#### GENERAL REQUIREMENTS

- 1- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND REPORT ANY DISCREPANCIES TO THE BUILDING AND SAFETY DEPARTMENT.
- 2-CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR FURNISHING AND INSTALLING ADEQUATE SHORING, BRACING OR ANY OTHER MEANS THAT ARE REQUIRED TO SAFELY EXECUTE ALL WORK.
- 3-DETAILS NOTED AS TYP. OR TYPICAL APPLY IN ALL CASES WHETHER OR NOT SPECIFICALLY REFERENCED.
- 4-ALL WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 EDITION OF THE CALIFORNIA BUILDING CODE.
- 5-PIPES AND SLEEVES SHALL NOT BE PLACED IN THE CONCRETE SLAB. OBTAIN APPROVAL FROM BUILDING AND SAFETY SHOULD SUCH INSTALLATION BE REQUIRED.
- 6- SLOPE DRAINAGE 6" WITHIN THE FIRST 10FT. FROM THE FOUNDATION WALL, IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT THE 10FT DISTANCE, A 2-5 PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATIVE METHOD OF DIVERTING THE WATER AWAY FROM THE FOUNDATION. IMPERVIOUS SURFACES SHALL ALSO BE SLOPED A MINIMUM OF 2 PERCENT FOR 10FT AWAY FROM STRUCTURES TO AN APPROVED DRAINAGE WAY. (CRC R401.3)
- 7- PROVIDE EMERGENCY EGRESS EXIT DOOR OR WINDOWS FROM SLEEPING ROOMS. THE NET CLEAR WINDOW OPENING AREA SHALL BE A MINIMUM 5.0 SQ.FT. THE MINIMUM WINDOW OPENING SIZE IS 24" CLEAR IN HEIGHT, AND 20" CLEAR IN WIDTH. THE FINISHED SILL HEIGHT IS 44" MAX ABOVE THE FLOOR (CRC R310.1).
- 8- SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING. 9-WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING OR SLEEPING UNIT, THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. 22-PROVIDE ATTIC VENTING EQUAL IN AREA TO 1SQ. FT./150SQ.FT. OF ATTIC AREA.
- 10-EXHAUST FANS PROVIDED FOR HUMIDITY CONTROL SHALL BE ENERGY STAR COMPLIANT AND CONTROLLED BY HUMIDITY CONTROL UNLESS FUNCTION AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM. THE HUMIDITY CONTROL SHALL OPERATE AS FOLLOWS:
- HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF GREATER THAN OR EQUAL TO 50% TO MAXIMUM OF 80%. THE HUMIDITY CONTROL MAY UTILIZE MANUAL AUTOMATIC MEANS OF ADJUSTMENT, AND
- 11-A HUMIDITY CONTROL MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN AND IS NOT REQUIRED TO BE INTEGRAL.

12-THE PLUMBING FIXTURE AND PLUMBING FITTINGS SHALL MEET THE FLOW

- STANDARDS NOTED BELOW: WATER CLOSET=1.28 GALLONS PER FLUSH MAX
- SHOWERHEADS= 1.8 GPM
- KITCHEN FAUCETS=1.8 GPM
- LAVATORY FAUCETS=1.5 GPM

13-GUTTERS AND DOWNSPOUTS ARE REQUIRED WHEN THE EXPANSION INDEX EXCEEDS

#### **FOUNDATION**

- 1-FOOTINGS AND SLABS: ON FIRM UNDISTURBED NATURAL SOILS OR APPROVED COMPACTED SOILS.
- 2-ALLOWABLE SOIL BEARING FOR CONTINUOUS FOOTINGS: 1,500 PSF UNLESS SUBSTANTIATED OTHERWISE BY A SOILS INVESTIGATION REPORT.
- 3-ISOLATED FOOTINGS: NOT ALLOWED UNLESS SUBSTANTIATED OTHERWISE BY A SOILS INVESTIGATION REPORT.
- 4-ROOF AND AREA DRAINAGE. SHALL BE DIRECTED AWAY FROM THE FOUNDATIONS. 5-CONCRETE TO BE 2,500 PSI NORMAL WEIGHT, WITH TYPE II CEMENT, ASTM C150. 6-ALL REINFORCING BARS SHALL CONFORM TO ASTM A-615, GRADE 60.

#### WOOD

- 1-ALL LUMBER SHALL BE DOUGLAS FIR LARCH CONFORMING TO THE STANDARDS OF WCLIB.
- 2-JOISTS, RAFTERS, SUDS, PLATES AND BLOCKING TO BE No.2 3-BEAMS AND POSTS TO BE No1.
- 4- ALL LUMBER (SILL PLATES, LEDGERS, ETC.) WHICH ARE IN DIRECT CONTACT WITH CONCRETE OR EARTH SHALL BE PRESERVATIVE TREATED WOOD. NEWLY EXPOSED SURFACES RESULTING FROM FIELD CUTTING, BORING OR HANDLING SHALL BE FIELD TREATED IN ACCORDANCE WITH AWPA M-4. USE ONLY SODIUM BORATE TREATED WOOD FOR INTERIOR USE.
- 5-FASTENERS, INCLUDING NUTS AND WASHERS, FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED, ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. COATING TYPES AND WEIGHTS FOR CONNECTORS IN CONTACT WITH PRESERVATIVE-TREATED WOOD SHALL BE IN ACCORDANCE WITH THE CONNECTOR MANUFACTURER'S RECOMMENDATIONS. IN THE ABSENCE OF MANUFACTURER'S RECOMMENDATIONS, A MINIMUM OF ASTM A653 TYPE G185 ZINC-COATED GALVANIZED STEEL, OR EQUIVALENT, SHALL BE USED.
- 6-PLUMBING WALLS TO BE FRAMED WITH 2X6 STUDS.

#### AGING IN PLACE/FALL PREVENTION

- a. Reinforcement for grab bars shall be provided at least one bathroom on the entry level:
  - i. Reinforcement shall be solid lumber ii. Reinforcement shall not be less than 2X8 nominal lumber. iii. Reinforcement shall be located between 32-inches and 391/4-inches above the
  - finished floor flush with the wall framing. iv. Water closet reinforcement shall be installed on both side walls of the fixture, or one side wall and the back wall.
  - 1. Where the water closet is not placed adjacent to a side wall capable of accommodating a grab bar, the bathroom shall have provisions for installation of floor-mounted, foldaway, or similar alternate grab bar
  - reinforcements v. Shower reinforcement shall be continuous where wall framing is provided. 1. Reinforcement shall not be required in wall framing for pre-fabricated shower enclosures and bathtub wall panels with integral factory-installed grab bars or when factory-installed reinforcement for grab bars is
  - vi. Bathtub and combination bathtub/shower reinforcement shall be continuous on each end of the bathtub and the back wall. Additionally, back wall reinforcement for a lower grab bar shall be provided with the bottom edge located no more than 6-inches above the bathtub rim."
- b. Add this note to the plans: "Documentations for grab bar reinforcement by information and/or drawings identifying the location of grab bar reinforcement shall be placed in the
- operation and maintenance manual. c. Electrical receptacle outlets, switches and controls intended to be used by occupants shall be located no more than 48-inches measured from the top of the outlet box and not less than 15-inches measured from the bottom of the outlet box above the finish floor.

d. At least one bathroom and one bedroom on the entry level of a single-story dwelling shall

- provide a doorway with a net clear opening not less than 32-inches measured with the door positioned at an angle of 90 degrees from the closed position. e. At least one bathroom and one bedroom on the second or third floor of a two- or threestory dwelling shall provide a doorway with a net clear opening not less than 32-inches measured with the door positioned at an angle of 90 degrees from the closed position if a
- bathroom or bedroom is not located on the entry level. f. Doorbell buttons or controls shall not exceed 48-inches above exterior floor or landing, measured from the top of the doorbell button assembly.

#### NAILING SCHEDULE

THE CONNECTIONS LISTED BELOW ARE THE MINIMUM PERMISSIBLE. USE COMMON WIRE NAILS FOR ALL NAILED CONNECTIONS. WHERE POSSIBLE, NAILS DRIVEN PERPENDICULAR TO THE GRAIN SHALL BE USED INSTEAD OF TOE NAILS. SEE THE DRAWINGS FOR ADDITIONAL NAILING REQUIREMENTS.

JOIST TO SILL (PLATE) OR GIRDER, TOENAIL	3-8d
BRIDGING TO JOIST, TOENAIL EACH END	2-8d
1"x6" SUBFLOOR OR LESS TO EACH JOIST, FACE NAIL	2-8d
2" SUBFLOOR TO JOIST OR GIRDER, BLIND AND FACE N	VAIL 2-16d
SOLE PLATE TO JOIST OR BLOCKING: TYPICAL FACE NAIL BRACED WALL PANELS	16d <b>●</b> 16″O.C. 3–16d <b>●</b> 16″O.
TOP PLATE TO STUD, END NAIL	2-16d
STUD TO SOLE PLATE: TOENAIL END NAIL	4-8d 2-16d
DOUBLE STUDS, FACE NAIL	16d <b>9</b> 24"0.C.
DOUBLED TOP PLATES: TYPICAL FACE NAIL LAP SPLICE	16d <b>●</b> 16*0.C. 16-16d
BLOCKING BETWEEN JOISTS OR RAFTERS TO TOP PLATE	3-8d
RIM JOIST TO TOP PLATE, TOENAIL	8d <b>96"</b> 0.C
TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
CONTINUOUS HEADER, TWO PIECES (ALONG EDGE)	16d <b>©</b> 16 <b>"</b> 0.0
CEILING JOISTS TO PLATE, TOENAIL	3-8d
CONTINUOUS HEADER TO STUD, TOENAIL	4-8d
CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
RAFTER TO PLATE, TOENAIL	3-8d
1" DIAG. BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d
1"x8" SHEATHING OR LESS TO EACH BEARING, FACE NA	NL 3-8d
WIDER THAN 1"x8" SHEATHING TO EACH BEARING, FACE NAIL	
BUILT-UP CORNER STUDS	16d <b>©24</b> *0.C.
BUILT-UP GIRDERS AND BEAMS (FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES)	20d <b>@</b> 32*0.C
BUILT-UP GIRDERS AND BEAMS (FACE NAIL AT ENDS AND AT EACH SPLICE)	2-20d
2" PLANKS, EACH END AND EACH BEARING	2-16d
LEDGER STRIP, FACE NAIL AT EACH JOIST	3-16d

#### **TITLE 24 ENERGY** REQUIREMENTS

- 1. ALL LUMINAIRES MUST BE HIGH EFFICACY (150.0(K)1A)
- RECESSED DOWNLIGHT LUMINAIRES IN INSULATED CEILINGS MUST MEET FIVE REQUIREMENTS (150.0(K)1C):
  - THEY MUST BE RATED FOR DIRECT INSULATION CONTACT (IC).
- THEY MUST BE CERTIFIED AS AIRTIGHT (AT) CONSTRUCTION. THEY MUST HAVE A SEALED GASKET OR CAULKING BETWEEN THE HOUSING AND CEILING TO PREVENT FLOW OF HEATED OR COOLED AIR OUT OF LIVING AREAS AND INTO
- THE CEILING CAVITY HARDWIRED BALLASTS OR DRIVERS, ALLOW BALLAST OR DRIVER MAINTENANCE AND REPLACEMENT TO BE READILY ACCESSIBLE FROM BELOW THE CEILING WITHOUT
- REQUIRING CUTTING HOLES IN CEILING. THEY MAY NOT CONTAIN A SCREW BASE SOCKETS IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS, AT LEAST ONE LUMINAIRE IN EACH OF THESE SPACES SHALL BE CONTROLLED BY A VACANCY SENSOR OR OCCUPANT SENSOR PROVIDED THE OCCUPANT SENSOR IS INITIALLY PROGRAMMED LIKE A VACANCY
- SENSOR (MANUAL-ON OPERATION), (150.0(K)2I) 3. JOINT APPENDIX A (JA8) CERTIFIED LAMPS SHALL BE CONSIDERED HIGH EFFICACY. JA8 COMPLIANT LIGHT SOURCES SHALL BE CONTROLLED BY A VACANCY SENSOR OR
- DIMMER. (EXCEPTION: <70SF CLOSETS AND HALLWAY) (150.0(K)2K) 4. UNDER-CABINET LIGHTING SHALL BE SWITCHED SEPARATELY FROM OTHER LIGHTING SYSTEMS, (150.0(K)2L)
- 5. ALL EXTERIOR LIGHTING SHALL BE HIGH EFFICACY, BE CONTROLLED BY A MANUAL ON/OFF SWITCH AND HAVE ONE OF THE FOLLOWING CONTROLS (THE MANUAL SWITCH SHALL NOT OVERRIDE THE AUTOMATIC CONTROL DEVICE): (150.0(K)3A) PHOTO-CONTROL AND MOTION SENSOR
- PHOTO-CONTROL AND AUTOMATIC TIME SWITCH CONTROL
- ASTRONOMICAL TIME CLOCK CONTROL TURNING LIGHTS OFF DURING THE DAY 7. ALL HIGH EFFICACY LIGHT FIXTURES SHALL BE CERTIFIED AS "HIGH-EFFICACY" LIGHT FIXTURES BY THE CALIFORNIA ENERGY COMMISSION. 8. CONTRACTOR SHALL PROVIDE THE HOMEOWNER WITH A LUMINAIRE SCHEDULE
- GIVING THE LAMPS USED IN THE LUMINAIRES INSTALLED. (10-103(B)) 9. THE NUMBER OF BLANK ELECTRICAL BOXES MORE THAN 5 FEET ABOVE THE FINISHED FLOOR SHALL NOT BE GREATER THAN THE NUMBER OF BEDROOMS. THESE
- ELECTRICAL BOXES MUST BE SERVED BY A DIMMER, VACANCY SENSOR, OR FAN SPEED CONTROL. (150(K)1B) 10. PROVIDE A GASKET/ INSULATION ON ALL INTERIOR ATTIC/UNDER-FLOOR ACCESSES.
- (110.7)11. PROVIDE VERIFICATION ON THE PLANS HOW THE BUILDING WILL MEET THE MINIMUM VENTILATION AND ACCEPTABLE INDOOR AIR QUALITY REQUIREMENTS PER ASHRAE STANDARD 62.2. WINDOW OPERATION IS NOT A PERMISSIBLE METHOD OF PROVIDING THE WHOLE BUILDING VENTILATION AIRFLOW REQUIRED. THIS IS SUBJECT TO HERS TESTING. THE FOLLOWING LABEL MUST BE ATTACHED TO THE FAN SWITCH: "TO MAINTAIN MINIMUM LEVELS OF OUTSIDE AIR VENTILATION REQUIRED FOR GOOD HEALTH, THE FAN CONTROL SHOULD BE ON AT ALL TIMES WHEN THE BUILDING IS OCCUPIED, UNLESS THERE IS SEVERE OUTDOOR AIR CONTAMINATION." (CALIFORNIA ENERGY CODE 150.0(O)) A MINIMUM 100 CFM INDOOR AIR QUALITY FAN IS REQUIRED IN THE KITCHEN AND SHALL BE
- 12. MINIMUM 50 CFM INDOOR AIR QUALITY FAN IS REQUIRED AT BATHROOMS. 13. THERMOSTATS. ALL HEATING OR COOLING SYSTEMS, INCLUDING HEAT PUMPS, NOT CONTROLLED BY A CENTRAL ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) SHALL HAVE A SETBACK THERMOSTAT, AS SPECIFIED IN SECTION 110.2(C)

#### ELECTRICAL/PLUMBING/MECHANICAL

- No electrical panels in closets or bathrooms. Maintain a clearance of 36" inches in front of panels, 30" wide or width of equipment and 6'-6" high for headroom. (CEC 110.26) Provide a minimum 3 lug intersystem bonding bus bar at the main electrical service.(CEC
- 3. A concrete-encased electrode (ufer) consisting of 20' of rebar or #4 copper wire placed in the bottom of a footing is required for all new construction. (CEC 250.52(A) (3)) Bond all metal gas and water pipes to ground. All ground clamps shall be accessible and of an approved type.
- 4. All 15/20 ampere receptacles installed per CEC 210.52 shall be listed tamper-resistant receptacles. (CEC 406.12)
- 5. All branch circuits supplying 15/20 ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, kitchens, laundry room or similar rooms/areas shall be protected by a listed combination type
- arc-fault circuit interrupter. (CEC 210.12)
- 6. Provide a minimum of one 20A circuit to be used for the laundry receptacle. (CEC210.11(C)(2)) Provide a minimum of one 20A circuit for bathroom receptacle outlets. (CEC
- Provide at least 1 outlet at porches and within 3' of the outside of each bathroom basin. (CEC 210.52 (D), (F) &(G)). All dwellings must have one exterior outlet at the front and the back of the dwelling. (CEC
- 9. At least one wall switched lighting outlet or fixture shall be installed in every habitable room, bathroom, hallways, stairways, attached garages and detached garages with electrical power, equipment spaces (attics, basements, etc.). (CEC 210.70) 13. Kitchens, dining rooms, pantries, breakfast nooks, and similar areas must have a minimum of two 20A circuits. Kitchen, pantry, breakfast nooks, dining rooms, work surfaces and similar areas counter outlets must be installed in every counter space 12" inches or wider, not greater than 4' o.c., within 24" inches of the end of any counter space and not higher than 20" above counter. (CEC 210.52 (C)) Island counter spaces shall have at least 1 receptacle outlet unless a range top or sink is installed than 2 receptacles may be required. 1 receptacle is required for peninsular counter spaces. Receptacles shall be located behind kitchen sinks if the counter area depth behind the sink is more than 12" for straight counters and 18" for corner installations. (CEC Figure 210.52(C)(1)) 10. The main service disconnect shall have a rating of not less than 100 amps. C.E.C. Article
- 11. Receptacles shall be installed at 12' o.c. maximum in walls starting at 6' maximum from the wall end. Walls longer than two feet shall have a receptacle. Hallway walls longer than 10 ft. shall have a receptacle in hallways. (CEC 210.52(A)) 12. Receptacles shall not be installed within or directly over a bathtub or shower stall. (CEC
- 406.9(C) Light pendants, ceiling fans, lighting tracks, etc. shall not be located within 3ft horizontally and 8ft vertically above a shower and/or bathtub threshold. (CEC 410.10(D)) 13. All lighting/fan fixtures located in wet or damp locations shall be rated for the application. (CEC 410.10)
- 14. GFCI outlets are required: for all kitchen receptacles that are designed to serve countertop surfaces, dishwashers, bathrooms, in under-floor spaces or below grade level, in unfinished basements, crawl space lighting outlets, in exterior outlets, within 6' of a laundry/utility/wet bar sinks, laundry areas, and in all garage outlets including outlets dedicated to a single device or garage door opener. (CEC 210.8)
- 15. All 15/20 ampere receptacles in wet locations shall have in-use (bubble) covers installed. All receptacles in wet locations shall also be listed weather-resistant type. (CEC 406.9(B)(1)) 16. ABS piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paints. (CPC 312.13)
- 17. PVC piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paint, .04" thick wrap or otherwise protected from UV degradation. (CPC 312.14) 18. Underground water supply lines shall have a 14 awg blue tracer wire. (CPC 604.10.1)
- 19. Showers and tubs with showers require a non- absorbent surface up to 6' above the floor. (CRC R307.2) Minimum shower receptor slope is 1/8" per foot. (CPC 408.5) Provide curtain rod or door a minimum of 22" in width. (CPC 408.5). 20. Provide pressure relief valve with drain to outside for water heater. (CPC 504.6) Provide
- seismic strapping in the upper and lower third of the water heater a minimum of 4" above controls. (CPC 507.2) The water heater shall be of an instantaneous type or the following shall be provided (new construction only) (CEC 150(n)): A 120V receptacles provided within 3ft; A category III or IV vent, or a straight (without bends) Type B vent; Condensate drain that is no more than 2 inches higher than the base of the water heater; Gas supply line with a minimum 200,000 Btu/hr dedicated capacity for the water heater; A dedicated 120/240, 3 wire circuit with 10AWG wire to a receptacle out- let within 3' of the water heater. The unused conductor shall be electrically isolated and have a reserved circuit breaker space. Both ends of the conductor shall be labeled "spare" and be electrically isolated. A reserve single-pole circuit breaker space near this circuit labeled "Future 240V Use." (CEC 150.0(n)) 21. Domestic hot water lines shall be insulated. Insulation shall be the thickness of the pipe diameter up to 2" in size and minimum 2" thickness for pipes larger than 2" in diameter. (CPC
- 22. Provide anti-siphon valves on all hose bibs. (CPC 603.5.7) Shall be protected by a onremovable hose bib-type vacuum breaker installed not less than 6 inches (152 mm) above the highest point of usage located on the discharge side of the last valve.
- 23. Provide combustion air for all gas fired appliances per CMC Chapter 7. 24. Gas vents passing through an insulated assembly shall have a metal insulation shield a minimum 2" above insulation. (CMC 509.6.2.7)
- 25. Gas water heater and furnace are not allowed in areas opening into bathrooms, closets or bedrooms unless installed in a closet equipped with a listed gasketed door assembly and a listed self-closing device with all combustion air obtained from the outdoors. (CPC 504) 26. Exhaust openings terminating to the outdoors shall be covered with a corrosion resistant
- screen ½"-1/2" in opening size (not required for clothes dryers). (CMC 502.1) 27. Vent dryer to exterior of building (not to under-floor area). The vent diameter shall not be less than 4 inches nominal (100 mm), and the thickness shall be not less than 0.016 of an inch (0.406 mm). exhaust ducts shall not exceed a total combined horizontal and vertical length of 14 feet (4267 mm), including two 90 degrees (1.57 rad) elbows. clearances: installed air conditioner and heat pump outdoor condensing units shall have a clearance of at least 5 feet (1.5 meters) from the outlet of any dryer vent. Vents shall terminate a minimum of 3' from the property line and any opening into the building. (C MC 504.4.2) 28. Provide minimum 100 square inches make-up air for clothes dryers installed in closets.
- (CMC 504.4.1(1)) 29. Heating system is required to maintain 68 degrees at 3 ft. above floor level and 2ft from exterior walls in all habitable rooms. (CRC R303.10)

#### SHEET INDEX

**GENERAL NOTES** OWNER-SUPPLIED SITE PLAN 1.2 TYPICAL DETAILS

2.1 FLOOR AND ROOF PLANS, SECTION FOUNDATION AND ROOF FRAMING PLANS

2.2 3.1 **ELEVATIONS** 

4.1 **DETAILS** GN1 GREEN BUILDING NOTES **GREEN BUILDING NOTES** CA ENERGY COMPLIANCE

#### PROJECT DATA

OWNE	R:
APN:	
ADDRE	ESS:
SCOPE	E: (FARM WORKER DWELLING / ACCESSORY DWELLING UNIT)
OCCU	PANCY: R-3
CONST	TRUCTION TYPE: V - B
SPRIN	KLERS (NFPA 13-D):
FIRE I	HAZARD SEVERITY ZONE:
SOIL I	DATA .
EXPAN	ISION INDEX (E.I.):
9	91-130 FOR 700 SF AND 900 SF PLANS
-	PER GEOTECHNICAL REPORT FOR 1188 SF PLAN
<u>SEISM</u>	IC AND WIND DATA
WIND	EXPOSURE: EXPOSURE C
WIND	SPEED (ULT): 95 MPH (CATEGORY II)
STRUC	TURAL DATA
ROOF	DEAD LOAD: 15 PSF (6 PSF MAX. LIGHT-WEIGHT TILE ROOF)
ROOF	LIVE LOAD: 20 PSF
ELEVA	TION FEET
NOTE:	THIS PLAN CANNOT BE USED ABOVE 4000' ELEVATION.
CALIF(	DRNIA ENERGY CODE INFORMATION

FRONT ORIENTATION: CLIMATE ZONE: \_\_\_\_\_ (SEE SPECIAL REQUIREMENTS FOR CZ= 3 AND 16) FLOOD DATA FLOOD ZONE:

DESIGN FLOOD ELEVATION: \_

PHOTOVOLTAIC SYSTEM REQUIRED. REFER TO ENERGY DESIGN FOR SIZE AND ORIENTATION.

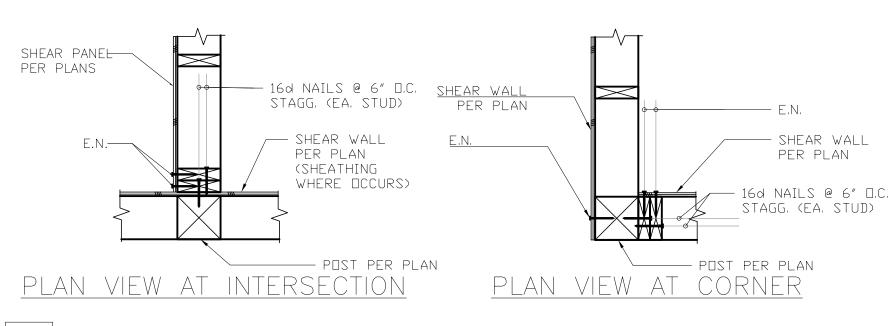
04/20/2023

RAWN BY: COUNTY OF VENTURA

PPLICABLE CODE: 2022 VCBC & CRC

 $\infty$ 

#### TYPICAL HORIZONTAL DIAPHRAGM NAILING

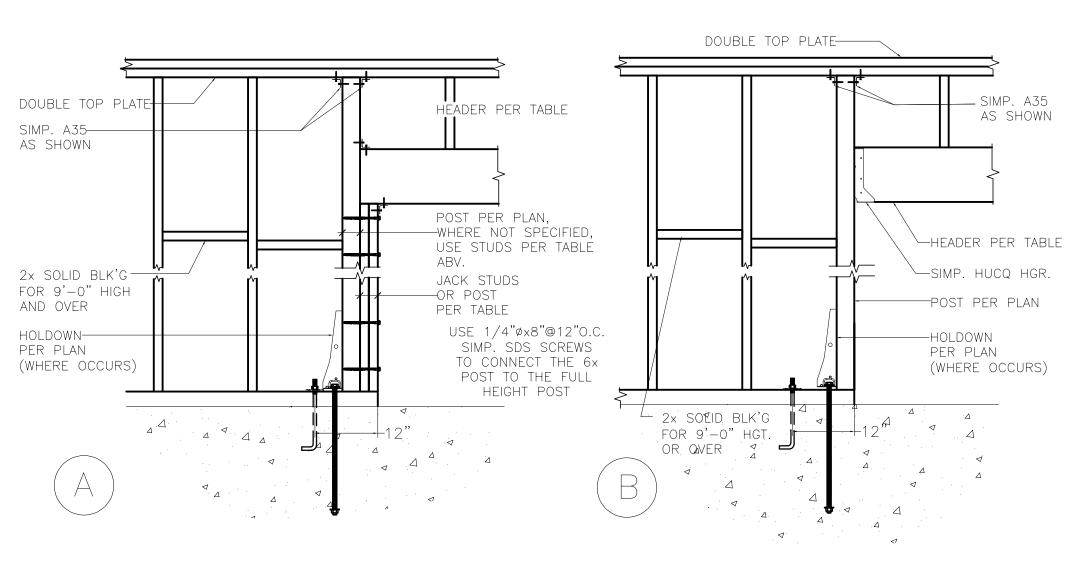


#### 10 SHEAR WALL INTERSECTIONS AT WALLS

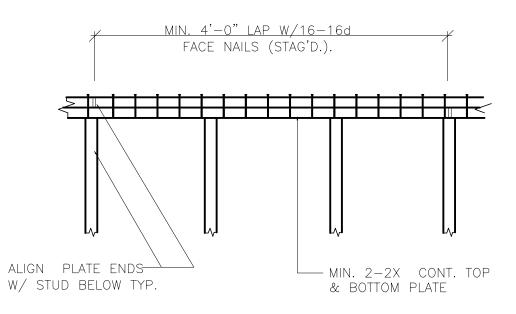
TYPE		FACES		SILL ANCHORS (HEX HEAD BOLT)	TOP PL. CONNECTION A35	SHEAR CAPACITY #/FT.
A	1/2"	1	10d @ 6" O.C.	5/8" @ 2'-8" O.C.	A35 @ 16" O.C.	340

- 1 WOOD STRUCTURAL PANELS SHALL BE 1/2 PERFORMANCE CATEGORY, APA STRUCTURAL I RATED
- SHEATHING, SPAN RATING 32/16, EXPOSURE 1, 3-PLY/3-LAYERS. 2 - STUDS SPACING TO BE @ 16" O.C. MIN.
- 3 NAILS @ 2" O.C. TO BE STAGGERED.
- 4 ALL FIELD NAILING TO BE AT 12" O.C. 5 - USE HEX HEAD BOLT WITH WASHER SILL ANCHORS. PROVIDE 7" MIN. EMBEDMENT INTO FOOTING.
- 6 USE COMMON NAILS ONLY. (8d = 0.131" DIA. x 2 1/2" LONG, 10d = 0.148" DIA. x 3" LONG)7 - MIN. 1/2" EDGE NAILING DISTANCE @ PANEL ENDS AND EDGES.
- 8 USE 3" SQ. x 1/4" WASHERS FOR SILL ANCHORS. PLATE WASHER SHALL EXTEND TO
- WITHIN 1/2 INCH OF THE EDGE OF THE BOTTOM PLATE ON THE SHEATHED SIDE
- 9 FASTENERS, INCLUDING NUTS AND WASHERS, FOR PRESERVATIVE-TREATED WOOD SHALL BE OF HOT-DIPPED, ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. COATING TYPES AND WEIGHTS FOR CONNECTORS IN CONTACT WITH PRESERVATIVE—TREATED WOOD SHALL BE IN ACCORDANCE WITH THE CONNECTOR MANUFACTURER RECOMMENDATIONS. IN THE ABSENCE OF MANUFACTURER'S RECOMMENDATIONS, A MINIMUM OF ASTM A653 TYPE G185

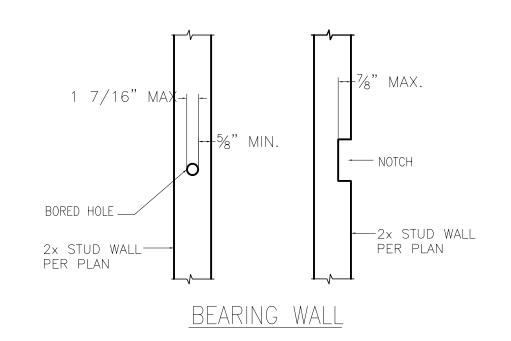




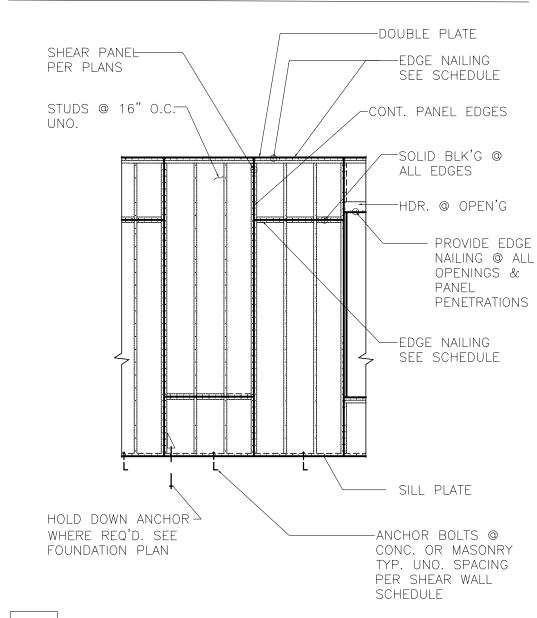
# 12 HEADER FRAMING & SCHEDULE



## 6 TOP PLATE LAP SPLICE



#### TYPICAL STUD **BORING & NOTCHING**



#### 8 SHEAR WALL PANEL

- 3"SQ.×1/4" THICK

WASHER

MIN. EMBED.

MAX.

HEADER SCHEDULE								
SIZE	MAX. SPAN	KING & JACK STUDS						
4×6	4'	SINGLE 2x STUD						
4×8	8'	SINGLE 2x STUD						
4×10	10'	2-2× STUDS						
4×12	12'	2-2× STUDS						
PSL HEADERS	SEE PLAN	SEE PLAN						
NOTF.								

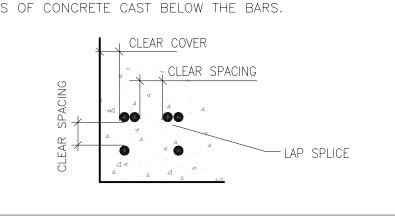
- USE 4x HEADERS AT 2x4 STUD WALL

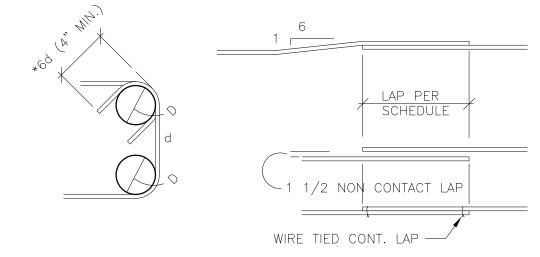
#### SPLICES (STANDARD LAPS) SCHEDULE

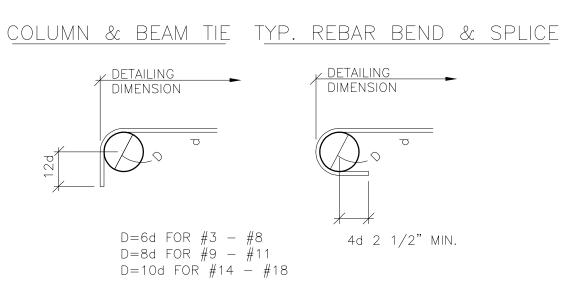
01 21020	(01/11/12/11/1		, (1 )	, ,	0112				
	REBAR	R SPI	LICES	IN	INCH	IES			
REBAR SIZE (GRADE 60)			5	6	7	8	9	10	11
REBAR DIAMETEI	R (IN)	0.5	0.62	0.75	0.87	1.0	1.12	1.27	1.41
f'a-2 500	OTHER BAR	24	30	36	53	60	68	75	83
f'c=2,500	TOP BAR	36	45	54	79	90	101	113	124
f'a - 7 000	OTHER BAR	22	27	33	48	55	66	81	97
f'c=3,000	TOP BAR	33	41	49	72	82	92	105	125
f'a-4 000	OTHER BAR	19	24	28	42	47	57	70	84
f'c=4,000	TOP BAR	28	36	43	62	71	80	91	109
1- REBAR LENGTHS SHOWN IN THE SCHEDULE SHALL BE INCREASED 50% WHEN COVER IS < OR = 1 BAR DIAMETER OR CLEAR SPACING BETWEEN BARS IS LESS THAN 2 BAR DIAMETERS.									
2- 75% OF REBAR LENGTHS SHOWN IN THE SCHEDULE MAY BE USED WHEN COVER IS > 2 BAR DIAMETERS AND CLEAR SPACING BETWEEN BARS IS GREATER THAN 3 BAR DIAMETERS.									
3- LAP SPLICE IN MASONRY SHALL BE 40d.									

4- REBAR LENGTHS SHOWN IN THE SCHEDULE SHALL BE

INCREASED 50% WHEN USING EPOXY COATED REBARS. 5-TOP BARS ARE HORIZONTAL BARSWITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.

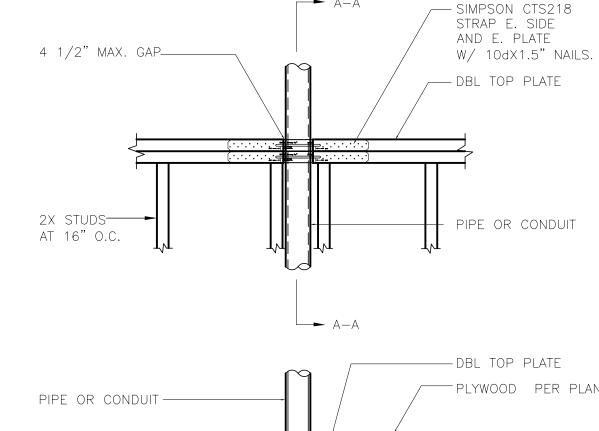


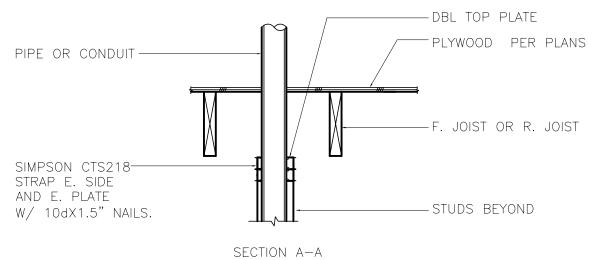




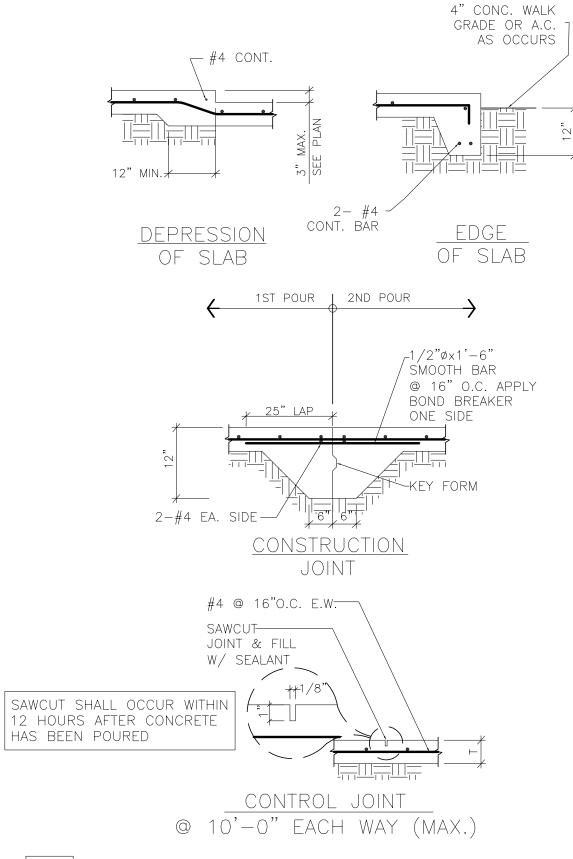
### 4 REBAR PLACEMENT

STANDARD HOOK DETAILS

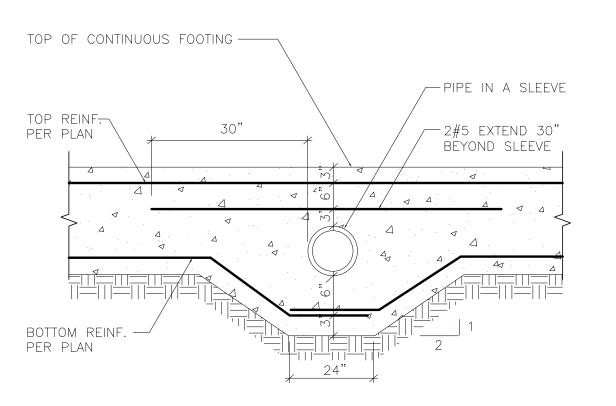




5 PIPE AT TOP PLATE

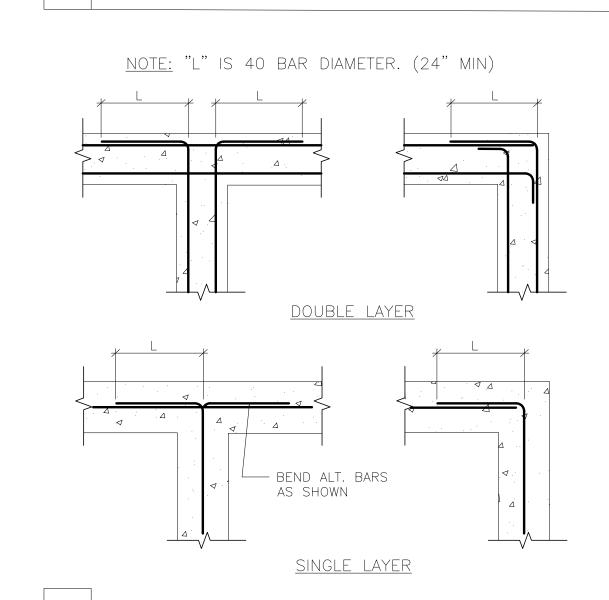


# **SLAB CONDITIONS**



-SLEEVE SHALL BE 2" DIAMETER LARGER THAN PIPE -PIPE SHALL NOT BE LOCATED BELOW A HOLDOWN OR BELOW A

# 2 PIPE IN FOOTING



3 FOOTING INTERSECTION

# DWE ARMWORKE ST の E E

SHEET TITLE

DATE: 04/20/2023

SHEET NO.

SCALE: 1" = 1'-0"

**DETAILS** 

RAWN BY: COUNTY OF VENTURA

PPLICABLE CODE: 2022 VCBC & CRC

ПП

8

0

#### ROOF NOTES

- CLASS 'A' ASPHALT SHINGLE ROOFING (ICC-ESR 1389) OR CONCRETE TILE ROOF (6psf MAX. IAPMO 1990)
- PROVIDE RECTANGLE VENT AT EACH GABLE END. ADDITIONAL VENTS WILL BE REQUIRED TO MEET ROOF VENTILATION REQUIREMENTS. 1188 SF/150 = 7.92 SF MIN. NET FREE VENT AREA REQUIRED.
- WHERE VENTS ARE USED, PROVIDE BLOCKING
   AROUND DORMER AND EAVE VENTS AT THE ROOF FRAMING UNDER
- THE ROOF DIAPHRAGM SHEATHING.

  5. INSULATION TO BE SNUG AROUND VENT OPENINGS.
- 6. ATTIC VENTS SHALL BE COVERED WITH MESH FOR PROTECTION AGAINST RODENTS.
- 7. FOR HIGH-FIRE SEVERITY ZONE, ATTIC VENT MESH SHALL NOT BE
- MORE THAN 1/8", BUT NOT LESS THAN 1/16".

  8. GUTTERS AND DOWNSPOUTS ARE REQUIRED.



# ROOF PLAN

#### WINDOW AND DOOR SCHEDULE

SYMBOL	TYPE	SIZE (W x H)	OPERATION	REMARKS
A	WINDOW	5'-0"x4'-0"	SLIDING	*
B	WINDOW	2'-4"x4'-0"	SLIDING	*
C	WINDOW	3'-0"x5'-0"	SLIDING	*
D	WINDOW	4'-0"x3'-0"	SLIDING	*
1	DOOR	3'-0"x6'-8"		
2	DOOR	2'-0"x6'-8"		HI/LO LOUVERS
3	DOOR	2'-10"x6'-8"		**

\* USE DUAL TEMPERED GLAZING IN HIGH FIRE HAZARD AREAS

\*\* REQUIRED WIDTH BASED ON CRC R327.1 "AGING IN PLACE"

FENESTRATION VALUES
CLIMATE ZONE 6: U-FACTOR = 0.30 SHGC = 0.23
CLIMATE ZONE 9: U-FACTOR = 0.25 SHGC = 0.15
CLIMATE ZONE 16: U-FACTOR = 0.25 SHGC = 0.40

ALL-ELECTRIC RESIDENTIAL BUILDING

VCBC SECTION 4.509 AMENDMENT TO THE CA GREEN BUILDINGS STANDARDS
CODE "REDUCTION OF GREEN HOUSE GASES":

ALL NEWLY CONSTRUCTED DWELLINGS SHALL BE ALL-ELECTRIC BUILDINGS HAVING NO NATURAL GAS BURNING APPLIANCES OR EQUIPMENT. EXCEPTIONS INCLUDE THE FOLLOWING ITEMS: FIREPLACES, FIRE PITS, OUTBOOR COOKING GRILLS AND BARBECUES, POOLS AND SPAS, AND STANDBY GENERATORS

#### PLUMBING AND MECHANICAL NOTES

INDOOR FAN-COIL AND OUTDOOR CONDENSER DUCTLESS HEAT-PUMP TO BE LOCATED AND CALLED OUT ON THE FLOOR PLAN.

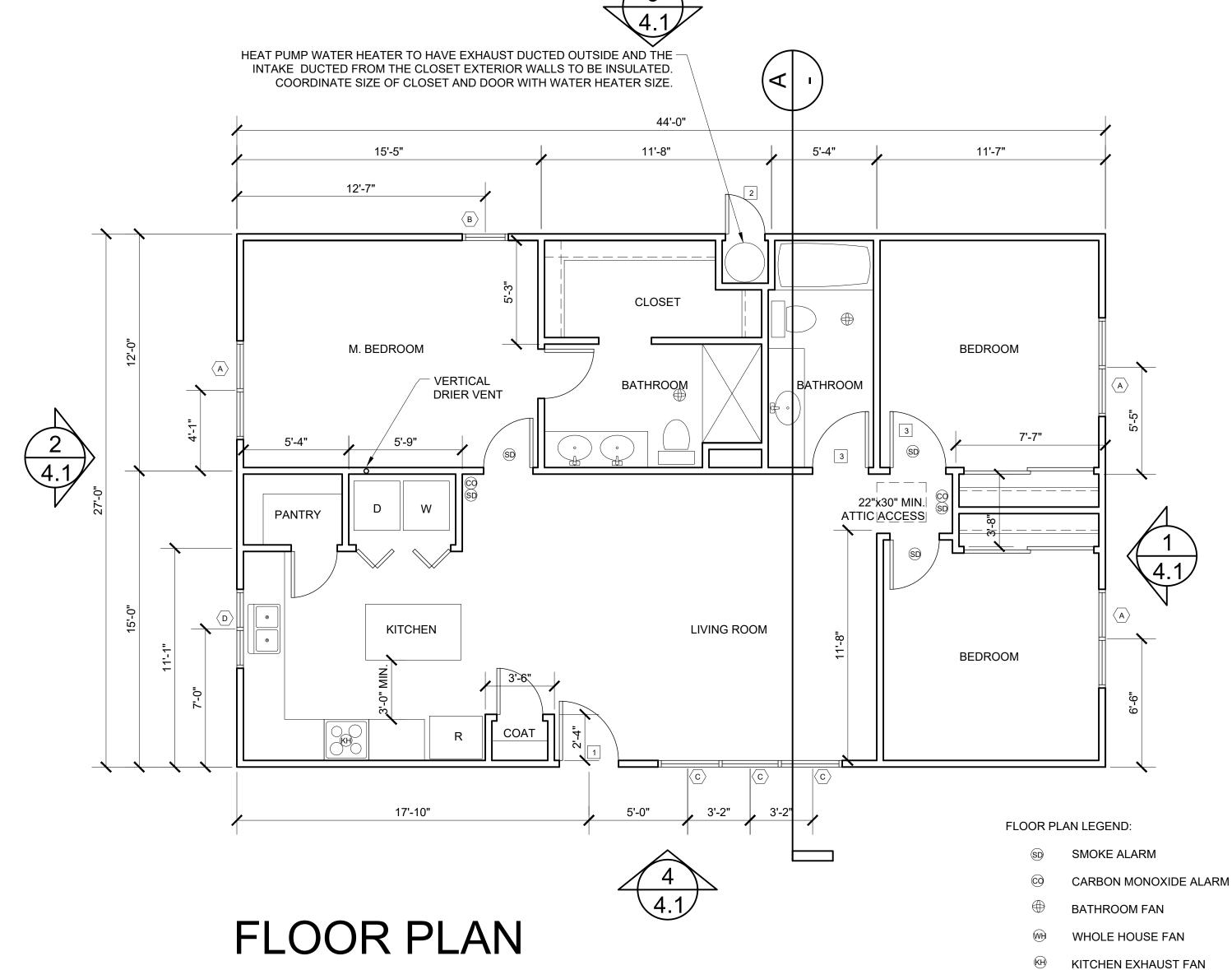
A 1-TON, CODE MINIMUM EFFICIENCY SPECIFICATION WAS USED FOR ALL UNITS.

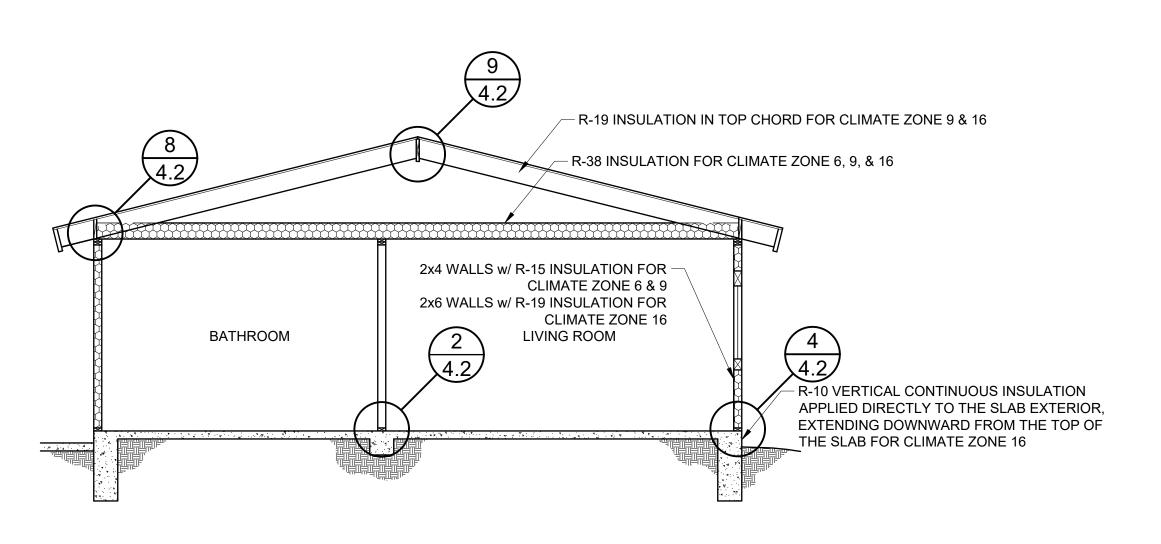
\*ALTERATIONS IN QUANTITY OR TONNAGE REQUIRED A REVISED PERFORMANCE T24\*

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION TAKEN, VERIFIED PER VCHP STAFF REPORT, APPENDIX B, AND RA3

NEEA RATED HEAT PUMP WATER HEATER TO BE LOCATED INSIDE THE CONDITIONED ENVELOPE.

ALL HOT WATER PIPES TO BE INSULATED (HERS)





SECTION A

AN FOR SILLING UNIT

ACCESSORY DWELLING UN

COUNTY APPROVA

SHEET TITLE

WINDOW

1 DOOR

1,188 SF DWELLING

DATE: 04/20/2023 SCALE: 1/4" = 1'-0"

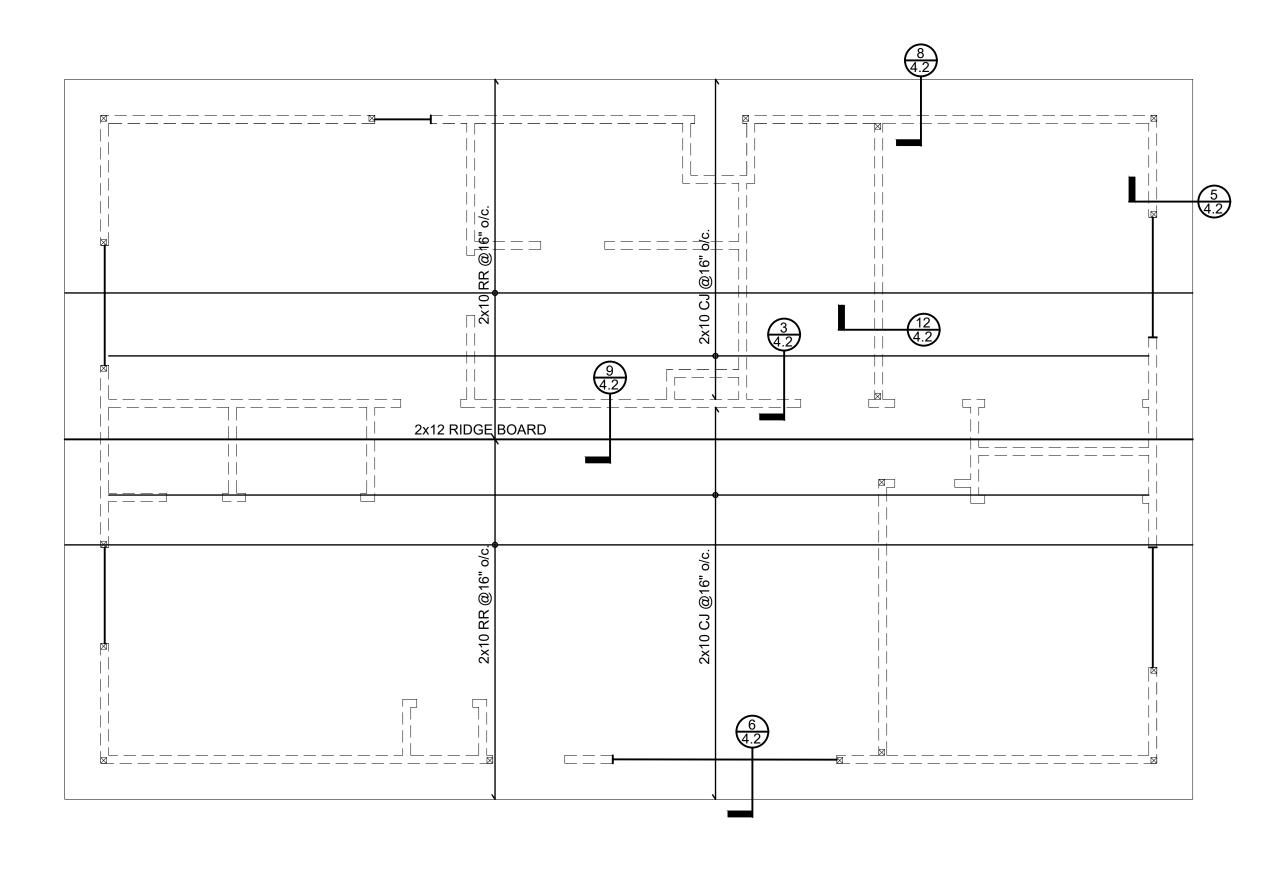
RAWN BY: COUNTY OF VENTURA
PPLICABLE CODE: 2022 VCBC & CR

SHEET NO.

2.1

SCALE: 1/4" = 1'-0"RAWN BY: COUNTY OF VENTURA

PPLICABLE CODE: 2022 VCBC & CR



# ROOF FRAMING PLAN

ROOF SHEATHING

ROOF: 15/32 PERFORMANCE CATEGORY, APA STRUCTURAL I RATED SHEATHING, 40/20, EXPOSURE 1.

NAILING: 10d @ 6" O.C. @ BOUNDARIES AND SUPPORTED EDGES, 12" O.C. FIELD. UNBLOCKED. ALL NAILS ARE COMMON.

#### LEGEND

- POST (4x6 U.N.O.) ■ 2-2x STUDS
- □□□□ 2x4@16" o/c WALL
  - 2x6@16" o/c AT PLUMBING WALLS
- SHEAR WALL (SHT'G PER SCHEDULE)
- ROOF RAFTERS PER PLAN
- CEILING JOISTS PER PLAN

1. FOR SHEAR WALL SCHEDULE SEE 1/1.2

REVIEW BY BUILDING AND SAFETY.

- 2. FOR HEADERS FRAMING AND SCHEDULE SEE 8/1.2 (U.N.O.).
- 3. NEW EXTERIOR WALLS SHALL BE SHEATHED WITH 15/32"
  PLYWOOD AND NAILED W/ 10d @ 6", 12". (U.N.O.)
  4. HOLD-DOWNS SHALL BE RE-TIGHTENED PRIOR TO COVERING
- 5. MANUFACTURED ROOF TRUSSES ARE ALLOWED IN LIEU OF FRAMING SHOWN. SUBMIT TRUSS PLAN AND CALCULATIONS FOR

# FOUNDATION PLAN

LOAD BEARING WALL

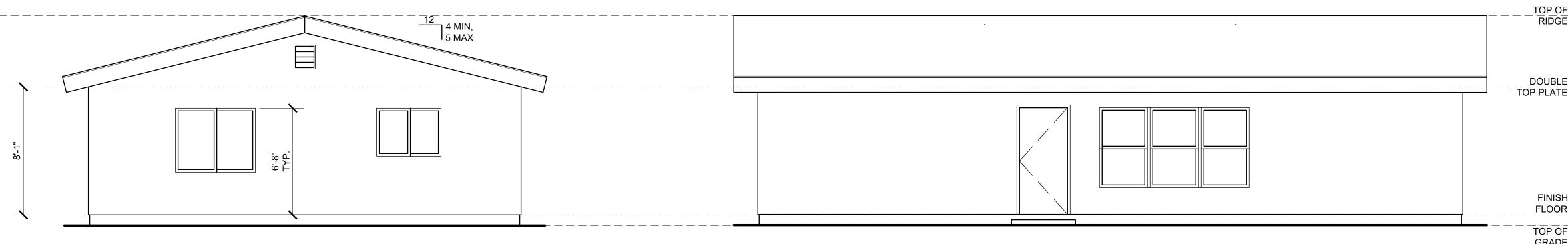
LEGEND 

 2−2x STUDS □□□□ 2x4@16" o/c WALL 2x6@16" o/c WALL

4" CONCRETE SLAB w/ #3 BARS @ 24" o/c. EA. WAY o/ 2" OF SAND o/ 10 MIL SHEET PLASTIC MOISTURE BARRIER o/ 2" OF SAND.

- LOAD BEARING

SOILS INVESTIGATION REPORT IS REQUIRED. THE RECOMMENDATIONS OF THE SOILS INVESTIGATION REPORT SHALL BE FOLLOWED AND ARE PART OF THIS SHEAR WALL (SHT'G PER SCHEDULE)



**ELEVATION 4 ELEVATION 2** 

By using these standard plans, the user agrees to release, waive and hold harmless, the County of Ventura, and its building official, officers, employees, agents, representatives and assigns, from all future claims, liabilities, suits and demands for any injury, disability, death, property damage or economic loss resulting from the use of these plans. The use of these standard plans does not eliminate or reduce the user's responsibility to verify the accuracy of all information contained on these plans.

DATE: 04/20/2023

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

1,188 SF DWELLING

RAWN BY: COUNTY OF VENTURA

PPLICABLE CODE: 2022 VCBC & CF

**DETAILS** 

OATE: 04/20/2023

AWN BY: COUNTY OF VENTURA PLICABLE CODE: 2022 VCBC & CRC

SHEET NO.

NOTES:
-SIMPSON HDU HOLDOWN ICC ESR #2330. -SIMPSON SSTB ANCHOR BOLTS ICC ESR #2611.

- POST OR DBL STUD PER PLAN

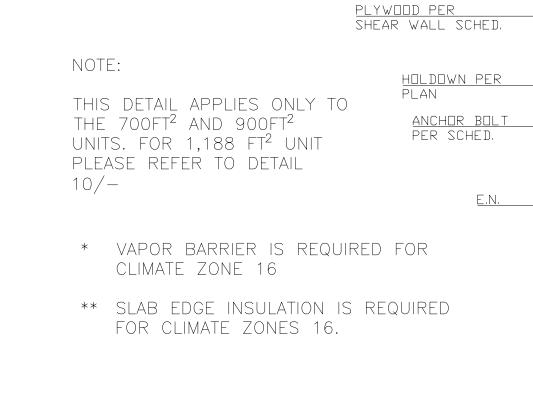
— SLAB PER PLAN

CONSTRUCTION JOINT

(2) #4 TOP AND BOTTOM

HOLDOWN SCHEDULE ANCHOR MIN. EMBED. FASTENER TO BOLT DIA. de WD. MEMBER 
 MARK
 BOLT DIA.
 de
 WD. MEMBER

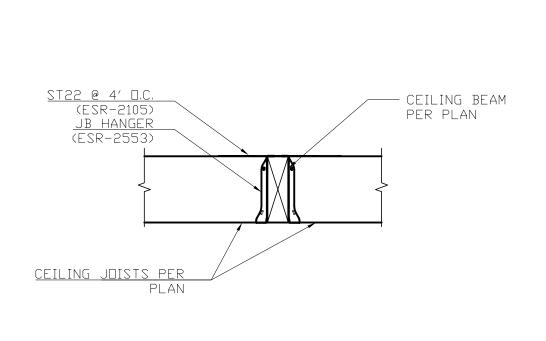
 HDU2-SDS2.5
 5/8"
 12 5/8"
 6-SDS 1/4"x2.5"



--- 0.118 SHOT PINS AT 24" O.C. INSTALL PER THE MANUFACTURER'S INSTRUCTIONS NON-BEARING WALL - SLAB PER FOUNDATION PLAN 2× P.T. SILL PLATE 

4 TYP. HOLD-DOWN DETAIL FOR 700 SQ.FT AND 900 SQ.FT UNITS

1 NON BEARING WALL DETAIL



10 TYP. HOLD-DOWN DETAIL FOR 1,188 SQ.FT UNIT

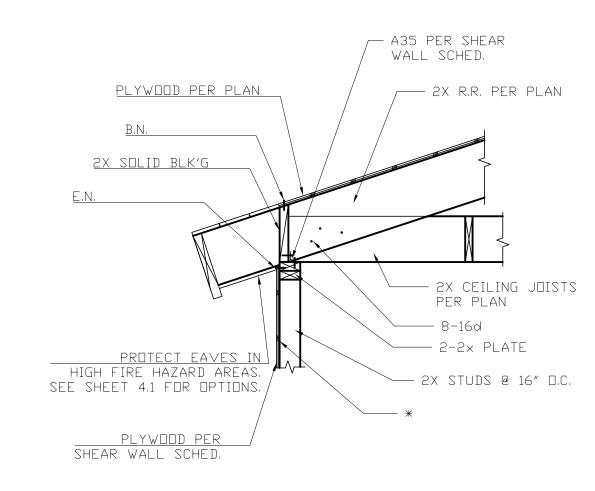
PLYWOOD PER SHEAR WALL SCHED.

HOLDOWN PER Plan

ANCHOR BOLT PER SCHED.

DEPTH OF FTG PER SOILS ---

INVESTIGATION REPORT



FOR REMAINING INFORMATION

POST OR DBL STUD PER PLAN

- SLAB PER PLAN

CONSTRUCTION JOINT

SEE 4/-

(2) #4 TOP AND

- 2X R.R. PER PLAN <u>A35 PER SHEAR</u> - PROTECT EAVES IN HIGH FIRE HAZARD AREAS. SEE SHEET 4,1 FOR OPTIONS. - PLYWOOD PER SHEAR WALL SCHED.

\* VAPOR BARRIER IS REQUIRED FOR CLIMATE ZONES 16

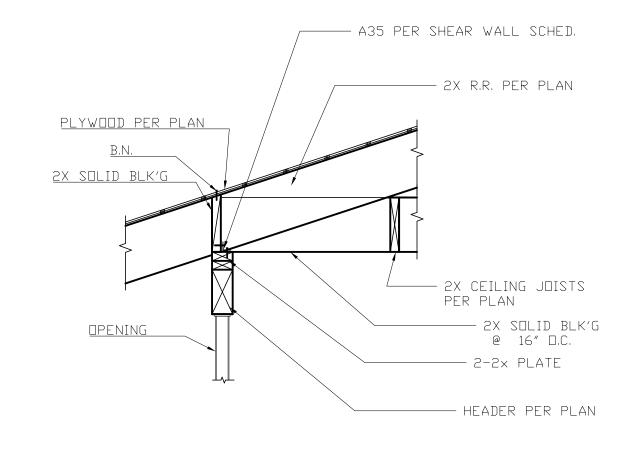
PLYWOOD PER PLAN

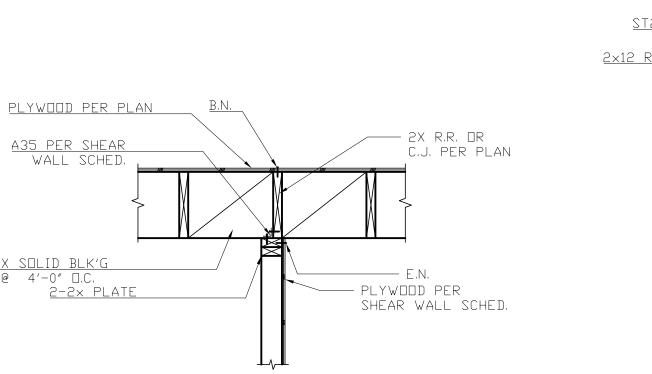
11 JOIST AND BEAM CONN. DETAIL

8 EXT. WALL CONN. DETAIL

\* VAPOR BARRIER IS REQUIRED
 FOR CLIMATE ZONES 16

5 EXT. WALL CONN. AT GABLE END DETAIL

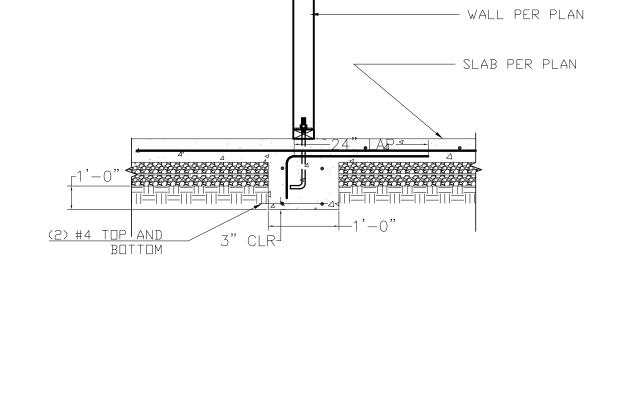




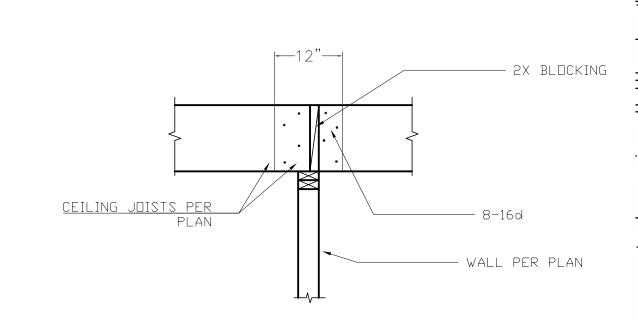
/ 2X R.R. PER PLAN --- PLYWOOD PER PLAN 2×12 RIDGE BOARD PER PLAN

9 RIDGE DETAIL

6 HDR AT EXT. WALL DETAIL



2 BEARING WALL FOUNDATION



3 CEILING JOIST SPLICE DETAIL

# 

4.304 OUTDOOR WATER USE 4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

available at: https://www.water.ca.gov/

1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are

#### DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE **EFFICIENCY**

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE **4.406.1 RODENT PROOFING.** Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING **4.408.1 CONSTRUCTION WASTE MANAGEMENT.** Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste

management ordinance.

- Excavated soil and land-clearing debris. 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably
- 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.
- **4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN**. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.
- 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale. 2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or
- bulk mixed (single stream). 3. Identify diversion facilities where the construction and demolition waste material collected will be
- 4. Identify construction methods employed to reduce the amount of construction and demolition waste
- 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated
- by weight or volume, but not by both. **4.408.3 WASTE MANAGEMENT COMPANY.** Utilize a waste management company, approved by the

enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

**4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR].** Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4...

- 1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
- 2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle). 4.410 BUILDING MAINTENANCE AND OPERATION

#### 4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact

disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure. 2. Operation and maintenance instructions for the following:

a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.

b. Roof and yard drainage, including gutters and downspouts. Space conditioning systems, including condensers and air filters.

d. Landscape irrigation systems. e. Water reuse systems.

3. Information from local utility, water and waste recovery providers on methods to further reduce

resource consumption, including recycle programs and locations. 4. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent

and what methods an occupant may use to maintain the relative humidity level in that range. 6. Information about water-conserving landscape and irrigation design and controllers which conserve

7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation 8. Information on required routine maintenance measures, including, but not limited to, caulking,

painting, grading around the building, etc. 9. Information about state solar energy and incentive programs available. 10. A copy of all special inspections verifications required by the enforcing agency or this code.

space around residential structures. 12. Information and/or drawings identifying the location of grab bar reinforcements.

**4.410.2 RECYCLING BY OCCUPANTS.** Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waster, 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 note required to comply with the organic waste portion of

#### DIVISION 4.5 ENVIRONMENTAL QUALITY

**SECTION 4.501 GENERAL** 

The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

#### SECTION 4.502 DEFINITIONS

5.102.1 DEFINITIONS

The following terms are defined in Chapter 2 (and are included here for reference)

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

**COMPOSITE WOOD PRODUCTS.** Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section

**DIRECT-VENT APPLIANCE.** A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

**CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL 301.1 SCOPE.** Buildings shall be designed to include the green building measures specified as mandatory in

but are not required unless adopted by a city, county, or city and county as specified in Section 101.7. 301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

the application checklists contained in this code. Voluntary green building measures are also included in the

application checklists and may be included in the design and construction of structures covered by this code.

The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section

Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

**SECTION 302 MIXED OCCUPANCY BUILDINGS** 

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

> 1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable. 2. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the California

Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS: Department of Housing and Community Development

California Building Standards Commission DSA-SS Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development Low Rise

High Rise Additions and Alterations

#### **CHAPTER 4** RESIDENTIAL MANDATORY MEASURES

**SECTION 4.102 DEFINITIONS** 4.102.1 DEFINITIONS

The following terms are defined in Chapter 2 (and are included here for reference)

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also

#### **4.106 SITE DEVELOPMENT**

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

I.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacen property, prevent erosion and retain soil runoff on the site.

. Retention basins of sufficient size shall be utilized to retain storm water on the site. 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved

by the enforcing agency 3. Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: https://www.waterboards.ca.gov/water\_issues/programs/stormwater/construction.html)

I.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

Water collection and disposal systems

parking facilities.

French drains . Water retention gardens 5. Other water measures which keep surface water away from buildings and aid in groundwater

**Exception**: Additions and alterations not altering the drainage path.

**4.106.4 Electric vehicle (EV) charging for new construction**. New construction shall comply with Sections 4.106.4.1 or 4.106.4.2 to facilitate future installation and use of EV chargers. 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 one or more of the following conditions: 1.1 Where there is no local utility power supply or the local utility is unable to supply adequate

1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project. 2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exemption: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the California Electrical Code.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities.

When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2

4.106.4.2.1Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or quest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to

**1.EV Capable.** Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the 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 a minimum of 40 amperes.

The 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.

1.When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.

2. When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of

a. Construction documents are intended to demonstrate the project's capability and capacity for facilitating

b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or

EV chargers are installed for use. 2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the 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 a minimum of 40 amperes.

The 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.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

a. Construction documents shall show locations of future EV spaces. b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

EV chargers are installed for use.

3.EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable

4.106.4.2.2.1.1 Location.

EVCS shall comply with at least one of the following options: 1. The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.

2. The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building. Exception: Electric vehicle charging stations designed and constructed in compliance with the California

Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section 4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.

1. The minimum length of each EV space shall be 18 feet (5486 mm).

The charging spaces shall be designed to comply with the following:

2. The minimum width of each EV space shall be 9 feet (2743 mm). 3.One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is

a.Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section

4.106.4.2.3 EV space requirements. 1. Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location or the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/ or subpanel shall

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the California Electrical Code.

have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device

installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device.

2.Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on amperage of installed or future receptacles or EVSE, raceway method(s), wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in oncealed areas and spaces shall be installed at the time of original construction.

1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf)[113 grams-force(gf)] 4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the

Title 20 Section 1605.3 (h)(4)(A): Commercial prerinse spray values manufactured on or after January

installed in close proximity to the location or the proposed location of the EV space at the time of original

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for

Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans

When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or

altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or

1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future

2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

**4.201.1 SCOPE.** For the purposes of mandatory energy efficiency standards in this code, the California Energy

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and

urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3,

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving

plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final

**4.303.1.1 Water Closets.** The effective flush volume of all water closets shall not exceed 1.28 gallons per

flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense

completion, certificate of occupancy, or final permit approval by the local building department. See Civil

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume

**4.303.1.3.1 Single Showerhead.** Showerheads shall have a maximum flow rate of not more than 1.8

gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA

**4.303.1.3.2 Multiple showerheads serving one shower**. When a shower is served by more than one

a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall

not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver

**4.303.1.4.4 Kitchen Faucets.** The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons

per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not

to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per

**Note**: Where complying faucets are unavailable, aerators or other means may be used to achieve

When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance

Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607

FOR REFERENCE ONLY: The following table and code section have been reprinted from the California

MAXIMUM FLOW RATE (gpm)

1.00

1.20

1.28

Code of Regulations, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section

/ALUES MANUFACTURED ON OR AFTER JANUARY 28. 2019 |

faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential

showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by

**4.303.1.2 Urinals.** The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush.

Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential

future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing

altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

construction in accordance with the California Electrical Code.

4.106.4.2.5 Electric Vehicle Ready Space Signage.

DIVISION 4.2 ENERGY EFFICIENCY

Commission will continue to adopt mandatory standards.

of two reduced flushes and one full flush.

WaterSense Specification for Showerheads.

allow one shower outlet to be in operation at a time.

not be less than 0.8 gallons per minute at 20 psi.

more than 0.2 gallons per cycle

1605.3 (h)(4)(A).

TABLE H-2

[spray force in ounce force (ozf)]

Product Class 2 (> 5.0 ozf and  $\leq 8.0$  ozf)

Product Class 1 (≤ 5.0 ozf)

Product Class 3 (> 8.0 ozf)

buildings shall not exceed 0.5 gallons per minute at 60 psi.

(d)(7) and shall be equipped with an integral automatic shutoff.

buildings affected and other important enactment dates.

The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

Note: A hand-held shower shall be considered a showerhead.

4.303 INDOOR WATER USE

Specification for Tank-type Toilets.

4.303.1.3 Showerheads

4.106.4.2.4 Identification.

4.201 GENERAL

California Plumbing Code. **4.303.3 Standards for plumbing fixtures and fittings.** Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code.

STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY

THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER	LE - MAXIMUM FIXTURE WATER USE						
FIXTURE TYPE	FLOW RATE						
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI						
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI						
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI						
KITCHEN FAUCETS	1.8 GPM @ 60 PSI						
METERING FAUCETS	0.2 GAL/CYCLE						
WATER CLOSET	1.28 GAL/FLUSH						
URINALS	0.125 GAL/FLUSH						

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING VERIFICATION WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLE BUILDIN Building Permit Set - Not for Construction Before Issuance of Ventura County Building Permit and Stamped Approved and Signed by Ventura County Building and Safety

11. Information from the Department of Forestry and Fire Protection on maintenance of defensible

ATE: 04/20/2023 AWN BY: COUNTY OF VENTURA

PPLICABLE CODE: 2022 VCBC & CRC

SHEET NO.

nundredths of a gram (g O³/g ROC).

4.504 POLLUTANT CONTROL

management district rules apply:

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a

Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this

article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to

nydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING

CONSTRUCTION. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings

with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain

woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the

1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks

Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and

2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in

prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17,

**4.504.2.2 Paints and Coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of

the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits

apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss

coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources

Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR

Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air

Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation

VOC LIMIT

50

100

Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic

**4.504.2.4 Verification.** Verification of compliance with this section shall be provided at the request of the

enforcing agency. Documentation may include, but is not limited to, the following:

TABLE 4.504.1 - ADHESIVE VOC LIMIT<sub>1.3</sub>

(Less Water and Less Exempt Compounds in Grams per Liter)

Manufacturer's product specification.

ARCHITECTURAL APPLICATIONS

INDOOR CARPET ADHESIVES

OUTDOOR CARPET ADHESIVES

WOOD FLOORING ADHESIVES

ADHESIVE PRIMER FOR PLASTIC

CONTACT ADHESIVE

RUBBER FLOOR ADHESIVES

SUBFLOOR ADHESIVES

CARPET PAD ADHESIVES

2. Field verification of on-site product containers.

compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of

tricloroethylene), except for aerosol products, as specified in Subsection 2 below.

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.

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

requirements of the following standards unless more stringent local or regional air pollution or air quality

applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves,

Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

pellet stoves and fireplaces shall also comply with applicable local ordinances.

reduce the amount of water, dust or debris which may enter the system.

compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to

# California 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)

NOT APPLICABLE RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER,

#### **INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS 702 QUALIFICATIONS 702.1 INSTALLER TRAINING.** HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following: State certified apprenticeship programs. 2. Public utility training programs. . Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. . Programs sponsored by manufacturing organizations.

**702.2 SPECIAL INSPECTION [HCD].** When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

- 1. Certification by a national or regional green building program or standard publisher. 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors.
- 3. Successful completion of a third party apprentice training program in the appropriate trade.
- 4. Other programs acceptable to the enforcing agency.

5. Other programs acceptable to the enforcing agency.

#### Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS). [BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall

employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

#### **703 VERIFICATIONS**

**703.1 DOCUMENTATION.** Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

				PARTY			
### MANUAL COMPANY OF THE PROPERTY OF THE PROP	TABLE 4.504.2 - SEALANT VOC LIMIT	Ī	7		TABLE 4.504.5 - FORMALDEHYDE L	.IMITS₁	
MARCH   MONOTON   MARCH   MA	(Less Water and Less Exempt Compounds in Grams	s per Liter)	<b>∃</b>		MAXIMUM FORMALDEHYDE EMISSIONS IN PA	RTS PER MILLION	
MINISTERIOR   7-68		. ,					
MORNEL BURN   79			-		111222	+	
MOMENTED   1900   MOMENTED		760					
### DRANGE FEB PORCH MANDRONE    50		300					
INCOMENDED CONTINUES							
### AMAP PRINCIPS ### AMAP PRI			-			-	
BEALANT PRIMERS  MINISTRATION AND AND ADMINISTRATION OF THE ADMINI			-				
ARCHITECTURAL  ONLY STATE STATE CONTINUES AND STATE STATE CONTINUES AND STATE		420					
COOL OF SECURIORS, TILL, SUCCIONE STAD IT ROUGH PROMODING TO SERVICE STATE OF STATE COMMINION AND A MANUAL OF STATE COMMINION			_				
### PROPRIES   176		050	_				
MORE DECK.    TOOL   TO			_				
DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)  4.04.2 GARPET NITTIES, in characteristic properties of the part of experiments of exper	POROUS		_			A MAXIMUM	
DINSION 4.5 ENVIRONMENTAL QUALITY (Continued) Properties of the Continued of Account of Continued of Account of Continued	MODIFIED BITUMINOUS	500			THORNESS OF S/10 (0 MM).		
### 4564 CARRET VITTERS. At comprision of the Telephone and Foreign and Experimental Contracts, Viscolar 12, 14, 2007.  ### ASSA SOCIO CONTENT LIMITS FOR CARRET VISCOLAR CONTROLAR CONTRO	MARINE DECK	760	_		DIVISION 4.5 ENVIRONMENTAL OLIA	LITY (continue	4)
TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC CONTENT LIMITS FOR ARCHITECTURAL COATING 529  TABLE 4.504.3- VOC COATING 529  TABLE 5.504.3- VOC COATING 529  TABLE 5.504.3- VOC COATING 529  TABLE 5.504.3- VOC COATING 529  TABLE 5	OTHER	750			4.504.3 CARPET SYSTEMS. All carpet installed in the building interior	or shall meet the requireme	nts of the California
ARCHITECT DECOMPOSITION CLISS WITTER & LESS DECOMPT  COMMING CATEGORY  VOC. LBIT  ARCHITECT COMMING S.  SOCIATIONS  100  NOMERICA COMMING S.  100  N	TABLE 4.504.3 - VOC CONTENT LIN	/IITS FOR			California Specification 01350)  See California Department of Public Health's website for certification phttps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pag	orograms and testing labs. es/VOC.aspx.	
Common Carter Service   Comm	ARCHITECTURAL COATINGS2,3				California Department of Public Health, "Standard Method for the	ne Testing and Evaluation o	Volatile Organic
INDIVIDUAL CONTINGS    100	COMPOUNDS				(Emission testing method for California Specification 01350)		·
ASSAL TOCKTINGS   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150   150					'		iaus.
SONCECTAMON CONTINGS  PERCENTIFY CONTINGS  AUDINION MODE COUNTINGS  BY A SEAS COUNTINGS  AUDINION MODE COUNTINGS  AUDINION MODE COUNTINGS  BY A SEAS COUNTINGS  AUDINION MODE COUNTINGS  AUDINION MODE COUNTINGS  BY A SEAS COUNTINGS  AUDINION MODE COUNTINGS  BY A SEAS COUNTINGS BY A SEAS COUNTINGS  BY A SEA						-	<b>l.</b> 1.
SPECIALTY COATINGS  AUMINIAM ROCE COATINGS  400  BITURNOUS ROCE TO COATINGS  400  BITURNOUS ROCE TO COATINGS  500  BITURNOUS ROCE FRANCES  500  BOND BREAKERS  500  BOND BREAKERS  500  BOND BREAKERS  500  CORRESTED CLIRING COMPOUNDS  500  CLIRING COATINGS  500  CLIRING COATINGS  500  CORRESTED CLIRING COMPOUNDS  500  CORRESTED CLIRING COMPOUNDS  500  CLIRING COATINGS  500  CLIRING CLIRING CLIRING CL	NONFLAT-HIGH GLOSS COATINGS	150			· ·	·	
AUMINIA RODE COATINGS					resilient flooring shall meet the requirements of the California Departm	ent of Public Health, "Stand	ard Method for the
Sec California Department of Public Healths website for certification programs and testing labo.		400					nmental Chambers,
BITUMNOUS ROOF COATNOS  BITUMNOUS ROOF PRIMERS  550  BITUMNOUS ROOF PRIMERS  550  CONCRETE CURNS COMPOUNDS  550  CONCRETE CURNS COMPOUNDS  550  CONCRETE CURNS COMPOUNDS  550  DRY FOR COATNOS  550  D						,	
BOND BREAKERS  300  A. 4.6.4. COMPOSITE WOOD PRODUCTS. Hackbood shywood, participations and medium density flient from the process of the composition of the process of the pr					See California Department of Public Health's website for certification p	programs and testing labs.	
ABASE COMPORTE WOOD PRODUCTS. Inchanged purpose, perceivage and provided as required from the subject of the					hhtps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pag	ges/VOC.aspx.	
CONCRETE CURING COMPOUNDS  550  CONCRETE AND PROJUCT OF CONTROS  500  FIRE RESISTIVE COATINGS  500  FIRE RESISTIVE COATINGS  500  FILOR COATINGS  600  FILOR			_				
CONCRETEMENT OF CONTROL SAME SAME SAME SAME SAME SAME SAME SAME	-				4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particle composite wood products used on the interior or exterior of the building.	cleboard and medium dens	ty fiberboard ents for
INVENIOUS STALLERS  50 DRY FOG COATRIGS  150 DRY FOG COATRIGS  150 DRY FOG COATRIGS  150 DRY FOG COATRIGS  150 PLOG COATRIGS  1					formaldehyde as specified in ARB's Air Toxics Control Measure for Co	omposite Wood (17 CCR 93	
DRIVEN STATURES 50 DRIV FOG COATINGS 150 PAUX TRINSHING TRINSHING COATINGS 150 PAUX TRINSHING TRIN	CONCRETE/MASONRY SEALERS						
DRY POS COATINGS 150 PRE RESISTIVE COATINGS 350 FLOR COATINGS 150 FLOR SOLID COATINGS 150 FLOR COATING	DRIVEWAY SEALERS	50	_		<b>4.504.5.1 Documentation.</b> Verification of compliance with this by the enforcing agency. Documentation shall include at least of	section shall be provided a	s requested
FIGURE RESISTIVE COATINGS   350   FIGURE RESISTIVE COATINGS   350   FIGURE RESISTIVE COATINGS   350   FIGURE RESISTIVE COATINGS   350   FORM-RELASE COMPOUNDS   255   GRAPHIC ARTS COATINGS (SIGN PAINTS)   500   HIGH TEMPERATURE COATINGS   420   INDUSTRIAL MAINTENANCE COATINGS   250   MADUSTRIAL MAINTENANCE COATINGS   450   MALTICOLOR COATINGS   500   MULTICOLOR COATINGS   250   MULTICOLOR COATINGS   250   MULTICOLOR COATINGS   250   MULTICOLOR COATINGS   250   MERICANCE, MADUSTRIAL MAINTENANCE	DRY FOG COATINGS	150				ne or the renewing.	
FLOOR COATINGS   100   FORM-RELEASE COMPOUNDS   250   GRAPHIC ARTS COATINGS (SION PAINTS)   500   HIGH TEMPERATURE COATINGS   420   HIGH TEMPERATURE COATINGS   250   OWN SOURDS COATINGS (SION PAINTS)   500   MAGNESITE CEMENT COATINGS   450   MULTICOLOR COATINGS   450   MULTICOLOR COATINGS   450   MULTICOLOR COATINGS   450   MULTICOLOR COATINGS   450   MAGNESITE CEMENT WASH PRIMERS   420   PRETREATMENT WASH PRIMERS   420   PRETREATMENT WASH PRIMERS   420   PRETREATMENT WASH PRIMERS   420   PRETREATMENT WASH PRIMERS   450   MAGNESITE COATINGS	FAUX FINISHING COATINGS	350			<ol><li>Chain of custody certifications.</li></ol>		
FLORC COATINGS 100  GRAPHIC ARTS COATINGS (SIGN PAINTS) 500  HIGH TEMPERATURE COATINGS 420  MINUSTRIAL MAINTENANCE COATINGS 250  LOW SOLIDS COATINGS 120  MACNESTIE CEMENT COATINGS 250  MACNESTIE CEMENT COATINGS 100  METALLE PRIMERS 100  METALL	FIRE RESISTIVE COATINGS	350				site Wood Products regulation	on (see
FORM-RELEASE COMPOUNDS 250 RRAPHIC ATS COATINGS (SIGN PAINTS) 500 HIGH TEMPERATURE COATINGS 420 HIGH TEMPERATURE COATINGS 250 LOW SOLIDS COATINGS 1120 MAGNESITE CEMENT COATINGS 450 MAGNESITE CEMENT COATINGS 150 METALLIC PIGMENTED COATINGS 1500 METALLIC PIGMENTED COATINGS 150 METALLIC PIGMENTED COATINGS 1500 METALLIC PIGMENTED	FLOOR COATINGS	100			<ol> <li>Exterior grade products marked as meeting the PS-1</li> </ol>	or PS-2 standards of the E	ngineered
HIGH TEMPERATURE COATINGS 420  INDUSTRIAL MAINTENANCE COATINGS 250  LOW SOLIDS COATINGS 120  MACRISTIC CEMENT COATINGS 120  MASTIC TEXTURE COATINGS 100  METALLIC PIGMENTED COATINGS 500  METALLIC PIG	FORM-RELEASE COMPOUNDS	250			0121, CSA 0151, CSA 0153 and CSA 0325 standard		d Canadian CSA
A.505 INTERIOR MOISTURE CONTINGS   120   4.505 INTERIOR MOISTURE CONTINGS   120   4.505 INTERIOR MOISTURE CONTINGS   1450   4.505 INTERIOR MOISTURE CONTINGS   1450 INTERIOR MOISTURE C	GRAPHIC ARTS COATINGS (SIGN PAINTS)	500			<ol><li>Other methods acceptable to the enforcing agency.</li></ol>		
LOW SOLIDS COATINGS   120  MAGNESITE CEMENT COATINGS   450  MASTIC EXTURE COATINGS   450  MASTIC EXTURE COATINGS   100  METALLIC PIGMENTED COATINGS   100  MULTICOLOR COATINGS   250  MERCYCLED COATINGS   250  MECYCLED COATINGS   250  MULTICOLOR COATINGS   250  MULT	HIGH TEMPERATURE COATINGS	420					
LOW SOLIDS COATINGS   120  MAGNESITE CEMENT COATINGS   450  MAGNESITE CEMENT COATINGS   100  METALLIC PIGMENTED COATINGS   500  MULTICOLOR COATINGS   250  PRETREATMENT WASH PRIMERS   420  PRIMERS, SEALERS, & UNDERCOATERS   100  REACTIVE PENETRATING SEALERS   350  RECYCLED COATINGS   550  RUST PREVENTATIVE COATINGS   550  MULTICOLOR COATINGS   550  RECYCLED COATINGS   550  RECYCLED COATINGS   550  MULTICOLOR COATINGS   550  RECYCLED COATINGS   550  RECYCLED COATINGS   550  RECYCLED COATINGS   550  RUST PREVENTATIVE COATINGS   550  SHELLAGS   550  SPECIALTY PRIMERS, SEALERS & 100  UNDERCOATERS   100  UNDERCOATERS   100  SPECIALTY PRIMERS, SEALERS & 100  UNDERCOATERS	INDUSTRIAL MAINTENANCE COATINGS	250			4.505 INTERIOR MOISTURE CONTROL		
MAGNESITE CEMENT COATINGS 450  MAGNESITE CEXTURE COATINGS 100  METALLIC PIGMENTED COATINGS 500  METALLIC PIGMENTED COATINGS 500  METALLIC PIGMENTED COATINGS 500  METALLIC PIGMENTED COATINGS 500  PRETREATMENT WASH PRIMERS 420  PRIMERS, SEALERS, & UNDERCOATERS 100  REACTIVE PENETRATING SEALERS 350  ROF COATINGS 500  R	LOW SOLIDS COATINGS <sub>1</sub>	120			<b>4.505.1 General.</b> Buildings shall meet or exceed the provisions of the	e California Building Standa	ds Code.
MASTIC TEXTURE COATINGS 100  METALLIC PIGMENTED COATINGS 500  MULTICOLOR COATINGS 500  PRETREATMENT WASH PRIMERS 420  PRETREATMENT WASH PRIMERS 500  REACTIVE PENETRATING SEALERS 500  RECOYCLED COATINGS 500  MULTICOLOR COATINGS 500  RECOYCLED COATINGS 500  MULTICOLOR COA							
METALLIC PIGMENTED COATINGS 500  MULTICOLOR COATINGS 250  PRETREATMENT WASH PRIMERS 420  PRETREATMENT WASH PRIMERS 420  PREMERS, SEALERS, & UNDERCOATERS 100  REACTIVE PENETRATING SEALERS 350  RECYCLED COATINGS 250  ROOF COATINGS 250  RUST PREVENTATIVE COATINGS 250  SHELLACS  CLEAR 730  OPAQUE 550  SPECIALTY PRIMERS, SEALERS & 100  UNDERCOATERS 100  UNDERCOATERS 100  UNDERCOATERS 100  STONE CONSOLIDANTS 450  STONE CONSOLIDANTS 450  STONE CONSOLIDANTS 450  WATERPROOFING MEMBRANES 250  WATERPROOFING MEMBRANES 250  WOOD PRESERVATIVES 350  WOOD PRESERVATIVES 350  WOOD PRESERVATIVES 350  WOOD PRESERVATIVES 350  Liness directions and control in a paint or audiomatic adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity range less stould be capable of adjustment between a relative humidity control may utilize manual or automatic adjustment between a relative humidity control may utilize manual or automatic adjustment.							etaruer by the
MULTICOLOR COATINGS 250 PRETREATMENT WASH PRIMERS 420 PRIMERS, SEALERS, & UNDERCOATERS 100 REACTIVE PENETRATING SEALERS 360 RECYCLED COATINGS 250 ROOF COATINGS 50 RECYCLED COATINGS 50 RECYCLED COATINGS 50 RUST PREVENTATIVE COATINGS 50 RELIACS REL					4.505.2.1 Capillary break. A capillary break shall be installed in	in compliance with at least o	ne of the
PRETREATMENT WASH PRIMERS 420 PRIMERS, SEALERS, & UNDERCOATERS 100 REACTIVE PENETRATING SEALERS 350 RECYCLEO COATINGS 250 ROOF COATINGS 50 SHELLACS CLEAR 730 OPAQUE 550 OPAQUE 550 STONE CONSOLIDANTS 450 STONE CONSOLIDANTS 450 STONE CONSOLIDANTS 450 STONE COATINGS 340 STONE COATINGS 340 STONE COATINGS 340 STONE COATINGS 340 STONE COATINGS 350 STONE CONSOLIDANTS 350 SWIMMING POOL COATINGS 350 STONE COATINGS 350						1	
PRIMERS, SEALERS, & UNDERCOATERS 100 REACTIVE PENETRATING SEALERS 350 RECYCLED COATINGS 250 ROOF COATINGS 50 RUST PREVENTATIVE COATINGS 50 SHELLACS CLEAR 730 OPAQUE 550 SPECIALTY PRIMERS, SEALERS & 100 SPECIALTY PRIMERS SHAIL BUT SEALERS & 100 SPECIALTY PRIMERS SHAIL BU			l		1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm)	or larger clean aggregate s	nall be provided with
REACTIVE PENETRATING SEALERS 350  RECYCLED COATINGS 250  ROOF COATINGS 50  ROOF COATINGS 50  RUST PREVENTATIVE COATINGS 50  SHELLACS 50  CLEAR 730  OPAQUE 550  SPECIALTY PRIMERS, SEALERS & 100  UNDERCOATERS 100  STONE CONSOLIDANTS 450  STONE CONSOLIDANTS 450  STONE COATINGS 340  TRAFFIC MARKING COATINGS 340  WATERPROOCINGS 340  WATERPROOCING MEMBRANES 250  SIMILATION OF RESERVATIVES 350  WOOD COATINGS 340  WOOD PRESERVATIVES 350  ACI 307.278-06.  2. Other equivalent methods approved by the enforcing agency. 3. A slab design specified by a licensed design professional. 4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water 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 contact-type moisture meter En moisture recentled with either a probe-type or contact-type moisture meter En moisture content shall be determined with either a probe-type or contact-type moisture meter En moisture content shall be determined with either a probe-type or contact-type moisture meter En moisture content shall be determined with either a probe-type or contact-type moisture meter En moisture content shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval			l		a vapor barrier in direct contact with concrete and a c	concrete mix design, which	vill address bleeding
RECYCLED COATINGS 250  ROOF COATINGS 50  RUST PREVENTATIVE COATINGS 250  SHELLACS  CLEAR 730  OPAQUE 550  SPECIALTY PRIMERS, SEALERS & 100  UNDERCOATERS 100  STONE CONSOLIDANTS 340  STONE CONSOLIDANTS 340  TRAFFIC MARKING COATINGS 340  WATERPROOFING MEMBRANES 250  WOOD COATINGS 340  WATERPROOFING MEMBRANES 250  3. A slab design specified by a licensed design professional.  4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of wate 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 contact-type moisture meter. Expression members are probe-type or contact-type moisture defined in compliance with the following:  1. Moisture content shall be determined with either a probe-type or contact-type moisture content. Moisture content shall be verified in compliance with the following:  1. Stall the probe type or contact-type moisture expression and the following:  2. Union the probe type or have a high moisture content shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu	· · ·		ı		ACI 302.2R-06.		zana. oto montute,
RECYCLED COATINGS  ROOF COATINGS  SO  ROOF COATINGS  SO  RUST PREVENTATIVE COATINGS  SHELLACS  SHELLACS  CLEAR  OPAQUE  SPECIALTY PRIMERS, SEALERS & 100  STAINS  STAINS  STONE CONSOLIDANTS  STONE CONSOLIDANTS  SWIMMING POOL COATINGS  340  TRAFFIC MARKING COATINGS  100  WATERPROOFING MEMBRANES  WOOD COATINGS  WOOD PRESERVATIVES  350  A.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of wate shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 moisture content shall be verified in compliance with the following:  1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Et moisture verification methods may be approved by the enforcing agency and shall satisfy required found in Section 101.8 of this code.  2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade of each piece verified.  3. At least three random moisture readings shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and file insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to denclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.  4.506 INDOOR AIR QUALITY AND EXHAUST  4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.  2. Unless functioning as a component of a whole house ventilation system, fans must be controlle humidity control.  3. A least three random moisture readings shall be mechanically ventilated and shall comply with following:  4.506 INDOOR AIR QUALITY AND EXHAUST  4.506 INDOOR AIR QUALI			ı		<ul> <li>Other equivalent methods approved by the enforcing</li> <li>A slab design specified by a licensed design profession</li> </ul>	agency. onal.	
SHELLACS  CLEAR 730  OPAQUE 550  SPECIALTY PRIMERS, SEALERS & 100  STONE CONSOLIDANTS 450  SYNUMING POOL COATINGS 340  TRAFFIC MARKING COATINGS 100  WATERPROFING MERKING COATINGS 420  WATERPROFING MERKING COATINGS 420  WATERPROFING MEMBRANES 250  WOOD COATINGS 350  WOOD PRESERVATIVES 350  ZINC-RICH PRIMERS 340  Shall not be installed. Wall and floof framing shall not be enclosed when the framing members exceed 19 moisture content. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Et moisture verification methods may be approved by the enforcing agency and shall satisfy required found in Section 101.8 of this code.  2. Moisture creadings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade of each piece verified.  3. At least three random moisture readings shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor cavities. Wet-applied insulation products shall be replaced or allowed to denclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.  4.506 INDOOR AIR QUALITY AND EXHAUST  4.5							s of water damage
SHELLACS  CLEAR  730  OPAQUE  550  SPECIALTY PRIMERS, SEALERS & 100  STAINS  STAINS  STAINS  STAINS  STAINS  SWIMMING POOL COATINGS  TRAFFIC MARKING COATINGS  WATERPROOFING MEMBRANES  WATERPROOFING MEMBRANES  WOOD COATINGS  WOOD COATINGS  WOOD COATINGS  WOOD PRESERVATIVES  JING-RICH PRIMERS  340  1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Et moisture verification methods may be approved by the enforcing agency and shall satisfy required found in Section 101.8 of this code.  2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade of each piece verified.  3. At least three random moisture readings shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor enclosure in wall or floor cavities. Wet-applied insulation products shall be replaced or allowed to denclosure in wall or floor cavities. Wet-applied insulation products shall be replaced or allowed to denclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.  4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.  2. Unless functioning as a component of a whole house ventilation system, fans must be controlled humidity control.  3. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.				—	shall not be installed. Wall and floor framing shall not be enclosed whe	en the framing members ex	eed 19 percent
CLEAR 730  OPAQUE 550  SPECIALTY PRIMERS, SEALERS & 100  STAINS 250  STONE CONSOLIDANTS 450  SWIMMING POOL COATINGS 340  WATERPROOFING MEMBRANES 420  WATERPROOFING MEMBRANES 250  WOOD COATINGS 275  WOOD PRESERVATIVES 350  ZINC-RICH PRIMERS 340  TRING 350  ZINC-RICH PRIMERS 340  TRING 350  TRING 360  TRING 3		250			·	· ·	neter Equivalent
OPAQUE 550 SPECIALTY PRIMERS, SEALERS & 100 SPECIALTY PRIMERS, SEALERS & 100 STAINS 250 STONE CONSOLIDANTS 450 SWIMMING POOL COATINGS 340 TRAFFIC MARKING COATINGS 100 WATERPROOFING MEMBRANES 250 WATERPROOFING MEMBRANES 250 WOOD COATINGS 275 WOOD PRESERVATIVES 350 ZINC-RICH PRIMERS 340 ZINC-RICH PRIMERS 340  A loss three readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade of each piece verified.  2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade of each piece verified.  3. At least three random moisture readings shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor sacreptable to the enforcing agency provided at the time of approval to enclose the wall and floor carries.  4.506 INDOOR AIR QUALITY AND EXHAUST  4.506 INDOOR AIR QUALITY AND EXHAUST  4.506 INDOOR AIR QUALITY AND EXHAUST  4.506 INDOOR AIR QUALITY AND exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.  2. Unless functioning as a component of a whole h		720	ı		moisture verification methods may be approved by the enfo		
SPECIALTY PRIMERS, SEALERS & 100 UNDERCOATERS  100 STAINS 250 STONE CONSOLIDANTS 450 SWIMMING POOL COATINGS TRAFFIC MARKING COATINGS 100 WATERPROOFING MEMBRANES WOOD COATINGS 250 WOOD PRESERVATIVES 250 WOOD PRESERVATIVES 350 ZINC-RICH PRIMERS 340  3. At least three random moisture readings shall be performed on wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing with docu acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing to enclose the wall and floor enclose the wall and floor enclose the wall and floor enclose					2. Moisture readings shall be taken at a point 2 feet (610 mm)	to 4 feet (1219 mm) from th	e grade stamped en
STONE CONSOLIDANTS  SWIMMING POOL COATINGS  TRAFFIC MARKING COATINGS  TUB & TILE REFINISH COATINGS  WATERPROOFING MEMBRANES  WOOD COATINGS  WOOD PRESERVATIVES  ZINC-RICH PRIMERS  450  STONE CONSOLIDANTS  450  450  450  450  450  450  450  45		100			<ol> <li>At least three random moisture readings shall be performed</li> </ol>		
STONE CONSOLIDANTS  SWIMMING POOL COATINGS  TRAFFIC MARKING COATINGS  TUB & TILE REFINISH COATINGS  WATERPROOFING MEMBRANES  WOOD COATINGS  WOOD PRESERVATIVES  ZINC-RICH PRIMERS  450  SWIMMING POOL COATINGS  450  4.506 INDOOR AIR QUALITY AND EXHAUST  4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled humidity control.  a. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.	STAINS	250	ı		Insulation products which are visibly wet or have a high moisture conte	ent shall be replaced or allo	wed to dry prior to
SWIMMING POOL COATINGS TRAFFIC MARKING COATINGS 100 TUB & TILE REFINISH COATINGS WATERPROOFING MEMBRANES WOOD COATINGS WOOD PRESERVATIVES ZINC-RICH PRIMERS 340  4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled humidity control.  a. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.	STONE CONSOLIDANTS	450	ı		enclosure in wall or floor cavities. Wet-applied insulation products sha	all follow the manufacturers'	drying
TRAFFIC MARKING COATINGS  100  TUB & TILE REFINISH COATINGS  WATERPROOFING MEMBRANES  WOOD COATINGS  WOOD PRESERVATIVES  ZINC-RICH PRIMERS  100  4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with following:  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.  2. Unless functioning as a component of a whole house ventilation system, fans must be controlled humidity control.  350  ZINC-RICH PRIMERS  340	SWIMMING POOL COATINGS	340			·		
TUB & TILE REFINISH COATINGS  WATERPROOFING MEMBRANES  250  WOOD COATINGS  WOOD PRESERVATIVES  ZINC-RICH PRIMERS  420  1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled humidity control.  a. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.				—	4.506 INDOOR AIR QUALITY AND EXHAUST 4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanical	ally ventilated and shall com	ply with the
WATERPROOFING MEMBRANES  250  WOOD COATINGS  275  WOOD PRESERVATIVES  250  WOOD PRESERVATIVES  275  A. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.						, Shan 6511	. ,
WOOD COATINGS  WOOD PRESERVATIVES  ZINC-RICH PRIMERS  230  2. Unless functioning as a component of a whole house ventilation system, fans must be controlled humidity control.  a. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.							
WOOD PRESERVATIVES  ZINC-RICH PRIMERS  350  ZINC-RICH PRIMERS  340  a. Humidity controls shall be capable of adjustment between a relative humidity range less to equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.					<ol><li>Unless functioning as a component of a whole house ventila</li></ol>		
ZINC-RICH PRIMERS  equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic adjustment.					·		
ZINC-RICH PRIMERS 340 adjustment.					<ul> <li>a. Humidity controls shall be capable of adjustment between equal to 50% to a maximum of 80%. A humidity cont</li> </ul>	veen a relative humidity ran rol may utilize manual or au	ge less than or tomatic means of
4. CRAME OF VOC DEDITED OF COATING INICIAINATED 0. IIII IIII N.A. NIIMidity control may be a congrete companent to the exhaust ten and is not required.					adjustment.	•	
1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER &  EXEMPT COMPOUNDS  b. A humidity control may be a separate component to the exhaust fan and is not required to integral (i.e., built-in)		NCLUDING WATER &				no canaustian anu is nol fe	quireu iu ne

ATE: 04/20/2023

RAWN BY: COUNTY OF VENTURA

PPLICABLE CODE: 2022 VCBC & CRC

GODI LOGITADI ILGIVLO	
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250

250 SPECIAL PURPOSE CONTACT ADHESIVE STRUCTURAL WOOD MEMBER ADHESIVE **TOP & TRIM ADHESIVE** 250 SUBSTRATE SPECIFIC APPLICATIONS 30 METAL TO METAL PLASTIC FOAMS POROUS MATERIAL (EXCEPT WOOD) 50 FIBERGLASS

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER. THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.

2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.

3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

> 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.

> > Equipment Selection), or other equivalent design software or methods.

sized, designed and have their equipment selected using the following methods:

4.507 ENVIRONMENTAL COMFORT

2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential

4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or

2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.

**Exception:** Use of alternate design temperatures necessary to ensure the system functions are

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