





BULLETIN #213 11/14/2019 SUBJECT TO CHANGE SINGLE-FAMILY PROPERTIES Inspection Checklist for ADUs

Planning, Building and Code Enforcement Avoid costly mistakes by planning ahead for a successful inspection

This bulletin is intended for the licensed general contractor of the accessory dwelling unit (ADU). It addresses the most common concerns found during inspections of ADU projects. Learn more about ADUs at www.sanjoseca.gov/ADUs. IMPORTANT: Read this bulletin before you begin the mechanical, electrical, and plumbing elements of the project. Elements improperly designed at the start of the project can result in significant additional project costs.

INSTRUCTIONS: Complete this checklist and provide the completed checklist and Site Plans as indicated to the Building Inspector at the first inspection

		Enter Information Here of Check When Completed
SE	CTION A. ELECTRICAL	
	Note: Main Service Panel ampacity rating must meet or exceed the combined calculated load of the Main Residence plus the ADU.	
1.	Enter an electrical load calculation (amp rating) for the Main Residence:	amps
2.	Enter ampacity rating for the Main Electrical Panel of the Main Residence: Main Breaker Size in amps, example: 100 amps, 150 amps, etc.	amps
3.	Enter electrical load calculation (amp rating) for the new ADU:	amps
1.	Enter amperage rating of the Feeder Disconnect serving the ADU (panel electrical breaker size):	amps
5.	Enter size of the Electrical Feeder Circuit Wiring from the electrical panel at the Main Residence (Disconnect Breaker) to the ADU:	volts
SE	CTION B. PLUMBING - WATER	
6.	Quantity of Plumbing Fixtures (sinks, toilets, showers, hose bibs, etc.) in the Main Residence:	qty
7.	Quantity of Plumbing Fixtures for the new ADU:	qty
8.	Water Pressure in the main line:	psi
9.	Distance from the Water Meter to the furthest plumbing fixture in the ADU:	feet
10.	Size of Water Service Line from the water meter to the Main Residence.	inches
11.	Size of Water Service Line from the water meter to the ADU.	inches
12.	Size of Water Branch Line between ADU and the Main Residence, only if supplying the ADU from the Main Residence water piping. Leave blank if not applicable.	inches
13.	Provide a Site Plan showing the Water Service Lines. If connecting to the Main residence water piping, show the Point of Connection. For both water service lines, show Pipe Size and Type of Material to be installed.	CHECK

of Material to be installed. 15. The California Plumbing Code requires an ADU to have a Clothes Washer Conne of the Clothes Washer Connection on the Plot Plan. SECTION D. PLUMBING - GAS EFFECTIVE JANUARY 1, 2020: NATURAL GAS INFRASTRUCTURE IS BANNED IN ALL SIN CONSTRUCTION. ATTACHED ADUS AND THE CONVERSION OF AN EXISTING STRUCTU Note: If connecting to the Main Residence Gas System, you must perform a Gas Pr 16. Enter total BTU Demand of all Gas Appliances for the ADU: 7. If connecting the ADU to the Gas Line of the Main Residence gas piping syster Demand for the existing gas appliances in the Main Residence: Leave blank if not 18. If providing a Dedicated Gas Line from the Main Residence gas meter to the Al Developed Length from the Gas Meter to the furthest Gas Appliance Outlet in

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SE	CTION E. MECHANICAL
22.	Bathroom Exhaust Fans shall be listed/rated for a minimum of 25cfm for contintermittent use.
23.	Bathroom Exhaust Fans must be equipped with a Humidity Control.
24.	Kitchen Exhaust Fans must be listed for the intended use and must be a mini
25.	Kitchen Exhaust must be ducted to the Exterior of the Dwelling and be equip Damper.
26.	The ADU must have an independent Heating Source. The return air is prohibit with the Main Residence.





continued >

APN MAP

455-18-104

SITE PLAN NOTES

PROVIDE POSITIVE DRAINAGE AWAY FROM NEW FOUNDATION. (SLOPE FINISH GRADE AWAY MINIMUM 2 % TYPICAL).

IF REQUIRED, ALL ROOF DOWNSPOUTS SHALL BE CONNECTED TO AN APPROVED UNDERGROUND DRAINAGE SYSTEM WITH TERMINATION TO STORM DRAIN OR A DRYWELL.

VERIFICATION OF EXISTING OR NEW LOT STAKES SHALL BE PROVIDED PRIOR TO ISSUANCE OF A BUILDING PERMIT. EXISTING LOT STAKES MUST BE EXPOSED, VERIFIED, AND INDICATED ON BUILDING PLANS; OR NEW LOT STAKES MUST BE SET BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR. IF REQUIRED BY STATE LAW, CIVIL ENGINEER OR LICENSED LAND SURVEYOR SHALL FILE A RECORD- OF-SURVEY MAP.

IF ANY EARTH WORK AND/OR GRADING IS DONE ON THE PROPERTY OR ANY ACCESS ROADS, OWNER OR CONTRACTOR SHALL MAINTAIN AN UNINTERRUPTED FLOW OF WATER IN SWALES AND NATURAL COURSES, UPON COMPLETION OF THE PROJECT. PROPERTY OWNER IS RESPONSIBLE FOR THE ADEQUACY OF ANY DRAINAGE FACILITIES AND FOR THE CONTINUED MAINTENANCE THEREOF IN A MANNER WHICH WILL PRECLUDE ANY HAZARD TO LIFE, HEALTH, OR DAMAGE TO ADJOINING PROPERTY.

CONSULTING GEOLOGIST SHALL OBSERVE AND PROVIDE APPROVAL LETTER PRIOR TO FINAL INSPECTION.

ALL NEW ON-SITE UTILITIES, MAINS, AND SERVICES (IF APPLICABLE) SHALL BE PLACED UNDERGROUND AND EXTENDED TO SERVE THE PROPOSED RESIDENCE. OFF-SITE WORK SHALL BE COORDINATED WITH ANY UNDER GROUNDING TO SERVE OTHER PROPERTIES IN THE IMMEDIATE AREA.

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		Enter Information Here or Check When Completed
SE	CTION C. PLUMBING - WASTEWATER/VENT	
	Note: A 4-inch Sewer Line is required if there are 4 or more Toilets or if a Sewage Ejector Pump is used.	
14.	Provide a Site Plan showing the Point of Connection to the Sewer Line. Show the Pipe Size and the Type of Material to be installed.	CHECK
15.	The California Plumbing Code requires an ADU to have a Clothes Washer Connection. Show the location of the Clothes Washer Connection on the Plot Plan.	CHECK
SE	CTION D. PLUMBING - GAS	
	EFFECTIVE JANUARY 1, 2020: NATURAL GAS INFRASTRUCTURE IS BANNED IN ALL SINGLE-FAMILY AND ADU CONSTRUCTION. ATTACHED ADUS AND THE CONVERSION OF AN EXISTING STRUCTURE TO AN ADU ARE EXEMPT	
	Note: If connecting to the Main Residence Gas System, you must perform a Gas Pressure Test on the complete	system.
16.	Enter total BTU Demand of all Gas Appliances for the ADU:	BTU
17.	If connecting the ADU to the Gas Line of the Main Residence gas piping system, enter the total BTU Demand for the existing gas appliances in the Main Residence: Leave blank if not applicable	BTU
18.	If providing a Dedicated Gas Line from the Main Residence gas meter to the ADU, enter the total Developed Length from the Gas Meter to the furthest Gas Appliance Outlet in the ADU.	feet
19.	Enter the Size of the Gas Line from the Main Residence to the ADU:	inches
20.	Provide a Site Plan that shows the Point of the Gas Connection from the Main Residence to the Point of Connection at the ADU.	CHECK
21.	Provide a Detail of Underground Gas Piping Material and Burial Depth. Underground gas piping must be approved for direct burial. Note: Installation of Gas Service Laterals under or through Structures, Building, Foundations, or Decks is prohibited.	СНЕСК
SE	CTION E. MECHANICAL	
22.	Bathroom Exhaust Fans shall be listed/rated for a minimum of 25cfm for continuous use and 50cfm for intermittent use.	CHECK
23.	Bathroom Exhaust Fans must be equipped with a Humidity Control.	СНЕСК
24.	Kitchen Exhaust Fans must be listed for the intended use and must be a minimum of 100 cfm.	СНЕСК
25.	Kitchen Exhaust must be ducted to the Exterior of the Dwelling and be equipped with a Backdraft Damper.	CHECK
26.	The ADU must have an independent Heating Source. The return air is prohibited from communicating with the Main Residence.	CHECK
27.	Ventilation air is required per California Mechanical Code (CMC) section 402.1. For new structures, provide outside air at a minimum rate of 0.06 cfm per square foot of Habitable Area.	CHECK
28.	Infiltration shall not be considered in an attached ADU to meet outdoor air requirements.	CHECK

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SHT.A-1

A-2

A-3

A-4



PROPOSED ADDITION

BUILDING CODES AND REGULATIONS

2016 CRC CALIFORNIA RESIDENTIAL CODE

- 2016 CPC CALIFORNIA PLUMBING CODE 2016 CMC CALIFORNIA MECHANICAL CODE
- 2016 CEC CALIFORNIA ELECTRIC CODE
- 2016 CALIFORNIA CODE FOR BUILDING CONSERVATION
- (NOTE: CHAPTER 5 AND APPENDIX 1, 5 & 6 ADOPTED) 2016 BUILDING ENERGY EFFICIENCY STANDARDS
- 2016 CGBC CALIFORNIA GREEN BUILDING STANDARDS CODE

2016 CFC CALIFONIA FIRE CODE ALONG WITH ANY OTHER LOCAL AND STATE LAWS AND REGULATIONS

SHEET INDEX

- SITE PLAN
- EXTERIOR ELEVATIONS / SECTION
- PROPOSED FLOOR PLAN
- FOUNDATION PLAN / FRAMING PLAN
- FASTENING SCHEDULE SHEET ELECTRICAL / MECHANICAL / PLUMBING PLAN
- DETAILS
- CALIFORNIA GREEN WORKSHEET -1
- CALIFORNIA GREEN WORKSHEET -2

SCOPE OF WORK

NEW 1,044.0 S.F. ADU ACCESSORY DWELLING UNIT ADU WITH TWO BEDROOMS, ONE BATHROOM, KITCHEN AND 572.0 S.F. ONE - TWO CAR GARAGE WITH 204.5 S.F. PORCH

SITE DATA

A.P.N.

LOT SIZE

ZONING

R1-8

(N) ADU LIVING AREA (N) GARAGE TOTAL AREA

(N) PORCH AREA

455-18-104 24,569.7 S.F.

1,044.0 S.F. 572.0 S.F. 1,616.0 S.F.

204.5 S.F.



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VICINITY MAP



SITE W/ ROOF VICINITY MAP PLAN NOTES **DRAWN BY** Michael S, Radu Miller & Joch CHECKED BY PBD

JOB NO. 18-23

DATE 11/23/2021 SCALE AS SHOWN

SHEET

A-

EXTERIOR ELEVATION NOTES

ALL WEATHER EXPOSED SURFACES SHALL HAVE A WEATHER-RESISTIVE BARRIER TO PROTECT THE INTERIOR WALL COVERING. SUCH BARRIER SHALL BE EQUAL TO THAT PROVIDED FOR IN THE C.B.C. STANDARDS AND APPLIED DIRECTLY OVER STUDS OR SHEATHING AT ALL EXTERIOR WALLS. BARRIERS SHALL BE INSTALLED HORIZONTALLY, WEATHERBOARD FASHION, WITH UPPER LAYER LAPPED OVER LOWER LAYER NOT LESS THAN 2 INCHES. WHERE VERTICAL JOINTS OCCUR LAP BARRIER NOT LESS THAN 6 INCHES. PER C.R.C.

EXTERIOR STUCCO FINISH SHALL BE A 3-COAT SYSTEM, 7/8 INCH MINIMUM THICK, HAS TWO LAYERS OF GRADE D PAPER UNDER STUCCO WHERE OCCURS OVER PLYWOOD SHEATHING, AND HAS 26 GAUGE GALVANIZED WEEP SCREED AT FOUNDATION PLATE LINE AT LEAST 4" ABOVE GRADE (OR 2 INCHES ABOVE CONCRETE OR PAVING). PER C.R.C. R703.7, R703.7.2.1 AND R703.7.3

NOTE: PAPERBACK STUCCO WIRE IS EQUIVALENT TO 1 LAYER OF GRADE D PAPER.

FLASH ALL EXTERIOR OPENINGS EXPOSED TO THE WEATHER WITH SHEET METAL OR APPROVED WATERPROOF PAPER. EXTEND AT LEAST 3" UNDER BUILDING PAPER BEHIND EXTERIOR WALL COVERING. ALL PENETRATIONS SHALL BE THOROUGHLY CAULKED AND SEALED. PER C.R.C.

WHERE REQUIRED, PROVIDE 26 GA. G.I. STEP FLASHING AT ALL ROOF TO WALL CONNECTIONS, CRICKET FLASHING AT ALL CHIMNEYS, AND SADDLE FLASHING AT ALL SKYLIGHTS (UNLESS SELF FLASHING).

PROVIDE 26 GA. GI FLASHING AT ALL NEW CONCRETE PORCH/STOOP AREAS WHERE CONTACT WITH WOOD FRAMING WILL OCCUR.

STAIRS AND STEP RISER HEIGHT SHALL BE NOT MORE THAN 73/4 INCHES (196 MM). THE RISER SHALL BE MEASURED VERTICALLY BETWEEN LEADING EDGES OF THE ADJACENT TREADS. THE GREATEST RISER HEIGHT WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH

(9.5 MM). RISERS SHALL BE VERTICAL OR SLOPED FROM THE

UNDERSIDE OF THE NOSING OF THE TREAD ABOVE AT AN ANGLE NOT MORE THAN 30 DEGREES (0.51 RAD) FROM THE VERTICAL. OPEN

RISERS ARE PERMITTED PROVIDED THAT THE OPENINGS LOCATED MORE THAN 30

INCHES (762 MM), AS MEASURED VERTICALLY, TO THE FLOOR OR GRADE BELOW DO NOT PERMIT THE PASSAGE OF A 4-INCH-DIAMETER

(102 MM) SPHERE. THE TREAD DEPTH SHALL BE NOT LESS THAN 10 INCHES (254 MM). THE TREAD DEPTH SHALL BE MEASURED

HORIZONTALLY BETWEEN THE VERTICAL PLANES OF THE FOREMOST PROJECTION OF ADJACENT TREADS AND AT A RIGHT ANGLE TO THE TREAD'S LEADING EDGE. THE GREATEST TREAD

DEPTH WITHIN ANY FLIGHT OF STAIRS SHALL NOT EXCEED THE SMALLEST BY MORE THAN 3/8 INCH (9.5

PER C.R.C SECTIONS R311.7.5.1 RISERS AND R311.7.5.2 TREADS.

ANCHORED MASONRY VENEER SHALL BE 22 GA GALVANIZED SHEET METAL ANCHOR TIES (WITH A LIP OR HOOK ON EXTENDED LEG ENGAGING NO. 9 GA CONTINUOUS WIRE JOINT REINFORCEMENT) TO RESULT IN ONE ANCHOR PER 2-SQ. FT. OF MASONRY VENEER (E.G., SPACED @ 24" O.C. MAXIMUM HORIZONTAL AND 12" O.C. MAXIMUM VERTICAL).

PER C.R.C. SECTION R703.8, TABLE R703.3(1) AND FIGURE R703.8, AND R703.12

ROOF COVERING TO COMPLY WITH C.R.C. CHAPTER 9 ALL ROOFING MATERIAL MUST BE LABELED AND CERTIFIED PER U.L. AND ASTM STANDARDS, AND MEET THE REQUIREMENTS OF SECTION R905.4.

ROOFING MATERIAL TO BE LIGHTWEIGHT METAL TILE (ICO# 9001) OVER TYPE 30 SATURATED RAG FELT INSTALLED OVER 1/2" MIN. APA RATED (24/16) CDX PLYWOOD SHEATHING WITH 8d NAILS AT 6" (E) & 12" (F). USE T&G PLYWOOD OR 'H' CLIPS AT 48" O.C. (TYPICAL).

DUCT SYSTEMS ARE SIZED, DESIGNED, AND EQUIPMENT IS SELECTED USING THE FOLLOWING METHODS:

1 ESTABLISH HEAT LOSS AND HEAT GAIN VALUES ACCORDING TO ANSI / ACCA 2 MANUAL J-2004 OR EQUIVALENT

2 SIZE DUCT SYSTEMS ACCORDING TO ANSI / ACCA 1 MANUAL D-2009 OR EQUIVALENT. 3. MANUAL S-2004 OR EQUIVALENT.

NUMBERS NEED TO CONTRAST WITH THEIR BACKGROUND, AND BE A MINIMUM OF 4" HIGH, WITH A MINIMUM STROKE OF 1/2". ADDRESS NUMBERS SHALL BE ARABIC NUMBERS OR ALPHABETICAL LETTERS.

NUMBERS SHALL NOT BE SPELLED OUT. WHERE REQUIRED BY THE FIRE CODE OFFICIAL, ADDRESS IDENTIFICATION

SHALL BE PROVIDED IN ADDITIONAL APPROVED LOCATIONS TO FACILITATE EMERGENCY RESPONSE. ADDRESS IDENTIFICATION SHALL BE MAINTAINED. PER C.R.C. SECTION 319.1

ALL WOOD IN CONTACT WITH THE GROUND, EMBEDDED IN CONCRETE IN DIRECT CONTACT WITH THE GROUND OR EMBEDDED IN CONCRETE EXPOSED TO THE

WEATHER THAT SUPPORTS PERMANENT STRUCTURES INTENDED FOR HUMAN OCCUPANCY SHALL BE APPROVED PRESSURE-PRESERVATIVETREATED WOOD SUITABLE FOR GROUND CONTACT USE, EXCEPT THAT UNTREATED WOOD USED ENTIRELY BELOW GROUNDWATER LEVEL OR CONTINUOUSLY SUBMERGED IN FRESH WATER SHALL NOT BE REQUIRED TO BE PRESSURE-PRESERVATIVE TREATED. PER C.R.C. SECTION 317.1.2

AN 18" MINIMUM CLEARANCE FROM EARTH TO BOTTOM OF FLOOR JOISTS. FURTHER, SPECIFY A 12" MINIMUM CLEARANCE FROM EARTH TO BOTTOM OF GIRDERS. PER C.R.C. SECTION 317.1

USE PTDF AT FOUNDATION. PER C.R.C. SECTION 317.1 ITEM 3

CONCRETE PEDESTAL, WITHIN THE CRAWLSPACE, PROJECTING 1 INCH (25 MM) ABOVE A CONCRETE FLOOR OR 6 INCHES (152 MM) ABOVE EXPOSED EARTH AND THE EARTH IS COVERED BY AN APPROVED IMPERVIOUS MOISTURE BARRIER. PROJECTING 6" MINIMUM ABOVE EXPOSED EARTH. PER C.R.C. 317.1.4 EXCEPTION 1

CONCRETE PIERS PROJECT 8" MINIMUM ABOVE EXPOSED EARTH. SHALL BE COVERED BY AN IMPERVIOUS MOISTURE BARRIER. PER C.R.C. R317.1.4 EXCEPTION 2

SECTION NOTES

CONVENTIONAL LIGHT-FRAME CONSTRUCTION PROVISIONS OF THE CALIFORNIA RESIDENTIAL CODE CHAPTERS 3, 4, 6 AND 8 SHALL APPLY TO THIS PROJECT.

ANY AND ALL ELEMENTS OF THE PREPARED PLANS THAT EXCEED THE MINIMUM STANDARDS REQUIRED BY CODE OR A PROJECT STRUCTURAL ENGINEER SHALL TAKE PRECEDENCE OVER SUCH MINIMUM STANDARDS AND REQUIREMENTS.

ALL LUMBER TO BE USED IN THE CONSTRUCTION AND REMODELING OF THIS STRUCTURE SHALL BE DOUGLAS FIR - LARCH (COAST REGION) GRADE II OR BETTER (SEE ALSO PLANS AND SPECS.).

ALL HEADERS INSTALLED OVER DOORS, WINDOWS, AND ANY NECESSARY OPENINGS ARE TO BE 4X12 DF # 2 OR BETTER (U. N. O.).

PROVIDE DOUBLE TRIMMER OR POST AT EACH SIDE OF OPENINGS 8'-0" OR GREATER (TYP.).

ALL INTERIOR NON-BEARING WALL BRACING TO BE MIN. EITHER A 1X4 DF # 2 CONTINUOUS LET-IN, OR SIMPSON 'WB' STRAPS AT 45 ∞ MIN. / 60∞ MAX. TYPICAL. ALL EXTERIOR WALL BRACING SHALL BE MIN. 3/8" CDX SOILD PYWOOD SHEATHING

WITH 8d NAILS AT 6" O.C. (EDGES) & 12" O.C. (FIELD) TYPICAL UNLESS NOTED OTHERWISE.

EXTERIOR FINISH, WHERE APPLIC., SHALL BE MINIMUM 7/8" STANDARD 3 COAT APPLICATION CEMENT PLASTER (STUCCO) OVER LAYER OF PAPERBACK METAL OR WIRE LATH WITH DRIP SCREED AT BASE. WEATHER-RESISTIVE BARRIERS SHALL BE INSTALLED UNDER LATH AS DESCRIBED ABOVE, AND WHEN APPLIED OVER WOOD BASED SHEATHING SHALL INCLUDE 2 LAYERS OF GRADE D PAPER. PER C.R.C.

NOTE: PAPERBACK STUCCO WIRE IS EQUIVALENT TO 1 LAYER OF GRADE D PAPER.

WALL FRAMING SHALL BE 2X4 STUDS AT 16" O.C. MAX., PROVIDE DOUBLE TOP PLATE WITH MINIMUM 48" LAP SPLICE WITH (2) ROWS OF 16d AT EVERY 6" (TYPICAL).

INSULATE ALL NEW WALLS WITH R-19, CEILINGS WITH R-38, AND UNDERFLOOR AREAS WITH R-19 MINIMUM BATT INSULATION PER TITLE 24 REQUIREMENTS.

PROVIDE SOLID BLOCKING AT ENDS OF ALL CEILING JOISTS AND RAFTERS WITH SCREENED EAVE VENTS INSTALLED IN PER C.R.C.

PROVIDE CONTINUOS SCREENED VENT STRIP AT SOFFITED EAVE WITH 2X SOLID BLOCKING AT ENDS OF CEILING JOISTS. DRILL MIN. OF (3) 2" DIA. HOLES IN EACH BLOCK FOR PROPER VENTILATION REQUIREMENTS PER C.R.C.

PROVID WEATHER-RESISTIVE BARRIER AT EXTERIOR WALLS (E.G., WOOD SIDING OVER BUILDING PAPER, ETC.), PER 2016 C.R.C. R703.2

ALL NAILING SHALL COMPLY WITH C.R.C. U.N.O. ON THE PLANS OR STRUCTURAL CALCULATIONS.

ADHERED OR ANCHORED VENEER SHALL BE INSTALLED OVER 1" MIN. MORTAR GROUT BACKING, OVER PAPERBACKED STUCCO WIRE, AND WHEN APPLIED TO SOLID SHEATHING A CONTINUOUS WEATHER RESTRICTIVE BARRIER MUST FIRST BE INSTALLED. PER C.R.C.

ROOF COVERING TO COMPLY WITH C.R.C. CHAPTER 9 ALL ROOFING MATERIAL MUST BE LABELED AND CERTIFIED PER U.L. AND ASTM STANDARDS, AND MEET THE **REQUIREMENTS OF SECTION R905.4.**

DUCT SYSTEMS ARE SIZED, DESIGNED, AND EQUIPMENT IS SELECTED USING THE FOLLOWING METHODS: 1 ESTABLISH HEAT LOSS AND HEAT GAIN VALUES ACCORDING TO ANSI / ACCA 2 MANUAL J-2004 OR EQUIVALENT 2 SIZE DUCT SYSTEMS ACCORDING TO ANSI / ACCA 1 MANUAL D-2009 OR EQUIVALENT 3. MANUAL S-2004 OR EQUIVALENT.

1/2" MINIMUM GYPSUM BOARD (SHEETROCK) TO BE INSTALLED AT ALL WALLS AND FLAT CEILING AREAS WITH 5d NÀILS @ 7" O.Ć. MAX. EACH WAY. REFER TO C.R.C.

5/8" MINIMUM GYPSUM BOARD (SHEETROCK) TO BE INSTALLED AT ALL SLOPED CEILING AREAS WITH 6d NAILS @ 7" O.C. EACH WAY TYPICAL. REFER TO C.R.C.

PROVIDE DBL. 2X SOLID BLOCKING ABOVE AND BELOW ALL BEARING AND NON-BEARING PARTITIONS.

INSTALL DBL. 2X FRAMING WITH SIMPSON METAL HANGERS (O.A.E.) AT ALL SKYLIGHT OPENINGS (TYPICAL).

DRAFT STOPPING SHALL BE INSTALLED WHERE THE AREA OF THE CONCEALED SPACES IN THE ATTIC, FLOOR AND / OR WALLS EXCEED 1,000 SQ. FT. PER SECTION R302.12, DIVIDING THE CONCEALED SPACES INTO APPROXIMATELY EQUAL AREAS.









FLOOR PLAN NOTES

PROVIDE EMERGENCY EGRESS WINDOWS WITH MINIMUM NET CLEAR OPENABLE AREA OF 5.7 SQUARE FEET. DIMENSIONS SHALL BE 24" MIN. HIGH BY 20" MIN. WIDE, WITH A MAXIMUM FINISH SILL HEIGHT OF 44" ABOVE THE SUBFLOOR. C.R.C.

GLAZING SUBJECT TO HUMAN IMPACT SHALL BE TEMPERED, LABELED "SAFETY GLASS", AND COMPLY WITH C.R.C. AS FOLLOWS:

• GLAZING IN DOORS AND ENCLOSURES FOR HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS, SHOWERS, AND GLAZING IN ANY PORTION OF A WALL ENCLOSING THESE COMPARTMENTS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE A STANDING SURFACE AND DRAIN INLET.

• GLAZING IN FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 24" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60" ABOVE THE WALKING SURFACE.

• GLAZING IN INDIVIDUALLY FIXED OR OPERABLE PANELS (OTHER THAN ABOVE) THAT MEET ALL OF THE FOLLOWING CONDITIONS: GLAZING GREATER THAN 9 SQ. FT. IN AREA; BOTTOM EXPOSED EDGE LESS THAN 18" & TOP EXPOSED EDGE GREATER THAN 36" ABOVE THE FLOOR; AND WITHIN 36" HORIZONTALLY OF ANY WALKING SURFACE.

SLIDING GLASS WINDOWS SHALL BE DESIGNED AND INSTALLED SO AS TO PREVENT THEIR REMOVAL BY RAISING THE MOVABLE PANEL FROM THE TRACK WHILE IN THE CLOSED POSITION. SLIDING UNITS SHALL ALSO HAVE AN APPROVED PRIMARY AND AUXILIARY LOCKING DEVICE PERMANENTLY MOUNTED AND NOT ACCESSIBLE FROM THE EXTERIOR OF THE BUILDING. THE MOVABLE SECTION OF THE SLIDING UNITS SHALL BE MOUNTED ON THE INSIDE TRACK.

ALL DOORS AND WINDOWS ARE TO BE FULLY WEATHER-STRIPPED PER TITLE 24 REQUIREMENTS.

ALL JOINTS AND PENETRATIONS ARE TO BE PROPERLY CAULKED AND SEALED PER TITLE 24 REQUIREMENTS.

PROVIDE 26 GA. GI. FLASHING AT ALL NEW CONCRETE PORCH/STOOP AREAS WHERE CONTACT WITH WOOD FRAMING WILL OCCUR.

ALL STEPS AND STAIRWAYS RISERS SHALL NOT BE LESS THAN 4" MIN. OR GREATER THAN 7.75" MAX. ALL TREADS SHALL BE 13" WIDE (BUT, NOT LESS THAN 9" MIN.) TYPICAL UNLESS NOTED OTHERWISE ON THE PLANS. C.R.C.

SHOWER AND TUB/SHOWER WALLS SHALL HAVE SMOOTH, HARD, NONABSORBENT SURFACE (E.G., CERAMIC TILE OR FIBERGLASS) OVER A MOISTURE RESISTANT UNDERLAYMENT (E.G., CEMENT, FIBER CEMENT, OR GLASS MAT GYPSUM BACKER) TO A HEIGHT OF 72 INCHES ABOVE THE

DRAIN INLET. NOTE: WATERRESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED OVER A VAPOR **RETARDER IN SHOWER OR BATHTUB** COMPARTMENTS.

PER C.R.C. SECTIONS R307.2 AND R702.4

PROVIDE MIN. 24" CLEAR AT FRONT AND MIN. 30" CLEAR WIDTH AT ALL WATER CLOSETS.

SEISMIC STRAP WATER HEATER TO BUILDING AND INSTALL A MIN. R-12 INSULATION BLANKET. C.P.C. SECTION 510.5, & TITLE 24 REQUIREMENTS.

EXHAUST FANS IN BATHROOMS, LAUNDRY ROOMS, AND SIMILAR ROOMS SHALL BE VENTED DIRECTLY TO THE OUTSIDE AND CAPABLE OF PROVIDING A MINIMUM OF FIVE COMPLETE AIR CHANGES PER HOUR. C.R.C.

WATER HEATERS (GENERATING A GLOW, SPARK, OR FLAME CAPABLE OF IGNITING FLAMMABLE VAPORS) SHALL BE INSTALLED 18" ABOVE GROUND. PER C.P.C. 507. | 3

PROVIDE MIN. 100 CFM INTERMITTENT AIRFLOW FOR THE KITCHEN RANGE HOOD/MICROWAVE HOOD COMBINATION OR INSTALL AN EXHAUST FAN IN KITCHEN CAPABLE OF PROVIDING AT LEAST 5 AIR CHANGES PER HOUR.

MECHANICAL AND PLUMBING PENETRATIONS PASSING ENTIRELY THROUGH BOTH PROTECTIVE MEMBRANES OF BEARING WALLS REQUIRED TO HAVE A FIRE-RESISTANCE RATING, AND WALLS REQUIRING PROTECTED OPENINGS SHALL BE PROTECTED WITH THROUGH-PENETRATION FIRE BLOCKS SUITABLE FOR THE METHOD OF PENETRATION. PER C.R.C.

PROVIDE FIREBLOCKING IN THE FOLLOWING LOCATIONS PER C.R.C.

(A) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS AND AT 10 FT. INTERVALS BOTH VERTICAL AND HORIZONTAL.

(B) AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS, AND COVE CEILINGS.

(C) IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN, AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF THE STAIRS IF THE WALLS UNDER THE STAIRS ARE UNFINISHED.

(D) IN OPENINGS OPENINGS AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS AT CEILING AND FLOOR LEVELS, WITH NON-COMBUSTIBLE MATERIALS.

(E) AT OPENINGS BETWEEN ATTIC SPACES & CHIMNEY CHASES FOR FACTORY-BUILT CHIMNEYS.

5/8" TYPE 'X' ONE HOUR FIRE RATED GYP. BOARD SHALL BE INSTALLED ON ALL WALLS AND CEILING AT GARAGE SIDE WHICH ARE COMMON TO ANY LIVING AREAS, ALSO INSTALL FIRE RATED GYPSUM BOARD AT UNDERSIDE OF ANY ENCLOSED STAIRWAYS. PER C.R.C.

ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH US EPA PHASE II EMISSION LIMITS WHERE APPLICABLE. WOODSTOVE, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE LOCAL ORDINANCES.

CARPET AND CARPET SYSTEMS SHALL BE COMPLIANT WITH VOC LIMITS.

80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH THE VOC-EMISSION LIMITS DEFINED IN THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS (CHPS), HIGH PERFORMANCE PRODUCTS DATABASE OR BE CERTIFIED UNDER THE RESILIENT FLOOR COVERING INSTITUTE (FRCI) FLOORSCORE PROGRAM; OR MEET CALIFORNIA DEPARTMENT OF PUBLIC HEALTH SPECIFICATION 01350.

PARTICLEBOARD, MEDIUM DENSITY FIBERBOARD (MDF) AND HARDWOOD PLYWOOD USED IN INTERIOR FINISH SYSTEMS SHALL COMPLY WITH LOW FORMALDEHYDE EMISSION STANDARDS.

VAPOR RETARDER AND CAPILLARY BREAK IS INSTALLED AT SLAB-ON-GRADE FOUNDATIONS.

ALL EGRESS DOORS SHALL BE READILY OPENABLE FROM THE INSIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWELDGE OR EFFORT. PER C.R.C. SECTION R311.2

ALL EXTERIOR WINDOWS AND SLIDING DOORS SHALL BE TESTED BY AN APPROVED INDEPENDENT LABORATORY, AND BEAR A LABEL IDENTIFYING MANUACTURE, PERFORMANCE CHARACTERISTICS AND APPROVED INSPECTION AGENCY TO INDICATE COMPLIANCE WITH AAMA/WDMA/CSA 101/I.S.2/A440

EXTERIOR SIDED-HINGED DOORS SHALL BE TESTED AND LABELED AS CONFORMING TO AAMA/WDMA/CSA 101/I.S.2/A440 OR COMPLY WITH SECTION R609.1 AND R609.3 OR COMPLY WITH C.R.C. SECTION R609.

PROVIDE SOLID FLOORING NOT LESS THAN 24" INCHES WIDE FROM ENTRANCE OPENING TO THE FURNACE. PER C.M.C. 304.4.2

A 30"-INCH x 30"-INCH MINIMUN LEVEL SERVICE SPACE SHALL BE IN FRONT OF FURNACE. PER C.M.C. 304.4.3

PROVIDE A RECEPTABLE OUTLET AND LIGHT FIXTURE NEAR THE APPLIANCE, WITH A SWITCH CONTROLLING THE LIGHTING FIXTURE LOCATED AT THE ENTRANCE TO THE PASSAGEWAY. PER C.M.C. 304.4.4

WHERE COMBUSTION APPLIANCES OR SOLID-FUEL BURNING APPLIANCES ARE LOCATED INSIDE THE PRESURE BOUNDRY, THE MAX. ALLOWABLE NET

Г	GA FILE NO
	GYPSU EXTERIOR SIDE: 0 4 wood studs 24 o.c. at intermedi be left untreated INTERIOR SIDE: 0 board, or gypsur nails, 17/8" long,
	WALLS AN
	GA FILE N
	One layer 5/8" typ right angles to eac with 6d cement-co







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

	NEW CONSTRUCTION	BRAC	E WAL	L SCH	IEDUL	E	
SHEAR WALL DESIGNATION	MATERIAL	EDGE NAILING	FIELD NAILING	SILL NAILING	FRAMING CLIPS (TOP & BOTTOM)	ANCHOR BOLTS	COMMENTS
	3/8" PLYWOOD BLOCKED	8d @ 6" O.C.	8d @ 12" O.C.	16d @ 6" O.C.	A35 @ 16" O.C. (24" O.C. AT ROOF)	5/8"Ø X 12" @ 48" O.C.	USE 2x SILL PLATE
2	3/8" PLYWOOD BLOCKED	8d @ 4" O.C.	8d @ 12" O.C.	16d @ 4" O.C.	A35 @ 16" O.C.	5/8"Ø X 12" @ 48" O.C.	USE 2x SILL PLATE

FOUNDATION PLAN NOTES

CONCRETE FOOTINGS AND SLABS SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. AGGREGATE SHALL BE 3/4" WITH A MINIMUM SLUMP OF 3" TO A MAXIMUM OF 5" (5 SACK MIX MAXIMUM). CALCIUM CHLORIDE SHALL NOT BE USED.

ALL NEW SLABS ON GRADE SHALL BE A MINIMUM OF 4" THICK REINFORCED CONCRETE WITH 6" X 6" # 10 WWM. OVER 2" MIN. SAND COVER, (6 MIL. VAPOR BARRIER WHERE APPLICABLE AT LIVING SPACES). AND MIN. 4" GRAVEL FILL.

ALL NEW ANCHOR BOLTS SHALL BE A MINIMUM OF 5/8" DIA. BY 12" LONG AT EVERY 4'-0" O.C. MAXIMUM TYPICAL. U. N. O. ON SHEAR WALL SCHEDULE.

INSTALL REBAR DOWELS AT COLD JOINT BETWEEN NEW AND EXISTING FOUNDATIONS AS REQUIRED. EPOXY SET MIN. OF (2) DOWELS - ONE EACH AT TOP AND BOTTOM OF FOUNDATION A MIN. OF 6' INTO EXISTING FOOTING (SEE PLANS FOR QUANTITY & LOCATION).

ALL RETROFIT FOUNDATION ANCHOR AND HOLDOWN BOLTS SHALL BE "HILTI" HVA TYPE SET IN EPOXY (O. A. E.).

ALL NEW HOLDOWNS SHALL BE SIMPSON HDU2 's WITH SSTB20 ANCHOR BOLTS (O. A. E.) AT MIN. 4X/1POST (TYPICAL).

ALL NEW POINT LOAD SUPPORT PIERS SHALL BE MIN. 18" SQUARE BY 12" DEEP CONCRETE PADS TYPICAL, UNLESS NOTED OTHERWISE ON THE PLANS.

PROVIDE CROSS FLOW VENTILATION OF 1 SQ. FT. FOR EVERY 150 SQ. FEET OF UNDERFLOOR SPACE. C.B.C. SECTION 2306.7.

FLOOR JOISTS SHALL BE 2X8 DF # 2 AT 16" O.C. WITH MAX. SPAN AS SHOWN ON THE PLANS.

ALL NEW GIRDERS TO BE 4X6 DF # 1 WITH MAXIMUM SPAN AS SHOWN ON THE PLANS (TYP.).

FLOOR DIAPHRAGM TO BE MIN. 3/4" APA RATED (48/24) CDX T&G GROUP 2 PLYWOOD WITH EXPOSURE 2, GLUE AND NAIL WITH 10d NAILS AT 6" (EDGES) & 10" (FIELD) TYPICAL.

PROVIDE DBL. 2X JOISTS UNDER POINT LOAD CONDITIONS FROM ABOVE AND UNDER ALL PARALLEL BEARING PARTITIONS.

FOUNDATION CRIPPLE WALL FRAMING SHALL BE OF SOLID BLOCKING IF LESS THAN 14", OR USE STUDS OF EQUAL SIZE TO THE WALL FRAMING DIRECTLY ABOVE.

PROVIDE DBL. 2X SOLID BLOCKING ABOVE AND BELOW ALL BEARING AND NON-BEARING PARTITIONS (TYPICAL).

PROVIDE 26 GA. GI FLASHING AT ALL NEW CONCRETE PORCH/STOOP AREAS WHERE CONTACT WITH WOOD FRAMING WILL OCCUR.

ROOF FRAMING PLAN NOTES

ALL NEW SKYLIGHTS SHALL BE DUAL PANED FLAT GLASS WITH TEMPERED OVER LAMINATED GLAZING, AND ANODIZED BRONZE ALUMINUM FRAME. MADE BY O'KEEFE OR AN APPROVED EQUAL. (ICBO # 3710)

NOTES: 1. SEE FLOOR PLAN FOR QUANTITY, SIZE, AND LOCATION

2. SEE TITLE 24 FOR ANY OTHER REQUIREMENTS.

PROVIDE 26 GA. GI. SADDLE FLASHING AT ALL SKYLIGHTS, STEP FLASHING AT ROOF TO WALL CONNECTIONS, AND CRICKET FLASHING AT CHIMNEYS.

ALL NEW GUTTERS SHALL BE MIN. 26 GA. GALVANIZED IRON TO MATCH EXISTING (TYPICAL).

ALL NEW GUTTERS SHALL BE MIN. 5" FASCIA TYPE 26 GA. GALVANIZED IRON OVER 2X DF # 2 FASCIA BOARD (MATCH EXISTING) WITH 2" ROUND 26 GA. G.I. DOWNSPOUTS.

ALL NEW GUTTERS SHALL BE MIN. 5" OGEE TYPE 26 GA GALVANIZED IRON OVER 2X DF # 2 FASCIA BOARD (MATCH EXISTING) WITH 2" ROUND 26 GA. G.I. DOWNSPOUTS.

RAFTERS TO BE 2X8 DF # 2 OR BETTER @ 24" O.C. MAX. (TYPICAL).

REFER TO ROOF FRAMING PLAN FOR ALL RIDGE, VALLEY, AND HIP RAFTER SIZES.

CEILING JOISTS TO BE 2X6 DF # 2 @ 16" O.C. MAXIMUM (OR MATCH EXISTING).

PROVIDE ATTIC VENTILATION PER C.R.C. SECTION 1505. 71 EXTEND ALL APPLICABLE PLUMBING AND MECHANICAL VENTS AND FLUES THROUGH ROOF AS REQUIRED.

ROOF COVERING TO COMPLY WITH C.R.C. ALL ROOFING MATERIAL MUST BE LABELED AND CERTIFIED PER U.L. AND ASTM STANDARDS, AND MEET THE REQUIREMENTS.

ROOFING MATERIAL TO BE FIBERGLASS COMPOSITION SHINGLES OVER TYPE 30 SATURATED RAG FELT INSTALLED OVER 1/2" MIN. APA RATED (24/16) CDX PLYWOOD SHEATHING WITH 8d NAILS AT 6" (E) & 12" (F). USE T&G PLY OR 'H' CLIPS AT 48" O.C. TYPICAL.

PROVIDE FIREBLOCKING / FIRESTOPS AS REQ'D. PER C.R.C.

INSTALL SIMPSON H3 SEISMIC TIES (O.A.E.) FROM 2X RAFTERS TO SOLID RIM BLOCKING AT EVERY 48" O.C. (TYPICAL).

ALL NAILING SHALL COMPLY WITH C.R.C. TABLE R602.3(1) U.N.O. ON THE PLANS OR STRUCTURAL CALCULATIONS.

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FOUNDATION PLAN

FRAMING PLAN

R602.3 Design and Construction

R602.3 Design and Construction

of wood-frame construction shall be designed and constructed in accordance with the provisions of this chapter and Figures R602.3(1) and R602.3(2), or in accordance with AWC NDS. Components of shall be fastened in accordance with Tables R602.3(1) through R602.3(4). Wall sheathing shall be fastened directly to framing members and, where placed on the exterior side of an , shall be capable of resisting the wind and shall conform to the pressures listed in adjusted for height and exposure using requirements of Table R602.3(3). Wall sheathing used only for purposes shall comply with

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Studs shall be continuous from support at the sole plate to a support at the top plate to resist loads perpendicular to the wall. The support shall be a foundation or floor, ceiling or roof or shall be designed in accordance with accepted engineering practice.

Exception: Jack studs, trimmer studs and cripple studs at openings in that comply with and

	FAS	TABLE R602.3(1) TENING SCHEDULE	
ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER ^{a, b, c}	SPACING AND LOCATION
		Roof	
1	Blocking between ceiling joists or rafters to top plate	4-8d box $(2^{1}/_{2}" \times 0.113")$ or 3-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-10d box $(3" \times 0.128")$; or 3-3" $\times 0.131"$ nails	Toe nail
2	Ceiling joists to top plate	4-8d box $(2^{1}/_{2}" \times 0.113")$; or 3-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-10d box $(3" \times 0.128")$; or 3-3" $\times 0.131"$ nails	Per joist, toe nail
3	Ceiling joist not attached to parallel rafter, laps over partitions (see and)	4-10d box (3" × 0.128"); or 3-16d common (3 ¹ / ₂ " × 0.162"); or 4-3" × 0.131" nails	Face nail
4	Ceiling joist attached to parallel rafter (heel joint) (see and)		Face nail

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.3 Desig	n and Construction		11/1/21, 12:57 P
5	Collar tie to rafter, face nail or 1 ¹ /4" × 20 ga. strap to rafter	4-10d box (3" × 0.128"); or 3-10d common (3" × 0.148"); or 4-3" × 0.131" nails	Face nail each rafter
6	Rafter or roof truss to plate	3-16d box nails $(3^{1}/_{2}" \times 0.135")$; or 3-10d common nails $(3" \times 0.148")$; or 4-10d box $(3" \times 0.128")$; or 4-3" $\times 0.131"$ nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss ⁱ
	Roof rafters to , valley or hip	4-16d (3 ¹ / ₂ " × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3" × 0.128"); or 4-3" × 0.131" nails	Toe nail
7	rafters or roof rafter to minimum 2" beam	3-16d box 3 ¹ / ₂ " × 0.135"); or 2-16d common (3 ¹ / ₂ " × 0.162"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	End nail
-		Wall	
		16d common $(3^{1}/2'' \times 0.162'')$	24" o.c. face nail
8	Stud to stud (not at)	10d box (3" × 0.128"); or 3" × 0.131" nails	16" o.c. face nail
0	Stud to stud and abutting studs at	16d box (3 ¹ / ₂ " × 0.135"); or 3" × 0.131" nails	12" o.c. face nail
9	(at)	16d common (3 ¹ / ₂ " × 0.162")	16" o.c. face nail
	Built-up beader (2" to 2" beader with	16d common (3 ¹ / ₂ " × 0.162")	16" o.c. each edge fac nail
10	1/2" spacer)	16d box (3 ¹ / ₂ " × 0.135")	12" o.c. each edge fac nail
11	Continuous header to stud	5-8d box $(2^{1}/_{2}" \times 0.113")$; or 4-8d common $(2^{1}/_{2}" \times 0.131")$; or 4-10d box $(3" \times 0.128")$	Toe nail
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FASTENING SCHEDULE - TABLE R602.3(1) CRC

I		16d common (3 ¹ /2" × 0.162")	16" o.c. face nail
12	Top plate to top plate	10d box (3" × 0.128"); or	12" o.c. face nail
13	Double top plate splice	$3" \times 0.131"$ nails 8-16d common ($3^{1}/_{2}" \times 0.162"$); or 12-16d box ($3^{1}/_{2}" \times 0.135"$); or 12-10d box ($3" \times 0.128"$); or 12-3" $\times 0.131"$ nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)
	Bottom plate to joist rim joist, band	16d common (3 ¹ / ₂ " × 0.162")	16" o.c. face nail
14	joist or blocking (not at)	16d box (3 ¹ / ₂ " × 0.135"); or 3" × 0.131" nails	12" o.c. face nail
15	Bottom plate to joist, rim joist, band joist or blocking (at)	3-16d box $(3^{1}/2" \times 0.135")$; or 2-16d common $(3^{1}/2" \times 0.162")$; or 4-3" \times 0.131" nails	3 each 16" o.c. face nai 2 each 16" o.c. face nai 4 each 16" o.c. face nai
16	Top or bottom plate to stud	4-8d box $(2^{1}/_{2}" \times 0.113")$; or 3-16d box $(3^{1}/_{2}" \times 0.135")$; or 4-8d common $(2^{1}/_{2}" \times 0.131")$; or 4-10d box $(3" \times 0.128")$; or 4-3" $\times 0.131"$ nails	Toe nail
		3-16d box $(3^{1}/_{2}" \times 0.135")$; or 2-16d common $(3^{1}/_{2}" \times 0.162")$; or 3-10d box $(3" \times 0.128")$; or 3-3" $\times 0.131"$ nails	End nail
17	Top plates, laps at corners and intersections	3-10d box (3" × 0.128"); or 2-16d common (3 ¹ / ₂ " × 0.162"); or 3-3" × 0.131" nails	Face nail
18	1" brace to each stud and plate	3-8d box (2 ¹ / ₂ " × 0.113"); or 2-8d common (2 ¹ / ₂ " × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples 1 ³ / ₄ "	Face nail
		3-8d box (2 ¹ /2" × 0.113"); or	
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2.3 Des	o.codes/viewer_export/juris_key/california/pub/int_residen ign and Construction 1" × 6" sheathing to each bearing	tial_code_2018/ref/R602.3 2-8d common (2 ¹ /2" × 0.131"); or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1 ³ /4" long	Page 3
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2.3 Des 19 20 21 22 23	b. codes/viewer_export/juris_key/california/pub/int_resident ign and Construction 1" x 6" sheathing to each bearing 1" x 8" and wider sheathing to each bearing Joist to sill, top plate or girder Rim joist, band joist or blocking to sill or top plate (roof applications also) 1" x 6" subfloor or less to each joist	tial_code_2018/ref/R602.3 2-8d common $(2^{1}/2" \times 0.131")$; or 2-10d box $(3" \times 0.128")$; or 2 staples, 1" crown, 16 ga., 1 ³ /4" long 3-8d box $(2^{1}/2" \times 0.113")$; or 3-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box $(3" \times 0.128")$; or 3 staples, 1" crown, 16 ga., 1 ³ /4"long Wider than 1" × 8" 4-8d box $(2^{1}/2" \times 0.131")$; or 3-8d common $(2^{1}/2" \times 0.131")$; or 3-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box $(3" \times 0.128")$; or 4 staples, 1" crown, 16 ga., 1 ³ /4" long Floor 4-8d box $(2^{1}/2" \times 0.113")$; or 3-10d box $(3" \times 0.128")$; or 3-10d box $(3" \times 0.128")$; or 3-10d box $(3" \times 0.128")$; or 3-3" $\times 0.131"$ nails 8d box $(2^{1}/2" \times 0.113")$ 8d common $(2^{1}/2" \times 0.131")$; or 10d box $(3" \times 0.128")$; or 3" $\times 0.131"$ nails 3-8d box $(2^{1}/2" \times 0.113")$; or 2-8d common $(2^{1}/2" \times 0.131")$; or 2-8d common $(2^{1}/2" \times 0.131")$; or 2-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box $(3" \times 0.128")$; or 2 staples, 1" crown, 16 ga., 1 ³ /4" long	Page 3 11/1/21, 12:57 Face nail Face nail G" o.c. toe nail G" o.c. toe nail Face nail Face nail
2.3 Des 19 20 21 22 23 23	I'' × 6'' sheathing to each bearing Joist to sill, top plate or girder Rim joist, band joist or blocking to sill or top plate (roof applications also) 1'' × 6'' subfloor or less to each joist	tial_code_2018/ref/R602.3 2-8d common $(2^{1}/2" \times 0.131")$; or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1 ³ /4" long 3-8d common $(2^{1}/2" \times 0.113")$; or 3-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., 1 ³ /4"long Wider than 1" × 8" 4-8d box $(2^{1}/2" \times 0.113")$; or 3-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., 1 ³ /4" long Floor 4-8d box $(2^{1}/2" \times 0.113")$; or 3-10d box (3" × 0.128"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails 8d box $(2^{1}/2" \times 0.131")$; or 10d box (3" × 0.128"); or 3'' × 0.131" nails 3-8d box $(2^{1}/2" \times 0.131")$; or 2-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box (3" × 0.128"); or 3'' × 0.131" nails 3-8d box $(2^{1}/2" \times 0.131")$; or 2-8d common $(2^{1}/2" \times 0.131")$; or 2-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box (3" × 0.128"); or 2-8d common $(2^{1}/2" \times 0.131")$; or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1 ³ /4" long Floor	Page 3 11/1/21, 12:57 Face nail Face nail G" o.c. toe nail G" o.c. toe nail Face nail Face nail
23 Des 19 20 21 22 23 23	ign and Construction 1" x 6" sheathing to each bearing 1" x 8" and wider sheathing to each bearing Joist to sill, top plate or girder Rim joist, band joist or blocking to sill or top plate (roof applications also) 1" x 6" subfloor or less to each joist	tial_code_2018/ref/R602.3 2-8d common $(2^{1}/_{2}" \times 0.131")$; or 2-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1 ³ / ₄ " long 3-8d box $(2^{1}/_{2}" \times 0.113")$; or 3-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-10d box (3" × 0.128"); or 3 staples, 1" crown, 16 ga., 1 ³ / ₄ "long Wider than 1" × 8" 4-8d box $(2^{1}/_{2}" \times 0.113")$; or 3-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-10d box (3" × 0.128"); or 4 staples, 1" crown, 16 ga., 1 ³ / ₄ " long Floor 4-8d box $(2^{1}/_{2}" \times 0.113")$; or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails 8d box $(2^{1}/_{2}" \times 0.131")$; or 10d box (3" × 0.128"); or 3'' × 0.131" nails 3-8d box $(2^{1}/_{2}" \times 0.113")$; or 2-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-10d box (3" × 0.128"); or 3'' × 0.131" nails 3-8d box $(2^{1}/_{2}" \times 0.113")$; or 2-8d common $(2^{1}/_{2}" \times 0.131")$; or 3-10d box (3" × 0.128"); or 3-10d box (3" × 0.128"); or 3-10d box (3" × 0.128"); or 2 staples, 1" crown, 16 ga., 1 ³ / ₄ " long Floor Floor	Face nail

			SPAC FAST	CING OF
29	Bridging or blocking to joist	2-10d box (3" × 0.128"), or 2-8d common (2 ¹ / ₂ " × 0.131"; or 2-3" × 0.131") nails	Each er	nd, toe nail
28	Ledger strip supporting joists or rafters	4-16d box $(3^{1}/2" \times 0.135")$; or 3-16d common $(3^{1}/2" \times 0.162")$; or 4-10d box $(3" \times 0.128")$; or 4-3" \times 0.131" nails	At each jo fac	bist or rafter, e nail
		And: 2-20d common (4" × 0.192"); or 3-10d box (3" × 0.128"); or 3-3" × 0.131" nails	Face nail at each splice	ends and at
27	Built-up girders and beams, 2-inch lumber layers	10d box (3" × 0.128"); or 3" × 0.131" nails	24" o.c. face nail at top and bottom staggered on opposite sides	
		20d common (4" × 0.192"); or	Nail each lay follows: 32" o at top and bo staggered.	ver as p.c. pttom and
26	Band or rim joist to joist	3-16d common (3 ¹ / ₂ " × 0.162") 4-10 box (3" × 0.128"), or 4-3" × 0.131" nails; or 4-3" × 14 ga. staples, ⁷ / ₁₆ " crown	End	nail
25	2" planks (plank & beam—floor & roof)	3-16d box $(3^{1}/_{2}" \times 0.135")$; or 2-16d common $(3^{1}/_{2}" \times 0.162")$	At each bear	ing, face nail
24	2" subfloor to joist or girder	2-16d common (3 ¹ /2" × 0.162")	Blind and	face nail

₹602.3 Des	ign and Construction			11/1/21, 12:57 PM
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	, subfloor, roof an sh	d interior wall sheathing to framing a neathing to framing	and particle	board wall
	[see Table R602.3(3) for	sheathing t	to wall fram	ing]
30	³ / ₈ " — ¹ / ₂ "	6d common (2" × 0.113") nail (subfloor, wall) ⁱ 8d common ($2^{1}/_{2}$ " × 0.131") nail (roof); or RSRS-01 ($2^{3}/_{8}$ " × 0.113") nail (roof) ^j	6	12 [†]
31	¹⁹ / ₃₂ " — 1"	8d common nail (2 ¹ / ₂ " × 0.131"); or RSRS-01; (2 ³ / ₈ " × 0.113") nail (roof) ^j	6	12 ^f
32	$1^{1}/_{8}^{"} - 1^{1}/_{4}^{"}$	10d common (3" × 0.148") nail; or 8d (2 ¹ / ₂ " × 0.131") deformed nail	6	12
	Ot	her wall sheathing ^g		
33	¹ /2" structural cellulosic fiberboard sheathing	$1^{1}/_{2}$ " galvanized roofing nail, $7/_{16}$ " head , or $1^{1}/_{4}$ " long 16 ga. staple with $7/_{16}$ " or 1" crown	3	6
34	²⁵ / ₃₂ " structural cellulosic fiberboard sheathing	$1^{3}/_{4}$ " galvanized roofing nail, $7/_{16}$ " head , or $1^{1}/_{2}$ " long 16 ga. staple with $7/_{16}$ " or 1" crown	3	6
35	¹ /2" gypsum sheathing ^d	1 ¹ / ₂ " galvanized roofing nail; staple galvanized, 1 ¹ / ₂ " long; 1 ¹ / ₄ " screws, Type W or S	7	7
36	⁵ /8" gypsum sheathing ^d	1 ³ / ₄ " galvanized roofing nail; staple galvanized, 1 ⁵ / ₈ " long; 1 ⁵ / ₈ " screws, Type W or S	7	7
	, co	mbination subfloor to	framing	
https://up.i	codes/viewer_export/juris_key/california/pub/int_residenti.	al_code_2018/ref/R602.3		Page 6 of 19

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37	³ / ₄ " and less	6d deformed (2" × 0.120") nail; or 8d common (2 ¹ / ₂ " × 0.131") nail	6	12
38	⁷ /8" — 1"	8d common $(2^{1}/_{2}" \times 0.131")$ nail; or 8d deformed $(2^{1}/_{2}" \times 0.120")$ nail	6	12
39	1 ¹ / ₈ " — 1 ¹ / ₄ "	10d common (3" × 0.148") nail; or 8d deformed (2 ¹ / ₂ " × 0.120") nail	6	12

- a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank of 0.192 inch (20d common nail), 90 ksi for shank larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank of 0.142 inch or less.
- b. Staples are 16 gage wire and have a minimum 7 /₁₆-inch on
- c. Nails shall be spaced at not more than 6 inches on center at all where spans are 48 inches or greater.

crown width.

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- d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.
- e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).
- f. For roof sheathing attached to gable end roof framing and to intermediate within 48 inches of roof edges and , nails shall be spaced at 6 inches on center where the ultimate design wind speed is less than 130 mph and shall be spaced 4 inches on center where the ultimate design wind speed is 130 mph or greater but less than 140 mph.
- g. Gypsum sheathing shall conform to ASTM C1396 and shall be installed in accordance with GA 253. Fiberboard sheathing shall conform to ASTM C208.
- h. Spacing of fasteners on floor sheathing panel edges applies to panel edges supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or blocking.
- i. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with

https://up.codes/viewer_export/juris_key/california/pub/int_residential_code_2018/ref/R602.3

A-4.1

ELECTRICAL / MECHANICAL / PLUMBING NOTES

PROVIDE ELECTRICAL SYSTEM GROUNDING PER SECTION 250 OF THE CALIFORNIA ELECTRICAL CODE TYPICAL.

SMOKE DETECTORS IN DWELLING UNITS SHALL BE HARDWIRED AND MOUNTED ON THE CEILING OR WALL AT A POINT CENTRALLY LOCATED IN THE CORRIDOR OR AREA GIVING ACCESS TO EACH SEPARATE SLEEPING AREA. IF THE DWELLING UNIT HAS MORE THAN ONE STORY A DETECTOR SHALL BE INSTALLED ON EACH STORY AND IN ANY BASEMENT IF APPLICABLE. WHEN SLEEPING ROOMS ARE ON AN UPPER LEVEL, A DETECTOR SHALL BE PLACED AT THE CEILING OF THE UPPER LEVEL IN CLOSE PROXIMITY TO THE STAIRWAY. DETECTORS SHALL SOUND AN AUDIBLE ALARM IN ALL SLEEPING AREAS OF THE DWELLING UNIT IN WHICH THEY ARE LOCATED. REFER TO C.E.C.

IN EVERY HABITABLE ROOM, RECEPTACLE OUTLETS SHALL BE INSTALLED SO THAT NO POINT ALONG THE FLOOR LINE IN ANY WALL SPACE IS MORE THAN SIX FEET MEASURED HORIZONTALLY, FROM AN OUTLET IN THAT SPACE. INCLUDING ANY WALL SPACE TWO FEET OR MORE IN WIDTH AND THE WALL SPACE OCCUPIED BY FIXED PANELS IN EXTERIOR WALLS, BUT EXCLUDING SLIDING PANELS IN EXTERIOR WALLS. THE WALL SPACE AFFORDED BY FIXED ROOM DIVIDERS, SUCH AS FREE-STANDING BAR-TYPE COUNTERS, SHALL BE INCLUDED IN THE SIX FOOT MEASUREMENT. C.E.C.

ATTICS AND ROOF AREAS THAT ARE ACCESSIBLE, THE ELECTRICAL CABLE WITHIN SEVEN (7) FEET OF OPENING SHALL BE PROCTECTED.PER C.E.C. 320.23

CARBON MONOXIDE ALARMS

(A) SPECIFY THAT CARBON MONOXIDE ALARMS SHALL BE INSTALLED IN THIS DWELLING PER C.R.C R315

(B) SPECIFY THAT CARBON MONOXIDE ALARMS SHALL BE "LISTED" AS COMPLYING WITH UL2034 AND UL2075 PER C.R.C. R315.3

RECEPTACLES SHALL.

(A) NOT BE OVER 6' FROM OPENINGS INCLUDING ANY WALL SPACE 2' OR WIDER.

(B) NOT BE MORE THAN 12' O.C. INCLUDING SLIDING GLASS DOORS.

(C) BE G.F.I. CIRCUTS WHEN INSTALLED WITHIN 6' OF SINKS AND WHEN INSTALLED OUTDOORS PER C.E.C. ARTICLE 210-8(a).

(D) HAVE WATERPROOF COVERS WHEN INSTALLED OUTDOORS.

A 22" x 30" MINIMUM ACCESS TO FURNACE

LOCATED IN THE ATTIC IS REQUIRED. IN ADDITION THE OPENING AND PASSAGEWAY MUST BE AS LARGE AS THE LARGEST COMPONENT OF THE APPLIANCE.

A SOLID 24" MIN. WIDE PLATFORM PATH FROM THE ACCESS OPENING TO THE FURNACE, WITH A RECEPTACLE AT THE FAU AND LIGHT, SWITCHED FROM THE ACCESS OPENING. PER C.M.C. 904.11

PROVIDE AN ADDITIONAL WATERTIGHT CORROSION RESISTANT METAL PAN BELOW CONDENSATE PRODUCING EQUIPMENT (IE. FURNACE) INSTALLED IN ATTIC. A SECONDARY DRAIN LINE MUST BE LOCATED AT A POINT WHERE IT CAN BE READILY OBSERVED. PER C.M.C. 310.2

ACCESS DOOR TO THE FURNACE/COOLING EQUIPMENT / COMPARTMENT SHALL BE A MINIMUM OF 24" WIDE AND A MINIMUM OF 30" CLEAR WORKING SPACE (OF A HEIGHT EQUAL TO THAT OF THE EQUIPMENT OR 6.5 FEET) ON THE FIREBOX SIDE.

PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) INSTALLED IN RESIDENTIAL BUILDINGS SHALL COMPLY WITH THE PRESCRIPTIVE REQUIREMENTS OF CGBC SECTION 4.303.1.1 THROUGH 4.303.1.4.4

PLUMBING FIXTURES AND FITTINGS REQUIRED IN CGBC SECTION 4.303.1 SHALL BE INSTALLED IN ACCORDANCE WITH THE C.P.C AND SHALL MEET THE APPLICABLE REFERENCD STANDARDS.

ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OR RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.

HVAC SYSYTEM INSTALLERS ARE TRAINED AND CERTIFED IN THE PROPER INSTALLATION OF HVAC SYSTEMS.

SMOKE DETECTORS SHALL BE INTERCONNECTED 110V WITH BATTERY BACKUP, WHICH ARE AUDIBLE IN ALL SLEEPING AREAS AT THE FOLLOWING LOCATIONS: (1) ALL BEDROOMS; (2) HALLWAYS LEADING TO BEDROOMS, (4) AT LEAST ONE AT EVERY LEVEL AND (5) FARTHER THAN 3 FEET HORIZONTAL DISTANCE FROM THE BATHROOM DOOR CONTAINING A BÁTHTUB OR SHOWER. PER C.R.C. R314.3, R314.4, R314.5.

AN ARC-FAULT CIRCUIT INTERRUPTER SHALL PROTECT ALL 120-VOLT, SINGLE PHASE, 15-AND 20-AMP BRANCH CIRCUITS SUPPLYING OUTLETS IN DWELLING UNIT FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILAR ROOMS OR AREAS. PER C.E.C. 210.12(A)

TWO SMALL APPLIANCE BRANCH CIRCUITS ARE REQUIRED FOR THE KITCHEN AND ARE LIMITED TO SUPPLYING WALL AND COUNTER SPACE OUTLETS FOR THE KITCHEN, PANTRY, BREAKFAST ROOM, DINING ROOM, OR SIMILAR AREAS. NOTE: THESE CIRCUITS CANNOT SERVE OUTSIDE PLUGS, RANGE HOOD, DISPOSALS, DISHWASHERS OR MICROWAVES - ONLY THE REQUIRED COUNTERTOP/WALL OUTLETS INCLUDING THE REFRIGERATOR. PER C.E.C. 210-11(C)(1) AND 210-52 (B)

A DEDICATED 20-AMP CIRCUIT IS REQUIRED TO SERVE THE REQUIRED BATHROOM OUTLETS. THIS CIRCUIT CANNOT SUPPLY ANY OTHER RECEPTACLES, LIGHTS, FANS, ETC. (EXCEPTION-WHERE THE CIRCUIT SUPPLIES A SINGLE BATHROOM, OUTLETS FOR OTHER EQUIPMENT WITHIN THE SAME BATHROOM SHALL BE PERMITTED TO BE SUPPLIED.) PER C.E.C. 210.52 (C)(3) AND EXCEPTION: CEC210.23(A)(1) AND (A)(2).

A DEDICATED 20-AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY THE LAUNDRY RECEPTACLE OUTLET. PER C.E.C. 210.11(C)(2) AND 210.52(F)

A PRESSURE ABSORBING DEVICE (OR APPROVED MECHANICAL DEVICE), LOCATED AS CLOSE AS POSSIBLE TO QUICK ACTING VALVES, THAT WILL ABSORB HIGH PRESSURES RESULTING FROM THE QUICK CLOSING OF QUICK-ACTING VALVES (I.E., DISHWASHER, WASHING MACHINE, ETC.). PER C.P.C. 609.10

EXHAUST OUTLETS SHALL BE LOCATED A MINIMUM OF 10-FT FROM DOORS, OCCUPIED AREAS AND OPERABLE WINDOWS.

PER C.M.C. 407.2.2

ELECTRICAL/MECHANICAL SYMBOL LEGEND

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/ MECH. NOTES

ELEC. PLAN

DRAWN BY

Michael S, Radu Miller & Joch

CHECKED BY

PBD

18-23

11/23/2021

AS SHOWN

A-5

JOB NO.

DATE

SCALE

SHEET

\$	LIGHT SWITCH, SINGLE POLE; +48" U.O.N.
\$	LIGHT SWITCH, 3-WAY; +48" U.O.N.
\$	LIGHT SWITCH, DIMMABLE; +48" U.O.N.
ب ج	CEILING FAN/LIGHT CONTROL
FC H	OUTLET, DUPLEX CONVENIENCE - 20A, 120V; +12"
\oplus	U.O.N.
	OUTLET, SAME AS ABOVE EXCEPT GFI TYPE
W.P.	OUTLET, SAME AS ABOVE EXCEPT GFI & WATER PROOF
₩ ^{OFT} II AFCI	
\bigoplus_{\parallel}	OUILEI, AKC-PAULI CIKCUII INTEKKUPTEK
Φ	OUTLET, IN CAB FACE, GFI IN KITCHEN
$\mathbf{\Phi}$	SWITCHED OUTLET, 1/2 HOT - 20A, 120V; +12" U.O.N.
\oplus	OUTLET, FOURPLEX CONVENIENCE - 20A, 120V +12" U.O.N.
Ŵ	OUTLET, INDIVIDUAL APPLIANCE - 20A, 220V
(ji) ^{'''} U/C	UNDER-COUNTER OUTLET
$\Phi_{c/T}$	COUNTER-TOP OUTLET
•	FLOOR OUTLET - 20A, 120V
$\bigtriangledown \Phi$	DOT ADJACENT TO SYMBOL INDICATES MOUNTING ABOVE COUNTER TOP
	PENDANT MOUNTED LIGHT FIXTURE
${\leftarrow}$	
γ	SURFACE MOUNTED LIGHT FIXTURE
L.V.	LOW VOLTAGE RECESSED FIXTURE
\square	RECESSED CEILING LIGHT FIXTURE
	RECESSED FLOURESCENT CEILING LIGHT FIXTURE
	ACCENT LIGHT
	WALL MOUNTED LIGHT FIXTURE
۲ ٻ ۲	
) >	WALL SCONCE FLOURESCENT FIXTURE, UNDER CAB MNTD. DIRECT WIRE, LENGTH VARIES
,	SURFACE MOUNTED FLUORESCENT
	SURFACE MOUNTED FLUORESCENT FIXTURE
Ø O	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT
Ø Ø	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3)
ØO Ø	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL
Ø Ø ● ►	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N.
Ø Ø ► ►	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON POORBELL CHIME THERMOSTAT
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUGT FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON POORBELL CHIME THERMOSTAT JUNCTION BOX
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON DOORBELL CHIME THERMOSTAT JUNCTION BOX MOTOR CONNECTION
	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON DOORBELL CHIME THERMOSTAT JUNCTION BOX MOTOR CONNECTION APPROVED SMOKE DETECTOR - CEILING MOUNTED & WIRED TO MAIN SERVICE WITH
Ø Ø D D T P B T J O S.p. ⊗c.o.	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON PUSH BUTTON DOORBELL CHIME THERMOSTAT JUNCTION BOX MOTOR CONNECTION APPROVED SMOKE DETECTOR - CEILING MOUNTED & WIRED TO MAIN SERVICE WITH BATTERY BACK-UP
Ø Ø ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ► ►	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON DOORBELL CHIME THERMOSTAT JUNCTION BOX MOTOR CONNECTION APPROVED SMOKE DETECTOR - CEILING MOUNTED & WIRED TO MAIN SERVICE WITH BATTERY BACK-UP GARAGE DOOR OPENER
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	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DISPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON DOORBELL CHIME THERMOSTAT JUNCTION BOX MOTOR CONNECTION APPROVED SMOKE DETECTOR - CEILING MOUNTED & WIRED TO MAIN SERVICE WITH BATTERY BACK-UP GARAGE DOOR OPENER GAS OUTLET F.G. KEY HOSE BIB W/ YACUUM BREAKER
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$ \boxed{\bigcirc} \\ \bigcirc \\$	SURFACE MOUNTED FLUORESCENT FIXTURE FAN/FLUORESCENT LIGHT EXHAUST FAN (CEILING UNIT U.O.N.) (TO PROVIDE MIN. 5 AIR CHANGES/HR. PER UBC 1203.3) DIGPOSAL TELEPHONE OUTLET +12" U.O.N. FLOOR MOUNTED TELEPHONE JACK TELEVISION HOOKUP PUSH BUTTON DOORBELL CHIME THERMOSTAT JUNCTION BOX MOTOR CONNECTION APPROVED SMOKE DETECTOR - CEILING MOUNTED & WIRED TO MAIN SERVICE WITH BATTERY BACK-UP GARAGE DOOR OPENER GAS OUTLET F.G. KEY HOSE BIB W/ VACUUM BREAKER AIR REGISTER AT FLOOR AIR REGISTER @ CEIL. MOTION / SOLOR FLOOD LIGHT

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

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES **EFFECTIVE JANUARY 1. 2020**

	HCD SHL 615 (New 01/20)	
See s	pecific referenced sections for complete details on CALGreen mandatory requirements.	Se
SECTION		
Chapter 1 – A	DMINISTRATION	SECTION
	Scope	Chapter 4 -
		Division 4. ⁴
101.3.1	Applies to ALL newly constructed residential buildings: low-rise, high-rise, and hotels/motels.	4.106.2
102.3	Requires a completed Residential Occupancies Application Checklist or alternate method acceptable to the enforcing agency to be used for documentation of conformance.	
Chapter 3 – G		
	Additions and alterations	4.106.3
301.1.1	 Applies to additions or alterations of residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. 	
	Requirements only apply within the specific area of the addition or alteration.	
	Low-rise and high-rise residential buildings	
301.2	Banners identify provisions applying to low-rise only [LR] or high-rise only [HR].	
	Mixed occupancy buildings	
	Requires each portion of mixed occupancy buildings to comply with CALGreen measures applicable for the specific occupancy.	4.106.4
202.4	Exceptions:	
502.1	 Accessory structures and accessory occupancies serving residential buildings to comply with Chapter 4 and Appendix A4, as applicable. 	
	 Live/work units complying with the California Building Code Section 419 shall not be considered a mixed occupancy. Live/work units are required to comply with Chapter 4 and Appendix A4, as applicable. 	

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2019 CALGREEN RESIDENTIAL MANDATORY MEASURES **EFFECTIVE JANUARY 1, 2020**

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ee specific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREEN CODE

RESIDENTIAL MANDATORY MEASURES

– PLANNING AND DESIGN

REQUIREMENTS

of EV chargers.

Exceptions:

Storm water drainage and retention during construction

Projects which disturb less than 1 acre of soil and are not part of a larger common plan of development shall manage storm water drainage during construction.

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.

Exception: Additions and alterations which do not alter the existing drainage path.

Electric vehicle (EV) charging for new construction

Comply with Section 4.106.4.1, 4.106.4.2 or 4.106.4.3 for future installation and use

Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

1. On a case-by-case basis where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon 1 of the following:

1.1. Where there is no commercial power supply.

1.2. Verification that meeting requirements will alter the local utility infrastructure design requirements on the utility side of the meter increasing costs to the homeowner/developer by more than \$400.00 per dwelling unit.

2. Accessory Dwelling Units and Junior Accessory Dwelling Units without additional parking facilities.

Note: For definitions of Accessory Dwelling Units and Junior Accessory Units, see CALGreen Chapter 2.

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2019 CALGREEN RESIDENTIAL MANDATORY MEASURES

EV charging for hotels and motels

Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces

Number of required EV spaces

Table 4.106.4.3.1 shows the number of required EV spaces based on the total number

EV charging space (EV space) dimensions

Single EV space required (similar to 4.106.4.2.3)

Install a listed raceway capable of accommodating a 208/240-volt dedicated branch

Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter).

Raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV

Service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

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ALGreen.

HCD SHL 615 (New 01/20) See specific referenced sections for complete details on CALGreen mandatory re 2019 CALGREEN CODE SECTION REQUIREMENTS EV charging: 1- & 2-family dwellings/townhouses with attached Install a listed raceway to accommodate a dedicated 208/240-volume each dwelling unit. Raceway shall not be less than trade size 1 (nominal 1-inch insi Raceway shall originate at the main service or subpanel and ter 4.106.4.1 cabinet, box or other enclosure in close proximity to the propose charger. Raceways are required to be continuous at enclosed, inaccessil areas and spaces. Service panel and/or subpanel shall provide capacity to install a minimum dedicated branch circuit and space(s) reserved to peri branch circuit overcurrent protective device. Identification 4.106.4.1.1 | Service panel or subpanel circuit directory shall identify the overcur device space(s) reserved for future EV charging as "EV CAPABLE" termination location shall be permanently and visibly marked as "E' EV charging for multifamily dwellings Applies to all multifamily dwelling units with parking facilities on 10% of the total number of parking spaces provided for all types but in no case less than 1, shall be electric vehicle charging spa 4.106.4.2 capable of supporting future EVSE. Calculations for the number be rounded up to the nearest whole number. Note: Construction documents are intended to demonstrate the pr

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2	019 CALGREEN RESIDENTIAL MANDATORY MEASURES		CALGREEN, CALGREEN, CALGREEN, CALGREEN, CALCERN, CALCERN, DESIDENTIAL MANDATORY MEASURES			
_	EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)		EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)			
See s	pecific referenced sections for complete details on CALGreen mandatory requirements.	See s	specific referenced sections for complete details on CALGreen mandatory requirements.			
SECTION	2019 CALGREEN CODE		2019 CALGREEN CODE			
	Multiple EV spaces required (similar to 4.106.4.2.4)	Division 4.3 –	WATER EFFICIENCY AND CONSERVATION			
4.106.4.3.4	 Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also 		Water conserving plumbing fixtures and fittings Dlumbing fixtures and fittings aball comply with the following:			
	provide information on amperage of future EVSE, raceway method(s), wiring schematics and electrical load calculations to verify electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE.	4.303.1	 4.303.1.1 – Water closets: ≤ 1.28 gal/flush. 4.303.1.2 – Wall mounted urinals: ≤ 0.125 gal/flush; all other urinals ≤ 0.5 gal/flush. 4.303.1.3.1 – Single showerheads: ≤ 1.8 gpm @ 80 psi. 			
	 Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components planned to be installed underground, enclosed, inaccessible or, in concealed areas and spaces shall be installed at the time of original construction. 		 4.303.1.3.2 – Multiple showerheads: combined flow rate of all showerheads controlled by a single valve shall not exceed 1.8 gpm @ 80 psi, or only 1 shower outlet is to be in operation at a time. 4.303.1.4.1 – Residential lavatory faucets: maximum flow rate ≤ 1.2 gpm @ 60 psi; minimum flow rate ≥ 0.8 gpm @ 20 psi. 4.303.1.4.2 – Lavatory faucets in common and public use areas of residential 			
	Identification (similar to 4.106.4.2.5)		buildings: ≤ 0.5 gpm @ 60 psi.			
4.106.4.3.5	Service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.		 4.303.1.4.3 – Metering faucets: ≤ 0.2 gallons per cycle. 4.303.1.4.4 – Kitchen faucets: ≤ 1.8 gpm @ 60 psi; temporary increase to 2.2 gpm allowed but shall default to 1.8 gpm. 			
			Standards for plumbing fixtures and fittings			
4.106.4.3.6	Accessible EV spaces In addition to the requirements in Section 4.106.4.3, EV spaces for hotels/motels and all EVSE, when installed, shall comply with the accessibility provisions for EV charging	4.303.2	Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet applicable standards referenced in Table 1701.1 of the California Plumbing Code.			
	stations in the California Building Code, Chapter 11B.		Outdoor potable water use in landscape areas			
Division 4.2 –	ENERGY EFFICIENCY		Now residential developments shall comply with a level water efficient landscope			
	Scope	4.304.1	ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.			
	• Energy efficiency requirements for low-rise residential (Section 4.201.1) and high-	Division 4.4 –	- MATERIAL CONSERVATION & RESOURCE EFFICIENCY			
4.201.1 &	rise residential/hotels/motels (Section 5.201.1) are now in both residential and nonresidential chapters of CALGreen.		Rodent proofing			
5.201.1	 Standards for residential buildings do not require compliance with levels of minimum energy efficiency beyond those required by the 2019 California Energy Code. 	4.406.1	Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be closed with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency to prevent passage of rodents.			
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2019 CALGREEN RESIDENTIAL MANDATORY MEASURES **EFFECTIVE JANUARY 1, 2020**

HCD SHL 615 (New 01/20)

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pecific referenced sections for complete details on CALGreen mandatory requirements.	See s	pecific referenced sections for complete details on CALGreen mandatory requirements.				
2019 CALGREEN CODE		2019 CALGREEN CODE				
REQUIREMENTS	SECTION	REQUIREMENTS				
EV charging: 1- & 2-family dwellings/townhouses with attached private garages		EV charging space (EV space) locations				
 Install a listed raceway to accommodate a dedicated 208/240-volt branch circuit for each dwelling unit. Raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). 	4.106.4.2.1	Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least 1 EV space shall be located in the common use parking areas and shall be available for use by all residents.				
 Raceway shall originate at the main service or subpanel and terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV 		EV charging stations (EVCS)				
 Raceways are required to be continuous at enclosed, inaccessible, or concealed areas and spaces. 		 When EV chargers are installed, EV spaces (required by Section 4.106.4.2.2, Item 3,) shall comply with at least 1 of the following options: 1. The EV space shall be located adjacent to an accessible parking space meeting 				
 Service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device. 	4.106.4.2.1.1	 the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space. 2. The EV space shall be located on an accessible route to the building, as defined in the California Building Code, Chapter 2. Exception: EVCS designed and constructed in compliance with the California Building Code Chapter 11B are not required to comply with Section 4.106.4.2.1.1 and Section 4.106.4.2.2, Item 3. 				
Identification						
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."						
EV charging for multifamily dwallings		EV charging space (EV space) dimensions				
 Applies to all multifamily dwelling units with parking facilities on the site. 10% of the total number of parking spaces provided for all types of parking facilities, but in no case less than 1, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculations for the number of EV spaces shall be rounded up to the nearest whole number. Note: Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use. 	4.106.4.2.2	 EV spaces shall be designed to comply with the following: 1. The minimum length of each EV space shall be 18 feet. 2. The minimum width of each EV space shall be 9 feet. 3. 1 in every 25 EV spaces, but not less than 1, shall also have an 8-foot wide minimum aisle. A 5-foot wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet. a. Surface slope for this EV space and aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083% slope) in any direction. 				
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2019 CALGREEN RESIDENTIAL MANDATORY MEASURES **EFFECTIVE JANUARY 1, 2020**

	HCD SHL 615 (New 01/20)		
See s	specific referenced sections for complete details on CALGreen mandatory requirements.	See	specific referenced
	2019 CALGREEN CODE		
SECTION	REQUIREMENTS	SECTION	REQUIREMENTS
4.408.1	 Construction waste management Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous 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. Provide documentation to the enforcing agency per Section 4.408.5. Exceptions: 	4.408.4 & 4.408.4.1	 Projects that disposed in la area shall me Section 4.400 Projects that disposed in la area, shall m Section 4.400
	 Excavated soil and land-clearing debris. Alternative waste reduction methods developed by working with local enforcing 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. 	4.410.1	At the time of fir media acceptab be placed in the Where 5 or mor
4.408.1	Construction waste management plan	4.410.2	depositing, stora (at minimum) pa
4.408.2	Submit a construction waste management plan meeting Items 1 through 5 in Section 4.408.2. Plans shall be updated as necessary and shall be available for examination during construction.		or meet a lawful Exception: Ru Resources Code organic waste p
		Division 4.5	- ENVIRONMENT
	Waste management company		
4.408.3	Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that diverted construction and demolition waste materials meet the requirements in Section 4.408.1.	4.503.1	Any installed ga woodstove or pe Standards (NSF indicating they a fireplaces shall a

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See specific referenced section

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2019 CALGREEN RESIDENTIAL MANDATORY MEASURES

	EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)
S	specific referenced sections for complete details on CALGreen mandatory requirements.
	2019 CALGREEN CODE
	REQUIREMENTS
	Waste stream reduction alternative [LR]
	• Projects that generate a total combined weight of construction and demolition waste disposed in landfills, which do not exceed 3.4 pounds per square foot of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.
	• Projects that generate a total combined weight of construction and demolition waste disposed 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.
	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 covers 10 specific subject areas shall be placed in the building.
	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 is identified for the depositing, storage and collection of nonhazardous materials for recycling, including (at 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 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.

vision 4.5 – ENVIRONMENTAL QUALITY

Fireplaces - 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 all applicable local ordinances.

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2019 CALGREEN RESIDENTIAL MANDATORY MEASURES **EFFECTIVE JANUARY 1, 2020**

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See specific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREEN CODE

Concrete slab foundations

Concrete slab foundations or concrete slab-on-ground floors required to have a vapor retarder by the California Building Code, Chapter 19, or the California Residential Code, Chapter 5, respectively, shall also comply with this section.

Capillary break

A capillary break shall be installed in compliance with at least 1 of the following:

1. A 4-inch thick base of 1/2 inch or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.

2. Other equivalent methods approved by the enforcing agency.

3. A slab design specified by a licensed design professional.

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% moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or a contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements in Section 101.8.

2. Moisture readings shall be taken at a point 2 feet to 4 feet from the grade stamped end of each piece to be verified.

3. At least 3 random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Manufacturers' drying recommendations shall be followed for wet-applied insulation products prior to

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES

	EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)		EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)
See s	specific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREEN CODE	See s	specific referenced sections for complete details on CALGreen mandatory requirements.
SECTION	REQUIREMENTS	SECTION	ZUTY CALGREEN CODE REQUIREMENTS
	Protection of mechanical equipment during construction		Aerosol paints and coatings
4.504.1	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 intake and distribution component openings shall be covered. Tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used.	4.504.2.3 & 4.504.2.4	 Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(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;
	Adhesives, sealants and caulks	4.504.2.4	shall additionally comply with the percent VOC by weight of product limits of
	Adhesives, sealants 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:		 Regulation 8, Rule 49. Documentation is required per Section 4.504.2.4.
4 504 2 4	1. 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 SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products shall also comply with the Pule 1168 prohibition on the use of cortain toxic compounds		Carpet systems Carpet installed in the building interior shall meet the testing and product requirements of 1 of the following:
4.304.2.1	(chloroform, ethylene dichloride, methylene chloride, perchloroethylene and		1. Carpet and Rug Institute's Green Label Plus Program.
	 trichloroethylene), except for aerosol products, as specified in Subsection 2. 2. 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 	4.504.3	 California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).
	of certain toxic compounds, of California Code of Regulations (CCR), Title 17,		3. NSF/ANSI 140 at the Gold level.
	commencing with Section 94507.		4. Scientific Certifications Systems Indoor Advantage™ Gold.
	Paints and coatings		
	Architectural paints and coatings shall comply with VOC limits in Table 1 of the		Carpet cushion
4.504.2.2	Air Resources Board 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	4.504.3.1	Carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.
	and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and		Carpet adhesive
	the corresponding Flat, Nonflat, or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.	4.504.3.2	Carpet adhesives shall meet the requirements of Table 4.504.1.
	Page 11 of 16		Page 12 of 16
	CALGreen.		CALGreen.
	2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)		2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)
See	specific referenced sections for complete details on CALGreen mandatory requirements.	See	specific referenced sections for complete details on CALGreen mandatory requirements.
SECTION	REQUIREMENTS	SECTION	2019 CALGREEN CODE REQUIREMENTS
	Bathroom exhaust fans	CHAPTER 7 -	- INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS
	Each bathroom shall be mechanically ventilated and shall comply with the following:		Installer training
	 Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 		HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include, but are not limited to the
4.506.1	Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.		following: 1. State certified apprenticeship programs.
	a. Humidity controls shall be capable of manual or automatic adjustment between a relative humidity range of ≤ 50% to a maximum of 80%	702.1	2. Public utility training programs.
	 A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in. 		 Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
	Note: For CALGreen, a bathroom is a room which contains a bathtub, shower, or		4. Programs sponsored by manufacturing organizations.
	tub/shower combination. Fans or mechanical ventilation is required in each bathroom.		5. Other programs acceptable to the enforcing agency.
	Heating and air-conditioning system design		Special inspection
	Heating and air-conditioning systems shall be sized, designed and equipment selected using the following methods:	702.2	When required by the enforcing agency, special inspectors must be qualified and able to demonstrate competence to the enforcing agency in the discipline in which they are
	1. The heat loss and heat gain is established according to ANSI/ACCA 2		inspecting.
	Manual J – 2016 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.		Documentation

	EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)		EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)				
See s	pecific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREFN CODF	See	specific referenced sections for complete details on CALGreen mandatory requirements.				
SECTION	REQUIREMENTS	SECTION	2019 CALGREEN CODE REQUIREMENTS				
4.504.1	Protection of mechanical equipment during constructionAt 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 intake and distribution component openings shall be covered. Tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris entering the system may be used.	4.504.2.3 &	 Aerosol paints and coatings Aerosol paints and coatings shall meet the Product-weighted MIR Limits for R(Section 94522(a)(2) and other requirements, including prohibitions on use of c toxic compounds and ozone depleting substances, in Sections 94522(e)(1) an (f)(1) of California Code of Pequilations. Title 47, comparison with Castion 244 				
	Adhesives, sealants and caulks	4.504.2.4	and in areas under the jurisdiction of the Bay Area Air Quality Management District				
	Adhesives, sealants 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:		 shall additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49. Documentation is required per Section 4.504.2.4. 				
4.504.2.1	 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 SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products shall also 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. 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 (CCR), Title 17, commencing with Section 94507. 	4.504.3	Carpet systems Carpet installed in the building interior shall meet the testing and product requirements of 1 of the following: 1. Carpet and Rug Institute's Green Label Plus Program. 2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350). 3. NSF/ANSI 140 at the Gold level. 4. Scientific Certifications Systems Indoor Advantage™ Gold.				
	Paints and coatings						
4.504.2.2	Architectural paints and coatings shall comply with VOC limits in Table 1 of the Air Resources Board 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	4.504.3.1	Carpet cushion Carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.				
	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		Carpet adhesive				
	the corresponding Flat, Nonflat, or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.	4.504.3.2	Carpet adhesives shall meet the requirements of Table 4.504.1.				
2	2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20)		2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020				
See	2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20) specific referenced sections for complete details on CALGreen mandatory requirements.	See	2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20) specific referenced sections for complete details on CALGreen mandatory requirements.				
See s	CACGREEN 2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 MCD SHL 615 (New 01/20) specific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREEN CODE REQUIREMENTS	See	CACGREEN. 2019 CALGREEN RESIDENTIAL MANDATORY MEASURES EFFECTIVE JANUARY 1, 2020 HCD SHL 615 (New 01/20) specific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREEN CODE REQUIREMENTS				
See s	CALGEREEN 2019 CALGREEN RESIDENTIAL MANDATORY MEASURES 2019 CALGREEN RESIDENTIAL MANDATORY MEASURES LED SHL 615 (New 01/20) specific referenced sections for complete details on CALGreen mandatory requirements. 2019 CALGREEN CODE REQUIREMENTS Bathroom exhaust fans	See SECTION CHAPTER 7	Image: Wight State Stat				
See s	Image: Non-State State	See SECTION CHAPTER 7	Image: Contract of the section of t				
See s	Image: Non-State Structure Image: State Structure Example 2 Example 2	See SECTION CHAPTER 7	Image: Non-State State				
See s	Image: Construction of a whole house ventilation system, fans must be controlled by a humidity control.	See SECTION CHAPTER 7	Image: Non-State State				
See s	 With the following: Control of a whole house ventilation system, fans must be controlled by a humidity control. A humidity control shall be capable of manual or automatic adjustment between a relative humidity range of ≤ 50% to a maximum of 80%. A humidity control may be a separate component to the exhaust fan and is not required to be integral or built-in. 	See SECTION CHAPTER 7	Example 2 Example 3 Example 3 Example 3 Example 4 Example 5 Example 5				
See s	Image: Notes of the second	See SECTION CHAPTER 7	Every initial programs include, but are not limited to, the following: State certified apprenticeship programs. Fullic utility training programs. Forgrams sponsored by trade, labor or statewide energy consulting or certification organizations. Forgrams sponsored by manufacturing organizations. Forgrams sponsored by manufacturing organizations. Forgrams sponsored by manufacturing organizations. Fullic utility training organizations. Forgrams sponsored by manufacturing organizations.				
See s	Image: Note of the second section of the second section of the second section of the sectin of the section of the section of the section of the section of	See SECTION CHAPTER 7	Example 2 Example 2				
See s	 With the provided provide	SECTION CHAPTER 7 702.1	EVALUATE A SPECIAL INSPECTOR QUALIFICATIONS ALGRENT BALLER'S SPALING PROGRAMMENT HVAC system installers shall be trained and certified in the proper installation of HVAC systems and equipment by a recognized training or certification program. Examples of acceptable HVAC training and certification programs include, but are not limited to, the following: 1. State certified apprenticeship programs. 2. Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations. 5. Other programs acceptable to the enforcing agency. 				
See s	Image: Control of the state of the sta	See SECTION CHAPTER 7	Even of the enforcing agency, special inspectors must be qualified and able to the enforcing agency, special inspectors must be qualified and able to the enforcing agency in the discipline in which they are inspectine.				
See s	Image: Note of the second s	SECTION CHAPTER 7 702.1 702.2	Examples of the enforcing agency, special inspectors must be qualified and able to the enforcing agency in the discipline in which they are inspecting.				
See : SECTION 4.506.1 4.507.2	 With the end of the	See SECTION CHAPTER 7 702.1 702.2	Even of the enforcing agency, special inspectors must be qualified and able to demonstrate competence to the enforcing agency. The disciplination of compliance shall include, but is not limited to, construction documents, plans, specificants, builder or installer certification, inspection exports, or other methods acceptable to the local enforcing agency. Other specific documentation or specific ations, pecific agency. Other specific accumentation or specific agency. The verify compliance are specified in appropriate serving of CAL Green Compliance are specified in appropriate serving of CAL Green Complements.				

2019 CALGREEN RESIDENTIAL MANDATORY MEASURES

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01					CERTIFICATE OF COMPLIANCE - RESIDE	CF1R-PRF-01	CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01							CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF						CF1R-PF		
t Name: Simas ADU		Calculation Date/Time: 09:	16, Fri, Nov 12, 2021	Page 1 of 6	Project Name: Simas ADU		Calculation Date/Time: 09:16, Fri, Nov 12, 2021	Page 2 of 6	Project Name: Simas ADU		Ca	culation Date/Tim	e: 09:16, Fri, Nov	12, 2021	Page 3 of 6	Project Name: Simas ADU			Calculation I	ate/Time: 09:16, Fri, Nov 12, 202		Page /
ation Description: Title 24 Analysis		Input File Name: 0190948	Simas ADU.ribd16x		Calculation Description: Title 24 Analysis		Calculation Description: Title	24 Analysis	Inp	ut File Name: 019	0948 Simas ADU.	ribd16x		Calculation Description: T	Title 24 Analysis		Input File Na	ne: 0190948 Simas ADU.ribd16x				
RAL INFORMATION						ENE	RGY DESIGN RATING		ZONE INFORMATION							OVERHANGS AND FINS						
Project Name S	Simas ADU				Energy Design Rating (EDR) is an alternate wa	ay to express the energy performance of	f a building using a scoring system where 100 represents the	energy performance of the Residential	01	02	03	04	05	06	07	01	02	03 04	05 06	07 08 09 1	0 11 1:	12 13
Calculation Description	Title 24 Analysis				Energy Services (RESNET) reference home ch the energy performance of a building that com	naracterization of the 2006 International	Energy Conservation Code (IECC) with California modeling a with renewable generation to "zero out" its TDV energy Becau	ssumptions. A score of zero represents				Zone Floor Area	Avg. Ceiling					Overhan	9	Left Fin		Right Fin
Project Location 2	2180 Almaden Road				components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local					Zone Type	HVAC System Name	(ft²)	Height	Water Heating Sys	stem 1 Water Heating System 2			Left	Right			
CityS	San Jose	05	Standards Version Com	pliance 2017	jurisdictions pursuing local ordinances under As a Standard Design building under the 2016	Title 24, Part 11 (CALGreen). Building Energy Efficiency Standards i	s significantly more efficient than the baseline EDR building.	the EDR of the Standard Design building	ADU	Conditioned	HVAC System1	1044	8	DHW Sys 1	n/a	Window	Dep	h Dist Up Extent	Extent Flap Ht. D	epth Top Up Dist L Bo	Up Depth Top	Top Up Dist R Bot Up
Zip Code 9	95125	07 Co	mpliance Manager Version BEM	1CmpMgr 2016.3.1 (1149)	is provided for Information. Similarly, the EDR	score of the Proposed Design is provid	led separately from the EDR value of installed PV so that the	effects of efficiency and renewable	OPAQUE SURFACES							Glass Door	6	0.1 6	6 0	0 0 0	0 0	0
Climate Zone C	CZ4	09	Software Version Ener	rgyPro 7.2	energy can both be seen	EDP of Bronosod Efficiency	EDB Value of Proposed BV + Battery	Final Proposed EDP	01	02	03	04	05	06	07 08	Window	6	0.1 6	6 0	0 0 0	0 0	0
Building Type S	Single Family	11 Front	t Orientation (deg/Cardinal) 180		EDR of Standard Entitlency	EDR OF Proposed Efficiency		55.2	Name	Zone	Construction	Azimut	h Orientation	Gross Area (ft ²) Wi	indow & Door Area (ft ²) Tilt (deg)	OPAQUE SURFACE CONSTR	UCTIONS	~	5m.		~	
Project Scope N	Newly Constructed	13	Number of Dwelling Units 1		Design meets Tier 1 requirement	of 15% or greater code compliance mar	ain (CAL Green A4 203 1 2 1) and Oll verification prerequisite	55.2	Front Wall	ADU	R-15 Wall	180	Front	288	92.01 90	01	02	03	04	05 06		07
Total Cond. Floor Area (ft ²) 1	1044	15	Number of Zones 1		Design meets Tier 2 requirement	of 30% or greater code compliance man	gin (CAL Green A4 203.1.2.2) and Oil verification prerequisite.		Left Wall	ADU	R-15 Wall	270	Left	232	32 90					Total Cavity Winter Desig	1	-
Slab Area (ft ²)	0	17	Number of Stories 1		Design meets Zero Net Energy (Z	NE) Design Designation requirement for	r Single Family in climate zone C74 (CAL Green A4 203 1 2 3) i	ncluding on-site photovoltaic (PV)	Rear Wall	ADU	R-15 Wall	0	Back	288	45 90	C onstruction Name	Surface Typ	e Construction Type	Framing	R-value U-factor	Assem	ibly Layers
Addition Cond. Floor Area(ft ²)	n/a	19	Natural Gas Available No		renewable energy generation suff	ficient to achieve a Final Energy Design	Rating (EDR) of zero or less. The PV System and QII must be	verified.	Interior Surface	ADU	R-15 Wall1	n/a	n/a	232	0 n/a						 Cavity / Frame: no Roof Deck Wood S 	insul. / 2x4 Sidina/sheathina/d
Addition Slab Area (#2)	n/a	21	Glazing Percentage (%) 16.2	%	Notes:	ng DV sins limit may visite hat France	Makada a ALEND and an		Roof	ADU	R-38 Roof Atti	: n/a	n/a	1044	n/a n/a	Attic RoofADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	none 0.644	 Rooting: Light Root 	It (Asphalt Shingle,
Addition Stab Area ((r))			• • • • •		• Excess PV Generation EDR Credit: Bypassi	ng PV size limit may violate Net Energy	Metering (NEM) rules		Raised Floor	ADU	R-19 Floor Crawls	oace n/a	n/a	1044	n/a n/a		Floore Ores			D 10 in 5 1/0 in	Floor Surface: Carp	peted
ANCE RESULTS					REQUIRED SPECIAL FEATURES						a lan		-			R-19 Floor Crawlspace	Crawlspace	Wood Framed Floor	2x6 @ 16 in. O.C.	cavity (R-18) 0.050	 Cavity / Frame: R-1 	-19 in 5-1/2 in. (R-18
01 Building Complies with Compute	er Performance	CDTC	la c		The following are features that must be installed a	as condition for meeting the modeled energ	gy performance for this computer analysis.		ATTIC		COLLE	DTC	10/	Ph				1. 1.	ICEDT	S MC	Inside Finish: Gyps	sum Board
2 This building incorporates featur	res that require field testing and/	or verification by a certified HERS	rater under the supervision of a 0	CEC-approved HERS provider.	Window overhangs and/or fins Northwest Energy Efficiency Alliance (NEE)	A wated heat nume water beater encode	a brand/model, as amiuntant must be installed		01	02	03	04	- 05	06	07 08	D 15 Mall	Exterior Mol	Wood Fromed Wall	2v1 @ 16 in 0.0	D 15 0.005	Cavity / Frame: R-1	15/2x4
This building incorporates one of	or more Special Features shown I	elow			· Northwest Energy Enciency Amarice (NEEA	a) rated heat pump water heater, specific	c branchilodel, of equivalent, must be installed		Name	Construction		oof Rise Ro	of Reflectance	Roof Emittance R	adiant Barrier Cool Roof	R-15 Wall	Exterior wai	s wood rrained wait		R 15 01055	Inside Einish: Guns	sum Board
	TERS	PROVIL	DER		HERS FEATURE SUMMARY	HERS	PROVIDER		Attic ADU	Attic RoofADU	Ventilated	4	0.1	0.85	Yes No		Ceilings (belo	w 111	RS PRO	VIDER	 Cavity / Frame: R-9 	9.1 / 2x4
	EN	RGY USE SUMMARY	- T		The following is a summary of the features that m	ust be field-verified by a certified HERS Ra	ater as a condition for meeting the modeled energy performance f	or this computer analysis. Additional detail is	· · · · ·	I					,	R-38 Roof Attic	attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R 38 0.025	Over Ceiling Joists	: R-28.9 insul.
04	05	06	07	08	provided in the building components tables below	L.			FENESTRATION / GLAZING												 Inside Finish: Gyps Cavity / Frame: R-3 	ium Board -15/2x4
Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement	IAQ mechanical ventilation				01	02	03	04 0	5 06	07 08	09 10	R-15 Wall1	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 15 0.086	Other Side Finish:	Gypsum Board
Space Heating	7.77	14.82	-7.05	-90.7%	Cooling System Verifications:							Hei	ght	Area		BUILDING ENVELOPE - HER	S VERIFICATION	177				
Space Cooling	14.09	15.53	-1.44	-10.2%	HVAC Distribution System Verifications:				Name	Type Su	rface (Orientation-Azimuth)	Width (ft) (f	t) Multiplier	(ft ²) U-factor S	SHGC Exterior Shading	01			02	03		04
IAQ Ventilation	1.51	1.51	0.00	0.0%	 None Domestic Hot Water System Verifications: 				Glass Door	Window	Front Wall (Front-180)	3.0 6.	7 1	20.0 0.40	0.35 Insect Screen (default)	Quality Insulation In	nstallation (OII)	Quality Installa	on of Spray Foam Insulation	Building Envelope Air Leakad	e	CFM50
Water Heating	28.66	16.54	12.12	42.3%	+ None				Window	Window	Front Wall (Front-180)	8.0 4.	0 1	32.0 0.40	0.35 Insect Screen (default)	Not Real	uired		Not Required	Not Required		n/a
Photovoltaic Offset		0.00	0.00		BUILDING - FEATURES INFORMATION				Glass Door 2	Window	Front Wall (Front-180)		- 1	40.0 0.40	0.35 Insect Screen (default)							
Compliance Energy Total	52.03	48.40	3.63	7.0%	01	02 03	04 05	06 07	Window 2	Window	Left Wall (Left-270)		- 1	32.0 0.40	0.35 Insect Screen (default)	WATER HEATING SYSTEMS						
						Number of Dwelling	Number	of Ventilation Number of Water	Window 3	Window	Rear Wall (Back-0)		- 1	9.0 0.40	0.35 Insect Screen (default)	01		02	03	04	05	06
					Project Name Conditioned	d Floor Area (ft ²) Units	Number of Bedrooms Number of Zones Cool	ng Systems Heating Systems	Window 4	Window	Rear Wall (Back-0)	200 (20	- 1	8.0 0.40	0.35 Insect Screen (default)	Name		System Type	Distribution Type	Water Heater M	umber of Heaters	Solar Fraction
					Simas ADU	1044 1	2 1	0 1	Window 5	Window	Rear Wall (Back-0)		- 1	12.0 0.40	0.35 Insect Screen (default)	DHW Sys 1		DHW	Standard	DHW Heater 1 (1)	1	.0%
									Window 6	Window	Rear Wall (Back-0)		· 1	16.0 0.40	0.35 Insect Screen (default)							
In Number: 219-P0102542098-000-000-0000000-	0-0000 Registration	Date/Time: 2021-11-12.09	9:33:24 HERS F	Provider: CalCERTS inc.	Registration Number: 219-P010254209B-000-000-0	000000-0000 Registration D	Date/Time: 2021-11-12.09:33:24 HI	ERS Provider: CalCERTS inc.	Registration Number: 219-P010254	4209B-000-000-0000000-0000	Registration Date/Tim	e: 2021-11	1-12 09:33:24	HERS Pro	ovider: CalCERTS inc.	Registration Number: 219-P01	02542098-000-000-0	000000-0000	Registration Date/Time:	2021-11-12 09:33:24	HERS Provider:	Calr
-narray Efficiency Standards 2016 Decident	ntial Compliance Report Versi	on - CE1R-01162019-1149	Report	Generated at 2021-11-12 09:16:58	CA Building Energy Efficiency Standards - 2016 R	Residential Compliance Report Versio	n - CE1R-01162019-1149 R	eport Generated at: 2021-11-12 09:16:58	CA Building Energy Efficiency Star	dards - 2016 Residential Com	pliance Report Version - CF1	2-01162019-1149		Report Ge	enerated at 2021-11-12 09:16:58	CA Building Energy Efficiency S	Standards - 2016 F	esidential Compliance	Report Version - CF1R-01162019	1149	Report Generated at	£ 2021-11-12 D'

ATER HEATERS	02	02	01	05		06	07		08	09	10	11		12	
Name	Heater Element Type	Tank Type	Number of Units	Tank Volume (gal)	Unifo Facto Factor	orm Energy or / Energy / Efficiency	Input Ratin Pilot / Therma Efficienc	ng/ Ins I R y (Ir	Tank Stan Insulation Los R-yalue Reco (Int/Ext) E		y First Hou ry Rating Flow Ra	ur NEEA Hea / Brand / M be Othe	Heat Pump I / Model / Or Amb Other Condit		
DHW Heater 1	Heat Pump	n/a	1	50	NE	EA Rated	n/a	R	0/R-0	n/a		Rheem / PF T2 RH350 gal	ROPH50 DC (50)	Outside or Exterior closet	
PACE CONDITION	ING SYSTEMS														
	01		-	02	_	03	ait blann a		04	Name		05	Dist	06	
HV	AC System 1	1	Heat Pump Cooling	Heating an System	id	Heat Pump	System 1	Hea	t Pump Sy	vstern 1	Pan N	one	e - none -		
VAC - HEAT PUMP	s				3			-					52		
01		02	2		03	04	05	06	07	08	09	10		11	
Name	Name		tem Numbe pe Unit		nber of Inits	Heating		Cap 17	Coo SEER	EER	Zonally Controlled	Zonally Compressor Controlled Type		r HERS Verification	
Heat Pump Syst	tem 1	DuctlessMiniS	plitH eatPump	H		S ^{8.2}	24000	18720	14	11.7	Not Zonal	Single Speed	Heat	Pump System -hers-cool	
VAC COOLING - H	ERS VERIFICA	TION													
01		[02			03			04		05	Ę.		06	
Name		v	erified Airflo	w		Airflow T	arget	v	erified EE	EER Verified SEER Char		Verified SEER		d Refrigerant Charge	
Heat Pump System	n 1-hers-cool		Not Required			n/a		N	ot Require	ed	Not Re	quired	No	t Required	
Q (Indoor Air Qua	lity) FANS														
01			02			03			04	ł.		05		06	
Dwelling U	Jnit	U	Q CFM			IAQ Watts	/CFM		IA Q Far	n Type	IAQ F Effecti	tecovery veness(%)	HER	5 Verification	
0	ntRpt		33			0.25			Defa	ault		0		Required	

DOCU	MENTATION AUTHOR'S DECLARATION STATEMENT	
1. I cer	tify that this Certificate of Compliance documentation is accurate and complete.	
Docum	nentation Author Name:	
Nich	olas Bignardi	
Compa	any:	
FRI	Energy Consultants, LLC.	
Addres	SS:	
21 N	. Harrison Ave,	
City/St Cam	ate/Zip: ipbell, CA 95008	
DEOD		

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE

	Regulations.	onnance specin			
3.	The building design features or system d worksheets, calculations, plans and spec	esign features id	entified on thi ted to the enfo	is Certificate o orcement ager	
Resp	onsible Designer Name:	-	()		
Mic	hael S Radu		6		
Comp	pany:		HE	DS	
Pac	tific Blue Development			n S	
Addre	ess:				
174	Wedgewood Ave				
City/S	State/Zip:				_
Los	Gatos, CA 95032				
City/S Los	State/Zip: Gatos, CA 95032				

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this Registration Provider responsibility for the accuracy of the information.

 Registration Number:
 219-P010254209B-000-000-000000-0000
 Registration Date/Time:
 2021-11-12 09:33:24
 CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-01162019-1149

2016 Low-Rise Residential Mandatory Measures Summary

<u>NOTE:</u> Low-rise r used. Review the (Revised 04/2017)	esidential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach respective section for more information. *Exceptions may apply.)
Building Envelop	be Measures:
§ 110.6(a)1:	Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm/ft ² or less when tested per NFRC-400 or ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	Labeling. Fenestration products must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from TABLES 110.6-A and 110.6-B for compliance and must be caulked and/or weatherstripped.*
§ 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 specified or installed must meet Standards for Insulating Material.
§ 110.8(g):	Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(j):	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) when the installation of a cool roof is specified on the CF1R.
§ 110.8():	Radiant Barrier. A radiant barrier must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	Above Grade Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or U- factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly.*
§ 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%; have a water vapor permeance no greater than 2.0 perm/inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor; meet the requirements of § 110.8(g).
§ 150.0(g)1:	Vapor Retarder. In Climate Zones 1-16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	Vapor Retarder. In Climate Zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, Deco	rative Gas Appliances, and Gas Log Measures:
§ 150.0(e)1A	Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)1B:	Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.*
§ 150.0(e)1C:	Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
§ 150.0(e)2:	Pilot Light. Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Condition	ing, Water Heating, and Plumbing System Measures:
§ 110.0-§ 110.3:	Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.*
§ 110.2(a):	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in TABLE 110.2-A through TABLE 110.2-K.*
§ 110.2(b):	Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	Thermostats. All unitary heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)5:	Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)5.
§ 110.3(c)7:	Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBTU/hr (2 kW) must have isolation valves with hose bibbs or other fittings on both cold water and hot water lines of water heating systems to allow for water tank flushing when the valves are closed.
§ 110.5:	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (appli- ances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters.*
§ 150.0(h)1:	Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; SMACNA Residential Comfort System Installation Standards Manual; or ACCA Manual J using design conditions specified in § 150.0(h)2.

METHOD Calculation Date/Time: 09:16, Fri, Nov 12, 2021	CF1R-PRF-01 Page 6 of 6
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§ 150.0(h)3A	Clearances. Installed air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet from the outlet of any drver vent.
§ 150.0(h)3B:	Liquid Line Drier. Installed air conditioner and heat pump systems must be equipped with liquid line filter driers if required, as specified by manufacturer's instructions.
§ 150.0@1:	Storage Tank Insulation. Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must hav R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0@2A:	Water piping and cooling system line insulation. For domestic hot water system piping, whether buried or unburied, all of the following mus be insulated according to the requirements of TABLE 120.3-A: the first 5 feet of hot and cold water pipes from the storage tank; all piping with a nominal diameter of 3/4 inch or larger; all piping associated with a domestic hot water recirculation system regardless of the pipe diameter; piping from the heating source to storage tank or between tanks; piping buried below grade; and all hot water pipes from the heating source to kitchen fixtures.*
§ 150.0(j)2B:	Water piping and cooling system line insulation. All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve.*
§ 150.002C:	Water piping and cooling system line insulation. Pipe for cooling system lines must be insulated as specified in § 150.0())2A. Distribution piping for steam and hydronic heating systems or hot water systems must meet the requirements in TABLE 120.3-A*
§ 150.0()3:	Insulation Protection. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind.
§ 150.003A:	Insulation Protection. Insulation exposed to weather must be installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. The cover must be water retardant and provide shielding from solar radiation that can cause degradation of the material.
§ 150.0()3B:	Insulation Protection. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must have Class I or Class II vapor retarder.
§ 150.0(n)1:	Gas or Propane Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: a 120V electrical receptacle within 3 feet of the water heater, a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed, a condensate drain that is no more than 2 inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
§ 150.0(n)2:	Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a listing agency that is approved by the Executive Director.
Ducts and Fans	Measures:
§ 110.8(d)3:	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m) 1:	CMC Compliance. All air-distribution system ducts and plenums must be installed, sealed, and insulated to meet the requirements of CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portion of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 (or higher if required by CMC § 605.0) or a minimum installed level of R-4.2 when entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). 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 requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh o tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area of the ducts.
§ 150.0(m)2	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	Backdraft Dampers. All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§ 150.0(m)8:	Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	Protection of Insulation. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, o plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m) 10:	Porous Inner Core Flex Duct. Porous inner core flex duct must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m) 11:	Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11 and Reference Residential Appendix RA3.
	Air Filtration. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal

The second second	2016 Low-Rise Residential Mandatory Measures Summary		2016 Low-Rise Residential
	Duct System Sizing and Air Filter Grille Sizing. Space conditioning systems that use forced air ducts to supply cooling to an occupiable space must have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the	§ 150.0(k)2J:	Interior Switches and Controls. In bathrooms, garages, I be controlled by a vacancy sensor.
§ 150.0(m) 13:	supply plenum. The space conditioning system must also demonstrate airflow \geq 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy \leq 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with	§ 150.0(k)2K:	Interior Switches and Controls. Dimmers or vacancy ser Reference Joint Appendix JA8, except luminaires in closet
	Reference Residential Appendix RA3.3. This applies to both single zone central forced air systems and every zone for zonally controlled central	§ 150.0(k)2L	Interior Switches and Controls. Undercabinet lighting mu
150.0(o):	Ventilation for Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing whole-building ventilation.	§ 150.0(k)3A	Residential Outdoor Lighting. For single-family residenti buildings on the same lot, must meet the requirement in its § 150.0(k)3Aii (photocell and motion sensor) or item § 150 EMCS)
§ 150.0(o)1A	Field Verification and Diagnostic Testing. Whole-building ventilation airflow must be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.7.	\$ 150 0 (k) 3B	Residential Outdoor Lighting. For low-rise multifamily re and porches: and outdoor lighting for residential parking to
ool and Spa Sy	stems and Equipment Measures:	3 100.041900.	either § 150.0(k)3A or with the applicable requirements in
§ 110.4 (a):	Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermost at setting, a permanent weathermoof plate or card with operating instructions; and must not use electric.	§ 150.0(k)3C:	Residential Outdoor Lighting. For low-rise residential bu § 150.0(k)38 or § 150.0(k)3D must comply with the applica Residential Outdoor Lighting, Outdoor Lighting for reside
	without adjusting the methods at setting, a permanent wear reproof plate of card with operating instructions, and must not use electric resistance heating."	§ 150.0(k)3D:	vehicles are site out contractionally with the applicable requirem
§110.4(b)1:	Piping. Any pool or spa heating equipment must be installed with at least 3b inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.		power as determined according to § 130.0(c).
3110.4(b)2:	Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.		Residential Garages for Eight or More Vehicles. Lightin
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.	§ 150.0(k)6A	Interior Common Areas of Low-rise Multi-Family Resid common area in a single building equals 20 percent or less
110.5:	Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.	5	building must be high efficacy luminaires and controlled by
3 150.0(p):	Pool Systems and Equipment installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, now rate, piping, filters, and valves."	\$ 150 0 (k)6B	common area in a single building equals more than 20 per i. Comply with the applicable requirements in \$\$ 110.9, 13
Ignung weasur	es: Lighting Controls and Components. All lighting control devices and evidence hollagts, and luminaires must reset the applicable requirements.	3 100.0(1900.	ii. Lighting installed in corridors and stairwells must be con
110.9:	of § 110.9.	Solar Ready Bu	50 percent. The occupant sensors must be capable of turn Idinas:
110.9(e):	JA3 High Efficacy Light Sources. To qualify as a JA8 high efficacy light source for compliance with § 150.0(k), a residential light source must be certified to the Energy Commission according to Reference Joint Appendix JA8.	Joran Ready Du	Single Family Residences. Single family residences local
150.0(k)1A:	Luminaire Efficacy. All installed luminaires must be high efficacy in accordance with TABLE 150.0-A.	§ 110.10(a)1:	application for a tentative subdivision map for the residence requirements of § 110.10(b) through § 110.10(e).
150.0(k)1B:	Blank Electrical Boxes. The number of electrical boxes that are more than 5 feet above the trinished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or	§ 110.10(a)2:	Low-rise Multi-family Buildings. Low-rise multi-family bu
	fan speed control.		Minimum Area. The solar zone must have a minimum tota
1 50.0(k) 1C:	Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)1C. A JA8-2016-E light source rated for elevated temperature must be installed by final inspection in all recessed downlight luminaires in ceilings.		jurisdiction, and spacing requirements as specified in 1 if e jurisdiction. The solar zone total area must be comprised o each for buildings with roof areas less than or equal to 10,0
150.0(k)1D:	Electronic Ballasts. Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.	§ 110.10(b)1:	greater than 10,000 square feet. For single family residences the solar zone must be locate
150.0(k)1E:	Night Lights. Permanently installed night lights and night lights integral to installed luminaires or exhaust fans must be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with § 130.0(c). Night lights do not need to be controlled by vacancy sensors.		square feet. For low-rise multi-family buildings the solar zo of another structure located within 250 feet of the building, than 15 percent of the total roof area of the building exclud
§ 150.0(k)1F:	Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods)	§ 110.10(b)2:	Orientation. All sections of the solar zone located on steep
150.0(k)1G:	Screw based luminaires. Screw based luminaires must not be recessed downlight luminaires in ceilings and must contain lamps that comply with Reference Joint Appendix JA8. Installed lamps must be marked with "JA8-2016" or "JA8-2016-E" as specified in Reference Joint Appendix	§ 110.10(b)3A:	Shading. The solar zone must not contain any obstruction mounted equipment.*
150 0/0410	JA8.*	§ 110.10(b)3B:	distance, measured in the horizontal plane, of the height di
3 150.0(k) 1H. S 150.0(k) 2A:	Interior Switches and Controls. All forward phase out dimmers used with LED light sources must comply with NEMA SSL 7A	044040404	the nearest point of the solar zone, measured in the vertica Structural Design Loads on Construction Documents.
150.0(k)2R	Interior Switches and Controls. All following prose our diminististicated with EED light sources must comply with NEWA 35E 7A	§ 110.10(b)4:	dead load and roof live load must be clearly indicated on th
150.0(k)2C:	Interior Switches and Controls. Luminaires must be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF.	§ 110.10(c):	Interconnection Pathways. The construction documents routing of conduit from the solar zone to the point of interco- interconnection will be the main service page(); and a path
§ 150.0(k)2D:	Interior Switches and Controls. Controls and equipment must be installed in accordance with manufacturer's instructions.	\$ 110 10(d)	Documentation. A copy of the construction documents or
§ 150.0(k)2E:	Interior Switches and Controls. No control must bypass a dimmer or vacancy sensor function if the control is installed to comply with \$ 150.040	\$ 110.10(a).	§ 110.10(c) must be provided to the occupant. Main Electrical Service Panel. The main electrical service
150.0(k)2F:	Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9.	3 110.10(0)1.	Main Electrical Service Panel. The main electrical service
§ 150.0(k)2G:	Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with dimmer requirements if it: functions as a dimmer according to § 110.9, meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.5(f): and meets all other requirements in § 150.0(k)2	§ 110.10(e)2	breaker for a future solar electric installation. The reserved main circuit location; and permanently marked as "For Futu
§ 150.0(k)2H:	Interior Switches and Controls. An EMCS may be used to comply with vacancy sensor requirements in § 150.0(k) if it meets all of the following: it functions as a vacancy sensor according to § 110.9; the Installation Certificate requirements of § 130.4; the EMCS requirements of § 130.5(f); and all other requirements in § 150.0(k)2.		
§ 150.0(k)21:	Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to \$ 110.9, and complies with all other applicable requirements in \$ 150.0(k) 2		

	Project Name						Date	
nust control all luminaires required to have light sources compliant with	Simas ADU						11/	12/2021
than /U square teet and luminaires in hallways."	HVAC System						Floor	Area 1 044
dings, outdoor lighting permanently mounted to a residential building, or to other	ENGINEERING CHECKS		SYSTEM LOAD					1,011
50.0 (k)3Ai (ON and OFF switch) and the requirements in either item	Number of Systems					EAK	COIL H	IG. PEAK
Aili (photo control and automatic time switch control, astronomical time clock, or	Heating System			CEM	Sensible	Latent	CEM	Sensibl
al buildings, outdoor lighting for private patios, entrances, balconies,	Output per System	24,000	Total Room Loads	496	10,690	468	226	8,9
1.9, 130.0, 130.2, 130.4, 140.7 and 141.0.	Total Output (Btuh)	24,000	Return Vented Lighting		0			
with four or more dwelling units, outdoor lighting not regulated by	Output (Btuh/sqft)	23.0	Return Air Ducts		0			
quirements in 55 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0. arking lots and residential carports with a total of eight or more	Cooling System	6	Return Fan		0			
ss 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.	Output per System	24,000	Ventilation	0	0	0	0	
iress signs must comply with § 140.8; or must consume no more than 5 watts of	Total Output (Btuh)	24,000	Supply Fan		0			
esidential parking garages for eight or more vehicles must comply with the	Total Output (Tons)	2.0	Supply Air Ducts		0			
I30.0, 130.1, 130.4, 140.6, and 141.0. Ruilding where the total interior	Total Output (Btuh/sqft)	23.0		2				
e floor area, permanently installed lighting for the interior common areas in that	Total Output (sqft/Ton)	522.0	TOTAL SYSTEM LOAD		10,690	468		8,9
cupant sensor.	Air System				n			
f the floor area, permanently installed lighting in that building must:	CFM per System	0	HVAC EQUIPMENT SELECTION			c 513		
10.1, 140.6 and 141.0, and	Airflow (cfm)	0	Standard Heat Pump		22,968	0		16,2
by occupant sensors that reduce the lighting power in each space by at least e light fully on and off from all designed paths of ingress and egress.	Airflow (cfm/sqft)	0.00						
	Airflow (cfm/Ton)	0.0						
subdivisions with ten or more single family residences and where the	Outside Air (%)	0.0%	Total Adjusted System Output		22,968	0		16,2
been deemed complete by the enforcement agency must comply with the	Outside Air (cfm/sqft)	0.00	(Adjusted for Peak Design conditions)					
must comply with the requirements of § 110.10(b) through § 110.10(d).	Note: values above given at ARI	conditions	TIME OF SYSTEM PEAK			Aug 3 PM		Jan 1
as described below. The solar zone must comply with access, pathway, smoke	HEATING SYSTEM PSYCHR	OMETRICS	Airstream Temperatures at Time o	of Heating	Peak)			
rt 9 or other Parts of Title 24 or in any requirements adopted by a local s that have no dimension less than 5 feet and are no less than 80 square feet	29 °F	68 °F	105 °F					
uare feet or no less than 160 square feet each for buildings with roof areas		5						
ne roof or overhand of the building and have a total area no less than 250		→B		→□				1
st be located on the roof or overhang of the building, or on the roof or overhang		Heating (Coil	0		0		*
covered parking installed with the building project, and have a total area no less	o cim	riedung					1	05 %
y skylight area. ed roofs must be oriented between 110 degrees and 270 degrees of true porth	T T					R	DOM]	
uding but not limited to: vents, chimneys, architectural features, and roof								
	68 °F							-1° 86
The building that projects above a solar zone must be located at least twice the ce between the highest point of the obstruction and the horizontal projection of e.*	< ★		[[←					-
eas of the roof designated as solar zone, the structural design loads for roof	COOLING SYSTEM PSYCHR	OMETRICS	(Airstream Temperatures at Time	of Coolina	Peak)			
ndicate: a location for inverters and metering equipment and a pathway for		70						
ion with the electrical service (for single family residences the point of	86766*	/5	5/614 55/544					
parable document indicating the information from § 110.10(b) through			→ E	→ि		A		7
	Outside Air			B		H		ł
I must have a minimum busbar rating of 200 amps.	0 cfm		Cooling Coil				55	/ 54 °F
a must have a reserved space to allow for the installation of a double pole circuit e must be; positioned at the opposite (load) end from the input feeder location or					46.49	BC	MOC	
Financial and the shine freedy and non-the house to one of of					10000000			
ar Electric"								100.00

866-6832 \cup _____ \sim Consultants, Avenue, Suite, 000000 408-.. Д Г -1620 . 0 0 0 0 0 0 0 0 408-.. U \subseteq $\overset{{\scriptstyle \square}}{\scriptstyle \frown}$ S ADU ALMADEN Jose, ca SIMAS 2180 U T24-2