



# Notice of Decision on Proposed Project

Dear Campbell Resident,

July 31, 2023

The Community Development Director will be rendering a decision on the following project.

**Project Address:** 881 Kenneth Ave

**Zoning | Area Plan:** R-1-10 | STANP

**Neighborhood Association(s):** N/A

**File No.:** PLN-2022-133

**APN:** 404-30-047

**Applicant:** Augustine Designs

**Property Owner:** Ravi Vallamdas

**Application Type:** Administrative Site and Architectural Review Permit

**Project Planner:** Larissa Lomen, Assistant Planner

**Email Contact:** larissal@campbellca.gov

**Phone Contact:** (408) 866-214

## Project Description:

To allow a 910 square-foot addition to an existing single-family residence.

## Comment Period:

You have the opportunity to provide comment prior to the Director's decision.

The ten-day comment period for this application begins on **July 26, 2023**. If you have comments regarding this application must be submitted in writing (including email) to the Planning Division before 5:00 p.m. on **August 4, 2023**. The Director will then consider all comments submitted within this time period prior to a decision. No additional notice will be provided.

Decision by the Community Development Director is final unless an appeal is received in writing within 10 days of the decision or submitted in writing to the City of Campbell Community Development Department, 70 N. First Street, Campbell, prior to the end of the appeal period. If you have questions or comments regarding this application you may contact the Project Planner.

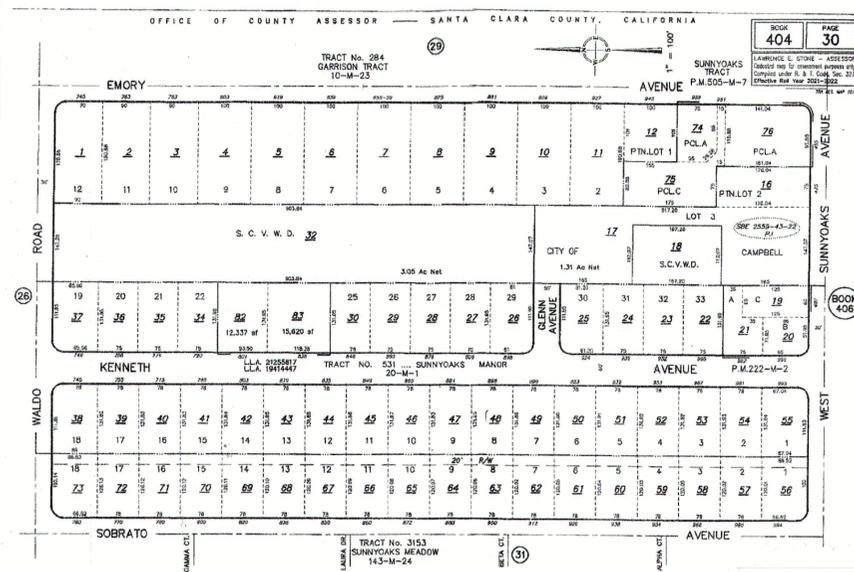


- City of Campbell -  
Community Development Department  
70 N. First Street, Campbell CA 95008  
(408)866-2140 | [planning@campbellca.gov](mailto:planning@campbellca.gov)

**Note:** Applications may change after initial application submittal.  
To view the project plans, please scan the QR code.

\*\*Asistencia en Español disponible,  
Simplemente marque (408) 866-2140 y pida traducción en Español

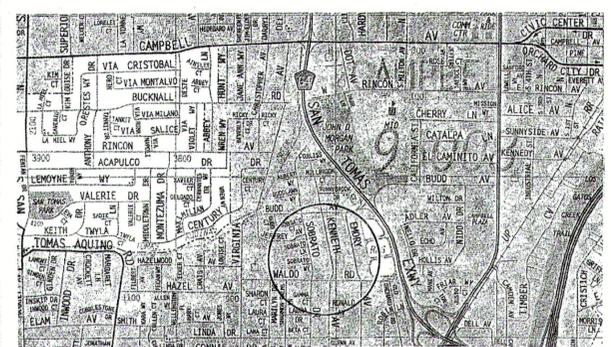




**GENERAL NOTES**

- THIS PROJECT SHALL COMPLY WITH THE FOLLOWING BUILDING CODES.....
  - 2019 CALIFORNIA BUILDING CODE
  - 2019 CALIFORNIA RESIDENTIAL CODE
  - 2019 CALIFORNIA ELECTRICAL CODE
  - 2019 CALIFORNIA MECHANICAL CODE
  - 2019 CALIFORNIA PLUMBING CODE
  - 2019 CALIFORNIA ENERGY CODE
  - 2019 CALIFORNIA HISTORICAL BUILDING CODE
  - 2019 CALIFORNIA EXISTING BUILDING CODE
  - 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE
- INTERPRETATION OF DRAWINGS-FOR ARRANGEMENT OF FLOORS, GENERAL FINISH AND MEASUREMENTS, REFERENCE MUST BE MADE TO THE DRAWINGS SHOULD ANY DIFFERENCE APPEAR BETWEEN SCALE MEASUREMENT AND FIGURES OR BETWEEN WORKING OF SPECIFICATIONS AND LETTERING ON DRAWINGS. THE SPECIFICATION SHALL IN ALL CASES TAKE PRECEDENCE. IF ANY ERROR THAT IS NOT EXPLAINED EITHER BY REFERENCE TO THE DRAWINGS OR SPECIFICATIONS BECAME APPARENT, THE CONTRACTOR SHALL REFER THEM TO THE DRAFTSMAN DESIGNER FOR CORRECTION BEFORE PROCEEDING WITH THE WORK (CONTRACTOR IS NOT TO SCALE DRAWINGS). DRAWINGS DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS
- ERRORS AND OMISSIONS: IN THE EVENT THAT AN ACUTE ERRORS OR OMISSIONS MAY EXIST ON THE PLAN, IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO NOTIFY THE DESIGNER/DRAFTSMAN PRIOR TO THE COMMENCEMENT OF WORK. FAILURE TO DO SUCH, WILL RELIEVE DESIGNER OF RESPONSIBILITY COMMENCEMENT OF WORK, FAILURE TO DO SUCH WILL RELIEVE DESIGNER OF RESPONSIBILITY.

(AND ALL STATE OF CALIFORNIA CITY, COUNTY AND MUNICIPAL CODES)



**SHEET INDEX**

NO.	DATE	DESCRIPTION
1.	1/25/2022	SITE PLAN
2.	1/25/2022	ELEVATIONS
3.	1/25/2022	EXISTING FLOOR PLAN
4.	1/25/2022	DEMO PLAN
5.	1/25/2022	PROPOSED FLOOR PLAN
6.	1/25/2022	ELECTRICAL FLOOR PLAN
7.	1/25/2022	FOUNDATION PLAN
8.	1/25/2022	ROOF PLAN
9.	1/25/2022	AREA SHEET "A"
10.	1/25/2022	PHOTO SHEET "B"
11.	1/25/2022	(E) ELEVATIONS

TITLE - 24

EN.1	TITLE - 24
EN.2	TITLE - 24
GB.1	MANDATORY CALGREEN

**STRUCTURAL**

S1.	STRUCTURAL
S2.	STRUCTURAL
S3.	STRUCTURAL
S4.	STRUCTURAL
S5.	STRUCTURAL

**PROJECT INFORMATION**

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING BUILDINGS CODES

2019 CALIFORNIA BUILDING STANDARDS CODE	DESCRIPTION
2019 CA. BUILDING CODE	2019 CA. HISTORICAL BUILDING CODE
2019 CA. RESIDENTIAL CODE	2019 CA. EXISTING BUILDING CODE
2019 CA. ELECTRICAL CODE	2019 CA. BUILDING ENERGY EFFICIENCY STANDARDS
2019 CA. MECHANICAL CODE	2019 CA. GREEN BUILDING STANDARDS CODE
2019 CA. PLUMBING CODE	

(AND ALL STATE OF CALIFORNIA CITY COUNTY & MUNICIPAL CODES)

**PROJECT PROPOSAL**

1. PROPOSED FRONT KITCHEN AND POOJA ROOM RELOCATION & ADDITION	4. INTERIOR REMODEL (SEE SCOPE OF WORK)
2. PROPOSED RIGHT SIDE 2 BEDROOMS AND BATH ADDITION	5. CONVERT (E) GARAGE INTO A NEW BEDROOM & BATHROOM AREA
3. PROPOSED REAR 2 BEDROOMS & WALK-IN CLOSED ADDITION	6. NEW ENTRY PORCH AREA

<b>PROJ. LOC/OWNER</b> MR. RAVI K. VALLAMDAS 881 KENNETH AVENUE CAMPBELL CA. 95008 PHONE: (408) 807 - 3229	<b>PROPERTY INFORMATION</b> A) PARCEL NUMBER ..... 404 - 30 - 047 B) ZONING DISTRICT ..... R-1 - 10 C) CURRENT LOT SIZE ..... 10,299 S.F. D) GENERAL PLAN: ..... LOW DENSITY RESIDENTIAL
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**PARKING**  
(E) 2 MINIMUM PROVIDED

**CBC 2019 / CONSTRUCTION INFORMATION**

A) CONSTRUCTION TYPE: .... VB	D) OCCUPANCY GROUP: ..... R-3/U
B) NUMBERS OF STORIES: .... 1	E) SPRINKLERS: ..... REQ'D
C) YEAR BUILT: ..... 1949	

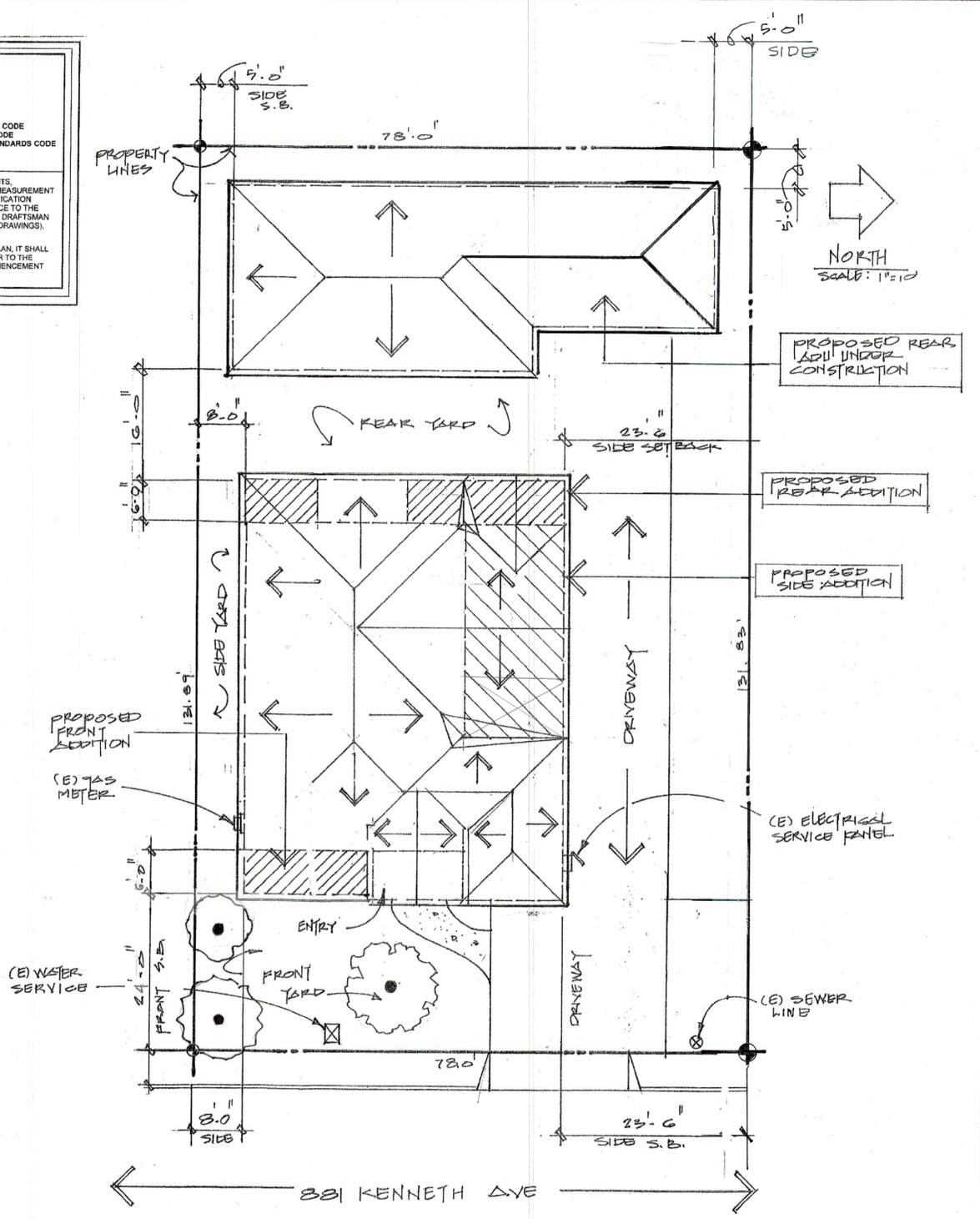
**BUILDING SQ. FTG./LOT COVERAGE/FLOOR AREA RATIO (FAR)**

1) (E) RESIDENCE: .....	1,512 S.F.
2) (E) ATTACHED ONE CAR GARAGE: (TO BE CONVERTED INTO HABITABLE AREA)	275 S.F.
3) (E) REAR DETACHED ADU: (EXEMPT)	676 S.F.
4) (E) ATTACHED JADU TO THE (E) ADU: .....	468 S.F.
5) (E) ATTACHED 2 CAR GARAGE TO ADU: .....	420 S.F.
6) (N) FRONT ADDITION: .....	120 S.F.
7) (N) RIGHT SIDE ADDITION: .....	318 S.F.
8) (N) REAR ADDITION: .....	197 S.F.
9) (E) GARAGE CONVERSION: .....	275 S.F.

A) MAX. FAR: ... 0.45% OR 4,635 S.F. A) MAX. LOT COVERAGE: .40% OR 4,120 S.F.  
B) ACT. FAR: ... 0.32% OR 3,310 S.F. B) ACT. LOT COVERAGE: . 32% OR 3,310 S.F.

**SCOPE OF WORK**

- PROPOSED FRONT KITCHEN AND POOJA ROOM RELOCATION AND ADDITION
- PROPOSED RIGHTS SIDE 2 BEDROOMS AND BATH ADDITION
- PROPOSED REAR 2 BEDROOMS AND WALK-IN CLOSED ADDITION
- INTERIOR REMODEL CONSISTING IN THE FOLLOWING:
  - MASTER BEDROOM AND BATH REVISION
  - INTERIOR LAUNDRY ROOM
  - REMOVING INTERIOR WALLS & OPENING UP LIVING AREA
  - NEW ELECTRICAL THROUGHOUT
  - REPLACE (E) WINDOWS WITH ENERGY EFFICIENT WINDOWS
  - UPGRADE (E) ELECTRICAL PANEL TO 200 AMP
- CONVERT (E) GARAGE INTO A NEW BEDROOM & BATHROOM AREA
- NEW ENTRY PORCH AREA



**SITE GRADING NOTE**

PROVIDE A MINIMUM 5% GRADE SLOPE AWAY FROM THE FOUNDATION FOR A MINIMUM DISTANCE OF 10'-0" (1:20)

**SITE PLAN**

SCALE: 1" = 10'-0"

REVISIONS

DATE:

Professional Design Consultants  
3023 Moorpark Ave. #1 San Jose, CA 95128  
(408) 254-7660

**AUGUSTINE DESIGNS**

OWNER  
**RAVI K VALLAMDAS**  
881 KENNETH AVENUE  
CAMPBELL CA. 95008  
PHONE: (408) 807-3229

PROPOSED FRONT, REAR ADDITIONS AND A INTERIOR REMODEL AND GARAGE CONVERSION TO LIVING SPACE

DATE: 1-14-2022

SCALE: 1" = 10'-0"

DRAWN: BRA

JOB:

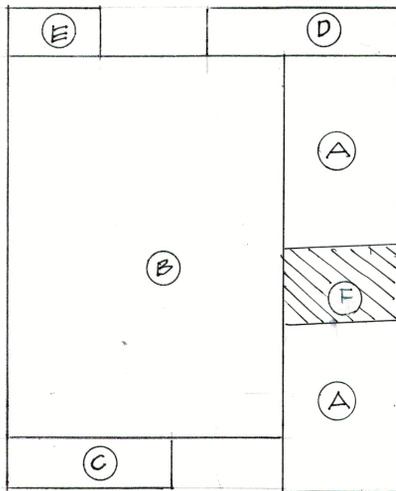
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OF SHEETS

BUILDING AREA	EXISTING	PROPOSED	TOTAL S.F.	%
1 <sup>ST</sup> FLOOR	1512 S.F.	635 S.F.	2,147 S.F.	
2 <sup>ND</sup> FLOOR	N/A	N/A	N/A	
GARAGE	275 S.F.	CONVERT	N/A	
ACCESSORY DWELLING	1,144 S.F.	✓	1,144 S.F.	
COVERED PATIO(S)	NONE	NONE	NONE	
OTHER (E.G., SHED)	NONE	NONE	NONE	
<b>TOTAL</b>	2,931 S.F.	635 S.F.	3,566 S.F.	

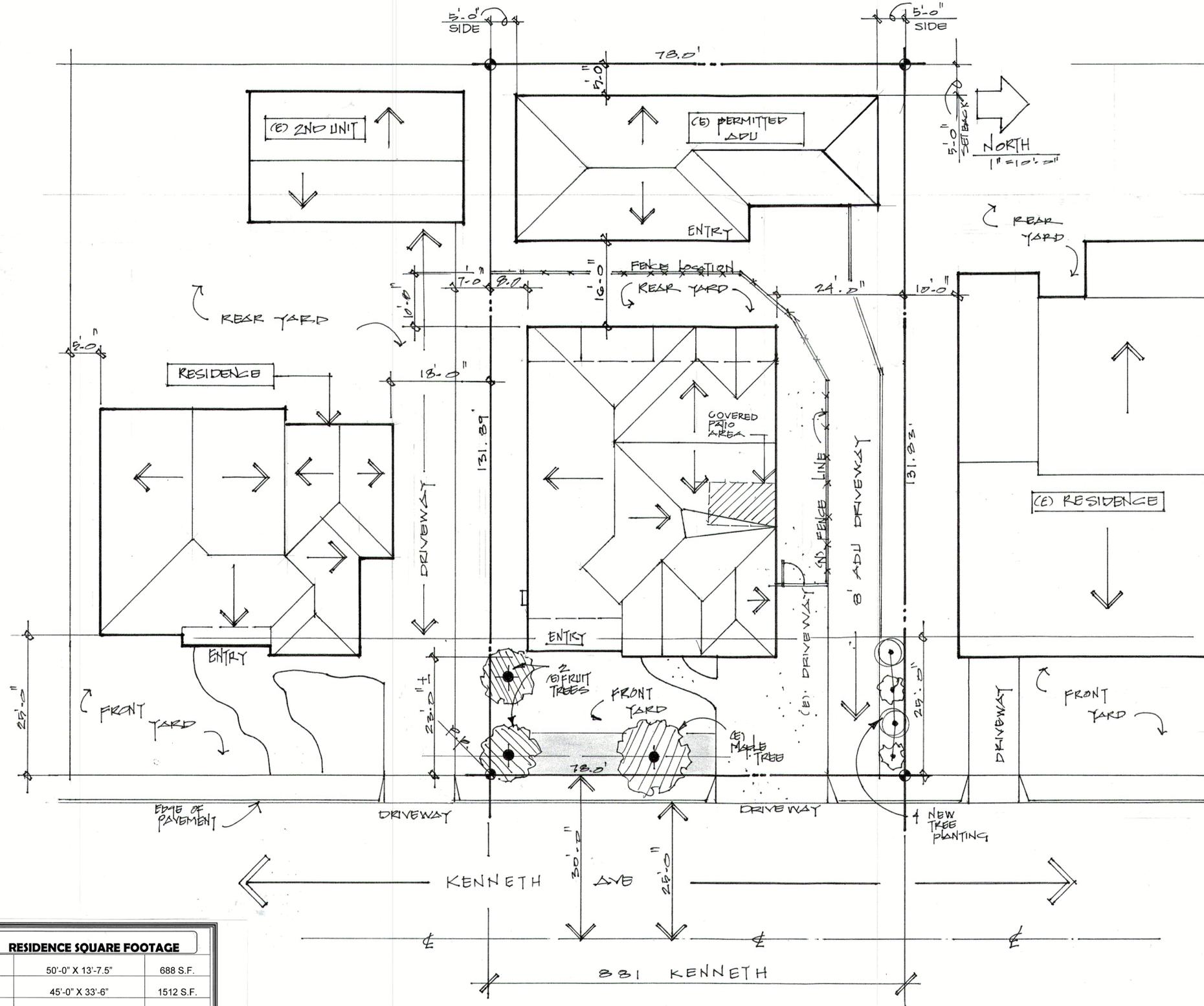
PAVING / LANDSCAPE AREA	EXISTING	PROPOSED	TOTAL S.F.
FRONT YARD PAVING	506 S.F.	300 S.F.	806 S.F.
WATER FEATURES (E.G., POOL, FOUNTAIN)	N/A	N/A	N/A
LIVE LANDSCAPING (E.G., TURF, PLANS, TREES)	102 S.F.	160 S.F.	262 S.F.
OTHER LANDSCAPING (E.G., ROCKS, BARK)	N/A	N/A	N/A
<b>TOTAL</b>	506 S.F.	460 S.F.	1066 S.F.

SETBACKS	WALL HEIGHT	REQUIRED SETBACK	PROPOSED SETBACK
FRONT OF STRUCTURE / DWELLING	8'-0"	23'-0"	23'-0"
FRONT OF GARAGE / CARPORT	8'-0"	23'-0"	23'-0"
LEFT SIDE FIRST FLOOR	8'-0"	5'-0"	8'-0"
LEFT SIDE SECOND FLOOR	✓	✓	✓
RIGHT SIDE FIRST FLOOR	8'-0"	5'-0"	✓
RIGHT SIDE SECOND FLOOR	✓	✓	✓
REAR FIRST FLOOR			
REAR SECOND FLOOR	✓	✓	✓



BUILDING FOOTPRINT  
SCALE: 1" = 10'-0"

RESIDENCE SQUARE FOOTAGE		
A)	50'-0" X 13'-7.5"	688 S.F.
B)	45'-0" X 33'-6"	1512 S.F.
C)	20'-0" X 6'-0"	120 S.F.
D)	23'-0" X 6'-0"	138 S.F.
E)	6'-0" X 9'-8"	59 S.F.
<b>TOTAL SQUARE FOOTAGE</b>		<b>2,517 S.F.</b>



LANDSCAPE / AREA SITE PLAN  
SCALE 1" = 10'-0"

REVISIONS

Professional Design Consultants  
3033 Moorpark Ave. #1 San Jose, CA 95128  
(408) 294-7060



OWNER  
RAVI K VALLAMDAS  
881 KENNETH AVENUE  
CAMPBELL CA. 95008  
PHONE: (408) 807-3229

PROPOSED FRONT, REAR  
ADDITIONS AND A  
INTERIOR REMODEL  
AND GARAGE CONVERSION  
TO LIVING SPACE

DATE: 8/20/2022

SCALE: 1" = 10'-0"

DRAWN: BRA

JOB:

FILE:

**1A**

Professional Design Consultants  
3033 Moorpark Ave., Suite 100, Irvine, CA 92618  
(949) 244-7269



OWNER  
RAVI K VALLAMDAS  
881 KENNETH AVENUE  
CAMPBELL, CA. 95008  
PHONE: (408) 807-3229

PROPOSED FRONT, REAR  
ADDITIONS AND A  
INTERIOR REMODEL  
AND GARAGE CONVERSION  
TO LIVING SPACE

DATE: 1-20-2022

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

DRAWN: BRA

JOB:

**GENERAL NOTES**

- PLANS TO COMPLY WITH CONVENTIONAL CONSTRUCTION PROVISIONS AS STATED IN 2019 CALIFORNIA RESIDENTIAL BUILDING, MECHANICAL, PLUMBING, ELECTRICAL AND ENERGY CODES AS AMENDED BY STATE OF CALIFORNIA AND ALL CITY & MUNICIPAL CODES (PROJECT LOCATED TO SPECIFY SEISMIC DESIGN CATEGORY E).
- INTERPRETATION OF DRAWINGS FOR ARRANGEMENT OF FLOORS, GENERAL FINISH, AND MEASUREMENTS, REFERENCE MUST BE MADE TO THE DRAWINGS, SHOULD ANY DIFFERENCE APPEAR BETWEEN SCALE MEASUREMENT AND FIGURES OR BETWEEN WORDING OF SPECIFICATIONS & LETTERING ON DRAWINGS. THE SPECIFICATION SHALL IN ALL CASES TAKE PRECEDENCE. IF ANY ERROR THAT IS NOT EXPLAINED EITHER BY REFERENCE TO THE DRAWINGS, CONTRACTOR TO INFORM DRAFTSMAN DESIGNER, FOR CORRECTION BEFORE PROCEEDING WITH THE WORK (CONTRACTOR IS NOT TO SCALE DRAWINGS).
- ERRORS AND OMISSIONS. IN THE EVENT THAT AN ACUTE ERROR OR OMISSION MAY EXIST ON THE PLAN IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO NOTIFY THE DESIGNER, DRAFTSMAN PRIOR TO THE COMMENCEMENT OF WORK. FAILURE TO DO SUCH, WILL RELIEVE DESIGNER OF RESPONSIBILITY.
- SITE PLAN LAYOUT: IN THE EVENT THERE MAY BE DISCREPANCIES BETWEEN THE DIMENSIONS ON THE SITE PLAN AND THE ACTUAL DIMENSIONS OF THE LOT AND ITS SETBACKS, IT WILL BE THE OWNER'S RESPONSIBILITY TO PROVIDE A LEGAL SURVEY TO CONFIRM THE ACCURACY OF THE PROPERTY SIZE AND LAYOUT. ALL SITE PLANS, AS DRAWN ARE FOR REFERENCE AND SHOULD NOT BE LOOKED UPON AS AN OFFICIAL DOCUMENT.

**EXTERIOR BUILDING NOTES**

- CLEARANCE BETWEEN WOOD SIDING, FRAMING MEMBERS, INCLUDING SHEATHING, AND EARTH ON THE EXTERIOR OF A BUILDING SHALL NOT BE LESS THAN 6" OR LESS THAN 2" MEASURED VERTICALLY FROM
- WHERE ROOF GUTTERS ARE INSTALLED, THE DOWN SPOUTS SHALL BE PROPERLY TERMINATED WITH A SPLASH BLOCK AND SHALL CARRY WATER AWAY FROM THE FOUNDATIONS PER CITY ORDINANCE. ORDINANCE. CLARIFY IF THERE ARE NEW GUTTERS AT NEW ADDITION

**EXTERIOR PLASTER AND STUCCO NOTES**

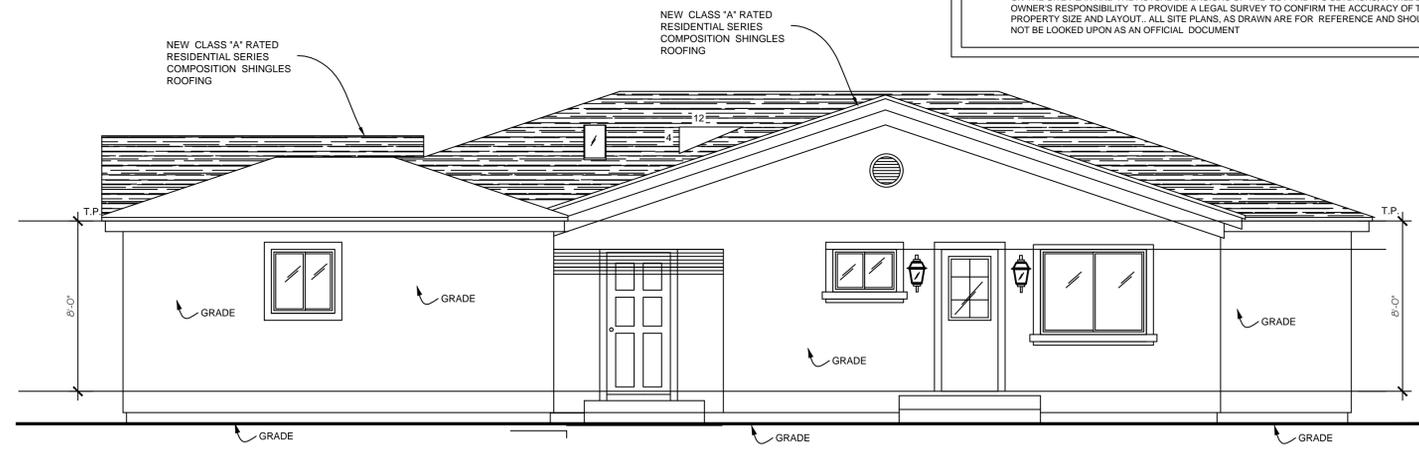
- WEATHER RESISTIVE BARRIERS SHALL BE INSTALLED AS REQUIRED IN SECTION R703.2 AND, PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER (R703.7.3)
- PLASTERING WITH PORTLAND CEMENT PLASTER SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE, PRESSURE-PRESERVATIVE TREATED WOOD OR DECAY-RESISTANT WOOD AS SPECIFIED IN SECTION R317.1 OR GYPSUM BACKING (R703.7.2.) A MINIMUM 26 GA. GALVANIZED CORROSION-RESISTANT WEEP SCREED WITH (R703.7.2.1)
- A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3-1/2 INCHES PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE AT ALL EXTERIOR WALLS
- THE SCREED SHALL BE PLACED A MINIMUM OF 4 INCHES ABOVE PAVED AREA.

**GENERAL EXTERIOR NOTES**

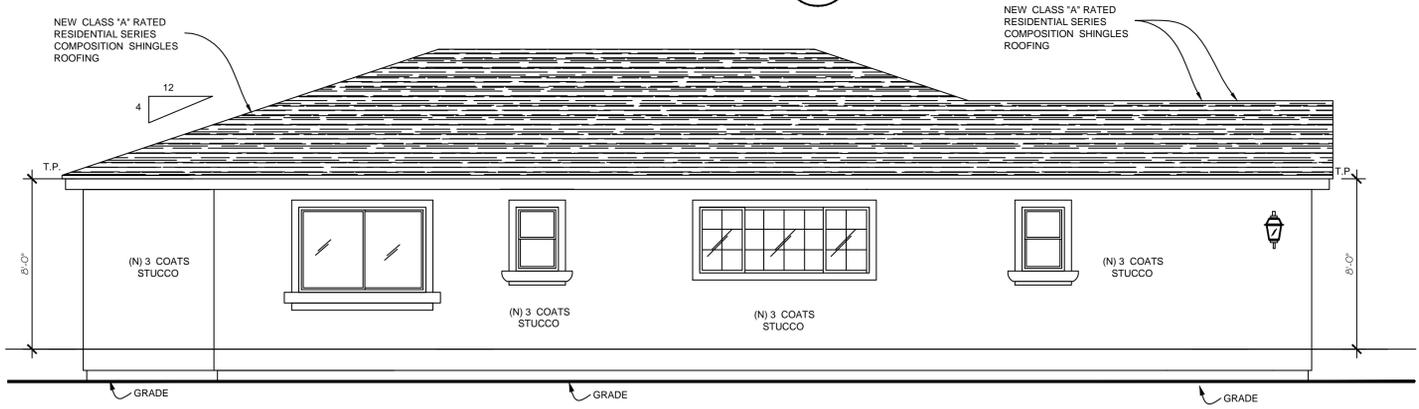
- ASPHALT SHINGLES SHALL BE INSTALLED OVER ONE LAYER OF 15 POUND FELT ON ROOFS WITH A MIN SLOPE OF 3:12. ASPHALT SHINGLES MAY BE INSTALLED ON ROOFS WITH A MIN SLOPE OF 2:12 PROVIDED THE SHINGLES ARE APPROVED SELF SEALING OR ARE HAND SEALED AND THE UNDER LAYMENT SHALL CONSIST OF 2 LAYERS OF 15 POUND FELT INSTALLED SHINGLE FASHION. MAX LAYERS ON A SHINGLE ROOF SHALL NOT EXCEED 3
- ALL PLUMBING VENTS TO BE A MINIMUM 10 FEET AWAY FROM, OR AT LEAST 3 FEET ABOVE ANY OPERABLE SKYLIGHTS PER CPC 906.2.
- SITE ADDRESS NUMBERS.....BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR ON ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS OR ALPHABETICAL LETTERS. NUMBERS SHALL BE A MINIMUM OF 4" (102 MM) HIGH WITH A MINIMUM STROKE WIDTH OF 1/2" (12.7 MM). WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING ADDRESS CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE

**EXTERIOR WEATHER PROTECTION NOTES**

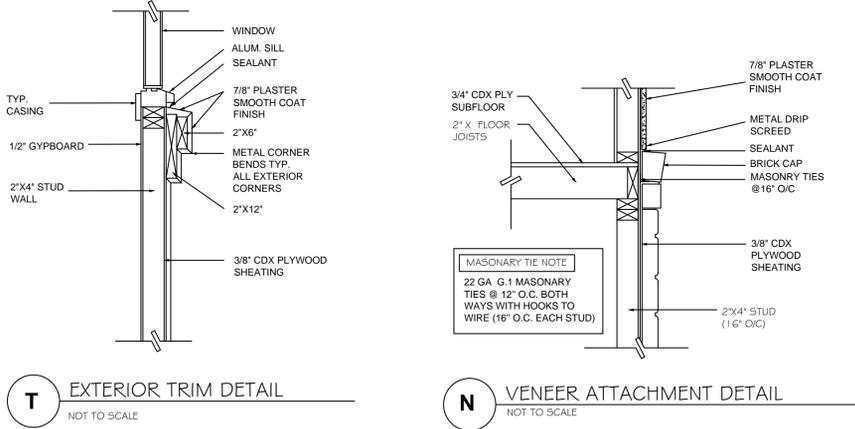
- STUDS OR SHEATHING OF ALL EXTERIOR WALLS SHALL BE WEATHER PROTECTED WITH 15 POUND ASPHALT SATURATED FELT OR OTHER APPROVED WATERPROOF PAPER. SUCH PAPER SHALL BE APPLIED IN WEATHER BOARD FASHION, LAPPED NOT LESS THAN 2" AT HORIZONTAL JOINTS AND NOT LESS THAN 6" AT VERTICLE JOINTS.
- WHERE STUCCO IS APPLIED OVER EXTERIOR SHEATHING THERE SHALL BE TWO LAYERS OF GRADE "D" BUILDING PAPER. BUILDING PAPER MAY BE OMITTED IN THE FOLLOWING:
  - A).....WHERE THERE IS NO HUMAN OCCUPANCY
  - B).....WHERE EXTERIOR COVERING IS OF APPROVED W.P. MATERIAL OVER WATER REPELLENT SHEATHING
  - C).....WHERE EXTERIOR COVERING IS F APPROVED W.P. PANELS
- STUCCO SHALL BE 7/8" THICK AND THREE COATS APPLIED OVER APPROVED WIRE LATH AND TWO LAYERS OF GRADE D BUILDING PAPER. PROVIDE WEEP CREED
- SIDING SHALL BE APPLIED OVER ONE LAYER OF GRADE D BUILDING PAPER
- PROVIDE A SPARK ARRESTOR FOR ANY NEW OR EXISTING CHIMNEY



**RIGHT SIDE ELEVATION (NORTH)**  
SCALE: 1/4" = 1'-0"

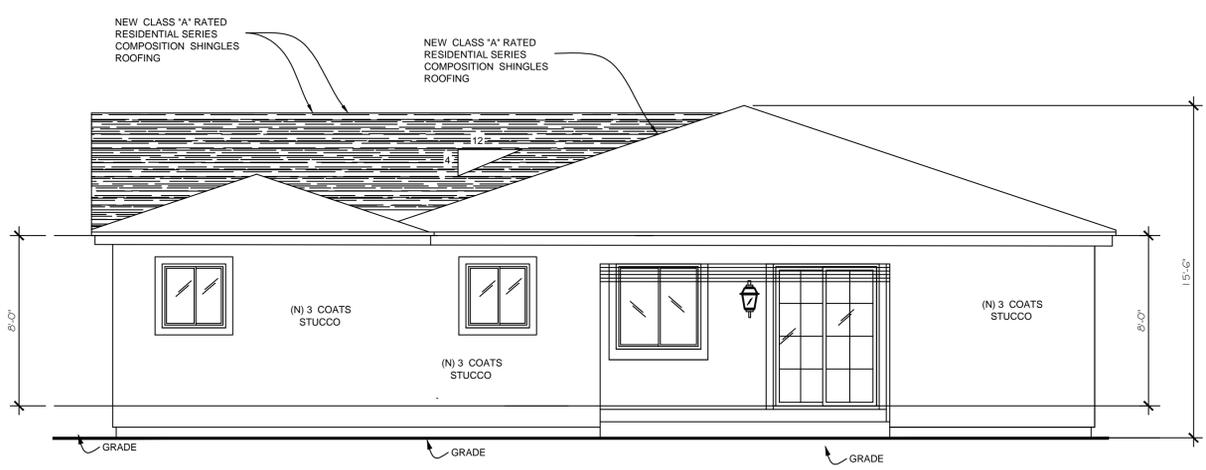


**LEFT SIDE ELEVATION (SOUTH)**  
SCALE: 1/4" = 1'-0"

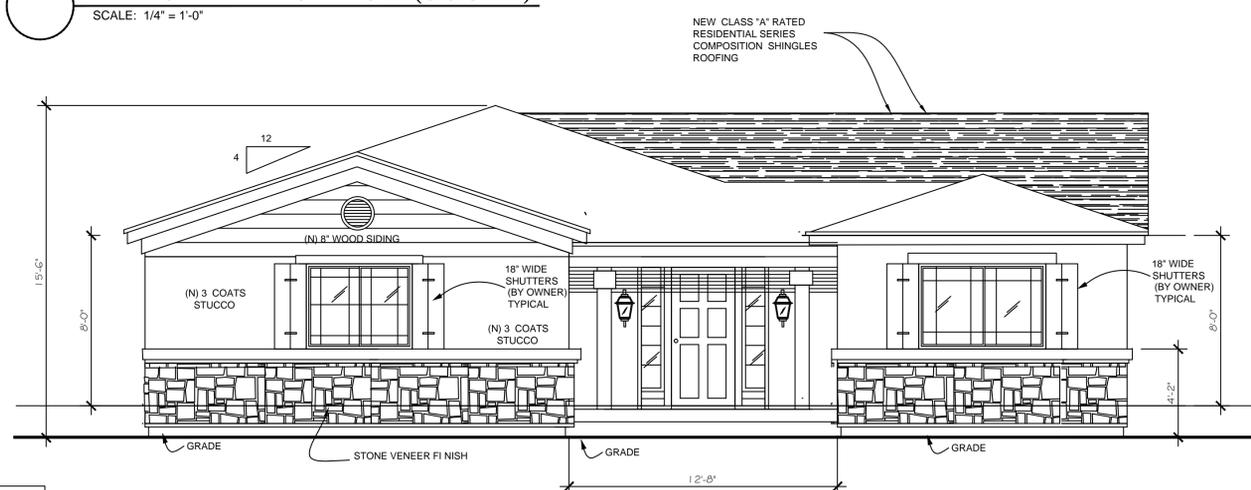


**T EXTERIOR TRIM DETAIL**  
NOT TO SCALE

**N VENEER ATTACHMENT DETAIL**  
NOT TO SCALE



**REAR ELEVATION (WEST)**  
SCALE: 1/4" = 1'-0"



**FRONT ELEVATION (EAST)**  
SCALE: 1/4" = 1'-0"

**SITE GRADING NOTE**  
PROVIDE A MINIMUM 5% GRADE SLOPE AWAY FROM THE FOUNDATION FOR A MINIMUM DISTANCE OF 10'-0" (1:20)

**SITE GRADING NOTE**  
PROVIDE A MINIMUM 5% GRADE SLOPE AWAY FROM THE FOUNDATION FOR A MINIMUM DISTANCE OF 10'-0" (1:20)

**ADDITIONAL... BATHROOM FIXTURE / ELECT / PLUMBING, MECH AND INSULATION NOTES**

**PLUMBING**

- ALL SINK FAUCETS, SHOWER HEADS, TOILETS AND URINALS SHALL COMPLY WITH CALIFORNIA CIVIL CODE SECTION 1101.8 (KITCHEN FAUCETS SHALL NOT EXCEED 1.8 MAX PER FLUSH... LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS... SHOWER HEADS SHALL NOT EXCEED 2.0 GALLONS... AND URINALS SHALL NOT EXCEED 5 GALLONS PER FLUSH)
- PER CPC SECTION 402.2.2, SINGLE FLUSH WATER CLOSETS SHALL HAVE AN EFFECTIVE FLUSH VOLUME NOT TO EXCEED 1.28 GALLONS.
- INDOOR WATER USE SHALL BE REDUCED BY AT LEAST 20% BY USING WATER SAVING FIXTURES OR FLOW RESTRICTIONS OR DEMONSTRATE A 20% REDUCTION IN BASELINE WATER PER SECTION 4.305.1
- ALL ADDITIONS ON OR AFTER JANUARY 1, 2014 SHALL REPLACE NON COMPLIANT PLUMBING FIXTURES WITH WATER CONSERVING PLUMBING FIXTURES  
NON-COMPLIANT PLUMBING FIXTURES SHALL BE REPLACED WITH WATER CONSERVING PLUMBING FIXTURES PER CGC SECTION 301.1.1. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF ACERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY OR FINAL PERMIT APPROVAL BY THE BUILDING DEPARTMENT

**ELECTRICAL**

- ALL BRANCH CIRCUITS THAT SUPPLY 125-VOLT, SINGLE PHASE, 15-AND 20 AMPERE RECEPTACLE OUTLETS INSTALLED IN A DWELLING UNIT LIVING, DINING AND FAMILY ROOMS, PARLORS, BEDROOMS, LIBRARIES, DEN'S, HALLWAYS, RECREATION ROOM, CLOSET OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT. CEC ARTICLE 210.12
- ALL NEW AND REPLACED DUPLEX RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLE, 2019 CEC ART 408.12
- AT LEAST TWO 20-AMP BRANCH CIRCUITS SHALL BE PROVIDED FOR SMALL KITCHEN APPLIANCES AT THE COUNTER TOP (CEC 210.52)
- ALL RECEPTACLES IN KITCHEN AREAS TO BE GFCI TAMPER PROOF NOT TO EXCEED .4" O.C.
- ALL EXHAUSTS FANS THROUGHOUT THE RESIDENCE SHALL BE SWITCHED SEPARATELY FROM ANY LIGHTING SYSTEM
- ALL KITCHEN EXHAUST SHALL BE DUCTED TO THE EXTERIOR
- ALL RECESSED LIGHTING FIXTURES INSTALLED IN INSULATED CEILINGS SHALL BE IC (INSULATION COVER) AND AT (AIR TIGHT) RATED AND SHALL BE SEALED BETWEEN THE FIXTURE HOUSING AND THE GYP WITH A GASKET OR CAULK

**EXHAUST FAN NOTES**

- EACH BATHROOM SHALL BE MECHANICALLY VENTILATED WITH A MINIMUM 50 CFM FOR INTERMITTENT VENTILATION OR 20 CFM FOR CONTINUOUS VENTILATION.
- EXHAUST AIR SHALL BE EXHAUSTED DIRECTLY TO THE OUTDOORS  
NOTE: WINDOW OPERATION IS NOT PERMISSIBLE METHOD OF PROVIDING BATHROOM EXHAUST FOR HUMIDITY CONTROL. (2019 CRC R303.3.1)
- FANS SHALL BE ENERGY STAR COMPLIANT AND DUCTED TO TERMINATE TO THE OUTSIDE UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE-HOUSE VENTILATION SYSTEM. FANS MUST BE CONTROLLED BY HUMIDITY CONTROL
- HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE RATE OF < OR = 50% TO A MAXIMUM OF 80% BY MANUAL OR AUTOMATIC MEANS  
HUMIDITY CONTROLS MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN AND IS NOT REQUIRED TO BE BUILT-IN. (2019 CGS 405.6.1)

**SPECIAL DOMESTIC DRYER NOTES**

- THE AIR DUCTS SHALL EXHAUST 3'-0" FROM PROPERTY LINE AND 3'-0" FROM OPENING INTO THE BUILDING. CMC 502.2.1
- THE LOCATION OF THE DRYER EXHAUST VENT TERMINATION TO CONFIRM THE VENT IS LOCATED PER THE FOLLOWING: CMC 502.2:  
A) 3 FEET FROM A PROPERTY LINE.  
B) 10 FEET FROM A FORCED AIR INLET, AND  
C) 3 FEET FROM OPENING INTO THE BUILDING.
- DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF FOURTEEN FEET, INCLUDING TWO 90-DEGREE ELBOWS. TWO FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. CMC 504.4.2
- CLOTHES DRYER EXHAUST DUCTS SHALL TERMINATE ON THE OUTSIDE OF THE BUILDING AND EQUIPPED WITH A BACK-DRAFT DAMPER. CMC 504.4

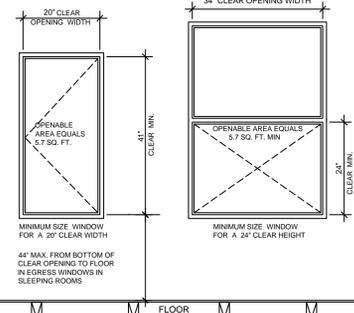
**ELECTRICAL/ MECHANICAL LEGEND**

[Symbol]	EXISTING WALLS	[Symbol]	CHIME
[Symbol]	NEW WALLS	[Symbol]	DOORBELL PUSHBUTTON
[Symbol]	WALLS TO BE REMOVED	[Symbol]	COMB. EXHAUST & LIGHT FIXT
[Symbol]	CLOSE WALLS	[Symbol]	ELECT. FAN
[Symbol]	DUPLEX RECEPTACLE OUTLET	[Symbol]	HEAT LAMP
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[Symbol]	HIGH EFFICACY LIGHT	[Symbol]	CARBON MONOXIDE ALARMS
[Symbol]	WALL LIGHT	[Symbol]	INTERCOM
[Symbol]	WATERPROOF WALL LIGHT FIXTURE	[Symbol]	ELECT. METER & MAIN PANEL
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[Symbol]	SMALL FLUORESCENT FIXTURE	[Symbol]	RECESSED LIGHT
[Symbol]	SPOTLIGHT	[Symbol]	DISPOSAL
[Symbol]	WALL SWITCH	[Symbol]	CONCRETE
[Symbol]	THREE-WAY SWITCH	[Symbol]	STUCCO
[Symbol]	FOUR-WAY SWITCH	(E)	EXISTING
[Symbol]	SMOKE DETECTOR	H.S.	HORIZONTAL SLIDER
[Symbol]	TELEPHONE OUTLET	S.H.	SINGLE HUNG
[Symbol]	TV/CABLE OUTLET	FIX.	FIXED GLASS

**GENERAL NOTES**

- PLANS TO COMPLY WITH CONVENTIONAL CONSTRUCTION PROVISIONS AS STATED IN 2019 CALIFORNIA RESIDENTIAL BUILDING, MECHANICAL, PLUMBING, ELECTRICAL AND ENERGY CODES, AS AMENDED BY STATE OF CALIFORNIA AND ALL CITY & MUNICIPAL CODES (PROJECT LOCATED TO SPECIFY SEISMIC DESIGN CATEGORY E.)
- INTERPRETATION OF DRAWINGS FOR ARRANGEMENT OF FLOORS, GENERAL FINISH, AND MEASUREMENTS, REFERENCE MUST BE MADE TO THE DRAWINGS, SHOULD ANY DIFFERENCE APPEAR BETWEEN SCALE MEASUREMENT AND FIGURES OR BETWEEN WORKING OF SPECIFICATIONS & LETTERING ON DRAWINGS, THE SPECIFICATION SHALL IN ALL CASES TAKE PRECEDENCE. IF ANY ERROR THAT IS NOT EXPLAINED EITHER BY REFERENCE TO THE DRAWINGS, CONTRACTOR TO INFORM DRAFTSMAN DESIGNER, FOR CORRECTION BEFORE PROCEEDING WITH THE WORK (CONTRACTOR IS NOT TO SCALE DRAWINGS)
- ERRORS AND OMISSIONS. IN THE EVENT THAT AN ACUTE ERROR OR OMISSION MAY EXIST ON THE PLAN IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO NOTIFY THE DESIGNER, DRAFTSMAN PRIOR TO THE COMMENCEMENT OF WORK. FAILURE TO DO SUCH, WILL RELIEVE DESIGNER OF RESPONSIBILITY.
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PROVIDE 1 EACH SMOKE DETECTOR IN ALL SLEEPING ROOMS AND AT A POINT CENTRALLY LOCATED IN AN AREA GIVING ACCESS TO THE SLEEPING ROOMS.  
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INSULATION: CEILING ..... R-30 BATT INSULATION (NEW CONST. ONLY)  
WALLS ..... R-15 BATT INSULATION (NEW CONST. ONLY)  
FLOOR ..... R-19 FLOOR INSULATION  
ACCESS: UNDERFLOOR ..... 18" x 24" MIN. SQ. IF WOOD FLOOR  
CEILING ..... 22" x 30" MIN. W/30" CLEAR HEIGHT  
WINDOW ..... APPROVED DOUBLE GLAZED  
NOTE: ALL OPENING, ALL DOORS, WINDOWS, ETC. TO BE CALKED OR FULLY WEATHER STRIPPED.
- SUPPLEMENT TO TITLE 24 FOR RESIDENTIAL ADDITIONS.  
1. ROOF SHEATHING WITH RADIANT BARRIER ON UNDERSIDE OF SHEATG SHALL BE INSTALLED.  
2. ALL WINDOWS SHALL HAVE A SOLAR HEAT GAIN COEFFICIENCY OF .40 OR BETTER.  
3. WALL SHEATHING @ GABLE ENDS ABOVE CEILING SHALL HAVE RADIANT BARRIER PER MFG. INSTALLATION INSTRUCTIONS  
4. ALL SEALING TAPE ON HEAT/AC DUCTS SHALL BE UL181 (LISTED AND LABELED).  
5. THE WRAPS FOR DUCTS MUST BE UV RESISTANT AND HAVE 150 LBS. OF BURST STRENGTH.  
6. WINDOWS / BATHROOM NOTES  
1. ALL NEW WINDOW TO BE APPROVED DOUBLE GLAZED (WITH BEDROOM WINDOWS HAVING A MIN. 24" x 24" SQ. OPENING). REFER TO EGRESS WINDOW DIAGRAM  
2. ALL HEADERS USED OVER DOORS, WINDOW AND ANY NECESSARY OPENINGS TO BE 4 x 12 DFL 1 OR BETTER, UNLESS OTHERWISE SPECIFIED.  
3. ALL GLAZING IN OR WITHIN 36" OF DOORS, OVER 9 SQUARE FEET AND WITHIN 18" OF FLOOR AND ALL GLAZING IN SHOWERS OR BATHTUBS TO BE SAFETY GLASS.  
4. BATHROOM FINISH NOTE ... ENSURE A SMOOTH, HARD, NONABSORBENT SURFACE OVER A MOISTURE RESISTANT UNDERLAYMENT TO A HEIGHT OF 72" ABOVE THE DRAIN INLET FOR SHOWER PER CBC 1213.3  
5. WATER CLOSETS IN ALL BATHROOMS TO BE MAXIMUM 1.28 GALLONS PER FLUSH.

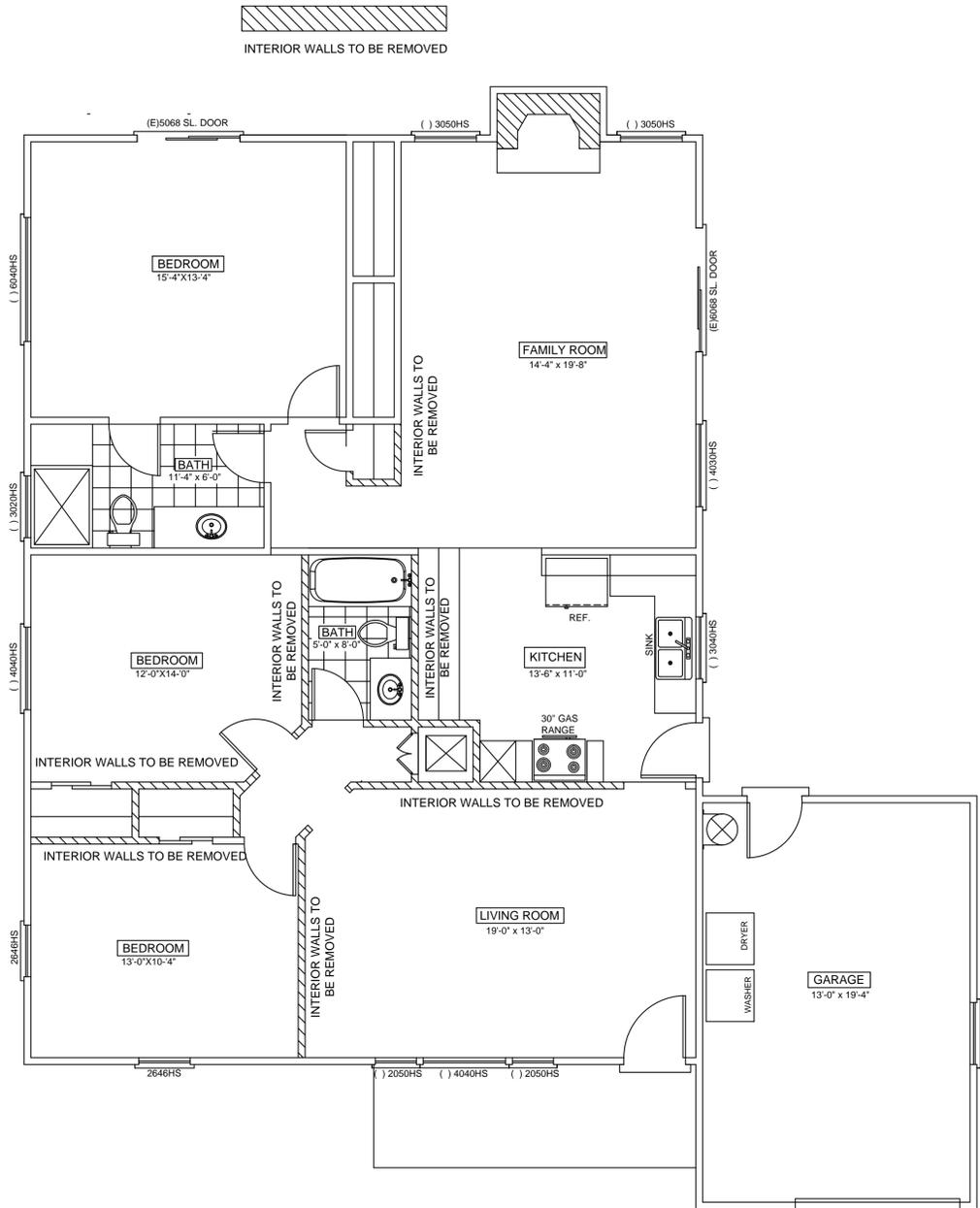
**RESIDENTIAL EGRESS WINDOWS (2019 CBC) EMERGENCY ESCAPE AND RESCUE**



Because so many fire deaths occur when occupants of residential buildings are asleep at the time of a fire, the 2019 California Building Code (CBC), Section 1029 requires that:  
 • Basements in dwelling units and  
 • Every sleeping room below the fourth story  
 Shall have at least one operable window or exterior door opening approved for emergency escape and rescue. Such openings shall open directly into a public way or to a yard or court that opens to public way.  
 The net clear operable area shall be no less than 5.7 square feet (5 square feet for grade floor openings and basement window wells).  
 In addition to the above requirement, the net clear operable height dimension shall be a minimum of 24 inches. The net clear operable width dimension shall be a minimum of 20 inches. (Note: using both minimum figures will not obtain the required 5.7 square feet.)

**SMOKE DETECTOR NOTES**

- SMOKE DETECTORS.  
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**DEMO FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

[Symbol] INTERIOR WALLS TO BE REMOVED

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**REVISIONS**

DATE:

Professional Design Consultants  
30323 Moorpark Ave. #1 San Jose, CA 95128  
(408) 294-7000



OWNER  
RAVI K VALLAMDAS  
881 KENNETH AVENUE  
CAMPBELL CA. 95008  
PHONE: (408) 807-3229

PROPOSED FRONT, REAR  
ADDITIONS AND A  
INTERIOR REMODEL  
AND GARAGE CONVERSION  
TO LIVING SPACE

DATE: 1-20-2022

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

DRAWN: BRA

JOB:

4

OF SHEETS

DATE:

Professional Design Consultants  
3033 Moorpark Ave. #1 San Jose, CA 95128  
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DRAWN: BRA

JOB:

5

ELECTRICAL/ MECHANICAL LEGEND			
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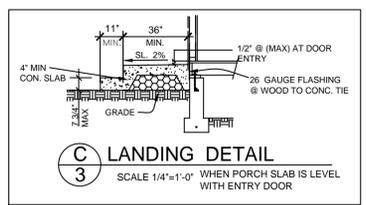
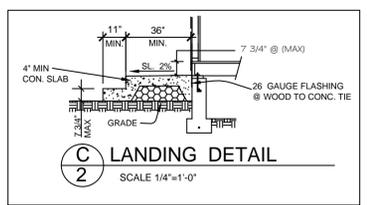
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    - WATER CLOSETS IN ALL BATHROOMS TO BE MAXIMUM 1.28 GALLONS PER FLUSH.

**SPECIAL SHOWER NOTE**

A) ... SHOWER PAN DIMENSIONS SHALL BE A MINIMUM AREA OF 1024 SQ. INCHES AND A MINIMUM FINISH DIMENSION OF 30 INCHES IN ANY DIRECTIONS.

SHOWER DOORS SHALL OPEN TO MAINTAIN NOT LESS THAN A 22" UN OBSTRUCTED OPENING FOR EGRESS.

TILE SHOWER ENCLOSURE TO BE FINISHED w/NON-ABSORBENT FINISH TO 72" ABOVE DRAIN INLET (SEE ALSO GENERAL NOTES)



**SMOKE AND CARBON MONOXIDE NOTE**

SMOKE AND CARBON MONOXIDE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT UNLESS WHERE REPAIRS OR ALTERATIONS DO NOT RESULT IN THE REMOVAL OF WALL OR CEILING FINISHES

**ADDITIONAL... BATHROOM FIXTURE / ELECT / PLUMBING, MECH AND INSULATION NOTES**

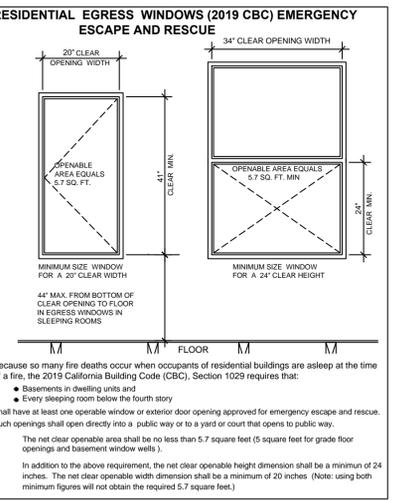
**PLUMBING**

- ALL SINK FAUCETS, SHOWER HEADS, TOILETS AND URINALS SHALL COMPLY WITH CALIFORNIA CIVIL CODE SECTION 1101.8 (KITCHEN FAUCETS SHALL NOT EXCEED 1.8 MAX PER FLUSH), LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS... SHOWER HEADS SHALL NOT EXCEED 1.8 GALLONS... AND URINALS SHALL NOT EXCEED 5 GALLONS PER FLUSH
- PER CPC SECTION 402.2.2, SINGLE FLUSH WATER CLOSETS SHALL HAVE AN EFFECTIVE FLUSH VOLUME NOT TO EXCEED 1.28 GALLONS.
- INDOOR WATER USE SHALL BE REDUCED BY AT LEAST 20% BY USING WATER SAVING FIXTURES OR FLOW RESTRICTIONS OR DEMONSTRATE A 20% REDUCTION IN BASELINE WATER PER SECTION 4.303.1
- ALL ADDITIONS ON OR AFTER JANUARY 1, 2014 SHALL REPLACE NON COMPLIANT PLUMBING FIXTURES WITH WATER CONSERVING PLUMBING FIXTURES

NON-COMPLIANT PLUMBING FIXTURES SHALL BE REPLACED WITH WATER CONSERVING PLUMBING FIXTURES PER CBC SECTION 301.1.1. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY OR FINAL PERMIT APPROVAL BY THE BUILDING DEPARTMENT

**ELECTRICAL**

- ALL BRANCH CIRCUITS THAT SUPPLY 125-VOLT, SINGLE PHASE, 15-AND 20 AMPERE RECEPTACLE OUTLETS INSTALLED IN A DWELLING UNIT LIVING, DINING AND FAMILY ROOMS, PARLORS, BEDROOMS, LIBRARIES, DEN, HALLWAYS, RECREATION ROOM, CLOSET OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TO PROVIDE PROTECTION OF THE ENTIRE BRANCH CIRCUIT. CEC ARTICLE 210.12
- ALL NEW AND REPLACED DUPLEX RECEPTABLES SHALL BE LISTED TAMPER-RESISTANT \* RECEPTACLE. 2019 CEC ART 406.12
- AT LEAST TWO 20-AMP BRANCH CIRCUITS SHALL BE PROVIDED FOR SMALL KITCHEN APPLIANCES AT THE COUNTER TOP (CEC 210.52)
- ALL RECEPTABLES IN KITCHEN AREAS TO BE GFCI TAMPER PROOF NOT TO EXCEED, 4'-0" O.C.
- ALL EXHAUSTS FANS THROUGHOUT THE RESIDENCE SHALL BE SWITCHED SEPARATELY FROM ANY LIGHTING SYSTEM
- ALL KITCHEN EXHAUST SHALL BE DUCTED TO THE EXTERIOR
- ALL RECESSED LIGHTING FIXTURES INSTALLED IN INSULATED CEILINGS SHALL BE IC (INSULATION COVER) AND AT (AIR TIGHT) RATED AND SHALL BE SEALED BETWEEN THE FIXTURE HOUSING AND THE GYP WITH A GASKET OR CALK.



**EXISTING GAS METER NOTE**

A... AN EARTHQUAKE -ACTUATED GAS SHUT OFF VALVE SHALL BE INSTALLED AT THE EXISTING GAS METER

**SMOKE DETECTOR NOTES**

**A. SMOKE DETECTORS.**

PROVIDE 1 EACH SMOKE DETECTOR IN ALL SLEEPING ROOMS AND AT A POINT CENTRALLY LOCATED IN AN AREA GIVING ACCESS TO THE SLEEPING ROOMS

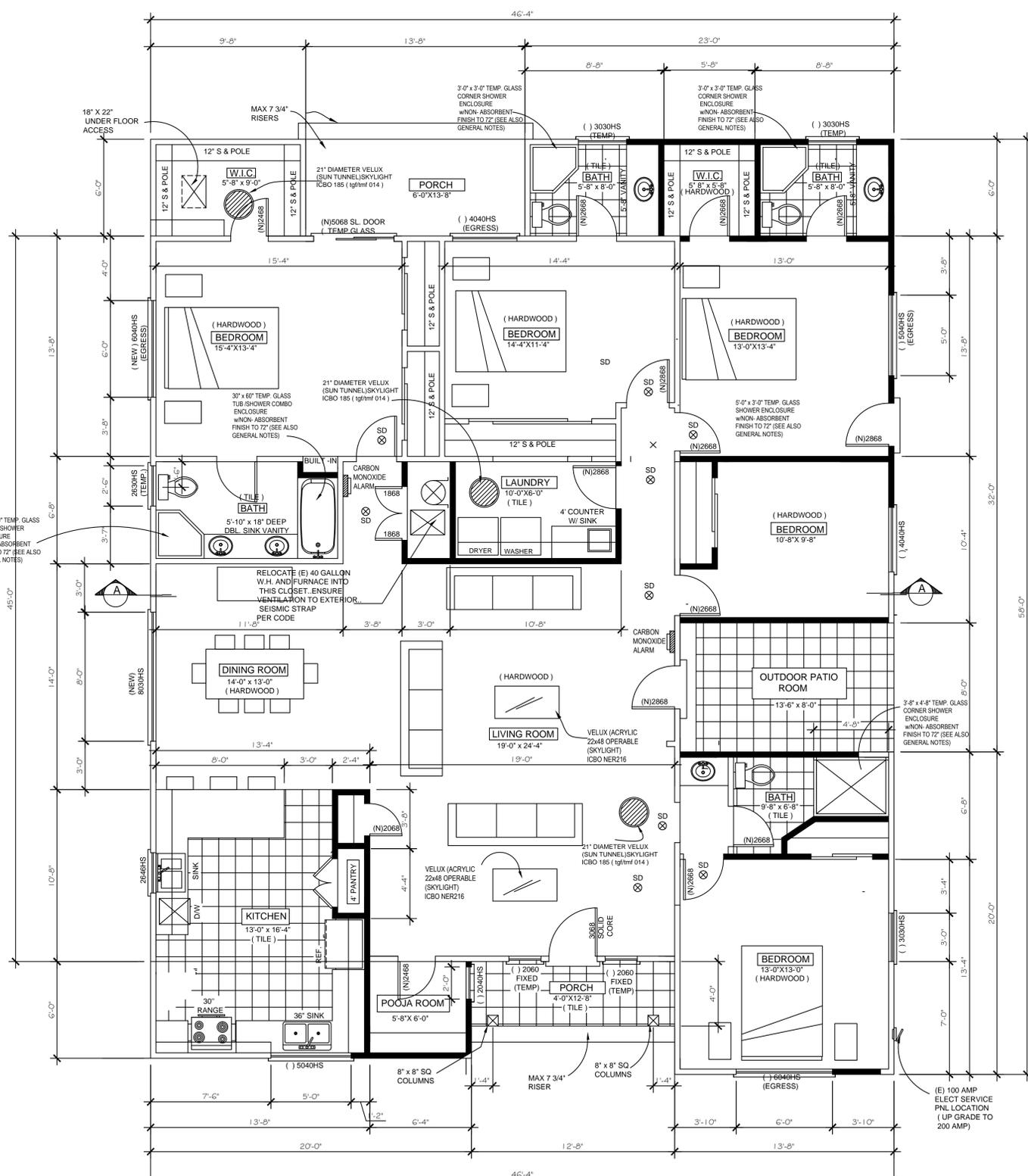
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**PROPOSED FLOOR PLAN**  
SCALE: 1/4" = 1'-0"

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PROPOSED FRONT, REAR  
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6

ELECTRICAL/ MECHANICAL LEGEND			
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	NEW WALLS		DOORBELL PUSHBUTTON
	WALLS TO BE REMOVED		COMB. EXHAUST & LIGHT FIXT
	CLOSE WALLS		ELECT. FAN
	DUPLEX RECEPTABLE OUTLET		HEAT LAMP
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	WATERPROOF WALL LIGHT FIXTURE		ELECT. METER & MAIN PANEL
	FLUORESCENT LIGHT		ELECTRICAL SUB-PANEL
	SMALL FLUORESCENT FIXTURE		RECESSED LIGHT
	SPOTLIGHT		DISPOSAL
	WALL SWITCH		CONCRETE
	THREE-WAY SWITCH		STUCCO
	FOUR-WAY SWITCH		EXISTING
	SMOKE DETECTOR		HORIZONTAL SLIDER
	TELEPHONE OUTLET		S.H. SINGLE HUNG
	TV/CABLE OUTLET		FIXED GLASS

**GENERAL NOTES**

- PLANS TO COMPLY WITH CONVENTIONAL CONSTRUCTION PROVISIONS AS STATED IN 2019 CALIFORNIA RESIDENTIAL BUILDING, MECHANICAL, PLUMBING, ELECTRICAL AND ENERGY CODES AS AMENDED BY STATE OF CALIFORNIA AND ALL CITY & MUNICIPAL CODES (PROJECT LOCATED TO SPECIFY SEISMO DESIGN CATEGORY E)
- INTERPRETATION OF DRAWINGS:** FOR ARRANGEMENT OF FLOORS, GENERAL FINISH AND MEASUREMENTS, REFERENCE MUST BE MADE TO THE DRAWINGS; SHOULD ANY DIFFERENCE APPEAR BETWEEN SCALE MEASUREMENT AND FIGURES OR BETWEEN WORDING OF SPECIFICATIONS & LETTERING ON DRAWINGS, THE SPECIFICATION SHALL IN ALL CASES TAKE PRECEDENCE. IF ANY ERROR THAT IS NOT EXPLAINED EITHER BY REFERENCE TO THE DRAWINGS, CONTRACTOR TO INFORM DRAFTSMAN DESIGNER, FOR CORRECTION BEFORE PROCEEDING WITH THE WORK (CONTRACTOR IS NOT TO SCALE DRAWINGS).
- ERRORS AND OMISSIONS:** IN THE EVENT THAT AN ACUTE ERROR OR OMISSION MAY EXIST ON THE PLAN IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO NOTIFY THE DESIGNER, DRAFTSMAN PRIOR TO THE COMMENCEMENT OF WORK. FAILURE TO DO SUCH, WILL RELIEVE DESIGNER OF RESPONSIBILITY.
- SMOKE DETECTORS:** PROVIDE 1 EACH SMOKE DETECTOR IN ALL SLEEPING ROOMS AND AT A POINT CENTRALLY LOCATED IN AN AREA GIVING ACCESS TO THE SLEEPING ROOMS.  
**A) POWER SOURCE:** IN NEW CONSTRUCTION, REQUIRED SMOKE DETECTOR SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. THE DETECTOR SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVER CURRENT PROTECTION. SMOKE DETECTORS MAY BE SOLELY BATTERY OPERATED WHEN INSTALLED IN EXISTING BUILDINGS WITHOUT COMMERCIAL POWER OR IN BUILDING WHICH UNDER GO ALTERATIONS, REPAIRS OR ADDITIONS AS REGULATED BY CBC 2019  
**B) LOCATION WITHIN DWELLING UNITS:** IN DWELLING UNITS, A DETECTOR SHALL BE INSTALLED IN EACH SLEEPING ROOM AND AT A POINT CENTRALLY LOCATED IN THE CORRIDOR OR AREA GIVING ACCESS TO EACH SEPARATE SLEEPING AREA WHEN THE DWELLING UNIT HAS MORE THAN ONE STORY AND IN DWELLINGS WITH BASEMENTS A DETECTOR SHALL BE INSTALLED ON EACH STORY AND IN THE BASEMENT IN DWELLING UNITS WHERE A STORY OR BASEMENT IS SPLIT INTO TWO OR MORE LEVELS. THE SMOKE DETECTOR SHALL BE INSTALLED IN THE UPPER LEVEL, EXCEPT THAT WHEN THE LOWER LEVEL CONTAINS A SLEEPING AREA A DETECTOR SHALL BE INSTALLED ON EACH LEVEL WHEN SLEEPING ROOMS ARE ON AN UPPER LEVEL IN CLOSE PROXIMITY TO THE STAIRWAY IN DWELLING UNITS WHERE THE CEILING HEIGHT OR A ROOM OPEN TO THE HALLWAY SERVING THE BEDROOMS EXCEEDS THAT OF THE HALLWAY BY 24 INCHES (610 MM) OR MORE. SMOKE DETECTORS SHALL BE INSTALLED IN THE HALLWAY AND IN THE ADJACENT ROOM. DETECTOR SHALL SOUND AN ALARM AUDIBLE IN ALL SLEEPING AREAS OF THE DWELLING UNIT IN WHICH THEY ARE LOCATED.  
INSULATION: CEILING ..... R-30 BATT INSULATION (NEW CONST. ONLY)  
WALLS ..... R-15 BATT INSULATION (NEW CONST. ONLY)  
FLOOR ..... R-19 FLOOR INSULATION  
ACCESS: UNDERFLOOR ..... 18" x 24" MIN. SQ. (IF WOOD FLOOR)  
CEILING ..... 22" x 30" MIN. W/30" CLEAR HEIGHT.  
WINDOW ..... APPROVED DOUBLE GLAZED  
NOTE: ALL OPENING, ALL DOORS, WINDOWS, ETC. TO BE CALKED OR FULLY WEATHER STRIPPED.
- SUPPLEMENT TO TITLE 24 FOR RESIDENTIAL ADDITIONS.**
  - ROOF SHEATHING WITH RADIANT BARRIER ON UNDERSIDE OF SHEATG SHALL BE INSTALLED.
  - ALL WINDOWS SHALL HAVE A SOLAR HEAT GAIN COEFFICIENCY OF .40 OR BETTER.
  - WALL SHEATHING @ GABLE ENDS (ABOVE CEILING) SHALL HAVE RADIANT BARRIER PER MFRG. INSTALLATION INSTRUCTIONS.
  - ALL SEALING TAPE ON HEAT/AC DUCTS SHALL BE UL181 (LISTED AND LABELED).
  - THE WRAPS (FOR DUCTS) MUST BE UV RESISTANT AND HAVE 150 LBS. OF BURST STRENGTH.
- WINDOWS / BATHROOM NOTES**
  - ALL NEW WINDOW TO BE APPROVED DOUBLE GLAZED (WITH BEDROOM WINDOWS HAVING A MIN. 24" x 24" SQ. OPENING). REFER TO EGRESS WINDOW DIAGRAM
  - ALL HEADERS USED OVER DOORS, WINDOW AND ANY NECESSARY OPENINGS TO BE 4 x 12 DFP# 1 OR BETTER, UNLESS OTHERWISE SPECIFIED.
  - ALL GLAZING IN OR WITHIN 36" OF DOORS, OVER 9 SQUARE FEET AND WITHIN 18" OF FLOOR AND ALL GLAZING IN SHOWERS OR BATHTUBS TO BE SAFETY GLASS.
  - BATHROOM FINISH NOTE: ENSURE A SMOOTH, HARD, NONABSORBENT SURFACE OVER A MOISTURE RESISTANT UNDERLAYMENT TO A HEIGHT OF 72" ABOVE THE DRAIN INLET FOR SHOWER PER CBC 1213.3
  - WATER CLOSETS IN ALL BATHROOMS TO BE MAXIMUM 1.28 GALLONS PER FLUSH.

**SPECIAL ELECTRICAL NOTES**

- THE BATHROOM OUTLET IS TO BE A DEDICATED CIRCUIT, PER SECTION 210.11(C) OF THE 2019 CEC
- THE KITCHEN COUNTERTOP OUTLETS TO HAVE A MIN OF 2 DEDICATED CIRCUITS, PER SECTION 210.52B (2) OF THE 2019 CEC
- PER SECTION 210.52(C) OF THE 2019 CEC, ELECTRICAL OUTLETS ARE REQUIRED TO BE SPACED SUCH THAT NO SECTION OF WALL IS MORE THAN 24-INCHES FROM AN OUTLET FOR KITCHEN COUNTERTOPS.
- ALL BEDROOM CIRCUITS SHALL BE LISTED COMBINATION TYPE ARC-FAULT CIRCUIT INTERRUPTERS PROTECTED AT THE PANEL. CIRCUITS INCLUDE LUMINARY CIRCUITS, HARD-WIRED SMOKE DETECTORS, AND RECEPTACLE OUTLETS. ROOMS WITHIN BEDROOMS (SUCH AS CLOSETS AND OPEN BATHROOMS/VANITIES) SHALL ALSO BE INCLUDED, PER SECTION 210.12 (B) OF 2019 CEC.
- FAN AND LIGHTS TO HAVE SEPARATE SWITCHES PER CURRENT ENERGY CODE, SECTION 150 (K) 7 (B). THIS INCLUDES FAN/LIGHT COMBO, UNLESS EXCEPTION FROM (K) 7 (B) IS USED (FAN CONTINUING FOR EXTENDED PERIOD OF TIME AFTER LIGHT IS SWITCH OFF).

**ELECTRICAL NOTES**

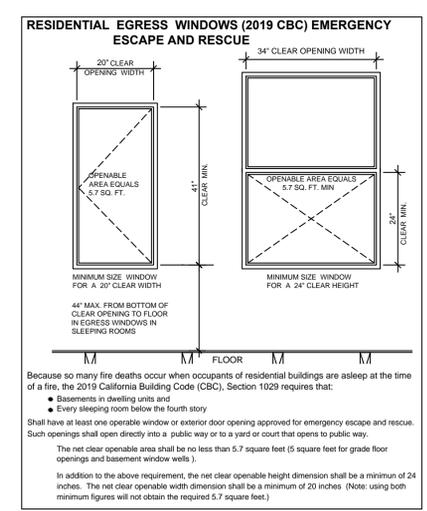
- ALL 120 - VOLT, SINGLE-PHASE, 15-AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARE-FAULT CIRCUIT INTERRUPTER. (CEC 210.12)
- ALL RECEPTACLES IN BATHROOM, GARAGES, ACCESSORY BUILDINGS, OUTDOORS, CRAWL SPACES, UNFINISHED BASEMENTS, KITCHENS (WHERE RECEPTACLES SERVE COUNTERTOP SURFACES), LAUNDRY AREA, CIRCUIT INTERRUPTER (GFCI) PROTECTION. (CEC210.8)
- IN ALL AREAS SPECIFIED IN 210.52, ALL 125-VOLT, 15- AND 20- AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. (CEC406.12)

**GENERAL INTERIOR NOTES**

- ALL LANDING AT MAIN ENTRY DOOR TO BE NOT MORE THAN 1/2" BELOW THE DOOR'S THRESHOLD PER CBC 311.3.1.
- ALL PLUMBING VENTS TO BE A MINIMUM 10 FEET AWAY FROM, OR AT LEAST 3 FEET ABOVE ANY OPERABLE SKYLIGHTS PER CPC 906.2.
- ALL BATHTUB AND SHOWER FLOORS AND WALLS TO BE FINISHED WITH A NONABSORBENT SURFACE UP TO A HEIGHT OF 6 FEET (72") ABOVE FLOOR PER CRC 307.2.
- PROVIDE EXHAUST FAN KITCHEN AREA FOR LOCAL VENTILATION INDOOR AIR QUALITY REQUIREMENTS PER 2019 CALIFORNIA ENERGY CODE SECTION 150 (d) AND ASHRAE 62.2. OTHERWISE SPECIFY KITCHEN HOOD RANGE TO BE 100 CFM MINIMUM.
- PROVIDE CARBON MONOXIDE ALARMS OUTSIDE EACH BEDROOM PER CRC 315.2.
- ENSURE AFCI PROTECTED RECEPTACLES IN LIVING ROOM PER CEC 210.12
- ALL EXTERIOR RECEPTACLES TO BE GFCI PROTECTED.
- ALL 125-VOLT, 15-AND 20-AMPERE RECEPTACLE OUTLETS SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES PER CEC 406.11.
- PROVIDE SEPARATE SWITCHES FOR ALL EXHAUST FANS IN BATHROOMS PER CALIFORNIA ENERGY CODE 150(K)(6).
- ALL NEW WINDOWS SHALL HAVE A MAXIMUM U-FACTOR OF 0.30

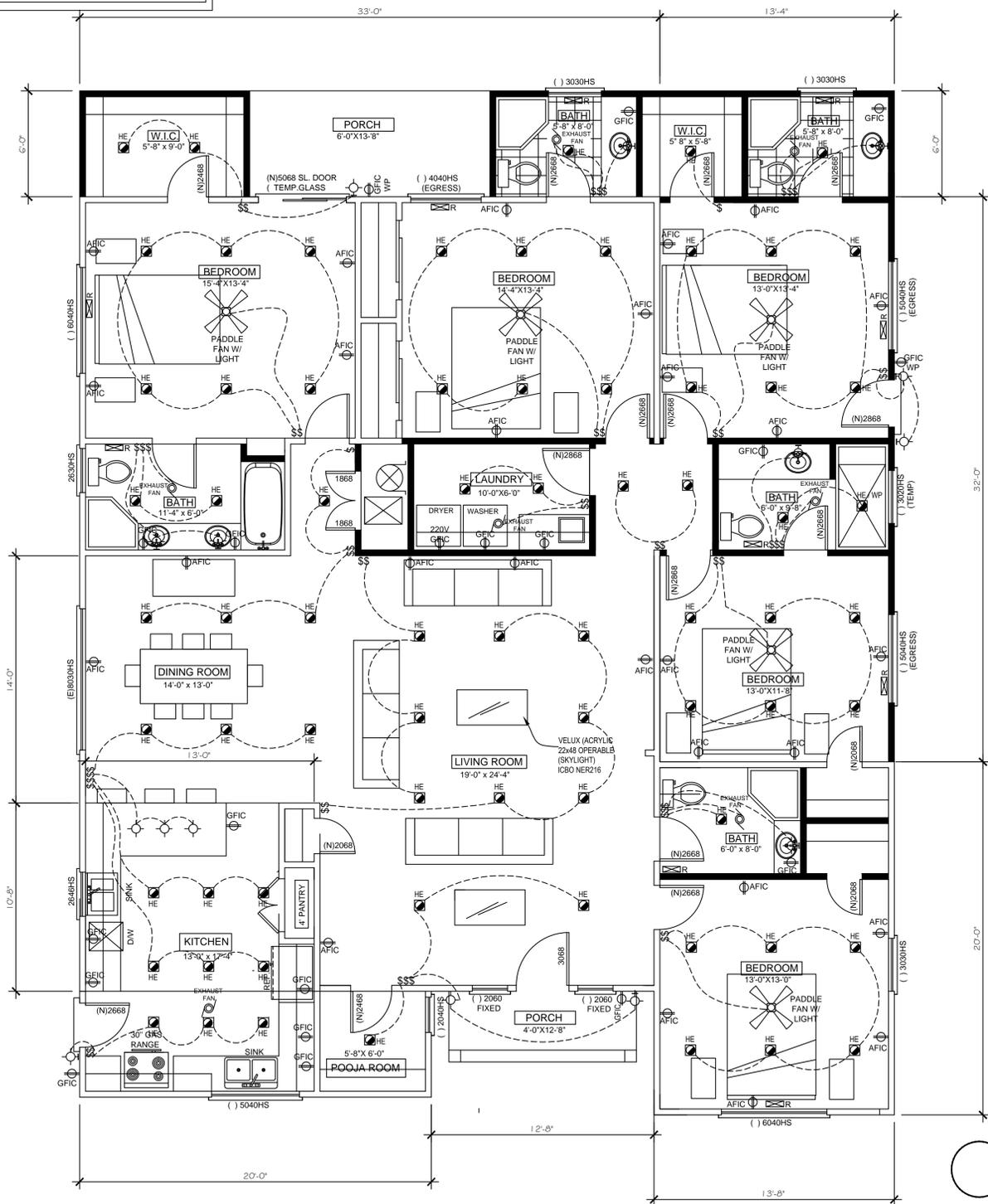
**SPECIAL ELECTRICAL NOTES**

- ALL KITCHEN EXHAUST FANS TO BE A MINIMUM 100 CFM PER 2019 CALIFORNIA ENERGY CODE 150 AND ASHRAE 62.2
- AT ALL BATHROOMS VERIFY THAT THE BATHROOM EXHAUST FANS ARE SEPARATELY FROM THE LIGHTING
- EV CHARGER PER CALGREEN SECTION 4106.4.1 AND FOR ALL NEW CONSTRUCTION, PROVIDE A LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208 / 240 VOLT BRANCH CIRCUIT AND A DEDICATED 40 AMP BRANCH CIRCUIT FOR THE EV CHARGER
- ALL BEDROOMS ON THE LOWER AND UPPER FLOORS, VERIFY RECEPTACLE OUTLETS SPACED A MAXIMUM OF 6' FROM BOTH SIDES OF THE DOOR OPENINGS (CEC 210.52(A))
- IN BATHROOMS, GARAGES, LAUNDRY ROOMS AND UTILITY ROOMS, SHOW AT LEAST ONE LUMINAIRE IN EACH OF THESE SPACES TO BE CONTROLLED BY A VACANCY SENSOR PER CA ENERGY CODE 150(K)(2)
- ALL OUTDOOR OUTLETS TO BE WEATHERPROOF AND GFCI-PROTECTED
- A DEDICATED 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY BATHROOM RECEPTACLES OUTLETS PER CEC 210.11 (C)(3)
- A DEDICATED 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY LAUNDRY RECEPTACLES OUTLETS PER CEC 210.11(C)(2)
- ALL INSTALLED LUMINAIRES SHALL BE HIGH EFFICACY (CEC 150(K)(1))
  - ALL OUTDOOR LIGHTING TO BE HIGH EFFICACY AND CONTROLLED BY MOTION SENSORS AND PHOTOCONTROL OR OTHER APPROVED PER CEC 150(K)(3)
- BATHROOMS SHALL BE MECHANICALLY VENTILATED WITH AN ENERGY STAR EXHAUST FAN, AND MUST BE CONTROLLED BY A HUMIDITY CONTROL (CALGREEN 4.53B.1)
- THE EXHAUST FAN PROVIDING WHOLE HOUSE VENTILATION PER THE WHOLE HOUSE VENTILATION NOTE
- THE LIGHTING AT THE INTERIOR STAIRWAY TO BE CONTROLLED BY A 3-WAY SWITCH TO CONTROL THE LIGHTING AT THE UPPER AND LOWER FLOORS.



**SPECIAL TITLE - 24 NOTES**

- ALL LIGHTING TO BE HIGH EFFICACY AND MEET THE REQUIREMENTS OF SECTION 150.0(K) AND JOINT APPENDIX JAB.
- ALL LUMINAIRES THAT ARE INSTALLED WITH JAB-CERTIFIED LIGHT SOURCES NEED TO BE CONTROLLED BY A DIMMER OR VACANCY SENSOR. THIS IS NOT REQUIRED FOR LIGHTING IN CLOSETS LESS THAN 70 SQ FT OR IN HALLWAYS.
- ALL OUTDOOR LIGHTING TO BE HIGH EFFICACY AND CONTROLLED BY ONE OF THE FOLLOWING COMBINATIONS:
  - PHOTOCELL AND MOTION SENSOR
  - PHOTOCELL AND TIME SWITCH
  - ASTRONOMICAL TIME CLOCK
  - EMCS WITH FEATURES OF ASTRONOMICAL TIME CLOCK.
- LUMINAIRES RECESSED IN INSULATED CEILINGS SHALL COMPLY WITH THE FOLLOWING:
  - SHALL BE ZERO CLEARANCE IC LISTED AND CERTIFIED AIR TIGHT.
  - BE SEALED WITH GASKET OR CALK BETWEEN LUMINAIRE HOUSING AND CEILING AND AT ALL AIR LEAK
  - SHALL NOT CONTAIN SCREW BASE SOCKETS



**ELECTRICAL PLAN**  
SCALE: 1/4" = 1'-0"

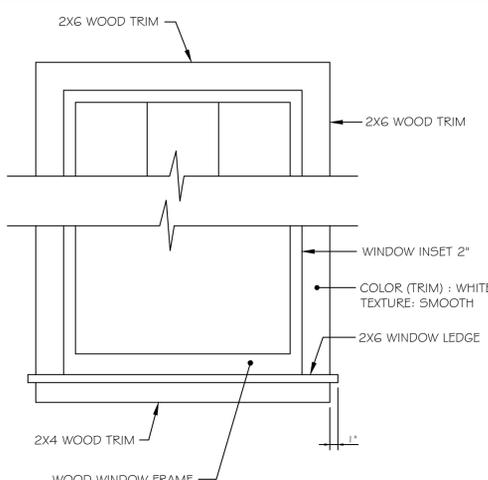




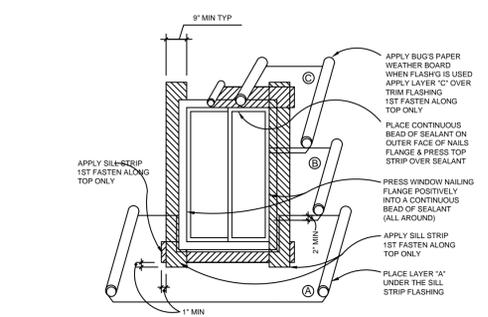


2019 CRC TABLE ( R802.5.2) - NAILING SCHEDULE

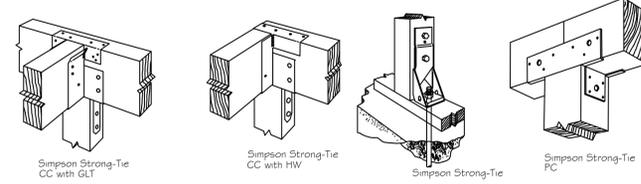
No.	CONNECTION	FASTENING #/m	NAILING
1.	Joist to sill or girder	3-8d common (2 1/2" x 0.131") 3-7" x 0.131" nails 3-3" 14 gage staples	toenail
2.	Bridging to joist	3-8d common (2 1/2" x 0.131") 3-7" x 0.131" nails 2-3" 14 gage staples	toenail each end
3.	1" x 6" (25 mm x 152 mm) subfloor or less to each joist	2-8d common (2 1/2" x 0.131") 2-3" 14 gage staples	face nail
4.	Wider than 1" x 6" (25 mm x 152 mm) subfloor to each joist	3-8d common (2 1/2" x 0.131")	face nail
5.	2" (51 mm) subfloor to joist or girder	2-16d common (3 1/2" x 0.162") 2-14 gage staples at 12" o.c.	blind and face nail
6.	Sole plate to joist or blocking	3" x 0.131" nails at 8" o.c. 3" x 0.131" nails at 16" o.c. 3-16d (3 1/2" x 0.162") at 16" 4-3" x 0.131" nails at 16" 4-3" 14 gage staples per 16"	typical face nail
7.	Sole plate to joist or blocking at braced wall panels	3-16d (3 1/2" x 0.162") 3-3" x 0.131" nails	braced wall panels
8.	Top plate to stud	2-16d common (3 1/2" x 0.162") 3-3" x 0.131" nails	end nail
9.	Stud to sole plate	4-8d common (2 1/2" x 0.131") 3-3" 14 gage staples 2-16d common (3 1/2" x 0.162") 3-3" x 0.131" nails	end nail
10.	Double studs	2-16d (3 1/2" x 0.162") 2-3" x 0.131" nails	face nail
11.	Double top plates	16d (3 1/2" x 0.162") at 16" o.c. 3" x 0.131" nail at 12" o.c. 2-14 gage staples at 12" o.c.	typical face nail
12.	Double top plates	8-16d common (3 1/2" x 0.162") 12-3" 14 gage staples	lap splice
13.	Blocking between joists or rafters to top plate	3-3" x 0.131" nails 3-3" 14 gage staples	toenail
14.	Trim joist to top plate	3-3" x 0.131" nails at 8" o.c. 2-14 gage staples at 8" o.c.	toenail
15.	Top plates, laps and intersections	3-3" x 0.131" nails 3-3" 14 gage staples	face nail
16.	Continuous header, two pieces	16d common (3 1/2" x 0.162") 2-3" x 0.131" nails	16" o.c. along edge
17.	Coaling joist to plate	2-8d common (2 1/2" x 0.131") 2-3" 14 gage staples	toenail
18.	Continuous header to stud, toenail	4-8d common (2 1/2" x 0.131") 3-16d common (3 1/2" x 0.162") minimum Table 2308.10.4.1 4-3" x 0.131" nails	toenail
19.	Coaling joist, laps over partitions	3-16d common (3 1/2" x 0.162") 4-3" x 0.131" nails	face nail
20.	Coaling joist, to parallel rafters	3-16d common (3 1/2" x 0.162") minimum Table 2308.10.4.1 4-3" x 0.131" nails	face nail
21.	Rafter to plate	4-3" x 0.131" nails at 8" o.c. 2-14 gage staples	toenail
22.	1" diagonal brace to each stud and plate	2-8d common (2 1/2" x 0.131") 2-3" 14 gage staples	face nail
23.	1" x 6" (25 mm x 152 mm) sheathing to each bearing	3-8d common (2 1/2" x 0.131")	face nail
24.	Wider than 1" x 6" sheathing to each bearing	3-8d common (2 1/2" x 0.131")	face nail
25.	Built-up corner studs	16d common (3 1/2" x 0.162") 2-3" x 0.131" nails	2" o.c.
26.	Built-up girder and beams	20d common (4" x 0.192") 32" o.c. 3" x 0.131" nails at 24" o.c. 3" 14 gage staples at 24" o.c. 2-20d common (4" x 0.192") 3" x 0.131" nails at 24" o.c. 3-3" 14 gage staples	face nail at top and bottom staggered on opposite sides face nail at ends and at each splice
27.	2" (51 mm) planks	2-16d at each bearing	
28.	Wood structural panels and panels and particleboard subfloor and wall sheathing (to framing): 1/2" (12.7 mm) and less 19/32" 3/4" (15 mm - 19 mm) 7/8" 1" (22 mm - 25 mm) 1 1/8" - 1 1/4" (29 mm - 32 mm) Combination subfloor-underlayment (to framing): 3/4" (19 mm) and less 1 1/8" - 1 1/4" (29 mm - 32 mm)	6d 8d or 6d 8d 10d or 8d 6d 10 or 8d	
29.	Panel siding (to framing) 1/2" (12.7 mm) or less 5/8" (16 mm)	No. 11 ga. 6d No. 16 ga. No. 11 ga. 6d No. 16 ga.	
30.	Fiberboard sheathing: 1/2" (12.7 mm)	6d 8d	
31.	Interior paneling 1/4" (6.4 mm) 3/8" (9.5 mm)	4d 6d	



**G WINDOW TRIM DETAIL**



**W TYP. WINDOW, DOOR, VENT, LASHING**  
NOT TO SCALE



**EXTERIOR PLASTER AND STUCCO NOTES**

A) WEATHER RESISTIVE BARRIERS SHALL BE INSTALLED AS REQUIRED IN SECTION R703.2 AND, PERMEABLE BARRIER WITH A PERFORMANCE AT LEAST EQUIVALENT TO TWO LAYERS OF GRADE D PAPER (R703.7.3)

B) PLASTERING WITH PORTLAND CEMENT PLASTER SHALL BE NOT LESS THAN TWO COATS WHEN APPLIED OVER MASONRY, CONCRETE, PRESSURE-PRESERVATIVE TREATED WOOD OR DECAY-RESISTANT WOOD AS SPECIFIED IN SECTION R317.1 OR GYPSUM BACKING (R703.7.2)

C) A MINIMUM 26 GA. GALVANIZED CORROSION-RESISTANT WEEP SCREED WITH: (R703.7.2.1)

1. A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3-1/2 INCHES PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE AT ALL EXTERIOR WALLS
2. THE SCREED SHALL BE PLACED A MINIMUM OF 4 INCHES ABOVE PAVED AREA.

**EXTERIOR PLASTER AND STUCCO NOTES**

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**SPECIAL TITLE -24 NOTES**

1. ALL LIGHTING TO BE HIGH EFFICACY AND MEET THE REQUIREMENTS OF SECTION 150.0(K) AND JOINT APPENDIX JAB.
2. ALL LUMINAIRES THAT ARE INSTALLED WITH JAB-CERTIFIED LIGHT SOURCES NEED TO BE CONTROLLED BY A DIMMER OR VACANCY SENSOR. THIS IS NOT REQUIRED FOR LIGHTING IN CLOSETS LESS THAN 70 SQ FT OR IN HALLWAYS.
3. ALL OUTDOOR LIGHTING TO BE HIGH EFFICACY AND CONTROLLED BY ONE OF THE FOLLOWING COMBINATIONS:
  - A. PHOTOCELL AND MOTION SENSOR
  - B. PHOTOCELL AND TIME SWITCH
  - C. ASTRONOMICAL TIME CLOCK
  - D. EMCS WITH FEATURES OF ASTRONOMICAL TIME CLOCK
4. LUMINAIRES RECESSED IN INSULATED CEILINGS SHALL COMPLY WITH THE FOLLOWING:
  - A. SHALL BE ZERO CLEARANCE IC LISTED AND CERTIFIED AIR TIGHT.
  - B. BE SEALED WITH GASKET OR CAULK BETWEEN LUMINAIRE HOUSING AND CEILING AND AT ALL AIR LEAK
  - C. SHALL NOT CONTAIN SCREW BASE SOCKETS

**NATURAL LIGHT AND VENTILATION NOTES**

A) NATURAL VENTILATION OF AN OCCUPIED SPACE SHALL BE THROUGH WINDOWS, DOORS, LOUVERS OR OTHER OPENINGS TO THE OUTDOORS WITH THE MINIMUM OPEN-ABLE AREA BEING 4% OF THE FLOOR AREA BEING VENTILATED SEE EXCEPTIONS FOR MECHANICAL VENTILATION (R303.1)

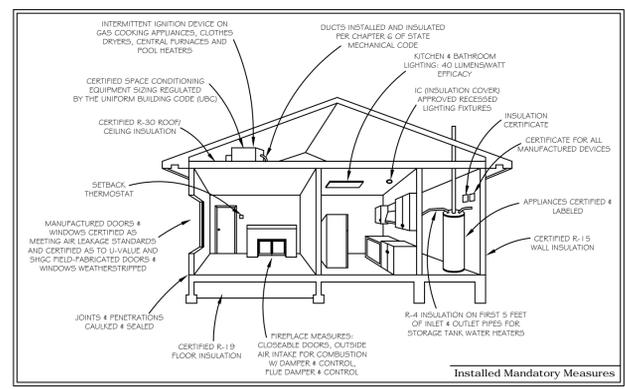
B) EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS WITH AN AREA OF NOT LESS THAN 8% OF THE FLOOR AREA OF THE ROOM SERVED. (R303.1)

**ELECTRICAL NOTES**

- 1) ALL 120-VOLT, SINGLE-PHASE, 15-AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLINGS UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DEN, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER. (CEC 210.12)
- 2) ALL RECEPTACLES IN BATHROOM, GARAGES, ACCESSORY BUILDINGS, OUTDOORS, CRAWL SPACES, UNFINISHED BASEMENTS, KITCHENS (WHERE RECEPTACLES SERVE COUNTER TOP SURFACES), LAUNDRY AREA, CIRCUIT INTERRUPTER (GFCI) PROTECTION. (CEC 210.8)
- 3) IN ALL AREAS SPECIFIED IN 210.52, ALL 125-VOLT, 15- AND 20-AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES. (CEC 406.12)

**SPECIAL ELECTRICAL NOTES**

- 1) ... ALL KITCHEN EXHAUST FANS TO BE A MINIMUM 100 CFM PER 2016 CALIFORNIA ENERGY CODE 150 AND ASHRAE 62.2
- 2) ... AT ALL BATHROOMS VERIFY THAT THE BATHROOM EXHAUST FANS ARE SEPARATELY FROM THE LIGHTING
- 3) ... EV CHARGER PER CALGREEN SECTION 4106.4.1 AND FOR ALL NEW CONSTRUCTION PROVIDE A LISTED RACEWAY TO ACCOMMODATE A DEDICATED 208/240 VOLT BRANCH CIRCUIT AND A DEDICATED 40 AMP BRANCH CIRCUIT FOR THE EV CHARGER
- 4) ... ALL BEDROOMS ON THE LOWER AND UPPER FLOORS VERIFY RECEPTACLE OUTLETS SPACED A MAXIMUM OF 6' FROM BOTH SIDES OF THE DOOR OPENINGS (CEC 210.52 (A)).
- 5) ... IN BATHROOMS, GARAGES, LAUNDRY ROOMS AND UTILITY ROOMS, SHOW AT LEAST ONE LUMINAIRE IN EACH OF THESE SPACES TO BE CONTROLLED BY A VACANCY SENSOR PER CA ENERGY CODE 150.0(K)(2).
- 6) ... ALL OUTDOOR OUTLETS TO BE WEATHERPROOF AND GFCI-PROTECTED
- 7) ... A DEDICATED 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY BATHROOM RECEPTABLES OUTLETS PER CEC 210.11 (C)(3).
- 8) ... A DEDICATED 20 AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY LAUNDRY RECEPTABLES OUTLETS PER CEC 210.11(C)(2).
- 9) ... ALL INSTALLED LUMINAIRES SHALL BE HIGH-EFFICACY (CEC 150.0)(1).
  - A. ALL OUTDOOR LIGHTING TO BE HIGH EFFICACY AND CONTROLLED BY MOTION SENSORS AND PHOTOCONTROL OR OTHER APPROVED PER CEC 150.0(K)(3).
- 10) ... BATHROOMS SHALL BE MECHANICALLY VENTILATED WITH AN ENERGY STAR EXHAUST FAN, AND MUST BE CONTROLLED BY A HUMIDITY CONTROL. (CALGREEN 4.106.1).
- 11) ... THE EXHAUST FAN PROVIDING WHOLE HOUSE VENTILATION PER THE WHOLE HOUSE VENTILATION NOTE
- 12) ... THE LIGHTING AT THE INTERIOR STAIRWAY TO BE CONTROLLED BY A 3-WAY SWITCH TO CONTROL THE LIGHTING AT THE UPPER AND LOWER FLOORS.

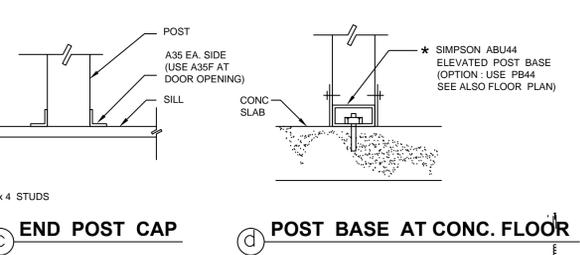
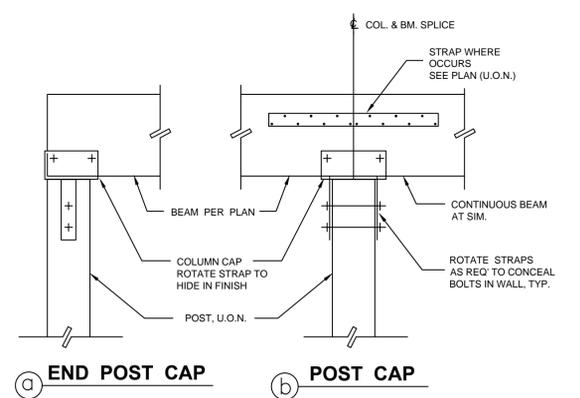


**EXHAUST FAN NOTE**

ALL EXHAUST FANS TO BE ENERGY STAR COMPLIANT AND TERMINATE OUTSIDE THE BUILDING AND BE CONTROLLED BY HUMIDITY CONTROL, CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE 50 TO 80 PERCENT

**SPECIAL EXTERIOR NOTE**

3 COATS STUCCO SHALL BE 7/8" THICK WITHIN THREE COATS APPLIED OVER APPROVED WIRE LATH AND TWO LAYERS OF GRADE "D" BUILDING PAPER. PROVIDE 26 GA. GALVANIZED WEEP SCREED W/ ATTACHED FLANGE OF 3-1/2" PROVIDED WITH A MIN OF 4" ABOVE GRADE OR 2" ABOVE CONC. SLAB

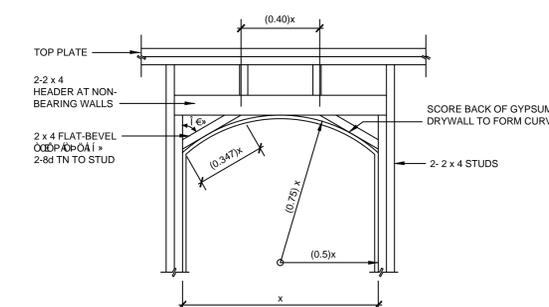
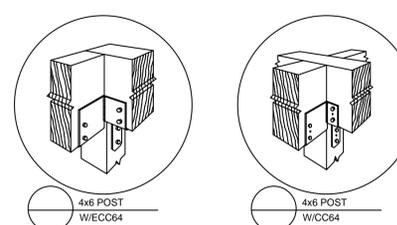


**M POST AND BEAM CONNECTIONS**

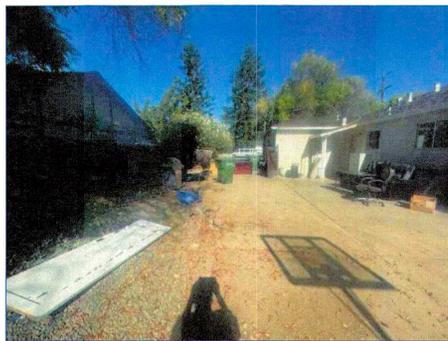
**SPECIAL SHOWER NOTE**

A) ... SHOWER PAN DIMENSIONS SHALL BE A MINIMUM AREA OF 1024 SQ. INCHES AND A MINIMUM FINISH DIMENSION OF 30 INCHES IN ANY DIRECTIONS.

SHOWER DOORS SHALL OPEN TO MAINTAIN NOT LESS THAN A 22" UN OBSTRUCTED OPENING FOR EGRESS.



**FRAMING FOR CURVED OPENING ELYPTICAL ARCH**



**SIDE VIEW OF VALLAMDAS RESIDENCE "D"**



**FRONT VIEW OF VALLAMDAS RESIDENCE "C"**



**FRONT VIEW OF VALLAMDAS RESIDENCE SHOWING FRONT LANDSCAPING**



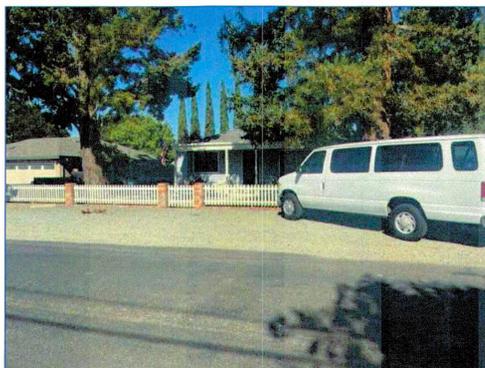
**PHOTO OF NEIGHBOR'S HOUSE ACROSS THE STREET**



**COLOR PHOTO OF NEIGHBOR'S RESIDENCE TO THE LEFT**



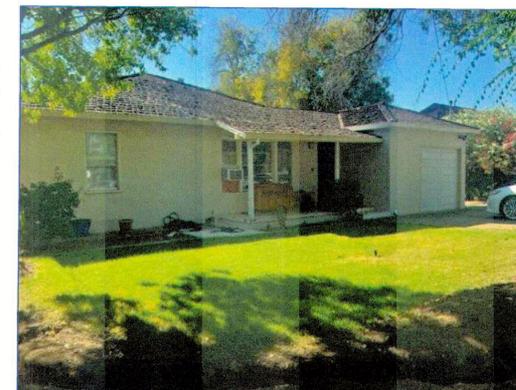
**FRONT VIEW OF VALLAMDAS RESIDENCE "A"**



**PHOTO OF NEIGHBOR'S HOUSE ACROSS THE STREET**



**SIDE VIEW OF VALLAMDAS RESIDENCE "C"**



**FRONT VIEW OF VALLAMDAS RESIDENCE "B"**



**GENERAL EXTERIOR NOTES**

- ASPHALT SHINGLES SHALL BE INSTALLED OVER ONE LAYER OF 15 POUND FELT ON ROOFS WITH A MIN SLOPE OF 3:12. ASPHALT SHINGLES MAY BE INSTALLED ON ROOFS WITH A MIN SLOPE OF 2:12 PROVIDED THE SHINGLES ARE APPROVED SELF SEALING OR ARE HAND SEALED AND THE UNDER LAYMENT SHALL CONSIST OF 2 LAYERS OF 15 POUND FELT INSTALLED SHINGLE FASHION. MAX LAYERS ON A SHINGLE ROOF SHALL NOT EXCEED 3.
- ALL PLUMBING VENTS TO BE A MINIMUM 10 FEET AWAY FROM, OR AT LEAST 3 FEET ABOVE ANY OPERABLE SKYLIGHTS PER CPC 906.2.
- SITE ADDRESS NUMBERS... BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS, BUILDING NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FROM THE STREET OR OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS OR ALPHABETICAL LETTERS, NUMBERS SHALL BE A MINIMUM OF 4" (102 MM) HIGH WITH A MINIMUM STROKE WIDTH OF 1/2" INCH (12.7 MM). WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING ADDRESS CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT POLE OR OTHER SIGN MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE.

**EXTERIOR WEATHER PROTECTION NOTES**

- STUCCO OR SHEATING OF ALL EXTERIOR WALLS SHALL BE WEATHER PROTECTED WITH 15 POUND ASPHALT SATURATED FELT OR OTHER APPROVED WATERPROOF PAPER. SUCH PAPER SHALL BE APPLIED IN WEATHER BOARD FASHION, LAPPED NOT LESS THAN 2" AT HORIZONTAL JOINTS AND NOT LESS THAN 6" AT VERTICAL JOINTS.
- WHERE STUCCO IS APPLIED OVER EXTERIOR SHEATING THERE SHALL BE TWO LAYERS OF GRADE 'D' BUILDING PAPER. BUILDING PAPER MAY BE OMITTED IN THE FOLLOWING: ...
  - A)...WHERE THERE IS NO HUMAN OCCUPANCY
  - B)...WHERE EXTERIOR COVERING IS OF APPROVED W.P. MATERIAL OVER WATER REPELLENT SHEATING
  - C)...WHERE EXTERIOR COVERING IS F APPROVED W.P. PANELS
- STUCCO SHALL BE 7/8" THICK AND THREE COATS APPLIED OVER APPROVED WIRE LATH AND TWO LAYERS OF GRADE D BUILDING PAPER. PROVIDE WEEP CREED
- SIDING SHALL BE APPLIED OVER ONE LAYER OF GRADE D BUILDING PAPER
- PROVIDE A SPARK ARRESTOR FOR ANY NEW OR EXISTING CHIMNEY

**GENERAL NOTES**

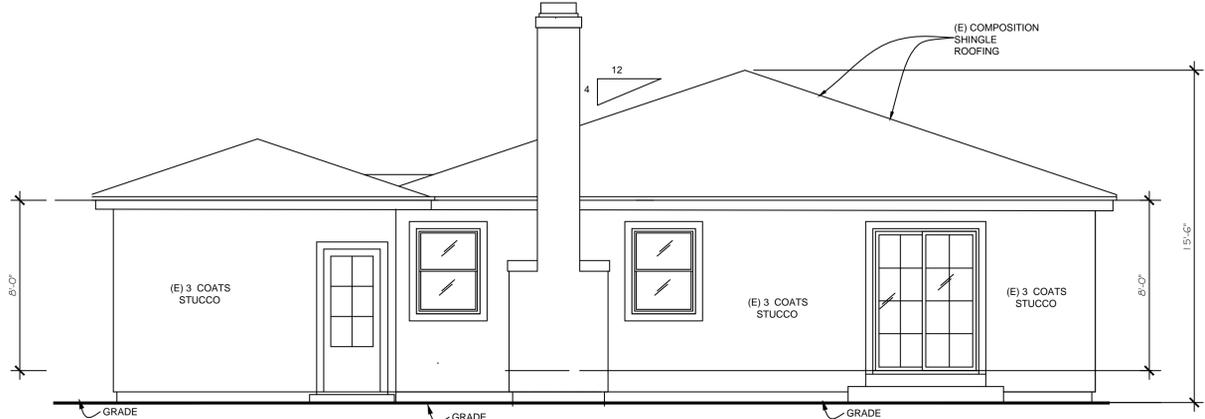
- PLANS TO COMPLY WITH CONVENTIONAL CONSTRUCTION PROVISIONS AS STATED IN 2019 CALIFORNIA RESIDENTIAL, BUILDING, MECHANICAL, PLUMBING, ELECTRICAL AND ENERGY CODES AS AMENDED BY STATE OF CALIFORNIA AND ALL CITY & MUNICIPAL CODES (PROJECT LOCATED TO SPECIFY SEISMIC DESIGN CATEGORY E.)
- INTERPRETATION OF DRAWINGS FOR ARRANGEMENT OF FLOORS, GENERAL FINISH, AND MEASUREMENTS, REFERENCE SHALL BE MADE TO THE DRAWINGS, SHOULD ANY DIFFERENCE APPEAR BETWEEN SCALE MEASUREMENT AND FIGURES OR BETWEEN WORDING OF SPECIFICATIONS & LETTERING ON DRAWINGS, THE SPECIFICATION SHALL IN ALL CASES TAKE PRECEDENCE. IF ANY ERROR THAT IS NOT EXPLAINED EITHER BY REFERENCE TO THE DRAWINGS, CONTRACTOR TO INFORM DRAFTSMAN DESIGNER, FOR CORRECTION BEFORE PROCEEDING WITH THE WORK (CONTRACTOR IS NOT TO SCALE DRAWINGS).
- ERRORS AND OMISSIONS. IN THE EVENT THAT AN ACUTE ERROR OR OMISSION MAY EXIST ON THE PLAN IT SHALL BE THE RESPONSIBILITY OF THE OWNER OR CONTRACTOR TO NOTIFY THE DESIGNER, DRAFTSMAN PRIOR TO THE COMMENCEMENT OF WORK. FAILURE TO DO SUCH, WILL RELIEVE DESIGNER OF RESPONSIBILITY.
- SITE PLAN LAYOUT: IN THE EVENT THERE MAY BE DISCREPANCIES BETWEEN THE DIMENSIONS ON THE SITE PLAN AND THE ACTUAL DIMENSIONS OF THE LOT AND ITS SETBACKS, IT WILL BE THE OWNER'S RESPONSIBILITY TO PROVIDE A LEGAL SURVEY TO CONFIRM THE ACCURACY OF THE PROPERTY SIZE AND LAYOUT. ALL SITE PLANS, AS DRAWN ARE FOR REFERENCE AND SHOULD NOT BE LOOKED UPON AS AN OFFICIAL DOCUMENT.

**EXTERIOR BUILDING NOTES**

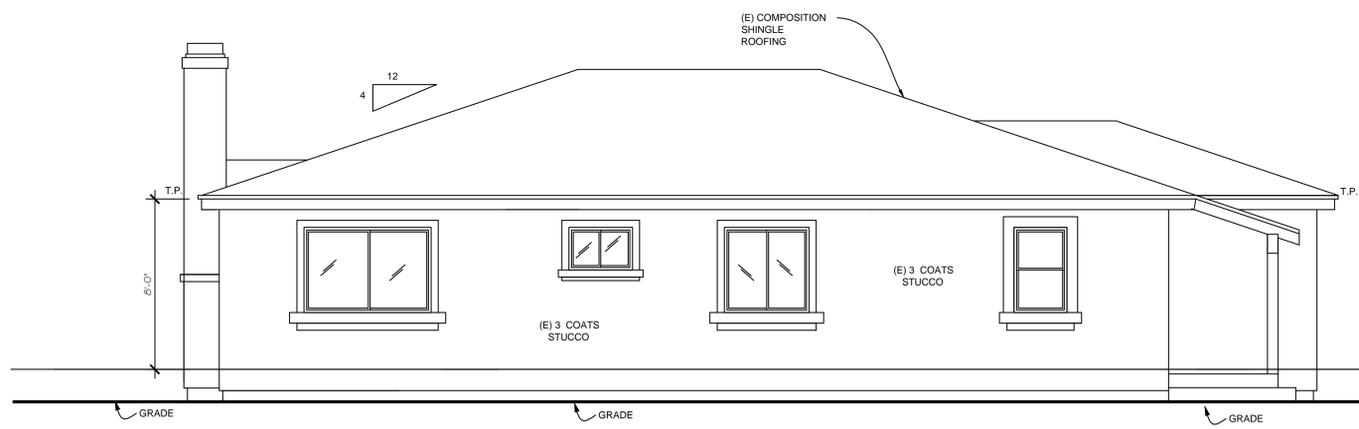
- CLEARANCE BETWEEN WOOD SIDING, FRAMING MEMBERS, INCLUDING SHEATHING, AND EARTH ON THE EXTERIOR OF A BUILDING SHALL NOT BE LESS THAN 6" OR LESS THAN 2" MEASURED VERTICALLY FROM
- WHERE ROOF GUTTERS ARE INSTALLED, THE DOWN SPOUTS SHALL BE PROPERLY TERMINATED WITH A SPLASH BLOCK AND SHALL CARRY WATER AWAY FROM THE FOUNDATIONS PER CITY ORDINANCE, ORDINANCE, CLARIFY IF THERE ARE NEW GUTTERS AT NEW ADDITION



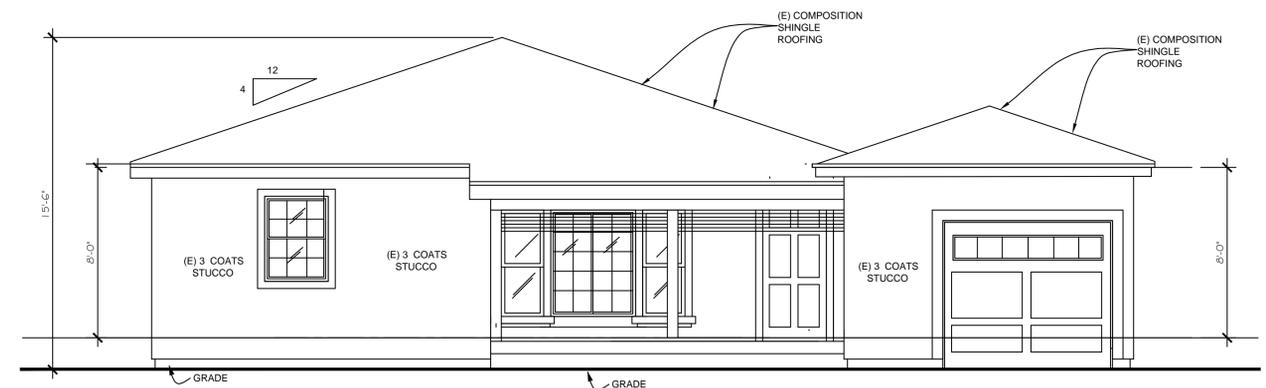
**RIGHT SIDE ELEVATION (NORTH)**  
SCALE: 1/4" = 1'-0"  
(EXISTING)



**REAR ELEVATION (WEST)**  
SCALE: 1/4" = 1'-0"  
(EXISTING)



**LEFT SIDE ELEVATION (SOUTH)**  
SCALE: 1/4" = 1'-0"  
(EXISTING)



**FRONT ELEVATION (EAST)**  
SCALE: 1/4" = 1'-0"  
(EXISTING)

REVISIONS

DATE:

Professional Design Consultants  
3033 Montpark Ave. #1 San Jose, CA 95128  
(408) 254-7060



OWNER  
RAVI K VALLAMDAS  
881 KENNETH AVENUE  
CAMPBELL CA. 95008  
PHONE: (408) 807-3229

PROPOSED FRONT, REAR  
ADDITIONS AND A  
INTERIOR REMODEL  
AND GARAGE CONVERSION  
TO LIVING SPACE

DATE: 1-20-2022

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

DRAWN: BRA

JOB:

**CERTIFICATE OF COMPLIANCE**  
 Project Name: Vallambas Addition  
 Calculation Date/Time: 2022-02-05T06:43:46-08:00  
 Calculation Description: Title 24 Analysis  
 Input File Name: Vallambas Addition 82 ID 6739.rbd35x  
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01	02	03	04	05	06	07	08	09	10	11	12	13	14
01	Project Name	Vallambas Addition											
02	Run Title	Title 24 Analysis											
03	Project Location	881 Kenneth Ave											
04	City	Campbell											
05	Standards Version	2019											
06	Zip code	95008											
07	Software Version	EnergyPro 8.2											
08	Climate Zone	7											
09	Front Orientation (deg)	90											
10	Building Type	Single Family											
11	Number of Dwelling Units	1											
12	Project Scope	Addition/Alteration											
13	Number of Bedrooms	5											
14	Addition Cond. Floor Area (ft²)	1538											
15	Number of Stories	1											
16	Existing Cond. Floor Area (ft²)	1532											
17	Penetration Average U-factor	0.3											
18	Total Cond. Floor Area (ft²)	3070											
19	Glazing Percentage (%)	11.39%											
20	ADU Bedroom Count	n/a											
21	ADU Conditional Floor Area	n/a											
22	Is Natural Gas Available?	Yes											

**COMPLIANCE RESULTS**

01 Building Complies with Computer Performance

02 This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.

03 This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	33.21	25.06	-23.6%	25.06
Space Cooling	23.66	20.97	-11.8%	20.97
IAQ Ventilation	2.85	2.85	0.0%	2.85
Water Heating	16.09	16.09	0.0%	16.09
Net Embodied/Embodied Credit	n/a	0	0.0%	0
Compliance Energy Total	75.81	74.97	-1.1%	74.97

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**REQUIRED SPECIAL FEATURES**

The following are features that must be installed as a condition for meeting the modeled energy performance for this computer analysis.

01 Dead in case name

**HERS FEATURE SUMMARY**

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

**Building Level Verifications:**

- 01 Quality insulation installation (QI)
- 02 Indoor air quality verifications
- 03 Emission range hood
- 04 Verified Existing Conditions
- 05 Cooling System Verifications
- 06 Venting System Verifications
- 07 HVAC Distribution System Verifications
- 08 Duct Leakage Testing
- 09 Domestic Hot Water System Verifications
- 10 None

**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 Stories	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Vallambas Addition	2550	1	5	2	0	1

**ZONE INFORMATION**

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
1st Floor Zone Existing	Conditioned	Res HVAC1	1532	8	DHW Sys 1	N/A
1st Floor Zone Addition	Conditioned	Res HVAC1	1038	8	DHW Sys 1	N/A

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**OPaque SURFACES**

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Admth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	TR (deg)	Wall Exceptions	Status	Verified Existing Condition			
Front Wall	1st Floor Zone Existing	Default Wall Prior to 1971	90	Front	101	44	90	none	Existing	No			
Left Wall	1st Floor Zone Existing	Default Wall Prior to 1971	180	Left	360	65.5	90	none	Existing	No			
Back Wall	1st Floor Zone Existing	Default Wall Prior to 1971	270	Back	109	49	90	none	Existing	No			
Front Wall 2	1st Floor Zone Addition	R-15 Wall	90	Front	109	24	90	Ex. w/ Siding	New	n/a			
Left Wall 2	1st Floor Zone Addition	R-15 Wall	180	Left	56	0	90	Ex. w/ Siding	New	n/a			
Back Wall 2	1st Floor Zone Addition	R-15 Wall	270	Back	26	18	90	none	New	n/a			
Right Wall 2	1st Floor Zone Addition	R-15 Wall	0	Right	66	73	90	Extension	New	n/a			
Front Wall 3	1st Floor Zone Addition	R-15 Wall	90	Front	160	24	90	none	New	n/a			
Left Wall 3	1st Floor Zone Addition	R-15 Wall	180	Left	104	18	90	Extension	New	n/a			
Back Wall 3	1st Floor Zone Addition	R-15 Wall	270	Back	48	0	90	none	New	n/a			
Right Wall 3	1st Floor Zone Addition	R-15 Wall	0	Right	104	8	90	none	New	n/a			
Interior Surface	1st Floor Zone Existing+1st Floor Zone Addition	R-0 Wall	n/a	n/a	360	0	n/a	None	n/a	n/a			
Interior Surface 2	1st Floor Zone Existing+1st Floor Zone Addition	copy of R-0 Wall	n/a	n/a	160	0	n/a	None	n/a	n/a			

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**OPaque SURFACES - CATHEDRAL CEILING**

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Admth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	TR (deg)	Wall Exceptions	Status	Verified Existing Condition			
Roof 3	1st Floor Zone Existing	Default Roof Prior to 1971	n/a	n/a	1694	n/a	n/a	n/a	Existing	No			
Roof 4	1st Floor Zone Addition	R-30 Roof Attic/Radiant	n/a	n/a	1034	n/a	n/a	n/a	New	n/a			
Roofed Floor 2	1st Floor Zone Existing	Default Floor Crawlspace	n/a	n/a	1532	n/a	n/a	n/a	Existing	No			
Roofed Floor 2	1st Floor Zone Addition	R-19 Floor Crawlspace	n/a	n/a	763	n/a	n/a	n/a	New	n/a			

**OPaque SURFACES - CATHEDRAL CEILING**

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Zone	Construction	Admth	Orientation	Area (ft²)	Skylight Area (ft²)	Roof Rise (ft)	Roof Reflectance	Roof Emittance	Cool Roof	Status	Verified Existing Condition	Existing Construction
Roof	1st Floor Zone Existing	Default Roof Prior to 1971	90	Front	18.1	0	0	0.85	No	None	Existing	No	
Roof 2	1st Floor Zone Addition	R-30 Roof Attic/Radiant	90	Front	4.1	4	4	0.1	0.85	No	New	n/a	

**ATIC**

01	02	03	04	05	06	07	08	09	10
Name	Construction	Type	Roof Rise (in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof	Status	Verified Existing Condition
Attic 1st Floor Zone Existing	Attic Roof/1st Floor Zone Existing	Ventilated	4	0.1	0.85	No	No	Existing	No
Attic 1st Floor Zone Addition	Attic Roof/1st Floor Zone Addition	Ventilated	4	0.1	0.85	Yes	No	New	n/a

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**FINISTRATION / GLAZING**

01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
Name	Type	Surface	Orientation	Admth	Width (ft)	Height (ft)	Area (ft²)	U-factor	SHGC	SHGC Source	Exterior Shading	Status	Verified Existing Condition		
Front Windows	Window	Front Wall	Front	90	1	24	0.3	NFRC	0.23	NFRC	Bug Screen	Altered	Yes		
Left Windows	Window	Left Wall	Left	180	1	57	0.3	NFRC	0.23	NFRC	Bug Screen	Altered	Yes		
Back Windows 2	Window	Back Wall	Back	270	1	48	0.3	NFRC	0.23	NFRC	Bug Screen	Altered	Yes		
Back Windows 1	Window	Back Wall	Back	270	1	1	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Front Windows 2	Window	Front Wall 2	Front	90	1	24	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Back Windows 1	Window	Back Wall 2	Back	270	1	18	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Right Windows	Window	Right Wall	Right	0	1	55	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Front Windows 3	Window	Front Wall 3	Front	90	1	24	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Right Windows 2	Window	Right Wall 2	Right	0	1	18	0.3	NFRC	0.23	NFRC	Bug Screen	New	n/a		
Skylight	Skylight	Roof	Front	90	1	18	0.3	NFRC	0.23	NFRC	None	New	n/a		
Skylight 2	Skylight	Roof 2	Front	90	1	4.1	0.3	NFRC	0.23	NFRC	None	New	n/a		

**OPaque DOORS**

01	02	03	04	05	06
Name	Side of Building	Area (ft²)	U-factor	Status	Verified Existing Condition
Door	Front Wall	10	0.5	Altered	No
Door 2	Right Wall	18	0.5	New	n/a
Door 3	Left Wall 3	18	0.5	New	n/a

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**SLAB FLOORS**

01	02	03	04	05	06	07	08	09	10
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Curved Fraction	Heated	Status	Verified Existing Condition
Slab-on-Grade	1st Floor Zone Addition	275	67	none	0	80%	No	New	n/a

**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 Insulation	U-factor	Assembly Layers
Default Roof Prior to 1971	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.363	Inside Finish: Gypsum Board Cavity / Frame: no Insul. / 2x4 Exterior Finish: 1 Coat Stucco
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-15	None / None	0.095	Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco
Default Roof Prior to 1971	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 16 in. O.C.	R-11	None / None	0.088	Roofing: Light Roof (Asphalt Shingles) Roof Deck: Wood Siding/Shathing/Decoying Cavity / Frame: R-11 / 2x4 Inside Finish: Gypsum Board
R-30 Roof Attic/Radiant	Cathedral Ceilings	Wood Framed Ceiling	2x4 @ 16 in. O.C.	R-30	None / None	0.04	Roofing: Light Roof (Asphalt Shingles) Roof Deck: Wood Siding/Shathing/Decoying Cavity / Frame: R-30 / 2x4 Inside Finish: Gypsum Board
R-0 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no Insul. / 2x4 Other Side Finish: Gypsum Board

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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 Insulation	U-factor	Assembly Layers
copy of R-0 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no Insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roof/1st Floor Zone Existing	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingles) Roof Deck: Wood Siding/Shathing/Decoying Cavity / Frame: no Insul. / 2x4
Attic Roof/1st Floor Zone Addition	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-0	None / None	0.644	Roofing: Light Roof (Asphalt Shingles) Roof Deck: Wood Siding/Shathing/Decoying Cavity / Frame: no Insul. / 2x4
Default Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x12 @ 16 in. O.C.	R-0	None / None	0.216	Floor Surface: Carpeted Floor Deck: Wood Siding/Shathing/Decoying Cavity / Frame: no Insul. / 2x12
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x6 @ 16 in. O.C.	R-19	None / None	0.05	Floor Surface: Carpeted Floor Deck: Wood Siding/Shathing/Decoying Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6
Default Roof Prior to 1971	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 in. O.C.	R-11	None / None	0.083	Over Ceiling Joists: R-19 Insul. Cavity / Frame: R-11 / 2x4 Inside Finish: Gypsum Board
R-30 Roof Attic/Radiant	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-30	None / None	0.032	Over Ceiling Joists: R-30 Insul. Cavity / Frame: R-11 / 2x4 Inside Finish: Gypsum Board

Registration Number: 202-P11002878A-000-00000000-0000  
 CA Building Energy Efficiency Standards - 2019 Residential Compliance  
 Registration Date/Time: 2022-02-05 06:49:14  
 Report Version: 2019.1.300  
 Schema Version: rev 20200901  
 HERS Provider: CalCERTS, Inc.  
 Report Generated: 2022-02-05 06:44:22

**CERTIFICATE OF COMPLIANCE**  
 Project Name: Vallambas Addition  
 Calculation Date/Time: 2022-02-05T06:43:46-08:00  
 Calculation Description: Title 24 Analysis  
 Input File Name: Vallambas Addition 82 ID 6739.rbd35x  
 CF1R-PRF-01E (Page 8 of 11)

**BUILDING ENVELOPE - HERS VERIFICATION**

01	02	03	04
Quality Insulation Installation (QI)	High-R-value Spray Foam Insulation	Building Envelope Air Leakage	CH20
Required	Not Required	Not Required	n/a

**WATER HEATING SYSTEMS**

01	02	03	04	05	06	07	08	09	10
Name	System Type	Distribution Type	Water Heater Name (H)	Solar Heating System	Compact Distribution	HERS Verification	Status	Verified Existing Condition	Existing Water Heating System
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution	DHW Heater 1 (1)						

## 2019 Low-Rise Residential Mandatory Measures Summary

NOTE: Low-rise residential buildings subject to the Energy Standards must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. \*Exceptions may apply. (01/20/20)

Building Envelope Measures:	
§ 110.6(a)(1):	<b>Air Leakage.</b> Manufacture fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-69, ASTM E283 or AIAA/MMA/CSA 1011.5/2440-01-1.
§ 110.6(a)(5):	<b>Labeling.</b> Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	<b>Field fabricated exterior doors and fenestration products</b> 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:	<b>Air Leakage.</b> 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):	<b>Insulation Certification by Manufacturers.</b> Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.8(b):	<b>Insulation Requirements for Heated Slab Floors.</b> Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	<b>Roofing Products Solar Reflectance and Thermal Emittance.</b> The thermal emittance and aged solar reflectance values of the roofing materials must meet the requirements of § 110.8(j) and be labeled per § 10-113 when the installation of a cool roof is specified on the CFIR.
§ 110.8(j):	<b>Radiant Barriers.</b> When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.
§ 110.8(k):	<b>Ceiling and Rafter Roof Insulation.</b> Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit thermal bridging and air leakage as specified in § 107.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.
§ 150.0(a):	<b>Loose-fill Insulation.</b> Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	<b>Wall Insulation.</b> 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):	<b>Raised-floor Insulation.</b> Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	<b>Slab Edge Insulation.</b> 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 vapor permeance no greater than 2.0 perm inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(i):	<b>Vapor Retarder.</b> In climate zones 1 through 16, the earth floor or unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl spaces for buildings complying with the exception to § 150.0(i).
§ 150.0(j):	<b>Vapor Retarder.</b> 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(k):	<b>Fenestration Products.</b> Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.30; or the weighted average U-factor of fenestration must not exceed 0.06.*
Fireplaces, Decorative Gas Appliances, and Gas Log Measures:	
§ 150.1(e):	<b>Pilot Light.</b> Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.
§ 150.0(e)(1):	<b>Closable Doors.</b> Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox.
§ 150.0(e)(2):	<b>Combustion Intake.</b> Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and light-tightening damper or combustion-air control device.
§ 150.0(e)(3):	<b>Flue Damper.</b> Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-0.110.3:	<b>Certification.</b> 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):	<b>HVAC Efficiency.</b> Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-K.*
§ 110.2(b):	<b>Controls for Heat Pumps with Supplementary Electric Resistance Heaters.</b> Heat pumps with supplementary electric resistance heaters must have controls that prevent heater operation when the heating load can be met by the heat pump alone, and in which the cut-on temperature for compression heating is higher than the cut-off temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.
§ 110.2(c):	<b>Thermostats.</b> All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.
§ 110.3(c)(4):	<b>Water Heating Recirculation Loops Serving Multiple Dwelling Units.</b> Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)(4).
§ 110.3(c)(6):	<b>Isolation Valves.</b> 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 for flushing the water heater when the valves are closed.
§ 110.5:	<b>Pilot Lights.</b> Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (except those with an emissions input less than 150 Btu per hour); and pool and spa heaters.*
§ 150.0(h)(1):	<b>Building Cooling and Heating Loads.</b> 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).

## 2019 Low-Rise Residential Mandatory Measures Summary

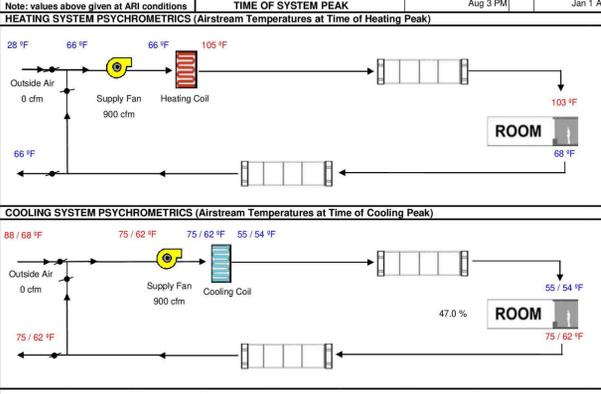
§ 150.0(a)(2):	<b>Interior Switches and Controls.</b> An energy management control system (EMCS) may be used to comply with control requirements if it: provides functionality of the specified control according to § 110.9; meets the Installation Certificate requirements of § 130.4; meets the EMCS requirements of § 130.0(e); and meets all other requirements in § 150.0(k)(2).
§ 150.0(a)(2H):	<b>Interior Switches and Controls.</b> A multistage programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)(2).
§ 150.0(a)(2I):	<b>Interior Switches and Controls.</b> In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by an occupant sensor or a vacancy sensor providing automatic-off functionality. If an occupant sensor is installed, it must be initially configured to manual operation using the manual control required under Section 150.0(a)(2C).
§ 150.0(a)(2J):	<b>Interior Switches and Controls.</b> Luminaires that are or contain light sources that meet Reference Joint Appendix J48 requirements for dimming, and that are not controlled by occupancy or vacancy sensors, must have dimming controls.*
§ 150.0(a)(2K):	<b>Interior Switches and Controls.</b> Under cabinet lighting must be controlled separately from ceiling-installed lighting systems.
§ 150.0(a)(3A):	<b>Residential Outdoor Lighting.</b> For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings of the same lot, must meet the requirements in Item § 150.0(k)(3A) (ON and OFF switch) and the requirements in either § 150.0(k)(3B) (photozell and either a motion sensor or automatic time switch control) or § 150.0(k)(3C) (astronomical time clock).
§ 150.0(a)(3B):	<b>Residential Outdoor Lighting.</b> For low-rise residential buildings with four or more dwelling units, outdoor lighting for private patios, entrances, balconies, and porches; and residential parking lots and carports with less than eight vehicles per site must comply with either § 150.0(k)(3A) or with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
§ 150.0(a)(3C):	<b>Residential Outdoor Lighting.</b> For low-rise residential buildings with four or more dwelling units, any outdoor lighting for residential parking lots or carports with a total of eight or more vehicles per site and any outdoor lighting not regulated by § 150.0(k)(3B) or § 150.0(k)(3D) must comply with the applicable requirements in Sections 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.
§ 150.0(a)(4):	<b>Internally illuminated address signs.</b> Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).
§ 150.0(a)(5):	<b>Residential Garages for Eight or More Vehicles.</b> Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in Sections 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0.
§ 150.0(a)(6A):	<b>Interior Common Areas of Low-rise Multifamily Residential Buildings.</b> In a low-rise multifamily residential building where the total interior common area in a single building equals 20 percent or less of the floor area, permanently installed lighting for the interior common areas in that building must be controlled by an occupant sensor.
§ 150.0(a)(6B):	<b>Interior Common Areas of Low-rise Multifamily Residential Buildings.</b> In a low-rise multifamily residential building where the total interior common area in a single building equals more than 20 percent of the floor area, permanently installed lighting for the interior common areas in that building must: <ul style="list-style-type: none"> <li>i. Comply with the applicable requirements in Sections 110.9, 130.0, 130.1, 140.6, and 141.0; and</li> <li>ii. Lighting installed in corridors and stairwells must be controlled by occupant sensors that reduce the lighting power in each space by at least 50 percent. The occupant sensors must be capable of turning the light fully on and off from all assigned paths of ingress and egress.</li> </ul>
Solar Ready Buildings:	
§ 110.10(a)(1):	<b>Single Family Residences.</b> Single family residences located in subdivisions with 10 or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b) through § 110.10(e).
§ 110.10(a)(2):	<b>Low-rise Multifamily Buildings.</b> Low-rise multifamily buildings that do not have a photovoltaic system installed must comply with the requirements of § 110.10(b) through § 110.10(d).
§ 110.10(b)(1):	<b>Minimum Solar Zone Area.</b> 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 less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area. The solar zone requirement is applicable to the entire building, including mixed occupancy.*
§ 110.10(b)(2):	<b>Azimuth.</b> All sections of the solar zone located on steep-sloped roofs must be oriented between 90 degrees and 300 degrees of true north.
§ 110.10(b)(3A):	<b>Shading.</b> 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):	<b>Shading.</b> Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)(4):	<b>Structural Design Loads on Construction Documents.</b> 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):	<b>Interconnection Pathways.</b> 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):	<b>Documentation.</b> A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant.
§ 110.10(e)(1):	<b>Main Electrical Service Panel.</b> The main electrical service panel must have a minimum busbar rating of 200 amps.
§ 110.10(e)(2):	<b>Main Electrical Service Panel.</b> 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".

## 2019 Low-Rise Residential Mandatory Measures Summary

§ 150.0(a)(3A):	<b>Cleanances.</b> 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(a)(3B):	<b>Liquid Line Drier.</b> 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(a)(1):	<b>Storage Tank Insulation.</b> Unlined hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have a minimum of R-2 external insulation or R-6 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(a)(2A):	<b>Water Piping, Solar Water-heating System Piping, and Space Conditioning System Insulation.</b> All domestic hot water piping must be insulated as specified in Section 609.11 of the California Plumbing Code. In addition, the following piping conditions must have a minimum insulation wall thickness of one inch or a minimum insulation R-value of 7.7: the first five feet of cold water piping from the storage tank, all hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than one inch; all hot water piping with a nominal diameter less than 3/4 inch that is: associated with a domestic hot water recirculation system, from the heating source to storage tank or between tanks, buried below grade, and from the heating source to kitchen fixtures.*
§ 150.0(a)(3):	<b>Insulation Protection.</b> Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by Section 609.11. Piping exposed to weather must be water resistant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.
§ 150.0(a)(1):	<b>Gas or Propane Water Heating Systems.</b> Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: A dedicated 125 volt, 20 amp electrical receptacle connected to the electric panel via a 120/240 volt 3 conductor, 10 AWG copper branch circuit, within three feet of the water heater without obstruction. Both ends of the unused conductor must be labeled with the word "spare" and be electrically isolated. Have a reserved single pole circuit breaker in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use" or a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condenser drain that is no more than two inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu per hour.
§ 150.0(a)(2):	<b>Recirculating Loops.</b> Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)(5).
§ 150.0(a)(3):	<b>Solar Water-heating Systems.</b> Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)(3):	<b>Ducts.</b> 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(a)(1):	<b>CMC Compliance.</b> All air-distribution system ducts and plenums must meet the requirements of the CMC §§ 607.0, 602.0, 603.0, 604.0, 606.0 and ANSI/SMACNA-006-2008 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 or a minimum installed level of R-4.2 when ducts are entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Portions of the duct system completely exposed and surrounded by directly conditioned space are not required to be insulated. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than 1/4 inch, the combination of mastic and either mesh or tape must be used. Building cavities, support platforms for air handlers, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area.*
§ 150.0(a)(2):	<b>Factory-Fabricated Duct Systems.</b> 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(a)(3):	<b>Field-Fabricated Duct Systems.</b> Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(a)(7):	<b>Backdraft Damper.</b> Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
§ 150.0(a)(8):	<b>Gravily Ventilation Dampers.</b> Gravily 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 coverings and elevator shaft vents.
§ 150.0(a)(9):	<b>Protection of Insulation.</b> Insulation must be protected from damage, sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor use. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water resistant and provides shielding from solar radiation.
§ 150.0(a)(10):	<b>Porous Inner Core Flex Duct.</b> Porous inner core flex ducts must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(a)(11):	<b>Duct System Sealing and Leakage Test.</b> When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)(11) and Reference Residential Appendix RA3.
§ 150.0(a)(12):	<b>Air Filtration.</b> 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 in sized per Equation 150.0-A. Pressure drops and labeling must meet the requirements in § 150.0(m)(12). Filters must be accessible for regular servicing.*
§ 150.0(a)(13):	<b>Space Conditioning System Airflow Rate and Fan Efficiency.</b> Space conditioning systems that use ducts to supply cooling must have a hole in 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 efficiency ≤ 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 efficiency ≤ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.3.*

## HVAC SYSTEM HEATING AND COOLING LOADS SUMMARY

Project Name		Date																																																														
Vallindas Addition		2/5/2022																																																														
System Name		Floor Area																																																														
Rec. HVAC		2,550																																																														
ENGINEERING CHECKS		SYSTEM LOAD																																																														
Number of Systems	COIL COOLING PEAK		COIL HTG. PEAK																																																													
	CFM	Sensible	Latent	CFM	Sensible																																																											
<b>Heating System</b>	<table border="1"> <tr> <td>Output per System</td> <td>58,000</td> <td colspan="3">Total Room Loads</td> </tr> <tr> <td>Total Output (Btu/h)</td> <td>58,000</td> <td>1,139</td> <td>24,417</td> <td>1,439</td> <td>1,114</td> </tr> <tr> <td>Output (Btu/h/sqft)</td> <td>22.7</td> <td colspan="3">Return Ventd Lighting</td> <td></td> </tr> <tr> <td></td> <td></td> <td colspan="3">Returned Air Ducts</td> <td>2,298</td> </tr> <tr> <td></td> <td></td> <td colspan="3">Return Fan</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td colspan="3">Ventilation</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td colspan="3">Supply Fan</td> <td>0</td> </tr> <tr> <td></td> <td></td> <td colspan="3">Supply Air Ducts</td> <td>2,298</td> </tr> <tr> <td></td> <td></td> <td colspan="3">TOTAL SYSTEM LOAD</td> <td>24,417</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1,439</td> <td></td> <td>46,796</td> </tr> </table>					Output per System	58,000	Total Room Loads			Total Output (Btu/h)	58,000	1,139	24,417	1,439	1,114	Output (Btu/h/sqft)	22.7	Return Ventd Lighting						Returned Air Ducts			2,298			Return Fan			0			Ventilation			0			Supply Fan			0			Supply Air Ducts			2,298			TOTAL SYSTEM LOAD			24,417				1,439		46,796
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<b>Cooling System</b>	<table border="1"> <tr> <td>Output per System</td> <td>0</td> <td colspan="3">Return Fan</td> <td>0</td> </tr> <tr> <td>Total Output (Btu/h)</td> <td>0.0</td> <td colspan="3">Ventilation</td> <td>0</td> </tr> <tr> <td>Output (Btu/h/sqft)</td> <td>0.0</td> <td colspan="3">Supply Fan</td> <td>0</td> </tr> <tr> <td>Total Output (sqft/Ton)</td> <td>0.0</td> <td colspan="3">TOTAL SYSTEM LOAD</td> <td>24,417</td> </tr> <tr> <td></td> <td></td> <td></td> <td>1,439</td> <td></td> <td>46,796</td> </tr> </table>					Output per System	0	Return Fan			0	Total Output (Btu/h)	0.0	Ventilation			0	Output (Btu/h/sqft)	0.0	Supply Fan			0	Total Output (sqft/Ton)	0.0	TOTAL SYSTEM LOAD			24,417				1,439		46,796																													
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Airflow (cfm/sqft)	0.35	0																																																														
Airflow (cfm/Ton)	0.0	0																																																														
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## 2019 Low-Rise Residential Mandatory Measures Summary

Requirements for Ventilation and Indoor Air Quality:	
§ 150.0(a)(1):	<b>Requirements for Ventilation and Indoor Air Quality.</b> 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(a)(1).
§ 150.0(a)(1C):	<b>Single Family Detached Dwelling Units.</b> Single family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupable spaces, public garages, or commercial spaces must have mechanical ventilation airflow provided at rates determined by ASHRAE 62.2 Sections 4.1.1 and 4.1.2 and as specified in § 150.0(a)(1C).
§ 150.0(a)(1E):	<b>Multifamily Attached Dwelling Units.</b> Multifamily attached dwelling units must have mechanical ventilation airflow provided at rates in accordance with Equation 150.0-B and must be either a balanced system or continuous supply or continuous exhaust system. If a balanced system is not used, all units in the building must use the same system type and the dwelling-unit envelope leakage must be ≤ 0.3 CFM at 50 Pa (0.2 inch water) per square foot of dwelling unit envelope surface area and verified in accordance with Reference Residential Appendix RA3.8.
§ 150.0(a)(1F):	<b>Multifamily Building Central Ventilation Systems.</b> Central ventilation systems that serve multiple dwelling units must be balanced to provide ventilation airflow for each dwelling unit served at a rate equal to or greater than the rate specified by Equation 150.0-B. All unit airflows must be within 20 percent of the unit with the lowest airflow rate as it relates to the individual unit's minimum required airflow rate needed for compliance.
§ 150.0(a)(1G):	<b>Kitchen Range Hoods.</b> Kitchen range hoods must be rated for sound in accordance with Section 7.2 of ASHRAE 62.2.
§ 150.0(a)(2):	<b>Field Verification and Diagnostic Testing.</b> Dwelling unit ventilation airflow must be verified in accordance with Reference Residential Appendix RA3.7. A kitchen range hood must be tested in accordance with Reference Residential Appendix RA3.7.4.3 to confirm it is rated by HVI to comply with the airflow rates and sound requirements as specified in Section 5 and 7.2 of ASHRAE 62.2.
Pool and Spa Systems and Equipment Measures:	
§ 110.4(a):	<b>Certification by Manufacturers.</b> Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat; a permanent weatherproof plate or card with operating instructions; and must not use electric resistance heating.*
§ 110.4(b)(1):	<b>Piping.</b> 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):	<b>Covers.</b> Outdoor pools or spas that have a heat pump or gas heater must have a cover.
§ 110.4(b)(3):	<b>Directional Inlets and Time Switches for Pools.</b> Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be on or programmed to run only during off-peak electric demand periods.
§ 110.5:	<b>Pilot Light.</b> Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(a)(1):	<b>Pool Systems and Equipment Installation.</b> Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
Lighting Measures:	
§ 110.9:	<b>Lighting Controls and Components.</b> All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.*
§ 150.0(k)(1A):	<b>Luminaire Efficacy.</b> All installed luminaires must meet the requirements in Table 150.0-D-A.
§ 150.0(k)(1B):	<b>Blank Electrical Boxes.</b> The number of electrical boxes that are more than the feet above the finished floor and do not contain a luminaire or other device must be no greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor control, or fan speed control.
§ 150.0(k)(1C):	<b>Recessed Downlight Luminaires in Ceilings.</b> Luminaires recessed into ceilings must meet all of the requirements for: insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)(1C).
§ 150.0(k)(1D):	<b>Electronic Ballasts for Fluorescent Lamps.</b> Ballasts for fluorescent lamps rated 13 watts or greater must be electronic and must have an output frequency no less than 20 kHz.
§ 150.0(k)(1E):	<b>Night Lights, Step Lights, and Path Lights.</b> Night lights, step lights and path lights are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power and emit no more than 150 lumens.
§ 150.0(k)(1F):	<b>Lighting Integral to Exhaust Fans.</b> Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k)(1).
§ 150.0(k)(1G):	<b>Screw based luminaires.</b> Screw based luminaires must contain lamps that comply with Reference Joint Appendix J48.*
§ 150.0(k)(1H):	<b>Light Sources in Enclosed or Recessed Luminaires.</b> Lamps and other separable light sources that are not compliant with the J48 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.*
§ 150.0(k)(1I):	<b>Light Sources in Drawers, Cabinets, and Linen Closets.</b> Light sources internal to drawers, cabinets or linen closets are not required to comply with Table 150.0-A or be controlled by vacancy sensors provided they are rated to consume no more than 5 watts of power, 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):	<b>Interior Switches and Controls.</b> All forward phase out dimmers used with LED light sources must comply with NEMA SSL 7A.
§ 150.0(k)(2B):	<b>Interior Switches and Controls.</b> Exhaust fans must be controlled separately from lighting systems.*
§ 150.0(k)(2C):	<b>Interior Switches and Controls.</b> Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned ON and OFF.*
§ 150.0(k)(2D):	<b>Interior Switches and Controls.</b> Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 150.0(k)(2E):	<b>Interior Switches and Controls.</b> Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the control is installed to comply with § 150.0(k).
§ 150.0(k)(2F):	<b>Interior Switches and Controls.</b> Lighting controls must comply with the applicable requirements of § 110.9.

## ENERGY NOTES:

Attention designers, owners, builders. It is your responsibility to review the T24 documents for the required building features, and HERS measures. If you have any questions, call before you build or buy.

The following values and systems are required for this project to meet the State Energy Code. Unless the performance calculation states otherwise please use these NEW INSULATION VALUES Prescriptive Min. Performance Calculation are custom to your project and may be less REVIEW THE CFIR T24 DOCUMENTS.

### NEW ENVELOPE PERFORMANCE

Calculation are custom to your project REVIEW THE CFIR T24 DOCUMENTS.

NEW WINDOW PERFORMANCE—REVIEW THE CFIR T24 DOCUMENTS

Please bring the CF-1R when you order your windows. Verify that the window values on the CF-1R are the same as the windows you buy and install. Calculation are custom to your project REVIEW THE CFIR T24 DOCUMENTS.

### NEW HVAC PERFORMANCE

Unless we are informed prior to performing the calculation these are the default values we will use

# CALIFORNIA MANDATORY GREEN MEASURES



## Division 4.5 ENVIRONMENTAL QUALITY CONT.

## Division 4.5 ENVIRONMENTAL QUALITY

## Division 4.3 – WATER EFFICIENCY & CONSERVATION

## Division 4.1 – Site & EV Charging

## Construction Waste Management Plan (CWMP)

Description	Sheet
<b>4.501.1 Adhesives, sealants and caulks.</b> Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply. 1. Adhesive, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.	5
<b>4.504.2.2 Paints and coatings.</b> Architectural paints and coatings shall comply with VOC limits in Table 4.504.1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.	17
<b>4.504.2.3 Aerosol paints and coatings.</b> Aerosol paints and coatings shall meet the Product-Volatility MR Limits for VOC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520, and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the period VOC by weight of product limits of Regulation 8, Rule 49.	5
<b>4.504.2.4 Verification.</b> Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to the following: 1. Manufacturer's product specifications; 2. Field verification of on-site product containers.	5
<b>4.504.3 Carpet systems.</b> All carpet installed in the building interior shall meet the testing and product requirements of one of the following: 1. Carpet and Rug Institute's Green Label Plus Program; 2. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350); 3. NSF/ANSI 140 at the Gold level; 4. Scientific Certifications Systems Indoor Advantage™ Gold.	5
<b>4.504.3.1 Carpet cushion.</b> All carpet cushion installed in the building interior shall meet the requirements of the Carpet and Rug Institute's Green Label program.	5
<b>4.504.3.2 Carpet adhesive.</b> All carpet adhesive shall meet the requirements of Table 4.504.1.	5
<b>4.504.4 Resilient flooring systems.</b> Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall comply with one or more of the following: 1. Products compliant with the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350), certified as a CHPS Low-Emitting Material in the Collaborative for High Performance Schools (CHPS) High Performance Products Database; 2. Products certified under UL GREENGUARD Gold (formerly the Greenguard Children & Schools program); 3. Certification under the Resilient Floor Covering Institute (RFICI) Floor Score program; 4. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).	5
<b>4.504.5 Composite wood products.</b> Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17, CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5.	5
<b>4.504.5.1 Documentation.</b> Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following: 1. Product certifications and specifications; 2. Chain of custody certifications; 3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.); 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2208, European E39 38, and Canadian CSA O121, CSA O151, CSA O155 and CSA O325 standards; 5. Other methods acceptable to the enforcing agency.	5
<b>4.505.1 General.</b> Buildings shall meet or exceed the provisions of the California Building Standards Code.	7
<b>4.505.2 Concrete slab foundations.</b> Concrete slab foundations required to have a vapor retarder by the CBC, Chapter 19 or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.	7
<b>4.505.2.1 Capillary break.</b> A capillary break shall be installed in compliance with at least one of the following: 1. A 4-inch-thick (101.6 mm) base of 1/2-inch (12.7 mm) or larger clean aggregate shall be provided with vapor retarder in direct contact with concrete and a concrete moisture barrier which will address bleeding, shrinkage, and curing, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06; 2. Other equivalent methods approved by the enforcing agency; 3. A slab design prepared by a licensed design professional.	7
<b>4.505.3 Moisture content of building materials.</b> Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19-percent moisture content. Moisture content shall be verified in compliance with the following: 1. Moisture content shall be determined with other a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code; 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece to be verified; 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure.	7
<b>4.506.1 Bathroom exhaust fans.</b> Each bathroom shall be mechanically ventilated and shall comply with the following: 1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building; 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control; a. Humidity controls shall be capable of adjustment between a relative humidity range of 50 percent to a maximum of 80 percent; b. Humidity control may utilize manual or automatic means of adjustment; c. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in). <b>Notes:</b> 1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination; 2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.	6
<b>4.507.2 Heating and air-conditioning system design.</b> Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J-2016 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods; 2. Duct systems are sized according to ANSI/ACCA 1 Manual D-2016 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods; 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S-2014 (Residential Equipment Selection) or other equivalent design software or methods. Exception: Use of alternate design temperatures necessary to ensure the systems function are acceptable.	5
<b>4.106.4.3 New hotels and motels.</b> All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces.	NA

Description	Sheet
<b>4.501.1 Scope.</b> The provisions of this chapter shall outline means of reducing the quantity of air contaminants that are odorous, irritating and/or harmful to the comfort and wellbeing of a building's installers, occupants and neighbors.	5
<b>4.503.1 General.</b> 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.	5
<b>4.504.1 Covering of duct openings and protection of mechanical equipment during construction.</b> At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheetmetal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris, which may enter the system.	5
<b>4.504.2 Finish material pollutant control.</b> Finish materials shall comply with this section.	5
<b>TABLE 4.504.1 ADHESIVE VOC LIMIT:<sup>1</sup> Less Water and Less Exempt Compounds in Grams per Liter</b>	
<b>ARCHITECTURAL APPLICATIONS</b>	<b>CURRENT VOC LIMIT</b>
Indoor carpet adhesives	50
Carpet pad adhesives	50
Outdoor carpet adhesives	150
Wood flooring adhesive	100
Rubber floor adhesives	60
Subfloor adhesives	50
Ceramic tile adhesives	65
VCT and asphalt tile adhesives	50
Drywall and panel adhesives	50
Case base adhesives	50
Multipurpose construction adhesives	70
Structural glazing adhesives	100
Single-ply roof membrane adhesives	250
Other adhesives not specifically listed	50
<b>SPECIALTY APPLICATIONS</b>	
PVC welding	510
CPVC welding	490
ABS welding	325
Plastic cement welding	250
Adhesive primer for plastic	550
Contact adhesive	80
Special purpose contact adhesive	250
Structural wood member adhesive	140
Top and trim adhesive	250
<b>SUBSTRATE SPECIFIC APPLICATIONS</b>	
Metal to metal	30
Plastic foams	50
Porous material (except wood)	50
Wood	30
Fiberglass	80
<small>1. If an adhesive is used to bond dissimilar substrates together, the adhesive with the highest VOC content shall be allowed. 2. For additional information regarding methods to measure the VOC content specified in this table, see South Coast Air Quality Management District Rule</small>	
<b>TABLE 4.504.5 FORMALDEHYDE LIMITS: Maximum Formaldehyde Emissions in Parts per Million</b>	
<b>PRODUCT</b>	<b>CURRENT LIMIT</b>
Hardwood plywood veneer core	0.05
Hardwood plywood composite core	0.05
Particleboard	0.09
Medium density fiberboard	0.11
Thin medium density fiberboard <sup>2</sup>	0.13
<small>1. Values in this table are derived from those specified by the California Air Resources Board, Air Toxics Control Measure for Composite Wood as listed in accordance with ASTM E1533. For additional information, see California Code of Regulations, Title 17, Sections 93120 through 93120.12. 2. Thin medium density fiberboard has a maximum thickness of .516 inch (13 mm).</small>	
<b>TABLE 4.504.3 VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS<sup>1</sup></b>	
<b>COATING CATEGORY</b>	<b>EFFECTIVE 11/2012</b>
Flat coatings	50
Nonflat coatings	100
Nonflat high gloss coatings	150
Aluminum roof coatings	400
Basement specialty coatings	400
Bituminous roof coatings	50
Bituminous roof primers	350
Bond breakers	300
Concrete curing compounds	350
Construction machinery sealers	100
Driveway sealers	50
Drying, floor coatings	150
Faux finishing coatings	350
Fine resistive coatings	300
Floor coatings	100
Form-release compounds	250
Graphic arts coatings (ink paints)	450
High temperature coatings	420
Industrial maintenance coatings	250
Low solids coatings <sup>1</sup>	120
Marine coatings	150
Mastic texture coatings	100
Metallic pigmented coatings	500
Multicolor coatings	350
Pretreatment wash primers	420
Primers, sealers, and undercoaters	100
Resin penetrating sealers	250
Recycled coatings	200
Roof coatings	50
Roof pre-ventilating coatings	350
Clear Shellacs	730
Opaque Shellacs	550
Specialty primers, sealers and undercoaters	100
Stains	740
Stone consolidants	450
Swimming pool coatings	340
Traffic marking coatings	100
Tub and tile refinish coatings	650
Waterproofing membranes	250
Wood coatings	275
Wood preservatives	350
Zinc-rich primers	340
<small>1. Some VOC per liter of coating, including water and including exempt compounds. 2. The specified limits remain in effect unless revised limits are listed in subsequent columns in this table. 3. Values in this table are derived from those specified by the California Air Resources Board, Architectural Coatings Suggested Control Measure, February 1, 2008. More information is available from the Air Resources Board.</small>	
<b>TABLE 4.504.2 SEALANT VOC LIMIT</b>	
<b>SEALANTS</b>	<b>CURRENT VOC LIMIT</b>
Architectural	250
Marine decks	740
Nonmetallic resin	390
Roadway	250
Single-ply roof membrane	450
Other	420
<b>SEALANT PRIMERS</b>	
Architectural	250
Nonporous	775
Porous	775
Modified bituminous	500
Marine deck	760
Other	750

Description	Sheet
<b>4.301.1 Scope.</b> The provisions of this chapter shall establish the means of conserving water used indoors, outdoors and in wastewater conveyance.	5
<b>4.303.1 Water conserving plumbing fixtures and fittings.</b> Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4. <b>Note:</b> All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.	5
<b>4.303.1.1 Water closets.</b> The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA Water Sense Specification for Tank-type Toilets. <b>Note:</b> The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.	5
<b>4.303.1.2 Urinals.</b> The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.	NA
<b>4.303.1.3.1 Single showerhead.</b> Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA Water Sense Specification for Showerheads.	5
<b>4.303.1.3.2 Multiple showerheads serving one shower.</b> When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. <b>Note:</b> A hand-held shower shall be considered a showerhead.	5
<b>4.303.1.4.1 Residential lavatory faucets.</b> The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 80 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.	5
<b>4.303.1.4.2 Lavatory faucets in common and public use areas.</b> The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.	5
<b>4.303.1.4.3 Metering faucets.</b> Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.	NA
<b>4.303.1.4.4 Kitchen faucets.</b> The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 80 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 80 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 80 psi. <b>Note:</b> Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.	5
<b>4.303.2 Standards for plumbing fixtures and fittings.</b> Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code.	5
<b>4.304.1 Outdoor potable water use in landscape areas.</b> 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. <b>Notes:</b> 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code of Regulations, Title 23, Chapter 2.7, Division 2.MWELO and supporting documents, including a water budget calculator, are available at: <a href="https://www.water.ca.gov/">https://www.water.ca.gov/</a>	1
<b>4.305.1 Recycled water supply systems.</b> Newly constructed residential developments, where disinfected tertiary recycled water is available from a municipal source to a construction site, may be required to have recycled water supply systems installed, allowing the use of recycled water for residential landscape irrigation systems. See Chapter 15 of the California Plumbing Code.	NA
<b>Division 4.4 – MATERIAL CONSERVATION &amp; RESOURCE EFFICIENCY</b>	
<b>Description</b>	<b>Sheet</b>
<b>4.401.1 Scope.</b> The provisions of this chapter shall outline means of achieving material conservation and resource efficiency through protection of buildings from exterior moisture, construction waste diversion, employment of techniques to reduce pollution through recycling of materials, and building commissioning or testing, adjusting and balancing.	GB 1
<b>4.406.1 Rodent-proofing.</b> Annular spaces around pipes, electric cables, conduits or other openings in sole/ bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.	1
<b>4.408.1 Construction waste management.</b> Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. <b>Exceptions:</b> 1. Excavated soil and land-clearing debris; 2. Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite; 3. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.	GB 1
<b>4.408.2 Construction waste management plan.</b> Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency. 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale; 2. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream); 3. Identify diversion facilities where the construction and demolition waste materials will be taken; 4. Identify construction methods employed to reduce the amount of construction and demolition waste generated; 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.	GB 1
<b>4.408.3 Waste management company.</b> Utilize a waste management company, approved by the enforcing agency, which can furnish verifiable documentation that the percentage of construction and demolition waste diverted from disposal is at least 65 percent. <b>Note:</b> The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.	GB 1
<b>4.408.4 Waste stream reduction alternative (LR).</b> Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 14 pounds per square foot of the building area shall meet the minimum 65 percent construction waste reduction requirement in Section 4.408.1.	GB 1
<b>4.408.4.1 Waste stream reduction alternative.</b> Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65-percent construction waste reduction requirement in Section 4.408.1.	GB 1
<b>4.408.5 Documentation.</b> Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4. <b>Notes:</b> 1. Sample forms found in A Guide to the California Green Building Standards Code (Residential) located at <a href="http://www.hdc.ca.gov/building-standards/calgreen/cd-standards.html">http://www.hdc.ca.gov/building-standards/calgreen/cd-standards.html</a> may be used to assist in documenting compliance with this section; 2. Moved construction and demolition debris (C&D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).	GB 1
<b>4.410.1 Operation and maintenance manual.</b> At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building: 1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure; 2. Operation and maintenance instructions for the following: a. Equipment and appliances, including water-saving devices and systems, HVAC systems, plumbing devices, electric and electronic systems, water heating systems and other major appliances and equipment; b. Roof and drainage, including gutters and downspouts; c. Space conditioning systems, including cooling systems and air filters; d. Landscape irrigation systems; e. Water reuse systems; 3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations; 4. Public transportation and/or carpool options available in the area; 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range; 6. Information about water conserving landscape and irrigation design and controllers which conserve water; 7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation; 8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc; 9. Information about solar energy and incentive programs available; 10. A copy of all special inspection requirements required by the enforcing agency or this code.	AI Final
<b>4.410.2 Special inspection (HCD).</b> When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector: 1. Certification by a national or regional green building program or standard publisher; 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors; 3. Successful completion of a third party apprentice training program in the appropriate trade; 4. Other programs acceptable to the enforcing agency. <b>Notes:</b> 1. Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code; 2. HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).	NA
<b>[BSC-CG]</b> When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency. <b>Note:</b> Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.	NA
<b>703.1 Documentation.</b> Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified in the application checklist.	NA

Description	Sheet
<b>4.101.1 Scope.</b> The provisions of this division outline planning, design and development methods that include environmentally responsible site selection, building design, building siting and development to protect, restore and enhance the environmental quality of the site and respect the integrity of adjacent properties.	1
<b>4.105.1 General.</b> Preservation and use of available natural resources shall be accomplished through siting, management and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.	1
<b>4.106.2 Storm water drainage and retention during construction.</b> Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site: 1. Retention basins of sufficient size shall be utilized to retain storm water on the site; 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barmer system, wattle or other method approved by the enforcing agency; 3. Compliance with a lawfully enacted storm water management ordinance. <b>Note:</b> Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil. (Website: <a href="https://www.waterboards.ca.gov/dwr_issues/programs/stormwater/">https://www.waterboards.ca.gov/dwr_issues/programs/stormwater/</a> )	1
<b>4.106.3 Grading and paving.</b> Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following: 1. Swales; 2. Water collection and disposal systems; 3. French drains; 4. Water retention gardens; 5. Other water measures which keep surface water away from buildings and aid in groundwater recharge. <b>Exception:</b> Additions and alterations not altering the drainage path.	1
<b>4.106.4 Electric vehicle (EV) charging for new construction.</b> New construction shall comply with Section 4.106.4.1, 4.106.4.2, or 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625. <b>Exceptions:</b> 1. On access-by-cable bases, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions: 1.1. Where there is no commercial power supply; 1.2. Where there is evidence substantiating that meeting the requirements will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the homeowner or developer by more than \$400.00 per dwelling unit; 2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.	NA
<b>4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages.</b> For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1 1/4-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate in a listed cabinet, box or enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at exterior, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.	NA
<b>4.106.4.1.1 Identification.</b> The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".	NA
<b>4.106.4.2 New multifamily dwellings.</b> If residential parking is available, ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future EVSE. Calculators for the required number of EV spaces shall be rounded up to the nearest whole number. <b>Notes:</b> 1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging; 2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.	NA
<b>4.106.4.2.1 Electric vehicle charging space (EV space) locations.</b> Construction documents shall indicate the location of proposed EV spaces. Where common use parking is provided at least one EV space shall be located in the common use parking area and shall be available for use by all residents.	NA
<b>4.106.4.2.1.1 Electric vehicle charging stations (EVCS).</b> When EV chargers are installed, EV spaces required by Section 4.106.4.2.2, Item 3, shall comply with at least one of the following options: 1. The EV space shall be located adjacent to an accessible parking space meeting the requirements of the CBC, Chapter 11A, to allow use of the EV charger from the accessible parking space; 2. The EV space shall be located on an accessible route, as defined in the CBC, Chapter 2, to the building. <b>Exception:</b> Electric vehicle charging stations designed and constructed in compliance with the CBC, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1 and Section 4.106.4.2.2, Item 3. <b>Note:</b> Electric vehicle charging stations serving public housing are required to comply with the CBC, Chapter 11 B.	NA
<b>4.106.4.2.2 Electric vehicle charging space (EV space) dimensions.</b> The EV spaces shall be designed to comply with the following: 1. The min length of each EV space shall be 18 feet (5486 mm); 2. The minimum width of each EV space shall be 9 feet 2 1/4 inches (3. One in every 25 EV spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle; 4. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm); a. Surface space for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.	NA
<b>4.106.4.2.3 Single EV space required.</b> Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1 1/4-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of the EV space. Construction documents shall identify the raceway termination point. The service panel and/or subpanel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.	NA
<b>4.106.4.2.4 Multiple EV spaces required.</b> Construction documents shall indicate the raceway termination point and proposed location of future EV spaces and EV chargers. Construction documents shall also provide information on amperage of future EVSE, raceway methods, wiring schematics and electrical load calculations to verify that the electrical panel service capacity and electrical system, including any on-site distribution transformers, have sufficient capacity to simultaneously charge all EVs at all required EV spaces at the full rated amperage of the EVSE. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.	NA
<b>4.106.4.2.5 Identification.</b> The service panel or sub-panel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.	NA
<b>INSTALLER AND SPECIAL INSPECTOR QUALIFICATIONS</b>	
<b>702.1 Installer training.</b> HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified in HVAC system installation. Contractors licensed to install HVAC systems, except for those providing EVAC training and certification programs include but are not limited to the following: 1. State certified apprenticeship programs; 2. Public utility training programs	