NEW CONSTRUCTION → SHEAR WALL SCHEDULE (See Notes)

SHEAR WALL TYPE (FIELD–BUILT) (A)	C–D or OSB SHEATHING APA RATED (A)	EDGE NAILING (2)(13) Common Nails @ (B)	JOISTS or BLOCKS TO TOP PLATE SIMPSON ANCHOR (C)	SOLE PLATE TO JOISTS or BLK'G (interior section) SDS ¼"Ø x4.5"wood screw (Notes 11,15 &17) (D)	SILL BOLTS TO CONCRETE ⅝"Ø x 12" at (Notes 1,3, &18) (E)	ALLOWABLE SHEAR LOAD
1	3/8"	8d @6" o.c.	A35 at 16" o.c. (24" o.c. at ROOF)	1 screw @16" o.c.	48" o.c. 3x SILL PLATE	260 lb/ft
2	3/8"	8d @4" o.c.	A35 at 16" o.c.	1 screw @16" o.c.	48" o.c. 3x SILL PLATE	350 lb/ft
3	3/8"	8d @3" o.c. (Note 1)	2–A35 at 16" o.c.	2 screws @16" o.c.	32" o.c. 3x SILL PLATE	490 lb/ft
4	3/8"	8d @2" o.c. (Note 1)	2–A35 at 16" o.c.	2 screws @16" o.c.	24" o.c. 3x SILL PLATE	640 lb/ft
5	1/2"	10d @6" o.c.	A35 at 16" o.c.	1 screw @16" o.c.	48" o.c. 3x SILL PLATE	310 lb/ft
6	1/2"	10d @4" o.c. (Note 1)	2–A35 at 16" o.c.	2 screws @16" o.c.	32" o.c. 3x SILL PLATE	460 b/ft
7	1/2"	10d @3" o.c. (Note 1)	2–A35 at 16" o.c.	2 screws @16" o.c.	24" o.c. 3x SILL PLATE	600 lb/ft
8	1/2"	10d @2" o.c. (Note 1)	2–A35 at 16" o.c.	3 screws @16" o.c.	16" o.c. 3x SILL PLATE	770 lb/ft
9	3/8" EACH FACE	8d @4" o.c. (Notes 1&4)	3–A35 at 16" o.c.	3 screws @16" o.c. @16" o.c. (Notes 4,12)	16" o.c. 3x SILL PLATE	920 lb/ft
10	3/8" EACH FACE	8d @3" o.c. (Notes 1&4)	3–A35 at 16" o.c.	3 screws @16" o.c. @16" o.c. (Notes 4,12)	16" o.c. 3x SILL PLATE	980 lb/ft
11	1/2" EACH FACE	10d @3" o.c. (Notes 1&4)	3–A35 at 16" o.c.	4 screws @16" o.c. @16" o.c. (Notes 4,12)	12" o.c. 3x SILL PLATE	1200 lb/ft

ALL FIELD NAILING SHALL BE 8d COMMON at 12" o.c., (10d for 1/2")

EXISTING STRUCTURES → SHEAR WALL SCHEDULE (See Notes)

SHEAR WALL TYPE (FIELD–BUILT) (A)	CDX or OSB SHEATHING APA RATED (A)	EDGE NAILING (2)(13) 8d Common Nails @ (B)	JOISTS or BLOCKS TO TOP PLATE SIMPSON ANCHOR (C)	SOLE PLATE TO JOISTS or BLK'G (interior section) SDS ¼"Ø x4.5"wood screw (Notes 11,15, &17) (D)	SILL BOLTS TO CONCRETE ⅝"Ø x 10" at (Notes 1,3,16, &18) (E)	SHEAR LOAD
12	3/8"	6" o.c.	A35 at 24" o.c. (U.O.N. on DETAILS)	1 screw @16" o.c.	2'–8" o.c. 2x SILL PLATE	220 lb/ft
13	3/8"	4" o.c.	A35 at 16" o.c.	2 screws @16" o.c.	1'–4" o.c. 2x SILL PLATE	350 lb/ft
14	3/8"	3" o.c. (Note 1)	A35 at 16" o.c.	2 screws @16" o.c.	1'–4" o.c. 2x SILL PLATE	450 lb/ft
15	3/8"	2" o.c. (Note 1)	2–A35 at 16" o.c.	3 screws @16" o.c.	1'–0" o.c. 2x SILL PLATE	600 lb/ft

ALL FIELD NAILING SHALL BE 8d COMMON at 12" o.c.

(CONTRACTOR SHALL READ & UNDERSTAND THESE NOTES BEFORE CONSTRUCTION)

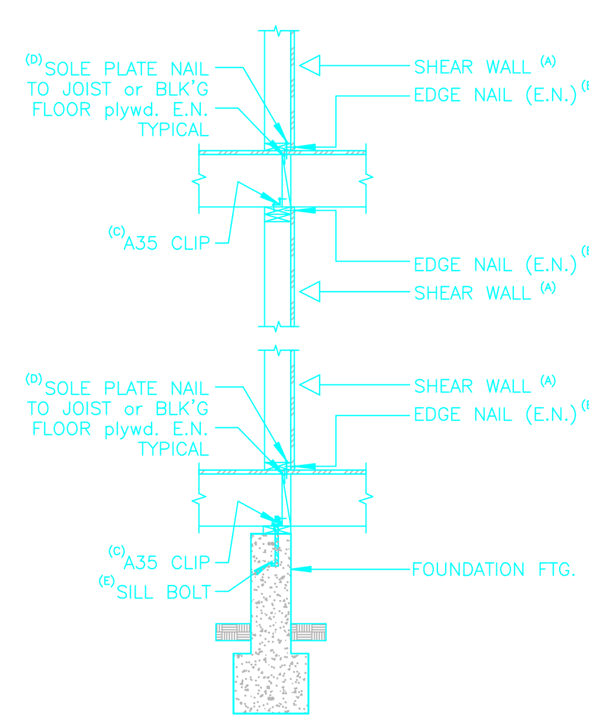
1. Where allowable shear exceeds 350 pounds per foot (plf), foundation sill plates & all members receiving edge nailing from abutting panels shall not be less than a single 3x nominal member; see note 16 for sill plate option.
2. All shear wall nails shall be of type "Common," or "Galvanized Box." Galvanized nails shall be hot–dipped or tumbled.
3. Foundation sill plates shall be pressure treated Douglas–Fir Larch No. 2 or equal lumber, see schedule for sill size. Sill anchor bolts shall be minimum 5/8" dia. (7" embedment) & spaced not more than 6'–0" apart , see shear sched. for actual spacing. For each sill bolt, minimum plate washers of 3" by 3" sq. by 1/4" thick shall be used.
4. Where panels are applied on both faces of a wall AND spacing is less than 6" o.c. on either side, panel joints shall be be offset to fall on different framing members OR framing shall be min. 3" nominal AND stagger all nails.
5. All shear wall sheathing shall extend to the bottom of the roof sheathing, u.o.n. by the details.
6. Provide stud or blocking at unsupported panel edges.
7. Extend shear sheathing over all openings for continuous shear support & uniform wall thickness.
8. Shear wall panels shall not be less than 24" in either direction, u.o.n. by the special details.
9. Framing for shear walls shall be min. 2x4 (nominal) studs, DF–L No. 2 or greater, spaced at max. 16" o.c.
10. All posts receiving holdowns shall have shear edge nailing full ht.
11. For 1–1/8" floor sheathing applications, use SDS 1/4" dia. x 6" wood screws in lieu of 4" screws.
12. SDS1/4" dia. x 6" wood screws required.
13. If gun nails are to be used, then adjust power such that the nail head does not penetrate the sheathing.
14. When ordering large quantities of nails, verify the carton label or with the MFR. that the nails have the same length and diameter values as the nails specified in note #2.
15. Simpson SDS wood screws (ICBO 5268); follow Simpson guidelines necessary to achieve full ICBO design values.
16. 2x P.T.D.F. sill plate may be used in lieu of 3x provided maximum shear does not exceed 600 plf and anchor bolts are designed & spaced at 50% or less the allowable capacity.
17. 16d (3.5" length) Common Nails may be used in lieu of SDS wood screws:
    Type 1 OR 12 shear wall: 16d Common @6" o.c.
    Type 2 OR 13 shear wall: 16d Common @4" o.c.
    Type 3 OR 14 shear wall: 16d Common @3" o.c.
    Type 4 OR 15 shear wall: 16d Common @2.5" o.c.
    16d nails shall be of type Common w/ length = 3.5" & diameter = 0.162"
18. **FOUNDATION SILL BOLTS**

Class D

* 5/8" diameter sill bolts min.
* 6'–0" o.c. max. spacing
* 7" min. embedment
3"x3"x1/4" min. plate washers
* 12" max./$7d_b$ min. from end of plates

If retrofit epoxy anchor bolts are to be used, then use SImpson ET or equal ICBO approved epoxy, drill existing foundation w/min. 7" embedment.

Note:
The anchor bolt spacing per shear wall schedule is only required when shear wall is present. When shear walls do not occur, space anchor bolts at 6'–0" max. spacing (one story). or 4'–0" o.c. (two stories)



COLLECTORS DATA :

STRAP — INDICATES A DRAG STRAP TO BE INSTALLED AT ROOF/FLOOR FRAMING–SEE DETAILS AND NOTE BELOW :

SHEATHING SHALL BE EDGE NAILED ALONG COLLECTORS. TYP.

DASHED LINE= COLLECTOR ONE ROW OF CS–16 STRAP, NAILED W/8d COMMON AT 4" o.c. THROUGH PLYWOOD INTO 3x4 SOLID BLK'G

DOUBLE DASHED LINE= COLLECTOR STRAP, NAILED W/8d COMMON AT 4" o.c. THROUGH PLYWOOD INTO 4x4 SOLID BLK'G

DENOTES A COLLECTOR ONE ROW OF CMST14 STRAP, NAILED W/16d COMMON AT 3.5" o.c. THROUGH PLYWOOD INTO 4x4 SOLID BLK'G

STRAP — 2–2x's Collector Rafters — DENOTES A COLLECTOR 2–2x's RAFTERS (OR JOISTS) SEE DETAILS

- Extend all CS16 collector straps 2'–0" over the end members. Use 8d, all holes filled, U.O.N. Field nailing to be 8d@4" o.c., Typical
- Extend all CMST14 collector straps 3'–0" over the end members. Use 16d, all holes filled, U.O.N. Field nailing to be 16d@3.5" o.c., Typical

NOTE:
SPREAD NAILS EVENLY, NOT CLOSER THAN 2" o.c.
USE 8d FOR CS16 STRAPS
USE 16d FOR CMST12 STRAPS
USE 16d FOR CMST14 STRAPS
USE 16d FOR CMST16 STRAPS
USE 16d FOR MST STRAPS

- Extend all straps beyond valey min. 24" w/ all holes filled 8(16)d common nails, Typ. Field nailing to be 8d(16d)@4" o.c., Typical
- Overlap all straps over hip rafters min. 24" w/ all holes filled 8(16)d common nails, Typ. Field nailing to be 8d(16d)@4" o.c., Typical

COLLECTOR SCHEDULE

COLL.	END LENGTH / # NAILS	FIELD NAILS SPACING
CS16	2'–0" / all holes filled	@4" o.c.
CMST14	3'–0" / all holes filled	@3.5" o.c.

LUMBER GRADE NOTES

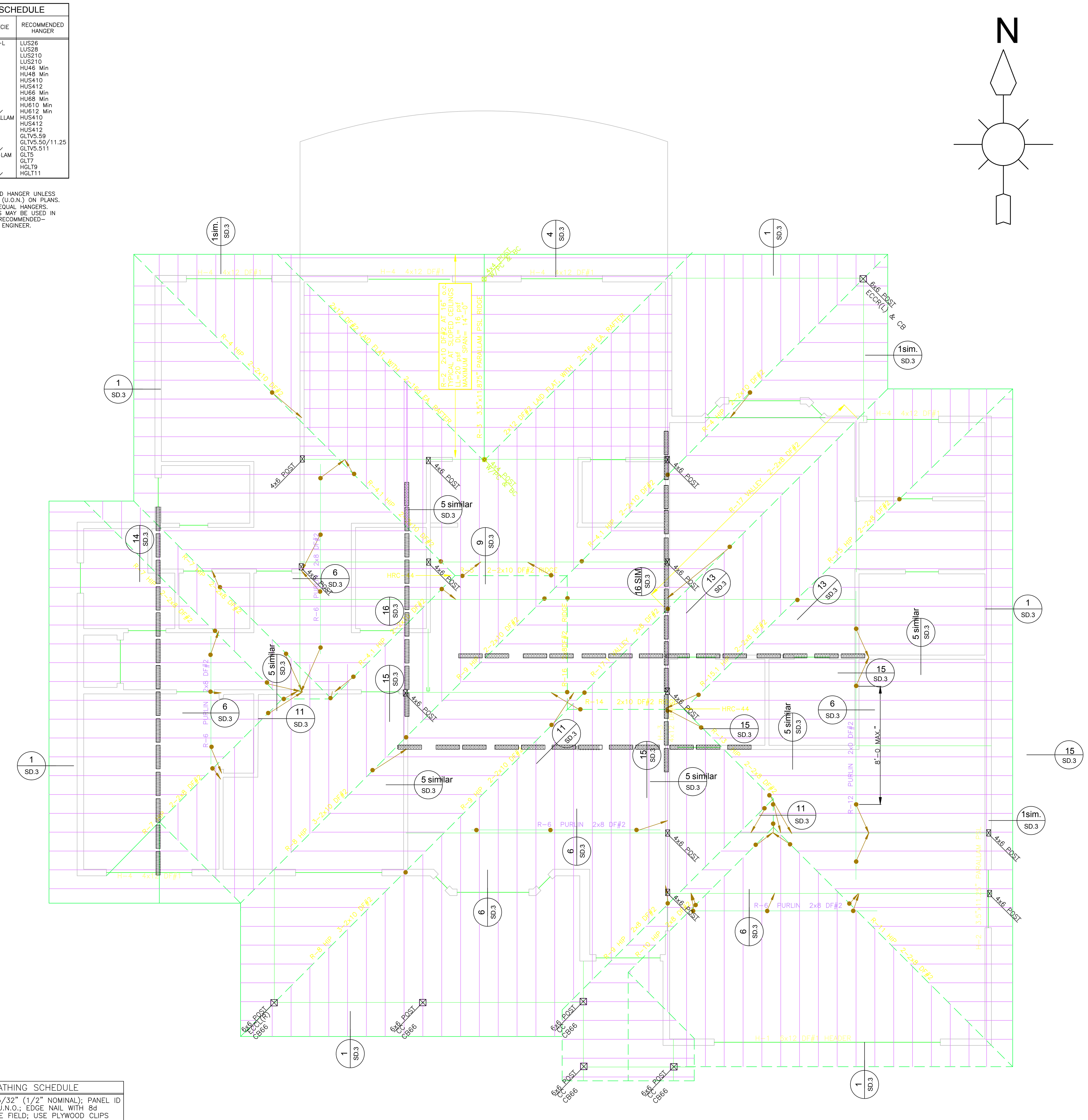
WOOD FRAMING LUMBER SHALL HAVE THE FOLLOWING GRADES UNLESS NOTED OTHERWISE ON PLANS:

SILL PLATE	PRESSURE TREATED DOUGLAS FIR–LARCH
STUDS	DOUGLAS FIR–LARCH #2
RAFTERS	DOUGLAS FIR–LARCH #2
JOISTS	DOUGLAS FIR–LARCH #2
PLATES	DOUGLAS FIR–LARCH #2
HEADERS	DOUGLAS FIR–LARCH #2
POSTS (4x & LESS)	DOUGLAS FIR–LARCH #2
POSTS (5x & GREATER)	DOUGLAS FIR–LARCH #1
BEAMS (4x & LESS)	DOUGLAS FIR–LARCH #2
BEAMS (5x & GREATER)	DOUGLAS FIR–LARCH #1
GLU–LAM BEAMS	24F–V4 DF/DF
PARALLAM	PSL 2.0E
MICROLLAM	LVL 2.0E

HANGER SCHEDULE

JOIST or BEAM	SPECIE	RECOMMENDED HANGER
2x6	DF–L	LUS26
2x8	↓	LUS28
2x10		LUS210
2x12		LUS210
4x6		HU46 Min
4x8		HU48 Min
4x10		HUS410
4x12		HUS412
6x6		HU66 Min
6x8		HU68 Min
6x10		HU610 Min
6x12	↓	HU612 Min
3.5"x9.5"	PARALLAM	HUS410
3.5"x11.25"	↓	HUS412
3.5"x11.875"		HUS412
5.25"x9.5"		GLTV5.59
5.25"x11.25"		GLTV5.50/11.25
5.25"x11.875"	↓	GLTV5.511
5.125"x12"	GLU–LAM	GLT5
6.75"x12"	↓	GLT7
8.75"x12"		HGLT9
10.75"x12"	↓	HGLT11

NOTES:
(1) USE RECOMMENDED HANGER UNLESS OTHERWISE NOTED (U.O.N.) ON PLANS.
(2) USE SIMPSON or EQUAL HANGERS.
(3) OPTIONAL HANGERS MAY BE USED IN LIEU OF WHAT IS RECOMMENDED– CONSULT PROJECT ENGINEER.



ROOF and FLOOR SHEATHING SCHEDULE

ROOF SHEATHING SHALL BE APA RATED 15/32" (1/2" NOMINAL); PANEL ID INDEX 32/16; EXPOSURE 1; UNBLOCKED U.N.O.; EDGE NAIL WITH 8d COMMON NAILS at 6" o.c. AND 12" IN THE FIELD; USE PLYWOOD CLIPS AT UNSUPPORTED EDGES.

FLOOR SHEATHING SHALL BE APA RATED 23/32" (3/4" NOMINAL); T&G; PANEL ID INDEX 48/24; EXPOSURE 1; UNBLOCKED U.N.O.; EDGE NAIL WITH 8d COMMON NAILS at 6" o.c. AND 10" IN THE FIELD.

NOTE:
ORIENTED STRAND BOARD (OSB) STRUCTURAL PANEL SHEATHING MAY BE USED IN LIEU OF CDX PLYWOOD. OSB PANELS MUST MEET UNITED STATES DEPARTMENT OF COMMERCE VOLUNTARY PERFORMANCE STANDARD PS2–92 "PERFORMANCE STANDARD FOR WOOD BASED STRUCTURAL USE PANELS" AND/OR CANADIAN PERFORMANCE STANDARD CSA 0325 "CONSTRUCTION SHEATHING." OSB CERTIFIED MARKS (APA, TECO, OR PSI) ARE EXAMPLES OF ICBO APPROVED & PS 292 QUALIFIED PANELS.

VERY IMPORTANT

SEE DETAIL 10/SD–3 FOR THE OLD WALLS THAT NEED EXTENSION

ALL METAL ANCHORS, FASTENERS, CONNECTORS ETC THAT WILL BE IN CONTACT WITH PRESSURE TREATED LUMBER, MUST BE HOT–DIPPED GALVANIZED OR OTHER APPROVED CORROSION RESISTENT MATERIAL.
ANCHOR BOLTS, HOLD DOWN ANCHOR BOLTS AND ALL OTHER INSERTS, SHALL BE POSITIONED IN PLACE, PRIOR TO CALLING FOR FOUNDATION INSPECTION

ROOF FRAMING PLAN

SCALE: 1/4"=1'-0"

IF THIS PROJECT IS A REMODEL OF, OR AN ADDITION TO AN EXISTING STRUCTURE, THE FOLLOWING APPLIES: THE INVESTIGATION OF THE MEMEBERS OF THE EXISTING STRUCTURE THAT ARE TO BE REUSED IN THE NEW STRUCTURAL SYSTEM, IS NOT COVERED BY THIS DESIGN CONTRACT. SINCE THOSE MEMBERS ARE NOT EXPOSED AT THIS TIME, THEIR STRUCTURAL SOUNDNESS IS NOT KNOWN. SUCH AN INVESTIGATION MAY TAKE PLACE AFTER THE COMMENCEMENT OF THE CONSTRUCTION PROCESS. AT THE TIME THE FRAMING WILL BE EXPOSED, THE OWNER, WITH HIS CONTRACTOR, HAVE THE RESPONSIBILITY TO CONDUCT SUCH AN INVESTIGATION. SHOULD A DISCREPANCY BETWEEN THE DESIGN SPECIFIED ASSUMPTIONS FOR THOSE STRUCTURAL MEMBERS AND THE ACTUAL CONDITIONS ARISE, THE OWNER AND HIS CONTRACTOR SHOULD NOTIFY THIS ENGINEER (JOHN POPA), IN WRITTING. OUR OFFICE WILL, THEN, RECOMMEND THE APPROPRIATE SOLUTIONS. FAILURE TO NOTIFY THIS ENGINEER, WILL RLEASE THIS ENGINEER OF ANY LIABILITY. BY ACCEPTING THIS WORK, BOTH, THE OWNER AND THE CONTRACTOR COMFIRM THE ACCEPTANCE OF THEIR RESPONSIBILITIES, AS STATED HEREIN.

POPA ENGINEERS
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REGISTERED PROFESSIONAL ENGINEER — JOHN P. POPA — No. C038645 — Exp. 3/31/13 — STATE OF CALIFORNIA

JOHN POPA
R.C.E. C038645, CA
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JOB TITLE

BEFFA RESIDENCE
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Cupertino CA 95014

REVISION
△ PER PLAN CHECK
△ ENGINEERING

PROJECT #: 11020	DATE: May 2011
DRAWN BY: jp	SCALE: 1/4"=1'-0"
PROJECT MANAGER: jp	
ENGINEERED BY: jp	
REVIEWED BY: John	

ROOF FRAMING PLAN

AutoCAD 14
Arch. "D" Sheet
1/4"=1'-0"

S3

(BOND PRINTS RECOMMONDED WHEN REPRODUCING)
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