ADU25-0017 437 SANTA CLARA AVE, UNIT A

LANH HO AND CHUNG HOANG'S RESIDENCE

437 SANTA CLARA AVE, ALAMEDA, CA 94501

STRUCTURAL GENERAL NOTES

A. GENERAL

1. ALL WORK SHALL CONFORM TO CURRENT 2022 CBC, CBC, CMC, CPC, 2022 NEC, 2022 CEC.LAWS & ORDINENCES
2. THE CONTRACTOR SHALL VERIFY & BE RESPONSIBLE FOR ALL DIMENTIONS & CONDITIONS AT THE JOB SITE AND SHALL NOTIFY THE ARCHITECT OF ANY DESCREPANCIES BETWEEN ACTUAL CONDITIONS & WHAT IS SHOWN ON THE DRAWINGS BEFORE PROCEDING WITH THE WORK.
3. ANY OMISSIONS OR CONFLICTS BETWEEN THE ARCHITECTURAL STRUCTURAL & MECHANICAL DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE CITY INSPECTOR.
4. SHOP DRAWINGS REQUIRED BY THE SPECIFICATIONS SHALL BE SUBMITTED TO THE ARCHITECT PRIOR TO FABRICATION, & ALLOW REASONABLE TIME FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFTEY OF THE BUILDING DURING THE CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, BRACING & GUYS IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDANCES. ANY DEVIATIONS MUST BE APPROVED PRIOR TO ERECTION.
6. ALL CONDITIONS NOT CLEARLY SHOWN OR DETAILED SHALL BE OF THE SAME TYPE & CHARACTER AS THOSE SHOWN FOR SIMILAR CONDITIONS.

B. FOUNDATION

1. FOUNDATION EXCAVATIONS SHALL BE FREE OF LOOSE MATERIAL PRIOR TO THE PLACEMENT OF ANY REINFORCING STEEL OR CONCRETE.

C. CONCRETE

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS.
2. CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK TYPE(150#CF) & AGREGATE SHALL CONFORM TO ASTM C33 U.O.N.
3. CEMENT SHALL CONFORM TO ASTM C150, TYPE 1 OR 2.
4. PLACEMENT OF CONCRETE SHALL BE IN CONFORMANCE WITH ACI 301.
5. CONCRETE SHALL BE MACHINE MIXED AND DELIVERED IN ACCORDANCE WITH ASTM C-94. SUBMIT MIX DESIGN TO THE ARCHITECT FOR APPROVAL PRIOR TO PLACING CONCRETE.
6. PROVIDE MINIMUM CLEAR COVER OF CONCRETE OVER REINFORCING AS FOLLOWS

D. REINFORCING STEEL

1. ALL REINFORCING STEEL SHALL CONFORM TO ASTM SPECIFICATION A615 GRADE 60 FOR #5 AND LARGER BARS AND GRADE 40 FOR #3 & #4.
2. ALL REINFORCING STEEL SHALL BE LAPPED AS NOTED BELOW, #4: 24" FOR BOTTOM BARS AND 28" FOR TOP BARS; #5: 30" FOR BOTTOM BARS AND 35" FOR TOP BARS; #6: 40" FOR BOTTOM BARS AND 46" FOR TOP BARS AT SPLICES UNLESS OTHERWISE NOTED ON PLANS. SPLICES SHALL BE LOCATED AS DETERMINED IN THE PLANS. STAGGER ALL LAPS SPLICES.
3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A82 AND A185.
4. ANCHOR BOLTS, DOWELS AND OTHER EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE BEFORE CONCRETE IS PLACED, USE CYT THREAD ANCHOR BOLTS ONLY.

E. STRUCTURAL & MISC. STEEL

1. FABRICATION AND ERECTION TO BE IN ACCORDANCE WITH LATEST AISC SPECIFICATIONS. STRUCTURAL STEEL SHALL BE ASTM A36, EXCEPT TUBE COLUMNS WHICH ARE ASTM A500, GRADE B.
2. WELDING TO BE IN ACCORDANCE WITH AWS SPECIFICATIONS. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS USING E77XX ELECTRODES.
3. ALL PLATES, ETC., TO BE BOLTED TO CONCRETE ELEMENTS, SHALL NOT BE FABRICATED UNTIL THE BOLTS HAVE BEEN LOCATED IN THE FIELD.
4. BOLTS SHALL BE ASTM A307 TYPE. THREADS MAY BE INCLUDED IN THE SHEAR PLANES
5. STEEL TO BE SHOP PRIMED FOR, EXCEPT WHERE EMBEDDED IN CONCRETE OR TO BE WELDED.
6. ALL WELDING SHALL BE CONTINUOUSLY INSPECTED BY AN INDEPENDENT INSPECTOR APPROVED BY THE BUILDING DEPARTMENT.

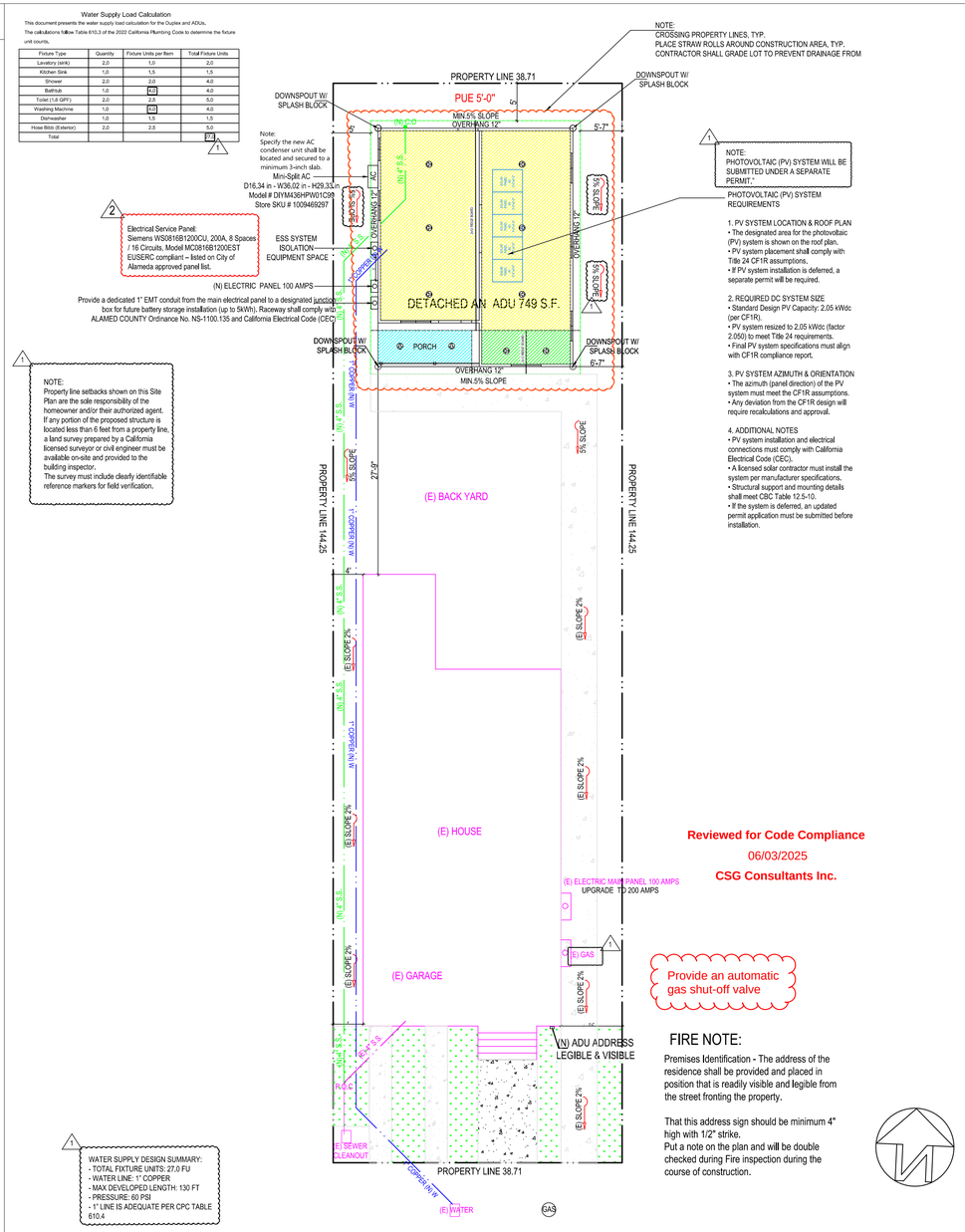
F. WOOD FRAME CONSTRUCTION

1. GENERAL WOOD FRAMING: WOOD FRAMING THROUGHOUT THE BUILDING SHALL BE CONSTRUCTED IN ACCORDANCE WITH CALIFORNIA BUILDING CODE (2022) CBC ADOPTED BY CSJ. AND THE STANDARD PRACTICES RECOMENDED BY AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND WCLA GRADING. FOR NAILING SEE SECTION J. BOLTS IN WOOD FRAMING SHALL BE STANDARD MACHINE BOLTS WITH STANDARD MALLEABLE IRON WASHERS.
3. WOOD PLATES: BEARING DIRECTLY UPON CONCRETE SHALL BE P.T.D.F.
4. UNLESS OTHERWISE NOTED ON DRAWINGS OR IN SPECIFICATIONS, FRAMING MEMBERS SHALL HAVE THE FOLLOWING GRADING:

Water Supply Load Calculation

This document presents the water supply load calculation for the Duplex and ADUs.
The calculations follow Table 610.3 of the 2022 California Plumbing Code to determine the fixture unit counts.

Fixture Type	Quantity	Fixture Units per Item	Total Fixture Units
Lavatory (sink)	2.0	1.0	2.0
Kitchen Sink	1.0	1.5	1.5
Shower	2.0	2.0	4.0
Bathtub	1.0	4.0	4.0
Toilet (1.6 GPF)	2.0	2.5	5.0
Washing Machine	1.0	4.0	4.0
Dishwasher	1.0	1.5	1.5
Hose Bibb (Exterior)	2.0	2.5	5.0
Total			27.0



SANTA CLARA AVE,

SITE PLAN - NOT TO SCALE

PROJECT DATA

OWNER:	LANH HO AND CHUNG HOANG		
EXISTING USE:	SINGLE FAMILY RESIDENCE		
LOCATION:	437 SANTA CLARA AVE, ALAMEDA, CA 94501		
PN:	74-448-17		
ZONING:	R1-8		
LOT GROSS SIZE:	5,662 S.F.		
OCCUPANCY GROUP:	R-3/U		
TYPE OF CONSTRUCTION:	V-B		
FIRE SPRINKLER:	NONE		
YEAR BUILT:	1915		
ALLOWABLE FLOOR AREA:	2,548 S.F		
LOT AVERAGE SLOPE:	(FLAT)		
FLOOR AREA:	EXISTING	PROPOSAL	TOTAL
DWELLING:	1,251 S.F	749 S.F	2,000 S.F
(E) GARAGE	350 S.F		350 S.F
TOTAL FOOTPRINT:			2,200 S.F
FAR:			35,3%

SCOPE OF WORK

1. DETACHED NEW AN ADU IN THE BACK 749 S.F.

(INCLUDED: 2 BEDROOMS, 1 LIVING ROOM, 2 BATHROOMS AND 1 KITCHEN)

2. (E) ELECTRIC MAIN PANEL 100 AMPS UPGRADE TO 200 AMPS

HERS VERIFICATIONS (Required):
QUALITY INSULATION INSTALLATION (QII)
- INDOOR AIR QUALITY VENTILATION
COOLING SYSTEM VERIFICATIONS:
- MINIMUM AIRFLOW
- VERIFIED EER
- VERIFIED SEER
- FAN EFFICACY WATTS/CFM

SPECIFICATION SUMMARY:
Water Heater: New 40 Gal Heat Pump Water Heater (HPWH) (Rheem XE40T10HS45U0) – 15k BTU Hr – Uniform Energy Factor (UEF) 3.1
HVAC: New Mini Split – Heating, 7.5 HSPF2 – Cooling, 14.3 SEER2, 11.7 EER2 – Ductless – Variable Capacity Heat Pump (VCHP) credit requires
HVAC additional HERS Testing
Quality Insulation Installation (QII): Yes
Walls: R-13 in 2x4 - Windows & Glass Doors: U-Factor 0.30 – SHGC 0.23
Roof: Attic, R-38 w/ Radiant Barrier

STRUCTURAL GENERAL NOTES

G. NAIL SCHEDULE

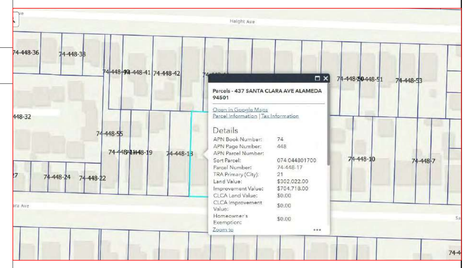
1. WOOD MEMBERS SHALL BE CONNECTED WITH NAILING INDICATED IN TABLE 2304.9.1 OF 2022 CBC UNLESS GREATER SIZES AND NUMBER OF NAILS ARE SHOWN OR NOTED ON DRAWINGS; NAILS EXPOSED TO WEATHER SHALL BE GALVANIZED; NAILS SHALL BE COMMON WIRE NAILS; HOLES FOR NAILS SHALL BE PROVIDED WHERE THE WOOD TENDS TO SPLIT; SPLIT WOOD MEMBERS SHOULD BE REPLACED AND REMOVED FROM THE JOB PROMPTLY. SHORT PLYWOOD NAILS FOR EQUIVALENT SHEAR VALUE MAY BE USED. SEE PLANS FOR NAIL SPACING. NAIL ROOF SHEATHING 8d @ 6" O.C. AT SUPPORTED EDGES. 8d @ 10 INCHES O.C. AT INTERMEDIATE SUPPOERTS. FLOOR SHEATHING 8d @ 6" O.C. AT BOUNDARIES AND PANEL EDGES AND 8d @ 10" O.C. AT INTERMEDIATE SUPPORTS. PLYWOOD WALL SHEATHING SHALL BE NAILED PER SHEAR WALL SCHEDULE AT SHEAR WALLLS, AND AT A MINIMUM OF 8d @ 6" O.C. ALL OTHER EDGES.
2. AT PRESSURE TREATED LUMBER USE HOT-DIPPED GALVANIZED, STAINLESS STEEL, SILICON BRONZE, OR COPPER.

APPLICABLE CODES

CODE COMPLIANCE

ALL CONSTRUCTION SHALL CONFORM TO ALL GOVERNING LAWS, CODES AND ORDINANCES INCLUDING BUT NOT LIMITED TO THE FOLLOWING:
-2022 CALIFORNIA BUILDING CODES: CBC, CMC, CPC, CFC & CEC, CRC,
-2022 CA GREEN BUILDING STANDARDS CODE
-2022 CA ENERGY CODE
-ALAMEDA CITY MUNICIPAL CODE
-ALL LOCAL ORDINANCES

VICINITY MAP



SHEET INDEX

STAMPED FROM CITY

REDLINES ON SHEET A-1

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (408) 876-8402
(916) 526-5881

Signed:

Email:helennguyen3689@gmail.com
9743 WHITE PINE WAY, ELK GROVE, CA 95624

PROJECT DATA - SITE PLAN
LANH HO & CHUNG HOANG'S RESIDENCE
TELL: (510) 517-1801
EMAIL:LANNYHO26@YAHOO.COM
437 SANTA CLARA AVE,
ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL
2	05-23-2025	HL

Scale: AS SHOWN

SHEET NO:

A-1

FLOOR PLAN NOTES:

1. ALL CONCRETE TO BE POURED ON UNDISTURBED SOIL.

2. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE FOUNDATION GRADE RWD OR PRESSURE TREATED.

3. ALL LUMBER USED IN CONSTRUCTION LOCATED NEARER THAN 8" TO EARTH SHALL BE F.G. RWD OR P.T.

4. PROVIDE SOLID BLOCKING FOR ALL PONY WALLS LESS THAN 14" HIGH

5. PROVIDE FIRESTOPS @ CONCEALED DRAFT OPENING, CEILING LINES, FLOOR LINES, FURRED AREAS, SUSPENDED CEILINGS, STAIR STRINGERS, SHOWERS, CHIMNEY ENCLOSURES, & MID HEIGHT OF WALLS OVER 10' IN HEIGHT.

6. VERIFY MIN. 22"x30" FLOOR ACCESS. ATTIC ACCESS WITH 30" CLEARING ABOVE OPENING.

7. DOORS, WINDOWS, & SHOWER DOORS WITHIN HAZARDOUS AREAS TO BE TEMPERED.

8. ALL POSTS, BEAMS & WALLS SUPPORTING THE FLOOR/ CEILING SHALL HAVE ONE-HOUR FIRE PROTECTION.

9. ALL NEW WINDOWS AND GLASS SLIDING DOOR SHALL BE LOW-E DUAL GLAZED U.N.O.

10. MATERIAL GRADE STAMPS WILL BE CHECKED ON FRAME INSPECTION.

11. ALL CONSTRUCTION SHALL COMPLY WITH THE 2022 EDITION OF THE CBC, CMC, CPC, CEC, CRC AND CFC AND THE 2022 CALIFORNIA ENERGY CODE.

12. CHANGES FROM THE APPROVED PLANS DURING CONSTRUCTION OTHER THAN 1.) CABINET CHANGES WHEN NOT BEING SUPPORTED ENTIRELY BY THE ROOF STRUCTURE, APPROVED PLAN, 2.) INTERIOR NON-STRUCTURAL WALL FINISHES; SHALL CAUSE PLAN APPROVAL AND CONSTRUCTION TO BE SUSPENDED. A NEW PLAN CHECK (FOR A NEW PLAN) SHOWING CHANGES WILL BE SUBMITTED FOR REVIEW AND APPROVAL THROUGH THE NORMAL PLAN CHECK PROCESS.

13. FIREBLOCKING WITH NON-COMBUSTIBLE MATERIAL SHALL BE PROVIDED IN OPENINGS AROUND VENTS, PIPES, DUCTS, FIREPLACES, AND SIMILAR OPENINGS PER CBC 708.2.1 (4).

14. PROVIDE SMOKE DETECTORS (HARDWIRED 110v W/BATT BACK-UP) IN EVERY BEDROOMS, THE HALL WAY TO THE BEDROOM, PROVIDE CARBON MONOXIDE SMOKE ALARM DETECTOR IN ALL SLEEPING ROOM.

15. IN EACH NEW BEDROOM, THERE IS AT LEAST ONE WINDOW, FOR EMERGENCY ESCAPE OR RESCUE: REQUIRE OPENING OF MINIMUM NET CLEAR AREA, 5.7 SQ. FT., HEIGHT 24", WIDTH 20", AND MAXIMUM FINISHED OPENING HEIGHT 44"ABOVE FINNISH FLOOR

16. NEW 3'X3' MIN, CONCRETE LANDING AT ALL NEW EXTERIOR DOOR. LANDING SHALL NOT BE LOWER THAN 7-1/2" FROM FLOOR LEVEL.

17. BATHROOM SLIDING DOOR MUST BE TEMPERED GLASS.

18. ALL NEW BEDROOM MUST BE AFCI CIRCUIT.

19. PRESSURE OR THERMOSTATIC MIXING VALVE AT THE SHOWERS AND TUBS, WHICH LIMIT WATER TEMPERATURE TO 120 DEGREES F

20. THE SHOWERS MUST HAVE INSIDE DEMENSION OF AT LEAST 30 INCHES, THE TOTAL FLOOR AREA OF A SHOWER MUST BE AT LIST 1,024 SQUARE INCHES, OPENING TO SHOWER MUST BE MIN. 24 INCHES WIDE, THE DOOR MUST BE TEMPERED GLASS.(SEE DETAILS)

ELECTRICAL NOTES:

MOTION SENSOR WITH INTEGRAL PHOTOCONTROL

2. ALL HARDWIRED LIGHTING IN BATHROOMS, GARAGES, LAUNDRY AND UTILITY ROOMS MUST BE HIGH EFFICACY CONTROLLED BY A MANUAL-ON MOTION SENSOR NEW LIGHTS MUST BE HIGH EFFICACY 2022 ENERGY CODE).

3. ALL HARDWIRED LIGHTING IN OTHER ROOMS (HALLWAYS, DINING ROOMS, FAMILY ROOMS AND BEDROOMS) SHALL BE HIGH EFFICACY CONTROLLED BY A MANUAL-ON OCCUPANT SENSOR A DIMMER MUST CONTROL IT

4. ALL SWITCHES ON A MULTIPLE SWITCHED CIRCUIT SHALL BE CONTROLLED BY THE DIMMER SWITCH ON THAT CIRCUIT

5. ALL RECESSED FIXTURES SHALL BE LABELED AS BEING CERTIFIED TO HAVE A LEAKAGE RATING OF LESS THAN 2.0 AT 75 PASCAL

6. ALL HIGH EFFICACY FIXTURES AND NON-HIGH EFFICACY FIXTURES SHALL BE SWITCHED SEPARATELY

7. SMOKE DETECTOR SYSTEM SHALL BE HARD-WIRED, INTERCONNECTED TO SOUND SIMULTANIOUSLY AND EQUIPED WITH BATTERY BACK UP.

8. MIN. 100% OF WATTAGE OF LIGHTS IN KITCHEN SHALL BE HIGH EFFICACY AND THOSE THAT ARE NOT SHALL BE SWITCHED SEPARATELY

9. LIGHTS MOUNTED TO EXTERIOR OF BUILDING SHALL BE HIGH EFFICACY OR ON A PHOTO CONTROL/MOTION SENSOR COMBINATION

LAMP POWER RATING:	MINIMUM LAMP EFFICACY:
15 watts or less	40 lumens per watt
over 15 watts to 40 watts	50 lumens per watt
over 40 watts	60 lumens per watt

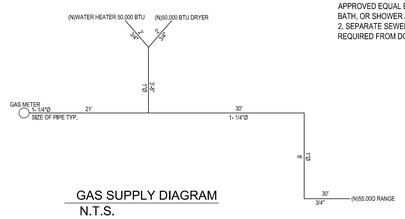
NOTES:

NOTE:
WATER-RESISTANT GYPSUM BACKING BOARD SHALL NOT BE USED WHERE THERE WILL BE DIRECT EXPOSURE TO WATER. OR IN AREAS SUBJECT TO CONTINUOUS HIGH HUMIDITY. R702.3.7.1 USE CEMENTITIOUS BACKER BOARD OR EQUAL IN ALL WET LOCATIONS.

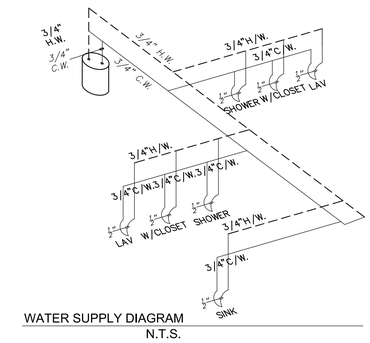
Note:
on plan the fire-resistance-rated floor/ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing or rated floor/ceiling assembly.

NOTE:
Water Fixture Flow Rate Requirements (Water Conservation) Note: All plumbing fixtures must meet the maximum flow rates below to comply with California Plumbing Code (CPC) water conservation standards.
1. Toilet • Max flow rate: 1.28 GPF (Gallons per flush) • Code: CPC 403.2.1
2. Kitchen Faucet • Max flow rate: 1.8 GPM (Gallons per minute) • Code: CPC 407.2.1.1
3. Residential Lavatory Faucet • Max flow rate: 1.2 GPM • Code: CPC 407.2.1.1
4. Shower Head • Max flow rate: 1.8 GPM • Code: CPC 408.2

NOTE:
NSP - Windows/Doors Maximum U-Factor 0.30, Maximum SHGC 0.23 for Zone 12 only, NFRC labels are required for all windows & Doors.



GAS SUPPLY DIAGRAM
N.T.S.



WATER SUPPLY DIAGRAM
N.T.S.

LIGHTING & ELECTRICAL CODE NOTES (Per CEC & CEnC):
1. High-Efficacy Lighting:
All installed luminaires shall meet the requirements of high efficacy lighting per California Energy Code Section 150(k)1 and Table 150.0-A.
2. Tamper-Resistant Outlets:
All 125V and 250V, 15A and 20A receptacle outlets shall be listed tamper-resistant per CEC Section 406.12.
3. Outdoor Lighting Controls:
All outdoor lighting shall be high efficacy and shall be controlled by motion sensors and photocells or other approved control methods per California Energy Code Section 150(k)3.

NOTE:
ALL 120-VOLT, SINGLE PHASE, 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS' LIVING ROOMS' PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER, COMBINATION-TYPE, INSTALL TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT,

NOTE:
1.USE 'DUROCK, WONDERBOARD', OR AN APPROVED EQUAL BEHIND GLUED-ON TILE IN TUB, BATH, OR SHOWER AREAS.
2. SEPARATE SEWER LATERAL PERMIT AND INSPECTIONS REQUIRED FROM DOT PRIOR TO CONNECTING.

NOTE:
ALL ELECTRICAL RECEPTACLE OUTLETS, SWITCH, AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION,AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NOT MORE THAN 48 INCHES MEASURED TO THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED TO THE BOTTOM OF THE OUTLET BOX AND ABOVE THE FINNISH FLOOR PER SECTION R327.1.2 AGING IN PLACE REQUIREMENTS. PLEASE SEE SECTION FOR EXCEPTIONS TO THESE REQUIREMNTS

NOTE – AGING IN PLACE REQUIREMENTS (CRC R327):

- Provide solid lumber or approved construction material for future grab bar reinforcement at shower and toilet walls.
- Documentation for grab bar reinforcement shall be included in the Operation and Maintenance Manual per California Green Building Standards Code, Chapter 4, Division 4.

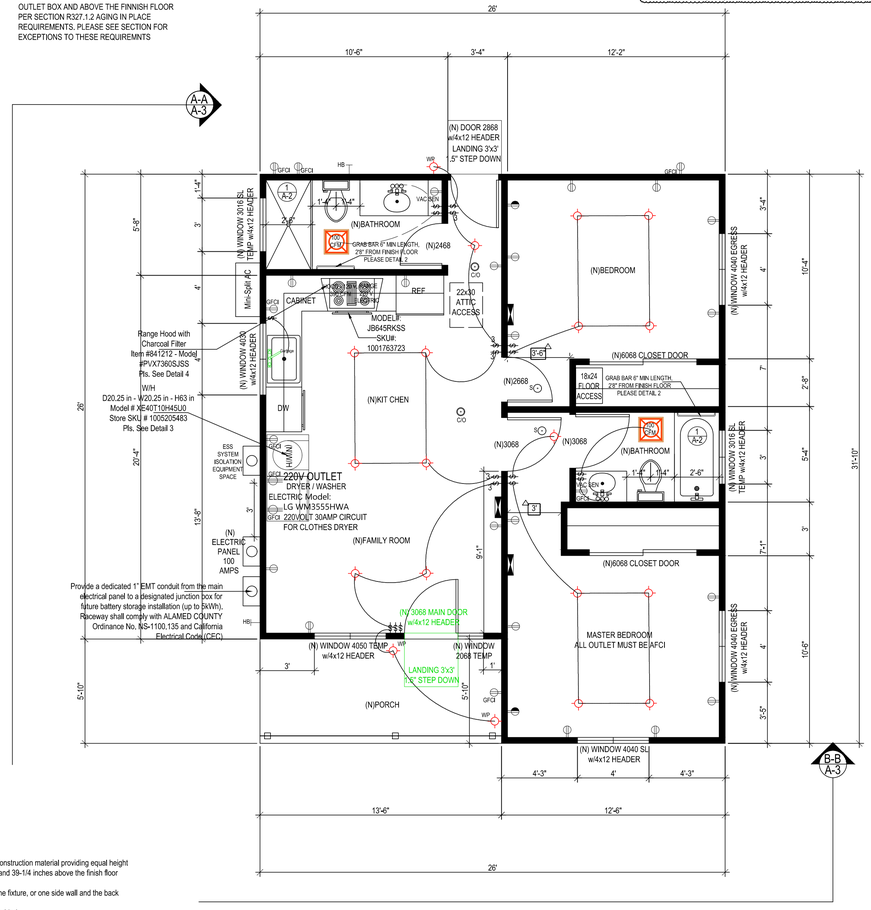
ELECTRICAL CODE COMPLIANCE NOTES:

1. All exterior electrical outlets shall be weather-protected per CEC Section 210.8.

2. Kitchen exhaust hood shall have a minimum airflow capacity of 100 CFM.

3. A dedicated 20-amp branch circuit shall be provided to serve bathroom receptacle outlets only, with no other outlets connected, per CEC Section 210.11(C)(3).

4. Two 20-amp small-appliance branch circuits shall be provided for all kitchen countertop and wall outlets, including refrigeration, per CEC Section 210.52(B)(3).



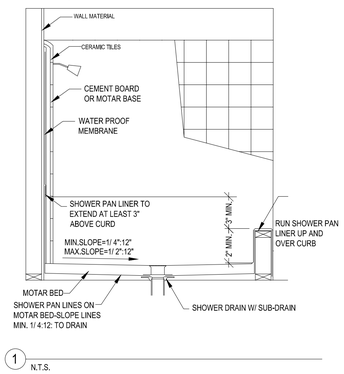
PROPOSAL FLOOR PLAN 749 SF
SCALE: 1 / 4" = 1'-0"

NOTE: THE IQ EXHAUST FAN MUST BE CONTINUOUSLY OPERATING AND SHALL NOT BE OVERRIDDEN BY HUMIDITY CONTROL PER CALGREEN 4.6506.1

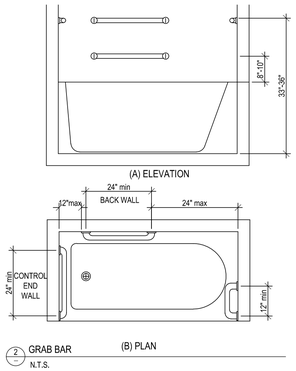
Aging-In Design note added For reinforcement installation:
a) Reinforcement shall not be less than 2x8 nominal lumber or other construction material providing equal height and load capacity.Reinforcement shall be located between 32 inches and 39-1/4 inches above the finish floor flush with the wall framing.
b) Water closet reinforcement shall be installed on both side walls of the fixture, or one side wall and the back wall.
c) Shower reinforcement shall be continuous where wall framing is provided.
d) Bathtub and combination bathtub/shower reinforcement shall be continuous on each end of the bathtub and the back wall. Additionally, backwall reinforcement for a lower grab bar shall be provided with the bottom edge located no more than 6 inches above the bathtub rim.
3) On electrical plan: Receptacles, switches and controls (including controls for heating, ventilation and air conditioning) intended to be used byoccupants shall be located no more than 48 inches measured from the top of the outlet box and not less than 15 inches measured from thebottom of the outlet box above the finish box.
4) Doorbell buttons or controls, when installed, shall not exceed 48 inches above exterior floor or landing, measured from the top of the doorbell button assembly. Where doorbell buttons integrated with other features are required to be installed above 48 inches measured from the exterior floor or landing, a standard doorbell button or control shall also be provided at a height not exceeding 48 inches above exterior floor or landing, measured from the top of the doorbell button or control.

- MIN. SHOWER INTERIOR CLEAR DIMENSION IS 1,024 S.F. IN WITH NO DIMENSION LESS THAN 30" TO FINISH
- BATHROOM DOOR MUST BE TEMPERED CLASS

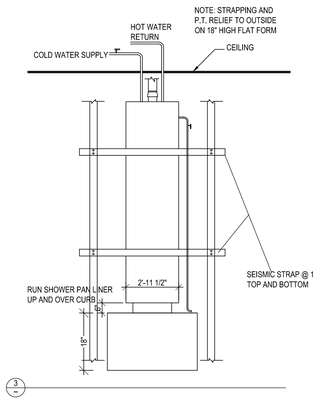
SHOWER AND TUB/SHOWER WALLS TO SPECIFY A SMOOTH, HARD, NONABSORBENT SURFACE(I.E. CERAMIC TILES) OVER MOISTURE RESISTANT UNDERLAYMENT(I.E. CEMENT, FIBER-CEMENT OR GLASS MAT GTMSUM BACKERS) TO A HEIGHT OF 72" ABOVE THE DRAIN.



1 N.T.S.



2 GRAB BAR N.T.S.



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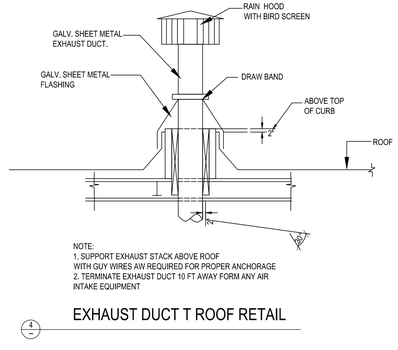


EXHAUST DUCT T ROOF RETAIL

4

ELECTRICAL LEGENDS

- CEILING RECEPTACLE OUTLET
- DUPLEX RECEPTACLE, MTD @ 12" U.O.N.
- SINGLE OUTLET
- 220V OUTLET
- WP G — WEATHERPROOF DUPLEX OUTLET W/GFGI
- GFI — DUPLEX OUTLET W/GROUND FAULT INTERRUPTER
- DUPLEX RECEPTACLE, MTD@+12" U.O.N. SPLIT WIRE WITH HALF SW/CONTROLLED
- SPECIAL PURPOSE
- FLOOR DUPLEX RECEPTACLE OUTLET
- C/O — CARBON MONOXIDE SMOKE DETECTOR W/BATTERY BACK UP
- CEILING LIGHT
- FLUORESCENT LIGHT
- RECESSED CANISTER
- FLOOR OUTLET (DBL)
- $ — SWITCH
- $3 — 3 WAY SWITCH
- $4 — 4 WAY SWITCH
- DIM $ — DIMMER SWITCH
- $T — TIMER SWITCH
- CEILING FAN
- FUEL GAS
- FAN TO OUTSIDE AIR
- SD — CARBON MONOXIDE SMOKE DETECTOR W/BATTERY BACK UP
- INCANDESCENT LIGHT FIXTURE (CEILING)
- WP — WEATHERPROOF LIGHT FIXTURE
- DISPOSAL
- RECESSED LIGHT FIXTURE
- GreenBuilder Series 100 CFM Wall or Ceiling Bathroom Exhaust Fan with Adjustable Humidity Sensor, ENERGY STAR (MODEL GB100H)
- CHIME
- PUSH BUTTON
- GAS RISER
- GAS STUB
- HB — HORSE BID WITH BACKFLOW PREVENTATION DEVICE
- HB SOV — HOSE BIBB SHUT OFF VALVE
- BELL / BUZZER
- ELECTRICAL DISCONNECT
- DECORATIVE ABOVE MIRROR BATHROOM LIGHT
- SD — CIRCUIT BREAKER
- KEY
- M — MOTION SENSOR
- CHANDELIER
- FLOOR SUPPLY AIR REGISTER
- CEILING SUPPLY AIR REGISTER
- FLOURESCENTLIGHT FIXUTE (SURFACE) SEE PLAN
- C CE — CO DETECTORS U.L./SFM LISTED APPROVED

LEGEND

LEGEND
- NEW WALL
- EXISTING WALL TO REMAIN.
- EXISTING WALL TO BE REMOVE
- EXISTING OPENING TO BE ENCLOSED
- EXISTING WINDOW TO REMAIN
- EXISTING WINDOW TO BE REMOVED
- EXISTING DOORS TO REMAIN

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (916) 526-5881
(408) 876-8402

Signed: Tuy

Email:helennguyen3689@gmail.com
9743 WHITE PINE WAY, ELK GROVE, CA 95624

PROPOSAL FLOOR PLAN AND ELECTRIC
437 SANTA CLARA AVE, ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL
2	05-23-2025	HL

Scale: AS SHOWN

SHEET NO:

A-2

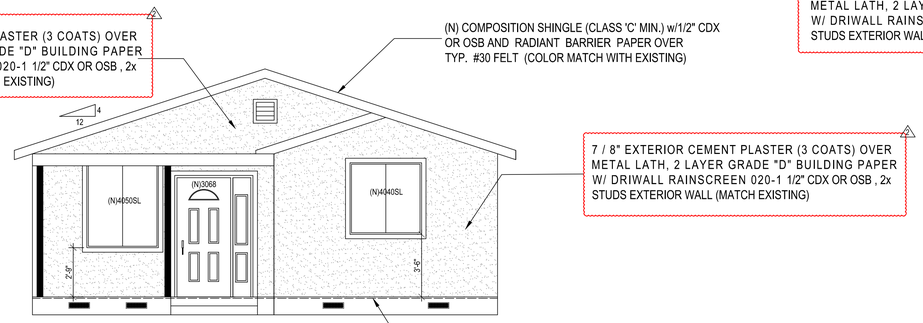
FLOOR VENTILATION:

REQUIRED: 749 S.I.
749 SF/150 = 4.99 SFx144= 720 S.I.
PROPOSED: 896 S.I.
IN FRONT 4 VENTS: 4x 14x4= 4 x 56= 224 S.I.
IN LEFT 4 VENTS: 4x14x4= 4x56= 224 S.I
IN REAR 4 VENTS: 4x14x4= 4x56= 224 S.I
IN RIGHT 4 VENTS 4x14x4= 4x56= 224 S.I
TOTAL= 896 S.I.

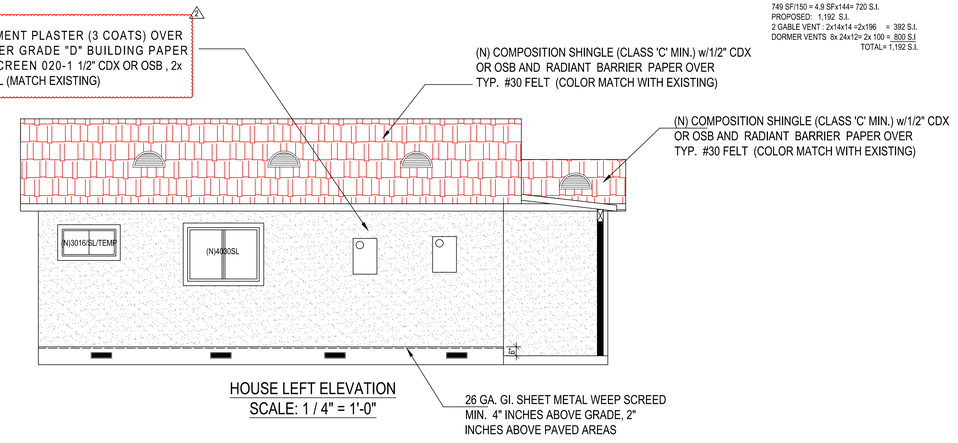
NOTE: Provide drainage mat or equivalent drainage material behind stucco finish over WRB per CRC R703.7.3.2 (Marine Climate Zone requirement).

ROOF VENTILATION:

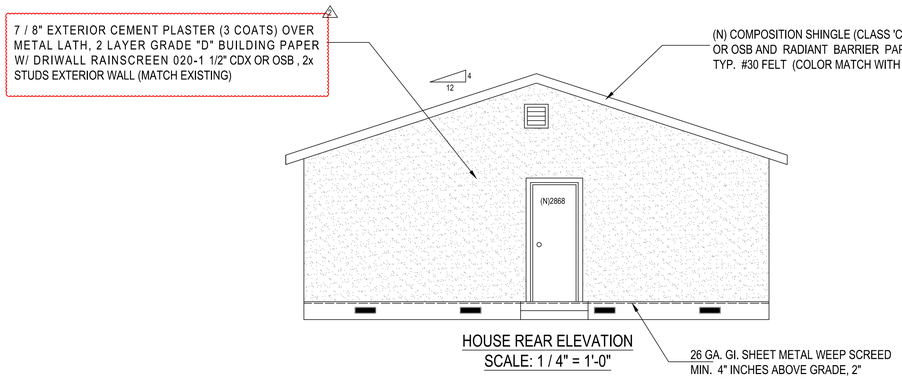
REQUIRED: 749 S.I.
749 SF/150 = 4.9 SFx144= 720 S.I.
PROPOSED: 1,192 S.I.
2 GABLE VENT : 2x14x14 =2x196 = 392 S.I.
DORMER VENTS 8x 24x12= 2x 100 = 800 S.I
TOTAL= 1,192 S.I.



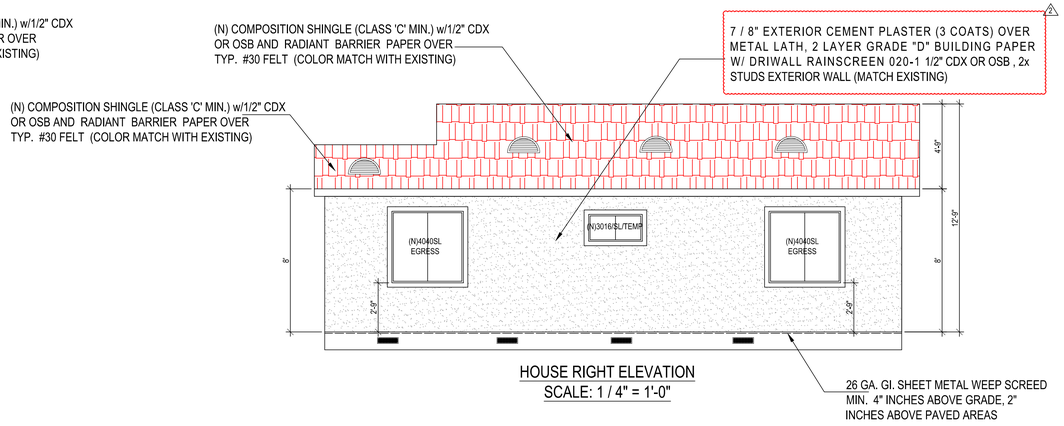
HOUSE FRONT ELEVATION
SCALE: 1 / 4" = 1'-0"



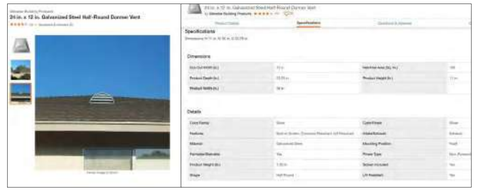
HOUSE LEFT ELEVATION
SCALE: 1 / 4" = 1'-0"

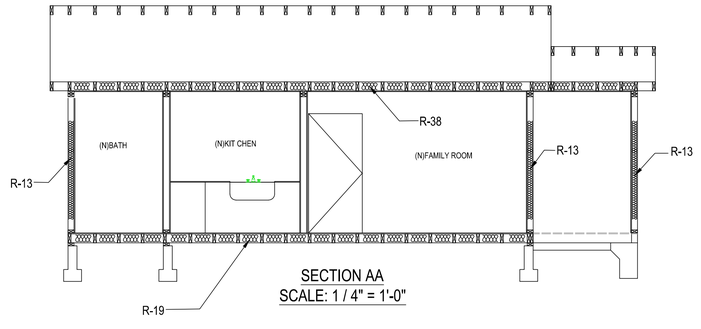


HOUSE REAR ELEVATION
SCALE: 1 / 4" = 1'-0"

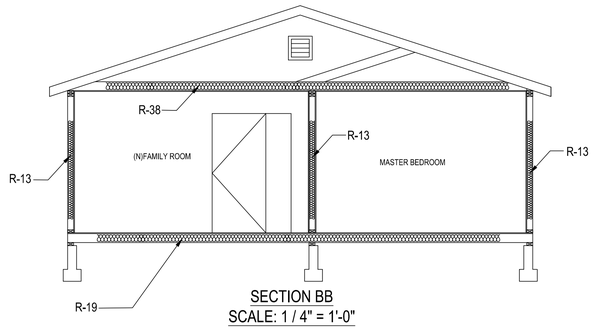


HOUSE RIGHT ELEVATION
SCALE: 1 / 4" = 1'-0"





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



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

NOTE:
Required Attic Ventilation The net free ventilating area shall not be less than 1/150 of the area of the space ventilation. CRC R806-2 for exceptions.
a)Where roof areas are isolated from adjacent roof areas, provide the required ventilation for each isolated area.
b)Provide ventilation for the California framed portion of the roof.
When exception to CRC16 SR806.2 is used (1/300 of the area of vented space) not less than 40 percent and not more than 50 percent of the required ventilating area shall be provided by ventilators located in the upper portion of the attic or rafter space. Upper ventilators shall be located not more than 3 feet below the ridge or highest point of the space, measured vertically, with the balance of the required ventilation provided by eave vents.

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ELEVATION PLANS
437 SANTA CLARA AVE,
ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL
2	05-23-2025	HL

Scale: AS SHOWN

SHEET NO:

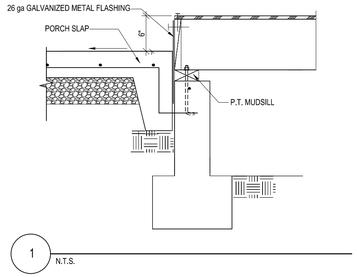
A-3

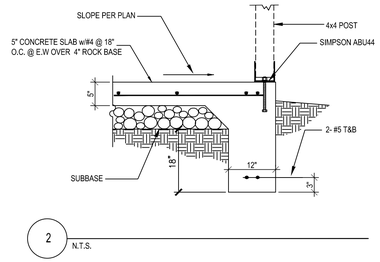
BRACE WALL SCHEDULE

TYPE	STUD	1/2 CDX (OSB)	NAILS	SILL PLATE NAILS P.T.	FRAMING CLIP ANGLE @ TOP PLATE	ANCHOR BOLT
2	2X4 @16" O.C.	1/2 CDX (OSB)	10d @ 6" EDGE 10d @ 12" FIELD	16d@4" O.C.	LS50 @ 16"O.C. A 35 @ 16" O.C.	5/8 Ø -12"@ 48"O.C. W/5"x5"x0.4 P/WASHER
1	ALTERNATE SHEAR WALL BRACE					

MODEL #	DIAMETER (INCHES)	LENGTH L (INCHES)	MINIMUM IMBEDED Le (INCHES)	MIN. END DISTANCE cc (INCHES)	MIN. EDGE DISTANCE de (INCHES)	MIN. WALL WIDTH b (INCHES)
SSTB16	5/8	1'-5"	12 5/8"	0-5"	0-1 3/4"	0-4"
SSTB20	5/8	1'-9"	16 5/8"	0-5"	0-1 3/4"	0-4"
SSTB24	5/8	2'-1"	20 5/8"	0-5"	0-1 3/4"	0-4"
SSTB28	7/8	2'-5"	24 7/8"	0-5"	0-1 3/4"	0-4"

NOTE:
FOUNDATION NOTES:
CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF
2,500 PSI AT 28 DAYS. (R402.2)

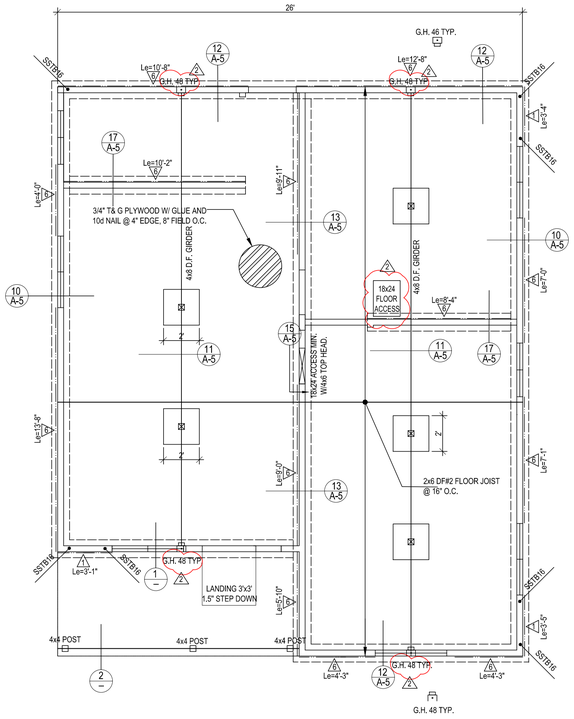




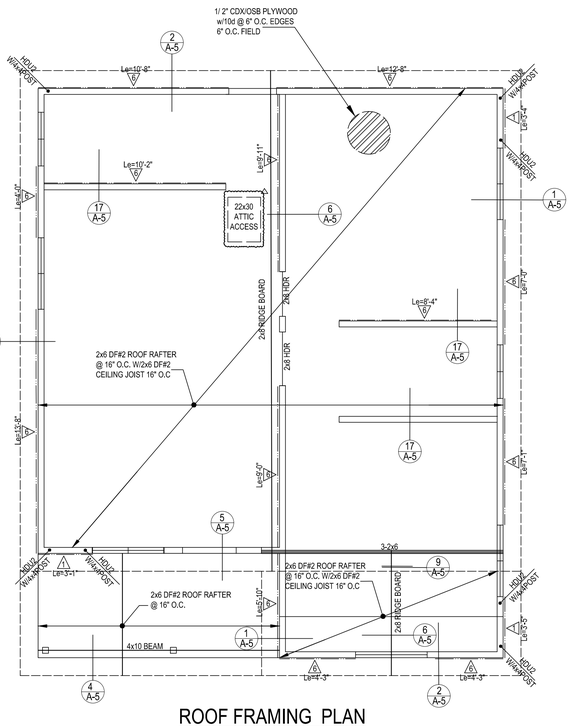
DESIGN LOADS:
FLOOR DEAD =10 psf
CEILING DEAD = 6 psf
ROOF DEAD = 10 psf
FLOOR LIVE = 40 psf
CEILING LIVE = 10 psf
ROOF LIVE = 20 psf
WINDS PEED, V = 110 mph
SEISMIC DESIGN CATEGORY D2
Sds = 1.872
WALL HEIGHT = 8 FEET

NOTE: VENT HOLE IS NOT ALLOWED WHERE EAVE IS WITHIN 5' OF PROPERTY LINE.

NOTES:
PV STATING THAT SCREWS WITH DIAMETER GREATER THAN 1/4" ARE NOT ALLOWED INTO 2x FRAMING MEMBERS DUE TO LOADED EDGE DISTANCE REQUIREMENTS FROM THE NDS. IF 5/16" SCREWS ARE USED AS FASTENERS, PROVIDE 4x BLOCKING FOR THE FASTENERS.

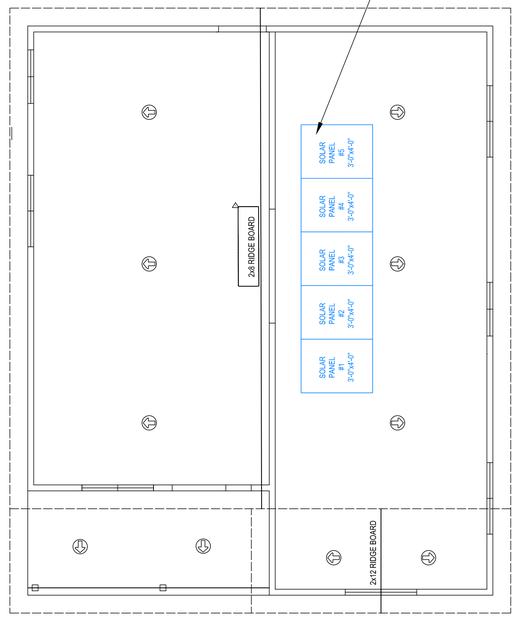


FOUNDATION PLAN
SCALE: 1 / 4" = 1'-0"

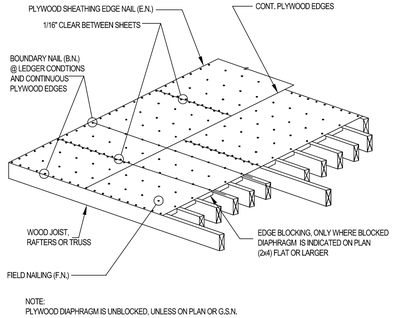


ROOF FRAMING PLAN
SCALE: 1 / 4" = 1'-0"

NOTE:
PLACE SOLAR PANELS
IN MOST OPTIMAL POSITION
MIN 2.8 KW/dc.
Related to the solar panel installation, including providing typical attachment details, specifying the maximum screw diameter, and ensuring that blocking and/or framing sizes meet the 4D edge distance requirement per NDS Table 12.5.10, will be handled by the solar panel company. This includes obtaining the necessary permit and completing the installation. Additionally, this scope of work will be included on page A-1.



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



NOTE:
PLYWOOD DIAPHRAGM IS UNBLOCKED, UNLESS ON PLAN OR G.S.N.

TYPICAL PLYWOOD LAYOUT

NOTES:

- CEILING HEIGHTS: SHALL BE AT LEAST 7'-0" IN HABITABLE ROOMS (BEDROOMS, LIVING ROOMS, DINING ROOMS. CRC R305.1
- EMERGENCY ESCAPE WINDOWS: EACH NEW BEDROOM OR SLEEPING ROOM SHALL HAVE AN EMERGENCY
- ESCAPE WINDOW THAT IS AT LEAST 20" IN WIDTH (NET), 24" IN HEIGHT (NET) WHEN OPEN AND WITH AN OPERABLE AREA OF AT LEAST 5.0 SQUARE FEET IN AREA. ESCAPE WINDOWS SHALL BE INSTALLED WITH BOTTOM OF CLEAR OPENING NO MORE THAN 44" ABOVE FINISH FLOOR. CRC R310.
- ATTIC ACCESS: PROVIDE ACCESS TO ATTIC SPACE WITH AN ACCESS OPENING AT LEAST 22'x30" IN SIZE LOCATE THE ACCESS DOOR WHERE THERE IS AT LEAST 30" OF CLEAR HEAD SPACE IN THE ATTIC. CRC 807.
- ATTIC VENTILATION: ATTICS MUST BE VENTILATED WITH TOTAL AREA OF ATTIC VENTS AT LEAST 1.0 SF. (NET) FOR EACH 150 SF. OF ATTIC AREA TO BE VENTILATED. INDICATE ON THE PLANS THE SIZE, LOCATION AND TYPE OF EACH VENT. CRC R806.1.
- SILL PLATES: SILL PLATES FOR NEW WALLS IN A GARAGE CONVERSION MUST BE PRESSURE-TREATED WOOD OR FOUNDATION GRADE (FG) REDWOOD. CRC R317.1.
- INSULATION: INDICATE ON THE PLANS EXTERIOR WALL INSULATION AND CEILING INSULATION. MINIMUM WALL INSULATION IS R-13 AND MINIMUM CEILING INSULATION IS R-30.
- PROVIDE SOLID BLOCKING UNDER ALL NEW INTERIOR WALLS.
- ALL SLEEPERS FOR NEW SUBFLOOR MUST BE PRESSURE-TREATED WOOD.
- PROVIDE VAPOR BARRIER IF CARPET IS DIRECTLY INSTALL ON CONCRETE SLAB.
- -ENERGY COMPLIANCE. REFER TO SHEET FOR ENERGY COMPLIANCE REQUIREMENTS.

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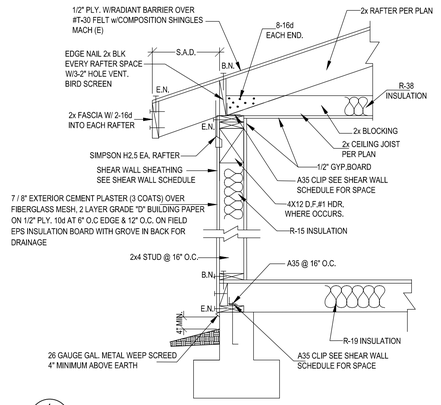
FOUNDATION PLANS AND ROOF FRAMING
437 SANTA CLARA AVE, ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL
2	05-23-2025	HL

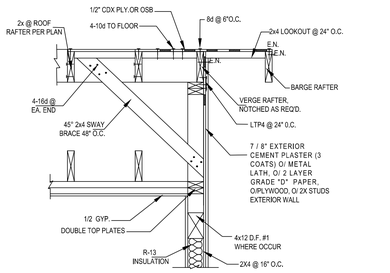
Scale: AS SHOWN

SHEET NO:

A-4

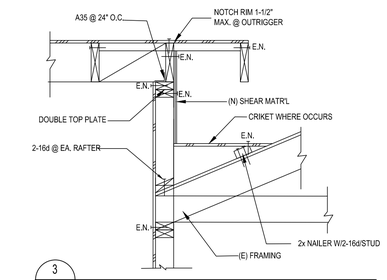


1 – N.T.S.



2 – N.T.S.

GABLE END DETAIL



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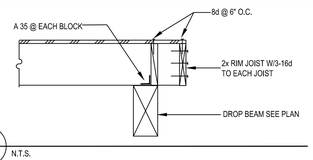

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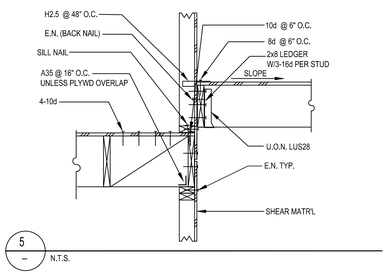

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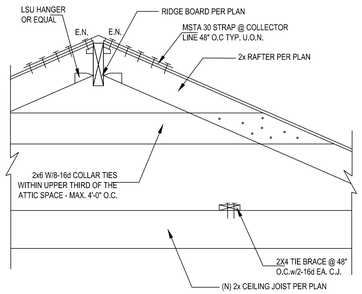
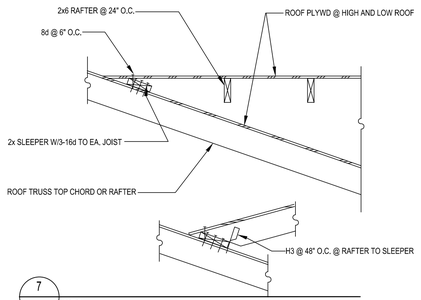


6 – N.T.S.

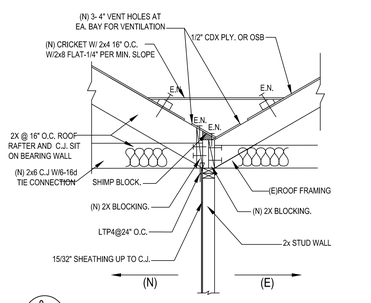
COLLAR TIES DETAIL

CA FRAME HIGH ROOF SHALL BE FRAMED WITH 2x6 RAFTER @ 24" O.C. PROVIDE 2x6 PURLIN @ 6 FT ON CENTER w/ 2x4 KICKER @ 48" O.C. TO SLEEPER BELOW. SLEEPER SHALL BE 2x6 LAID FLAT OF CALIFORNIA LOW ROOF W/ (2) -16d TO EACH RAFTER.



7 – N.T.S.

TYP. CA FRAME VALLEY



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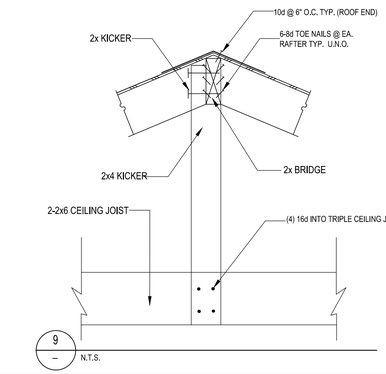

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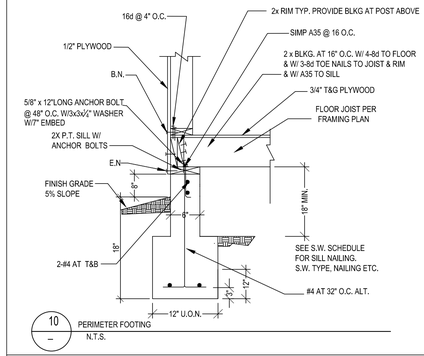
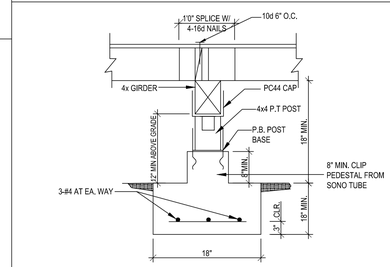


10 – N.T.S.

PERIMETER FOOTING



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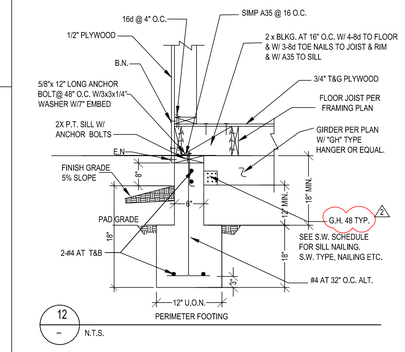

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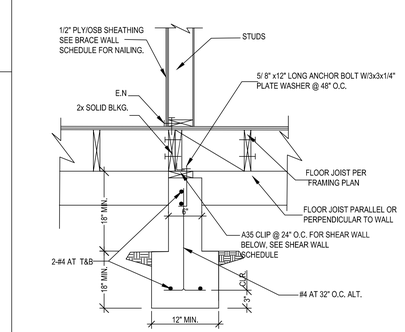
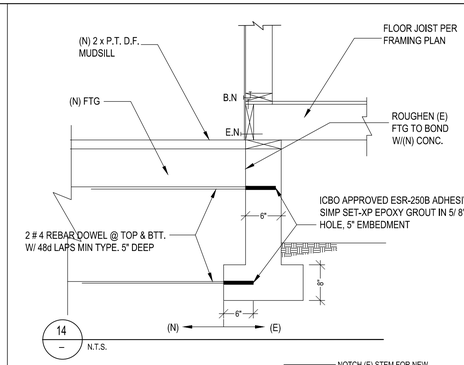


13 – N.T.S.

INT. FOOTING



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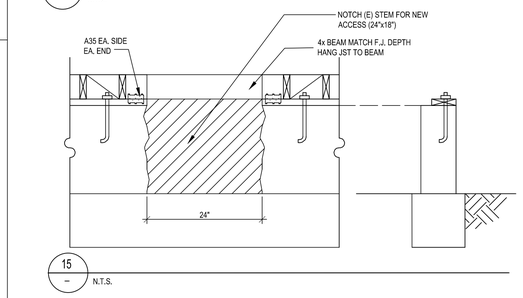

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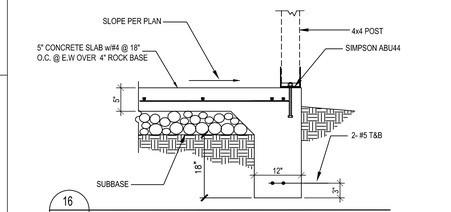

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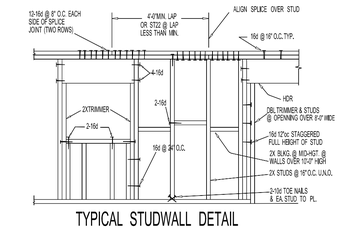
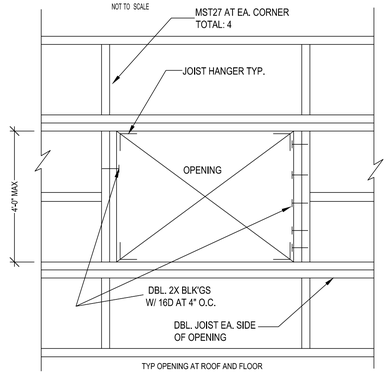
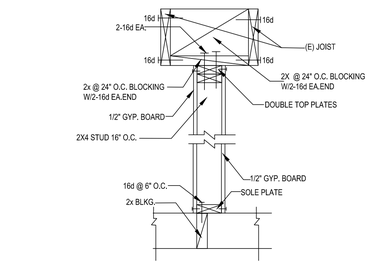
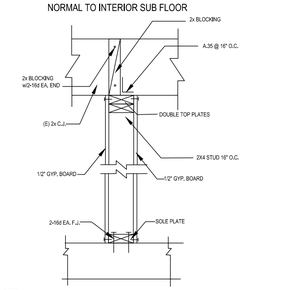


TYPICAL STUDWALL DETAIL



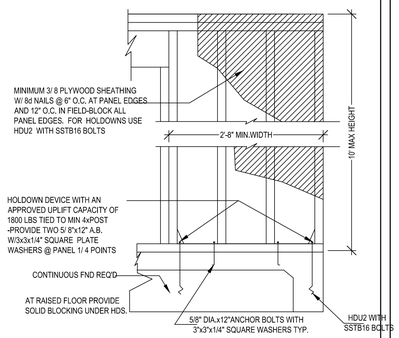


NORMAL TO INTERIOR SUB FLOOR

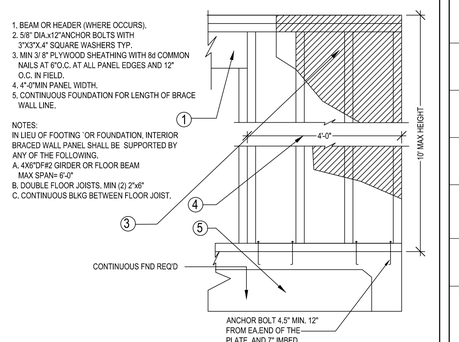


17 – N.T.S.

NORMAL TO INTERIOR SUB FLOOR



1 ALTERNATE BRACE WALL



1. BEAM OR HEADER (WHERE OCCURS).
2. 5/8" DIA.x12"ANCHOR BOLTS WITH 3"X3"X.4" SQUARE WASHERS TYP.
3. MIN 3/ 8" PLYWOOD SHEATHING WITH 8d COMMON NAILS AT 6"O.C. AT ALL PANEL EDGES AND 12" O.C. IN FIELD.
4. 4'-0"MIN PANEL WIDTH.
5. CONTINUOUS FOUNDATION FOR LENGTH OF BRACE WALL LINE.

NOTES:
IN LIEU OF FOOTING `OR FOUNDATION. INTERIOR BRACED WALL PANEL SHALL BE SUPPORTED BY ANY OF THE FOLLOWING,
A. 4X6"DF#2 GIRDER OR FLOOR BEAM MAX SPAN= 6'-0"
B. DOUBLE FLOOR JOISTS. MIN (2) 2"x6"
C. CONTINUOUS BLKG BETWEEN FLOOR JOIST.

6 BRACE WALL DETAIL

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (916) 526-5881
(408) 876-8402

Signed:

Email:helennguyen3689@gmail.com

9743 WHITE PINE WAY, ELK GROVE, CA 95624

DETAILS OF FOUNDATION PLANS AND ROOF FRAMING

437 SANTA CLARA AVE, ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL
2	05-23-2025	HL

Scale: AS SHOWN

SHEET NO:

A-5

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 1 of 10)

Calculation Description: Title 24 Analysis | Input File Name: tmpFC54.ribd22x

GENERAL INFORMATION

01	Project Name	New ADU		
02	Run Title	Title 24 Analysis		
03	Project Location	437 Santa Cl[illegible]		
04	City	Alameda	[illegible] Standards Version	2022
06	Zip code	94501	Software Version	EnergyPro 9.3
08	Climate Zone	3	Front Orientation (deg/ Cardinal)	180
10	Building Type	Single fam[illegible]	Number of Dwelling Units	1
12	Project Scope	Newly Co[illegible]	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft²)	0	Number of Stories	1
16	Existing Cond. Floor Area (ft²)	n/a	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft²)	749	Glazing Percentage (%)	12.02%
20	ADU Bedroom Count	n/a	ADU Conditioned Floor Area	n/a
22	Fuel Type	Propane	No Dwelling Unit:	No

COMPLIANCE RESULTS

01	Building Complies with Computer Performan[illegible]
02	This building incorporates features that [illegible] supervision of a CEC-approved HERS provider.
03	This building incorporates one or mo[illegible]

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 2 of 10)

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ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	36.5	[illegible]1.3	[illegible]3.3			
Proposed Design	34.9	[illegible]	[illegible]	1.6	7.7	4.1

RESULT[3]: [illegible]

[1]Efficiency EDR includes improvements like a better building en[illegible]
[2]Total EDR includes efficiency and demand response measures [illegible]
[3]Building complies when source energy, efficiency and total co[illegible] our limits are not exceeded

- Standard Design PV Capacity: 1.94 kWdc
- PV System resized to 1.94 kWdc (a factor of 1.938) to ach[illegible]

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 3 of 10)

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ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² -yr)	Margin (EDR1)	Margin (EDR2)
Space Heating	0.98	6.79	[illegible]	13.92	-0.78	-7.13
Space Cooling	0.24	[illegible]25	[illegible]	5.23	0.17	9.02
IAQ Ventilation	0.46	[illegible]	[illegible]	4.92	0	0
Water Heating	3.3	36.1	[illegible]	22.65	1.31	13.45
Self Utilization/Flexibility Credit				0	0	0
Efficiency Compliance Total	4.98	[illegible]	[illegible]	46.72	0.7	15.34
Photovoltaics	-2.22	[illegible]	[illegible]	-69.47		
Battery				0		
Flexibility						
Indoor Lighting	0.96	[illegible]	[illegible]	[illegible]94		
Appl. & Cooking	7.61	[illegible]	[illegible]	[illegible]3.98		
Plug Loads	6.03	[illegible]	6.03	64.14		
Outdoor Lighting	0.21	1.99	0.21	1.99		
TOTAL COMPLIANCE	17.57	128.23	16.79	112.3		

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 4 of 10)

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ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Margin (kBtu/ft² - yr)	Margin Percentage
Gross EUI[1]	24.26	2[illegible]	1.25	5.15
Net EUI[2]	10.63	[illegible]	1.25	11.76

Notes
1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.
2. Net EUI is Energy Use Total (including PV) / Total Building [illegible]

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	[illegible]	[illegible]	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.94	NA	Standard (14-17%)	Fi[illegible]	[illegible]	[illegible]	[illegible]	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as conditio[illegible]

- Ceiling has high level of insulation
- Variable capacity heat pump compliance option ([illegible]
- Northwest Energy Efficiency Alliance (NEEA) rated [illegible]

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

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HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS [illegible] for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs a[illegible] registry

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)
- Verified HSPF2
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 ([illegible]
- Ductless indoor units located entirely in conditioned spa[illegible]1.8)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
New ADU	749	[illegible]	[illegible]	[illegible]	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	[illegible]	Zone Floor Area (ft²)	[illegible]	Water Heating System 1	Status
ADU	Conditioned	[illegible]	[illegible]	[illegible]	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	ADU	R-13 Wall	90	Right	208	36	90
Left Wall	ADU	R-13 Wall	270	Left	136	17	90
Rear Wall	ADU	R-13 Wall	0	Back	208	19	90
Right Wall	ADU	R-13 Wall	90	Right	256	37	90

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 6 of 10)

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OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Roof	ADU	R-38 Ro[illegible]	[illegible]	[illegible]a	749	n/a	n/a
Raised Floor	ADU	R-19 Floo[illegible]ce	[illegible]	[illegible]/a	[illegible]49	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	[illegible]	[illegible]mittance	Radiant Barrier	Cool Roof
Attic ADU	Attic RoofADU	Ver[illegible]ted	[illegible]	[illegible]	[illegible].85	No	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window	Window	Front Wall	Right	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	NFRC	0.23	NFRC	Bug Screen
Window 2	Window	Left Wall	Left	[illegible]270	[illegible]	[illegible]	17	[illegible]	[illegible]	NFRC	0.23	NFRC	Bug Screen
Window 3	Window	Right Wall	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.23	NFRC	Bug Screen

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Door	Rear Wall	19	0.2

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 7 of 10)

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OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-13 Wall	Exterior Walls	Wood Fra[illegible] Wa[illegible]	[illegible] @ 1[illegible] O. C.	[illegible]	[illegible] None	0.101	Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Exterior Finish: 3 Coat Stucco
Attic RoofADU	Attic Roofs	Wood F[illegible] Ceili[illegible]	[illegible] C.	[illegible]	N[illegible] / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Fra[illegible]	[illegible] C	[illegible]	[illegible] None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10
R-38 Roof Attic	Ceilings (below attic)	Wood F[illegible] Ceili[illegible]	2x6 [illegible]	[illegible]	[illegible] None	0.026	Over Ceiling Joists: R-23.7 insul. Cavity / Frame: R-14.3 / 2x6 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spr[illegible]	[illegible]	[illegible]50	CFM50
Required	Not Re[illegible]	[illegible]	[illegible]/a	n/a

WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (#)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 8 of 10)

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WATER HEATERS - NEEA HEAT PUMP

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	40	[illegible]eem[illegible]	[illegible]H40[illegible]515 (4[illegible])	[illegible]nkZone	ADU	ADU

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	[illegible]equired	[illegible]Required	None	Not Required	Not Required

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
New Mini-Split1	Heat pump heating cooling	Heat Pump S[illegible] 1	1	Heat Pump System [illegible]	1	n/a	n/a	Setback

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Heating Efficiency Type	HSPF/HSPF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SEER2	EER/EER2/CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	VCHP-ductless	1	HSPF2	9.4	36000	30000	EER2SEER2	15	9.2	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 9 of 10)

Calculation Description: Title 24 Analysis | Input File Name: tmpFC54.ribd22x

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	[illegible]Requ[illegible]	Re[illegible]	[illegible]es	Yes	Yes	Yes

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION

01	02	03	04	05	06	07	08	09	10
Name	Certified Low-Static VCHP System	Airflow Habitable Rooms	[illegible]	[illegible]	[illegible]	[illegible]eakage [illegible]cts in [illegible]itioned [illegible]pace	Minimum Airflow per RA3.3 and SC3.3.3.4.1	Certified non-continuous Fan	Indoor Fan not Running Continuously
Heat Pump System 1	Not required	Requi[illegible]	[illegible]	[illegible]	[illegible]	[illegible]equired	Not required	Not required	Not required

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy [illegible]	[illegible]	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	44	0.3[illegible]	[illegible]	[illegible]	[illegible]	No	Yes	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E

Project Name: New ADU | Calculation Date/Time: 2025-04-21T10:32:32-07:00 | (Page 10 of 10)

Calculation Description: Title 24 Analysis | Input File Name: tmpFC54.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Luyen Nguyen	Documentation Author Signature: [illegible]
Company: BAJ Graphic Designs	Signature Date: [illegible]
Address: 9743 White Pine Way	CEA/ HERS Certification Identification (if applicable):
City/State/Zip: Elk Grove, CA 95624	Phone: [illegible]

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the St[illegible]:

1. I am eligible under Division 3 of the Business and Profession[illegible] Certificate of Compliance.
2. I certify that the energy features and performance specifica[illegible] of Title 24, Part 1 and Part 6 of the California Code of Regulations.
3. The building design features or system design features iden[illegible] vided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enfor[illegible]

Responsible Designer Name: Luyen Nguyen	Responsible Designer Signature: [illegible]
Company: BAJ Graphic Designs	Date Signed: 04/[illegible]025
Address: 9743 White Pine Way	License:
City/State/Zip: Elk Grove, CA 95624	Phone:

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (916) 526-5881
(408) 876-8402

Signed: [signature]

Email:helennguyen3689@gmail.com
9743 WHITE PINE WAY, ELK GROVE, CA 95624

T-24 ENERGY REPORT
FOR ADU

437 SANTA CLARA AVE,
ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL

Scale: AS SHOWN

SHEET NO:

A-6

2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
SECTION A4.602
Effective January 1, 2023

HCD SHL 620C (New 01/23)

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and Electives[1]		Enforcing Agency	Installer or Designer	Third-Party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
[redacted]						
A4.103.1 A site which complies with at least one of the following characteristics is selected: 1. An infill site is selected. 2. A greyfield site is selected. 3. An EPA-recognized Brownfield site is selected.		☐ ☐ ☐	☐ ☐ ☐	☒ ☒ ☒	☒ ☒ ☒	☒ ☒ ☒
A4.103.2 Facilitate community connectivity by one of the following methods: 1. Locate project within a 1/4-mile true walking distance of at least 4 basic services; 2. Locate project within 1/2-mile true walking distance of at least 7 basic services; 3. Other methods increasing access to additional resources.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
[redacted]						
A4.104.1 An individual with oversight responsibility for the project has participated in an educational program promoting environmentally friendly design or development and has provided training or instruction to appropriate entities.		☐	☐	☐	☐	☐
[redacted]						
A4.105.2 Existing buildings are disassembled for reuse or recycling of building materials. The proposed structure utilizes at least one of the following materials which can be easily reused: 1. Light fixtures 2. Plumbing fixtures 3. Doors and trim 4. Masonry 5. Electrical devices 6. Appliances 7. Foundations or portions of foundations		☐	☐	☐	☐	☐
[redacted]						
4.106.2 A plan is developed and implemented to manage storm water drainage during construction.	☒			☐	☐	☐
4.106.3 Construction plans shall indicate how site grading, or a drainage system will manage all surface water flows to keep water from entering buildings.	☒			☐	☐	☐

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2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
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HCD SHL 620C (New 01/23)

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and Electives[1]		Enforcing Agency	Installer or Designer	Third-Party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
4.106.4.1 Provide capability for electric vehicle charging for one- and two-family dwellings; townhouses with attached private garages; in accordance with Section 4.106.4.1.	☒			☐	☐	☐
4.106.4.2 Provide capability for electric vehicle charging for multifamily dwellings and hotel/motels in accordance with Sections 4.106.4.2.1 or 4.106.4.2.2, as applicable.	☒	☐	☐	☐	☐	☐
4.106.4.3 Provide capability for electric vehicle charging for existing parking lots or new parking lots for existing residential buildings in accordance with Section 4.106.4.3, as applicable.	☒	☐	☐	☐	☐	☐
A4.106.1 Reserved.		☐	☐	☐	☐	☐
A4.106.2.1 Soil analysis is performed by a licensed design professional and the findings are utilized in the structural design of the building.		☐	☐	☐	☐	☐
A4.106.2.2 Soil disturbance and erosion are minimized by at least one of the following: 1. Natural drainage patterns are evaluated, and erosion controls are implemented to minimize erosion during construction and after occupancy. 2. Site access is accomplished by minimizing the amount of cut and fill needed to install access roads and driveways. 3. Underground construction activities are coordinated to utilize the same trench, minimize the amount of time the disturbed soil is exposed, and the soil is replaced using accepted compaction methods.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.106.2.3 Topsoil shall be protected or saved for reuse as specified in this section. **Tier 1.** Displaced topsoil shall be stockpiled for reuse in a designated area and covered or protected from erosion. **Tier 2.** The construction area shall be identified and delineated by fencing or flagging to limit construction activity to the construction area.		☒[2]	☒[2] ☒[2]	☐	☐	☐
A4.106.3 Postconstruction landscape designs accomplish one or more of the following: 1. Areas disrupted during construction are restored to be consistent with native vegetation species and patterns. 2. Utilize at least 75% native California or drought tolerant plant and tree species appropriate for the climate zone region.		☐ ☐	☐ ☐	☐ ☐	☐ ☐	☐ ☐

2

2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
SECTION A4.602
Effective January 1, 2023

HCD SHL 620C (New 01/23)

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and Electives[1]		Enforcing Agency	Installer or Designer	Third-Party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.106.4 Permeable paving is utilized for the parking, walking or patio surfaces in compliance with the following: **Tier 1.** Not less than 20% of the total parking, walking or patio surfaces shall be permeable. **Tier 2.** Not less than 30% of the total parking, walking or patio surfaces shall be permeable.		☒[2]	☒[2]	☐ ☐	☐ ☐	☐ ☐
A4.106.5 Roofing materials shall have a minimum 3-year aged solar reflectance and thermal emittance or a minimum Solar Reflectance Index (SRI) equal to or greater than the values specified in the applicable tables. **Low-Rise Residential** **Tier 1.** roof covering shall meet or exceed the values contained in Table A4.105.5.1(1). **Tier 2.** roof covering shall meet or exceed the values contained in Table A4.105.5.1(2). **High-Rise Residential, Hotels and Motels** **Tier 1.** roof covering shall meet or exceed the values contained in Table A4.105.5.1(3). **Tier 2.** roof covering shall meet or exceed the values contained in Table A4.105.5.1(4).		☒[2] ☒[2] ☒[2]	☒[2] ☒[2] ☒[2]	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
A4.106.6 Install a vegetated roof for at least 50 percent of the roof area. Vegetated roofs shall comply with requirements for roof gardens and landscaped roofs in the *California Building Code*, Chapters 15 and 16.		☐	☐	☐	☐	☐
A4.106.7 Reduce nonroof heat islands for 50 percent of sidewalks, patios, driveways or other paved areas by using one or more of the methods listed.		☐	☐	☐	☐	☐
A4.106.8.1 Tier 1 and Tier 2 for one- and two-family dwellings and townhouses with attached private garages. Install a dedicated 208/240-volt branch circuit, including an overcurrent protective device rated at 40 amperes minimum per dwelling unit.		☒[2]	☒[2]	☐	☐	☐
A4.106.8.2.1 Provide capability for electric vehicle charging in new multifamily dwellings, as specified. **Tier 1.** 35 percent of the total number of parking spaces shall be electric vehicle (EV) ready with low power Level 2 EV charging receptacles. For projects with 20 or more dwelling units, sleeping units or guest rooms, 10 percent of the total number of parking spaces shall be equipped with Level 2 EVSE. **Tier 2.** 40 percent of the total number of parking spaces shall be electric vehicle (EV ready) with low power Level 2 EV charging receptacles. For projects with 20 or more dwelling units, sleeping units or guest rooms, 15 percent of the total number of parking spaces shall be equipped with Level 2 EVSE.		☒[2]	☒[2]	☐ ☐	☐ ☐	☐ ☐

3

2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
SECTION A4.602
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HCD SHL 620C (New 01/23)

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and Electives[1]		Enforcing Agency	Installer or Designer	Third-Party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.203.1.2 Prerequisite options. In addition, a minimum of two of the efficiency measures specified in Sections A4.203.1.2.1 through A4.203.1.2.8 will be required to be met. • Roof Deck Insulation or Ducts in Conditioned Space. • High performance Walls. • Compact Hot Water Distribution System. • Drain Water Heat Recovery. • High Performance Vertical Fenestration. • Heat Pump Water Heater Demand Management. • Battery Storage System Controls. • Heat Pump Space and Water Heating.		☒[2]	☒[2]	☐	☐	☐
A4.203.1.3 Consultation with local electric service provider. Local jurisdictions considering adoption of reduced EDR targets based on using solar photovoltaic (PV) systems larger than required by the *California Energy Code* shall consult with the local electric service provider to ensure that that PV system sizing required to comply with the EDR targets will be acceptable to the local electric service provider.		☒[2]	☒[2]	☐	☐	☐
[redacted]						
4.303.1 Plumbing fixtures (water closets and urinals) and fittings (showerheads, faucets and pre-rinse spray valves) installed in residential buildings shall comply with the prescriptive requirements of Sections 4.303.1.1 through 4.303.1.4.5.	☒			☐	☐	☐
4.303.2 Submeters for multi-family building and dwelling units in mixed-use residential/commercial buildings. Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the *California Plumbing Code*.	☒			☐	☐	☐
4.303.3 Plumbing fixtures and fittings required in Section 4.303.1 shall be installed in accordance with the *California Plumbing Code* and shall meet the applicable referenced standards.	☒			☐	☐	☐

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2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
SECTION A4.602
Effective January 1, 2023

HCD SHL 620C (New 01/23)

FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
		Prerequisites and Electives[1]		Enforcing Agency	Installer or Designer	Third-Party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.303.1 The maximum flow rate of kitchen faucets shall not exceed 1.5 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 1.5 gallons per minute at 60 psi. **Note:** Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.		☐	☐	☐	☐	☐
4.303.1.4.3 Metering faucets in residential buildings shall not deliver more than 0.2 gallons per cycle.	☒			☐	☐	☐
A4.303.2 Alternate water source for nonpotable applications. Alternate nonpotable water sources are used for indoor potable water reduction. Alternate nonpotable water sources shall be installed in accordance with the *California Plumbing Code*.		☐	☐	☐	☐	☐
A4.303.3 Install at least one qualified ENERGY STAR dishwasher or clothes washer.		☐	☐	☐	☐	☐
A4.303.4 Nonwater urinals or waterless toilets are installed.		☐	☐	☐	☐	☐
A4.303.5 One- and two-family dwellings shall be equipped with a demand hot water recirculation system.		☐	☐	☐	☐	☐
[redacted]						
4.304.1 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.	☒			☐	☐	☐
A4.304.1 A rainwater capture, storage and re-use system is designed and installed.		☐	☐	☐	☐	☐
A4.304.2 A landscape design is installed, which does not utilize potable water.		☐	☐	☐	☐	☐
A4.304.3 For new water service connections, landscaped irrigated areas less than 5,000 square feet shall be provided with separate submeters or metering devices for outdoor potable water use.		☐	☐	☐	☐	☐
[redacted]						
A4.305.1 Piping is installed to permit future use of a graywater irrigation system served by the clothes washer or other fixtures.		☐	☐	☐	☐	☐
A4.305.2 Recycled water piping is installed.		☐	☐	☐	☐	☐
A4.305.3 Recycled water is used for landscape irrigation.		☐	☐	☐	☐	☐

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		Prerequisites and Electives[1]		Enforcing Agency	Installer or Designer	Third-Party
	Mandatory	Tier 1	Tier 2	☐ All	☐ All	☐ All
A4.106.9 Provide bicycle parking facilities as noted below or meet a local ordinance, whichever is more stringent. Number of bicycle parking spaces may be reduced, as approved by the enforcing agency, due to building site characteristics, including but not limited to, isolation from other development. 1. Provide short-term bicycle parking, per Section A4.106.9.1. 2. Provide long-term bicycle parking for multifamily buildings, per Section A4.106.9.2. 3. Provide long-term bicycle parking for hotel and motel buildings, per Section A4.106.9.3.		☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
[redacted]						
A4.108.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3	☐	☐	☐	☐	☐	☐
[redacted]						
4.201.1 Building meets or exceeds the requirements of the *California Building Energy Efficiency Standards*[3].	☒	☒[2]	☒[2]	☐	☐	☐
[redacted]						
A4.203.1.1. Hourly Source Energy Design Ratings (EDR1). EDR ratings for building design shall be computed by Energy Compliant software and shall reduce the EDR1 required by the software by the compliance margins specified in Table A4.203.1.1.		☒[2]	☒[2]	☐	☐	☐

4

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (916) 526-5881
(408) 876-8402

Signed: Thuy

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9743 WHITE PINE WAY, ELK GROVE, CA 95624

CG-1 CAL GREEN MANDATORY
437 SANTA CLARA AVE,
ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL

Scale: AS SHOWN

SHEET NO:

A-7

2022 CALGREEN RESIDENTIAL OCCUPANCIES APPLICATION CHECKLIST
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HCD SHL 620C (New 01/23)

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	Mandatory	Prerequisites and Electives[1] Tier 1	Prerequisites and Electives[1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third-Party ☐ All
[redacted]						
A4.306.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3	☐	☐	☐	☐	☐	☐
[redacted]						
A4.403.1 A Frost-Protected Shallow Foundation (FPSF) is designed and constructed.		☐	☐	☐	☐	☐
A4.403.2 Cement use in foundation mix design is reduced. **Tier 1.** Not less than a 20 percent reduction in cement use. **Tier 2.** Not less than a 25 percent reduction in cement use.		☒[2]	☒[2]	☐	☐	☐
[redacted]						
A4.404.1 Beams and headers and trimmers are the minimum size to adequately support the load.		☐	☐	☐	☐	☐
A4.404.2 Building dimensions and layouts are designed to minimize waste.		☐	☐	☐	☐	☐
A4.404.3 Use premanufactured building systems to eliminate solid sawn lumber whenever possible.		☐	☐	☐	☐	☐
A4.404.4 Material lists are included in the plans which specify material quantity and provide direction for on-site cuts.		☐	☐	☐	☐	☐
[redacted]						
A4.405.1 One or more of the following building materials, that do not require additional resources for finishing are used: 1. Exterior trim not requiring paint or stain. 2. Windows not requiring paint or stain. 3. Siding or exterior wall coverings which do not require paint or stain.		☐	☐	☐	☐	☐

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	Mandatory	Prerequisites and Electives[1] Tier 1	Prerequisites and Electives[1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third-Party ☐ All
A4.405.2 Floors that do not require additional coverings are used including but not limited to stained, natural or stamped concrete floors.		☐	☐	☐	☐	☐
A4.405.3 Postconsumer or preconsumer recycled content value (RCV) materials are used on the project. **Tier 1.** Not less than a 10% RCV. **Tier 2.** Not less than a 15% RCV.		☒[2]	☒[2]	☐	☐	☐
A4.405.4 Renewable source building products are used.		☐	☐	☐	☐	☐
[redacted]						
4.406.1 Annular spaces around pipes, electric cables, conduits or other openings in plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.	☒			☐	☐	☐
[redacted]						
A4.407.1 Install foundation and landscape drains.		☐	☐	☐	☐	☐
A4.407.2 Install gutter and downspout systems to route water at least 5 feet away from the foundation or connect to landscape drains which discharge to a dry well, sump, bioswale, rainwater capture system or other approved on-site location.		☐	☐	☐	☐	☐
A4.407.3 Provide flashing details on the building plans and comply with accepted industry standards or manufacturer's instructions.		☐	☐	☐	☐	☐
A4.407.4 Protect building materials delivered to the construction site from rain and other sources of moisture.		☐	☐	☐	☐	☐
A4.407.5 In Climate Zone 16, an ice/water barrier is installed at roof valleys, eaves and wall to roof intersections.		☐	☐	☐	☐	☐
A4.407.6 Exterior doors to the dwelling are protected to prevent water intrusion.		☐	☐	☐	☐	☐
A4.407.7 A permanent overhang or awning at least 2 feet in depth is provided at all exterior walls.		☐	☐	☐	☐	☐

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	Mandatory	Prerequisites and Electives[1] Tier 1	Prerequisites and Electives[1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third-Party ☐ All
[redacted]						
4.408.1 Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with one of the following: 1. Comply with a more stringent local construction and demolition waste management ordinance; or 2. A construction waste management plan, per Section 4.408.2; or 3. A waste management company, per Section 4.408.3; or 4. The waste stream reduction alternative, per Section 4.408.4.	☒			☐	☐	☐
A4.408.1 Construction waste generated at the site is diverted to recycle or salvage in compliance with one of the following: **Tier 1.** At least a 65% reduction with a third-party verification. **Tier 2.** At least a 75% reduction with a third-party verification. **Exception:** Equivalent waste reduction methods are developed by working with local agencies.		☒[2]	☒[2]	☐ ☐	☐ ☐	☐ ☐
[redacted]						
4.410.1 An operation and maintenance manual shall be provided to the building occupant or owner.	☒			☐	☐	☐
4.410.2 Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive. **Exception:** Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82(a)(2)(A) et seq. will also be exempt from the organic waste portion of this section.	☒			☐	☐	☐
[redacted]						
A4.411.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						

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	Mandatory	Prerequisites and Electives[1] Tier 1	Prerequisites and Electives[1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third-Party ☐ All
Item 1	☐	☐	☐	☐	☐	☐
Item 2	☐	☐	☐	☐	☐	☐
Item 3	☐	☐	☐	☐	☐	☐
[redacted]						
4.503.1 Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.	☒			☐	☐	☐
[redacted]						
4.504.1 Duct openings and other related air distribution component openings shall be covered during construction.	☒			☐	☐	☐
4.504.2.1 Adhesives, sealants and caulks shall be compliant with VOC and other toxic compound limits.	☒			☐	☐	☐
4.504.2.2 Paints, stains and other coatings shall be compliant with VOC limits.	☒			☐	☐	☐
4.504.2.3 Aerosol paints and coatings shall be compliant with product-weighted MIR Limits for ROC and other toxic compounds.	☒			☐	☐	☐
4.504.2.4 Documentation shall be provided to verify that compliant VOC limit finish materials have been used.	☒			☐	☐	☐
4.504.3 Carpet and carpet systems shall be compliant with VOC limits.	☒			☐	☐	☐
4.504.4 80% of floor area receiving resilient flooring shall comply with specified VOC criteria.	☒			☐	☐	☐
4.504.5 Particleboard, medium density fiberboard (MDF) and hardwood plywood used in interior finish systems shall comply with low formaldehyde emission standards.	☒			☐	☐	☐

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FEATURE OR MEASURE	LEVELS APPLICANT TO SELECT ELECTIVE MEASURES			VERIFICATIONS ENFORCING AGENCY TO SPECIFY VERIFICATION METHOD		
	Mandatory	Prerequisites and Electives[1] Tier 1	Prerequisites and Electives[1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third-Party ☐ All
A4.504.1 Use composite wood products made with either California Air Resources Board approved no-added formaldehyde (NAF) resins or ultra-low emitting formaldehyde (ULEF) resins.		☐	☐	☐	☐	☐
A4.504.2 Install VOC compliant resilient flooring systems. **Tier 1.** At least 90% of the resilient flooring installed shall comply. **Tier 2.** 100% of the resilient flooring installed shall comply.		☒[2]	☒[2]	☐	☐	☐
A4.504.3 Thermal insulation installed in the building shall meet the following requirements: **Tier 1.** Install thermal insulation in compliance with VOC limits. **Tier 2.** Install insulation which contains no-added formaldehyde (NAF) and is in compliance with Tier 1.		☒[2]	☒[2]	☐	☐	☐
[redacted]						
4.505.2 Vapor retarder and capillary break is installed at slab-on-grade foundations.	☒			☐	☐	☐
4.505.3 Moisture content of building materials used in wall and floor framing is checked before enclosure.	☒			☐	☐	☐
[redacted]						
4.506.1 Each bathroom shall be provided with the following: 1. ENERGY STAR fans ducted to terminate outside the building. 2. Fans must be controlled by a humidity control (separate or built-in); OR functioning as a component of a whole-house ventilation system. 3. Humidity controls with manual or automatic means of adjustment, capable of adjustment between a relative humidity range of ≤ 50% to a maximum of 80%.	☒			☐	☐	☐
A4.506.1 Reserved.		☐	☐	☐	☐	☐
A4.506.2 [HR] Provide filters on return air openings rated MERV 8 or higher during construction when it is necessary to use HVAC equipment.		☐	☐	☐	☐	☐
A4.506.3 Direct-vent appliances shall be used when equipment is located in conditioned space; or the equipment must be installed in an isolated mechanical room.		☐	☐	☐	☐	☐

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	Mandatory	Prerequisites and Electives[1] Tier 1	Prerequisites and Electives[1] Tier 2	Enforcing Agency ☐ All	Installer or Designer ☐ All	Third-Party ☐ All
[redacted]						
4.507.2 Duct systems are sized, designed, and equipment is selected using the following methods: 1. Establish heat loss and heat gain values according to ANSI/ACCA 2 Manual J - 2016 or equivalent. 2. Size duct systems according to ANSI/ACCA 1 Manual D - 2016 or equivalent. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 or equivalent.	☒			☐	☐	☐
Outdoor Air Quality Reserved **Innovative Concepts and Local Environmental Conditions**						
A4.509.1 Items in this section are necessary to address innovative concepts or local environmental conditions.						
Item 1		☐	☐	☐	☐	☐
Item 2		☐	☐	☐	☐	☐
Item 3		☐	☐	☐	☐	☐
[redacted]						
702.1 HVAC system installers are trained and certified in the proper installation of HVAC systems.	☒			☐	☐	☐
702.2 Special inspectors employed by the enforcing agency must be qualified and able to demonstrate competence in the discipline they are inspecting.	☒			☐	☐	☐
[redacted]						
703.1 Verification of compliance with this code may include construction documents, plans, specifications builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which show substantial conformance.	☒			☐	☐	☐

[1]Green building measures listed in this table may be mandatory if adopted by a city, county, or city and county as specified in Section 101.7
[2] Required prerequisite for this Tier.

12

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

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Signed: Thuy

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9743 WHITE PINE WAY, ELK GROVE, CA 95624

CG-2 CAL GREEN MANDATORY

437 SANTA CLARA AVE,
ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL

Scale: AS SHOWN

SHEET NO:

A-8

2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information.
(04/2022)

Building Envelope:

§ 110.6(a)1:	**Air Leakage.** Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. *
§ 110.6(a)5:	**Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped.
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified on the CF1R.
§ 110.8(j):	**Radiant Barrier.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 150.0(a):	**Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.194. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B. *
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or of 0.037 maximum U-factor. *
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to §150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. *

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e)	**Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)1:	**Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)2:	**Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device.
§ 150.0(e)3:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. *

Space Conditioning, Water Heating, and Plumbing System:

§ 110.0-§ 110.3:	**Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission. *
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. *
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	**Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. *
§ 110.3(c)3:	**Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.3(c)6:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and spa heaters. *
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2.
§ 150.0(h)3A:	**Clearances.** Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any dryer.
§ 150.0(h)3B:	**Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the manufacturer's instructions.
§ 150.0(j)1:	**Water Piping. Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. *
§ 150.0(j)2:	**Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(n)1:	**Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(c)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than ¼". If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in these spaces must not be compressed. *
§ 150.0(m)2:	**Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.
§ 150.0(m)12:	**Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labelling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the filter. *

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§ 150.0(m)13:	**Space Conditioning System Airflow Rate and Fan Efficacy.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3. *

Ventilation and Indoor Air Quality:

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

Pool and Spa Systems and Equipment:

§ 110.4(a):	**Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating. *
§ 110.4(b)1:	**Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.
§ 110.4(b)2:	**Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)3:	**Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. *

Lighting:

§ 110.9:	**Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. *
§ 150.0(k)1A:	**Luminaire Efficacy.** All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.
§ 150.0(k)1B:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1C:	**Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.
§ 150.0(k)1D:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1E:	**Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).

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§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *
§ 150.0(k)1H:	**Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.0(k)1I:	**Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources internal to drawers, cabinetry or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.
§ 150.0(k)2A:	**Interior Switches and Controls.** All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)2B:	**Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems. *
§ 150.0(k)2A:	**Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off. *
§ 150.0(k)2B:	**Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(k).
§ 150.0(k)2C:	**Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.0(k)2D:	**Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(k)2A.
§ 150.0(k)2E:	**Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.
§ 150.0(k)2F:	**Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A.
§ 150.0(k)2K:	**Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.
§ 150.0(k)3A:	**Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.
§ 150.0(k)4:	**Internally illuminated address signs.** Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 watts of power.
§ 150.0(k)5:	**Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a)1:	**Single-family Residences.** Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).
§110.10(b)1A:	**Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. *
§ 110.10(b)2:	**Azimuth.** All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.
§ 110.10(b)3A:	**Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)3B:	**Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane."
§ 110.10(b)4:	**Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.
§ 110.10(c):	**Interconnection Pathways.** The construction documents must indicate: a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.
§ 110.10(d):	**Documentation.** A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be provided to the occupant.
§ 110.10(e)1:	**Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)2:	**Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

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§ 150.0(s)	**Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.
§ 150.0(t)	**Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(u)	**Electric Cooktop Ready.** Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."
§ 150.0(v)	**Electric Clothes Dryer Ready.** Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

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STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (916) 526-5881
(408) 876-8402

Signed: Thuy

Email:helennguyen3689@gmail.com

9743 WHITE PINE WAY, ELK GROVE, CA 95624

LOW - RISE - MANDATORY MEASURES- SUMMARY

437 SANTA CLARA AVE, ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL

Scale: AS SHOWN

SHEET NO:

A-9

RESIDENTIAL NAILING SCHEDULE

TABLE R602.3(1) FASTENER SCHEDULE FOR STRUCTURAL MEMBERS

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER[a,b,c]	SPACING OF FASTENERS
Roof			
1	Blocking between ceiling joists, rafters or trusses to top plate or other framing below	4-8d box (2 ½ x 0.113")or 3-8d (2½" × 0.113"); or 3-10d box (3"x0.128")or 3-3"x0.131" nails	Toe nail
	Blocking between rafters or truss not at the wall top plates, to rafter or truss	2-8d common (2 ½"x0.131")or 2-3"x0.131" nails	Each end toe nail
	Flat blocking to truss and web filler	16d common (3 ½"x0.162");or 3"x0.131" nails	End nail
2	Ceiling joists to plate,	4-8d box (2 ½ x 0.113")or 3-8d (2½" × 0.113"); or 3-10d box (3"x0.128")or 3-3"x0.131" nails	Per joist, toe nail
3	Ceiling joists not attached to parallel rafter, laps over partitions, face (see Sections R802.5.2 and Table R802.5.2(1))	4-10d box (3"x0.128")or 3-16d common (3 ½" x 0.162")or 4-3"x0.131" nails	Face nail
4	Ceiling joist attached to parallel rafter (heel joint) (see Sections R802.5.2 and Table R802.5.2(1))	Table R802.5.2(1)	Face nail
5	Collar tie to rafter, face nail	4-10d box (3"x0.128"); or 3-10d common (3" × 0.148"); or 4-3"x0.131 nails	Face nail each rafter
6	Rafter or roof truss to plate	3-16d box nails (3½" × 0.135"); or 3-10d common nails (3" × 0.148"); or 4-10d box (3"x0.128"); or 4-3"x0.131" nails	2 toe nails on one side and 1 toe nail on opposite side of each rafter or truss
7	Roof rafters to ridge, valley or hip rafters or roof rafter to minimum 2" ridge beam	4-16d (3½" × 0.135"); or 3-10d common (3" × 0.148"); or 4-10d box (3"x0.128"); or 4-3" x 0.131 nails	Toe nail
		3-16d box (3½" × 0.135"); or 3-16d common (3½" × 0.162"); or 3-10d box (3"x0.128"); or 3-3" x 0.131 nails	End nails
Wall			
8	Stud to stud (not at braced wall panels)	16d common (3 ½ " × 0.162")	24" o.c. face nail
		10d box (3" x 0.128"); or 3"x 0.131" nails	16" o. c. face nail
9	Stud to stud and abutting studs at intersecting wall corners (at braced wall panels)	16d box (3½" × 0.135"); or 3" x 0.131" nails	12" o.c.
		16d common (3 ½" x 0.162")	16" o.c. face nail
10	Built-up header (2" to 2" header with ½" spacer	16d common (3½" × 0.162")	16" o.c. each edge face nail
		16d box (3 ½" × 0.135")	12" o.c. each edge face nail
11	Continuous header to stud	5-8d box (2½" × 0.113"); or 4-8d common (2 ½"x 0.131"); or 4-10d box (3" x 0.128")	Toe nail
12	Adjacent full-height stud to end of header.	4-16d box (3½" × 0.135"); or 3-16d common (3 ½"x 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131" nails	End nail
13	Top plate to top plate	16d common (3 ½" x 0.162")	16" o.c. face nail

		10d box (3" x 0.128"); or 3" x 0.131" nails	12" o.c. face nail
14	Double top plate splice	8-16d common (3½" × 0.162"); or 12-16d box (3 ½" x 0.135"); or 12-10d box (3" x 0.128"); or 12-3" x 0.131 nails	Face nail on each side of end joint (minimum 24" lap splice length each side of end joint)
15	Bottom plate to joist, rim joist, band joist or blocking (not at braced wall panels)	16d commons (3 ½" × 0.162")	16" o.c. face nail
		16d box (3 ½" x 0.135"); or 3" x 0.131" nails	12 " o.c. face nail
Roof			
ITEM	**DESCRIPTION OF BUILDING ELEMENTS**	**NUMBER AND TYPE OF FASTENER[a,b,c]**	**SPACING OF FASTENERS**
16	Bottom plate to joist, rim joist, band joist or blocking (at braced wall panels)	3-16d box (3½" × 0.135"); or 2-16d common (3½" × 0.162"); or 4-3" x 0.131 nails	16" o.c. face nail
17	Top or bottom plate to stud	4-8d box (2 ½" x 0.113"); or 3-16d box (3½" x 0.135"); or 4-8d common (2½" × 0.131"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131 nails	Toe nail
		3-16d box (3 ½" x 0.135"); or 2-16d common (3 ½" x 0.162"); or 3-10d box (3"x 0.128"); or 3-3" x 0.131 nails	End nail
18	Top plates, laps at corners and intersections	3-10d box (3" x 0.128"); or 2--16d common (3 ½" x 0.162"); or 3-3" x 0.131 nails	Face nail
19	1" brace to each stud and plate	3-8d box (2½" × 0.113"); or 2-8d common (2 ½"x 0.131"); or 200-0d box (3" x 0.128"); or 2 staples 1 ¾" ×	Face nail
20	1" x 6" sheathing to each bearing	3-8d box (2½" × 0.113"); or 2-8d common (2 ½" x 0.131"); or 2-10d box (3" x 0.128"); or 2 staples, 1" crown, 16 ga., 1 ¾" long	Face nail
21	1" x 8" and wider sheathing to each bearing	3-8d box (2½" × 0.113"); or 3-8d common (2 ½" x 0.131"); or 3-10d box (3" x 0.128"); or 3 staples 1" crown, 16 ga., 1 ¾" long	Face nail
		Wider than 1" x 8" 4-8d box (2 ½" x 0.113"); or 3-8d common (2 ½" x 0.131"); or 3-10d common (3" x 0.128"); or 4 staples, 1" crown, 16 ga., 1¾" long	
Floor			
22	Joist to sill, top plate or girder	4-8d box (2½" × 0.113"); or 3-8d common (2 ½" x 0.131"); or 3-10d box (3"x 0.128"); or 3-3" x 0.131" nails	Toe nail
23	Rim joist, band joist or blocking to sill or top plate (roof application also)	8d box (2½" × 0.113")	4" o.c. toe nail
		8d common (2 ½" x 0.131"); or 10d box (3" x 0.128"); or 3" x 0.131" nails	6" o.c. toe nail
24	1" x 6" subfloor or less to each joist	3-8d box (2½" × 0.113"); or 3-8d common (2 ½" x 0.131"); or 3-10d box (3" x 0.128"); or 2 staples, 1" crown, 16 ga., 1 ¾" long	Face nail
25	2" subfloor to joist or girder	3-16d box (3 ½" x 0.135")	Blind and face nail
		2-16d common (3 ½ " x 0.162")	
26	2" planks (plank & beam - floor & roof)	3-16d box (3½" × 0.135"); or 2-16d common (3 ½" x 0.162")	At each bearing
27	Band or rim joist to joist	3-16d common (3 ½" x 0.162") 4-10 box (3" x 0.128"); or 4-3" x 0.131" nails, or 4-3" x 14 ga. staples, 7/16" crown	End nail
28	Built-up girders and beams, 2-inch lumber layers	20d common (4" x 0.192"); or	Nail each layer as follows: 32" o.c. at top and bottom and staggered.

		10d box (3" x 0.128"); or 3" x 0.131" nails	24" o.c. face nail at top and bottom staggered on opposite sides.
		And: 2-20d common (4" x 0.192"); or 3-10d box(3 ½" x 0.128"); or 3-3" x 0.131" nails	Face nail at ends and at each splice
29	Ledger strip supporting joists or rafters	4-16d box (3 ½" x 0.135"); or 3-16d common (3½" × 0.162"); or 4-10d box (3" x 0.128"); or 4-3" x 0.131 nails	At each joist or rafter, face nail
30	Bridging of blocking to joist, rafter or truss	2-10d (3" x 0.128"), or 2-8d common (2 ½" x 0.131"); or 3- 3" x 0.131" nails	Each end, toe nail

ITEM	DESCRIPTION OF BUILDING MATERIALS	DESCRIPTION OF FASTENER[a,b,c]	SPACING OF FASTENERS	
			Edges (inches)[f]	Intermediate supports[e,g] (inches)
Wood structural panels, subfloor, roof and interior wall sheathing to framing and particleboard wall sheathing to framing (see Table R602.3(3) for wood structural panel exterior wall sheathing to wall framing)				
31	⅜" - ½"	6d common or deformed (2" × 0.113" x 0.266" head) or 2 ½" × 0.113" x 0.266" head nail (subfloor, wall) [i]	6	6[j]
		8d common nail (2½" × 0.131"); or RSRS-01; (2½" x 0.113") nail (roof)[b]	6	6[j]
32	ⁱ⁹/₃₂" - ¾"	8d common (2-2½" × 0.131") nail (subfloor, wall)	6	12
		8d common nail (2-2½" × 0.131") nail (roof) or; RSRS-01; (2½" x 0.113") nail (roof)[b]	6	6[j]
		Deformed 2½" x 0.113"x 0.266" head (wall or subfloor)	6	12
33	⅞" - 1¼"	10d common (3" × 0.148") nail; or (3 1/2" x 0.131"x 0.281" head) deformed nail	6	12
Other wall sheathings				
34	½" structural cellulosic fiberboard sheathing	1½" x 0.120" galvanized roofing nail, ⁷/₁₆" head diameter or 1 ¼" long 16 ga. Staple with 7/16" or 1" crown	3	6
35	⁷/₁₆" structural cellulosic fiberboard sheathing	1¼" x 0.120" galvanized roofing nail, ⁷/₁₆" head diameter or 1 1/4" long 16 ga. Staple with 7/16" or 1" crown	3	6
36	½" gypsum sheathing[d]	1½" x 0.120" galvanized roofing nail, ⁷/₁₆" head diameter, or 1 ¼" long 16 ga., staple galvanized, 1 ½" long 7/16" or 1" crown or 1 ¼" screws, Type W or S	7	7
37	⅝" gypsum sheathing[d]	1¾" x 0.120" galvanized roofing nail; ⁷/₁₆" head diameter, or 1 ½" long 16 ga., staple galvanized, 1 ½" long 7/16" or 1" crown or 1 ¼" screws, Type W or S	7	7
Wood structural panels, combination subfloor underlayment to framing				
38	¾" and less	Deformed (2" × 0.113") or Deformed (2" x 0.120") nail; or 8d common (2-½" × 0.131") nail	6	12
39	⅞" - 1"	8d common (2-½" × 0.131") nail or Deformed (2" x 0.113"); or Deformed (2½" × 0.120") nail	6	12
40	1 ⅛" - 1¼"	10d common (3" × 0.148") nail or Deformed (2" x 0.113"); or Deformed (2½" × 0.120") nail	6	12

For SI: 1 inch = 25.4 mm. 1 foot = 304.8 mm. 1 mile per hour = 0.447 m/s; 1 Ksi = 6.895 MPa.

a. Nails are smooth-common, box or deformed shanks except where otherwise stated. Nails used for framing and sheathing connections shall have minimum average bending yield strengths as shown: 80 ksi for shank diameter of 0.192 inch (20d common nail), 90 ksi for shank diameters larger than 0.142 inch but not larger than 0.177 inch, and 100 ksi for shank diameters of 0.142 inch or less. Connections using nails and staples of other materials such as stainless steel, shall be designed by accepted engineering practice or approved under Section R104.11

b. RSRS-01 is a Roof Sheathing Ring Shank nail meeting the specifications in ASTM F1667.

c. Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater.

d. Four-foot by 8-foot or 4-foot by 9-foot panels shall be applied vertically.

e. Spacing of fasteners not included in this table shall be based on Table R602.3(2).

f. For wood structural panel roof sheathing attached to gable end roof framing and to intermediate supports within 48 inches of roof edges and ridges, nails shall be spaced at 4 inches on center where the ultimate design wind speed is greater than 130 mph in Exposure B or greater than 110 mph in Exposure C.

g. Gypsum sheathing shall conform to ASTM C 1396 and shall be installed in accordance with ASTM C 1280 or GA 253. Fiberboard sheathing shall conform to ASTM C 208.

h. Spacing of fasteners on floor sheathing panel edges applies to panel edge supported by framing members and required blocking and at floor perimeters only. Spacing of fasteners on roof sheathing panel edges applies to panel edges supported by framing members and required blocking. Blocking of roof or floor sheathing panel edges perpendicular to the framing members need not be provided except as required by other provisions of this code. Floor perimeter shall be supported by framing members or solid blocking.

j. Where a rafter is fastened to an adjacent parallel ceiling joist in accordance with this schedule, provide two toe nails on one side of the rafter and toe nails from the ceiling joist to top plate in accordance with this schedule. The toe nail on the opposite side of the rafter shall not be required.

❖ **The fastener schedule provides minimum nailing requirements (i.e. size, spacing) for connecting building elements used in wood framed construction. For wood structural panels, both edge nailing and intermediate (field) nailing are specified. In addition to the nailing for wood structural panels, fasteners are specified for gypsum wall sheathing, cellulosic fiberboard wall sheathing and combination subfloor underlayment.**

STAMPED FROM CITY

RECEIVED
May 27 2025
Permit Center
Alameda, CA 94501

TOMMY DRAFTING

Date: MARCH 11, 2025

Drawn: LUYEN HONG NGUYEN

Tells: (916) 526-5881
(408) 876-8402

Signed:

Email:helennguyen3689@gmail.com
9743 WHITE PINE WAY, ELK GROVE, CA 95624

FASTENING SCHEDULE PER CRC TABLE R602.3 (1)

437 SANTA CLARA AVE, ALAMEDA, CA 94501

REVISION	DATE	BY
1	04-21-2025	HL

Scale: AS SHOWN

SHEET NO:

A-10