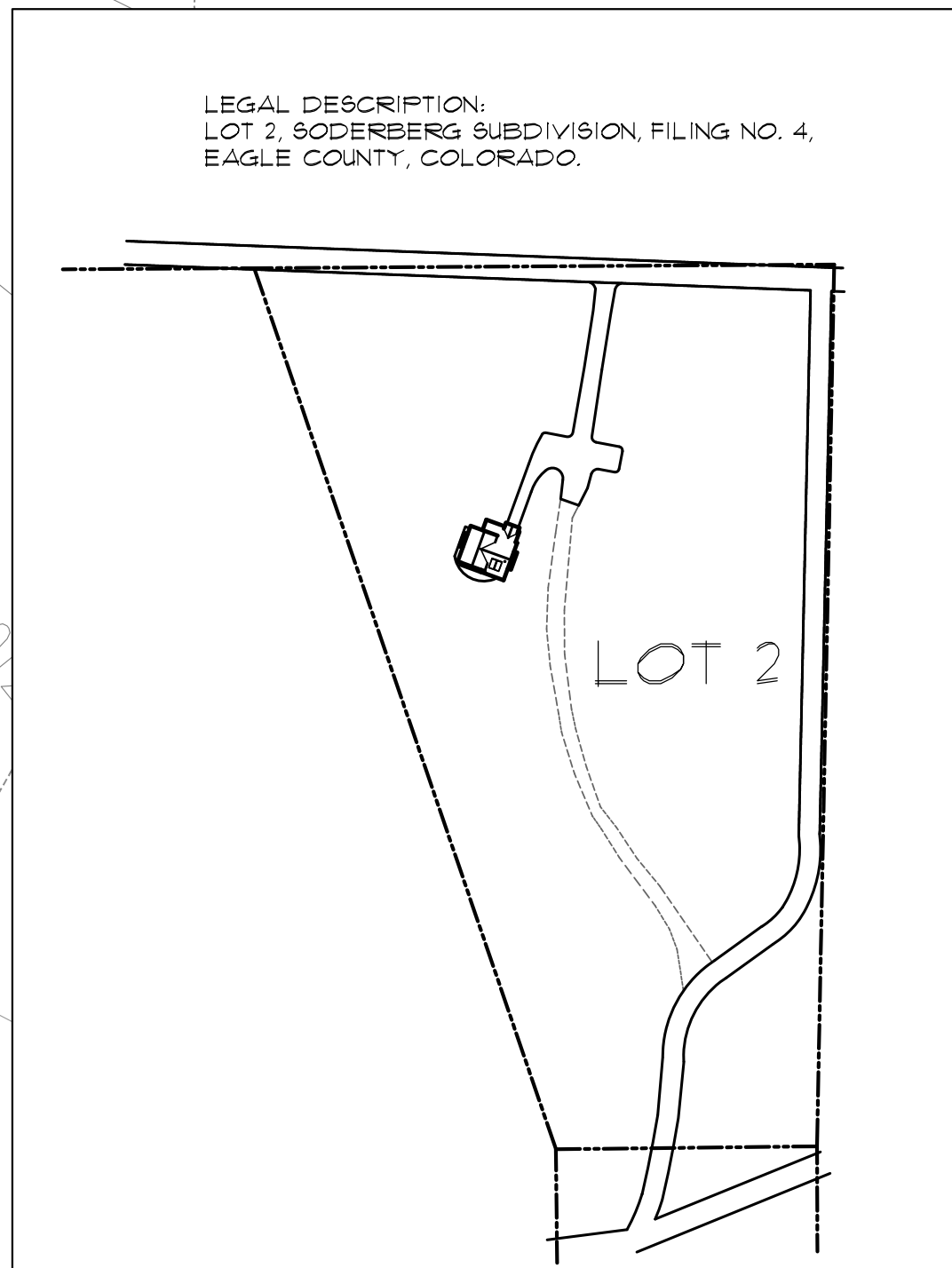
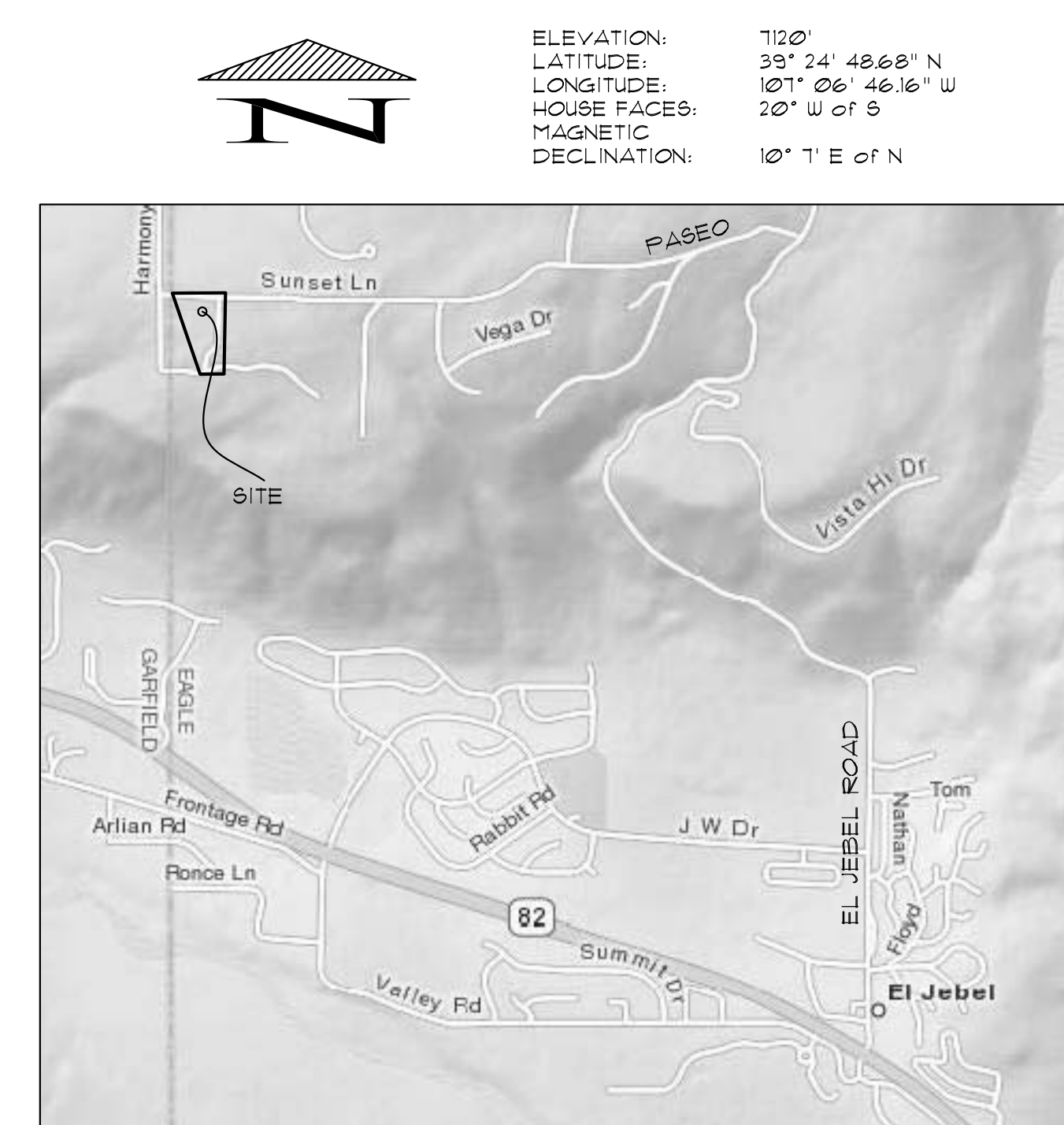


**Site Plan**



**Property Plan**

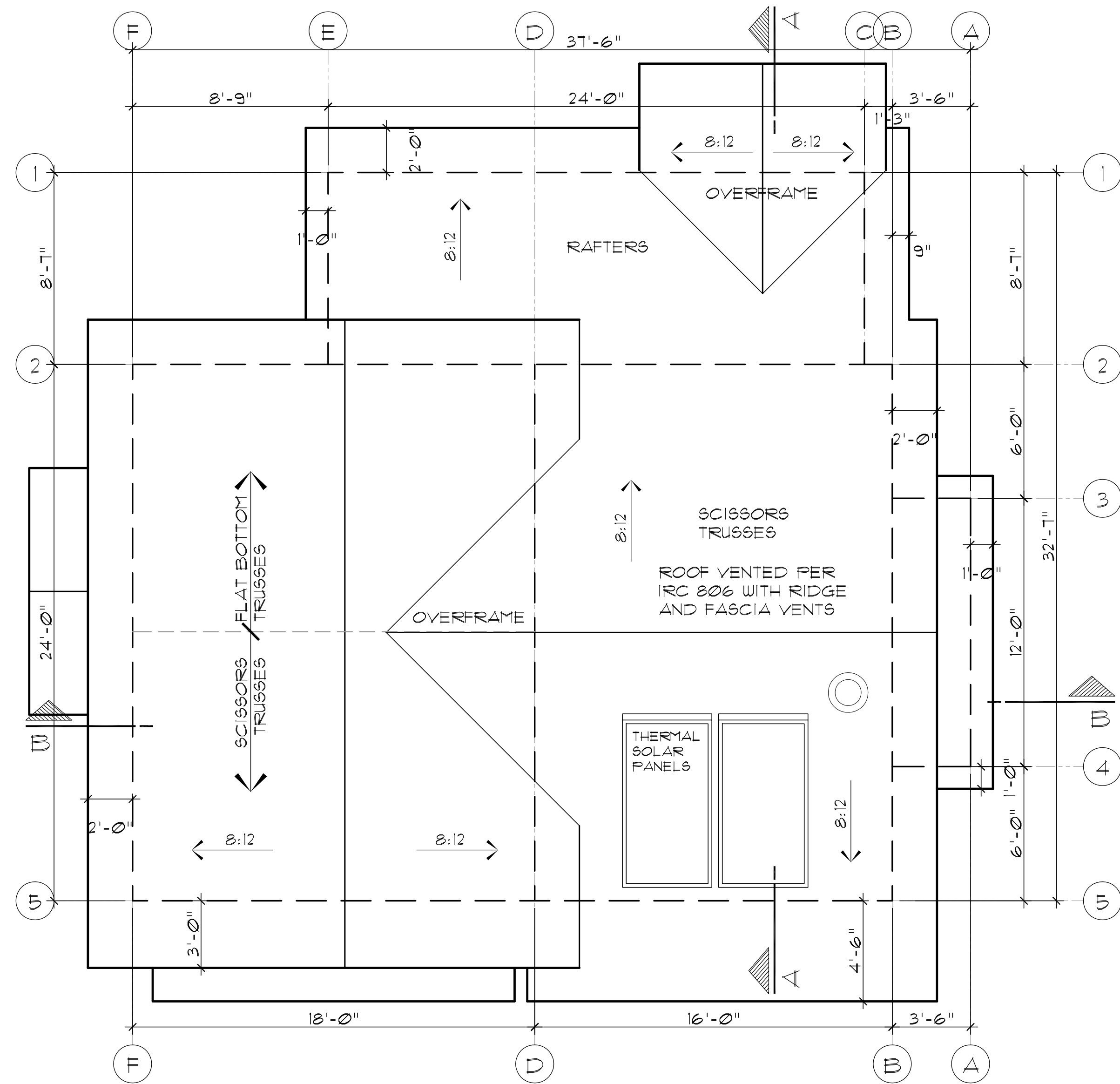


**WILDFIRE REGULATIONS:**

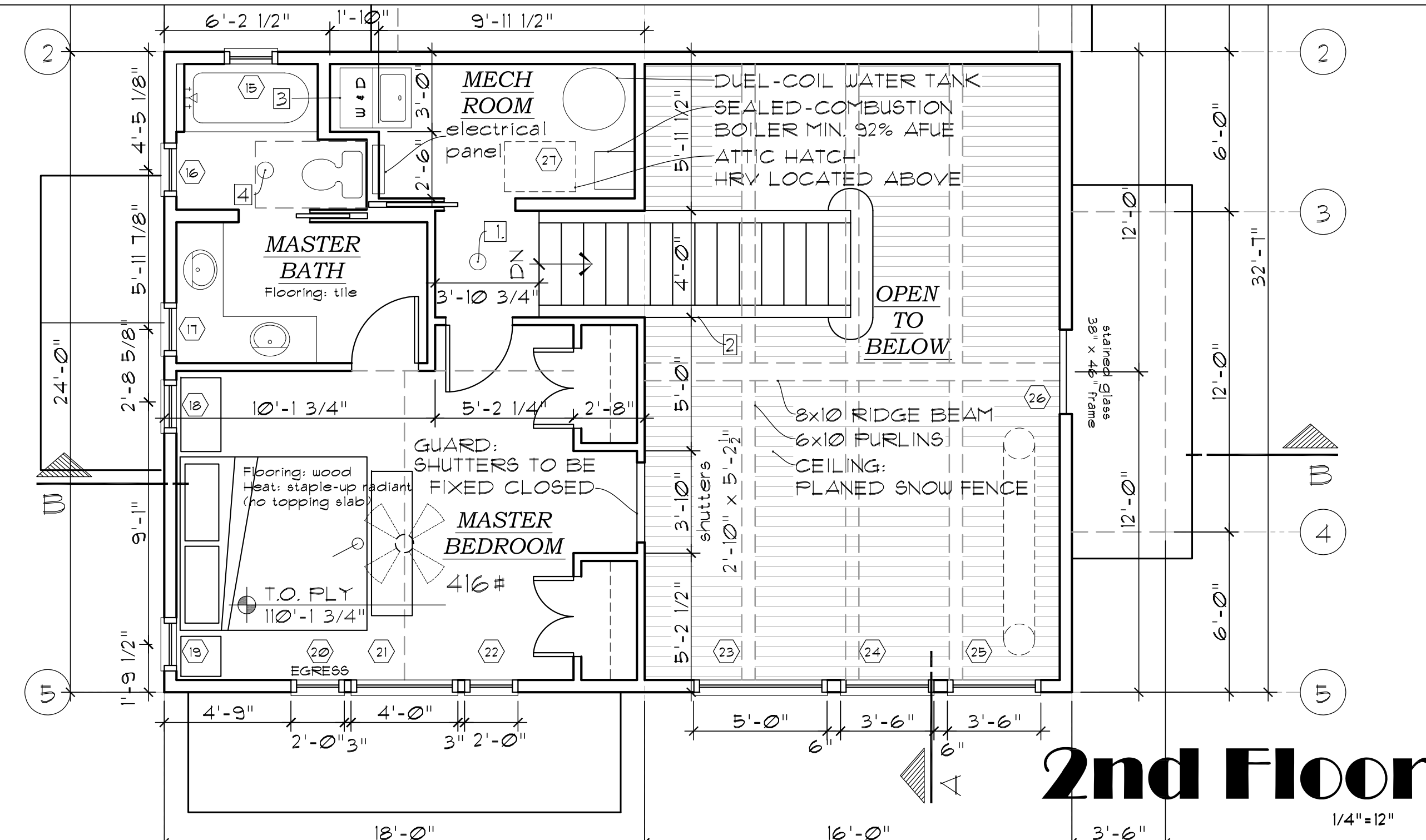
- Proposed house is in a moderate wildfire hazard area.
- Sunscreen is designed to be constructed of non-combustable materials.
- Roof min. class B
- Roof ventilation shall not be in soffit
- Forch roofs
  - beams min 6x10
  - rafters min 4x6
  - columns min 6x6
  - decking min 2x T&G
- Overhangs greater than 48"
  - beams min 6x10
  - rafters min 4x6
  - braces min 6x6
  - decking min 2x T&G

**PLAN NOTES:**

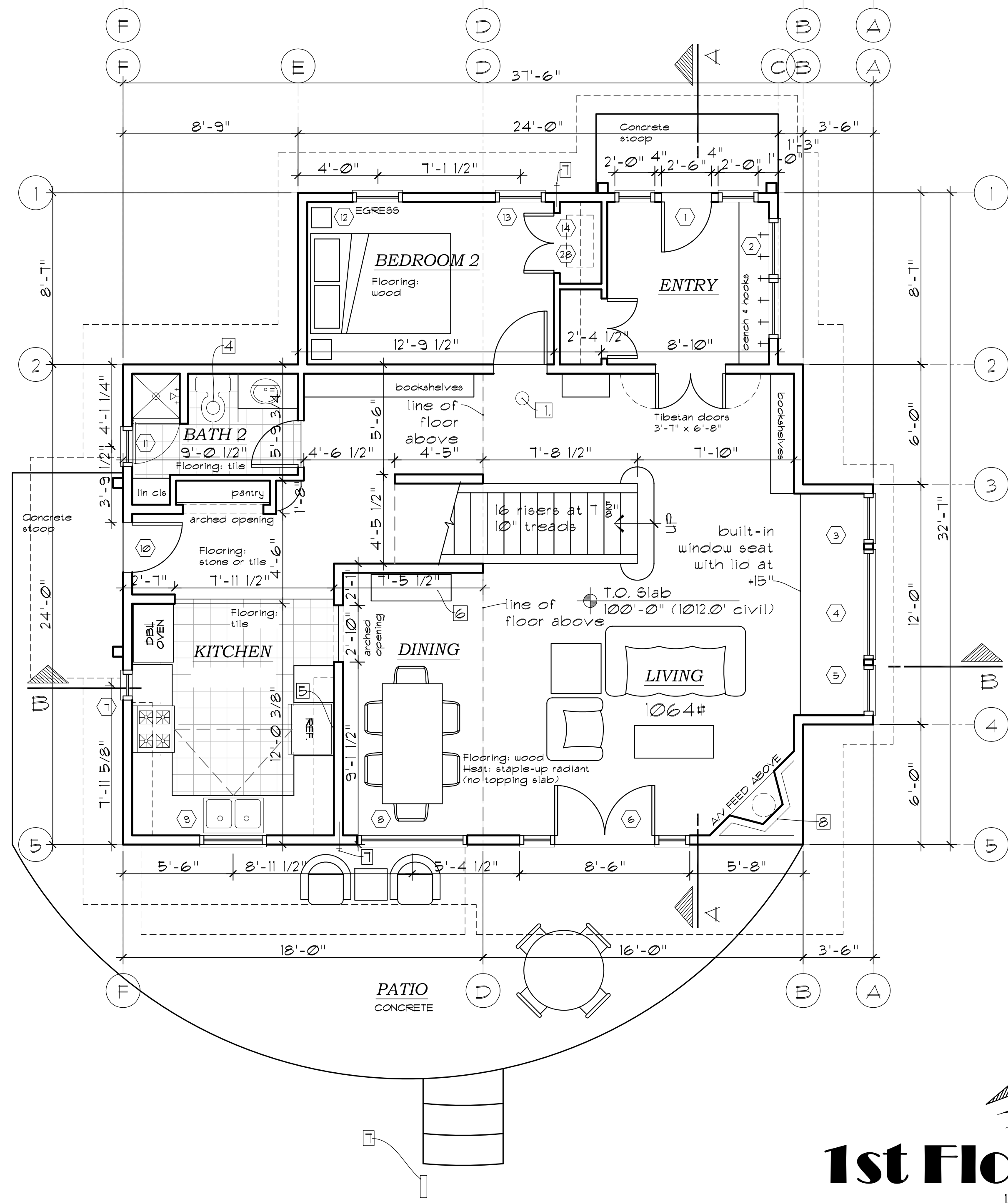
- SMOKE ALARM, INTERCONNECT WITH ALL OTHER SMOKE ALARMS.
- HANDRAIL PER IRC R311.5.6
- VENT DRYER TO OUTSIDE.
- MECHANICAL VENTILATION FAN (OPTIONAL)
- VENT RANGE TO OUTSIDE (OPTIONAL)
- PASSIVE AIR GRILL
- FROST-PROOF HOSE BIB
- WOOD BURNING FIREPLACE, MAKE 4 MODEL TO BE DETERMINED, MAKE 4 MODEL TO BE SELECTED FROM ECO'S LIST OF APPROVED DEVICES.



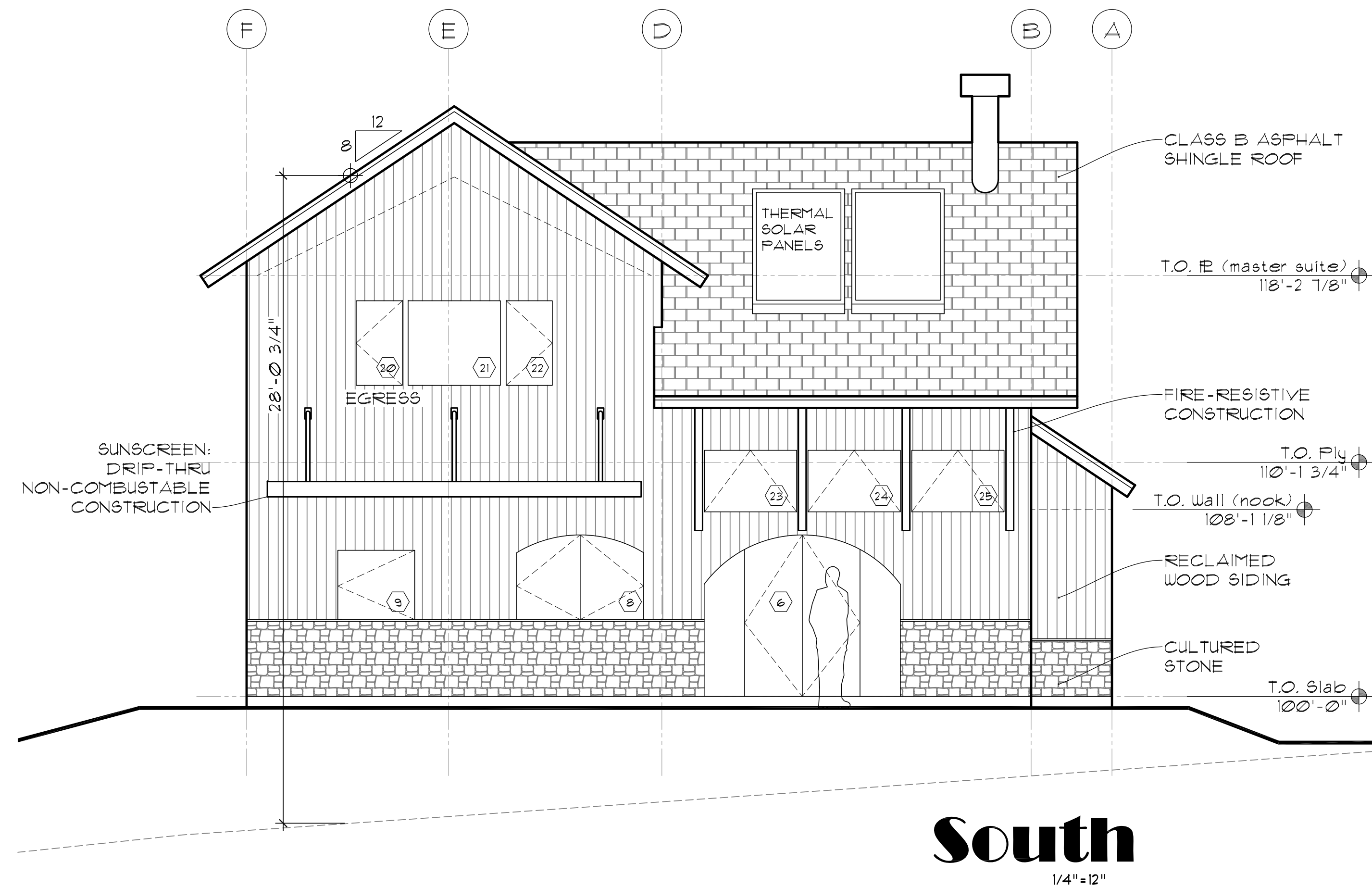
**Roof Plan**  
1/4" = 12"



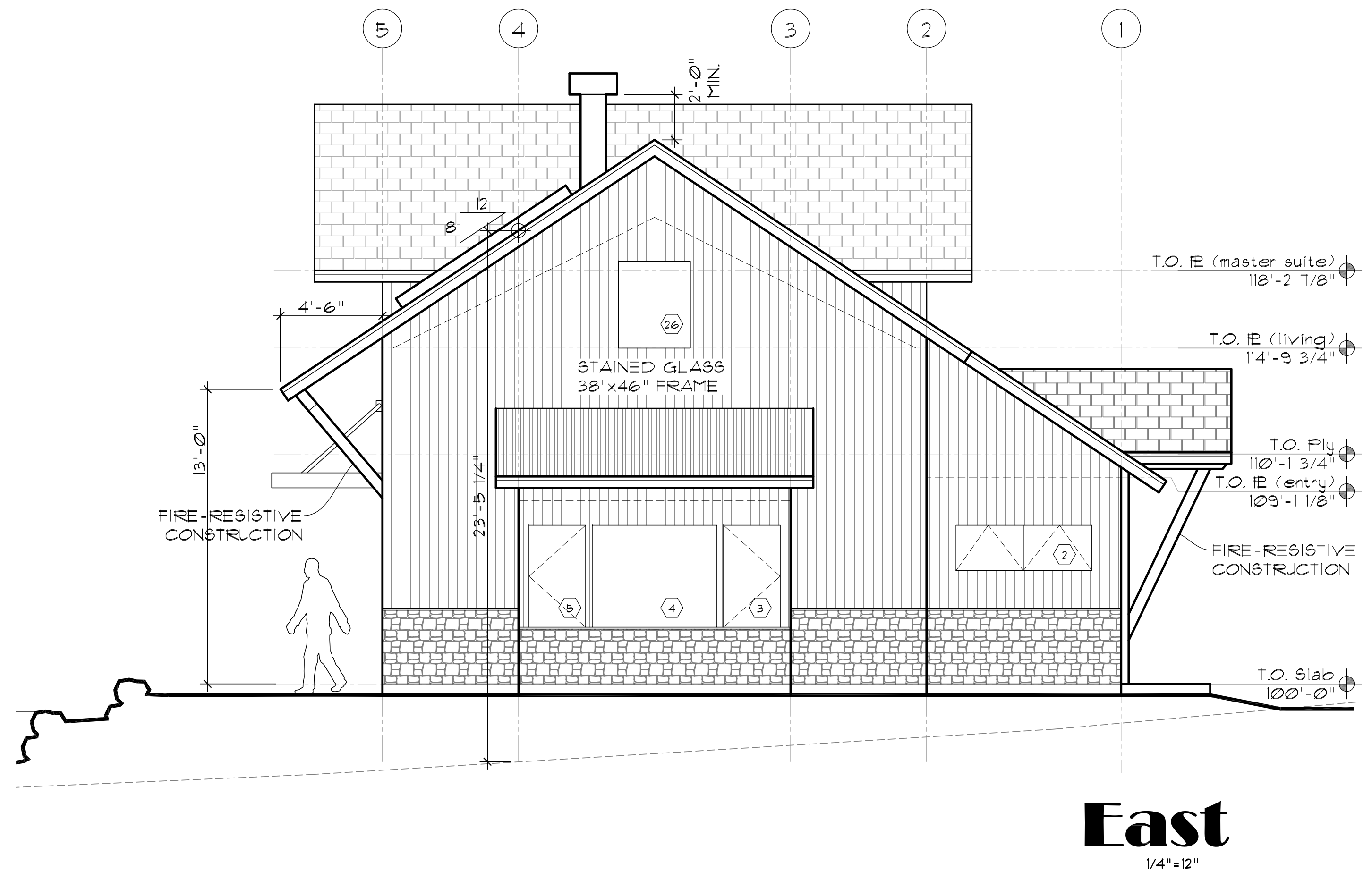
**2nd Floor**  
1/4" = 12"



**1st Floor**  
1/4" = 12"



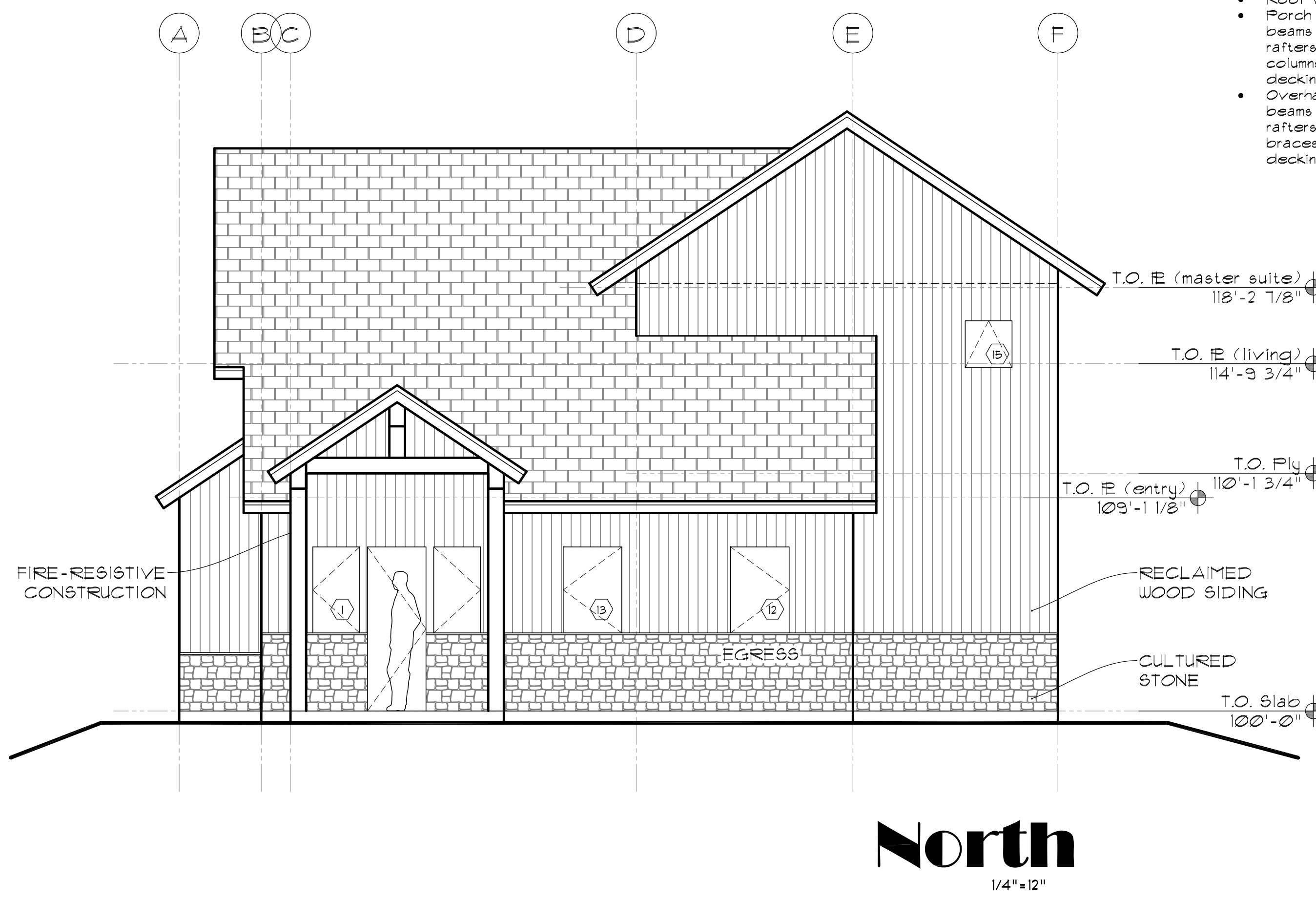
**South**  
1/4"=12"



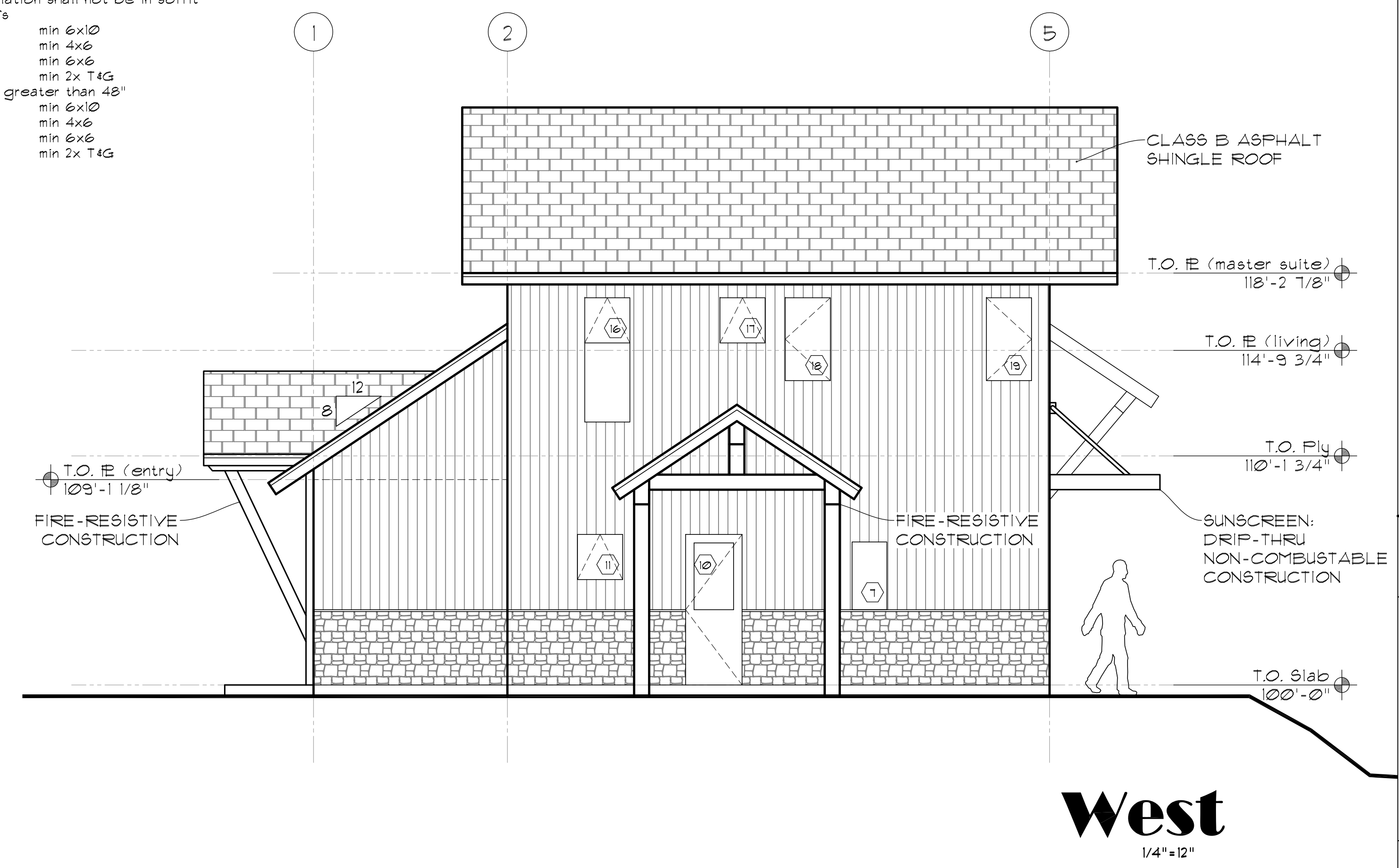
**East**  
1/4"=12"

**WILDFIRE REGULATIONS:**

- Proposed house is in a moderate wildfire hazard area.
- Sunscreen is designed to be constructed of non-combustable materials.
- Roof min. class B
- Roof ventilation shall not be in soffit
- Porch roofs
  - beams min 6x10
  - rafters min 4x6
  - columns min 6x6
  - decking min 2x T&G
- Overhangs greater than 48"
  - beams min 6x10
  - rafters min 4x6
  - braces min 6x6
  - decking min 2x T&G



**North**  
1/4"=12"



**West**  
1/4"=12"

**INDEX:**

A1	SITE PLAN
A2	PLAN
A3	ELEVATIONS
A4	SECTIONS & WALL SECTION

**Print Date:**  
4.5.2011



Foundation and Main Level Framing Plan  
Aguilar  
63 Sunrise Ln  
Eagle County, CO

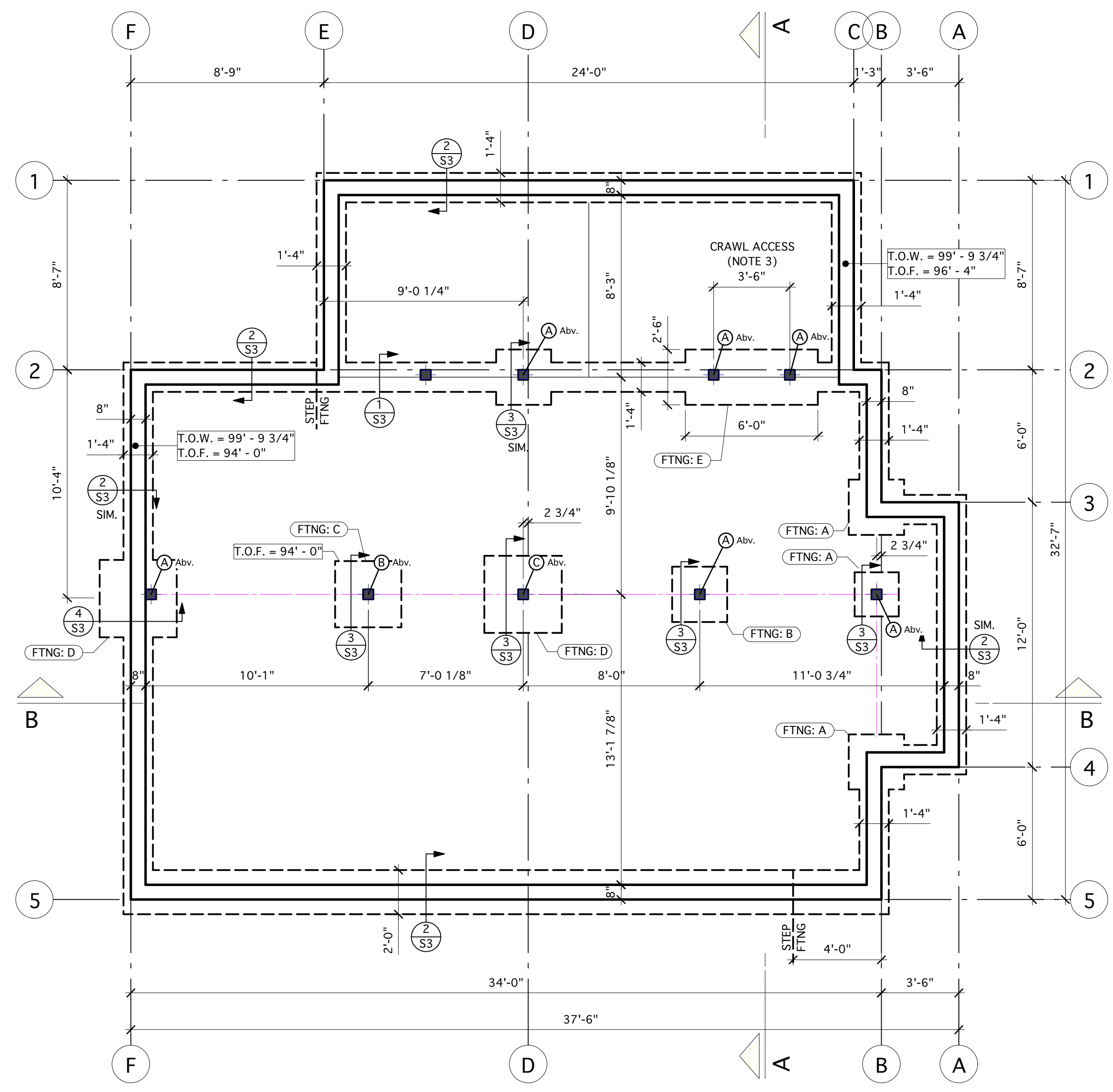
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JOB NUMBER  
1013  
DATE  
12-13-2010

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HLB  
CHECKED BY  
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SHEET NUMBER

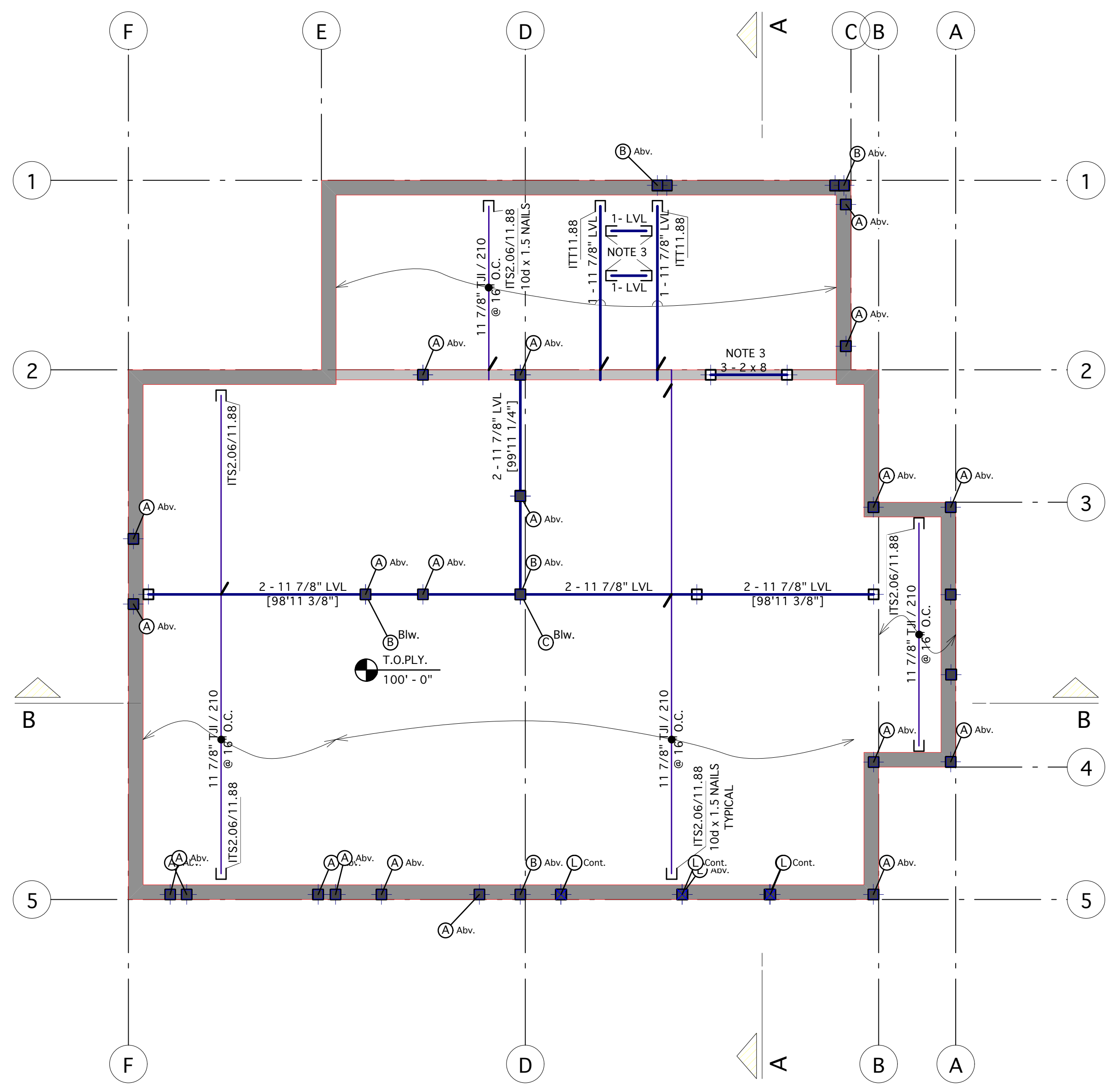
S1



FOOTING SCHEDULE			
DESIG.	SIZE	THICK.	REINFORCING, EA. WAY
FTNG: A	2'-0" SQ.	10"	#4 @ 8" O.C.
FTNG: B	2'-6" SQ.	10"	#4 @ 11" O.C.
FTNG: C	3'-0" SQ.	10"	#5 @ 14" O.C.
FTNG: D	3'-6" SQ.	10"	#5 @ 12" O.C.
FTNG: E	SEE PLAN	10"	#5 @ 12" O.C.

- NOTES**
- Footings shall bear on undisturbed natural soil and cobble soils. All fill, topsoil, clay and loose disturbed soils shall be removed to the level of naturally occurring gravel and cobble soils.
  - Field verify footing step locations to maintain adequate frost protection (48" in Eagle County) and to bear on existing soils.
  - Field locate crawlspace access (3'-0" x 3'-0" MAX). Do not locate at point load above.

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

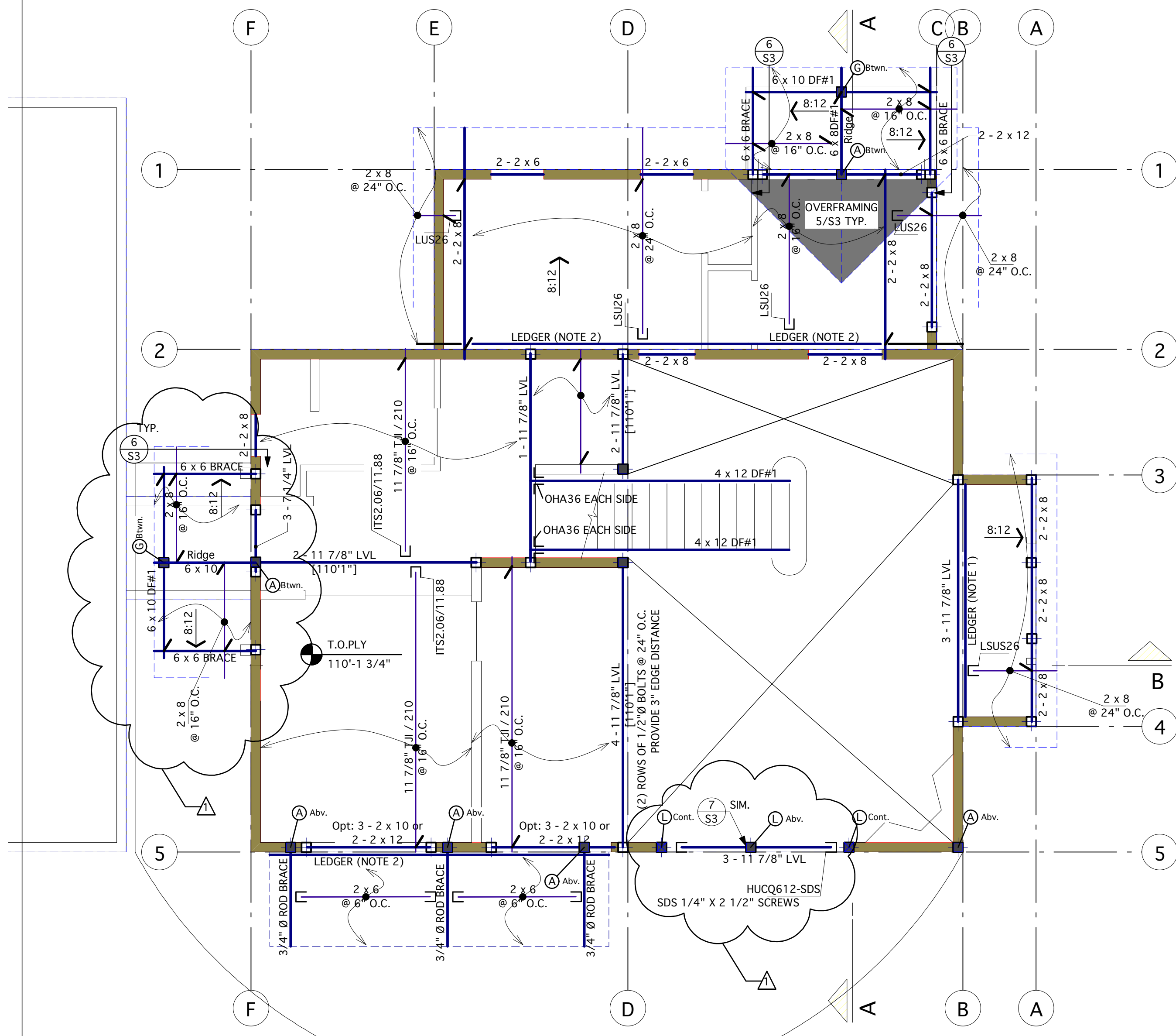


**COLUMN LEGEND**

- DENOTES COLUMN BELOW.
- DENOTES COLUMN ABOVE OR TRANSFERRED THIS LEVEL.
- ◻ DENOTES CONTINUOUS COLUMN.
- K.P. = KING POST
- D.T. = DOUBLE TRIMMERS
- PROVIDE ENOUGH STUDS TO MATCH WIDTH OF BEAM ABOVE.
- ALL COLUMNS SHOWN ARE 2-2x6'S UNLESS NOTED AS FOLLOWS:

WOOD	PARALLAM_PSL	STEEL
(A) - 3-2x6	(J) - 3 1/2 x 3 1/2	(S) - HSS 3 1/2 x 3 1/2 x 1/4
(B) - 4-2x6	(K) - 3 1/2 x 5 1/4	(T) - HSS 4 x 4 x 1/4
(C) - 5-2x6	(L) - 5 1/4 x 5 1/4	(U) - HSS 4 x 4 x 3/8
(D) - 3-2x4	(M) - 5 1/4 x 7	(V) - HSS 4 x 4 x 1/2
(E) - 4-2x4		(W) - HSS 5 x 5 x 1/4
(F) - 5-2x4		(Y) - HSS 5 x 5 x 1/2
(G) - 6 x 6 POST		(Z) - HSS 6 x 6 x 5/16
(H) - 8 x 8 POST		(P) - HSS 7 x 3 x 5/16

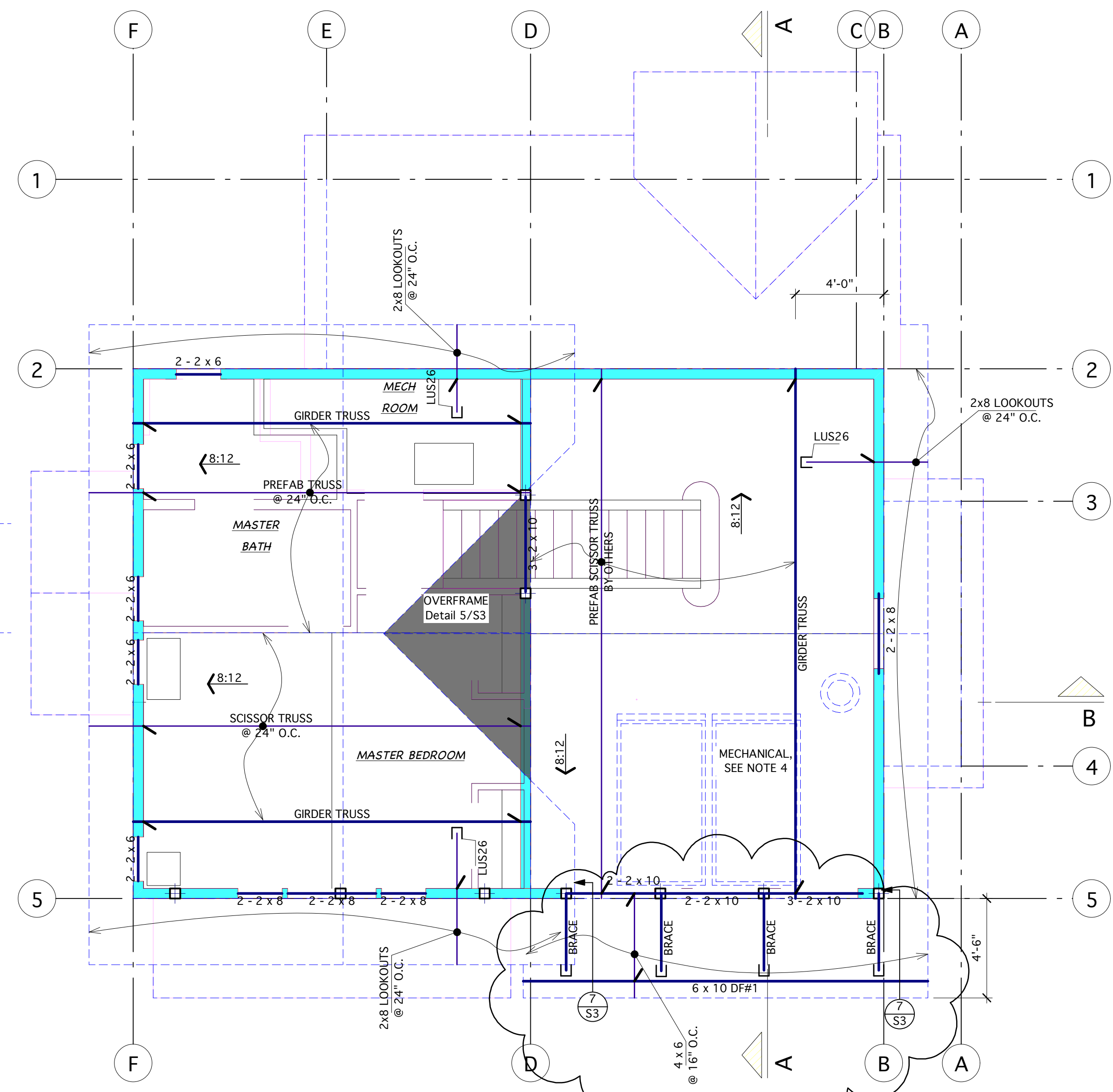
Main Level Framing Plan  
1/4" = 1'-0"



- NOTES**
1. BEVELED LVL LEDGER -Provide (1) - LL005 LedgerLok screw @ 16" O.C.
  2. BEVELED LVL LEDGER -Provide (2) - LL005 LedgerLok screws @ 16" O.C.
  3. Floor framing does not account for any gypcrete or concrete topping.
  4. Roof trusses shall allow for additional mechanical dead load of at least 5psf.

**Upper Level Framing Plan**

1/4" = 1'-0"



- COLUMN LEGEND:**
1. DENOTES COLUMN BELOW.
  2. DENOTES COLUMN ABOVE OR TRANSFERRED THIS LEVEL.
  3. DENOTES CONTINUOUS COLUMN.
  4. K.P. = KING POST
  5. D.T. = DOUBLE TRIMMERS
  6. PROVIDE ENOUGH STUDS TO MATCH WIDTH OF BEAM ABOVE.
  7. ALL COLUMNS SHOWN ARE 2-2x6'S UNLESS NOTED AS FOLLOWS:

WOOD	PARALLAM_PSL	STEEL
(A) - 3-2x6	(J) - 3/2 x 3/2	(S) - HSS 3 1/2 x 3 1/2 x 1/4
(B) - 4-2x6	(K) - 3/2 x 5/4	(T) - HSS 4 x 4 x 1/4
(C) - 5-2x6	(L) - 5/4 x 5/4	(U) - HSS 4 x 4 x 3/8
(D) - 3-2x4	(M) - 5/4 x 7	(V) - HSS 4 x 4 x 1/2
(E) - 4-2x4		(W) - HSS 5 x 5 x 1/4
(F) - 5-2x4		(Y) - HSS 5 x 5 x 1/2
(G) - 6 x 6 POST		(Z) - HSS 6 x 6 x 5/16
(H) - 8 x 8 POST		(P) - HSS 7 x 3 x 5/16

**Roof Framing Plan**

1/4" = 1'-0"

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**Upper Level Framing Plan**  
Aguilar  
63 Sunrise Ln  
Eagle County, CO

**REVISIONS**  
4/5/11

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**CHECKED BY**  
EPK

**SHEET NUMBER**

**S2**

# STRUCTURAL GENERAL NOTES & SPECIFICATIONS

Aguilar RESIDENCE

## DESIGN DATA:

- A. DESIGN LIVE LOADS
- |                       |        |                   |                    |
|-----------------------|--------|-------------------|--------------------|
| 1. Basic Roof Snow    | 52 PSF | 4. Garage         | 40 PSF             |
| 2. Residential Floors | 40 PSF | 5. Wind           | 90 mph, Exposure B |
| 3. Decks              | 52 PSF | 6. Seismic Zone C |                    |
- B. DESIGN CODES
- International Residential Code, (IRC), 2003  
with the International Building Code, (IBC), 2003 for Special Inspection  
American Concrete Institute Building Code (ACI 318-08)  
American Institute of Steel Construction, Manual of Steel Construction (AISC 9th Edition)  
American Institute of Timber Construction, Timber Construction Manual (AITC 5th Edition)  
National Design Specifications for Wood Construction (NDS2001)

## GENERAL:

- Any changes to the contract drawings shall be submitted to the structural engineer for approval.
- All dimensions and details on structural drawings shall be verified against the architectural drawings and any discrepancies shall be brought to the attention of the architect prior to fabrication or construction. Details on the structural drawings are typical. DO NOT SCALE DRAWINGS.
- All openings through the structural system shall be approved by the Engineer.
- Contractor shall provide all necessary temporary bracing, shoring, guying or other means to prevent excessive stresses and to hold the structural elements in place during construction.
- The contract structural drawings and specifications represent the finished structure. They do not indicate the method of construction. The contractor shall provide all measures necessary to protect the structure during construction. Such measures shall include, but are not limited to bracing, shoring for loads due to construction equipment and protection of existing structures. Observation visits to the site by the structural engineer shall not include inspection of the above items until the structural engineer be responsible for the contractor's means, methods, techniques, sequences for procedure of construction, or the safety precautions and programs incident there to.
- Options are for the convenience of the contractor. He shall be responsible for all changes necessary if he chooses an option and shall coordinate all details. The cost of additional engineering work necessitated by selection of an option shall be borne by the contractor.
- Any engineering design provided by others and submitted for review shall bear the seal and signature of an engineer registered in Colorado.
- Dimensions on the structural drawings are exact with the exception of masonry and sawn lumber dimensions which are nominal. Verify all dimensions with the architectural drawings.
- Where required construction details are not shown or noted on these plans the contractor shall notify the engineer and the engineer shall provide sufficient details for the work to proceed.
- Construction materials shall be spread out if placed on framed construction. Load shall not exceed the design live load per square foot.
- Shop drawings shall be submitted to the architect for all structural items. The Engineers review is intended only as an aid to the contractor for obtaining correct shop drawings. Responsibility for correctness shall rest with the contractor. The contractor shall review all shop drawings prior to submittal. Items not in accordance with the contract documents shall be flagged upon his review. The shop drawings do not replace the original contract drawings. It is the contractor's responsibility to make sure items are constructed to the original drawings. The adequacy of engineering designs and layout performed by others rests with the designing or submitting authority.

## FOUNDATION:

1. The foundation design was based on the following assumed parameters:
- |                                     |                   |
|-------------------------------------|-------------------|
| Maximum allowable bearing pressure  | = 2,000 pcf       |
| Minimum required dead load pressure | = 0 pcf           |
| Lateral soil pressure               | = Active 45 pcf   |
|                                     | = Passive 350 pcf |

The actual soil condition shall be investigated and the above parameters shall be verified by a Soils Engineer, registered in the State of Colorado, prior to construction of the foundation. If there are any discrepancies with the above assumptions, then the foundation shall be re-designed.

## B. EXCAVATION

- Contractor shall provide all necessary sheeting, shoring and bracing where required to properly and safely complete the work.
- Avoid excessive wetting or drying of the foundation excavation during construction. Keep excavations reasonably free of water at all time and completely free of water during placement of concrete.

## C. BEARING REQUIREMENTS

- Footings shall bear on natural undisturbed soil below the frost depth required by the applicable building code. Any discrepancies with the footing elevations shown on the plans shall be brought to the attention of the engineer.

- Building shall be founded on continuous concrete spread footings placed on undisturbed natural soil.

## D. GENERAL REQUIREMENTS

- Center foundations under columns and walls unless noted otherwise.
- Provide foundation ventilation in crawl space areas as required by the I.R.C.
- Backfill on walls with fill on both sides shall be compacted in equal lifts each side of wall. Walls backfilled on one side only shall have all supporting slabs, permanent framing or temporary bracing in place prior to placement of the backfill (unless noted otherwise on plans).

## CONCRETE:

### A. CONCRETE REQUIREMENTS

Concrete has been designed and shall be constructed in accordance with the latest editions of the American Concrete Institute Building Code, ACI 318 and Specifications for Structural Concrete for Buildings, ACI 301. Provide hot or cold weather protection per ACI 305 & 306.

- Concrete shall have a minimum compressive strength at 28 days of:
 

Walls & footings	3000 psi
Slabs	3000 psi
- Provide Type II cement throughout with 4% air entrainment.
- Mechanically vibrate concrete.
- No admixtures shall be used without approval by the engineer.
- Addition of water to the batch material for insufficient slump is not permitted.
- Do not place pipes, ducts or chases in the structural concrete without the approval of the engineer.
- Thoroughly clean all case and construction joints prior to placing concrete in adjacent pour.
- Concrete shall not be in contact with aluminum.

### B. REINFORCING

Detailing, fabrication, and erection of reinforcing steel bars shall comply with the ACI Manual of Standard Practice for Detailing Reinforced Concrete Structures ACI 315.

- Reinforcing bars shall be ASTM A615-Grade 60.
- Welded wire fabric shall conform to ASTM A185. Furnish in 4' sheets only.
- Concrete protection for reinforcement:
 

Cast against and permanently exposed to earth	..... 3 in.
Exposed to earth or weather	..... #6-#10 bar..... 2 in.
	..... #3-#5 bar..... 1 1/2 in.
Not exposed to earth or weather	..... slabs & walls..... 3/4 in.
	..... beams & cols..... 1 1/2 in.
- Reinforcing lap splices shall be a minimum of 36 bar diameters unless noted otherwise. Lap wire fabric reinforcement one full mesh plus 2" at sides and ends and wire together.
- Splices in horizontal beams and walls shall occur at midspan for top bars and over supports for bottom bars.
- Discontinue one-half of horizontal steel across construction/control joints.
- Provide corner bars of equal size and spacing around all corners.
- Provide 2-#5 bars with a minimum of 2'-0" projection beyond the sides of all openings in walls, beams and slabs. Provide 1-#5 x 4'-0" diagonally at all re-entrant corners of slabs.
- Provide accessories necessary to properly support reinforcing at the positions shown on the plans.
- Reinforcing spacings are maximum on center and all reinforcing is continuous, unless noted otherwise.

### C. SLABS

- Provide control joints at 12'-0" max. spacing or as shown on the plans.
- Provide minimum 4" compacted gravel under floor slab on grade. The material shall consist of minus 2-inch aggregate w/ less than 50% passing the No. 4 sieve and less than 2% passing the No. 200 sieve.

## STRUCTURAL WOOD FRAMING:

### A. DIMENSIONAL LUMBER

All wood members shall be as described in the 2001 edition of the "National design Specifications for Wood Construction" by the National Forest Products Association and the WWPAA.

- Unless otherwise noted on the drawings, wood framing members shall be Douglas Fir/Larch, Grade #2 or better. Redwood members shall be construction grade.
- Sizes shown are nominal, except when noted as RC (Rough Cut) they are full dimensions.
- All wood members attached to concrete or masonry shall be redwood or pressure treated lumber.
- Block all joists and rafters per the I.R.C.

### B. FASTENERS AND CONNECTORS

Alternate fasteners and connectors to those listed below, which have I.C.B.O. approval, may be used with approval by the Engineer.

- Connectors shown on the plans are manufactured by the Simpson Strong-Tie Company, Inc. Connectors by other manufacturers shall be deemed as equivalent if their rated capacity is equal to or greater than that of the connector specified. Follow manufacturer's recommendations for installation of connectors.
- All timber nailing and connections shall conform to the IRC and AITC.
- Bolts for wood member connections shall be 3/4" diameter, ASTM A307 with a minimum 1 1/2" washer at each end (unless noted otherwise).
- Self-drilling fasteners for the attachment to structural steel shall be "Tek's" fasteners as manufactured by Bulldex.

### C. PLYWOOD SHEATHING

Plywood sheathing for roofs, floors and exterior shear walls shall be APA Grade-Trademarked C-D, Exposure 1, unless otherwise noted.

- Roof Diaphragms (240 pcf) shall be 5/8" APA rated sheathing, 40/20 place with 8'-0" dimension perpendicular to the joist, rafter or truss span. End joints shall be staggered. Attach plywood at edges with 8d nails at 6" O.C. and at intermediate supports with 8d nails at 12" O.C.
- Floor Diaphragms (250 pcf) shall be 3/4", APA rated Stud-I-Floor, 24 O.C. place with 8'-0" dimension perpendicular to the joist span. End joints shall be staggered. Attach plywood with APA glue and at edges nail with 8d nails at 6" O.C. and at intermediate supports with 8d nails at 10" O.C. Sheathing shall be T&G.
- Shear Wall Diaphragms (180 pcf, 380 pcf wind) shall be 1/2", APA rated sheathing, 24/0 with 8'-0" dimension vertical. End joints shall be staggered. Studs shall be 16" O.C. Attach plywood at edges with 10d nails at 4" O.C. and at intermediate supports with 8d nails at 6" O.C. Sheath all exterior walls full height with 1/2" plywood. At all corners, min. 4'-0" each direction, block plywood edges and nail as noted above.

D. GLUE LAMINATED BEAMS Laminated member shall be designed and fabricated in accordance with "The Standard Specifications for the Design and Fabrication of Structural Glue Laminated Lumber" published by the AITC and the appropriate Lumber Producers' Association.

- Use exterior glue for all exposed laminated members.
- All members exposed to weather shall receive one coat of end sealer at trimmed ends. Seal all exposed surfaces with sealer coat as soon as practical after erection.
- Appearance grade shall be in accordance with the architectural drawings.
- If beam is cantilevered and the cantilever is greater than one-third of the back span, install beam "TOP" down.
- Allowable unit stresses for dry conditions of use required shall be as follows:
 

Members stressed principally in bending such as beams & girders (AITC 24F-V4) unless otherwise noted on drawings.	Fb=2400 psi	Fv=165 psi	Fc(perp)=650 psi	E=1.866 psi
Members stressed principally in compression or tension such as columns & truss members (AITC 24F-V8) Unless otherwise noted on drawings.	Fc(parallel)=1650 psi	E=1.866 psi		

### E. MICRO-LAM BEAMS

Micro-laminated members shall be designed and fabricated in accordance with the "National Research Board" and the "National Design Specifications for Wood".

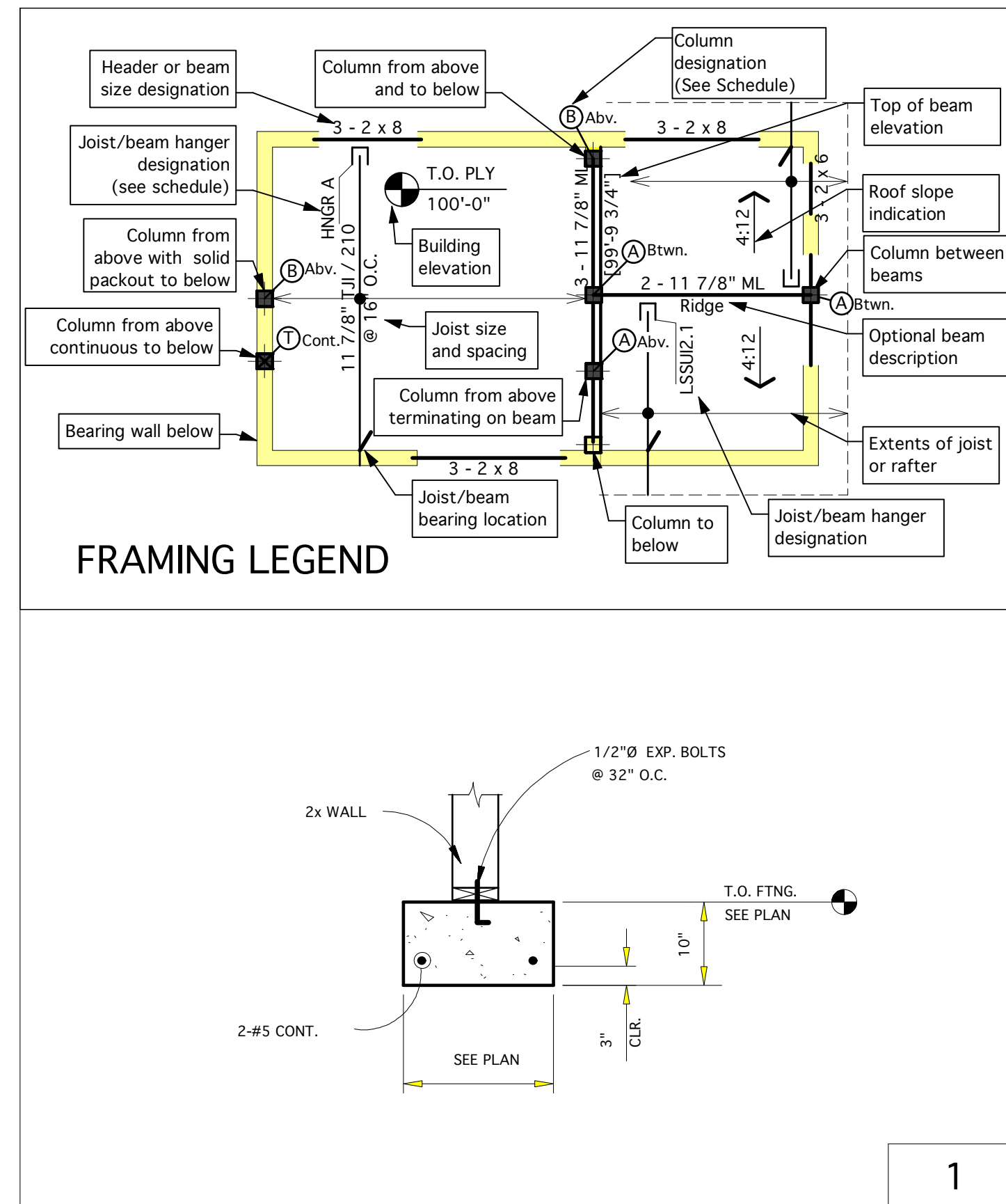
- Allowable unit stresses for dry conditions of use required shall be as follows:
 

Fb=2600 psi	Fv=285 psi	Fc(perp)= 750 psi	E=1.866 psi
-------------	------------	-------------------	-------------
- Install micro-laminated members in accordance with the manufacturer's recommendation.
- Holes, cuts, or notches not previously approved by the engineer or the manufacturer shall not be made.
- Micro-laminated lumber is marked on the drawings as "ML" and shall be 1 3/4" wide, unless noted otherwise.

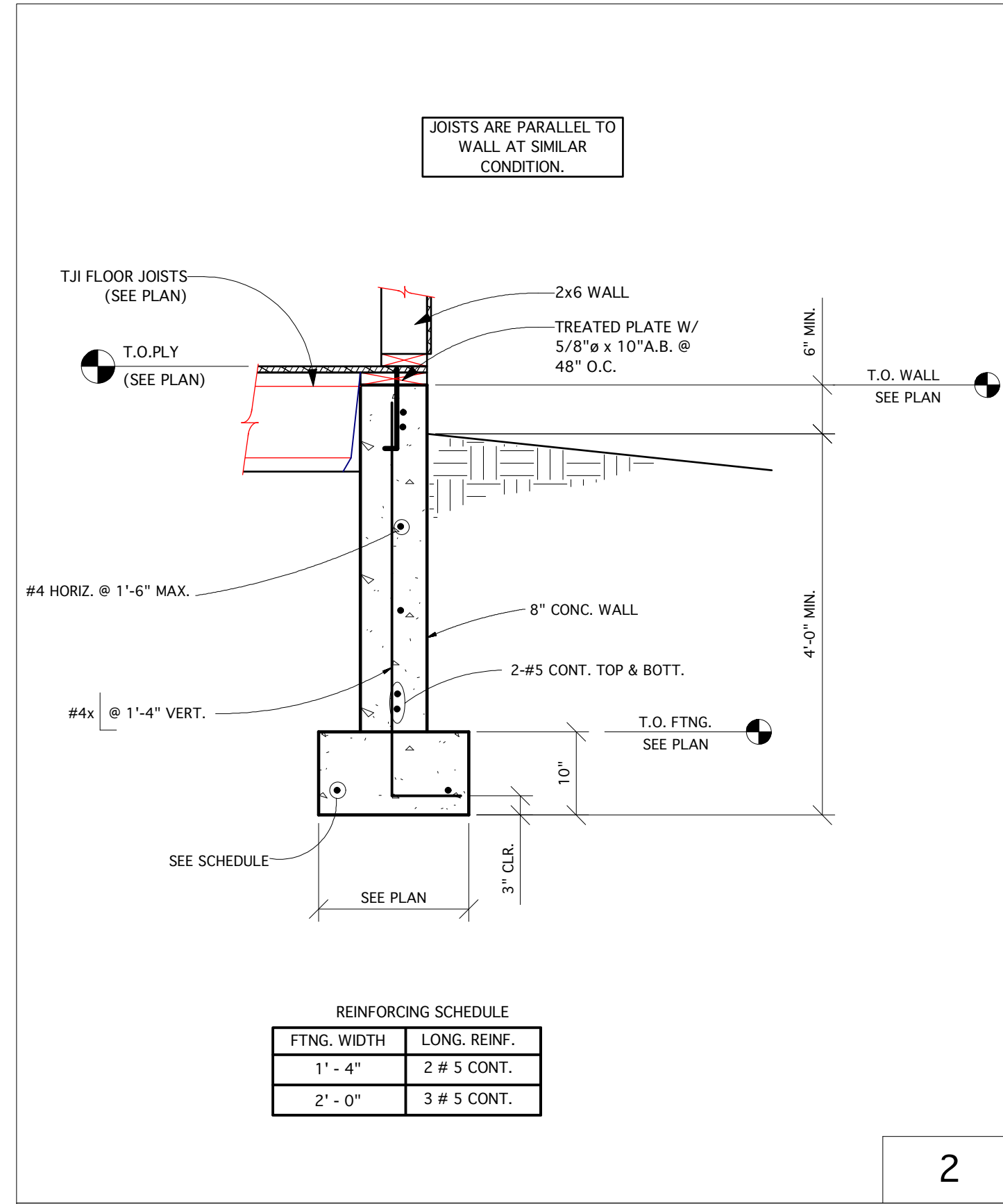
### F. FABRICATED WOOD JOISTS (I-Series)

I-series fabricated joists with structural wood flanges and plywood webs called for on the drawings (TJJ/210, TJJ/360, TJJ/550) are as manufactured by the Truss-Joist Corp. Joists by other manufacturers may be used if the depth and deflection is equal to or less than that of the joist specified for the particular span and spacing and when authorized by the Architect/Engineer.

- Fabricated wood joists shall be in accordance with the manufacturer's recommendations.
- Supply all plates, blocking, bridging, bracing, stiffeners and other related items as recommended by the manufacturer.

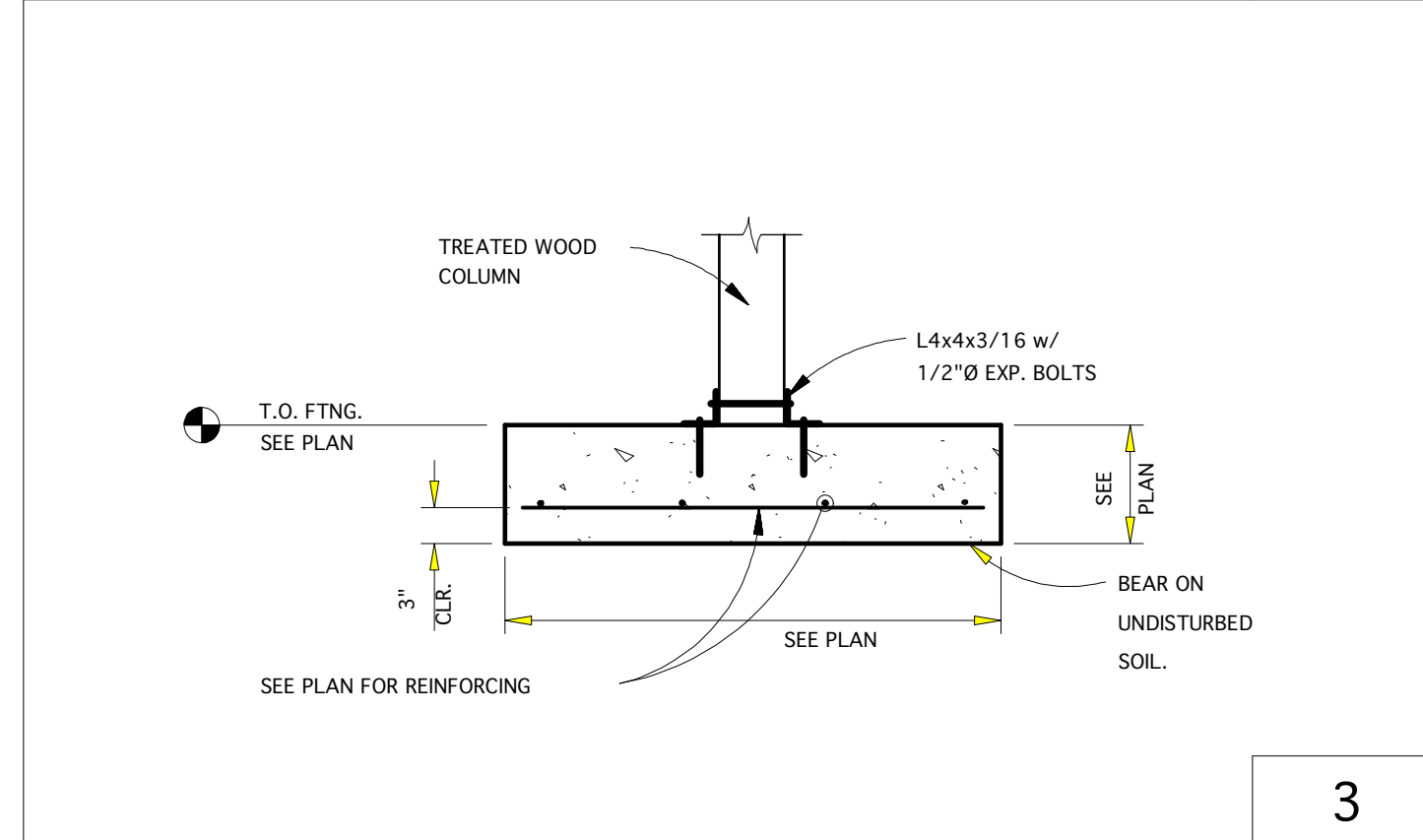


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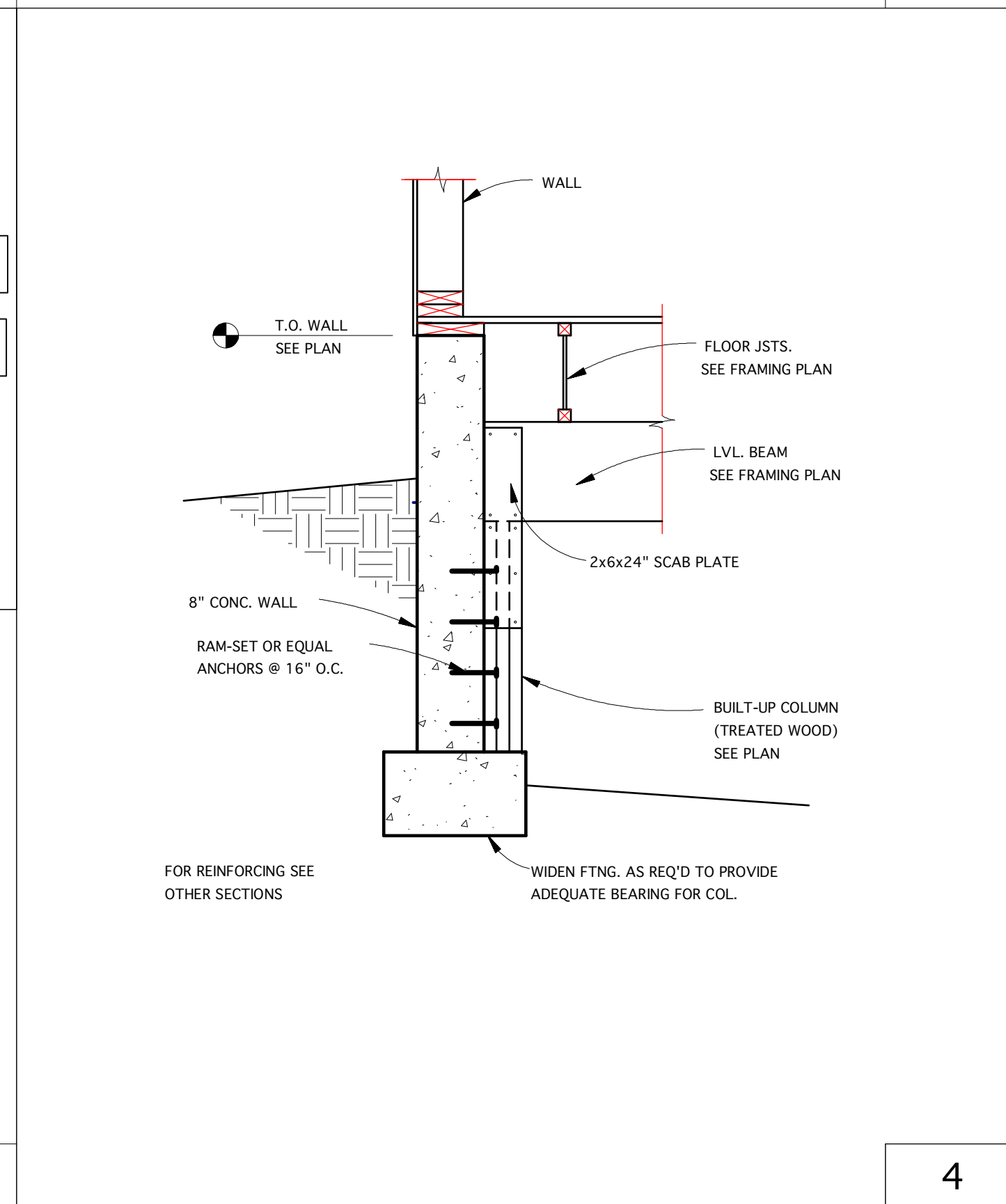


FTNG. WIDTH	LONG. REINF.
1' - 4"	2 # 5 CONT.
2' - 0"	3 # 5 CONT.

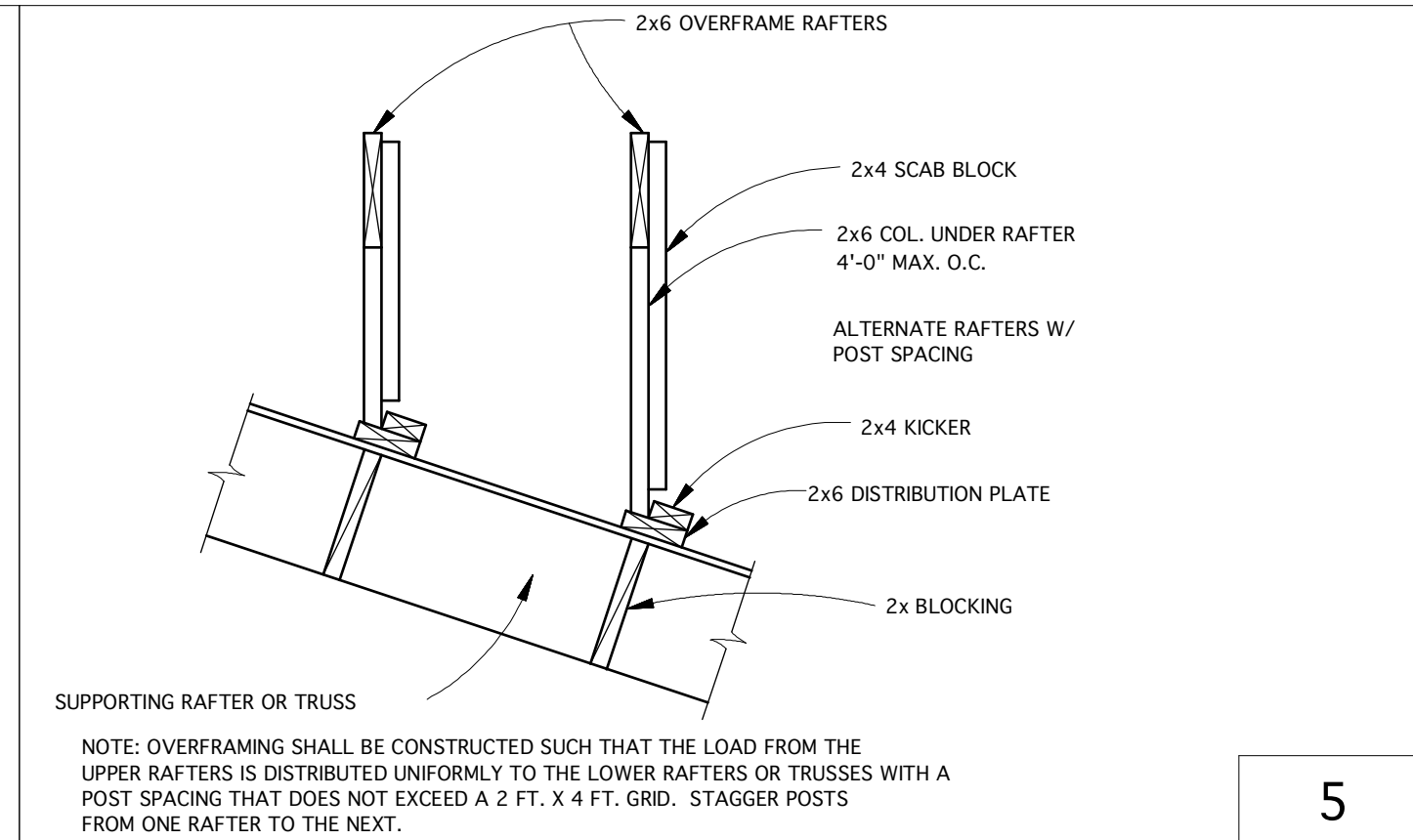
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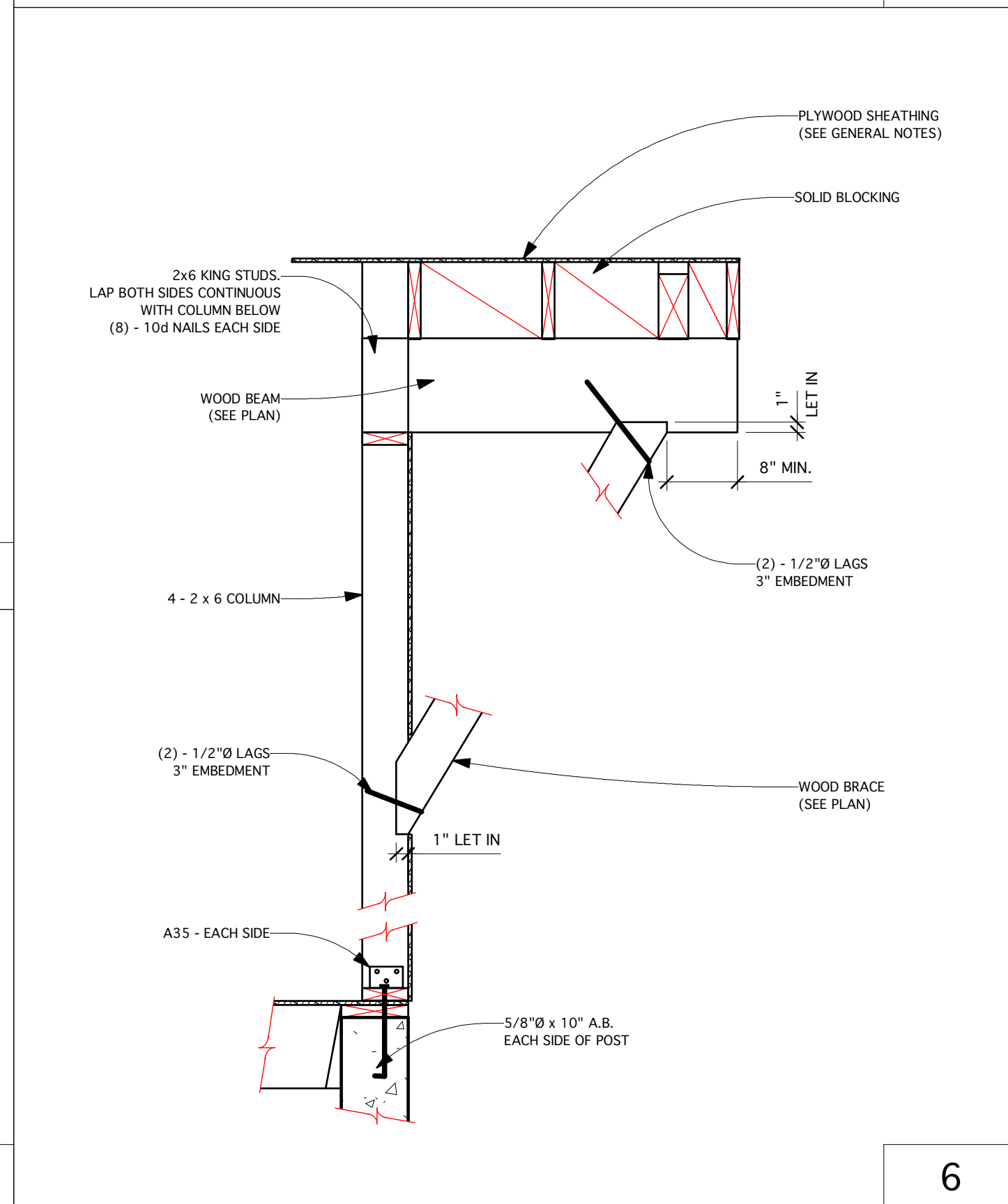
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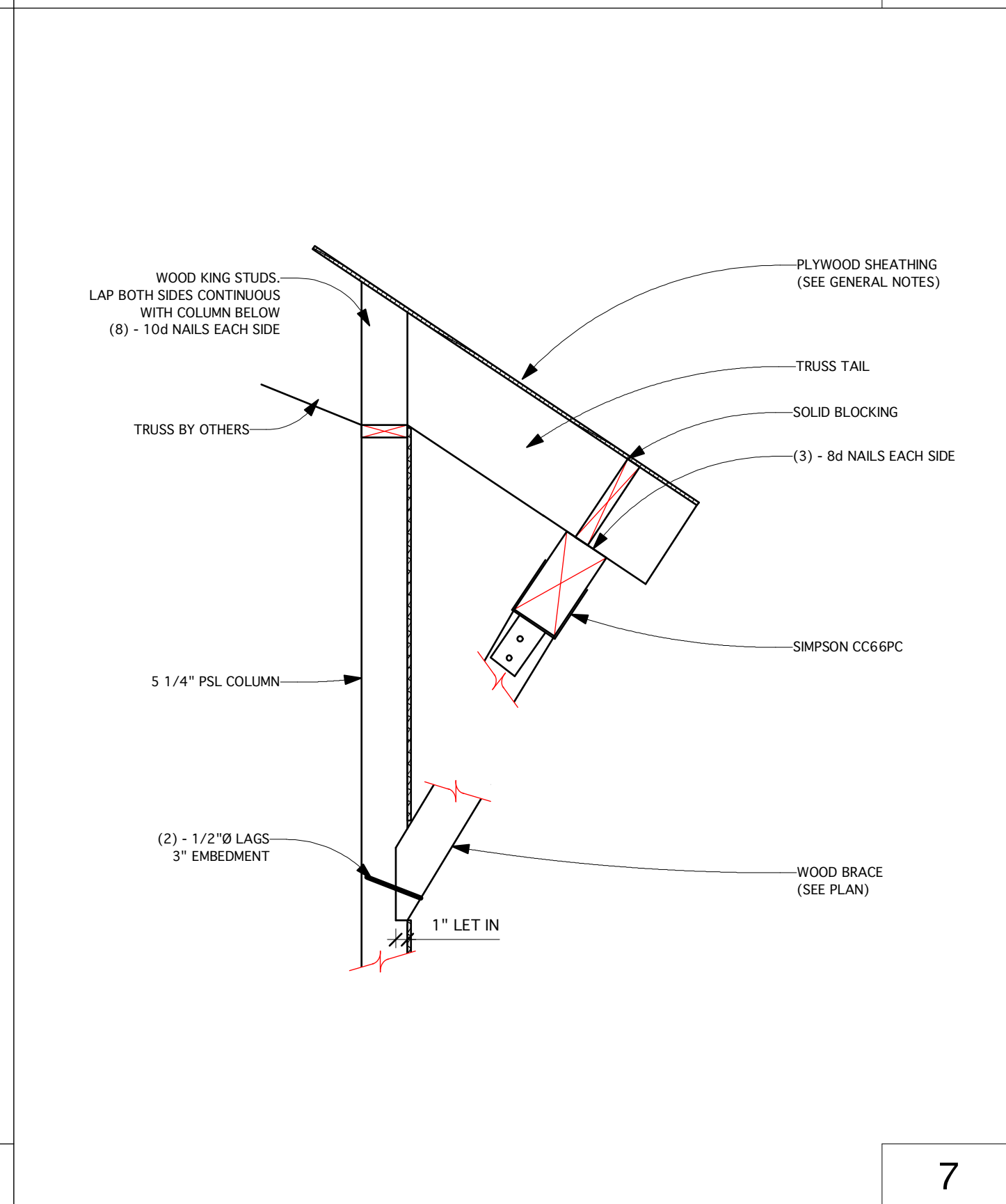
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5



6



7

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General Notes and Details  
Aguilar  
63 Sunrise Ln  
Eagle County, CO

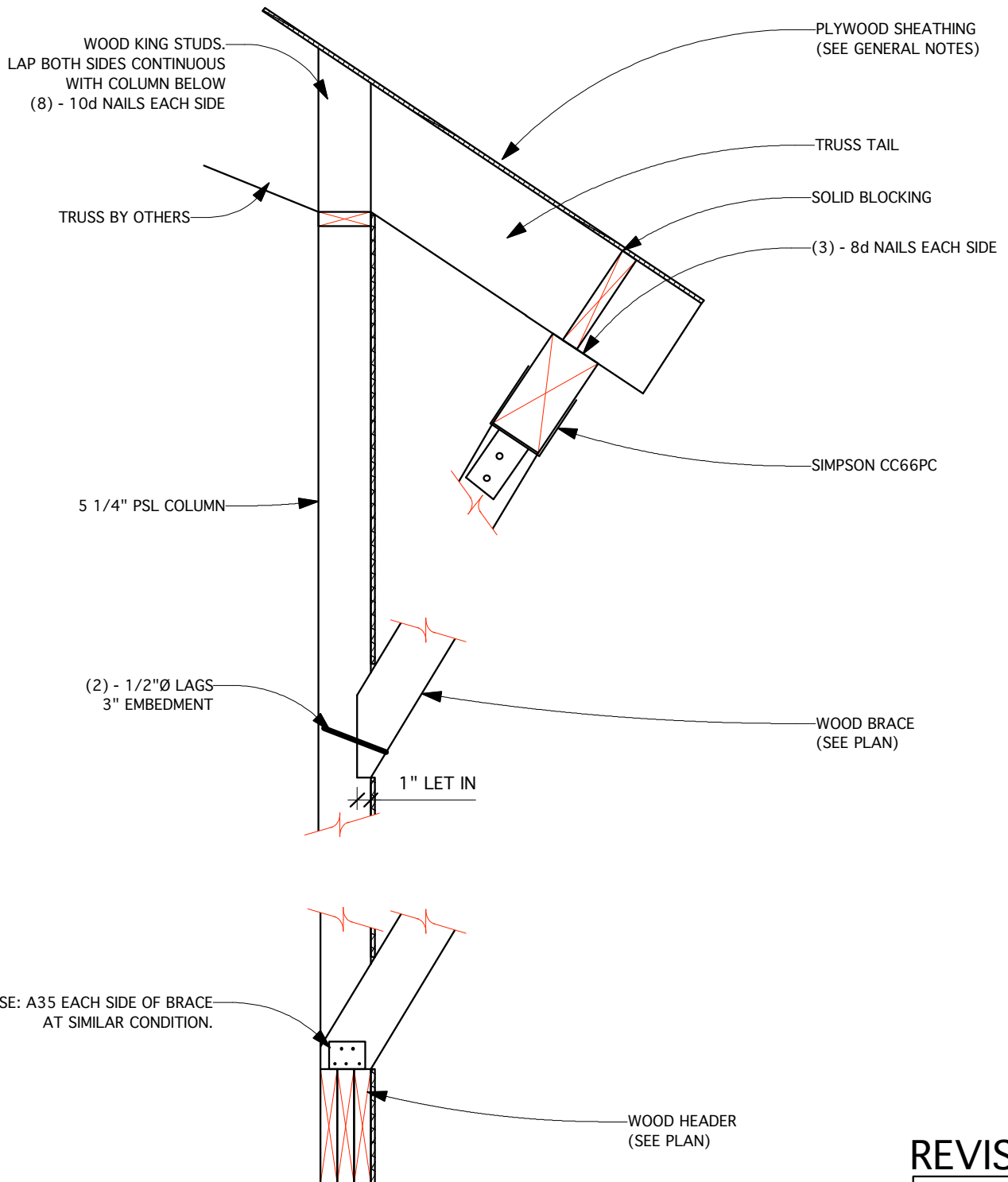
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S3



**REVISED**  
**7/S3**

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**Aguilar**  
**63 Sunrise Ln**  
**Eagle County, CO**

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 HLB  
 Chkd by:  
 Job #:  
 1013

Date:  
 4-5-11  
 SHEET  
**C1**