## **SHEET INDEX** Sheet SHEET NAME No. SP-1 SITE PLAN A1 FLOOR PLAN A2 ELECTRICAL PLAN A3 ELEVATIONS - FRONT & BACK A4 ELEVATIONS - RIGHT & LEFT A5 ROOF PLAN / TRUSS LAYOUT A6 SECTIONS S1 FOUNDATION PLAN S2 ROOF FRAMING CS-1 MIN. CONSTRUCTION SPECIFICATIONS

## **GENERAL CODES**

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING BUILDING CODES AND ASSOCIATED CITY OF TRACY ORDINANCES:

- -2022 CALIFORNIA RESIDENTIAL CODE
- -2022 CALIFORNIA RESIDENTIAL CODE
  -2022 CALIFORNIA BUILDING CODE
  -2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
  -2022 CALIFORNIA ELECTRICAL CODE
  -2022 CALIFORNIA MECHANICAL CODE
  -2022 CALIFORNIA PLUMBING CODE
  -2022 CALIFORNIA FIRE CODE
  -2022 CALIFORNIA BUILDING ENERGY EFFICIENCY STANDARDS

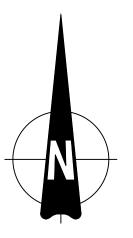
## **DESIGN BASIS**

CONVENTIONAL LIGHT FRAME CONSTRUCTION

- ROOF LIVE LOAD: 20 PSF ULTIMATE WIND SPEED: 95 MPH EXPOSURE CATEGORY: C SITE CLASS: D
- RISK CATEGORY: II
- S<sub>DS</sub>: 1.25

SEISMIC DESIGN CATEGORY: D<sub>2</sub>
ALLOW SOIL VERTICAL BEARING PRESSURE: 1500 PSF
ALLOW SOIL LATERAL BEARING PRESSURE: 100 PSF/FT

By using these pre-approved plans for accessory dwelling unit construction design, the user agrees to release, hold harmless, and indemnify the City of Tracy and its elected officials, employees, and agents, including the Architect who prepared these construction documents, from any and all claims, liabilities, suits, and demands on account of any injury, damage or loss to persons or property, including injury or death, or economic losses, arising out of the use of these construction documents. The use of these plans does not eliminate or reduce the user's responsibility to verify any and all information.



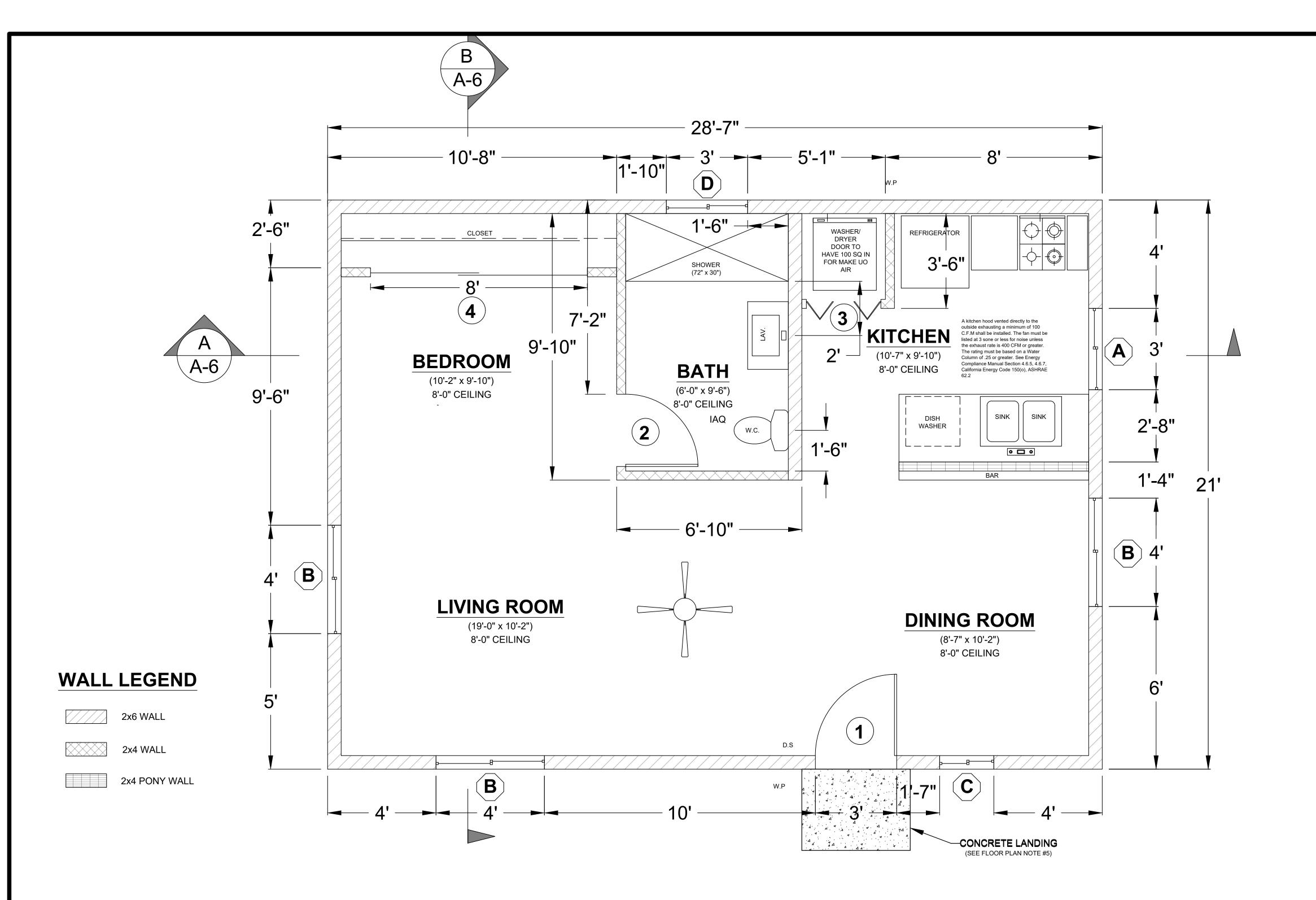


THESE PLANS ARE NOT APPROVED WHEN THE ADU IS LOCATED IN A WILDLAND URBAN INTERFACE (WUI) AREAS.

VICINITY MAP	OWNER INFORMATION	CONTACT INFORMATION	PARCEL INFORMATION	PROJECT SCOPE	DEFERRED ITEMS LIST	SHEET TITLE
	NAME:	NAME:	APN:	PROPOSED 600 SF DETACHED ACCESSORY DWELLING UNIT	TRUSSES YES/ NO / NA SOLAR PV SYSTEM YES/ NO / NA	SITE PLAN
	ADDRESS:	ADDRESS:	SITE ADDRESS:		GAS LINE DIAGRAM  YES/ NO / NA  FIRE SPRINKLERS (IF NECESSARY)  YES/ NO / NA	
	PHONE:	PHONE:	PROPERTY CONNECTED TO THE ELECTRICAL GRID ( Y or N)  PRIMARY RESIDENCE PROTECTED BY AUTOMATIC			SHEET NUMBER
	PHONE.		FIRE SPRINKLER SYSTEM (Y or N )  PROPERTY SERVICED BY NATURAL GAS ( Y or N )	OPTIONAL ROLL-IN SHOWER SELECTED (Y OR N)		SP-1
	EMAIL:	EMAIL:				



Sheet Number



	WINDOW SCHEDULE						
MARK	DIMENSION	TYPE	TEMPERED	NOTES			
A	3'-0" x 4'-0"	SLIDING					
B	4'-0" x 4'-0"	SLIDING					
C	2'-0" x 3'-0"	SLIDING	Y				
D	3'-0" x 2'-0"	SLIDING	Y				

	DOOR SCHEDULE						
MARK	DIMENSION	TEMPERED	NOTES				
1	3'-0" x 6'-8"	SWINGING		1-3/8" SOLID CORE			
(2)	3'-0" x 6'-8"	SWINGING					
3		BI-FOLD		LAUNDRY ROOM			
4	8'-0" x 6'-8"	SLIDING		6FT CLOSET			

# AGING IN PLACE NOTES

- At least one bathroom on the entry level shall be provided with reinforcement installed in accordance with this section. Where there is no bathroom on the entry level, at least one bathroom on the second or third floor of the dwelling shall comply with section
- 1.1. Reinforcement shall be solid lumber or other construction materials approved by the enforcing agency.
- 1.2. Reinforcement shall not be less than 2 by 8 inch (51 mm by 203 mm) nominal lumber. [11/2 inch by 71/4 inch (38 mm by 184 mm) actual dimension] or other construction material providing equal height and load capacity. Reinforcement shall be located between 32 inches (812.8 mm) and 391/4 inches (997 mm) above the finished floor flush with the wall framing.
- 1.3. Water closet reinforcement shall be installed on both side walls of the fixture, or one side wall and the back wall.
- 1.4. Shower reinforcement shall be continuous where wall framing is provided.
  1.5. Bathtub and combination bathtub/shower reinforcement shall be continuous on each end of the bathtub and the back wall. Additionally, back wall reinforcement for a lower grab bar shall be provided with the bottom edge located no more than 6 inches (152.4 mm) above the bathtub rim.
- Information and/or drawings identifying the location of grab bar reinforcement shall be placed in the operation and maintenance manual in accordance with the California Green Building Standards Code, Chapter 4, Division 4.4.
   Electrical receptacle outlets, switches and controls (including controls for heating, ventilation and air conditioning) intended to be used by occupants shall be located no more than 48 inches (1219.2 mm) measured from the top of the outlet box and not less than 15 inches (381 mm) measured from the bottom of the outlet box above the finish
- floor.

  3. Effective July 1, 2024, at least one bathroom and one bedroom on the entry level shall provide a doorway with a net clear opening of not less than 32 inches (812.8 mm), measured with the door positioned at an angle of 90 degrees from the closed position; or, in the case of a two- or three-story single family dwelling, on the second or third floor of the dwelling if a bathroom or bedroom is not located on the entry level.
- 4. Doorbell buttons or controls, when installed, shall not exceed 48 inches (1219.2 mm) above exterior floor or landing, measured from the top of the doorbell button assembly. Where doorbell buttons integrated with other features are required to be installed above 48 inches (1219.2 mm) measured from the exterior floor or landing, a standard doorbell button or control shall also be provided at a height not exceeding 48 inches (1219.2 mm) above exterior floor or landing, measured from the top of the doorbell button or control.

# OPTIONAL ROLL-IN SHOWER PLAN NOTES

EXTERIOR WALLS WITHIN 3 FEET OF PROPERTY LINE (SPRINKLERS) OR 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS) REQUIRE 1-HOUR FIRE

- 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE

- 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE

- 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 3FT OF PROPERTY

- 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 5FT OF PROPERTY

CONCRETE LANDING WITH MIN 36" DEPTH AND A MAXIMUM OF 1-1/2" LOWER

- MAXIMUM 25% OF WALL AREA WITHIN 5 FEET OF PROPERTY LINE

## OPTIONAL ROLL-IN SHOWER SELECTED (Y OR N)

FLOOR PLAN NOTES

(WITHOUT SPRINKLERS)

(WITHOUT SPRINKLERS)

LINE (WITHOUT SPRINKLERS)

THAN TOP OF DOOR THRESHOLD

LINE (SPRINKLERS)

PROJECTIONS:

OPENINGS:

. PENETRATIONS:

RATING FOR EXPOSURE TO BOTH SIDES

- PROHIBITED WITHIN 2 FEET OF PROPERTY LINE

- PROHIBITED WITHIN 3FT OF PROPERTY LINE

- SHOWER COMPARTMENT SEAT
   MUST BE FOLDING TYPE, NOT TO EXCEED MORE THAN 6 INCHES FROM
- MOUNTING WALL WHEN FOLDED
   LOCATED WITHIN 27 INCHES OF SHOWER CONTROLS
- MOUNTED MINIMUM 17 INCHES AND MAXIMUM 19 INCHES ABOVE
- BATHROOM FINISHED FLOOR.
   SEAT INSTALLED ON SIDE WALL ADJACENT TO CONTROLS AND EXTENDING
- FROM BACK WALL TO POINT WITHIN 3 INCHES OF SHOWER COMPARTMENT ENTRY
   STRUCTURAL ADEQUACY OF MOUNTING HARDWARE AND FASTENERS TO
- ACCOMMODATE 250 POUND POINT LOAD APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE
- SHOWER GRAB BARS
   MOUNTED MINIMUM 33 INCHES AND MAXIMUM 36 INCHES ABOVE SHOWER
  FLOOR
- NOT EXTENDING OVER SHOWER SEAT
- IF CROSS SECTION IS CIRCULAR, MINIMUM 1-1/4" AND MAXIMUM 2" OUTSIDE DIAMETER
- IF CROSS SECTION IS NON-CIRCULAR, MINIMUM 4" AND MAXIMUM 4.8" PERIMETER AND MAXIMUM 2-1/4" CROSS SECTION DIMENSION GRAB BARS MOUNTED ADJACENT TO A WALL, 1-1/2" ABSOLUTE SPACE
- BETWEEN WALL AND GRAB BAR
   MINIMUM 1-1/2" SPACE BETWEEN GRAB BAR AND PROJECTING OBJECTS
- BELOW AND AT ENDS
   MINIMUM 12 INCH SPACE BETWEEN GRAB BAR AND PROJECTING OBJECTS
- ABOVE
   SURFACE MATERIAL OF ANY WALLS OR OBJECTS ADJACENT TO GRAB BARS
- MUST BE FREE OF SHARP OR ABRASIVE ELEMENTS AND HAVE ROUNDED EDGES.

   STRUCTURAL ADEQUACY OF MOUNTING HARDWARE AND FASTENERS TO ACCOMMODATE 250 POLIND POINT LOAD APPLIED AT ANY POINT ON THE
- ACCOMMODATE 250 POUND POINT LOAD APPLIED AT ANY POINT ON THE GRAB BAR, FASTENER, MOUNTING DEVICE, OR SUPPORTING STRUCTURE WALL REINFORCEMENT TO BE PROVIDED AT LOCATION OF GRAB BARS (E.G. BLOCKING)
- OPERABLE PARTS OF SHOWER CONTROLS AND FAUCETS:- INSTALLED ON BACK WALL OF SHOWER COMPARTMENT ADJACENT TO
- SEAT WALL
- LOCATED MINIMUM 19 INCHES AND MAXIMUM 27 INCHES FROM SEAT WALL LOCATED ABOVE GRAB BAR BUT NO HIGHER THAN 48 INCHES ABOVE
- SHOWER FLOOR
   CENTERLINE AT MINIMUM 39 INCHES AND MAXIMUM 41 INCHES ABOVE
- SHOWER FLOOR
- SINGLE-LEVER DESIGN - OPERABLE WITH MAXIMUM 5 POUNDS OF FORCE
- OPERABLE WITH MAXIMUM 5 POUNDS OF FORCE
   OPERABLE WITH ONE HAND AND WITHOUT TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST
- 4. SPRAYER UNIT AND ASSOCIATED OPERABLE PARTS SHALL BE PROVIDED PER THE FOLLOWING:
- OPERABLE PARTS, INCLUDING HANDLE, TO BE INSTALLED ON BACK WALL OF SHOWER COMPARTMENT MINIMUM 19 INCHES AND MAXIMUM 27 INCHES
- FROM SEAT WALL
   OPERABLE PARTS LOCATED ABOVE GRAB BAR BUT NO HIGHER THAN 48
  INCHES ABOVE SHOWER FLOOR, MEASURED TO TOP OF MOUNTING
- INCHES ABOVE SHOWER FLOOR, MEASURED TO TOP OF MOUNTIN BRACKET - MINIMUM 59 INCH LONG HOSE
- CAPABLE FOR USE AS FIXED SHOWER HEAD AND HAND HELD SHOWER ON/OFF CONTROL WITH NON-POSITIVE SHUT OFF
- ADJUSTABLE -HEIGHT SHOWER HEADS ON VERTICAL BAR SHALL NOT OBSTRUCT USE OF BATHTUB GRAB BARS
- 5. WHERE SOAP DISHES ARE PROVIDED, MAXIMUM 40 INCHES ABOVE SHOWER FLOOR AND WITHIN REACH LIMITS FROM THE SHOWER SEAT
- 6. MAXIMUM 2.1% SLOPE IN ALL DIRECTIONS OF ROLL-IN SHOWER FLOORS
- 7. MAXIMUM  $\frac{1}{2}$ " HIGH THRESHOLDS WITH MAXIMUM 50% BEVELED SLOPE AT ROLL-IN SHOWERS
- 8. WHERE DRAINS ARE PROVIDED AT ROLL-IN SHOWERS, MAXIMUM  $^1_4$  GRATE OPENINGS FLUSH WITH SHOWER FLOOR SURFACE

 $\frac{\text{FLOOR PLAN}}{1/2" = 1' - 0"}$ 

UTILITY PLAN NOTES

LIGHTING PLAN NOTES

ENERGY.CA.GOV/PAGES/ APPLIANCESEARCH.ASPX

CONTROLLED BY A DIMMER OR VACANCY SENSOR **EXCEPTION**: CLOSETS LESS THAN 70 S.F. & HALLWAYS

CONTROLLED BY ONE OF THE FOLLOWING:

- PHOTOCONTROL AND MOTION SENSOR

- ASTRONOMICAL TIME CLOCK

RECEPTACLES. [CEC Art. 406.12]

ALL LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH CEnC TABLE

2. ALL LED LUMINAIRES AND LAMPS SHALL BE MARKED "JA8-2016" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABASE AT HTTPS://CACERTAPPLIANCES.

ALL RECESSED DOWNLIGHT AND ENCLOSED LUMINAIRES SHALL BE MARKED "JA8-2016-E" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABSE AT HTTPS://CACERTAPPLIANCES.ENERGY.CA.GOV/PAGES/ APPLIANCESEARCH.ASPX

4. RECESSED DOWNLIGHT LUMINAIRES IN CEILINGS SHALL NOT BE SCREW-BASED

6. ALL LUMINAIRES REQUIRING "JA8-2016" OR "JA8-2016-E" MARKING SHALL BE

OUTDOOR LIGHTING PERMANENTLY MOUNTED TO BUILDINGS SHALL BE

- ENERGY MANAGEMENT CONTROL SYSTEM PER CEnC 150.0(K)3AIIIC

9. OPTIONAL 240-VOLT RECEPTACLE OUTLET MAY BE INSTALLED FOR PROPOSED ELECTRIC DRYER OR ELECTRIC RANGE ON A DEDICATED BRANCH CIRCUIT.

10. INSTALL LIGHTING OUTLET IN ATTIC AREA AND SWITCH AT POINT OF ENTRY TO THE ATTIC AREA. WHERE MECHANICAL HVAC UNIT IS INSTALLED IN ATTIC AREA

8. ALL NEW OUTLET RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT

- PHOTOCONTROL AND AUTOMATIC TIME-SWITCH CONTROL

LIGHTING OUTLET SHALL BE INSTALLED NEAR EQUIPMENT.

BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS: AT LEAST ONE LUMINAIRE IN EACH SPACE SHALL BE CONTROLLED BY A VACANCY SENSOR

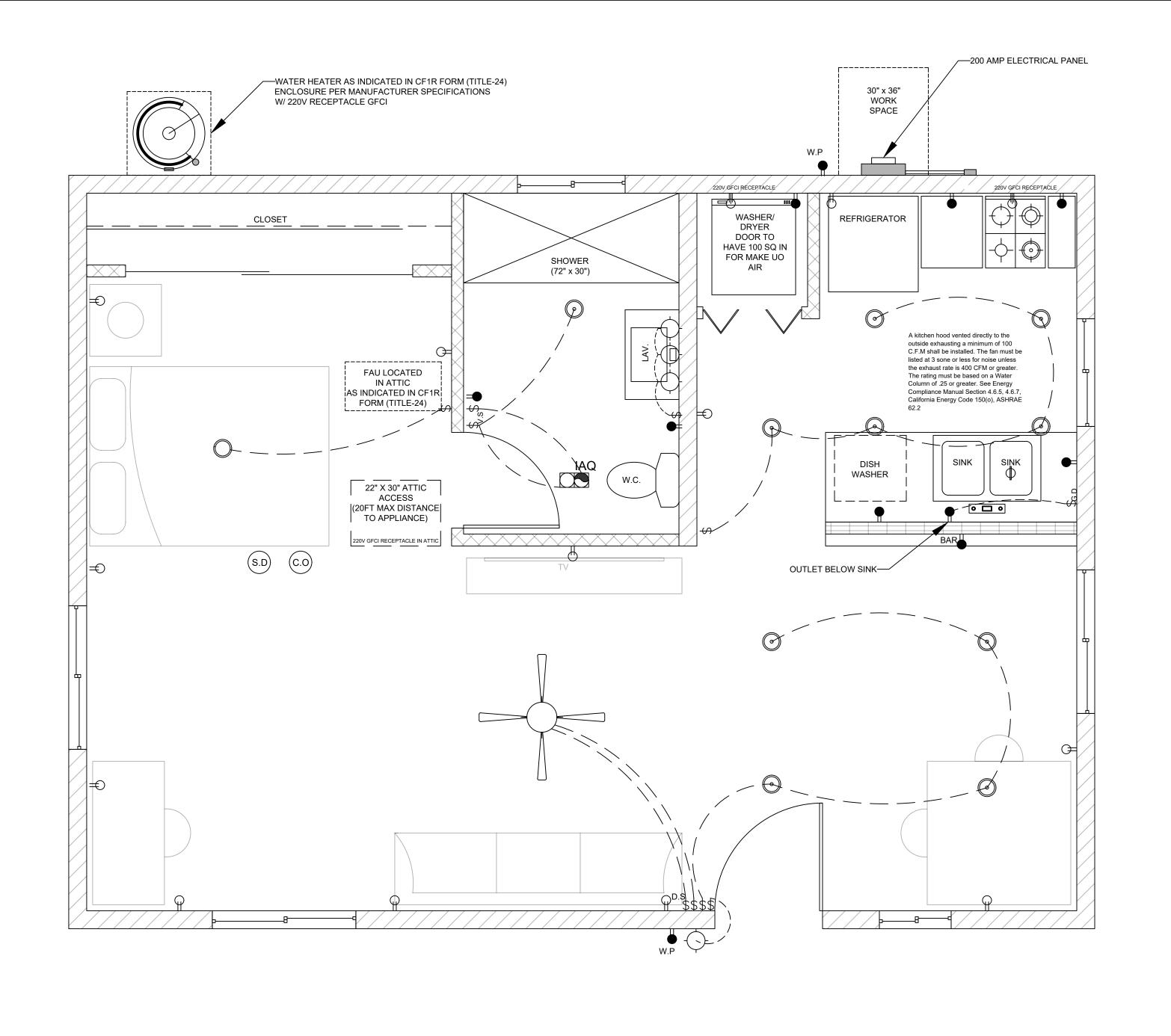
If a new service is installed, a surge-protective device is required (SPD). The SPD shall be

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# 600 SF ACCESSORY DWELLING UNIT

**A O** 

Sheet Number



ELECTRICAL LEGEND						
Œ	DUPLEX OUTLET	HIGH EFFICACY RECESSED LIGHT				
\$	WALL SWITCH					
\$ <sub>G.D</sub>	GARBAGE DISPOSAL SWITCH	● DUPLEX OUTLET W/ GFCI				
\$ <sub>v.s</sub>	VACANCY SENSOR	W.P	DUPLEX OUTLET W/ GFCI & WATER PROOF			
\$	4" DIA DRYER VENT					
(S.D)	SMOKE DETECTOR					
(0.0)	CARBON MONOXIDE ALARM		FAN & LIGHT COMBO			
	FAN AND LIGHT COMBINATION		TANK & EIGHT SOMES			
$\bigcirc$	HIGH EFFICACY LIGHT FIXTURE					

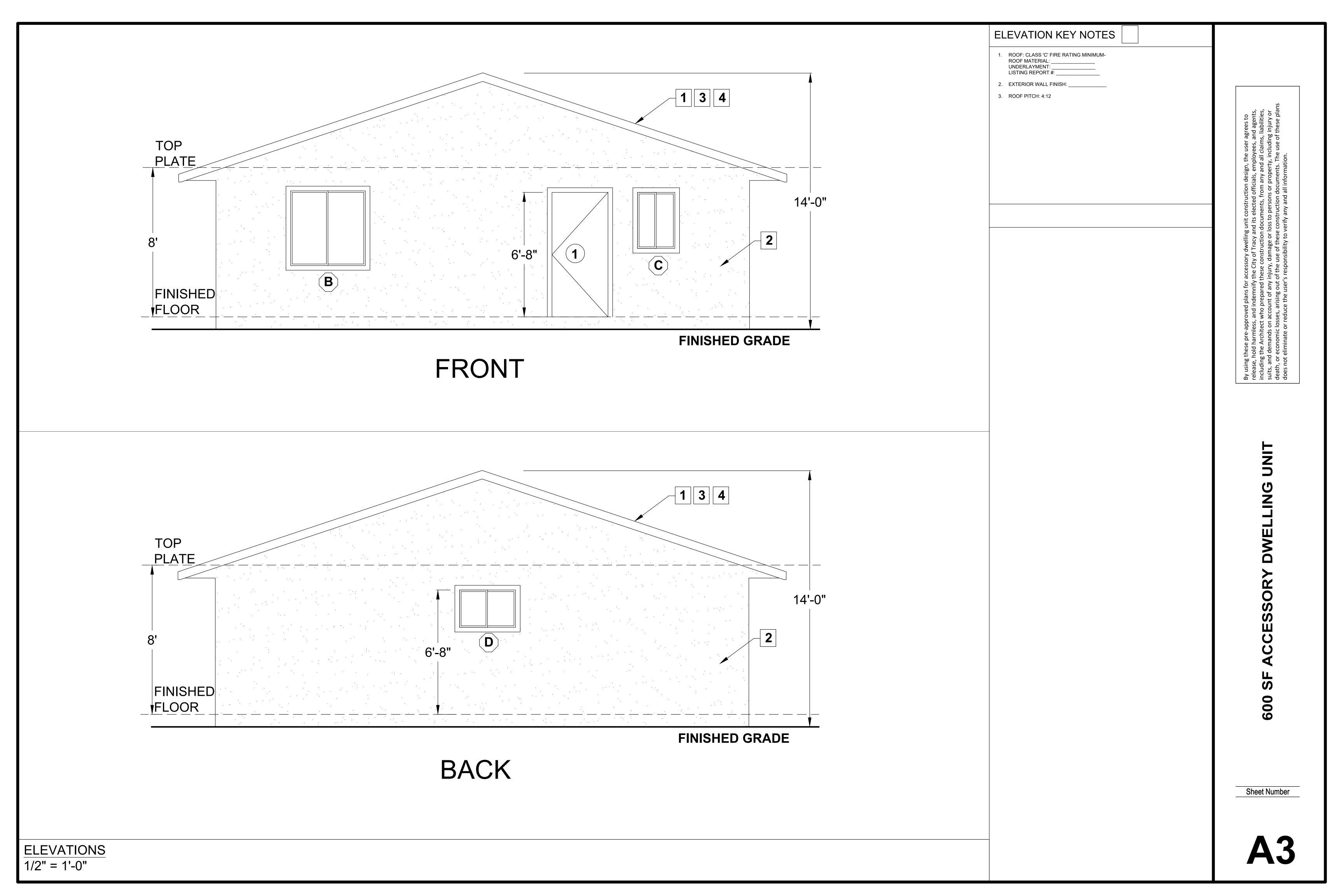
ELECTRICAL PLAN
1/2" = 1'-0"

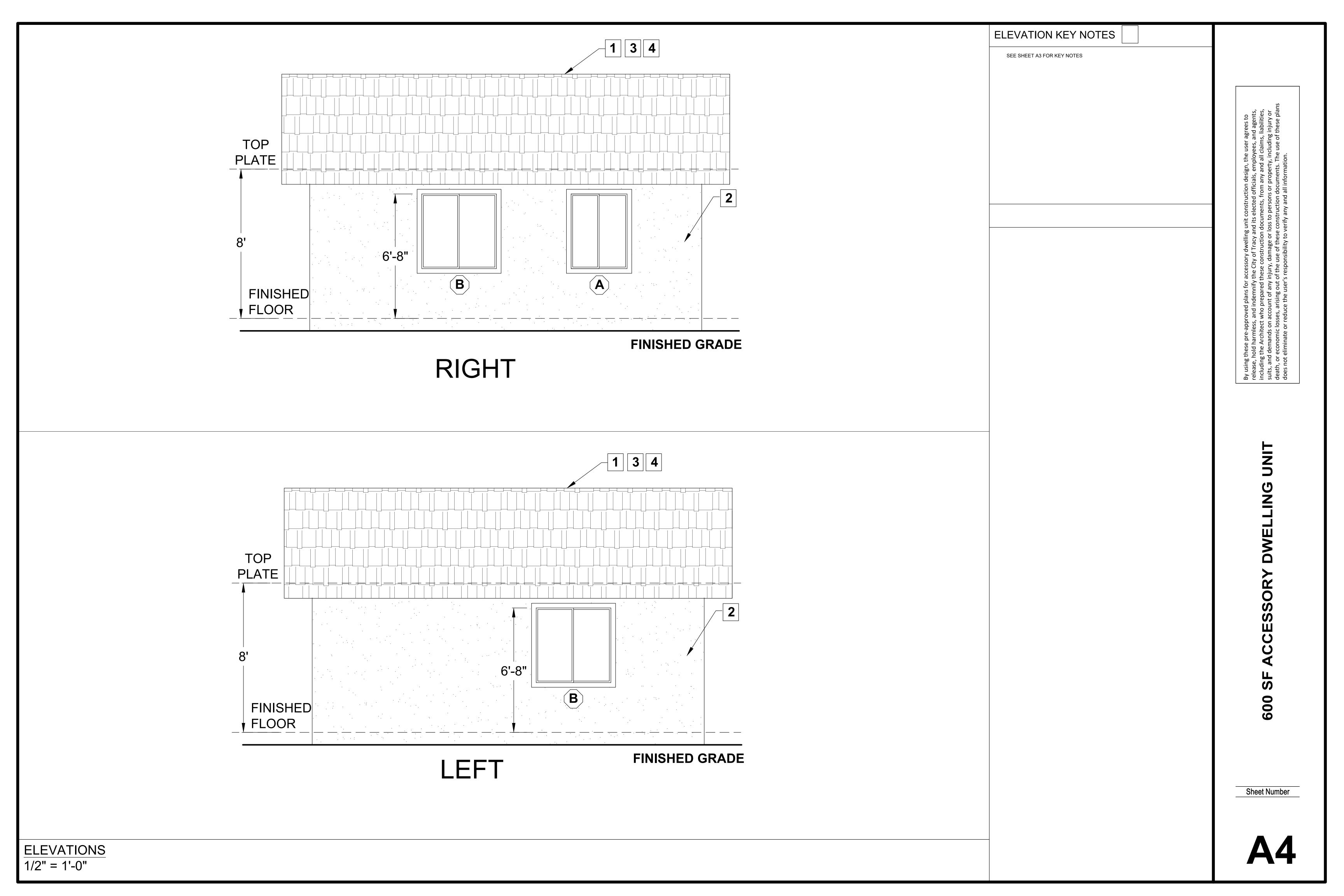
WALL LEGEND

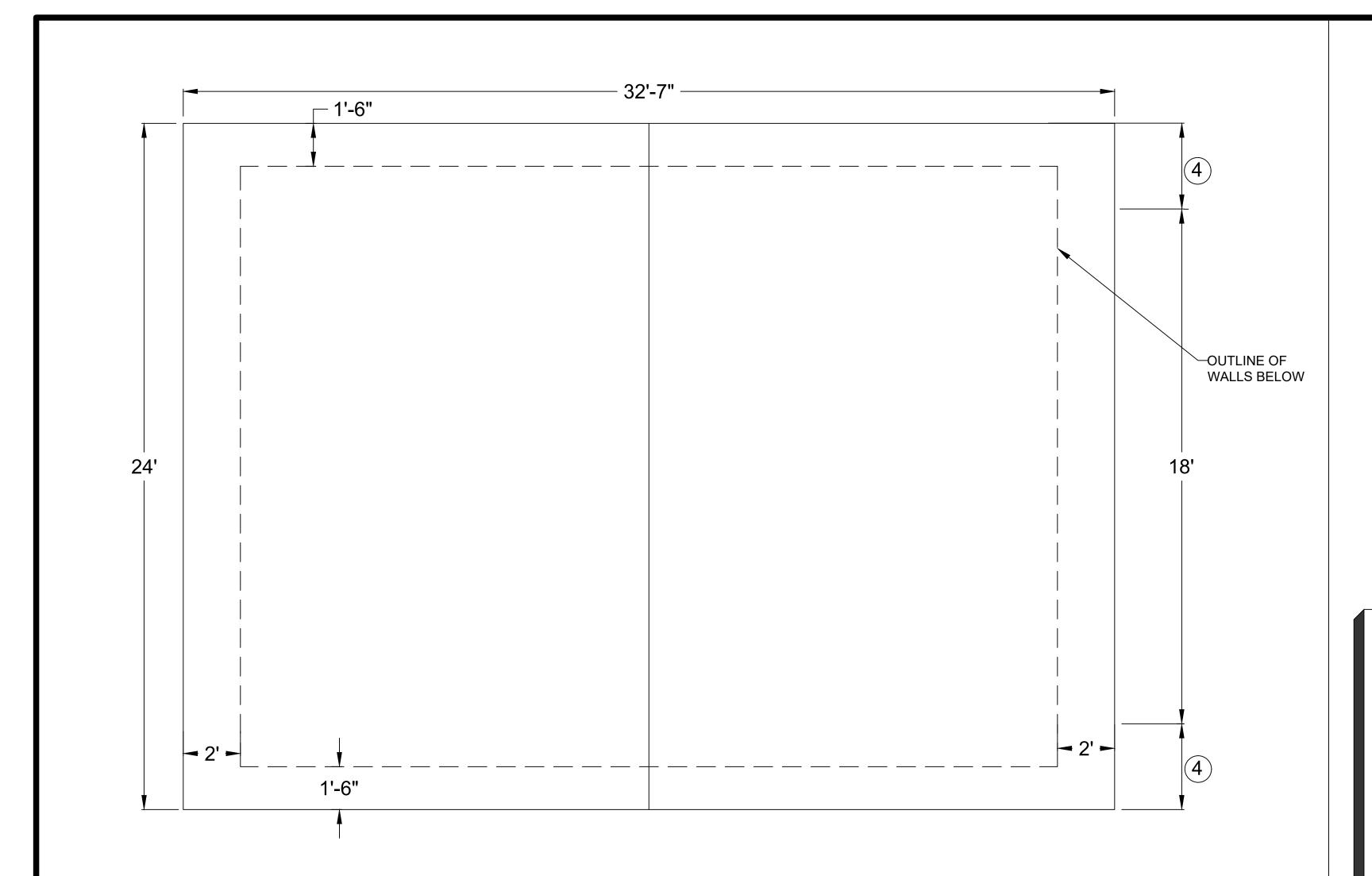
2x6 WALL

2x4 WALL

2x4 PONY WALL







GABLE END TRUSS ID:	
TRUSS ID:	
GABLE END TRUSS II	D:

# ATTIC VENTILATION REQUIRED

NET FREE CROSS VENTILATION AREA =  $\frac{1}{150}$ VENT AREA REQ'D = 600 ft<sup>2</sup> / 150 = 4 ft<sup>2</sup> x 144 = 576 in<sup>2</sup>

ROOF VENTS

NET FREE VENTILATION AREA:  $72 \text{ in}^2$ QTY = 8 VENTS

VENT AREA PROVIDED = 8 x 72 in<sup>2</sup> = 576 in<sup>2</sup>

 $\frac{\text{TOTAL VENT AREA PROVIDED}}{576 \text{ in}^2 = 576 \text{ in}^2 \text{ OK}}$ 

# SOLAR NOTES

- NO OBSTRUCTIONS INCLUDING VENTS, CHIMNEYS, SKYLIGHTS, ARCHITECTURAL FEATURES, ROOF-MOUNTED EQUIPMENT - LOCATED WITHIN SOLAR ZONE.
- 2. 3' MIN FIRE FIGHTER ACCESS
- 3. 1'-6" SMOKE VENTILATION SETBACK AT RIDGES

ESSORY DWELLING UNIT

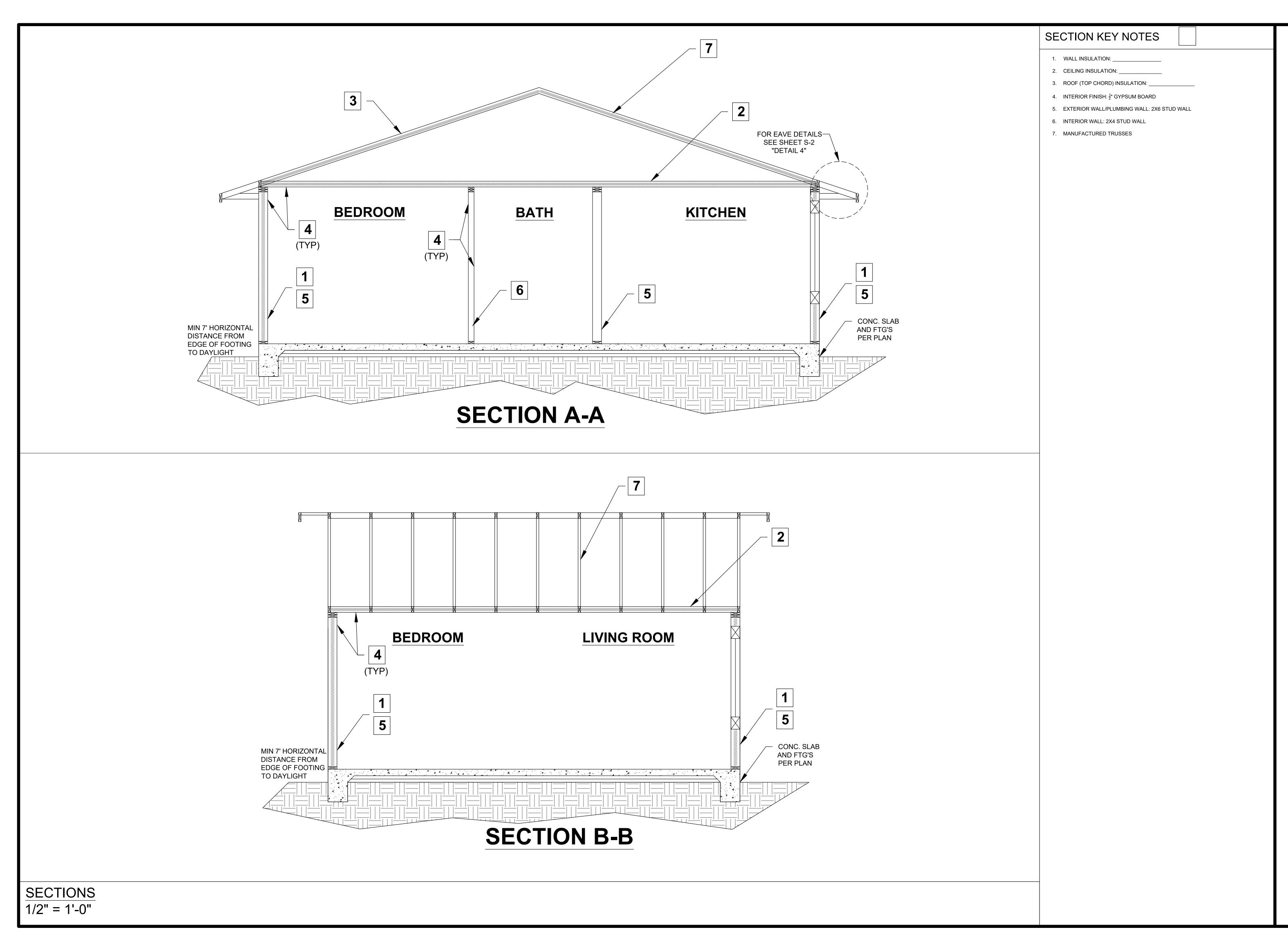
suits, and demands on acco

Sheet Number

**A5** 

ROOF PLAN / TRUSS LAYOUT

 $\frac{3}{8}$ " = 1'-0

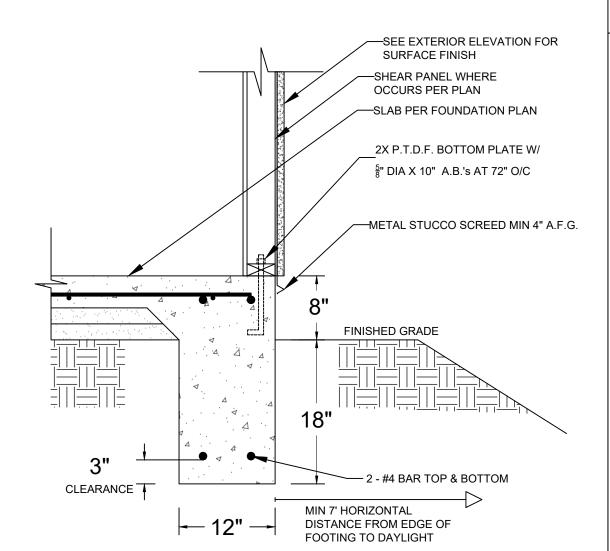


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600 SF ACCESSORY DWELLING

Sheet Number

A6



**DETAIL 1** 

(NTS)

# FOUNDATION PLAN NOTES

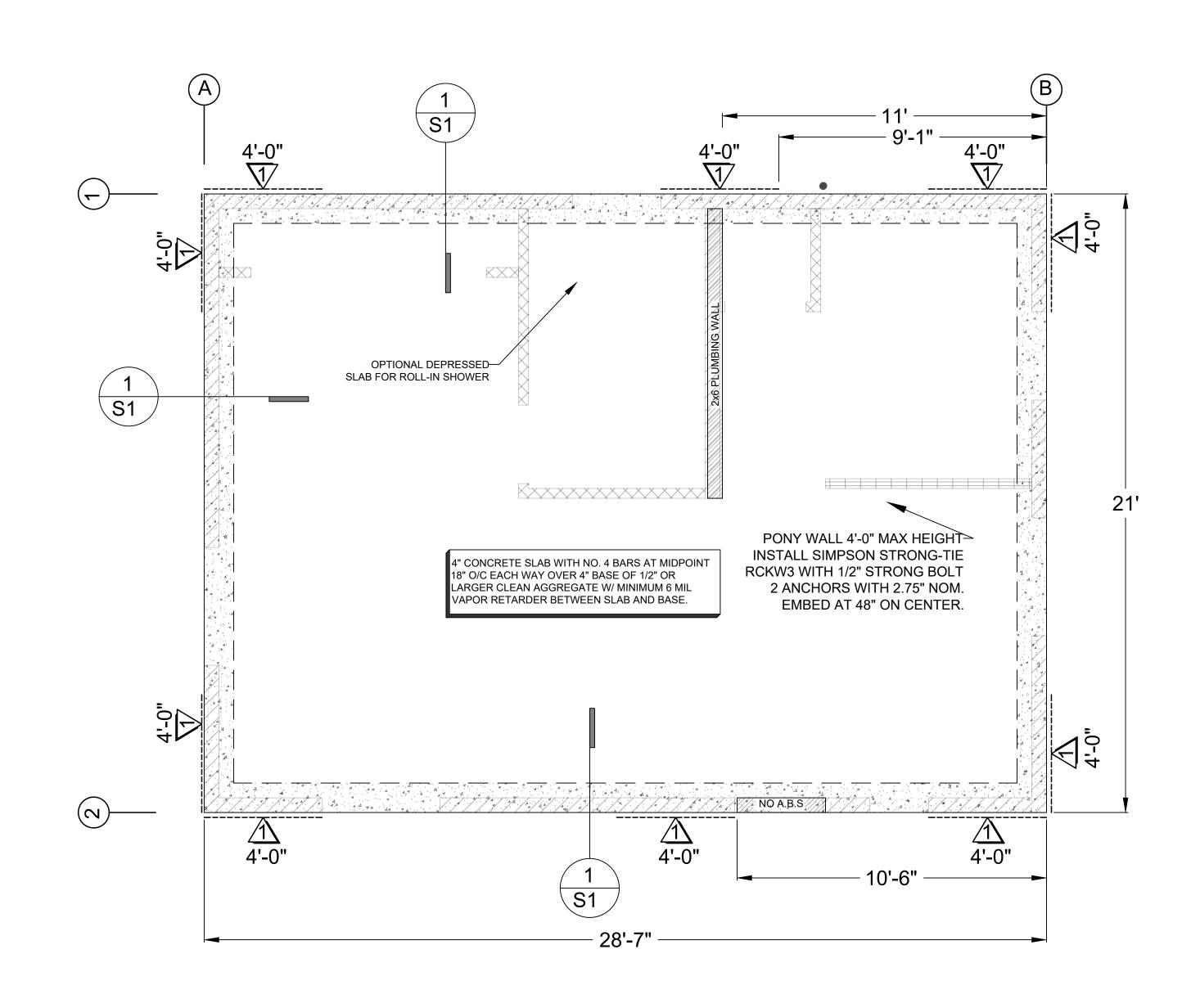
- ALL ANCHORS BOLTS SHALL BE  $\frac{5}{8}$ " DIAMETER AND HAVE A MINIMUM EMBEDMENT OF 7 INCHES INTO CONCRETE (UNO) AND NOT SPACED MORE THAN 6 FEET APART
- 2. 3"X3"X0.229" PLATE WASHERS SHALL BE USED ON EACH SILL PLATE ANCHOR BOLT
- 3. FOR STANDARD CUT WASHERS PLACED BETWEEN PLATE WASHER AND NUT, HOLE IN PLATE WASHER MAY BE DIAGONALLY SLOTTED WITH MAXIMUM  $\frac{3}{16}$ " LARGER WIDTH THAN BOLT DIAMETER AND MAXIMUM 1-3/4" SLOT LENGTH
- 4. PROVIDE A MINIMUM OF TWO ANCHOR BOLTS PER SILL PLATE WITH ONE BOLT LOCATED MAXIMUM 12" AND MINIMUM 7 BOLT DIAMETERS FROM EACH END OF EACH SECTION.
- 5. BOLTS LOCATED IN THE MIDDLE THIRD OF THE SILL PLATE WIDTH
- 6. FASTENERS FOR PRESSURE-PRESERVATIVE TREATED AND FIRE RETARDANT TREATED WOOD SHALL BE HOT-DIPPED ZINC COATED GALVANIZED, STAINLESS STEEL OR COPPER
- 7. NO LPG PIPING ASSEMBLIES ALLOWED IN OR BENEATH SLABS WITHIN THE STRUCTURE

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300 SF ACCESSORY DWELLING UNIT

Sheet Number

**S**1



LEGEND



BRACED WALL LINE

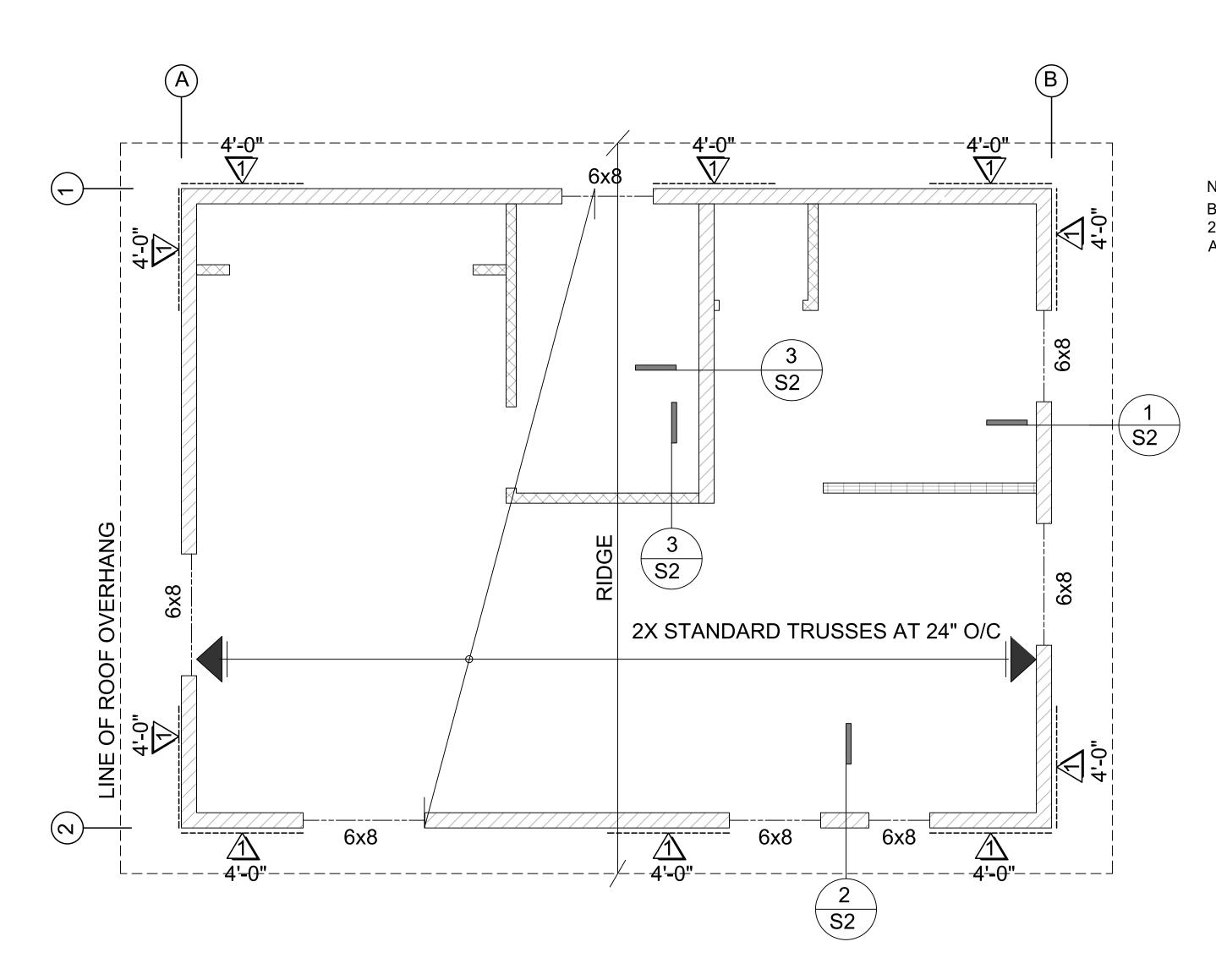
	WOOD STRUCTURAL PANEL SHEATHING							
MARK	MINIMUM NAIL		MINIMUM WOOD STRUCTURAL PANEL SPAN		MAXIMUM WALL STUD SPACING (in)	PANEL NAIL SPACING		
	SIZE	PENETRATION (in)	RATING	(in)		EDGES (inches o/c)	FIELD (inches o/c)	
1	6D COMMON	1.5	24:0	<u>3</u> 11 8	16	6	12	
	8D COMMON	1.75	24:16	7 " 16	16	6	12	

WOOD STRUCTURAL PANELS SHALL CONFORM TO DOC PS 1, DOC PS 2 OR ANSI/APA PRP 210, CSA O437 OR CSA O325. PANELS SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY AN APPROVED AGENCY

VERTICAL JOINTS OF PANEL SHEATHING SHALL OCCUR OVER AND BE FASTENED TO COMMON STUDS. HORIZONTAL JOINTS IN BRACED WALL PANELS SHALL OCCUR OVER AND BE FASTENED TO COMMON BLOCKING OF A MINIMUM 1  $\frac{1}{2}$  INCH THICKNESS.

FOUNDATION PLAN

3/8" = 1'-0"



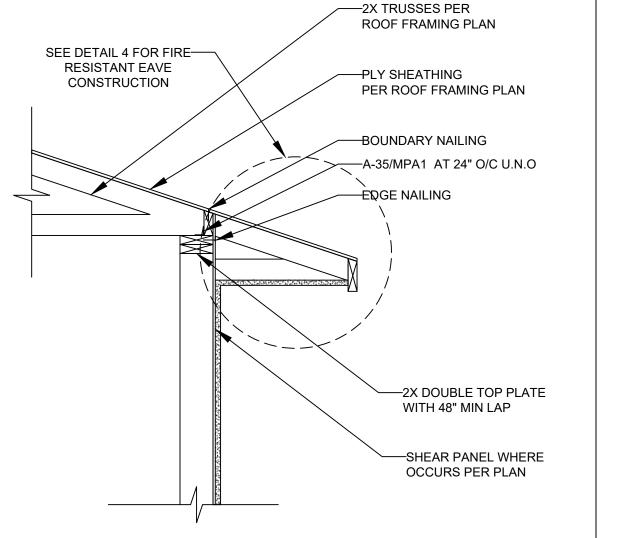
NOTE: ROOF SHEATHING TO BE  $\frac{1}{2}$ " APA RATED SHEATHING 24:0 AT 6" O/C EDGE NAILING AND 6" O/C FIELD NAILING

LEGEND

(#)

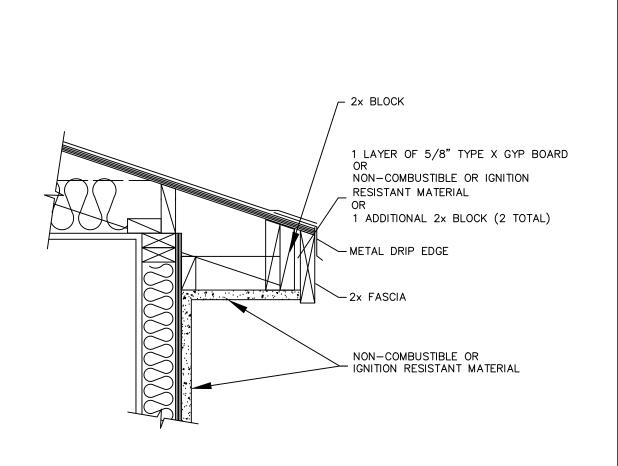
12

6



DETAIL 1

(NTS)



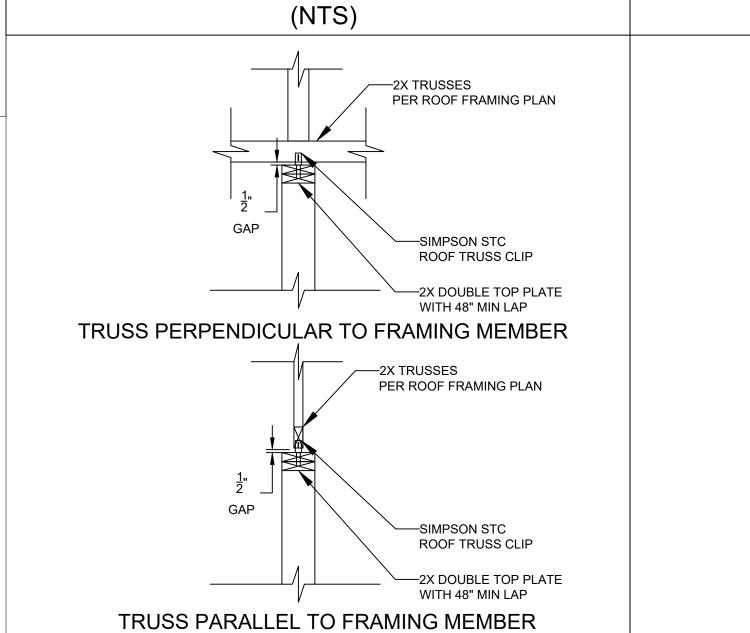
DETAIL 4

(NTS)

DETAIL 5

(NTS)

SEE DETAIL 4 FOR FIRE  RESISTANT EAVE  CONSTRUCTION	PLY SHEATHING PER ROOF FRAMING PLAN EDGE NAILING	FULL HEIGHT— STUDS ADJACENT TO HEADER	SINGLE OR DOUBLE TOP PLATE	
	GABLE END TRUSS	4x16d END NAIL INTO HEADER		- CRIPPLE - HEADER
	2X TRUSSES PER ROOF FRAMING PLAN  2X BLKG W/ Z CLIPS @ 24" O/C (TYP)  A-35/MPA1 AT 24" O/C U.N.O  EDGE NAILING		JACK STUDS/ TRIMMERS	
	2X DOUBLE TOP PLATE WITH 48" MIN LAP  SHEAR PANEL WHERE OCCURS PER PLAN	BOTTOM- PLATE		CRIPPLE



DETAIL 3

(NTS)

DETAIL 2

**DWELLING** ACCESSORY 009

**Sheet Number** 

## MINIMUM WOOD MINIMUM NOMUNAL MINIMUM NAIL PANEL THICKNESS MAXIMUM WALL STUD PANEL NAIL SPACING STRUCTURAL MARK SPACING (in) PANEL SPAN (in) PENETRATION RATING EDGES (inches o/c) | FIELD (inches o/c) | 6D COMMON 24:0 1.5 16 12

16

WOOD STRUCTURAL PANEL SHEATHING

24:16

VERTICAL JOINTS OF PANEL SHEATHING SHALL OCCUR OVER AND BE FASTENED TO COMMON STUDS. HORIZONTAL JOINTS IN BRACED WALL PANELS SHALL OCCUR OVER AND BE FASTENED TO COMMON BLOCKING OF A

WOOD STRUCTURAL PANELS SHALL CONFORM TO DOC PS 1, DOC PS 2 OR ANSI/APA PRP 210, CSA O437 OR CSA O325. PANELS SHALL BE IDENTIFIED BY A GRADE MARK OR CERTIFICATE OF INSPECTION ISSUED BY AN APPROVED AGENCY

MINIMUM 1  $\frac{1}{2}$  INCH THICKNESS.

8D COMMON

1.75

# ROOF FRAMING PLAN

3/8" = 1'-0"

- GFCI outlets. Ground Fault Circuit Interrupter (GFCI) outlets are required in bathrooms, at kitchen countertops, at laundry and wet bar sinks, in garages, in crawlspaces, in unfinished basements, and outdoors. (CEC 210.8)
- AFCI outlets. All 120-volt, single phase, 15 AND 20-amp branch circuits supplying outlets installed in dwelling unit kitchens, dining rooms, family rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, rec rooms, closets, laundry areas, hallways and similar rooms shall be protected by a listed arc-fault circuit interrupter, or combination type, installed to provide protection of the branch circuit.
- CEC 210.12(AFCI). (CEC 210.12)
- 3. Luminaire requirements. Installed luminaires shall meet the efficacy and fixture requirements of CEnC 150.0(k).
- Smoke detectors in building remodels. Smoke detectors are required in each existing sleeping room, outside each separate sleeping area in the immediate vicinity of sleeping rooms, and on each story of a dwelling including basements. Battery-operated detectors are acceptable in existing areas with no construction taking place and in alterations not resulting in removal of interior wall or ceiling finishes and without access via an attic, crawl space, or basement. (CRC R314.3)
- Carbon monoxide detectors in building remodels. Carbon monoxide detectors are required outside each separate sleeping area in the immediate vicinity of sleeping rooms and on each story of a dwelling including basements. Battery-operated detectors are acceptable in existing areas with no construction taking place and in alterations not resulting in removal of interior wall or ceiling finishes and without access via an attic, crawl space, or basement. (CRC R315.3)
- Water heater seismic strapping. Minimum two 3/4-inch-by-24-gauge straps required around water heaters, with 1/4-inch-by-3-inch lag bolts attached directly to framing. Straps shall be at points within upper third and lower third of water heater vertical dimension. Lower connection shall occur minimum 4 inches above controls. (CPC 507.2)
- Gas appliances in garages. Water heaters and heating/cooling equipment capable of igniting flammable vapors shall be placed on minimum 18-inch-high platform unless listing report number provided showing ignition-resistant appliance. (CPC 507.13 and
- Impact protection of appliances. Water heaters and heating/cooling equipment subject to vehicular impact shall be protected by bollards or an equivalent measure. (CPC 507.13.1 and CMC 305.11)
- Water closet clearance. Minimum 30-inch-wide by 24-inch-deep clearance required at front of water closets. (CPC 402.5)
- 10. Shower size. Shower compartments shall have minimum area of 1024 square inches and be able to encompass a 30-inch-diameter circle. Shower doors shall have a minimum 22-inch unobstructed width. (CPC 408.5 and CPC 408.6)
- 11. Fireplace appliances. Fireplaces with gas appliances are required to have the flue have no 'pit' or 'sump' configurations. (CMC 303.7.1)
- 12. Chimney clearance. Minimum 2-foot chimney clearance required above building within 10-foot horizontally of chimney. The chimney shall extend minimum 3 feet above highest point where chimney passes through roof. (CRC R1003.9)

## . Mechanical Ventilation and Indoor Air Quality (ASHRAE 62.2-2010)

- **Transfer air.** Ventilation air shall be provided directly from the outdoors and not as transfer air from adjacent dwelling units or other spaces, such as garages, unconditioned crawlspaces, or unconditioned attics. (CEnC 150.0(o))
- **Instructions and labeling.** Ventilation system controls shall be labeled and the home owner shall be provided with instructions on how to operate the system. (CEnC 150.0(o))
- Combustion and solid-fuel burning appliances. Combustion appliances shall be properly vented and air systems shall be designed to prevent back drafting. (CEnC
- have total air leakage of no more than 6% of total fan flow when measured at 0.1 in. w.c. using California Title 24 or equivalents. (CEnC 150.0(o)) Minimum filtration. Mechanical systems supplying air to occupiable space through

Garages. The wall and openings between occupiable spaces and the garage shall be

sealed. HVAC systems that include air handlers or return ducts located in garages shall

- ductwork shall be provided with a filter having a minimum efficiency of MERV 6 or better. (CEnC 150.0(o))
- **Air inlets.** Air inlets (not exhaust) shall be located away from known contaminants. (CEnC 150.0(o))
- Air moving equipment. Air moving equipment used to meet either the whole-building ventilation requirement or the local ventilation exhaust requirement shall be rated in terms of airflow and sound. (CEnC 150.0(o))
- **a.** All continuously operating fans shall be rated at a maximum of 1.0 sone.
- **b.** Intermittently operated whole-building ventilation fans shall be rated at a maximum of 1.0 sone.
- **c.** Intermittently operated local exhaust fans shall be rated at maximum of 3.0 sone. **d.** Remotely located air-moving equipment (mounted outside of habitable spaces) need not meet sound requirements if at least 4 feet of ductwork between fan and intake grill.

## . Foundation and Underfloor

Foundation reinforcement. Continuous footings and stem walls shall be provided with a minimum two longitudinal No. 4 bars, one at the top and one at the bottom of the footing. (CRC R403.1.3.3)

Concrete slabs-on-grade. Slabs-on-grade shall be minimum 3-1/2-inches thick. (CRC

minimum 6 inches shall be placed between a concrete slab-on-grade and the base

- **Shear wall foundation support.** Shear walls shall be supported by continuous foundations. (CRC 403.1.2)
- R506.1) Vapor retarder. A 10-mil polyethylene or approved vapor retarder with joints lapped
- course or subgrade. (CRC 506.2.3) Anchor bolts and sills. Foundation plates or sills shall be bolted or anchored to the
- foundation or foundation wall per the following (CRC R403.1.6 and CRC R602.11.1):
- **a.** Minimum 1/2-inch-diameter steel bolts **b.** Bolts embedded at least 7 inches into concrete or masonry
- **c.** Bolts spaced maximum 6 feet on center
- **d.** Minimum two bolts per plate/sill piece with one bolt located maximum 12 inches and minimum 7 bolt diameters from each end of each sill plate/piece
- e. Minimum 3-inch by 3-inch by 0.299-inch steel plate washer between sill and nut on each bolt
- **Hold-downs.** All hold-downs must be tied in place prior to foundation inspection. Protection of wood against decay. Naturally durable or preservative-treated wood shall
- be provided in the following locations (CRC R317.1):

**a.** All wood in contact with ground, embedded in concrete in direct contact with ground, or

- embedded in concrete exposed to weather b. Wood joists within 18 inches and wood girders, and columns within 12 inches of the exposed ground in crawl spaces shall be of naturally durable or preservative-treated
- Wood framing members that rest on concrete or masonry exterior foundation walls and are less than 8 inches from exposed earth shall be of naturally durable or
- **d.** Wood framing, sheathing, and siding on the exterior of the building and having clearance less than 6 inches from the exposed ground or less than 2 inches vertically from concrete steps, porch slabs, patio slabs, and similar horizontal surface exposed to
- e. Sills and sleepers on concrete or masonry slab in direct contact with ground unless separated from such slab by impervious moisture barrier

## D. Foundation and Underfloor (Continued)

f. Ends of wood girders entering masonry or concrete walls with clearances less than 1/2

29. Girders. Girders for single-story construction or girders supporting loads from a single inch on tops, sides, and ends

h. Wood furring strips or other wood framing members attached directly to interior of

- g. Wood structural members supporting moisture-permeable floors or roofs exposed to weather, such as concrete or masonry slabs, unless separated from such floors or roofs by an impervious moisture barrier
- exterior concrete or masonry walls below grade except where vapor retarder applied between wall and furring strips or framing members 8. Underfloor ventilation. Underfloor areas shall have ventilation openings through foundation walls or exterior walls, with minimum net area of ventilation openings of 1
- square foot for each 150 square feet of underfloor area. On such ventilating opening shall be within 3 feet of each corner of the building. (CRC R408.1)
- 9. Underfloor access. Underfloor areas shall be provided with a minimum 18-inch by 24-inch access opening. (CRC R408.4)

## E. Wood Framing

- 1. Fastener requirements. The number, size, and spacing of fasteners connecting wood members/elements shall not be less than that set forth in CRC Table R602.3(1). (CRC R502.9, CRC R602.3, and CRC R802.2)
- 2. Stud size, height, and spacing. The size, height, and spacing of studs shall be in accordance with CRC Table R602.3(5). (CRC R602.3.1)
- 3. Sill plate. Studs shall have full bearing on nominal 2-inch thick or larger sill plate with width at least equal to stud width. (CRC R602.3.4)
- **4. Bearing studs.** Where joists, trusses, or rafters are spaced more than 16 inches on center and the bearing studs below are spaced 24 inches on center, such members shall bear within 5 inches of the studs beneath. (CRC R602.3.3)
- 5. **Drilling and notching of studs.** Any stud in an exterior wall or bearing partition may be cut or notched to a depth not exceeding 25% of its width. Studs in nonbearing partitions may be notched to a depth not to exceed 40% of a single stud width. Any stud may be bored or drilled, provided the diameter of the resulting hole is no more than 60% of the stud width, the edge of the hole is no more than 5/8 inch to the edge of the stud, and the hole is not located in the same section as a cut or notch. Studs located in exterior wall or bearing partitions drilled over 40% and up to 60% shall also be doubled with no more than two successive studs bored. (CRC R602.6)
- 6. Top plate. Wood stud walls shall be capped with a double top plate installed to provide overlapping at corners and at intersections with other partitions. End joints in double top plates shall be offset at least 24 inches. Joints in plates need not occur over studs. Plates shall be minimum nominal 2 inches thick and have width at least equal to width of studs. (CRC R602.3.2)
- 7. Top plate splices. Top plate lap splices shall be face-nailed with minimum 8 16d nails on each side of splice. (CRC R602.10.8.1)
- damper permanently fixed in the open position and fireplaces with LPG appliances are to 8. Drilling and notching of top plate. When piping or ductwork is placed in or partly in an exterior wall or interior load-bearing wall, necessitating cutting, drilling, or notching of the top plate by more than 50% of its width, a galvanized metal tie not less than 0.054-inch thick and 1-1/2-inches wide shall be fastened across and to the plate at each side of the opening with not less than 8 10d nails having a minimum length of 1-1/2 inches at each side or equivalent. The metal tie must extend minimum 6 inches past the opening. (CRC
  - **9.** Cripple walls. Foundation cripple walls shall be framed of studs not less in size than the studding above. Cripple walls more than 4 feet in height shall have studs sized as required for an additional story. Cripple walls with stud height less than 14 inches shall be sheathed on at least one side with a wood structural panel fastened to both the top and bottom plates in accordance with Table R602.3(1), or the cripple walls shall be constructed of solid blocking. Cripple walls shall be supported on continuous foundations. (CRC R602.9)
  - 10. Wall bracing. Buildings shall be braced in accordance with the methods allowed per CRC R602.10.2. CRC R602.10.4. and/or CRC R602.10.5.
  - 11. Braced wall line spacing. Spacing between braced wall lines shall not exceed 20 feet or alternate provisions of CRC R602.10.1.3.
  - 12. Shear wall cumulative length. The cumulative length of shear walls within each braced wall line shall meet the provisions of CRC Table R602.10.3(1) for wind loads and CRC Table R602.10.3(2) for seismic loads. (CRC R602.10.1.1)
  - 13. Shear wall spacing. Shear walls shall be located not more than 25 feet on center. (CRC
  - **14. Shear wall offset.** Shear walls may be offset out-of-plan not more than 4 feet from the designated braced wall line and not more than 8 feet from any other offset wall considered part of the same braced wall line. (CRC R602.10.1.2)
  - 15. Shear wall location. Shear walls shall be located at the ends of each braced wall line or meet the alternate provisions of CRC R602.10.2.2.
  - **16. Individual shear wall length.** Shear walls shall meet minimum length requirements of CRC R602.10.6.5.1.
  - **17. Cripple wall bracing.** Cripple walls shall be braced per CRC R602.10.11.
  - **18. Shear wall and diaphragm nailing.** All shear walls, roof diaphragms, and floor diaphragms shall be nailed to supporting construction per CRC Table R602.3(1). (CRC
  - 19. Shear wall joints. All vertical joints in shear wall sheathing shall occur over, and be fastened to, common studs. Horizontal joints in shear walls shall occur over, and be fastened to, minimum 1-1/2-inch-thick blocking. (CRC R602.10.10)
  - **20. Framing over openings.** Headers, double joists, or trusses of adequate size to transfer loads to vertical members shall be provided over window and door openings in load-bearing walls and partitions. (CBC 2304.3.2)
  - 21. Joists under bearing partitions. Joists under parallel bearing partitions shall be of adequate size to support the load. Double joists, sized to adequately support the load, that are separated to permit the installation of piping or vents shall be full-depth solid-blocked with minimum 2-inch nominal lumber spaced at maximum 4 feet on center. Bearing partitions perpendicular to joists shall not be offset from supporting girders, walls, or partitions more than the joist depth unless such joists are of sufficient size to carry the additional load. (CRC R502.4)
  - 22. Joists above or below shear walls. Where joists are perpendicular to a shear wall above or below, a rim joist, band joist, or blocking shall be provided along the entire length of the shear wall. Where joists are parallel to a shear wall above or below, a rim joist, end joist, or other parallel framing shall be provided directly above and/or below the shear wall. Where a parallel framing member cannot be located directly above and/or below the shear wall, full-depth blocking at 16-inch spacing shall be provided between the parallel framing members to each side of the shear wall. (CRC R602.10.8)
  - 23. Floor member bearing. The ends of each floor joist, beam, or girder shall have minimum 1-1/2 inches of bearing on wood or metal and minimum 3 inches of bearing on masonry or concrete except where supported on a 1-inch-by-4-inch ribbon strip and nailed to the adjoining stud or by the use of approved joist hangers. (CRC R502.6)
  - 24. Floor joist lap. Floor joists framing opposite sides over a bearing support shall lap minimum 3 inches and shall be nailed together within minimum 3 10d face nails. A wood or metal splice with strength equal to or greater than that provided by the lap is permitted. (CRC R502.6.1)
  - 25. Floor joist-to-girder support. Floor joists framing into the side of a wood girder shall be supported by approved framing anchors or on ledger strips minimum nominal 2 inches by 2 inches. (CRC R502.6.2)
  - **26.** Floor joist lateral restraint. Floor joists shall be supported laterally at ends and each intermediate support by minimum 2-inch full-depth blocking, by attachment to full-depth header, band joist, or rim joist, to an adjoining stud, or shall be otherwise provided with lateral support to prevent rotation. (CRC R502.7)
  - **27. Floor joist bridging.** Floor joists exceeding nominal 2 inches by 12 inches shall be supported laterally by solid blocking, diagonal bridging (wood or metal), or a continuous 1-inch-by-3-inch strip nailed across the bottom of joists perpendicular to joists at maximum 8-foot intervals. (CRC R502.7.1)
  - 28. Framing of floor openings. Openings in floor framing shall be framed with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the floor joist. Single trimmer joists may be used to carry a single header joist located within 3 feet of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joists and header joist shall be doubled and of sufficient cross section to support the floor joists framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joist connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)

## E. Wood Framing (Continued)

- floor shall not be less than 4 inches by 6 inches for spans 6 feet or less, provided that girders are spaced not more than 8 feet on center. Other girders shall be designed to support the loads specified in the CBC. Girder end joints shall occur over supports. When a girder is spliced over a support, an adequate tie shall be provided. The ends of beams or girders supported on masonry or concrete shall not have less than 3 inches of bearing. (CBC 2308.7)
- 30. Ridges, hips, and valleys. Rafters shall be framed to a ridge board or to each other with a gusset plate as a tie. Ridge boards shall be minimum 1-inch nominal thickness and not less in depth than the cut end of the rafter. At all valley and hips, there shall be a valley or hip rafter not less than 2-inch nominal thickness and not less in depth than the cut end of the rafter. Hip and valley rafters shall be supported at the ridge by a brace to a bearing partition or be designed to carry and distribute the specific load at that point. Where the roof pitch is less than 3:12 slope (25% gradient), structural members that support rafters and ceilings joists, such as ridges, hips, and valleys, shall be designed as
- **31.** Ceiling joist and rafter connections. Ceiling joists and rafters shall be nailed to each other per CRC Table R802.5.1(9), and the rafter shall be nailed to the wall top plate per CRC Table R602.3(1). Ceiling joists shall be continuous or securely joined per CRC Table R802.5.1(9) where they meet over interior partitions and are nailed to adjacent rafters to provide a continuous tie across the building when such joists are parallel to rafters. Where ceiling joists are not connected to the rafters at the wall top plate, joists connected higher in the attic shall be installed as rafter ties, or rafter ties shall be installed to provide a continuous tie. Where ceiling joists are not parallel to rafters, rafter ties shall be installed. Rafter ties shall be minimum 2 inches by 4 inches nominal, installed per CRC Table R802.5.1(9), or connections of equivalent capacities shall be provided. Where ceilings joists or rafter ties are not provided, the ridge formed by these rafters shall be supported by a wall or engineer-designed girder. (CRC R802.3.1)
- 32. Ceiling joists lapped. Ends of ceiling joists shall be lapped minimum 3 inches or butted over bearing partitions or beams and toenailed to the bearing element. Where ceiling joists provide resistance to rafter thrust, lapped joists shall be nailed together per CRC Table R602.3(1) and butted joists shall be tied together in a manner to resist such thrust.
- 33. Collar ties. Collar ties or ridge straps to resist wind uplift shall be connected in the upper third of the attic space. Collar ties shall be a minimum 1 inch by 4 inches nominal and spaced at maximum 4 feet on center. (CRC R802.3.1)
- **34. Purlins.** Purlins installed to reduce the span of rafters shall be sized not less than the required size of the rafters they support. Purlins shall be continuous and shall be supported by 2-inch-by-4-inch nominal braces installed to bearing walls at a minimum 45-degree slope from horizontal. The braces shall be spaced maximum 4 feet on center with a maximum 8-foot unbraced length. (CRC R802.5.1)
- **35.** Roof/ceiling member bearing. The ends of each rafter or ceiling joist shall have not less than 1-1/2 inches of bearing on wood or metal and not less than 3 inches of bearing on masonry or concrete. (CRC R802.6)
- **36. Roof/ceiling member lateral support.** Roof framing members and ceiling joists with a nominal depth-to-thickness ratio exceeding 5:1 shall be provided with lateral support at points of bearing to prevent rotation. (CRC R802.8) 37. Roof/ceiling bridging. Rafters and ceiling joists with a nominal depth-to-thickness ratio
- exceeding 6:1 shall be supported laterally by solid blocking, diagonal bridging (wood or metal), or a continuous 1-inch-by-3-inch wood strip nailed across the rafters or ceiling joists at maximum 8-foot intervals. (CRC R802.8.1) **38. Framing of roof/ceiling openings.** Openings in roof and ceiling framing shall be framed
- with a header and trimmer joists. When the header joist span does not exceed 4 feet, the header joist may be a single member the same size as the ceiling joist or rafter. Single trimmer joists may be used to carry a single header joist located within 3 feet of the trimmer joist bearing. When the header joist span exceeds 4 feet, the trimmer joists and header joist shall be doubled and of sufficient cross section to support the ceiling joists or rafters framing into the header. Approved hangers shall be used for the header-joist-to-trimmer-joist connections when the header joist span exceeds 6 feet. Tail joists over 12 feet long shall be supported at the header by framing anchors or on ledger strips minimum 2 inches by 2 inches. (CRC R502.10)
- 39. Roof framing above shear walls. Rafters or roof trusses shall be connected to top plates of shear walls with blocking between the rafters or trusses. (CRC R602.10.8)
- 40. Roof diaphragm under fill framing. Roof plywood shall be continuous under California G. Roofing and Weatherproofing fill framing.
- 41. Roof diaphragm at ridges. Minimum 2-inch nominal blocking required for roof
- 42. Blocking of roof trusses. Minimum 2-inch nominal blocking required between trusses at ridge lines and at points of bearing at exterior walls. **43. Truss clearance**. Minimum 1/2-inch clearance required between top plates of interior
- non-bearing partitions and bottom chords of trusses. 44. Drilling, cutting, and notching of roof/floor framing. Notches in solid lumber joists, rafters, blocking, and beams shall not exceed one-sixth the member depth, shall be not longer than one-third the member depth, and shall not be located in the middle one-third of the span. Notches at member ends shall not exceed one-fourth the member depth. The tension side of members 4 inches or greater in nominal thickness shall not be notched except at member ends. The diameter of holes bored or cut into members shall not exceed one-third the member depth. Holes shall not be closer than 2 inches to the top or bottom of the member or to any other hole located in the member. Where the
- **45.** Exterior landings, decks, balconies, and stairs. Such elements shall be positively anchored to the primary structure to resist both vertical and lateral forces or shall be designed to be self-supporting. Attachment shall not be accomplished by use of toenails or nails subject to withdrawal. (CRC R311.3)

member is also notched, the hole shall not be closer than 2 inches to the notch. (CRC

- **46. Fireblocking.** Fireblocking shall be provided in the following locations (CRC R302.11 and CRC R1003.19):
- a. In concealed spaces of stud walls and partitions, including furred spaces, and parallel rows of studs or staggered studs, as follows:
- i. Vertically at the ceiling and floor levels
- ii. Horizontally at intervals not exceeding 10 feet
- **b.** At all interconnections between concealed vertical and horizontal spaces such as occur at soffits, drop ceilings, and cove ceilings
- c. In concealed spaces between stair stringers at the top and bottom of the run d. At openings around vents, pipes, ducts, cables and wires at ceiling and floor level, with
- an approved material to resist the free passage of flame and products of combustion **e.** At chimneys and fireplaces per item E.49
- f. Cornices of a two-family dwelling at the line of dwelling-unit separation **47. Fireblocking materials.** Except as otherwise specified in items E.48 and E.49,
- fireblocking shall consist of the following materials with the integrity maintained (CRC R302.11.1): a. Two-inch nominal lumber
- **b.** Two thicknesses of one-inch nominal lumber with broken lap joints
- c. One thickness of 23/32-inch wood structural panel with joints backed by 23/32-inch
- **d.** One thickness of 3/4-inch particleboard with joints backed by 3/4-inch particleboard
- **e.** 1/2-inch gypsum board
- f. 1/4-inch cement-based millboard
- g. Batts or blankets of mineral or glass fiber of other approved materials installed in such a manner as to be securely retained in place. Batts or blankets of mineral or glass fiber or other approved non-rigid materials shall be permitted for compliance with the 10-foot horizontal fireblocking in walls constructed using parallel rows of studs or staggered studs. Unfaced fiberglass batt insulation used as fireblocking shall fill the entire cross-section of the wall cavity to a minimum height of 16 inches measured vertically. When piping, conduit, or similar obstructions are encountered, the insulation shall be packed tightly around the obstruction. Loose-fill insulation material shall not be used as a fireblock unless specifically tested in the form and manner intended for use to demonstrate its ability to remain in place and to retard the spread of fire and hot

## 48. Fireblocking at openings around vents, pipes, ducts, cables, and wires at ceiling and floor level. Such openings shall be fireblocked with an approved material to resist the free passage of flame and products of combustion. (CRC R302.11)

## E. Wood Framing (Continued)

- ceilings through which chimneys pass shall be fireblocked with noncombustible material securely fastened in place. The fireblocking of spaces between chimneys and wood joists, beams, or headers shall be self-supporting or be placed on strips of metal or metal lath laid across the spaces between combustible material and the chimney. (CRC
- 50. Draftstopping. In combustible construction where there is usable space both above and below the concealed space of a floor/ceiling assembly, draftstops shall be installed so that the area of the concealed space does not exceed 1000 square feet. Draftstopping shall divide the concealed space into approximately equal areas. Where the assembly is enclosed by a floor membrane above and a ceiling membrane below, draftstopping shall be provided in floor/ceiling assemblies under the following circumstances (CRC R302.12):
- **a.** Ceiling is suspended under the floor framing
- **b.** Floor framing is constructed of truss-type open-web or perforated members
- 51. Draftstopping materials. Draftstopping shall not be less than 1/2-inch gypsum board, 3/8-inch wood structural panels, or other approved materials adequately supported. Draftstopping shall be installed parallel to the floor framing members unless otherwise approved by the building official. The integrity of draftstops shall be maintained. (CRC
- **52.** Combustible insulation clearance. Combustible insulation shall be separated minimum 3 inches from recessed luminaires, fan motors, and other heat-producing devices. (CRC R302.14)

## F. General Material Specifications

- 1. Lumber. All joists, rafters, beams, and posts 2-inches to 4-inches thick shall be No. 2 grade Douglas Fir-Larch or better. All posts and beams 5 inches and thicker shall be No. 1 grade Douglas Fir-Larch or better. Studs not more than 8 feet long shall be stud-grade Douglas Fir-Larch or better when supporting not more than one floor, roof, and ceiling.
- Studs longer than 8 feet shall be No. 2 grade Douglas Fir-Larch or better. 2. Concrete. Concrete shall have a minimum compressive strength of 2,500 psi at 28 days and shall consist of 1 part cement, 3 parts sand, 4 parts 1-inch maximum size rock, and not more than 7-1/2 gallons of water per sack of cement. (CRC R402.2)
- 3. Mortar. Mortar used in construction of masonry walls, foundation walls, and retaining walls shall conform to ASTM C 270 and shall consist of 1 part portland cement, 2-1/4 to 3 parts sand, and 1/4 to 1/2 part hydrated lime. (CBC 2103.2)
- 4. Grout. Grout shall conform to ASTM C 476 and shall consist of 1 part portland cement, 1/10 part hydrated lime, 2-1/4 to 3 parts sand, and 1 to 2 parts gravel. Grout shall attain a minimum compressive strength of 2,000 psi at 28 days. (CBC 2103.3)
- . Masonry. Masonry units shall comply with ASTM C 90 for load-bearing concrete masonry units. (CBC 2103.1)
- 6. Reinforcing steel. Reinforcing steel used in construction of reinforced masonry or concrete structures shall be deformed and comply with ASTM A 615. (CBC 2103.4) 7. Structural steel. Steel used as structural shapes such as wide-flange sections, channels, plates, and angles shall comply with ASTM A36. Pipe columns shall comply
- with ASTM A53. Structural tubes shall comply with ASTM A500, Grade B. 8. Fasteners for preservative-treated wood. Fasteners for preservative-treated and fire-retardant-treated wood - including nuts and washers -- shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3.1)
- **Exception:** 1/2-inch diameter or greater steel bolts **Exception:** Fasteners other than nails and timber rivets may be of mechanically deposited zinc-coated steel with coating weights in accordance with ASTM B 695,
- **Exception:** Plain carbon steel fasteners acceptable in SBX/DOT and zinc borate preservative-treated wood in an interior, dry environment
- 9. Fasteners for fire-retardant-treated wood. Fasteners for fire-retardant-treated wood used in exterior applications or wet or damp locations shall be of hot dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper. (CRC R317.3.3)

 Roof covering. All roof covering shall be installed per applicable requirements of CBC 1507. Roof coverings shall be at least Class C rated in accordance with ASTM E 108 or UL 790, which shall include coverings of slate, clay or concrete roof tile, exposed

concrete roof deck, ferrous or copper shingles or sheets.

2. Roof flashing. Flashing shall be installed at wall and roof intersections, at gutters, wherever there is a change in roof slope or direction, and around roof openings. Where flashing is of metal, the metal shall be corrosion-resistant with a thickness of not less than 0.019 inch (No. 26 galvanized sheet). (CRC R903.2.1)

3. Crickets and saddles. A cricket or saddle shall be installed on the ridge side of any

- chimney or penetration more than 30 inches wide as measured perpendicular to the slope. Cricket or saddle covering shall be sheet metal or the same material as the roof covering. (CRC R903.2.2) **4. Water-resistive barrier.** A minimum of one layer of No. 15 asphalt felt shall be attached to studs or sheathing of all exterior walls. Such felt or material shall be applied horizontally, with the upper layer lapped over the lower layer minimum 2 inches. Where
- top of walls and terminated at penetrations and building appendages in a manner to maintain a weather-resistant exterior wall envelope. (CRC R703.2) 5. Wall flashing. Approved corrosion-resistant flashing shall be applied shingle fashion at the following locations to prevent entry of water into the wall cavity or penetration of

joints occur, felt shall be lapped minimum 6 inches. The felt shall be continuous to the

- water to the building structural framing components (CRC R703.8): a. Exterior door and window openings, extending to the surface of the exterior wall finish or to the water-resistive barrier for subsequent drainage
- b. At the intersection of chimneys or other masonry construction with frame or stucco walls, with projecting lips on both sides under stucco copings
- **c.** Under and at the ends of masonry, wood, or metal copings and sills
- **d.** Continuously above all projecting wood trim
- **e.** Where exterior porches, decks, or stairs attach to a wall or floor assembly of
- wood-frame construction
- f. At wall and roof intersections

**g.** At built-in gutters

- 6. Dampproofing. Dampproofing materials for foundation walls enclosing usable space below grade shall be installed on the exterior surface of the wall, and shall extend from the top of the footing to finished grade. (CRC R406.1)
- 7. Weep screed. A minimum 0.019-inch (No. 26 galvanized sheet gage), corrosion-resistant weep screed or plastic weep screed with a minimum vertical attachment flange of 3-1/2 inches shall be provided at or below the foundation plate line on exterior stud walls in accordance with ASTM C 92. The weep screed shall be placed a minimum 4 inches above the earth or 2 inches above paved areas and shall be of a type allowing trapped water to drain to the exterior of the building. (CRC R703.7.2.1)

## H. Grading and soils

- 1. Grading permit. A grading permit will generally be required if the volume of earth moved (cut or fill) exceeds 500 cubic feet. Grading permits can be obtained from engineering department.
- 2. All stromwater runoff must drain away from buildings and towards street. No drainage is allowed to flow to adjoining properties.
- 3. 3. Compaction report. Compaction report required for fill material 12 inches or more in depth. (CBC 1803.5.8)

Green Building Standards Code (CALGreen) Requirements

## building's conditioned area, volume, or size. (CalGreen 101.3, CalGreen 301.1.1) **Exception:** All residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures per CalGreen 301.1.1 and CalGreen 4.303.1

1. Applicability. CalGreen residential mandatory measures shall apply to every newly

constructed building or structure and within any addition or alteration increasing a

## I. (CALGreen) Requirements (Continued)

- 49. Fireblocking of chimneys and fireplaces. All spaces between chimneys and floors and 2. Water conserving plumbing fixtures and fittings shall 13. Moisture content of building materials. Building materials with visible signs of
  - comply with the following per CalGreen 4.303.1: a. Water closets: Maximum 1.28 gallons per flush
  - **b.** Urinals: Maximum 0.5 gallons per flush
  - **c.** Single showerheads: Maximum flow rate of 1.8 gallons per minute at 80 psi **d.** Multiple showerheads serving one shower: Maximum combined flow rate of 1.8
  - gallons per minute at 80 psi
  - e. Lavatory faucets: Maximum flow rate of 1.2 gallons per minute at 60 psi, minimum flow rate of 0.8 gallons per minute at 20 psi
  - Kitchen faucets: Maximum flow rate of 1.8 gallons per minute at 60 psi **Exception:** Temporary increase allowed to maximum 2.2 gallons per minute at 60 psi if
  - faucet defaults back to maximum 1.8 gallons per minute at 60 psi 3. Irrigation controllers. Automatic irrigation system controllers for landscaping shall comply with the following (CalGreen 4.304.1):
  - a. Controllers shall be weather- or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change. **b.** Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which
  - not required to have rain sensor input **Joints and openings.** Openings in the building envelope separating conditioned space from unconditioned space needed to accommodate utility and other penetrations must be sealed in compliance with the California Energy Code. (CALGreen 4.406.1)

connects or communicates with the controller(s). Soil moisture-based controllers are

- **Exception:** Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such opening with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.
- Construction waste reduction, disposal, and recycling. Reduce and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition debris. (CALGreen 4.408.1)

## **Exception:** Excavated soil and land-clearing debris.

- **Exception:** Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite
- compliance with the plan shall be accessible during construction for the enforcing agency. (CALGreen 4.408.2) The plan:

be prepared and available on site during construction. Documentation demonstrating

- a. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale
- (source-separated) or bulk mixed (single stream) c. Identify diversion facilities where the construction and demolition waste materials will

b. Specify if construction and demolition waste materials will be sorted on-site

- d. Identify construction methods employed to reduce the amount of construction and demolition waste generated e. Specify that the amount of construction and demolition waste materials diverted shall
- web-based reference, or other acceptable media which includes all of the following shall be placed in the building (CALGreen 4.410.1): a. Directions to owner or occupant that manual shall remain with the building throughout
- **b.** Operation and maintenance instructions for the following: i. Equipment and appliances, including water-saving devices and systems, HVAC
- system, photovoltaic systems, water-heating systems and other major appliances and **ii.** Roof and yard drainage, including gutters and downspouts.

be calculated by weight or volume, but not by both

- iv. Landscape irrigation systems. v. Water reuse systems
- c. Information from local utility, water, and waste recovery providers on methods to **d.** Public transportation and/or carpool options available in the area.
- e. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
- f. Information about water-conserving landscape and irrigation design and controllers which conserve water g. Instructions for maintaining gutters and downspouts and the importance of diverting
- water at least 5 feet away from the foundation. h. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
- i. Information about state solar energy and incentive programs available. j. A copy of all special inspection verifications required by the enforcing agency or code. 8. Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation or during storage on the construction site and until final startup of the heating and cooling equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other
- methods acceptable to the enforcing agency to reduce the amount of dust or debris which may collect in the system. (CALGreen 4.504.1) 9. Adhesives, sealants, caulks, paints, and coatings pollutant control. Adhesives (including carpet adhesives), sealants, caulks, paints, and coatings shall comply with
- VOC limits per CALGreen 4.504.2. Verification of compliance shall be provided at the request of the enforcing agency. (CALGreen 4.504.2.1)

b. California Department of Public Health Standard Practice for the testing of VOCs

- 10. Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following (CALGreen 4.504.3):
- a. Carpet and Rug Institute's Green Label Plus Program (all carpet cushion must meet the requirements of this program).
- c. NSF/ANSI 140 at the Gold level. **d.** Scientific Certifications Systems Indoor Advantage™ Gold.

(CHPS) High Performance Products Database

(Specification 01350).

- 11. Resilient flooring systems. At least 80 percent of the floor area receiving resilient flooring shall comply with one of or more of the following (CALGreen 4.504.4): a. VOC emission limits defined in the Collaborative for High Performance Schools
- b. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program c. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program

Meet the California Department of Public Health, "Standard Method for the Testing and

Environmental Chambers," Version 1.1, February 2010 (also known as Specification 12. Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control

Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using

Measure for Composite Wood (17 CCR 93120 et seq.) by or before the dates specified in those sections, as shown in CalGreen Table 4.504.5. The following limits are in parts per million (CALGreen 4.504.5):

0.05

0.13

0.05 b. Hardwood plywood composite core 0.09 c. Particle board 0.11

a. Hardwood plywood veneer core

d. Medium-density fiberboard (MDF)

e. Thin MDF (5/16 inch or less)

## THESE ARE MINIMUM REQUIREMENTS AND SHALL NOT SUPERSEDE MORE RESTRICTIVE SPECIFICATIONS ON THE PLANS OR AS

REQUIRED BY APPLICABLE CODE.

- I. (CALGreen) Requirements (Continued)
- water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture
- content shall be verified in compliance with the following (CALGreen 4.505.3): a. Moisture content shall be determined with either a probe-type or contact-type
- **b.** Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified.
- **c.** At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities.
- recommendations prior to enclosure. 14. Bathrooms with a bathtub and/or shower shall be mechanically ventilated per the

Wet-applied insulation products shall follow the manufacturers' drying

- following (CalGreen 4.506.1): **a.** Fans shall be ENERGY STAR compliant and ducted to terminate outside
- **b.** Unless functioning as a component of a whole-house ventilation system, fans shall have humidity controls capable of adjustment - manually or automatically
- -- between a relative humidity range of 50% to 80%. **15. Heating and air-conditioning system design.** Heating and air-conditioning systems shall be sized, designed, and have their equipment selected using the

**b.** Duct systems are sized according to ANSI/ACCA 1 Manual D 2016, ASHRAE

following methods (CALGreen 4.507.2): a. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J, ASHRAE handbooks, or other equivalent design software or methods.

## handbooks, or other equivalent design software or methods. c. Select heating and cooling equipment according to ACCA 36-S Manual S or other equivalent design software or methods

## **TABLE R602.3(1)** Construction waste management plan. A construction waste management plan shall FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

		Reef	
	, and the second	4-86 box (2 <sup>6</sup> 6" × 0.115"); or	
	Blocking between ceding joints, rafters or trussess to imp	>-06 common (2°15' × 0.1317); cr	
	plate or other famility below	8-10d bex (8" x 0.126"); or	TEG NOT
		8-8" = 0.181"mals	
1		E-86 common (2 <sup>6</sup> 5" × 0.131"); or	Each and to real
	Disching between reflect or inuse not at the wall top	2-3" K 0.131"8888	
	base' in auto, may	8-196 common (6Vy" × 0.162"); or	End real
		Service and the service of the common differ with 1887's or	
	Flat blocking to truss and wab filter	ALLOCATO DE LE LA LOCATO	6" e.c. face sail
		8" × 0.131" male	
		4-8d box (2 <sup>1</sup> 6/ × 0.115% or	
z	Celling ixisto to top pisto	8-8d common (2°6;* × 0.1917); α	Per part, ton mal
£	Certify James as my prince	5-100 00X (5" # 0.128"); Of	Per Jose, and real
		8-2" x 0.121" male	
_		4-10d box (3" = 0.125"); or	
3	Ceiling joint not attached to parallel raffer, laps over confident late Section SNO2.6.2 and Datin SNO2.6.2118	5-18d common @\y' x 0.183*\x or	Permat
		4-3" x 0.131" mails	
4	Celling joint attached to parellal rather (head joint) jeen Bestion RB02.5.2 and Table RB02.5.2(1))	Table RE02.6.3(1)	Face not
		4-10d box (8" x 0.126"); or	
•	Collection to rather, have rest	9-10d common (0" × 0.140"); or	Face reliench rather
		4-3" £ 0.131" MME	
	·	8-18d bex (5 <sup>1</sup> ly' + 0.135"); or	
	Refer or configure to since	\$-10d common (0" = 0.148"); or	2 toe rails on one side and 1 toe rail on opposite each pater or true?
		s-non cox (or s o. nort); or	each raner or than
		4-5" x 0.131" nails	
		e-100 cox (2 <sub>2</sub> 1 <sup>2</sup> , × 0′122.)! oi	
		8-10d common (0" x 8.148"); or	
		4-10s bex (F" = 0,189"); or	Tee nati
7	Real raters to stage, water or No safers or roof safer to	4-3" x 0.131" mass	
,	minimum 2° nige beam	5-18d bex (5*1y* × 0.185*); or	
		2.19d common (BVy" × 0.192"); or	1770.111
		5-10a box (5" a 0.100"); or	End red
	5-3" < 0.131" mails		
		Wil	
		16d common (5%2" × 0.162")	£4° a.c. face r
8	Stud to stud (not at braced wall panels)	10d box (3" × 0.126"); or	16° a.c. force n
		3" x 0.131" nails	
		18d box (3/67 x 0.1357); or	

	<b>Operation and maintenance manual.</b> Prior to final inspection, a manual, compact disc, web-based reference, or other acceptable media which includes all of the following shall	,		1-160 bex (5°1y' × 0.180°); or 1-160 common (5°1y' × 0.162°); or 1-160 box (5° × 0.180°); or 1-5° × 0.181° mala	End mail
	be allowed in the healthing (OAL One on A 440.4).			Well	
	be placed in the building (CALGreen 4.410.1):			16d common (3"12" × 0.162")	£4" o.c. fece nati
_		a	Stud to stud (not at braced wall panels)	10d box (3" × 0.126"); or 3" × 0.131" nails	16° a.c. fees nell
a.	Directions to owner or occupant that manual shall remain with the building throughout			16d box (3 <sup>1</sup> / <sub>2</sub> * x 0.135*); or	
		9	Stud to stud and abutting studs at intersecting wall	2" × 0.131" male	12" c.c. face nall
	the life cycle of the structure.	-	comers (at braced wall panels)	100 common (2,04 x 0.105.)	167 0.C. 1909 (191)
	,			16d common (3 <sup>1</sup> 1 <sub>2</sub> * x 0.162*)	16° o.c. each edge foce nall
b.	Operation and maintenance instructions for the following:	10	Bult-up header (2" to 2" header with "6" spacer)	16d box (3½° x 0.135°)	12° o.c. each edge foce nall
υ.	operation and maintenance instructions for the following.			5-8d bex (2 <sup>1</sup> 6" = 0.113"); or	
i.	Equipment and appliances, including water-saving devices and systems, HVAC	11	Continuous header to stud	4-8d common (2 <sup>1</sup> / <sub>2</sub> " x 0.151"); or	Tecnel
•••		_		4-100 DOX (3" × 0.128")	
	system, photovoltaic systems, water-heating systems and other major appliances and			4-18d box (31/2"x 0.135"); or	
	cyclom, photovoltale cyclome, water heating cyclome and other major applicances and	12	2 Adjacent full-hedolt stud to end of header	3-18d common (3 <sup>1</sup> / <sub>2</sub> " x 0.182"); or	End nell
	equipment.	-	, , , , , , , , , , , , , , , , , , , ,	4-10d box (9" > 0.129"); or	1.22.22
	equipment.			4-3" x 0.131" rails	
- ::	Doof and word drainage, including gutters and downspayts			16d common (2 <sup>1</sup> / <sub>2</sub> * x 0.162*)	16" o.c. face nati
ii.	Roof and yard drainage, including gutters and downspouts.	13	Top plate to top plate	10d box (3" × 0.126"); or	12" o.c. face nell
			27	3" × 0.131" redin	12 U.C. loce liai
iii	. Space conditioning systems, including condensers and air filters.			8-18d common (3 <sup>6</sup> 1g" × 0.162"); or	
•••	epace containing eyetems, morauming contactions and air interes.			12-16d box (8 ½" x 0.186"); or	Page real on each side of end loint (minimum)
iv	. Landscape irrigation systems.	14	Double top plate splice	12-10d box (3" x 0.128"); or	splica length each side of and joint)
ıv	. Landscape inigation systems.			12-9" = 0.131" rmile	
	NA			15d common (3'0" × 0.162')	16" c.c. fece nati
٧.	Water reuse systems.	15	Bottom plate to joint, rim joint, band joint or blocking (no at hyperdywall narrole)	71 16d box (3 <sup>1</sup> / <sub>2</sub> " x 0.135"); or	
	·		at traces was parked)	3" × 0.131" naile	12" o.c. fece nati
C.	Information from local utility, water, and waste recovery providers on methods to	Γ,		Roof	
٠.				5-166 box (8 <sup>1</sup> / <sub>2</sub> * x 0.156*1); or	
	further reduce resource consumption, including recycle programs and locations.	15	Bettern plate to joint, the joint, band joint or blooking (at preparation)	2-15d common (5 fg* x 0.162*); or	16" e.c. fece nati
	ration readed research series in passing recoyole programs and research.		The state of the s	4-3" x 0.131" nels	
ᆈ	Dublic transportation and/or corneal entions available in the area			4-90 DOX (5, P. x 0'113.1); O.	
a.	Public transportation and/or carpool options available in the area.			a car be able to a state or	

4-0" × 0.131" male 3-16d box (8<sup>1</sup>/<sub>2</sub>" × 0.136"); or 3-0" × 0.131" fell8 3-106 box (3" × 0.136"); or Face nell 3-9" x 0.131" nails 3-91 box (2"6" x 0.113"); or 2 steples, 1" crown, 15 gz., 1%; kmg 8-8d box (2%) x 0.113"); or

> 4" o.c. loe nail 6" o.c. loe mail 2 staples, 1" crown, 16 ga., 1<sup>3</sup>/<sub>4</sub>" long 3-16d box (3<sup>1</sup>/<sub>2</sub>" x 0.135"); or 2-16d common (31/2" x 0.162") 19d common (\$<sup>1</sup>5" × 0,162"); or 4-3" × 0.131" NME; Of 10d box (3° × 0.128°); or 3° × 0.12 Face nall at ends and at each spilo 3-8" x 0.131" nalls 4-18d box (3<sup>1</sup>/<sub>2</sub>" x 0.135"); or At each joint or refer, face nell Each and, too not

3 steples, 1" crown, 16 ga., 1<sup>8</sup>4" kmg Wider than 1" x 8"

2-3" × 0.131" nails DESCRIPTION OF BUILDING ELEMENTS NUMBER AND TYPE OF PASTENERS. S. C. or 2<sup>0</sup>lg\* x 0.113\* x 0.266\* head not (bubfloor, wast)

Bd common (2<sup>1</sup>lg\* x 0.131\*) nati (rod); or REFRENCE (2<sup>th</sup>y = 0.1197) mile (month)

Bit common (22<sup>th</sup>y \* 0.1197) mile (month)

Bit common (22<sup>th</sup>y \* 0.1197) male (month or male)

12

12 RSR9-01; (2<sup>5</sup>k)\* = 0.110\*) nall (not)<sup>5</sup>
Deformed 2<sup>5</sup>k)\* x 0.110\* x 0.266\* head (wall or subfloor) 10d common (A\* x 0.1.46\*) nelt; or \* 0.181 × 0.281\* head) deformed nell

Other wall sheathing?

× 0.120\* palvarized roofing nell. 744\* head after or 1 ½" long 18 gs. steple with 7½" or 1° crown 1 ½" × 0.120" galvarizzed recting nail, 7½" head 1 % king 15 ga. staple with 7/95 or 1" crown
1 % x 0.120" polyentzed reading net. 7(x\*) head

> staple galvantzed, 11½" long; Try," or 1" crows or 11¼" screws, Type W or S 11's," king 16 gs. slaple with 7'ss," or 1" crown 11's," x 0.120" galventzed rooting nail, 7's," head dameter or  $1^{h}c'$  rong to gs. scape won  $h_{m'}$  or 1° crown  $1^{h}c' \times 0.1227'$  palvertized rooting nat, h'c' head stepis palvanteed, 1 $\frac{N_2}{2}$  long;  $\frac{N_2}{2}$  or 1° crown or 1 $\frac{N_2}{2}$  acreave. Tips W or 6.  $\frac{N_2}{2}$  × 0.120° palvanteed rooting nati,  $\frac{N_2}{2}$  head diameter, or 1 $\frac{N_2}{2}$  long, 16 ps.: Wood structural panels, combination subfloor underlayment to framing
>
> Determed (2" x 0.119") or 80 common (2<sup>3</sup>½" × 0.131") nell 80 common (2<sup>3</sup>½" × 0.131") nell; or

program of the IGEN LOGGED and their industrial sourcement with USEN CERN DESCRIPTION (INSERT MEMORY and CONTINUED LOGGED).

Where the ContinueD and their process of the ContinueD LOGGED LOGG

Deformed (2<sup>1</sup>/<sub>2</sub>\* x 0.120\*) nail 10d common (3\* x 0.148\*) nait or

Deformed (2<sup>1</sup>/<sub>2</sub>" × 0.120") net

Deformed (2" x 0.113"); or

Build Inside the Triangle" Sheet Number

PDS 081 (REV. 01/01/2020)

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