

ALL PRO DESIGNS

2130 Huntington Drive Unit #310
 South Pasadena, CA 91030
 Cell: 951-475-0211
 email: dionvelasco@gmail.com

PROJECT NAME:

CITY OF LAKE ELSINORE
 PERMITTED ADU (735 SF)
 PLAN SET

STAMP APPROVAL

REGISTRATION & SIGNATURE

ARCHITECTURAL STYLE EXTERIOR OPTIONS:
 SPANISH OR CRAFTSMAN

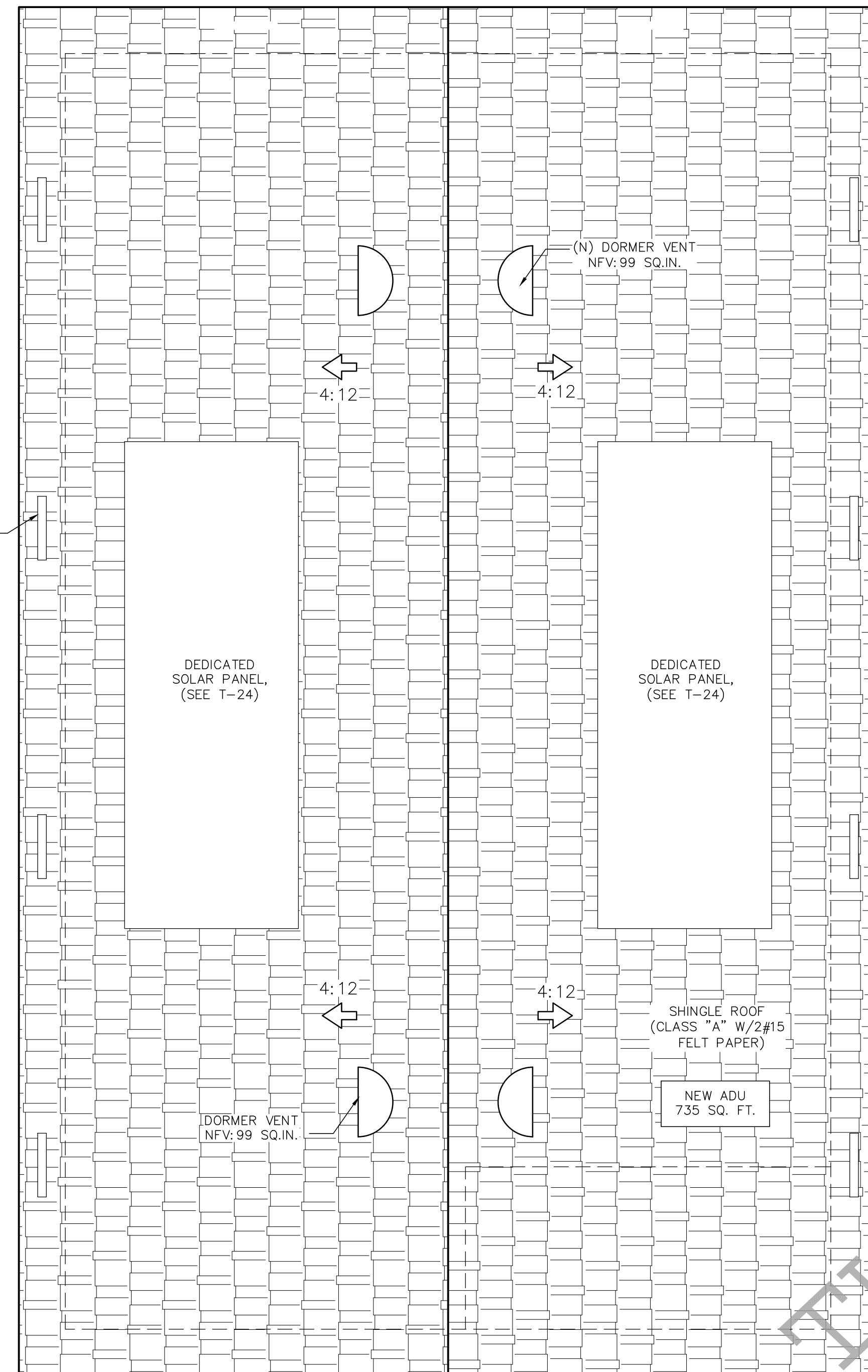
ISSUES / REVISIONS:

JOB NUMBER: DV2024-007
 DESIGNER: DIONICIA VELASCO
 PLOT DATE:
PERMIT #

SHEET CONTENTS:
PROPOSED ROOF & FLOOR PLAN

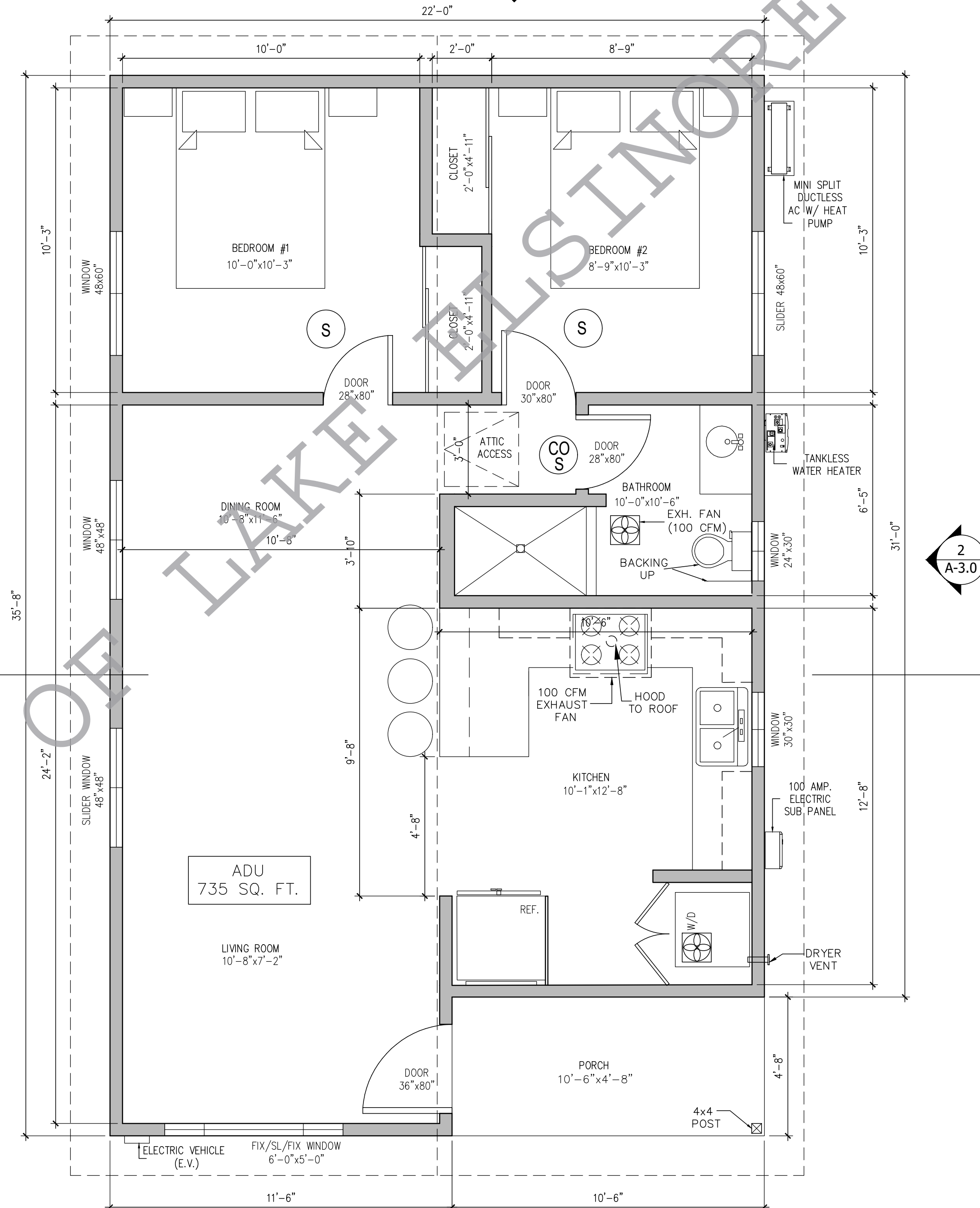
SHEET NUMBER:

A-2.0



1 PROPOSED ROOF PLAN (ADU)

SCALE : 3/8"=1'-0"



2 PROPOSED FLOOR PLAN (ADU)

SCALE : 3/8"=1'-0"

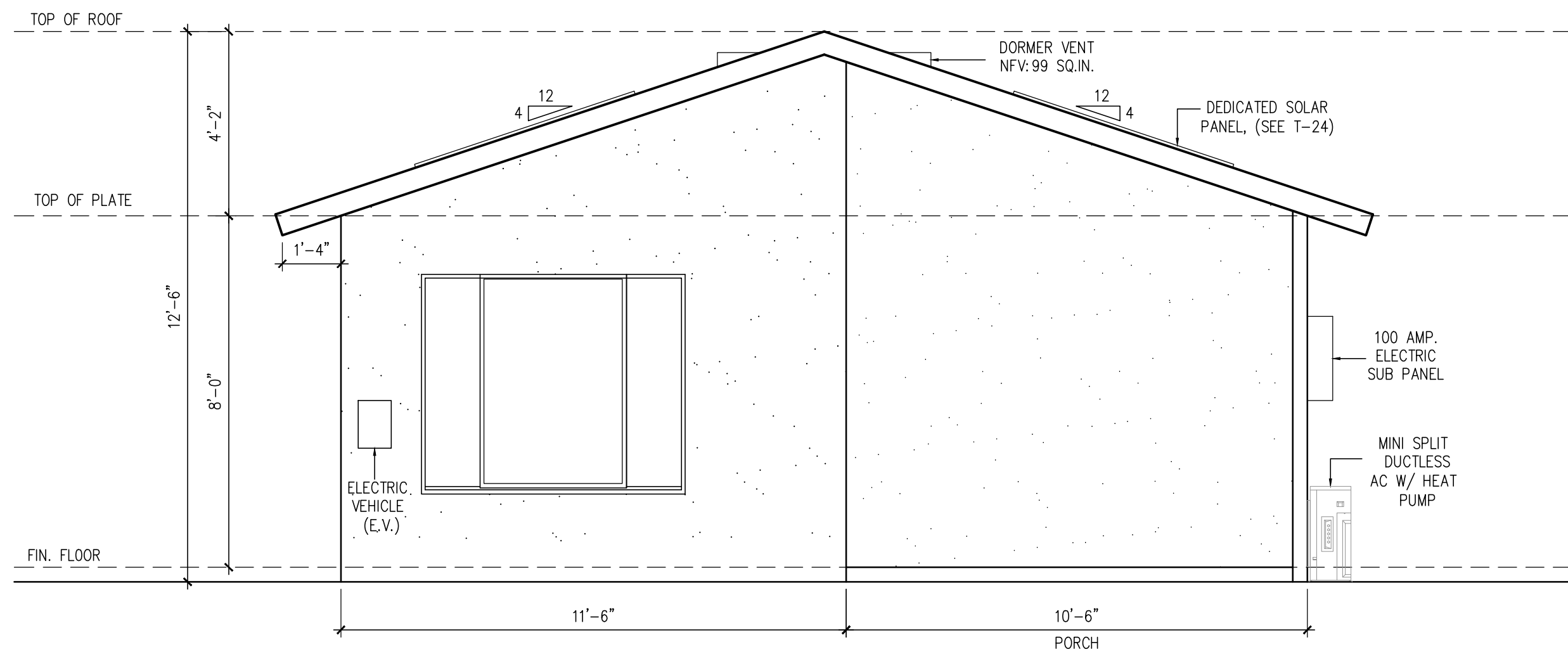
ATTIC VENTILATION CALCULATIONS (ADU):	
ATTIC VENTS SHALL MEET THE FOLLOWING: (R806.1, R806.2) THE NET FREE VENTILATING AREA SHALL NOT BE LESS THAN: 1/150 OF THE ATTIC SPACE OR 1/300 PROVIDED AT LEAST 40% AND NOT MORE THAN 50% OF THE REQUIRED VENT AREA IS LOCATED WITHIN 3 FEET BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS.	
1.	ATTIC AREA FOR ADU : 735 SQ.FT.
2.	REQUIRED VENTILATION = 735 SQ. FT. X 1/150 X 144 = 4.9 SQ. FT. = 706 SQ. IN.
3.	VENTILATION AREA REQUIRED AT DORMER VENTS OR EAVE VENTS = 706 SQ. IN.
4.	NET FREE VENTILATION (NFV) FOR 24" X 12" LOUVER ATTIC VENT = 99 SQ. IN. 4 X 99 SQ. IN. = 396 SQ. IN. (PROVIDED) 706 SQ. IN. (REQUIRED) - 396 SQ. IN. = 310 SQ. IN. REMAINING
5.	NET FREE VENTILATION (NFV) FOR 3" X 22" EAVE VENT = 39 SQ. IN. 310 SQ. IN. (REMAINING) / 39 SQ. IN. PER VENT = 8 EAVE VENT
TOTAL VENTS REQUIRED:	
TOTAL VENTILATION PROVIDED:	
4 DORMER VENT @ 99 SQ. IN. NFV =	396 SQ. IN. NFV
8 EAVE VENT @ 39 SQ. IN. NFV =	312 SQ. IN. NFV
TOTAL VENTILATION PROVIDED =	708 SQ. IN. NFV
TOTAL VENTILATION REQUIRED =	706 SQ. IN. NFV
708 SQ. IN. PROVIDED > 706 SQ. IN. REQUIRED	

ELECTRICAL LEGEND	
	EXHAUST FAN (100 CFM) HUMIDITY CONTROLLED PER CALGREEN 4.506.1

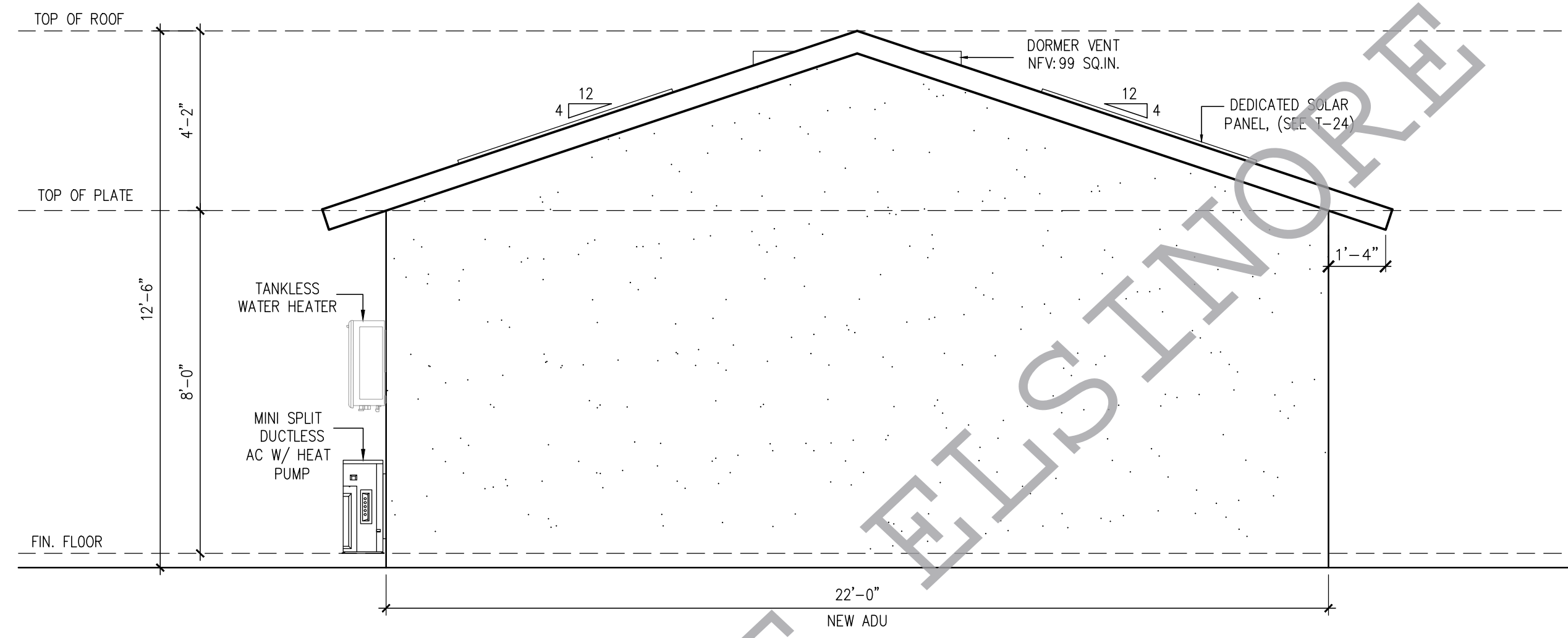
WALL LEGEND	
	NEW STUD WALL 2x4 @ 24" TYPE 'X' & W.P. AT WET WALL

FIRE PROTECTION	
	KIDDE COMBINATION SMOKE AND CARBON MONOXIDE ALARM BATTERY OPERATED WITH VOICE ALERT. MODEL # : KN-COSM-XRT-B HARDWIRES W/ BATTERY BACKUP NOTE: INSTALL WHERE NOT PRESENT & REQUIRED
	SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP (ONLY). INSTALL IF NOT PRESENT OR REPLACE FOR REQUIRED (WHERE MORE THAN ONE (1) CARBON MONOXIDE ALARM IS REQUIRED THEY SHALL BE INTERCONNECTED SO THAT THE ACTIVATION OF ONE (1) ALARM WILL ACTIVATE ALL ALARMS)

NOTES:	
1.	ALL UTILITIES MUST BE INSTALLED SEPARATELY SEWER, GAS, WATER, AND ELECTRICITY
2.	NEW ADU MUST HAVE SOLAR PANEL (SEE TITLE 24)
3.	WINDOW U FACTOR 0.3, SHGC=0.23

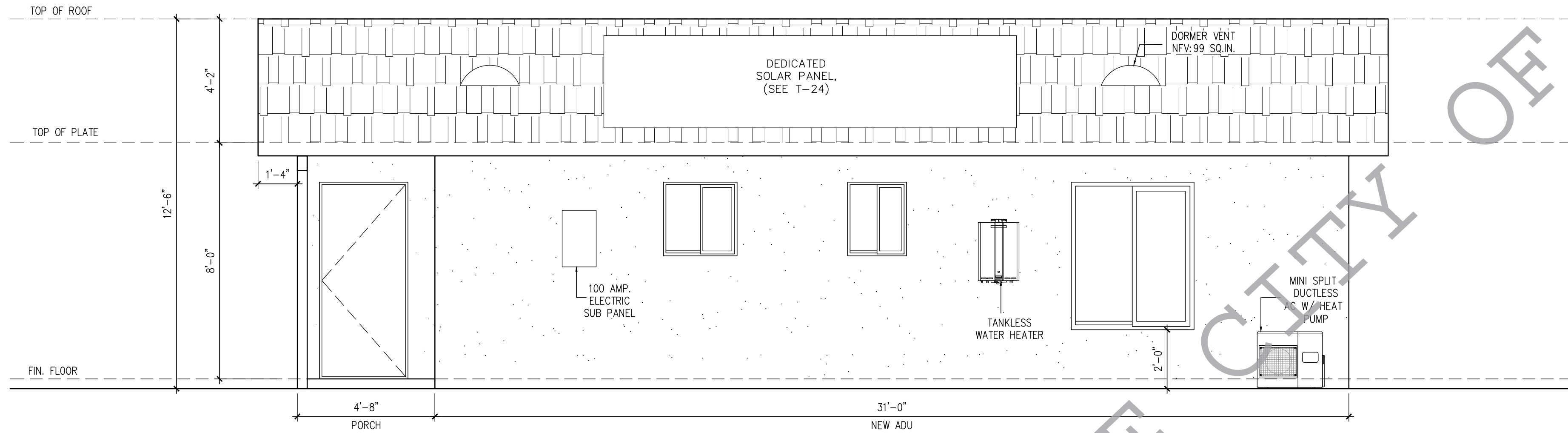


1 PROPOSED SOUTH ELEVATION
SCALE 3/8"=1'-0"

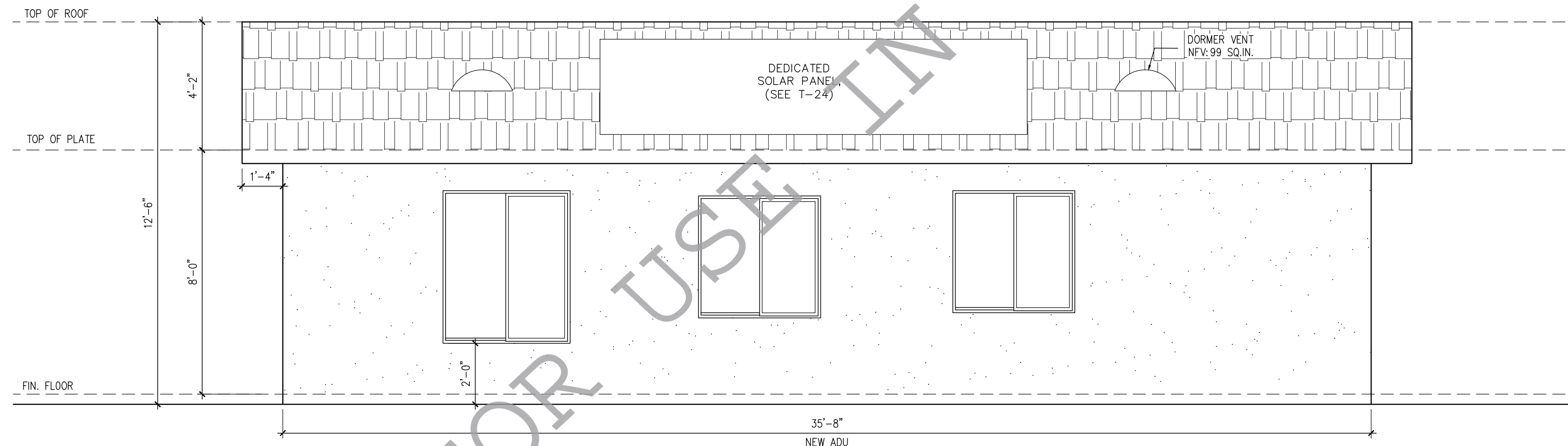


3 PROPOSED NORTH ELEVATION
SCALE 3/8"=1'-0"

NOTE:
1. WINDOW U FACTOR 0.3, SHGC=0.23
2. ARCHITECTURAL STYLE EXTERIOR OPTIONS: SPANISH OR CRAFTSMAN



2 PROPOSED EAST ELEVATION
SCALE 3/8"=1'-0"



4 PROPOSED WEST ELEVATION
SCALE 3/8"=1'-0"

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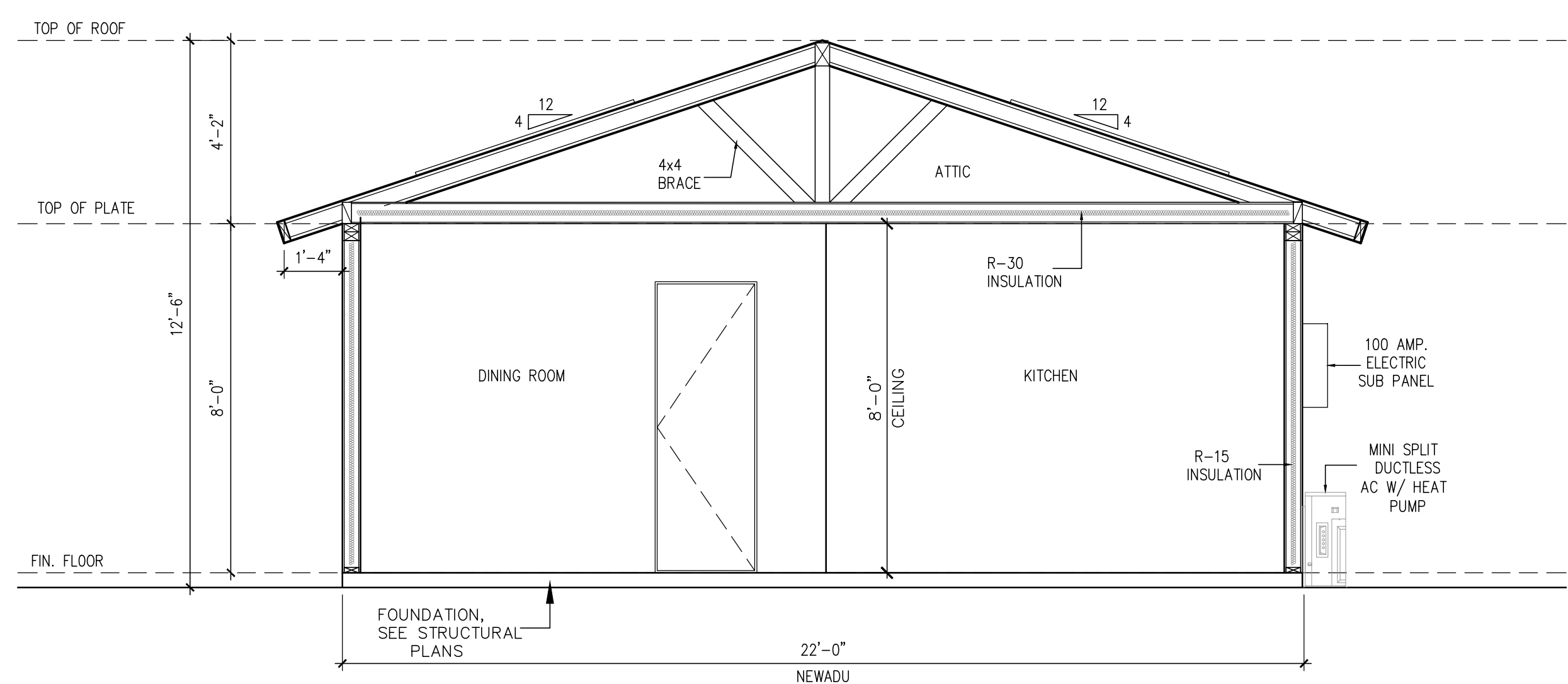
PERMIT #

SHEET CONTENTS:

PROPOSED ELEVATIONS

SHEET NUMBER:

A-3.0

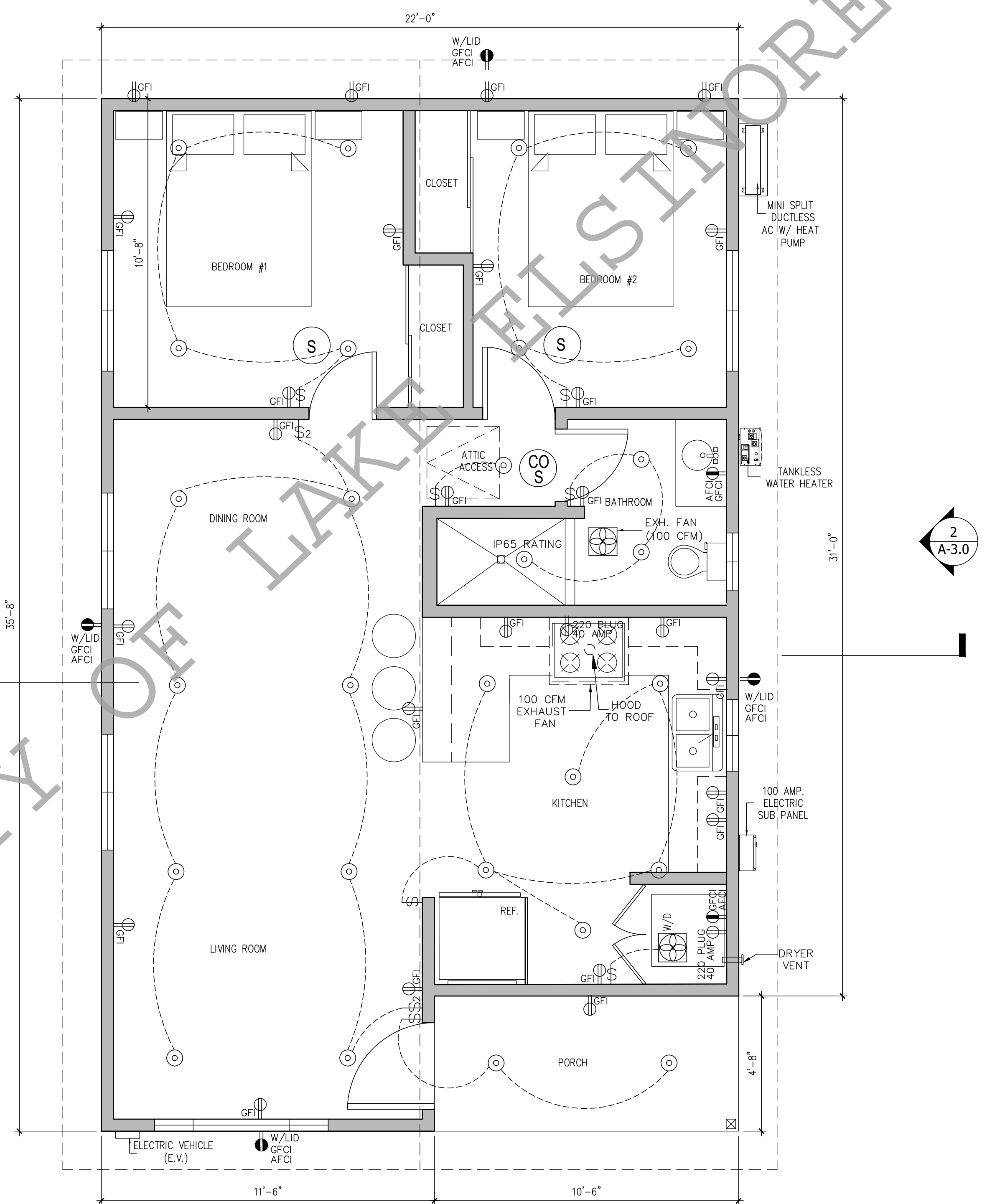


A-A PROPOSED SECTION
SCALE 3/8"=1'-0"

ELECTRICAL LEGEND	FIRE PROTECTION	WALL LEGEND
<ul style="list-style-type: none"> EXHAUST FAN (100 CFM) HUMIDITY CONTROLLED PER CALGREEN 4.506.1 ELECTRICAL OUTLET, TYP., AFCI ELECTRICAL OUTLET ABOVE COUNTER OR 36" OFF GROUND, (AFCI, GFCI) GFCI ELECTRICAL OUTLET (W) - WALL MOUNTED OUTLET, AFCI ELECTRICAL OUTLET W/ LID, AFCI, GFCI LIGHT SWITCH WITH WHITE FACEPLATE 2-WAY LIGHT SWITCH WITH WHITE FACEPLATE (DIMMER) LED TYPE LIGHT FIXTURE 6" RECESSED LIGHT FIXTURE WALL MOUNTED LIGHT (LED TYPE) 	<ul style="list-style-type: none"> KIDDE COMBINATION SMOKE AND CARBON MONOXIDE ALARM BATTERY OPERATED WITH VOICE ALERT. MODEL # : KN-COSM-XRT-B HARDWIRES W/ BATTERY BACKUP NOTE: INSTALL WHERE NOT PRESENT & REQUIRED SMOKE DETECTOR, HARDWIRED WITH BATTERY BACKUP (ONLY). INSTALL IF NOT PRESENT OR REPLACE FOR REQUIRED (WHERE MORE THAN ONE (1) CARBON MONOXIDE ALARM IS REQUIRED THEY SHALL BE INTERCONNECTED SO THAT THE ACTIVATION OF ONE (1) ALARM WILL ACTIVATE ALL ALARMS) 	<ul style="list-style-type: none"> NEW STUD WALL 2x4 @ 16" TYPE 'X' & W.P. AT WET WALL
<p>NOTES:</p> <ol style="list-style-type: none"> ALL UTILITIES MUST BE INSTALLED SEPARATELY SEWER, GAS, WATER, AND ELECTRICITY. SHOWER LIGHTS ARE TO IP65 RATING (HIGHER LEVEL OF PROTECTION FROM SOLID PARTICLES AND WATER) 		

ELECTRICAL NOTES:

- EVERY KITCHEN, FAMILY ROOM, DINING ROOM, PARLOR, LIBRARY, DEN SUNROOM, BEDROOM, RECREATION ROOM, OR SIMILAR ROOM OR AREA SHALL HAVE RECEPTACLE OUTLETS INSTALLED IN ACCORDANCE WITH:
 - RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN 6 FT. FROM A RECEPTACLE OUTLET.
 - WALL SPACE SHALL INCLUDE: 1) ANY SPACE 2 FT. OR MORE IN WIDTH (INCLUDING SPACE MEASURED AROUND CORNERS) AND UNBROKEN ALONG THE FLOOR LINE BY DOORWAYS, FIREPLACES AND SIMILAR OPENINGS; 2) THE SPACE OCCUPIED BY FIXED PANELS IN EXTERIOR WALL, EXCLUDING SLIDING PANELS; 3) THE SPACE AFFORDED BY FIXED ROOM DIVIDERS SUCH AS FREESTANDING BAR-TYPE COUNTERS OR RAILINGS.
- RECEPTACLE OUTLETS SHALL BE INSTALLED IN ACCORDANCE WITH:
 - AT LEAST ONE OUTLET ACCESSIBLE AT GRADE LEVEL AND NOT MORE THAN 6'-1/2 FT. ABOVE GRADE SHALL BE INSTALLED AT THE FRONT AND BACK OF THE DWELLING.
 - ON RECEPTACLE OUTLET WITHIN 3-FT. OF THE WATER HEATER.
- A 125-VOLT, 15-OR 20-AMPERE-RATED RECEPTACLE OUTLET SHALL BE INSTALLED AT AN ACCESSIBLE LOCATION FOR THE SERVICING OF HEATING, AIR CONDITIONING, AND REFRIGERATION EQUIPMENT. THE OUTLET SHALL BE INSTALLED AT THE SAME LEVEL AND WITHIN 25-FT. OF THE EQUIPMENT.
- INDICATE THAT THE RECEPTACLE SERVING THE KITCHEN APPLIANCES SHALL BE ON A DEDICATED CIRCUIT.
- ALL Q25-VOLT, SINGLE-PHASE, 15-AND 20-AMPERE RECEPTACLES SHALL HAVE A GROUND-FAULT CIRCUIT-INTERRUPTER (GFCI OR GFI) PROTECTION WHEN INSTALLED IN THE FOLLOWING LOCATIONS:
 - KITCHEN COUNTERTOPS
 - WHITING 6-FT OF SINK
 - LAUNDRY
 - OUTDOORS (WEATHER-RESISTIVE, 100)
- ALL 120-VOLT, SINGLE-PHASE 15-AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER (AFCI), COMBINATION-TYPE, INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT WHEN INSTALLED IN THE SINGLE-FAMILY RESIDENCE (BATHROOM & GARAGES ARE EXEMPT).
- GFCI & AFCI PROTECTION SHALL BE INSTALLED IN A READILY ACCESSIBLE LOCATION.
- PER HIGH EFFICACY LIGHTING REQUIREMENTS OF THE ENERGY CODE, THE LIGHTING SHALL COMPLY WITH THE FOLLOWING:
 - ALL INTERIOR LIGHTING SHALL BE HIGH EFFICACY.
 - IF JOB LISTED (LED), THEN LIGHTING SHALL BE CONTROLLED BY DIMMER OR VACANCY SENSOR.
 - BATHROOMS AND LAUNDRY SHALL BE PROVIDED WITH AT LEAST ONE HIGH EFFICACY LIGHTING FIXTURE CONTROLLED BY A VACANCY SENSOR.
 - EXTERIOR LIGHTING ATTACHED TO THE STRUCTURE SHALL BE HIGH EFFICACY AND MUST BE CONTROLLED BY A MANUAL ON AND OFF SWITCH AND ONE OF THE FOLLOWING AUTOMATIC CONTROL TYPES:
 - PHOTOCONTROL AND MOTION SENSOR
 - PHOTOCONTROL AND AUTOMATIC TIME SWITCH CONTROL.
- ALL 15- AND 20- AMPERE, 125- AND 250-VOLT NON-LOCKING RECEPTACLES THAT ARE INSTALLED ON THE EXTERIOR OF A DWELLING UNIT AND LOCATED IN DAMP OR WET LOCATIONS, SHALL BE LISTED AS WEATHER-RESISTANT TYPE. [CEC 406.9(A)&(B)] INDIVIDUAL DEDICATED CIRCUITS ARE REQUIRED FOR ALL MAJOR APPLIANCES. THE RATING OF AN INDIVIDUAL BRANCH CIRCUIT SHALL NOT BE LESS THAN THE MARKED RATING OF THE APPLIANCES OR THE MARKED RATING OF THE APPLIANCES HAVING COMBINED LOADS AS PROVIDED IN 422.62. [CEC 210.11(C) & 422.10(A)] DEDICATED 20-AMP CIRCUIT FOR BATHROOM, 20-AMP CIRCUIT FOR LAUNDRY ROOM AND A MINIMUM OF (2) 20-AMP CIRCUIT FOR SMALL APPLIANCES AT KITCHEN.



1 PROPOSED ELECTRIC PLAN (ADU)
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SHEET CONTENTS:
PROPOSED SECTION Y
PROPOSED ELECTRIC PLAN

SHEET NUMBER:
A-4.0

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 1 (July 2024 Supplement)

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SHEET CONTENTS:
2022 CAL GREEN
BUILDING
STANDARDS CODE

SHEET NUMBER:

GB-1

Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL											
301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.											
301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.											
The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application.											
Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.											
Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.											
301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings or high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.											
SECTION 302 MIXED OCCUPANCY BUILDINGS											
302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy. Exceptions:											
1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.											
2. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the California Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.											
DIVISION 4.1 PLANNING AND DESIGN											
ABBREVIATION DEFINITIONS:											
HCD Department of Housing and Community Development											
BSC California Building Standards Commission											
DSA-SS Division of the State Architect, Structural Safety											
OSH/PD Office of Statewide Health Planning and Development											
LR Low Rise											
HR High Rise											
AA Additions and Alterations											
N New											
CHAPTER 4 RESIDENTIAL MANDATORY MEASURES											
SECTION 4.102 DEFINITIONS											
4.102.1 DEFINITIONS											
The following terms are defined in Chapter 2 (and are included here for reference)											
FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.											
WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.											
4.106 SITE DEVELOPMENT											
4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.											
4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.											
1. Retention basins of sufficient size shall be utilized to retain storm water on the site.											
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.											
3. Compliance with a lawfully enacted storm water management ordinance.											
Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)											
4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:											
1. Swales											
2. Water collection and disposal systems											
3. French drains											
4. Water retention gardens											
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.											
Exception: Additions and alterations not altering the drainage path.											
4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Section 4.106.4.1 or 4.106.4.2. Electric vehicle supply equipment (EVSE) shall comply with the California Electrical Code. Exceptions:											
1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions: 1.1 Where there is no local utility power supply or the local utility is unable to supply adequate power. 1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project.											
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.											
4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.											
Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the California Electrical Code.											
4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".											

Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Section 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as an EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.											
4.106.4.2.1 Reserved.											
4.106.4.2.2 Multifamily dwellings, hotels and motels											
1. EV ready parking spaces with receptacles.											
a. Hotels and motels. Forty (40) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles.											
b. Multifamily parking facilities. Forty (40) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. EV charging receptacles required by this section shall be located in at least one assigned parking space per dwelling unit where assigned parking is provided but need not exceed forty (40) percent of the total number of assigned parking spaces provided on the site. Exception: Areas of parking facilities served by parking lifts, including but not limited to automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.											
c. Receptacle power source. EV charging receptacles in multifamily parking facilities shall be provided with a dedicated branch circuit connected to the dwelling unit's electrical panel, unless determined as infeasible by the project builder or designer and subject to concurrence of the local enforcing agency. Exception: Areas of parking facilities served by parking lifts, including but not limited to automated mechanical-access open parking garages as defined in the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.											
d. Receptacle configurations. 208/240V EV charging receptacles shall comply with one of the following configurations: 1. For 20-ampere receptacles, NEMA 6-20R 2. For 30-ampere receptacles, NEMA 14-30R 3. For 50-ampere receptacles, NEMA 14-50R											
2. EV ready parking spaces with EV chargers.											
a. Hotels and motels. Ten (10) percent of the total number of parking spaces shall be equipped with Level 2 EV chargers. At least fifty (50) percent of the required EV chargers shall be equipped with J1772 connectors.											
b. Multifamily parking facilities. Ten (10) percent of the total number of parking spaces shall be equipped with Level 2 EV chargers. At least fifty (50) percent of the required EV chargers shall be equipped with J1772 connectors. Where common use parking or unassigned parking is provided, EV chargers shall be located in common use or unassigned parking areas and shall be available for use by all residents or guests. Where low power Level 2 EV charging receptacles or Level 2 EV chargers are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EV chargers shall have a capacity of not less than 30 amperes.											
4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Electric vehicle charging stations required by Section 4.106.4.2.2, Item 2, with EV chargers installed shall comply with Section 4.106.4.2.2.1.1. Exception: Electric vehicle charging stations serving public accommodations, public housing, hotels and motels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.											
4.106.4.2.2.1.1 Electric vehicle charging stations (EVCS) spaces with EV chargers installed; dimensions and location.											
EVCS spaces shall be designed to comply with the following: 1. The minimum length of each EVCS space shall be 18 feet (5486 mm). 2. The minimum width of each EVCS space shall be 9 feet (2743 mm). 3. One in every 25 EVCS spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EVCS space is 12 feet (3658 mm). Surface slope for this EVCS space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction. These EVCS spaces shall also comply with at least one of the following: a. The EVCS space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space. b. The EVCS space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building. Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1.											
4.106.4.2.2.1.2 Accessible electric vehicle charging station spaces. In addition to the requirements in Section 4.106.4.2.2.1.1, all EV chargers, where installed, shall comply with accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A.											
4.106.4.2.3 Reserved.											
4.106.4.2.4 Reserved.											
4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multi-family buildings. Where new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be EV capable spaces to support future Level 2 electric vehicle supply equipment. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE". Notes: 1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. 2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.											

Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY	Y	N/A	RESPON. PARTY																
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DIVISION 4.2 ENERGY EFFICIENCY																											
4.201 GENERAL																											
4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.																											
DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION																											
4.303 INDOOR WATER USE																											
4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4. Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.																											
4.303.1.1 Water Closets. The effective flush volume of dual flush toilets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets. Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.																											
4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.																											
4.303.1.3 Showerheads.																											
4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.																											
4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time. Note: A hand-held shower shall be considered a showerhead.																											
4.303.1.4 Faucets.																											
4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 80 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.																											
4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 80 psi.																											
4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.																											
4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 80 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 80 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 80 psi. Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.																											
4.303.1.4.5 Pre-rinse spray valves. When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d)(7) and shall be equipped with an integral automatic shutoff.																											
FOR REFERENCE ONLY: The following table and code section have been reprinted from the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.3 (h)(4) and Section 1605.3 (h)(4)(A).																											
TABLE F-2																											
STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALVES MANUFACTURED ON OR AFTER JANUARY 28, 2019																											
<table border="1"><thead><tr><th>PRODUCT CLASS (spray force in ounces-force (ozf))</th><th>MAXIMUM FLOW RATE (gpm)</th></tr></thead><tbody><tr><td>Product Class 1 (≤ 5.0 ozf)</td><td>1.00</td></tr><tr><td>Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)</td><td>1.20</td></tr><tr><td>Product Class 3 (> 8.0 ozf)</td><td>1.28</td></tr></tbody></table>												PRODUCT CLASS (spray force in ounces-force (ozf))	MAXIMUM FLOW RATE (gpm)	Product Class 1 (≤ 5.0 ozf)	1.00	Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20	Product Class 3 (> 8.0 ozf)	1.28								
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Title 20 Section 1605.3 (h)(4)(A). Commercial pre-rinse spray valves manufactured on or after January 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf) [113 grams-force (gf)]																											
4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential-commercial buildings. Submeters shall be installed to measure water usage of individual retail dwelling units in accordance with the California Plumbing Code.																											
4.303.3 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code. NOTE: THIS TABLE COMPLETES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.																											
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4.304 OUTDOOR WATER USE											
4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent. NOTES: 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/											
DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY											
4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE											
4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in solebottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.											
4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING											
4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. Exceptions: 1. Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.											
4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency. 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale. 2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream). 3. Identify diversion facilities where the construction and demolition waste material collected will be taken. 4. Identify construction methods employed to reduce the amount of construction and demolition waste generated. 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.											
4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1. Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.											
4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.											
4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.											
4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4. Notes: 1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section. 2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).											
4.410 BUILDING MAINTENANCE AND OPERATION											
4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building: 1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. 2. Operation and maintenance instructions for the following: a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment. b. Roof and yard drainage, including gutters and downspouts. c. Space conditioning systems, including condensers and air filters. d. Landscape irrigation systems. e. Water reuse systems. 3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations. 4. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range. 6. Information about water-conserving landscape and irrigation design and controllers which conserve water. 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation. 8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc. 9. Information about state solar energy and incentive programs available. 10. A copy of all special inspections verifications required by the enforcing agency or this code. 11. Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures. 12. Information and/or drawings identifying the location of grab bar reinforcements.											
4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive. Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42949.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.											
DIVISION 4.5 ENVIRONMENTAL QUALITY											
SECTION 4.501 GENERAL											
4.501.1 Scope. The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorless, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.											
SECTION 4.502 DEFINITIONS											
5.102.1 DEFINITIONS											
The following terms are defined in Chapter 2 (and are included here for reference)											
AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.											
COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardwood, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.											
DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.											

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE RESIDENTIAL MANDATORY MEASURES, SHEET 2 (July 2024 Supplement)

Y	N/A	RESPON. PARTY																																																														
		<p>MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O₃/g ROG). Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.</p> <p>MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.</p> <p>PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging). Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).</p> <p>REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to ozone formation in the troposphere.</p> <p>VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94509(a).</p>																																																														
<input checked="" type="checkbox"/>		<p>4.503 FIREPLACES 4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.</p>																																																														
<input checked="" type="checkbox"/>		<p>4.504 POLLUTANT CONTROL 4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.</p>																																																														
<input checked="" type="checkbox"/>		<p>4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.</p>																																																														
<input checked="" type="checkbox"/>		<p>4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:</p> <ol style="list-style-type: none"> Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAGMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with section 94507. 																																																														
<input checked="" type="checkbox"/>		<p>4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.</p>																																																														
<input checked="" type="checkbox"/>		<p>4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(b)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.</p>																																																														
<input checked="" type="checkbox"/>		<p>4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:</p> <ol style="list-style-type: none"> Manufacturer's product specification. Field verification of on-site product containers. 																																																														
<input checked="" type="checkbox"/>		<p>TABLE 4.504.1 - ADHESIVE VOC LIMIT_{1,2} (Less Water and Less Exempt Compounds in Grams per Liter)</p> <table border="1"> <thead> <tr> <th>ARCHITECTURAL APPLICATIONS</th> <th>VOC LIMIT</th> </tr> </thead> <tbody> <tr><td>INDOOR CARPET ADHESIVES</td><td>50</td></tr> <tr><td>CARPET PAD ADHESIVES</td><td>50</td></tr> <tr><td>OUTDOOR CARPET ADHESIVES</td><td>150</td></tr> <tr><td>WOOD FLOORING ADHESIVES</td><td>100</td></tr> <tr><td>RUBBER FLOOR ADHESIVES</td><td>60</td></tr> <tr><td>SUBFLOOR ADHESIVES</td><td>65</td></tr> <tr><td>CERAMIC TILE ADHESIVES</td><td>65</td></tr> <tr><td>VCT & ASPHALT TILE ADHESIVES</td><td>50</td></tr> <tr><td>DRYWALL & PANEL ADHESIVES</td><td>50</td></tr> <tr><td>COVE BASE ADHESIVES</td><td>50</td></tr> <tr><td>MULTIPURPOSE CONSTRUCTION ADHESIVE</td><td>70</td></tr> <tr><td>STRUCTURAL GLAZING ADHESIVES</td><td>100</td></tr> <tr><td>SINGLE-PLY ROOF MEMBRANE ADHESIVES</td><td>250</td></tr> <tr><td>OTHER ADHESIVES NOT LISTED</td><td>50</td></tr> <tr><td colspan="2">SPECIALTY APPLICATIONS</td></tr> <tr><td>PVC WELDING</td><td>510</td></tr> <tr><td>CPVC WELDING</td><td>490</td></tr> <tr><td>ABS WELDING</td><td>325</td></tr> <tr><td>PLASTIC CEMENT WELDING</td><td>250</td></tr> <tr><td>ADHESIVE PRIMER FOR PLASTIC</td><td>550</td></tr> <tr><td>CONTACT ADHESIVE</td><td>80</td></tr> <tr><td>SPECIAL PURPOSE CONTACT ADHESIVE</td><td>250</td></tr> <tr><td>STRUCTURAL WOOD MEMBER ADHESIVE</td><td>140</td></tr> <tr><td>TOP & TRIM ADHESIVE</td><td>250</td></tr> <tr><td colspan="2">SUBSTRATE SPECIFIC APPLICATIONS</td></tr> <tr><td>METAL TO METAL</td><td>30</td></tr> <tr><td>PLASTIC FOAMS</td><td>50</td></tr> <tr><td>POROUS MATERIAL (EXCEPT WOOD)</td><td>50</td></tr> <tr><td>WOOD</td><td>30</td></tr> <tr><td>FIBERGLASS</td><td>80</td></tr> </tbody> </table> <p>1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED. 2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.</p>	ARCHITECTURAL APPLICATIONS	VOC LIMIT	INDOOR CARPET ADHESIVES	50	CARPET PAD ADHESIVES	50	OUTDOOR CARPET ADHESIVES	150	WOOD FLOORING ADHESIVES	100	RUBBER FLOOR ADHESIVES	60	SUBFLOOR ADHESIVES	65	CERAMIC TILE ADHESIVES	65	VCT & ASPHALT TILE ADHESIVES	50	DRYWALL & PANEL ADHESIVES	50	COVE BASE ADHESIVES	50	MULTIPURPOSE CONSTRUCTION ADHESIVE	70	STRUCTURAL GLAZING ADHESIVES	100	SINGLE-PLY ROOF MEMBRANE ADHESIVES	250	OTHER ADHESIVES NOT LISTED	50	SPECIALTY APPLICATIONS		PVC WELDING	510	CPVC WELDING	490	ABS WELDING	325	PLASTIC CEMENT WELDING	250	ADHESIVE PRIMER FOR PLASTIC	550	CONTACT ADHESIVE	80	SPECIAL PURPOSE CONTACT ADHESIVE	250	STRUCTURAL WOOD MEMBER ADHESIVE	140	TOP & TRIM ADHESIVE	250	SUBSTRATE SPECIFIC APPLICATIONS		METAL TO METAL	30	PLASTIC FOAMS	50	POROUS MATERIAL (EXCEPT WOOD)	50	WOOD	30	FIBERGLASS	80
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METAL TO METAL	30																																																															
PLASTIC FOAMS	50																																																															
POROUS MATERIAL (EXCEPT WOOD)	50																																																															
WOOD	30																																																															
FIBERGLASS	80																																																															

TABLE 4.504.2 - SEALANT VOC LIMIT
(Less Water and Less Exempt Compounds in Grams per Liter)

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS_{1,2}
GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FALX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS ₁	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATING	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC RICH PRIMERS	340
1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS	
2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.	
3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.	

Y	N/A	RESPON. PARTY												
		<p>TABLE 4.504.5 - FORMALDEHYDE LIMITS: MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION</p> <table border="1"> <thead> <tr> <th>PRODUCT</th> <th>CURRENT LIMIT</th> </tr> </thead> <tbody> <tr><td>HARDWOOD PLYWOOD VENEER CORE</td><td>0.05</td></tr> <tr><td>HARDWOOD PLYWOOD COMPOSITE CORE</td><td>0.05</td></tr> <tr><td>PARTICLE BOARD</td><td>0.09</td></tr> <tr><td>MEDIUM DENSITY FIBERBOARD</td><td>0.11</td></tr> <tr><td>THIN MEDIUM DENSITY FIBERBOARD₁</td><td>0.13</td></tr> </tbody> </table> <p>1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12. 2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).</p>	PRODUCT	CURRENT LIMIT	HARDWOOD PLYWOOD VENEER CORE	0.05	HARDWOOD PLYWOOD COMPOSITE CORE	0.05	PARTICLE BOARD	0.09	MEDIUM DENSITY FIBERBOARD	0.11	THIN MEDIUM DENSITY FIBERBOARD ₁	0.13
PRODUCT	CURRENT LIMIT													
HARDWOOD PLYWOOD VENEER CORE	0.05													
HARDWOOD PLYWOOD COMPOSITE CORE	0.05													
PARTICLE BOARD	0.09													
MEDIUM DENSITY FIBERBOARD	0.11													
THIN MEDIUM DENSITY FIBERBOARD ₁	0.13													
<input checked="" type="checkbox"/>		<p>DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2007 (Emission testing method for California Specification 01350). See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CDC/PHP/DI/DC/CEHLB/IAQ/Pages/VOC.aspx</p>												
<input checked="" type="checkbox"/>		<p>4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2007 (Emission testing method for California Specification 01350). See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CDC/PHP/DI/DC/CEHLB/IAQ/Pages/VOC.aspx</p>												
<input checked="" type="checkbox"/>		<p>4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.</p>												
<input checked="" type="checkbox"/>		<p>4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2007 (Emission testing method for California Specification 01350). See California Department of Public Health's website for certification programs and testing labs. https://www.cdph.ca.gov/Programs/CDC/PHP/DI/DC/CEHLB/IAQ/Pages/VOC.aspx</p>												
<input checked="" type="checkbox"/>		<p>4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5</p>												
<input checked="" type="checkbox"/>		<p>4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:</p> <ol style="list-style-type: none"> Product certifications and specifications. Third-party custody certifications. Product labeled and/or invoked as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.). Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European EN 302 standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards. Other methods acceptable to the enforcing agency. 												
<input checked="" type="checkbox"/>		<p>4.505 INTERIOR MOISTURE CONTROL 4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code.</p>												
<input checked="" type="checkbox"/>		<p>4.505.2 CONCRETE SLAB FOUNDATIONS. Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.</p>												
<input checked="" type="checkbox"/>		<p>4.505.2.1 Capillary break. A capillary break shall be installed in compliance with at least one of the following:</p> <ol style="list-style-type: none"> A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curing, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06. Other equivalent methods approved by the enforcing agency. A slab design specified by a licensed design professional. 												
<input checked="" type="checkbox"/>		<p>4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:</p> <ol style="list-style-type: none"> Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. <p>Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.</p>												
<input checked="" type="checkbox"/>		<p>4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the following:</p> <ol style="list-style-type: none"> Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control. <ol style="list-style-type: none"> Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 90%. A humidity control may utilize manual or automatic means of adjustment. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in) 												
<input checked="" type="checkbox"/>		<p>Notes:</p> <ol style="list-style-type: none"> For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code. 												
<input checked="" type="checkbox"/>		<p>4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:</p> <ol style="list-style-type: none"> The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods. <p>Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.</p>												

Y	N/A	RESPON. PARTY
		<p>CHAPTER 7 INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS 702 QUALIFICATIONS 702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified installers shall perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:</p> <ol style="list-style-type: none"> State certified apprenticeship program. Public utility training programs. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. Programs sponsored by manufacturing organizations. Other programs acceptable to the enforcing agency. <p>702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certification or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:</p> <ol style="list-style-type: none"> Certification by a national or regional green building program or standard publisher. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors. Successful completion of a third party apprentice training program in the appropriate trade. Other programs acceptable to the enforcing agency. <p>Notes:</p> <ol style="list-style-type: none"> Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS). <p>[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.</p> <p>Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.</p>
<input checked="" type="checkbox"/>		<p>703 VERIFICATIONS 703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.</p>

ALL PRO DESIGNS

2130 Huntington Drive Unit #310
South Pasadena, CA 91030
Cell: 951-475-0211
email: dionvelasco@gmail.com

PROJECT NAME:

CITY OF LAKE ELSINORE
PERMITTED ADU (735 SF)
PLAN SET

STAMP APPROVAL

REGISTRATION & SIGNATURE

ARCHITECTURAL STYLE EXTERIOR OPTIONS:

SPANISH OR CRAFTSMAN

ISSUES / REVISIONS:

JOB NUMBER: DV2024-007

DESIGNER: DIONICIA VELASCO

PLOT DATE:

PERMIT #

SHEET CONTENTS:
**2022 CAL GREEN
BUILDING
STANDARDS CODE**

SHEET NUMBER:

GB-2

OPTION #1

SPANISH STYLE

OPTION #2

CRAFTSMAN STYLE



PERSPECTIVE



PERSPECTIVE



FRONT ELEVATION



FRONT ELEVATION

ALL PRO DESIGNS

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REGISTRATION & SIGNATURE

ARCHITECTURAL STYLE EXTERIOR OPTIONS:

SPANISH OR CRAFTSMAN

ISSUES / REVISIONS:

JOB NUMBER: DV2024-007

DESIGNER: DIONICIA VELASCO

PLOT DATE:

PERMIT #

SHEET CONTENTS:

RENDERS (SPANISH & CRAFTSMAN STYLE)

SHEET NUMBER:

R-1.0

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: A.D.U. Calculation Date/Time: 2024-12-20T14:25:37-08:00
 Calculation Description: Title 24 Analysis Input File Name: R24-9230-2.ribd22x

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GENERAL INFORMATION			
01	Project Name	A.D.U.	
02	Run Title	Title 24 Analysis	
03	Project Location		
04	City	LAKE ELSINORE	05 Standards Version
06	Zip code	92530	07 Software Version
08	Climate Zone	10	09 Front Orientation (deg/ Cardinal)
10	Building Type	Single family	11 Number of Dwelling Units
12	Project Scope	Newly Constructed	13 Number of Bedrooms
14	Addition Cond. Floor Area (ft²)	0	15 Number of Stories
16	Existing Cond. Floor Area (ft²)	n/a	17 Fenestration Average U-factor
18	Total Cond. Floor Area (ft²)	735	19 Glazing Percentage (%)
20	ADU Bedroom Count	n/a	21 ADU Conditioned Floor Area
22	Fuel Type	Natural gas	23 No Dwelling Unit:

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CE-approved HERS provider.
03	This building incorporates one or more Special Features shown below

Registration Number: 424-P010322800A-000-000-0000000-0000 Registration Date/Time: 12/20/2024 14:26 HERS Provider: CHEERS
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	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency² EDR (EDR2Efficiency)	Total² EDR (EDR2Total)	Source Energy (EDR1)	Efficiency² EDR (EDR2Efficiency)	Total² EDR (EDR2Total)
Standard Design	37.7	40.4	30.5			
Proposed Design	36.7	39.7	30.1	1	0.7	0.4
RESULT³: PASS						

¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment
 ²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
 ³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.04 kWdc
- PV System resized to 2.04 kWdc (a factor of 2.043) to achieve 'Standard Design PV' PV scaling

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²-yr)	Standard Design TDV Energy (EDR2) (kTDO/ft²-yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²-yr)	Proposed Design TDV Energy (EDR2) (kTDO/ft²-yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.83	3.91	1.8	12.96	-0.97	-9.05
Space Cooling	1.74	35.55	1.47	34.78	0.27	0.77
IAQ Ventilation	0.47	4.89	0.47	4.89	0	0
Water Heating	2.82	28.69	1.7	19.25	1.12	9.44
Self Utilization/Flexibility Credit	0	0	0	0	0	0
Efficiency Compliance Total	5.86	73.04	5.44	71.88	0.42	1.16
Photovoltaics	-3.18	-89.19	-3.18	-89.02		
Battery	0	0	0	0		
Flexibility	0	0	0	0		
Indoor Lighting	0.97	9.38	0.97	9.38		
Appl. & Cooking	7.08	46.01	7.05	45.71		
Plug Loads	6.18	63.19	6.18	63.19		
Outdoor Lighting	0.21	1.88	0.21	1.88		
TOTAL COMPLIANCE	17.12	104.31	16.67	103.02		

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HERS FEATURE SUMMARY				
Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Margin (kBtu/ft² - yr)	Margin Percentage	
Gross EU1	26.1	25.19	0.91	3.49
Net EU2	9.94	9.02	0.92	9.26

Notes:
 1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area.
 2. Net EU1 is Energy Use Total (including PV) / Total Building Area.

REQUIRED PV SYSTEMS											
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 (%)
2.04	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES	
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.	
<ul style="list-style-type: none"> Cool roof Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3) Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed 	

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BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
A.D.U.	735	1	2	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
A.D.U.	Conditioned	A.D.U.1	735	8	DHW Sys 1	New

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
WEST WALL	A.D.U.	R-15 Wall	270	Back	285.6	52	90
EAST WALL	A.D.U.	R-15 Wall	90	Front	285.6	31.3	90
NORTH WALL	A.D.U.	R-15 Wall	0	Right	176	0	90

Registration Number: 424-P010322800A-000-000-0000000-0000 Registration Date/Time: 12/20/2024 14:26 HERS Provider: CHEERS
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OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
SOUTH WALL	A.D.U.	R-15 Wall	180	Left	176	30	90
R-30 Roof	A.D.U.	R-30 Roof Attic	n/a	n/a	735	n/a	n/a

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic A.D.U.	Attic Roof A.D.U.	Ventilated	4	0.2	0.85	Yes	Yes

FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
WINDOWS	Window	WEST WALL	Back	270			1	52	0.3	NFRC	0.23	NFRC	Bug Screen
WINDOWS 2	Window	EAST WALL	Front	90			1	31.3	0.3	NFRC	0.23	NFRC	Bug Screen
WINDOWS 3	Window	SOUTH WALL	Left	180			1	30	0.3	NFRC	0.23	NFRC	Bug Screen

SLAB FLOORS							
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Covered Slab	A.D.U.	735	115.4	none	0	80%	No

Registration Number: 424-P010322800A-000-000-0000000-0000 Registration Date/Time: 12/20/2024 14:26 HERS Provider: CHEERS
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 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2024-12-20 14:26:04 Schema Version: rev 20220901

REVISIONS BY

PERFECT DESIGN & MANAGEMENT INC.
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A.D.U.
 LAKE ELSINORE, CA 92550



Date 12/20/2024
 Scale
 Drawn
 Job #R24-9230-2
 Sheet 1
 RESIDENTIAL
 T24 SHEET
 Of 3 Sheets

FOR USE

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A.D.U.
LAKE ELSINORE, CA 92550

Date 12/20/2024
Scale
Drawn
Job R24-9230-2
Sheet 2
RESIDENTIAL
T24 SHEET
Of 3 Sheets



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
Project Name: A.D.U. Calculation Date/Time: 2024-12-20T14:25:37-08:00
CF1R-PRF-01-E (Page 9 of 10)
Input File Name: R24-9230-2.rbd22x

Table with 9 columns: 01-09. Headers: Name, Verified Airflow, Airflow Target, Verified EER/EER2, Verified SEER/SEER2, Verified Refrigerant Charge, Verified HSPF/HSPF2, Verified Heating Cap 47, Verified Heating Cap 17. Row 1: Heat Pump System 1-hers-htpump, Not Required, 0, Required, Required, Yes, Yes, Yes, Yes.

Table with 10 columns: 01-10. Headers: Name, Certified Low-VCHP System, Airflow to Habitable Rooms, Ductless Units in Conditioned Space, Wall Mount Thermostat, Air Filter Sizing & Pressure Drop Rating, Low Leakage Ducts in Conditioned Space, Minimum Airflow per RA3.3 and SC3.3.4.1, Certified non-continuous Fan, Indoor Fan not Running Continuously. Row 1: Heat Pump System 1, Not required, Required, Required, Required, Not required, Not required, Not required, Not required, Not required.

Table with 9 columns: 01-09. Headers: Dwelling Unit, Airflow (CFM), Fan Efficacy (W/CFM), IAQ Fan Type, Includes Heat/Energy Recovery?, IAQ Recovery Effectiveness - SRE/ASRE, Includes Fault Indicator Display?, HERS Verification, Status. Row 1: SFam IAQVentRot, 44, 0.35, Exhaust, No, n/a / n/a, No, Yes, Yes.

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CF1R-PRF-01-E (Page 8 of 10)
Input File Name: R24-9230-2.rbd22x

Table with 8 columns: 01-08. Headers: Name, # of Units, Tank Vol. (gal), NEEA Heat Pump Brand, NEEA Heat Pump Model, Tank Location, Duct Inlet Air Source, Duct Outlet Air Source. Row 1: DHW Heater 1, 1, 50, Rheem, XES0710H4SU0 (50 gal, JA13), Outside, A.D.U., A.D.U..

Table with 7 columns: 01-07. Headers: Name, Pipe Insulation, Parallel Piping, Compact Distribution, Compact Distribution Type, Recirculation Control, Shower Drain Water Heat Recovery. Row 1: DHW Sys 1 - 1/1, Not Required, Not Required, Not Required, None, Not Required, Not Required.

Table with 9 columns: 01-09. Headers: Name, System Type, Heating Unit Name, Heating Equipment Count, Cooling Unit Name, Cooling Equipment Count, Fan Name, Distribution Name, Thermostat Type. Row 1: A.D.U.1, Heat pump heating/cooling, Heat Pump System 1, 1, Heat Pump System 1, 1, n/a, n/a, Setback.

Table with 13 columns: 01-13. Headers: Name, System Type, Number of Units, Heating Efficiency Type, HSPF/HS PF2/COP, Cap 47, Cap 17, Cooling Efficiency Type, SEER/SE ER2, EER/EER 2/CEER, Zonally Controlled, Compressor Type, HERS Verification. Row 1: Heat Pump System 1, VCHP-ductless, 1, HSPF, 9.5, 24000, 17200, EERSEER, 18, 12.5, Not Zonal, Single Speed, Heat Pump System 1-hers-htpump.

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CF1R-PRF-01-E (Page 7 of 10)
Input File Name: R24-9230-2.rbd22x

Table with 8 columns: 01-08. Headers: Construction Name, Surface Type, Construction Type, Framing, Total Cavity R-value, Interior / Exterior Continuous R-value, U-factor, Assembly Layers. Rows include R-15 Wall, Attic Roof A.D.U., and R-30 Roof Attic.

Table with 5 columns: 01-05. Headers: Quality Insulation Installation (QII), High R-value Spray Foam Insulation, Building Envelope Air Leakage, CFM50, CFM50. Row 1: Required, Not Required, N/A, n/a, n/a.

Table with 9 columns: 01-09. Headers: Name, System Type, Distribution Type, Water Heater Name, Number of Units, Solar Heating System, Compact Distribution, HERS Verification, Water Heater Name (#). Row 1: DHW Sys 1, Domestic Hot Water (DHW), Standard, DHW Heater 1, 1, n/a, None, n/a, DHW Heater 1 (1).

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CF1R-PRF-01-E (Page 10 of 10)
Input File Name: R24-9230-2.rbd22x

Documentation Author's Declaration Statement and Responsible Person's Declaration Statement. Includes signature of Raymond Zhong, Date 12/20/2024, and address 2416 W. Valley Boulevard, Alhambra, CA 91803.

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registrations Provider responsibility for the accuracy of the information.
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FOR USE IN THE CITY OF LAKE ELSINORE

RESIDENTIAL MEASURES SUMMARY						RMS-1	
Project Name A.D.U.		Building Type Single Family		Date 12/20/2024			
Project Address 130 S. MAIN ST., LAKE ELSINORE		California Energy Climate Zone CA Climate Zone 10		Total Cond. Floor Area 735		Addition # of 1	
INSULATION		Area (ft ²)		Special Features		Status	
Construction Type	Cavity	R-Value	Area	Special Features	Status		
Roof	Wood Framed Attic	R-30	735	Cool Roof	New		
Wall	Wood Framed	R-15	810		New		
Slab	Unheated Slab-on-Grade	- no insulation	735	Perim = 115'	New		
FENESTRATION		Area (ft ²)		U-Fac		SHGC	
Orientation	Area (ft ²)	U-Fac	SHGC	Overhang	Sidelines	Exterior Shades	Status
Rear (W)	62.0	0.300	0.23	none	none	N/A	New
Front (E)	31.3	0.300	0.23	none	none	N/A	New
Left (S)	30.0	0.300	0.23	none	none	N/A	New
HVAC SYSTEMS		Qty. Heating		Min. Eff		Cooling	
System	Qty.	Min. Eff	Cooling	Min. Eff	Thermostat	Status	
1	Electric Heat Pump	9.50 HSPF	Split Heat Pump	18.0 SEER	Setback	New	
HVAC DISTRIBUTION		Heating		Cooling		Duct R-Value	
Location	Heating	Cooling	Duct Location	R-Value	Status		
A.D.U.	Ductless / with Fan	Ductless	n/a	n/a	New		
WATER HEATING		Qty. Type		Gallons		Min. Eff	
System	Qty.	Type	Gallons	Min. Eff	Distribution	Status	
1	Heat Pump		50	3.20	Standard	New	
EnergyPro 9.3 by EnergySoft		User Number: 1919		ID: R24-9230-2		Page 13 of 22	

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.

Building Envelope:

- § 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 AIAA/WDMA/CSA 1011.1.2/AIAA-2011.
- § 110.6(a)(5): Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 110.11(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(b): Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
- § 110.8(c): 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 § 110.113 when the installation of a roof roof is specified on the CFR.
- § 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.
- § 110.8(k): Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed climate zones 4 and 6-16 area-weighted average U-factor not exceed U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. 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 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(a): 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. Oppose non-timber 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): 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(g).
- § 150.0(h): 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(i): Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45.

Fireplaces, Decorative Gas Appliances, and Gas Log:

- § 110.5(e): Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
- § 150.0(m): Closeable Intake. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
- § 150.0(n): 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 light-tight damper or combustion-air control device.
- § 150.0(o): Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.

Space Conditioning, Water Heating, and Plumbing System:

- § 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.N.
- § 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-off 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.
- § 110.2(d): Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
- § 110.3(c): 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.

2022 Single-Family Residential Mandatory Requirements Summary

- § 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.
- § 150.0(h): Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(i).
- § 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 duct.
- § 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(i): Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 809.11 of the California Plumbing Code.
- § 150.0(j): Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by § 120.3(b). Insulation exposed to weather must be water resistant 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, a 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(k): Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater.
- § 150.0(l): 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:

- § 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.
- § 110.8(d)(4): Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply and return air ducts and plenums must be insulated to R-6.0 or higher; ducts located interior in conditioned space as confirmed through field verification and diagnostic testing (RA) 4.3.6 do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 182, sealed with mastic tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 182, sealed with mastic tape, and plenums designed or constructed with materials other than sealed sheet metal, duct board of flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed.
- § 150.0(m): 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 tack rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
- § 150.0(m)(2): 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)(3): Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
- § 150.0(m)(7): 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 outdoor air openings and elevator shaft vents.
- § 150.0(m)(9): Protection of Insulation. Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water resistant and solar radiation resistant coating.
- § 150.0(m)(10): Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a porous layer or air barrier 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 Reference Residential Appendix RA3.1.
- § 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 ELEV 150.0.A. Racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to prevent air from bypassing the filter.

2022 Single-Family Residential Mandatory Requirements Summary

- § 150.0(n)(3): Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have (RA) 4.3.6.1. Space conditioning systems that use ducts to supply heating must have (RA) 4.3.6.2. Space conditioning systems that use ducts to supply heating must be ≤ 350 CFM 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 per CFM for all other. Initial duct high velocity systems must provide an airflow of ≥ 260 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.2.

Ventilation and Indoor Air Quality:

- § 150.0(o): Requirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)(1).
- § 150.0(o)(1): Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling-unit ventilation airflow required per § 150.0(o)(1). A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per § 150.0(o)(1)(B)(i)(v). CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with § 150.0(o)(1).
- § 150.0(o)(1)(C): Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and Townhouses. 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 specified in § 150.0(o)(1)(C)(i).
- § 150.0(o)(1)(G): Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements of § 150.0(o)(1)(G)(i) enclosed kitchens and bathrooms can use demand-controlled or continuous exhaust meeting § 150.0(o)(1)(G)(ii). Airflow must be measured by the installer per § 150.0(o)(1)(G)(v), and rated for sound per § 150.0(o)(1)(G)(vi).
- § 150.0(o)(1)(H): Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)(1)(C) must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference Residential Appendix RA3.7. Whole-dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 § 7.2 at no less than the minimum airflow rate required by § 150.0(o)(1)(C).
- § 150.0(o)(2): Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HV or AHAM to comply with the airflow rates and sound requirements per § 150.0(o)(1)(G).

Pool and Spa Systems and Equipment:

- § 110.4(a): Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in IAPESDS; 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 connectors 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:

- § 110.0: 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, except lighting integral to exhaust fans, kitchen range hoods, built-in mirrors, and garage door covers, navigation lighting less than 5 watts, and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
- § 150.0(k)(1B): Screw-based Luminaires. Screw-based luminaires must contain lamps that comply with Reference Joint Appendix JA8.
- § 150.0(k)(1C): Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw-based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
- § 150.0(k)(1D): 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)(1E): 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 shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
- § 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).

2022 Single-Family Residential Mandatory Requirements Summary

- § 150.0(k)(1C): 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 no 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 out 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): Accessible Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off.
- § 150.0(k)(2D): Multiple Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
- § 150.0(k)(2E): Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.9.
- § 150.0(k)(2F): Energy Management Control Systems. An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)(2A).
- § 150.0(k)(2G): Automatic Shutoff Controls. In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
- § 150.0(k)(2H): Dimmers. Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase out dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
- § 150.0(k)(2I): Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
- § 150.0(k)(3A): Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
- § 150.0(k)(4): Internally illuminated address signs. Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
- § 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 §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

Solar Readiness:

- § 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)-(e).
- § 110.10(b): 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 by 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 180 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.
- § 110.10(b)(1): Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
- § 110.10(b)(2): 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)(3): 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 horizontal distance 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.
- § 110.10(b)(4): 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(c): Interconnection Pathways. The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conductors 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. Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
- § 110.10(d): Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps.
- § 110.10(e): 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."
- § 110.10(e)(2): Electric and Energy Storage Ready.

2022 Single-Family Residential Mandatory Requirements Summary

- § 150.0(e): Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(e); at least four branch circuits must be identified and have their source color-coded at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment transfer switch within 3' of the main panelboard, with receptives installed between the panelboard and the switch location to allow the connection of backup power source.
- § 150.0(f): Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready"; and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
- § 150.0(g): Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready"; and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
- § 150.0(h): Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready"; and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name: A.D.U. Date: 12/20/2024
Floor Area: 735

ENGINEERING CHECKS		SYSTEM LOAD						
Number of Systems	1	COIL COOLING PEAK		COIL HTG. PEAK				
Heating System		CFM	Sensible	Latent	CFM	Sensible		
Output per System	24,000	Total Room Loads		353	6,387	367	319	12,175
Total Output (Btu/h)	24,000	Return Ventured Lighting		0	0	0	0	0
Output (Btu/h/sqft)	32.7	Return Air Ducts		0	0	0	0	0
Cooling System		CFM	Sensible	Latent	CFM	Sensible		
Output per System	22,000	Ventilation		0	0	0	0	0
Total Output (Btu/h)	22,000	Supply Fan		0	0	0	0	0
Total Output (Tons)	1.8	Supply Air Ducts		0	0	0	0	0
Total Output (Btu/h/sqft)	29.9	TOTAL SYSTEM LOAD		6,387	367	367	319	12,175
Total Output (sqft/Ton)	400.9							

Air System

CFM per System	800	HVAC EQUIPMENT SELECTION			
Airflow (cfm)	800	FUJITSU AOU24RLXZFN-NON-DUCTED (2T/MULT)	18,755	1,401	13,378
Airflow (cfm/sqft)	1.09				
Airflow (cfm/Ton)	436.4				
Outside Air (%)	0.0%	Total Adjusted System Output (Adjusted for Peak Design conditions)	18,755	1,401	13,378
Outside Air (cfm/sqft)	0.00				

NOTE: values above given at ARI conditions

HEATING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Heating Peak)

COOLING SYSTEM PSYCHROMETRICS (Airstream Temperatures at Time of Cooling Peak)

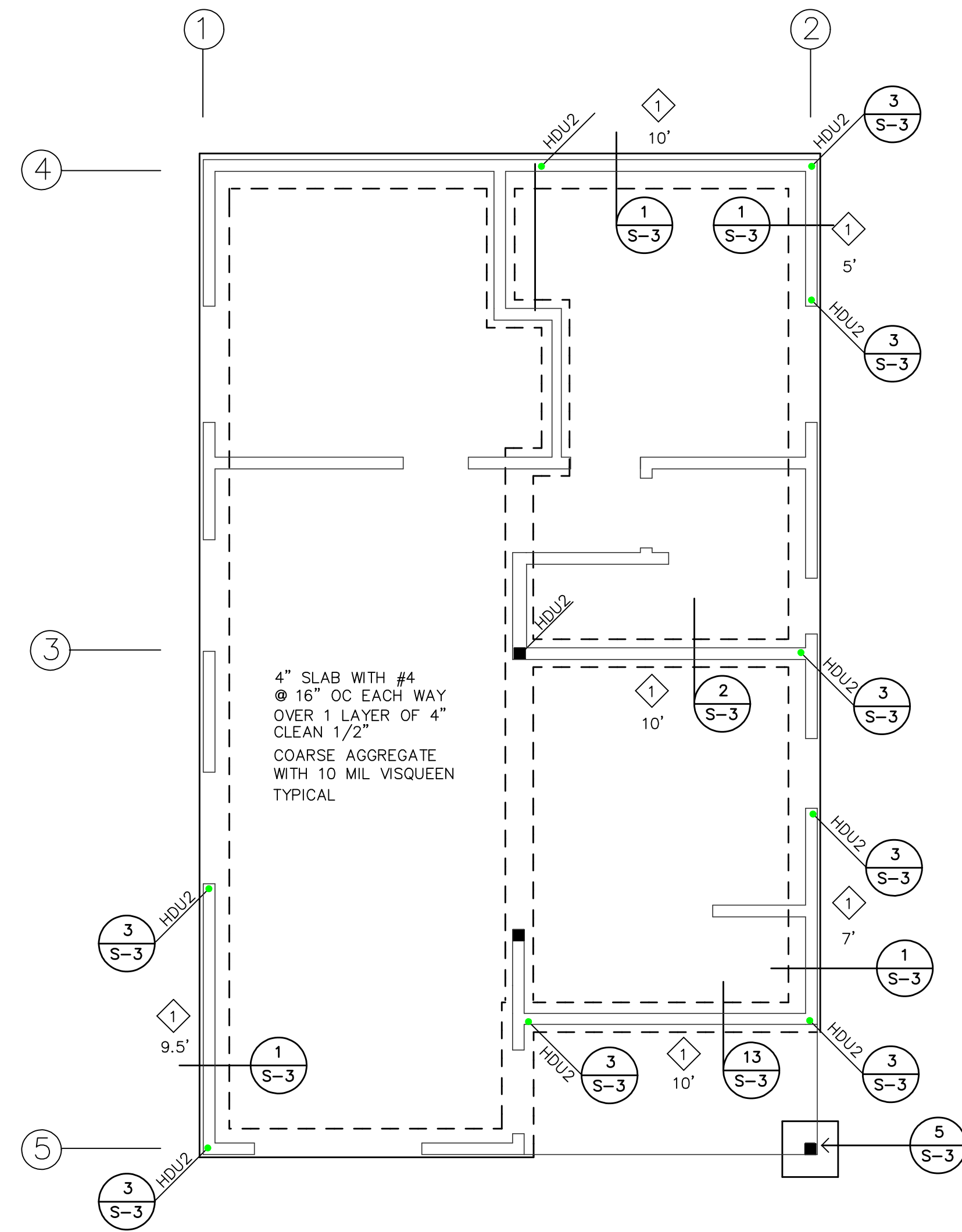
REVISIONS BY

PERFECT DESIGN & MANAGEMENT INC.
 Design & Consulting
 Air-Conditioning, Plumbing, Fire-Sprinkler System,
 Electrical, Title 24 Energy Calculation.
 2416 W. Valley Blvd.
 Alhambra, CA 91803
 Tel: (626) 289-8808
 Fax: (626) 289-4913
 E-Mail: perfectdesign@gmail.com

Date: 12/20/2024
 Scale:
 Drawn:
 Job: R24-9230-2
 Sheet: 3
 RESIDENTIAL
 T24 SHEET
 Of: 3 Sheets

A.D.U.
 LAKE ELSINORE, CA 92530

REGISTERED PROFESSIONAL ENGINEER
 CIVIL
 No. 27835
 Exp. 06-30-25
 MECHANICAL
 STATE OF CALIFORNIA



FOUNDATION PLAN

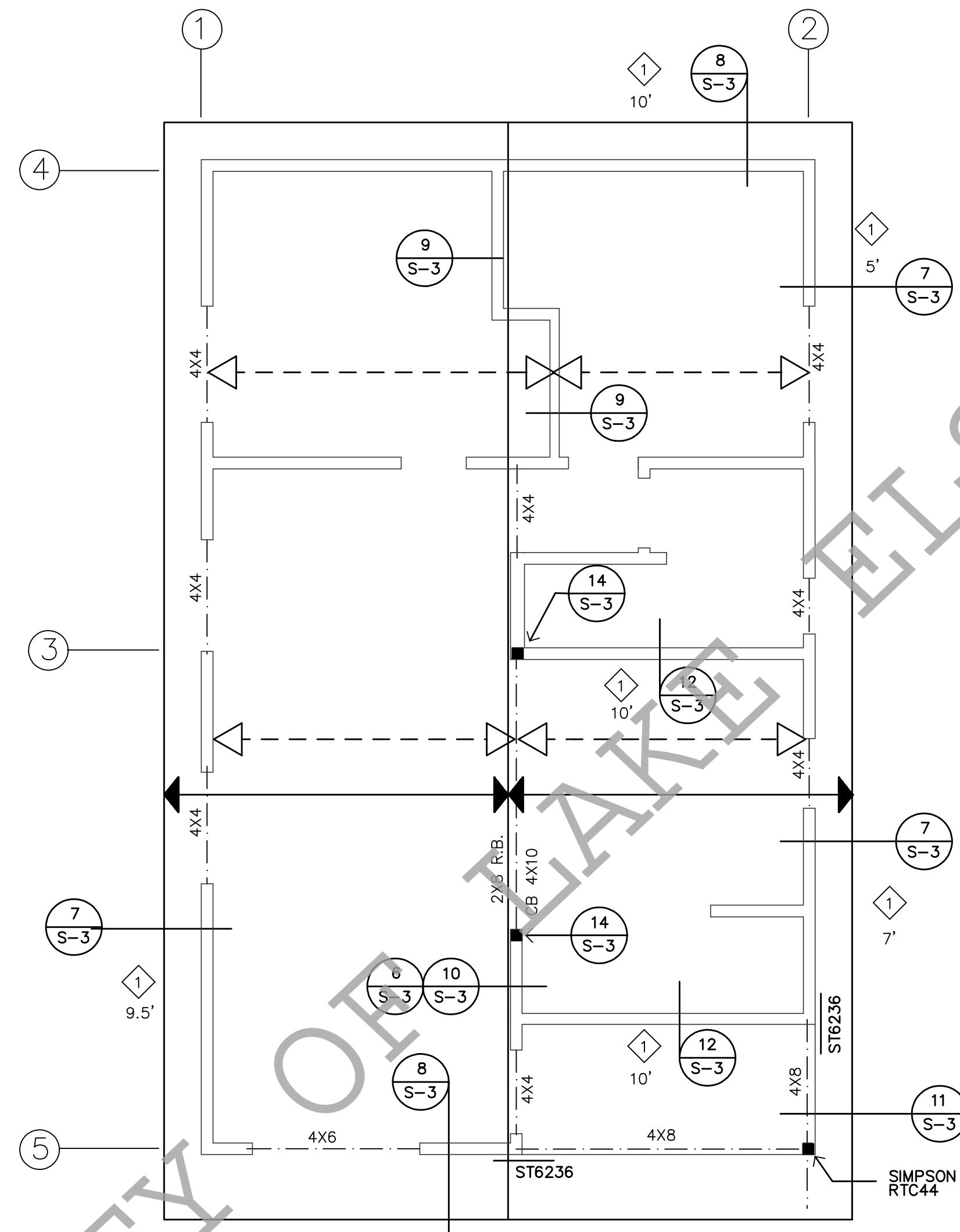
LEGEND:

- NEW 12" WIDE X 24" DEEP FOR EXTERIOR FOOTING
- NEW 12" WIDE X 18" DEEP FOR INTERIOR FOOTING
- 2X4 STUD WALL @ 16" OC
- 4X4 POST U.N.O.
- INDICATES PAD FOOTING PER DETAIL 5/S-3

SOIL SITE CLASS : D
 SOIL TYPE: SILTY CLAY
 DESIGN LOAD-BEARING CAPACITY IS 1,500 PSF

NOTE:

1. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16" LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 1.75" IN., PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.
2. MINIMUM OF TWO ANCHOR BOLTS WILL BE PROVIDED FOR EACH PLATE LENGTH WITH ONE BOLT LOCATED NOT MORE THAN 12" OR LESS THAN 4" FROM EACH END OF THE PIECE.
3. HOLD-DOWN CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE APPROVED PLATE WASHERS; AND HOLD-DOWN SHALL BE FINGER TIGHT AND 1/2 WRENCH TURN JUST PRIOR TO COVERING THE WALL FRAMING. CONNECTOR BOLTS INTO WOOD FRAMING REQUIRE STEEL PLATE WASHERS IN ACCORDANCE WITH TABLE 2305.5 OF CALIFORNIA BUILDING CODE.
4. ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING. FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES. PLYWOOD SPANS SHALL CONFIRM WITH TABLE 2304.7
5. FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESERVATIVE-TREATED WOOD. FIELD-CUT ENDS, NOTCHES AND DRILLED HOLES OF PRESERVATIVE-TREATED WOOD SHALL BE FIELD-TREATED PER AWPA M4.
6. IF ADVERSE SOIL CONDITIONS ARE ENCOUNTERED, A SOIL INVESTIGATION REPORT MAYBE REQUIRED.
7. CONTRACTORS RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM/COMPONENT LISTED IN THE "STATEMENT OF SPECIAL INSPECTION" SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE LABS INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT PER SEC 1709.1
8. PERIODIC SPECIAL INSPECTION IS REQUIRED FOR WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM. SPECIAL INSPECTION BY A DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4" ON CENTER OR LESS.
9. A COPY OF ICC RESEARCH REPORT AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE.
10. ALL FOOTING SHALL BE FOUNDED IN UNDISTURBED NATURAL SOIL.
11. IN THE EVENT EXCAVATIONS REVEAL UNFAVORABLE CONDITIONS, THE SERVICES OF A SOIL ENGINEER AND/OR GEOLOGY MAYBE REQUIRED.
12. ALL CONCENTRATED DRAINAGE, INCLUDING ROOF WATER, SHALL BE CONDUCTED VIA GRAVITY TO THE STREET OR AN APPROVED LOCATION AT A 2% MINIMUM.



ROOF/CEILING FRAMING PLAN

- LEGEND:**
- 2X4 RAFTER @ 16" OC
 - 2X4 CEIL JOIST @ 16" OC
 - 4X4 POST

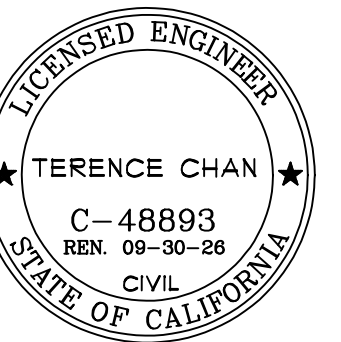
NOTES:

1. MINIMUM OF 2 LAYERS OF GRADE D PAPER INSTALLED OVER WOOD SHEATHING WHEN STUCCO IS APPLIED
2. FOR ALL PLUMBING WALLS, USE 2X6 STUD OR USE HARDY SADDLE
3. ALL FASTENERS, BOLTS, ANCHOR BOLTS, NUTS, CONNECTORS AND OTHER CONNECTION HARDWARE THAT ARE IN CONTACT WITH PRESSURED TREATED WOOD TO BE HOT-DIPPED, ZINC-COATED GALVANIZED.

IMPORTANT NOTICE:
 DUE TO THE NATURE OF THIS JOB AND UNAVAILABLE INFORMATION OF EXISTING STRUCTURES AND INVASIVE INSPECTIONS WERE NOT PERFORMED, REVISIONS AND CORRECTIONS OF THE DRAWINGS MAYBE NECESSARY, ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER OF RECORD IMMEDIATELY.

ENGINEERING BY: T CHAN
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NEW ADU (735 SF)
 LAKE ELSINORE, CA



Terence Chan

Written dimensions on these drawings shall have precedence over scaled dimensions. Contractors shall verify and be responsible for all dimensions and conditions on the job, and this office must be notified of all variations from the dimensions and conditions shown by these drawings.

revisions	date

date: 12-04-2024

job no:

drawn:

checked:

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

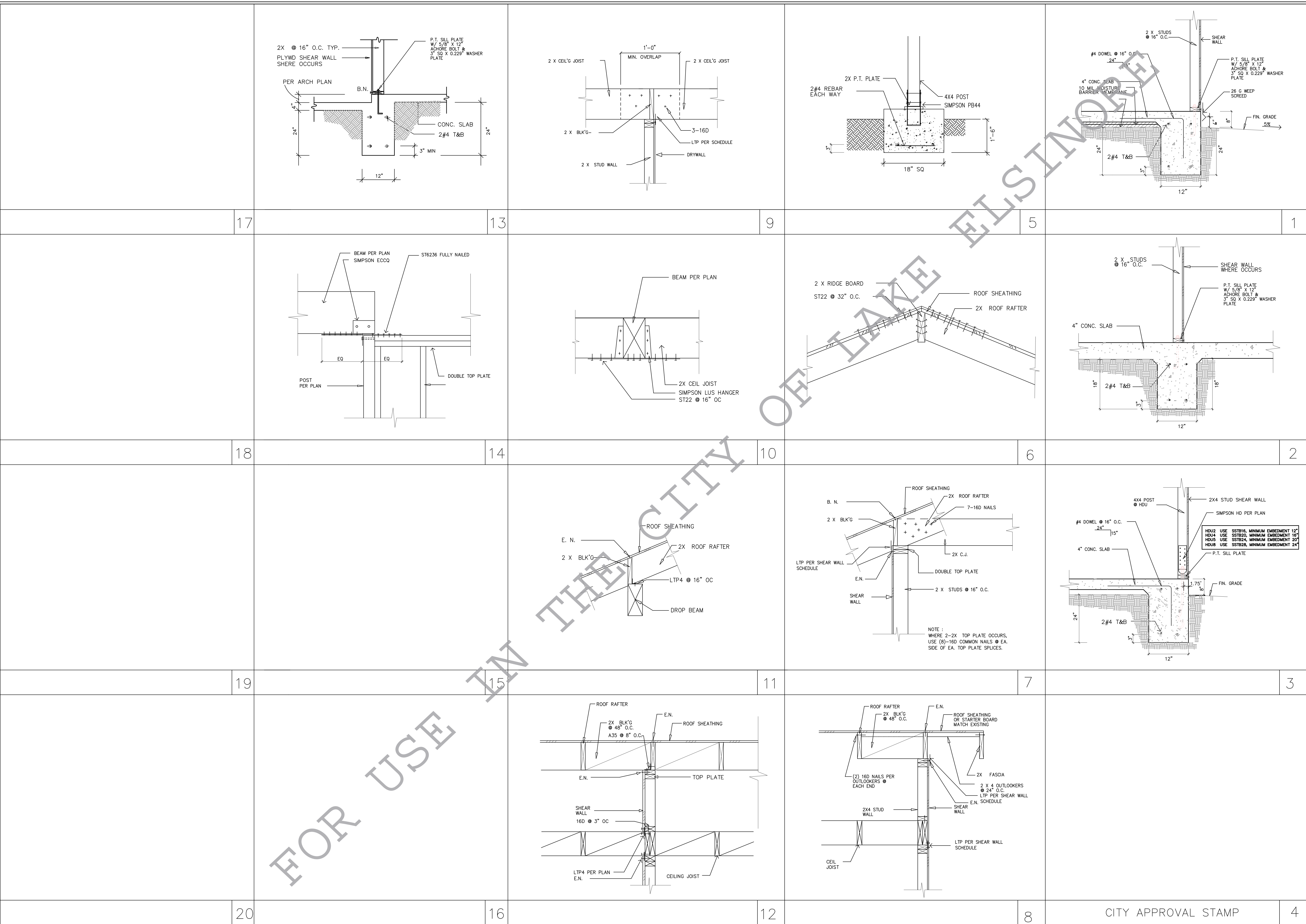
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FOUNDATION AND FRAMING PLAN

sheet number:

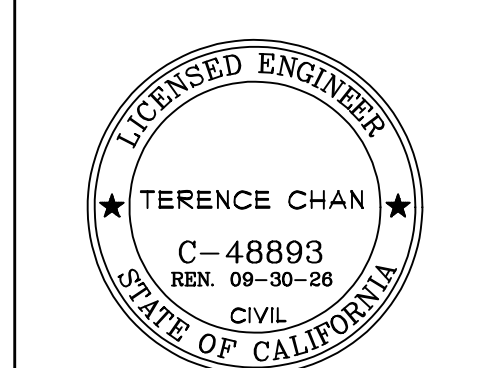
S-2

CITY APPROVAL STAMP



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NEW ADU (735 SF)
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revisions	date

date: 12-04-2024

job no:

drawn:

checked:

scale: N.A.

sheet title:
 STRUCTURAL
 DETAILS

sheet number:

S-3

CITY APPROVAL STAMP