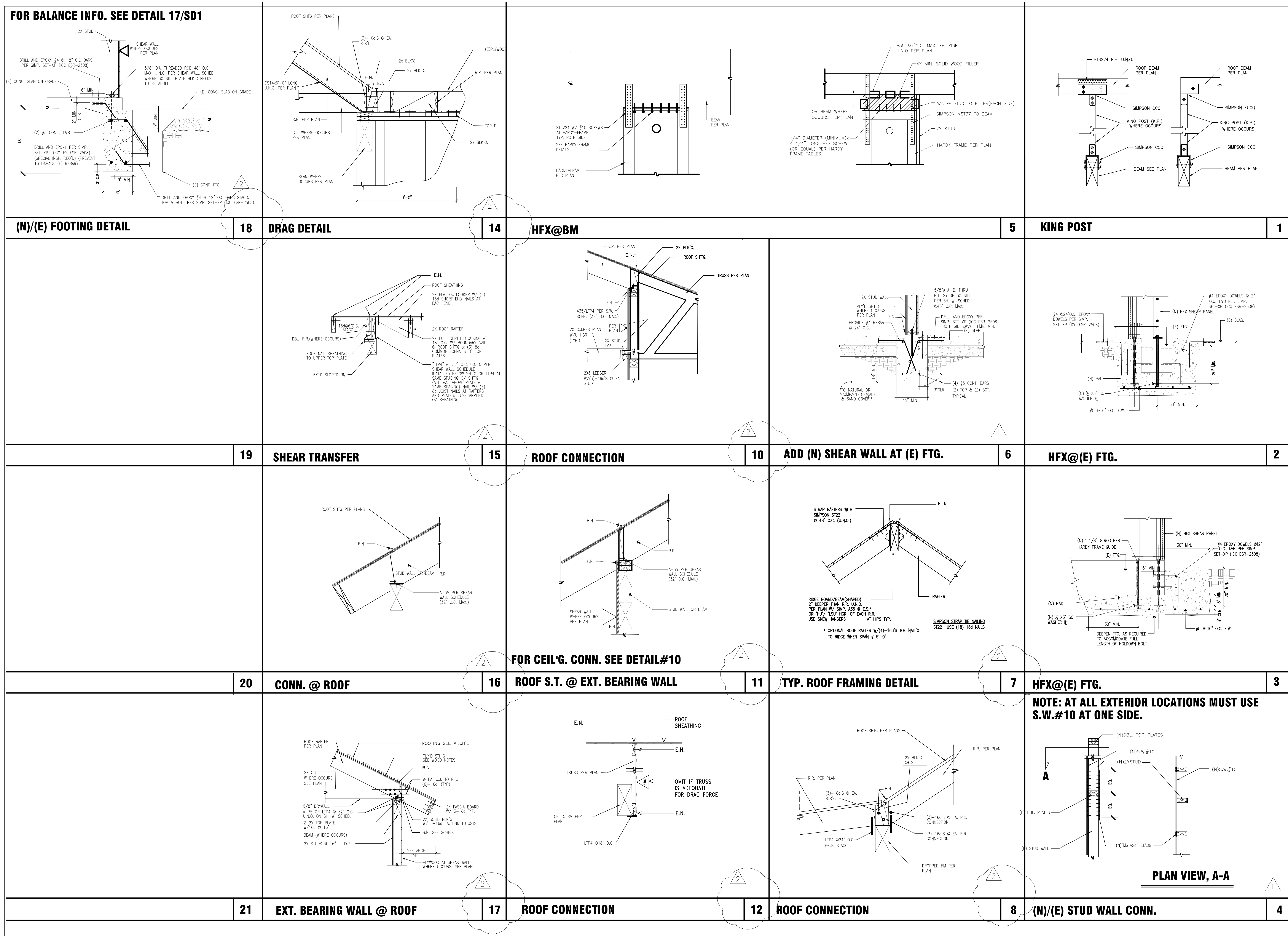
AQX ENGINEERING INC.
1520 Brookhollow, Suite #45
Santa Ana, CA 92705
Off. (714) 662-0510
Fax. (714) 662-0559
Mand@aqqeng.com

PROJECT NAME
THE REMLINGER RESIDENCE
5152 GRANDVIEW AVE.
YORBA LINDA,
CALIFORNIA, 92886

SHEET TITLE
STRUCTURAL
DETAILS

PROJECT#: DM23-014
DATE: 09/10/2023
SCALE: AS REFERENCED
SHEET NO.:

SD-3



#	REVISION	DATE
1	PLAN CHECK CORRECTIONS	11/13/23
2	PLAN CHECK CORRECTIONS	12/13/23

AQX ENGINEERING INC.

1520 Brookhollow, Suite #45
 Santa Ana, CA 92705
 Off. (714) 662-0510
 Fax. (714) 662-0559
 Mahdi@aqxeng.com

REGISTERED PROFESSIONAL ENGINEER
 DIANG XIAO
 NO. S. 5289
 EXPIRES 6/30/24
 STATE OF CALIFORNIA

PROJECT NAME

THE REMLINGER RESIDENCE

5152 GRANDVIEW AVE.
 YORBA LINDA,
 CALIFORNIA, 92886

SHEET TITLE

STRUCTURAL DETAILS

PROJECT#: DM23-014

DATE 09/10/2023

SCALE AS REFERENCED

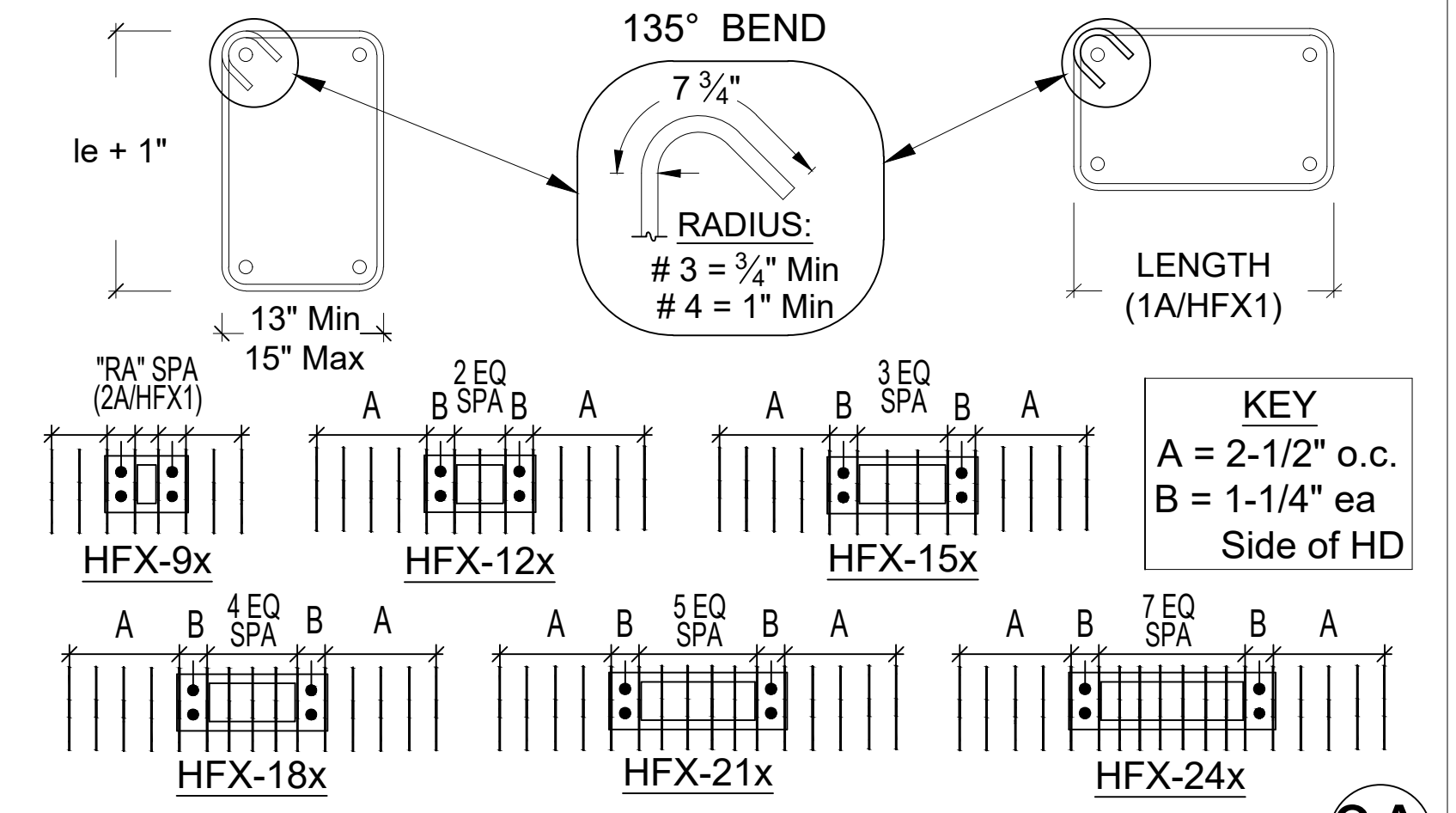
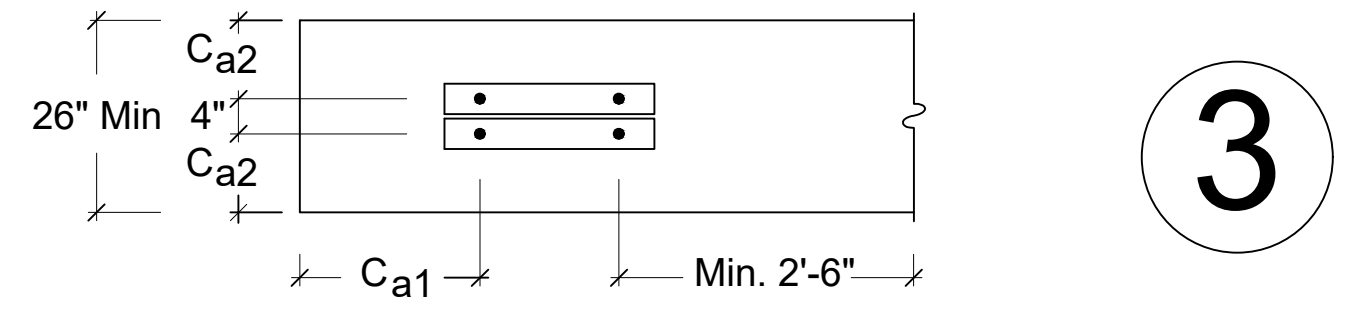
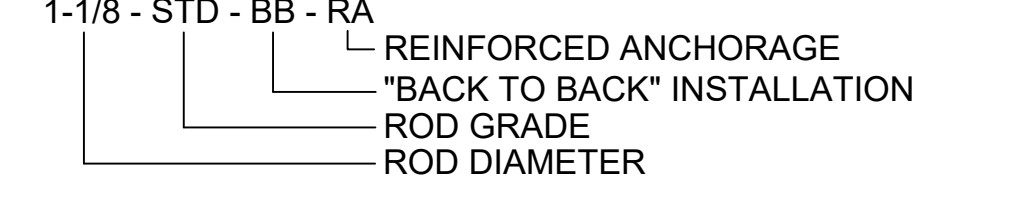
SHEET NO.

SD-4

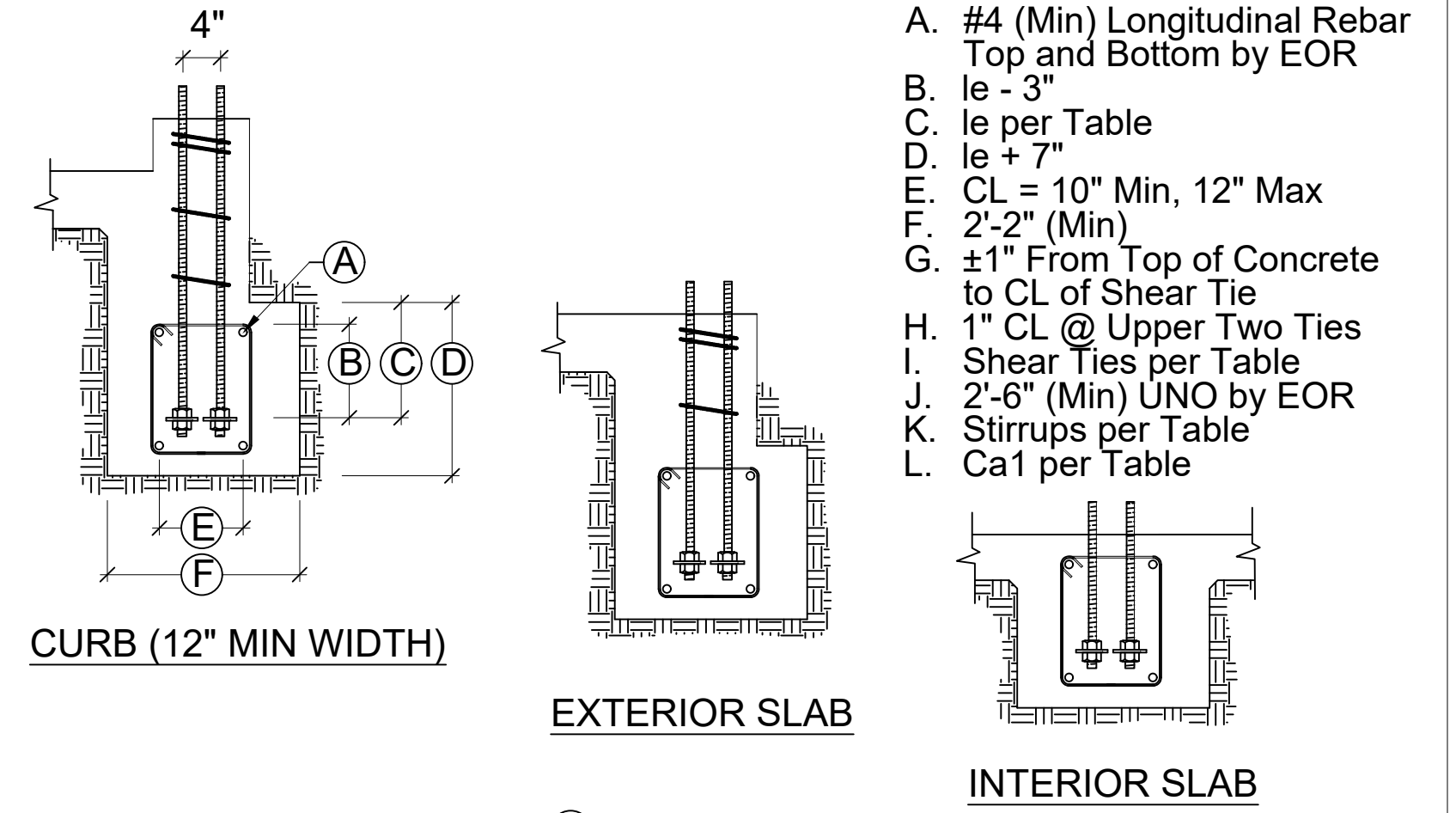
BACK TO BACK REINFORCED ANCHORAGE (BB-RA)

Model	Panel Width (in)	Anchorage ¹	Rod Dia (in)	Rod Grade	le ⁴ (in)	Ca ⁵ (in)	Ca ⁶ (in)	Stirrups ⁹ (in)	Shear ⁷ Ties
HFX-9x	9	1-1/8-STD-BB-RA	1-1/8	STD	15	19-3/4		8 - # 4	# 3 (min) @ 3-3/4" OC
HFX-12x	12	1-1/8-STD-BB-RA 1-1/8-HS-BB-RA	1-1/8	STD HS				13 - # 4	# 3 (min) @ 4" OC
HFX-15x	15	1-1/8-STD-BB-RA 1-1/8-HS-BB-RA	1-1/8	STD HS				14 - # 4	# 4 (min) @ 4" OC
HFX-18x	18	1-1/8-STD-BB-RA 1-1/8-HS-BB-RA	1-1/8	STD HS	23			15 - # 4	
HFX-21x	21	1-1/8-STD-BB-RA 1-1/8-HS-BB-RA	1-1/8	STD HS				16 - # 4	# 4 (min) @ 4" OC
HFX-24x	24	1-1/8-STD-BB-RA 1-1/8-HS-BB-RA	1-1/8	STD HS	20-5/8	11		18 - # 4	

BACK TO BACK REINFORCED ANCHORAGE NOMENCLATURE



BB-RA SHEAR TIES & STIRRUPS (3A)

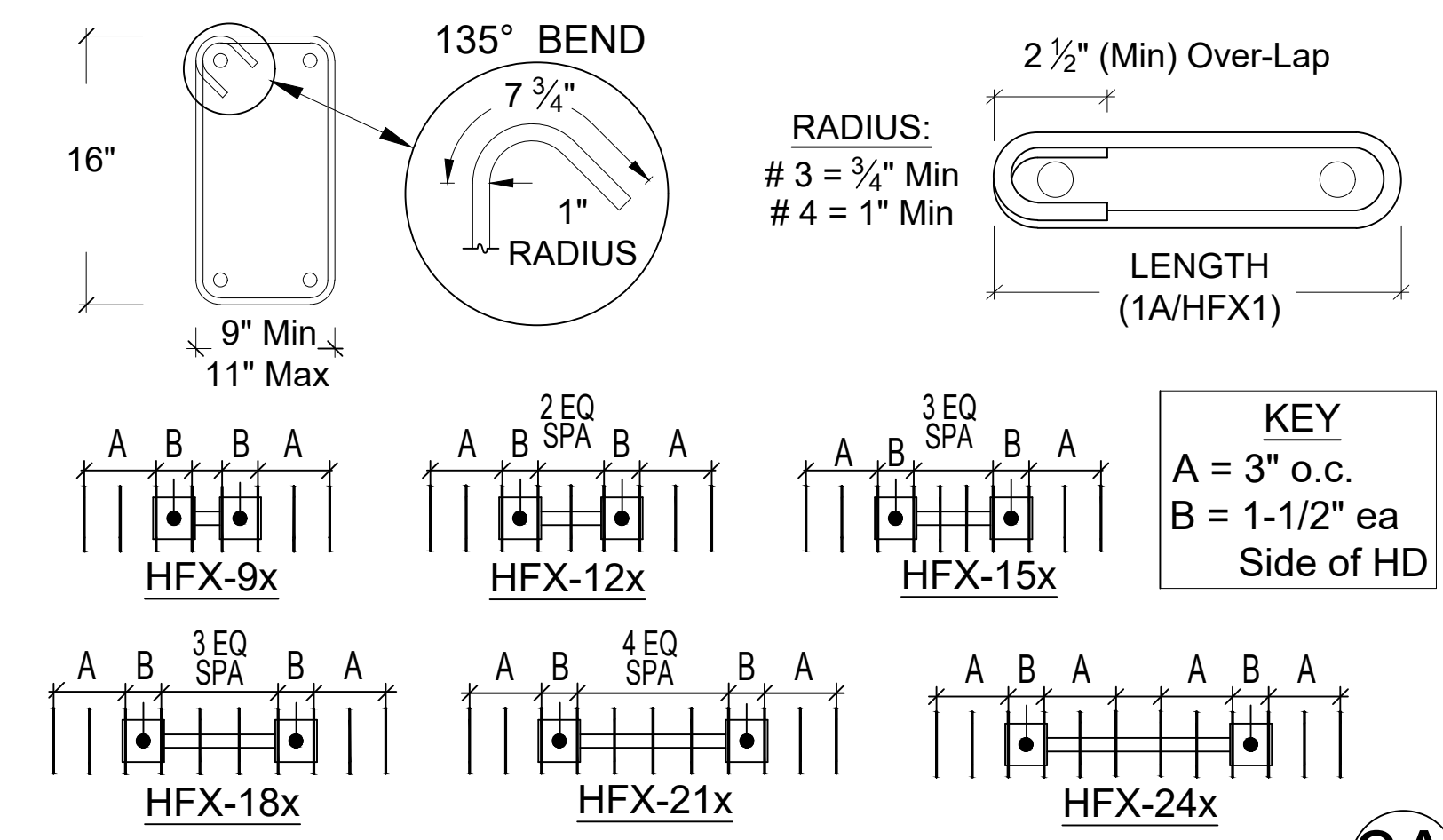
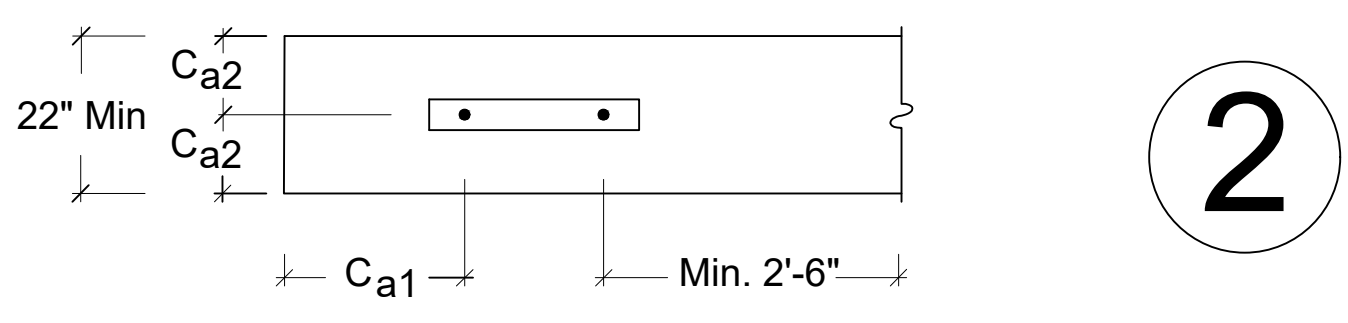
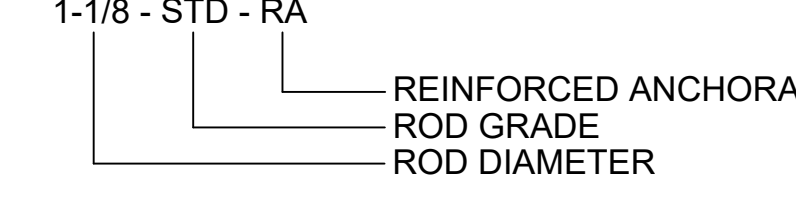


BB-RA SECTIONS & ELEVATIONS (3B)

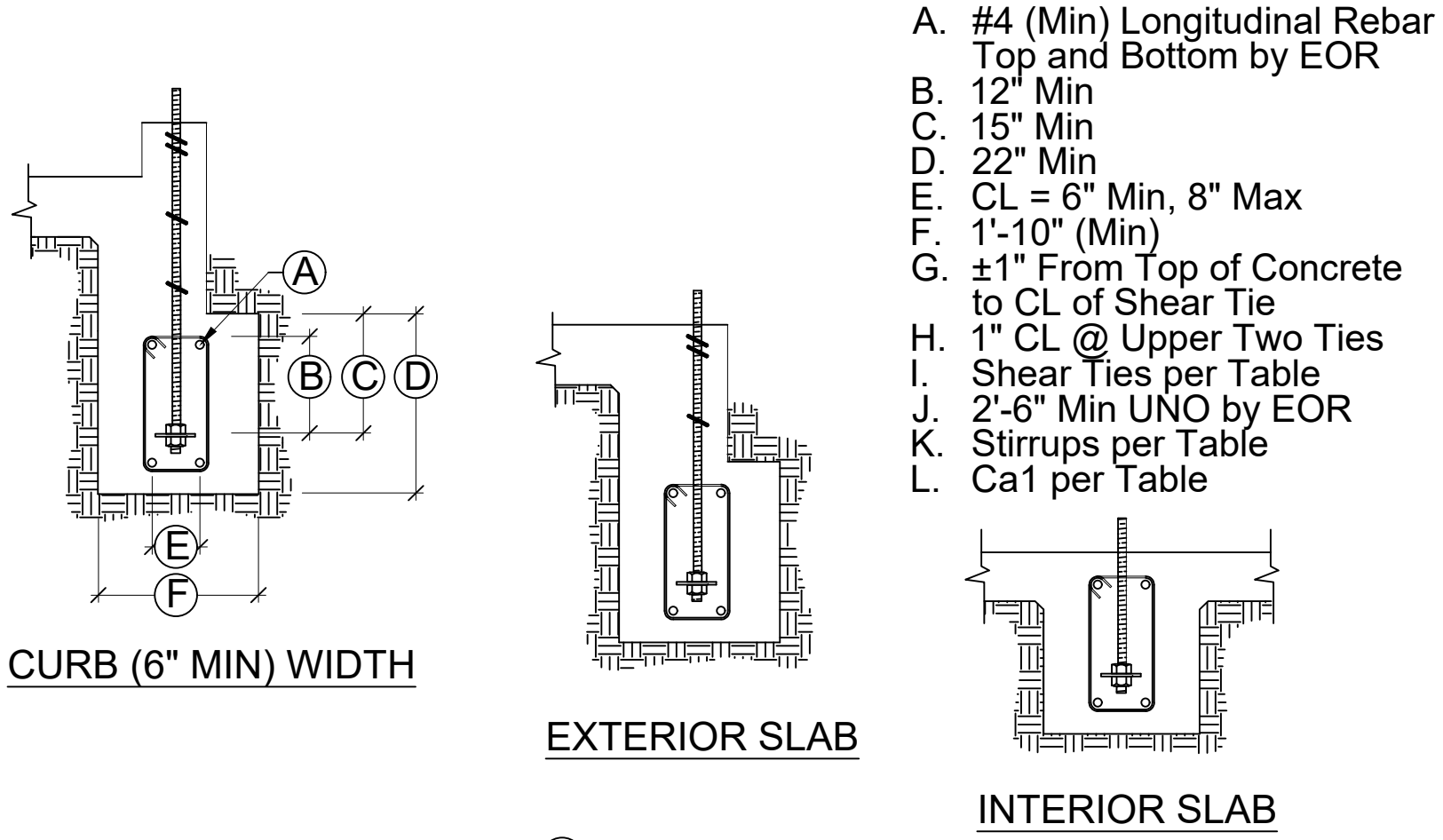
REINFORCED ANCHORAGE (RA)

Model	Panel Width (in)	Anchorage ¹	Rod Dia (in)	Rod Grade	le ⁴ (in)	Ca ⁵ (in)	Ca ⁶ (in)	Stirrups ⁹ (in)	Shear ⁷ Ties
HFX-9x	9	1-1/8-STD-RA	1-1/8	STD				8 - # 4	# 3 (min) @ 3-3/4" OC
HFX-12x	12	1-1/8-STD-RA 1-1/8-HS-RA	1-1/8	STD HS				9 - # 4	# 3 (min) @ 4" OC
HFX-15x	15	1-1/8-STD-RA 1-1/8-HS-RA	1-1/8	STD HS	15	11		10 - # 4	
HFX-18x	18	1-1/8-STD-RA 1-1/8-HS-RA	1-1/8	STD HS				11 - # 4	# 4 (min) @ 4" OC
HFX-21x	21	1-1/8-STD-RA 1-1/8-HS-RA	1-1/8	STD HS	20-5/8	11		12 - # 4	
HFX-24x	24	1-1/8-STD-RA 1-1/8-HS-RA	1-1/8	STD HS					

REINFORCED ANCHORAGE NOMENCLATURE



RA SHEAR TIES & STIRRUPS (2A)

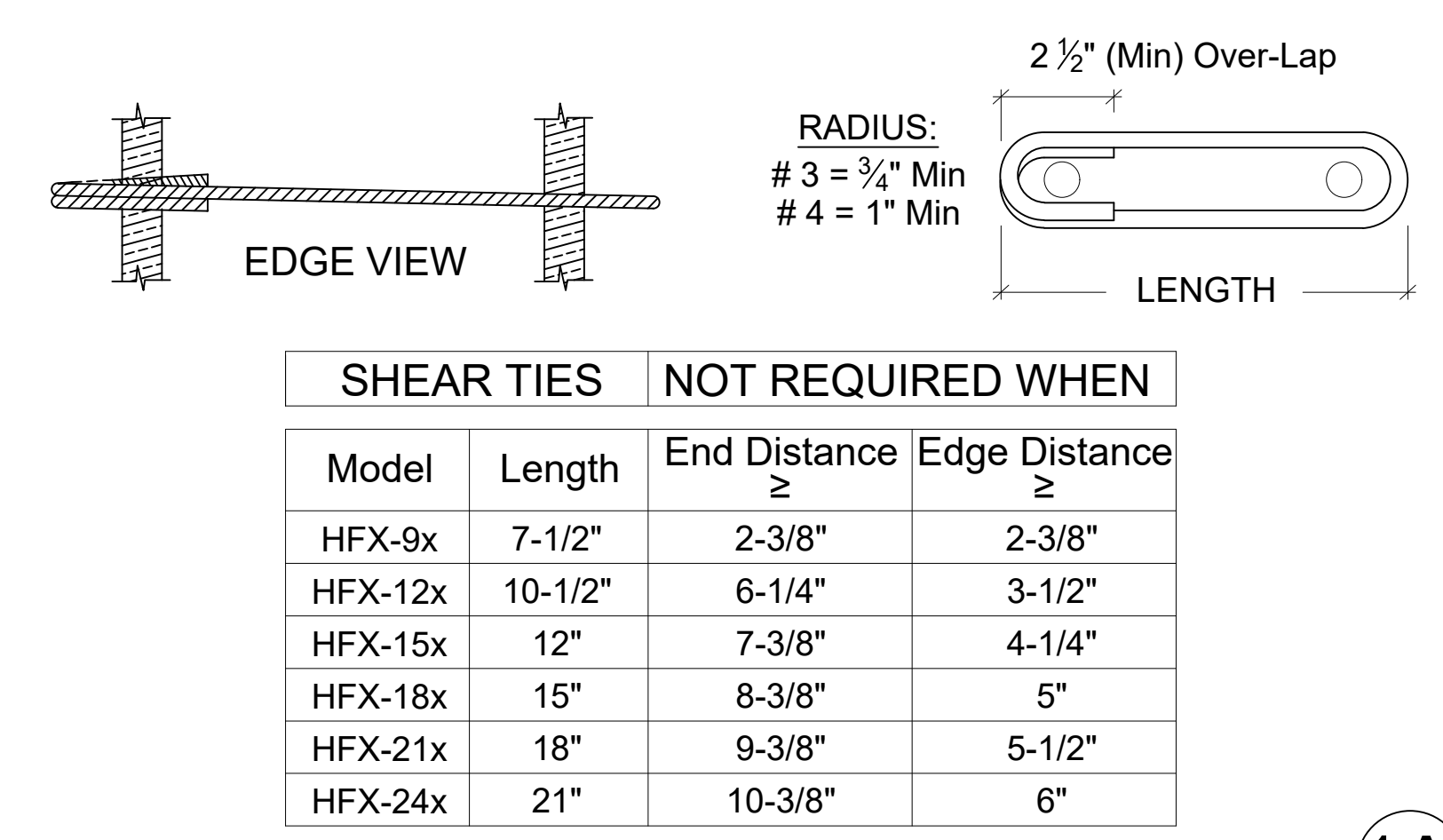
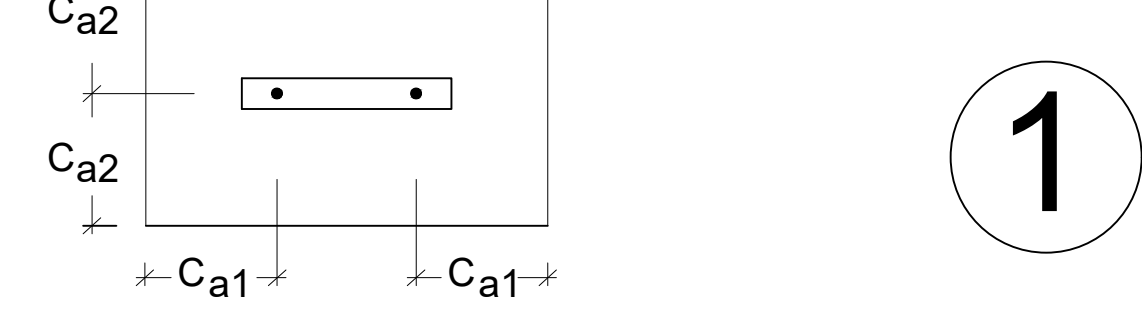
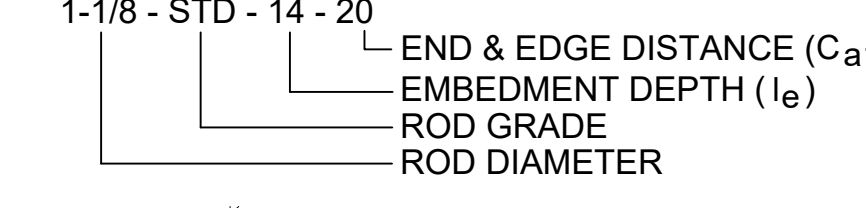


RA SECTIONS & ELEVATIONS (2B)

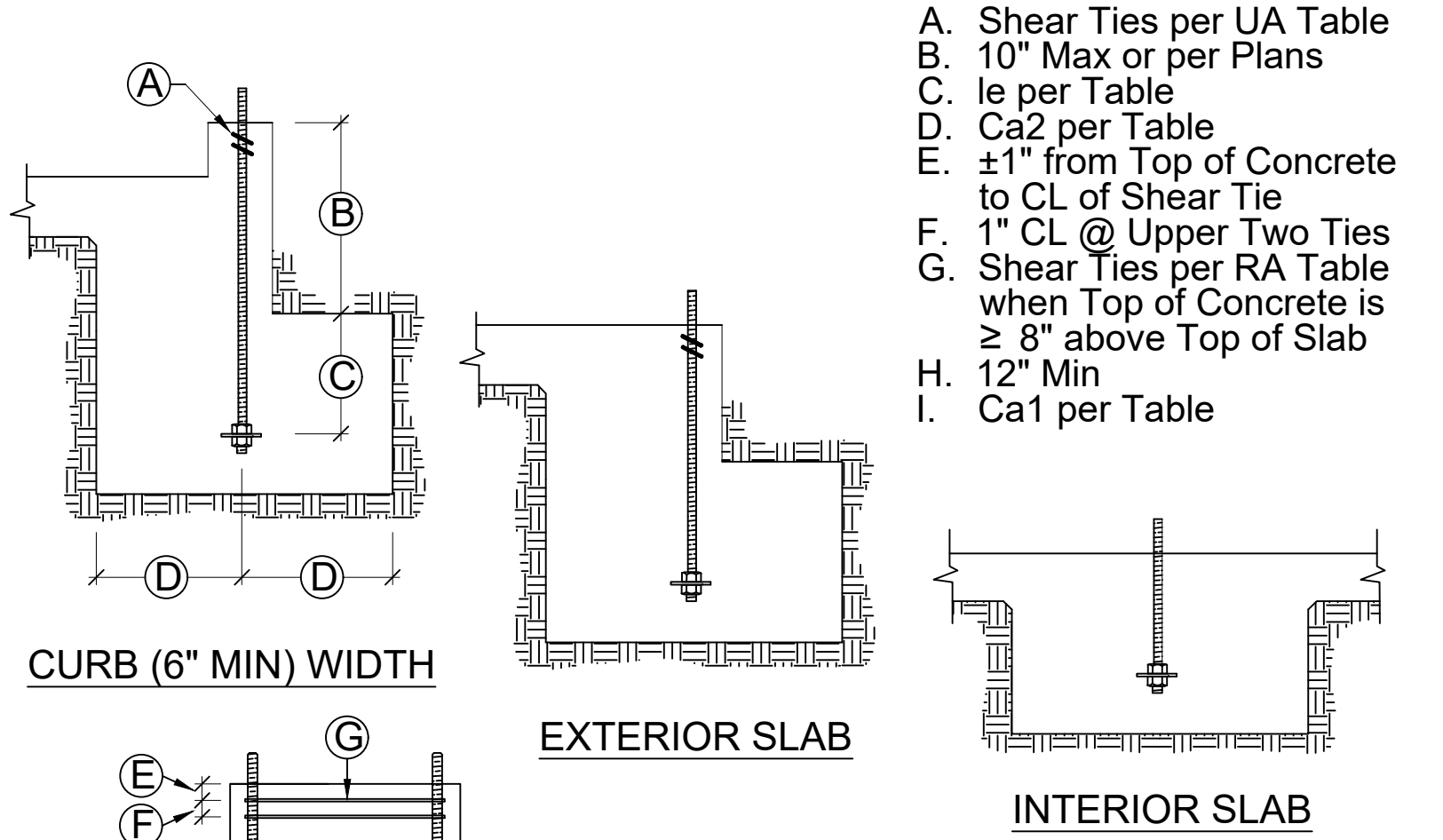
UNREINFORCED ANCHORAGE (UA)

Model	Panel Height	Anchorage ¹	Rod Dia (in)	Rod Grade	le ⁴ (in)	Ca ⁵ (in)	Ca ⁶ (in)	Stirrups ⁹ (in)	Shear ^{7,8} Ties
HFX-9x	79.5" - 8'	1-1/8-STD-13-19	1-1/8	STD					1 - # 3
HFX-12x	78" - 10'	1-1/8-HS-20-30	1-1/8	HS					
HFX-15x, 18x	78" - 13'	1-1/8-STD-14-20	1-1/8	STD					2 - # 3
HFX-15x, 18x Balloon	14' - 20'	1-1/8-HS-20-30	1-1/8	HS					
HFX-21x, 24x	78" - 13'	1-1/8-STD-14-20 1-1/8-HS-23-34	1-1/8	STD HS					2 - # 3
HFX-21x, 24x Balloon	14' - 20'	1-1/8-HS-20-30	1-1/8	HS					

UNREINFORCED ANCHORAGE NOMENCLATURE

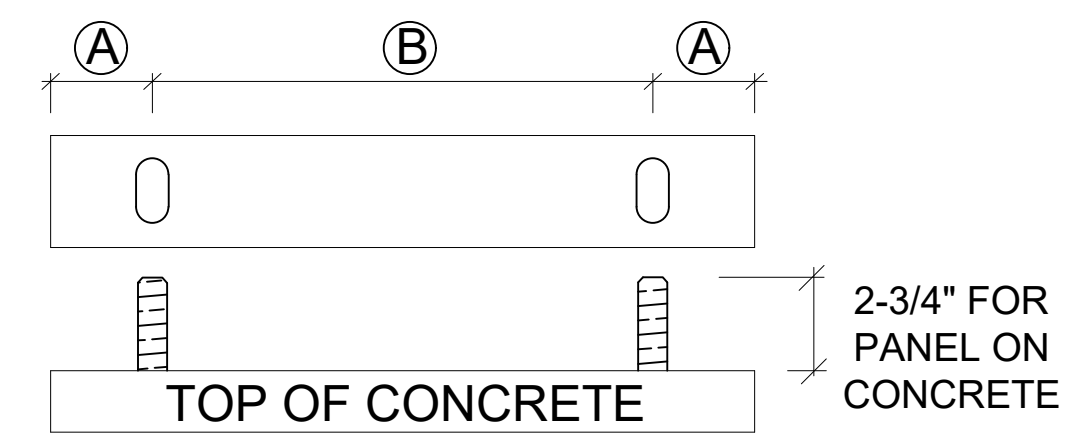


UA SHEAR TIES (1A)



UA SECTIONS & ELEVATIONS (1B)

- DESIGNS ARE TO RESIST LOADING PER ACI 318-14, SEC 17.2.3.4.3.
- STD INDICATES ANCHORS COMPLYING WITH ASTM F1554 GRADE 36 WITH A HARDY FRAME BOLT BRACE (HFXBB) INSTALLED WITH STD OR GRADE 8 DOUBLE NUTS ON THE EMBED END.
- HS INDICATES ANCHORS COMPLYING WITH ASTM A193 GRADE B7 WITH A 1/2"x3"x3"(MIN) HFPW PLATE WASHER INSTALLED WITH DOUBLE NUTS ON THE EMBED END (HFXBB NOT REQUIRED).
- LE = LENGTH OF EMBEDMENT FROM THE TOP OF FOOTING OR GRADE BEAM TO THE TOP OF THE HFXBB BOLT BRACE (TOP OF THE EMBEDDED HFPW PLATE WASHER @ HS ANCHORS)
- CA1 = DISTANCE FROM HD CENTERLINE TO THE END OF THE FOOTING OR GRADE BEAM.
- CA2 = DISTANCE FROM HD CENTERLINE TO BOTH THE FRONT AND THE BACK FACE OF THE FOOTING OR GRADE BEAM.
- SHEAR TIES ARE GRADE 60 (MIN) REBAR AND REQUIRED FOR NEAR EDGE DISTANCE CONDITIONS PER ACI-318-14, F'C = 2,500 PSI. CURBS AND STEM WALLS MUST BE 6 INCH (MIN) WIDTH FOR UA AND RA, 12 INCH (MIN) WIDTH FOR BB-RA.
- FOR UA APPLICATIONS, ADDITIONAL TIES MAY BE REQUIRED AT STEM WALLS. SHEAR TIES ARE NOT REQUIRED FOR INSTALLATION AWAY FROM EDGE (SEE DETAIL 1A), INSTALLATION ON WOOD FRAMING, OR FOR IRC BRACED WALL PANEL APPLICATIONS.
- STIRRUPS ARE GRADE 60 (MIN) REBAR. SEE TABLE FOR SIZE AND SPACING. SEE "STIRRUP LAYOUT" DIAGRAMS AND "KEY" FOR LAYOUT PATTERNS.
- CONCRETE EDGE DISTANCES MUST COMPLY WITH ACI 318-14, SECTION 17.7.2. COATED REINFORCEMENT MAY BE SPECIFIED BY THE EOR TO LIMIT EXPOSURE AND THEREFORE REDUCE MINIMUM CONCRETE COVER. COATED REINFORCEMENT MUST COMPLY WITH ACI 318-14, SECTION 20.6.2.

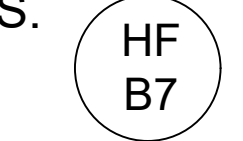


Model	Width	A	B
HFX-9x	9"	1-3/4"	5-1/2"
HFX-12x	12"	2-5/8"	8-1/2"
HFX-15x	15"		9-3/4"
HFX-18x	18"	2-5/8"	12-3/4"
HFX-21x	21"		15-3/4"
HFX-24x	24"	18-3/4"	

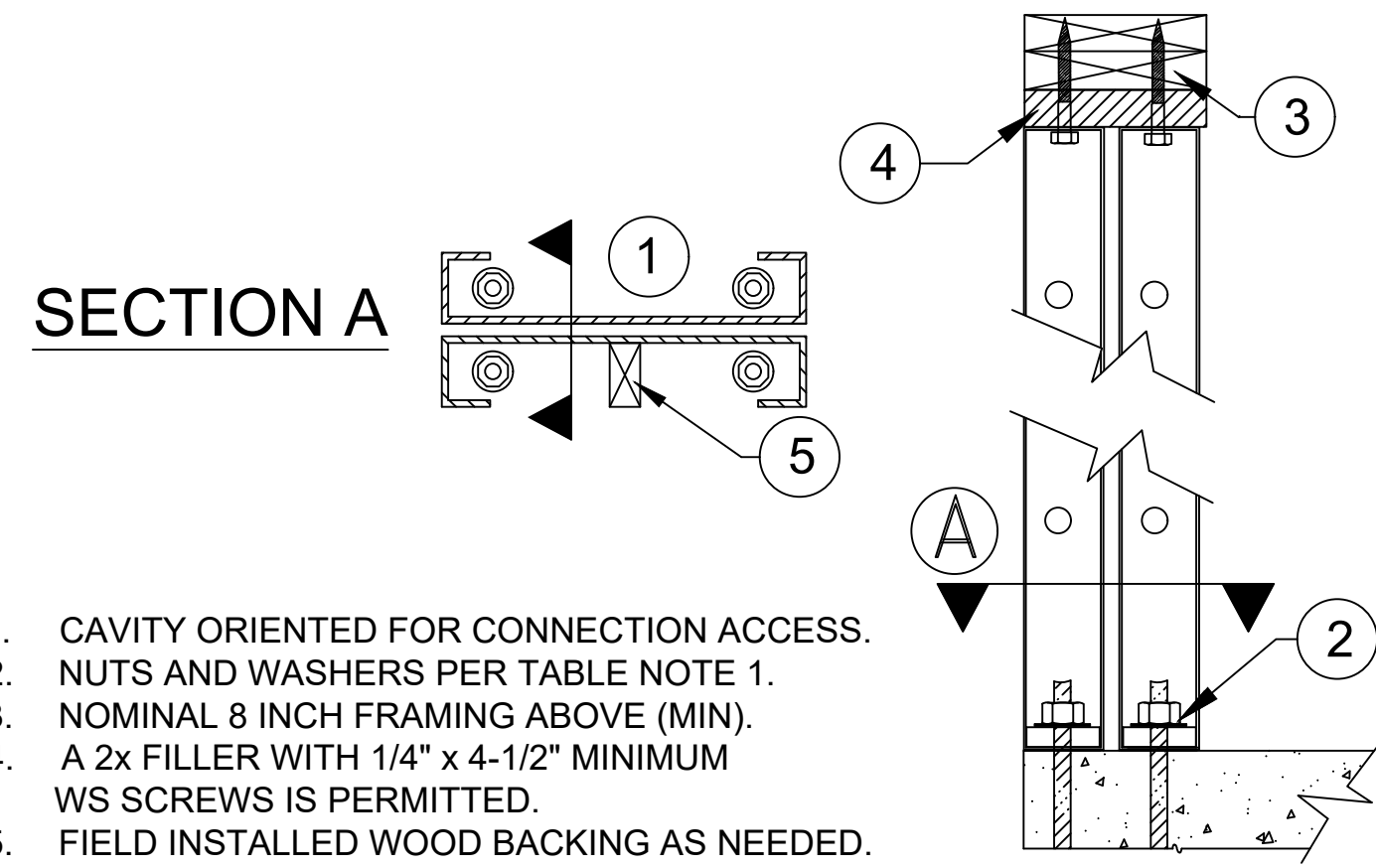
HFX ANCHOR CENTERLINES (A)

IMPORTANT!

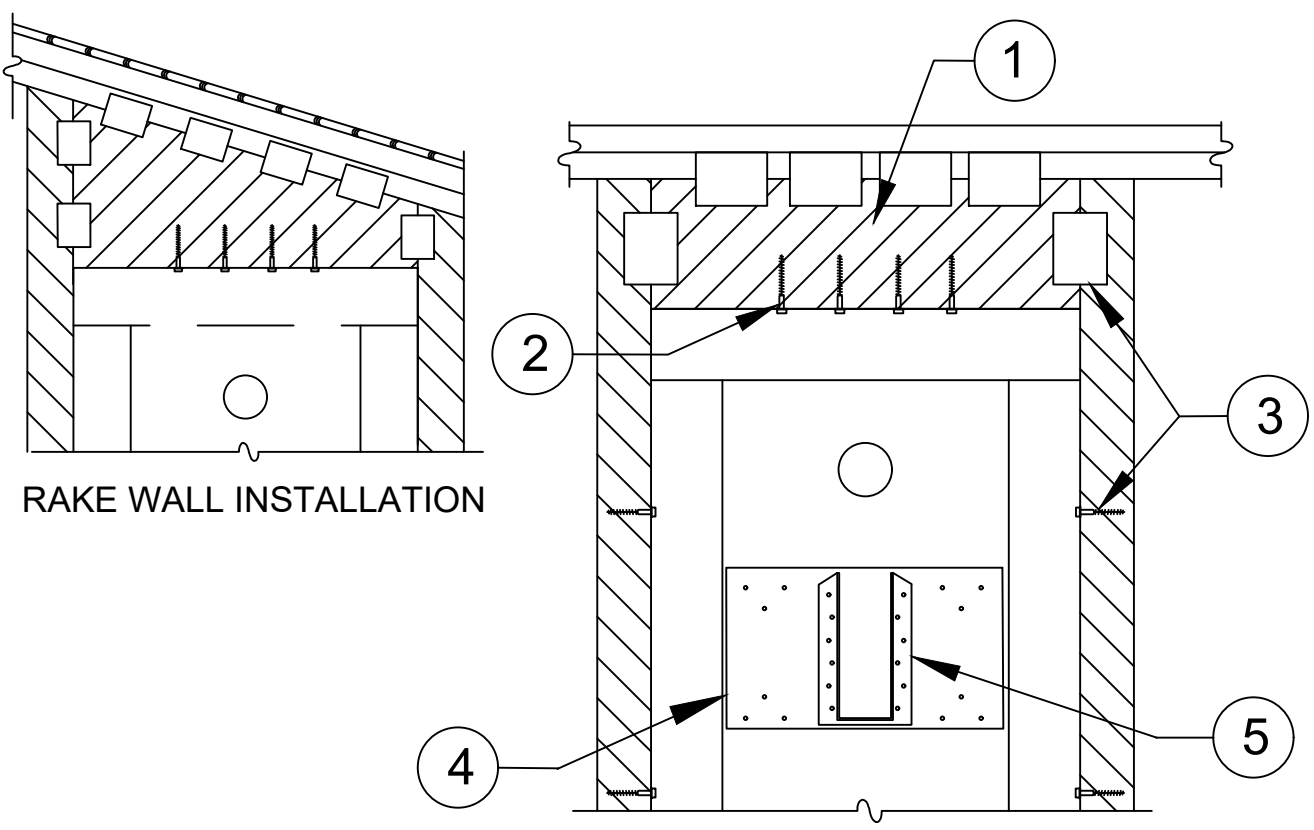
- ANCHORAGE IS DESIGNED FOR TENSION AND SHEAR TRANSFER ONLY, FOUNDATION DESIGN PER EOR.
- REINFORCEMENT SHOWN IS THE MINIMUM REQUIREMENT AND IS NOT INTENDED TO REPLACE REINFORCEMENT DESIGNED BY THE EOR.
- FOR RA AND BB-RA INSTALLATIONS, THE HFXBB BOLT BRACE MAY BE PLACED ON TOP OF THE STIRRUPS WITH DOUBLE-NUTS INSTALLED AT EMBED END OF STANDARD GRADE ANCHOR RODS. (NOTE: 1/2" x 3" x 3" MIN. HFPW PLATE WASHERS ARE REQUIRED TO BE DOUBLE-NUTTED AT EMBED END OF HIGH STRENGTH ANCHOR RODS.)
- HIGH STRENGTH ALL-THREAD RODS PROVIDED BY HARDY FRAMES ARE STAMPED ON BOTH ENDS.



IMPORTANT NOTES (B)

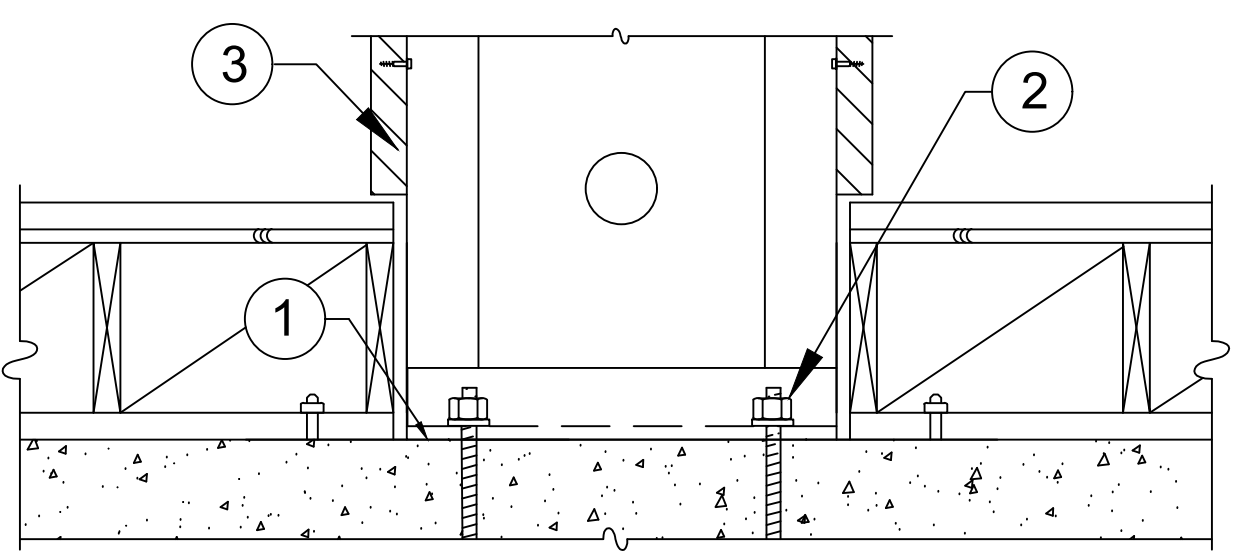


BACK TO BACK INSTALLATION 3



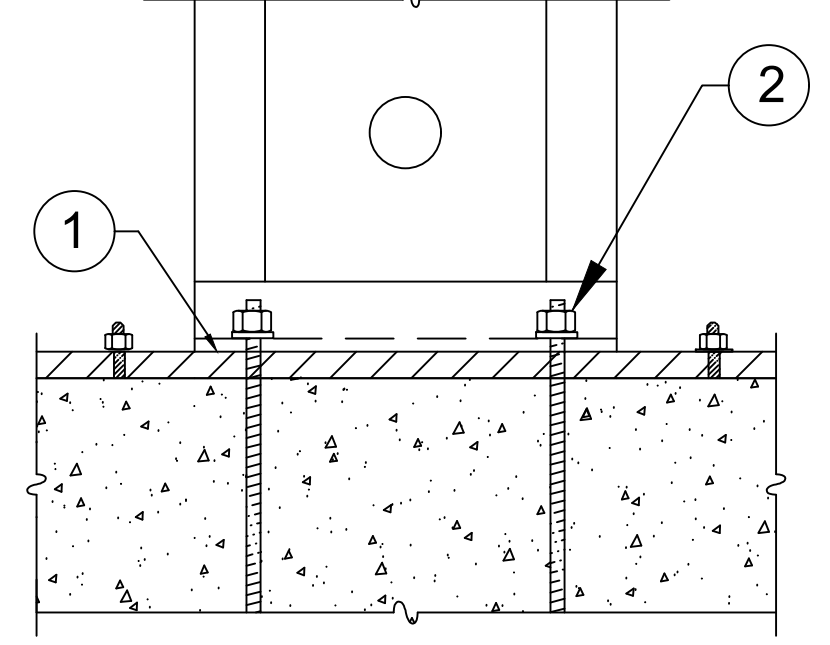
- WOOD FILLER WITH USP MP4F CONNECTORS BOTH SIDES, QUANTITY BY BUILDING DESIGN PROFESSIONAL.
- 1/4" x 3" (MINIMUM) WS SCREWS, QUANTITY PER TABLES
- ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS INSTALLED THROUGH PRE-PUNCHED HOLES IN PANEL EDGES REQUIRED WHEN INSTALLING A FILLER GREATER THAN 1-1/2" ABOVE TO BRACE OUT-OF-PLANE HINGE OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL.
- PRE-DRILL 3/16" DIA. HOLES, EVENLY SPACED IN FACE OF PANEL NO LESS THAN 2-1/4" OC AND INSTALL 1/4" DIA. WOOD SCREWS INTO 2x (MIN.) WOOD "LEDGER" IN PANEL CAVITY.
- CONNECTOR AND ATTACHMENT BY BUILDING DESIGN PROFESSIONAL.

FILLER GREATER THAN 1-1/2 IN. 6



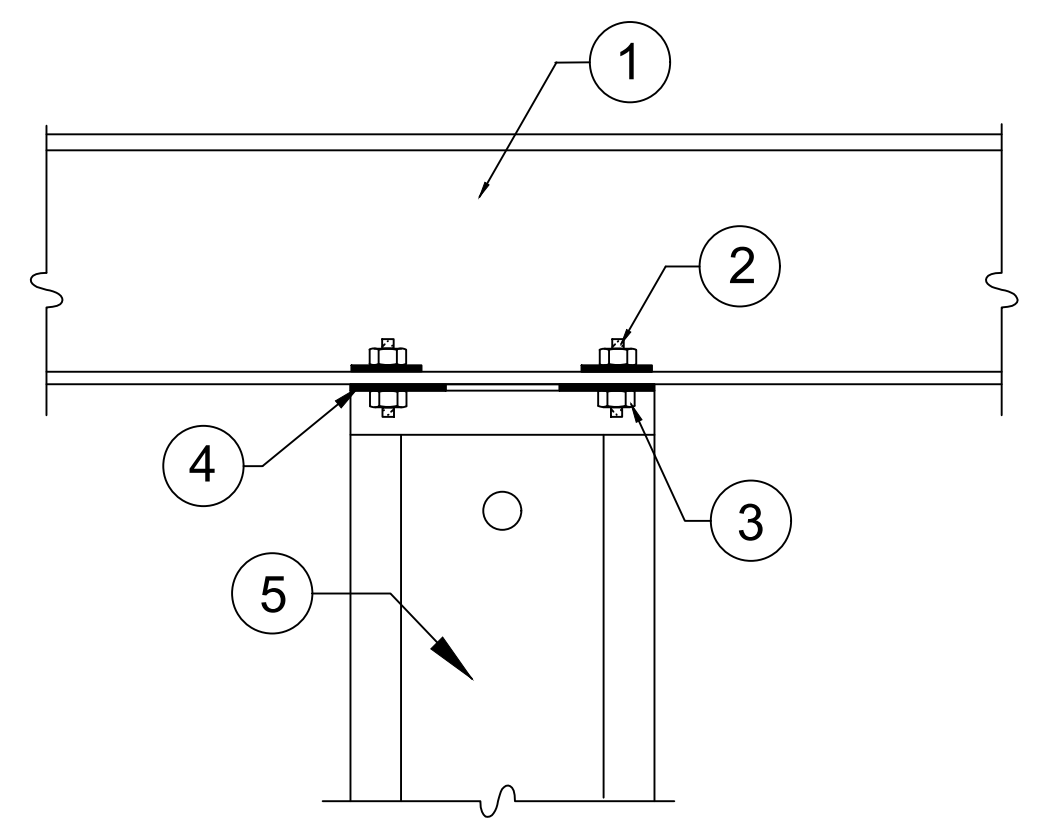
- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
- NUTS AND WASHERS PER TABLE NOTE 1.
- ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS INSTALLED AT THE PANEL EDGES WHEN INSTALLING A FILLER GREATER THAN 1-1/2" ABOVE OR WHEN SPECIFIED BY DESIGN PROFESSIONAL.

RAISED FLOOR HEAD-OUT 8



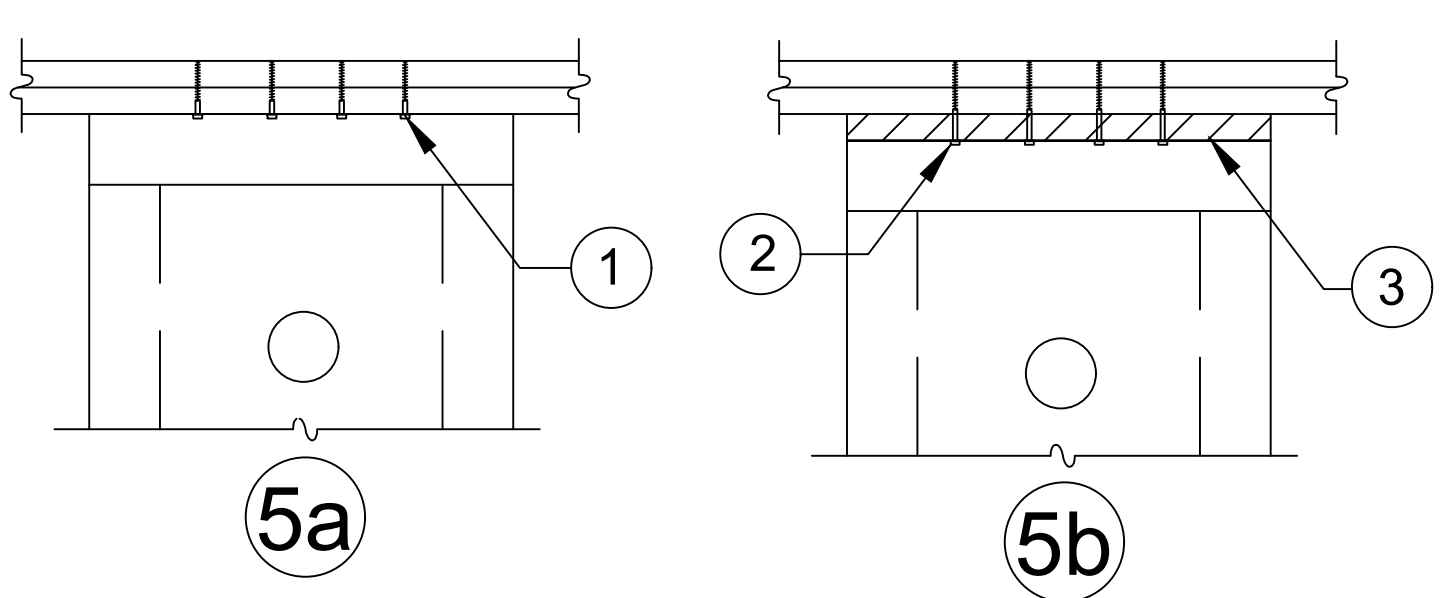
- ALLOWABLE VALUES ON 2x PLATE ARE LESS THAN INSTALLATION ON CONCRETE
- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND TREATED PLATE.
 - NUTS AND WASHERS PER TABLE NOTE 1.

INSTALLATION ON 2x PLATE 11



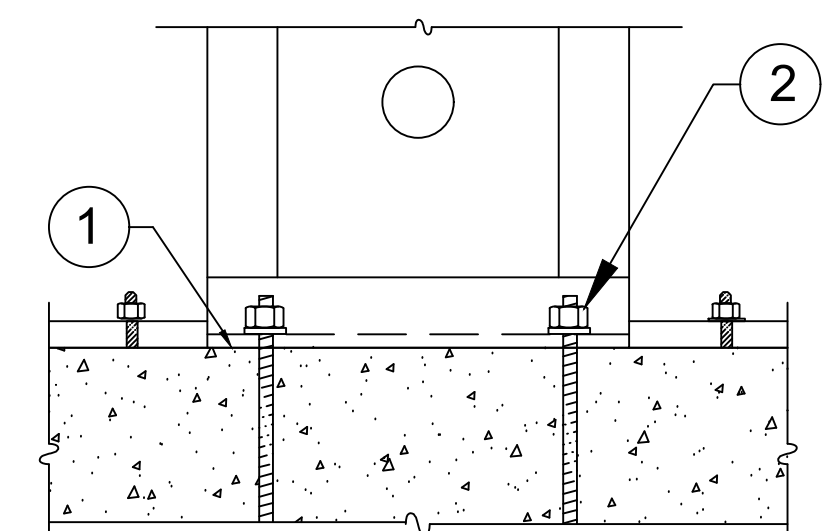
- STEEL BEAM PER PLANS
- ALL THREAD RODS THRU-BOLTED TO STEEL BEAM BY BUILDING DESIGN PROFESSIONAL.
- NUTS AND WASHERS PER TABLE NOTE 1.
- HARDY FRAME STACKING WASHERS (HFSW) REQUIRED TO BE WELDED INSIDE TOP CHANNEL OF LOWER PANEL.
- HARDY FRAME "STK" PANEL WITH STACKING WASHERS WELDED INSIDE THE TOP CHANNEL BY MANUFACTURER.

STEEL BEAM ABOVE THRU-BOLT 2



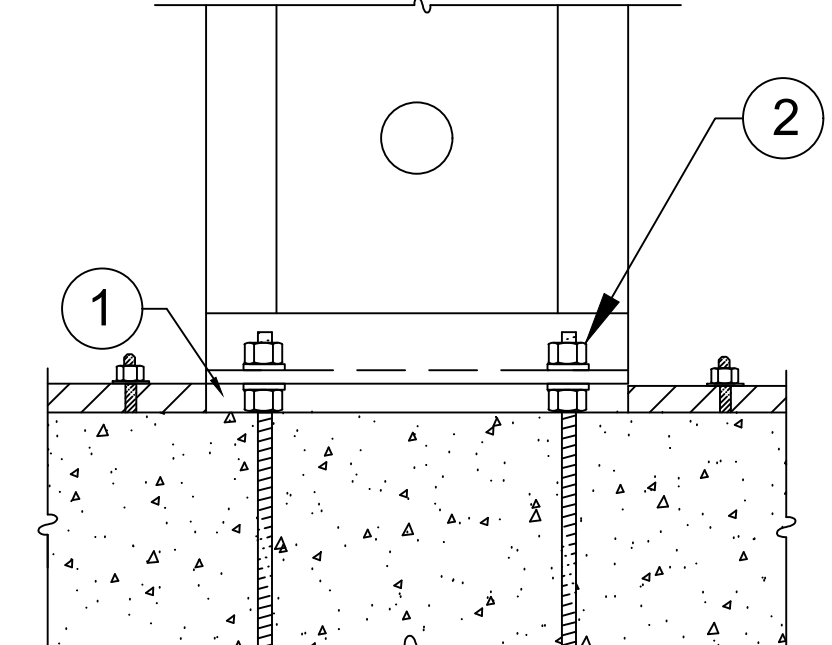
- 1/4" x 3" (MINIMUM) WS SCREWS, QUANTITY PER TABLES
- 1/4" x 4-1/2" (MINIMUM) WS SCREWS, QUANTITY PER TABLES
- 2x WOOD FILLER.

TOP PLATE CONNECTIONS 5



- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
- NUTS AND WASHERS PER TABLE NOTE 1.

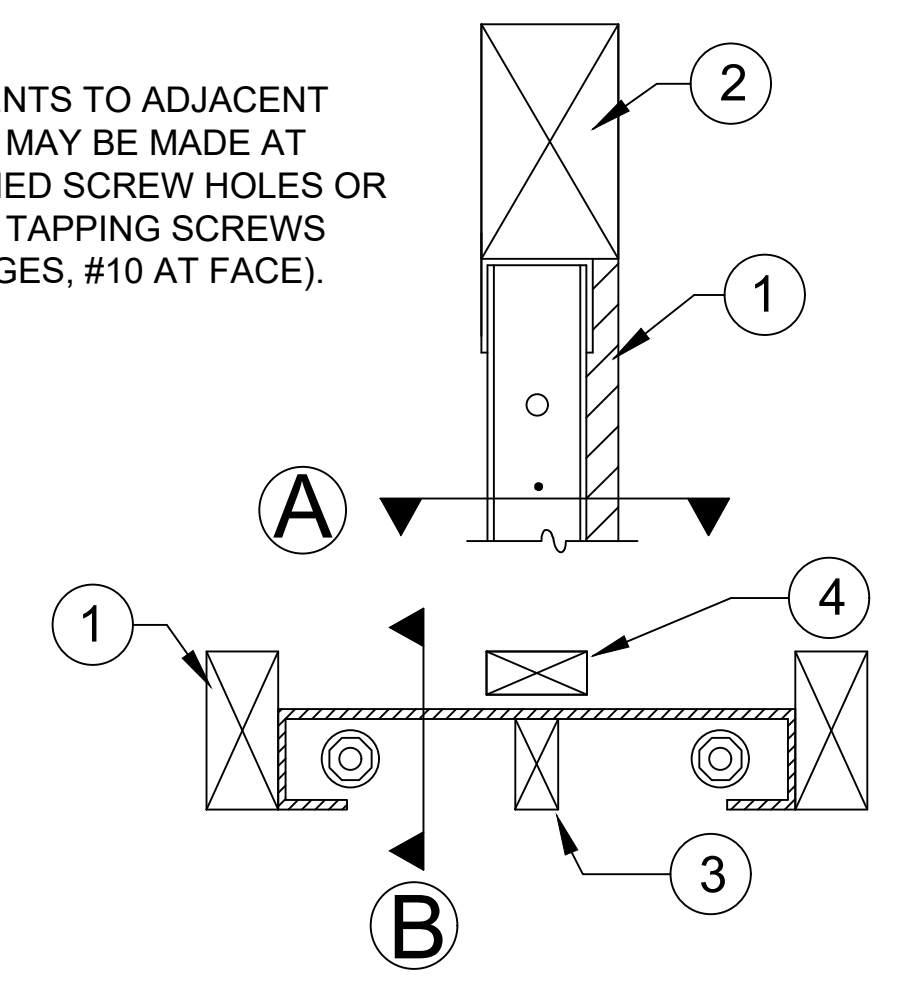
INSTALLATION ON CONCRETE 7



- ALLOWABLE VALUES ON N&W ARE LESS THAN INSTALLATION ON CONCRETE
- PLUS OR MINUS 1-1/2" GAP TO BE FILLED WITH 5,000 PSI NON-SHRINK GROUT (MINIMUM).
 - NUT AND WASHER GRADES PER TABLE NOTE 1.

INSTALLATION ON NUTS & WASHERS 10

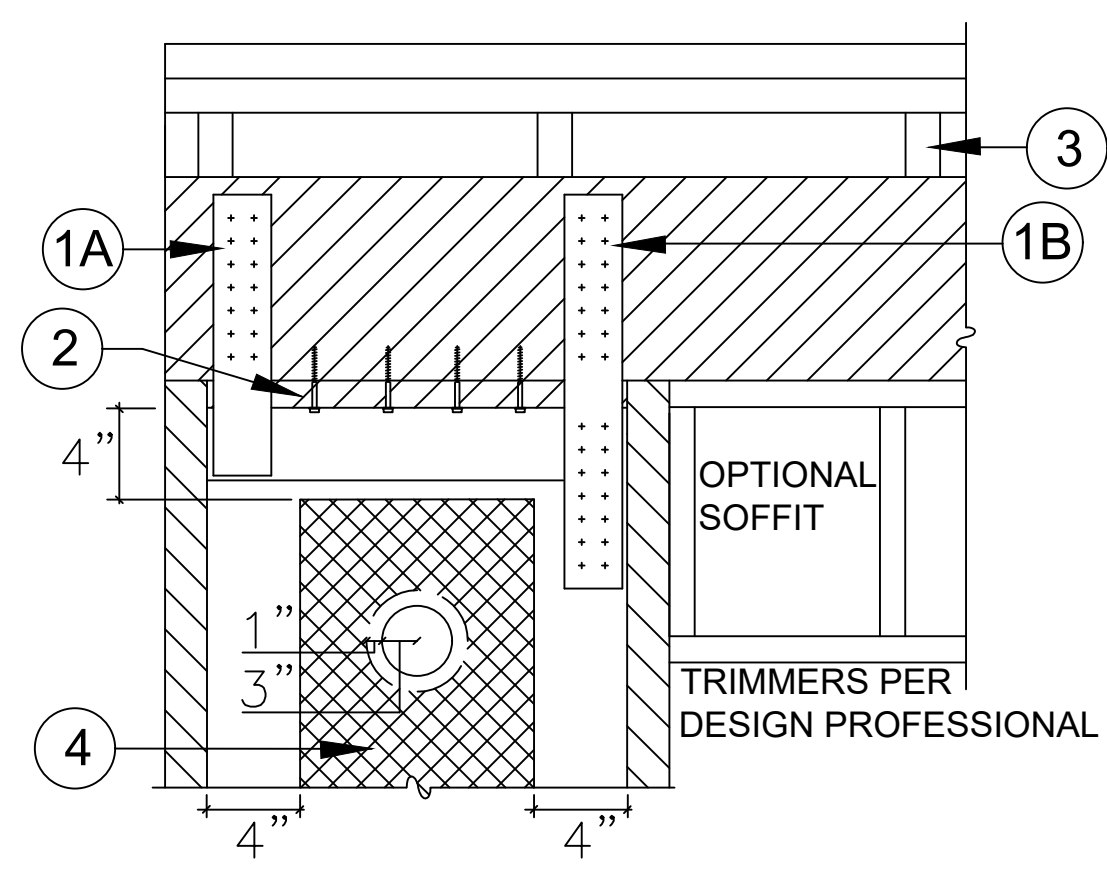
NOTE:
ATTACHMENTS TO ADJACENT TRIMMERS MAY BE MADE AT PREPUNCHED SCREW HOLES OR WITH SELF TAPPING SCREWS (#12 AT EDGES, #10 AT FACE).



- TRIMMERS PROVIDE FULL BEARING FOR HEADER ABOVE, DESIGN AND CONNECTIONS BY BUILDING DESIGN PROFESSIONAL.
- 6x HEADER.
- WOOD MEMBERS FOR BACKING MAY BE INSERTED VERTICALLY OR HORIZONTALLY IN THE PANEL CAVITY AS NEEDED.
- WOOD MEMBER FLUSH TO FACE OF WALL FOR BACKING AS NEEDED.

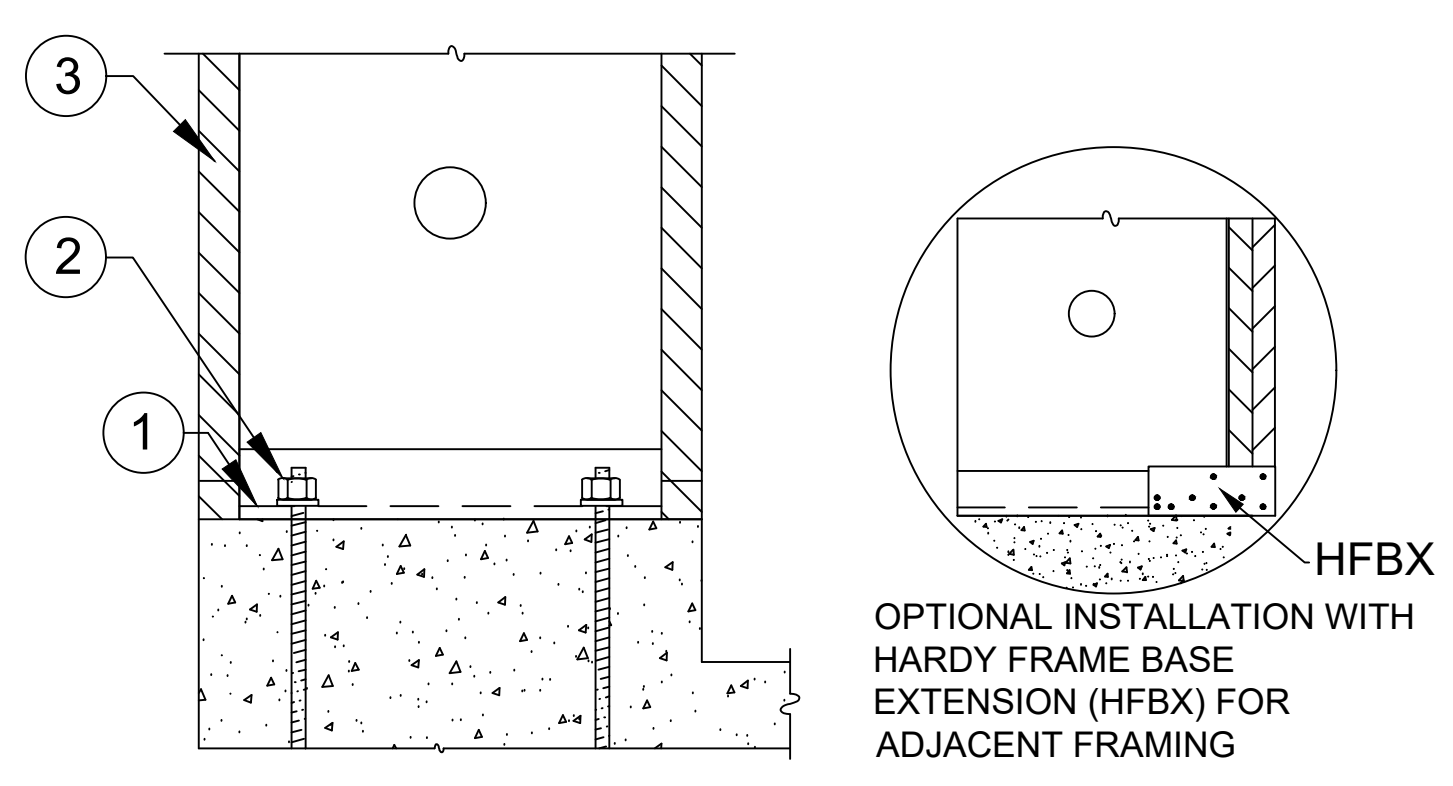
6x HEADER ABOVE-SECTIONS 1

NOTE:
TO PREVENT DRILLING ADDITIONAL HOLES ORIENT THE PANEL CAVITY TOWARD THE FIXTURE BEING INSTALLED.



- (A) PRE-WELDED STRAPS ARE PROVIDED ON 78" AND 79-1/2" PANEL HEIGHTS. THEY ARE AVAILABLE FOR OTHER HEIGHTS UPON REQUEST. (B) FIELD INSTALLED STRAPS WITH SELF TAPPING SCREWS ARE PERMITTED. THE DESIGN AND CONNECTION IS BY THE DESIGN PROFESSIONAL.
- A 2x WOOD FILLER WITH 1/4"x4-1/2" (MIN.) WS SCREWS IS PERMITTED.
- WHEN CRIPPLE STUDS OCCUR, SHEAR TRANSFER DESIGN TO BE PER THE BUILDING DESIGN PROFESSIONAL.
- A 1" DIA. HOLE MAY BE ADDED IN THE PANEL FACE WHEN IT IS LOCATED IN THE UPPER HALF OF THE PANEL HEIGHT AND IS 4" MINIMUM FROM ANY EDGE. FOR PANELS MORE THAN 12" WIDE, ADDITIONAL HOLES MUST BE OFFSET 1" MINIMUM FROM THE 3" DIA. PREPUNCHED HOLE. FOR HOLES LARGER THAN 1" DIAMETER OR TO ADD MORE THAN ONE HOLE CONTACT MITEK HARDY FRAME TECHNICAL SUPPORT AT (800) 754-3030.

TOP CONNECTION TO HEADER 4



- 15# FELT OR EQUIVALENT MOISTURE BARRIER RECOMMENDED BETWEEN PANEL BASE AND CONCRETE.
- NUTS AND WASHERS PER TABLE NOTE 1.
- ADJACENT FRAMING OPTIONAL U.N.O. BY BUILDING DESIGN PROFESSIONAL.

INSTALLATION ON CURB 9

HFX PANELS 78 IN. THROUGH NOMINAL 13 FEET

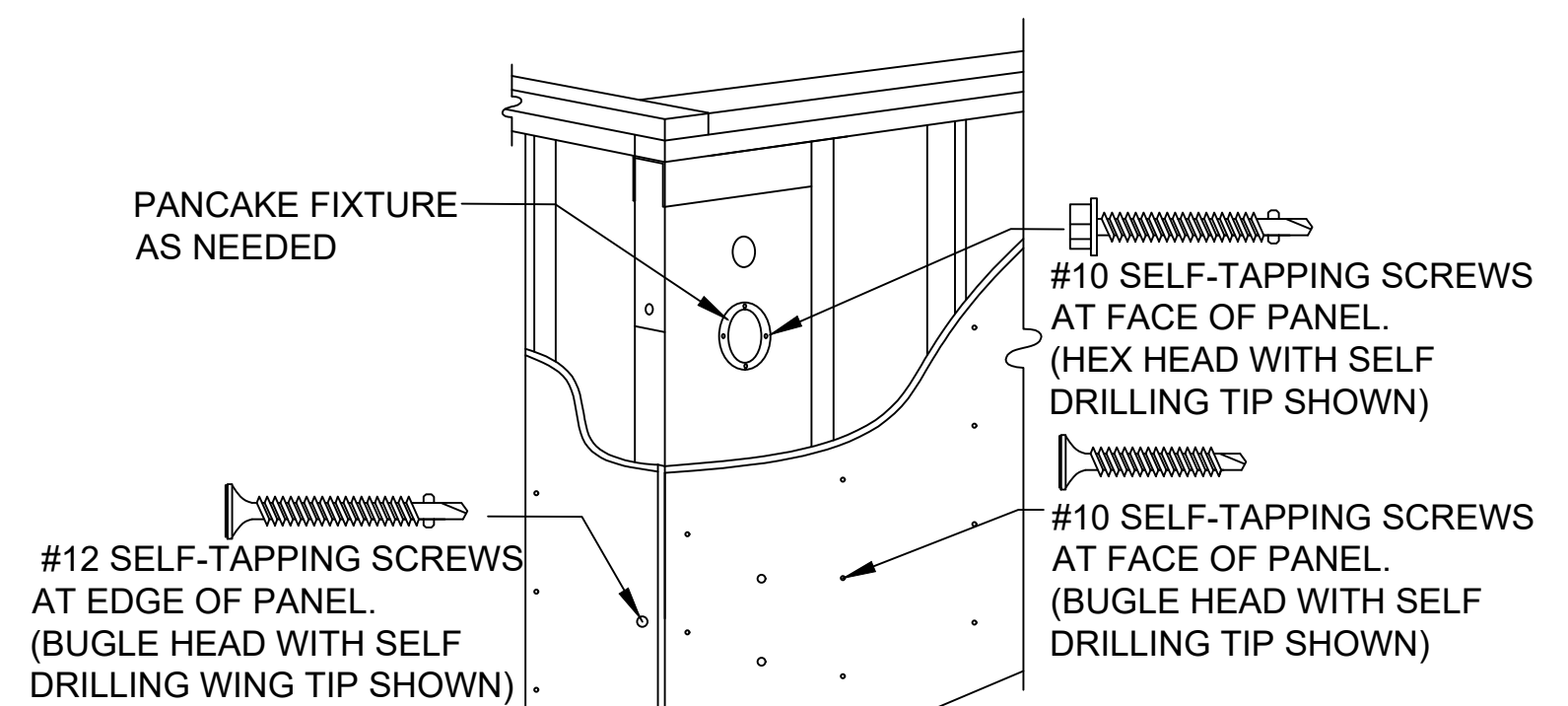
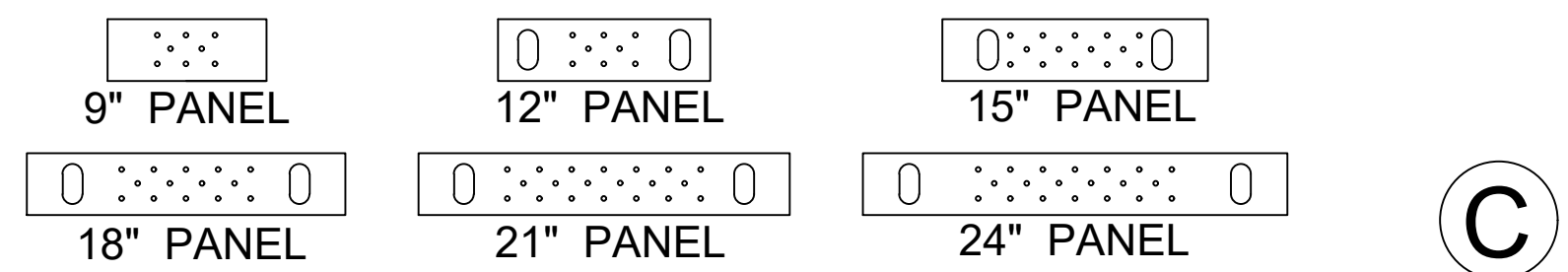
Model Number	Net Height (in)	Depth (in)	Hold Down Diameter ¹ (in)	Top Screw Qty ² (ea)	Screw Qty Available at Edges (ea) ³
HFX-12,15,18,21 & 24x78	78	3-1/2	1-1/8	9" Width = 5	4
HFX-9x79.5	79-1/2			12" Width = 6	
HFX-12,15,18,21 & 24x8	92-1/4			15" Width = 8	
HFX-9x8	93-3/4			18" Width = 10	5
HFX-12,15,18,21 & 24x9	104-1/4			21" Width = 12	
HFX-12,15,18,21 & 24x10	116-1/4			24" Width = 14	
HFX-15,18,21 & 24x11	128-1/4	3-1/2	1-1/8	15" Width = 8	6
HFX-15,18,21 & 24x12	140-1/4			18" Width = 10	
HFX-15,18,21 & 24x13	152-1/4			21" Width = 12	
HFX-15,18,21 & 24x14	164-1/4	3-1/2	1-1/8	18" Width = 10	7
HFX-15,18,21 & 24x15	176-1/4			21" Width = 12	
HFX-15,18,21 & 24x16	188-1/4			24" Width = 14	
HFX-15,18,21 & 24x17	200-1/4			15" Width = 8	8
HFX-15,18,21 & 24x18	212-1/4			18" Width = 10	
HFX-15,18,21 & 24x19	224-1/4			21" Width = 12	
HFX-15,18,21 & 24x20	236-1/4	3-1/2	1-1/8	24" Width = 14	8
HFX-15,18,21 & 24x21	248-1/4			15" Width = 8	
HFX-15,18,21 & 24x22	260-1/4			18" Width = 10	

BALLOON PANELS 14 FEET THROUGH 20 FEET

Model Number	Net Height (in)	Depth (in)	Hold Down Diameter ¹ (in)	Top Screw Qty ² (ea)	Screw Qty Available at Edges (ea) ³
HFX-15,18,21 & 24x14	164-1/4	3-1/2	1-1/8	15" Width = 8	6
HFX-15,18,21 & 24x15	176-1/4			18" Width = 10	
HFX-15,18,21 & 24x16	188-1/4			21" Width = 12	
HFX-15,18,21 & 24x17	200-1/4			24" Width = 14	7
HFX-15,18,21 & 24x18	212-1/4			15" Width = 8	
HFX-15,18,21 & 24x19	224-1/4			18" Width = 10	
HFX-15,18,21 & 24x20	236-1/4	3-1/2	1-1/8	21" Width = 12	8
HFX-15,18,21 & 24x21	248-1/4			24" Width = 14	
HFX-15,18,21 & 24x22	260-1/4			15" Width = 8	

- TABLE NOTES**
- FOR STD OR HS GRADE HOLD DOWN ANCHOR BOLTS CONNECT TO THE PANEL BASE WITH HARDENED ROUND WASHERS BELOW GRADE 8 NUTS. ALTERNATE WASHERS ARE (2 EA) ROUND-FLAT OR (2 EA) SAE WASHERS ON EACH BOLT. ALTERNATE NUTS ARE 2H HEAVY HEX.
 - 1/4" DIAMETER MITEK PRO SERIES WS SCREWS. LENGTH IS 3" (MINIMUM) WHEN ATTACHED DIRECTLY TO THE COLLECTOR AND 4-1/2" (MINIMUM) WHEN INSTALLING A 2x FILLER ABOVE THE PANEL.
 - ADJACENT FRAMING WITH 1/4" DIAMETER SCREWS IS REQUIRED AT THE PANEL EDGES WHEN INSTALLING A FILLER ABOVE THE TOP CHANNEL THAT IS GREATER THAN 1-1/2" OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL.

- INSTALLATION INSTRUCTIONS**
- WHEN INSTALLING ON CONCRETE CONNECT WITH (1 EA) HARDENED ROUND WASHER BELOW (1 EA) GRADE 8 NUT. SECURE WITH A DEEP SOCKET (RECOMMENDED) UNTIL SNUG TIGHT. ALTERNATE WASHERS AND NUTS ARE PROVIDED IN TABLE NOTE 1.
 - INSTALLATION ON CONCRETE PROVIDES THE HIGHEST ALLOWABLE VALUES. CONFIRM WITH THE DESIGN PROFESSIONAL BEFORE INSTALLING ON OTHER SUPPORTING SURFACES.
 - USE 1/4"x4-1/2" MITEK PRO SERIES WS SCREWS AT TOP CONNECTIONS WITH A 2x FILLER. IF THE TOP OF PANEL IS IN DIRECT CONTACT WITH THE COLLECTOR ABOVE (TOP PLATES, HEADER, BEAM, ETC.) USE 1/4 x 3" (MIN) SCREWS THROUGH PRE-PUNCHED HOLES AT THE PANEL EDGES.
 - FOR INSTALLATIONS WITH A FILLER GREATER THAN 1-1/2" ABOVE, OR WHEN SPECIFIED BY THE DESIGN PROFESSIONAL, ADJACENT KING POSTS TO BRACE THE OUT-OF-PLANE HINGE CAN BE CONNECTED WITH 1/4" DIA. SCREWS THROUGH PRE-PUNCHED HOLES AT THE PANEL EDGES.



- NOTES:**
- SURFACE FINISHES, CONNECTORS AND FIXTURES ARE ATTACHED TO THE PANEL FACE WITH #10 SELF-TAPPING SCREWS SPACED NO LESS THAN 2-1/4" OC.
 - ATTACHMENTS TO THE PANEL EDGES ARE MADE WITH #12 SELF-TAPPING SCREWS.
 - STRUCTURAL CONNECTIONS ARE TO BE DESIGNED BY THE DESIGN PROFESSIONAL.
 - STRUCTURAL HARDWARE USED TO TRANSFER LOADS SHOULD NOT EXCEED 12 GAUGE.

DATE: 1-1-2020

HFX2

REVISIONS DATE

FRAMING DETAILS - HFX PANELS

THIS DETAIL SHEET IS NOT PROPRIETARY AND IS NOT REQUIRED FOR PLAN SUBMITTAL WITH MITEK HARDY FRAME PRODUCTS

HARDY FRAME
SHEAR WALL SYSTEM

1732 PALMA DRIVE, SUITE 200, VENTURA, CA 93003
TELEPHONE: 800 754-3030 / www.hardyframe.com



MiTek

DATE: 1-1-2020

HFX2

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.rbd22x

CF1R-PRF-01E
(Page 1 of 10)

GENERAL INFORMATION	
01	Project Name: Residential Building
02	Run Title: Title 24 Analysis
03	Project Location: 5152 GRANDVIEW AVE
04	City: YORBA LINDA
05	Standards Version: 2022
06	Zip code: 92886
07	Software Version: EnergyPro 9.1
08	Climate Zone: 8
09	Front Orientation (deg/ Cardinal): 315
10	Building Type: Single family
11	Number of Dwelling Units: 1
12	Project Scope: Addition and/or Alteration
13	Number of Bedrooms: 4
14	Addition Cond. Floor Area (ft²): 127
15	Number of Stories: 1
16	Existing Cond. Floor Area (ft²): 2711
17	Fenestration Average U-factor: 0.3
18	Total Cond. Floor Area (ft²): 2838
19	Glazing Percentage (%): 18.10%
20	ADU Bedroom Count: n/a

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	Building does not incorporate Special Features

Registration Number: 223-P01659836A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CalCERTS, Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.rbd22x

CF1R-PRF-01E
(Page 2 of 10)

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0	6.49	0	5.98	0	0.51
Space Cooling	0	21.61	0	21.9	0	-0.29
IAQ Ventilation	0	0	0	0	0	0
Water Heating	0	14.97	0	15.12	0	-0.15
Self Utilization/Flexibility Credit						
Efficiency Compliance Total	0	43.07	0	43	0	0.07
Photovoltaics	0	0	0	0	0	0
Battery	0	0	0	0	0	0
Flexibility						
Indoor Lighting	0	6.18	0	6.18	0	0
Appl. & Cooking	0	13.74	0	13.72	0	0
Plug Loads	0	22.99	0	22.99	0	0
Outdoor Lighting	0	1.6	0	1.6	0	0
TOTAL COMPLIANCE	0	87.58	0	87.49	0	0.07

Registration Number: 223-P01659836A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CalCERTS, Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.rbd22x

CF1R-PRF-01E
(Page 3 of 10)

ENERGY USE INTENSITY				
	Standard Design (kBtu/ft²-yr)	Proposed Design (kBtu/ft²-yr)	Compliance Margin (kBtu/ft²-yr)	Margin Percentage
Gross EUI¹	13.44	13.44	0	0
Net EUI²	13.44	13.44	0	0

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building Area.

REQUIRED SPECIAL FEATURES
The following are features that must be installed as a condition for meeting the modeled energy performance for this computer analysis.
• NO SPECIAL FEATURES REQUIRED

HERS FEATURE SUMMARY
The following is a summary of the features that must be field-verified by a certified HERS rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry.
• Kitchen range hood
• Minimum Airflow
• Verified EER/SEER2
• Verified SEER/SEER2
• Fan Efficacy Watts/CFM
• Duct leakage testing

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Residential Building	2838	1	4	2	0	1

Registration Number: 223-P01659836A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CalCERTS, Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.rbd22x

CF1R-PRF-01E
(Page 4 of 10)

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
Zone 1	Conditioned	HVAC System1	2711	10	DHW Sys 1	Existing Unchanged
Zone 2	Conditioned	HVAC System1	127	10	DHW Sys 1	New

OPAQUE SURFACES										
01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)	Wall Exceptions	Status	Verified Existing Condition
Front Wall	Zone 1	R-15 Wall	315	Front	730	164	90	none	Altered	No
Left Wall	Zone 1	R-15 Wall	45	Left	320	49	90	none	Altered	No
Rear Wall	Zone 1	R-15 Wall	135	Back	730	112	90	none	Altered	No
Right Wall	Zone 1	R-15 Wall	225	Right	320	67.5	90	none	Altered	No
Left Wall 2	Zone 2	R-15 Wall	45	Left	130	0	90	none	New	n/a
Rear Wall 2	Zone 2	R-15 Wall	135	Back	120.1	0	90	none	New	n/a
Right Wall 2	Zone 2	R-15 Wall	225	Right	130	0	90	none	New	n/a
Interior Surface	Zone 2	R-0 Wall	n/a	n/a	120	0	n/a	none	New	n/a
Roof	Zone 1	R-38 Roof Attic	n/a	n/a	2711	n/a	n/a	n/a	New	n/a
Roof 2	Zone 2	R-38 Roof Attic	n/a	n/a	127	n/a	n/a	n/a	New	n/a

ATTIC									
01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic Zone 1	Attic RoofZone 1	Ventilated	6	0.1	0.85	Yes	No	New	n/a
Attic Zone 2	Attic RoofZone 2	Ventilated	4	0.1	0.85	Yes	No	New	n/a

Registration Number: 223-P01659836A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CalCERTS, Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.rbd22x

CF1R-PRF-01E
(Page 5 of 10)

FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition
Window/W1 X3-W6X2	Window	Front Wall	Front	315			1	63	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/W8 +D14X2-D8	Window	Front Wall	Front	315			1	90	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/W7	Window	Front Wall	Front	315			1	11	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/D4	Window	Left Wall	Left	45			1	24	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/W5	Window	Left Wall	Left	45			1	25	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/D1 1+W10	Window	Rear Wall	Back	135			1	34.5	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/W2 +D12	Window	Rear Wall	Back	135			1	77.5	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/W6 X4+W3	Window	Right Wall	Right	225			1	67.5	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA
Window/D1	Window	Rear Wall 2	Back	135			1	120	0.3	NFRC	0.23	NFRC	Bug Screen	New	NA

SLAB FLOORS									
01	02	03	04	05	06	07	08	09	10
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated	Status	Verified Existing Condition
Slab	Zone 1	2711	210	none	0	80%	No	Existing	No
Slab 2	Zone 2	127	46	none	0	80%	No	New	n/a

Registration Number: 223-P01659836A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CalCERTS, Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.rbd22x

CF1R-PRF-01E
(Page 6 of 10)

OPAQUE SURFACE CONSTRUCTIONS							
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
R-0 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic RoofZone 1	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
Attic RoofZone 2	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-38 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION				
01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Not Required	Not Required	N/A	n/a	n/a

Registration Number: 223-P01659836A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CalCERTS, Inc.
Report Generated: 2023-09-26 14:57:33

#	REVISION	DATE

AQX ENGINEERING INC.
 1520 Brookhollow, Suite #45
 Santa Ana, CA 92705
 Off. (714) 662-0510
 Fax. (714) 662-0559
 Mhandi@aqxeng.com

PROJECT NAME
 THE REMLINGER RESIDENCE
 5152 GRANDVIEW AVE.
 YORBA LINDA,
 CALIFORNIA, 92886

SHEET TITLE
 TITLE 24

PROJECT NO. DM23-014
DATE 09/10/2023
SCALE AS REFERENCED

SHEET NO.
 T-24.1

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.ribd22x

(Page 7 of 10)

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)	New	NA	

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location	Status	Verified Existing Condition
DHW Heater 1	Gas	Consumer Instantaneous	1	0	UEF	0.81	BTU/Hr	200000	0	n/a			New	n/a

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required

Registration Number: 223-P016593636A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CaCERTS Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.ribd22x

(Page 8 of 10)

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Existing HVAC System
HVAC System1	Heating and cooling system other	Heating Component 1	2	Cooling Component 1	2	HVAC Fan 1	Air Distribution System 1	Setback	New	No	

HVAC - HEATING UNIT TYPES

01	02	03	04
Name	System Type	Number of Units	Heating Efficiency
Heating Component 1	Central gas furnace	2	AFUE-94

HVAC - COOLING UNIT TYPES

01	02	03	04	05	06	07	08	09
Name	System Type	Number of Units	Efficiency Metric	Efficiency EER/EER2/CEER	Efficiency SEER/SEER2	Zonally Controlled	Multi-speed Compressor	HERS Verification
Cooling Component 1	Central split AC	2	EER2/SEER2	12.5	16	Not Zonal	Single Speed	Cooling Component 1-hers-cool

HVAC COOLING - HERS VERIFICATION

01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge
Cooling Component 1-hers-cool	Required	350	Not Required	Not Required	Not Required

Registration Number: 223-P016593636A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CaCERTS Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.ribd22x

(Page 9 of 10)

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Design Type	Duct Ins. R-value	Return	Duct Location	Supply	Return	Surface Area	Bypass Duct	Duct Leakage	HERS Verification	Status	Verified Existing Condition	Existing Distribution system	New Ducts 25 ft
Air Distribution System 1	Unconditioned attic	Non-Verified	R-6	R-6	Attic	Attic	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dist	New	n/a		No

HVAC DISTRIBUTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.28	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.28

Registration Number: 223-P016593636A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CaCERTS Inc.
Report Generated: 2023-09-26 14:57:33

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: Residential Building
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-09-26T14:57:04-07:00
Input File Name: Building1.ribd22x

(Page 10 of 10)

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I, I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Mahdi Khaleghi	Documentation Author Signature:
Company: AQX Engineering	Signature Date: 2023-09-28 04:09:39
Address: 1520 Brookhollow Drive Santa Ana, CA 92705	CAJ HERS Certification Identification (if applicable):
City/State/Zip: Santa Ana, CA 92705	Phone: 714-662-0510

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
- I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: David Michael	Responsible Designer Signature:
Company: David Michael Designs	Date Signed: 2023-09-28 04:14:12
Address: 712 Center Street COSTA MESA, CA 92627	License: NA
City/State/Zip: COSTA MESA, CA 92627	Phone: 949-701-9539

Digitally signed by CaCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

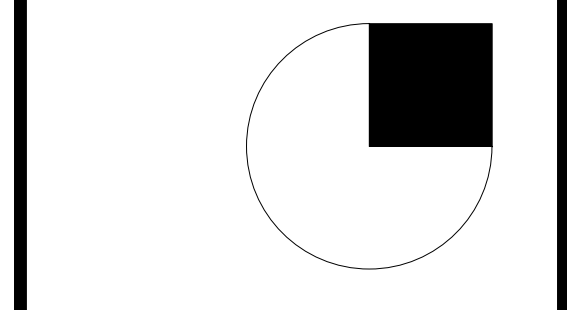


Registration Number: 223-P016593636A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 2023-09-28 04:14:12
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CaCERTS Inc.
Report Generated: 2023-09-26 14:57:33

#	REVISION	DATE



AQX ENGINEERING INC.
1520 Brookhollow, Suite #45
Santa Ana, CA 92705
Off. (714) 662-0510
Fax. (714) 662-0559
Mahdi@aqxeng.com

PROJECT NAME
THE REMLINGER RESIDENCE
5152 GRANDVIEW AVE.
YORBA LINDA, CALIFORNIA, 92886

SHEET TITLE
TITLE 24

PROJECT NO. DM23-014
DATE 09/10/2023
SCALE AS REFERENCED

SHEET NO.
T-24.2