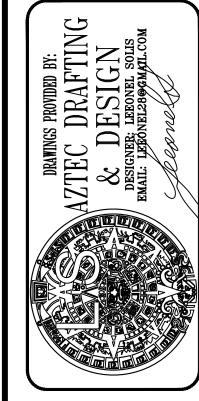
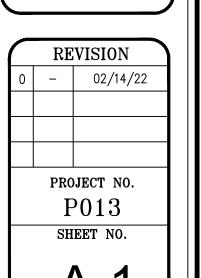


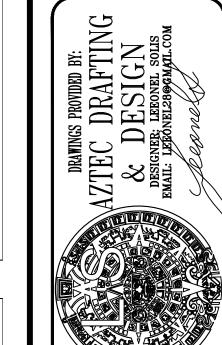
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JUAN MANUEL DIARTE DETACH ADDITIONAL DWELLING UNIT 1523 E 14th St, NATIONAL CITY CA 91950 APN: 557-342-09-00 UTILITY: SDG&E

EXISTING FLOOR PLAN





MANUEL DIARTE
I ADDITIONAL DWELLING UNIT
14th St., NATIONAL CITY CA 91950
APN: 557-342-09-00
UTILITY: SDG&E JUAN DETACH 1523 E

REVISION 02/14/22 PROJECT NO. P013

SHEET NO.

A-2

RATING FOR EXPOSURE TO BOTH SIDES

- 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE

OPENINGS:

- PROHIBITED WITHIN 3FT OF PROPERTY LINE - MAXIMUM 25% OF WALL AREA WITHIN 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS)

4. PENETRATIONS:

- 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)

- 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)

5. CONCRETE LANDING WITH MIN 36" DEPTH AND A MAXIMUM OF 1-1/2" LOWER THAN TOP OF DOOR THRESHOLD

PLUMBING NOTES

- 1. MIN. $\frac{1}{4}$ " PER FOOT SLOPE FOR WASTE PIPES PER SECTION 708 CPC
- 2. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
- 3. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- 4. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX(6) INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER
- 5. ALL DRAINAGE WASTE AND VENT PIPE SHALL COMPLY WITH TABLE 703.2 CPC.
- 6. SHOWER AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER SECTION 408.3 CPC.
- 7. TOILETS SHALL BE ULTRA-LOW FLUSH TYPE (1.28 G.P.F. MAX.)
- 8. EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
- 9. KITCHEN SINK FAUCET SHALL NOT EXCEED A WATER FLOW 1.8 GPM. 10. EACH LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.2 GPM.
- 11. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED
- 12. COPPER PIPING FOR ALL POTABLE WATER SYSTEMS.

SHOWER PLAN NOTES

- 1. MIN. ¼" PER FOOT SLOPE FOR WASTE PIPES PER SECTION 708 CPC
- 2. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
- 3. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED
- LISTING AGENCY. 4. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX(6)
- INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER
- 5. ALL DRAINAGE WASTE AND VENT PIPE SHALL COMPLY WITH TABLE 703.2 CPC.
- 6. SHOWER AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER SECTION 408.3 CPC.
- 7. TOILETS SHALL BE ULTRA-LOW FLUSH TYPE (1.28 G.P.F. MAX.)
- 8. EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
- 9. KITCHEN SINK FAUCET SHALL NOT EXCEED A WATER FLOW 1.8 GPM. 10. EACH LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.2 GPM.

FAN & LIGHT COMBO

- 11. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- 12. COPPER PIPING FOR ALL POTABLE WATER SYSTEMS.

HIGH EFFICACY RECESSED LIGHT

GARBAGE DISPOSAL

ELECTRICAL LEGEND

□ DUPLEX OUTLET

WALL SWITCH

VACANCY SENSOR

4" DIA DRYER VENT

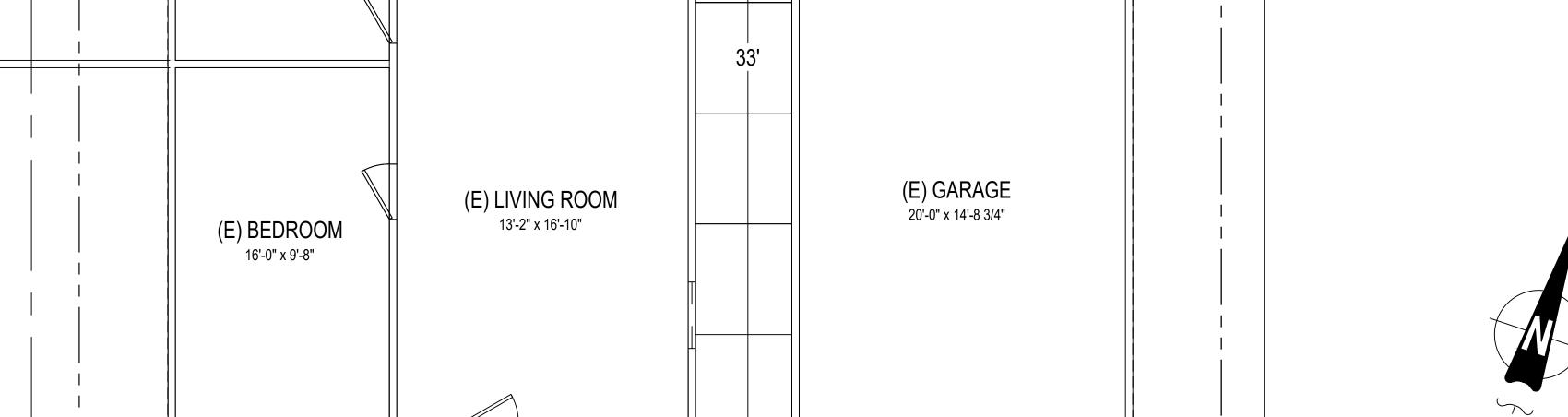
SMOKE DETECTOR

GARBAGE DISPOSAL SWITCH

CARBON MONOXIDE ALARM

HIGH EFFICACY LIGHT FIXTURE

EXHAUST FAN AND LIGHT COMBINATION



NEW ADDITION FLOOR PLAN 1/4" = 1'-0"

WINDOW SCHEDULE							
MARK	DIMENSION TYPE TEMPERED U-factor SHGC						
A	4'-0" x 4'-0"	SLIDING		0.3000	0.2300		

- 23'-10"

(N) BEDROOM

12'-8" x 12'-0"

CLOSET

(E) KITCHEN

9'-0" x 8'-10"

5'-3"

5'-3"

(E) BEDROOM

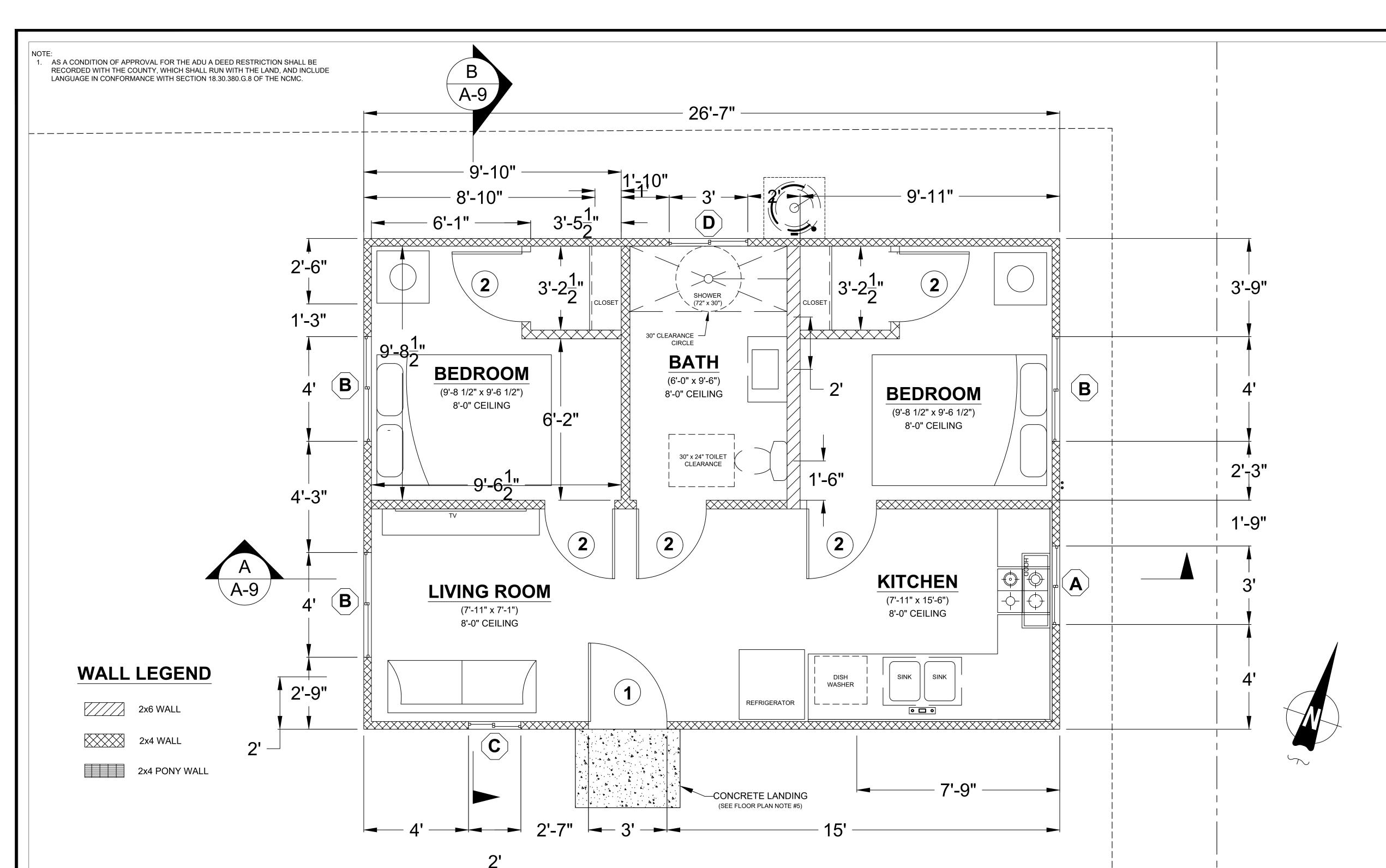
12'-0" x 9'-8"

EXTERIOR WINDOWS, EXTERIOR GLAZED DOORS, GLAZED OPENINGS WITHIN EXTERIOR DOORS, GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS, AND EXTERIOR STRUCTURAL GLASS VENEER SHALL COMPLY WITH ONE OF THE FOLLOWING: (SELECT ONE)

- A. MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 101/I.S.2/A40
- MINIMUM 20-MIN FIRE-RESISTANCE-RATED. MEET PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2

4' TO P.L. ⊀

10.



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

	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				

EXTERIOR WINDOWS, EXTERIOR GLAZED DOORS, GLAZED OPENINGS WITHIN EXTERIOR DOORS, GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS, AND EXTERIOR STRUCTURAL GLASS VENEER SHALL COMPLY WITH ONE OF THE FOLLOWING: (SELECT ONE)

- A. MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 101/I.S.2/A40
- B. MINIMUM 20-MIN FIRE-RESISTANCE-RATED. MEET PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2

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

EXTERIOR DOORS SHALL COMPLY WITH ONE OF THE FOLLOWING: (SELECT ONE)

- A. EXTERIOR SURFACE OR CLADDING OF NON-COMBUSTIBLE OR
- **IGNITION-RESISTANT MATERIAL**
- SOLID CORE WOOD COMPLYING WITH THE FOLLOWING:
- STILES AND RAILS MINIMUM 1-3/8 INCHES THICK - RAISED PANELS MINIMUM 1-1/4 INCHES THICK
 - **EXCEPTION:** EXTERIOR PERIMETER OF RAISED PANEL MAY TAPER TO A TONGUE MINIMUM 3/8 INCHES THICK
- MINIMUM 20-MIN FIRE RATED WHEN TESTED PER NFPA 252
- MEET PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1

FLOOR PLAN NOTES

- EXTERIOR WALLS WITHIN 3 FEET OF PROPERTY LINE (SPRINKLERS) OR 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS) REQUIRE 1-HOUR FIRE RATING FOR EXPOSURE TO BOTH SIDES
- - PROHIBITED WITHIN 2 FEET OF PROPERTY LINE - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE
 - 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- OPENINGS:
- PROHIBITED WITHIN 3FT OF PROPERTY LINE - MAXIMUM 25% OF WALL AREA WITHIN 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS)
- 4. PENETRATIONS:
- 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 3FT OF PROPERTY LINE (SPRINKLERS)
- 1-HOUR FIRE-RATED PENETRATIONS OF WALLS WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)
- CONCRETE LANDING WITH MIN 36" DEPTH AND A MAXIMUM OF 1-1/2" LOWER THAN TOP OF DOOR THRESHOLD

OPTIONAL ROLL-IN SHOWER PLAN NOTES

- 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
- 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
- MOUNTED MINIMUM 33 INCHES AND MAXIMUM 36 INCHES ABOVE SHOWER
- NOT EXTENDING OVER SHOWER SEAT
- IF CROSS SECTION IS CIRCULAR, MINIMUM 1-1/4" AND MAXIMUM 2" OUTSIDE
- 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
- SURFACE MATERIAL OF ANY WALLS OR OBJECTS ADJACENT TO GRAB BARS MUST BE FREE OF SHARP OR ABRASIVE ELEMENTS AND HAVE ROUNDED
- 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

- WALL REINFORCEMENT TO BE PROVIDED AT LOCATION OF GRAB BARS

- OPERABLE PARTS OF SHOWER CONTROLS AND FAUCETS:
- INSTALLED ON BACK WALL OF SHOWER COMPARTMENT ADJACENT TO
- 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

(E.G. BLOCKING)

- SINGLE-LEVER DESIGN - OPERABLE WITH MAXIMUM 5 POUNDS OF FORCE
- OPERABLE WITH ONE HAND AND WITHOUT TIGHT GRASPING, PINCHING, OR
- 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
- OPERABLE PARTS LOCATED ABOVE GRAB BAR BUT NO HIGHER THAN 48 INCHES ABOVE SHOWER FLOOR, MEASURED TO TOP OF MOUNTING
- 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
- 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
- WHERE DRAINS ARE PROVIDED AT ROLL-IN SHOWERS, MAXIMUM $\frac{1}{4}$ " GRATE OPENINGS FLUSH WITH SHOWER FLOOR SURFACE

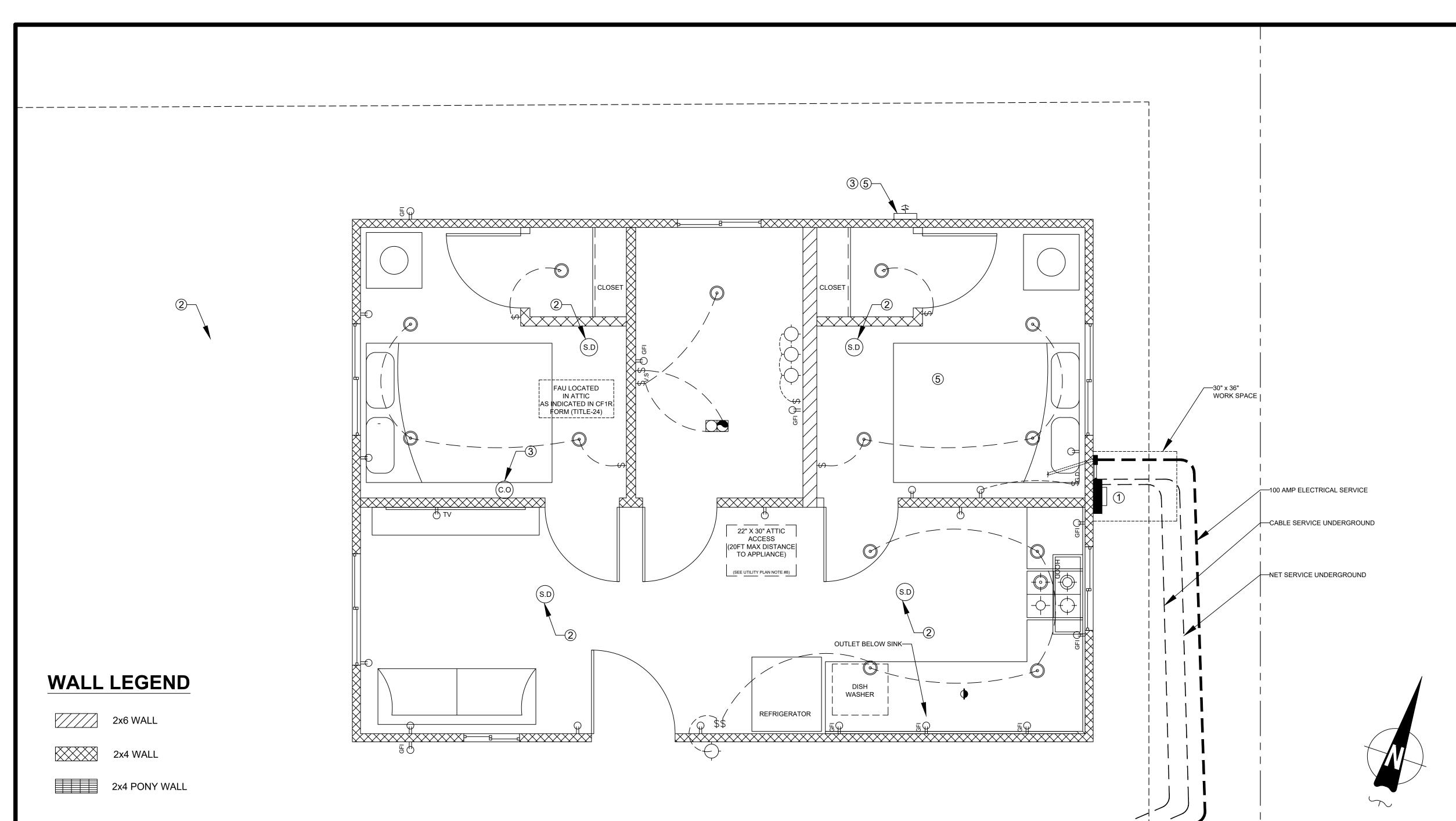
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SHEET NO.				

AZTEC I & DESIGNER: 1 ERONI N MANUEL DIARTE I ADDITIONAL DWELLING UNIT 14th St, NATIONAL CITY CA 91950 APN: 557-342-09-00 UTILITY: SDG&E

9119 JAMACHA RD, SUITE 11

SPRING VALLEY, CA 91977 CELL: 619-414-8506

 \triangleleft



ELECTRICAL PLAN

1/2" = 1'-0"

	ELECTRICAL LEGEND				
Œ	DUPLEX OUTLET HIGH EFFICACY RECESSED LIGHT				
\$	WALL SWITCH		GARBAGE DISPOSAL		
\$ _{G.D}	GARBAGE DISPOSAL SWITCH				
\$ _{v.s}	VACANCY SENSOR				
\$	4" DIA DRYER VENT				
(S.D)	SMOKE DETECTOR				
(c.o)	CARBON MONOXIDE ALARM		FAN & LIGHT COMBO		
	EXHAUST FAN AND LIGHT COMBINATION		Trace Elem Sembe		
\bigcirc	HIGH EFFICACY LIGHT FIXTURE				

ELECTRICAL NOTES

- KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 100 CFM DUCTED TO THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST FAN OF A DUCTED RANGE HOOD TO THE EXTERIOR.
- 2. 3"X3"X0.229" PLATE WASHERS SHALL BE USED ON EACH SILL PLATE ANCHOR
- 3. FOR STANDARD CUT WASHERS PLACED BETWEEN PLATE WASHER AND NUT, HOLE IN PLATE WASHER MAY BE DIAGONALLY SLOTTED WITH MAXIMUM 3" 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
- 8. ELECTRICAL RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT. (CEC 406.12)
- 9. AT LEAST ONE 120 VOLT, 20-AMP BRANCH SHALL BE PROVIDED TO SUPPLY BATHROOM RECEPTACLE OUTLETS.
- 10. ARC FAULT CIRCUIT INTERRUPTER PROTECTION FOR ALL OUTLETS.

UTILITY PLAN NOTES

ENERGY COMMISSION.

- 1. LOCAL EXHAUST FANS TO EXTERIOR TO PROVIDE MINIMUM 50 CFM INTERMITTENT OR 20 CFM CONTINUOUS VENTILATION.
- 2. SMOKE DETECTORS TO BE INTERCONNECTED PER CRC R314.4 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6
- 3. CARBON MONOXIDE ALARMS TO BE INTERCONNECTED PER CRC R315.7 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5
- 4. 4" Ø DRYER VENT WITH MAXIMUM 14 FOOT COMBINED HORIZONTAL AND VERTICAL LENGTH WITH TWO 90 DEGREE ELBOWS.
- 5. A MECHANICAL EXHAUST VENTILATION SYSTEM, SUPPLY VENTILATION SYSTEM, OR COMBINATION THEREOF SHALL BE INSTALLED FOR EACH DWELLING UNIT TO PROVIDE WHOLE-BUILDING VENTILATION WITH OUTDOOR AIR IN COMPLIANCE

WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA

- 6. AN INTERMITTENTLY OR CONTINUOUSLY OPERATING LOCAL MECHANICAL EXHAUST VENTILATION SYSTEM SHALL BE INSTALLED IN EACH BATHROOM WITH A BATHTUB, SHOWER, OR SIMILAR MOISTURE SOURCE AND IN EACH KITCHEN IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION. INTERMITTENT LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 50 CFM IN BATHROOMS AND 100 CFM IN KITCHENS. CONTINUOUS LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 20 CFM IN BATHROOMS AND 5 AIR CHANGES PER HOUR IN KITCHENS BASED ON KITCHEN VOLUME.
- 7. WATER HEATER OR FURNACE SHALL BE A DIRECT-VENT APPLIANCE
- 8. LISTED GASKETED SELF CLOSING DOOR REQUIRED FOR GAS FAU
- 9. MINIMUM 3' CLEARANCES FROM NEW BATHROOM AND KITCHEN RANGE HOOD EXHAUST TERMINATION TO ANY BUILDING OPENING AND PROPERTY LINE.
- 10. EXHAUST DUCTS AND DRYER VENTS SHALL BE EQUIPPED WITH BACK-DRAFT DAMPERS PER SEC. 504.1.1 CMC.

LIGHTING PLAN NOTES

- ALL LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH CBEES TABLE 150.0-A
- ALL LED LUMINAIRES AND LAMPS SHALL BE MARKED "JA8-2016" AND LISTED IN THE CALIFORNIA ENERGY COMMISSION DATABASE AT HTTPS://CACERTAPPLIANCES. ENERGY.CA.GOV/PAGES/ APPLIANCESEARCH.ASPX
- 3. 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
- BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS: AT LEAST ONE LUMINAIRE IN EACH SPACE SHALL BE CONTROLLED BY A VACANCY SENSOR
- 6. ALL LUMINAIRES REQUIRING "JA8-2016" OR "JA8-2016-E" MARKING SHALL BE CONTROLLED BY A DIMMER OR VACANCY **EXCEPTION**: CLOSETS LESS THAN 70 S.F. & HALLWAYS
- 7. OUTDOOR LIGHTING PERMANENTLY MOUNTED TO BUILDINGS SHALL BE CONTROLLED BY ONE OF THE FOLLOWING: - PHOTOCONTROL AND MOTION SENSOR - PHOTOCONTROL AND AUTOMATIC TIME-SWITCH CONTROL - ASTRONOMICAL TIME CLOCK - ENERGY MANAGEMENT CONTROL SYSTEM PER CBEES 150.0(K)3AIIIC

SOLAR READY KEY NOTES

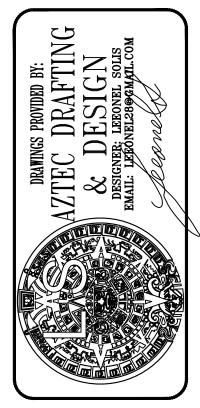
- 1. THE MAIN ELECTRICAL SERVICE PANEL SHALL NOT BE OF A TYPE WITH A CENTER-FED MAIN CIRCUIT BREAKER AND SHALL INCLUDE RESERVED SPACE ALLOWING FOR INSTALLATION OF DOUBLE-POLE CIRCUIT BREAKERS FOR A FUTURE SOLAR PHOTOVOLTAIC SYSTEM. SUCH RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER OR MAIN CIRCUIT BREAKER LOCATION. THE RESERVED SPACE SHALL BE PERMANENTLY AND VISIBLY MARKED AS "FOR FUTURE SOLAR PHOTOVOLTAIC"
- 2. APPROVED MINIMUM 4-INCH SQUARE ELECTRICAL JUNCTION BOX LOCATED WITHIN 72 INCHES HORIZONTALLY AND 12 INCHES VERTICAL OF MAIN ELECTRICAL SERVICE PANEL
- 3. MINIMUM 1 INCH DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT READILY ACCESSIBLE ATTIC LOCATION WITH PROXIMITY TO SOLAR ZONE AREA AND TERMINATING AT THE REQUIRED ELECTRICAL JUNCTION BOX
- 4. MINIMUM 1 INCH DIAMETER LISTED ELECTRICAL METALLIC RACEWAY ORIGINATING AT THE REQUIRED ELECTRICAL JUNCTION BOX AND TERMINATING AT THE MAIN ELECTRICAL SERVICE PANEL

RACEWAY IN THE ATTIC SHALL BE PERMANENTLY AND VISIBLY

5. ELECTRICAL JUNCTION BOX AND SEGMENT OF METALLIC

MARKED AS "FOR FUTURE SOLAR PHOTOVOLTAIC"

9119 JAMACHA RD, SUITE 11 SPRING VALLEY, CA 91977 CELL: 619-414-8506



ADDITIONAL DWELLING UN 14th St, NATIONAL CITY CA 91950 APN: 557-342-09-00 UTILITY: SDG&E

REVISION 02/14/22 PROJECT NO. P013

SHEET NO.

FINISHED GRADE

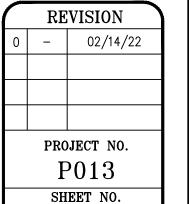
BACK

ELEVATIONS

1/2" = 1'-0"

- ROOF MATERIAL: OWENS CORNING ASPHALT SHINGLES FIRE RATING UNDERLAYMENT: OWENS CORNING ProArmor SYNTHETIC ROOFING
- MANUFACTURER: GIBRALTAR BUILDING PRODUCTS
- GALV. STEEL 2-WAY REVERSIBLE VENT

- NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909 INSTALLED OVER THE COMBUSTIBLE DECKING
- EXPOSED VALLEY FLASHINGS SHALL BE CONSTRUCTED WITH NOT LESS
- RUNNING THE FULL LENGTH OF THE VALLEY.
- 5. ALL VENTS (ROOF, FOUNDATION, COMBUSTION-AIR, ETC) SHALL RESIST
- 6. VENTILATION OPENINGS FOR ENCLOSED ATTICS, EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, UNDERFLOOR VENTILATION OPENINGS, AND VENT OPENINGS IN EXTERIOR WALLS AND EXTERIOR DOORS SHALL BE LISTED TO ASTM E 2886 AND COMPLY WITH
- b. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST c. THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662 DEGREES FAHRENHEIT (350 DEGREES
- 7. EXTERIOR WALL FINISH SHALL COMPLY WITH ONE OF THE FOLLOWING: a. NON-COMBUSTIBLE MATERIAL (STUCCO, CEMENT FIBER BOARD, ETC)
- COVERING SHALL BE 7/8-INCH THICK USED AS AN EXTERIOR WALL COVERING SHALL HAVE AN UNDERLAYMENT OF MINIMUM 1/2-INCH FIRE-RATED GYPSUM AN UNDERLAYMENT OF OTHER IGNITION-RESISTANT MATERIAL
- PATIO COVER, CARPORT AND TRELLIS CONSTRUCTION WITH ALL EXPOSED ELEMENTS SHALL COMPLY WITH ANY OF THE FOLLOWING:
- 1-HOUR FIRE-RESISTANT-RATED MATERIAL - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
- . DECK, BALCONY, AND EXTERIOR STAIR CONSTRUCTION, WITH ALL
- 1-HOUR FIRE-RESISTANT-RATED MATERIAL
- MODIFIED HEAVY TIMBER (MIN 4X8 JOISTS, 4X10 OR 6X8 BEAMS, 6X6
- 1-HOUR FIRE-RESISTANT-RATED MATERIAL - APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
- 10. EXTERIOR GARAGE DOORS SHALL RESIST THE INTRUSION OF EMBERS INTO AND TOP OF THE DOOR TO 1/8 INCH OR LESS USING ONE OF THE
- a. WEATHER-STRIPPING PRODUCTS WITH TENSILE STRENGTH AND
- c. GARAGE DOOR JAMBS AND HEADERS COVERED WITH METAL FLASHING
- 12. FENCES OR ANY STRUCTURE WITHIN 5 FEET OF BUILDING SHALL BE CONSTRUCTED PER ONE OF THE FOLLOWING:



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N MANUEL DIARTE
H ADDITIONAL DWELLING UNIT
14th St, NATIONAL CITY CA 91950
APN: 557-342-09-00
UTILITY: SDG&E

JUAN DETACH 1523 E

ELEVATION KEY NOTES

2. EXTERIOR WALL FINISH: STUCCO PAINTED TO MATCH EXISTING

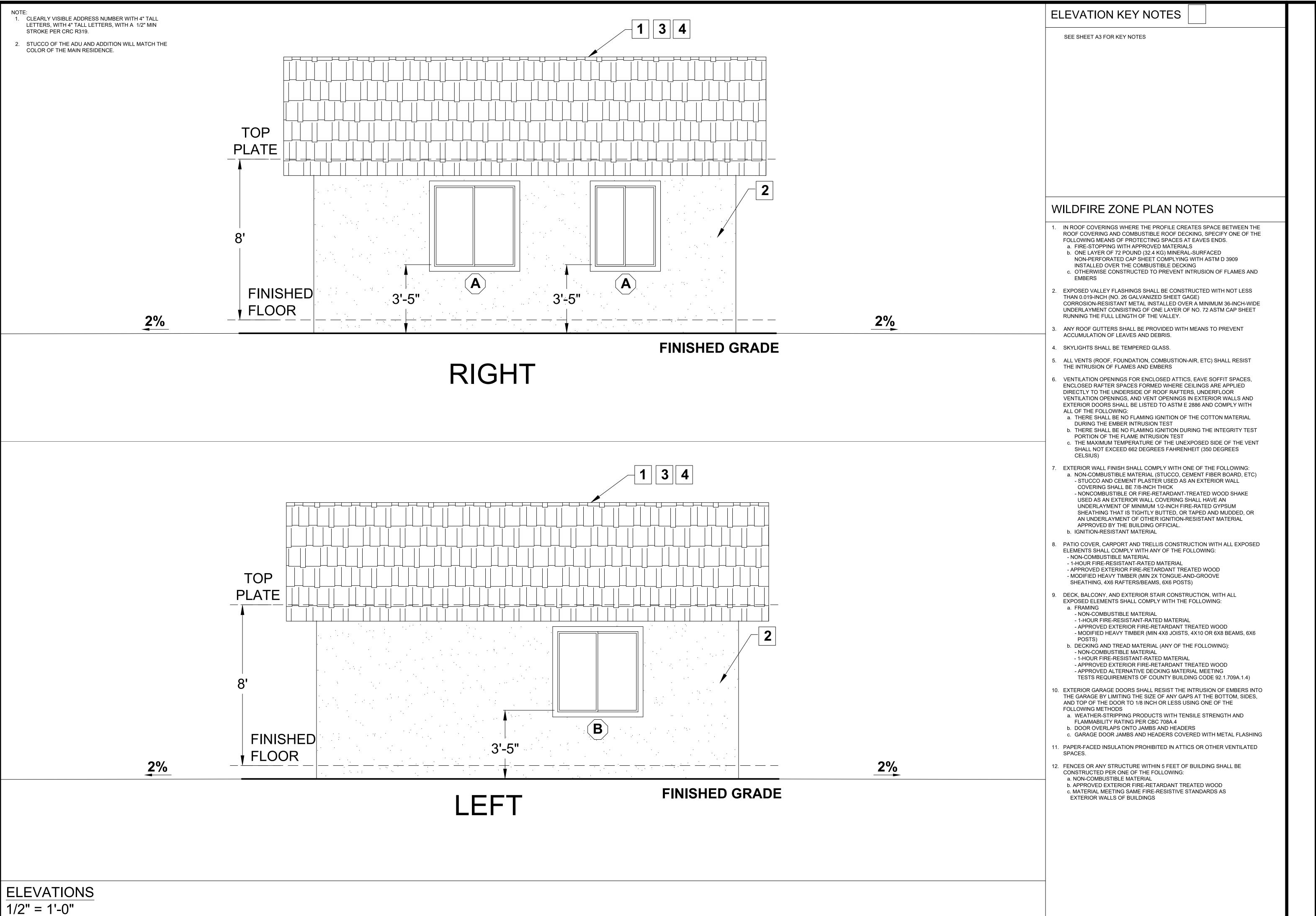
5. GABLE VENT (SEE NOTE 5 & 6 BELOW)

6. EAVE VENT (SEE NOTE 5 & 6 BELOW) MANÙFACTURER: GIBRALTAR BUILDING PRODUCTS

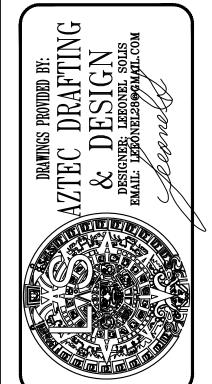
WILDFIRE ZONE PLAN NOTES

- IN ROOF COVERINGS WHERE THE PROFILE CREATES SPACE BETWEEN THE ROOF COVERING AND COMBUSTIBLE ROOF DECKING, SPECIFY ONE OF THE FOLLOWING MEANS OF PROTECTING SPACES AT EAVES ENDS.
- b. ONE LAYER OF 72 POUND (32.4 KG) MINERAL-SURFACED
- c. OTHERWISE CONSTRUCTED TO PREVENT INTRUSION OF FLAMES AND
- THAN 0.019-INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL INSTALLED OVER A MINIMUM 36-INCH-WIDE UNDERLAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET
- ANY ROOF GUTTERS SHALL BE PROVIDED WITH MEANS TO PREVENT ACCUMULATION OF LEAVES AND DEBRIS.
- 4. SKYLIGHTS SHALL BE TEMPERED GLASS.
- THE INTRUSION OF FLAMES AND EMBERS
- a. THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER INTRUSION TEST

- STUCCO AND CEMENT PLASTER USED AS AN EXTERIOR WALL - NONCOMBUSTIBLE OR FIRE-RETARDANT-TREATED WOOD SHAKE
- SHEATHING THAT IS TIGHTLY BUTTED, OR TAPED AND MUDDED, OR APPROVED BY THE BUILDING OFFICIAL.
- MODIFIED HEAVY TIMBER (MIN 2X TONGUE-AND-GROOVE
- EXPOSED ELEMENTS SHALL COMPLY WITH THE FOLLOWING:
- APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD
- b. DECKING AND TREAD MATERIAL (ANY OF THE FOLLOWING): NON-COMBUSTIBLE MATERIAL
- APPROVED ALTERNATIVE DECKING MATERIAL MEETING TESTS REQUIREMENTS OF COUNTY BUILDING CODE 92.1.709A.1.4)
- THE GARAGE BY LIMITING THE SIZE OF ANY GAPS AT THE BOTTOM, SIDES,
- FLAMMABILITY RATING PER CBC 708A.4 b. DOOR OVERLAPS ONTO JAMBS AND HEADERS
- 11. PAPER-FACED INSULATION PROHIBITED IN ATTICS OR OTHER VENTILATED
- a. NON-COMBUSTIBLE MATERIAL
- b. APPROVED EXTERIOR FIRE-RETARDANT TREATED WOOD c. MATERIAL MEETING SAME FIRE-RESISTIVE STANDARDS AS EXTERIOR WALLS OF BUILDINGS



AZTEC DRAFTING
& DESIGN
9119 JAMACHA RD, SUITE 115
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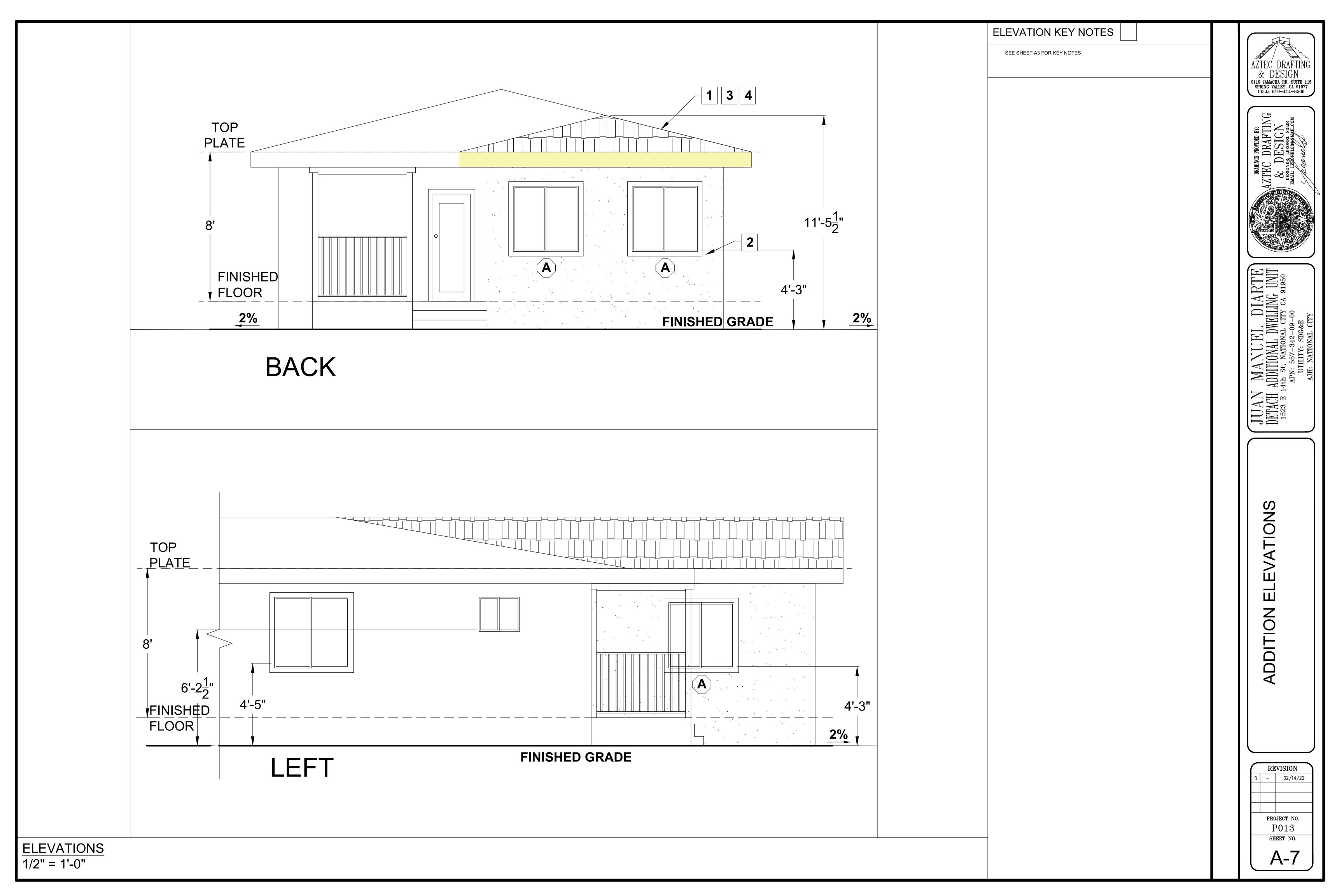
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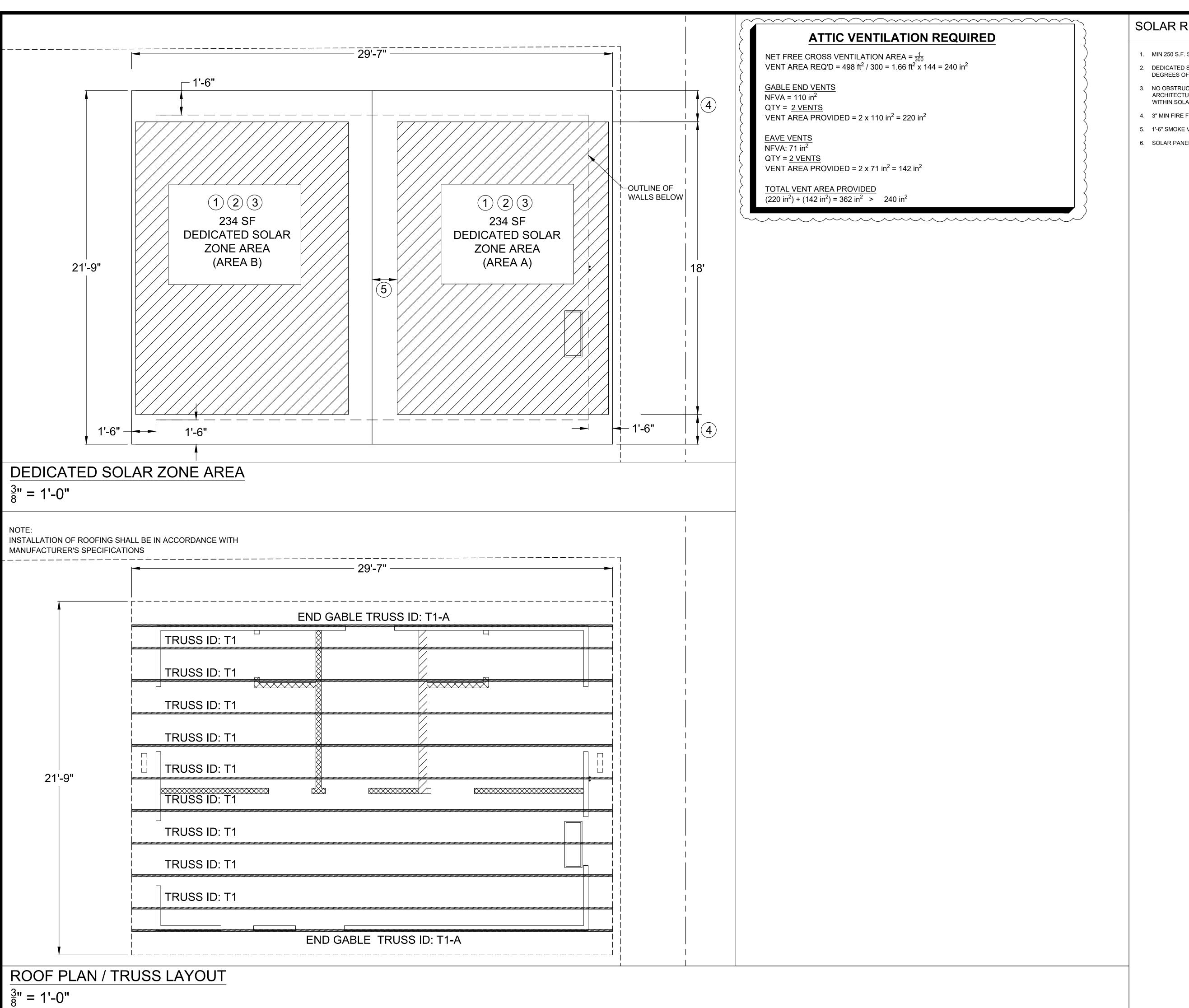
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PROJECT NO.
P013

SHEET NO.

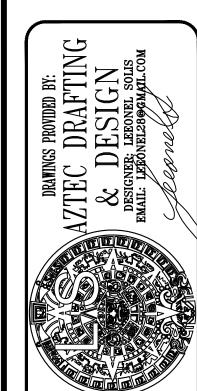




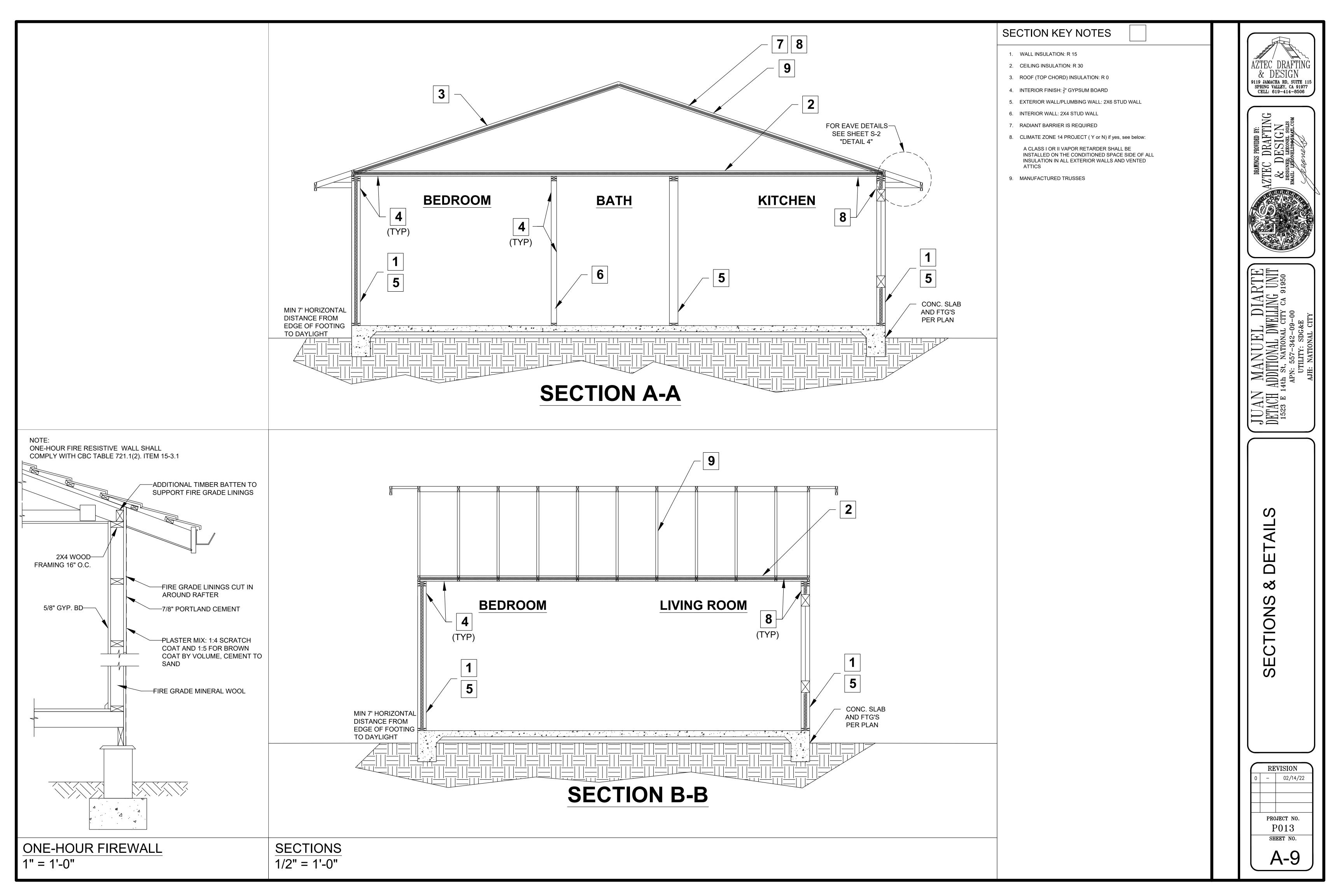
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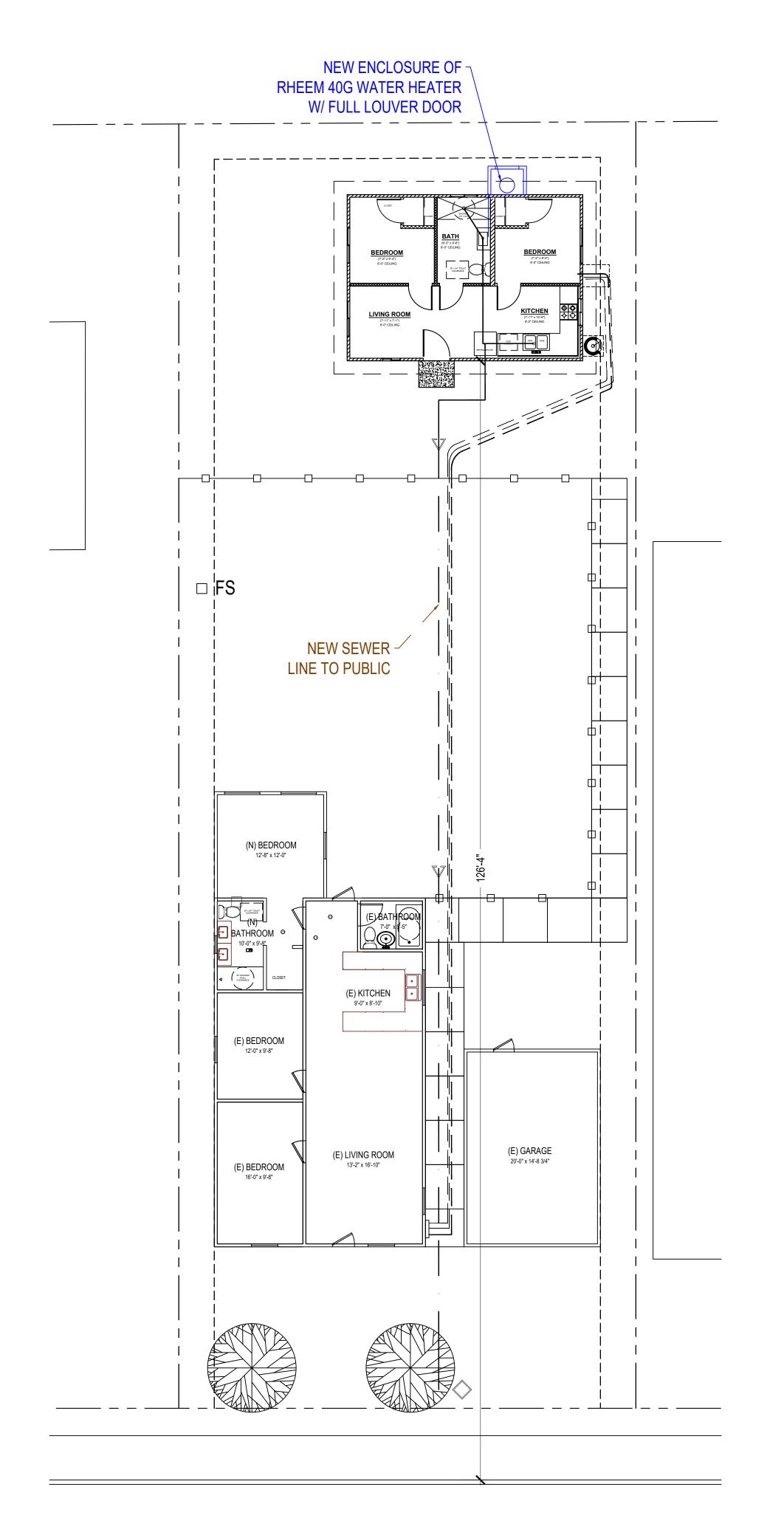
- 1. MIN 250 S.F. SOLAR ZONE AREA
- 2. DEDICATED SOLAR ZONE AREA LOCATED BETWEEN 110 AND 270 DEGREES OF TRUE NORTH - USE AREA A OR B AS NEEDED.
- 3. NO OBSTRUCTIONS INCLUDING VENTS, CHIMNEYS, SKYLIGHTS, ARCHITECTURAL FEATURES, ROOF-MOUNTED EQUIPMENT LOCATED WITHIN SOLAR ZONE.
- 4. 3" MIN FIRE FIGHTER ACCESS
- 5. 1'-6" SMOKE VENTILATION SETBACK AT RIDGES
- 6. SOLAR PANEL WILL BE INSTALLED UNDER A DEFERRED SUBMITTAL.

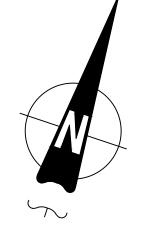
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REVISION PROJECT NO. P013 SHEET NO.







1 UTILITY LAYOUT PLAN

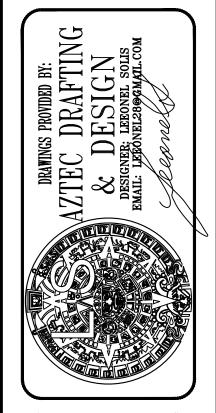
PLUMBING NOTES

- 1. MIN. $\frac{1}{4}$ " PER FOOT SLOPE FOR WASTE PIPES PER SECTION 708 CPC
- 2. BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.
- 3. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- 4. EACH VENT SHALL RISE VERTICALLY TO A POINT NOT LESS THAN SIX(6) INCHES ABOVE THE FLOOD LEVEL RIM OF THE FIXTURE SERVED BEFORE OFFSETTING HORIZONTALLY OR BEFORE BEING CONNECTED TO ANY OTHER VENT.
- 5. ALL DRAINAGE WASTE AND VENT PIPE SHALL COMPLY WITH TABLE 703.2 CPC.
- 6. SHOWER AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH MIXING VALVES PER SECTION 408.3 CPC.
- 7. TOILETS SHALL BE ULTRA-LOW FLUSH TYPE (1.28 G.P.F. MAX.)
- 8. EACH SHOWERHEAD SHALL NOT EXCEED A WATER FLOW OF 1.8 GPM.
- 9. KITCHEN SINK FAUCET SHALL NOT EXCEED A WATER FLOW 1.8 GPM.
- 10. EACH LAVATORY FAUCET SHALL NOT EXCEED A WATER FLOW OF 1.2 GPM.
- 11. ALL SANITARY SYSTEM MATERIALS SHALL BE LISTED BY AN APPROVED LISTING AGENCY.
- 12. COPPER PIPING FOR ALL POTABLE WATER SYSTEMS.



- ALL SURFACE WATER TO DRAIN AWAY FROM BUILDING AND PROPERTY LINE TO ALLEY OR STREET.
- 2. CONTRACTOR TO COMPLY WITH ALL OSHA REQUIREMENTS..
- 3. STATE HEALTH & SAFETY CODE SEC. 17921.9 BANS THE USE OF CHLORINATED POLYVINYL CHLORIDE (CPVC) FOR INTERIOR WATER-SUPPLY PIPING.
- 4. VOC'S ARE TO BE DOCUMENTED FOR ADHESIVES, PAINTS AND COATINGS, CARPET, COMPOSITION WOOD PRODUCTS. DOCUMENTATION TO BE PROVIDED BY PRODUCT CERTIFICATION AND SPECIFICATIONS. CHANIN OF CUSTODY CERTIFICATIONS, OR OTHER MEANS ACCEPTABLE TO THE ENFORCING AGENCY. CGBSC 4.504.2.
- 5. ALL SHOWER COMPARTMENTS, REGARDLESS OF SHAPE, SHALL BE CAPABLE OF ENCOMPASSING A 30 INCH CIRCLE.
- 6. PERMANENT VACUUM BREAKERS SHALL BE INCLUDED WITH ALL NEW HOSE BIBS.
- 7. ALL ABS AND PVC PIPING AND FITTINGS SHALL BE ENCLOSED WITHIN WALLS AND FLOORS COVERED WITH 'TYPE 'X' GYPSUM BOARD OR SIMILAR ASSEMBLIES THAT PROVIDE THE SAME LEVEL OF FIRE PROTECTION. PROTECTION OF MEMBRANE PENETRATIONS IS NOT REQUIRED.
- 8. SHOWER COMPARTMENTS AND BATHTUBS WITH INSTALLED SHOWER HEADS SHALL BE FINISHED WITH A NON-ABSORBENT SURFACE THAT EXTENDS TO A HEIGHT OF NOT LESS THAN 6-FEET ABOVE FLOOR. (CRC R307.2)





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UTILITY LAYOUT

	RE	VISION	
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	PRC	JECT NO.	
	F	P013	
	SH	EET NO.	

A. BASIS OF DESIGN

1. THE STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE 2019 CALIFORNIA BUILDING CODE (C.B.C.)

2 LIVE LOADS (REDUCED IN ACCORDANCE WITH THE 2019 C.B.C.)

2.	LIVE	LOADS	(REDUCED	IN	ACCORDANCE	WITH	IHE	2019	C.B.
					SLOPED RO	OF		40) psf

3.	LATERA	AL LC	ADS	&	CRITERIA	
Вί	JILDING	SITE	CLA	SS		

ATITUDE	32.6753
ONGITUDE	-117.0890
s	1.127
1	0.382
DS	0.788
D1	0.417
o d t	6.50 3.0 4.0 0.02

STRUCTURAL SYSTEM:
BEARING WALLS SYSTEM LIGHT FRAMED WALLS SHEATHED
WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR
RESISTANCE OR STEEL SHEETS.

0.75

SOIL PROFILE	Sd
IMPORTANCE FACTOR	1.0
WIND EXPOSURE CATEGORY	С
ROOF ANGLE	15°
BASIC WIND SPEED	110 mph

B. GENERAL NOTES:

1. THE CONTRACTOR SHALL VERIFY DIMENSIONS, ELEVATIONS, AND SITE CONDITIONS BEFORE STARTING ANY WORK AND NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.

2. COORDINATE ELEVATIONS, SLOPES AND DRAINAGE REQUIREMENTS WITH THE ARCHITECTURAL DRAWINGS.

3. SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

4. WHERE NO DETAILS ARE SHOWN OR NOTED IN ANY PART OF THE WORK THE DETAILS USED SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.

5. WHEN A DETAIL IS IDENTIFIED AS TYPICAL, THE CONTRACTOR IS TO APPLY THIS DETAIL IN ESTIMATING AND CONSTRUCTION TO EVERY LIKE CONDITION WHETHER OR NOT THE REFERENCE IS REPEATED IN EVERY INSTANCE.

6. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT/ENGINEER OF ANY SITE CONDITIONS NOT REFLECTED ON THE WORKING DRAWINGS OR DIFFERENT FROM THE MAXIMUM OR MINIMUM DIMENSIONS INDICATED. INCLUDING CONFLICT IN GRADES, ADVERSE SOIL CONDITIONS, GROUND WATER PRESENT, DEEPENED FOOTINGS, UNCOVERED AND UNEXPECTED UTILITY LINES, ETC.

7. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE.

8. MATERIALS AND WORKMANSHIP SHALL CONFORM TO REQUIREMENTS OF THE CURRENT CALIFORNIA BUILDING CODE AS AMENDED BY THE GOVERNING AUTHORITY AND APPLICABLE REGULATIONS OF THE GOVERNING JURISDICTION, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY.

9. DRAWINGS SHALL NOT BE SCALED. COORDINATE DIMENSIONS WITH ARCHITECTURAL DRAWINGS.

10. ASTM SPECIFICATIONS ON THE DRAWINGS SHALL BE OF THE LATEST REVISION.

11. CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOOR. LOADS SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.

C. TEMPORARY WORK AND SITE SAFETY:

1. THESE DRAWINGS SHOW THE REQUIREMENTS FOR PERMANENT COMPLETED STRUCTURE ONLY. TEMPORARY WORKS REQUIRED TO COMPLETE THE CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURAL ENGINEER IS NOT RESPONSIBLE FOR DESIGN OR FIELD REVIEW OF TEMPORARY AND ANCILLARY WORK.

2. THE CONTRACTOR IS RESPONSIBLE FOR SAFETY IN AND AROUND THE JOBSITE. PROPER AND SAFE METHODS OF CONSTRUCTION SHALL BE USED AT ALL TIMES INCLUDING GUYING AND BRACING OF INCOMPLETE STRUCTURES, FORMWORK, SHORING, RESHORING, FALSEWORK, PLATFORMS, SCAFFOLDING, BARRIERS, WALKWAYS, ETC. AND CONTROL THE INTENSITY, DURATION AND LOCATION OF CONSTRUCTION LOADS UPON CONSTRUCTION.

I. MACHINE APPLIED NAILING:

1. THE USE OF MACHINE NAILING IS SUBJECT TO A SATISFACTORY JOB SITE DEMONSTRATION AND THE APPROVAL OF THE PROJECT ENGINEER. THE APPROVAL IS SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE.

2. NAIL HEADS SHALL NOT PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER.

3. EDGE DISTANCES SHALL BE MAINTAINED. SHINERS SHALL BE REPLACED. IF NAIL HEADS PENETRATE THE OUTER PLY MORE THAN WOULD BE NORMAL FOR A HAND HAMMER, OR IF MINIMUM ALLOWABLE EDGE DISTANCES ARE NOT MAINTAINED THE PERFORMANCE WILL BE DEEMED UNSATISFACTORY.

4. MACHINE NAILING WILL NOT BE APPROVED FOR PLYWOOD 5/16" OR LESS IN THICKNESS.

D. FOUNDATION

FOUNDATION DESIGN IS BASED ON THE 2019 CBC.
 ALLOWABLE BEARING SOIL PRESSURE: 1,500 psf

3. THE MAXIMUM ALLOWABLE SOIL BEARING PRESSURE SHALL BE 1,500 psf. ALLOWABLE BEARING MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOAD CASES.

4. BOTTOM OF FOOTING SHALL BE EMBEDDED AT LEAST 12 INCHES BELOW LOWEST ADJACENT FINISHED (PAD) GRADE.

5. FOOTING DEPTHS SHOWN ARE FOR BIDDING PURPOSES ONLY AND ARE ASSUMED TO BE IN SUITABLE BEARING MATERIALS. FOOTING DEPTHS MAY REQUIRE DEEPENING PER DIRECTION OF THE ENGINEER.

6. ABANDONED FOOTINGS, UTILITIES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION SHALL BE REMOVED.

7. THE FOOTING EXCAVATIONS SHALL BE KEPT FREE FROM LOOSE MATERIAL AND STANDING WATER. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM SURFACE OR SEEPAGE WATER.

8. FOOTING AND UTILITY TRENCH BACKFILL SHALL BE MECHANICALLY COMPACTED IN LAYERS. FLOODING WILL NOT BE PERMITTED.

9. SUBMIT COMPACTION TEST REPORTS FOR ALL FILL BY A QUALIFIED TESTING LAB TO ENGINEER AND BUILDING DEPARTMENT PRIOR TO REQUESTING FOUNDATION INSPECTION.

10. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING, UNDERPINNING, AND SHORING REQUIRED TO SAFELY RETAIN ALL GRADES AND STRUCTURES.

11. FOOTING ELEVATIONS SHOULD BE LOCATED SUCH THAT THE BASES OF THE FOUNDATIONS ARE A MINIMAL HORIZONTAL DISTANCE OF SEVEN FEET FROM THE FACE OF SLOPE.

12. SLAB ON GRADE RESTRAINING THE BOTTOM OF RETAINING WALLS SHALL BE IN PLACE PRIOR TO BACKFILLING OF WALLS.

13. WALLS RETAINING EARTH SHALL BE DRAINED TO DAYLIGHT OR DRAINAGE STRUCTURE AND BACKFILLED PER SOIL ENGINEER'S RECOMMENDATION.

14. FOUNDATIONS SUPPORTING WOOD SHALL EXTEND 8" MINIMUM ABOVE ADJACENT FINISH GRADE. PROVIDE 18" CLEARANCE UNDER WOOD JOISTS AND 12" CLEARANCE UNDER WOOD GIRDERS.

E. REINFORCING STEEL

1. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS MUST FOLLOW THE A.C.I. MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES, A.C.I. 315—LATEST ED. U.O.N.

2. REINFORCING BARS SHALL CONFORM TO THE 2019 CBC AND THE STANDARD SPECIFICATION FOR DEFORMED BILLET—STEEL BARS FOR CONCRETE REINFORCEMENT, ASTM DESIGNATION A—615, GRADE 60, U.O.N.

3. LAPS AT BAR SPLICES SHALL BE: 42 BAR DIA. (18" MIN.)
FOR CONCRETE U.O.N. 48 BAR DIA. (24" MIN.)

4. REINFORCING BARS SHALL BE PROVIDED WITH THE FOLLOWING CONCRETE COVER:

CONC. CAST

AGAINST EARTH

FORMED CONC. EXPOSED EARTH/WEATHER

#5 OR LARGER

#6 OR LARGER

SLABS (#11 AND SMALLER)

1"

5. VERTICAL BARS SHALL BE ACCURATELY POSITIONED AT THE CENTER OF THE WALL, U.O.N. ON DETAILS, AND SHALL BE TIED IN PLACE AT THE TOP AND BOTTOM.

6. PROVIDE #3 SPACER TIES AT 30" (75 mm) ON CENTER IN ALL BEAMS AND FOOTINGS TO SECURE REINFORCING BARS IN PLACE, U.O.N.

F. REINFORCED CONCRETE (GENERAL)

CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19
OF THE CODE AND WITH THE PROVISIONS OF ACI 318, LATEST EDITION.
 CONCRETE MIXES SHALL BE DESIGNED BY A QUALIFIED
TESTING LABORATORY AND APPROVED BY THE STRUCTURAL

3. CEMENT SHALL CONFORM TO ASTM C-150 TYPE I OR II, ALKALI (2019 CBC).

5. READY MIX CONCRETE SHALL BE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94.

6. MINIMUM CONCRETE COMPRESSIVE STRENGTHS AT 28 DAYS, MAXIMUM SLUMPS, AND MAXIMUM WATER/CEMENT RATIOS SHALL BE AS FOLLOWS:

*CONCRETE HAS BEEN DESIGNED FOR 2,500 PSI
MAXIMUM WATER CEMENT RATIO = 0.45. NO SPECIAL INSPECTION
REQUIRED

7. WATER MAY BE ADDED ON SITE TO OBTAIN SPECIFIED SLUMPS ONLY IF IT IS ADDED WITHIN ONE HOUR OF BATCHING AND SPECIFIED ON THE BATCH REPORT. CONCRETE SHALL NOT BE PLACED BEYOND 1-1/2 HOURS FOLLOWING BATCHING.

8. NO PIPES OR DUCTS SHALL BE PLACED IN CONCRETE SLABS UNLESS SPECIFICALLY DETAILED. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT.

9. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION

FOR A MINIMUM OF SEVEN DAYS AFTER ITS PLACEMENT.

LEVEL FLOOR.

APPROVED CURING COMPOUNDS MAY BE USED IN LIEU OF MOIST CURING.

10. CONCRETE SLAB-ON-GRADE THICKNESS SHOWN IS MINIMUM REQUIRED THICKNESS. FLOORS SHALL BE MONITORED BY TRANSIT LEVEL OR LASER DURING PLACEMENT TO MAINTAIN

11. FLYASH SHALL BE LIMITED TO NO MORE THAN 15 PERCENT OF THE TOTAL WEIGHT OF CEMENTIOUS CONCRETE, U.O.N.

12. CONCRETE EXPOSED TO WEATHER SHALL BE AIR ENTRAINED.

STRUCTURAL NOTES

13. PROVIDE 1-#5 x 4'-0" LONG DIAGONAL BAR AT CORNERS OF WALL, FLOOR, AND ROOF OPENINGS AND INSIDE CORNERS OF CONCRETE FLOORS.

MAKING 45 DEGREES WITH ANY PARALLEL OR PENPENDICULAR LINE OF OPENING.

14. ALL CONSTRUCTION JOINTS IN STRUCTURAL MEMBERS TO BE REVIEWED FOR LOCATION AND DETAIL PRIOR TO CONSTRUCTION. FLEXURAL REINFORCEMENT TO CONTINUE UNINTERRUPTED THROUGH ALL CONSTRUCTION JOINTS. KEYWAYS TO BE PROVIDED PERPENDICULAR TO THE DIRECTION OF LOAD IN ALL JOINTS.

15. WHEN CONCRETE IS PLACED AGAINST EXISTING CONCRETE SURFACES, EXISTING CONCRETE SURFACES SHALL BE THOROUGHLY CLEANED AND THEN SANDBLASTED TO CREATE AN AMPLITUDE OF 1/4" MINIMUM. APPLY A CONCRETE BONDING ADJACENT TO IMPROVE BONDING QUALITY.

G. ROUGH CARPENTRY:

1. ROOF SHEATHING SHALL BE APA RATED AND SHALL CONFORM TO PRODUCT STANDARD PS 1, INTERIOR TYPE WITH EXTERIOR GLUE, IDENTIFICATION INDEX (24/0) UNLESS OTHERWISE NOTED. EQUIVALENT THICKNESS O.S.B. BOARD MAY BE USED IN LIEU OF PLYWOOD ROOF SHEATHING.

2. FLOOR SHEATHING, THICKNESS, GRADE, AND NAILING PER STRUCTURAL PLANS. PLYWOOD SHEATHING SHALL CONFORM TO PRODUCT STANDARD PS 1—80, TONGUE AND GROOVE, INTERIOR TYPE WITH EXTERIOR GLUE, IDENTIFICATION INDEX (32/16). O.S.B. BOARD SHALL NOT BE USED IN LIEU OF PLYWOOD FLOOR SHEATHING.

3. SHEATHING SHALL BE LAID PERPENDICULAR TO FRAMING FOR FLOORS AND ROOFS WITH 4' JOINTS STAGGERED AND CENTERED ON JOISTS. ALL OTHER JOINTS AT FLOORS SHALL BE BLOCKED.

4. PLYWOOD FLOOR SHEATHING SHALL BE GLUED TO ALL FRAMING MEMBERS WITH AN A.P.A. APPROVED ADHESIVE.

5. UNLESS OTHERWISE NOTED, ALL FRAMING LUMBER SHALL BE DOUGLAS FIR LARCH, GRADE—MARKED BY THE W.C.L.I.B. OR W.W.P.A. AS FOLLOWS:

2X JOISTS & NO. 1 RAFTERS 4X & LARGER BEAMS NO. 1 ALL POSTS NO. 1 STUDS NO. 2 PLATES NO. 1 LEDGERS NO. 1 BI OCKING NO. 3 PLYWOOD A.P.A. RATED O.S.B. BOARD A.P.A. RATED

6. SILL PLATES SHALL BE TREATED DOUGLAS FIR OR FOUNDATION REDWOOD. EXTERIOR WALL SILL PLATES SHALL BE SECURED TO CONCRETE WITH 5/8" X 10" LONG ANCHOR BOLTS WITH 7" MINIMUM EMBEDMENT INTO CONCRETE AT A MAXIMUM SPACING OF 32" O.C. AND 12" FROM EACH END. PLATE WASHERS A MINIMUM OF 3 INCH BY 3 INCH BY 1/4 OF AN INCH THICK SHALL BE USED ON EACH BOLT. (FOR SPECIAL CONDITIONS, SEE SHEAR WALL SCHEDULE FOR SHEAR WALL ANCHORAGE).

7. DO NOT BORE OR NOTCH JOISTS, RAFTERS, OR BEAMS, EXCEPT WHERE SHOWN IN DETAILS. OBTAIN ENGINEER'S APPROVAL FOR ANY HOLES OR NOTCHES NOT DETAILED.

8. PROVIDE DOUBLE FLOOR JOISTS UNDER PARALLEL PARTITIONS, U.O.N.

9. PROVIDE 1/2 INCH MINIMUM CLEARANCE BETWEEN TOP PLATES OF INTERIOR NON-BEARING PARTITIONS AND THE BOTTOM CHORD OF TRUSSES.

10. NAILS SHALL BE COMMON WIRE. NAILING SHALL COMPLY WITH TABLE 23-II-B-1 OF THE 2016 C.B.C. NAILS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED, U.O.N.

11. PROVIDE SOLID BLOCKING AT ENDS AND AT SUPPORTS OF FLOOR JOISTS AND ROOF RAFTERS UNDER PARTITIONS AND AT RIDGE LINE.

12. TOP PLATES OF ALL BEARING WOOD STUD WALLS SHALL BE TWO PIECES, SAME SIZE AS STUDS AND LAPPED 4'-0" MINIMUM WITH NOT LESS THAN 10-16d NAILS AT EACH SIDE OF TOP PLATE BREAK POINT SPACED AT 4" O.C. MAXIMUM UNLESS OTHERWISE NOTED.

13. INTERIOR AND EXTERIOR WOOD POSTS ATTACHED DIRECTLY TO CONCRETE SHALL BE SECURED WITH SIMPSON PB OR EPB POST BASES, AS APPLICABLE, UNLESS OTHERWISE NOTED.

14. STUDS SHALL HAVE FULL BEARING ON PLATE, ALL JOISTS, HEADERS, BEAMS, AND RAFTERS SHALL HAVE A MINIMUM

SOLID LEVEL BEARING OF 1.5 INCHES AT EACH END.

15. NOT LESS THAN THREE (3) STUDS SHALL BE INSTALLED AT EVERY CORNER OF AN EXTERIOR OR INTERIOR BEARING WALL.

16. BEAMS, JOISTS, RAFTERS, ETC. SHALL BE INSTALLED

WITH THE CROWN SIDE UP.

17. BOLT HOLES IN WOOD SHALL BE DRILLED 1/32" TO 1/16"
IN DIAMETER LARGER THAN THE NOMINAL BOLT SIZE.
RETIGHTEN ALL NUTS PRIOR TO CLOSING IN.

PERCENT OF THE SHANK DIAMETER. THE BOLT SHALL BE TURNED BY A WRENCH AND NOT HAMMERED.

19. BOLTS SHALL HAVE A 7 DIA. MIN. END DISTANCE AND A 4

DIA. EDGE DISTANCE, U.O.N.

18. LAG BOLTS SHALL BE PRE-DRILLED TO A DIAMETER OF 60

20. STANDARD CUT WASHERS SHALL BE USED UNDER ALL BOLT HEADS AND NUTS AGAINST WOOD. USE HEAVY PLATE OR MALLEABLE IRON WASHERS FOR ALL BOLTS DESIGNED TO ACT IN TENSION, SUCH AS LEDGERS AND HOLD DOWN ANCHORS.

21. PROVIDE FIRE BLOCKING OR JOINT BLOCKING BETWEEN STUDS AT NOT LESS THAN 8'-0" VERTICAL INTERVALS AND

AT ALL PLYWOOD EDGES.

22. FRAMING ANCHORS, POST CAPS, COLUMN BASES, HANGERS, ETC. SHALL BE MANUFACTURED BY SIMPSON, OR APPROVED EQUAL.

23. PROVIDE 2X MINIMUM BACKING FOR ALL WALL HUNG CABINETS, HANDRAILS, SHELVING, LIGHT FIXTURES, ACCESSORIES, ETC.

AND BEAR "A.W.P.B." QUALITY MARK AND THE W.C.L.N.G. GRADE STAMP. CERTIFICATES ARE NOT ACCEPTABLE.

25. CUTS AND HOLES IN PRESSURE TREATED LUMBER SHALL BE TREATED PER A.W.P.A. M-84.

24. PRESSURE TREATED DOUGLAS FIR SHALL BE NO. 2 MINIMUM

H. PREMANUFACTURED ROOF TRUSSES

1. TRUSS DRAWINGS, CALCULATIONS AND THE LATEST ICBO APPROVED TEST DATA FOR TRUSS METAL PLATE CONNECTORS SHALL BE SUBMITTED TO THE ARCHITECT AND/OR ENGINEER FOR REVIEW PRIOR TO FABRICATION. CALCULATIONS FOR GIRDER TRUSSES SHALL INCLUDE POINT LOADS FROM CARRIED TRUSS REACTIONS.

2. CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A CALIFORNIA REGISTERED CIVIL OR STRUCTURAL ENGINEER. IT SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER TO OBTAIN APPROVALS OF FINAL CALCULATIONS AND SHOP DRAWINGS PRIOR TO FABRICATION.

3. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST LOCAL APPROVED BUILDING CODES AND ORDINANCES FOR ALL LOADS IMPOSED, INCLUDING LATERAL LOADS. FABRICATOR SHALL REVIEW ALL DRAWINGS AND MEET PROFILES AS INDICATED.

4. THE MANUFACTURER SHALL BE RESPONSIBLE FOR THE DESIGN OF MEMBERS USED AS DRAG OR CHORD MEMBERS AND SHALL INSURE THAT SUCH MEMBERS ARE PLACED AS REQUIRED ON THE FRAMING PLANS. THE AMOUNT OF LOAD TO BE LATERALLY TRANSMITTED BY THE MEMBER SHALL BE A MINIMUM OF 2000 POUNDS U.O.N. ON THE FRAMING PLANS.

DEAD LOAD LIVE LOAD

TOP CHORD 17 PSF 16 PSF (REDUCIBLE)

BOTTOM CHORD 5 PSF 10 PSF (NON-CONCURRENT

*DESIGN ROOF TRUSSES TO SUPPORT A 500LB.
CONCENTRATED LOAD AT ANY TOP CHORD PANEL

L/360

5. ROOF TRUSS DESIGN LOADS

ROOF

6. MAXIMUM FLOOR AND ROOF DEFLECTIONS:

MAXIMUM DEFLECTIONS

LOCATION LIVE LOAD TOTAL LOAD

7. INCREASES IN ALLOWABLE STRESSES FOR REPETITIVE MEMBERS, ARE NOT PERMISSIBLE.

8. PROVIDE ADEQUATE CAMBER FOR DESIGNATED DESIGN LOADS.

L/240

9. TRUSS DESIGNER SHALL OVERSIZE PLATES FOR CHORD MEMBERS TO ACCOUNT FOR WOOD DEFECTS LIKE KNOTS, KNOT HOLES AND GREATLY DISTORTED GRAINS. MAXIMUM ALLOWABLE DEFECT SIZE PER MEMBER SHALL BE 2 SQUARE INCHES. NO DEFECTS ALLOWED UNDER PLATES FOR WEB MEMBERS.

10. TRUSS MANUFACTURER TO VERIFY ALL DIMENSIONS SHOWN ON STRUCTURAL DRAWINGS WITH ARCHITECTURAL DRAWINGS AND IN FIELD WITH WALL LAYOUT PRIOR TO FABRICATION. PROVIDE SHOP DRAWINGS WHICH SHALL INCLUDE PLAN DRAWING SHOWING TRUSS LOCATIONS AND TRUSS PROFILES, WITH DIMESIONS REVIEWED AND APPROVED BY GENERAL CONTRACTOR, PRIOR TO FABRICATION.

11. GABLE END TRUSSES SHALL HAVE 2X VERTICALS AT 16" O.C.TYPICAL UNLESS OTHERWISE NOTED.

12. SHOP DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO FABRICATION AND WILL INCLUDE THE FOLLOWING MINIMUM INFORMATION:

a. PROJECT NAME AND LOCATION
b. DESIGN LOADS, CONFIGURATIONS, (2 OR 3
POINT BEARING) AND SHEAR TRANSFER.
c. MEMBER STRESSES, DEFLECTIONS, TYPE OF
JOINT PLATES AND ALLOWABLE DESIGN VALUES.
TRUSS JOINTS SHALL BE DESIGNED FOR 125% OF
THE DESIGN STRESSES.

d. TYPE, SIZE, AND LOCATION OF HANGERS TO BE USED FOR THE PROJECT. HANGERS SHALL BE DESIGNED TO SUPPORT THE FULL VERTICAL LOAD AND A LATERAL LOAD EQUAL TO 20% OF THE VERTICAL REACTION. ALL CONNECTORS SHALL BE ICBO APPROVED AND OF ADEQUATE STRENGTH TO RESIST STRESSES DUE TO THE LOADING INVOLVED.

13. ALL HARDWARE REQUIRED FOR CONNECTING TRUSSES (JACK TO HIP, HIP TO GIRDER OR GIRDER TO GIRDER, ETC.) SHALL BE DESIGNED, DETAILED AND PROVIDED BY TRUSS FABRICATOR.

14. THE TRUSS MANUFACTURER SHALL BE RESPONSIBLE FOR ALL TRUSS TO TRUSS CONNECTIONS. EACH TRUSS SHALL BE LEGIBLY MARKED WITH THE FOLLOWING INFORMATION WITHIN TWO FEET OF THE CENTER OF THE SPAN ON THE FACE OF THE BOTTOM OF THE CHORD:

MANUFACTURER'S NAME
 DESIGN LOADS
 TRUSS SPACING

15. MULTIPLE CHORDS SHALL BE FACTORY LAMINATED.

16. CROSS BRIDGING AND/OR BRACING SHALL BE PROVIDED FOR, AND DETAILED BY, THE MANUFACTURER AS REQUIRED TO ADEQUATELY BRACE TRUSSES.

17. WHERE TRUSSES BLOCKING IS CALLED OUT, THE BLOCKING PIECE SHALL BE THE SAME DEPTH AS THE ADJOINING MEMBERS AND CAPABLE OF RESISTING A LATERAL LOAD EQUAL TO 500 POUNDS IN ITS PLANE, OR BE SHEATHED SOLID WITH 1/2" CDX PLYWOOD AND NAILED WITH 10d COMMON NAILS AT 6" (EN) U.O.N. ON THE FRAMING PLANS.

18. GENERAL CONTRATOR TO PROVIDE TEMPORARY ERECTION BRACING AND WEB BRACING AS REQUIRED BY TRUSS MANUFACTURER'S DESIGN.

SPECIAL INSPECTION

No.	Description of Type of Inspection Required, Location, Remarks, etc.	Design Strengt
1	EPOXY ANCHORS FOR CONCRETE (INCLUDING ICC REPORT NUMBER, ESR-2508)	f'C= 2,500 p

"NOTICE OF THE APPLICANT /OWNER'S AGENT/ARCHITECT OR ENGINEER OF RECORD:
BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR CONSTRUCTION/ INSTALLATION OF THE
WORK SPECIFIED HEREIN, YOU AGREE TO COMPLY TO THE REQUIREMENT OF NATIONAL CITY FOR
SPECIAL INSPECTION, STRUCTURAL OBSERVATION, CONSTRUCTION MATERIAL TESTING AND OFF-SITE
FABRICATION OF BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION
AND, AS REQUIRED BY THE CALIFORNIA CONSTRUCTION CODE"

"NOTICE TO THE CONTRACTOR/BUILDER/INSTALLER/SUB-CONTRACTORS/
OWNER-BUILDER, BY USING THIS PERMITTED CONSTRUCTION DRAWINGS FOR
CONSTRUCTION/INSTALLATION OF THE WORK SPECIFIED HEREIN, YOU ACKNOWLEDGE AND ARE
AWARE OF THE REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION. YOU
AGREE TO COMPLY WITH REQUIREMENTS OF NATIONAL CITY FOR SPECIAL INSPECTIONS,
STRUCTURAL OBSERVATION, CONSTRUCTION MATERIAL TESTING AND OFF-SITE FABRICATION OF
BUILDING COMPONENTS, CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION AND, AS REQUIRED
BY THE CALIFORNIA CONSTRUCTION CODES.

"THE SPECIAL INSPECTOR MUST BE CERTIFIED BY THE CITY OF NATIONAL CITY, DEVELOPMENT SERVICES, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION."

"THE CONSTRUCTION MATERIALS TESTING LABORATORY MUST BE APPROVED BY THE CITY OF NATIONAL CITY, DEVELOPMENT SERVICES, FOR TESTING OF MATERIALS, SYSTEMS, COMPONENTS AND EQUIPMENTS."

"FABRICATOR MUST BE APPROVED BY THE CITY OF NATIONAL CITY, DEVELOPMENT SERVICES FOR THE FABRICATION OF MEMBERS AND ASSEMBLIES ON THE PREMISES OF THE FABRICATOR'S SHOP."

"FABRICATOR SHALL SUBMIT A 'CERTIFICATE OF COMPLIANCE FOR OFF-SITE FABRICATION' TO THE

"FABRICATOR SHALL SUBMIT AN 'APPLICATION TO PERFORM OFF-SITE FABRICATION' TO THE INSPECTION SERVICES DIVISION FOR APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION."

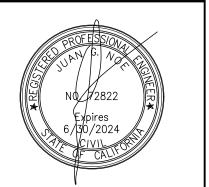
"THE SPECIAL INSPECTIONS IDENTIFIED ON PLANS ARE, IN ADDITION TO, AND NOT A SUBSTITUTE FOR, THOSE INSPECTIONS REQUIRED TO BE PERFORMED BY A CITY'S BUILDING INSPECTOR."

INSPECTION SERVICES DIVISION PRIOR TO ERECTION OF FABRICATED ITEMS AND ASSEMBLIES."

A-E-STUDIO.COM

Pate February 17, 2023

REVISIONS

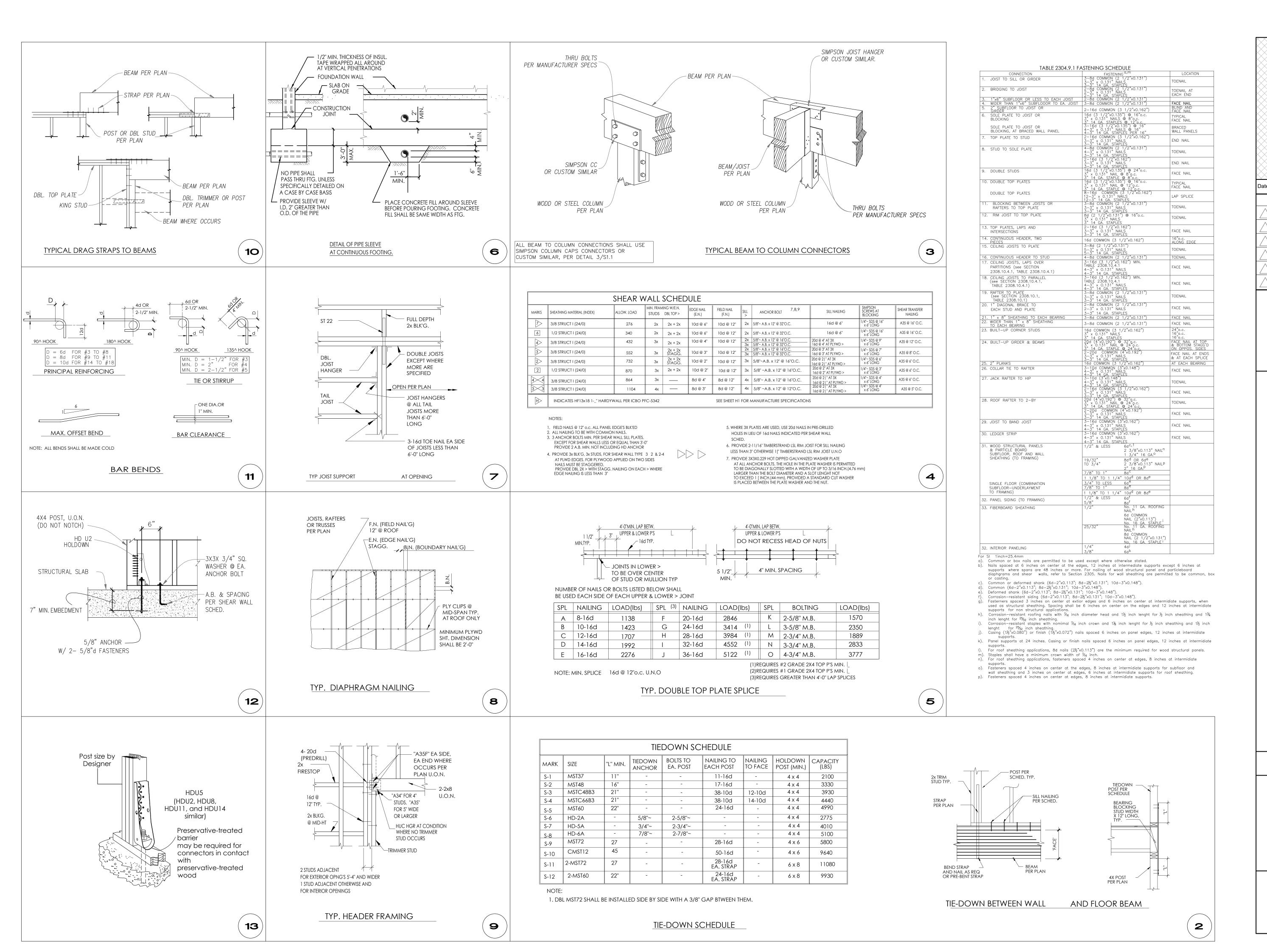


ADDITION & NEW ADU
1523 E 14th ST, NATIONAL CITY, CALIFORNIA 9195

02-17-2023

STRUCTURAL NOTES

S1



February 17, 2023

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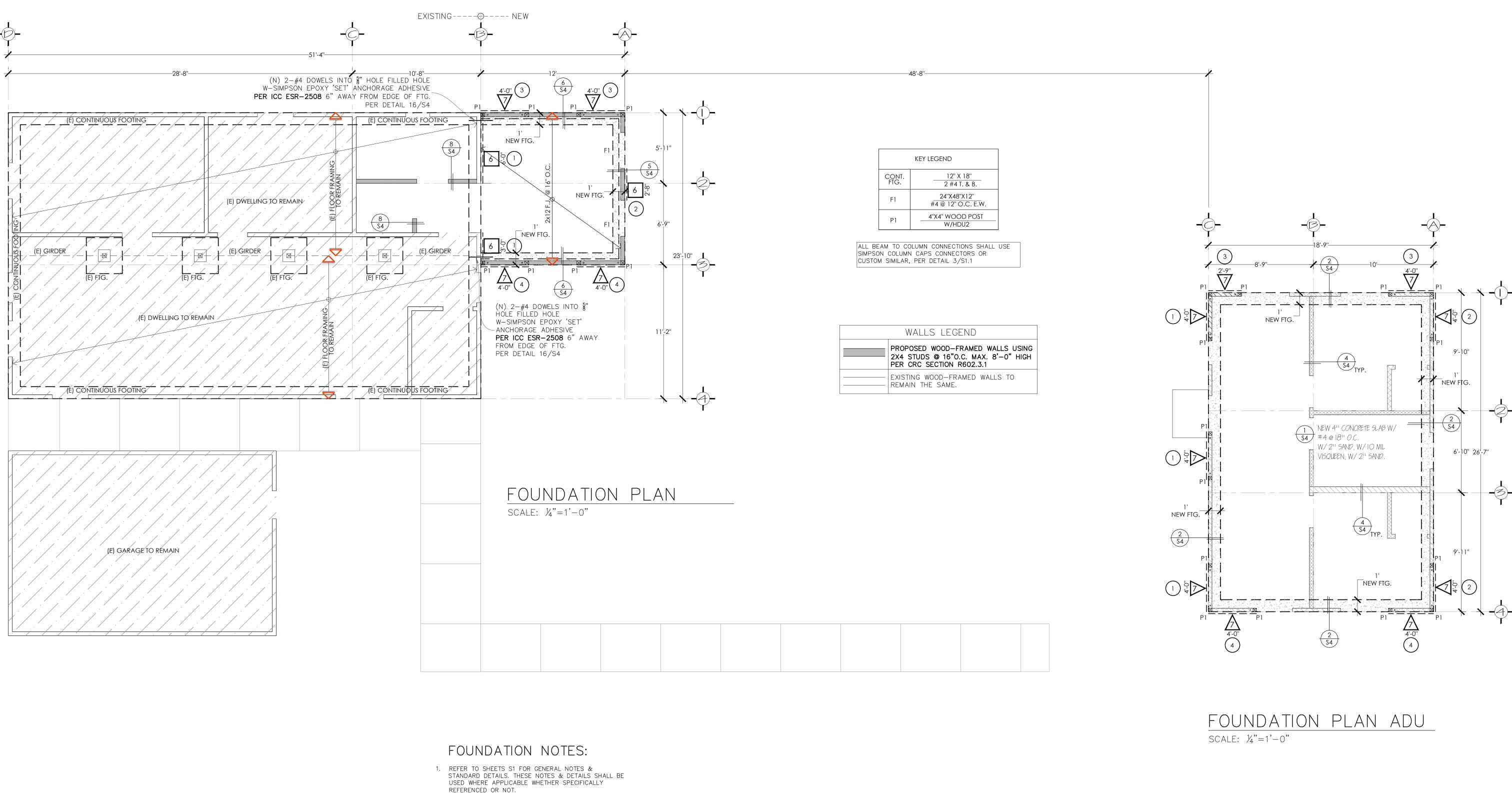


ADDITION & NEW ADU 1523 E 14th ST, NATIONAL CITY, CALIFORNIA 91950

02-17-2023

TYPICAL DETAILS

S1.1



February 17, 2023 REVISIONS



NEW **∞** ⁷ ∪ ADDITION 1523 E 14th ST, NATIONA

02-17-2023

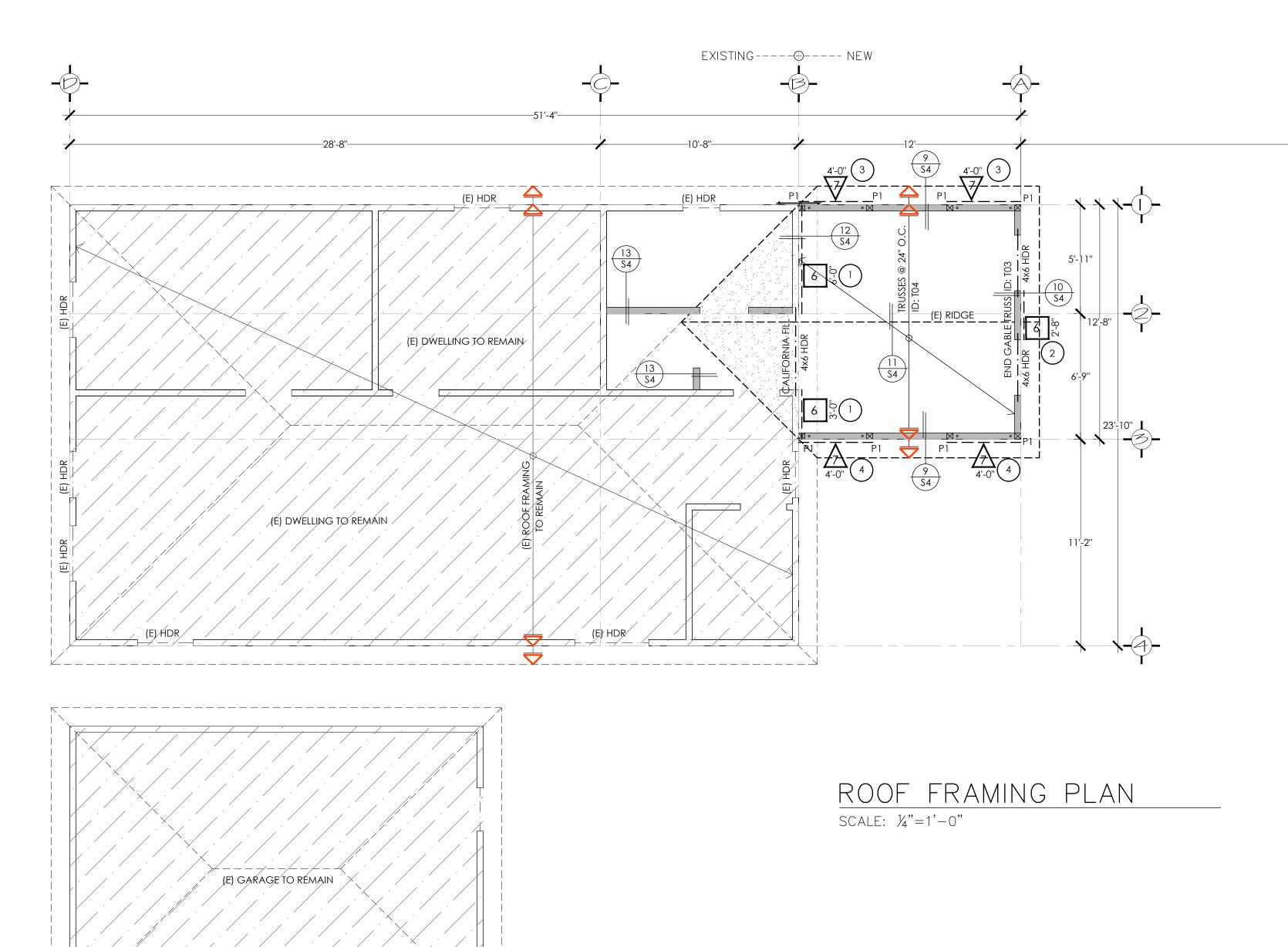
FOUNDATION PLAN

- 2. REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING: A. ALL DIMENSIONS NOT SHOWN. B. ALL OPENINGS NOT SHOWN.
- C. ALL NON-BEARING WALL NOT SHOWN. 3. EXTERIOR WALLS ARE 2x4 AT 16" O.C AND 2X6's @ 16" O.C. AT STAIRS
- 4. a) THE STRUCTURE WILL BE LOCATED ON NATIVE/UNDISTURBED

LICENSED ENGINEER SOIL SIGNATURE b) if the building inspector suspects fill, expansive soil or any GEOLOGIC INSTABILITY BASED UPON OBSERVATION OF THE FOUNDATION EXCAVATION, A SOILS OR GEOLOGICAL REPORT, AND RESUBMIT OF PLANS TO PLAN CHECK TO VERIFY THAT THE REPORT RECOMMENDATIONS HAVE BEEN INCORPORATED, MAY BE REQUIRED.

- 5. PROVIDE A MIN. OF 2 BOLTS PER PIECE OF SILL OR WOOD PLATE. ONE BOLT SHALL BE LOCATED NOT MORE THAN 12" OR LESS THAN 7 BOLT DIAMETER FROM EA. END OF THE PIECE OF SILL OR WOOD PLATES. BOLTS SHALL BE INSTALLED W/ PROPERLY TIGHTENED NUTS & WASHERS
- PROVIDE STEEL WASHERS OF MIN. 3" X 3" X 1/4" THICKNESS AT EACH WOOD PLATE OR SILL BOLT.
- SHEAR-WALL PER SCHEDULE ON S1.1 SHEET
- * ANY DIFFERENCES BETWEEN PLANS AND REAL DIMENSIONS OR MATERIALS SHALL BE REPORTED IMMEDIATELY TO THE STRUCTURAL ENGINEER.

FASTENERS IN PRESERVATIVE—TREATED WOOD AND FIRE—RETARDANT WOOD SHALL BE HOT DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR



TYP. ROOF DIAPH. 1/2" PLYWD. INDEX (32/16) 10d @ 4" E.N. & B.N. 10d @ 12" F.N.

"DIAPHRAGM SHEATHING NAILS OR OTHER APPROVED SHEATHING CONNECTORS SHALL
BE DRIVEN SO THAT THEIR HEAD OR CROWN
IS FLUSH W/ THE SURFACE OF THE SHEATHING"

	KEY LEGEND
P1	4"X4" WOOD POST
HDR-01	4X6 HDR
HDR-02	4X8 HDR
HDR-03	4 x 12 BM

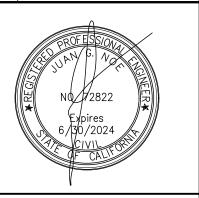
ALL BEAM TO COLUMN CONNECTIONS SHALL USE SIMPSON COLUMN CAPS CONNECTORS OR CUSTOM SIMILAR, PER DETAIL 3/S1.1

WALLS LEGEND
PROPOSED WOOD-FRAMED WALLS USING 2X4 STUDS @ 16"O.C. MAX. 8'-0" HIGH PER CRC SECTION R602.3.1
EXISTING WOOD-FRAMED WALLS TO REMAIN THE SAME.

4x6 HDR 4x6 HDR 4x6 HDR

> ROOF FRAMING PLAN ADU SCALE: 1/4"=1'-0"

February 17, 2023 REVISIONS



NEW **∞** ⁷ ∪ ADDITION 1523 E 14th ST, NATIONA

02-17-2023

ROOF FRAMING PLAN

FRAMING NOTES:

1. REFER TO SHEETS S1.1 FOR GENERAL NOTES & STANDARD DETAILS. THESE NOTES & DETAILS SHALL BE USED WHERE APPLICABLE WHETHER SPECIFICALLY REFERENCED OR NOT.

2. REFER TO ARCHITECTURAL DRAWINGS FOR THE FOLLOWING: A. ALL DIMENSIONS NOT SHOWN. B. ALL OPENINGS NOT SHOWN. C. ALL NON-BEARING WALL NOT SHOWN.

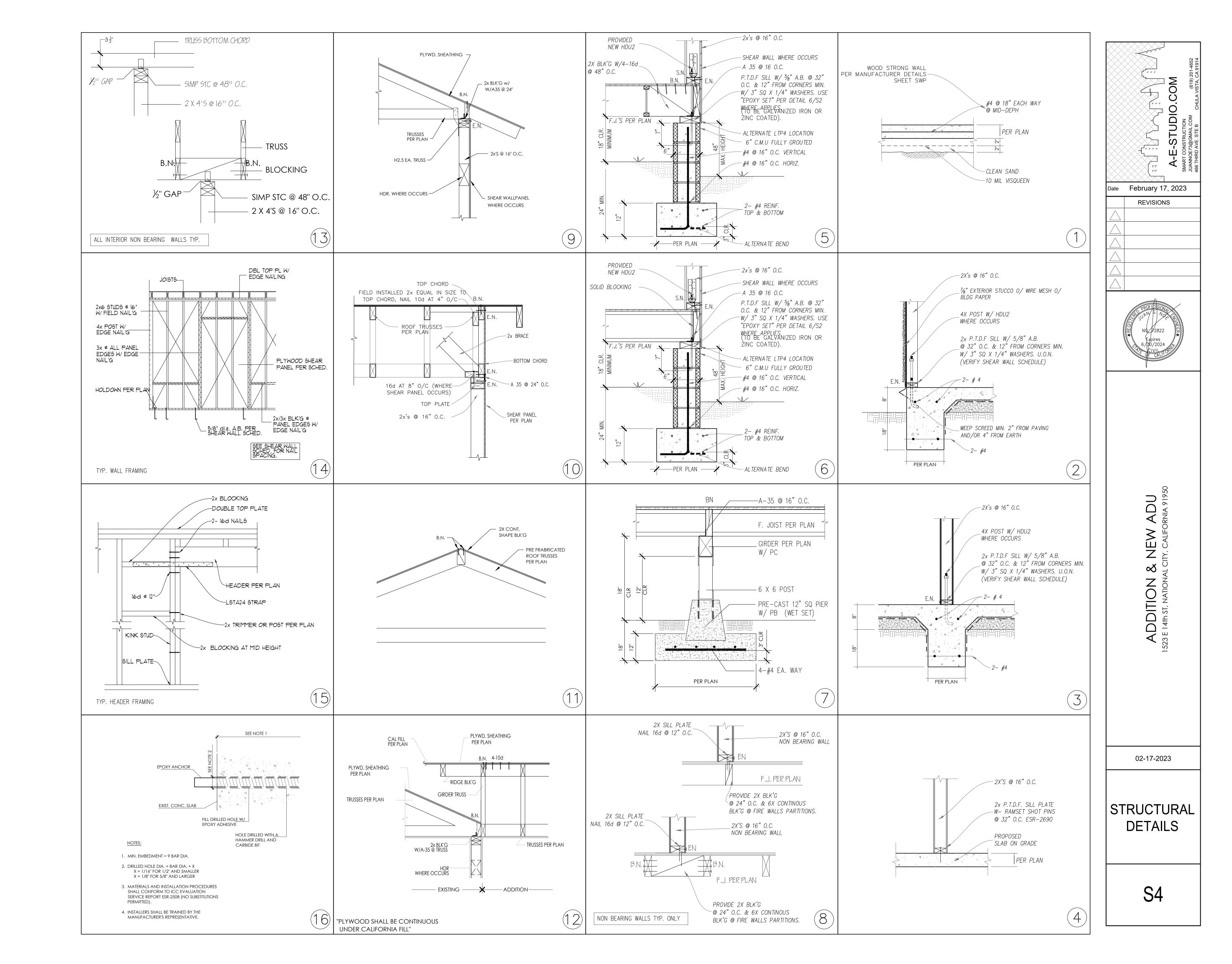
3. STUDS= 2X4's @ 16" O.C. WOOD STUDS WHERE APPLICABLE

INDICATES SHEAR WALL MARK FROM THIS LEVEL TO LEVEL ABOVE PER SHEAR WALL SCHEDULE ON S1 PROVIDE NON-SHEAR PLYWOOD ADJACENT TO SHEAR PANELS IN ORDER TO PROVIDE A FLUSH FINISH. MNDICATES SHEAR WALL PANEL APPROX. MIN. LENGTH IF NOT SHOWN, THEN PROVIDE PLYWOOD ON ENTIRE FACE. VINDICATES SHEAR WALL PANEL NUMBER PER STRUCTURAL CALCULATIONS

5. (B) INDICATES BEAM DIRECTLY BELOW JOISTS. INDICATES BEAM FLUSH W/ JOISTS. INDICATES HEADER. (L) INDICATES LINTEL.

6. FOR POSTS, POST TO BEAM CONNECTION SEE $\begin{pmatrix} 10 \\ S1.1 \end{pmatrix}$ UNO

7. DO NOT CUT, NOTCH, DRILL, BORE, SHAVE, TAPER OR FOR ANY REASON MODIFY PRE-ENGINEERED/MANUFACTURED STRUCTURAL ELEMENTS SUCH AS GLUED-LAMINATED MEMBERS, PARALAMS, MICROLAMS, I-JOIST, LIGHT GAUGE METAL MEMBERS AND OTHER SIMILAR TIMBER OR STEEL PRODUCTS OR A LETTER OF CERTIFICATION FROM THE MANUFACTURE'S ENGINEER WITH DETAIL SIGNED AND STAMPED IS ISSUED AND AUTHORIZED BY THE PROJECT ENGINEER OF RECORD AND APPROVED BY THE CITY OF SAN DIEGO BUILDING OFFICIAL.



MiTek USA, Inc.
MiTek USA, Inc.
400 Sunrise Avenue, Suite 270
Roseville, CA 95661
Telephone 916-755-3571

Re: 230080 14th st

The truss drawing(s) referenced below have been prepared by MiTek USA, Inc. under my direct supervision based on the parameters provided by Pacific Truss (El Cajon).

Pages or sheets covered by this seal: R74806870 thru R74806873

My license renewal date for the state of California is September 30, 2024.



February 17,2023

Zhao, Xiaoming

Interior (1) 0-11-7 to 3-4-0, Exterior(2R) 3-4-0 to 9-4-0

Interior (1) 9-4-0 to 11-8-9, Exterior(2E) 11-8-9 to 14-8-9 zone; cantilever left and right exposed; end vertical left

and right exposed;C-C for members and forces & MWFRS for reactions shown; Lumber DOL=1.60 plate

WARNING - Verify design parameters and READ NOTES ON THIS AND INCLUDED MITEK REFERENCE PAGE MII-7473 rev. 5/19/2020 BEFORE USE.

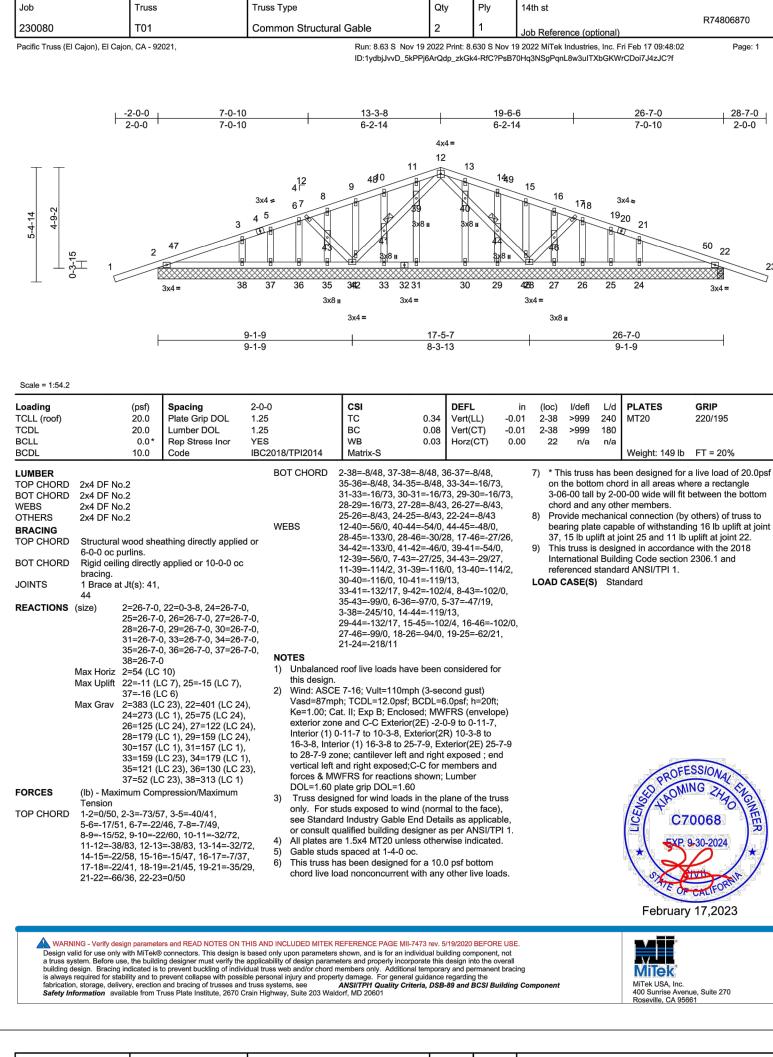
Design valid for use only with MiTek® connectors. This design is based only upon parameters shown, and is for an individual building component, not a truss system. Before use, the building designer must verify the applicability of design parameters and properly incorporate this design into the overall building design. Bracing indicated is to prevent buckling of individual truss web and/or chord members only. Additional temporary and permanent bracing is always required for stability and to prevent collapse with possible personal injury and property damage. For general guidance regarding the fabrication, storage, delivery, erection and bracing of trusses and truss systems, see

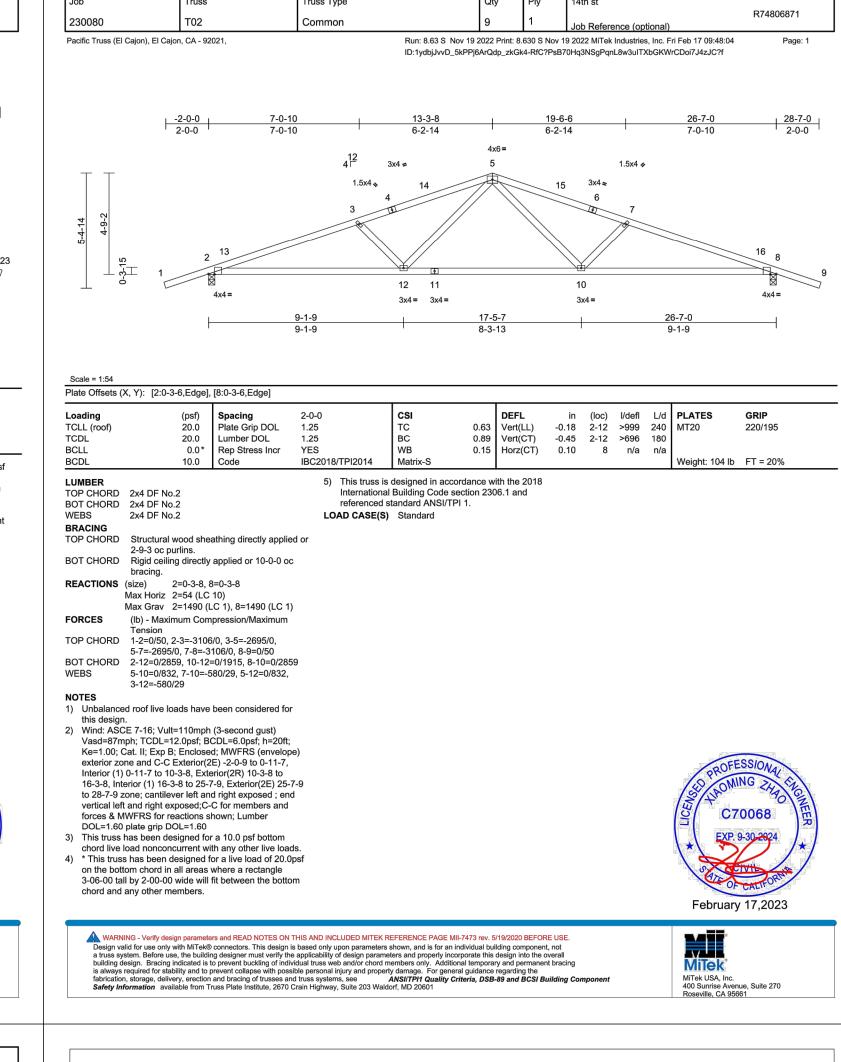
ANS/ITPI1 Quality Criteria, DSB-89 and BCSI Building Component Safety Information

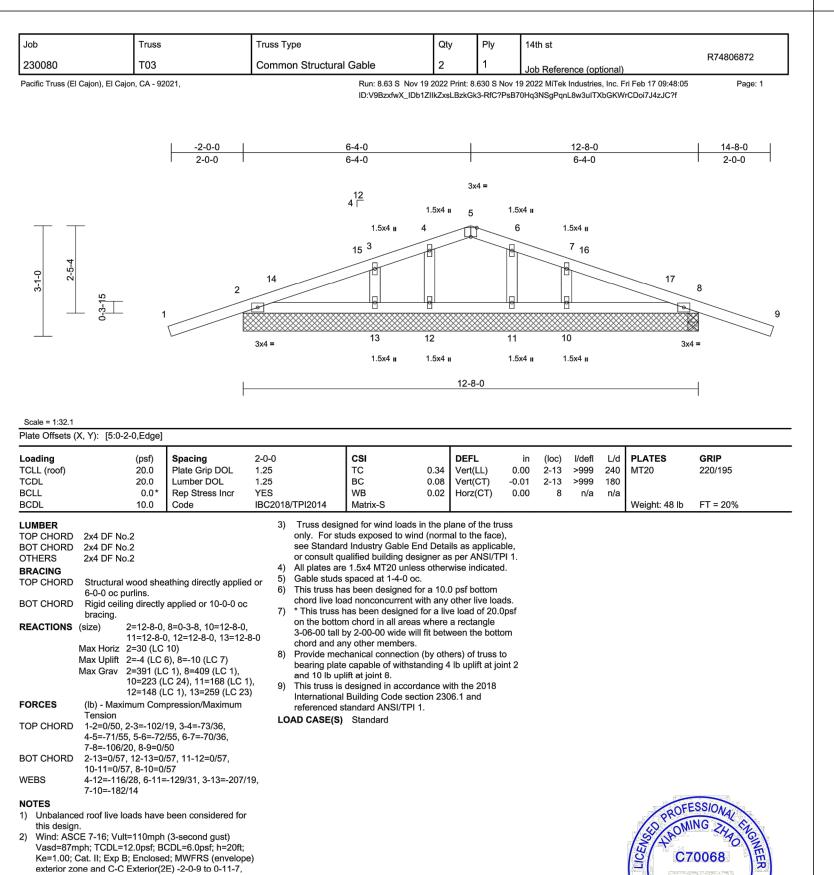
available from Truss Plate Institute, 2670 Crain Highway, Suite 203 Waldorf, MD 20601

IMPORTANT NOTE: The seal on these truss component designs is a certification that the engineer named is licensed in the jurisdiction(s) identified and that the designs comply with ANSI/TPI 1. These designs are based upon parameters shown (e.g., loads, supports, dimensions, shapes and design codes), which were given to MiTek or TRENCO. Any project specific information included is for MiTek's or TRENCO's customers file reference purpose only, and was not taken into account in the preparation of these designs. MiTek or TRENCO has not independently verified the applicability of the design parameters or the designs for any particular building. Before use, the building designer should verify applicability of design parameters and properly

incorporate these designs into the overall building design per ANSI/TPI 1, Chapter 2.

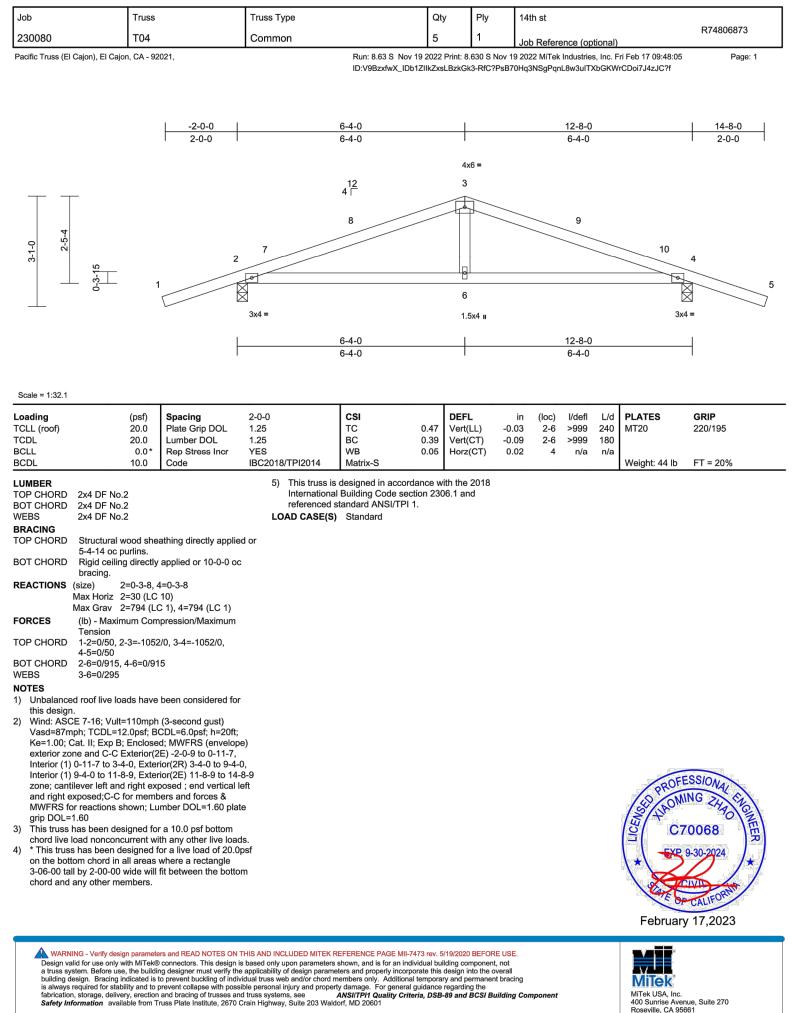


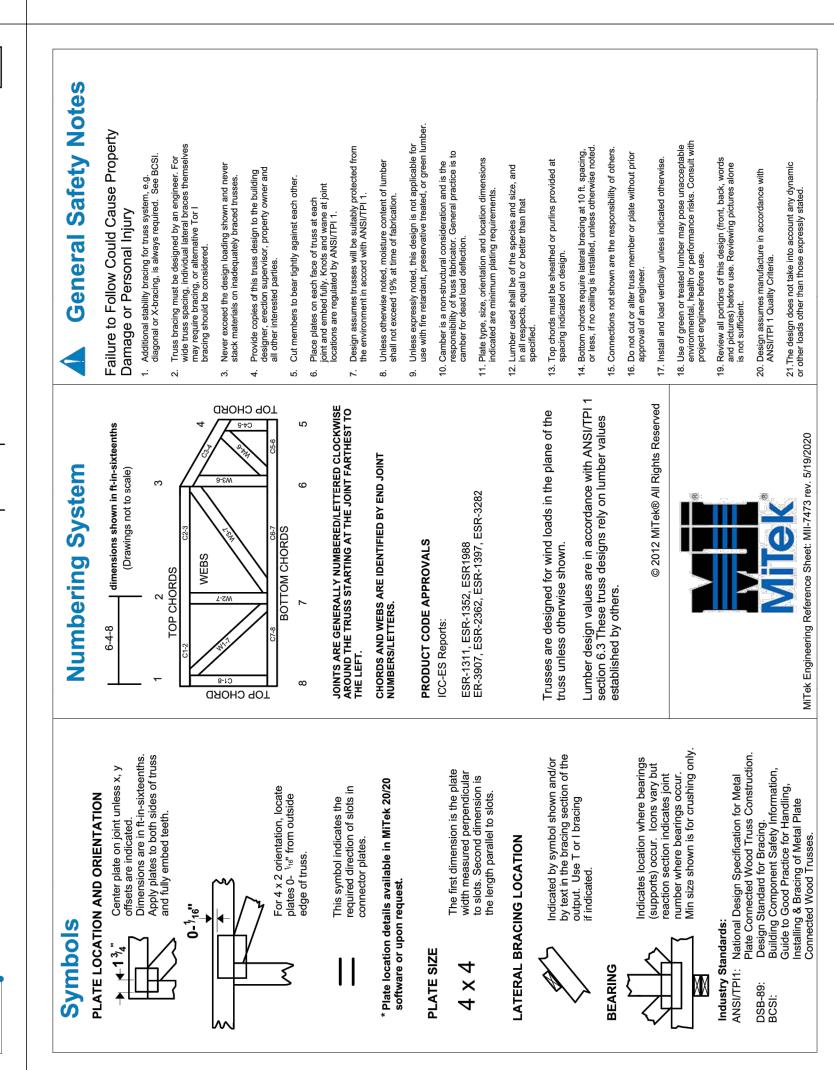


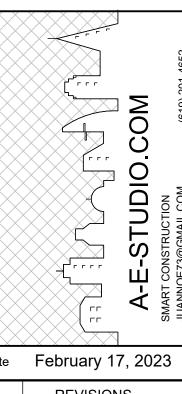


February 17,2023

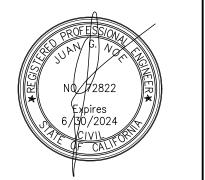
MiTek USA, Inc. 400 Sunrise Avenue, Suite 270 Roseville, CA 95661







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Date	February 17, 2023
	REVISIONS



ADDITION & NEW ADU 1523 E 14th ST, NATIONAL CITY, CALIFORNIA 91950

02-17-2023

TRUSSES CALCS

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CF1R-PRF-01E CERTIFICATE OF COMPLIANCE CF1R-PRF-01E CF1R-PRF-01E CERTIFICATE OF COMPLIANCE CERTIFICATE OF COMPLIANCE (Page 1 of 8) (Page 7 of 8) Calculation Date/Time: 2022-04-18T12:08:31-07:00 Calculation Date/Time: 2022-04-18T12:08:31-07:00 (Page 4 of 8) Calculation Date/Time: 2022-04-18T12:08:31-07:00 Project Name: Proposed Detached ADU Project Name: Proposed Detached ADU Project Name: Proposed Detached ADU Input File Name: 1523 E 14TH Street.ribd19x Calculation Description: Title 24 Analysis Input File Name: 1523 E 14TH Street.ribd19x Input File Name: 1523 E 14TH Street.ribd19x Calculation Description: Title 24 Analysis Calculation Description: Title 24 Analysis GENERAL INFORMATION OPAQUE SURFACES SPACE CONDITIONING SYSTEMS Project Name Proposed Detached ADU 01 05 06 07 08 01 Window and Doo Run Title | Title 24 Analysis Construction Azimuth Orientation Tilt (deg) Gross Area (ft²) Area (ft2) Heating Unit | Cooling Unit Project Location | 1523 E 14TH Street System Type Thermostat Equipment Equipment Name Name New Front Wall R-15 Wall 212.7 Detached ADU Zone 162 Front Type Count City | National City Standards Version 2019 Detached ADU Zone R-15 Wall Right New Right Wall 150 28 90 06 Zip code 91950 Software Version EnergyPro 8.3 Heat Pump Heat Pump Setback Heat pump heating cooling R-15 Wall System 1 System 1 252 08 Climate Zone Front Orientation (deg/ Cardinal) | 162 New Back Wall Detached ADU Zone R-15 Wall 342 Back 162 90 Building Type | Single family Number of Dwelling Units 07 New Roof R-30 Roof Attic 02 06 08 09 11 Detached ADU Zone n/a n/a 498 n/a n/a 01 03 05 10 12 Project Scope NewConstruction HVAC - HEAT PUMPS Addition Cond. Floor Area (ft2) Number of Stories Fenestration Average U-factor 0.3 Zonally Existing Cond. Floor Area (ft²) n/ N<mark>umber</mark> of Unit System Type Controlled HSPF/COP | Cap 47 | Cap 17 SEER EER/CEER Glazing Percentage (%) 14.46% Total Cond. Floor Area (ft²) 49 Name Construction Type Roof Rise (x in 12) Roof Reflectance Roof Emittance Radiant Barrier Cool Roof Heat Pump System ADU Conditioned Floor Area n/a Attic Detached ADU Attic RoofDetached Heat Pump System 1 11.5 Ventilated MiniSplit HP 1-hers-htpump Zone ADU Zone 22 FENESTRATION / GLAZING HVAC HEAT PUMPS - HERS VERIFICATION 05 06 07 08 09 10 11 12 13 14 09 02 03 **Building Complies with Computer Performance** Width Height Mult. Area (ft²) erified Refrigerant Verified Heating Verified Heating Verified HSPF 02 This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider. U-factor Verified Airflow Airflow Target Verified EER Verified SEER Name Cap 47 Cap 17 Surface U-factor Charge Orientation Source Shading 03 This building incorporates one or more Special Features shown below Heat Pump System Not Required Not Required Yes 1-hers-htpump Window New Front Wall Front 0.3 NFRC 0.23 NFRC Bug Screen New Right Wall Right 72 1 12 0.3 NFRC 0.23 NFRC Bug Screen | Window | IAQ (INDOOR AIR QUALITY) FANS 0.3 NFRC 0.23 NFRC Bug Screen Window New Right Wall Right 07 01 Window 252 1 16 0.3 NFRC 0.23 NFRC Bug Screen 1 16 0.3 NFRC 0.23 NFRC Bug Screen Window New Left Wall 252 IAQ Recovery IAQ Recovery IAQ Watts/CFM **HERS Verification** Dwelling Unit IAQ CFM IAQ Fan Type Effectiveness - SRE Effectiveness - ASRE Window New Back Wall 1 6 0.3 NFRC 0.23 NFRC Bug Screen 0.35 SFam IAQVentRpt 37 Exhaust n/a n/a Yes Registration Number: 222-P010074206A-000-000-0000000-0000 HERS Provider: Registration Date/Time: HERS Provider: Registration Date/Time: Registration Number: Registration Date/Time: HERS Provider Registration Number: 222-P010074206A-000-000-000000-0000 2022-04-18 12:12:54 CalCERTS inc. 222-P010074206A-000-000-0000000-0000 2022-04-18 12:12:54 CalCERTS inc. CalCERTS inc. CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2022-04-18 12:09:41 CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2022-04-18 12:09:41 CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2022-04-18 12:09:41 Schema Version: rev 20200901 Schema Version: rev 20200901 Schema Version: rev 20200901 CF1R-PRF-01E CERTIFICATE OF COMPLIANCE CF1R-PRF-01E CERTIFICATE OF COMPLIANCE CF1R-PRF-01E CERTIFICATE OF COMPLIANCE Calculation Date/Time: 2022-04-18T12:08:31-07:00 Calculation Date/Time: 2022-04-18T12:08:31-07:00 Calculation Date/Time: 2022-04-18T12:08:31-07:00 Project Name: Proposed Detached ADU (Page 2 of 8) Project Name: Proposed Detached ADU (Page 5 of 8) Project Name: Proposed Detached ADU (Page 8 of 8) Input File Name: 1523 E 14TH Street.ribd19x Calculation Description: Title 24 Analysis Input File Name: 1523 E 14TH Street.ribd19x Input File Name: 1523 E 14TH Street.ribd19x Calculation Description: Title 24 Analysis Calculation Description: Title 24 Analysis DOCUMENTATION AUTHOR'S DECLARATION STATEMENT ENERGY DESIGN RATING OPAQUE DOORS 1. I certify that this Certificate of Compliance documentation is accurate and complete. 02 04 **Energy Design Ratings Compliance Margins** Documentation Author Name: ocumentation Author Signature: Side of Building Area (ft²) U-factor Ricardo Perez Efficiency¹ (EDR) Total² (EDR) Efficiency¹ (EDR) Total² (EDR) 0.5 ignature Date: Standard Design 65.4 28.4 Estudio75 2022-04-18 12:12:54 ABE SLAB FLOORS Proposed Design 63.4 26.4 02 05 4275 Executive Square #200 R19-19-30062 01 03 04 06 80 RESULT: 3: COMPLIES Edge Insul. R-value Edge Insul. R-value Name Area (ft²) Perimeter (ft) Carpeted Fraction 619-274-2838 La Jolla, CA 92037 1: Efficiency EDR includes improvements to the building envelope and more efficient equipment and Depth and Depth 2: Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries RESPONSIBLE PERSON'S DECLARATION STATEMENT New Slab On Grade Detached ADU Zone 0.1 80% 3: Building complies when efficiency and total co<mark>mp</mark>liance margins are greater than or equal to zero Standard Design PV Capacity: 1.79 kWdc I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. PV System resized to 1.79 kWdc (a factor of 1.788) to achieve 'Standard Design PV' PV scaling OPAQUE SURFACE CONSTRUCTIONS I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. ENERGY USE SUMMARY Interior / Exterior Total Cavity R-value Ricardo Perez Standard Design Energy Use (kTDV/ft²-yr) Compliance Margin Percent Improvement R-value Date Signed: 2022-04-18 12:12:54 Estudio75 **1** Fieks CABEC 0.37 1.01 Space Heating Inside Finish: Gypsum Board Wood Framed Wall 2x4 @ 16 in. O. C. None / None Cavity / Frame: R-15 / 2x4 25.16 28.09 -11.6 Space Cooling -2.93 Exterior Finish: 3 Coat Stucco IAQ Ventilation 4275 Executive Square #200 R19-19-30062 45.52 35.51 10.01 Roofing: Light Roof (Asphalt Shingle) Water Heating Attic RoofDetached ADU Roof Deck: Wood Wood Framed Self Utilization/Flexibility Credit R-0 Attic Roofs 2x4 @ 24 in. O. C. None / None La Jolla, CA 92037 619-274-2838 Siding/sheathing/decking Ceiling 77.37 70.93 6.44 8.3 Compliance Energy Total Cavity / Frame: no insul. / 2x4 Over Ceiling Joists: R-20.9 insul. REQUIRED PV SYSTEMS - SIMPLIFIED Wood Framed Ceilings (below R-30 Roof Attic 2x4 @ 24 in. O. C. R-30 None / None Cavity / Frame: R-9.1 / 2x4 Ceiling Inside Finish: Gypsum Board Annual DC System Size Azimuth Tilt: (x in | Inverter Eff. Module Type Array Type Solar Access (deg) Input (deg) 12) (kWdc) (%) Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies <=7:12 150-270 n/a 1.79 Standard Fixed none n/a Registration Provider responsibility for the accuracy of the information. Easy to Verify at CalCERTS.com Registration Date/Time: Registration Number: HERS Provider: Registration Date/Time: HERS Provider: Registration Date/Time: HERS Provider: Registration Number Registration Number: 222-P010074206A-000-000-0000000-0000 2022-04-18 12:12:54 CalCERTS inc. 222-P010074206A-000-000-0000000-0000 2022-04-18 12:12:54 CalCERTS inc. 222-P010074206A-000-000-0000000-0000 2022-04-18 12:12:54 CalCERTS inc. CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2022-04-18 12:09:41 CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2022-04-18 12:09:41 CA Building Energy Efficiency Standards - 2019 Residential Compliance Report Version: 2019.2.000 Report Generated: 2022-04-18 12:09:41 Schema Version: rev 20200901 Schema Version: rev 20200901 Schema Version: rev 20200901 CF1R-PRF-01E CERTIFICATE OF COMPLIANCE CERTIFICATE OF COMPLIANCE CF1R-PRF-01E Calculation Date/Time: 2022-04-18T12:08:31-07:00 (Page 3 of 8) Project Name: Proposed Detached ADU Project Name: Proposed Detached ADU Calculation Date/Time: 2022-04-18T12:08:31-07:00 (Page 6 of 8) Calculation Description: Title 24 Analysis Input File Name: 1523 E 14TH Street.ribd19x Calculation Description: Title 24 Analysis Input File Name: 1523 E 14TH Street.ribd19x REQUIRED SPECIAL FEATURES **BUILDING ENVELOPE - HERS VERIFICATION** The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis. 01 04 Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed Quality Insulation Installation (QII) High R-value Spray Foam Insulation Building Envelope Air Leakage CFM50 Not Required Not Required n/a HERS FEATURE SUMMARY The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional WATER HEATING SYSTEMS detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry 01 03 05 06 07 Building-level Verifications: Indoor air quality ventilation Solar Heating System | Compact Distribution Water Heater Name (#) HERS Verification Name System Type Distribution Type Kitchen range hood Cooling System Verifications: Domestic Hot Water Standard Distributio DHW Sys 1 DHW Heater 1 (1) -- None --(DHW) Heating System Verifications: Verified heat pump rated heating capacity WATER HEATERS HVAC Distribution System Verifications: 01 Domestic Hot Water System Verifications: # of Vol. Factor or Units (call) Fee: -- None --Standby Loss 1st Hr. Rating Heating Name Element or Recovery or Flow Rate **Brand or Model** BUILDING - FEATURES INFORMATION Type (gal) Efficiency (Int/Ext) Rheem\XE40T10HS Number of Ventilation Number of Water 40 NEEA Rated n/a DHW Heater 1 Heat Pump <= 12 kW n/a n/a Outside Project Name onditioned Floor Area (ft²) Number of Bedrooms Number of Zones 45U0 (40 gal) Cooling Systems **Heating Systems** Units Proposed Detached ADU WATER HEATING - HERS VERIFICATION ZONE INFORMATION 04 06 01 03 05 06 Compact Distribution Central DHW Shower Drain Water Parallel Piping **Compact Distribution** Recirculation Control Pipe Insulation Type Distribution Heat Recovery Zone Name Zone Type **HVAC System Name** Zone Floor Area (ft²) Avg. Ceiling Height Water Heating System 1 Water Heating System 2 DHW Sys 1 - 1/1 Not Required Not Required Not Required Not Required Detached ADU Zone Conditioned New Minisplit1 498 DHW Sys 1 N/A

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ENERGY COMMISSION	2019 Low-Rise Residential Mandatory Measures Summary
§ 150.0(h)3A:	Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer
§ 150.0(h)3B:	Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	Storage Tank Insulation. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)2A:	Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water pipes from the storage tank; all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.*
§ 150.0(j́)3:	Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, a wind as required by Section 120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker space in the electrical panel adjacent to the circuit break for the branch circuit and labeled with the words "Future 240V Use"; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than two inches higher than the bas of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per ho
§ 150.0(n)2:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans	Measures:
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	CMC Compliance. All air-distribution system ducts and plenums must meet the requirements of the CMC §§ 601.0, 602.0, 603.0, 604.0, 605 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts a plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must b mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of L 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.*
§ 150.0(m)2:	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers
§ 150.0(m)8:	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	Protection of Insulation. Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation export to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	Porous Inner Core Flex Duct. Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
§ 150.0(m)12:	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Pressudrops and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service.*
§ 150.0(m)13:	Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CF per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handlunit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*

§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)2.
§ 150.0(k)2H:	Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)2.
§ 150.0(k)2I:	Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual-on operation using the manual control required under Section 150.0(k)2C.
§ 150.0(k)2J:	Interior Switches and Controls. Luminaires that are or contain light sources that meet Reference Joint Appendix JA8 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(k)2K:	Interior Switches and Controls. Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(k)3A:	Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to oth buildings on the same lot, must meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either § 150.0(k)3Aii (photocell and either a motion sensor or automatic time switch control) or § 150.0(k)3Aii (astronomical time clock), or an EMCS.
§ 150.0(k)3B:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)3A or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)3C:	Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lo or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)3B or § 150.0(k)3D must comply we the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.
§ 150.0(k)4:	Internally illuminated address signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts power as determined according to § 130.0(c).
§ 150.0(k)5:	Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(k)6A:	Interior Common Areas of Low-rise Multifamily Residential Buildings. In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be comply with Table 150.0-A and be controlled by an occupant sensor.
§ 150.0(k)6B:	common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6 and 141.0; and ii. Lighting installed in corridors and stainwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all designed paths of ingress and egress.
Solar Ready Bui	ldings:
§ 110.10(a)1:	Single Family Residences. Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)2:	Low-rise Multifamily Buildings. Low-rise multi-family buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)1:	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.*
§ 110.10(b)2:	Azimuth. All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)3A:	Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.*
§ 110.10(b)3B:	Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
	Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(b)4:	
§ 110.10(b)4: § 110.10(c):	Interconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
	pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single family

Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit

breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric".

MINIST COMMISSION

§ 150.0(h)1:

EnergyPro 8.3 by EnergySoft User Number: 6441

2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. *Exceptions may apply.

Building Envelop	e Measures:
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.*
§ 110.7:	Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.*
§ 150.0(d):	Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Deco	rative Gas Appliances, and Gas Log Measures:
§ 110.5(e)	Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)3:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
Space Condition	ng, Water Heating, and Plumbing System Measures:
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.*
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)4:	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)4.
§ 110.3(c)6:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.*
	Building Continued Uniting Loads Uniting and (consider loads are solved to accordance with the ACUPAT Loads at

Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook,

Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.

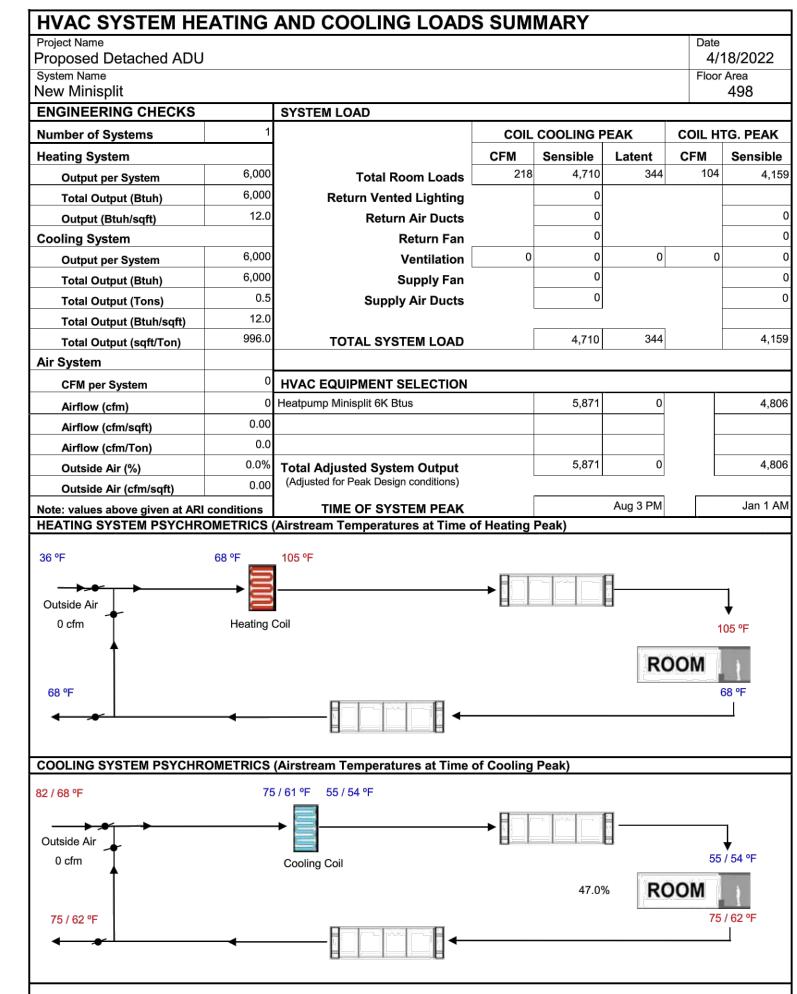
Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards

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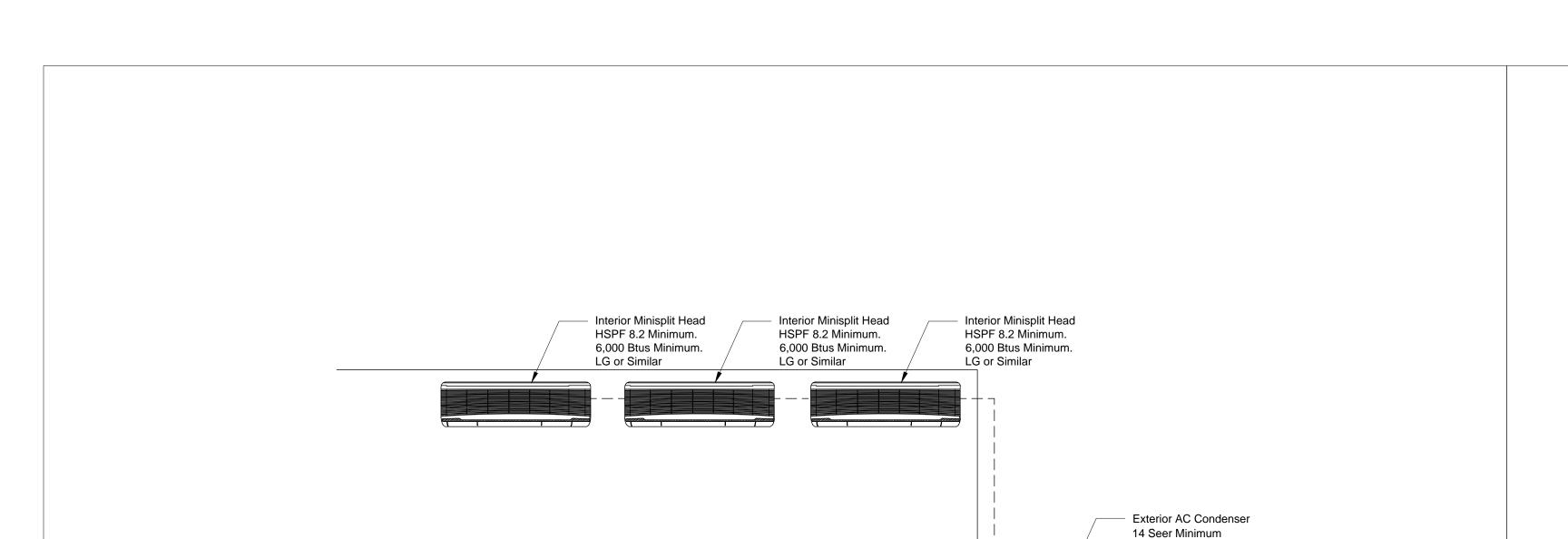
2019 Low-Rise Residential Mandatory Measures Summary

Paguiramento f	ar Ventiletian and Indeer Air Quality
requirements to	or Ventilation and Indoor Air Quality: Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation
§ 150.0(o)1:	and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1.
§ 150.0(o)1C:	Single Family Detached Dwelling Units. Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(o)1C.
§ 150.0(o)1E:	Multifamily Attached Dwelling Units. Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(o)1F:	Multifamily Building Central Ventilation Systems. Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(o)1G:	Kitchen Range Hoods. Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(o)2:	Field Verification and Diagnostic Testing. Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be verified in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa S	ystems and Equipment Measures:
§ 110.4(a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*
§ 110.4(b)1:	Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
Lighting Measu	
§ 110.9:	Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 150.0(k)1A:	Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A.
§ 150.0(k)1B:	Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C.
§ 150.0(k)1D:	Electronic Ballasts for Fluorescent Lamps. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)1E:	Night Lights, Step Lights, and Path Lights. Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)1F:	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).*
§ 150.0(k)1G:	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8.*
§ 150.0(k)1H:	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit not more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)2C:	Interior Switches and Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)2D:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)2E:	Interior Switches and Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to

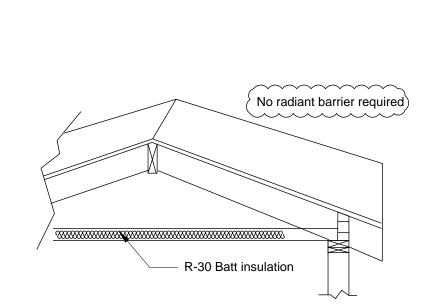
§ 150.0(k)2F: Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.

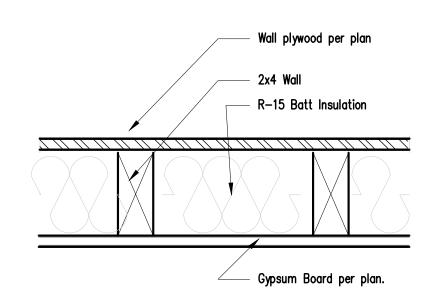


T03



MINISPLIT DETAIL





11.5 EER Minimum 18,000 Btus Minimum.

LG or Similar

REQUIRED PV SYS	TEMS - SIMPLIFIED										
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.79	NA	Standard	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

INSULATION AT ROOF ATTIC

AHRI Certified Reference Number: 8552226

Brand Name : RHEEM

Max GPM: 5.0

Heat Traps: No

Model Number: RTG-95DVLN-1

Uniform Energy Factor: 0.82

Certificate of Product Ratings

INSULATION AT EXTERIOR WALL

PANASONIC FV-0511VH1 Specification Submittal Data / Panasonic Ventilation Fan/Heater

Description:Ventilating fan/heater shall be low noise ceiling -Attractive design using Poly Pro material. mount type rated for continuous run. Fan/heater shall -Attaches directly to housing with torsion springs. be certified by the Home Ventilating Institute (HVI). -Circulation grille with built-in diffuser for higher Heating elements shall be included. Evaluated by output velocity and directional heat throw. and cUL safety standards. Fan/heater is not intended Heater for installation over a tub/shower enclosure.

-Built-in back draft damper.

(HVI tested data

and assists with the decrease in leakage in the

-Suitable for installation in ceilings insulated up to

building envelope during blower door testing. -Building Envelope during blower door testing.

-1600W Positive Temperature Coefficient (PTC) heater for greater safety and reliability. -Heater is self-limiting. As it approaches designed -Enclosed brushless ECM motor technology rated operating temperature, the electrical consumption -Fan ventilation rates shall be manually adjustable overheating. for 50-80-110 CFM. -Power rating shall be 120 volts and 60 Hz. -6 years ECM Motor, 5 years LED, 3 years all other -Motor equipped with thermal-cutoff fuse. -Removable with permanently lubricated plug-in

Noise (sones)

Current (amps)

Motor Type

ENERGY STAR rated

-Minimum 20 Amp dedicated circuit required. -26 gauge Zinc-Aluminum-Magnesium (ZAM) -Integrated dual 4" or 6" diameter duct adapter. -Built-in metal flange provides blocking for penetrations through drywall as an Air Barrier,

Ventilation fan/heater combination shall be ceiling mount, with built-in speed selector. Select from 50/80/110 CFM and no more than <0.3/<0.3/0.7 sone as certified by the Home Ventilating Institute (HVI) at 0.1 static pressure in inches water gauge (w.g.), with 51/82/112 CFM and no more than 0.8/1.0/1.5 sone as certified by HVI at 0.25 w.g., and no less than 53/82/110 CFM at 0.375 w.g. Power Consumption shall be no greater than 4.7/7.7/12 watts at 0.1 w.g., 8.6/13.3/19.0 watts at 0.25 w.g., and 12.3/18.2/26.0 watts at 0.375 w.g. dedicated inclusive of

0.24 0.37 0.49 0.16 0.26 0.35 0.10 0.18 0.25

N/A - No ESTAR category for fan/heater

CFM/watt at 0.1 w.g. 5.9/6.2/5.9 CFM/watt at 0.25, and 4.3/4.5/4.0 CFM/Watt at 0.375 w.g. Power rating shall be 120v/60Hz. Minimum 20 Amp dedicated circuit required. Duct diameter shall be inclusive of an integrated dual 4" or 6" duct adapter. Also suitable for installation in ceilings insulated up to R60. Fan/heater is not intended for installation over a									
	4"			4"			4"		
0.1	0.25	0.375	0.1	0.25	0.375	0.1	0.25	0.375	
110	112	110	80	82	82	50	51	53	
0.7	1.5	-	<0.3	1.0	-	<0.3	0.8	-	
12	19.0	26.0	7.7	13.3	18.2	4.7	8.6	12.3	
9.2	5.9	4	10.4	6.2	4.5	10.6	5.9	4.3	
861	1090	1249	736	1008	1173	638	930	1112	

tub/shower enclosure. Fan/heater can be used to comply with ASHRAE 62.2. Heating element power consumption shall be no less than 1600 watts. Fan/Heater shall also include a circulation grille that incorporates a diffuser for higher output velocity and directional heat throw.

IAQ fan shall run continuously and has max 1 sone

HERS blower door testing to show no more than 0.3

noise level. Continuous exhaust systems require

cfm/sq ft leakage base upon the envelope surface

area per section 150.0(o)1E BEES. Please note on

Continuous exhaust system:

plans accordingly

When the fan senses static pressure its speed is automatically increased to ensure that the desired CFM is not compromised, which allows the fan to

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Building-level Verifications:

Indoor air quality ventilation

REQUIRED PV SYSTEMS

- Kitchen range hood
- Cooling System Verifications: -- None --
- Heating System Verifications:
- Verified heat pump rated heating capacity HVAC Distribution System Verifications:
 - -- None --
- Domestic Hot Water System Verifications:
 - -- None --

The following data is for reference only and is not certified by AHRI Energy Source : Natural Gas Heater Type : Instantaneous Usage Bin : High Usage Nominal Capacity (gal): 0 DOE Rated Storage Volume (gal): 0 Input (MBtu/h): 199.9 Recovery Efficiency, (%): 84

Date: 02-07-2020

Rated as follows in accordance with Department of Energy (DOE) Water Heater test procedures as published in the latest edition of the

Code of Federal Regulations, 10 CFR Part 430 and subject to verification of rating accuracy by AHRI-sponsored, independent, third party

Model Status : Active

GAS TANKLESS WATER HEATER IAQ FAN (HERS VERIFICATION REQUIRED)

Registration Number

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Registration Date/Time:

Report Version: 2019,2,000

Schema Version: rev 20200901

HERS Provider:

Report Generated: 2022-10-07 10:33:46

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HERS Provider:

Report Generated: 2022-10-07 10:33:46

Registration Date/Time:

Report Version: 2019.2.000

Schema Version: rev 20200901

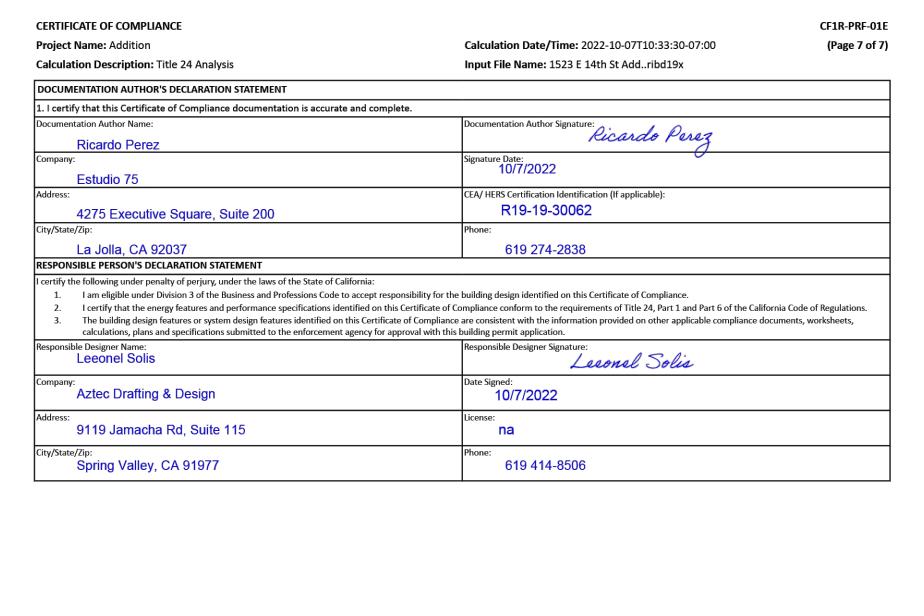
Window. A

Registration Number:

Window

CA Building Energy Efficiency Standards - 2019 Residential Compliance

Back Wall



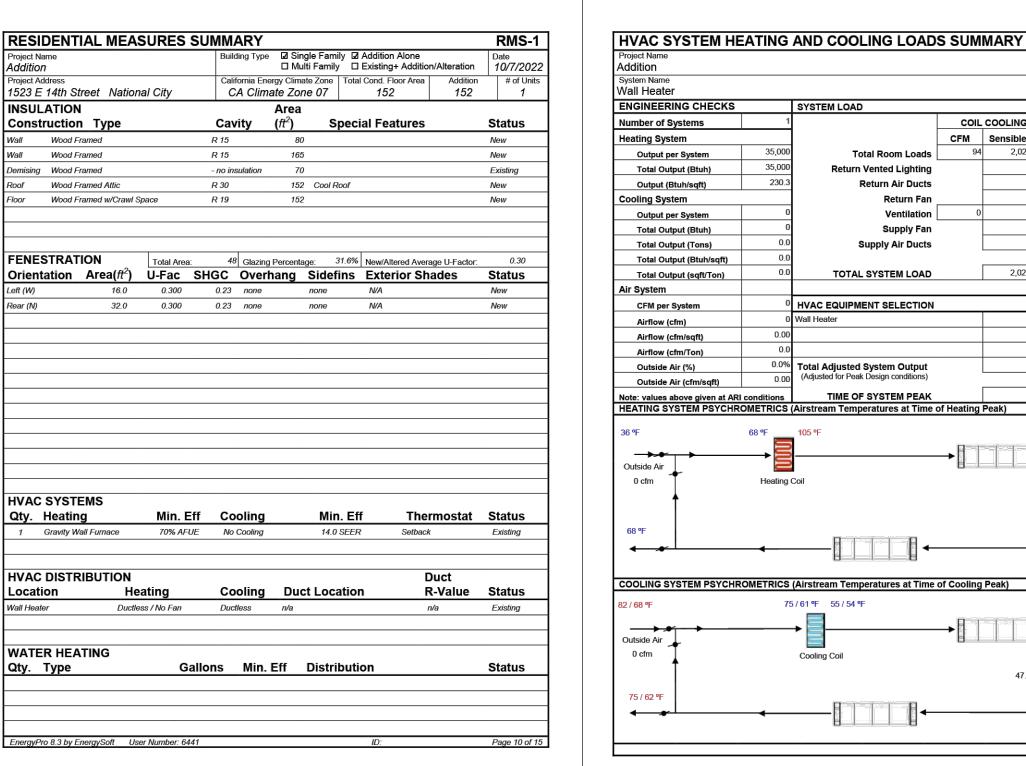
Registration Date/Time:

Report Version: 2019.2.000

Schema Version: rev 20200901

HERS Provider:

Report Generated: 2022-10-07 10:33:46



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10/7/2022

152

105 °F

55 / 54 °F

ROOM

47.0%

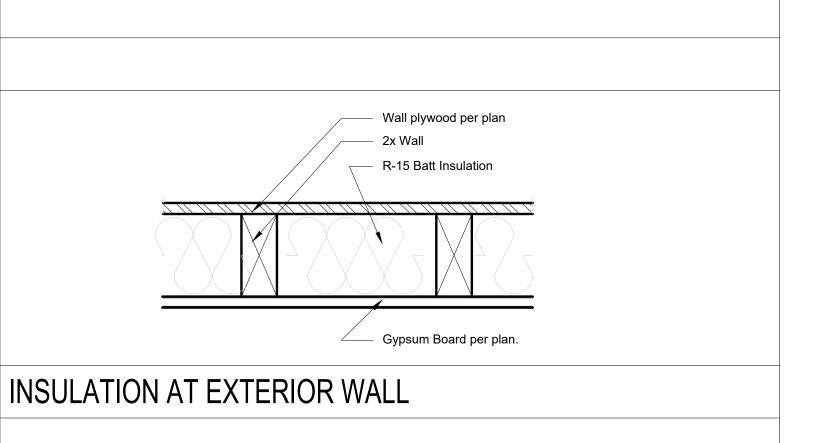
ROOM

Floor Area

COIL COOLING PEAK COIL HTG. PEAK

CFM Sensible Latent CFM Sensible

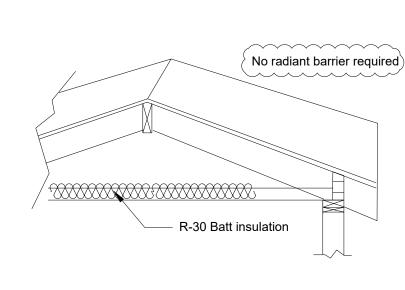
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Floor Plywood 2x Floor Joist

R-19 Batt Insulation

INTERIOR AT RAISED FLOOR



INSULATION AT ROOF ATTIC

PROPERLY COMPLETED AND SIGNED CERTIFICATES OF INSTALLATION (CF2R FORMS) SHALL BE PROVIDED TO THE INSPECTOR IN THE FIELD. FOR PROJECTS REQUIRING HERS VERIFICATION, THE CF2R FORMS SHALL BE REGISTERED WITH A CALIFORNIA-APPROVED HERS PROVIDER DATA REGISTRY.

PROPERLY COMPLETED CERTIFICATES OF VERIFICATION (CF3R FORMS) SHALL BE PROVIDED TO THE INSPECTOR IN THE FIELD FOR ITEMS REQUIRING HERS VERIFICATION. CF3R FORMS SHALL BE REGISTERED WITH A CALIFORNIA-APPROVED HERS PROVIDER DATA REGISTRY.

U-Factor=.30

SHGC=.23

French Door: Folding Door: U-Factor=.30 U-Factor=.30 SHGC=.23

ENERGY EFFICIENCY HERS VERIFICATION

Skylight: U-Factor=.30 SHGC=.23