

HAWAII STATE, HAWAII COUNTY

Codes: 2018 IBC/IRC, 2017 NEC, 2018 IPC, 2018 UPC, 2018 IECC, 2018 IEBC  
Occupancy: R3  
Construction Type: VB  
Fire Sprinklers: No

Wind:  
Exposure Category Zone: C  
Topographic Factor: Kzt: 1.40  
Veff-asd = 116MPH, per table 1609.3.1  
(2018 Hawaii State Building Code)  
(2018 Hawaii County Building Code)

Seismic:  
Site Class: C, SDC "D2"  
(per R301.2.2.1.2)  
Ss = 1.920, S1 = 0.880

Roof Live Load: 20 PSF  
Floor Live Load: 40 PSF

PROJECT DATA - New  
Lot Area: .6281 A - 32,629 SF  
Inside Area Exist: 2034 SF  
Inside Area New: 0 SF  
Garage Exist: 576 SF  
Garage New: 480 SF  
Lanai Exist: 786 SF  
Lanai New: 0 SF

ENERGY CONSERVATION CODE OF HAWAII COUNTY  
Subsection R103.1, 2015 IECC

I, Walter Stewart Fullerton, Architect, Hawaii - AR10857  
Do hereby certify that, to the best of my knowledge,  
"The project complies with this code," as it applies.

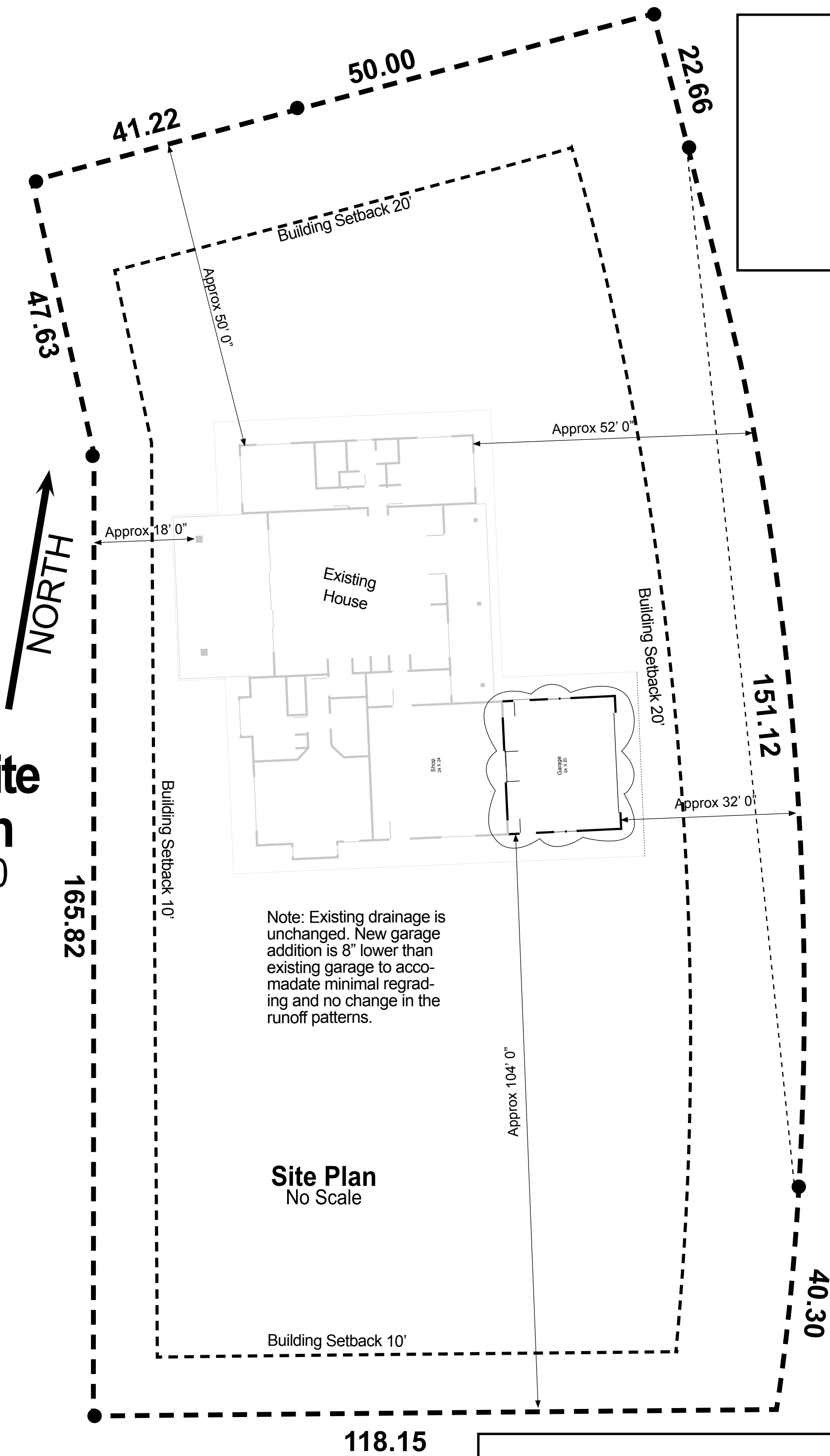
Walter Stewart Fullerton - Expiration: 04-30-2024

SHEET SCHEDULE

- T01 - Title Sheet & Site Plan  
A01 - Floor Plan & Schedules  
A02 - Shear Wall Plan & Schedules  
A03 - Sections & Details  
A04 - Elevations  
A05 - Foundation Plan & Details  
A06 - Roof Framing & Details  
A07 - Wall Framing & Details  
A08 - Specifications  
A09 - Notes  
A10 - Energy Conservation  
E01 - Electrical Plan & Notes

Wendell & Linda White  
Residential Addition

75-5608 Hienaloli Rd, # 30  
Kailua Kona, HI 96740  
TMK: 7-5-034-030  
PandlWhite@Gmail.com  
425-785-3205



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These documents are for limited publication only. The architect will not certify construction compliance with the energy code elements performed or provided by the owner or contractors. The energy "compliance certificate" shall be posted as directed by building official.  
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REVISIONS	
Date:	By:

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**WALTER STEWART FULLERTON**  
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License # AR 10857  
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Design Solutions  
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Richard@SurfHawaii.net • 808-896-0314

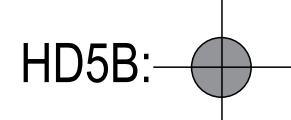
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Kailua Kona, HI 96740  
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Title Sheet & Site Plan	
Date:	04-15-2023
Scale:	Varies
Page:	1 of 12
	T01







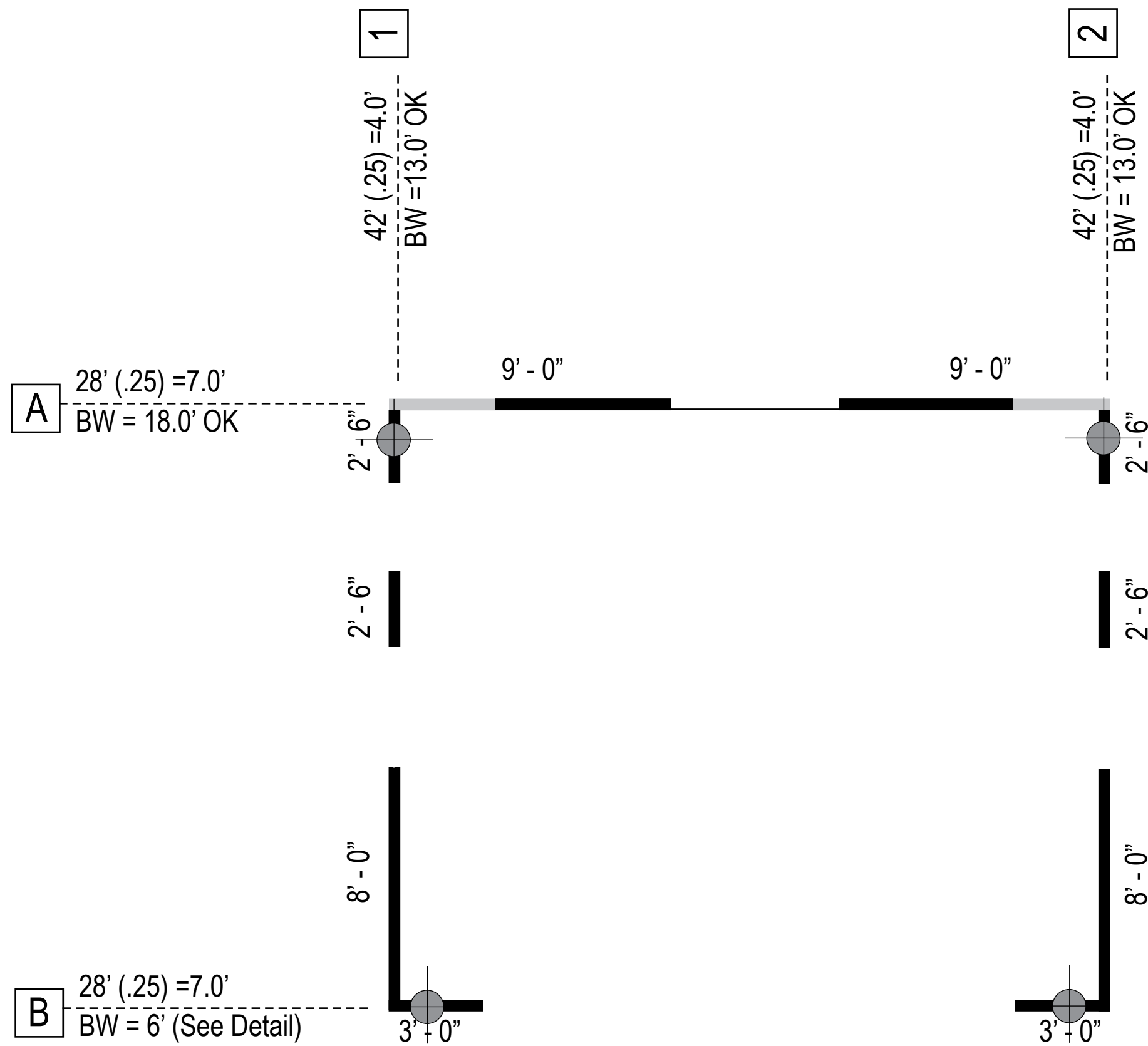


Anchor Bolts @ 32"

SW# Typ All Walls

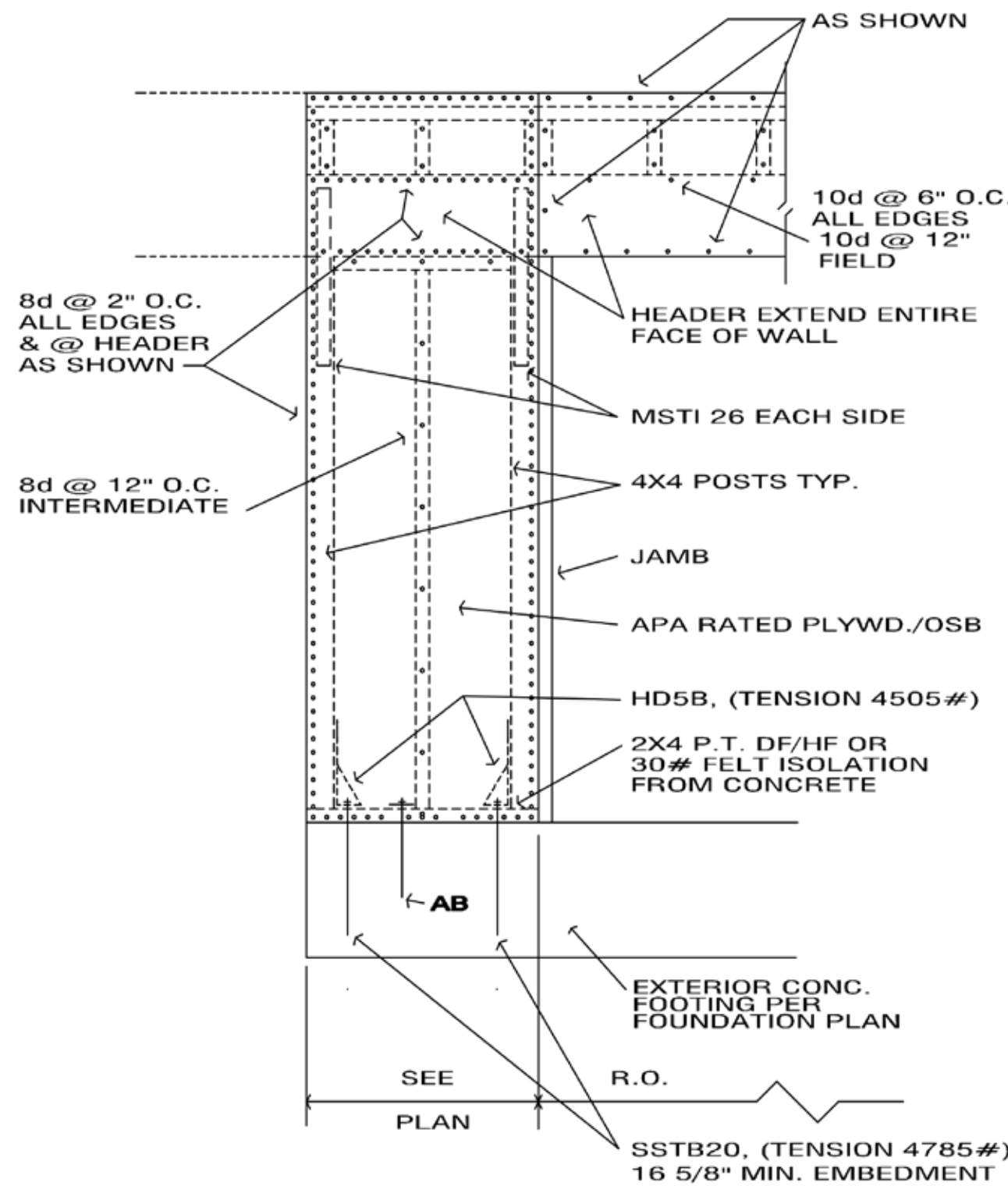
RD# Typ All Roofs

FD# Typ All Floors



Shear Wall Plan  
1/4" = 1' - 0"

KEY:  
Exiting Construction -   
New Construction -



## SHEAR WALL DETAIL

NTS

## BRACED WALL

## SHEAR WALL SCHEDULE

SW#	SHEAR WALL SHEATHING {THICK SIDE}	EDGE NAILING (IN. O.C.)	ANCHOR BOLTS (IN. O.C.)	BOTTOM PLATE (IN. O.C.)	RIM/BLK TO TOP PLATE (IN. O.C.)	ALLOW SHEAR (KLF)	NOTES
A	15/32" RS (1)	10d @ 6"	5/8" @ 40"	16d @ 5	16d @ 3T	0.31	1
B	15/32" RS (1)	10d @ 4"	5/8" @ 32"	16d @ 3	16d @ 2T	0.46	1, 3
C	15/32" RS (1)	10d @ 3"	5/8" @ 24"	16d @ 2	16d @ 2T	0.60	1, 3, 5
D	15/32" RS (1)	10d @ 2"	5/8" @ 16"	16d @ 2	A35 @ 10	0.77	1, 3, 5
E	15/32" RS (2)	10d @ 4"	5/8" @ 16"	2-16d @ 3	A35 @ 9	0.92	1, 4, 5
F	15/32" RS (2)	10d @ 3"	5/8" @ 12"	2-16d @ 3	2-A35 @ 12	1.20	1, 3, 5
G	15/32" RS (2)	10d @ 2"	5/8" @ 8"	2-16d @ 2	2-A35 @ 10	1.54	1, 3, 5

KEY: T = TOE NAILING; RS = RATED SHEATHING 15/32" {GR. I/II SPECIES}

GENERAL NOTES (APPLY TO ALL SHEAR WALLS)

- FOR RATED SHEATHING PANELS, SPACE NAILS @ 12" (305MM) O.C. ALONG INTER-MEDIATE FRAMING MEMBERS.
- BLOCK ALL PANEL EDGES WITH MINIMUM 2X (51MM) BLOCKING.
- APPLY NAILING TO ALL STUDS, TOP AND BOTTOM PLATES AND BLOCKING.
- FRAMING SHALL BE A MAXIMUM OF 24" (610MM) O.C.
- FASTENERS SHALL BE DRIVEN FLUSH WITH SURFACE OF SHEATHING.

SPECIAL NOTES FOR SHEAR WALLS (APPLY TO WALLS SPECIFICALLY NOTED)

- APA RATED SHEATHING EXP1/EXP2/EXT OR C-C/C-D/STRUCT II PLYWOOD.
- STRUCT I APA RATED SHEATHING EXP1/EXT OR STRUCT I PLYWOOD.
- PROVIDE 3X's (76MM) AT ADJOINING PANEL EDGES W/NAILS STAGGERED.
- OFFSET PANEL JOINTS ON EACH SIDE OF WALL MINIMUM ONE STUD BAY.
- PROVIDE MINIMUM 3X (76MM) BLOCKING OR JOISTS BENEATH BOTTOM PLATE WITH BOTTOM PLATE NAILS STAGGERED.

## DIAPHRAGM SCHEDULE

ROOF DIAPHRAGM		15/32" SHEATHING W/8d COMMON				
RD #	DIAPHRAGM CASE	NAILING (IN. O.C.)		ALLOW SHEAR (KLF)	NOTES	
		BNDRY.	INTRMED. EDGE			
A	UNBLOCKED OTHER	—	12	6	0.21	1
B	UNBLOCKED CASE 1	—	12	6	0.28	1
C	BLOCKED	6	12	6	0.32	1,9
D	BLOCKED	4	12	6	0.42	1,9
E	BLOCKED	2.5	12	4	0.64	1,3,9
F	BLOCKED	2	12	3	0.73	1,3,9
G	BLOCKED	4	12	6	0.93	1,5,6,9
H	BLOCKED	4	12	4	1.30	1,5,6,9
J	BLOCKED	2.5	12	3	1.51	1,5,6,7,9
K	BLOCKED	2.5	12	3	1.81	2,5,6,7,9

FLOOR DIAPHRAGM		23/32" SHEATHING W/10d COMMON				
FD #	DIAPHRAGM CASE	NAILING (IN. O. C.)			ALLOW SHEAR (KLF)	NOTES
		BNDRY.	INTRMED.	EDGE		
L	UNBLOCKED OTHER	—	12	6	.21	1
M	UNBLOCKED CASE 1	—	12	6	0.28	1
N	BLOCKED	6	12	6	.32	1,9
O	BLOCKED	4	12	6	.42	1,9
P	BLOCKED	2.5	12	4	.64	1,3,9
Q	BLOCKED	2	12	3	.73	1,3,9
R	BLOCKED	4	12	6	.93	1,5,6,9
S	BLOCKED	4	12	4	1.30	1,5,6,9
T	BLOCKED	2.5	12	3	1.51	1,5,6,7,9
U	BLOCKED	2.5	12	3	1.81	1,5,6,7,9
FD = FLOOR DIAPHRAGM				{GR. I/II SPECIES}		

GENERAL NOTES

- STAPLES ARE NOT ACCEPTABLE FOR STRUCTURAL APPLICATIONS.
- FASTENERS SHALL BE DRIVEN FLUSH WITH SHEATHING SURFACE.
- PROVIDE BOUNDARY NAILING @ CONT. PANEL EDGES CASES 3 & 4.
- PROVIDE BOUNDARY NAILING @ ALL PANEL EDGES CASES 5 & 6.
- THE HIGH-LOAD SHEAR VALUES AS LISTED IN IRC/IBC.
- ALL FLOOR DIAPHRAGMS SHALL BE GLUED TO FRAMING MEMBERS.

SPECIAL NOTES (APPLY TO DIAPHRAGMS SPECIFICALLY NOTED).

- APA RATED SHEATHING, STURD-I-FLOOR EXP1/EXP2/EXT OR C-C/C-D PLYWOOD.
- STRUCT I APA RATED SHEATHING EXP1/EXT OR STRUCT I PLYWOOD.
- PROVIDE 3X's (76MM) AT ADJOINING PANEL EDGES, STAGGER NAILS.
- ALL MEMBERS TO BE 4X MIN. W/2 FASTENER LINES.
- ALL MEMBERS TO BE 4X MIN. W/3 FASTENER LINES.
- SPECIAL INSPECTION REQD. PER (IRC/IBC).
- PROVIDE BDRY. NAILING @ ALL PANEL EDGES CASES 3, 4, 5, & 6.
- ALL MEMBERS TO BE 3X (76MM) MINIMUM.
- SOLID BLOCKING USE SIMPSON "Z2"

## REVISIONS

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LICENSE  
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AR 10857  
HAWAII, U.S.A.

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Drawing:

**Shear Wall Plan & Schedules**

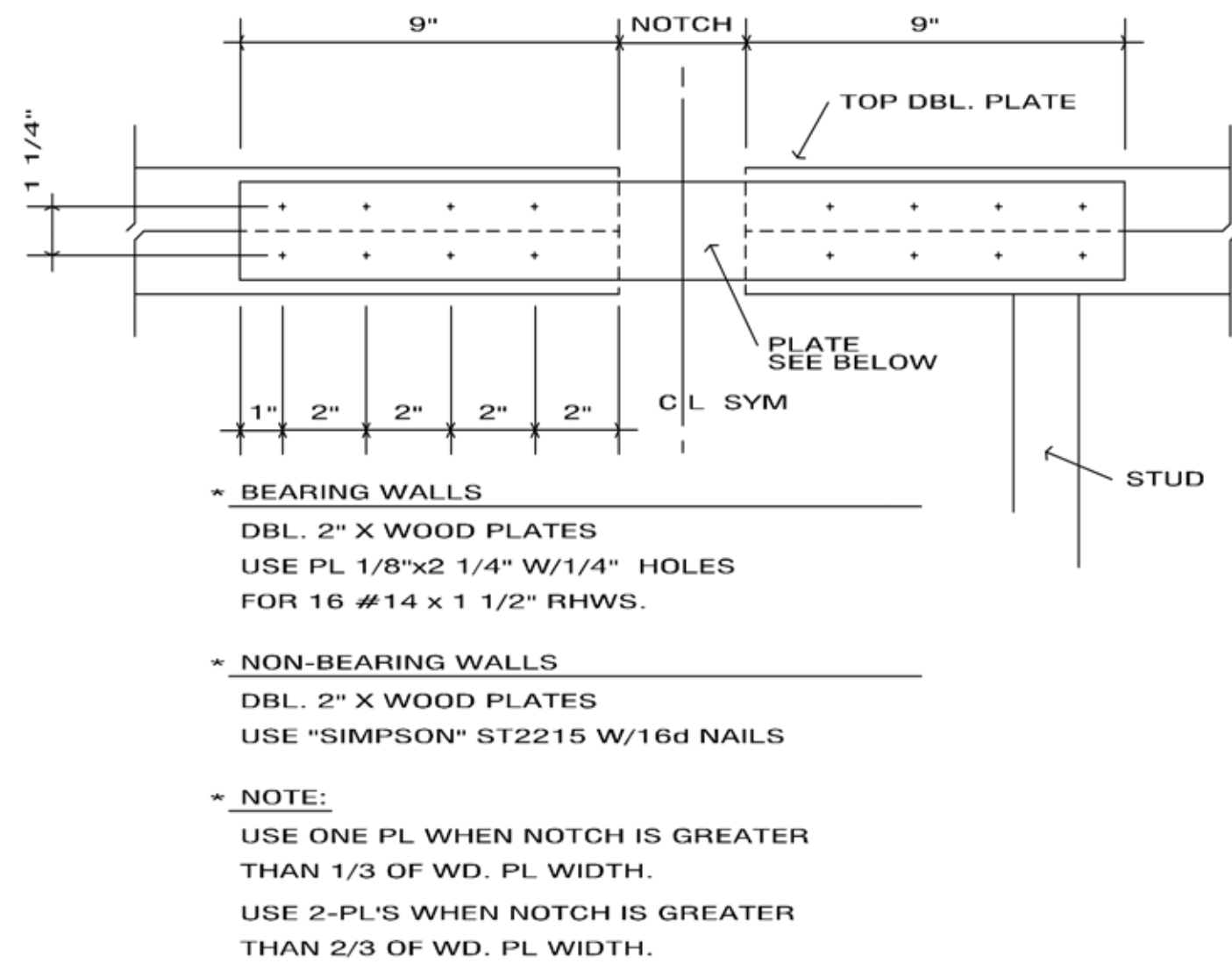
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Scale: **1/4" = 1' 0"**

**3**  
of  
**12**

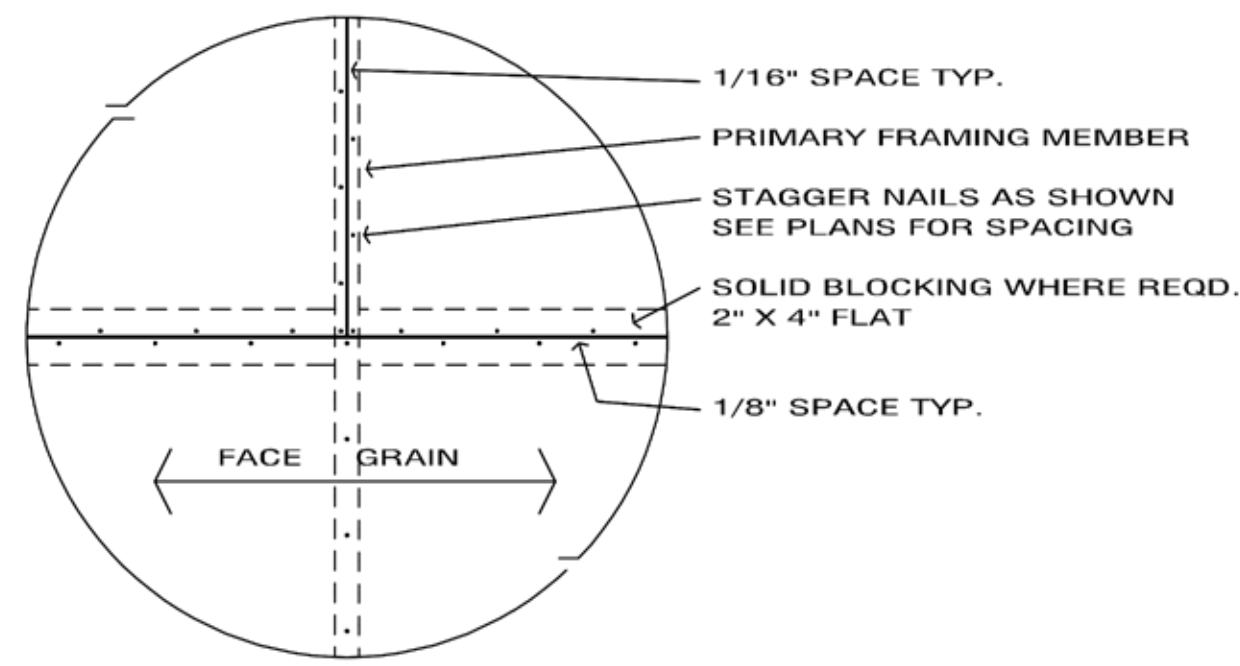
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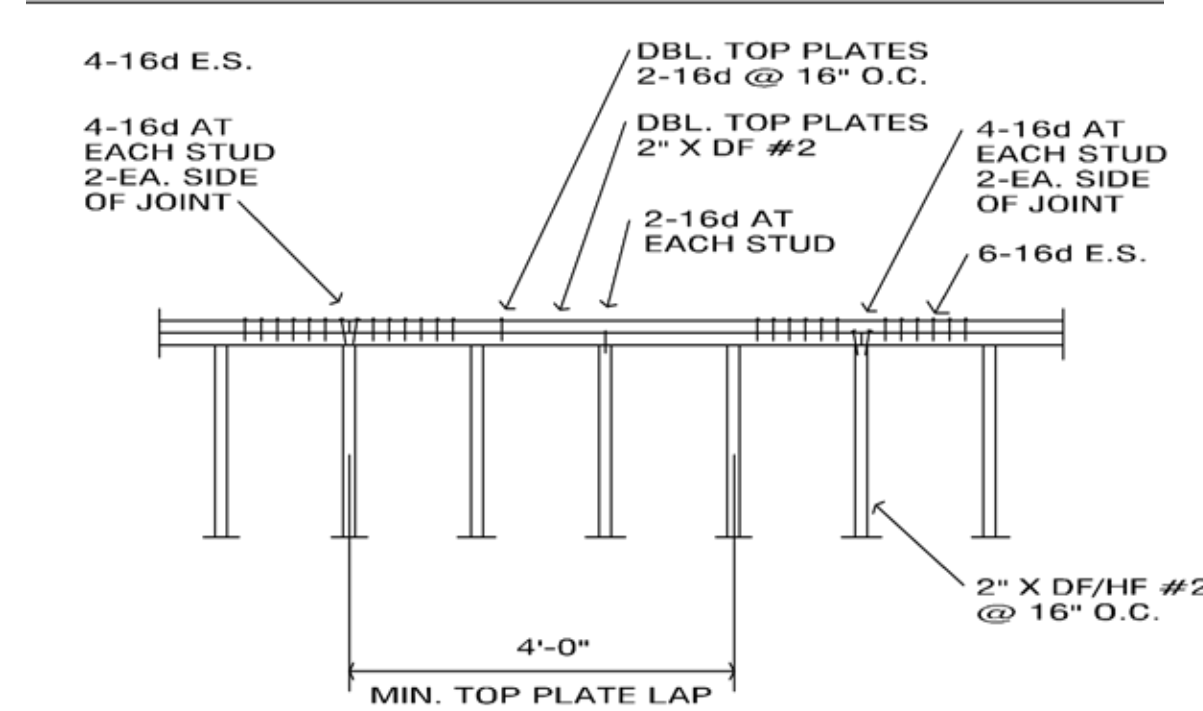
## PLATE SPLICE

NTS



## PLYWOOD NAILING

NTS



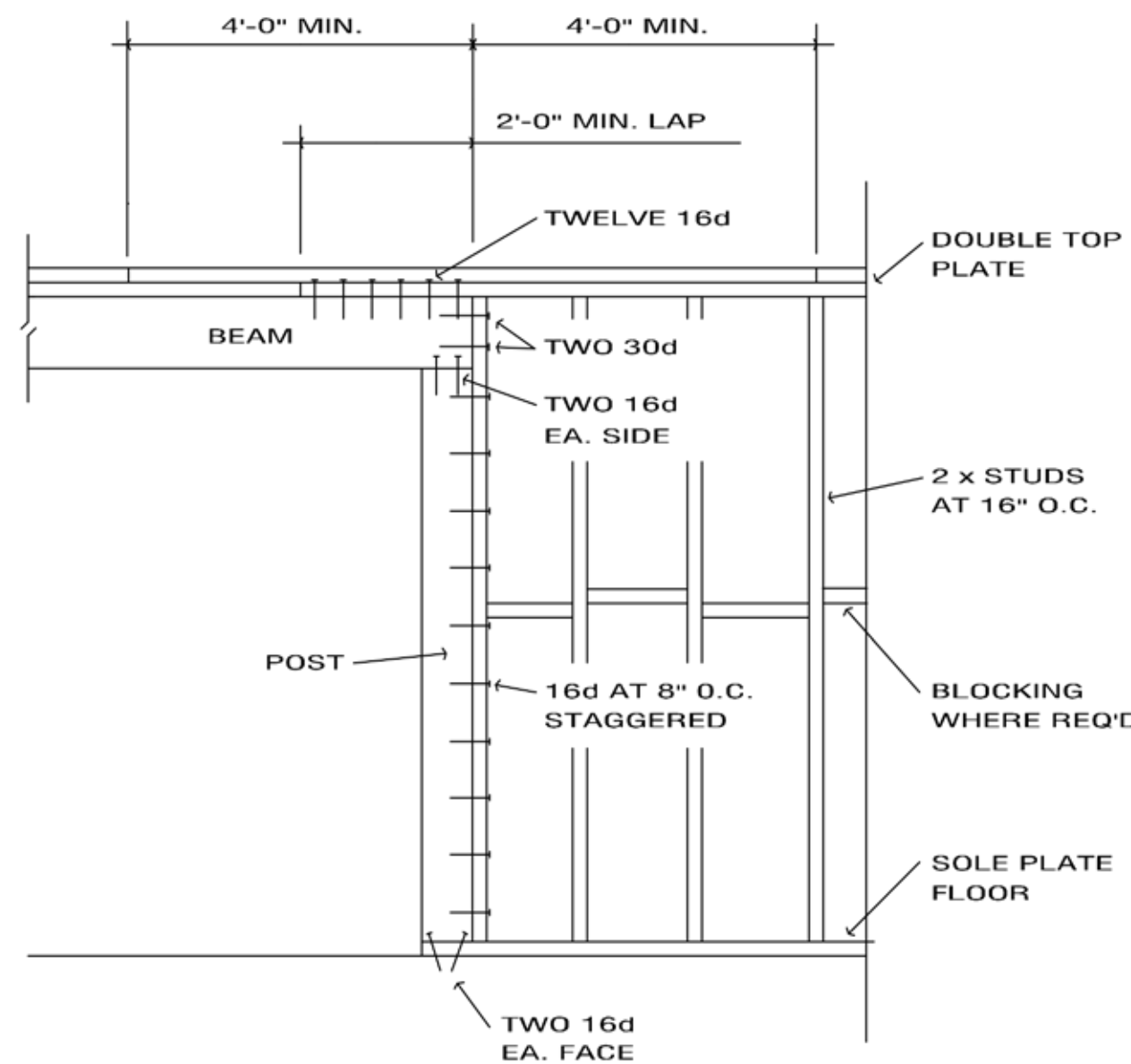
**NOTE:**  
IF MIN. TOP PLATE LAPS AND DRAG STRAP SIZES ARE NOT SHOWN ON THE STRUCTURAL PLAN THEN USE 4'-0" MIN. LAP

THIS DETAIL IS MANDATORY FOR ALL EXTERIOR WALLS AND ALL SHEAR WALLS.

## DBL. PLATE LAP

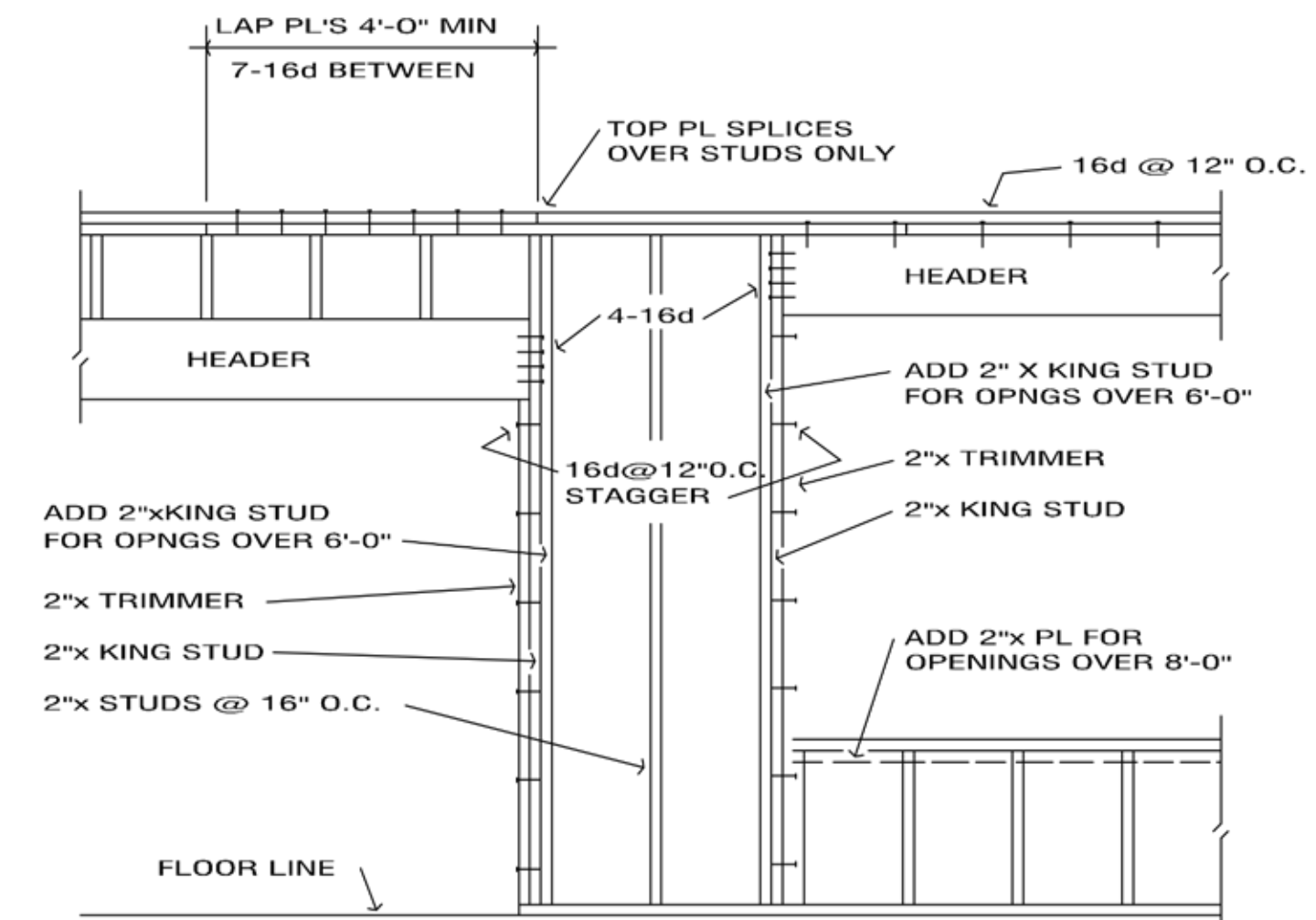
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**ATTENTION!**  
TYPICAL FOR ALL FLOOR, WALL, AND ROOF CONSTRUCTION  
NO EXCEPTIONS.



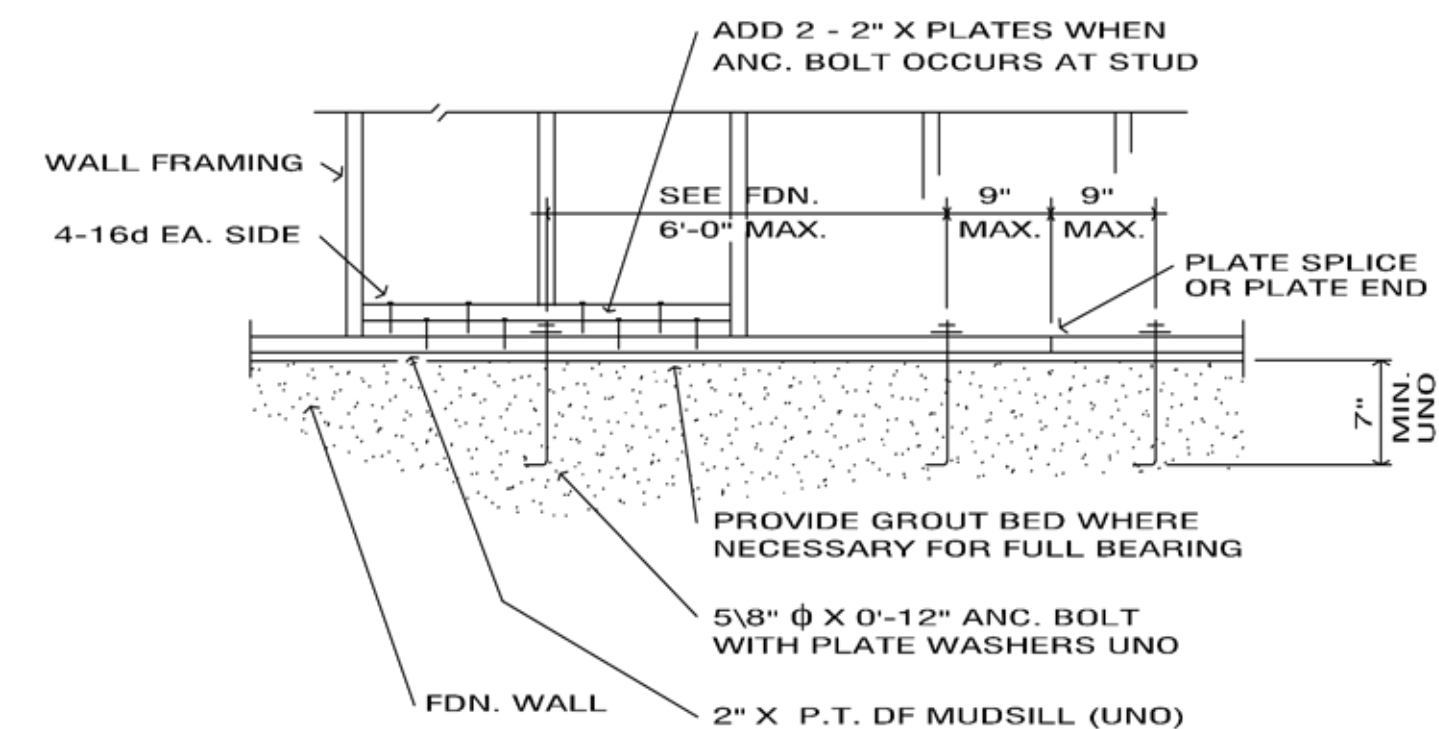
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NTS



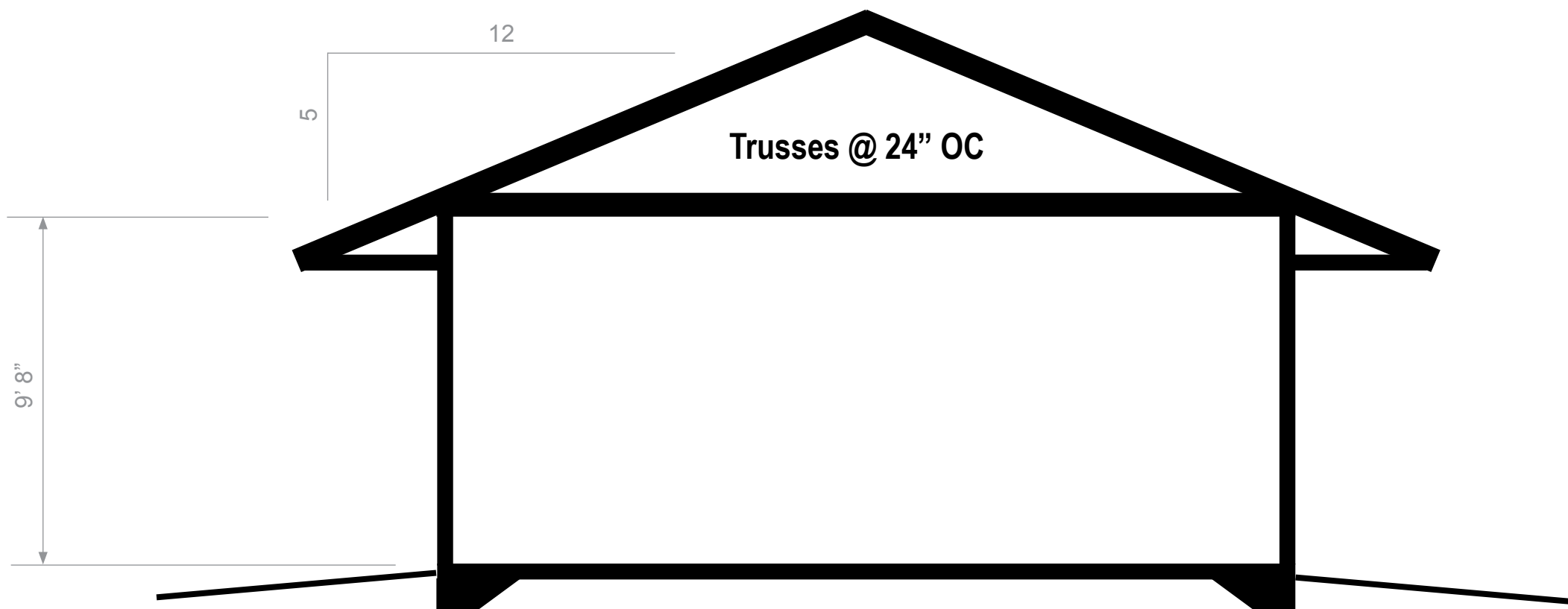
## HEADERS

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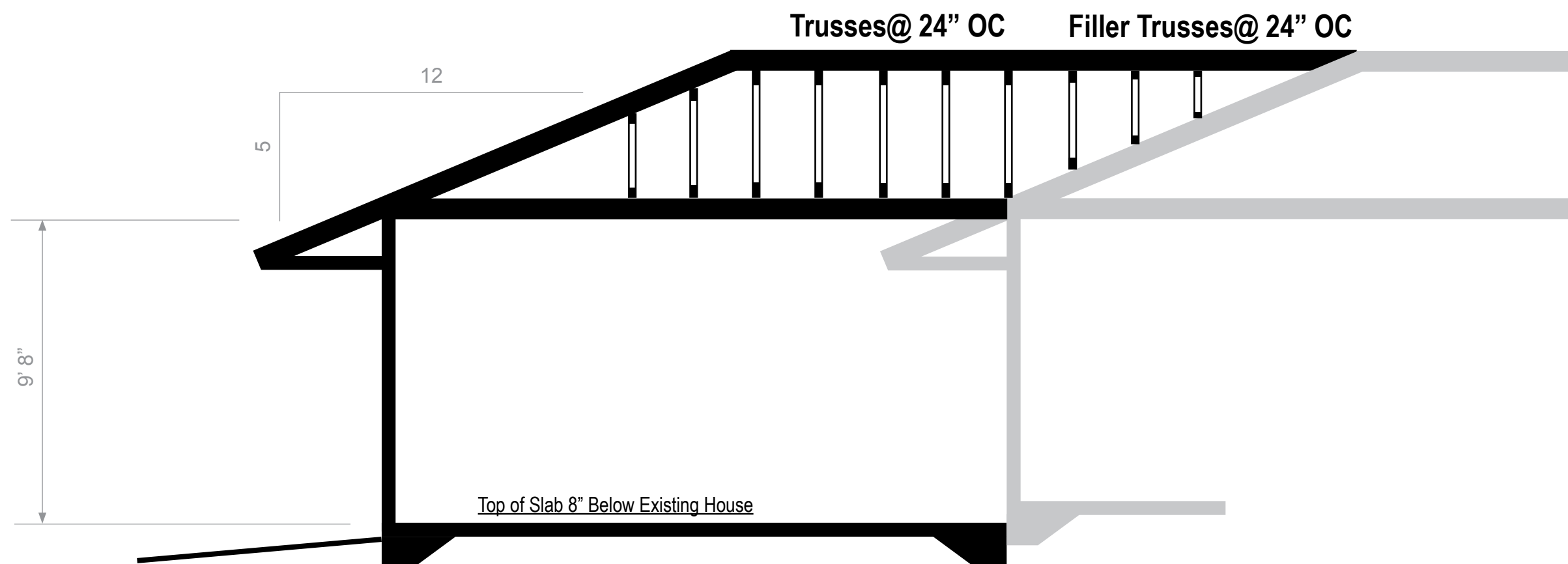
## FDN. PLATE

NTS



**Section A**  
1/4" = 1' - 0"

See Wall Framing Detail  
on Sheet 8 for Notes



**Section B**  
1/4" = 1' - 0"

KEY:  
Exiting Construction -   
New Construction -

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## Sections & Details

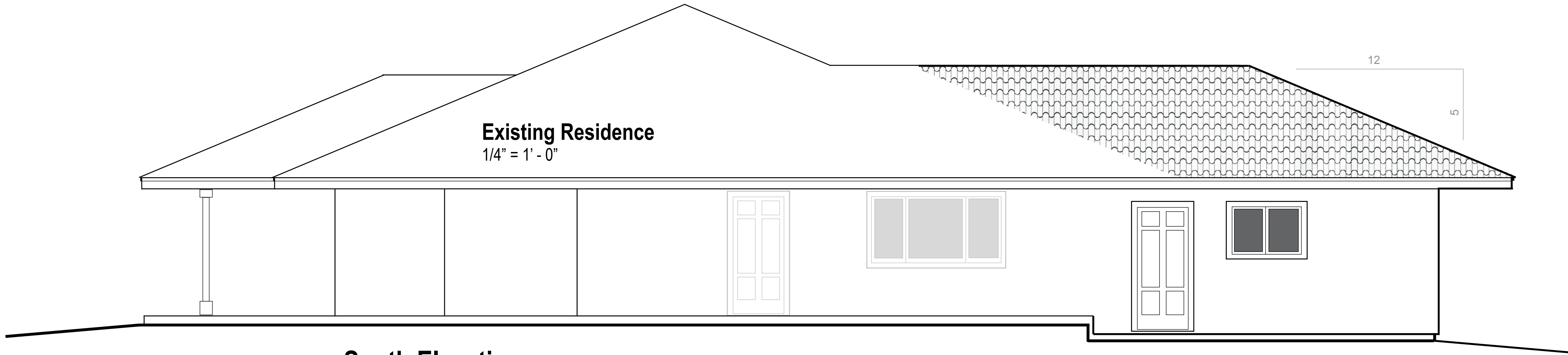
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**4**  
of  
**12**

Page: **A03**



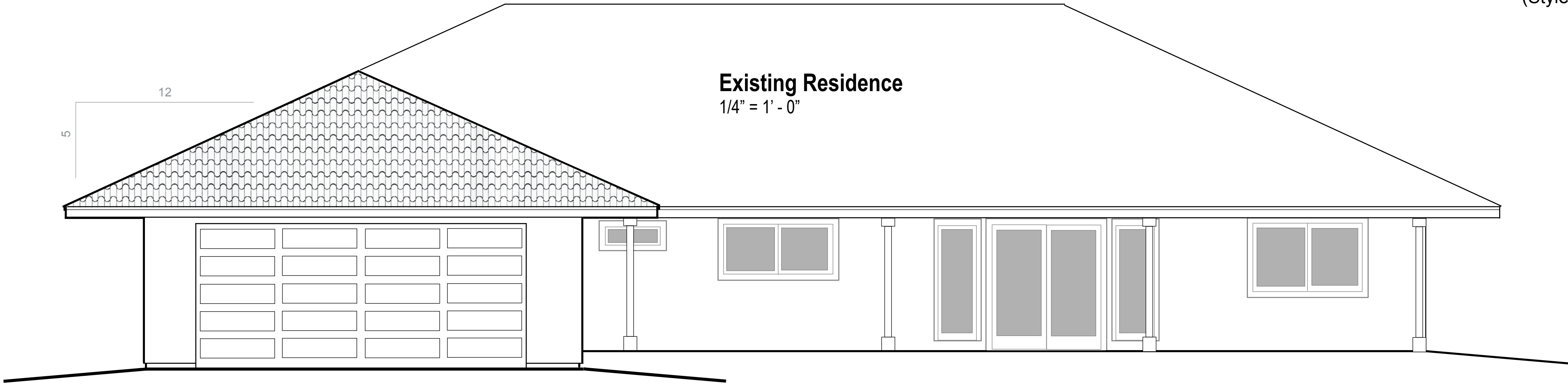


South Elevation  
1/4" = 1' - 0"

Concrete Tile Roofing  
(Style and color to match existing)

Stucco Siding Typ  
(Style and color to match existing)

Wood or Composite Trim  
(Style and color to match existing)



East Elevation  
1/4" = 1' - 0"

REVISIONS	
Date:	By:

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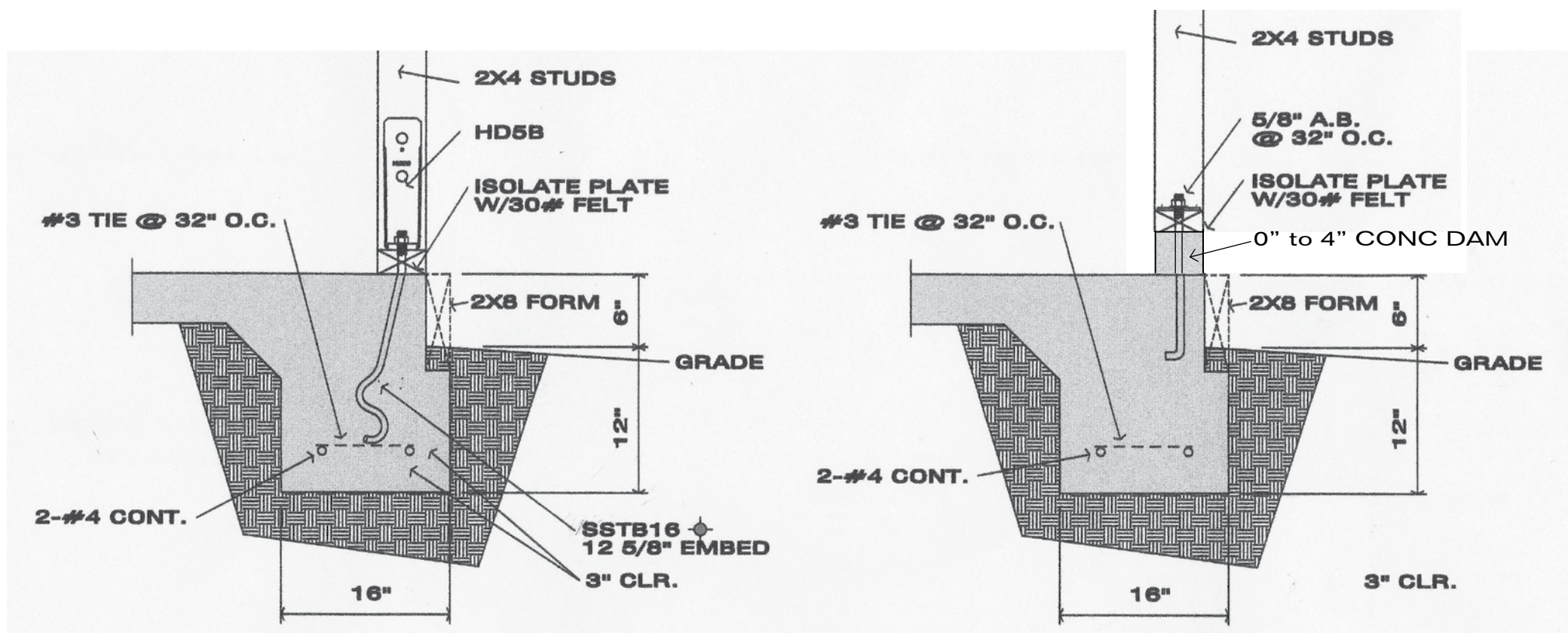
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Drawing:  
**Elevations**

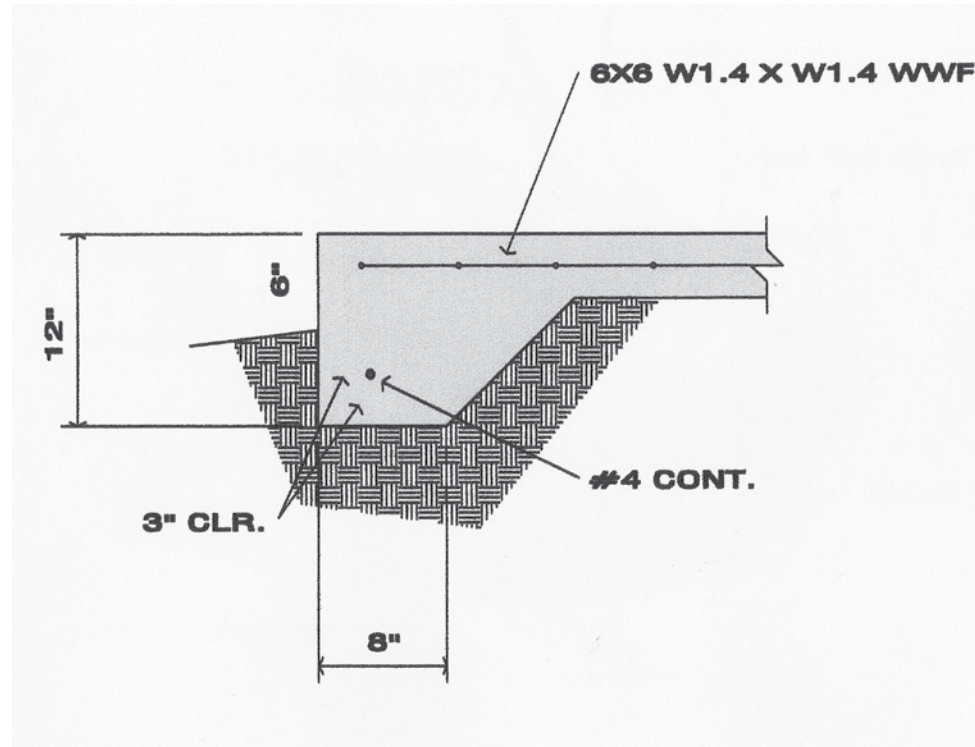
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of  
**12**  
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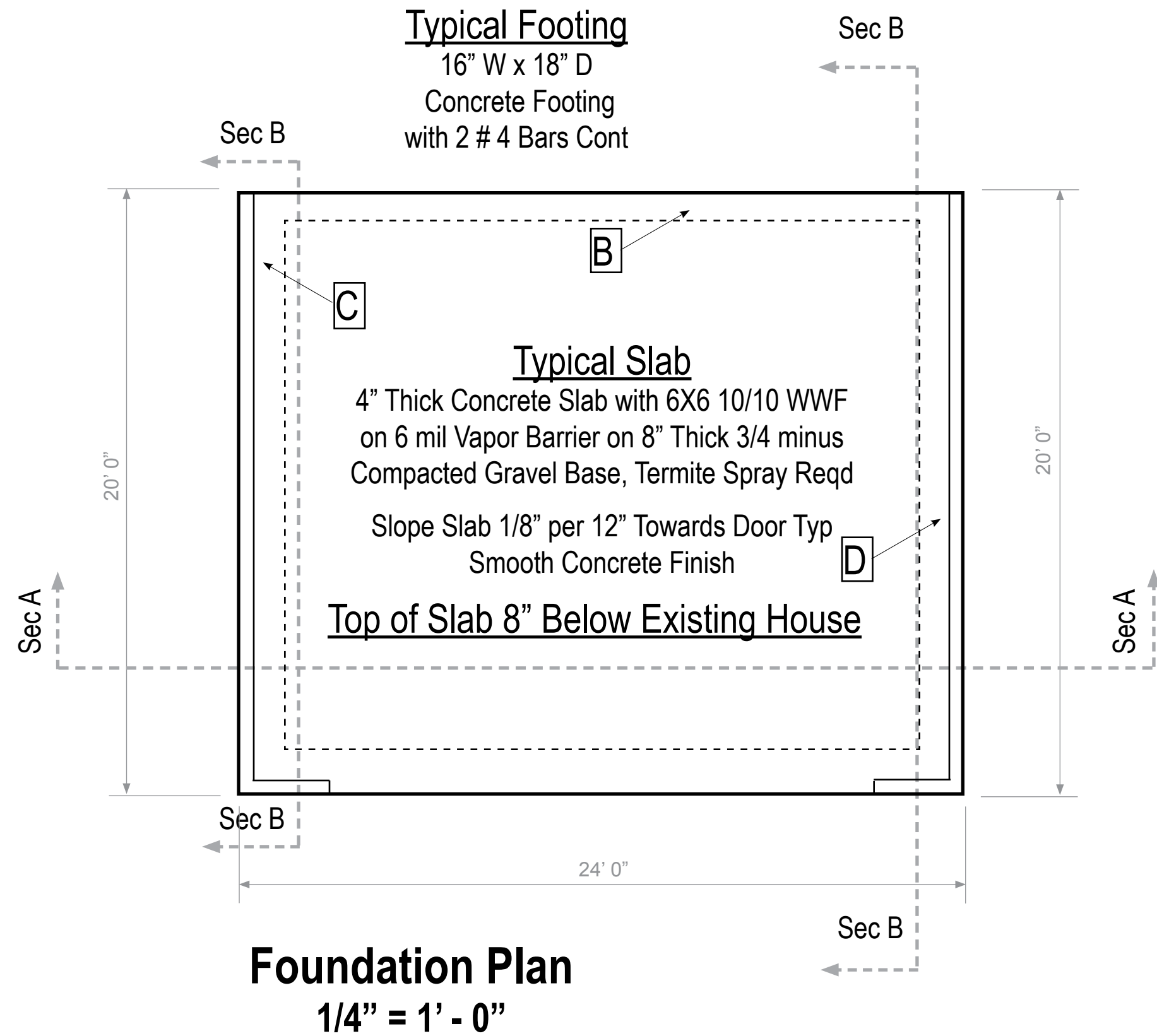


C - Wall Footing  
@ HD5B  
No Scale

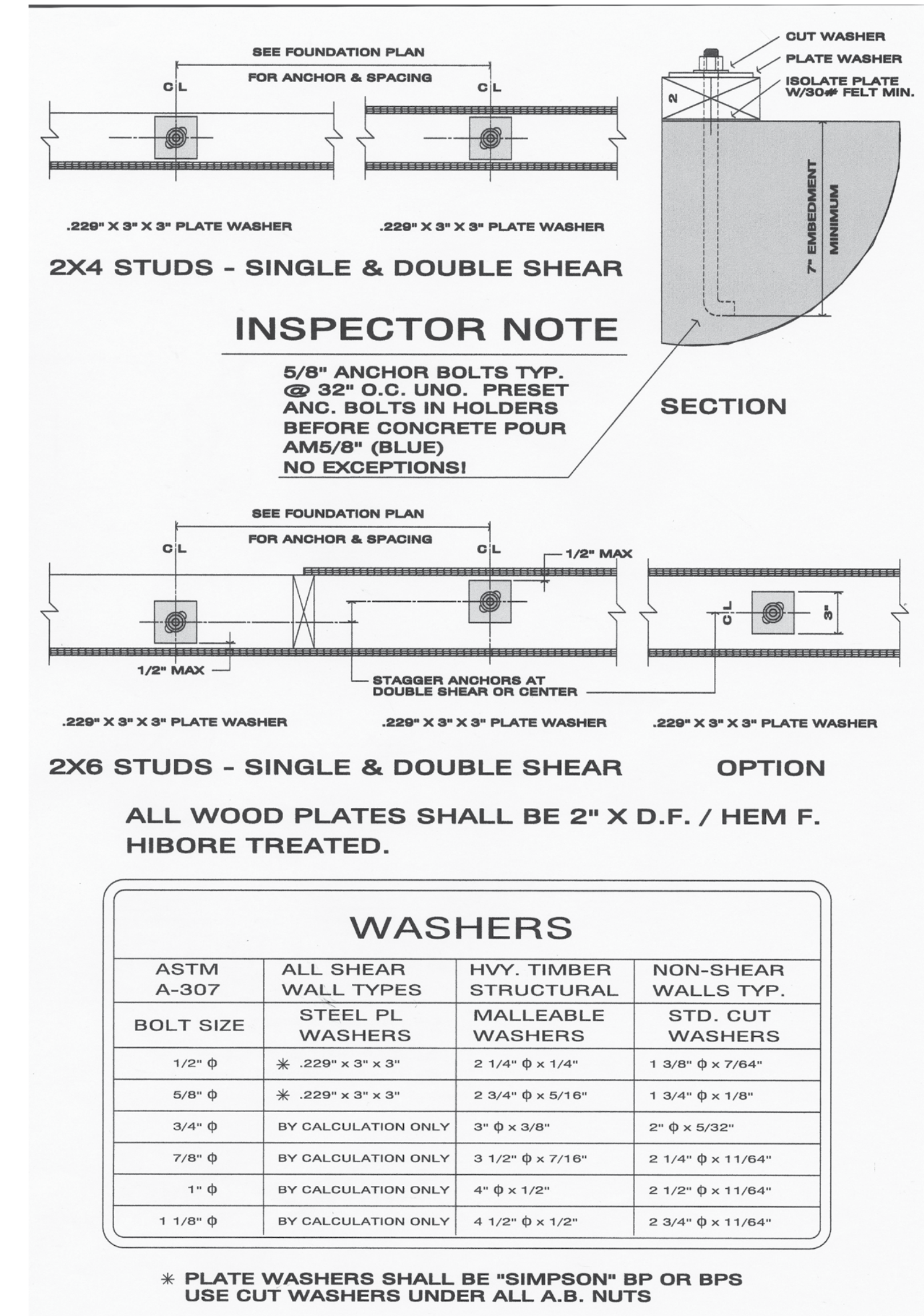
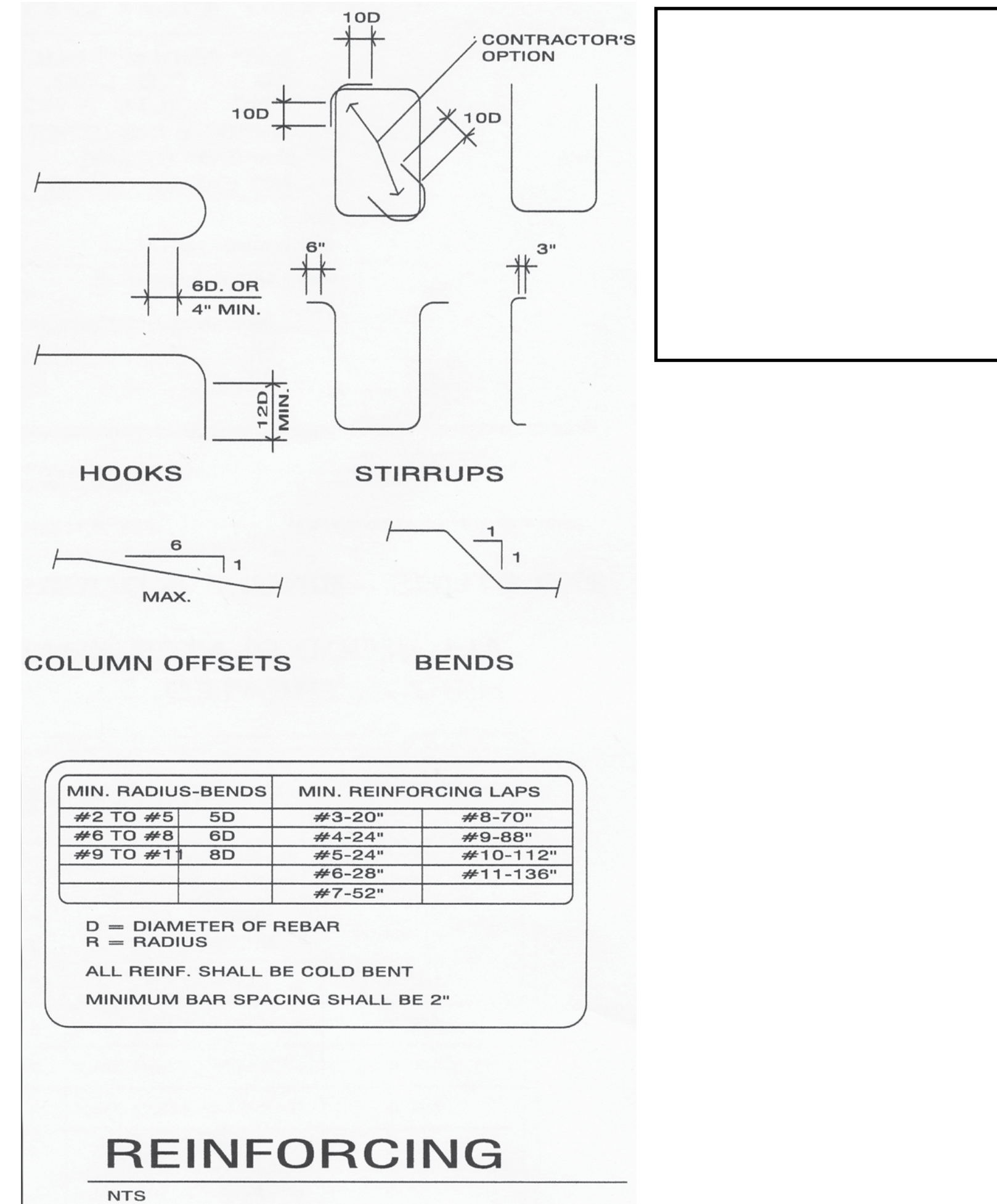
D - Wall Footing  
Typical  
No Scale



B - Interior Footing  
No Scale



Foundation Plan  
1/4" = 1' - 0"



**CONCRETE NOTES**

GENERAL: ALL CONCRETE WORK SHALL BE PERFORMED IN STRICT CONFORMANCE WITH THE LATEST EDITION OF THE "ACI MANUAL OF CONCRETE PRACTICE ACI 318, THE 2008 INTERNATIONAL BUILDING CODE & COUNTY OF HAWAII ORDINANCES.

A DESIGN MIX WILL BE PROVIDED TO THE ARCHITECT UPON REQUEST. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI IN 28 DAYS UNO.

ADMIXTURES: ONLY UPON SUBMITTAL TO AND APPROVAL BY THE ARCHITECT IN WRITING.

ALL REINFORCING SHALL CONFORM TO DETAILS. STAGGER ALL SPLICES IN ADJACENT BARS. LAPS SHALL BE PER SCHEDULE AND WIRE TIED. ALL REBAR SHALL HAVE A MIN. OF 3" CONCRETE COVER AT BELOW GRADE CONCRETE, MIN. OF 2" CONCRETE COVER AT EXTERIOR EXPOSED CONCRETE AND 1 1/2" MIN. CONCRETE COVER AT ALL OTHER LOCATIONS.

CONCRETE CURING: ALL CONCRETE SHALL BE KEPT DAMP FOR THE FIRST 7 DAYS. "HOT WEATHER CONCRETING" ACI 308. FORMS SHALL NOT BE REMOVED BEFORE 96 HOURS AFTER POURING (NO EXCEPTIONS).

ALL REINFORCING BARS SHALL BE ASTM A-615 GRADE 40 UNO.

**INSPECTOR NOTE:**  
ALL ANCHORS, INSERTS, HOLD-DOWNS, BOLTS AND ANY OTHER FOUNDATION HARDWARE SHALL BE IN PLACE ON FORMS WITH APPROVED HOLDERS PRIOR TO CONCRETE POUR, NO EXCEPTIONS.

MUDSILLS SHALL BE PRESSURE TREATED DP, OR ISOLATED WITH 30# FELT.

ALL HARDWARE SPECIFIED IS "SIMPSON" SUBSTITUTIONS MAY BE MADE ONLY AFTER SUBMITTAL AND APPROVAL BY THE ARCHITECT IN WRITING.

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Drawing:  
**Foundation Plan & Details**

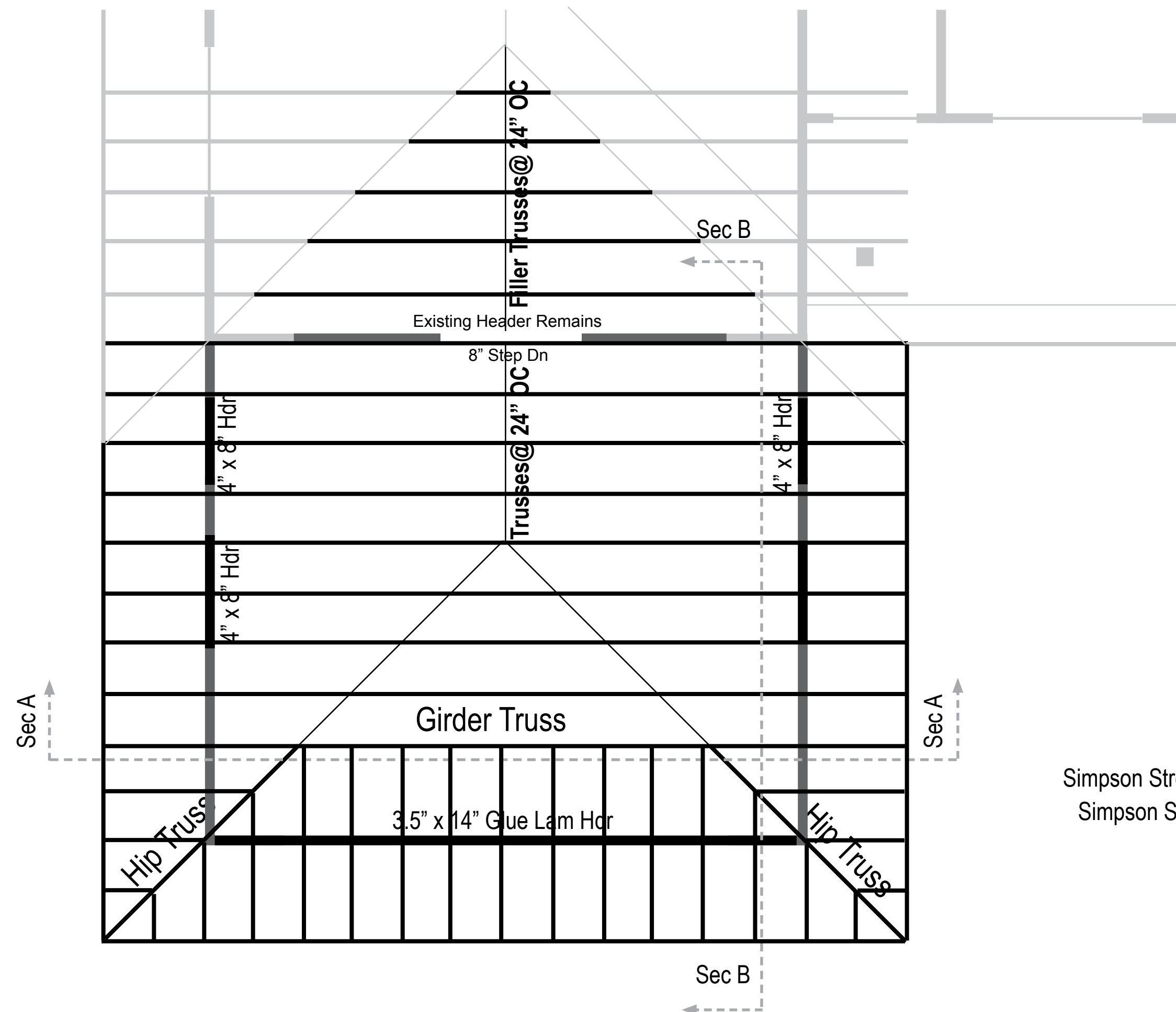
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Scale: **1/4" = 1' 0"**

Page: **6 of 12**

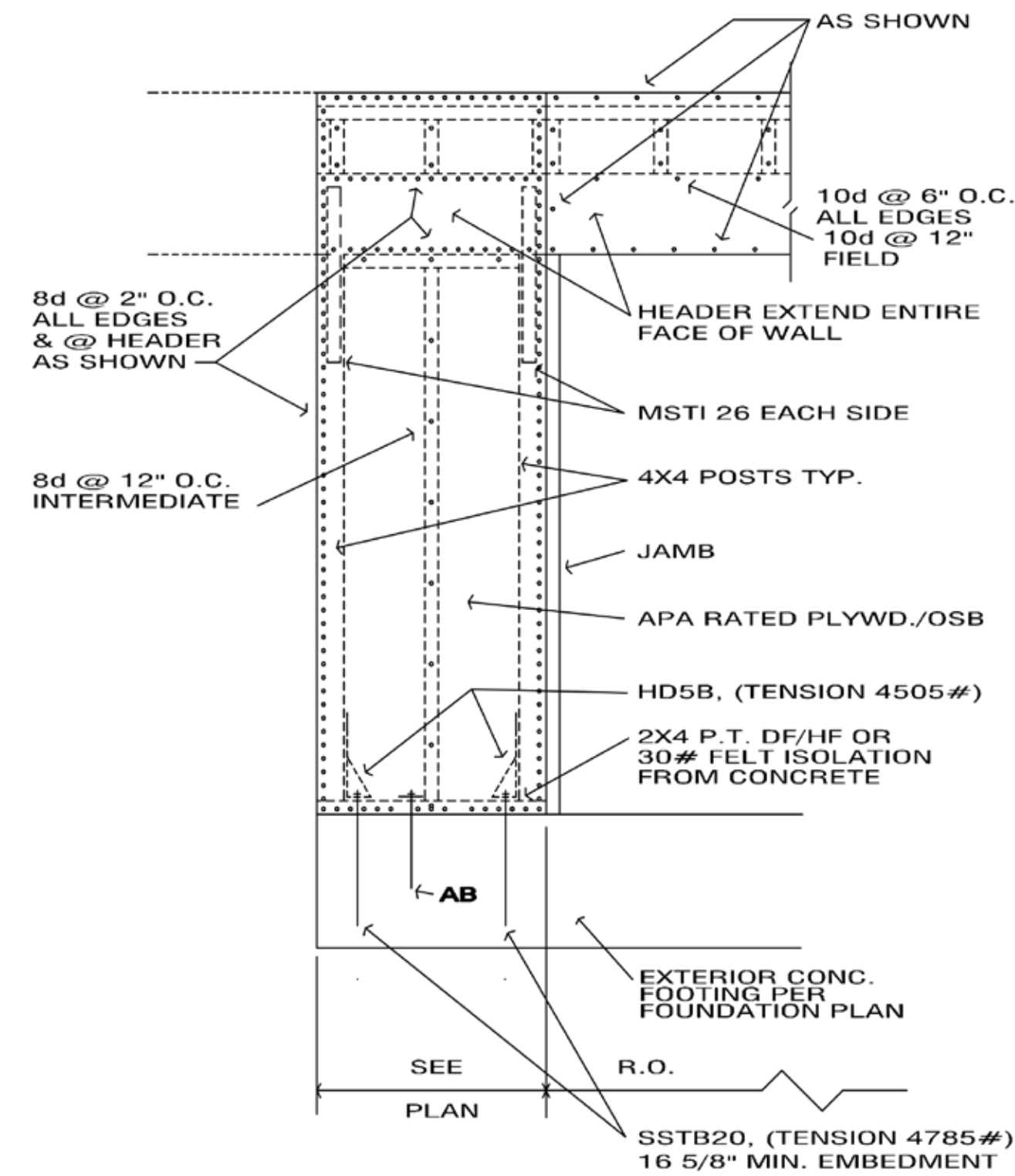
**A05**





Roof Framing  
1/4" = 1' - 0"

**Typical Roof Framing**  
Engineered Trusses at 24" OC  
See Truss Detail Drawings  
Simpson Strong-Tie #H1 On All Trusses @Exterior Walls  
Simpson Strong-Tie #HCP2 On All Trusses @Corners



**SHEAR WALL**  
NTS  
**BRACED WALL**

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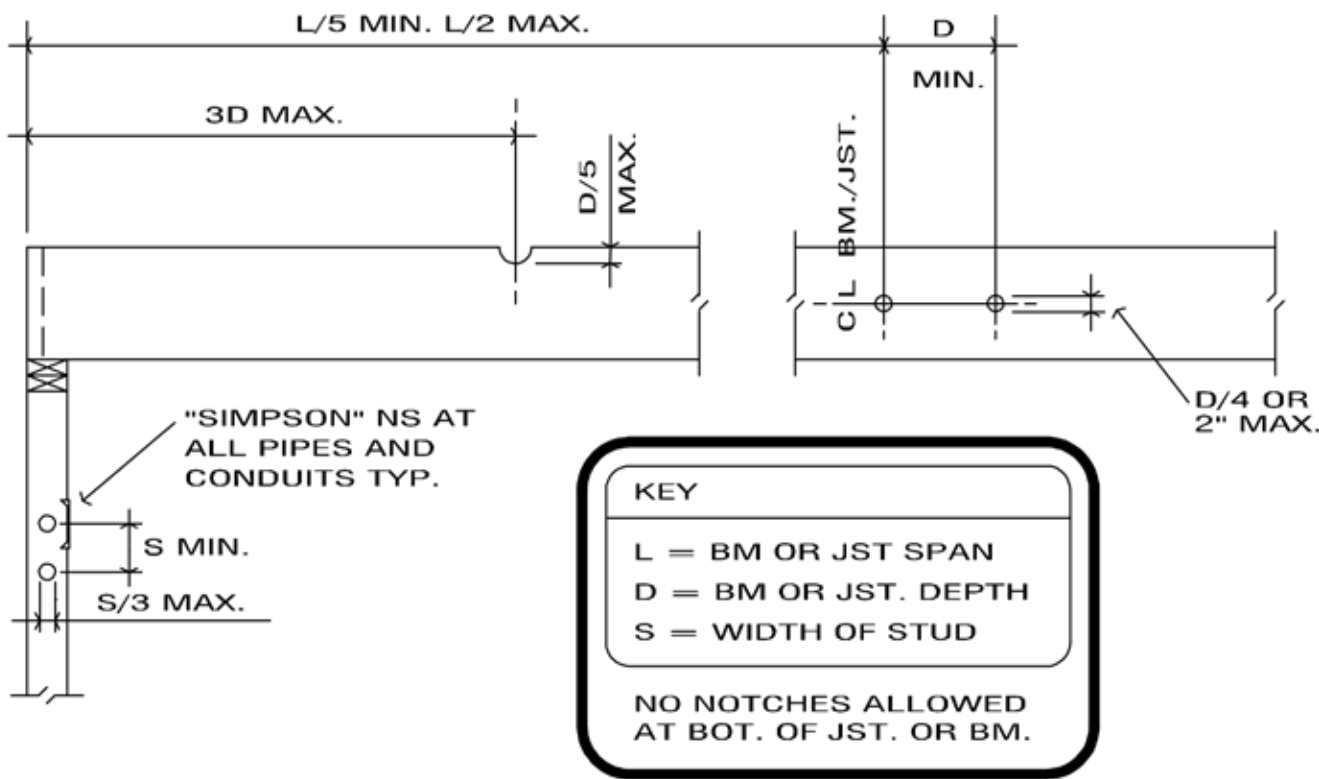
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Drawing:  
**Roof Framing & Details**

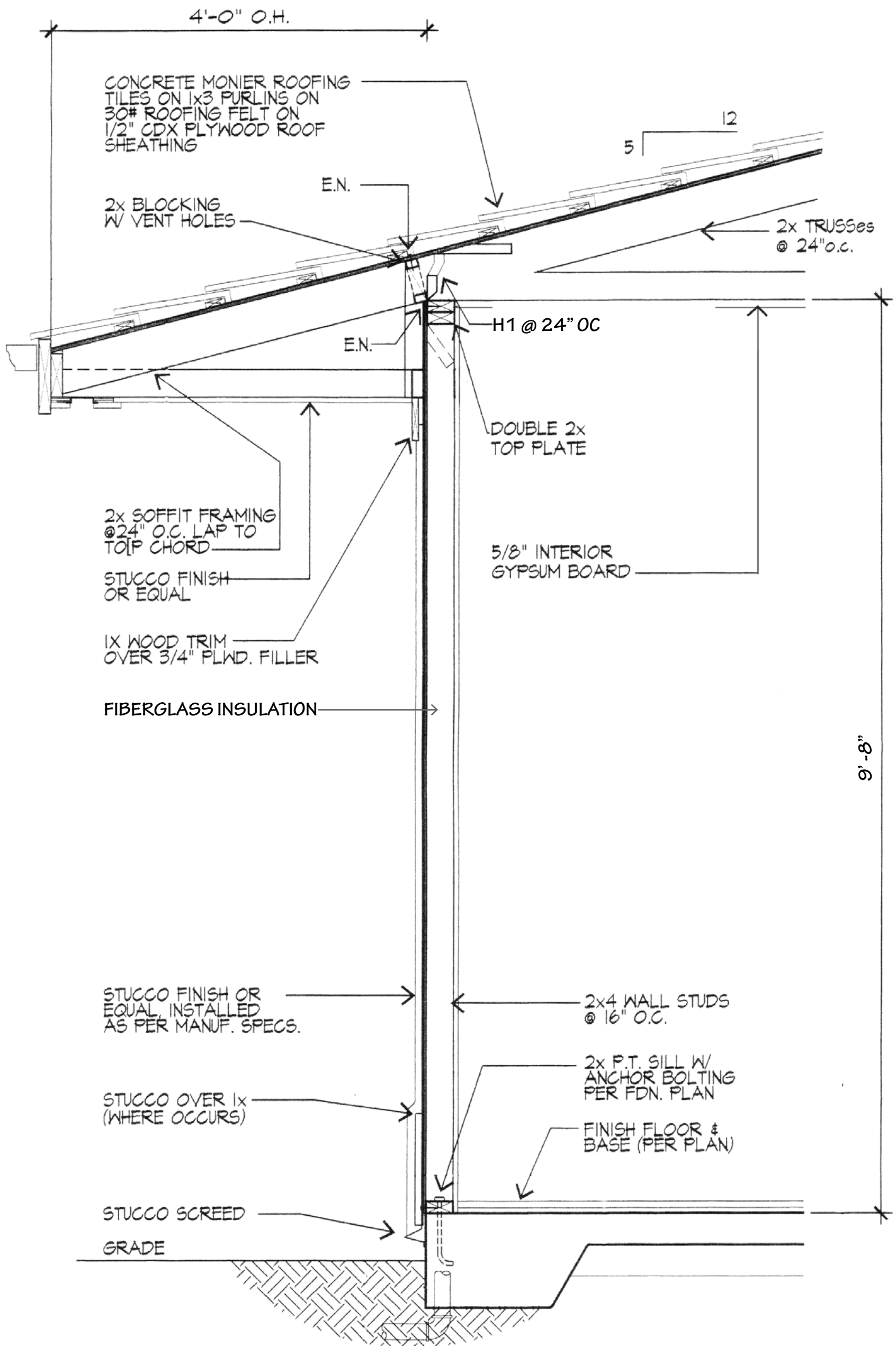
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Page: **7 of 12**  
A06



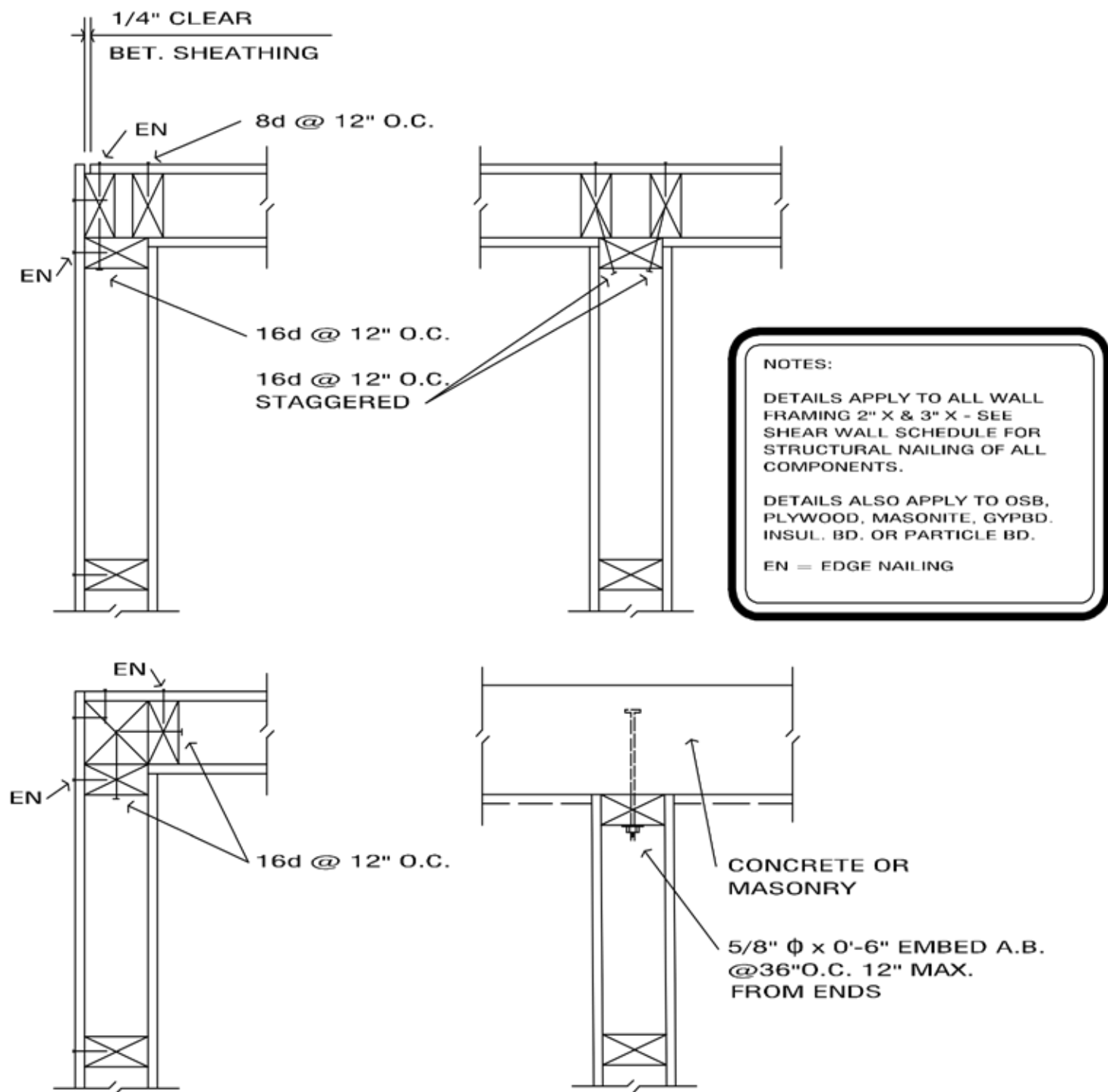


## WOOD NOTCHES & HOLES STRUCTURAL LIMITS

NTS

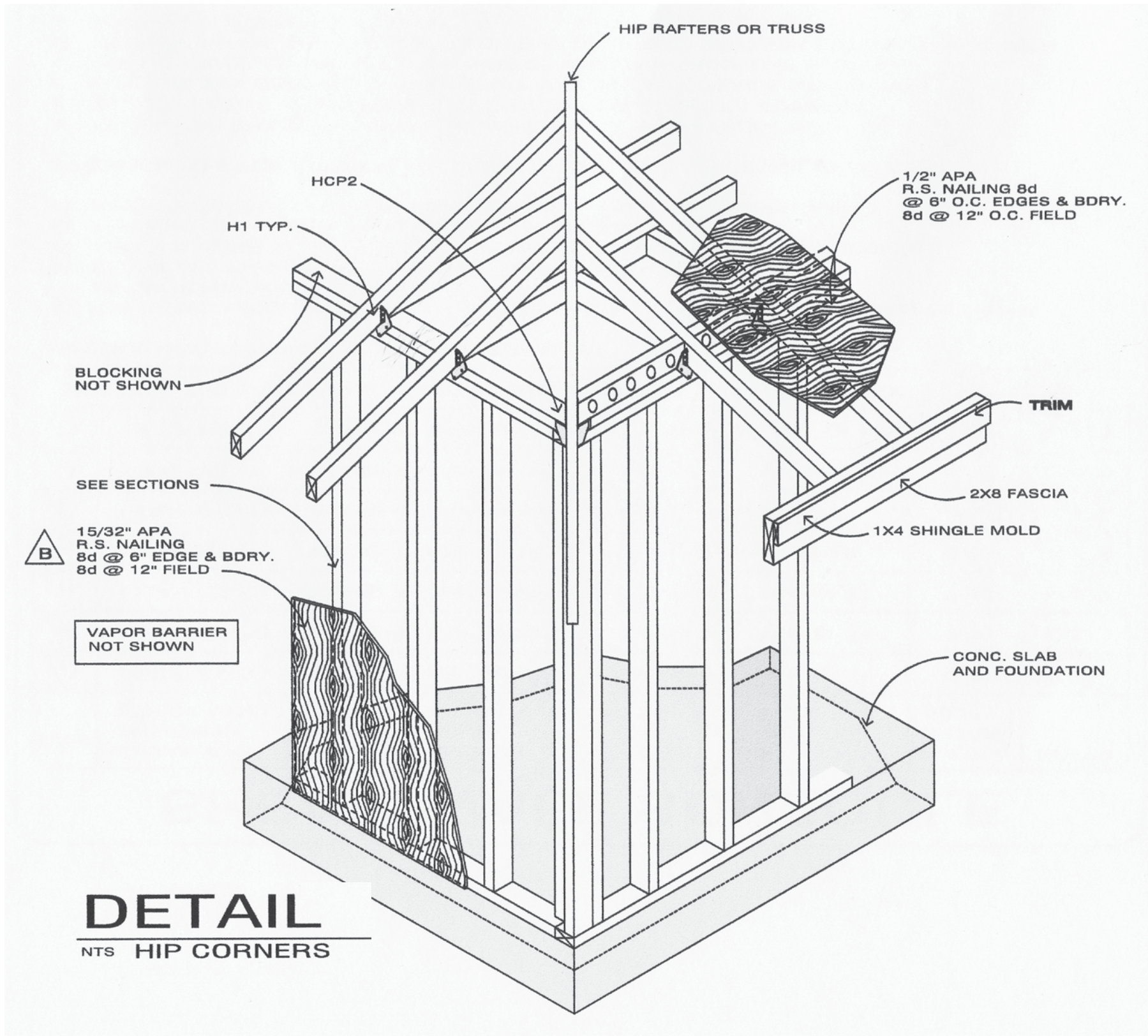


Wall Framing  
1" = 1' - 0"



## FRAMING

NTS



DETAIL  
NTS HIP CORNERS

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Drawing:  
**Wall Framing & Details**

Date: **04-15-2023**

Scale: **1" = 1' 0"**

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of  
**12**

Page:  
**A07**

WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTORS ARE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB. DESIGNER SHALL BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS. CONDITIONS, OR SPECIFICATIONS APPEARING ON THESE DRAWINGS.



SPECIFICATIONS

GENERAL - HAWAII COUNTY, HAWAII, USA:

ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CONSTRUCTION DOCUMENTS, THE LATEST ADOPTED EDITION OF THE INTERNATIONAL BUILDING CODES, ALL APPLICABLE HAWAII COUNTY ORDINANCES, CODES AND LAWS. WHERE THE TERMS EQUAL, APPROVED, EQUAL, REVIEW BY ARCHITECT, OR SIMILAR LANGUAGE IS STATED IN THESE OUTLINE SPECIFICATIONS, THEY SHALL MEAN ACKNOWLEDGEMENT/APPROVAL BY ARCHITECT IN WRITING ONLY.

THE CONSTRUCTION DOCUMENTS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED, DETAILS OF A CHARACTER SIMILAR TO THOSE SHOWN SHALL BE USED, SUBJECT TO REVIEW BY THE ARCHITECT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES, VERIFYING EXISTING JOB CONDITIONS, AND CHECKING ALL DIMENSIONS. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ARCHITECT AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. CHANGES TO THE DOCUMENTS OR SCOPE OF WORK SHALL BE SUBMITTED TO THE ARCHITECT BEFORE COMMENCING WITH THE WORK. FOR WRITTEN DOCUMENTATION AND/OR APPROVAL. ALL PROPOSED CHANGES SHALL BE IN WRITING, WITH NO EXCEPTIONS.

IT IS THE OWNERS RESPONSIBILITY TO CONTACT THE ARCHITECT FOR ALL INSPECTIONS AND OBSERVATIONS OF CONSTRUCTION. FAILURE TO DO SO WILL RELIEVE THE ARCHITECT FROM ANY AND ALL RESPONSIBILITY FOR THE PROJECT. UNAUTHORIZED CHANGES AND MISINTERPRETATIONS OF THE CONTRACT DOCUMENTS, CODES, REQUIREMENTS & ORDINANCES WILL RELIEVE THE ARCHITECT FROM ANY AND ALL RESPONSIBILITY FOR THE PROJECT.

IT IS THE OWNERS RESPONSIBILITY TO PROVIDE A POLICY OF CONSTRUCTION INSURANCE.

FOR OPENINGS NOT SHOWN AND/OR DETAILED ON THE DRAWINGS, WHICH PENETRATE STRUCTURAL ELEMENTS, OBTAIN WRITTEN CLARIFICATION/APPROVAL FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

FRAME OPENINGS AND SUPPORT MISCELLANEOUS EQUIPMENT AS DETAILED ON THE DRAWINGS. WHERE NO DETAILS ARE PROVIDED, OBTAIN APPROVAL FROM THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.

LATERALLY BRACE ALL SUSPENDED EQUIPMENT AND CEILINGS IN CONFORMANCE WITH THE INTERNATIONAL BUILDING CODE, ADOPTED EDITION, AS AMENDED BY HAWAII COUNTY.

DURING THE CONSTRUCTION PERIOD, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFETY OF THE BUILDING. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING, AND GUYS IN ACCORDANCE WITH ALL GOVERNING SAFETY REGULATIONS.

DO NOT SCALE DRAWINGS. USE WRITTEN DIMENSIONS ONLY.

SEE DRAWINGS FOR WALL LOCATIONS AND DIMENSIONS, UNLESS NOTED OTHERWISE.

STRUCTURAL DESIGN OR REVIEW OF TEMPORARY SHORING, ADDITIONAL REINFORCING, BRACING, FORM WORK, SCAFFOLDING, ERECTION METHODS, ETC, REQUIRED FOR PROPER CONSTRUCTION OF THE PROJECT, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

SHOP DRAWINGS ARE AN AID FOR FIELD PLACEMENT AND ARE SUPERSEDED BY THE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO MAKE CERTAIN THAT ALL CONSTRUCTION IS IN FULL AGREEMENT WITH THE LATEST APPROVED CONTRACT DOCUMENTS.

MATERIAL SUBSTITUTIONS SHALL BE SUBMITTED TO THE ARCHITECT FOR REVIEW AND WRITTEN APPROVAL PRIOR TO USE. SUBSTITUTION REVIEWS MAY REQUIRE ADDITIONAL DESIGN COSTS. THE PERSON OR COMPANY REQUESTING THE SUBSTITUTION SHALL PAY THESE ADDITIONAL COSTS.

ALL STEEL WORK SHALL BE IN CONFORMANCE WITH THE AISC SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, LATEST EDITION.

ALL STRUCTURAL WELDING SHALL BE DONE IN ACCORDANCE WITH AWS DW - LATEST EDITION, AND SHALL HAVE SPECIAL INSPECTION PER TESTING LABORATORY SERVICES SECTION WHEN REQUIRED BY ARCHITECT

ALL SHOP AND FIELD WELDERS SHALL BE CERTIFIED ACCORDING TO AWS PROCEDURES FOR THE WELDING PROCESS AND WELDING POSITION USED

FOUNDATIONS:

DESIGN OF FOUNDATIONS SMALL BE IN ACCORDANCE WITH ICC CODES.

MAXIMUM ALLOWABLE SOIL BEARING PRESSURE TO BE: 1500 PSF.

DEPTHS OF ALL FOUNDATIONS ARE SHOWN ON DRAWINGS. FOUNDATION SHALL BE EXCAVATED DEEPER AS REQUIRED TO INSURE BEARING ON FIRM MATERIAL OR NATIVE SOIL

ALL FOOTING EXCAVATIONS SMALL BE NEAT. OVER EXCAVATIONS SMALL BE FILLED WITH CONCRETE. ALL LOOSE SOILS SMALL BE REMOVED FROM EXCAVATIONS PRIOR TO PLACEMENT OF CONCRETE.

CONCRETE:

CONCRETE SHALL MEET THE FOLLOWING REQUIREMENTS WITH A MINIMUM OF 5 SACKS OF CEMENT PER CUBIC YARD.

ITEM	28 DAY STNGTH	MAX SLUMP	MAX AGRGATE
SLAB ON GRADE	2500PSI	3"	3/4"
FOUNDATIONS	2500PSI	3"	3/4"
WALLS & COLUMNS	2500PSI	3"	3/4"
RETAINING WALLS	2500PSI	3"	3/4"

WHEN DESIGN IS BASED ON 2500PSI, NO SPECIAL INSPECTION WILL BE REQUIRED.

ALL CONCRETE SMALL BE TESTED IN ACCORDANCE WITH ICC CODES BY A CERTIFIED TECHNICIAN PER A.S.T.M. CURRENT STANDARDS (WHEN REQUIRED BY ARCHITECT).

PORTLAND CEMENT SHALL CONFORM TO A.S.T.M. C150, TYPE-II

ADMIXTURES REQUIREMENTS DEPEND ON JOB CONDITIONS AT THE TIME OF CONCRETE PLACEMENT AND ARE SUBJECT TO REVIEW BY THE ARCHITECT.

CONTRACTOR SHALL SUBMIT CONCRETE MIX DESIGN TO THE ARCHITECT FOR REVIEW (2) DAYS PRIOR TO POURING ANY STRUCTURAL CONCRETE, WHEN REQUIRED BY THE ARCHITECT AND/OR CONTRACT DOCUMENTS.

CONTRACTOR SHALL INFORM THE ARCHITECT AT LEAST TWO (2) DAYS PRIOR TO POURING ANY STRUCTURAL CONCRETE FOR REVIEW OF THE WORK, WHEN REQUIRED BY THE CONTRACT DOCUMENTS.

AUL CONCRETE EXCEPT SLAB ON GRADE, SIX INCHES (6") THICK OR LESS, SHALL BE MECHANICALLY VIBRATED SO AS TO COMPLETELY FILL THE FORMS WITHOUT CAUSING UNDUE SEPARATION.

DOWELS SHALL MATCH MAIN REINFORCING AND SPACING LAP 48 BAR DIAMETERS UNLESS NOTED OTHERWISE.

SPECIAL INSPECTION IS NOT REQUIRED UNLESS NOTED OTHERWISE. WHEN SPECIAL INSPECTIONS ARE REQUIRED, THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL FEES. SPECIAL INSPECTORS WILL BE SUBJECT TO APPROVAL BY HAWAII COUNTY AND THE ARCHITECT.

THE CONTRACTOR SHALL SUBMIT A PLAN FOR PROPOSED LOCATIONS OF CONTROL JOINTS TO ARCHITECT FOR APPROVAL. CONTROL JOINTS SMALL BE AT 20 FEET ON CENTER, EACH WAY, MAXIMUM. SEE TYPICAL SLAB JOINT DETAIL FOR JOINT CONSTRUCTION.

GLUE-LAMINATED LUMBER:

ALL STRUCTURAL WOOD SHALL BE TREATED PER HAWAII COUNTY CODES AND ORDINANCES AS ADOPTED AND AMENDED.

ADHESIVE SHALL BE FOR WET USE. LAMINATIONS SHALL BE COMBINATION FABRICATED IN ACCORDANCE WITH ALTC CURRENT PS FOR SINGLE MEMBERS USE 24F-V4 DF/DF. FOR MEMBERS CONTINUOUS OR CANTILEVERED OVER SUPPORTS, USE 24F-V8 DF/DF.

FABRICATION SHALL BE BY A LICENSED FABRICATOR. SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW. ALTC CERTIFICATION AND INSPECTION ARE REQUIRED FOR ALL MEMBERS.

CONTRACTOR SHALL PROVIDE A CERTIFICATION OF COMPLIANCE FOR ALL GLU-LAM BEAMS, TO THE ARCHITECT, FOR APPROVAL PRIOR TO ERECTION.

GLU-LAM BEAMS SHALL NOT BE NOTCHED, DRILLED, TAPERED, DAPPED, OR CUT IN ANY WAY, EXCEPT AS NOTED ON THE DRAWINGS.

FRAMING LUMBER:

ALL STRUCTURAL WOOD SHALL BE TREATED PER HAWAII COUNTY CODES AND ORDINANCES AS ADOPTED AND AMENDED.

HORIZONTAL FRAMING MEMBERS FOUR (4) X AND SMALLER AND FOUR (4) X POSTS SMALL BE DOUGLAS FIR NO. 2, FRAMING MEMBERS SIX (6) X AND LARGER SMALL BE DOUGLAS FIR NO. 1, UNLESS NOTED OTHERWISE.

INTERIOR STUDS WHERE HEIGHT IS EQUAL TO OR LESS THAN 12'-0", SHALL BE MIN 2X4 DF/HF CONSTRUCTION AND BETTER. INTERIOR STUDS WITH HEIGHT GREATER THAN 12'-0", AND ALL EXTERIOR STUDS SHALL BE 2X6 DF/HF, NO. 2, UNLESS NOTED OTHERWISE. STUD SPACING SHALL BE 16" O.C., UNLESS NOTED OTHERWISE. ALL NON-STRUCTURAL STUDS MAY BE GALVANIZED METAL AT CONTRACTORS OPTION.

ALL SHEATHING (ROOF, WALLS, AND FLOOR) SHALL BE APA RATED SHEATHING, EXPOSURE 1, IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF THE APA, AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF THE U.S. PRODUCT STANDARD (PS) OR THE APPLICABLE APA PERFORMANCE STANDARD. SHEATHING EXPOSED TO WEATHER SHALL BE CLASSIFIED EXTERIOR.

INSTALL ROOF AND FLOOR SHEATHING WITH THE LONG DIMENSION OF THE PANEL ACROSS SUPPORTS, AND WITH THE PANEL CONTINUOUS OVER TWO (2) OR MORE SPANS. STAGGER PANEL ENDS UNLESS NOTED OTHERWISE. PANEL ENDS SHALL OCCUR OVER FRAMING. ALLOW 1/8" SPACE AT PANEL ENDS AND 1/8" SPACE AT PANEL EDGES.

NAILING FOR WALL SHEATHING IS INDICATED ON THE SHEAR WALL SCHEDULE AND/OR DRAWINGS. NAILING FOR ROOF AND FLOOR SHEATHING IS AS INDICATED ON THE DRAWINGS. PLYWOOD NAILS SHALL BE COMMON, AND CORROSION RESISTANT WHERE EXPOSED TO WEATHER.

PLYWOOD SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL BE DRIVEN FLUSH, AND SHALL NOT BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED, OR APPROVED BY THE ARCHITECT.

NO STRUCTURAL MEMBER SHALL BE CUT OR NOTCHED UNLESS SPECIFICALLY SHOWN, NOTED, OR APPROVED BY THE ARCHITECT.

MAXIMUM MOISTURE CONTENT SHALL NOT EXCEED 19% FOR ALL STRUCTURAL MEMBERS.

PROVIDE WASHERS UNDER HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. ALL SHEAR WALLS SHALL USE PLATE WASHERS AS SHOWN ON WASHERS SCHEDULE.

WOOD IN CONTACT WITH MASONRY OR CONCRETE, OR PERMANENTLY EXPOSED TO WEATHER, SHALL BE PRESSURE TREATED DOUGLAS FIR. REDWOOD WILL NOT BE ALLOWED FOR STRUCTURAL CONDITIONS.

ALL PRESSURE TREATED LUMBER SHALL BE DF/HF WITH GRADE PER PLAN. (PTDF/PTHF)

TREATMENT SHALL BE ACZA, CCA OR ACA AND SHALL CONFORM TO AWPA STANDARD C2 OR HAWAII COUNTY APPROVED TREATMENT, WITH THE FOLLOWING RETENTIONS:

ALL WOOD IN CONTACT WITH FOUNDATION CONCRETE ABOVE GROUND - 25 RETENTION. ALL WOOD EMBEDDED IN CONCRETE OR IN CONTACT WITH GROUND - 40 RETENTION.

ALL PRESSURE TREATED LUMBER SHALL BE CLEAN, DRY, AND FREE FROM SURFACE RESIDUE.

HAND TREATED LUMBER SHALL BE CLEAN, DRY, AND FREE FROM SURFACE RESIDUE.

ALL PRESSURE TREATED LUMBER SHALL CARRY THE QUALITY MARK OF AN INDEPENDANT INSPECTION AGENCY.

AL FRAMING HARDWARE SPECIFIED SMALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE OR APPROVED EQUAL BY THE ARCHITECT IN WRITING.

ANCHOR BOLTS SHALL COMPLY WITH ASTM A-307. SILL PLATE BOLTING SHALL BE AS SPECIFIED ON THE SHEAR WALL SCHEDULE OR AT A MINIMUM OF 1/2" DIA X 11" LONG AND HOOKED. SPACE ANCHOR BOLTS AS INDICATED ON SHEAR WALL SCHEDULE. LOCATE SILL BOLTS AT A MAXIMUM DISTANCE OF 12" FROM THE ENDS OF EACH WALL AND CORNER, AND 9" AT SPLICES. INSTALL A MINIMUM OF TWO (2) BOLTS PER LENGTH OF SILL.

UPON WRITTEN REQUEST, SIMPSON EPOXY OR REDHEAD ANCHORS MAY BE USED, PROVIDING EQUAL SHEAR AND WITHDRAWAL RESISTANCE REQUIREMENTS ARE MET. PROVIDE ICC EVALUATION REPORTS AS REQUIRED FOR APPROVAL.

SIZING AND SURFACING: ALL LUMBER, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE, SHALL BE MILL SIZED AND SURFACED ON ALL FOUR (4) SIDES, BE STRAIGHT STOCK, FREE FROM WARP OR CUP, AND SINGLE LENGTH, DETAILED OR AS DIRECTED BY THE ARCHITECT.

FASTENERS:

ALL NAILING NOT SPECIFICALLY CALLED OUT ON PLANS SHALL BE PER ICC NAILING SCHEDULE.

NAILS SHALL BE AS INDICATED BELOW UNLESS NOTED OTHERWISE ON PLANS.

ROOF AND FLOOR SHEATHING - COMMON NAILS.

SHEARWALL SHEATHING - COMMON OR GALVANIZED BOX NAILS (WHEN EXPOSED TO WEATHER)

FRAMING - COMMON, BOX, OR COATED SINKER NAILS (REPLACE ALL SPLIT FRAMING AND FINISH LUMBER)

PLYWOOD SHEATHING NAILS SHALL BE DRIVEN FLUSH, BUT SHALL NOT FRACTURE THE SURFACE OF THE SHEATHING.

MACHINE BOLTS AND ANCHOR BOLTS SHALL CONFORM TO ASTM A-307. THREADED ROUND STOCK SHALL CONFORM TO ASTM A36. PROVIDE PLATE WASHERS PER SCHEDULE. NUTS SHALL BE TIGHTENED WHEN PLACED AND RETIGHTENED BEFORE CLOSING IN.

JOISTS HANGERS, METAL CONNECTORS AND OTHER MISCELLANEOUS TIMBER CONNECTORS SHALL BE PER SIMPSON CO. NAIL OR BOLT AT ALL PRE-DRILLED HOLES, PER MANUFACTURERS INSTRUCTIONS, UNLESS NOTED OTHERWISE.

ALL NAILING SHALL COMPLY WITH ICC CODES AS ADOPTED AND AMENDED.

WORKMANSHIP

ALL ROUGH CARPENTRY SHALL PROOUC E JOINTS TRUE, TIGHT, AND WELL NAILED, WITH MEMBERS ASSEMBLED IN ACCORDANCE WITH DRAWINGS AND APPLICABLE BUILDING CODES.

THE SHIMMING OF SILLS, JOISTS, SHORT STUDS, TRIMMERS, HEADERS, OR OTHER FRAMING MEMBERS WILL NOT BE PERMITTED. ALL WALLS AND PARTITIONS SMALL BE INSTALLED STRAIGHT, PLUMB, AND ACCURATELY LOCATED. CAREFULLY SELECT AL STRUCTURAL MEMBERS. INDIVIDUAL PIECES SHALL L. BE SELECTED SO THAT KNOTS AND OBVIOUS MINOR DEFECTS WILL NOT INTERFERE WITH THE PLACING OF BOLTS, OR THE PROPER NAILING OF SOUND CONNECTIONS.

THE ARCHITECT MAY REJECT LUMBER FOR EXCESSIVE WARP, TWIST, BOW, CROOK, MILDEW, FUNGUS, OR IMPROPER GRADE MARKING. LUMBER WITH THE AFOREMENTIONED DEFECTS WILL BE DISCARDED AND REMOVED FROM THE SITE.

STRUCTURAL SHEATHING SMALL BE MANUFACTURED WITH EXTERIOR GLUE AND SHALL CONFORM TO THE AMERICAN PLYWOOD ASSOCIATION (APA) RATINGS AND SPECIFICATIONS.

WELDING:

ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS PER AWS STANDARD QUALIFICATIONS PROCEDURE TO PERFORM TYPE OF WORK REQUIRED, AND BE IN ACCORDANCE WITH AWS WELDING CODE. ARC WELDING SHALL BE E70XX LOW HYDROGEN SERIES FOR MANUAL ARC WELDING. PROVIDE SPECIAL INSPECTION FOR ALL FIELD WELDING.

TEN PERCENT (10%) OF ALL FULL PENETRATION WELDS SHALL BE TESTED WITH X-RAY OR ULTRASONICALLY UNDER THE SUPERVISION OF THE APPROPRIATE OFFICIALS AND BY CERTIFIED LICENSED TECHNICIANS, WHEN REQUIRED BY THE ARCHITECT.

TRUSSES:

TRUSS MANUFACTURER SHALL PROVIDE TRUSS LOAD CALCULATIONS, DESIGN AND SHOP DRAWINGS FOR ALL TRUSSES TO BE INSTALLED. CALCULATIONS SHALL INCLUDE ALL STRESSES AND DEFLECTIONS CAUSED BY DEAD AND LIVE LOADS, DRAG LOADS, AND TRUSS BLOCK LOADS. DRAWINGS SHALL INCLUDE LAYOUT, SIZE OF MEMBERS, AND CONNECTION DETAILS (SPECIFY ALL HARDWARE).

MAXIMUM DEFLECTION OF ROOF TRUSSES SMALL BE: LV240 (D.L. + L.L.), MAXIMUM DEFLECTION OF FLOOR TRUSSES SHALL BE: L/360 (D.L. + L.L.) UNLESS NOTED OTHERWISE..

MANUFACTURED TRUSSES SHALL CONFORM TO THE DESIGN SPECIFICATIONS FOR METAL PLATE CONNECTED WOOD TRUSSES (TPI) LATEST ADOPTED EDITION

FOR TRUSS CONFIGURATIONS, DIMENSIONS, ETC., SEE THE WORKING DRAWINGS.

PROVIDE MULTIPLE STUD AND/OR SOLID BLOCKING UNDER ALL MULTIPLE TRUSSES AND DRAG TRUSSES.

SUPERIMPOSED LOADS FROM JACK TRUSSES, ARCHITECTURAL FINISHES OR OTHER SECONDARY FRAMING (IN-FILL TRUSSES, CALIFORNIA FRAMING, FURRED CEILINGS, SOFFITS, ETC.) SHALL BE INCLUDED IN DESIGN OF SUPPORTING TRUSSES.

THE POSITIONS, WEIGHTS AND METHOD OF ATTACHMENT OF ALL MECHANICAL UNITS, ELECTRICAL FIXTURES, PLUMBING, ETC., SHALL BE INCLUDED IN THE DESIGN OF THE TRUSSES BY THE TRUSS MANUFACTURER AND SHALL BE VERIFIED BY THE ARCHITECT. ADDITIONAL TRUSSES OR SPECIAL DESIGNED TRUSSES MAY BE REQUIRED.

TRUSS MANUFACTURER IS RESPONSIBLE FOR ALL TRUSS-TO-TRUSS CONNECTIONS, TRUSS TO BEAM CONNECTIONS, AND PERMANENT BRACING, AS REQUIRED FOR THE DESIGN.

STORAGE, HANDLING AND INSTALLATION OF TRUSSES SHALL FOLLOW TRUSS PLATE SPECIFICATIONS.

CONTRACTOR SHALL CONFORM TO TRUSS PLATE INSTITUTE (TPI) "HIB-91," AND TRUSS MANUFACTURERS RECOMMENDATIONS AND SPECIFICATIONS

CONTRACTOR WILL VERIFY REQUIREMENTS FOR AND PROVIDE ALL ERECTION AND PERMANENT TRUSS BRACING AS RECOMMENDED BY TRUSS MANUFACTURER AND TPI PUBLICATIONS.

THE DESIGN OF "SCISSOR" AND "COFFERED" TYPE TRUSSES SHALL LIMIT THE HORIZONTAL DEFLECTION UNDER DEAD PLUS LIVE LOADS TO 1/2" TOTAL.

TRUSS MANUFACTURER SHALL INCLUDE DEFLECTION CALCULATIONS WITH THE SHOP DRAWING SUBMITTAL.

TRUSS MANUFACTURER SHALL DESIGN GABLE-END TRUSSES FOR OUT-OF-PLANE WIND LOADING.

NO MODIFICATION TO TRUSS VIZ. CUTTING, NOTCHING, DRILLING, ETC., SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM TRUSS MANUFACTURER AND ARCHITECT.

ROOF FRAMING:

PLYWOOD SHEATHING ON ROOF SHALL BE PER STRUCTURAL CALCULATIONS AND SCHEDULES ON THE WORKING DRAWINGS.

PROVIDE SOLID BLOCKING AT ALL RIDGES FOR CONTINUOUS EDGE NAILING. DOUBLE BLOCK WITH VENT HOLES WHEN CONTINUOUS RIDGE VENTS ARE SPECIFIED.

NO PENETRATIONS, OTHER THAN SHOWN, WILL BE ALLOWED IN SHEAR WALLS UNLESS APPROVED BY THE ARCHITECT.

TOP PLATES OF ALL EXTERIOR WALL SHALL BE TWO (2) 2" X DF #2 MIN. PIECES, AND SHALL BE LAPPED 4'-0" MINIMUM, WITH NAILING PER SCHEDULE/NOTES. INSTALL A MST121 AT EVERY TOP PLATE JOINT UNLESS NOTED OTHERWISE.

EDGE NAIL ROOF SHEATHING TO COLLECTOR JOISTS AND BLOCKING TYPICAL.

FLOOR FRAMING:

FLOOR SHEATHING SHALL BE 23/32" T & G PLYWOOD (48/24) APA RATED WITH 10D NAILS PER SCHEDULE/NOTES.

ALL BEAMS AND HEADERS SHALL BE PER SCHEDULES OR DRAWINGS.

ALL BEAM TO POST CONNECTIONS SHALL BE FASTENED AS SHOWN ON THE DRAWINGS.

ALL POSTS (FROM ABOVE) TO BEAM CONNECTIONS SHALL BE FASTENED WITH STRONG-TIE CONNECTORS PER NOTES AND DETAILS.

EDGE NAIL FLOOR SHEATHING TO COLLECTOR JOISTS AND BLOCKING TYPICAL.

REINFORCING:

REINFORCING STEEL SHALL CONFORM TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 60 FOR #5 BARS AND LARGER AND GRADE 40 FOR #4 BARS AND SMALLER. STEEL SHALL BE KEPT CLEAN AND FREE OF RUST SCALES.

ALL REINFORCING STEEL SHALL BE LAPPED AS INDICATED. LAPS/SPLICES SHALL BE 48 BAR DIAMETERS (MIN.), AND STAGGERED A MINIMUM OF 20'.

ALL HOOKS SHOWN SHALL BE ACI STANDARD HOOKS UNLESS NOTED OTHERWISE. ALL COLUMN BEAMS AND PILASTER TIES SHALL HAVE A 135-DEGREE MINIMUM TURN PLUS A FOUR INCH (4") EXTENSION TO THE FREE END.

CONCRETE COVER OVER REINFORCING STEEL SHALL BE MAINTAINED AS FOLLOWS, UNLESS NOTED OTHERWISE:  
CONCRETE POURED AGAINST EARTH: 3"  
FORMED SURFACES BACKFILLED WITH EARTH: 2"  
FORMED SURFACES EXPOSED TO WEATHER: 1-1/2"  
FORMED SURFACES EXPOSED TO INTERIOR SPACE: 3/4"

INSTALL REINFORCING AT MID-HEIGHT IN SLABS, AS REQUIRED AND SHOWN ON DRAWINGS, USING DOBIES OR CHAIRS AS REQUIRED.

EXPANSION BOLTS SHALL BE HILTI KWIK BOLT II OR APPROVED EQUAL. EXPANSION BOLTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATION, OR APPROVED EQUAL WITH ICC EVALUATION REPORT.

HIGH STRENGTH NON-SHRINK GROUT SHALL BE MASTERFLOW #928 BY MASTER BUILDERS UNLESS NOTED OTHERWISE (5000PSI) OR APPROVED EQUAL.

SMOOTH DOWELS SHALL BE NEW PLAIN BILLET STEEL CONFORMING TO ASTM A615 (INCLUDING SUPPLEMENT S1), GRADE 40 FOR 3/8" & 1/2" DIAMETER, GRADE 60 FOR 5/8" DIAMETER AND LARGER.

REINFORCING, ANCHOR BOLTS AND INSERTS SHALL BE RIGIDLY HELD IN PLACE PRIOR TO PLACING CONCRETE. ALL HOLDDOWNS SHALL BE FIXED IN PLACE PRIOR TO CONCRETE PLACEMENT.

WELDING AND PREHEATING OF REINFORCING SHALL CONFORM TO ICC AND AWS STANDARDS, LATEST EDITIONS. SPECIAL INSPECTION WHEN REQUIRED BY ARCHITECT

MINIMUM CLEAR DISTANCE BETWEEN BARS SHALL BE 1-1/2 TIMES THE BAR DIAMETER, 1-1/3 TIMES THE MAXIMUM AGGREGATE SIZE, OR 1-1/2", WHICHEVER IS GREATEST.

STEEL:

ALL STRUCTURAL AND MISCELLANEOUS STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION, AND ERECTION OF BUILDINGS, LATEST EDITION. SUBMIT SHOP DRAWINGS TO THE ARCHITECT FOR REVIEW PRIOR TO FABRICATION.

BOLTS, NUTS, AND WASHERS SHALL CONFORM TO ASTM A-307, UNLESS NOTED OTHERWISE. PER ASTM A-325, ALL BOLT HOLES SHALL BE PUNCHED OR DRILLED AND SHALL BE 1/16" LARGER THAN NOMINAL BOLT SIZE. BURNED HOLES ARE NOT ACCEPTABLE.

STEEL SHALL CONFORM TO ASTM STANDARDS AS FOLLOWS:  
STRUCTURAL AND MISCELLANEOUS STEEL: FY = 36KSI PER ASTM A-36.  
STEEL TUBES: FY = 46KSI PER ASTM A-500, TYPE S, GRADE B.  
STEEL PIPE COLUMNS: FY = 36KSI PER ASTM A-53, TYPE S, GRADE B.  
WIRE FABRIC SHALL CONFORM TO ASTM A-185

ALL STEEL EXPOSED TO WET CONDITIONS SHALL BE GALVANIZED OR PRIMED AND PAINTED WITH ONE OF THE FOLLOWING:  
1 - ZINC PHOSPHATE PRIMER AND ACRYLIC OR ENAMEL PAINT.  
2 - EPOXY PRIMER, AND PAINT.

ALL PAINT APPLIED TO STEEL SHALL BE COMPATIBLE WITH PRIMER USED.

DESIGN CRITERIA:

VERTICLE LOADS:  
ROOF DEAD LOAD (DL) - TC 9PSF, BC 5PSF • ROOF LIVE LOAD (LL) - TC 20PSF, BC 0PSF  
ROOF PHOTOVOLTAIC - TC 5PSF • ROOF SOLAR HOT WATER - TC 45PSF

FLOOR DEAD LOAD (DL) - 15PSF • FLOOR LIVE LOAD (LL) - 40PSF

FOUNDATION:  
ALLOWABLE SOIL BEARING PRESSURE: DL + LL = 2500 PSF UNLESS NOTED OTHERWISE.

LATERAL LOADS:  
WIND: SEE TITLE SHEET • SEISMIC ZONE: SEE TITLE SHEET

SHOP DRAWINGS:

SHOP DRAWINGS FOR ARCHITECTS REVIEW WILL BE REQUIRED AS FOLLOWS:  
NOT REQUIRED FOR STRUCTURAL STEEL, GLU-LAM BEAMS, & STEEL REINFORCING REQUIRED FOR ROOF & FLOOR TRUSSES

PREFABRICATION SHALL NOT PROCEED UNTIL THE ARCHITECT HAS REVIEWED AND APPROVED SHOP DRAWINGS.

STANDARDS

CONTRACTORS ARE DIRECTED TO COMPLY WITH ALL NOTES AND STANDARD DETAILS IN THESE CONTRACT DOCUMENTS, REGARDLESS OF SPECIFIC FLAGGING OR REFERENCE. THEY DESCRIBE METHODS, MATERIALS, SPECIFICATIONS, CODE COMPLIANCE, CONVENTIONS, STRUCTURAL APPLICATIONS, AND STANDARDS REQUIRED BY THESE CONTRACT DOCUMENTS.

ABBREVIATIONS

ICC - INTERNATIONAL CODE COUNCIL  
IBC - INTERNATIONAL BUILDING CODE  
IRC - INTERNATIONAL RESIDENTIAL CODE  
ASTM - AMERICAN SOCIETY OF TESTING MATERIALS  
APA - AMERICAN PLYWOOD ASSOCIATION  
AWS - AMERICAN WELDING SOCIETY  
PS - PRODUCT STANDARD

REVISIONS

Date: By:


This work was prepared under my supervision and construction of this project will be under my observation.

WALTER STEWART FULLERTON

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Expires: 04/30/2024  
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Specifications

Date: 04-15-2023

Scale: No Scale

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WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTORS ARE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB. DESIGNER SHALL BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS, CONDITIONS, OR SPECIFICATIONS APPEARING ON THESE DRAWINGS.



NOTES

REINFORCING STEEL:

1. DEFORMED BAR REINFORCEMENT SHALL CONFORM TO THE FOLLOWING GRADES OF ASTM A  
GRADE 40 - LIGHT DUTY SINGLE FAMILY RESIDENTIAL  
GRADE 60 - MEDIUM TO HEAVY DUTY CONSTRUCTION
2. DETAILS OF REINFORCEMENT SHALL BE IN ACCORDANCE WITH ACI 318, CURRENT STATE AD  
IRC AND IRC APPLICATIONS
3. LAPS AT BAR SPLICES IN CONCRETE CONSTRUCTION SHALL BE AS SHOWN ON TYPICAL CON  
REINF. LAP SPLICES. LAPS AT BAR SPLICES SHALL NOT BE LESS THAN 12"
4. BAR SUPPORTS SHALL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF BAR SUPPLY  
SPECIFICATIONS AS PROVIDED BY THE LATEST STATE ADOPTED EDITION OF THE MANUAL OF  
STANDARD PRACTICE BY THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI.)
5. ALL REINFORCING STEEL DETAILING, BENDING AND PLACEMENT SHALL BE IN ACCORDANCE WITH  
THE LATEST STATE ADOPTED EDITION OF THE MANUAL OF STANDARD PRACTICE BY THE CONCRETE  
REINFORCING STEEL INSTITUTE (CRSI.)

REINFORCED CONCRETE:

1. THE MINIMUM 28-DAY CYLINDER STRENGTH SHALL BE PER THE 2018 IRC  
AS FOLLOWS (U.N.O.)  

CONCRETE ELEMENT:	1"
SLAB ON GRADE	2500 PSI
CONTINUOUS FOOTINGS	2500 PSI
SPREAD PAD FOOTINGS	2500 PSI

(\*\*NOTE: ALL CONCRETE WITH 1% GREATER THAN 2500 PSI SHALL REQUIRE SPECIAL  
INSPECTION PER THE 2018 IRC/IBC CHAPTER 17 REQUIREMENTS.)
2. ALL PORTLAND CEMENT SHALL CONFORM TO ASTM C 150 TYPE I OR II.
3. STRUCTURAL ADMIXTURES, IN CONFORMANCE WITH ACI 318 SECTION 3.8 MAY BE USED WITH  
APPROVAL OF THE ARCHITECT.
4. READY-MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94 --  
MIXING AND PLACING OF CONCRETE.
5. MINIMUM CONCRETE COVER (IN INCHES) FOR REINFORCING STEEL, IN NON-PRESTRESSED, CAST-  
IN-PLACE CONCRETE SHALL BE AS FOLLOWS:  

LOCATION:	MIN. COVER (IN.)
A. CAST AGAINST, AND PERMANENTLY EXPOSED TO EARTH	3
B. FORMED SURFACES EXPOSED TO WEATHER:	1-1/2
6. CONDUIT SHALL NOT BE PLACED IN ANY CONCRETE SLAB LESS THAN 3 - 1/2" THICK.  
IF CONDUIT IS PLACED IN CONCRETE SLAB, ITS OUTSIDE DIAMETER SHALL NOT BE  
GREATER THAN ONE THIRD OF THE SLAB THICKNESS.
7. ALL EXPOSED CORNERS SHALL BE CHAMFERED 3/4 INCH (U.N.O.)
8. FRAMING CONTRACTOR TO VERIFY LOCATION OF HOLDINGS AND HARDWARE BEFORE PLACING  
CONCRETE FOUNDATIONS. ALL FOUNDATION HARDWARE SHALL BE PRE-SET IN HOLDERS  
OR TEMPLATES BEFORE CONCRETE POUR. WET SET HARDWARE PROHIBITED.  
NO EXCEPTIONS.
9. ALL VERTICAL SURFACES OF CONCRETE ABOVE FINISHED GRADE SHALL BE FORMED.
10. SLAB ON GRADE IS NOT DESIGNED AS A STRUCTURAL DIAPHRAGM (U.N.O.).

WOOD

1. SAWN LUMBER SHALL BE DOUGLAS FIR- LARCH CONFORMING TO THE 2018 IRC  
SECTION 2303 AND APPA/NWC NDS-2015 NATIONAL DESIGN SPECIFICATION FOR WOOD  
CONSTRUCTION (AND SUPPLEMENT) REVISED 2015, AND SHALL BE GRADE MARKED BY  
EITHER WCLB OR WMPA.
2. SAWN STRUCTURAL FRAMING MEMBERS SHALL BE AS FOLLOWS (U.N.O.):  

MEMBERS	GRADE
2x WALL STUDS @ 16"	D.F. #2
2x FLOOR JOISTS & ROOF RAFTERS	D.F. #2
BEAMS & HEADERS (4x, 6x, 8x)	D.F. #1
POSTS (4x, 6x, 8x)	D.F. #2
3. ALL SILL PLATES BEARING ON CONCRETE SHALL BE ISOLATED W/ MIN. 30# FELT  
OR PRESSURE TREATED D.F.
4. ALL SILL PLATES BEARING ON CONCRETE OR MASONRY SHALL HAVE ANCHOR BOLTS  
OR TITEN HD ANCHORS PER SHEARWALL SCHEDULE. ELSEWHERE, INSTALL  
5/8" x 8" SIMPSON TITEN HD ANCHORS, PLACED WITHIN 12" MAX. (4-1/2" MIN.) FROM  
EACH END OR SPLICE, WITH 48" MAX. SPACING. MIN. 2 ANCHORS PER EACH PANEL.
5. SILL PLATES OF INTERIOR, NON-BEARING, NON-SHEAR WALLS MAY BE FASTENED TO A  
CONCRETE SLAB USING HILTI 1/4"-27/32" LOW VELOCITY POWDER-ACTUATED FASTENERS  
(ICC-ESR-1683) OR APPROVED EQ. CONCRETE SLAB IS TO BE NORMAL WEIGHT CONCRETE  
AND CURED AT LEAST 7 DAYS. PLACE FASTENERS 6" FROM ENDS OF SILL AND AT 36" (MAX.)  
SPACING BETWEEN.
6. ORIENTED STRAND BOARD AND PLYWOOD SHEATHING SHALL CONFORM TO:  
U.S. PRODUCT STANDARDS PS1-09 OR PS2-10, APA PERFORMANCE STANDARD PRP 108,  
AND 2018 IRC 2303.1.5 U.N.O., THE MINIMUM GRADES AND SPAN INDEXES SHALL BE  
AS FOLLOWS:  

USE	MIN. GRADE	SPAN RATING
ROOF SHEATHING	APA RATED SHEATHING, EXP. I	24" MIN
FLOOR SHEATHING	APA-RATED STRUCT 1 T&G	24" MIN.
WALL SHEATHING	PER SHEARWALL SCHEDULE, MIN. APA RATED SHEATHING, EXP. I	(N/A)

7. GLUED LAMINATED TIMBERS SHALL BE FABRICATED IN ACCORDANCE WITH ANSI/ATC  
A190.1-2002 "STRUCTURAL GLUED LAMINATED TIMBER, ATC 117 OR APA-ENW 117, AND  
D3737-89a. EXTERIOR GLUE TO BE USED WITH INTENDED DRY USE CONDITION PER 2015  
NDS SECT 5.1.4.1. COMBINATIONS AND USES SHALL BE AS FOLLOWS:  

KEY	COMBINATION NO.	USE
24F-V4	ENW 24F-V4 DF/DF	SIMPLE SPAN
24F-V8	ENW 24F-V8 DF/DF	CONTINUOUS & CANTILEVERS
8. FOR STRUCTURAL GLUE-LAMINATED TIMBER MEMBERS, AN ATC CERTIFICATION OF  
CONFORMANCE OR A CERTIFICATE OF CONFORMANCE ISSUED BY A CURRENT ICC  
APPROVED QUALITY CONTROL AGENCY, MUST BE SUBMITTED TO THE BUILDING INSPECTOR  
PRIOR TO INSTALLATION. THE MAXIMUM MOISTURE CONTENT OF THE LAMINATIONS AT TIME  
OF MANUFACTURE SHALL NOT EXCEED 16% FOR DRY CONDITIONS OF USE.
9. LVL, PSL, AND LSL ENGINEERED WOOD MEMBERS SHALL BE PER TRUS/JOIST  
MACMILLAN & ICC-ESR-1387 (OR APPROVED EQ.) MICRO LAMLS, PARALLAMS, AND  
TIMBERSTRAND RESPECTIVELY. ALTERNATE MUST BE ICC-APPROVED AND REVIEWED  
BY STRUCTURAL ENGINEER.
10. WOOD JOISTS SHALL BE IN COMPLIANCE WITH THE FOLLOWING STANDARDS:  

JOIST MANUF.	STANDARDS
TRUS-JOIST MACMILLAN	ICC-ESR-1387 (U, L)/APPRO MEMBERS) OR APPROVED EQ.
ALL OTHERS	ASTM D5055, APA FORM QM-3005
11. FRAMING ANCHORS, POST CAPS, COLUMN BASES, AND OTHER CONNECTORS SH  
ON DRAWINGS SHALL BE AS MANUFACTURED BY SIMPSON STRONG-TIE® OR AN  
ARCHITECT-APPROVED EQUAL. ALL CONNECTORS TO BE FULLY NAILED OR BOL  
SPECIFIED PER MANUF.
12. BARS AND PLATES SHALL CONFORM TO ASTM A36. BOLTS, UNLEADED BOLTS,  
WASHERS AND DRIFT BOLTS SHALL CONFORM TO ASTM A 307.
13. NUTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 563, GRADE A.
14. ALL BOLT HEADS (MACHINE AND LAG) AND NUTS BEARING ON WOOD SHALL HA  
STANDARD CUT WASHERS, U.N.O.
15. MACHINE BOLT (THRU-BOLT) HOLES IN WOOD SHALL BE DRILLED A MINIMUM 1/32" &  
MAXIMUM 1/16" LARGER THAN THE NOMINAL BOLT DIAMETER
16. LEAD HOLES FOR LAG SCREWS GREATER THAN 3/8" SHALL BE BORED AS FOLLOWS:  
40 % - 70 % OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF  
THE THREADED PORTION. CLEARANCE HOLES FOR THE SHANK SHALL HAVE THE SAME  
DIAMETER AS THE SHANK, AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF  
UNTHREADED SHANK. LAG SCREWS SHALL BE INSERTED BY TURNING WITH A WRENCH,  
NOT BY DRIVING WITH A HAMMER.
17. NAILING OF SAWN MEMBERS SHALL CONFORM TO THE 2018 IRC/IBC TABLE STANDARD TABLES.  
AND STRUCTURAL DETAILS.
18. NAILS HOLES SHALL BE PRE-DRILLED WHEN NECESSARY TO PREVENT SPLITTING.
19. CUSTOM STEEL HARDWARE CONNECTORS FOR WOOD OR GLUED LAMINATED TIMBER  
SHALL BE FABRICATED FROM STEEL CONFORMING TO ASTM A 36. WELDS SHALL  
CONFORM TO THE REQUIREMENTS OF AWS D1.1-2010.
20. HORIZONTAL DIAPHRAGM NAILING SHALL CONFORM TO 2018 IRC/IBC TABLES.  
STRUCTURAL PANEL SHEARWALLS SHALL CONFORM TO 2018 IRC/IBC TABLES.  
NOMENCLATURE IS DEFINED AS FOLLOWS (PER DETAILS):  
  
BN = BOUNDARY NAILING AT DIAPHRAGM BOUNDARIES, AND AT EDGES OF OPENINGS  
EN = EDGE NAILING, AT CONTINUOUS PANEL EDGES  
FN = FIELD NAILING, AT INTERMEDIATE FRAMING MEMBERS
21. WHERE DIAPHRAGM BLOCKING IS SPECIFIED FOR ROOFS OR FLOORS, USE 2x4 FLAT  
BLOCKING WITH 1/2 CLIPS, U.N.O.
22. HORIZONTAL SHEATHING SHALL BE CONTINUOUS OVER TWO OR MORE SPANS, AND THE  
FACE GRAIN (LONG DIRECTION) OF SHEATHING SHALL BE PERPENDICULAR TO SUPPORT  
MEMBERS.
23. SIMPLE SPAN WOOD MEMBERS, NOT SHOP CAMBERED, SHALL BE ERECTED WITH THE  
NATURAL CAMBER UP. FOR CANTILEVERED WOOD MEMBERS, CONSULT WITH PROJECT  
THE ARCHITECT.
24. SPECIAL PROVISIONS FOR SHEAR WALLS WITH SHEATHING ON BOTH SIDES (WHERE  
SPECIFICALLY INDICATED ON PLANS):  

A. SILL PLATE SHALL BE 3x T.D.F. MIN.

B. ALL STUDS AND BLOCKING AT PANEL EDGES SHALL BE 3x MIN.

C. ALL OTHER INTERMEDIATE STUDS SHALL BE 2x @ 16"

D. END POSTS (OR COLUMNS) SHALL BE AS SPECIFIED ON THE DRAWINGS.

E. BOTH VERTICAL AND HORIZONTAL INTERIOR PANEL JOINTS ON OPPOSITE SIDES OF  
THE WALL SHALL BE STAGGERED.

F. THE SHEATHING ON THE FIRST SIDE MUST BE NAILED BEFORE THE FRAMING  
INSPECTION. THE SHEATHING ON THE OTHER SIDE MUST BE INSTALLED AND  
INSPECTED PRIOR TO INSTALLATION OF WALL SURFACE COVERING.

G. NO PENETRATIONS OR NOTCHES ARE PERMITTED OTHER THAN THOSE SHOWN ON  
THE STRUCTURAL DRAWINGS.
25. PROVIDE DOUBLE 2x STUDS TO SUPPORT ALL BEAMS, UNLESS POSTS ARE SPECIFIED  
ON THE PLANS.
26. DOUBLE BLOCK UNDER ALL POSTS. DOUBLE JOISTS UNDER ALL PARALLEL  
PARTITIONS, UNLESS OTHERWISE SPECIFIED.

27. TOP PLATES OF ALL WOOD STUD WALLS SHALL BE 2-2x (SAME WIDTH AS STUD  
48" (MIN.) WITH AT LEAST 12-16d NAILS AT EACH SIDE OF LAP AND NOT MORE  
BETWEEN NAILS (SEE PLANS IF STRAPS ARE REQUIRED).
28. NOTCHING OF BEAMS OR JOISTS SHALL BE PERMITTED ONLY PER 2015 NDS SECTION  
3.2.3.2, DETAILED AND APPROVED BY THE ARCHITECT. HOLES DRILLED IN JOISTS SHALL  
NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOIST, AND THE DIAMETER  
SHALL NOT EXCEED ONE THIRD THE DEPTH OF THE JOIST.
29. MOISTURE CONTENT OF SAWN LUMBER AT TIME OF PLACEMENT SHALL NOT EXCEED 19%
30. DIAPHRAGM SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL  
BE DRIVEN SO THAT THEIR HEAD OR CROWN IS FLUSH WITH THE SURFACE OF THE SHEATHING.
31. ALL FASTENERS IN PRESERVATIVE-TREATED & FIRE-RETARDANT-TREATED WOOD SHALL BE  
OF HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR  
COPPER. THE COATING WEIGHTS FOR ZINC-COATED FASTENERS SHALL BE IN ACCORDANCE  
WITH ASTM A 153. FASTENERS OTHER THAN NAILS, TIMBER RIVETS, WOOD SCREWS AND LAG  
SCREWS SHALL BE PERMITTED TO BE OF MECHANICALLY DEPOSITED ZINC COATED STEEL  
WITH COATING WEIGHTS IN ACCORDANCE WITH ASTM B 695, CLASS 55 MINIMUM.
32. ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING. FACE GRAIN OF PLYWOOD SHALL  
BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL  
EDGES. PLYWOOD SPANS SHALL CONFORM TO 2015 NDS & 2018 IRC/IBC REQUIREMENTS.
33. ALL DIAPHRAGM AND SHEAR WALL NAILING SHALL UTILIZE COMMON NAILS OR GALVANIZED BOX

GENERAL NOTES:

1. ALL CONSTRUCTION, INCLUDING MATERIAL AND WORKMANSHIP, SHALL CONFORM TO T  
PROVISIONS OF THE 2018 EDITION OF THE INTERNATIONAL BUILDING CODES (IRC/IBC), V  
GOVERNING AGENCY AMENDMENTS AND STANDARDS REFERENCED THEREIN. WHENEVER  
CODE OR IBC IS REFERENCED IN THE FOLLOWING GENERAL NOTES OR OTHER NOTE  
SECTIONS, IT SHALL IMPLY THE IRC/IBC REFERENCED ABOVE.
2. ALL ASTM STANDARDS LISTED HEREIN SHALL BE AS REFERENCED IN THE LATEST  
ISSUE OF THE ANNUAL BOOK OF STANDARDS OF THE AMERICAN SOCIETY FOR TESTING  
AND MATERIALS (ASTM).
3. THE CONTRACTORS SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE  
CONDITIONS PRIOR TO STARTING WORK. NOTIFY THE ARCHITECT  
IMMEDIATELY IN WRITING OF DISCREPANCIES.
4. ALL OMISSIONS AND/OR CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THE WORKIN  
DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE  
ARCHITECT. THE ARCHITECT SHALL PROVIDE A SOLUTION PRIOR TO PROCEEDING  
WITH THE WORK.
5. IN CASE OF CONFLICT, NOTES AND DETAILS OF THESE WORKING DRAWINGS SHALL  
TAKE PRECEDENCE OVER THESE GENERAL NOTES AND/OR STANDARD DETAILS SHOWN
6. IF A SPECIFIC DETAIL IS NOT SHOWN FOR ANY PART OF THE WORK, THE CONSTRUCTION  
SHALL BE THE SAME AS FOR SIMILAR WORK.
7. WORKING DIMENSIONS SHALL NOT BE SCALED FROM PLANS, SECTIONS OR DETAILS ON  
WORKING DRAWINGS. USE WRITTEN DIMENSIONS ONLY.
8. THE CONTRACTORS SHALL PROVIDE AND MAINTAIN ADEQUATE SHORING AND BRACING  
AS REQUIRED FOR STABILITY OF THE STRUCTURE DURING ALL PHASES OF CONSTRUCTION.  
  
METHOD OF CONSTRUCTION.
9. THE CONTRACTORS SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB  
SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING  
SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY  
CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTORS  
SHALL DEFEND, INDEMNIFY, AND HOLD THE ARCHITECT FREE AND HARMLESS  
FROM ALL CLAIMS, DEMANDS AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION  
WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT FOR LIABILITY ARISING  
FROM THE SOLE NEGLIGENCE OF THE ARCHITECT.
16. A COPY OF ICC-ES-ESR REPORT AND/OR CONDITIONS OF LISTING SHALL BE  
AT THE JOB SITE.

EARTHQUAKE DESIGN DATA:

SEISMIC IMPORTANCE FACTOR (I)	RESIDENCE
MAPPED SPECTRAL RESPONSE ACCELS (Sa & S1)	1.0
SITE CLASS	D
SPECTRAL RESPONSE COEFFICIENTS (Sds & Sd1)	1.280
SEISMIC RISK CATEGORY	II
SEISMIC DESIGN CATEGORY	E
BASIC SEISMIC FORCE-RESISTING SYSTEM	A-15 (WOOD SHEAR WALLS)
SEISMIC RESPONSE COEFFICIENT ASD (Ca)	0.1719
RESPONSE MODIFICATION FACTORS (R)	6.5
REDUNDANCY FACTOR	1.3

WIND DESIGN DATA:

ULTIMATE DESIGN WIND SPEED	RESIDENCE
RISK CATEGORY	II
WIND EXPOSURE	C

STRUCTURAL DESIGN LOADS:

ROOF (CONV. ~ W/ CLASS A COMPOSITE SHINGLES):
DL = 13 psf LL = 20 psf
CEILING (TYP. BOARD):
DL = 7 psf LL = 10 psf
2nd FLOOR (CONV. ~ W/ WOOD LAMINATE/THINSET TILE FLOORING):
DL = 18 psf LL = 40 psf
2nd FLOOR LAMA (CONV. ~ W/ THINSET TILE FLOORING):
DL = 18 psf LL = 60 psf
INTERIOR WALLS:
DL = 8 psf
EXTERIOR WALLS (W/ CEMENT BOARD FAUX WOOD SIDING ~ LP SMARTBOARD):
DL = 14 psf

ABBREVIATIONS:

ASCE	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	AB	ANCHOR BOLT	b (#)	POUND(S)
ATC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION	ABV	ABOVE	LDOR	LEADER
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	ADJ	ADJACENT	LG	LONGITUDINAL
APA	AMERICAN PLYWOOD ASSOCIATION	ALT	ALTERNATE	LTWT	LIGHT WEIGHT
ASTM	AMERICAN SOCIETY FOR TESTING & MATERIALS	AF	ABOVE FINISHED FLOOR	MAS	MASONRY
AWS	AMERICAN WELDING SOCIETY	APPROX	APPROXIMATE(LY)	MATL	MATERIAL
IBC	INTERNATIONAL BUILDING CODE	ARCH	ARCHITECTURAL	MAX	MAXIMUM
WCLB	WEST COAST LUMBER INSPECTION BUREAU	@	AT	MB	MACHINE BOLT
WMPA	WESTERN WOOD PRODUCTS ASSOCIATION	BUDG	BUILDING	MECH	MECHANICAL
		BLK	BLOCKING	MEZZ	MEZZANINE
		BM	BEAM	MF	MOMENT FRAME
		BN	BOUNDARY NAILING	MFR	MANUFACTURER
		BRG	BEARING	MIN	MINIMUM
		BTM (B)	BOTTOM	MISC	MISCELLANEOUS
		BTWN	BETWEEN	MTL	METAL
		C	CAMBER(ED)	(N)	NEW
		CANT	CANTILEVER	NO. (#)	NUMBER
		CIP	CAST-IN-PLACE	OC	ON CENTER
		CL	CENTERLINE	OWJ	OPEN WEB JOISTS
		CLG	CEILING	P/C	PRECAST CONCRETE
		CLR	CLEAR	PLY	PERPENDICULAR
		COL	COLUMN	PL	PLATE
		CONC	CONCRETE	PERP ( )	PERPENDICULAR
		CONN	CONNECTION	PCF	POUNDS PER CUBIC FT.
		CONST	CONSTRUCTION	PLY	PLYWOOD
		CTR	CENTER (ED)		
		d	PENNY (NAILS)	PMB	PROCESSED MISC. BASE.
		DBL	DOUBLE	PSF	POUNDS PER SQUARE
		DEPT	DEPARTMENT		FOOT
		DF	DOUGLAS FIR	PSI	POUNDS PER SQUARE
		DIA (-)	DIAMETER		INCH
		DIAG	DIAGONAL	PT	PRESSURE TREATED
		DIAPH	DIAPHRAGM	P/T	POST-TENSIONED
		DM	DIMENSION		(PRESTRESSED)
		DN	DOWN	QTY	QUANTITY
		do	DITTO (REPEAT)	REF	REFERENCE
		DP	DEEP (DEPTH)	REINF	REINFORCEMENT
		DWG	DRAWINGS	REQD	REQUIRED
		EA	EACH	RJ	ROOF JOIST
		EF	EACH FACE	RO	ROUGH OPENING
		ELEV	ELEVATION	RR	ROUGH RAFTER
		EMBD	EMBED(MENT)	SCH	SCHEDULE
		EN	EDGE NAILING	SW	SHEARWALL
		EW	EACH WAY	SHT	SHEET
		EXISTS (E)	EXISTING	SIM	SIMILAR
		EXT	EXTERIOR	SIMP	SIMPSON
		FF	FINISHED FLOOR	SKWD	SKEWED
		FN	FINISHED	SPEC	SPECIFICATIONS
		FLG	FLANGE	SQ	SQUARE
		FLR	FLOOR	SS	SELECT STRUCTURAL
		FN	FIELD NAILING	STD	STANDARD
		FND	FOUNDATION	STR	STAGGER(ED)
		FRMG	FRAMING	STRUCT	STRUCTURAL
		FT	FEET	T&B	TOP AND BOTTOM
		FTG	FOOTING	T&G	TONGUE AND GROOVE
		GA	GAUGE	THK	THICK
		GALV	GALV GALVANIZED	THRD	THREADED
		GB	GRADE BEAM	TN	TOE NAIL
		GLB	GLUE LAMINATED BEAM	TOP	TOP OF FOOTING
		HD	HOLD DOWN	TOW	TOP OF WALL
		HDR	HEADER	TOP	TOP OF PARAPET
		HGR	HANGER	TS	TUBE STEEL
		HORIZ (#)	HORIZONTAL	TYP	TYPICAL
		HT	HEIGHT	UNO	UNLESS NOTED
		IN (")	INCHES		OTHERWISE
		INT	INTERIOR	VERT (V)	VERTICAL
		JST	JOIST	VF	VERIFY IN FIELD
		K	KIPS (1000)	W	STEEL WIDE FLANGE
		KSI	KIPS PER SQUARE INCH	W/	WITH
		L	ANGLE	WD	WOOD
		LB	LAG BOLT	WT	WEIGHT
				WNF	WELDED WIRE FABRIC

REVISIONS

Date:	By:

This work was prepared under my supervision and construction of this project will be under my observation.

WALTER STEWART FULLERTON

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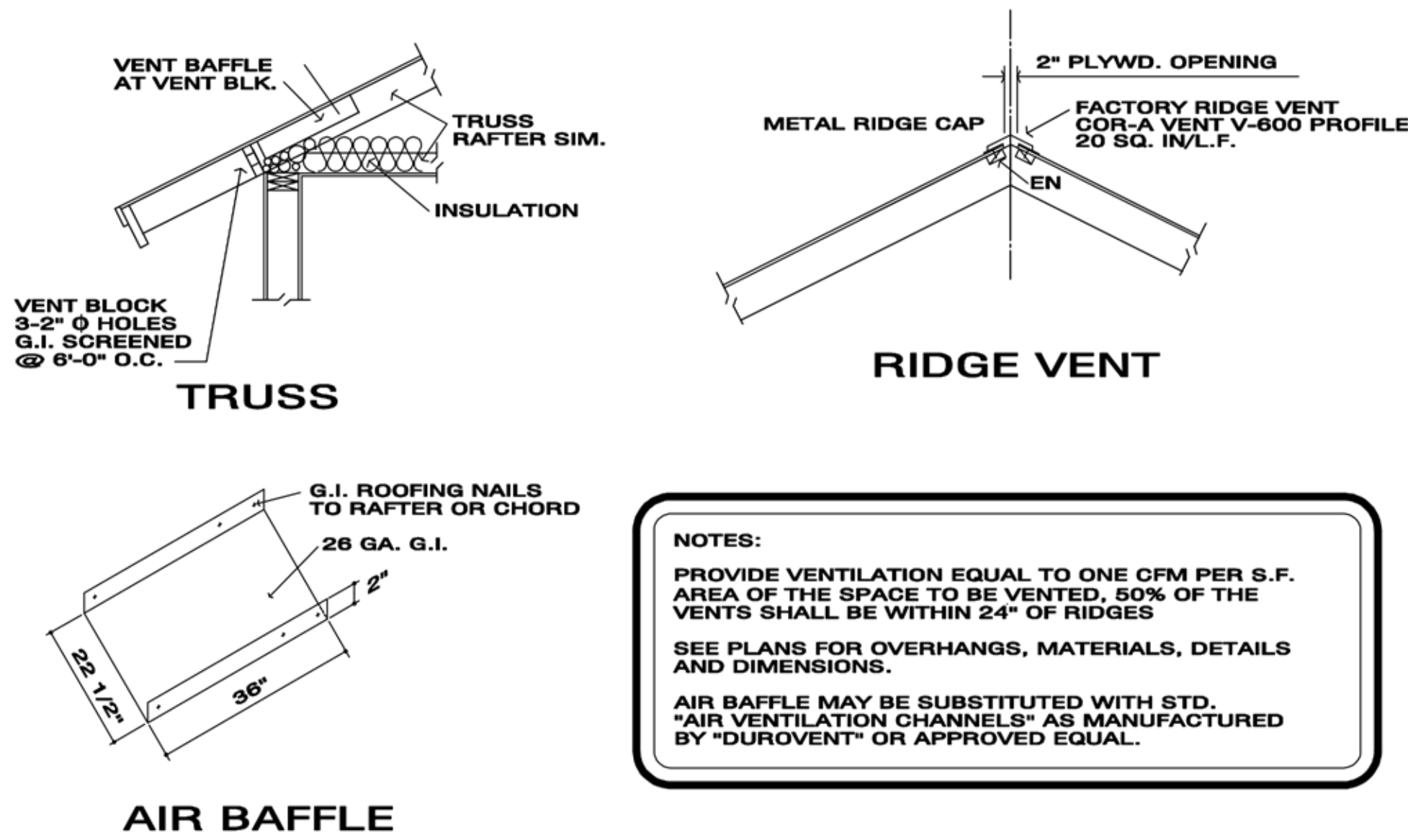
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TMK: 7-5-034-030  
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Drawn:	Notes
Date:	04-15-2023
Scale:	No Scale
	10 of 12
Page:	A09

WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTORS ARE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS OF THE JOB. DESIGNER SHALL BE NOTIFIED OF ANY VARIATIONS FROM THE DIMENSIONS, CONDITIONS, OR SPECIFICATIONS APPEARING ON THESE DRAWINGS.





## STD. ROOF VENTING

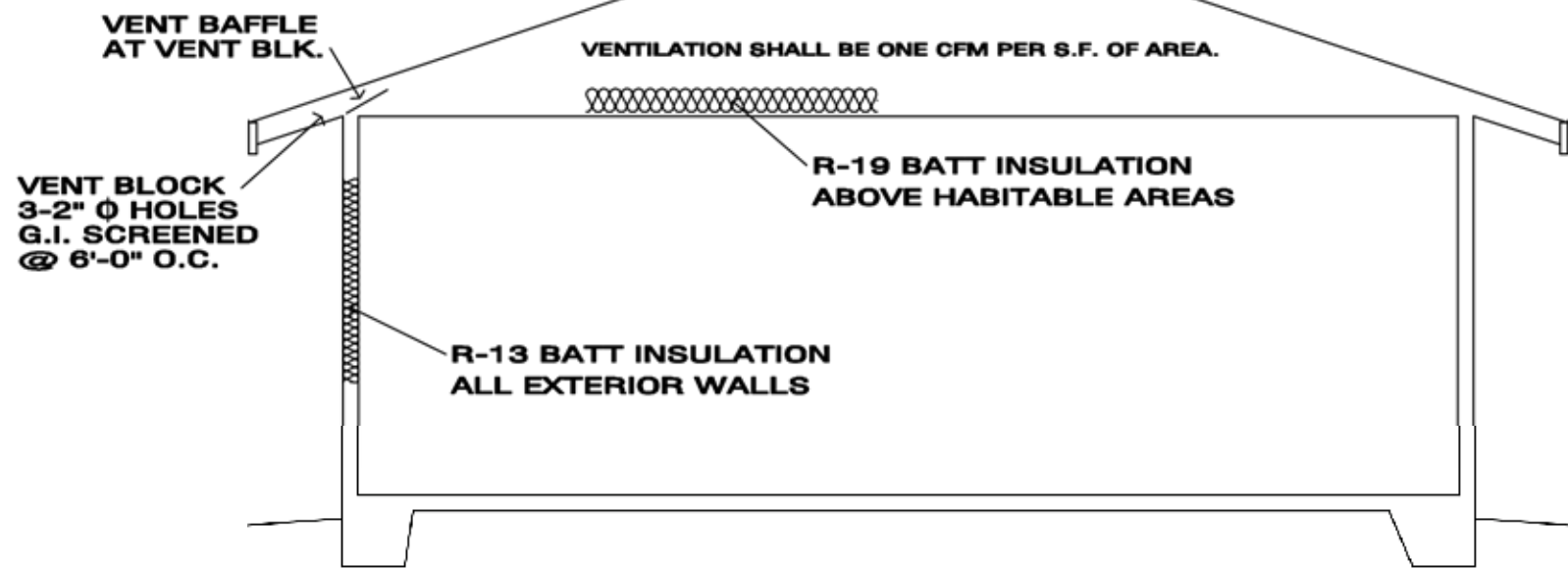
NTS R402.2.4 (BAFFLE)

TABLE R407.1, WOOD FRAMED WALLS  
TROPICAL HOME POINTS OPTION AND REQUIREMENTS  
(APPLIES TO HOMES BELOW 5,000 FOOT ELEVATION)

Revisions to Table R407.1 – Per 03/16/2020 Plans Examiner Monthly Meeting

		Standard Home Points	Tropical Home Points
Wood Framed			
Roof Insulation (Must choose 1)	R-19 Roof Insulation	-1	0
	R-19 Roof Insulation + Cool-roof membrane <sup>1</sup> or Radiant Barrier <sup>2</sup>	0	1
	R-19 Roof Insulation + Attic Venting <sup>2</sup>	0	(1)
	R-30 Roof Insulation	0	1
	R-13 Roof Insulation + Cool-roof membrane <sup>1</sup> or Radiant Barrier <sup>2</sup>	Not Applicable	0
Wall Insulation (Must choose 1)	R-13 Cavity Wall Insulation	0	1
	R-13 Wall Insulation + high reflectance walls <sup>4</sup>	1	2
	R-13 Wall Insulation + 90% high efficacy lighting and Energy Star Appliances <sup>5</sup>	1	(2)
	R-13 Wall Insulation + exterior shading w/pf=0.3 <sup>6</sup>	1	2
	Omission of Wall Insulation	Not Applicable	0
Mechanical/Electrical Systems (Choose ONLY if applies for scope of work)	Ductless Air Conditioner <sup>7</sup>	1	1
	1.071 X Federal Minimum SEER for Air Conditioner	1	1
	1.142 X Federal Minimum SEER for Air Conditioner	2	2
	No air conditioning installed	Not Applicable	(2)
	House floor area ≤ 1,000 SF	1	1
MUST Choose if applies to New construction AND/OR additions (House floor area to be considered as existing dwelling size plus new square footage)	House floor area ≥ 2,500 SF	-1	-1
	Energy Star Fans <sup>8</sup>	1	(1)
	Install 1 kW or greater of solar electric	1	1
	Reduce fenestration from 14% to 10%	Not Applicable	-1

TOTAL (6)



## IECC DIAGRAM

NTS MINIMUM REQUIREMENTS

HAWAII COUNTY ENERGY CODE

2018 IECC, HAWAII REVISED STATUTES [HRS 107-24 TO 28](#) & HAWAII ADMINISTRATIVE RULES [HAR 3-181.1](#)

RESIDENTIAL BUILDING ENERGY EFFICIENCY STANDARDS

I CERTIFY THAT THE DESIGN IS IN CONFORMANCE WITH THE BUILDING ENERGY EFFICIENCY STANDARDS PERTAINING TO THE RESIDENTIAL PROVISIONS OF THE 2018 IECC WITH AMENDMENTS PER HAR CHAPTER 3-181.1:

STATE AMENDMENTS: [EFFECTIVE FOR NEW APPLICATIONS BEGINNING 09/01/2021](#)  
COUNTY AMENDMENTS: PENDING

COMPLIANCE METHOD

☒ Tropical Zone, R401.2.1

☒ Points Option, R407 (Populate Checklist)

☐ Prescriptive, R402

Roof and Wall

☐ Insulation R-value, Table R402.1.2

☐ Construction U-factor, Table R402.1.4

☐ Total UA, R402.1.5

☐ Points Option, R407 (Populate Checklist)

☐ Simulated Performance Alternative, R405

☐ Energy Rating Index Compliance Alternative, R406

INFORMATION IN CONSTRUCTION DOCUMENTS

	Yes	N/A
Envelope		
Roof insulation R-value	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Roof insulation type and location	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Roof membrane solar reflectance and thermal emittance	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wall insulation R-value	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Wall insulation type and location	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Window and skylight SHGC	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air leakage testing requirement	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Air Conditioning		
Air conditioning equipment capacity and efficiency	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Programmable thermostat	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Duct insulation R-value	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Duct leakage testing requirement	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Electrical		
Lighting fixture locations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Lamp type	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Ceiling fans	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Whole-house fan	<input type="checkbox"/>	<input checked="" type="checkbox"/>

NOTES

2018 IECC

Please Utilize Points Options Checklist(s) When R407 is to be Utilized.

The above must be submitted to the County of Hawaii Building Division as a block or detail within the plan sets.

Effective Date: 09/01/2021

HAWAII COUNTY ENERGY CONSERVATION CODE (HECC)  
ATTENTION: OWNER AND CONTRACTOR.

X ALL APPLIANCES SHALL BE ENERGY STAR RATED.

X ENERGY STAR CEILING FANS IN BEDROOMS AND LIVING ROOM

X ENERGY EFFICIENT WINDOWS, DOORS AND SKYLIGHTS  
NATIONAL FENESTRATION RATING COUNCIL (NFR) LABEL REQUIRED. NFR LABEL SHALL DISPLAY U FACTOR, SOLAR HEAT GAIN COEFFICIENT, VISIBLE TRANSMITTANCE, AND AIR LEAKAGE.

2018 IECC, R404.1 LIGHTING EQUIPMENT (MANDATORY)  
NOT LESS THAN 90 PERCENT OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS OR NOT LESS THAN 75 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICACY LAMPS. EXCEPTION: LOW VOLTAGE LIGHTING.

LAMP WATTAGE	EFFICACY
> 40 WATTS	60 LUMENS /WATT
15-40 WATTS	50 LUMENS/WATT
<50 WATTS	40 LUMENS/WATT

X SOLAR HOT WATER (MANDATORY) ALL ELECTRIC EQUIPMENT AND WIRING SHALL COMPLY WITH NFPA 70, THE 2017 NEC, AND UL. ALL EQUIPMENT SHALL HAVE IDENTIFYING MARKING AS WELL AS LABELING AND SIGNAGE.  
ENERGY STAR SOLAR ELECTRIC HOT WATER STORAGE TANK WITH 80 GALLONS MINIMUM REQUIRED.  
ROOF MOUNTED SOLAR HOT WATER PANELS WITH ROOF MOUNTED TANKS WILL REQUIRE STRUCTURAL CALCULATIONS FOR ADDED LOADS AND SHALL BE PROVIDED BY THE CONTRACTOR.  
ALL SOLAR HOT WATER PLUMBING SHALL CONFORM TO 2012 UPC.

ALL ROOFS, AT HABITABLE AREAS, SHALL RECEIVE R19 BATT INSULATION WITH EAVE VENT BAFFLES AT INSULATION. ROOF VENTILATION SHALL BE ONE CFM PER S.F. OF AREA.

ATTIC ACCESS SHALL BE SEALED AND INSULATED THE SAME AS THE ROOF INSULATION

POST CERTIFICATE OF COMPLIANCE PER 2018 IECC IN UTILITY ROOM OR AS DIRECTED BY HAWAII COUNTY. NOTE, NO UTILITY ROOM.

INSTALL HOLD OPEN HARDWARE AT ALL BEDROOM DOORS

2015 IECC, R404.1 LIGHTING EQUIPMENT (MANDATORY)  
NOT LESS THAN 75 PERCENT OF THE LAMPS IN PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LAMPS OR NOT LESS THAN 75 PERCENT OF THE PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL CONTAIN ONLY HIGH-EFFICACY LAMPS. EXCEPTION: LOW VOLTAGE LIGHTING.

TABLE C402.4, BUILDING ENVELOPE FENESTRATION  
MAXIMUM U-FACTOR AND SHGC REQUIREMENTS  
CLIMATE ZONE 1

FIXED FENESTRATION, U-FACTOR 0.50

OPERABLE FENESTRATION, U-FACTOR 0.65

ENTRANCE DOORS, U-FACTOR 1.10

SKYLIGHTS, U-FACTOR 0.75, SHGC 0.35

WALL PROJECTION FACTOR (WPF)  
SOLAR HEAT GAIN COEFFICIENT (SHGC)

ORIENTATION	SOUTH, EAST, WEST	NORTH
WPF < 0.2	0.25	0.33
WPF < 0.2 < PF 0.5	0.30	0.37
WPF > 0.5	0.40	0.40

WALL PROJECTION FACTOR

MINIMUM WPF =  $\frac{A}{B}$  > 0.30

EXAMPLE WPF =  $\frac{3'}{4'} = 0.75$

O.H.  
A  
B  
WDW  
WDW SILL

SUBSECTION R103.1, 2015 IECC  
"ENERGY CONSERVATION CODE OF HAWAII COUNTY"

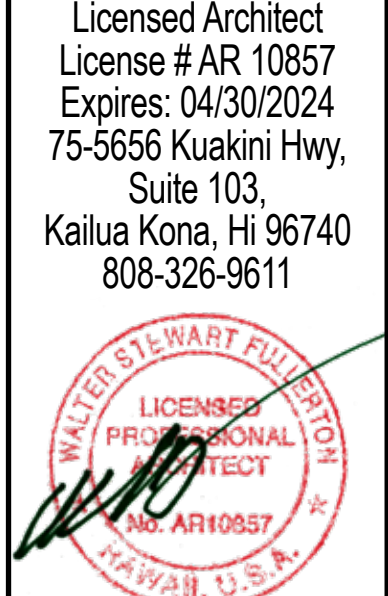
I, WALTER STEWART FULLERTON, ARCHITECT, HAWAII, AR 10857, DO HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, "THE PROJECT COMPLIES WITH THIS CODE", AS IT APPLIES.

WALTER STEWART FULLERTON  
EXPIRATION: 4-30-22

REVISIONS	
Date:	By:

This work was prepared under my supervision and construction of this project will be under my observation.

**WALTER STEWART FULLERTON**  
Licensed Architect  
License # AR 10857  
Expires: 04/30/2024  
75-5656 Kuakini Hwy,  
Suite 103,  
Kailua Kona, HI 96740  
808-326-9611



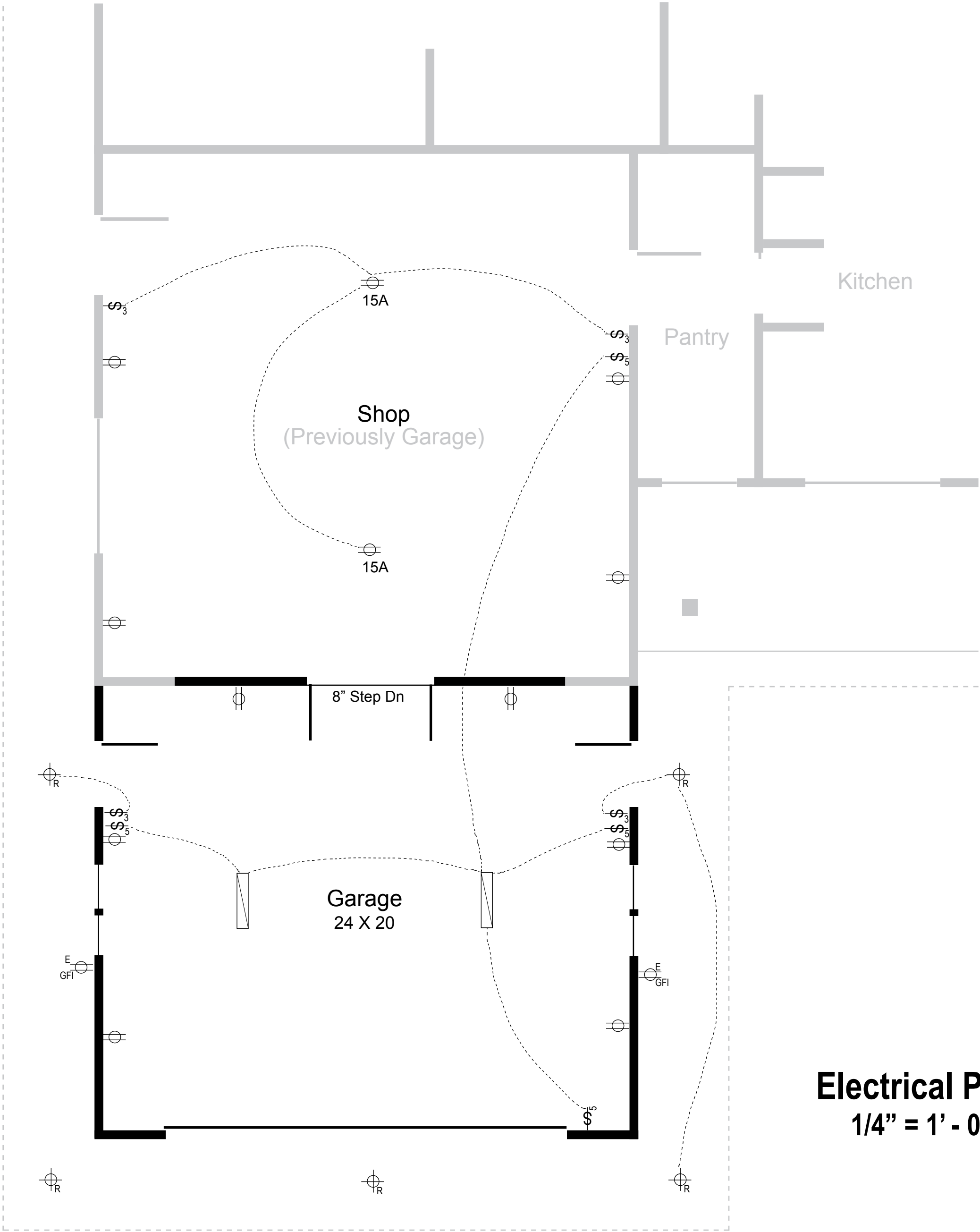
**Farnham Associates**  
**Design Solutions**  
75-5608 Hienaloli Road, #10  
Kailua Kona, Hawaii, 96740  
Richard@SurfHawaii.net • 808-896-0314

**Wendell & Linda White Res. Addition**  
75-5608 Hienaloli Rd, # 30  
Kailua Kona, HI 96740  
TMK: 7-5-034-030  
PandWhite@gmail.com • 425-785-3205

Drawing:  
**Energy Conservation**

Date: **04-15-2023**  
Scale: **No Scale**  
Page: **11 of 12**  
A10





Electrical Plan  
1/4" = 1' - 0"

ELECTRICAL NOTES

WHETHER SPECIFICALLY SHOWN ON THESE DRAWINGS OR NOT.

ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL PERMITS, LICENSES AND FEES REQUIRED TO CARRY ON AND COMPLETE ALL ELECTRICAL WORK.

ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ALL POWER, TELEPHONE AND TV SERVICE AT THE SITE WITH THE APPROPRIATE UTILITY PROVIDER. ALL SERVICES SHALL CONFORM TO THE UTILITY COMPANY'S REQUIREMENTS. THIS CONTRACTOR SHALL ARRANGE AND PAY FOR ALL UTILITY SERVICE INSTALLATIONS PER UTILITY COMPANY REQUIREMENTS.

ALL ELECTRICAL MATERIALS SHALL BE NEW AND LISTED WITH THE "UNDERWRITERS LABORATORIES, INC. AND SHALL BEAR THE "UL" LABEL AS APPLICABLE.

ALL UNUSED OPEN KNOCKOUTS SHALL BE PLUGGED. RIGIDLY SUPPORT ALL BOXES AND FIXTURES. BOXES SUPPORTING FIXTURES SHALL BE AFFIXED WITH 3/8" FIXTURE STUBS.

GROUNDING OF ELECTRICAL SYSTEM SHALL BE ELECTRICALLY CONTINUOUS. SERVICE ENTRANCE GROUNDING SHALL MEET THE REQUIREMENTS OF THE LOCAL POWER PROVIDER.

ELECTRICAL CONTRACTOR SHALL PROVIDE LAMPS AT ALL INSTALLED FIXTURES.

ELECTRICAL CONTRACTOR SHALL CHECK THE ENTIRE SYSTEM BALANCE INCLUDING BUT NOT LIMITED TO GROUNDING, "GFI" CIRCUITS, POLARITY, ETC.

SMOKE DETECTORS SHALL NOT BE PLACED WITHIN 48" OF MECHANICAL RETURN AIR REGISTERS.

ELECTRICAL CONTRACTOR SHALL MAKE ALL CONNECTIONS TO EQUIPMENT AND APPLIANCES FURNISHED BY OTHERS.

STAGGER OUTLETS, DO NOT PLACE IN SAME WALL CAVITY IN OPPOSITE SIDES OF WALLS.

INSTALL ELECTRICAL COMPONENTS AT THE FOLLOWING HEIGHTS ABOVE FINISH FLOOR UNLESS NOTED OTHERWISE:

STANDARD OUTLETS	14" (ADA 15")
32" HIGH VANITIES	40"
36" HIGH COUNTERTOPS	44"
TELEPHONE	14" (ADA 15")
TELEVISION	14"
SWITCHES	48" (ADA 42")
THERMOSTATS	58"
WALL LIGHT FIXTURES	84"
DOORBELLS	84"
GARAGE OUTLETS	42"
EXTERIOR WP GFI OUTLETS	12" (ADA 15")

ALL BEDROOM OUTLETS SHALL BE AFCI CIRCUITS.

THIS PLAN IS SUBJECT TO THE OWNERS REVIEW. THE OWNER MAY REQUEST ADDITIONAL ELECTRICAL COMPONENTS NOT INDICATED ON THIS PLAN. THE CONTRACTOR SHALL VERIFY THAT ALL ELECTRICAL COMPONENTS THE OWNER MAY ADD ARE APPROVED BY THE BUILDING DEPARTMENT PRIOR TO CONSTRUCTION.

ALL ELECTRICAL COMPONENT LOCATIONS SHALL BE VERIFIED IN THE FIELD BY THE OWNER AND CONTRACTOR.

ALL LAMPS SHALL BE LED

WHEN FUEL BURNING APPLIANCES ARE USED, THEN SMOKE DETECTORS SHALL BE SMOKE AND CARBON MONOXIDE COMBINATION DETECTORS COMPLYING WITH UL 268 AND UL 275.

ELECTRICAL/MISC KEY			
SYMBOL	DESCRIPTION	QUANTITY	NOTES
	110V Outlet	8	
	110V Outlet - Counter Ht	7	
	110V Outlet - Ceiling Mount	4	
	110V Outlet - Countert Ht GFI	1	
	110V Outlet - Exterior GFI	6	
	220V Outlet	2	3' 6" Above Floor
	Wall Switch	7	Dimmer Optional
	Wall Switch - 3 Way	3	Dimmer Optional
	Wall Switch - 4 Way		Dimmer Optional
	Light Fixture - Ceiling Mount		
	Light Fixture - Recessed	10	
	Light Fixture - Wall Mount	1	
	Light Fixture/Exhaust Fan		
	Light Fixture - Florescent		
	Smoke/Heat Detector	2	
	Electrical Panel/Box	1	
	Ceiling Fan		
	Ceiling Fan - w/ Light Fixture	9	
	Phone Jack		
	TV Jack		
	Door/Window Sensor		
	Motion Detector		
	Security Camera		
	Network Access		
	LPG Gas Connector		
	On Demand Gas Water Heater		
	On Demand Elec Water Heater	1	Optional
	Sprinkler Head		
	Under Sink Water Filter		
	Wall Mounted Pot Filler		

REVISIONS

Date:

By:


This work was prepared under my supervision and construction of this project will be under my observation.

WALTER STEWART FULLERTON

Licensed Architect  
License # AR 10857  
Expires: 04/30/2024  
75-5656 Kuakini Hwy,  
Suite 103,  
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Drawing:

Electrical Plan & Notes

Date:

04-15-2023

Scale:

1/4" = 1' 0"

12

of

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Page:

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