ANCHOR BOLTS

5/8-IN ANCHOR BOLTS AT 48-IN O.C. AT SINGLE STORY AND PER SHEAR WALL SCHEDULE (U.N.O.)

AS A REPAIR FOR MISSING ANCHOR BOLTS 5/8-IN. THREADED ROD ANCHORS MAY BE USED. THE ANCHOR SHALL BE EMBEDDED A MINIMUM 4 1/4-IN. INTO THE CONCRETE AND PLACED A MINIMUM 1 5/8-IN FROM THE EDGE. THE ANCHOR SHALL BE FASTENED TO THE CONCRETE WITH SIMPSON EPOXY-SETXP ADHESIVE AND INSTALLED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS. (ICC ESR - 2508)

FOUNDATION SILL SHALL BE BOLTED TO THE FOUNDATION OR FOUNDATION WALL AT ALL HOUSE AND GARAGE PERIMETER FOUNDATIONS.

SIMPSON MASA ANCHORS MAY BE USED TO REPLACE ANCHOR BOLTS AT ALL LOCATION EXCEPT SHEAR WALLS (ICC ESR - 2555)

FOUNDATION SILL AT INTERIOR WALLS MAY USE SHOT-PINS FOR CONNECTION TO THE SLAB. PLATES SHALL HAVE A MIN. OF TWO BOLTS PER PANEL WITH ONE BOLT LOCATED WITHIN 12" OF EACH END.

SHEAR WALL SILL PLATES SHALL BE BOLTED TO THE FOUNDATION.

ALL ANCHOR BOLTS SHALL HAVE 3"X3"X0.229" PLATE WASHERS. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1 3/4" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.

GENERAL NOTES

VERIFY ALL FLAT WORK WITH DEVELOPER PRIOR TO INSTALLATION.

SHOT-PINS

SHOT-PINS: 0.145-IN DIA X 2 1/2-IN. LONG (RAMSET/ REDHEAD ICC ESR-1799 OR EQUAL). EXCEPT FOR SHEAR WALLS, INTERIOR WALLS MAY BE CONNECTED TO THE SLAB WITH SHOT-PINS. THE SPACING SHALL BE AS FOLLOWS.

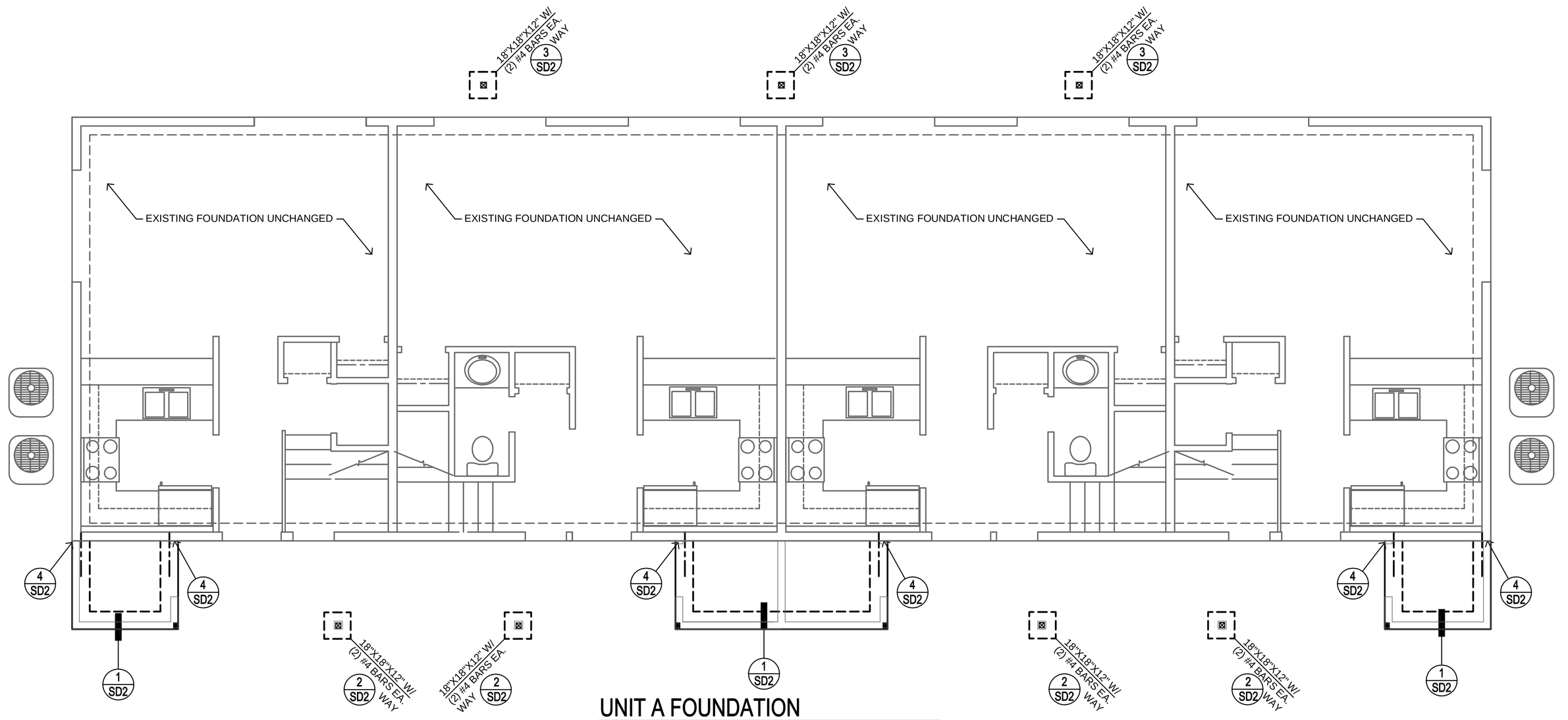
SPACING:
BEARING WALLS: 16 IN O.C.
NON-BEARING WALLS: 48 IN O.C.

FOUNDATION NOTES

1. SLAB REINFORCEMENT TO BE LOCATED MID-SLAB.
2. MAX. WATER - CEMENT RATIO OF .50 REQ'D FOR SLAB-ON-GRADE CONCRETE.
3. MINIMUM CONCRETE COMPRESSION STRENGTH IS AS FOLLOWS:
   F'c = 2500 PSI. (FOOTINGS)
   F'c = 3000 PSI. (SLABS)
4. ALL SHEAR WALL ANCHOR BOLTS ARE TO BE 5/8" DIA. MINIMUM.
5. WHERE 3X SILL PLATES OCCUR USE SIMPSON SSTBL STAB BOLTS FOR HOLDOWNS.

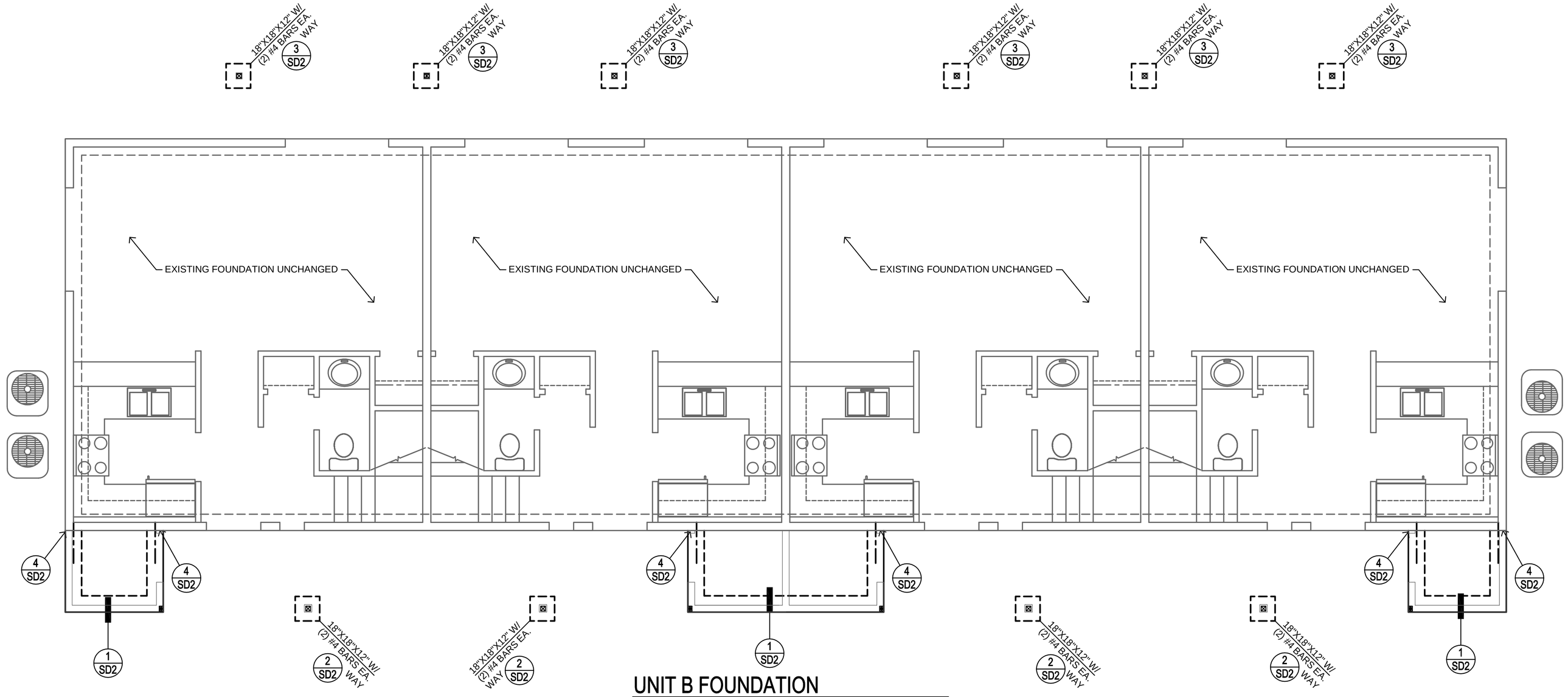
SHEAR ALL NEW WALLS

ALL NEW EXTERIOR WALLS SHALL BE SHEATHED WITH 3/8" OSB NAILED WITH 8d COMMON NAILS AT 6" O.C. EDGE, 12" O.C. FIELD



UNIT A FOUNDATION

SCALE 1/4=1'-0"



UNIT B FOUNDATION

SCALE 1/4=1'-0"

Robertson Engineering
3111 FITE CIRCLE, #101B
SACRAMENTO, CALIFORNIA 95827
Phone: 916-363-7021 Fax: 916-363-7027

November 16, 2016

RICHLAND HOUSEING
YUBA CITY, CA

REVISIONS		
NO.	DATE	

PROJECT MANAGER
RICK ROBERTSON

DRAFTER
RMR

1ST PLAN SUBMITTAL

SCALE
1/4"=1'-0"

CONST. SET ISSUED

JOB NO.
215230

SHEET

S1.1

FOUNDATION PLAN

ANCHOR BOLTS

5/8-IN ANCHOR BOLTS AT 48-IN O.C. AT SINGLE STORY AND PER SHEAR WALL SCHEDULE (U.N.O.)

AS A REPAIR FOR MISSING ANCHOR BOLTS 5/8-IN. THREADED ROD ANCHORS MAY BE USED. THE ANCHOR SHALL BE EMBEDDED A MINIMUM 4 1/4-IN. INTO THE CONCRETE AND PLACED A MINIMUM 1 5/8-IN FROM THE EDGE. THE ANCHOR SHALL BE FASTENED TO THE CONCRETE WITH SIMPSON EPOXY-SETXP ADHESIVE AND INSTALLED IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS. (ICC ESR - 2508)

FOUNDATION SILL SHALL BE BOLTED TO THE FOUNDATION OR FOUNDATION WALL AT ALL HOUSE AND GARAGE PERIMETER FOUNDATIONS.

SIMPSON MASA ANCHORS MAY BE USED TO REPLACE ANCHOR BOLTS AT ALL LOCATION EXCEPT SHEAR WALLS (ICC ESR - 2555)

FOUNDATION SILL AT INTERIOR WALLS MAY USE SHOT-PINS FOR CONNECTION TO THE SLAB. PLATES SHALL HAVE A MIN. OF TWO BOLTS PER PANEL WITH ONE BOLT LOCATED WITHIN 12" OF EACH END.

SHEAR WALL SILL PLATES SHALL BE BOLTED TO THE FOUNDATION.

ALL ANCHOR BOLTS SHALL HAVE 3"X3"X0.229" PLATE WASHERS. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1 3/4" PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.

GENERAL NOTES

VERIFY ALL FLAT WORK WITH DEVELOPER PRIOR TO INSTALLATION.

SHOT-PINS

SHOT-PINS: 0.145-IN DIA X 2 1/2-IN. LONG (RAMSET/ REDHEAD ICC ESR-1799 OR EQUAL). EXCEPT FOR SHEAR WALLS, INTERIOR WALLS MAY BE CONNECTED TO THE SLAB WITH SHOT-PINS. THE SPACING SHALL BE AS FOLLOWS.

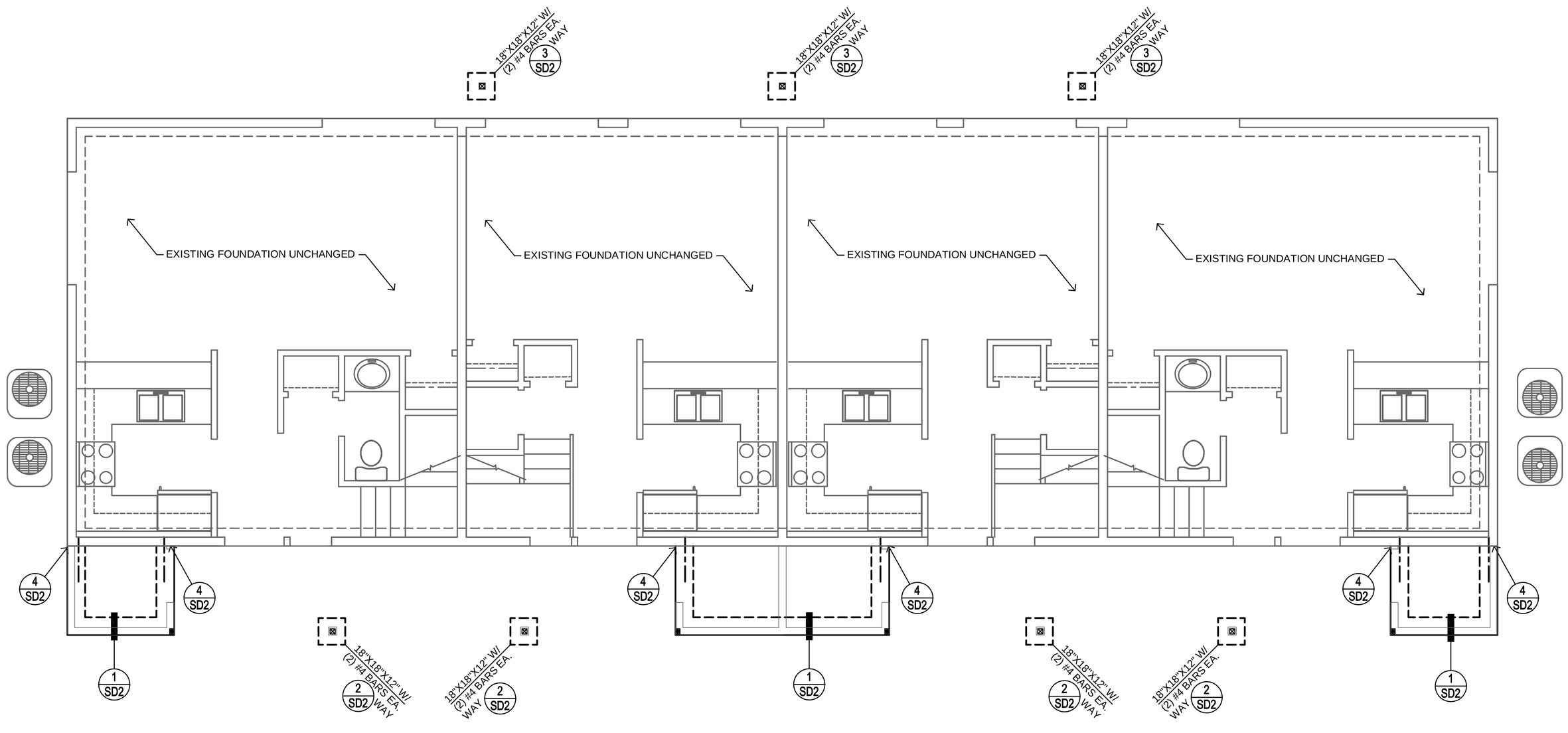
SPACING:
BEARING WALLS: 16 IN O.C.
NON-BEARING WALLS: 48 IN O.C.

FOUNDATION NOTES

1. SLAB REINFORCEMENT TO BE LOCATED MID-SLAB.
2. MAX. WATER - CEMENT RATIO OF .50 REQ'D FOR SLAB-ON-GRADE CONCRETE.
3. MINIMUM CONCRETE COMPRESSION STRENGTH IS AS FOLLOWS:
   F'c = 2500 PSI. (FOOTINGS)
   F'c = 3000 PSI. (SLABS)
4. ALL SHEAR WALL ANCHOR BOLTS ARE TO BE 5/8" DIA. MINIMUM.
5. WHERE 3X SILL PLATES OCCUR USE SIMPSON SSTBL STAB BOLTS FOR HOLDOWNS.

SHEAR ALL NEW WALLS

ALL NEW EXTERIOR WALLS SHALL BE SHEATHED WITH 3/8" OSB NAILED WITH 8d COMMON NAILS AT 6" O.C. EDGE, 12" O.C. FIELD



UNIT C FOUNDAITON

SCALE 1/4=1'-0"

Robertson Engineering
3111 FITE CIRCLE, #101B
SACRAMENTO, CALIFORNIA 95827
Phone: 916-363-7021 Fax: 916-363-7027

November 16, 2016

RICHLAND HOUSEING
YUBA CITY, CA

REVISIONS		
NO.	DATE	

PROJECT MANAGER
RICK ROBERTSON

DRAFTER
RMR

1ST PLAN SUBMITTAL

SCALE
1/4"=1'-0"

CONST. SET ISSUED

JOB NO.
215230

SHEET

S1.2

FOUNDATION PLAN

STRUCTURAL LUMBER SPECS. (U.N.O.)

1. 2X, 4X BEAMS, HEADERS, AND POST: DF#2 OR BETTER
2. 6X BEAMS, HEADERS AND POST: DF#1 OR BETTER
3. 2X JOISTS AND RAFTERS: DF#2 OR BETTER
4. 2X STUDS (MAX 10 FT LONG): DF#3 OR STUD GRADE AND BETTER
5. 2X6 STUDS (MAX 13 FT LONG): DF#2 AND BETTER
6. GLB: 24F-V4 DF/DF 1600 FT RADIUS CAMBER.
7. ALL BEAMS SHALL BE STAINED, PAINTED OR OTHERWISE PROTECTED FROM EXPOSURE TO SEA AIR.

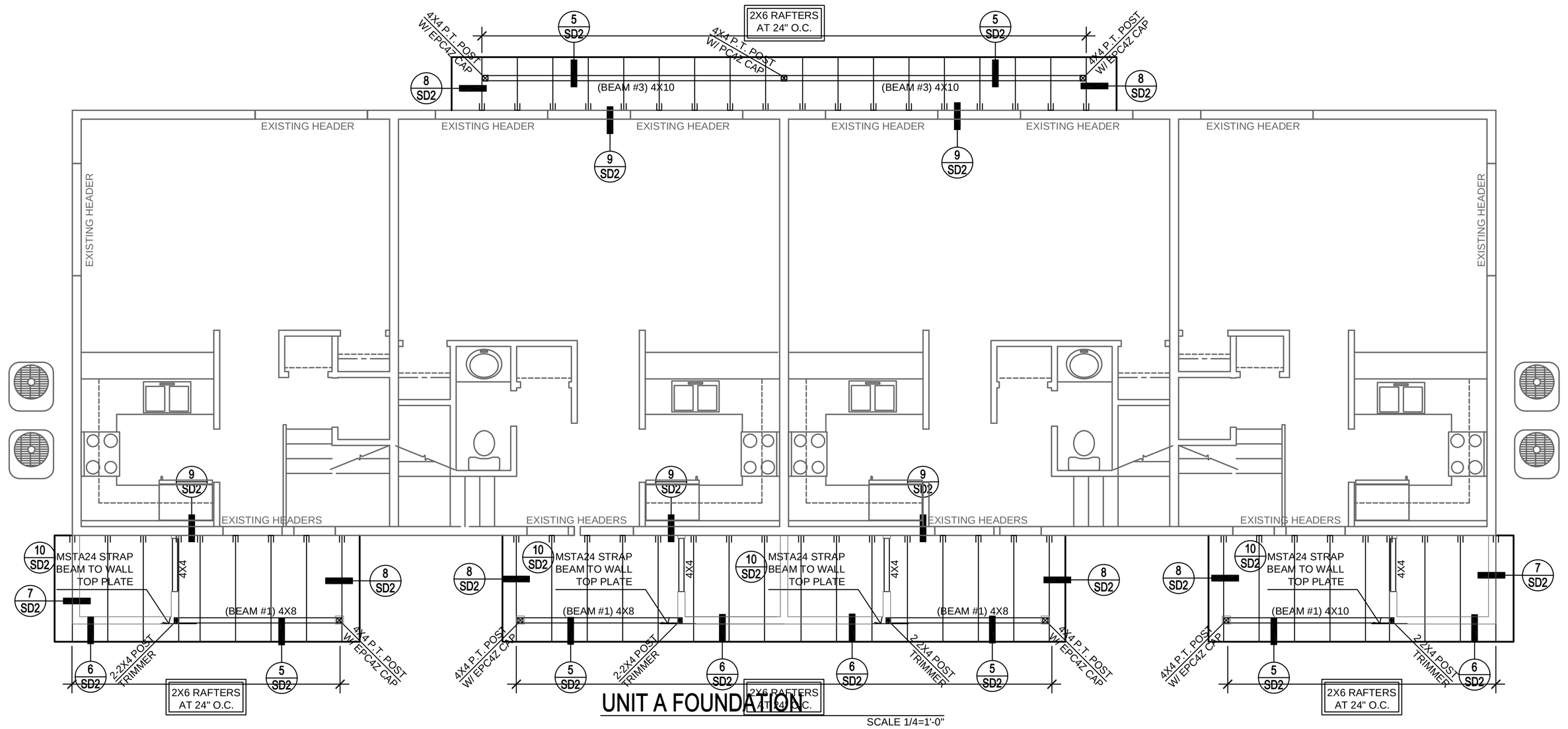
SHEAR ALL NEW WALLS

ALL NEW EXTERIOR WALLS SHALL BE SHEATHED WITH 3/8" OSB NAILED WITH 8d COMMON NAILS AT 6" O.C. EDGE, 12" O.C. FIELD

ROOF SHEATHING

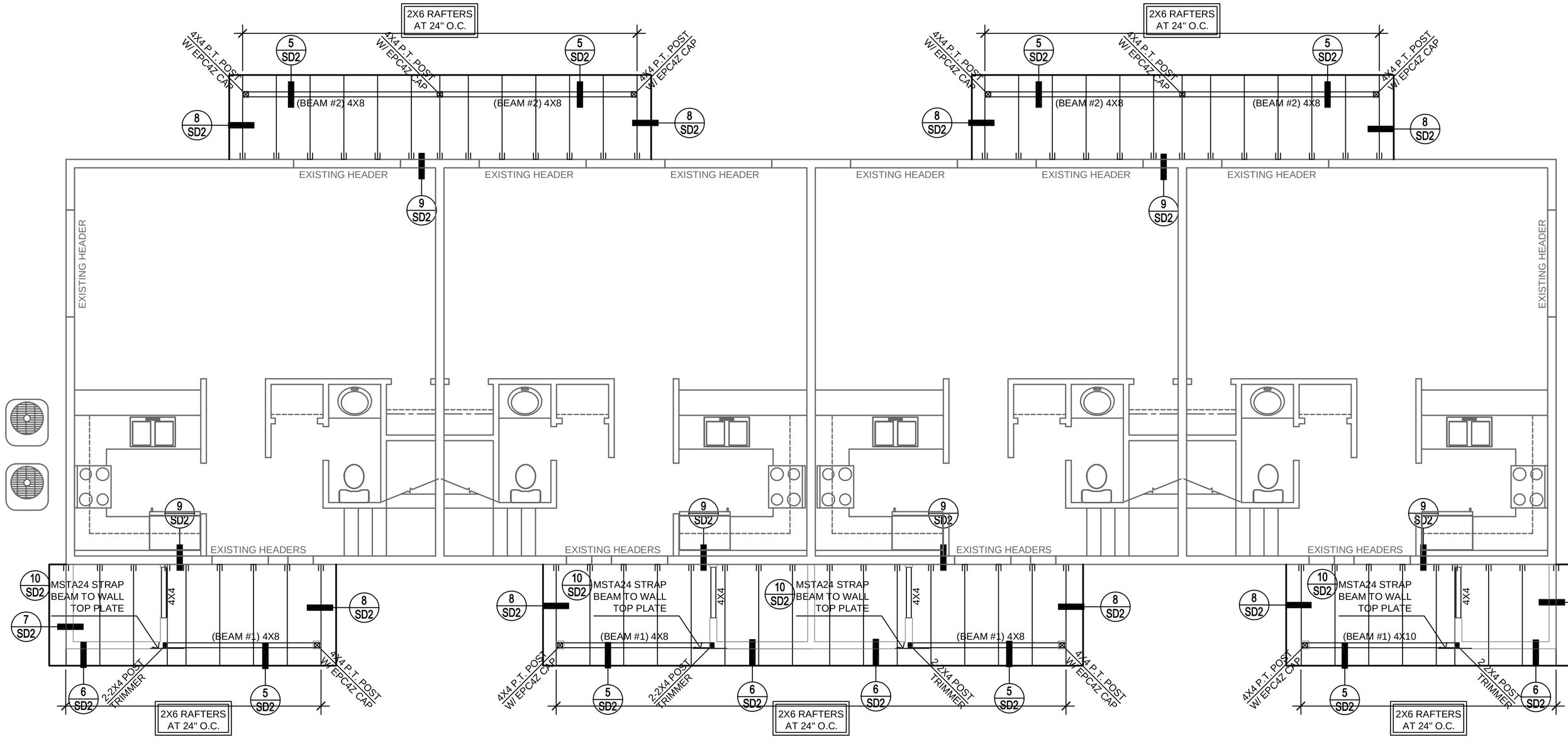
1/2-IN CDX (24/0) PLYWOOD OR EQUIVALENT O.S.B. STAGGER JOINTS & RUN PERPENDICULAR TO FRAMING. (USE CCX OR EQUIVALENT AT OVERHANGS OR WHERE EXPOSED)

NAIL WITH 8d's (COMMON) 6 IN. O.C. AT EDGES AND BOUNDARY, 12 IN. O.C. AT FIELD.



UNIT A FOUNDATION

SCALE 1/4=1'-0"



UNIT B FRAMING

SCALE 1/4=1'-0"

LOW ROOF FRAMING

Robertson Engineering
3111 FITE CIRCLE, #101B
SACRAMENTO, CALIFORNIA 95827
Phone: 916-363-7021 Fax: 916-363-7027

November 16, 2016

RICHLAND HOUSEING
YUBA CITY, CA

REVISIONS

NO.	DATE

PROJECT MANAGER
RICK ROBERTSON

DRAFTER
RMR

1ST PLAN SUBMITTAL

SCALE
1/4"=1'-0"

CONST. SET ISSUED

JOB NO.
215230

SHEET

S2.1

STRUCTURAL LUMBER SPECS. (U.N.O.)

1. 2X, 4X BEAMS, HEADERS, AND POST: DF#2 OR BETTER
2. 6X BEAMS, HEADERS AND POST: DF#1 OR BETTER
3. 2X JOISTS AND RAFTERS: DF#2 OR BETTER
4. 2X STUDS (MAX 10 FT LONG): DF#3 OR STUD GRADE AND BETTER
5. 2X6 STUDS (MAX 13 FT LONG): DF#2 AND BETTER
6. GLB: 24F-V4 DF/DF 1600 FT RADIUS CAMBER.
7. ALL BEAMS SHALL BE STAINED, PAINTED OR OTHERWISE PROTECTED FROM EXPOSURE TO SEA AIR.

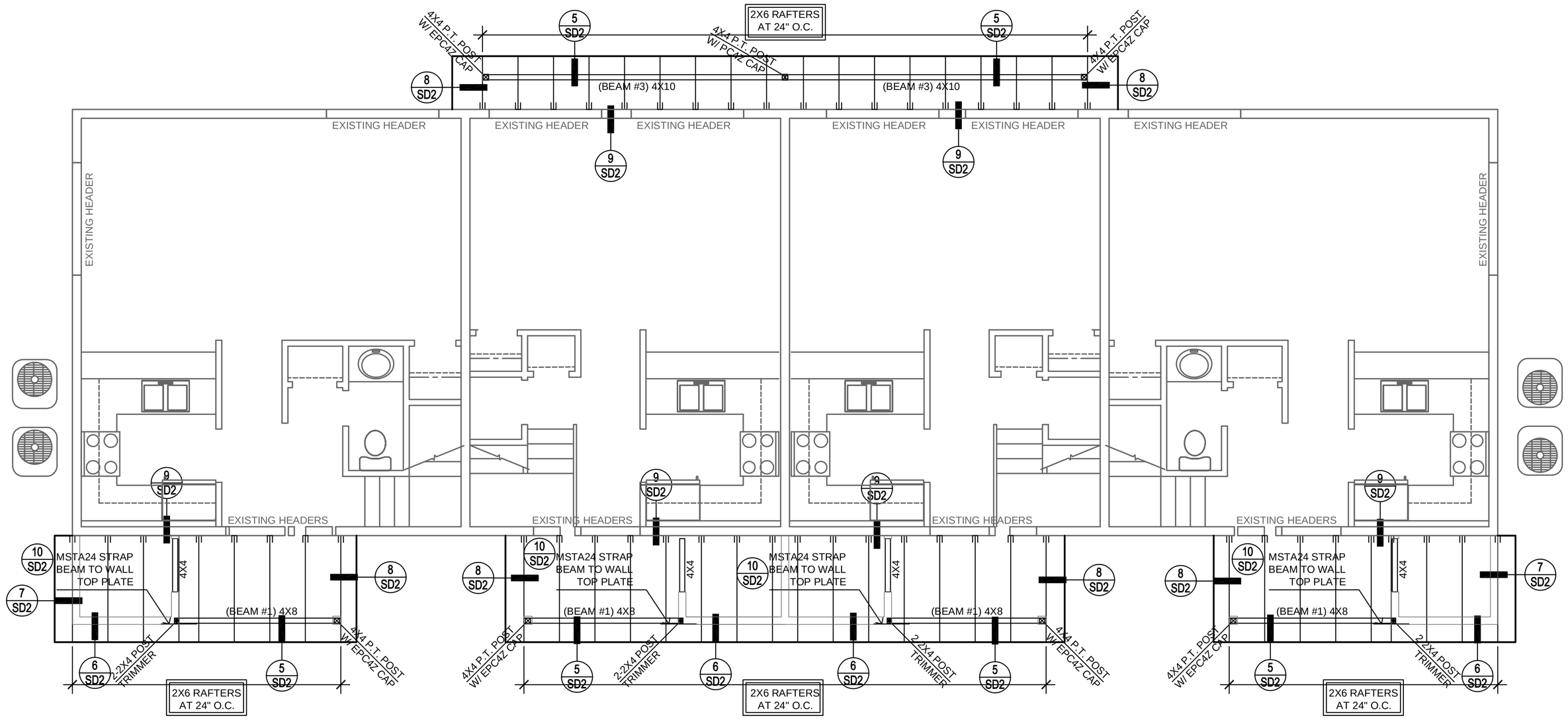
SHEAR ALL NEW WALLS

ALL NEW EXTERIOR WALLS SHALL BE SHEATHED WITH 3/8" OSB NAILED WITH 8d COMMON NAILS AT 6" O.C. EDGE, 12" O.C. FIELD

ROOF SHEATHING

1/2-IN CDX (24/0) PLYWOOD OR EQUIVALENT O.S.B. STAGGER JOINTS & RUN PERPENDICULAR TO FRAMING. (USE CCX OR EQUIVALENT AT OVERHANGS OR WHERE EXPOSED)

NAIL WITH 8d's (COMMON) 6 IN. O.C. AT EDGES AND BOUNDARY, 12 IN. O.C. AT FIELD.



UNIT C FRAMING

SCALE 1/4=1'-0"

Robertson Engineering
3111 FITE CIRCLE, #101B
SACRAMENTO, CALIFORNIA 95827
Phone: 916-363-7021 Fax: 916-363-7027

November 16, 2016

RICHLAND HOUSEING
YUBA CITY, CA

REVISIONS		
NO.	DATE	

PROJECT MANAGER
RICK ROBERTSON

DRAFTER
RMR

1ST PLAN SUBMITTAL

SCALE
1/4"=1'-0"

CONST. SET ISSUED

JOB NO.
215230

SHEET

S2.2

LOW ROOF FRAMING

ENGINEER'S NOTES

1. Do not break face ply when nailing any shear walls.
2. Nails specified for use in shear walls and holdowns to be as follows:
   8d to have shank diameter of 0.131" & head diameter of 0.281" w/ 2 1/2" min. length.
   10d to have shank diameter of 0.148" & head diameter of 0.3125" w/ 3" min. length.
   16d sinker to have shank diameter of 0.148" & head diameter of 0.343" w/ 3 1/4" min. length.
   16d common to have shank diameter of 0.162" & head diameter of 0.343" w/ 3 1/2" min. length.
3. All nailing not specified on plans to be per 2013 CRC Table No. R602.3(1)
4. Moisture content of lumber not to exceed 19 % @ time of fabrication or construction.

GENERAL NOTES

1. All construction shall comply with the currently accepted edition of the California Building Code (CBC) and California Residential Code (CRC) and CRC Standards. Current code is the 2013 C.B.C/C.R.C.
2. The design, adequacy, and safety of erection bracing, shoring, temporary supports, etc., is the sole responsibility of the contractor and has not been considered by the engineer. The contractor is responsible for stability of the structure prior to the application of all shear walls and roof diaphragms, and finish materials. He shall provide the necessary bracing to provide stability prior to the application of the previously mentioned materials. Observation visits to the site by the engineer shall not include inspection of the above items.
3. Details not specifically shown shall be similar to details for similar construction shown on these drawings.
4. Typical details shall apply unless shown otherwise on the drawings.
5. All prefabricated connecting hardware specified is manufactured by Simpson Strong-Tie Company, Pleasanton, California, unless noted otherwise. Install in accordance with the manufacturer's instructions and recommendation for maximum rated values.
6. The contractor shall coordinate the work of all trades and verify all dimensions, elevations, property lines, etc. on the job. **Contractor shall notify Robertson Engineering and the architect where a discrepancy occurs on any of the contract drawings or documents. Contractor is NOT to order material or construct any portion of the building that is in conflict until the conflict is resolved with the affected parties.**
7. No structural members shall be cut, notched, or otherwise penetrated unless specifically approved by the Engineer in advance or as shown on these drawings.
8. In no case should drawings, details, or any part of these plans be scaled for any purpose. If any dimensions not shown are required it is the responsibility of the contractor to contact the engineer or architect for additional information.
9. For all attic areas 30" or more in height, provide attic access scuttle 22" x 30" min. or 30" x 30" with walk, platform and light if FAU is in attic. Provide 30" head clearance at scuttle.
10. Provide inspection in accordance with the 2013 CRC section R109

TYPICAL ABBREVIATIONS

A.B.	ANCHOR BOLT	LVL	LAMINATED VENEER LUMBER
A.P.A.	AMERICAN PLYWOOD ASSOCIATION	JH	JOIST HANGER
B.C.	BOTTOM CHORD	MFG'S	MANUFACTURER'S
BLKG.	BLOCKING	ML	MATCH LINE
BRG.	BEARING	(N)	NEW
CBC	CALIFORNIA BUILDING CODE	NTS	NOT TO SCALE
CL.	CENTER LINE	O.C.	ON CENTER
CLR.	CLEAR	OSB	ORIENTED STRAND BOARD
CONC.	CONCRETE	P.E.N.	PANEL EDGE NAIL
CONT.	CONTINUOUS	PL	PLATE
DBL.	DOUBLE	PLF	POUNDS PER LINEAR FOOT
D.F.	DOUGLAS FIR LARCH	PSF	POUNDS PER SQUARE FOOT
D.F.L.	DOUGLAS FIR LARCH	PSI	POUNDS PER SQUARE INCH
DIA.	DIAMETER	PSL	PARALLEL STRAND LUMBER
DL.	DEAD LOAD	PT	PRESSURE TREATED
(E)	EXISTING	REQ'D	REQUIRED
E.W.	EACH WAY	SHTG.	SHEATHING
E.N.	EDGE NAIL	SQ.	SQUARE
GA.	GAGE	T&B	TOP AND BOTTOM
GLB.	GLUE LAMINATED BEAM	TC	TOP CHORD
HD.	HOLDOWN	TS	TUBE STEEL
HDR.	HEADER	TYP.	TYPICAL
HORIZ.	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
IBC	INTERNATIONAL BUILDING CODE	V.P.	VAPOR BARRIER
LL	LIVE LOAD	WWF	WELDED WIRE FABRIC
LSL	LAMINATED STRAND LUMBER	WWM	WELDED WIRE MESH

SITE WORK AND FOUNDATIONS

1. Bearing soil condition is classified by minimum allowed by code or soils report if available for project.
2. Footings shall bear on firm, undisturbed natural soils or engineered fill.
3. Excavations shall be cleaned of all debris; standing water shall be removed.
4. Grading shall be accomplished to provide drainage away from the building at 6" slope to swale for min. 10' unless alternate drainage is provided. (2013 CBC Section R401.3)
5. There shall be no utility trenches near the building foundation which extend deeper than a 45 degree line projected down and away from the bottom outside corner of any footing.
6. Sill bolts shall extend 7" minimum into concrete. (Section R403.1.6 2013 CRC)
7. Holdown anchor bolts are to be installed per the manufacturer's specifications.
8. Soils engineer shall test/observe placement of fill & approve all excavations for foundations if required by soils report.
9. All sill bolts require minimum 3"X3"X0.229" steel plate washers, typ.
10. Place 20' of rebar in foundation at service locations. Stub up rebar above the floor by electric service meter.

CONCRETE AND REINFORCING STEEL

1. Concrete construction, materials, mixing, and curing shall conform to ACI-318 per CRC Section R404.1.2.3
2. The minimum compressive strength at 28 days shall be 3000 psi per 2013 CRC Section R404.1.2.3.1
3. Concrete slabs on grade shall be a minimum thickness of 3.5" per 2013 CRC Section R506.1. A 6-mil polyethylene vapor retarder with joints lapped not less than 6" shall be placed between the base course or subgrade and the concrete floor slab.
4. Remove all debris from the forms before placing any concrete.
5. All reinforcing shall be ASTM A615, Grade 40 for #3 & #4 bars. All reinforcing shall be ASTM A615, Grade 60 for #5 bars and larger. Welded wire fabric to be ASTM A185. Lap 1 ½" spaces.
6. All bends shall be made cold.
7. Dry pack shall be composed of one part portland cement to not more than three parts sand.
8. Refer to Architectural, Mechanical, Electrical and Plumbing drawings for miscellaneous items to be cast into concrete and floor depressions, pits, etc.
9. See Architectural drawings for locations of expansion joints, scoring, etc. for concrete walks, slabs, and other flat work.
10. Horizontal reinforcing (footing & stemwall): Min (1)-#4 rebar 2" below top of stem wall and 3" clear above the bottom of the footing and at 24" o.c. maximum horizontal spacing (UNO).
11. Reinforcing, reinforcing dowels, holdown anchors, sleeves, etc., to be embedded in concrete shall be accurately and securely positioned before pouring concrete.
12. Maximum free fall of concrete shall be 4'-0".
13. Conduits, pipes and sleeves of any material not harmful to concrete and within the limitations of ACI 318, Section 6.3, are permitted to be embedded in concrete with approval of the registered design professional.
14. Details of reinforcement such as bending of reinforcement, min. bend diameters, placement and spacing of reinforcement shall be according to ACI 318 Section 7.
15. Contractor shall take all necessary precautions for cold weather concrete placement where required.
16. Welding of rebar is not permitted unless procedure is approved by the engineer of record.
17. All bars shall be deformed as per ASTM A305.
18. All bars shall be clean of loose flaky rust, grease or other materials likely to impair bond.
19. Splicing of bars shall have the following laps: (NOTE: bd = bar diameter)

Bar Size	Lap Splice Length
#4	48xbd
#5	48xbd
#6	48xbd

STRUCTURAL STEEL NOTES

1. Design, fabrication and erection of structural steel shall conform to the specifications and standard of the American Institute of Steel Construction, as contained in the "AISC Manual of Steel Construction", fourteenth edition.
2. All structural steel shall be erected plumb and true to line. Temporary bracing shall be installed and shall be left in place until other means are provided to adequately brace the structure.
3. Submit steel shop drawings to the engineer for review prior to fabrication.
4. See plan sheets for structural steel grades.
5. All bolts shall be machined bolts unless noted otherwise.
6. All connections not shown shall conform to the "AISC Manual of Steel Construction"
7. Place non-shrink grout (EMBECO 636 or approved equal) under all base plates before adding vertical load.
8. Welding procedures, electrodes and welder qualifications shall conform to the "Code for Welding in Building Construction", American Welding Society, and the AISC "Specifications for the Design, Fabrication and Erection of Structrual Steel for Buildings", E70XX electrodes shall be used typically unless noted otherwise, all welders shall have evidence of passing the AWS Standard qualification tests. All groove or butt welds shall be ground smooth.
9. See architectural drawings for nailer holes, welding studs or other items not shown in these drawings. Where steel is embedded into conc. or masonry, provide holes as required for passage of cont. reinforcing bars where indicated on drawings.

LUMBER & CARPENTRY:

1. All structural lumber shall be identified by the grade mark of a lumber grading or inspection agency that has been approved by an accreditation body that complies with DOC PS 20 or equivalent, and shall have a maximum moisture content of 19%.
2. All structural plywood shall be structural II or C-D grade with exterior glue unless noted otherwise and conform to PS-183. Each sheet shall be identified by a registered stamp D.F.P.A. or A.P.A.
3. Plywood used at eaves shall be C-C grade with exterior glue or as noted otherwise on the Architectural Plans.
4. Structural plywood may be substituted with an equivalent APA rated Oriented Strand Board (O.S.B.)
5. All wood bearing on concrete or masonry shall be pressure treated Douglas Fir.
6. Structural members shall not be cut for pipes, etc. unless specifically noted or detailed or is in conformance with CRC 2013 Section R602.6
7. Solid blocking shall be placed between joists or rafters at all supports, except when ledgered.
8. Cross-bridging shall be provided at 8' o.c. max. for all dimensioned floor joists over 10" in depth. Cross-bridging shall be provided at 10' o.c. max. for all dimensioned roof rafters over 10" except where rigid material is applied to bottom of joist (i.e sheetrock) Use solid blocking or an approv. type metal bridging.
9. All nailing to be per currently accepted nailing schedule UNO.
10. Plywood floor and roof sheathing shall be laid continuous over 2 or more spans with face grain perpendicular to supports. Stagger all plywood panels a min. of 4'.
11. Framing contractor shall provide backing as required for all light fixtures, cabinets, wardrobes, towel bars, handrails, etc. as required and requested by the general contractor.
12. Exterior wood posts and columns supported by a concrete slab shall be installed a min. of 8" above exposed earth and at least 1" above slab on metal post bases. (Exception: posts or columns of approved wood with natural resistance to decay or treated wood). Posts or columns resting on concrete piers surrounded by existing grade shall be minimum of 8" above adjacent grade. All isolated interior and exterior wood posts attached directly to concrete shall be secured with a Simpson "PB" anchor or equivalent, UNO.
13. Provide a double 2x4 header at all interior nonbearing openings up to 36" in width. Provide 2-2x4 header on edge or a 4x4 for openings 3' to 6' in width. Use a 4x6 header for openings greater than 6'.
14. All exterior walls adjacent to vaulted ceilings shall be balloon framed with continuous studs to bottom chord of truss or rafter.
15. Provide blocking for all framing members at all supports.
16. Bolts for timber connections shall be ASTM A307 machine bolts UNO. Bolts shall be installed in accordance with the latest edition of the National Design Specification for Wood Construction by the National Forest Products Association. Bolt holes shall be $\frac{1}{32}$" larger than the bolt diameter.
17. Hardware for lag screw shanks shall be bored to the same depth and diameter as the shank. The remaining depth of penetration shall be bored to 70 % of the shank diameter.
18. Provide malleable iron washers or equivalent cut plate washers under nuts and bolts or lag screw heads that bear on wood. At sill plates, provide 3"x3"x 0.229" plate washers at anchor bolts.
19. When required nailing tends to split wood members, nail holes shall be pre-bored to $\frac{3}{4}$ of the nail diameter.
20. Install fireblocks to cut off all horizontal and vertical draft openings between two stories and roof attic spaces. Fire blocks shall be of 2" nominal thickness. Location of fire blocks shall include:
    a) Ceilings, floors, furred down ceilings, showers, soffits and at concealed draft openings not to exceed 10'.
    b) Around top, bottom, sides, and ends of sliding pocket doors.
    c) Between stair stringers at top and bottom of run and between studs in a wall parallel and adjoining run of stairs.
    d) As required by the 2013 CRC.
21. All Beams are to be supported with full bearing. (UNO)
22. All bearing walls on a wood floor are to be supported with double joists or solid blocking. (UNO) per 2013 CRC R502.4
23. Provide furring as needed to align non-shear walls with shear walls as required.
24. Solid blocking is required between perpendicular joists at bearing and at shear walls..
25. Refer to I-Joist manufacturer for specifications for drilling of holes through webs.
26. Except where more stringent construction is shown on the drawings, wood construction shall comply with the 2013 CRC Section Chapter 5 to Chapter 9 provisions, as a minimum.

MANUFACTURED WOOD TRUSS DESIGN

1. Truss loadings shall be as follows, unless noted otherwise.
   Roof:
   Top Chord: Shake/Comp. Tile — Dead Load = 10 psf 14 psf — Live Load = 16 psf 16 psf
   Bot Chord: Dead Load = 10 psf
   Floor:
   Top Chord: Dead Load = 10 psf — Live Load = 40 psf
   Bot Chord: Dead Load = 8 psf
2. Design and fabricate using this criteria and the 2013 CRC, industry standards, and applicable ICC research reports.
3. Use appropriate increase maximum for duration of loading U.N.O. on roof framing plan. Increases in allowable stresses for assemblies of repetitive framing is permissible. (where applicable)
   (load duration factors are as follwows: 1.25 - non - snow load, 1.15 snow loads up to 100 psf, 1.00 snow loads over 100 psf, 1.00 floor loads)
4. Minimum member sizes: top chord = 2x4, bottom chord = 2x4, webs = 2x3. Lumber species and minimum grade shall be set by the truss design engineer.
5. Provide complete truss layout with truss identification numbers clearly identified on layouts and calculations. Specify truss manufacturer on truss drawings. Provide copies of ICC approvals for metal connector plates used if required by engineer.
6. Install in accordance with requirements of the referenced standards, these drawings and the manufacturer's details and recommendations.
7. Truss drawing and calculations shall have original signature by a licensed civil or structural engineer and shall be submitted to the project engineer and local building department for review before fabrication.
8. Clearly indicate all bracing, strongbacking, and bridging. Members shall be adequately braced during erection. Members shall be aligned and all connections completed before removal of temporary bracing.
9. Lateral bracing of web members must be restrained at one end.
10. Truss to truss connections and truss to beam connections shall be the responsibility of the truss manufacturer.
11. **DO NOT CUT ANY TRUSS WITHOUT PRIOR APPROVAL FROM THE TRUSS MANUFACTURER.**
12. Do not attach bottom chords to nonbearing walls unless a Simpson STC clip is used (UNO).
13. All gable end trusses are structural trusses with fill. They shall be designed for vertical and lateral loads. They shall be designed to transfer a minimum of 200 plf (max. 2,000 lbs.) from top chord to the bottom chord (UNO).
14. Mechanical unit loads and partition loads shall be considered where applicable.
15. Where manufactured trusses are installed as blocking or rim joists in bearing walls, they shall be designed to transmit direct axial wall loads.
16. Provide solid blocking between rafters or joists at all supports.

TABLE R602.3(1) FASTENING SCHEDULE

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER [a, b, c]	SPACING OF EACH FASTENERS
	ROOF		
1	Blocking between joists or rafters to top plate, toe nail	3-8d (2-1/2" X 0.113")	
2	Ceiling joists to plate, toe nail	3-8d (2-1/2" X 0.113")	
3	Ceiling joists not attached to parallel rafter, laps over partition, face nail	3-10d	
4	Collar tie rafter, face nail or 1 1/4"X20 gage ridge strap	3-10d (3" X 0.128")	
5	Rafter to plate, toe nail	2-16d (3-1/2" X 0.135")	
6	Roof rafters to ridge, valley or hip rafters toe nail face nail	4-16d (3-1/2" X 0.135") 3-16d (3-1/2" X 0.135")	
	WALL		
7	Built-up corner studs	10d (3" X 0.128")	24" O.C.
8	Built-up header, two pieces with 1/2" spacer	16d (3-1/2" X 0.135")	16" O.C. along each edge
9	Continued header, two pieces	16d (3-1/2" X 0.135")	16" O.C. along each edge
10	Continuous header to stud, toe nail	4-8d (2-1/2" X 0.113")	
11	Double studs, face nail	10d (3" X 0.128")	24" O.C.
12	Double top plates, face nail	10d (3" X 0.128")	24" O.C.
13	Double top plates, minimum 48-inch offset of end joints, face nail in lapped area	8-16d (3-1/2" X 0.135")	
14	Sole, plate to joist or blocking, face nail	16d (3-1/2" X 0.135")	16" O.C.
15	Sole plate to joist or blocking at braced wall panels	3-16d (3-1/2" X 0.135")	16" O.C.
16	Stud to sole plate, toe nail	3-8d (2-1/2" X 0.113") or 2-16d (3-1/2" X 0.135")	
17	Top or sole plate to stud, end nail	2-16d (3-1/2" X 0.135")	
18	Top plates, laps at corners and intersections, face nail	2-10d (3" X 0.128")	
19	1" brace to each stud and plate, face nail	2-8d (2-1/2" X 0.113")	
20	1" X 6" sheathing to each bearing, face nail	2-8d (2-1/2" X 0.113")	
21	1" x 8" sheathing to each bearing, face nail	2-8d (2-1/2" X 0.113")	
22	Wider than 1" x 8" sheathing to each bearing, face nail	3-8d (2-1/2" X 0.113")	
	FLOOR		
23	Joist to sill or girder, toe nail	3-8d (2-1/2" X 0.113")	
24	1" X 6" subfloor or less to each joist, face nail	2-8d (2-1/2" X 0.113")	
25	2" subfloor to joist or girder, blind and face nail	2-16d (3-1/2" X 0.135")	
26	Rim joist to top plate, toe nail (roof applications also)	8d (2-1/2" X 0.113")	6" O.C.
27	2" planks (plank & beam - floor & roof)	2-16d (3-1/2" X 0.135")	at each bearing
28	Built-up girder and beams, 2-inch lumber layers	10d (3" X 0.128")	Nail each layer as follows 32" o.c. at top and bottom and staggered. Two nails at ends and at each splice
29	Ledger strip supporting joists or rafters	3-16d (3-1/2" X 0.135")	At each joist or rafter

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER [b, c, e]	SPACING OF FASTENERS: Edges [f] (Inches)	SPACING OF FASTENERS: Intermediate Supports [c, e] (Inches)
	WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLE BOARD WALL SHEATHING TO FRAMING			
30	3/8" - 1/2"	6d common (2" X 0.113") nail (subfloor wall) 8d common (2-1/2" X 0.131") nail (roof)	6	12 [g]
31	5/16" - 1/2"	6d common (2" X 0.113") nail (subfloor wall) 8d common (2-1/2" X 0.131") nail (roof) [i]	6	12 [g]
32	19/32" - 1"	8d common (2-1/2" X 0.131")	6	12 [g]
33	1-1/8" - 1-1/4"	10d common (3" X 0.148") nail or 8d (2-1/2" X 0.131") deformed nail	6	12
	OTHER WALL SHEATHING [h]			
34	1/2" structural cellulosic fiberboard sheathing	1-1/2" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1-1/4" long	3	6
35	25/32" structural cellulosic fiberboard sheathing	1-3/4" galvanized roofing nail, 7/16" crown or 1" crown staple 16 ga., 1-1/2" long	3	6
36	1/2" gypsum sheathing [d]	1-1/2" galvanized roofing nail; staple galvanized, 1-1/2" long; 1-1/4" screws, type W or S	7	7
37	5/8" gypsum sheathing [d]	1-3/4" galvanized roofing nail; staple galvanized, 1-5/8" long; 1-5/8" screws, type W or S	7	7
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
38	3/4" and less	6d deformed (2" X 0.120") nail or 8d common (2-1/2" X 0.131") nail	6	12
39	7/8"-1"	8d common (2-1/2" X 0.131") nail or 8d deformed (2-1/2" X 0.120") nail	6	12
40	1-1/8" - 1-1/4"	10d common (3" X 0.148") nail or 8d deformed (2-1/2" X 0.120") nail	6	12

a. All nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less.
b. Staples are 16 gage wire and have a minimum 7/16-inch on diameter crown width.
c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater
d. Four-foot-by-8-foot or 4-foot-by-9-foot panels shall be applied vertically.
e. Spacing of fasteners not included in this table shall be based on Table R602.3(3)
f. For regions having basic wind speed of 110 mph or greater, 8d deformed (2-1/2"x0.120) nails shall be used for attaching plywood and wood structural panel roof sheathing to framing within minimum 48-inch distance from gable end walls, if mean roof height is more that 25 feet, up to 35 feet maximum.
g. For regions having basic wind speed of 100 mph or less, nails for attaching wood structural panel roof sheathing to gable end wall framing shall be spaced 6 inches on center. When basic wind speed is greater than 100 mph, nails for attaching panel roof sheathing to intermediate supports shall be spaced 6 inches on center for minimum 48-inch distance from edges, eaves and gable end walls; and 4 inches on center to gable end wall framing.
h. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with GA 253, Fiberboard sheathing shall conform to ASTM C 208.
i. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at all floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

WIND DESIGN DATA

The following wind design data was used:
Ultimate Design Wind Speed:
110 mph (V_{ult}) (3-Second Gust)
Nominal Design Wind Speed:
85 mph (V_{asd})
Wind Exposure Category: C
Wind Importance Factor: 1.0
Risk Category: II
Internal Pressure Coefficient: ±0.18
Components and Cladding Design Pressure: 24.1 psf

SOILS INFORMATION

The following soils information was used:
Allowable Bearing Pressure: 1,500 psf
Allowable Passive Pressure: 150 pcf
Coeficient of Static Friction: 0.25

Reference:
CBC 2013, Section 1806, (Table 1806.2)

SNOW LOADS

The following snow load information was used:
Ground Snow Load (P_g): N.A.
Flat Roof Snow Load (P_f): N.A.
Snow Exposure Factor (C_e): N.A.
Snow Load Importance Factor (I): N.A.
Thermal Factor (C_t): N.A.

EARTHQUAKE DESIGN DATA

The following earthquake design data was used:
N.A. Complies with perscriptive method

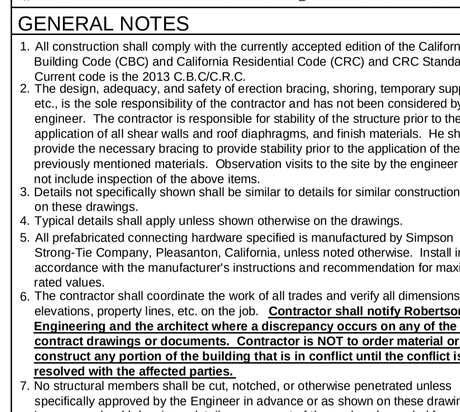
OPENING SIZE	KING STUDS	TRIMMERS
UP TO 4'-0"	(1) 2X4 OR (1) 2X6	(1) 2X4 OR (1) 2X6
4'-1" TO 6'-0"	(2) 2X4 OR (1) 2X6	(1) 2X4 OR (1) 2X6
6'-1" & GREATER	(2) 2X4 OR (2) 2X6	(2) 2X4 OR (2) 2X6

MAX. PLATE HEIGHT IS 10'. FOR WALLS GREATER THAN 10' IN HEIGHT SEE FRAMING PLANS FOR WALL FRAMING SPECS.

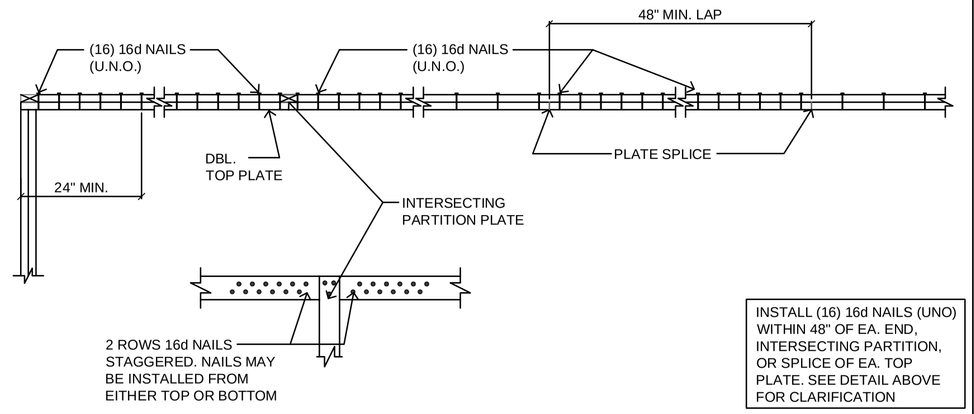
TYP. HEADER FRAMING DETAIL

NOTE:
CONSTRUCTION & CONTROL JOINTS TO HAVE A MAX. SPACING OF 30 TIMES THE SLAB THICKNESS w/ LENGTH TO WIDTH RATIOS NOT TO EXCEED 1 1/2 TO 1, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

SLAB CONTROL JOINT DETAIL

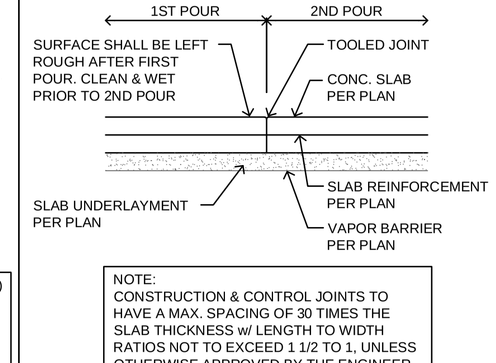


STANDARD BEAM POCKET



INSTALL (16) 16d NAILS (UNO) WITHIN 48" OF EA. END, INTERSECTING PARTITION, OR SPLICE OF EA. TOP PLATE. SEE DETAIL ABOVE FOR CLARIFICATION

DBL. TOP PLATE SPLICE DETAIL



NOTE:
CONSTRUCTION & CONTROL JOINTS TO HAVE A MAX. SPACING OF 30 TIMES THE SLAB THICKNESS w/ LENGTH TO WIDTH RATIOS NOT TO EXCEED 1 1/2 TO 1, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

SLAB CONSTRUCTION JOINT DETAIL

Robertson Engineering
3111 FITE CIRCLE, #101B
SACRAMENTO, CALIFORNIA 95827
Phone: 916-363-7021 Fax: 916-363-7027

November 16, 2016

RICHLAND HOUSEING
YUBA CITY, CA

NO.	DATE	REVISIONS

PROJECT MANAGER
RICK ROBERTSON

DRAFTER
RMR

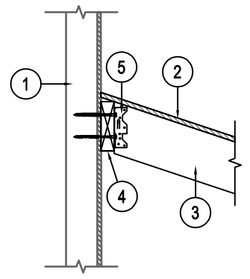
1ST PLAN SUBMITTAL

SCALE
N.T.S.

CONST. SET ISSUED

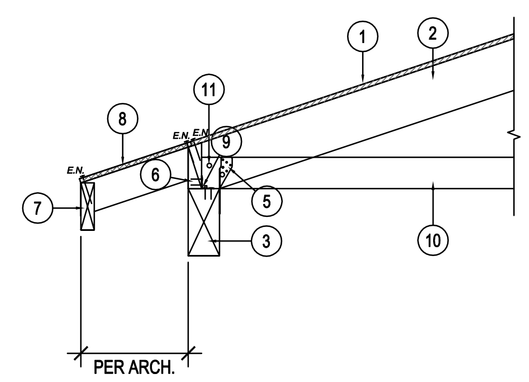
JOB NO.
215230

SHEET
SD1



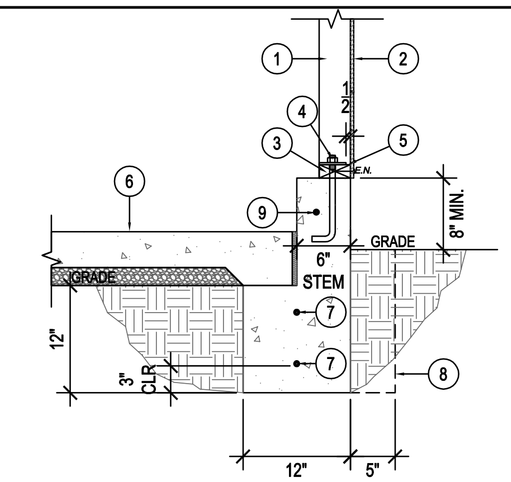
1. EXISTING BEARING WALL
2. ROOF SHEATHING PER PLAN
3. RAFTERS PER PLAN
4. 2X6 LEDGER WITH (2) SDS 1/4X4-1/2" WOOD SCREWS IN EACH STUD
5. A35 CLIP EACH RAFTER TO LEDGER

13 LEDGER ATTACHMENT DETAIL 9



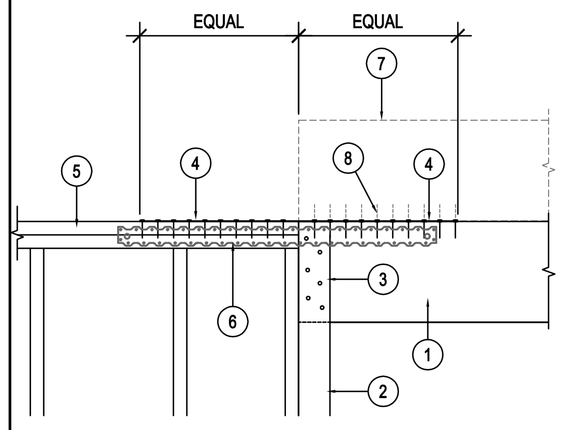
1. ROOF SHEATHING PER PLAN
2. RAFTERS PER PLAN
3. HEADER PER PLAN
4. NOT USED
5. H2.5T CLIP EACH RAFTER TO WALL TOP PLATE
6. 2X BLOCKING
7. FACIA PER ARCH.
8. CCX PLYWOOD OR PER ACHITECTRUAL EAVE DETAIL
9. A35 CLIP EACH BLOCK TO WALL TOP PLATE
10. CEILING JOISTS WHERE OCCURS
11. NAIL RAFTER TO CEILING JOISTS WITH 2-16d SINKERS U.N.O.

RAFTER EAVE 5



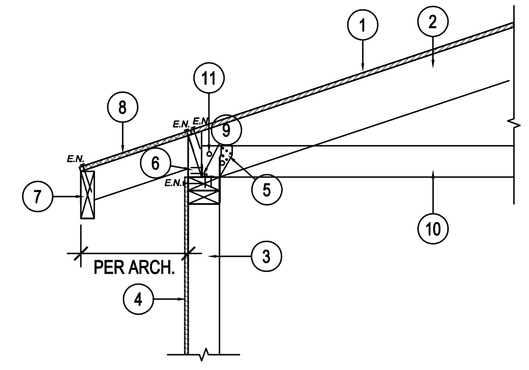
1. 2X BEARING WALL - 16" O.C. STUD SPACING U.N.O.
2. WALL SHEATHING PER PLAN
3. 2X P.T. SILL PLATE AND PER SHEAR WALL SCHEDULE
4. 5/8" DIA. ANCHOR BOLTS W/ 3"X3"X0.229" PLATE WASHERS. MIN. 7" EMBEDMENT. SPACE AT 4'-0" O.C. AND PER SHEAR WALL SCHEDULE PER PLAN
5. AT P3, P4, P5, & P6 SHEAR WALLS ANCHOR BOLTS ARE TO BE PLACED SUCH THAT THE EDGE OF THE WASHER IS NOT MORE THAN 1/2" FROM THE FACE OF THE SHEATHING
6. GARAGE SLAB PER PLAN
7. #4 REBAR TOP AND BOTTOM
8. FOOTING FOR EXTEIOR WAINSCOT WHERE OCCURS PER ARCH.
9. ADDITIONAL #4 BAR IN STEM

GARAGE PERIMETER FOOTING 1



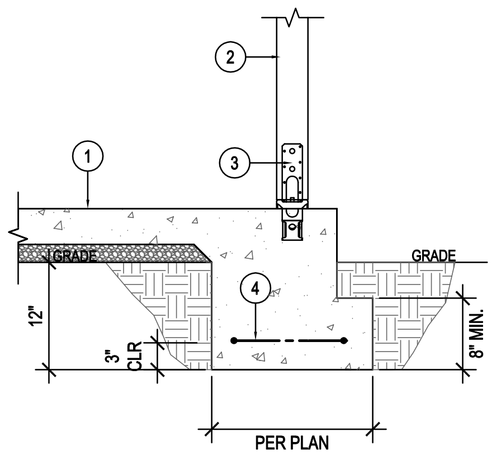
1. BEAM PER PLAN
2. POST PER PLAN IN WALL
3. KING STUD. SEE STANDARD BEAM POCKET ON SHEET SD1
4. STRAP PER PLAN
5. WALL TOP PLATE
6. STRAP MAY BE INSTALLED TO THE SIDE OF THE BEAM AND WALL TOP PLATE AS AN ALTERNATE
7. RAISED BEAM WHERE OCCURS
8. AT RAISED BEAM CONDITION, NAIL STRAP TO TOP OF WALL AND UNDERSIDE OF BEAM

14 BEAM TO WALL STRAP 10



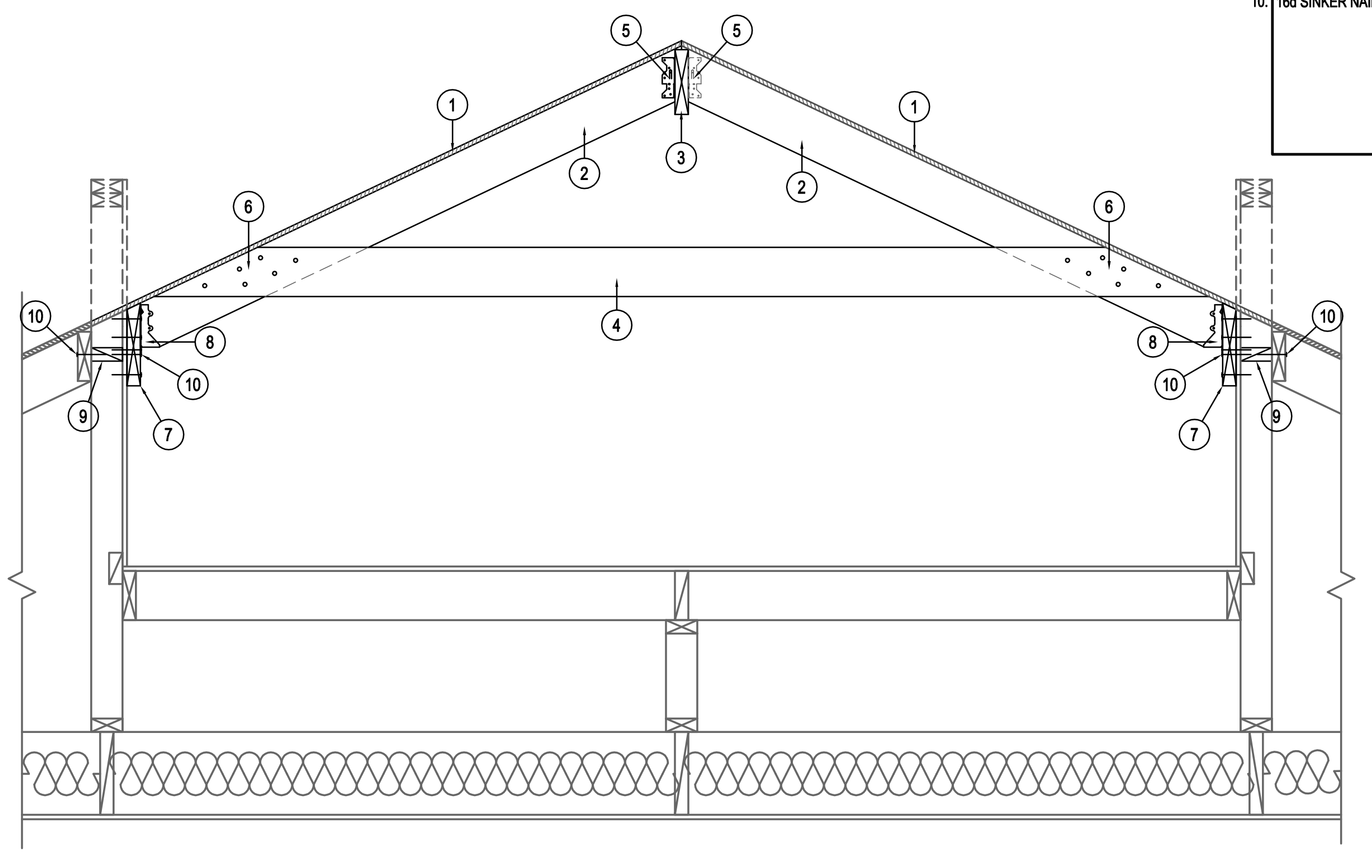
1. ROOF SHEATHING PER PLAN
2. RAFTERS PER PLAN
3. BEARING WALL 16" O.C. STUD SPACING U.N.O.
4. WALL SHEATHING PER PLAN
5. H2.5T CLIP EACH RAFTER TO WALL TOP PLATE
6. 2X BLOCKING
7. FACIA PER ARCH.
8. CCX PLYWOOD OR PER ACHITECTRUAL EAVE DETAIL
9. A35 CLIP EACH BLOCK TO WALL TOP PLATE
10. 2X4 CEILING JOISTS AT 24" O.C. WHERE OCCURS
11. NAIL RAFTER TO CEILING JOISTS WITH 2-16d SINKERS U.N.O.

RAFTER EAVE 6



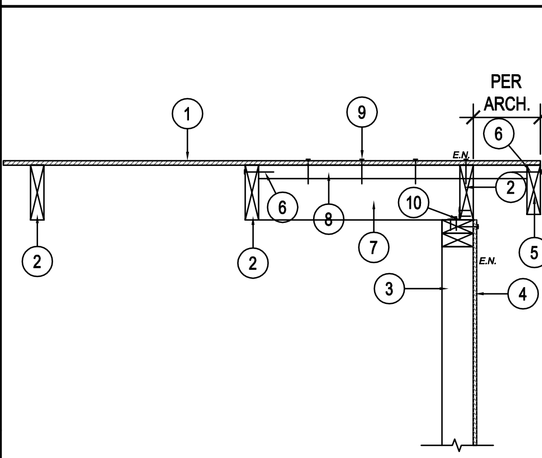
1. PATIO SLAB
2. BEARING POST PER PLAN
3. POST BASE PER PLAN
4. REBAR PER PLAN

PAD FOOTING AT PATIO SLAB EDGE 2



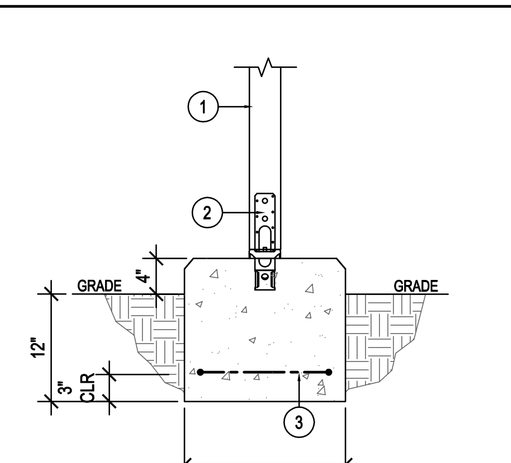
1. ROOF SHEATHING PER SHEET S2
2. 2X6 RAFTERS AT 24" O.C.
3. 2X8 RIDGE
4. 2X6 COLLAR TIES AT 24" O.C.
5. A35 CLIP RAFTER TO RIDGE BEAM - ALTERNATE SIDES OF RAFTERS TO AVOIDE DOUBLE NAILING
6. NAIL COLLAR TIES TO RAFTERS WITH 6-16d SINKER NAILS
7. 2X10 LEDGER WITH 4-16d SINKERS IN EACH EXISITNG STUD
8. U26 HANGER
9. 2X BLOCKING BETWEEN EXISTING STUDS
10. 16d SINKER NAILS INTO BLOCKING

REVISED ROOF DETAIL 11



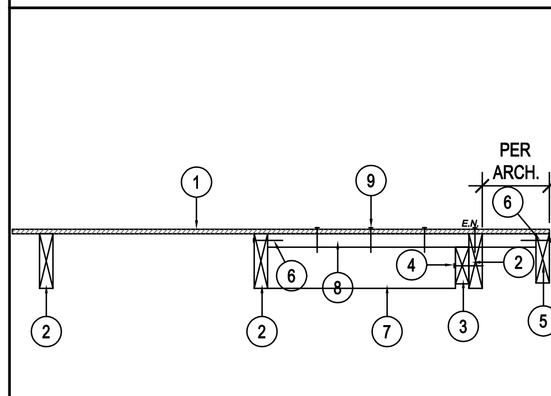
1. ROOF SHEATHING PER PLAN
2. RAFTERS PER PLAN
3. BEARING WALL 16" O.C. STUD SPACING U.N.O.
4. WALL SHEATHING PER PLAN
5. 2X BARGE RAFTER
6. 2-16d SINKERS INTO OUTLOOKERS
7. 2X FULL HEIGHT BLOCKING TO MATCH RAFTER DEPT AT 48" O.C.
8. 4X2 OUTLOOKERS AT 48" O.C. U.N.O.
9. 3-8d COMMONS AT 6" O.C. INTO BLOCKING
10. A35 CLIPS AT 24" O.C.

RAFTER GABLE END 7



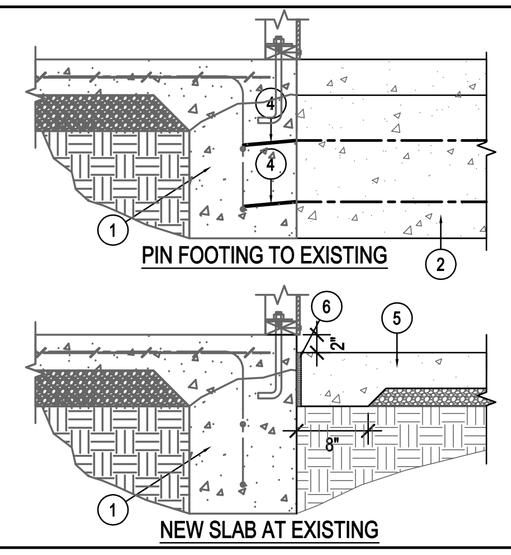
1. BEARING POST PER PLAN
2. POST BASE PER PLAN
3. REBAR PER PLAN

PAD FOOTING AT BACK COVER 3



1. ROOF SHEATHING PER PLAN
2. RAFTERS PER PLAN
3. ADDITIONAL 2X4 DF No. 2 SCAB FULL LENGTH OF RAFTER
4. 16d SINKERS AT 6" O.C.
5. 2X BARGE RAFTER
6. 2-16d SINKERS INTO OUTLOOKERS
7. 2X FULL HEIGHT BLOCKING TO MATCH RAFTER DEPT AT 48" O.C.
8. 4X2 OUTLOOKERS AT 48" O.C. U.N.O.
9. 3-8d COMMONS AT 6" O.C. INTO BLOCKING
10. A35 CLIPS AT 24" O.C.

RAFTER GABLE END 8



1. EXISTING SLAB FOOTING
2. NEW FOOTING
3. NEW SLAB
4. PIN NEW FOOTING TO EXISTING WITH #4 REBAR PINS TOP AND BOTTOM. EMBED 6" INTO EXISTING WITH SIMPSON EPOXY-SETXP ADHESIVE.
5. NEW STORAGE ROOM SLAB PER PLAN
6. 1/2" FOAM SPACER

NEW SLAB FOOTING/SLAB TO EXISTING 4

Robertson Engineering
3111 FITE CIRCLE, #101B
SACRAMENTO, CALIFORNIA 95827
Phone: 916-363-7021 Fax: 916-363-7027

November 16, 2016

RICHLAND HOUSEING
YUBA CITY, CA

REVISIONS

NO.	DATE

PROJECT MANAGER
RICK ROBERTSON

DRAFTER
RMR

1ST PLAN SUBMITTAL

SCALE
N.T.S.

CONST. SET ISSUED

JOB NO.
215230

SHEET
SD2