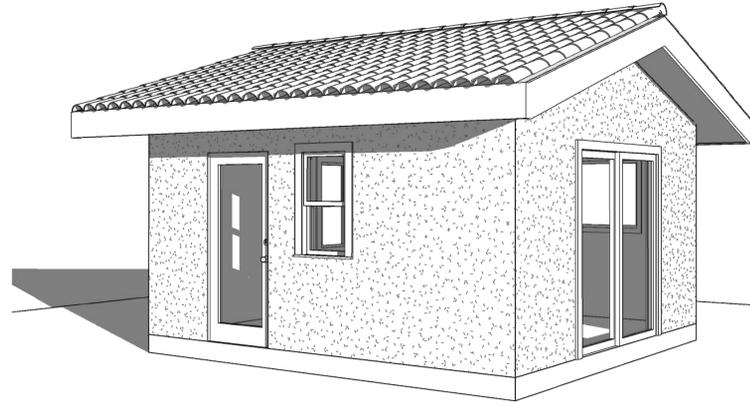
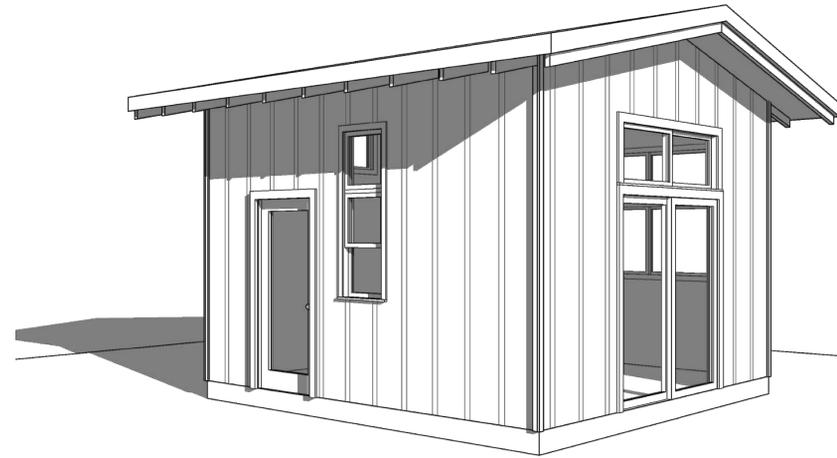


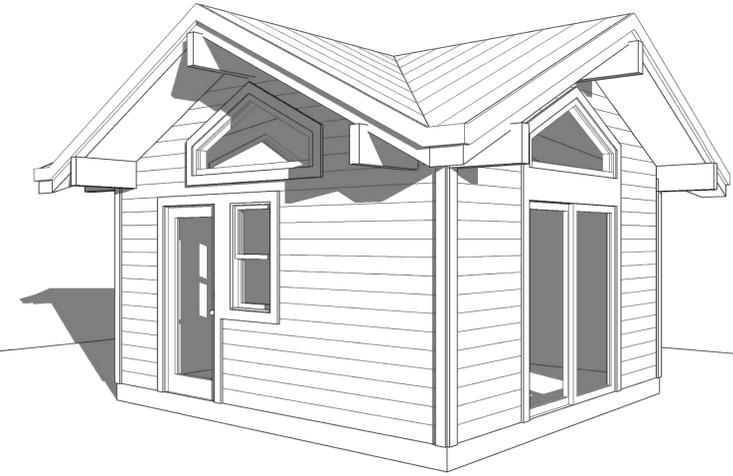
encinitas pradu studio



a



b



c

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ENCINITAS AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.



682 SECOND ST
ENCINITAS, CA
(760) 753 2464
DZNPARTNERS.COM

PRADU STUDIO 0

CITY: ENCINITAS

2019.04-02

JOB: 201848R

PROJECT DATA

a0.0

vicinity map:

codes governing construction:

| Year | State | Code | Title | Part |
|------|------------|---------------------|----------|----------------|
| 2016 | CALIFORNIA | BUILDING CODE | TITLE 24 | PART 2, V. 1&2 |
| 2016 | CALIFORNIA | RESIDENTIAL CODE | TITLE 24 | PART 2.5 |
| 2016 | CALIFORNIA | ELECTRICAL CODE | TITLE 24 | PART 3 |
| 2016 | CALIFORNIA | MECHANICAL CODE | TITLE 24 | PART 4 |
| 2016 | CALIFORNIA | PLUMBING CODE | TITLE 24 | PART 5 |
| 2016 | CALIFORNIA | ENERGY CODE | TITLE 24 | PART 6 |
| 2016 | CALIFORNIA | FIRE CODE | TITLE 24 | PART 9 |
| 2016 | CALIFORNIA | GREEN BUILDING CODE | TITLE 24 | PART 11 |

sheet index:

| SHEET # | SHEET TITLE |
|---------|------------------------------|
| a0.0 | PROJECT DATA |
| a0.1 | CHECKLIST + SCHEDULE |
| a0.1F | VERY HIGH FIRE SEVERITY ZONE |
| a1.0 | SITE + DEPARTMENT NOTES |
| a1.0 | FLOOR PLAN |
| a2.0 | UTILITY PLAN |
| a3.0 | ROOF PLAN |
| a4.0 | ELEVATION A + SECTION |
| a4.1 | ELEVATION B + SECTION |
| a4.2 | ELEVATION C + SECTION |
| a0.0 | STRUCTURAL NOTES |
| s1.0 | FOUNDATION PLAN |
| s2.0 | ROOF FRAMING PLAN |
| d0.0 | DETAILS |
| d0.1 | DETAILS |
| d0.2 | DETAILS |
| d0.3 | DETAILS |
| d0.4 | DETAILS |
| T-24.1 | ENERGY REQUIREMENTS A |
| T-24.2 | ENERGY REQUIREMENTS A |
| T-24.3 | ENERGY REQUIREMENTS B |
| T-24.4 | ENERGY REQUIREMENTS B |
| T-24.5 | ENERGY REQUIREMENTS C |
| T-24.6 | ENERGY REQUIREMENTS C |
| T-24.7 | ENERGY REQUIREMENTS A RF |
| T-24.8 | ENERGY REQUIREMENTS A RF |
| T-24.9 | ENERGY REQUIREMENTS B RF |
| T-24.10 | ENERGY REQUIREMENTS B RF |
| T-24.11 | ENERGY REQUIREMENTS C RF |
| T-24.12 | ENERGY REQUIREMENTS C RF |
| T24.13 | MANDATORY MEASURES |

project data:

| | | |
|----------------------------------|---|--|
| PROPERTY OWNER | = | X |
| PROPERTY OWNER PHONE | = | X |
| PROJECT ADDRESS | = | X |
| | | ENCINITAS, CA 92024 |
| APN | = | X |
| GENERAL PLAN DESIGNATION | = | RESIDENTIAL |
| LEGAL DESCRIPTION | = | X |
| ZONE | = | R-___ |
| ZONE OVERLAYS | = | X |
| OCCUPANCY | = | R-3 |
| CONSTRUCTION TYPE | = | V-B |
| PROJECT DESCRIPTION | = | NEW ONE STORY DETACHED ACCESSORY DWELLING UNIT (ADU) |
| LOT AREA | = | X SF |
| BUILDING AREAS | | |
| (E) MAIN RESIDENCE AREA | = | X SF |
| (E) GARAGE AREA | = | X SF |
| TOTAL (E) AREA | = | X SF |
| (N) ACCESSORY DWELLING UNIT AREA | = | 224 SF |
| LOT COVERAGE | = | X |
| FLOOR AREA RATIO | = | X |
| BUILDING HEIGHT | = | X FT (14'-0" MAXIMUM W/ 3:12 SLOPE) |
| STORIES | = | ONE |
| PARKING | = | SEE SELECTION ON SHEET a0.1 |
| GRADING | = | NONE REQUIRED OR PROPOSED |
| FIRE SPRINKLERS | = | SEE SELECTION ON SHEET a0.1 |
| BUILDING CODES | = | SEE CODE TABLE THIS SHEET |



Abbreviations

| | | | | | |
|-------|-------------------------------|-------|------------------------|-------|-------------------------|
| & | AND | EP | ELECTRICAL PANEL | P | POLE |
| @ | AT | EQ | EQUAL | PCC | PRECAST CONCRETE |
| ' | DEGREES | EQUIP | EQUIPMENT | PKT | POCKET |
| Ø | DIAMETER | EW | EACH WAY | PL | PLATE |
| % | PERCENT | EXP | EXPANSION | PL | PROPERTY LINE |
| d | PENNY (NAIL SIZE) | EXST | EXISTING | PLS | PLASTER |
| # | POUND OR NUMBER | EXT | EXTERIOR | PLY | PLYWOOD |
| (E) | EXISTING | FA | FIRE ALARM | PNL | PANEL |
| (N) | NEW | FAB | FABRICATE | PR | PAIR |
| (NR) | NEW REPLACEMENT | FAU | FORCED AIR UNIT | PRE | PREFABRICATED |
| AA | ATTIC ACCESS | FD | FLOOR DRAIN | PT | PRESSURE TREATED |
| AB | ANCHOR BOLT | FDN | FOUNDATION | PTR | PARTNER |
| AC | ASPHALT CONCRETE | FE | FIRE EXTINGUISHER | PV | PRESSURE VALVE |
| A-C | ALTERNATING CURRENT | FF | FINISH FLOOR | PVC | POLYVINYL CHLORIDE |
| A/C | AIR CONDITIONING | FG | FUEL GAS | R | RISER, RIDGE OR RADIUS |
| ACOUS | ACOUSTICAL | FGR | FINISH GRADE | RA | RETURN AIR |
| ACT | ACOUSTICAL CEILING TILE | FJ | FINISH | RB | REINFORCING BAR |
| AD | AREA DRAIN | FJ | FLOOR JOIST | RBR | RUBBER |
| ADA | AMERICAN DISABILITY ACT | FL | FLOURESCENT | RCP | REFLECTED CEILING PLAN |
| AFO | ARCHED FRAMED OPENING | FLR | FLOOR | RD | ROOF DRAIN |
| AGGR | AGGREGATE | FLSH | FLASHING | REF | REFRIGERATOR |
| AGO | ARCH GYPSUM BOARD OPENING | FN | FIELD NAILING | REG | REGISTER |
| AHS | ALUMINUM HORIZONTAL SLIDING | FO | FRAMED OPENING | RENF | REINFORCE |
| AL | ALUMINUM | FP | FIREPLACE | REDD | REQUIRED |
| ALM | ALARM | FR | FIRE RATED | REV | REVISION |
| ALT | ALTERNATE | FRMG | FRAMING | RI | RIGID INSULATION |
| AMP | AMPERE | FT | FOOT/FEET | RM | ROOM |
| APN | ASSESSORS PARCEL NUMBER | FG | FOOTING | RO | ROUGH OPENING |
| ARCH | ARCHITECT | FXD | FIXED | RR | ROOF RAFTER |
| AS | ALUMINUM SLIDING | FYSB | FRONT YARD SETBACK | R/S | RESAWN |
| ASPH | ASPHALT | GA | GAUGE | RYSB | REAR YARD SETBACK |
| AVE | AVENUE | GAL | GALLON | S | SOUTH |
| AVS | ALUMINUM VERTICAL SLIDING | GALV | GALVANIZED | SA | SUPPLY AIR |
| AWG | AWNING | GB | GYPSUM BOARD | SBO | SELECTION BY OWNER |
| B | BOTTOM | GFI | GROUND FORCE INTERRUPT | SC | SOLID CORE |
| BBQ | BARBEQUE | GI | GALVANIZED IRON | SDG | SIDING |
| BD | BOARD | GL | GLASS | SEC | SECTION |
| BFD | BIFOLDING DOOR | GLB | GLULAM BEAM | SF | SQUARE FEET |
| BI | BUILT IN | GM | GAS METER | SFD | SINGLE FAMILY DWELLING |
| BJ | BALCONY JOIST | GO | GYPSUM BOARD OPENING | SH | SINGLE HUNG OR SHELF |
| BLDG | BUILDING | GR | GRADE | SHR | SHEAR |
| BLK | BLOCK | GWB | GYPSUM WALL BOARD | SHT | SHEET |
| BLM | BLOCKING | GYP | GYPSUM | SHTG | SHEATHING |
| BM | BEAM | H | HIP | SIM | SIMILAR |
| BN | BOUNDARY NAIL | HB | HOSE BIBB | SP | SHEAR PANEL |
| BOT | BOTTOM | HC | HOLLOW CORE | S & P | SHELF AND POLE |
| BPD | BYPASS DOOR | HIC | HANDICAPPED | SPEC | SPECIFICATIONS |
| BRG | BEARING | HD | HEAD | SQ | SQUARE |
| BRK | BRICK | HDR | HEADER | SS | STAINLESS STEEL |
| BSMT | BASEMENT | HDWR | HARDWARE | SSW | STEEL STRONG WALL |
| BTU | BRITISH THERMAL UNIT | HF | HARDY FRAME | SSYSB | STREET SIDEYARD SETBACK |
| BW | BOTH WAYS | HI | HIGH | ST | STAIR |
| CAB | CABINET | HM | HOLLOW METAL | STL | STEEL |
| CB | CATCH BASIN | HOR | HORIZONTAL | STP | STRAP |
| CEM | CEMENT | HP | HOPPER | STR | STRUCTURAL |
| CER | CERAMIC | HR | HOUR | STRG | STORAGE |
| CI | CAST IRON | HT | HEIGHT | SUSP | SUSPENDED |
| CIP | CAST IN PLACE | HTR | HEATER | SWU | SOFT WATER UNIT |
| CJ | CEILING JOIST / CONTROL JOINT | HW | HOT WATER | SYSB | SIDE YARD SETBACK |
| CL | CENTERLINE | INSUL | INSULATION | T | TREAD OR TOP |
| CLG | CEILING | IN | INCH | TB | THROUGH BOLT |
| CLKG | CAULKING | INT | INTERIOR | T & B | TOP AND BOTTOM |
| CLO | CLOSET | JST | JOIST | TC | TRASH COMPACTOR |
| CLR | CLEAR | JT | JOINT | TELE | TELEPHONE |
| CMN | COMMON | KIT | KITCHEN | TEMP | TEMPORARY |
| CMU | CONCRETE MASONRY UNIT | L | LINEN | TEMP | TEMPERED GLASS |
| CO | CLEANOUT | LAM | LAMINATE | T & G | TONGUE AND GROOVE |
| COL | COLUMN | LAT | LATERAL | THK | THICK |
| CONC | CONCRETE | LAV | LAVATORY | TME | TO MATCH EXISTING |
| CONT | CONTINUOUS | LDG | LANDING | TP | TOP PLATE |
| CONTR | CONTRACTOR | LG | LONG | TV | TELEVISION |
| CP | CEMENT PLASTER | LR | LARGE | TYP | TYPICAL |
| CPT | CARPET | LS | LAZY SUSAN | TWH | TANKLESS WATER HEATER |
| CSMT | CASEMENT | LSW | LAG SCREW | U | UNDER |
| CTR | CENTER | LT | LAUNDRY TUB | UIC | UNDER COUNTER |
| CW | COLD WATER VALVE | LGT | LIGHT | UNO | UNLESS NOTED OTHERWISE |
| CY | CUBIC YARD | MAX | MAXIMUM | UON | UNLESS OTHERWISE NOTED |
| DBL | DOUBLE | MB | MACHINE BOLT | V | VALLEY OR VALVE |
| DEMO | DEMOLITION | MBPD | MIRROR BYPASS DOOR | VAC | VACUUM |
| DF | DOUGLAS FIR | MC | MEDICINE CABINET | VER | VERTICAL |
| DG | DUAL GLAZED | MDL | MODEL | VHS | VINYL HORIZONTAL SLIDER |
| DH | DOUBLE HUNG | MECH | MECHANICAL | VIF | VERIFY IN FIELD |
| DI | DIAMETER | MEMB | MEMBRANE | VOL | VOLUME |
| DM | DIMENSION | MFR | MANUFACTURER | VTR | VENT TO ROOF |
| DJ | DECK JOIST | MIN | MINIMUM | VVS | VINYL VERTICAL SLIDER |
| DN | DOWN | MISC | MISCELLANEOUS | W | WEST |
| DP | DEEP | MS | MACHINE SCREW | WI | WITH |
| DR | DOOR | MTL | METAL | WO | WITHOUT |
| DS | DOWNSPOUT | MW | MICROWAVE OVEN | WC | WATER CLOSET |
| DTP | DOUBLE TOP PLATE | N | NORTH | WD | WOOD |
| DV | DRYER VENT | N/A | NOT APPLICABLE | WDW | WINDOW |
| DW | DISHWASHER | NAT | NATURAL | WDHR | WARMING DRAWER |
| DZN | DESIGN | NAP | NOT A PART | WH | WATER HEATER |
| E | EAST | NIC | NOT IN CONTRACT | WHS | WOOD HORIZONTAL SLIDER |
| EA | EACH | NO | NUMBER | WI | WROUGHT IRON |
| EGR | EXISTING GRADE | NOM | NOMINAL | WIC | WALK IN CLOSET |
| EJ | EXPANSION JOINT | NTS | NOT TO SCALE | WMH | WALL MOUNTED HEATER |
| ELEC | ELECTRICAL | O | OVER | WP | WATERPROOF |
| ELEV | ELEVATOR OR ELEVATION | OC | ON CENTER | WS | WOOD SCREW |
| EM | ELECTRICAL METER | OAE | OR APPROVED EQUAL | WSW | WOOD STRONG WALL |
| EMER | EMERGENCY | OH | OVERHANG | WVS | WOOD VERTICAL SLIDER |
| EN | EDGE NAIL | OPG | OPENING | WWM | WELDED WIRE MESH |
| ENCL | ENCLOSURE | OZ | OUNCE | YD | YARD |

door schedule - elevation a

| DOOR # | WIDTH | HEIGHT | THICKNESS | TYPE | OPERATION | CORE OR GLAZING | MATERIAL | FRAME | SCREEN | QUANTITY | NOTES |
|--------|-------|--------|-----------|----------|-----------|-----------------|----------|----------|----------|----------|------------|
| 1 | 3'-0" | 6'-8" | 1-3/4" | FRENCH | SWING | DG, TG | WOOD | WOOD | OPTIONAL | 1 | ENTRY DOOR |
| 2 | 6'-0" | 6'-8" | 1-3/4" | FRENCH | SLIDING | DG, TG | VINYL | VINYL | YES | 1 | |
| 3 | 2'-0" | 6'-8" | 1-1/2" | INTERIOR | SWING | HOLLOW | WOOD | WOOD | NO | 1 | |
| 4 | 6'-0" | 6'-8" | 1-1/2" | CLOSET | BYPASS | - | MIRROR | ALUMINUM | NO | 1 | |

window schedule - elevation a

| WINDOW # | WIDTH | HEIGHT | TYPE | MATERIAL | GLAZING | SCREEN | QUANTITY | NOTES |
|----------|-------|--------|-------------------|----------|---------|--------|----------|--------|
| 1 | 2'-0" | 3'-6" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 2 | 2'-0" | 4'-0" | VERTICAL SLIDER | VINYL | DG | YES | 1 | OPAQUE |
| 3 | 6'-0" | 3'-0" | HORIZONTAL SLIDER | VINYL | DG | YES | 1 | |

door schedule - elevation b

| DOOR # | WIDTH | HEIGHT | THICKNESS | TYPE | OPERATION | CORE OR GLAZING | MATERIAL | FRAME | SCREEN | QUANTITY | NOTES |
|--------|-------|--------|-----------|----------|-----------|-----------------|----------|----------|----------|----------|------------|
| 1 | 3'-0" | 6'-8" | 1-3/4" | FRENCH | SWING | DG, TG | WOOD | WOOD | OPTIONAL | 1 | ENTRY DOOR |
| 2 | 6'-0" | 6'-8" | 1-3/4" | FRENCH | SLIDING | DG, TG | VINYL | VINYL | YES | 1 | |
| 3 | 2'-0" | 6'-8" | 1-1/2" | INTERIOR | SWING | HOLLOW | WOOD | WOOD | NO | 1 | |
| 4 | 6'-0" | 6'-8" | 1-1/2" | CLOSET | BYPASS | - | MIRROR | ALUMINUM | NO | 1 | |

window schedule - elevation b

| WINDOW # | WIDTH | HEIGHT | TYPE | MATERIAL | GLAZING | SCREEN | QUANTITY | NOTES |
|----------|-------|--------|-------------------|----------|---------|--------|----------|-----------------------------|
| 1 | 2'-0" | 3'-6" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 2 | 2'-0" | 4'-0" | VERTICAL SLIDER | VINYL | DG | YES | 1 | OPAQUE |
| 3 | 6'-0" | 3'-0" | HORIZONTAL SLIDER | VINYL | DG | YES | 1 | |
| 4 | 6'-0" | 2'-0" | FIXED | VINYL | DG | NO | 2 | TRANSOM OVER DOOR 2 & WDW 3 |
| 5 | 2'-0" | 2'-0" | FIXED | VINYL | DG | NO | 1 | TRANSOM OVER WDW 1 |
| 6 | 2'-0" | 2'-0" | AWNING | VINYL | DG | YES | 1 | STORAGE LOFT |

door schedule - elevation c

| DOOR # | WIDTH | HEIGHT | THICKNESS | TYPE | OPERATION | CORE OR GLAZING | MATERIAL | FRAME | SCREEN | QUANTITY | NOTES |
|--------|-------|--------|-----------|----------|-----------|-----------------|----------|----------|----------|----------|------------|
| 1 | 3'-0" | 6'-8" | 1-3/4" | FRENCH | SWING | DG, TG | WOOD | WOOD | OPTIONAL | 1 | ENTRY DOOR |
| 2 | 6'-0" | 6'-8" | 1-3/4" | FRENCH | SLIDING | DG, TG | VINYL | VINYL | YES | 1 | |
| 3 | 2'-0" | 6'-8" | 1-1/2" | INTERIOR | SWING | HOLLOW | WOOD | WOOD | NO | 1 | |
| 4 | 6'-0" | 6'-8" | 1-1/2" | CLOSET | BYPASS | - | MIRROR | ALUMINUM | NO | 1 | |

window schedule - elevation c

| WINDOW # | WIDTH | HEIGHT | TYPE | MATERIAL | GLAZING | SCREEN | QUANTITY | NOTES |
|----------|-------|--------|-----------------|----------|---------|--------|----------|------------------------------------|
| 1 | 2'-0" | 3'-6" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 2 | 2'-0" | 4'-0" | VERTICAL SLIDER | VINYL | DG | YES | 1 | OPAQUE |
| 3 | 3'-0" | 5'-0" | VERTICAL SLIDER | VINYL | DG | YES | 1 | |
| 4 | 6'-0" | 2'-6" | FIXED | VINYL | DG | NO | 4 | HIGH PENTAGON TRANSOM AT EACH SIDE |

appliance schedule - studio 0

| APPLIANCE | OPERATION | MANUFACTURER | MODEL | QUANTITY | NOTES |
|-----------------------|-------------|--------------|----------|----------|-------------------------|
| WALL HEATER | GAS | RINNAI | FC510 | 1 | OR EQUAL |
| TANKLESS WATER HEATER | GAS | RINNAI | V946N | 1 | OR EQUAL |
| REFRIGERATOR | ELECTRICITY | BY OWNER | BY OWNER | 1 | 30" WIDE, COUNTER DEPTH |
| RANGE | GAS | BY OWNER | BY OWNER | 1 | 30" WIDE |
| MICROWAVE HOOD | ELECTRICITY | BY OWNER | BY OWNER | 1 | 30" WIDE |
| GARBAGE DISPOSAL | ELECTRICITY | BY OWNER | BY OWNER | 1 | AIR SWITCH |

fixture schedule - studio 0

| FIXTURE | LOCATION | MANUFACTURER | MODEL | QUANTITY | NOTES |
|---------------------------|----------|--------------|----------|----------|-----------------------------|
| SINK | KITCHEN | BY OWNER | BY OWNER | 1 | |
| SINK FAUCET | KITCHEN | BY OWNER | BY OWNER | 1 | |
| LAVATORY | BATH | BY OWNER | BY OWNER | 1 | |
| LAVATORY FAUCET | BATH | BY OWNER | BY OWNER | 1 | |
| TOILET | BATH | BY OWNER | BY OWNER | 1 | |
| BATHTUB | BATH | BY OWNER | BY OWNER | 1 | 30"x60" CAST IRON, OR EQUAL |
| BATH FILLER + SHOWER HEAD | BATH | BY OWNER | BY OWNER | 1 | |

material schedule - studio 0

| LOCATION | FLOOR | BASE | CASE | COUNTER | CABINET | WALL | CEILING | NOTES |
|------------|------------|-----------|-----------|------------|-------------|--------------|--------------|----------|
| GREAT ROOM | 1 | 4 | 4 | 3 | 2 | 1 | 5 | OR EQUAL |
| BATH | 2 | 2 | 4 | 4 | 1 | 2 | 2 | OR EQUAL |
| | 1-CONCRETE | 1-NONE | 1-NONE | 1-CONCRETE | 1-PAINTED | 1-FLAT PAINT | 1-FLAT PAINT | |
| | 2-TILE | 2-TILE | 2-TILE | 2-TILE | WOOD | O/ GB | O/ GB | |
| | 3-VINYL | 3-VINYL | 3-VINYL | 3-STONE | 2-SEMIGLOSS | 2-SEMIGLOSS | 2-SEMIGLOSS | |
| | 4-CARPET | 4-P. WOOD | 4-P. WOOD | 4-GLASS | WOOD | PAINT O/ GB | PAINT O/ GB | |
| | 5-WOOD | 5-S. WOOD | 5-S. WOOD | 5-WOOD | 3-METAL | 5-WOOD | 5-T&G WOOD | |

fire sprinklers:

EXISTING OR PROPOSED RESIDENCE

NO

YES

fire sprinklers:

REQUIRED AT PROPOSED ADU

NO

YES

fire sprinkler notes:

- IF FIRE SPRINKLERS ARE REQUIRED AT THE ADU THAN THESE NOTES APPLY.
- AUTOMATIC FIRE SPRINKLER SYSTEM - AN AUTOMATIC FIRE SPRINKLER SYSTEM SHALL BE INSTALLED AS PER N.F.P.A. 13D. THE MOST CURRENT EDITION SHALL BE USED AND THE ENCINITAS FIRE DEPARTMENT POLICIES. DETAILED SPRINKLER PLANS SHALL BE SUBMITTED TO THE FIRE PREVENTION BUREAU AND APPROVED PRIOR TO INSTALLATION. PLANS AND INSTALLATION MUST BE BY A C16 LICENSED SPRINKLER CONTRACTOR.
- SECTION 903.2.1. GROUP R** AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3 SHALL BE PROVIDED THROUGHOUT ALL BUILDINGS WITH A GROUP R FIRE AREA. THIS INCLUDES SINGLE FAMILY DWELLINGS, MULTI-FAMILY DWELLINGS AND ALL RESIDENTIAL CARE FACILITIES REGARDLESS OF OCCUPANT LOAD.
- SECTION 903.2.1.1** ADDITIONS AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH 903.3 MAY BE REQUIRED TO BE INSTALLED THROUGHOUT STRUCTURES WHEN THE ADDITION IS MORE THAN 50% OF THE EXISTING BUILDING OR WHEN THE ALTERED BUILDING WILL EXCEED A FIRE FLOW OF 1,500 GALLONS PER MINUTE AS CALCULATED PER SECTION 507.3. THE FIRE CODE OFFICIAL MAY REQUIRE AN AUTOMATIC SPRINKLER SYSTEM BE INSTALLED IN BUILDINGS WHERE NO WATER MAIN EXISTS TO PROVIDE THE REQUIRED FIRE FLOW OR WHERE A SPECIAL HAZARD EXISTS SUCH AS; POOR ACCESS ROADS, GRADE, BLUFFS AND CANYON RIMS, HAZARDOUS BRUSH AND RESPONSE TIMES GREATER THAN 5 MINUTES BY A FIRE DEPARTMENT.
- SECTION 903.2.1.2** REMODELS OR RECONSTRUCTION AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION 903.3 MAY BE REQUIRED IF THE SCOPE OF WORK INCLUDES SIGNIFICANT MODIFICATION TO THE INTERIOR AND/OR ROOF OF THE BUILDING, AND THE COST OF THE INSTALLATION DOES NOT EXCEED 15 PERCENT OF THE CONSTRUCTION COSTS OF THE REMODEL.
- LOCATION AND SIZE OF WATER SERVICE UNDERGROUND SHALL BE INSTALLED AS SHOWN ON APPROVED FIRE SPRINKLER PLANS. A MINIMUM 1 INCH WATER SHALL BE INSTALLED.
- A FIRE UNDERGROUND FLUSH CERTIFICATION SHALL BE REQUIRED AT FINAL INSPECTION.
- A HYDRO INSPECTION OF THE FIRE SPRINKLER SYSTEM IS REQUIRED PRIOR TO FRAME INSPECTION. ONLY THE NEW PIPING SHALL BE TESTED.

waste water:

SELECTION

SEWER

SEPTIC (REQUIRES SAN DIEGO COUNTY HEALTH APPROVAL)

DISTANCE TO CONNECTION = _____FEET

onsite parking:

REQUIRED

NONE

ONE PARKING SPACE

very high fire severity zone:

SELECTION

NO

YES

- IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SEE NOTES BELOW & ON SHEET a0.1F
- THE ADU SHALL COMPLY WITH CHAPTER 7A OF THE CURRENT CALIFORNIA BUILDING CODE.
- STRUCTURES IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL PROVIDE & MAINTAIN A FUEL MODIFICATION ZONE. FUEL MODIFICATION ZONES: THE APPLICANT SHALL PROVIDE & MAINTAIN FIRE/FUEL BREAKS TO THE SATISFACTION OF THE ENCINITAS FIRE DEPARTMENT. FIRE/FUEL BREAKS SIZE (MINIMUM 100 FEET FROM STRUCTURE) & COMPOSITION SHALL BE DETERMINED BY THE FIRE DEPARTMENT & SHOWN ON THE IMPROVEMENT/GRADING PLANS, FINAL MAP & BUILDING PLANS.

schedule notes:

- ALL GLAZING IN DOORS SHALL BE TEMPERED.
- SEE ELEVATIONS FOR 'TG' AT WINDOWS THAT REQUIRE TEMPERED GLAZING.
- IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SEE NOTES AND SCHEDULES ON SHEET a0.1F CONCERNING DOOR & WINDOW CONSTRUCTION AND TEMPERED GLAZING.
- SEE ELEVATIONS FOR WINDOW OPERATION DIRECTION & LOCATION OF MUNTINS.
- SEE FLOOR PLANS FOR DOOR SWING DIRECTION.
- ALL GLAZED OPENINGS SHALL MEET THE REQUIREMENTS OF THE CBC T24 SHEETS PROVIDED

very high fire hazard severity zone

very high fire hazard severity zone notes:

CBC CHAPTER 7A - MATERIALS & CONSTRUCTION METHODS FOR EXTERIOR WILDFIRE EXPOSURE IF THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE THESE NOTES & NOTES ON SHEET a0.1 APPLY. THE JURISDICTION HAS DETERMINED THAT THIS PROJECT IS IN A WILDLAND/URBAN INTERFACE AREA. PLEASE SHOW COMPLIANCE WITH THE FOLLOWING ITEMS FOR NEW BUILDINGS, PER THE 2016 CBC.

EXCEPTIONS

- BUILDINGS OF AN ACCESSORY CHARACTER CLASSIFIED AS A GROUP U OCCUPANCY AND NOT EXCEEDING 120 SQUARE FEET IN FLOOR AREA, WHEN LOCATED AT LEAST 30 FEET FROM AN APPLICABLE BUILDING.
- BUILDINGS OF AN ACCESSORY CHARACTER CLASSIFIED AS GROUP U OCCUPANCY OF ANY SIZE LOCATED LEAST 50' FROM AN APPLICABLE BUILDING.
- BUILDINGS CLASSIFIED AS A GROUP U AGRICULTURAL BUILDING, AS DEFINED IN SECTION 202 OF THIS CODE (SEE ALSO APPENDIX C - GROUP U AGRICULTURAL BUILDINGS), WHEN LOCATED AT LEAST 50' FROM AN APPLICABLE BUILDING.

REQUIREMENTS

- 705A.2 ROOF COVERINGS.** WHERE THE ROOF PROFILE ALLOWS A SPACE BETWEEN THE ROOF COVERING AND ROOF DECKING, THE SPACES SHALL BE CONSTRUCTED TO PREVENT THE INTRUSION OF FLAMES AND EMBERS, BE FIRESTOPPED WITH APPROVED MATERIALS OR HAVE ONE LAYER OF MINIMUM 72-POUND MINERAL-SURFACED NONPERFORATED CAP SHEET COMPLYING WITH ASTM D 3909 INSTALLED OVER THE COMBUSTIBLE DECKING.
- 705A.3 ROOF VALLEYS.** WHERE VALLEY FLASHING IS INSTALLED, THE FLASHING SHALL BE NOT LESS THAN 0.019-INCH NO. 26 GAGE GALVANIZED SHEET CORROSION-RESISTANT METAL INSTALLED OVER NOT LESS THAN ONE LAYER OF MINIMUM 72-POUND MINERAL-SURFACED NONPERFORATED CAP SHEET COMPLYING WITH ASTM D 3909, AT LEAST 36-INCH-WIDE RUNNING THE FULL LENGTH OF THE VALLEY.
- 705A.4 ROOF GUTTERS.** ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES & DEBRIS IN THE GUTTER.
- 705A.5 VENTILATION OPENINGS FOR ENCLOSED ATTICS,** ENCLOSED EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILING ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, AND UNDER ROOF VENTILATION OPENINGS SHALL BE FULLY COVERED WITH METAL WIRE MESH, VENTS, OTHER MATERIALS OR OTHER DEVICES THAT MEET THE FOLLOWING REQUIREMENTS:
 - THE DIMENSIONS OF THE OPENINGS THEREIN SHALL BE A MINIMUM OF 1/8-INCH AND SHALL NOT EXCEED 1/8"
 - THE MATERIALS USED SHALL BE NONCOMBUSTIBLE.

EXCEPTION: VENTS LOCATED UNDER THE ROOF COVERING, ALONG THE RIDGE OF ROOFS, WITH THE EXPOSED SURFACE OF THE VENT COVERED BY NONCOMBUSTIBLE WIRE MESH, MAY BE OF COMBUSTIBLE MATERIALS.
- 705A.6 VENTILATION OPENINGS ON THE UNDERSIDE OF EAVES AND CORNICES:** VENTS SHALL NOT BE INSTALLED ON THE UNDERSIDE OF EAVES AND CORNICES. SEE POSSIBLE ENCINITAS CITY EXCEPTIONS.
- 707A.3 EXTERIOR WALLS.** THE EXTERIOR WALL COVERING OR WALL ASSEMBLY SHALL COMPLY WITH ONE OF THE FOLLOWINGS:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - HEAVY TIMBER EXTERIOR WALL ASSEMBLY
 - LOG WALL CONSTRUCTION ASSEMBLY
 - WALL ASSEMBLIES THAT MEET THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES FOR A 10-MINUTE DIRECT FLAME CONTACT EXPOSURE TEST SET FORTH IN SFM STD 12-7A-1.

EXCEPTION: ANY OF THE FOLLOWING SHALL BE DEEMED TO MEET THE ASSEMBLY PERFORMANCE CRITERIA AND INTENT OF THIS SECTION:

 - ONE LAYER OF 5/8-INCH TYPE X GYPSUM SHEATHING APPLIED BEHIND THE EXTERIOR COVERING OR CLADDING ON THE EXTERIOR SIDE OF THE FRAMING.
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY DESIGNED FOR EXTERIOR FIRE EXPOSURE INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
- 707A.3.1 EXTENT OF EXTERIOR WALL COVERING.** EXTERIOR WALL COVERINGS SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF AND TERMINATE AT 2" NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR IN THE CASE OF ENCLOSED EAVES, TERMINATE AT THE ENCLOSURE.
- 707A.4 OPEN ROOF EAVES.** THE EXPOSED ROOF DECK ON THE UNDERSIDE OF UNCLOSED ROOF EAVES SHALL CONSIST OF ONE OF THE FOLLOWING:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - 1 LAYER OF 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE EXTERIOR OF THE ROOF DECK.
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE ROOF DECK DESIGNED FOR EXTERIOR FIRE EXPOSURE INCLUDING ASSEMBLIES USING THE GYPSUM PANEL & SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.

EXCEPTIONS: THE FOLLOWING MATERIALS DO NOT REQUIRE PROTECTION:

 - SOLID WOOD RAFTER TAILS ON THE EXPOSED UNDERSIDE OF OPEN ROOF EAVES HAVING A MINIMUM NOMINAL DIMENSION OF 2 INCH
 - SOLID WOOD BLOCKING INSTALLED BETWEEN RAFTER TAILS ON THE EXPOSED UNDERSIDE OF OPEN ROOF EAVES HAVING A MINIMUM NOMINAL DIMENSION OF 2 INCH
 - GABLE END OVERHANGS AND ROOF ASSEMBLY PROJECTIONS BEYOND AN EXTERIOR WALL OTHER THAN AT THE LOWER END OF THE RAFTER TAILS
 - FASCIA AND OTHER ARCHITECTURAL TRIM BOARDS
- 707A.5 ENCLOSED ROOF EAVES AND ROOF EAVE SOFFITS.** THE EXPOSED UNDERSIDE OF ENCLOSED ROOF EAVES HAVING EITHER A BOXED-IN ROOF EAVE SOFFIT WITH A HORIZONTAL UNDERSIDE, OR SLOPING RAFTER TAILS WITH AN EXTERIOR COVERING APPLIED TO THE UNDERSIDE OF THE RAFTER TAILS, SHALL BE PROTECTED BY ONE OF THE FOLLOWING:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - ONE LAYER OF 5/8-INCH TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE OF THE RAFTER TAILS OR SOFFIT
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE RAFTER TAILS OR SOFFIT INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
 - BOXED-IN ROOF EAVE SOFFIT ASSEMBLIES WITH A HORIZONTAL UNDERSIDE THAT MEET THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STD 12-7A-3.

EXCEPTIONS: THE FOLLOWING MATERIALS DO NOT REQUIRE PROTECTION:

 - GABLE END OVERHANGS AND ROOF ASSEMBLY PROJECTIONS BEYOND AN EXTERIOR WALL OTHER THAN AT THE LOWER END OF THE RAFTER TAILS
 - FASCIA AND OTHER ARCHITECTURAL TRIM BOARDS

- 707A.6 EXTERIOR PORCH CEILINGS.** THE EXPOSED UNDERSIDE OF EXTERIOR PORCH CEILINGS SHALL BE PROTECTED BY ONE OF THE FOLLOWING:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - ONE LAYER OF 5/8-INCH TYPE X GYPSUM SHEATHING APPLIED BEHIND THE EXTERIOR COVERING ON THE UNDERSIDE OF THE CEILING
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE CEILING ASSEMBLY INCLUDING ASSEMBLIES USING THE GYPSUM PANEL & SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
 - PORCH CEILING ASSEMBLIES WITH A HORIZONTAL UNDERSIDE THAT MEET THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3.
- 707A.7 FLOOR PROJECTIONS.** THE EXPOSED UNDERSIDE OF A CANTILEVERED FLOOR PROJECTION WHERE A FLOOR ASSEMBLY EXTENDS OVER AN EXTERIOR WALL SHALL BE PROTECTED BY ONE OF THE FOLLOWING:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - ONE LAYER OF 5/8-INCH TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE OF THE FLOOR PROJECTION
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE FLOOR PROJECTION INCLUDING ASSEMBLIES USING THE GYPSUM PANEL & SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
 - THE UNDERSIDE OF A FLOOR PROJECTION ASSEMBLY THAT MEET THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3.
- UNDERFLOOR PROTECTION.** THE UNDERFLOOR AREA OF ELEVATED OR OVERHANGING BUILDINGS SHALL BE ENCLOSED TO GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CHAPTER OR THE UNDERSIDE OF THE EXPOSED UNDERFLOOR SHALL CONSIST OF ONE OF THE FOLLOWING:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - ONE LAYER OF 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE OF THE FLOOR PROJECTION
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE FLOOR INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
 - THE UNDERSIDE OF A FLOOR ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3.

EXCEPTION: HEAVY TIMBER STRUCTURAL COLUMNS AND BEAMS DO NOT REQUIRE PROTECTION.
- 707A.9 UNDERSIDE OF APPENDAGES.** WHEN REQUIRED BY THE ENFORCING AGENCY THE UNDERSIDE OF OVERHANGING APPENDAGES SHALL BE ENCLOSED TO GRADE IN ACCORDANCE WITH THE REQUIREMENTS OF THIS CHAPTER OR THE UNDERSIDE OF THE EXPOSED UNDERFLOOR SHALL CONSIST OF ONE OF THE FOLLOWING:
 - NONCOMBUSTIBLE MATERIAL
 - IGNITION-RESISTANT MATERIAL
 - ONE LAYER OF 5/8" TYPE X GYPSUM SHEATHING APPLIED BEHIND AN EXTERIOR COVERING ON THE UNDERSIDE OF THE FLOOR PROJECTION
 - THE EXTERIOR PORTION OF A 1-HOUR FIRE RESISTIVE EXTERIOR WALL ASSEMBLY APPLIED TO THE UNDERSIDE OF THE FLOOR INCLUDING ASSEMBLIES USING THE GYPSUM PANEL AND SHEATHING PRODUCTS LISTED IN THE GYPSUM ASSOCIATION FIRE RESISTANCE DESIGN MANUAL.
 - THE UNDERSIDE OF A FLOOR ASSEMBLY THAT MEETS THE PERFORMANCE CRITERIA IN ACCORDANCE WITH THE TEST PROCEDURES SET FORTH IN SFM STANDARD 12-7A-3.

EXCEPTION: HEAVY TIMBER STRUCTURAL COLUMNS AND BEAMS DO NOT REQUIRE PROTECTION.
- 708A.2 EXTERIOR GLAZING.** THE FOLLOWING EXTERIOR GLAZING MATERIALS AND/OR ASSEMBLIES SHALL COMPLY WITH THIS SECTION:
 - EXTERIOR WINDOWS
 - EXTERIOR GLAZED DOORS
 - GLAZED OPENINGS WITHIN EXTERIOR DOORS
 - GLAZED OPENINGS WITHIN EXTERIOR GARAGE DOORS
 - EXTERIOR STRUCTURAL GLASS VENEER
- 708A.2.1 EXTERIOR WINDOWS AND EXTERIOR GLAZED DOOR ASSEMBLY REQUIREMENTS.** EXTERIOR WINDOWS & EXTERIOR GLAZED DOOR ASSEMBLIES SHALL COMPLY WITH ONE OF THE FOLLOWING REQUIREMENTS:
 - BE CONSTRUCTED OF MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, OR
 - BE CONSTRUCTED OF GLASS BLOCK UNITS, OR
 - HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 267, OR
 - BE TESTED TO MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2.
- 708A.3 EXTERIOR DOORS.** EXTERIOR DOORS SHALL COMPLY WITH ONE OF THE FOLLOWING:
 - THE EXTERIOR SURFACE OR CLADDING SHALL BE OF NON-COMBUSTIBLE OR IGNITION-RESISTANT MATERIAL, OR
 - SHALL BE CONSTRUCTED OF SOLID CORE WOOD THAT COMPLY WITH THE FOLLOWING REQUIREMENTS:
 - STILES AND RAILS SHALL NOT BE LESS THAN 1-3/8 INCHES THICK.
 - RAISED PANELS SHALL NOT BE LESS THAN 1/4 INCHES THICK, EXCEPT FOR THE EXTERIOR PERIMETER OF THE RAISED PANEL THAT MAY TAPER TO A TONGUE NOT LESS THAN 3/8 INCH THICK.
 - SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 267.
 - SHALL BE TESTED TO MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1.
- 708A.3.1 EXTERIOR DOOR GLAZING.** GLAZING IN EXTERIOR DOORS SHALL COMPLY WITH SECTION 708A.2.1.

door schedule - elevation a

| DOOR # | WIDTH | HEIGHT | THICKNESS | TYPE | OPERATION | CORE OR GLAZING | MATERIAL | FRAME | SCREEN | QUANTITY | NOTES |
|--------|-------|--------|-----------|----------|-----------|-----------------|----------|----------|----------|----------|------------|
| 1 | 3'-0" | 6'-8" | 1-3/4" | FRENCH | SWING | DG, TG | WOOD | WOOD | OPTIONAL | 1 | ENTRY DOOR |
| 2 | 6'-0" | 6'-8" | 1-3/4" | FRENCH | SLIDING | DG, TG | VINYL | VINYL | YES | 1 | |
| 3 | 2'-0" | 6'-8" | 1-1/2" | INTERIOR | SWING | HOLLOW | WOOD | WOOD | NO | 1 | |
| 4 | 6'-0" | 6'-8" | 1-1/2" | CLOSET | BYPASS | - | MIRROR | ALUMINUM | NO | 1 | |

window schedule - elevation a

| WINDOW # | WIDTH | HEIGHT | TYPE | MATERIAL | GLAZING | SCREEN | QUANTITY | NOTES |
|----------|-------|--------|-------------------|----------|---------|--------|----------|--------|
| 1 | 2'-0" | 3'-6" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 2 | 2'-0" | 4'-0" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | OPAQUE |
| 3 | 6'-0" | 3'-0" | HORIZONTAL SLIDER | VINYL | DG, TG | YES | 1 | |

door schedule - elevation b

| DOOR # | WIDTH | HEIGHT | THICKNESS | TYPE | OPERATION | CORE OR GLAZING | MATERIAL | FRAME | SCREEN | QUANTITY | NOTES |
|--------|-------|--------|-----------|----------|-----------|-----------------|----------|----------|----------|----------|------------|
| 1 | 3'-0" | 6'-8" | 1-3/4" | FRENCH | SWING | DG, TG | WOOD | WOOD | OPTIONAL | 1 | ENTRY DOOR |
| 2 | 6'-0" | 6'-8" | 1-3/4" | FRENCH | SLIDING | DG, TG | VINYL | VINYL | YES | 1 | |
| 3 | 2'-0" | 6'-8" | 1-1/2" | INTERIOR | SWING | HOLLOW | WOOD | WOOD | NO | 1 | |
| 4 | 6'-0" | 6'-8" | 1-1/2" | CLOSET | BYPASS | - | MIRROR | ALUMINUM | NO | 1 | |

window schedule - elevation b

| WINDOW # | WIDTH | HEIGHT | TYPE | MATERIAL | GLAZING | SCREEN | QUANTITY | NOTES |
|----------|-------|--------|-------------------|----------|---------|--------|----------|-----------------------------|
| 1 | 2'-0" | 3'-6" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 2 | 2'-0" | 4'-0" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | OPAQUE |
| 3 | 6'-0" | 3'-0" | HORIZONTAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 4 | 6'-0" | 2'-0" | FIXED | VINYL | DG, TG | NO | 2 | TRANSOM OVER DOOR 2 & WDW 3 |
| 5 | 2'-0" | 2'-0" | FIXED | VINYL | DG, TG | NO | 1 | TRANSOM OVER WDW 1 |
| 6 | 2'-0" | 2'-0" | AWNING | VINYL | DG, TG | YES | 1 | STORAGE LOFT |

door schedule - elevation c

| DOOR # | WIDTH | HEIGHT | THICKNESS | TYPE | OPERATION | CORE OR GLAZING | MATERIAL | FRAME | SCREEN | QUANTITY | NOTES |
|--------|-------|--------|-----------|----------|-----------|-----------------|----------|----------|----------|----------|------------|
| 1 | 3'-0" | 6'-8" | 1-3/4" | FRENCH | SWING | DG, TG | WOOD | WOOD | OPTIONAL | 1 | ENTRY DOOR |
| 2 | 6'-0" | 6'-8" | 1-3/4" | FRENCH | SLIDING | DG, TG | VINYL | VINYL | YES | 1 | |
| 3 | 2'-0" | 6'-8" | 1-1/2" | INTERIOR | SWING | HOLLOW | WOOD | WOOD | NO | 1 | |
| 4 | 6'-0" | 6'-8" | 1-1/2" | CLOSET | BYPASS | - | MIRROR | ALUMINUM | NO | 1 | |

window schedule - elevation c

| WINDOW # | WIDTH | HEIGHT | TYPE | MATERIAL | GLAZING | SCREEN | QUANTITY | NOTES |
|----------|-------|--------|-----------------|----------|---------|--------|----------|------------------------------------|
| 1 | 2'-0" | 3'-6" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 2 | 2'-0" | 4'-0" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | OPAQUE |
| 3 | 3'-0" | 5'-0" | VERTICAL SLIDER | VINYL | DG, TG | YES | 1 | |
| 4 | 6'-0" | 2'-6" | FIXED | VINYL | DG, TG | NO | 4 | HIGH PENTAGON TRANSOM AT EACH SIDE |

schedule notes:

- ALL GLAZING IN DOORS SHALL BE TEMPERED IN THE VHFHSZ.
- ALL GLAZING IN WINDOWS SHALL BE TEMPERED IN THE VHFHSZ.
- THE PROPERTY THAT WILL CONTAIN THE ADU IS IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE. SEE NOTES ON SHEET a0.1F CONCERNING DOOR & WINDOW CONSTRUCTION AND TEMPERED GLAZING.
- SEE ELEVATIONS FOR WINDOW OPERATION DIRECTION & LOCATION OF MUNTINS.
- SEE FLOOR PLANS FOR DOOR SWING DIRECTION.
- ALL GLAZED OPENINGS SHALL MEET THE REQUIREMENTS OF THE CBC T24 SHEETS PROVIDED IN THE PLANS.
- VINYL WINDOWS AND EXTERIOR VINYL DOOR FRAMES & SASH WILL BE COMPRISED OF VINYL MATERIAL WITH WELDED CORNERS & METAL REINFORCEMENT IN THE INTERLOCK AREA.

very high fire hazard severity zone notes:

- THE ADU SHALL COMPLY WITH CHAPTER 7A OF THE CURRENT CALIFORNIA BUILDING CODE BECAUSE IT IS IN THE VHFHSZ.
- STRUCTURES IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL PROVIDE & MAINTAIN A FUEL MODIFICATION ZONE. FUEL MODIFICATION ZONES: THE APPLICANT SHALL PROVIDE & MAINTAIN FIRE/FUEL BREAKS TO THE SATISFACTION OF THE ENCINITAS FIRE DEPARTMENT. FIRE/FUEL BREAKS SIZE (MINIMUM 100 FEET FROM STRUCTURE) & COMPOSITION SHALL BE DETERMINED BY THE FIRE DEPARTMENT & SHOWN ON THE IMPROVEMENT/GRADING PLANS, FINAL MAP & BUILDING PLANS.

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ENCINITAS AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.



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PRADU STUDIO 0

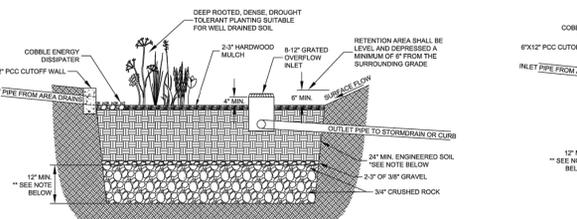
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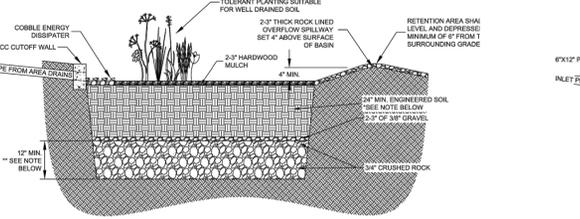
VERY HIGH FIRE HAZARD SEVERITY ZONE

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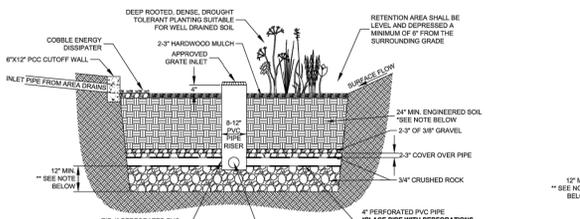
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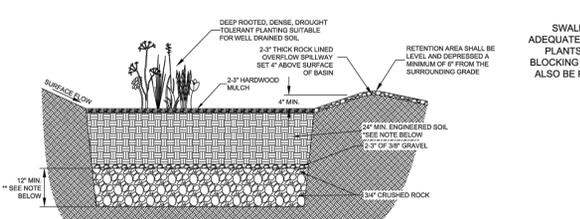
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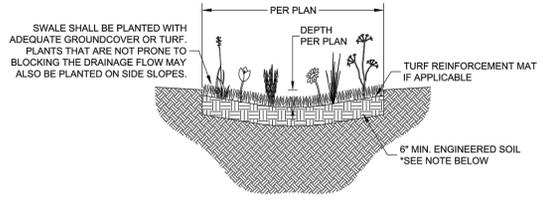
BIORETENTION DETAIL FOR STANDARD PROJECTS ONLY



BIORETENTION DETAIL FOR STANDARD PROJECTS ONLY



VEGETATED SWALE



"BIORETENTION" ENGINEERED SOIL LAYER SHALL BE MINIMUM 24" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.
 "3/4" CRUSHED ROCK LAYER SHALL BE A MINIMUM OF 12" BUT MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.
 THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON CITY OF ENCINITAS BMP DESIGN MANUAL CALCULATIONS.

"BIORETENTION" ENGINEERED SOIL LAYER SHALL BE MINIMUM 24" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.
 "3/4" CRUSHED ROCK LAYER SHALL BE A MINIMUM OF 12" BUT MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.
 THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON CITY OF ENCINITAS BMP DESIGN MANUAL CALCULATIONS.

"BIORETENTION" ENGINEERED SOIL LAYER SHALL BE MINIMUM 24" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.
 "3/4" CRUSHED ROCK LAYER SHALL BE A MINIMUM OF 12" BUT MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.
 THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON CITY OF ENCINITAS BMP DESIGN MANUAL CALCULATIONS.

"BIORETENTION" ENGINEERED SOIL LAYER SHALL BE MINIMUM 24" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.
 "3/4" CRUSHED ROCK LAYER SHALL BE A MINIMUM OF 12" BUT MAY BE DEEPENED TO INCREASE THE INFILTRATION AND STORAGE ABILITY OF THE BASIN.
 THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON CITY OF ENCINITAS BMP DESIGN MANUAL CALCULATIONS.

"ENGINEERED SOIL" LAYER SHALL BE MINIMUM 6" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.
 NOTE: VEGETATED SWALES ON GRADES OF MORE THAN 2.5% MUST INSTALL CHECK DAMS TO LIMIT THE SLOPE OF THE SWALE TO 2.5% UNLESS OTHERWISE APPROVED BY THE DIRECTOR OF ENGINEERING SERVICES.
 NOTE: NO FILTER FABRIC IS TO BE USED IN THIS SECTION.

A - PIPE IN WITH SHALLOW RISER

B - PIPE IN WITH SPILLWAY

C - PIPE IN WITH SUBDRAIN

D - SURFACE FLOW WITH SPILL WAY

E - VEGETATED SWALE

department notes:

- BUILDING**
- B1 SURFACE WATER WILL DRAIN AWAY FROM BUILDING. THE GRADE SHALL FALL A MINIMUM OF 6" WITHIN THE FIRST 10 FEET. SECTION R401.3
 - B2 COMPLIANCE WITH THE DOCUMENTATION REQUIREMENTS OF THE 2016 ENERGY EFFICIENT STANDARDS IS NECESSARY FOR THIS PROJECT REGISTERED, SIGNED, AND DATED COPIES OF THE APPROPRIATE CFIR, CF2R, AND CF3R FORMS SHALL BE MADE AVAILABLE AT NECESSARY INTERVALS FOR BUILDING INSPECTOR REVIEW. FINAL COMPLETED FORMS WILL BE AVAILABLE FOR THE BUILDING OWNER.
 - B3 PROJECTIONS, INCLUDING EAVES, MUST BE AT LEAST 24" FROM A PROPERTY LINE. TABLE R302.1
- ENGINEERING**
- E1 OWNER IS TO OBTAIN A CONSTRUCTION PERMIT FROM THE ENGINEERING DEPARTMENT AT LEAST 48 HOURS PRIOR TO WORKING IN THE PUBLIC RIGHT OF WAY. FAILURE TO DO SO WILL RESULT IN AN ISSUANCE OF A STOP WORK NOTICE AND DOUBLE PERMIT FEES. IT IS THE RESPONSIBILITY OF THE OWNER TO KNOW THE LOCATION OF THE PROPERTY LINES.
 - E2 ALL UTILITIES SERVING THE ADU FROM THE RESIDENCE SHALL BE INSTALLED UNDERGROUND.
 - E3 NO CONCENTRATED DRAINAGE FLOWS ARE PERMITTED OVER ADJACENT PROPERTY LINES. WATER IS TO DRAIN AWAY FROM STRUCTURES FOR A MINIMUM OF 5 FEET AT 2 PERCENT AND BE CONVEYED TO AN APPROVED DRAINAGE FACILITY.
 - E4 EARTHWORK, CUT OR FILL, WHICH IS OVER 50 CUBIC YARDS, REQUIRES AN ADDITIONAL ENGINEERING GRADING PERMIT. PROVIDE EARTHWORK QUANTITIES: 0 CUBIC YARDS CUT, 0 CUBIC YARDS FILL, 0 CUBIC YARDS IMPORT/EXPORT 0 CUBIC YARDS OVER-EXCAVATION AND RE-COMPACTION
 - E5 EROSION CONTROL MEASURES (E.G. BONDED FIBER MATRIX, VEGETATIVE COVER, JUTE MATTING) MUST BE IMPLEMENTED WHERE APPLICABLE TO PREVENT SOIL EROSION ON SITE. SEDIMENT CONTROL MEASURES (E.G. SILT FENCING, FIBER ROLLS, DETENTION BASINS) MUST BE IN PLACE TO PREVENT ERODED SOIL FROM LEAVING SITE. MATERIALS MANAGEMENT BMP MUST ALSO BE FOLLOWED TO ENSURE NO CONTACT OF RAINWATER WITH MATERIALS THAT MAY CONTRIBUTE TO WATER QUALITY DEGRADATION DOWNSTREAM (E.G. CONCRETE OR STUCCO WASHOUT AREAS, COVERED STORAGE AREAS FOR HAZARDOUS MATERIALS, PLACEMENT OF PORTABLE TOILETS OVER A PREVIOUS SURFACE)
 - E6 NO DIRECTLY CONNECTED IMPERVIOUS AREAS (DCIA) SHALL BE ALLOWED. DCIA MEANS STORM RUNOFF GENERATED AND CONVEYED VIA IMPERVIOUS AREAS, SUCH AS ROOF, ROOF DRAIN, DRIVEWAY, AND STREET. BMP MEASURES SHALL BE IDENTIFIED ON THE SITE PLAN. MOST COMMON MEASURES ARE DESIGNATED TURF AREAS, WHICH RECEIVE ROOF DRAINS AND RUNOFF FROM IMPERVIOUS AREAS. TURF AND LANDSCAPED AREAS THAT ARE DESIGNATED FOR BMP'S SHALL BE DELINEATED ON PLANS AND A NOTE PLACED ON PLANS PROHIBITING MODIFICATION OR REMOVAL OF THE BMP LANDSCAPE AREAS WITHOUT A CITY PERMIT.
 - E7 RAIN GUTTERS FOR STORM WATER POLLUTION CONTROL PURPOSES, ALL RUNOFF FROM ALL ROOF DRAINS SHD DISCHARGE ONTO GRASS AND LANDSCAPE AREAS PRIOR TO COLLECTION AND DISCHARGE ONTO THE STREET AND/OR INTO THE PUBLIC STORM DRAIN SYSTEM. GRASS AND LANDSCAPE AREAS DESIGNATED FOR STORM WATER POLLUTION CONTROL SHALL NOT BE MODIFIED WITHOUT A PERMIT FROM THE CITY.
 - E8 TOTAL AREA OF NEW IMPERVIOUS SURFACE: 224 SQ. FT.
TOTAL AREA OF REPLACED IMPERVIOUS SURFACES: 9 SQ. FT.

P6 ALLOWABLE HEIGHT IS MEASURED FROM THE LOWER OF EXISTING OR FINISH GRADE.

stormwater notes:

- STORMWATER POLLUTION CONTROL BMP NOTES RELATIVE TO CONSTRUCTION ACTIVITIES**
- CONCRETE WASHOUT**
- SW1 CONTRACTOR SHALL ESTABLISH AND USE AN ADEQUATELY SIZED CONCRETE WASHOUT AREA TO CONTAIN WASHOUT WASTES ON SITE. IT IS ILLEGAL TO WASH CONCRETE, SLURRY, MORTAR, STUCCO, PLASTER AND THE LIKE INTO THE STORMWATER CONVEYANCE SYSTEM OR ANY RECEIVING WATER. CONTRACTOR SHALL POST A SIGN DESIGNATING THE WASHOUT LOCATION.
- CONSTRUCTION SITE ACCESS**
- SW2 A STABILIZED CONSTRUCTION SITE ACCESS SHALL BE PROVIDED FOR VEHICLES EGRESS AND INGRESS TO PREVENT TRACKING DIRT OFF SITE. THIS SHALL INCLUDE UTILISING MATERIAL SUCH AS GRAVEL AND/OR CORRUGATED STEEL PANELS/PLATES.
- CONSTRUCTION VEHICLES**
- SW3 A SPECIFIC AREA AWAY FROM GUTTERS AND STORMDRAIN SHALL BE DESIGNATED FOR CONSTRUCTION VEHICLES PARKING, VEHICLE REFUELING, AND ROUTINE EQUIPMENT MAINTENANCE. ALL MAJOR REPAIRS SHALL BE MADE OFF-SITE.
- EROSION CONTROL**
- SW4 EROSION CONTROL MUST BE PROVIDED FOR ALL EROSION SURFACES. SLOPED SURFACES ESPECIALLY SHALL BE PROTECTED AGAINST EROSION BY INSTALLING EROSION RESISTANT SURFACES SUCH AS EROSION CONTROL MATS, ADEQUATE GROUND COVER VEGETATION, AND BONDED FIBER MATRIX.
 - NO EXCAVATION AND GRADING ACTIVITIES ARE ALLOWED DURING WET WEATHER.
 - SW6 DIVERSION DIKES SHALL BE CONSTRUCTED TO CHANNEL RUNOFF AROUND THE CONSTRUCTION SITE. CONTRACTOR SHALL PROTECT CHANNELS AGAINST EROSION USING PERMANENT AND TEMPORARY EROSION CONTROL MEASURES.
 - SW7 REMOVE EXISTING VEGETATION ONLY WHEN ABSOLUTELY NECESSARY. LARGE PROJECTS SHALL BE CONDUCTED IN PHASES TO AVOID UNNECESSARY REMOVAL OF THE NATURAL GROUND COVER. DO NOT REMOVE TREES OR SHRUBS UNNECESSARILY. THEY HELP DECREASE EROSION.
 - SW8 PLANT PERMANENT VEGETATION AS SOON AS POSSIBLE. ONCE EXCAVATION AND GRADING ACTIVITIES ARE COMPLETE.
 - SW9 WATER USAGE FOR DUST CONTROL SHALL BE MINIMIZED.
- ON-SITE CONSTRUCTION MATERIAL STORAGE**
- SW10 STORED MATERIALS SHALL BE CONTAINED IN A SECURE PLACE TO PREVENT SEEPAGE AND SPILLAGE. CONTRACTOR SHALL STORE THESE PRODUCTS WHERE THEY WILL STAY DRY OUT OF THE RAIN. CONTRACTOR SHALL PROVIDE SECONDARY CONTAINMENT FOR ALL FUEL STORED ON-SITE.
 - SW11 ELIMINATE OR REDUCE POLLUTION OF STORMWATER FROM STOCKPILES KEPT ON-SITE. STOCKPILES MAY INCLUDE SOIL, PAVING MATERIALS, ASPHALT, CONCRETE, AGGREGATE BASE, ETC. STOCKPILES SHALL BE LOCATED AWAY FROM CONCENTRATED STORMWATER FLOWS AND STORMDRAIN INLETS. STOCKPILES SHALL BE COVERED OR PROJECTED WITH SOIL STABILIZATION MEASURES AND PROVIDED WITH A TEMPORARY SEDIMENT BARRIER AROUND THE PERIMETER AT ALL TIMES.
- TRAINING**
- SW12 CONTRACTORS' EMPLOYEES WHO PERFORM CONSTRUCTION IN THE CITY OF ENCINITAS SHALL BE TRAINED TO BE FAMILIAR WITH THE CITY OF ENCINITAS STORMWATER POLLUTION CONTROL REQUIREMENTS. THESE BMP NOTES SHALL BE AVAILABLE TO EVERYONE WORKING ON SITE. THE PROPERTY OWNER(S) AND THE PRIME CONTRACTOR MUST INFORM SUBCONTRACTORS ABOUT STORMWATER REQUIREMENTS AND THEIR OWN RESPONSIBILITIES.
- WASTE MANAGEMENT**
- SW13 CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY DISPOSING OF ALL WASTE AND UNUSED CONSTRUCTION MATERIALS. DUMPING OF UNUSED OR WASTE PRODUCTS ON THE GROUND, WHERE WATER CAN CARRY THEM INTO THE CONVEYANCE SYSTEM IS STRICTLY PROHIBITED. NO SEEPAGE FROM DUMPSTERS SHALL BE DISCHARGED INTO STORMWATER. BERMS/DIKES SHALL BE PLACED AROUND DUMPSTERS TO DIVERT THE NATURAL STORM RUNOFF. DUMPSTERS SHALL BE CHECKED FREQUENTLY FOR LEAKS. DUMPSTER LIDS SHALL REMAIN CLOSED AT ALL TIMES. DUMPSTERS WITHOUT LIDS SHALL BE PLACED WITHIN STRUCTURES WITH IMPERVIOUS ROOFING OR COVERED WITH TARPS IN ORDER TO AVOID RAIN CONTACT WITH ANY TRASH MATERIAL. MANY CONSTRUCTION MATERIALS, INCLUDING SOLVENTS, WATER-BASED PAINTS, VEHICLE FLUIDS, BROKEN ASPHALT AND CONCRETE, WOOD, AND CLEARED VEGETATION CAN BE RECYCLED. NON-RECYCLABLE MATERIALS MUST BE TAKEN TO AN APPROPRIATE LANDFILL OR DISPOSED OF AS HAZARDOUS WASTE. FOR INFORMATION ON DISPOSAL OF HAZARDOUS MATERIAL, CALL THE HAZARDOUS WASTE HOTLINE TOLL FREE AT (800) 774-7166. FOR INFORMATION ON LANDFILLS AND TO ORDER DUMPSTERS CALL EDCO AT (760) 458-4151.
 - SW16 POLLUTANTS SHALL BE KEPT OFF EXPOSED SURFACES. PLACE TRASH CANS AND RECYCLING RECEPTACLES AROUND THE SITE.
 - SW17 PORTABLE TOILETS MUST BE IN GOOD WORKING ORDER AND CHECKED FREQUENTLY FOR LEAKS. CONTRACTOR SHALL PROVIDE SECONDARY CONTAINMENT AND LOCATE PORTABLE TOILETS AWAY FROM STORMDRAIN INLETS ON PERVIOUS SURFACES.
 - SW18 ALL CONSTRUCTION DEBRIS SHALL BE KEPT AWAY FROM THE STREET, GUTTER, AND STORMDRAIN. CONTRACTOR MUST ROUTINELY CHECK AND CLEAN UP MATERIAL THAT MAY HAVE TRAVELED AWAY FROM CONSTRUCTION SITE.

swimming pool notes:

- IF THE PROPERTY WHERE THE ADU IS TO BE LOCATED HAS A SWIMMING POOL, THE POOL MUST MEET THE RULES BELOW:**
- SWIMMING POOL SAFETY SHALL COMPLY WITH SECTION 3109.4 CBC (INCLUDING 3109.4.4) INCLUDING:
 - POOL SHALL BE COMPLETELY ENCLOSED BY A BARRIER COMPLYING WITH SECTIONS 3109.4.1 THRU 3109.4.3.
 - SHALL COMPLY WITH SECTION 3109.4.4.2. POOL SHALL BE EQUIPPED WITH TWO OF THE FOLLOWING SEVEN DROWNING PREVENTION SAFETY FEATURES:
 - SP1 THE POOL SHALL BE ISOLATED FROM ACCESS TO A HOME BY AN ENCLOSURE THAT MEETS THE REQUIREMENTS OF SECTION 3109.4.4.3.
 - SP2 THE POOL SHALL INCORPORATE REMOVABLE MESH POOL FENCING THAT MEETS AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) SPECIFICATIONS F2286 STANDARDS IN CONJUNCTION WITH A GATE THAT IS SELF CLOSING AND SELF-LATCHING AND CAN ACCOMMODATE A KEY LOCKABLE DEVICE.
 - SP3 THE POOL SHALL BE EQUIPPED WITH AN APPROVED SAFETY POOL COVER THAT MEETS ALL REQUIREMENTS OF THE ASTM SPECIFICATIONS F1348.
 - SP4 THE RESIDENCE SHALL BE EQUIPPED WITH EXIT ALARMS ON THOSE DOORS PROVIDING DIRECT ACCESS TO THE POOL.
 - SP5 ALL DOORS PROVIDING DIRECT ACCESS FROM THE HOME TO THE SWIMMING POOL SHALL BE EQUIPPED WITH A SELF-CLOSING, SELF-LATCHING DEVICE WITH A RELEASE MECHANISM PLACED NO LOWER THAN 54 INCHES (1372 MM) ABOVE THE FLOOR.
 - SP6 SWIMMING POOL ALARMS THAT, WHEN PLACED IN POOLS, WILL SOUND UPON DETECTION OF ACCIDENTAL OR UNAUTHORIZED ENTRANCE INTO THE WATER. THESE POOL ALARMS SHALL MEET AND BE INDEPENDENTLY CERTIFIED TO THE ASTM STANDARD Z208 "STANDARDS SPECIFICATION FOR POOL ALARMS" WHICH INCLUDES SURFACE MOTION, PRESSURE, SONAR, LASER AND INFRARED TYPE ALARMS. FOR PURPOSES OF THIS ARTICLE, "SWIMMING POOL ALARMS" SHALL NOT INCLUDE SWIMMING PROTECTION ALARM DEVICES DESIGNED FOR INDIVIDUAL USE, SUCH AS AN ALARM ATTACHED TO A CHILD THAT SOUNDS WHEN THE CHILD EXCEEDS A CERTAIN DISTANCE OR BECOMES SUBMERGED IN WATER.
 - SP7 OTHER MEANS OF PROTECTION, IF THE DEGREE OF PROTECTION AFFORDED IS EQUAL TO OR GREATER THAN THAT AFFORDED BY ANY OF THE DEVICES SET FORTH IN ITEMS 1-4, & HAVE BEEN INDEPENDENTLY VERIFIED BY AN APPROVED TESTING LABORATORY AS MEETING STANDARDS FOR THESE DEVICES ESTABLISHED BY THE ASTM OR THE AMERICAN SOCIETY OF TESTING MECHANICAL ENGINEERS (ASME).

site plan notes:

- THE APPLICANT SHALL PROVIDE A DIMENSIONED SITE PLAN DRAWN TO SCALE SHOWING THE FOLLOWING: NORTH ARROW, PROPERTY LINES, EASEMENTS, STREETS, EXISTING AND PROPOSED BUILDINGS, AND STRUCTURES, LOCATION OF YARDS USED FOR ALLOWABLE INCREASE OF BUILDING AREA, DIMENSIONED SETBACKS, MINIMUM SEPARATION FROM EXISTING STRUCTURES AND FUEL MODIFICATION ZONES. UNIFORM ADMINISTRATIVE CODE SECTION 302.
- IF A GRADING PLAN IS REQUIRED, INCORPORATE THE ENTIRE APPROVED GRADING/IMPROVEMENT PLAN (ALL SHEETS) INTO THE BUILDING PLANS.
- SITE PLAN SHALL PROVIDE DIMENSIONS SHOWING REQUIRED FIRE APPARATUS ACCESS ROADS. FIRE ACCESS ROADWAYS SHALL HAVE AN UNOBSTRUCTED IMPROVED WIDTH OF NOT LESS THAN 24 FEET. EXCEPTIONS: 1. RESIDENTIAL DWELLINGS NOT IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL HAVE A MINIMUM OF 20 FEET OF UNOBSTRUCTED IMPROVED WIDTH. 2. SINGLE-FAMILY RESIDENTIAL DRIVEWAYS SERVING NO MORE THAN TWO SINGLE-FAMILY DWELLINGS SHALL HAVE A MINIMUM OF 16 FEET OF UNOBSTRUCTED IMPROVED WIDTH.
 - FIRE ACCESS ROADWAYS
 - SURFACE FIRE APPARATUS ACCESS ROADS SHALL BE DESIGNED AND MAINTAINED TO SUPPORT THE IMPOSED LOADS OF FIRE APPARATUS NOT LESS THAN 75,000 LBS. AND SHALL BE PROVIDED WITH AN APPROVED PAVED SURFACE TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES.
 - GATED ENTRANCES WITH CARD READERS, GUARD STATIONS OR CENTER MEDIANS, WHICH HAVE SEPARATED LANES OF ONE-WAY TRAFFIC, SHALL BE NOT LESS THAN 14 FEET WIDE PER LANE.
 - EXISTING LEGAL LOTS THAT HAVE EASEMENT ACCESS ROADWAYS LESS THAN 20 FEET WIDE THAT PROVIDE PRIMARY ACCESS TO OTHER LOTS SHALL RECORD A COVENANT GRANTING EASEMENT RIGHTS FOR EMERGENCY VEHICLE INGRESS AND EGRESS PURPOSES AND SHALL RELINQUISH RIGHTS TO BUILD ANY BUILDING, WALL, FENCE OR OTHER STRUCTURE WITHIN 5 FEET OF THE EXISTING ACCESS EASEMENT.
 - ALL DEAD END FIRE APPARATUS ACCESS ROADWAYS IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AN APPROVED AREA FOR TURNING AROUND FIRE APPARATUS. ACCESS ROADS SERVING MORE THAN FOUR (4) DWELLING UNITS SHALL BE PROVIDED WITH A CUL-DE-SAC. THE MINIMUM UNOBSTRUCTED PAVED RADIUS WIDTH FOR A CUL-DE-SAC SHALL BE 36 FEET CURB LINE TO CURB LINE WITH NO PARKING. ALTERNATE TYPES OF TURN-AROUND (HAMMERHEADS, ETC.) MAY BE CONSIDERED BY THE FIRE MARSHAL AS NEEDED TO ACCOMPLISH THE INTENT OF THE FIRE CODE.

1 site plan

site plan note:

THE APPLICANT SHALL PROVIDE A DIMENSIONED SITE PLAN DRAWN TO SCALE SHOWING THE FOLLOWING: NORTH ARROW, PROPERTY LINES, EASEMENTS, STREETS, EXISTING AND PROPOSED BUILDINGS, AND STRUCTURES, LOCATION OF YARDS USED FOR ALLOWABLE INCREASE OF BUILDING AREA, DIMENSIONED SETBACKS, MINIMUM SEPARATION FROM EXISTING STRUCTURES AND FUEL MODIFICATION ZONES. UNIFORM ADMINISTRATIVE CODE SECTION 302.

BY USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER AGREES TO RELEASE THE CITY OF ENCINITAS AND THE ARCHITECT WHO PREPARED THESE CONSTRUCTION DOCUMENTS FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS.

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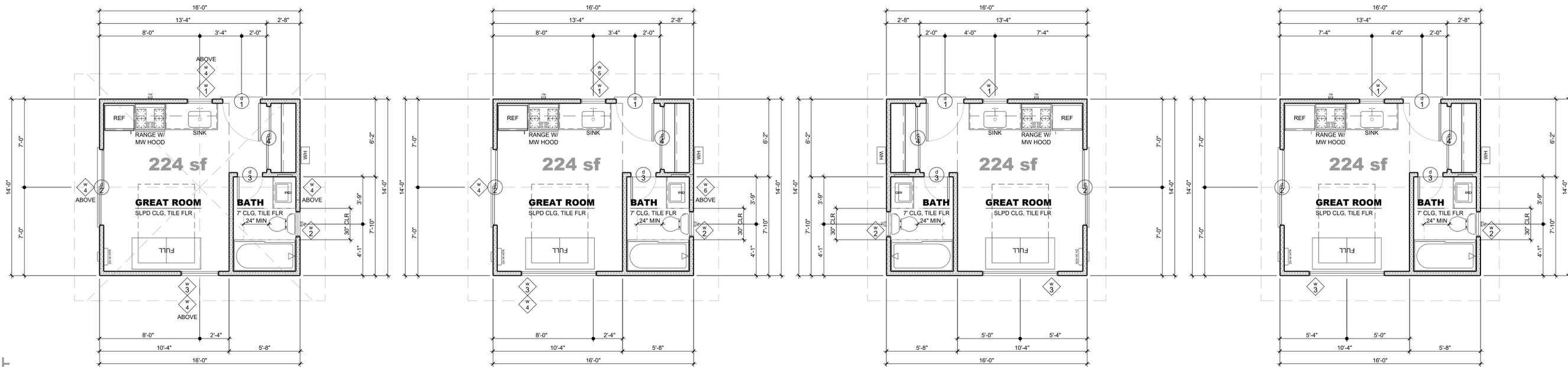
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CITY: ENCINITAS

JOB: 201848R

SITE + DEPARTMENT NOTES

a0.2



1 floor plan c
SCALE: 1/4" = 1'-0"

2 floor plan b
SCALE: 1/4" = 1'-0"

3 reverse floor plan a
SCALE: 1/4" = 1'-0"

4 floor plan a
SCALE: 1/4" = 1'-0"

| drawing: | | drawing: | | drawing: | | drawing: | |
|----------|-----------------------------------|----------|--------------------------|----------|--------------------------------------|----------|---------------------------------------|
| SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION | SYMBOL | DESCRIPTION |
| (N) | NEW | | EXISTING FOOTING | | BUILDING SECTION LETTER SHEET NUMBER | | SHEAR PANEL LETTER SHEAR PANEL LENGTH |
| (E) | EXISTING | | NEW FOOTING | | WALL SECTION LETTER SHEET NUMBER | (T 1) | TRUSS NUMBER |
| | EXISTING WALL REMOVED | | NORTH ARROW | (1-1) | DETAIL NUMBER SHEET NUMBER | (1) | STRUCTURAL GRID LINE |
| | EXISTING WALL TO REMAIN | + 100.0 | NEW POINT ELEVATION | (A) | INTERIOR ELEVATION | (DL) | SHEAR DRAG LINE |
| | NEW 4" WALL | + 100.0 | EXISTING POINT ELEVATION | | LEVEL CHANGE | (P-1) | PAD FOOTING |
| | NEW 6" WALL | 100.0 | NEW CONTOUR | 101 | ROOM OR SPACE NUMBER | | POST |
| | NEW 8" WALL | 100.0 | EXISTING CONTOUR | ROOM | ROOM NAME CEILING HEIGHT, FLOORING | | HOLD DOWN |
| | NEW 8" CMU WALL | | PROPERTY LINE | (W1) | WINDOW NUMBER | | FACTORY BUILT SHEAR PANEL |
| | NEW DWELLING UNIT SEPARATION WALL | | CENTER LINE | (D1) | DOOR NUMBER | | FLOOR JOISTS |
| | BEARING WALL | | SET BACK LINE | (#) | REVISION NUMBER | | CEILING JOISTS |
| | NON-BEARING WALL AT FRAMING PLANS | | FLOOR MATERIAL CHANGE | 1 | KEYNOTE NUMBER | | RAFTER OR TRUSS |

- floor plan notes:**
- SEE LEGENDS TO THE LEFT FOR SYMBOLS RELATING TO THE FLOOR PLAN.
 - SEE SHEET a0.1 FOR SCHEDULES RELATING TO THE FLOOR PLAN.
 - SEE SHEET a2.0 FOR INTERIOR ELEVATIONS DEPICTING CABINETS SHOWN ON THIS FLOOR PLAN. THE KITCHEN SHALL HAVE UPPER CABINETS, BASE CABINETS, AND COUNTERTOPS AS DEPICTED ON THIS FLOOR PLAN AND IN THE INTERIOR ELEVATIONS.
 - LAVATORIES:
 - SHALL BE PLACED IN A VANITY BASE CABINET WITH A COUNTERTOP.
 - SHALL HAVE A MIRROR AT THE WALL BEHIND THE LAVATORY.
 - SHALL HAVE A MIRROR MEDICINE CABINET AT THE SIDE WHEN DEPICTED WITH A RECTANGLE IN THE WALL.
 - TOILETS:
 - SHALL BE FLUSH TANK.
 - SHALL BE PLACED IN A SPACE WITH 30" CLEAR WIDTH.
 - SHALL HAVE 24" CLEAR IN FRONT OF THE FIXTURE.
 - BATH/TUB/SHOWER COMBINATIONS
 - BATH/TUB SHALL BE PORCELAIN OVER CAST IRON.
 - PROVIDE FULL HEIGHT TILE WAINSCOT ON WALLS WITHIN TUB AREA.
 - PROVIDE SLIDING CLEAR TEMPERED GLASS TUB/SHOWER ENCLOSURE OR EQUAL.
 - SHOWERS
 - FLOOR TO BE TILE OVER ASPHALTIC WATERPROOF MEMBRANE LINER, TYPICAL.
 - DRAIN TO BE LINEAR OR ROUND AS DEPICTED ON THE FLOOR PLAN.
 - ENTRY CURB SHALL BE 4" WIDE AND TALL WITH TILE FINISH, TYP.
 - SHALL HAVE A CLEAR TEMPERED GLASS SHOWER ENCLOSURE WITH OPENING AS SHOWN ON THE FLOOR PLAN OR EQUAL.
 - WALLS IN SHOWER AREA WILL HAVE A FULL HEIGHT TILE WAINSCOT.
 - SEATS SHOWN IN SHOWERS SHALL BE 16" HIGH AND WILL BE TILED TO MATCH THE WALLS.
 - EACH SHOWER SHALL HAVE A 12" WIDE X 16" HIGH NICHE FOR SOAP AND SHAMPOO BOTTLES IN A WAINSCOT WALL.
 - CLOSETS SHALL HAVE A SHELF AND POLE AS SHOWN ON THE FLOOR PLAN.

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FLOOR PLAN

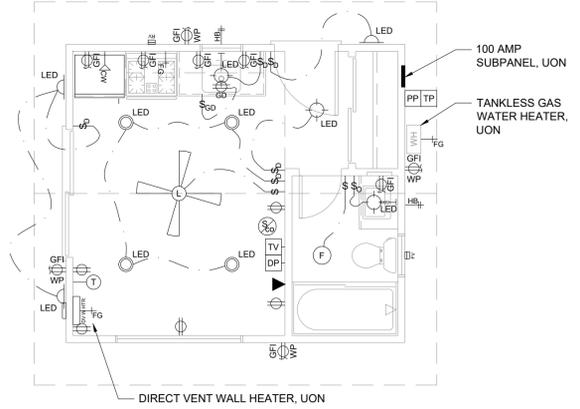
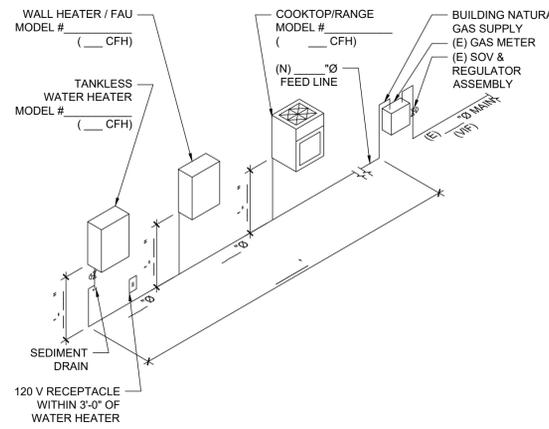
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utility plan notes:

- SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL CARBON MONOXIDE ALARMS TO MEET THE REQUIREMENTS OF CALIFORNIA RESIDENTIAL CODE SECTION R315.
 - INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL-BURNING APPLIANCES ARE INSTALLED AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES.
 - WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL THE ALARMS IN THE INDIVIDUAL UNIT.
 - WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE CARBON MONOXIDE DETECTORS CAN BE SOLELY BATTERY POWERED
- CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING IS SERVED FROM A COMMERCIAL SOURCE AND, WHERE PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A BATTERY. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVER-CURRENT PROTECTION.
- SHOW THE LOCATIONS OR PROVIDE NOTES OF ALL SMOKE ALARMS MEETING THE REQUIREMENTS OF CRC SECTION R314.
 - ON THE CEILING OR WALL OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF BED ROOMS.
 - IN EACH ROOM USED FOR SLEEPING PURPOSES.
 - IN EACH STORY WITHIN A DWELLING UNIT, INCLUDING BASEMENTS.
 - IN DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL.
 - WHERE AREAS OF NO CONSTRUCTION IS TAKING PLACE SMOKE DETECTORS CAN BE SOLELY BATTERY POWERED ONLY.

utility plan notes:

- SEE LEGENDS BELOW FOR SYMBOLS RELATING TO THE UTILITY PLAN.
- SEE SHEET #0.1 FOR SCHEDULES RELATING TO THE UTILITY PLAN.
- RECEPTACLE OUTLET LOCATION PER NEC ARTICLE 210.52.
- GFCI PROTECTED OUTLETS FOR LOCATIONS DESCRIBED IN NEC 210.8(A): LAUNDRY AREAS, KITCHEN DISHWASHERS, KITCHENS, GARAGES, BATH ROOMS, OUTDOORS, WITHIN 6' OF A SINK, ETC. RECEPTACLE OUTLET LOCATION PER NEC ARTICLE 210.52.
- BATH RECEPTACLE OUTLETS SHALL BE SUPPLIED BY A MINIMUM OF ONE 20 AMP CIRCUIT. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS. THIS CIRCUIT MAY SERVE MULTIPLE BATHS (NEC ART. 210-52(D)).
- TAMPER RESISTANT RECEPTACLES ARE REQUIRED FOR ALL LOCATIONS DESCRIBED IN 210.52 (IE ALL RECEPTACLES IN A DWELLING).
- WEATHER RESISTANT TYPE FOR RECEPTACLES INSTALLED IN DAMP OR WET LOCATIONS.
- ARC-FAULT PROTECTION FOR ALL OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A): KITCHENS, LAUNDRY AREAS, FAMILY, LIVING BEDROOMS, DINING, HALLS, ETC.
- OUTLETS MUST BE WITHIN 6FT OF ANY OPENING AND NOT TO EXCEED 12FT APART. ANY ISOLATED WALL 2FT OR WIDER TO HAVE OUTLET(S).
- ALL EXTERIOR LIGHTING SHALL BE HIGH EFFICACY, OAE
- RECESSED LIGHTS SHOWN IN SLOPED CEILINGS SHALL BE A MODEL DESIGNED TO PROVIDE A PERPENDICULAR LIGHT SOURCE IN A SLOPED CEILING.
- PROVIDE UFER GROUND AT ELECTRIC SERVICE LOCATION IN FOUNDATION. GROUND SHALL BE A 20' LONG #4 REINFORCING BAR, OAE
- PROVIDE SMOKE DETECTORS IN EACH SLEEPING ROOM AND AT A POINT CENTRALLY LOCATED IN AN AREA GIVING ACCESS TO EACH SEPARATE SLEEPING AREA. SMOKE DETECTORS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE DETECTORS MAYBE SOLELY BATTERY POWERED WHEN INSTALLED IN EXISTING BUILDINGS (CBC §310.9.1).
- WHERE MORE THAN ONE COMBINATION SMOKE/CARBON MONOXIDE DETECTOR IS REQUIRED, THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL THE ALARMS IN THE RESIDENCE.
- CONTROL VALVES IN BATHTUBS, WHIRLPOOL BATHTUBS, SHOWERS AND TUB-SHOWER COMBINATIONS MUST BE PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES. GFC SECTION 414.5 AND 418.0.
- ALL HOT WATER PIPING SIZED 3/4" OR LARGER IS REQUIRED TO BE INSULATED AS FOLLOWS: 1" PIPE SIZE OR LESS: 1" THICK INSULATION; LARGER PIPE SIZES REQUIRE 1 1/2" THICK INSULATION. NOTE: IN ADDITION, THE 1/2" SIZE HOT WATER PIPE TO THE KITCHEN SINK IS REQUIRED TO BE INSULATED. ES 150.0(J)2
- SEE T24 DOCUMENTATION SHEET FOR MORE INFORMATION ON WATER HEATING, SPACE HEATING, AND COOLING EQUIPMENT SPECIFICATIONS.



| EQUIPMENT | CFH | DEVELOPED LENGTH |
|---------------------------------|-----------|------------------|
| TANK LESS WATER HEATER | _____ | _____ |
| WALL HEATER OR FAU | _____ | _____ |
| COOKTOP OR RANGE | _____ | _____ |
| TOTAL GAS DEMAND LOAD = | _____ CFH | |
| MAX DEVELOPED LENGTH TO METER = | _____' | |

LONGEST RUN _____ FEET
 INLET PRESSURE _____ PSI
 REGULATED PRESSURE _____ PSI
 TOTAL DEMAND _____ CFH

NOTES:
 1. GAS CALCULATION BASED ON TABLE 1216.2(1) CH 12 CPC

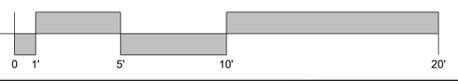
electric:

- SELECTION
- NEW METER WITH _____ AMP PANEL
- SUBPANEL _____ AMP TO EXISTING _____ AMP MAIN PANEL
- DISTANCE TO CONNECTION = _____ FEET

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2 gas SCALE: NTS

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



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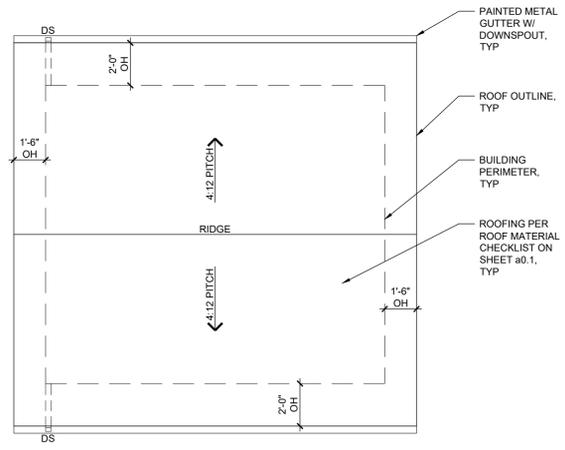
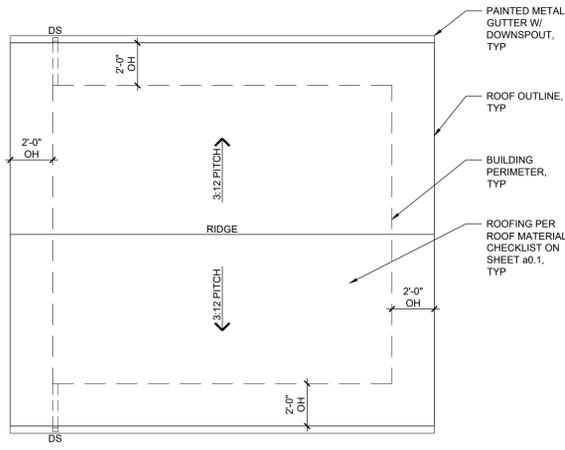
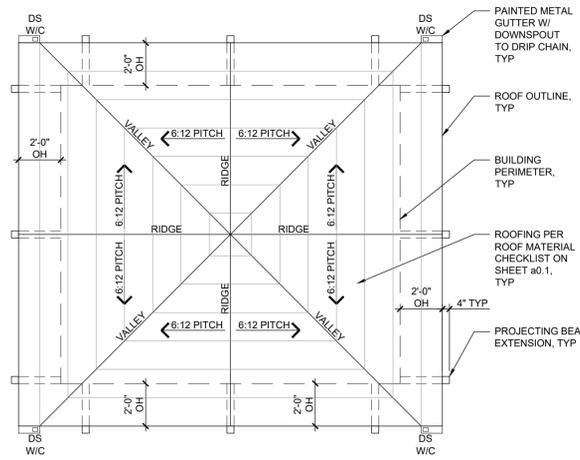
UTILITY PLAN

a2.0

| electrical: | | electrical: | | electrical: | | electrical: | | electrical: | | mechanical: | | mechanical: | | plumbing: | | plumbing: | |
|-------------|--------------------------|-------------|---------------------------|-------------|----------------------------|-------------|---|-------------|--|-------------|--|-------------|-------------------------------|-----------|-------------------------|-----------|-----------------------|
| SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION | SYMBOL | = DESCRIPTION |
| FL | = FLOURESCENT | ⊕ | = QUADRAPLEX OUTLET | WP | = WEATHERPROOF SWITCH | J | = JUNCTION BOX | EXIT | = ILLUMINATED EXIT SIGN | FAU | = FORCED AIR HEATING UNIT | RA | = RETURN AIR CEILING REGISTER | WM | = WATER METER | LD | = LINEAR SHOWER DRAIN |
| LED | = LIGHT EMITTING DIODE | GFI | = GROUND FORCE OUTLET | D | = DOOR OPERATED SWITCH | L | = LIGHT | SP | = SPEAKER | ATTIC FAU | = ATTIC MOUNTED FORCED AIR UNIT | RF | = RETURN AIR FLOOR REGISTER | WH | = TANK WATER HEATER | CO | = CLEAN OUT |
| E | = ELECTRICAL METER | WP | = WATERPROOF GFI OUTLET | TV | = CABLE TELEVISION JACK | M | = MOTION DETECTOR | VC | = VIDEO CAMERA | AC | = AIR CONDITIONING UNIT | SA | = RIGID SUPPLY AIR DUCT | WH | = TANKLESS WATER HEATER | FD | = FLOOR DRAIN |
| I | = ELECTRICAL PANEL | IF | = IN-FLOOR OUTLET | DP | = DATAPORT JACK | P | = PHOTOELECTRIC SENSOR | RA | = RETURN AIR WALL REGISTER | SP | = SPLIT SYSTEM HEAT PUMP EXTERIOR UNIT | RD | = RIGID RETURN AIR DUCT | WC | = WATER CONDITIONER | FS | = FLOOR SINK |
| ALARM | = ALARM SOURCE | GD | = GARBAGE DISPOSAL OUTLET | TR | = TELEPHONE JACK | S | = SMOKE DETECTOR | SA | = SPLIT SYSTEM HEAT PUMP INTERIOR UNIT | WH | = WALL HEATER | FE | = FLEXIBLE SUPPLY AIR DUCT | SS | = WATER SERVICE SHUTOFF | GM | = GAS METER |
| AUDIO | = AUDIO SOURCE | DG | = DEDICATED GROUND OUTLET | DB | = DOORBELL | So | = SMOKE & CARBON MONOXIDE DETECTOR | WHTR | = WALL HEATER | FE | = FIRE EXTINGUISHER | VM | = VACUUM MOTOR | HB | = HOSE BIB | FG | = FUEL GAS |
| DATA | = DATA SOURCE | 220V | = 220V OUTLET | DB | = DOORBELL CHIMES | H/F | = HEAT/FAN COMBO | DVWHTR | = DIRECT VENT WALL HEATER | VM | = VACUUM MOTOR | RV | = RANGE / OVEN VENT | CW | = COLD WATER VALVE | LL | = LOG LIGHTER |
| PP | = PHONE PANEL | WP GFI 220 | = WATERPROOF 220V OUTLET | DB | = DOORBELL TRANSFORMER | L/F | = FLOURESCENT LIGHT/FAN COMBO | T | = THERMOSTAT | V | = VACUUM OUTLET | DV | = DRYER VENT | RP | = RECESSED PLUMBING | KG | = LOOSE GAS KEY |
| TP | = TELEVISION PANEL | SW | = 1 WAY SWITCH | A | = ALARM SYSTEM PAD | L/H/F | = FLOURESCENT LIGHT/HEAT LAMP/FAN COMBO | SA | = SUPPLY AIR WALL REGISTER | DV | = DRYER VENT | FV | = FAN VENT | SH | = SHOWERHEAD | DD | = DECK OR ROOF DRAIN |
| VP | = VIDEO PANEL | SW | = 3 WAY SWITCH | CO | = CARBON MONOXIDE DETECTOR | L/H/F | = FLOURESCENT LIGHT/HEAT LAMP/FAN COMBO | SA | = SUPPLY AIR CEILING REGISTER | DV | = DRYER VENT | FV | = FAN VENT | SH | = SHOWERHEAD | OS | = OVERFLOW SCUPPER |
| DU | = DUPLEX OUTLET | SW | = DIMMER SWITCH | F | = VENT FAN | CS | = CEILING SURFACE MOUNT FIXTURE | SA | = SUPPLY AIR FLOOR REGISTER | RV | = RANGE / OVEN VENT | RV | = RANGE / OVEN VENT | SH | = SHOWERHEAD | OS | = OVERFLOW SCUPPER |
| HD | = HALF HOT DUPLEX OUTLET | SK | = KEY OPERATED SWITCH | H | = HEAT LAMP | CS | = CEILING SURFACE MOUNT FIXTURE | RA | = RETURN AIR FLOOR REGISTER | RV | = RANGE / OVEN VENT | RV | = RANGE / OVEN VENT | SH | = SHOWERHEAD | OS | = OVERFLOW SCUPPER |
| | | | | | | | | | | | | | | | | | |

roof plan notes:

1. ALL ROOFING SHALL BE CLASS A RATED.
2. ROOFING SELECTION PER ROOF MATERIAL CHECKLIST ON SHEET #0.1.
3. NO ATTICS PROPOSED, ATTIC VENTING NOT REQUIRED.



1 roof plan c
SCALE: 1/4" = 1'-0"

2 roof plan b
SCALE: 1/4" = 1'-0"

3 roof plan a
SCALE: 1/4" = 1'-0"

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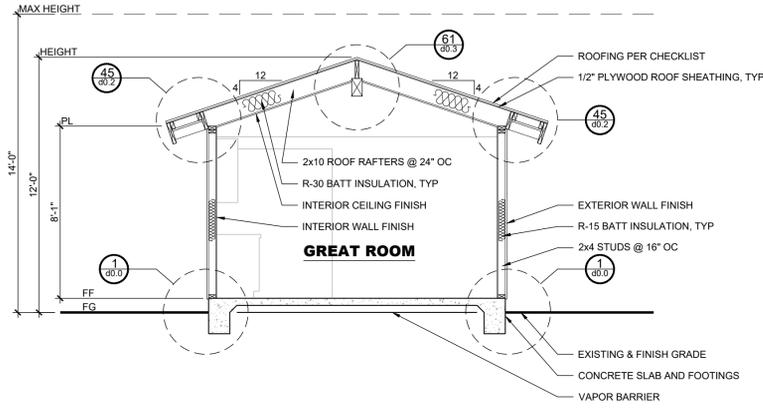
PRADU STUDIO 0

CITY: ENCINITAS

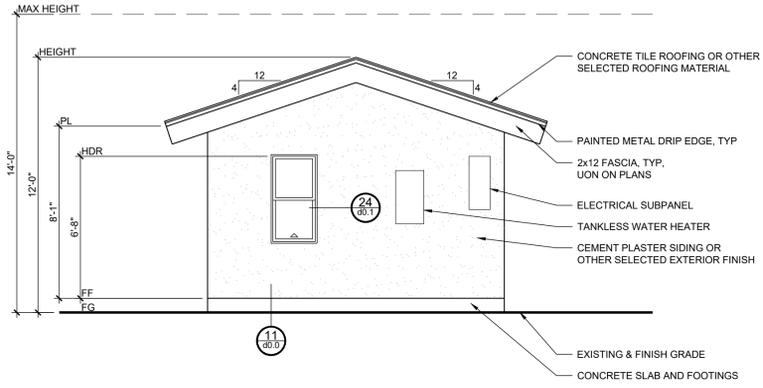
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ROOF PLAN

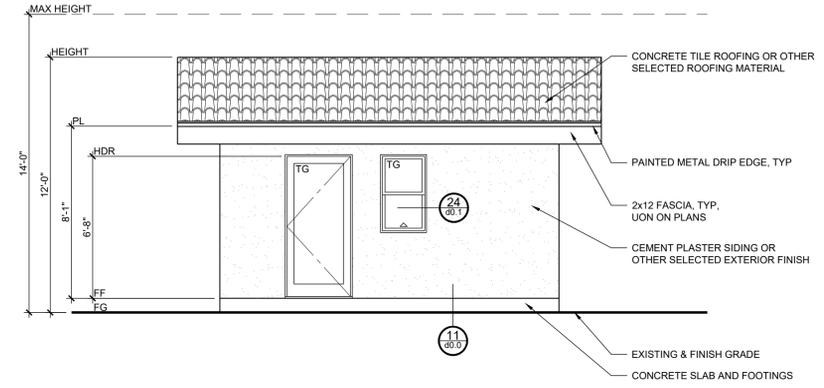
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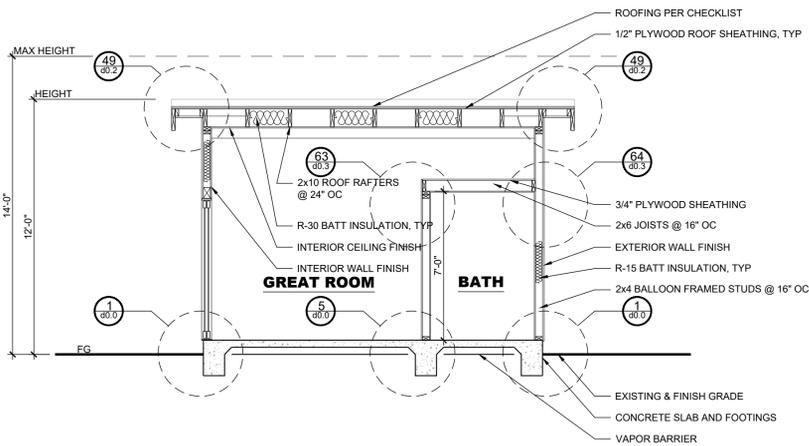
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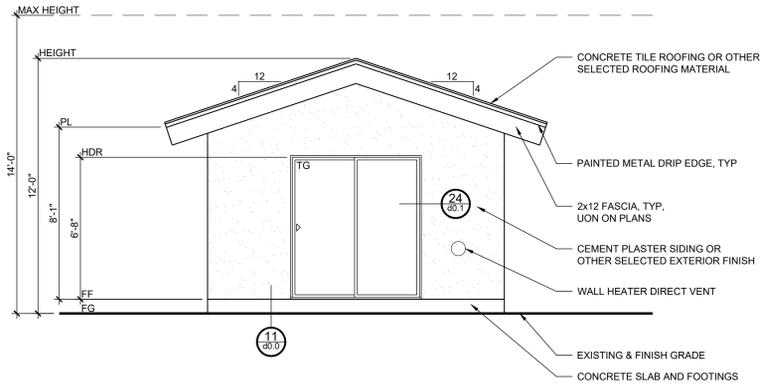
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SCALE: 1/4" = 1'-0"



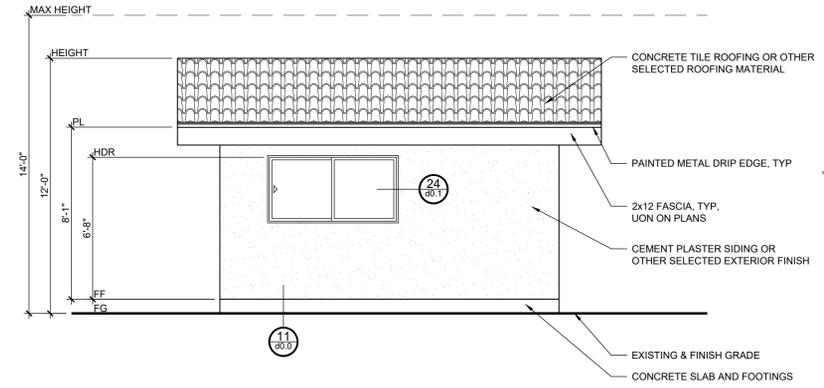
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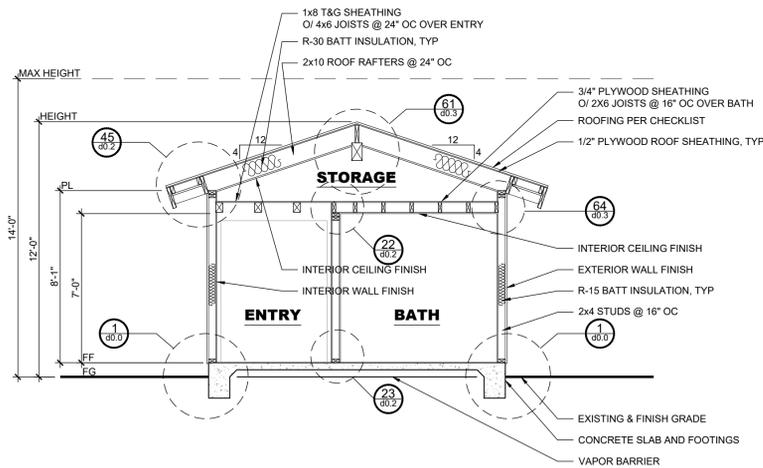
4 section b
SCALE: 1/4" = 1'-0"



5 right elevation a
SCALE: 1/4" = 1'-0"



6 rear elevation a
SCALE: 1/4" = 1'-0"



7 section g
SCALE: 1/4" = 1'-0"

notes:

1. ROOF PLAN NOTES THE LOCATION OF GUTTERS AND DOWNSPOUTS.
2. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT REQUIREMENTS.

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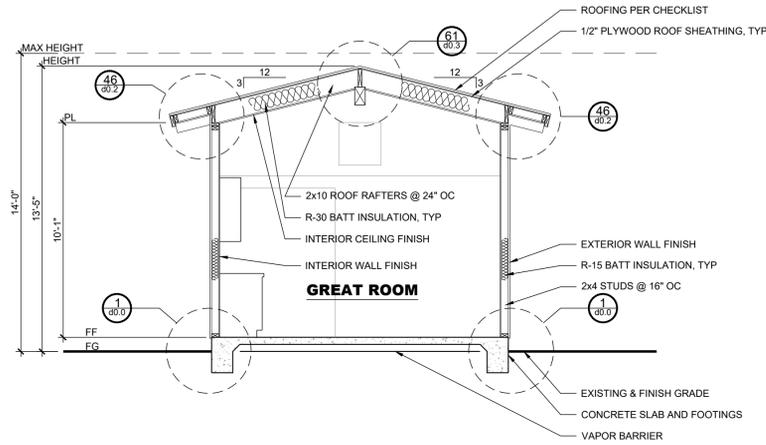
JOB: 201848R

ELEVATION A + SECTION

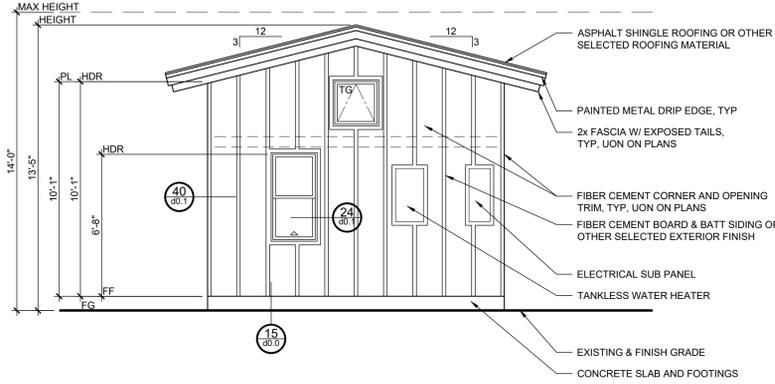
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notes:

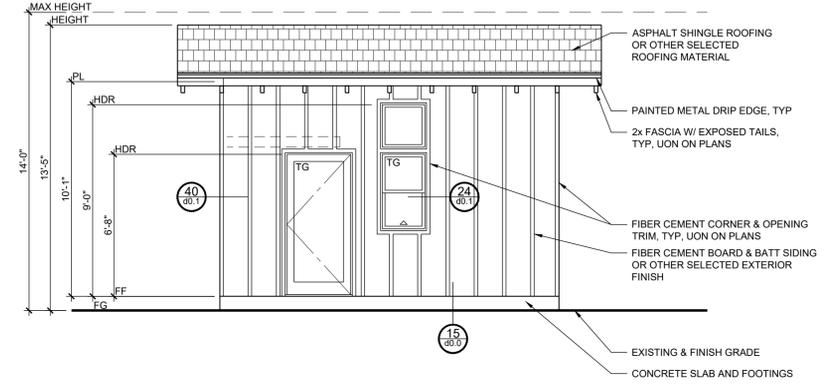
1. ROOF PLAN NOTES THE LOCATION OF GUTTERS AND DOWNSPOUTS.
2. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT REQUIREMENTS.



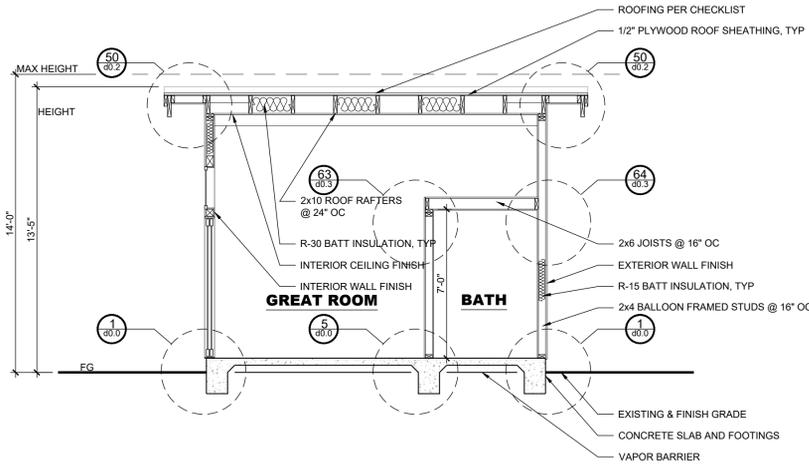
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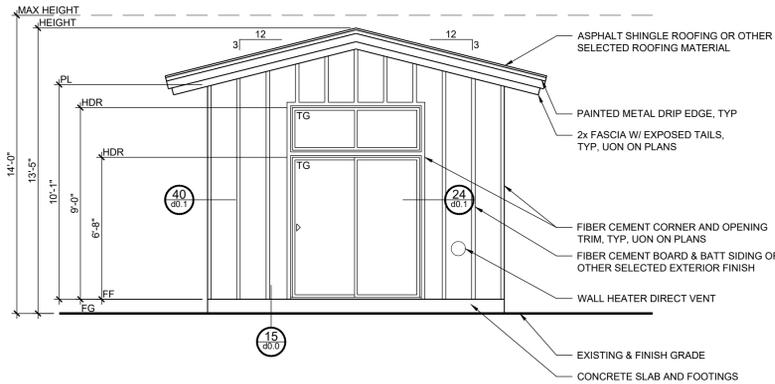
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SCALE: 1/4" = 1'-0"



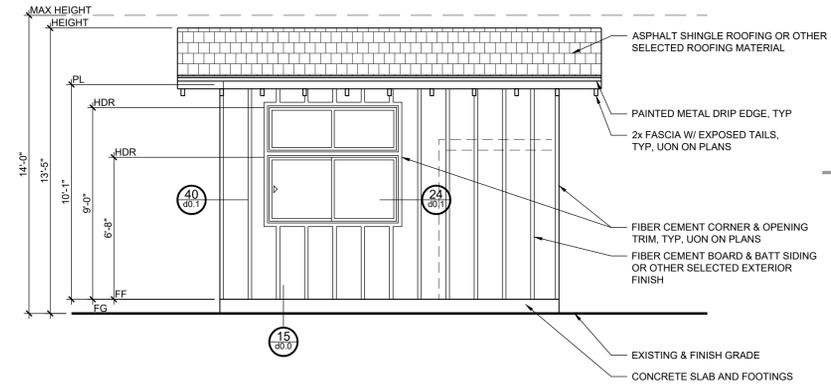
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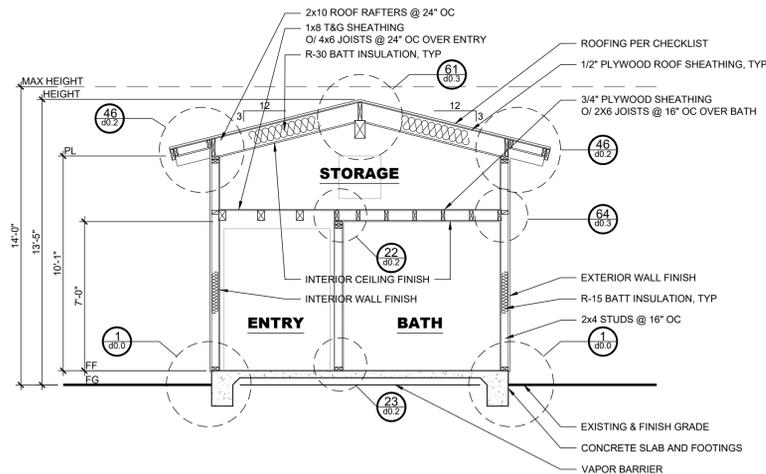
4 section d
SCALE: 1/4" = 1'-0"



5 right elevation b
SCALE: 1/4" = 1'-0"



6 rear elevation b
SCALE: 1/4" = 1'-0"



7 section h
SCALE: 1/4" = 1'-0"

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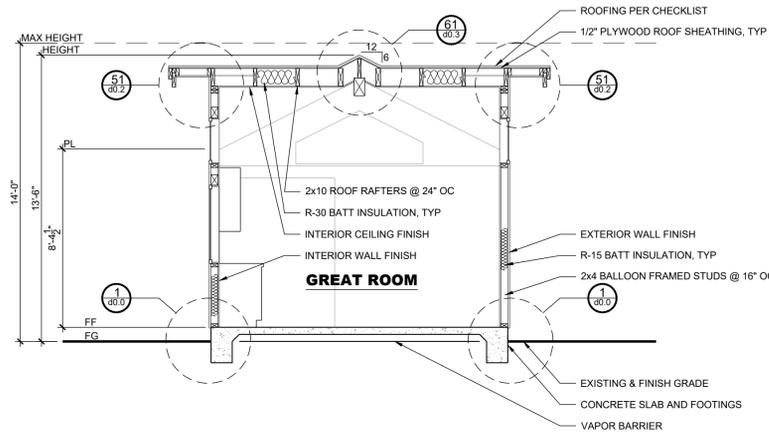
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ELEVATION B + SECTION

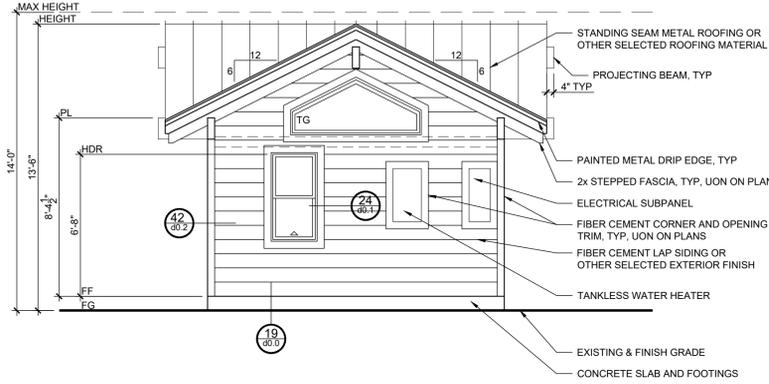
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notes:

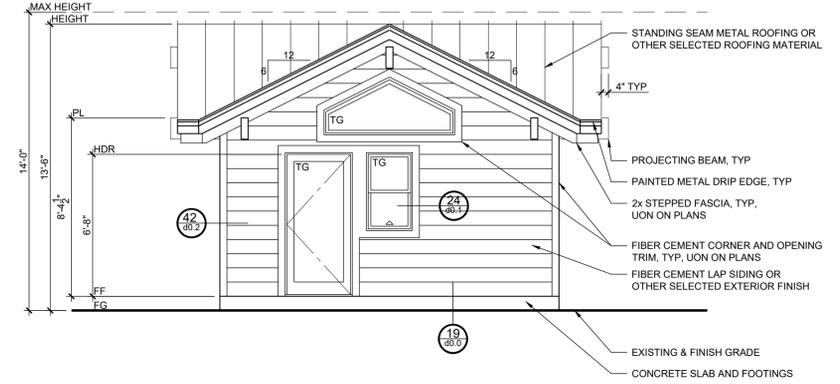
1. ROOF PLAN NOTES THE LOCATION OF GUTTERS AND DOWNSPOUTS.
2. ADJUSTMENT OF ROOF PITCH OR PLATE HEIGHT MAY BE REQUIRED IF RAISED FLOOR FOUNDATION IS SELECTED TO MEET HEIGHT REQUIREMENTS.



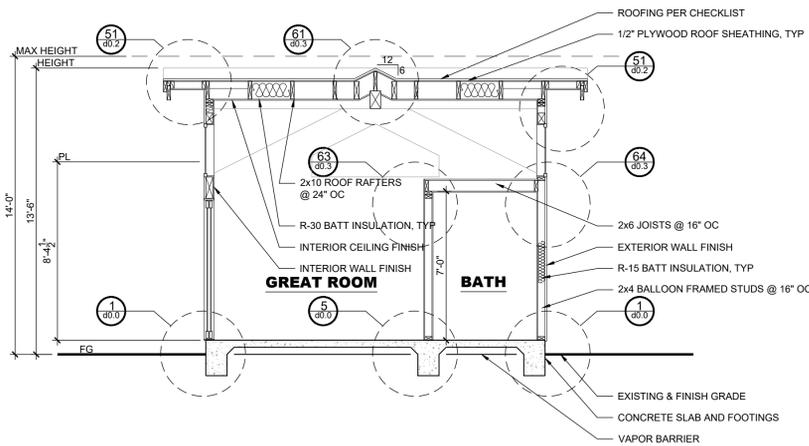
1 section e
SCALE: 1/4" = 1'-0"



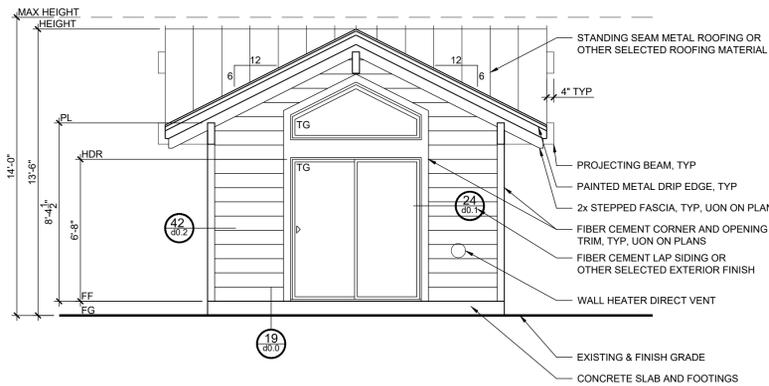
2 left elevation c
SCALE: 1/4" = 1'-0"



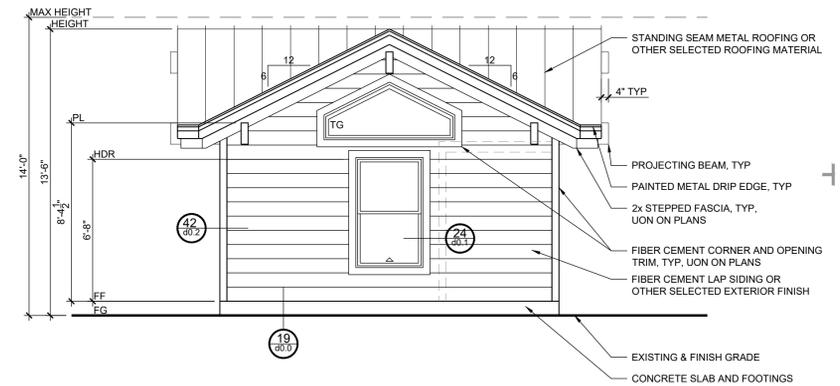
3 front elevation c
SCALE: 1/4" = 1'-0"



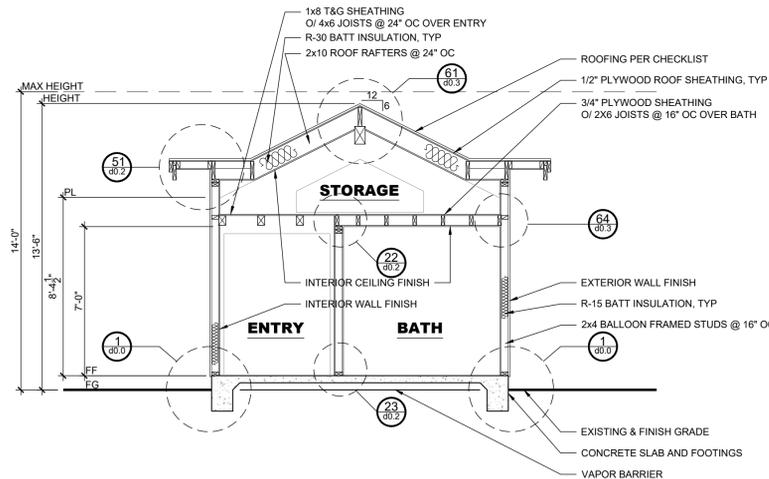
4 section f
SCALE: 1/4" = 1'-0"



5 right elevation c
SCALE: 1/4" = 1'-0"



6 rear elevation c
SCALE: 1/4" = 1'-0"



7 section i
SCALE: 1/4" = 1'-0"

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ELEVATION C + SECTION

a4.2

fastening schedule - table 2304.10.1

| DESCRIPTION OF BUILDING ELEMENT | NUMBER AND TYPE OF FASTENER | SPACING AND LOCATION | DESCRIPTION OF BUILDING ELEMENT | NUMBER AND TYPE OF FASTENER | SPACING AND LOCATION | DESCRIPTION OF BUILDING ELEMENT | NUMBER AND TYPE OF FASTENER | SPACING AND LOCATION |
|---|---|----------------------------|---|---|---------------------------------|---|--|----------------------|
| ROOF | | | | | | | | |
| 1. BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW | 3-8d COMMON (2-1/2"x0.131"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | EACH END, TOENAIL | 16. STUD TO TOP OR BOTTOM PLATE | 4-8d COMMON (2-1/2"x0.131"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN; OR 2-16d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | TOENAIL | 31. 3/8" - 1/2" | 6d COMMON OR DEFORMED (2" x 0.113") (SUBFLOOR & WALL) | 6 - 12 |
| 2. BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATE, TO RAFTER OR TRUSS | 2-8d COMMON (2-1/2"x0.131"); OR 2-3"x0.131" NAILS; OR 2-3" 14 GAGE STAPLES | EACH END, TOENAIL | | | END NAIL | | | |
| 3. CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS (NO THRUST) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1) | 3-16d COMMON (3-1/2"x0.162"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 17. TOP OR BOTTOM PLATE TO STUD | 3-10d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | END NAIL | 32. 19/32" - 3/4" | 8d COMMON (2-1/2"x0.131"); OR 6d DEFORMED (2" x 0.113") | 6 - 12 |
| 4. CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) (SEE SECTION 2308.7.3.1, TABLE 2308.7.3.1) | PER TABLE 2308.7.3.1 | FACE NAIL | 18. TOP PLATES, LAP AT CORNERS AND INTERSECTIONS | 2-16d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | END NAIL | 33. 7/8" - 1-1/4" | 10d COMMON (3"x0.148"); OR 8d DEFORMED (2-1/2" x 0.131") | 6-12 |
| 5. COLLAR TIE TO RAFTER | 3-10d COMMON (3"x0.128"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 19. 1" BRACE TO EACH STUD AND PLATE | 2-8d COMMON (2-1/2"x0.131"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 34. 1/2" FIBERBOARD SHEATHING b | 1-1/2" GALVANIZED ROOFING NAIL (7/16" DIAMETER HEAD); OR 1-1/4" 16 GAGE STAPLE WITH 7/16" OR 1" CROWN | 3 - 6 |
| 6. RAFTER OR TRUSS TO TOP PLATE (SEE SECTION 2308.7.5, TABLE 2308.7.5) | 3-10d COMMON (3"x0.128"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | TOENAIL | 20. 1"x6" SHEATHING TO EACH BEARING | 2-8d COMMON (2-1/2"x0.131"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 35. 5/8" FIBERBOARD SHEATHING b | 1-1/2" GALVANIZED ROOFING NAIL (7/16" DIAMETER HEAD); OR 1-1/2" 16 GAGE STAPLE WITH 7/16" OR 1" CROWN | 3 - 6 |
| 7. ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS, OR ROOF RAFTER TO 2-INCH RIDGE BEAM | 3-10d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | END NAIL | 21. 1"x6" AND WIDER SHEATHING TO BEARING | 3-8d COMMON (2-1/2"x0.131"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING | | |
| 8. STUD TO STUD (NOT AT BRACED WALL PANELS) | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 24" OC, FACE NAIL | 22. JOIST TO SILL, TOP PLATE OR GIRDER | 3-8d COMMON (2-1/2"x0.131"); OR FLOOR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | TOENAIL | 36. 3/4" AND LESS | 8d COMMON (2-1/2"x0.131"); OR 6d DEFORMED (2" x 0.113") | 6 - 12 |
| 9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS) | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, FACE NAIL | 23. RIM JOIST, BAND JOIST, OR BLOCKING TO TOP PLATE, SILL OR OTHER FRAMING BELOW | 2-8d COMMON (2-1/2"x0.131"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | 6" OC, TOENAIL | 37. 7/8" - 1" | 8d COMMON (2-1/2"x0.131"); OR 6d DEFORMED (2-1/2" x 0.113") | 6 - 12 |
| 10. BUILT-UP HEADER (2" TO 2" HEADER) | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, EA EDGE, FACE NAIL | 24. 1"X6" SUBFLOOR OR LESS TO EACH JOIST | 2-8d COMMON (2-1/2"x0.131"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 38. 1 - 1/8" - 1 - 1/4" | 8d COMMON (2-1/2"x0.131"); OR 6d DEFORMED (2-1/2" x 0.113") | 6 - 12 |
| 11. CONTINUOUS HEADER TO STUD | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, EA EDGE, FACE NAIL | 25. 2" SUBFLOOR TO JOIST OR GIRDER | 2-16d COMMON (3-1/2"x0.162"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | INTERIOR PANELING | | |
| 12. TOP PLATE TO TOP PLATE | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, FACE NAIL | 26. 2" PLANKS (PLANK & BEAM - FLOOR & ROOF) | 2-16d COMMON (3-1/2"x0.162"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 41. 1/4" | 4d CASING (1-1/2"x0.080"); OR 4d FINISH (1-1/2"x0.072") | 6 - 12 |
| 13. TOP PLATE TO TOP PLATE, AT END JOINTS | EA SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP-SPURCE LENGTH EACH SIDE OF END JOINT) | 12" OC, FACE NAIL | 27. BUILT-UP GIRDERS AND BEAMS, 2" LUMBER LAYERS | 2-16d COMMON (3-1/2"x0.162"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | FACE NAIL | 42. 3/8" | 6d CASING (2"x0.099"); OR 6d FINISH (PANEL SUPPORTS @ 24") | 6 - 12 |
| 14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS) | 3-10d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 12" OC, FACE NAIL | 28. LEDGER STRIP SUPPORTING JOISTS OR RAFTERS | 3-16d COMMON (3-1/2"x0.162"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | EACH JOIST OR RAFTER, FACE NAIL | FOR SILL: 1 INCH = 25.4 MM | | |
| 15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS | 3-16d COMMON (3-1/2"x0.162"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, FACE NAIL | 29. JOIST TO BAND JOIST OR RIM JOIST | 3-16d COMMON (3-1/2"x0.162"); OR 4-10d BOX (3"x0.128"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | END NAIL | a. NAILS SPACED 6 INCHES AT INTERMEDIATE SUPPORTS (FIELD) WHERE SPANS ARE GREATER THAN 48" OR MORE. FOR NAILING OF WOOD STRUCTURAL PANEL AND PARTICLE BOARD DIAPHRAGMS AND SHEAR WALLS, REFER TO SECTION 2305. NAILS FOR WALL SHEATHING ARE PERMITTED TO USE COMMON BOX OR CASING. | | |
| WALL | | | | | | | | |
| 8. STUD TO STUD (NOT AT BRACED WALL PANELS) | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3"x0.128"); OR 3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 24" OC, FACE NAIL | 30. BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS | 2-8d COMMON (2-1/2"x0.131"); OR 2-10d BOX (3"x0.128"); OR 2-3"x0.131" NAILS; OR 2-3"x14 GAGE STAPLES, 7/16" CROWN | EACH END, TOE NAIL | b. SPACING SHALL BE 6" OC ON THE EDGES AND 12" OC AT INTERMEDIATE SUPPORTS (FIELD) FOR NON-STRUCTURAL APPLICATIONS. PANEL SUPPORTS AT 1/2" OR 6" STRENGTH AXIS IS IN THE LONG DIRECTION OF THE PANEL, UNLESS OTHERWISE MARKED. | | |
| 9. STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS) | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, FACE NAIL | c. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE AND THE CEILING JOIST IS FASTENED TO THE TOP PLATE ACCORDING TO THIS SCHEDULE, THE NUMBER OF TOENAILS IN THE RAFTER SHALL BE PERMITTED TO BE REDUCED BY ONE NAIL. | | | | | |
| 10. BUILT-UP HEADER (2" TO 2" HEADER) | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, EA EDGE, FACE NAIL | WOOD STRUCTURAL PANELS (WSP), SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLE BOARD WALL SHEATHING TO FRAMING a | | | | | |
| 11. CONTINUOUS HEADER TO STUD | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, EA EDGE, FACE NAIL | FIELD = INTERMEDIATE SUPPORTS | | | | | |
| 12. TOP PLATE TO TOP PLATE | 16d COMMON (3-1/2"x0.162"); OR 10d BOX (3-1/2"x0.135"); OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, FACE NAIL | EDGES - FIELD (INCHES) | | | | | |
| 13. TOP PLATE TO TOP PLATE, AT END JOINTS | EA SIDE OF END JOINT, FACE NAIL (MINIMUM 24" LAP-SPURCE LENGTH EACH SIDE OF END JOINT) | 12" OC, FACE NAIL | | | | | | |
| 14. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS) | 3-10d COMMON (3-1/2"x0.162"); OR 3-10d BOX (3"x0.128"); OR 3-3"x0.131" NAILS; OR 3-3"x14 GAGE STAPLES, 7/16" CROWN | 12" OC, FACE NAIL | | | | | | |
| 15. BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING AT BRACED WALL PANELS | 3-16d COMMON (3-1/2"x0.162"); OR 4-3"x0.131" NAILS; OR 4-3"x14 GAGE STAPLES, 7/16" CROWN | 16" OC, FACE NAIL | | | | | | |

green building code notes:

- CGC1 THE SITE SHALL BE PLANNED & DEVELOPED TO KEEP SURFACE WATER AWAY FROM BUILDINGS. PLANS SHALL BE PROVIDED AND APPROVED BY THE CITY ENGINEER THAT SHOW SITE GRADING AND PROVIDE FOR STORM WATER RETENTION AND DRAINAGE DURING CONSTRUCTION. BMPs THAT ARE CURRENTLY ENFORCED BY THE CITY ENGINEER MUST BE IMPLEMENTED PRIOR TO INITIAL INSPECTION BY THE BUILDING DEPARTMENT. CGC 4.106.3.
- CGC2 A MIN OF 65% OF CONSTRUCTION WASTE IS TO BE RECYCLED. CGC 4.408.1.
- CGC3 THE BUILDER IS TO PROVIDE AN OPERATION MANUAL (CONTAINING INFORMATION FOR MAINTAINING APPLIANCES, ETC.) FOR THE OWNER AT TIME OF FINAL INSPECTION. CGC 4.410.1.
- CGC4 DURING CONSTRUCTION, ENDS OF DUCT OPENINGS ARE TO BE SEALED, AND MECHANICAL EQUIPMENT IS TO BE COVERED. CGC 4.504.1.
- CGC5 VOCs MUST COMPLY WITH THE LIMITATIONS LISTED IN SEC 4.504.3 AND TABLES 4.504.1, 4.504.2, 4.504.3 AND 4.504.5 for: ADHESIVES, PAINTS AND COATINGS, CARPET AND COMPOSITION WOOD PRODUCTS. CGC 4.504.2.
- CGC6 IF PROVIDED, WHOLE HOUSE EXHAUST FANS SHALL HAVE INSULATED COVERS OR LOUVERS WHICH CLOSE WHEN THE FAN IS OFF. THE COVERS OR LOUVERS SHALL HAVE MIN R4.2 INSULATION. CGC 5.507.1.
- CGC7 BATHROOM FANS SHALL BE ENERGY STAR RATED, VENTED DIRECTLY TO THE OUTSIDE AND CONTROLLED BY A HUMIDISTAT. CGC 4.506.1.
- CGC8 HEATING AND AC SHALL BE SIZED AND SELECTED BY ACCA MANUAL J OR ASHRAE HANDBOOK OR EQUIVALENT. THE DUCT SIZING SHALL BE SIZED IN ACCORDANCE WITH ONE OF THE ACCA METHODS LISTED IN CGC SECTION 4.507.2.
- CGC9 PRIOR TO FINAL APPROVAL OF THE BUILDING THE LICENSED CONTRACTOR, ARCHITECT, OR ENGINEER IN RESPONSIBLE CHARGE OF THE OVERALL CONSTRUCTION MUST COMPLETE AND SIGN THE GREEN BUILDING STANDARDS CERTIFICATION FORM AND GIVE TO THE BUILDING DEPARTMENT OFFICIAL TO BE FILED WITH THE APPROVED PLANS.
- CGC10 LANDSCAPE IRRIGATION WATER USE SHALL HAVE WEATHER BASED CONTROLLERS. CGC 4.304.1.
- CGC11 WHEN A SHOWER IS PROVIDED WITH MULTIPLE SHOWER HEADS, THE SUM OF FLOW TO ALL THE HEADS SHALL NOT EXCEED THE 20% REDUCED LIMIT, OR THE SHOWER SHALL BE DESIGNED SO THAT ONLY ONE HEAD IS ON AT A TIME. CGC 4.303.2.
- CGC12 THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN TO THE JURISDICTION AGENCY THAT REGULATES WASTE MANAGEMENT. PER CGC 4.408.2.
- CGC13 THE MOISTURE CONTENT OF WOOD SHALL NOT EXCEED 19% BEFORE IT IS ENCLOSED IN CONSTRUCTION. THE MOISTURE CONTENT NEEDS TO BE CERTIFIED BY ONE OF 3 METHODS SPECIFIED IN SECTION 4.505.3. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHOULD NOT BE USED IN CONSTRUCTION. THE MOISTURE CONTENT MUST BE DETERMINED BY THE CONTRACTOR BY ONE OF THE METHODS LISTED IN CGC 4.505.3.
- CGC14 STORM WATER DRAINAGE/RETENTION DURING CONSTRUCTION: PROJECTS WITH MORE THAN ONE ACRE OF SOIL SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION BY ONE OF THE FOLLOWING: A. RETENTION BASINS. B. WHERE STORM WATER IS CONVEYED TO A PUBLIC DRAINAGE SYSTEM, WATER SHALL BE FILTERED BY USE OF A BARRIER SYSTEM, WATTLE OR OTHER APPROVED METHOD. CGC 4.106.2.
- CGC15 GRADING AND PAVING. SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS (DRAINS, WATER COLLECTION, FRESH DRAINS, ETC.). CGC 4.106.3. EXCEPTION: ADDITIONS NOT ALTERING THE DRAINAGE PATH.
- CGC16 PRIOR TO FINAL INSPECTION THE LICENSED CONTRACTOR, ARCHITECT OR ENGINEER IN RESPONSIBLE CHARGE OF THE OVERALL CONSTRUCTION MUST PROVIDE TO THE BUILDING DEPARTMENT OFFICIAL WRITTEN VERIFICATION THAT ALL APPLICABLE PROVISIONS FROM THE GREEN BUILDING STANDARDS CODE HAVE BEEN IMPLEMENTED AS PART OF THE CONSTRUCTION. CGC 102.3.
- CGC17 RECYCLING: THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN TO THE JURISDICTION AGENCY THAT REGULATES WASTE MANAGEMENT. PER CGC 4.408.2.
- CGC18 ELECTRIC VEHICLE CHARGING. NOTE ON THE PLANS THAT ELECTRICAL VEHICLE SUPPLY EQUIPMENT (EVSE) IS REQUIRED IN NEW ONE AND TWO FAMILY DWELLINGS AND TOWNHOMES WITH ATTACHED GARAGES. SHOW ON THE PLANS THE LOCATION OF THE ELECTRICAL VEHICLE SUPPLY EQUIPMENT. THE EVSE MUST CONSIST OF MINIMUM 1" CONDUIT EXTENDING FROM THE MAIN PANEL TO A JUNCTION BOX WHERE THE EVSE RECEPTACLE WILL BE PROVIDED. THE MAIN SERVICE PANEL MUST BE SIZED TO ACCOMMODATE 208/240 VOLT, 40 AMP DEDICATED BRANCH CIRCUIT. CGC 4.106.4.
- CGC19 NOTE ON THE PLANS THAT THE GAS FIREPLACE(S) SHALL BE A DIRECT-VENT SEALED COMBUSTION TYPE. WOODSTOVE OR PELLET STOVES MUST BE US EPA PHASE II RATED APPLIANCES. CGC 4.503.1.
- CGC20 SHOW COMPLIANCE WITH THE FOLLOWING TABLE FOR NEW/REPLACED FIXTURES, PER CGC 4.303.1.

| FIXTURE TYPE | MAXIMUM FLOW RATE AT ≥ 20% REDUCTION |
|---|--------------------------------------|
| SHOWERHEADS | 1.8 GPM @ 80psi |
| LAVATORY FAUCETS, RESIDENTIAL | 1.5 GPM @ 60psi ² |
| KITCHEN FAUCETS | 1.8 GPM @ 60psi |
| GRAVITY TANK-TYPE WATER CLOSETS | 1.28 GALLONS/FLUSH ¹ |
| FLUSHMETER TANK WATER CLOSETS | 1.28 GALLONS/FLUSH ¹ |
| FLUSHMETER VALVE WATER CLOSETS | 1.28 GALLONS/FLUSH ¹ |
| ELECTROMECHANICAL HYDRAULIC WATER CLOSETS | 1.28 GALLONS/FLUSH ¹ |

- 1. INCLUDES SINGLE AND DUAL FLUSH WATER CLOSETS WITH AN EFFECTIVE FLUSH OF 1.28 GALLONS OR LESS. SINGLE FLUSH TOILETS - THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.28 GALLONS (4.8 LITERS). THE EFFECTIVE FLUSH VOLUME IS THE AVERAGE FLUSH VOLUME WHEN TESTED IN ACCORDANCE WITH ASME A112.19.2. DUAL FLUSH TOILETS - THE EFFECTIVE FLUSH VOLUME SHALL NOT EXCEED 1.28 GALLONS (4.8 LITERS). THE EFFECTIVE FLUSH VOLUME IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH. FLUSH VOLUMES WILL BE TESTED IN ACCORDANCE WITH ASME A112.19.2 AND ASME A112.19.14.
- 2. LAVATORY FAUCETS SHALL NOT HAVE A FLOW RATE LESS THAN 0.8 GPM AT 20 PSI.

2016 cbc/crc shear panel schedule

| SHEAR PANEL DESIGNATION | STRUCTURAL 1 APA-RATED WOOD STRUCTURAL PANEL | COMMON NAIL SPACING @ BOUNDARIES & EDGES (BN & EN) FIELD NAILING (FN) @ 12" OC | ALLOWABLE SHEARIFT W/ WOOD STUDS @ 16" OC | SLIDING ANCHOR SYSTEM ⁴ | | | |
|-------------------------|--|--|---|---|-----------------------------|----------------------------------|--------------------------------|
| | | | | 5/8" Ø ANCHOR BOLT SPACING ² | FRAMING CLIP SPACING V=450# | COMMON NAIL SPACING ³ | LAG SCREW SPACING ⁵ |
| | | | | 1/2" Ø SOLE PLATE ONLY V=880# | | | |
| | | | | 1/2" Ø SOLE PLATE ONLY V=880# | | | |
| P | THICKNESS | OC (INCH) | #/FT | OC (INCH) | OC (INCH) | OC (INCH) | OC (INCH) |
| A | 7/8" PLASTER | #11 GA @ 6 | 180 | 60 | 30 | 8 | 36 |
| B | 3/8" | 8d@6 | 280 | 48 | 18 | 5 | 23 |
| C | 15/32" | 8d@3 | 430 | 42 | 12 | 3 | 15 |
| D | 15/32" | 8d@2 | 550 | 32 | 9 | 2 | 12 |
| E | 15/32" | 8d@2 | 730 | 24 | 7 | → | 9 |
| SW | 15/32" | 8d@2 | 870 | 20 | 6 | → | 6 |

- 1. FRAMING AT FOUNDATION SILL PLATES AND ADJOINING PANEL EDGE STUDS SHALL BE A SINGLE 3X NOMINAL MEMBER, AND ALL NAILS SHALL BE STAGGERED W/ 1/2" EDGE DISTANCE. 2X NOMINAL SOLE PLATE MAYBE USED AT RAISED FLOOR AND UPPER LEVELS.
- 2. SIMPSON CO BP 5/8 BEARING PLATES (LARR 25293), OR EQUAL, SHALL BE USED WITH ALL 5/8" DIAMETER ANCHOR BOLTS. 5/8" DIAMETER SIMPSON WEDGE-ALL WEDGE ANCHORS (IGBO ER-3631) MAY BE USED IN LIEU OF 5/8" DIAMETER ANCHOR BOLTS AT EXISTING FOOTINGS WITH THE SAME SPACING AS THE TABLE ABOVE.
- 3. ALL SILL NAILING SHALL BE STAGGERED A 1/2" MINIMUM.
- 4. WHEN A SHEAR PANEL IS SPECIFIED ON BOTH SIDES OF A WALL, ALL SLIDING ANCHOR CONNECTORS SHALL BE ATTACHED WITH SPACING FROM THE TABLE ABOVE TO BE REDUCED BY HALF.
- 5. MINIMUM 4" PENETRATION INTO 4X MATERIAL.

structural design basis

| VERTICAL DESIGN | LATERAL DESIGN | | | | FOUNDATION DESIGN | |
|-----------------|----------------|----------------------------------|--|------------|------------------------------------|------------|
| | LOAD | #/SF | SEISMIC ITEM | WIND VALUE | SEISMIC ITEM | WIND VALUE |
| ROOF DEAD | = 18 | SITE CLASS = D | BASIC WIND SPEED = 110 MPH | | SOIL = TYPE 5 | |
| ROOF LIVE | = 20 | IMPORTANCE FACTOR, I = 1.0 | IMPORTANCE FACTOR = 1.0 | | SITE CLASS = D, LATERAL DESIGN | |
| ROOF SNOW | = N/A | OCCUPANCY CATEGORY = II | OCCUPANCY CATEGORY = II | | SOIL BEARING PRESSURE = 1,000 #/SF | |
| FLOOR DEAD | = 15 | SEISMIC DESIGN CATEGORY = D | WIND EXPOSURE CATEGORY = B | | RETAINING WALLS | |
| FLOOR LIVE | = 40 | SI = 0.425 | EXPOSURE ADJ. COEFF. TOPO ADJ. FACTOR = 1.0 | | RESTRAINED LOAD (EFP) = N/A | |
| | | Sds = 0.779 | SIMPLIFIED DESIGN WIND PRESSURE (Ps30) = 26.6 #/SF | | CANTILEVER LOAD (EFP) = N/A | |
| | | Sdl = 0.446 | DESIGN WIND PRESSURE (Ps30) = 16.0 #/SF | | PASSIVE SOIL PRESSURE = N/A | |
| | | LATITUDE = 33.191 | DESIGN WIND PRESSURE = 16.0 #/SF | | COEFFICIENT OF FRICTION = N/A | |
| | | LONGITUDE = -117.423 | | | SOILS REPORT | |
| | | PLYWOOD SHEAR, R = 6.5 | | | BY = N/A | |
| | | SEISMIC FORCE RESISTING SYSTEMS: | | | | |
| | | Cs = Sds/(R/I) = 0.120/1.4 (ASD) | | | | |
| | | V = Cs * W (ASD) = 0.086 * W | | | | |

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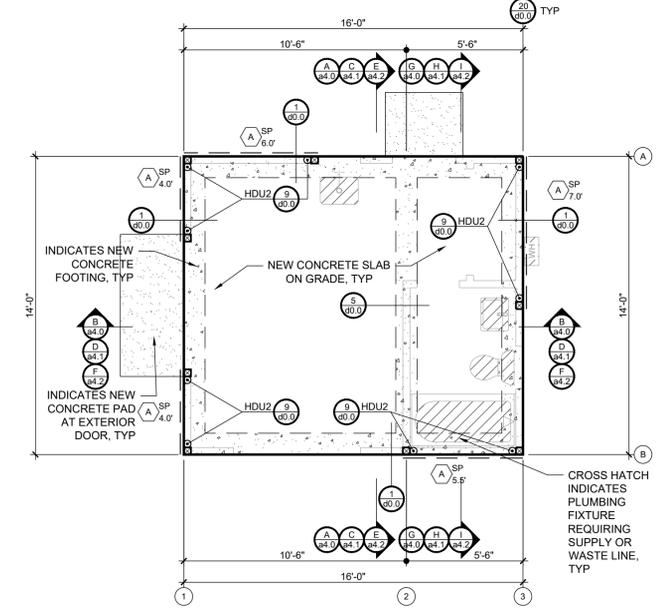
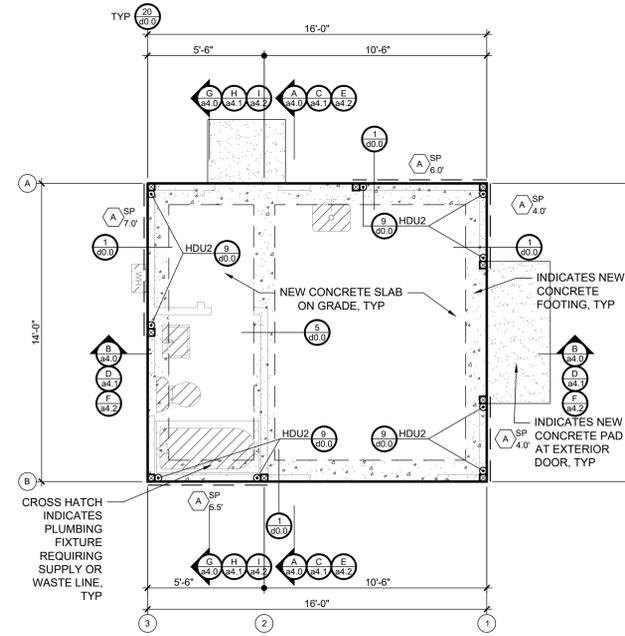
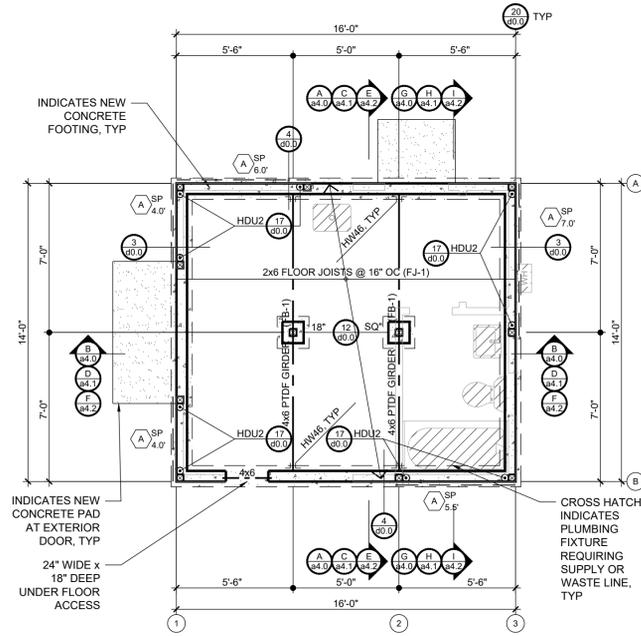
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CITY: ENCINITAS

JOB: 201848R

STRUCTURAL NOTES

s0.0



1 raised floor a
SCALE: 1/4" = 1'-0"

2 reverse foundation plan a
SCALE: 1/4" = 1'-0"

3 foundation plan a
SCALE: 1/4" = 1'-0"

raised floor framing plan notes:

- EXPANSIVE SOIL LOCATIONS SHALL PROVIDE FOOTING DIMENSIONS SPECIFIED IN DETAILS 3, 4, 7, 8 & 12/40.0 FOR EXPANSIVE SOILS.
- ROOF FRAMING PLAN FOR OTHER ELEVATIONS MAY HAVE DIFFERENT SHEAR PANEL LENGTHS. VERIFY SHEAR PANEL LENGTHS WITH ROOF FRAMING PLAN PRIOR TO PLACING HOLD DOWN AND/OR ANCHOR BOLTS.
- PROVIDE FOUNDATION VENTS FOR RAISED FLOOR AREA AT 1 SQ. FT. OF VENT AREA FOR EVERY 150 SQ. FT. OF RAISED FLOOR AREA. 224/150 = 1.5 SQ. FT. SIX(6) 3"x14" FOUNDATION VENTS ARE REQUIRED AND SHALL BE EVENLY DISTRIBUTED AT THE FOUNDATION PERIMETER. CRC §408.1
- PROVIDE A 18"x24" FOUNDATION ACCESS TO RAISED FLOOR FOUNDATION AREAS. CRC §408.4
- PROVIDE R-19 BATT INSULATION AT UNDER-FLOOR JOISTS, TYP.
- FLOOR DIAPHRAGM SHALL BE 23/32" APA STURD-I-FLOOR, EXPOSURE 1, 40/20, TONGUE & GROOVE WITH 10d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS (FN).

foundation plan notes:

- EXPANSIVE SOIL LOCATIONS SHALL SUBSTITUTE DETAIL 2/40.0 FOR DETAIL 1/40.0 AT PERIMETER FOOTINGS.
- EXPANSIVE SOIL LOCATIONS SHALL SUBSTITUTE DETAIL 6/40.0 FOR DETAIL 5/40.0 AT INTERIOR FOOTINGS.
- ROOF FRAMING PLAN FOR OTHER ELEVATIONS MAY HAVE DIFFERENT SHEAR PANEL LENGTHS. VERIFY SHEAR PANEL LENGTHS WITH ROOF FRAMING PLAN PRIOR TO PLACING HOLD DOWN AND/OR ANCHOR BOLTS.

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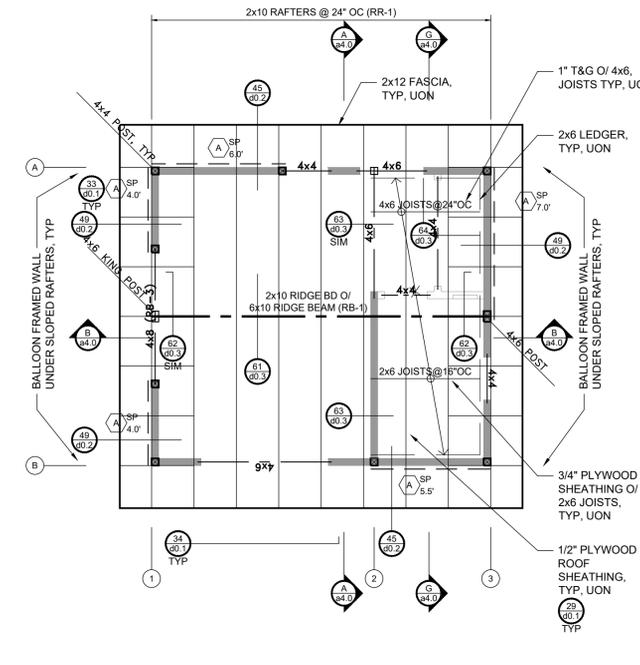
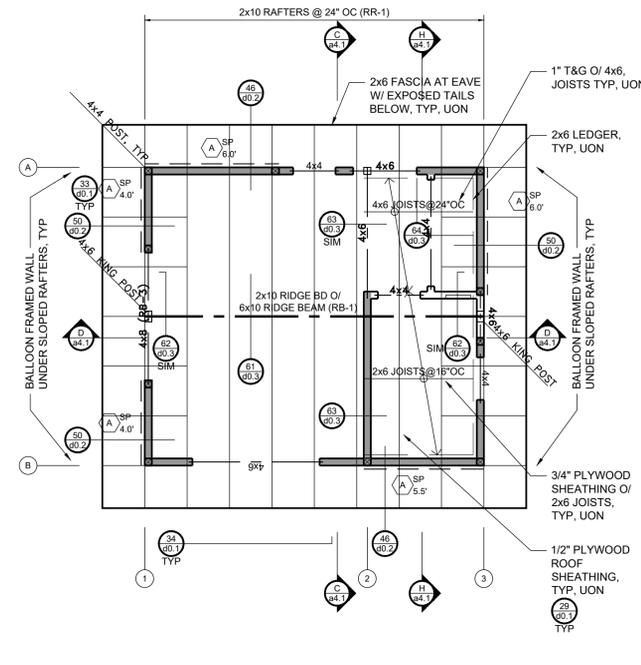
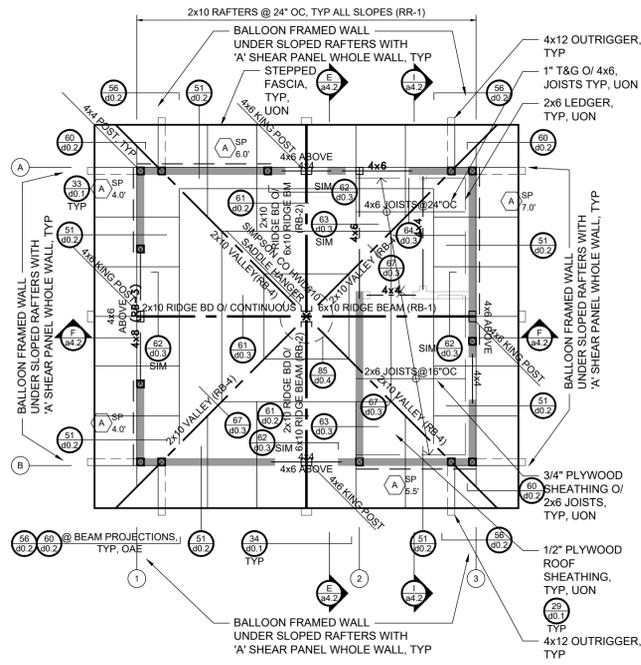
JOB: 201848R

FOUNDATION PLAN

s1.0

roof framing plan notes:

1. ENCLOSED RAFTER SPACES DO NOT REQUIRE VENTING IF THE FOLLOWING SPECIFIC INSULATION DESIGN IS USED, PER SECTIONS R806.5/EM3.9.6:
 - a. IF THE INSULATION IS AIR-PERMEABLE AND IT IS INSTALLED DIRECTLY BELOW THE ROOF SHEATHING WITH RIGID BOARD OR SHEET INSULATION WITH A MINIMUM R-4 VALUE INSTALLED ABOVE THE ROOF SHEATHING. (OR)
 - b. IF THE INSULATION IS AIR-IMPERMEABLE AND IT IS IN DIRECT CONTACT WITH THE UNDERSIDE OF THE ROOF SHEATHING. (OR)
 - c. IF TWO LAYERS OF INSULATION ARE INSTALLED BELOW THE ROOF SHEATHING: AN AIR-IMPERMEABLE LAYER IN DIRECT CONTACT WITH THE UNDERSIDE OF THE ROOF SHEATHING AND AN ADDITIONAL LAYER OF AIR PERMEABLE INSULATION INSTALLED DIRECTLY UNDER THE AIR-IMPERMEABLE INSULATION.
2. FLOOR DIAPHRAGM SHALL BE 23/32" APA STURD-I-FLOOR, EXPOSURE 1, 40/20, TONGUE & GROOVE WITH 10d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS (FN).
3. ROOF DIAPHRAGM SHALL BE 15/32" APA RATED SHEATHING (MIN), EXPOSURE 1, 24/10 MAXIMUM SPAN RATING WITH 8d COMMON NAILS @ 6" OC AT BOUNDARY (BN) & PANEL EDGE NAILING (EN) AND 12" OC AT INTERMEDIATE FRAMING MEMBERS (FN).



1 roof framing plan c
SCALE: 1/4" = 1'-0"

2 roof framing plan b
SCALE: 1/4" = 1'-0"

3 roof framing plan a
SCALE: 1/4" = 1'-0"

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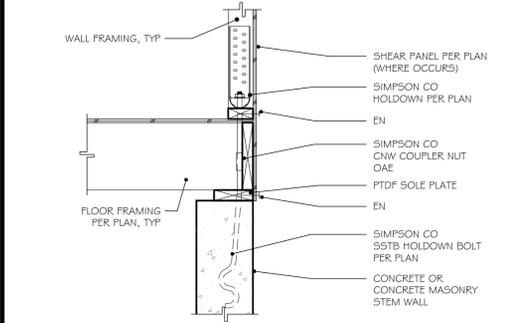
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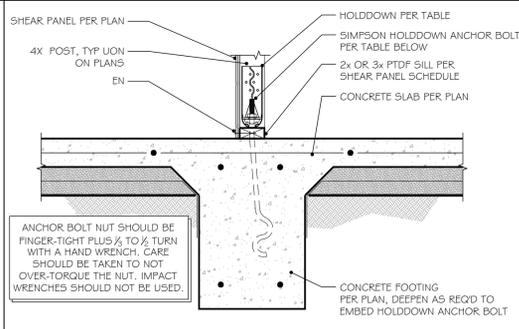
ROOF FRAMING PLAN

s2.0

| MODEL NO. | ANCHOR BOLT | CONNECTION TO POST | EMBEDMENT | EDGE DISTANCE | MIN. W.D. MEMBER THICKNESS |
|-----------|---------------|----------------------|-----------|---------------|----------------------------|
| HDL2 | 5/8" (SSTB16) | 6-SDS 1/2" x 2 1/2" | 12 3/4" | 1 3/4" | 3" |
| HDL4 | 5/8" (SSTB20) | 10-SDS 1/2" x 2 1/2" | 16 3/4" | 1 3/4" | 3" |
| HDL5 | 5/8" (SSTB24) | 14-SDS 1/2" x 2 1/2" | 20 3/4" | 1 3/4" | 3" |
| HDL8 | 5/8" (SSTB28) | 20-SDS 1/2" x 2 1/2" | 24 3/4" | 1 3/4" | 3" |
| HDL11 | 1" (SB1X30) | 30-SDS 1/2" x 2 1/2" | 24" | 1 3/4" | 5 1/2" |
| HDL14 | 1" (SB1X30) | 36-SDS 1/2" x 2 1/2" | 24" | 1 3/4" | 7 1/2" |

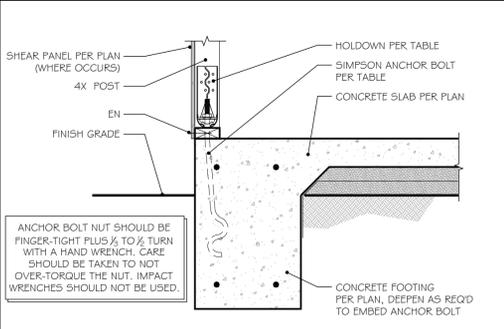


17 HOLDOWN AT STEM WALL FOOTING
SCALE: 1" = 1'-0"



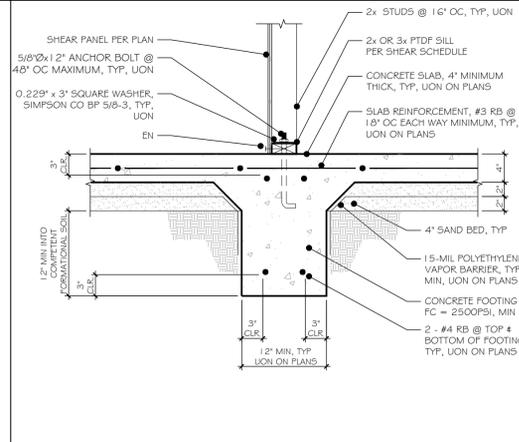
| HOLD DOWN | ANCHOR Ø | POST SCREWS | EDGE DISTANCE | EMBED | MIN POST |
|-----------|----------------------|----------------------|---------------|-------|----------|
| HDL2 | 5/8" (SSTB20) | 6 SDS 1/2" x 2 1/2" | 1 3/4" | 16" | 4x4 |
| HDL4 | 5/8" (SSTB20) | 10 SDS 1/2" x 2 1/2" | 1 3/4" | 16" | 4x4 |
| HDL5 | 5/8" (SSTB24) | 14 SDS 1/2" x 2 1/2" | 1 3/4" | 20" | 4x4 |
| HDL8 | 7/8" (SSTB28) | 20 SDS 1/2" x 2 1/2" | 1 3/4" | 24" | 4x4 |
| HDL11 | 1" (SB1X30) | 30 SDS 1/2" x 2 1/2" | 1 3/4" | 24" | 4x6 |
| HDL14 | 1" (SB1X30) | 36 SDS 1/2" x 2 1/2" | 1 3/4" | 24" | 4x8 |

13 HOLDOWN - INTERIOR FOOTING
SCALE: 1" = 1'-0"

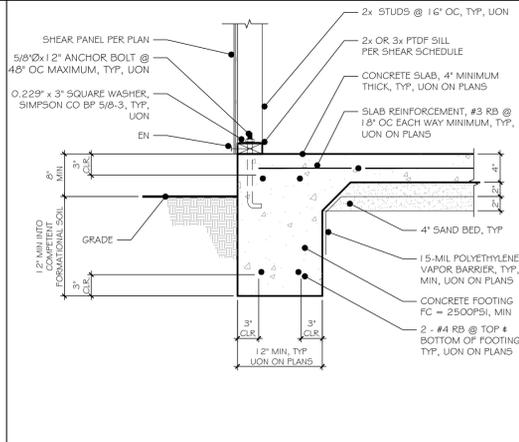


| HOLD DOWN | ANCHOR Ø | POST SCREWS | EDGE DISTANCE | EMBED | MIN POST |
|-----------|---------------|----------------------|---------------|-------|----------|
| HDL2 | 5/8" (SSTB16) | 6 SDS 1/2" x 2 1/2" | 1 3/4" | 12" | 4x4 |
| HDL4 | 5/8" (SSTB20) | 10 SDS 1/2" x 2 1/2" | 1 3/4" | 16" | 4x4 |
| HDL5 | 5/8" (SSTB24) | 14 SDS 1/2" x 2 1/2" | 1 3/4" | 20" | 4x4 |
| HDL8 | 7/8" (SSTB28) | 20 SDS 1/2" x 2 1/2" | 1 3/4" | 24" | 4x4 |
| HDL11 | 1" (SB1X30) | 30 SDS 1/2" x 2 1/2" | 1 3/4" | 24" | 4x6 |
| HDL14 | 1" (SB1X30) | 36 SDS 1/2" x 2 1/2" | 1 3/4" | 24" | 4x8 |

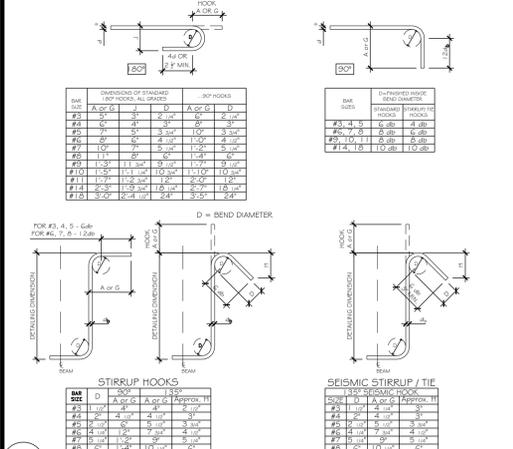
9 HOLDOWN - PERIMETER FOOTING
SCALE: 1" = 1'-0"



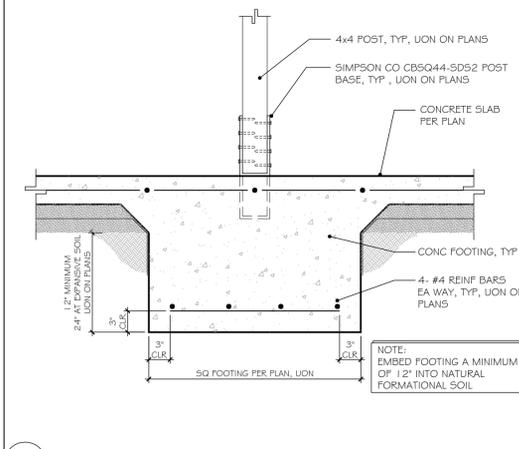
5 SLAB ON GRADE ONE STORY INTERIOR FOOTING
SCALE: 1" = 1'-0"



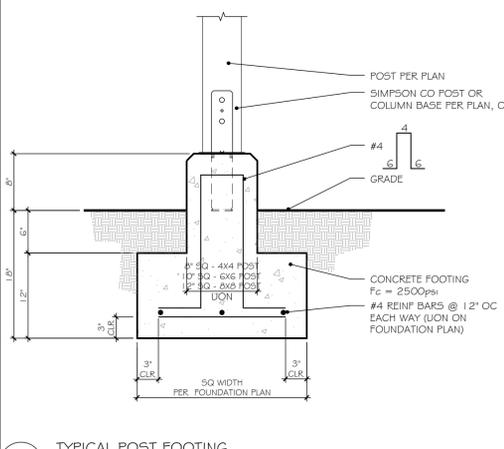
1 SLAB ON GRADE ONE STORY PERIMETER FOOTING
SCALE: 1" = 1'-0"



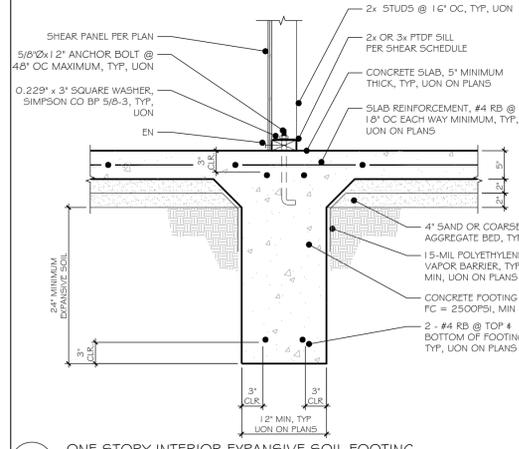
18 STANDARD HOOK DETAILS
SCALE: N.T.S.



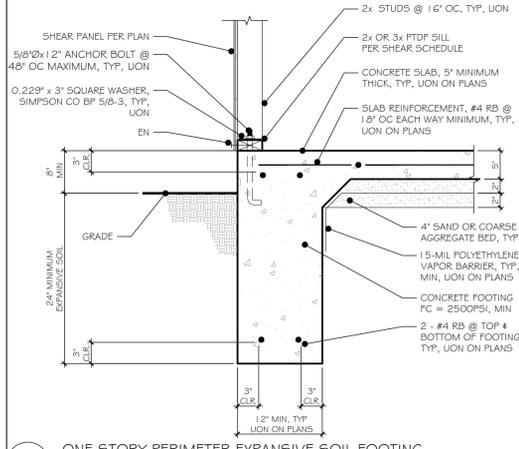
14 POST FOOTING WITHIN SLAB
SCALE: 1" = 1'-0"



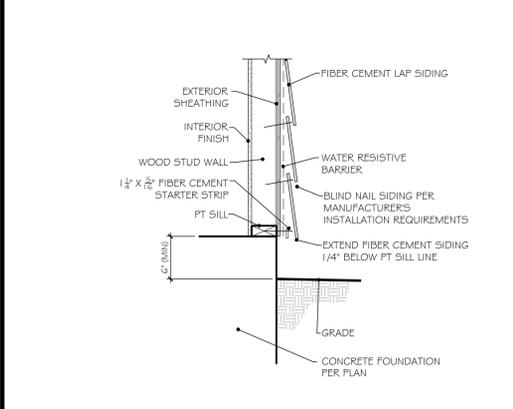
10 TYPICAL POST FOOTING
SCALE: 1" = 1'-0"



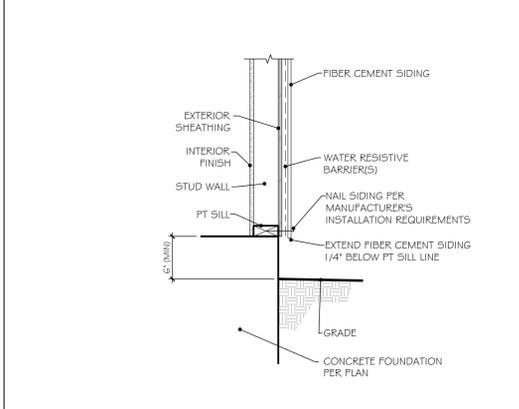
6 ONE STORY INTERIOR EXPANSIVE SOIL FOOTING
SCALE: 1" = 1'-0"



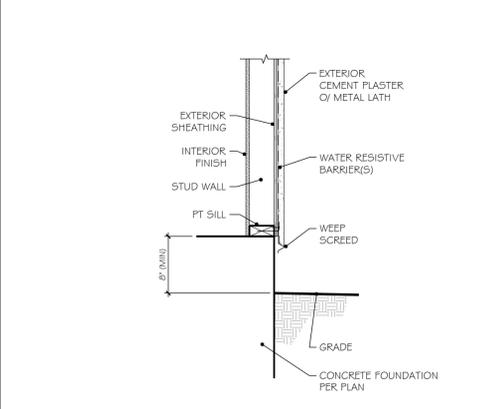
2 ONE STORY PERIMETER EXPANSIVE SOIL FOOTING
SCALE: 1" = 1'-0"



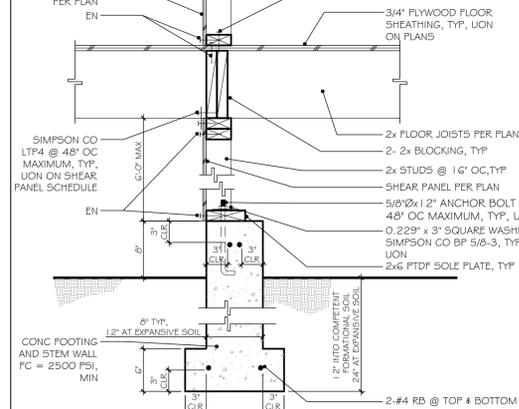
19 LAP SIDING AT FOUNDATION
SCALE: 1" = 1'-0"



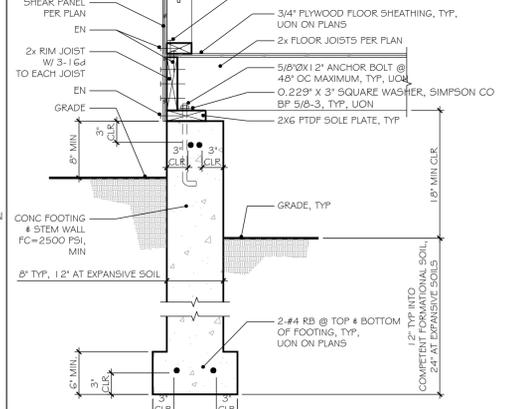
15 BOARD AND BATT SIDING AT FOUNDATION
SCALE: 1" = 1'-0"



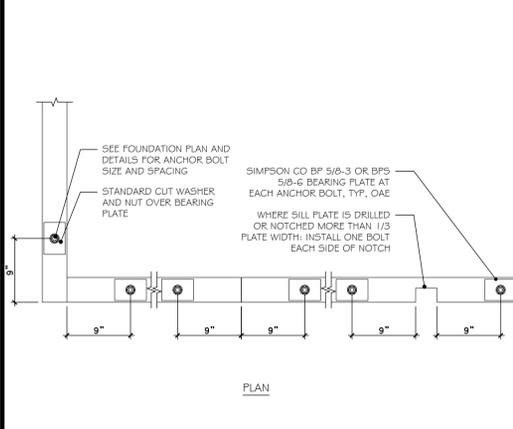
11 CEMENT PLASTER WEEP SCREED AT FOUNDATION
SCALE: 1" = 1'-0"



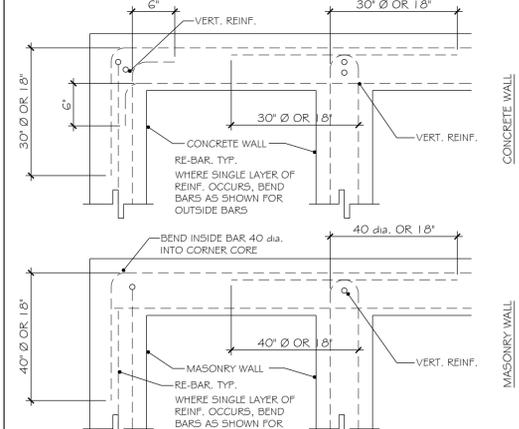
7 ONE-STORY INTERIOR STEM WALL FOOTING - PERPENDICULAR
SCALE: 1" = 1'-0"



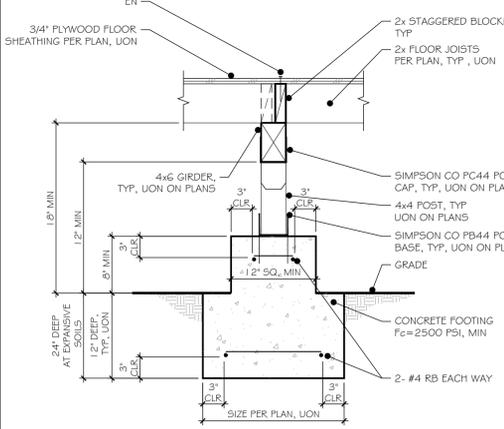
3 ONE STORY EXTERIOR STEM WALL FOOTING-PERPENDICULAR
SCALE: 1" = 1'-0"



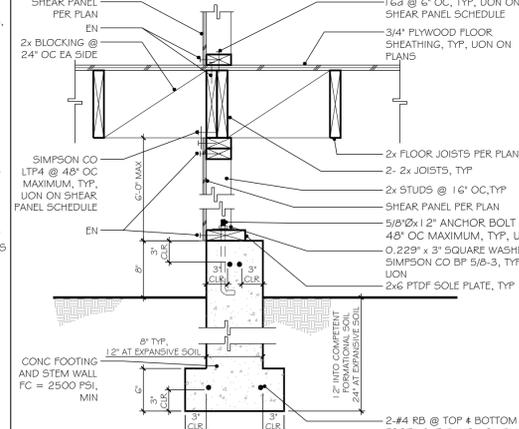
20 SILL PLATE ANCHOR BOLTING
SCALE: 1" = 1'-0"



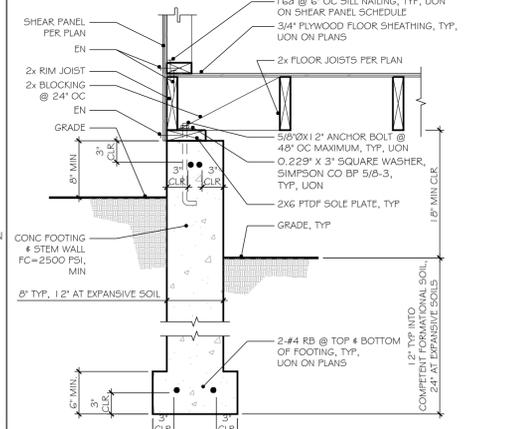
16 TYPICAL CONCRETE / MASONRY WALL REINFORCEMENT
SCALE: 1" = 1'-0"



12 FLOOR JOIST AND GIRDER BEAMS AT PAD FOOTING
SCALE: 1" = 1'-0"



8 ONE-STORY INTERIOR STEM WALL FOOTING - PARALLEL
SCALE: 1" = 1'-0"



4 ONE STORY EXTERIOR STEM WALL FOOTING-PARALLEL
SCALE: 1" = 1'-0"

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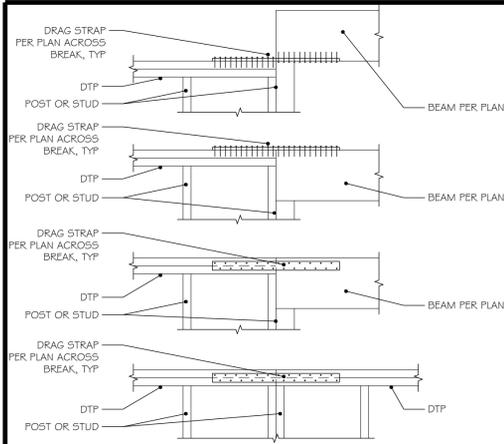
PRADU

CITY: ENCINITAS

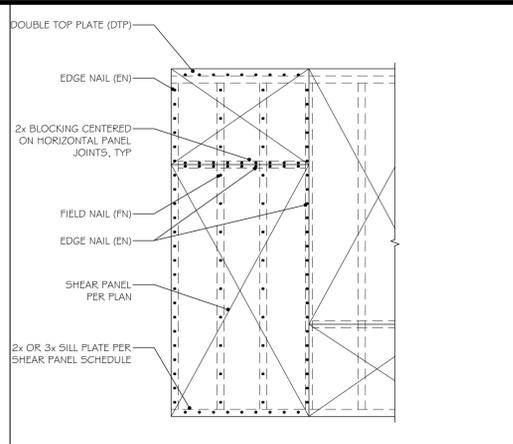
JOB: 201848R

DETAILS

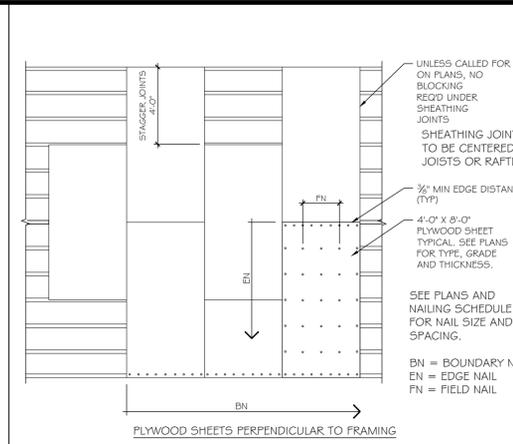
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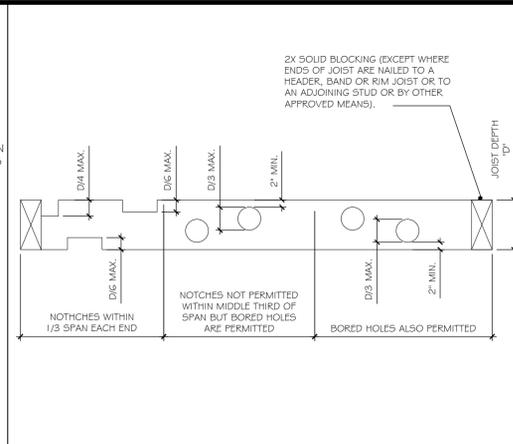
37 DRAG STRAP AT TOP PLATE TO BEAM OR TOP PLATE
SCALE: 3/4" = 1'-0"
A-DT-FMG-WF-0013



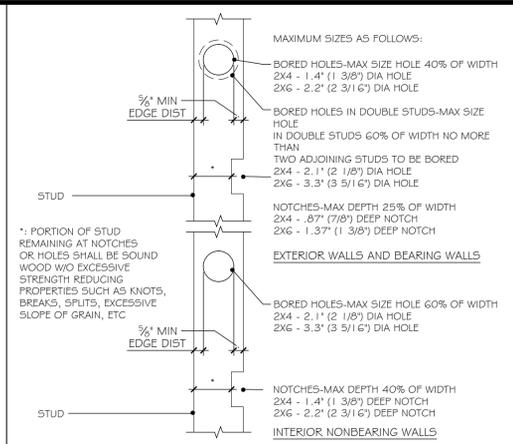
33 TYPICAL SHEAR PANEL
SCALE: N.T.S.
A-DT-FMG-WF-0018



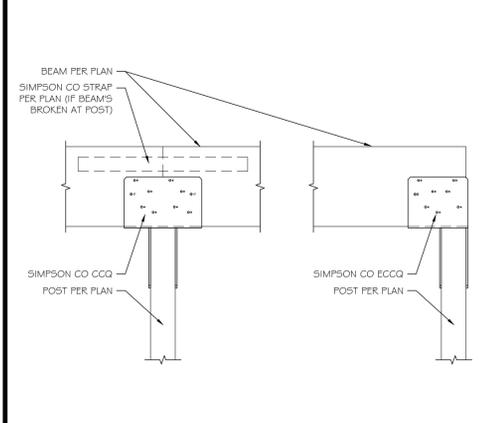
29 WOOD ROOF AND FLOOR SHEATHING LAYOUT
SCALE: 1" = 1'-0"
A-DT-FMG-WF-0002



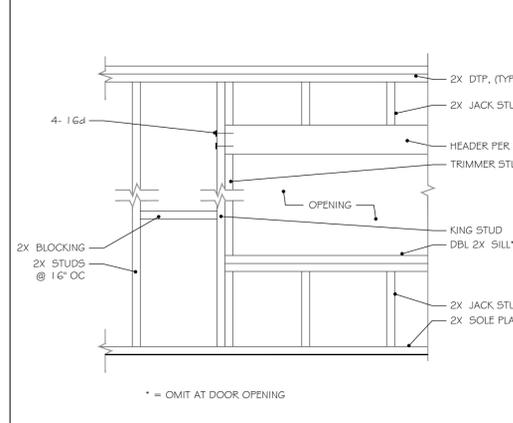
25 JOIST CUTTING, BORING AND NOTCHING
SCALE: N.T.S.
A-DT-FMG-WF-0001



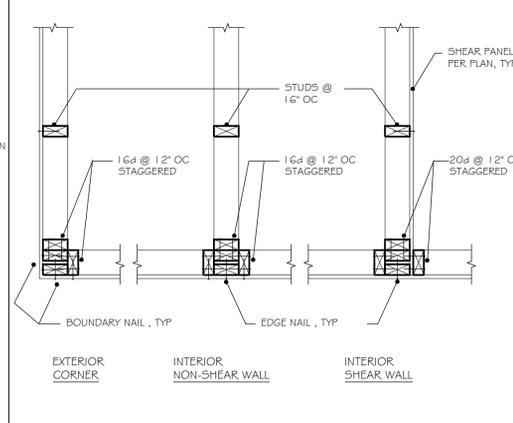
21 STUD CUTTING, BORING AND NOTCHING
SCALE: N.T.S.
A-DT-FMG-WF-0004



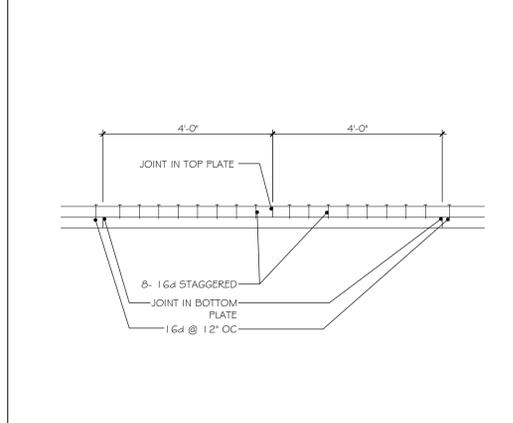
38 POST TO BEAM WITH CCQ/ECCQ
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0007



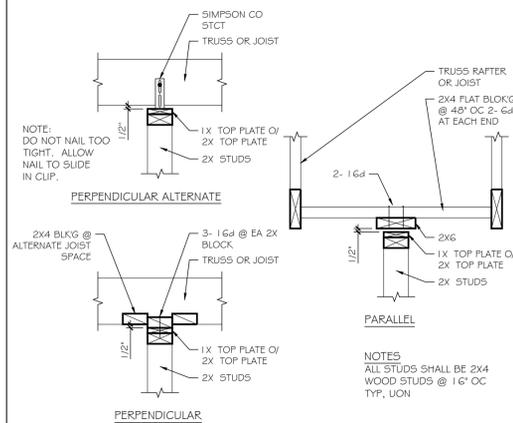
34 FRAMING FOR ROUGH WINDOW OR DOOR OPENING
SCALE: 1/2" = 1'-0"
A-DT-FMG-WF-0006



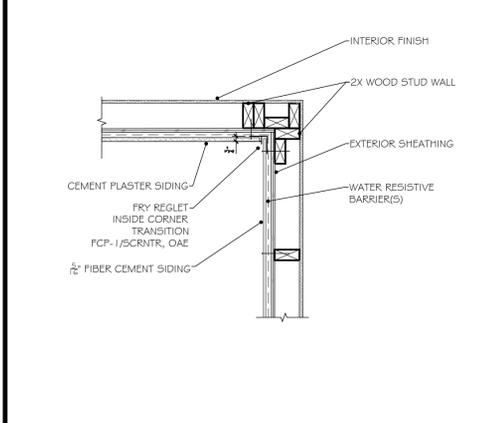
30 STUD WALL INTERSECTION
SCALE: 1" = 1'-0"
A-DT-FMG-WF-0005



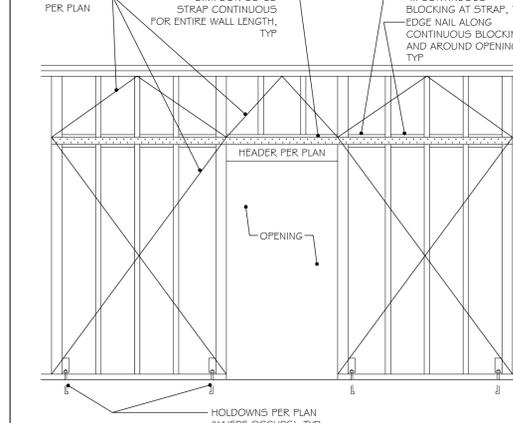
26 DOUBLE TOP-PLATE SPLICE
SCALE: N.T.S.
A-DT-FMG-WF-0019



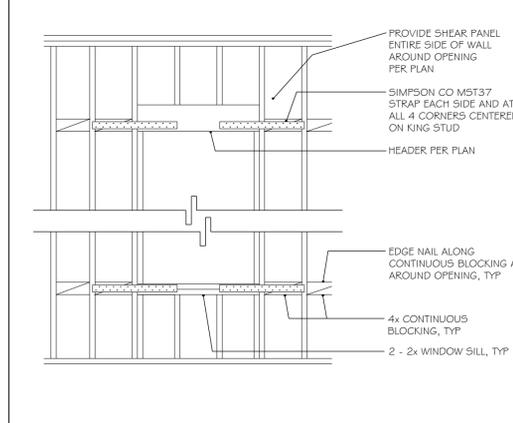
22 NON-BEARING/NON-SHEAR PARTITIONS AT TOP
SCALE: 1" = 1'-0"
A-DT-FMG-WF-0008



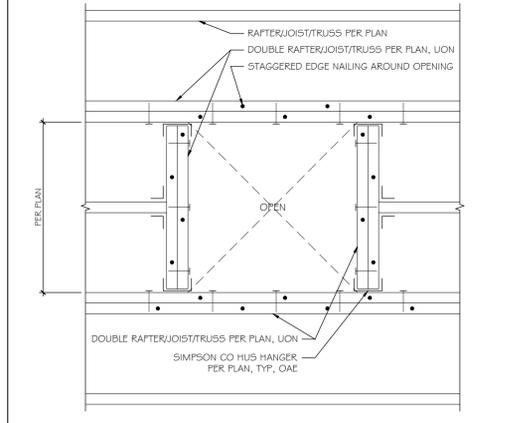
39 SIDING TO PLASTER AT INSIDE CORNER
SCALE: 1" = 1'-0"
A-DT-FIN-FCS-BB-0004



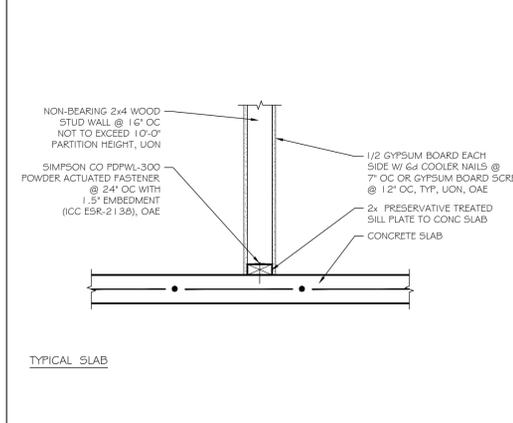
35 SHEAR WALL DETAIL
SCALE: N.T.S.
A-DT-FMG-WF-0020



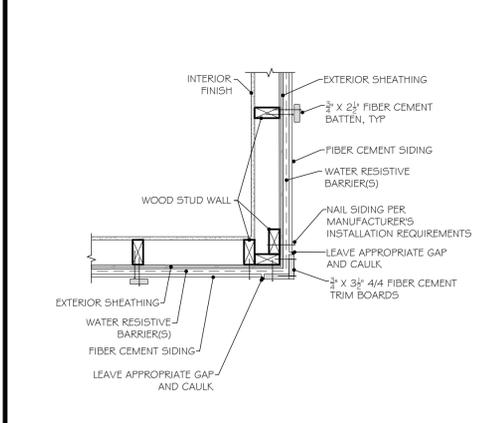
31 OPENING BLOCKING AND STRAPPING IN SHEAR PANEL
SCALE: 1/2" = 1'-0"
A-DT-FMG-WF-0009



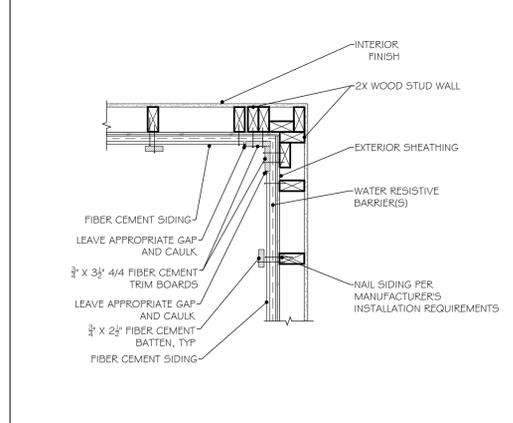
27 DIAPHRAGM OPENING AT SKYLIGHT
SCALE: 1" = 1'-0"
A-DT-FEN-SL-0002



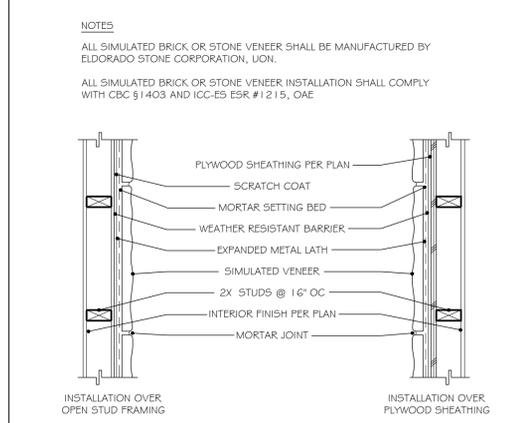
23 NON-BEARING INTERIOR STUD WALL TO CONCRETE SLAB
SCALE: 1" = 1'-0"
A-DT-FMG-WF-COM-0005



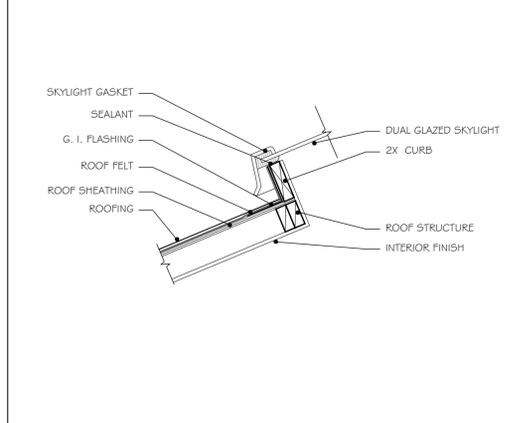
40 SIDING AT OUTSIDE CORNER
SCALE: 1" = 1'-0"
A-DT-FIN-FCS-BB-0002



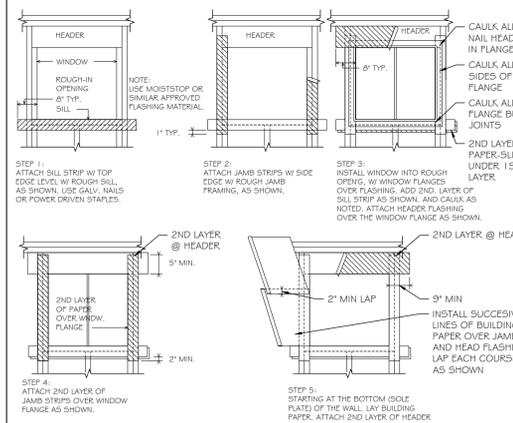
36 SIDING AT INSIDE CORNER
SCALE: 1" = 1'-0"
A-DT-FIN-FCS-BB-0003



32 SIMULATED BRICK OR STONE ADHERED VENEER AT STUD WALL
SCALE: 1" = 1'-0"
A-DT-FMG-WF-0026



28 CURB MOUNTED SKYLIGHT -SLOPED ROOF
SCALE: 1" = 1'-0"
A-DT-FEN-SL-0001



24 WINDOW FLASHING
SCALE: 1/2" = 1'-0"
A-DT-FEN-WD-0002

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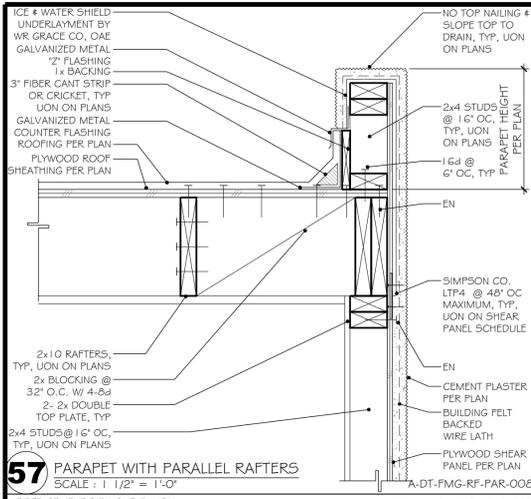
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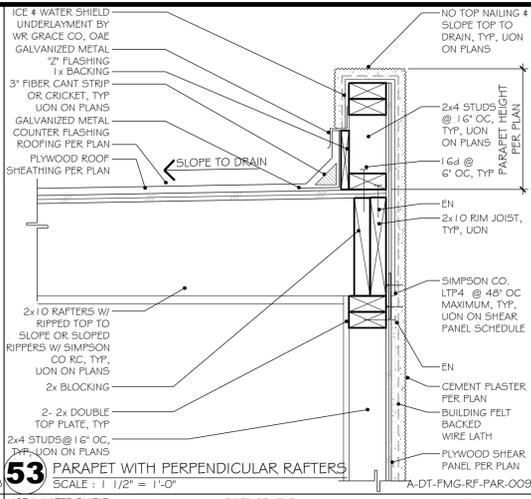
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DETAILS

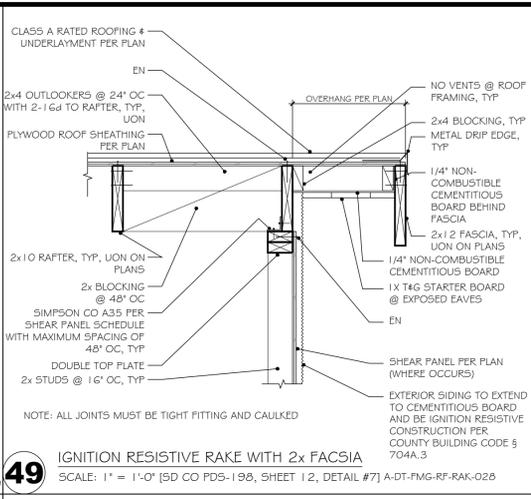
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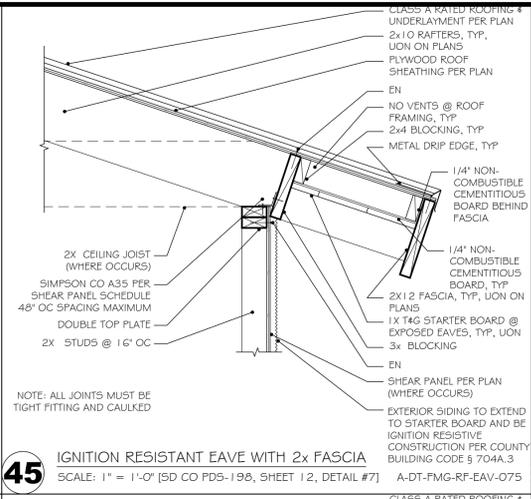
57 PARAPET WITH PARALLEL RAFTERS
SCALE: 1/2" = 1'-0"



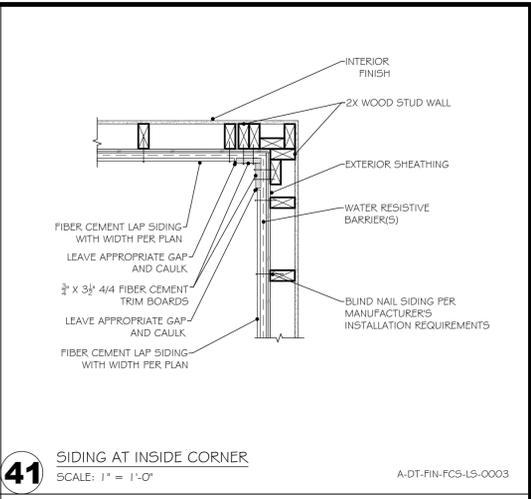
53 PARAPET WITH PERPENDICULAR RAFTERS
SCALE: 1/2" = 1'-0"



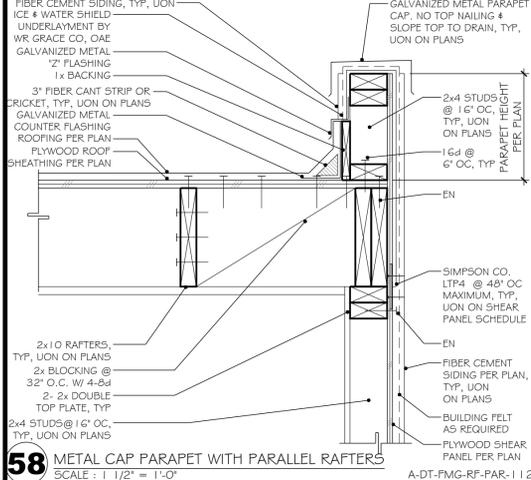
49 IGNITION RESISTIVE RAKE WITH 2x FASCIA
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 12, DETAIL #7] A-DT-FMG-RF-RAK-029



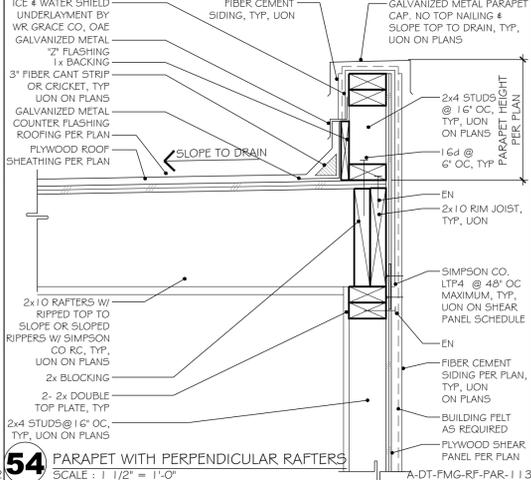
45 IGNITION RESISTANT EAVE WITH 2x FASCIA
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 12, DETAIL #7] A-DT-FMG-RF-EAV-075



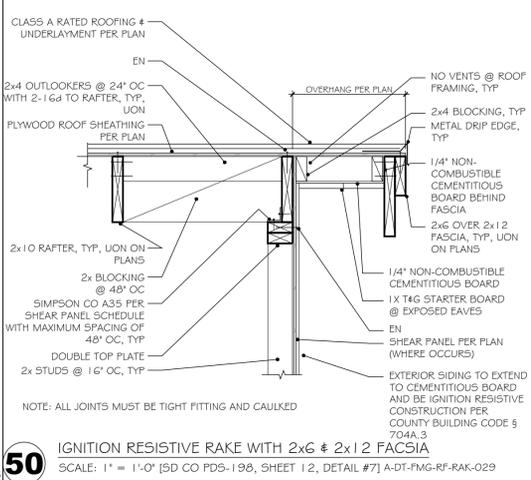
41 SIDING AT INSIDE CORNER
SCALE: 1" = 1'-0" A-DT-FIN-FC5-15-0003



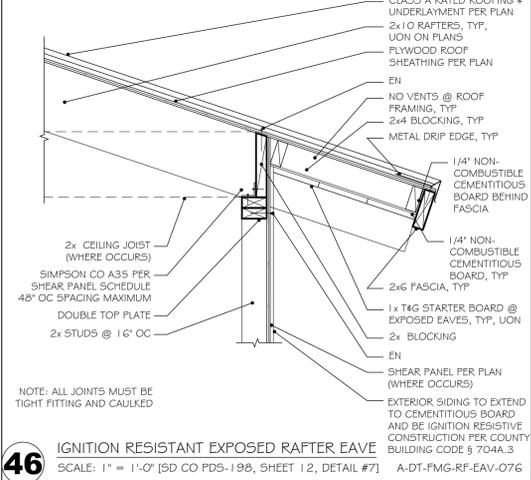
58 METAL CAP PARAPET WITH PARALLEL RAFTERS
SCALE: 1/2" = 1'-0" A-DT-FMG-RF-PAR-112



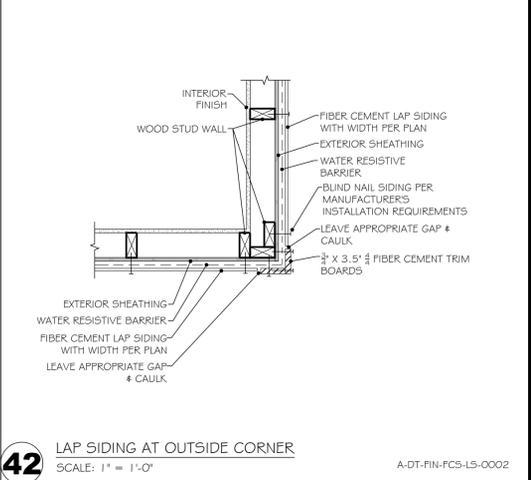
54 PARAPET WITH PERPENDICULAR RAFTERS
SCALE: 1/2" = 1'-0" A-DT-FMG-RF-PAR-113



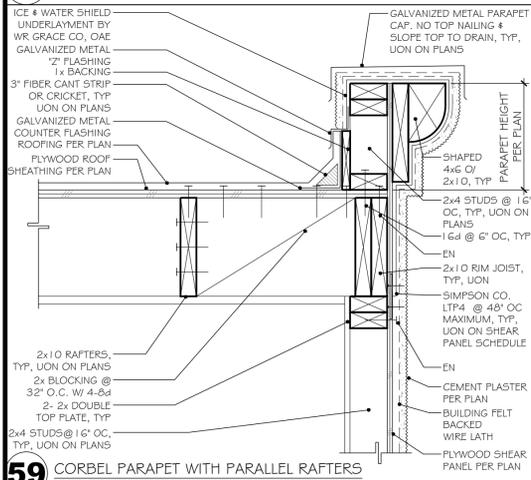
50 IGNITION RESISTIVE RAKE WITH 2x6 & 2x12 FASCIA
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 12, DETAIL #7] A-DT-FMG-RF-RAK-029



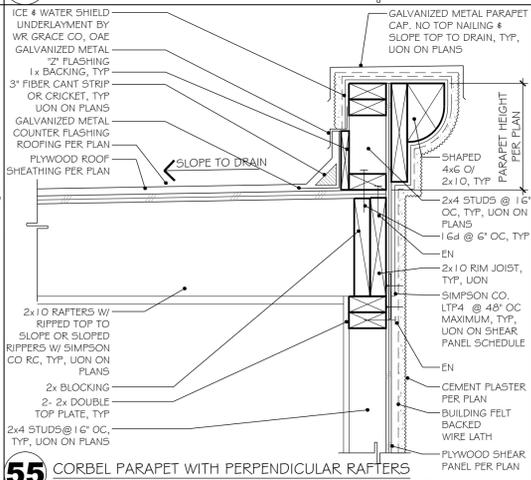
46 IGNITION RESISTANT EAVE EXPOSED RAFTER EAVE
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 12, DETAIL #7] A-DT-FMG-RF-EAV-076



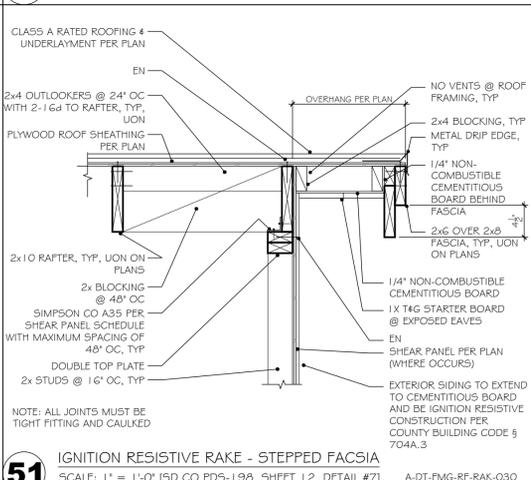
42 LAP SIDING AT OUTSIDE CORNER
SCALE: 1" = 1'-0" A-DT-FIN-FC5-15-0002



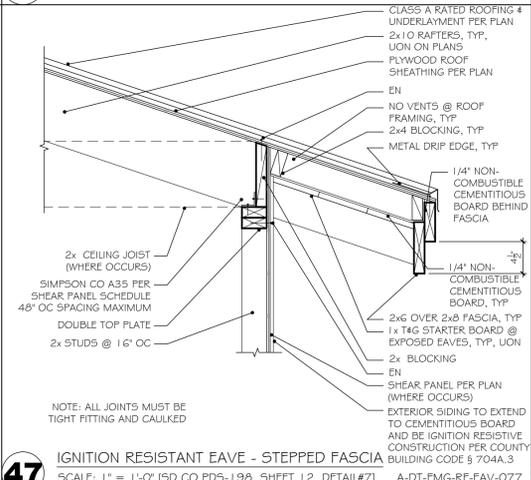
59 CORBEL PARAPET WITH PARALLEL RAFTERS
SCALE: 1/2" = 1'-0" A-DT-FMG-RF-PAR-011



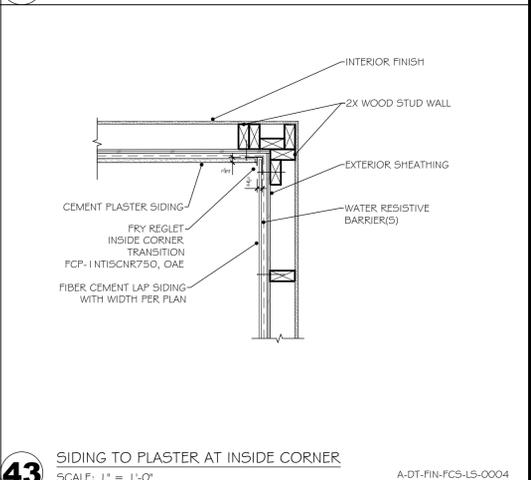
55 CORBEL PARAPET WITH PERPENDICULAR RAFTERS
SCALE: 1/2" = 1'-0" A-DT-FMG-RF-PAR-010



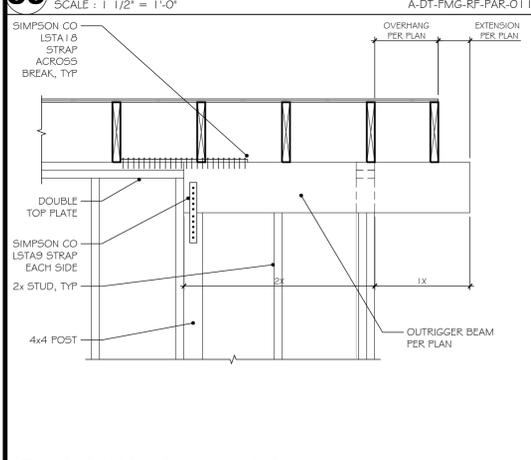
51 IGNITION RESISTIVE RAKE - STEPPED FASCIA
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 12, DETAIL #7] A-DT-FMG-RF-RAK-030



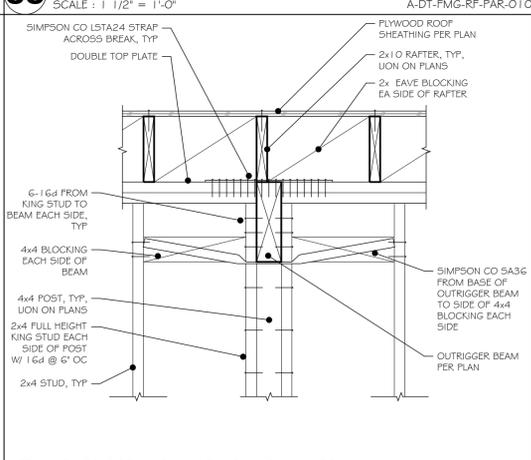
47 IGNITION RESISTANT EAVE - STEPPED FASCIA
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 12, DETAIL #7] A-DT-FMG-RF-EAV-077



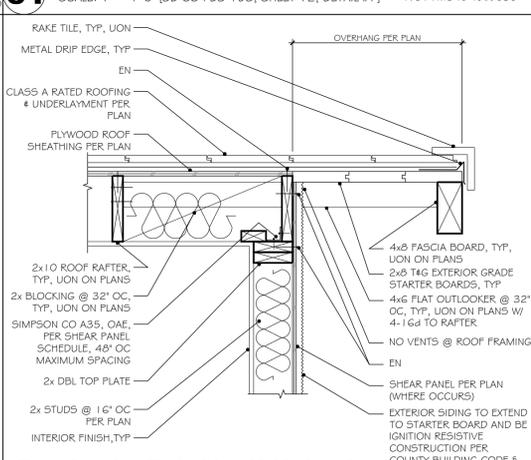
43 SIDING TO PLASTER AT INSIDE CORNER
SCALE: 1" = 1'-0" A-DT-FIN-FC5-15-0004



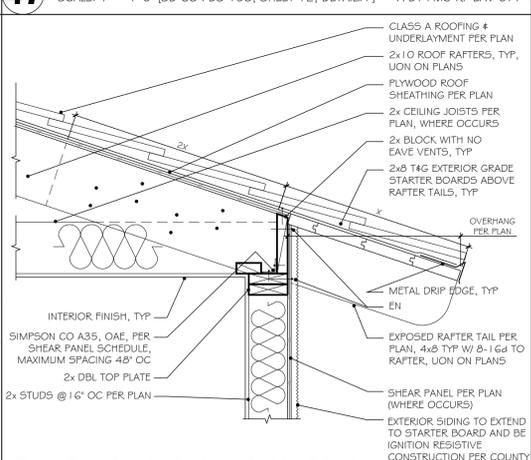
60 OUTRIGGER BEAM PARALLEL TO WALL
SCALE: 3/4" = 1'-0" A-DT-FMG-WP-0135



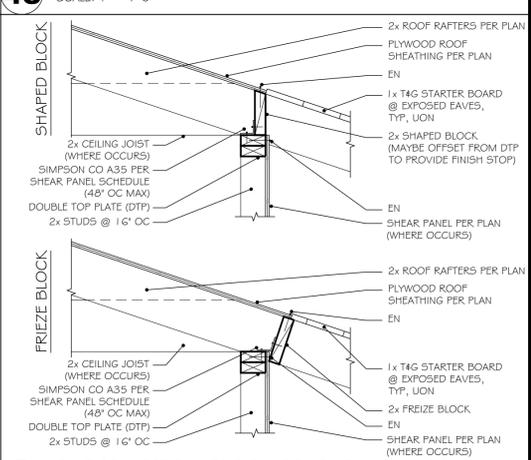
56 OUTRIGGER BEAM PERPENDICULAR TO WALL
SCALE: 1" = 1'-0" A-DT-FMG-PB-0135



52 HEAVY TIMBER IGNITION RESISTIVE RAKE
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 7, DETAIL #4] A-DT-FMG-RF-RAK-027



48 HEAVY TIMBER IGNITION RESISTANT EAVE
SCALE: 1" = 1'-0" [SD CO PDS-198, SHEET 7, DETAIL #4] A-DT-FMG-RF-EAV-074



44 EAVE CONNECTION - FRIEZE BLOCK OR SHAPED BLOCK
SCALE: 1" = 1'-0" A-DT-FMG-RF-EAV-073

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PRADU

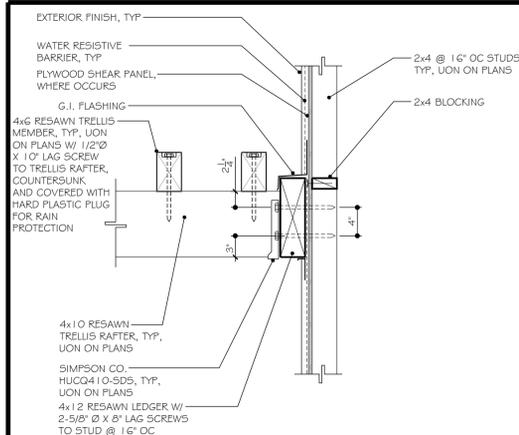
CITY: ENCINITAS

JOB: 201848R

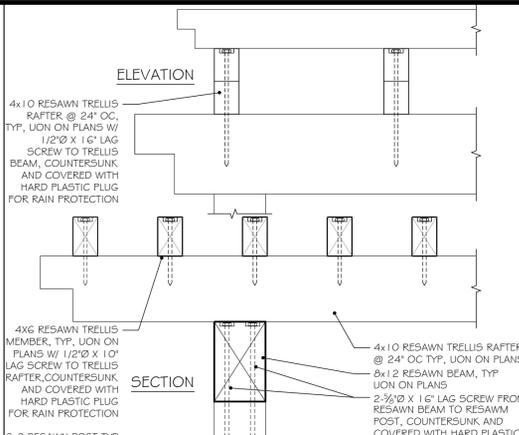
DETAILS

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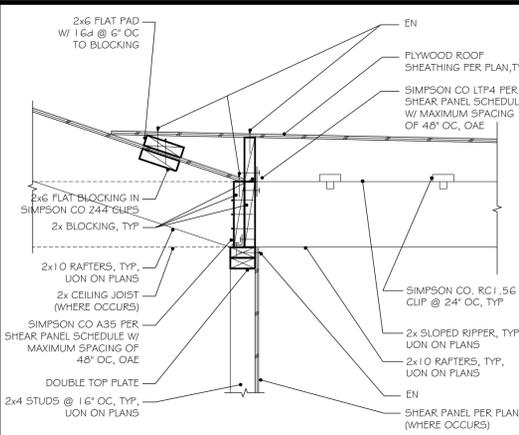
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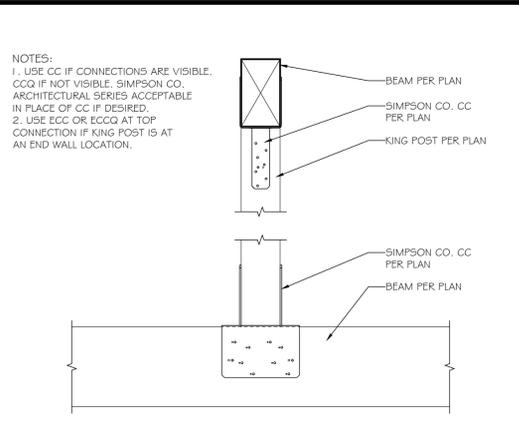
77 TRELLIS LEDGER AT WALL
SCALE: 1" = 1'-0"
A-DT-FMG-RF-TRL-055



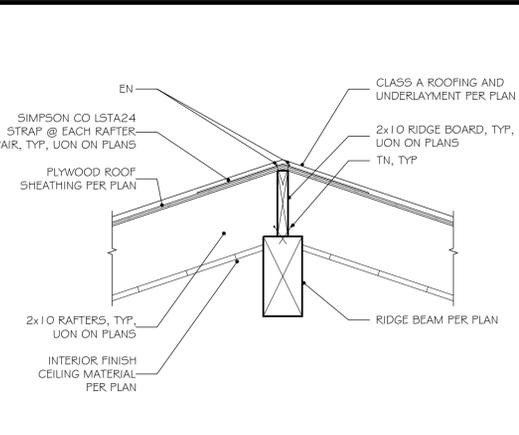
73 POST/BEAM/RAFTER/TRELLIS CONNECTIONS
SCALE: 1" = 1'-0"
A-DT-FMG-RF-TRL-054



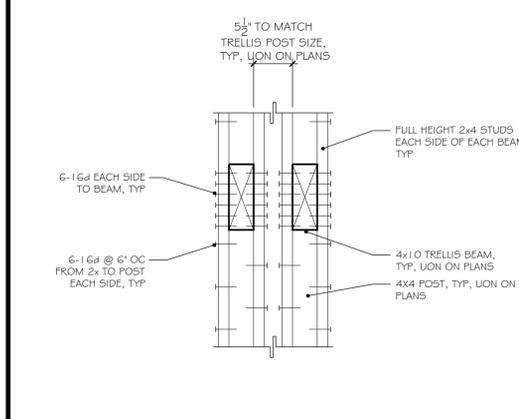
69 SLOPED TO LOW SLOPE ROOF TRANSITION
SCALE: 1" = 1'-0"
A-DT-FMG-RF-0320



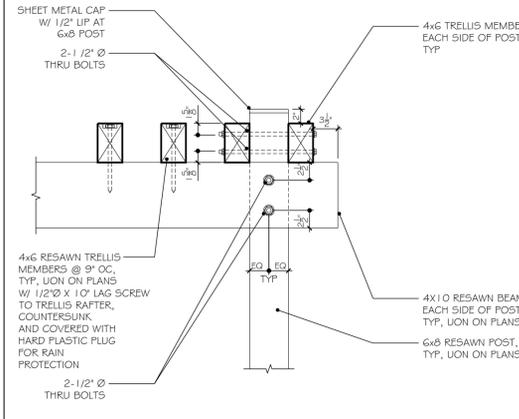
65 KING POST
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0006



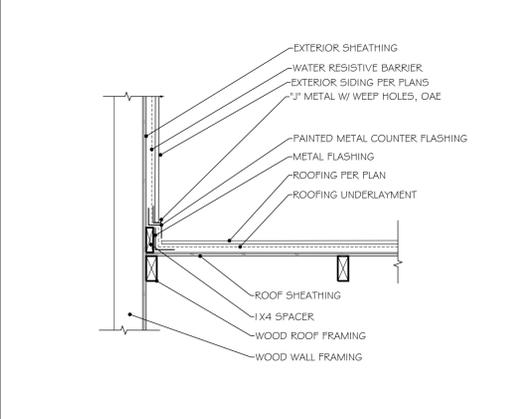
61 RAFTERS AT RIDGE BOARD OVER RIDGE BEAM
SCALE: 1" = 1'-0"
A-DT-FMG-RF-RDG-003



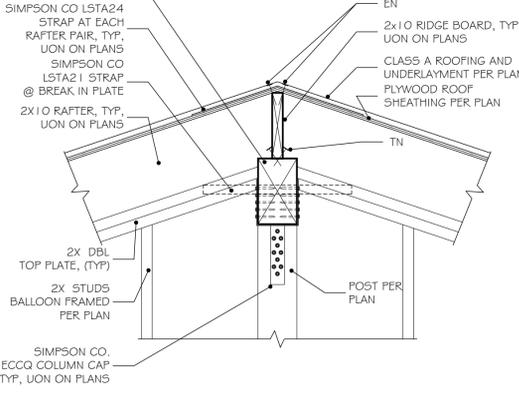
78 TRELLIS BEAMS TO STUD WALL
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0034



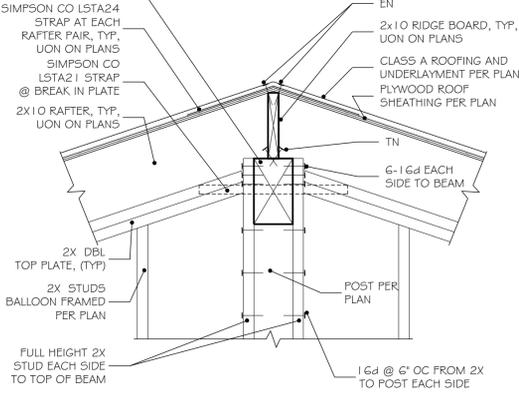
74 TRELLIS AT POST
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0136



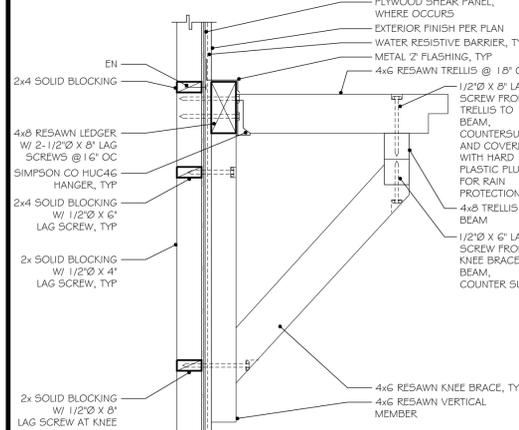
70 ROOF TO WALL - FIBER CEMENT LAP SIDING
SCALE: 1" = 1'-0"
A-DT-FIN-WF-0004



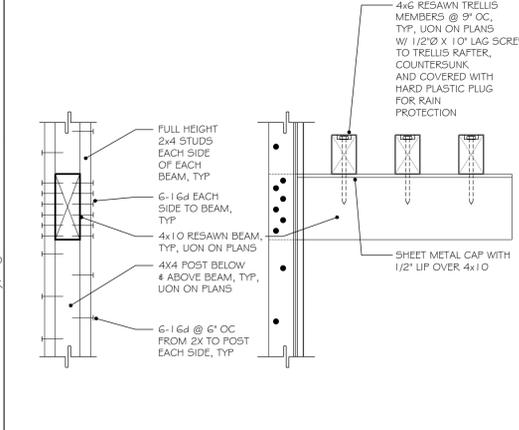
66 RIDGE BOARD & BEAM AT WALL POST W/ HARDWARE
SCALE: 1" = 1'-0"
A-DT-FMG-RF-RDG-023



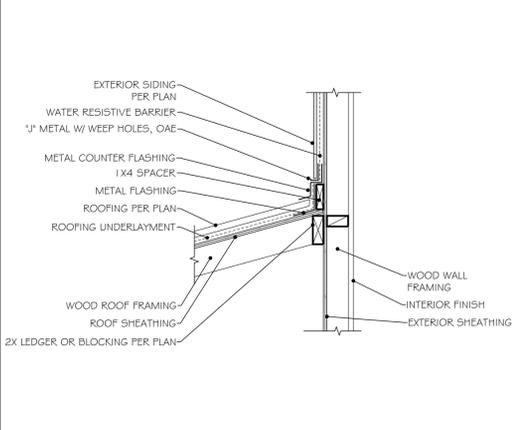
62 RIDGE BOARD & BEAM AT WALL POST W/O HARDWARE
SCALE: 1" = 1'-0"
A-DT-FMG-RF-RDG-005B



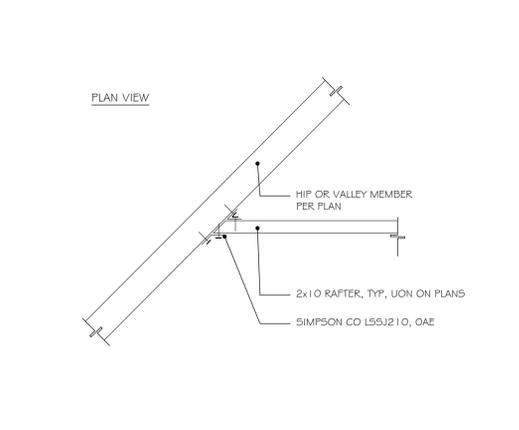
79 KNEE BRACE TRELLIS OPENING CAP
SCALE: 1" = 1'-0"
A-DT-FMG-RF-0321



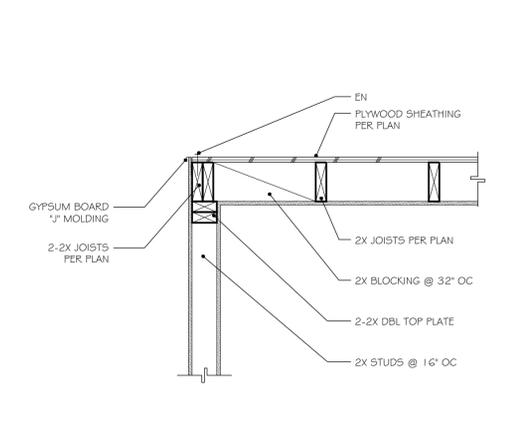
75 CANTILEVER TRELLIS OPENING CAP
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0137



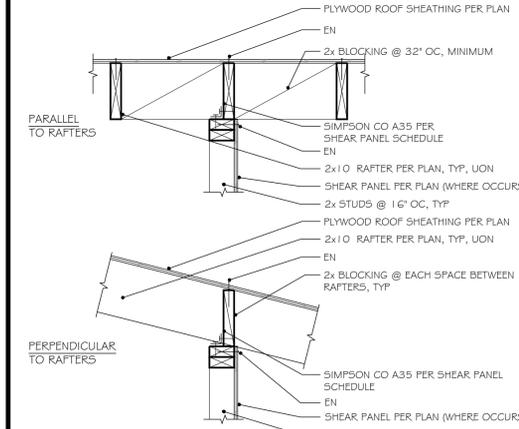
71 SLOPED ROOF TO WALL
SCALE: 1" = 1'-0"
A-DT-FIN-WF-0003



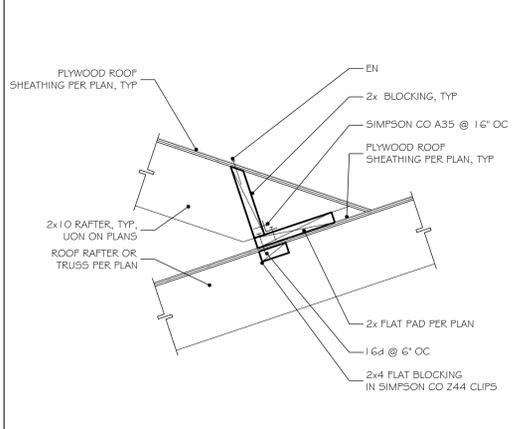
67 RAFTER TO HIP OR VALLEY
SCALE: 1" = 1'-0"
A-DT-FMG-RF-0230



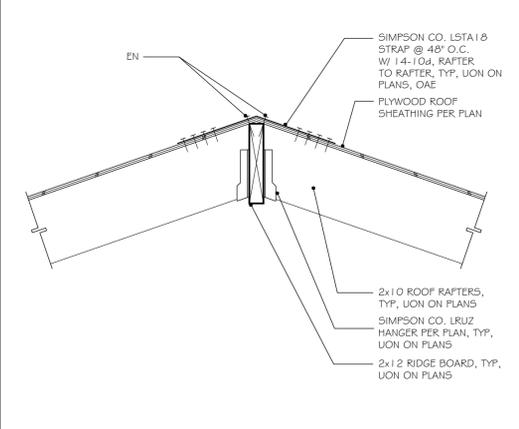
63 PARALLEL JOISTS AT EDGE WITH WALL
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0132



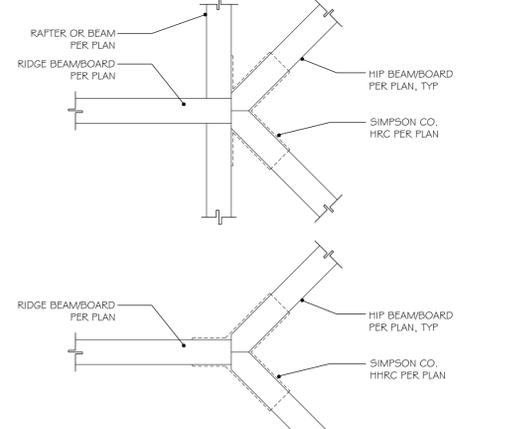
80 INTERIOR SHEAR WALL TO ROOF
SCALE: 1" = 1'-0"
A-DT-FMG-RF-WAL-039



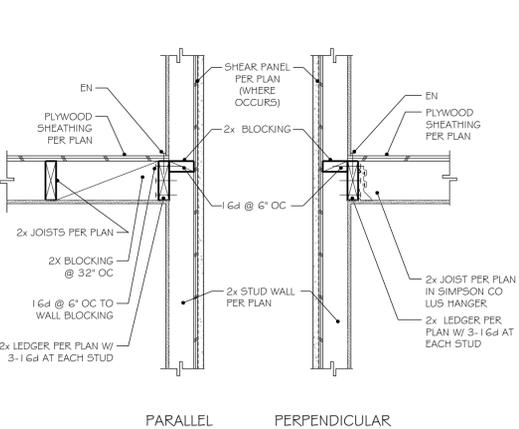
76 CALIFORNIA ROOF FILL CONNECTION
SCALE: 1" = 1'-0"
A-DT-FMG-RF-0183



72 RIDGE BOARD DETAIL
SCALE: 1" = 1'-0"
A-DT-FMG-RF-0074



68 HIP/RIDGE DETAIL
SCALE: 1" = 1'-0"
A-DT-FMG-RF-0017



64 JOISTS TO LEDGER AT WALL
SCALE: 1" = 1'-0"
A-DT-FMG-PB-0153

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(760) 753 2464
DZNPARTNERS.COM

PRADU
CITY: ENCINITAS

JOB: 201848R

DETAILS

d0.3

97

93

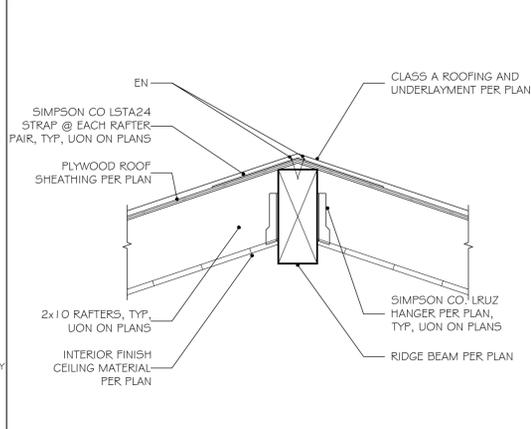
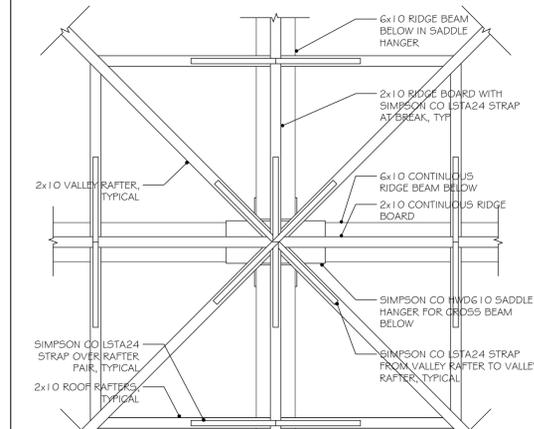
89

85

RIDGE BEAM INTERSECTION WITH VALLEY RAFTERS ABOVE
SCALE: 1" = 1'-0" A-DT-FMG-RF-RDG-026

81

RAFTERS TO RIDGE BEAM
SCALE: 1" = 1'-0" A-DT-FMG-RF-RDG-024



98

94

90

86

82

FIRE RESISTANCE - ONE HOUR WOOD FRAMED WALLS
SCALE: 1" = 1'-0" A-DT-FIN-FR-WAL-021

| | 2016 CBC TABLE 721.1(2) ITEM # | GYP SUM ASSOC. FILE # |
|--|--------------------------------|-----------------------|
| (A) 2x4 (MIN) WOOD STUDS @ 16" OC 7/8" CEMENT PLASTER | 15-1.2 | - |
| (B) 2x4 (MIN) WOOD STUDS @ 16" OC 3/4" TYPE X GYPSUM BOARD 7/8" CEMENT PLASTER | 15-1.3 | - |
| (C) 2x4 (MIN) WOOD STUDS @ 16" OC 3/4" TYPE X GYPSUM BOARD | 14-1.3 | WP 3514 |

NOTES:
1. THE ADDITION OF PLYWOOD SHEATHING TO THESE ASSEMBLIES DOES NOT LESSEN THEIR FIRE RESISTANCE.
2. ATTACH WALL TO EXISTING OR NEW FIRE RATED FLOOR/CEILING ASSEMBLY AS REQUIRED.

99

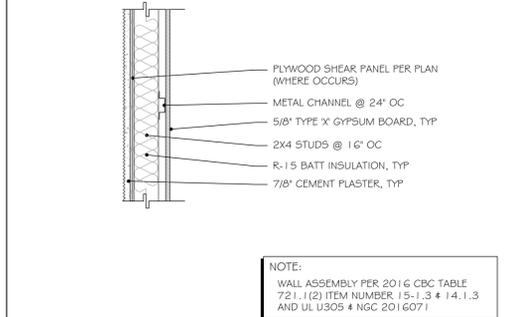
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83

A-DT-FIN-FR-WAL-025



100

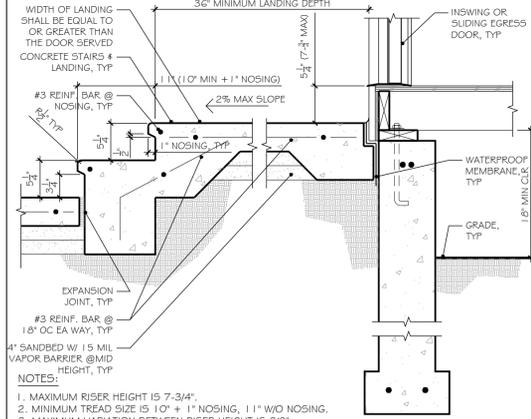
96

92

88

84

EXTERIOR STAIRS AT STEM WALL FOOTING
SCALE: 1" = 1'-0" A-DT-FDN-SW-0136



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PRADU

CITY: ENCINITAS

JOB: 201848R

DETAILS

d0.4

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio a
Calculation Description: Title 24 Analysis

Calculation Date/Time: 16:28, Mon, Dec 10, 2018
Input File Name: 18Q4076a.1-3.rbd16x

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Page 1 of 7

| GENERAL INFORMATION | | | |
|---------------------|--|-------------------|-------------------------------------|
| 01 | Project Name | PRADU - Studio a | |
| 02 | Calculation Description | Title 24 Analysis | |
| 03 | Project Location | | |
| 04 | City | Encinitas | 05 Standards Version |
| 06 | Zip Code | 92024 | 07 Compliance Manager Version |
| 08 | Climate Zone | CZ7 | 09 Software Version |
| 10 | Building Type | Single Family | 11 Front Orientation (deg/Cardinal) |
| 12 | Project Scope | Newly Constructed | 13 Number of Dwelling Units |
| 14 | Total Cond. Floor Area (ft ²) | 224 | 15 Number of Zones |
| 16 | Slab Area (ft ²) | 224 | 17 Number of Stories |
| 18 | Addition Cond. Floor Area (ft ²) | n/a | 19 Natural Gas Available |
| 20 | Addition Slab Area (ft ²) | n/a | 21 Glazing Percentage (%) |

| 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. |

Registration Number: 218-P010326149A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance
Registration Date/Time: 2018-12-10 17:32:08
Report Version - CF1R-11302018-1149
HERS Provider: CaCERTS, Inc.
Report Generated at: 2018-12-10 16:29:24

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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Input File Name: 18Q4076a.1-3.rbd16x

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| ENERGY DESIGN RATING | | | | |
|--|----------------------------|----------------------------|------------------------------------|--------------------|
| Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to "zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen). | | | | |
| As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the degree of efficiency and renewable energy can both be seen | | | | |
| | EDR of Standard Efficiency | EDR of Proposed Efficiency | EDR Value of Proposed PV + Battery | Final Proposed EDR |
| North | 51.5 | 49.7 | 0.0 | 49.7 |
| East | 51.5 | 48.8 | 0.0 | 48.8 |
| South | 51.5 | 49.3 | 0.0 | 49.3 |
| West | 51.5 | 50.3 | 0.0 | 50.3 |
| <input type="checkbox"/> Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QI verification prerequisites. <input type="checkbox"/> Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QI verification prerequisites. <input type="checkbox"/> Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ7 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QI must be verified. | | | | |
| Notes: * Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules | | | | |

| REQUIRED SPECIAL FEATURES | |
|---|--|
| The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis. | |
| NO SPECIAL FEATURES REQUIRED | |

| 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 detail is provided in the building components tables below. | |
| Building-level Verifications: • High quality insulation installation (QII) • IAQ mechanical ventilation Cooling System Verifications: • -- None -- HVAC Distribution System Verifications: • -- None -- Domestic Hot Water System Verifications: • Pipe Insulation, All Lines | |

Registration Number: 218-P010326149A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance
Registration Date/Time: 2018-12-10 17:32:08
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Input File Name: 18Q4076a.1-3.rbd16x

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Page 2 of 7

| ENERGY USE SUMMARY | | | | |
|---------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (kTDV/ft ² -yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 0.00 | 0.26 | -0.26 | 0.0% |
| Space Cooling | 29.88 | 26.92 | 2.96 | 9.9% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| North Facing Compliance Total | 84.67 | 76.27 | 8.40 | 9.9% |
| Space Heating | 0.00 | 0.29 | -0.29 | 0.0% |
| Space Cooling | 29.88 | 22.48 | 7.40 | 24.8% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| East Facing Compliance Total | 84.67 | 71.86 | 12.81 | 15.1% |
| Space Heating | 0.00 | 0.05 | -0.05 | 0.0% |
| Space Cooling | 29.88 | 24.63 | 5.25 | 17.6% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| South Facing Compliance Total | 84.67 | 73.77 | 10.90 | 12.9% |
| Space Heating | 0.00 | 0.05 | -0.05 | 0.0% |
| Space Cooling | 29.88 | 29.47 | 0.41 | 1.4% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| West Facing Compliance Total | 84.67 | 78.61 | 6.06 | 7.2% |

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Input File Name: 18Q4076a.1-3.rbd16x

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| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|---|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft ²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| PRADU - Studio a | 224 | 1 | 0 | 1 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|------------------|-------------|------------------|------------------------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft ²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Studio 0 - a | Conditioned | Wall Heater1 | 224 | 8 | DHW Sys 1 | n/a |

| OPAQUE SURFACES | | | | | | | |
|-----------------|--------------|--------------|---------|-------------|-------------------------------|---------------------------------------|------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | Zone | Construction | Azimuth | Orientation | Gross Area (ft ²) | Window & Door Area (ft ²) | Tilt (deg) |
| Front Wall | Studio 0 - a | ExteriorWall | 0 | Front | 128 | 27 | 90 |
| Left Wall | Studio 0 - a | ExteriorWall | 90 | Left | 112 | 8 | 90 |
| Rear Wall | Studio 0 - a | ExteriorWall | 180 | Back | 128 | 18 | 90 |
| Right Wall | Studio 0 - a | ExteriorWall | 270 | Right | 112 | 40 | 90 |

| OPAQUE SURFACES - Cathedral Ceilings | | | | | | | | | |
|--------------------------------------|--------------|-------|-------------|-------------------------|----------------------------------|---------------------|------------------|----------------|-----------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Type | Orientation | Area (ft ²) | Skylight Area (ft ²) | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Cool Roof |
| Roof | Studio 0 - a | _Roof | Front | 224 | 0 | 4 | 0.1 | 0.85 | No |

| FENESTRATION / GLAZING | | | | | | | | | |
|------------------------|--------|-------------------------------|------------|-------------|------------|-------------------------|----------|------|-------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Type | Surface (Orientation-Azimuth) | Width (ft) | Height (ft) | Multiplier | Area (ft ²) | U-factor | SHGC | Exterior Shading |
| w1 | Window | Front Wall (Front-0) | --- | --- | 1 | 7.0 | 0.32 | 0.25 | Insect Screen (default) |
| d1 | Window | Front Wall (Front-0) | --- | --- | 1 | 20.0 | 0.32 | 0.25 | Insect Screen (default) |
| w2 | Window | Left Wall (Left-90) | --- | --- | 1 | 8.0 | 0.32 | 0.25 | Insect Screen (default) |
| w3 | Window | Rear Wall (Back-180) | --- | --- | 1 | 18.0 | 0.32 | 0.25 | Insect Screen (default) |
| d2 | Window | Right Wall (Right-270) | --- | --- | 1 | 40.0 | 0.32 | 0.25 | Insect Screen (default) |

Registration Number: 218-P010326149A-000-000-0000000-0000
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TITLE 24 ENERGY COMPLIANCE

BEAR TECHNOLOGIES CONSULTING, INC.
3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92018
(760) 635-2327 | wayne@beartechconsulting.com
http://www.beartechconsulting.com

PRADU - STUDIO a
ENCINITAS, CALIFORNIA 92024

DRAWN BY
WCS
CHECKED BY
DATE
12/11/2018
SCALE
JOB NO.
18Q4076a.1-3
SHEET

T-24.1

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio a

Calculation Date/Time: 16:28, Mon, Dec 10, 2018

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Calculation Description: Title 24 Analysis

Input File Name: 18Q4076a.1-3.rbd16x

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-------------------|--------------------|---------------------|--------------------|----------------------|------------------------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Winter Design U-factor | Assembly Layers |
| _Roof | Cathedral Ceilings | Wood Framed Ceiling | 2x10 @ 16 in. O.C. | R 30 | 0.037 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-30 / 2x10 Roof Deck: Wood Siding/Sheathing/Decking Roofing: Light Roof (Asphalt Shingle) |
| _ExteriorWall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R 15 | 0.095 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco |

SLAB FLOORS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---------------|--------------|-------------------------|----------------|-----------------------------|-------------------|--------|
| Name | Zone | Area (ft ²) | Perimeter (ft) | Edge Insul. R-value & Depth | Carpeted Fraction | Heated |
| Slab-on-Grade | Studio 0 - a | 224 | 60 | None | 0.8 | No |

BUILDING ENVELOPE - HERS VERIFICATION

| 01 | 02 | 03 | 04 |
|---------------------------------------|---|-------------------------------|-------|
| Quality Insulation Installation (QII) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |

WATER HEATING SYSTEMS

| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------|-------------|---|------------------|-------------------|--------------------|
| Name | System Type | Distribution Type | Water Heater | Number of Heaters | Solar Fraction (%) |
| DHW Sys 1 | DHW | (HERS req'd) Pipe Insulation, All Lines | DHW Heater 1 (1) | 1 | .0% |

WATER HEATERS

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|--------------|---------------------|---------------------|-----------------|-------------------|--|---|-----------------------------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|
| Name | Heater Element Type | Tank Type | Number of Units | Tank Volume (gal) | Uniform Energy Factor / Energy Factor / Efficiency | Input Rating / Pilot / Thermal Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss / Recovery Eff | First Hour Rating / Flow Rate | NEEA Heat Pump Brand / Model / Other | Tank Location or Ambient Condition |
| DHW Heater 1 | Gas | Small Instantaneous | 1 | 0 | 0.52 EF | <= 200 kBtu/hr | R-0/R-0 | 0 | n/a | n/a | n/a |

Registration Number: 218-P010326148A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance

Registration Date/Time: 2018-12-10 17:32:08
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HERS Provider: CalCERTS, Inc.
Report Generated at: 2018-12-10 16:29:24

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio a

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Calculation Description: Title 24 Analysis

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WATER HEATING - HERS VERIFICATION

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|----------------------------|-----------------|----------------------|--------------|-----------------------|--------------------------|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Point-of Use | Recirculation Control | Central DHW Distribution |
| DHW Sys 1 - 1/1 | Pipe Insulation, All Lines | n/a | n/a | n/a | n/a | n/a |

SPACE CONDITIONING SYSTEMS

| 01 | 02 | 03 | 04 | 05 | 06 |
|--------------|----------------------------------|---------------------|---------------------|------------|-------------------|
| SC Sys Name | System Type | Heating Unit Name | Cooling Unit Name | Fan Name | Distribution Name |
| Wall Heater1 | Other Heating and Cooling System | Heating Component 1 | Cooling Component 1 | HVAC Fan 1 | - none - |

HVAC - HEATING UNIT TYPES

| 01 | 02 | 03 | 04 |
|---------------------|--------------------|-----------------|------------|
| Name | System Type | Number of Units | Efficiency |
| Heating Component 1 | WallFurnaceGravity | 1 | 81 AFUE |

IAQ (Indoor Air Quality) FANS

| 01 | 02 | 03 | 04 | 05 | 06 |
|----------------|---------|---------------|--------------|-------------------------------|-------------------|
| Dwelling Unit | IAQ CFM | IAQ Watts/CFM | IAQ Fan Type | IAQ Recovery Effectiveness(%) | HERS Verification |
| SFam IAQVenRpt | 17 | 0.25 | Default | 0 | Required |

PROJECT NOTES

This report is based on the drawings received on 12/10/2018. 1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechanical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of the structure.

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

| | |
|---|--|
| Documentation Author Name: Wayne Seward | Documentation Author Signature: <i>Wayne Seward</i> |
| Company: Bear Technologies Consulting, Inc. | Signature Date: 2018-12-10 16:50:02 |
| Address: 3431 Don Arturo Drive Carlsbad, CA 92010 | CEA/HERS Certification Identification (If applicable): R16-04-20130 |
| City/State/Zip: Carlsbad, CA 92010 | Phone: 760-635-2327 |

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:
 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

| | |
|---|--|
| Responsible Designer Name: Bart M Smith | Responsible Designer Signature: <i>Bart M Smith</i> |
| Company: DZN Partners | Date Signed: 2018-12-10 17:32:08 |
| Address: 632 2nd Street Encinitas, CA 92024 | License: C-22557 |
| City/State/Zip: Encinitas, CA 92024 | Phone: 760-753-2464 |

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TITLE 24 ENERGY COMPLIANCE

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(760) 635-2327 | wayne@beartechconsulting.com
http://www.beartechconsulting.com

PRADU - STUDIO a
ENCINITAS, CALIFORNIA 92024

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OF SHEETS

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio b Calculation Date/Time: 16:22, Mon, Dec 10, 2018 CF1R-PRF-01
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| GENERAL INFORMATION | | | |
|---------------------|--|-------------------|-------------------------------------|
| 01 | Project Name | PRADU - Studio b | |
| 02 | Calculation Description | Title 24 Analysis | |
| 03 | Project Location | | |
| 04 | City | Encinitas | 05 Standards Version |
| 06 | Zip Code | 92024 | 07 Compliance Manager Version |
| 08 | Climate Zone | CZ7 | 09 Software Version |
| 10 | Building Type | Single Family | 11 Front Orientation (deg/Cardinal) |
| 12 | Project Scope | Newly Constructed | 13 Number of Dwelling Units |
| 14 | Total Cond. Floor Area (ft ²) | 224 | 15 Number of Zones |
| 16 | Slab Area (ft ²) | 224 | 17 Number of Stories |
| 18 | Addition Cond. Floor Area (ft ²) | n/a | 19 Natural Gas Available |
| 20 | Addition Slab Area (ft ²) | n/a | 21 Glazing Percentage (%) |

| 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. |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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ENERGY DESIGN RATING
 Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to "zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen).
 As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen

| | EDR of Standard Efficiency | EDR of Proposed Efficiency | EDR Value of Proposed PV + Battery | Final Proposed EDR |
|-------|----------------------------|----------------------------|------------------------------------|--------------------|
| North | 51.5 | 50.2 | 0.0 | 50.2 |
| East | 51.5 | 49.0 | 0.0 | 49.0 |
| South | 51.5 | 49.0 | 0.0 | 49.0 |
| West | 51.5 | 50.3 | 0.0 | 50.3 |

- Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QII verification prerequisite.
- Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QII verification prerequisite.
- Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ7 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QII must be verified.

Notes:
 • Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules

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

NO SPECIAL FEATURES REQUIRED

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 detail is provided in the building components tables below.

- Building-level Verifications:**
- High quality insulation installation (QII)
 - IAQ mechanical ventilation
- Cooling System Verifications:**
- -- None --
- HVAC Distribution System Verifications:**
- -- None --
- Domestic Hot Water System Verifications:**
- Pipe Insulation, All Lines

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| ENERGY USE SUMMARY | | | | |
|---------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (kTDV/ft ² -yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 0.00 | 0.20 | -0.20 | 0.0% |
| Space Cooling | 29.95 | 29.29 | 0.66 | 2.2% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| North Facing Compliance Total | 84.74 | 78.58 | 6.16 | 7.3% |
| Space Heating | 0.00 | 0.34 | -0.34 | 0.0% |
| Space Cooling | 29.95 | 23.33 | 6.62 | 22.1% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| East Facing Compliance Total | 84.74 | 72.76 | 11.98 | 14.1% |
| Space Heating | 0.00 | 0.10 | -0.10 | 0.0% |
| Space Cooling | 29.95 | 23.52 | 6.43 | 21.5% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| South Facing Compliance Total | 84.74 | 72.71 | 12.03 | 14.2% |
| Space Heating | 0.00 | 0.07 | -0.07 | 0.0% |
| Space Cooling | 29.95 | 29.92 | 0.03 | 0.1% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| West Facing Compliance Total | 84.74 | 79.08 | 5.66 | 6.7% |

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| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|---|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft ²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| PRADU - Studio b | 224 | 1 | 0 | 1 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|------------------|-------------|------------------|------------------------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft ²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Studio 0 - a | Conditioned | Wall Heater1 | 224 | 8 | DHW Sys 1 | n/a |

| OPAQUE SURFACES | | | | | | | |
|-----------------|--------------|--------------|---------|-------------|-------------------------------|---------------------------------------|------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | Zone | Construction | Azimuth | Orientation | Gross Area (ft ²) | Window & Door Area (ft ²) | Tilt (deg) |
| Front Wall | Studio 0 - a | ExteriorWall | 0 | Front | 128 | 31 | 90 |
| Left Wall | Studio 0 - a | ExteriorWall | 90 | Left | 112 | 12 | 90 |
| Rear Wall | Studio 0 - a | ExteriorWall | 180 | Back | 128 | 30 | 90 |
| Right Wall | Studio 0 - a | ExteriorWall | 270 | Right | 112 | 52 | 90 |

| OPAQUE SURFACES - Cathedral Ceilings | | | | | | | | | |
|--------------------------------------|--------------|------|-------------|-------------------------|----------------------------------|---------------------|------------------|----------------|-----------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Type | Orientation | Area (ft ²) | Skylight Area (ft ²) | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Cool Roof |
| Roof | Studio 0 - a | Roof | Front | 224 | 0 | 3 | 0.1 | 0.85 | No |

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 http://www.beartechconsulting.com

PRADU - STUDIO b
 ENCINITAS, CALIFORNIA 92024

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
|------|--------|-------------------------------|------------|-------------|------------|------------|----------|------|-------------------------|
| Name | Type | Surface (Orientation-Azimuth) | Width (ft) | Height (ft) | Multiplier | Area (ft²) | U-factor | SHGC | Exterior Shading |
| w5 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 4.0 | 0.32 | 0.25 | Insect Screen (default) |
| w1 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 7.0 | 0.32 | 0.25 | Insect Screen (default) |
| d1 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 20.0 | 0.32 | 0.25 | Insect Screen (default) |
| w6 | Window | Left Wall (Left-90) | ---- | ---- | 1 | 4.0 | 0.32 | 0.25 | Insect Screen (default) |
| w2 | Window | Left Wall (Left-90) | ---- | ---- | 1 | 8.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4 | Window | Rear Wall (Back-180) | ---- | ---- | 1 | 12.0 | 0.32 | 0.25 | Insect Screen (default) |
| w3 | Window | Rear Wall (Back-180) | ---- | ---- | 1 | 18.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.2 | Window | Right Wall (Right-270) | ---- | ---- | 1 | 12.0 | 0.32 | 0.25 | Insect Screen (default) |
| d2 | Window | Right Wall (Right-270) | ---- | ---- | 1 | 40.0 | 0.32 | 0.25 | Insect Screen (default) |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-------------------|--------------------|---------------------|--------------------|----------------------|------------------------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Winter Design U-factor | Assembly Layers |
| _Roof | Cathedral Ceilings | Wood Framed Ceiling | 2x10 @ 16 in. O.C. | R 30 | 0.037 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-30 / 2x10 Roof Deck: Wood Siding/sheathing/decking Roofing: Light Roof (Asphalt Shingle) |
| _ExteriorWall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R 15 | 0.089 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: Wood Siding/sheathing/decking |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---------------|--------------|------------|----------------|-----------------------------|-------------------|--------|
| Name | Zone | Area (ft²) | Perimeter (ft) | Edge Insul. R-value & Depth | Carpeted Fraction | Heated |
| Slab-on-Grade | Studio 0 - a | 224 | 60 | None | 0.8 | No |

| 01 | 02 | 03 | 04 |
|---------------------------------------|---|-------------------------------|-------|
| Quality Insulation Installation (QII) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |

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| 01 | 02 | 03 | 04 |
|---------------------------------------|---|-------------------------------|-------|
| Quality Insulation Installation (QII) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |



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| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------|-------------|---|------------------|-------------------|--------------------|
| Name | System Type | Distribution Type | Water Heater | Number of Heaters | Solar Fraction (%) |
| DHW Sys 1 | DHW | (HERS req'd) Pipe Insulation, All Lines | DHW Heater 1 (1) | 1 | .0% |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|--------------|---------------------|---------------------|-----------------|-------------------|------------------------------------|---|-----------------------------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|
| Name | Heater Element Type | Tank Type | Number of Units | Tank Volume (gal) | Uniform Energy Factor / Efficiency | Input Rating / Pilot / Thermal Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss / Recovery Eff | First Hour Rating / Flow Rate | NEEA Heat Pump Brand / Model / Other | Tank Location or Ambient Condition |
| DHW Heater 1 | Gas | Small Instantaneous | 1 | 0 | 0.92 EF | <= 200 kBtu/hr | R-0/R-0 | 0 | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|----------------------------|-----------------|----------------------|--------------|-----------------------|--------------------------|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Point-of Use | Recirculation Control | Central DHW Distribution |
| DHW Sys 1 - 1/1 | Pipe Insulation, All Lines | n/a | n/a | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 |
|--------------|----------------------------------|---------------------|---------------------|------------|-------------------|
| SC Sys Name | System Type | Heating Unit Name | Cooling Unit Name | Fan Name | Distribution Name |
| Wall Heater1 | Other Heating and Cooling System | Heating Component 1 | Cooling Component 1 | HVAC Fan 1 | - none - |

| 01 | 02 | 03 | 04 |
|---------------------|----------------------|-----------------|------------|
| Name | System Type | Number of Units | Efficiency |
| Heating Component 1 | Wall/Furnace/Gravity | 1 | 81 AFUE |

| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------------|---------|---------------|--------------|-------------------------------|-------------------|
| Dwelling Unit | IAQ CFM | IAQ Watts/CFM | IAQ Fan Type | IAQ Recovery Effectiveness(%) | HERS Verification |
| SFam IAQventRpt | 17 | 0.25 | Default | 0 | Required |

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| DOCUMENTATION AUTHOR'S DECLARATION STATEMENT | |
|--|--|
| 1. I certify that this Certificate of Compliance documentation is accurate and complete. | |
| Documentation Author Name: Wayne Seward | Documentation Author Signature: <i>Wayne Seward</i> |
| Company: Bear Technologies Consulting Inc. | Signature Date: 2018-12-10 16:51:44 |
| Address: 3431 Don Arturo Drive | CEA/HERS Certification Identification (if applicable): R16-04-20130 |
| City/State/Zip: Carlsbad, CA 92010 | Phone: 760-635-2327 |
| RESPONSIBLE PERSON'S DECLARATION STATEMENT | |
| I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. | |
| Responsible Designer Name: Bart M Smith | Responsible Designer Signature: <i>Bart M Smith</i> |
| Company: DZN Partners | Date Signed: 2018-12-10 17:32:08 |
| Address: 682 2nd Street | License: C-22557 |
| City/State/Zip: Encinitas, CA 92024 | Phone: 760-753-2464 |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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Project Name: PRADU - Studio c

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Calculation Description: Title 24 Analysis

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| GENERAL INFORMATION | | | |
|---------------------|--|-------------------|----------------------------------|
| 01 | Project Name | PRADU - Studio c | |
| 02 | Calculation Description | Title 24 Analysis | |
| 03 | Project Location | - | |
| 04 | City | 05 | Standards Version |
| 06 | Zip Code | 07 | Compliance Manager Version |
| 08 | Climate Zone | 09 | Software Version |
| 10 | Building Type | 11 | Front Orientation (deg/Cardinal) |
| 12 | Project Scope | 13 | Number of Dwelling Units |
| 14 | Total Cond. Floor Area (ft ²) | 15 | Number of Zones |
| 16 | Slab Area (ft ²) | 17 | Number of Stories |
| 18 | Addition Cond. Floor Area (ft ²) | 19 | Natural Gas Available |
| 20 | Addition Slab Area (ft ²) | 21 | Glazing Percentage (%) |

| 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. |

Registration Number: 218-P010326151A-000-000-0000000-0000
 CA Building Energy Efficiency Standards - 2016 Residential Compliance
 Registration Date/Time: 2018-12-10 17:32:08
 Report Version - CF1R-11302018-1149
 HERS Provider: CalCERTS Inc.
 Report Generated at: 2018-12-10 16:22:31

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01

Project Name: PRADU - Studio c

Calculation Date/Time: 16:21, Mon, Dec 10, 2018

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Calculation Description: Title 24 Analysis

Input File Name: 18Q4076c.1-2.rbd16x

ENERGY DESIGN RATING
 Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to "zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen).
 As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen.

| | EDR of Standard Efficiency | EDR of Proposed Efficiency | EDR Value of Proposed PV + Battery | Final Proposed EDR |
|-------|----------------------------|----------------------------|------------------------------------|--------------------|
| North | 51.5 | 50.1 | 0.0 | 50.1 |
| East | 51.5 | 49.0 | 0.0 | 49.0 |
| South | 51.5 | 49.6 | 0.0 | 49.6 |
| West | 51.5 | 50.5 | 0.0 | 50.5 |

- Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QI verification prerequisite.
- Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QI verification prerequisite.
- Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ7 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QI must be verified.

Notes:
 * Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules

REQUIRED SPECIAL FEATURES
 The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.
NO SPECIAL FEATURES REQUIRED

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 detail is provided in the building components tables below.

- Building-level Verifications:**
- High quality insulation installation (QII)
 - IAQ mechanical ventilation
- Cooling System Verifications:**
- None --
- HVAC Distribution System Verifications:**
- None --
- Domestic Hot Water System Verifications:**
- Pipe Insulation, All Lines

Registration Number: 218-P010326151A-000-000-0000000-0000
 CA Building Energy Efficiency Standards - 2016 Residential Compliance
 Registration Date/Time: 2018-12-10 17:32:08
 Report Version - CF1R-11302018-1149
 HERS Provider: CalCERTS Inc.
 Report Generated at: 2018-12-10 16:22:31

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01

Project Name: PRADU - Studio c

Calculation Date/Time: 16:21, Mon, Dec 10, 2018

Page 2 of 8

Calculation Description: Title 24 Analysis

Input File Name: 18Q4076c.1-2.rbd16x

| ENERGY USE SUMMARY | | | | |
|---------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (KTDV/ft ² -yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 0.00 | 0.27 | -0.27 | 0.0% |
| Space Cooling | 29.95 | 28.90 | 1.05 | 3.5% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | ---- | 0.00 | 0.00 | ---- |
| North Facing Compliance Total | 84.74 | 78.26 | 6.48 | 7.6% |
| Space Heating | 0.00 | 0.30 | -0.30 | 0.0% |
| Space Cooling | 29.95 | 23.86 | 6.09 | 20.3% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | ---- | 0.00 | 0.00 | ---- |
| East Facing Compliance Total | 84.74 | 73.25 | 11.49 | 13.6% |
| Space Heating | 0.00 | 0.14 | -0.14 | 0.0% |
| Space Cooling | 29.95 | 26.47 | 3.48 | 11.6% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | ---- | 0.00 | 0.00 | ---- |
| South Facing Compliance Total | 84.74 | 75.70 | 9.04 | 10.7% |
| Space Heating | 0.00 | 0.11 | -0.11 | 0.0% |
| Space Cooling | 29.95 | 30.94 | -0.99 | -3.3% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | ---- | 0.00 | 0.00 | ---- |
| West Facing Compliance Total | 84.74 | 80.14 | 4.60 | 5.4% |

Registration Number: 218-P010326151A-000-000-0000000-0000
 CA Building Energy Efficiency Standards - 2016 Residential Compliance
 Registration Date/Time: 2018-12-10 17:32:08
 Report Version - CF1R-11302018-1149
 HERS Provider: CalCERTS Inc.
 Report Generated at: 2018-12-10 16:22:31

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01

Project Name: PRADU - Studio c

Calculation Date/Time: 16:21, Mon, Dec 10, 2018

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Calculation Description: Title 24 Analysis

Input File Name: 18Q4076c.1-2.rbd16x

| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|---|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft ²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| PRADU - Studio c | 224 | 1 | 0 | 1 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|------------------|-------------|------------------|------------------------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft ²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Studio 0 - a | Conditioned | Wall Heater1 | 224 | 8 | DHW Sys 1 | n/a |

| OPAQUE SURFACES | | | | | | | |
|-----------------|--------------|--------------|---------|-------------|-------------------------------|---------------------------------------|------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | Zone | Construction | Azimuth | Orientation | Gross Area (ft ²) | Window & Door Area (ft ²) | Tilt (deg) |
| Front Wall | Studio 0 - a | ExteriorWall | 0 | Front | 128 | 42 | 90 |
| Left Wall | Studio 0 - a | ExteriorWall | 90 | Left | 112 | 23 | 90 |
| Rear Wall | Studio 0 - a | ExteriorWall | 180 | Back | 128 | 30 | 90 |
| Right Wall | Studio 0 - a | ExteriorWall | 270 | Right | 112 | 55 | 90 |

| OPAQUE SURFACES - Cathedral Ceilings | | | | | | | | | |
|--------------------------------------|--------------|-------|-------------|-------------------------|----------------------------------|---------------------|------------------|----------------|-----------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Type | Orientation | Area (ft ²) | Skylight Area (ft ²) | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Cool Roof |
| Roof | Studio 0 - a | _Roof | Front | 224 | 0 | 3 | 0.1 | 0.85 | No |

Registration Number: 218-P010326151A-000-000-0000000-0000
 CA Building Energy Efficiency Standards - 2016 Residential Compliance
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 HERS Provider: CalCERTS Inc.
 Report Generated at: 2018-12-10 16:22:31



TITLE 24 ENERGY COMPLIANCE

BEAR TECHNOLOGIES CONSULTING, INC.
 3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92018
 (760) 635-2327 | wayne@beartechconsulting.com
 http://www.beartechconsulting.com

PRADU - STUDIO c
 ENCINITAS, CALIFORNIA 92024

DRAWN BY
wcs
 CHECKED BY
 DATE
12/11/2018
 SCALE
 JOB NO.
18Q4076c.1-2
 SHEET

T-24.5

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio c
Calculation Description: Title 24 Analysis

Calculation Date/Time: 16:21, Mon, Dec 10, 2018
Input File Name: 18Q4076c.1-2.rbd16x

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| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
|------|--------|-------------------------------|------------|-------------|------------|-------------------------|----------|------|-------------------------|
| Name | Type | Surface (Orientation-Azimuth) | Width (ft) | Height (ft) | Multiplier | Area (ft ²) | U-factor | SHGC | Exterior Shading |
| w4 | Window | Front Wall (Front-0) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w1 | Window | Front Wall (Front-0) | --- | --- | 1 | 7.0 | 0.32 | 0.25 | Insect Screen (default) |
| d1 | Window | Front Wall (Front-0) | --- | --- | 1 | 20.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.2 | Window | Left Wall (Left-90) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w2 | Window | Left Wall (Left-90) | --- | --- | 1 | 8.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.3 | Window | Rear Wall (Back-180) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w3 | Window | Rear Wall (Back-180) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.4 | Window | Right Wall (Right-270) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| d2 | Window | Right Wall (Right-270) | --- | --- | 1 | 40.0 | 0.32 | 0.25 | Insect Screen (default) |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-------------------|--------------------|---------------------|--------------------|----------------------|------------------------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Winter Design U-factor | Assembly Layers |
| _Roof | Cathedral Ceilings | Wood Framed Ceiling | 2x10 @ 16 in. O.C. | R 30 | 0.037 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-30 / 2x10 Roof Deck: Wood Siding/sheathing/decking Roofing: Light Roof (Asphalt Shingle) |
| _ExteriorWall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R 15 | 0.089 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: Wood Siding/sheathing/decking |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|---------------|--------------|-------------------------|----------------|-----------------------------|-------------------|--------|
| Name | Zone | Area (ft ²) | Perimeter (ft) | Edge Insul. R-value & Depth | Carpeted Fraction | Heated |
| Slab-on-Grade | Studio 0 - a | 224 | 60 | None | 0.8 | No |

| 01 | 02 | 03 | 04 |
|--------------------------------------|---|-------------------------------|-------|
| Quality Insulation Installation (QI) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |

Registration Number: 218-P010326151A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance
Registration Date/Time: 2018-12-10 17:32:08
Report Version - CF1R-11302018-1149
HERS Provider: CalCERTS, Inc.
Report Generated at: 2018-12-10 16:22:31

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio c
Calculation Description: Title 24 Analysis

Calculation Date/Time: 16:21, Mon, Dec 10, 2018
Input File Name: 18Q4076c.1-2.rbd16x

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PROJECT NOTES
This report is based on the drawings received on 12/10/2018. 1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN. 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechanical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of the structure.



Registration Number: 218-P010326151A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance
Registration Date/Time: 2018-12-10 17:32:08
Report Version - CF1R-11302018-1149
HERS Provider: CalCERTS, Inc.
Report Generated at: 2018-12-10 16:22:31

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio c
Calculation Description: Title 24 Analysis

Calculation Date/Time: 16:21, Mon, Dec 10, 2018
Input File Name: 18Q4076c.1-2.rbd16x

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| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------|-------------|---|------------------|-------------------|--------------------|
| Name | System Type | Distribution Type | Water Heater | Number of Heaters | Solar Fraction (%) |
| DHW Sys 1 | DHW | (HERS req'd) Pipe Insulation, All Lines | DHW Heater 1 (1) | 1 | .0% |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|--------------|---------------------|---------------------|-----------------|-------------------|---|---|-----------------------------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|
| Name | Heater Element Type | Tank Type | Number of Units | Tank Volume (gal) | Uniform Energy Factor / Energy Efficiency | Input Rating / Pilot / Thermal Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss / Recovery Eff | First Hour Rating / Flow Rate | NEEA Heat Pump Brand / Model / Other | Tank Location or Ambient Condition |
| DHW Heater 1 | Gas | Small Instantaneous | 1 | 0 | 0.92 EF | <= 200 kBtu/hr | R-0/R-0 | 0 | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|----------------------------|-----------------|----------------------|--------------|-----------------------|--------------------------|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Point-of Use | Recirculation Control | Central DHW Distribution |
| DHW Sys 1 - 1/1 | Pipe Insulation, All Lines | n/a | n/a | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 |
|--------------|----------------------------------|---------------------|---------------------|------------|-------------------|
| SC Sys Name | System Type | Heating Unit Name | Cooling Unit Name | Fan Name | Distribution Name |
| Wall Heater1 | Other Heating and Cooling System | Heating Component 1 | Cooling Component 1 | HVAC Fan 1 | - none - |

| 01 | 02 | 03 | 04 |
|---------------------|--------------------|-----------------|------------|
| Name | System Type | Number of Units | Efficiency |
| Heating Component 1 | WallFurnaceGravity | 1 | 81 AFUE |

| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------------|---------|---------------|--------------|-------------------------------|-------------------|
| Dwelling Unit | IAQ CFM | IAQ Watts/CFM | IAQ Fan Type | IAQ Recovery Effectiveness(%) | HERS Verification |
| Sfam IAQVentRpt | 17 | 0.25 | Default | 0 | Required |

Registration Number: 218-P010326151A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance
Registration Date/Time: 2018-12-10 17:32:08
Report Version - CF1R-11302018-1149
HERS Provider: CalCERTS, Inc.
Report Generated at: 2018-12-10 16:22:31

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio c
Calculation Description: Title 24 Analysis

Calculation Date/Time: 16:21, Mon, Dec 10, 2018
Input File Name: 18Q4076c.1-2.rbd16x

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| DOCUMENTATION AUTHOR'S DECLARATION STATEMENT | |
|--|--|
| 1. I certify that this Certificate of Compliance documentation is accurate and complete. | |
| Documentation Author Name: Wayne Seward | Documentation Author Signature: <i>Wayne Seward</i> |
| Company: Bear Technologies Consulting Inc. | Signature Date: 2018-12-10 16:53:23 |
| Address: 3431 Don Arturo Drive | CEA/HERS Certification Identification (if applicable): R16-04-20130 |
| City/State/Zip: Carlsbad, CA 92010 | Phone: 760-635-2327 |
| RESPONSIBLE PERSON'S DECLARATION STATEMENT | |
| I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. | |
| Responsible Designer Name: Bart M Smith | Responsible Designer Signature: <i>Bart M Smith</i> |
| Company: DZN Partners | Date Signed: 2018-12-10 17:32:08 |
| Address: 682 2nd Street | License: C-22557 |
| City/State/Zip: Encinitas, CA 92024 | Phone: 760-753-2464 |

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.



Registration Number: 218-P010326151A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2016 Residential Compliance
Registration Date/Time: 2018-12-10 17:32:08
Report Version - CF1R-11302018-1149
HERS Provider: CalCERTS, Inc.
Report Generated at: 2018-12-10 16:22:31



TITLE 24 ENERGY COMPLIANCE

BEAR TECHNOLOGIES CONSULTING, INC.
3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010
(760) 635-2327 | wayne@beartechconsulting.com
http://www.beartechconsulting.com

PRADU - STUDIO c
ENCINITAS, CALIFORNIA 92024

DRAWN BY
wcs
CHECKED BY
DATE
12/11/2018
SCALE
JOB NO.
18Q4076c.1-2
SHEET

T-24.6

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A
 Calculation Description: Title 24 Analysis

Calculation Date/Time: 14:59, Wed, Jan 16, 2019
 Input File Name: 19Q1028A.1-2.rbd16x

CF1R-PRF-01

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| GENERAL INFORMATION | | | |
|---------------------|---------------------------------|-------------------|-------------------------------------|
| 01 | Project Name | PRADU - Studio A | |
| 02 | Calculation Description | Title 24 Analysis | |
| 03 | Project Location | | |
| 04 | City | Encinitas | 05 Standards Version |
| 06 | Zip Code | 92024 | 07 Compliance Manager Version |
| 08 | Climate Zone | CZ7 | 09 Software Version |
| 10 | Building Type | Single Family | 11 Front Orientation (deg/Cardinal) |
| 12 | Project Scope | Newly Constructed | 13 Number of Dwelling Units |
| 14 | Total Cond. Floor Area (ft²) | 224 | 15 Number of Zones |
| 16 | Slab Area (ft²) | 0 | 17 Number of Stories |
| 18 | Addition Cond. Floor Area (ft²) | n/a | 19 Natural Gas Available |
| 20 | Addition Slab Area (ft²) | n/a | 21 Glazing Percentage (%) |

| 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. |

Registration Number: 219-P010012961A-000-000-000000-0000
 CA Building Energy Efficiency Standards - 2016 Residential Compliance
 Registration Date/Time: 2019-01-21 09:38:30
 Report Version - CF1R-11302018-1149
 HERS Provider: CalCERTS inc.
 Report Generated at: 2019-01-16 14:59:49

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A
 Calculation Description: Title 24 Analysis

Calculation Date/Time: 14:59, Wed, Jan 16, 2019
 Input File Name: 19Q1028A.1-2.rbd16x

CF1R-PRF-01

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| ENERGY DESIGN RATING | | | | |
|---|----------------------------|----------------------------|------------------------------------|--------------------|
| Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to "zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen). As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen | | | | |
| | EDR of Standard Efficiency | EDR of Proposed Efficiency | EDR Value of Proposed PV + Battery | Final Proposed EDR |
| North | 52.4 | 50.6 | 0.0 | 50.6 |
| East | 52.4 | 49.6 | 0.0 | 49.6 |
| South | 52.4 | 50.2 | 0.0 | 50.2 |
| West | 52.4 | 51.2 | 0.0 | 51.2 |

| | |
|--------------------------|---|
| <input type="checkbox"/> | Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QII verification prerequisite. |
| <input type="checkbox"/> | Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QII verification prerequisite. |
| <input type="checkbox"/> | Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ7 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QII must be verified. |

Notes:
 • Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules

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

NO SPECIAL FEATURES REQUIRED

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 detail is provided in the building components tables below.

Building-level Verifications:
 • High quality insulation installation (QII)
 • IAQ mechanical ventilation
 Cooling System Verifications:
 • - None -
 HVAC Distribution System Verifications:
 • - None -
 Domestic Hot Water System Verifications:
 • Pipe Insulation, All Lines

Registration Number: 219-P010012961A-000-000-000000-0000
 CA Building Energy Efficiency Standards - 2016 Residential Compliance
 Registration Date/Time: 2019-01-21 09:38:30
 Report Version - CF1R-11302018-1149
 HERS Provider: CalCERTS inc.
 Report Generated at: 2019-01-16 14:59:49

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A
 Calculation Description: Title 24 Analysis

Calculation Date/Time: 14:59, Wed, Jan 16, 2019
 Input File Name: 19Q1028A.1-2.rbd16x

CF1R-PRF-01

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| ENERGY USE SUMMARY | | | | |
|--------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (kTDV/ft²-yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 0.00 | 0.04 | -0.04 | 0.0% |
| Space Cooling | 42.18 | 39.29 | 2.89 | 6.9% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| North Facing Compliance Total | 96.97 | 88.42 | 8.55 | 8.8% |
| Space Heating | 0.00 | 0.04 | -0.04 | 0.0% |
| Space Cooling | 42.18 | 34.50 | 7.68 | 18.2% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| East Facing Compliance Total | 96.97 | 83.63 | 13.34 | 13.8% |
| Space Heating | 0.00 | 0.01 | -0.01 | 0.0% |
| Space Cooling | 42.18 | 36.92 | 5.26 | 12.5% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| South Facing Compliance Total | 96.97 | 86.02 | 10.95 | 11.3% |
| Space Heating | 0.00 | 0.01 | -0.01 | 0.0% |
| Space Cooling | 42.18 | 42.28 | -0.10 | -0.2% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| West Facing Compliance Total | 96.97 | 91.38 | 5.59 | 5.8% |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A
 Calculation Description: Title 24 Analysis

Calculation Date/Time: 14:59, Wed, Jan 16, 2019
 Input File Name: 19Q1028A.1-2.rbd16x

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| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|------------------------------|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| PRADU - Studio A | 224 | 1 | 0 | 1 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|------------------|-------------|------------------|-----------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Studio A | Conditioned | Wall Heater1 | 224 | 8 | DHW Sys 1 | n/a |

| OPAQUE SURFACES | | | | | | | |
|-----------------|----------|--------------|---------|-------------|------------------|--------------------------|------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | Zone | Construction | Azimuth | Orientation | Gross Area (ft²) | Window & Door Area (ft²) | Tilt (deg) |
| Front Wall | Studio A | ExteriorWall | 0 | Front | 128 | 27 | 90 |
| Left Wall | Studio A | ExteriorWall | 90 | Left | 112 | 8 | 90 |
| Rear Wall | Studio A | ExteriorWall | 180 | Rear | 128 | 18 | 90 |
| Right Wall | Studio A | ExteriorWall | 270 | Right | 112 | 40 | 90 |
| Raised Floor | Studio A | ResideFloor | n/a | n/a | 224 | n/a | n/a |

| OPAQUE SURFACES - Cathedral Ceilings | | | | | | | | | |
|--------------------------------------|----------|-------|-------------|------------|---------------------|---------------------|------------------|----------------|-----------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Type | Orientation | Area (ft²) | Skylight Area (ft²) | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Cool Roof |
| Roof | Studio A | _Roof | Front | 224 | 0 | 4 | 0.1 | 0.85 | No |

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TITLE 24 ENERGY COMPLIANCE

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 http://www.beartechconsulting.com

PRADU - STUDIO RF - A
 TBD
 ENCINITAS, CALIFORNIA 92024

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 WCS
 CHECKED BY
 DATE
 01/21/2019
 SCALE
 JOB NO.
 19Q1028A.1-2
 SHEET

T-24.7

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A

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Calculation Description: Title 24 Analysis

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| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
|------|--------|-------------------------------|------------|-------------|------------|-------------------------|----------|------|-------------------------|
| Name | Type | Surface (Orientation-Azimuth) | Width (ft) | Height (ft) | Multiplier | Area (ft ²) | U-factor | SHGC | Exterior Shading |
| w1 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 7.0 | 0.32 | 0.25 | Insect Screen (default) |
| d1 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 20.0 | 0.32 | 0.25 | Insect Screen (default) |
| w2 | Window | Left Wall (Left-90) | ---- | ---- | 1 | 8.0 | 0.32 | 0.25 | Insect Screen (default) |
| w3 | Window | Rear Wall (Back-180) | ---- | ---- | 1 | 18.0 | 0.32 | 0.25 | Insect Screen (default) |
| d2 | Window | Right Wall (Right-270) | ---- | ---- | 1 | 40.0 | 0.32 | 0.25 | Insect Screen (default) |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-------------------|-----------------------|---------------------|--------------------|---------------------------------|------------------------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Winter Design U-factor | Assembly Layers |
| _Roof | Cathedral Ceilings | Wood Framed Ceiling | 2x10 @ 16 in. O.C. | R 30 | 0.037 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-30 / 2x10 Roof Deck: Wood Siding/sheathing/decking Roofing: Light Roof (Asphalt Shingle) |
| _ExteriorWall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R 15 | 0.095 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: 3 Coat Stucco |
| _RasideFloor | Floors Over Crawspace | Wood Framed Floor | 2x6 @ 16 in. O.C. | R 19 in 5-1/2 in. cavity (R-18) | 0.050 | <ul style="list-style-type: none"> Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 |

| 01 | 02 | 03 | 04 |
|---------------------------------------|---|-------------------------------|-------|
| Quality Insulation Installation (QII) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------|-------------|---|------------------|-------------------|--------------------|
| Name | System Type | Distribution Type | Water Heater | Number of Heaters | Solar Fraction (%) |
| DHW Sys 1 | DHW | (HERS req'd) Pipe Insulation, All Lines | DHW Heater 1 (1) | 1 | .0% |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A

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Calculation Description: Title 24 Analysis

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| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|--------------|---------------------|---------------------|-----------------|-------------------|--|---|-----------------------------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|
| Name | Heater Element Type | Tank Type | Number of Units | Tank Volume (gal) | Uniform Energy Factor / Energy Factor / Efficiency | Input Rating / Pilot / Thermal Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss / Recovery Eff | First Hour Rating / Flow Rate | NEEA Heat Pump Brand / Model / Other | Tank Location or Ambient Condition |
| DHW Heater 1 | Gas | Small Instantaneous | 1 | 0 | 0.92 EF | <= 200 kBtu/hr | R-0/R-0 | 0 | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|----------------------------|-----------------|----------------------|--------------|-----------------------|--------------------------|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Point-of Use | Recirculation Control | Central DHW Distribution |
| DHW Sys 1 - 1/1 | Pipe Insulation, All Lines | n/a | n/a | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 |
|--------------|----------------------------------|---------------------|---------------------|------------|-------------------|
| SC Sys Name | System Type | Heating Unit Name | Cooling Unit Name | Fan Name | Distribution Name |
| Wall Heater1 | Other Heating and Cooling System | Heating Component 1 | Cooling Component 1 | HVAC Fan 1 | - none - |

| 01 | 02 | 03 | 04 |
|---------------------|--------------------|-----------------|------------|
| Name | System Type | Number of Units | Efficiency |
| Heating Component 1 | WallFurnaceGravity | 1 | 81 AFUE |

| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------------|---------|---------------|--------------|-------------------------------|-------------------|
| Dwelling Unit | IAQ CFM | IAQ Watts/CFM | IAQ Fan Type | IAQ Recovery Effectiveness(%) | HERS Verification |
| SFam IAQventRpt | 17 | 0.25 | Default | 0 | Required |

PROJECT NOTES
This report is based on the drawings received on 01/09/2019. 1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN. 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechanical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of the structure.

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio A

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Calculation Description: Title 24 Analysis

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| DOCUMENTATION AUTHOR'S DECLARATION STATEMENT | |
|--|--|
| 1. I certify that this Certificate of Compliance documentation is accurate and complete. | |
| Documentation Author Name: Wayne Seward | Documentation Author Signature: <i>Wayne Seward</i> |
| Company: Bear Technologies Consulting Inc. | Signature Date: 2019-01-16 15:14:02 |
| Address: 3431 Don Arturo Drive Carlsbad, CA 92010 | CEA/HERS Certification Identification (if applicable): R16-04-20130 |
| | Phone: 760-635-2327 |
| RESPONSIBLE PERSON'S DECLARATION STATEMENT | |
| I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. | |
| Responsible Designer Name: Bart M Smith | Responsible Designer Signature: <i>Bart M Smith</i> |
| Company: DZN Partners | Date Signed: 2019-01-21 09:38:30 |
| Address: 682 2nd Street City/State/Zip: Encinitas, CA 92024 | License: C-22558 Phone: 760-753-2464 |

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.



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19Q1028A.1-2
SHEET

T-24.8

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio B
 Calculation Description: Title 24 Analysis
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 Input File Name: 19Q1028B.1-1.rbd16x

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| GENERAL INFORMATION | | | |
|---------------------|----------------------------------|---------------------------|----|
| 01 | Project Name | PRADU - Studio B | |
| 02 | Calculation Description | Title 24 Analysis | |
| 03 | Project Location | - | |
| 04 | City | Encinitas | 05 |
| 06 | Zip Code | 92024 | 07 |
| 08 | Climate Zone | CZ7 | 09 |
| 10 | Building Type | Single Family | 11 |
| 12 | Project Scope | Newly Constructed | 13 |
| 14 | Total Cond. Floor Area (ft²) | 224 | 15 |
| 16 | Slab Area (ft²) | 0 | 17 |
| 18 | Addition Cond. Floor Area (ft²) | n/a | 19 |
| 20 | Addition Slab Area (ft²) | n/a | 21 |
| | Standards Version | Compliance 2017 | |
| | Compliance Manager Version | BEMCrpMgr 2016.3.1 (1149) | |
| | Software Version | EnergyPro 7.2 | |
| | Front Orientation (deg/Cardinal) | Cardinal | |
| | Number of Dwelling Units | 1 | |
| | Number of Zones | 1 | |
| | Number of Stories | 1 | |
| | Natural Gas Available | Yes | |
| | Glazing Percentage (%) | 55.8% | |

| 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. |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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| ENERGY DESIGN RATING | | | | |
|--|----------------------------|----------------------------|------------------------------------|--------------------|
| Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to "zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen). | | | | |
| As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen. | | | | |
| | EDR of Standard Efficiency | EDR of Proposed Efficiency | EDR Value of Proposed PV + Battery | Final Proposed EDR |
| North | 52.4 | 50.9 | 0.0 | 50.9 |
| East | 52.4 | 49.6 | 0.0 | 49.6 |
| South | 52.4 | 49.7 | 0.0 | 49.7 |
| West | 52.4 | 51.2 | 0.0 | 51.2 |

| | |
|--------------------------|---|
| <input type="checkbox"/> | Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QII verification prerequisite. |
| <input type="checkbox"/> | Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QII verification prerequisite. |
| <input type="checkbox"/> | Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ7 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QII must be verified. |

Notes:
 • Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules.

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

NO SPECIAL FEATURES REQUIRED

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 detail is provided in the building components tables below.

- Building-level Verifications:**
- High quality insulation installation (QII)
 - IAQ mechanical ventilation
- Cooling System Verifications:**
- -- None --
- HVAC Distribution System Verifications:**
- -- None --
- Domestic Hot Water System Verifications:**
- Pipe Insulation, All Lines

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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| ENERGY USE SUMMARY | | | | |
|--------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (kTDV/ft²-yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 0.00 | 0.06 | -0.06 | 0.0% |
| Space Cooling | 42.26 | 41.26 | 1.00 | 2.4% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| North Facing Compliance Total | 97.05 | 90.41 | 6.64 | 6.8% |
| Space Heating | 0.00 | 0.08 | -0.08 | 0.0% |
| Space Cooling | 42.26 | 34.66 | 7.60 | 18.0% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| East Facing Compliance Total | 97.05 | 83.83 | 13.22 | 13.6% |
| Space Heating | 0.00 | 0.04 | -0.04 | 0.0% |
| Space Cooling | 42.26 | 35.05 | 7.21 | 17.1% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| South Facing Compliance Total | 97.05 | 84.18 | 12.87 | 13.3% |
| Space Heating | 0.00 | 0.03 | -0.03 | 0.0% |
| Space Cooling | 42.26 | 42.54 | -0.28 | -0.7% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| West Facing Compliance Total | 97.05 | 91.66 | 5.39 | 5.6% |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|------------------------------|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| PRADU - Studio B | 224 | 1 | 0 | 1 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|------------------|-------------|------------------|-----------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Studio - B | Conditioned | Wall Heater1 | 224 | 8 | DHW Sys 1 | n/a |

| OPAQUE SURFACES | | | | | | | |
|-----------------|------------|--------------|---------|-------------|------------------|--------------------------|------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | Zone | Construction | Azimuth | Orientation | Gross Area (ft²) | Window & Door Area (ft²) | Tilt (deg) |
| Front Wall | Studio - B | ExteriorWall | 0 | Front | 128 | 31 | 90 |
| Left Wall | Studio - B | ExteriorWall | 90 | Left | 112 | 12 | 90 |
| Rear Wall | Studio - B | ExteriorWall | 180 | Back | 128 | 30 | 90 |
| Right Wall | Studio - B | ExteriorWall | 270 | Right | 112 | 52 | 90 |
| Raised Floor | Studio - B | ResideFloor | n/a | n/a | 224 | n/a | n/a |

| OPAQUE SURFACES - Cathedral Ceilings | | | | | | | | | |
|--------------------------------------|------------|------|-------------|------------|---------------------|---------------------|------------------|----------------|-----------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Type | Orientation | Area (ft²) | Skylight Area (ft²) | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Cool Roof |
| Roof | Studio - B | Roof | Front | 224 | 0 | 3 | 0.1 | 0.85 | No |

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 TBD
 ENCINITAS, CALIFORNIA 92024

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 DATE
 01/21/2019
 SCALE
 JOB NO.
 19Q1028B.1-1
 SHEET

T-24.9

| FENESTRATION / GLAZING | | | | | | | | | |
|------------------------|--------|-------------------------------|------------|-------------|------------|-------------------------|----------|------|-------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Type | Surface (Orientation-Azimuth) | Width (ft) | Height (ft) | Multiplier | Area (ft ²) | U-factor | SHGC | Exterior Shading |
| w5 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 4.0 | 0.32 | 0.25 | Insect Screen (default) |
| w1 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 7.0 | 0.32 | 0.25 | Insect Screen (default) |
| d1 | Window | Front Wall (Front-0) | ---- | ---- | 1 | 20.0 | 0.32 | 0.25 | Insect Screen (default) |
| w6 | Window | Left Wall (Left-90) | ---- | ---- | 1 | 4.0 | 0.32 | 0.25 | Insect Screen (default) |
| w2 | Window | Left Wall (Left-90) | ---- | ---- | 1 | 8.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4 | Window | Rear Wall (Back-180) | ---- | ---- | 1 | 12.0 | 0.32 | 0.25 | Insect Screen (default) |
| w3 | Window | Rear Wall (Back-180) | ---- | ---- | 1 | 18.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.2 | Window | Right Wall (Right-270) | ---- | ---- | 1 | 12.0 | 0.32 | 0.25 | Insect Screen (default) |
| d2 | Window | Right Wall (Right-270) | ---- | ---- | 1 | 40.0 | 0.32 | 0.25 | Insect Screen (default) |

| OPAQUE SURFACE CONSTRUCTIONS | | | | | | |
|------------------------------|------------------------|---------------------|--------------------|---------------------------------|------------------------|---|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Winter Design U-factor | Assembly Layers |
| _Roof | Cathedral Ceilings | Wood Framed Ceiling | 2x10 @ 16 in. O.C. | R 30 | 0.037 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-30 / 2x10 Roof Deck: Wood Siding/sheathing/decking Roofing: Light Roof (Asphalt Shingle) |
| _ExteriorWall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R 15 | 0.089 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: Wood Siding/sheathing/decking |
| _RasideFloor | Floors Over Crawlspace | Wood Framed Floor | 2x6 @ 16 in. O.C. | R 19 in 5-1/2 in. cavity (R-18) | 0.050 | <ul style="list-style-type: none"> Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 |

| BUILDING ENVELOPE - HERS VERIFICATION | | | |
|---------------------------------------|---|-------------------------------|-------|
| 01 | 02 | 03 | 04 |
| Quality Insulation Installation (QII) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |

Registration Number: 219-P010012964A-000-000-0000000-0000 Registration Date/Time: 2019-01-21 09:38:30
 CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-11302018-1149
 HERS Provider: CalCERTS inc. Report Generated at: 2019-01-16 14:57:37

PROJECT NOTES
 This report is based on the drawings received on 01/09/2019. 1) DO NOT USE FOR ACTUAL HEATING/COOLING DESIGN. 2) The Title 24 calculations used for this project are used for the purpose of complying with the current Title 24 code provisions and are intended to be used in order to obtain compliance per Title 24 regulations. They are NOT intended to be used as a substitute for the heating and cooling loads required for the structure(s) that are normally done by a mechanical engineer(s) or HVAC contractor(s) and in NO CIRCUMSTANCES is this to be used in lieu of the normal calculation methods used by a mechanical engineer(s) or HVAC contractor(s). 3) The assembly components found in this document are for modeling purposes only and may not reflect the actual conditions of the walls, roof(s), floor(s), windows and doors of the structure.



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| WATER HEATING SYSTEMS | | | | | |
|-----------------------|-------------|---|------------------|-------------------|--------------------|
| 01 | 02 | 03 | 04 | 05 | 06 |
| Name | System Type | Distribution Type | Water Heater | Number of Heaters | Solar Fraction (%) |
| DHW Sys 1 | DHW | (HERS req'd) Pipe Insulation, All Lines | DHW Heater 1 (1) | 1 | .0% |

| WATER HEATERS | | | | | | | | | | | |
|---------------|---------------------|---------------------|-----------------|-------------------|------------------------------------|---|-----------------------------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| Name | Heater Element Type | Tank Type | Number of Units | Tank Volume (gal) | Uniform Energy Factor / Efficiency | Input Rating / Pilot / Thermal Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss / Recovery Eff | First Hour Rating / Flow Rate | NEEA Heat Pump Brand / Model / Other | Tank Location or Ambient Condition |
| DHW Heater 1 | Gas | Small Instantaneous | 1 | 0 | 0.92 EF | <= 200 kBtu/hr | R-0/R-0 | 0 | n/a | n/a | n/a |

| WATER HEATING - HERS VERIFICATION | | | | | | |
|-----------------------------------|----------------------------|-----------------|----------------------|--------------|-----------------------|--------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Point-of Use | Recirculation Control | Central DHW Distribution |
| DHW Sys 1 - 1/1 | Pipe Insulation, All Lines | n/a | n/a | n/a | n/a | n/a |

| SPACE CONDITIONING SYSTEMS | | | | | |
|----------------------------|----------------------------------|---------------------|---------------------|------------|-------------------|
| 01 | 02 | 03 | 04 | 05 | 06 |
| SC Sys Name | System Type | Heating Unit Name | Cooling Unit Name | Fan Name | Distribution Name |
| Wall Heater1 | Other Heating and Cooling System | Heating Component 1 | Cooling Component 1 | HVAC Fan 1 | - none - |

| HVAC - HEATING UNIT TYPES | | | |
|---------------------------|----------------------|-----------------|------------|
| 01 | 02 | 03 | 04 |
| Name | System Type | Number of Units | Efficiency |
| Heating Component 1 | Wall/Furnace/Gravity | 1 | 81 AFUE |

| IAQ (Indoor Air Quality) FANS | | | | | |
|-------------------------------|---------|---------------|--------------|-------------------------------|-------------------|
| 01 | 02 | 03 | 04 | 05 | 06 |
| Dwelling Unit | IAQ CFM | IAQ Watts/CFM | IAQ Fan Type | IAQ Recovery Effectiveness(%) | HERS Verification |
| Sfam IAQVentiRpt | 17 | 0.25 | Default | 0 | Required |

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| DOCUMENTATION AUTHOR'S DECLARATION STATEMENT | |
|--|--|
| 1. I certify that this Certificate of Compliance documentation is accurate and complete. | |
| Documentation Author Name: Wayne Seward | Documentation Author Signature: <i>Wayne Seward</i> |
| Company: Bear Technologies Consulting Inc. | Signature Date: 2019-01-16 15:15:56 |
| Address: 3431 Don Arturo Drive | CEA/HERS Certification Identification (if applicable): R16-04-20130 |
| City/State/Zip: Carlsbad, CA 92010 | Phone: 760-635-2327 |
| RESPONSIBLE PERSON'S DECLARATION STATEMENT | |
| I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. | |
| Responsible Designer Name: Bart M Smith | Responsible Designer Signature: <i>Bart M Smith</i> |
| Company: DZN Partners | Date Signed: 2019-01-21 09:38:30 |
| Address: 682 2nd Street | License: C-22558 |
| City/State/Zip: Encinitas, CA 92024 | Phone: 760-753-2464 |

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.



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TITLE 24 ENERGY COMPLIANCE

BEAR TECHNOLOGIES CONSULTING, INC.
 3431 DON ARTURO DRIVE, CARLSBAD, CALIFORNIA 92010
 (760) 635-2327 | wayne@beartechconsulting.com
 http://www.beartechconsulting.com

PRADU - STUDIO RF - B
 TBD
 ENCINITAS, CALIFORNIA 92024

DRAWN BY
 WCS
 CHECKED BY
 DATE
 01/21/2019
 SCALE
 JOB NO.
 19Q1028B.1-1
 SHEET

T-24.10

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: PRADU - Studio C
 Calculation Description: Title 24 Analysis

Calculation Date/Time: 15:01, Wed, Jan 16, 2019
 Input File Name: 19Q1028C.1-1.rbd16x

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 Page 1 of 8

| GENERAL INFORMATION | | | |
|---------------------|--|----------------------------|----|
| 01 | Project Name | PRADU - Studio C | |
| 02 | Calculation Description | Title 24 Analysis | |
| 03 | Project Location | | |
| 04 | City | Encinitas | 05 |
| 06 | Zip Code | 92024 | 07 |
| 08 | Climate Zone | CZ7 | 09 |
| 10 | Building Type | Single Family | 11 |
| 12 | Project Scope | Newly Constructed | 13 |
| 14 | Total Cond. Floor Area (ft ²) | 224 | 15 |
| 16 | Slab Area (ft ²) | 0 | 17 |
| 18 | Addition Cond. Floor Area (ft ²) | n/a | 19 |
| 20 | Addition Slab Area (ft ²) | n/a | 21 |
| | Standards Version | Compliance 2017 | |
| | Compliance Manager Version | BEMCompMgr 2016.3.1 (1149) | |
| | Software Version | EnergyPro 7.2 | |
| | Front Orientation (deg/Cardinal) | Cardinal | |
| | Number of Dwelling Units | 1 | |
| | Number of Zones | 1 | |
| | Number of Stories | 1 | |
| | Natural Gas Available | Yes | |
| | Glazing Percentage (%) | 67.0% | |

| 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. |

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 HERS Provider: CalCERTS, Inc.
 Report Generated at: 2019-01-16 15:02:24

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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Calculation Date/Time: 15:01, Wed, Jan 16, 2019
 Input File Name: 19Q1028C.1-1.rbd16x

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| ENERGY DESIGN RATING | | | |
|---|----------------------------|------------------------------------|--------------------|
| Energy Design Rating (EDR) is an alternate way to express the energy performance of a building using a scoring system where 100 represents the energy performance of the Residential Energy Services (RESNET) reference home characterization of the 2006 International Energy Conservation Code (IECC) with California modeling assumptions. A score of zero represents the energy performance of a building that combines high levels of energy efficiency with renewable generation to "zero out" its TDV energy. Because EDR includes consideration of components not regulated by Title 24, Part 6 (such as domestic appliances and consumer electronics), it is not used to show compliance with Part 6 but may instead be used by local jurisdictions pursuing local ordinances under Title 24, Part 11 (CALGreen). As a Standard Design building under the 2016 Building Energy Efficiency Standards is significantly more efficient than the baseline EDR building, the EDR of the Standard Design building is provided for information. Similarly, the EDR score of the Proposed Design is provided separately from the EDR value of installed PV so that the effects of efficiency and renewable energy can both be seen. | | | |
| | EDR of Standard Efficiency | EDR of Proposed Efficiency | Final Proposed EDR |
| North | 52.4 | 50.7 | 50.7 |
| East | 52.4 | 49.7 | 49.7 |
| South | 52.4 | 50.3 | 50.3 |
| West | 52.4 | 51.2 | 51.2 |
| | | EDR Value of Proposed PV + Battery | |
| | | 0.0 | |
| <input type="checkbox"/> Design meets Tier 1 requirement of 15% or greater code compliance margin (CALGreen A4.203.1.2.1) and QII verification prerequisite. | | | |
| <input type="checkbox"/> Design meets Tier 2 requirement of 30% or greater code compliance margin (CALGreen A4.203.1.2.2) and QII verification prerequisite. | | | |
| <input type="checkbox"/> Design meets Zero Net Energy (ZNE) Design Designation requirement for Single Family in climate zone CZ7 (CALGreen A4.203.1.2.3) including on-site photovoltaic (PV) renewable energy generation sufficient to achieve a Final Energy Design Rating (EDR) of zero or less. The PV System and QII must be verified. | | | |
| Notes: • Excess PV Generation EDR Credit: Bypassing PV size limit may violate Net Energy Metering (NEM) rules | | | |
| REQUIRED SPECIAL FEATURES | | | |
| The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis. | | | |
| NO SPECIAL FEATURES REQUIRED | | | |
| 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 detail is provided in the building components tables below. | | | |
| Building-level Verifications: • High quality insulation installation (QII) • IAQ mechanical ventilation | | | |
| Cooling System Verifications: • -- None -- | | | |
| HVAC Distribution System Verifications: • -- None -- | | | |
| Domestic Hot Water System Verifications: • Pipe Insulation, All Lines | | | |

Registration Number: 219-P010012971A-000-000-0000000-0000
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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 Page 2 of 8

| ENERGY USE SUMMARY | | | | |
|---------------------------------------|-----------------|-----------------|-------------------|---------------------|
| Energy Use (kTDV/ft ² -yr) | Standard Design | Proposed Design | Compliance Margin | Percent Improvement |
| Space Heating | 0.00 | 0.09 | -0.09 | 0.0% |
| Space Cooling | 42.26 | 40.35 | 1.91 | 4.5% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| North Facing Compliance Total | 97.05 | 89.53 | 7.52 | 7.7% |
| Space Heating | 0.00 | 0.10 | -0.10 | 0.0% |
| Space Cooling | 42.26 | 35.09 | 7.17 | 17.0% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| East Facing Compliance Total | 97.05 | 84.28 | 12.77 | 13.2% |
| Space Heating | 0.00 | 0.06 | -0.06 | 0.0% |
| Space Cooling | 42.26 | 38.26 | 4.00 | 9.5% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| South Facing Compliance Total | 97.05 | 87.41 | 9.64 | 9.9% |
| Space Heating | 0.00 | 0.06 | -0.06 | 0.0% |
| Space Cooling | 42.26 | 42.88 | -0.62 | -1.5% |
| IAQ Ventilation | 3.71 | 3.71 | 0.00 | 0.0% |
| Water Heating | 51.08 | 45.38 | 5.70 | 11.2% |
| PV Credit | --- | 0.00 | 0.00 | --- |
| West Facing Compliance Total | 97.05 | 92.03 | 5.02 | 5.2% |

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

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 Page 4 of 8

| BUILDING - FEATURES INFORMATION | | | | | | |
|---------------------------------|---|--------------------------|--------------------|-----------------|---------------------------------------|---------------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Project Name | Conditioned Floor Area (ft ²) | Number of Dwelling Units | Number of Bedrooms | Number of Zones | Number of Ventilation Cooling Systems | Number of Water Heating Systems |
| PRADU - Studio C | 224 | 1 | 0 | 1 | 0 | 1 |

| ZONE INFORMATION | | | | | | |
|------------------|-------------|------------------|------------------------------------|---------------------|------------------------|------------------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
| Zone Name | Zone Type | HVAC System Name | Zone Floor Area (ft ²) | Avg. Ceiling Height | Water Heating System 1 | Water Heating System 2 |
| Studio C | Conditioned | Wall Heater1 | 224 | 8 | DHW Sys 1 | n/a |

| OPAQUE SURFACES | | | | | | | |
|-----------------|----------|--------------|---------|-------------|-------------------------------|---------------------------------------|------------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 |
| Name | Zone | Construction | Azimuth | Orientation | Gross Area (ft ²) | Window & Door Area (ft ²) | Tilt (deg) |
| Front Wall | Studio C | ExteriorWall | 0 | Front | 128 | 42 | 90 |
| Left Wall | Studio C | ExteriorWall | 90 | Left | 112 | 23 | 90 |
| Rear Wall | Studio C | ExteriorWall | 180 | Back | 128 | 30 | 90 |
| Right Wall | Studio C | ExteriorWall | 270 | Right | 112 | 55 | 90 |
| Raised Floor | Studio C | ResideFloor | n/a | n/a | 224 | n/a | n/a |

| OPAQUE SURFACES - Cathedral Ceilings | | | | | | | | | |
|--------------------------------------|----------|-------|-------------|-------------------------|----------------------------------|---------------------|------------------|----------------|-----------|
| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
| Name | Zone | Type | Orientation | Area (ft ²) | Skylight Area (ft ²) | Roof Rise (x in 12) | Roof Reflectance | Roof Emittance | Cool Roof |
| Roof | Studio C | _Roof | Front | 224 | 0 | 3 | 0.1 | 0.85 | No |

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TITLE 24 ENERGY COMPLIANCE

BEAR TECHNOLOGIES CONSULTING, INC.
 3431 DON ARTURO DRIVE CARLSBAD, CALIFORNIA 92011
 (760) 635-2327 | wayne@beartechconsulting.com
 http://www.beartechconsulting.com

PRADU - STUDIO RF - C
 TBD
 ENCINITAS, CALIFORNIA 92024

DRAWN BY
 WCS
 CHECKED BY
 DATE
 01/21/2019
 SCALE
 JOB NO.
 19Q1028C.1-1
 SHEET

T-24.11

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 |
|------|--------|-------------------------------|------------|-------------|------------|-------------------------|----------|------|-------------------------|
| Name | Type | Surface (Orientation-Azimuth) | Width (ft) | Height (ft) | Multiplier | Area (ft ²) | U-factor | SHGC | Exterior Shading |
| w4 | Window | Front Wall (Front-0) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w1 | Window | Front Wall (Front-0) | --- | --- | 1 | 7.0 | 0.32 | 0.25 | Insect Screen (default) |
| d1 | Window | Front Wall (Front-0) | --- | --- | 1 | 20.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.2 | Window | Left Wall (Left-90) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w2 | Window | Left Wall (Left-90) | --- | --- | 1 | 8.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.3 | Window | Rear Wall (Back-180) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w3 | Window | Rear Wall (Back-180) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| w4.4 | Window | Right Wall (Right-270) | --- | --- | 1 | 15.0 | 0.32 | 0.25 | Insect Screen (default) |
| d2 | Window | Right Wall (Right-270) | --- | --- | 1 | 40.0 | 0.32 | 0.25 | Insect Screen (default) |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-------------------|------------------------|---------------------|--------------------|---------------------------------|------------------------|---|
| Construction Name | Surface Type | Construction Type | Framing | Total Cavity R-value | Winter Design U-factor | Assembly Layers |
| _Roof | Cathedral Ceilings | Wood Framed Ceiling | 2x10 @ 16 in. O.C. | R 30 | 0.037 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-30 / 2x10 Roof Deck: Wood Siding/sheathing/decking Roofing: Light Roof (Asphalt Shingle) |
| _ExteriorWall | Exterior Walls | Wood Framed Wall | 2x4 @ 16 in. O.C. | R 15 | 0.089 | <ul style="list-style-type: none"> Inside Finish: Gypsum Board Cavity / Frame: R-15 / 2x4 Exterior Finish: Wood Siding/sheathing/decking |
| _RasideFloor | Floors Over Crawlspace | Wood Framed Floor | 2x6 @ 16 in. O.C. | R 19 in 5-1/2 in. cavity (R-18) | 0.050 | <ul style="list-style-type: none"> Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 |

| 01 | 02 | 03 | 04 |
|---------------------------------------|---|-------------------------------|-------|
| Quality Insulation Installation (QII) | Quality Installation of Spray Foam Insulation | Building Envelope Air Leakage | CFM50 |
| Required | Not Required | Not Required | n/a |

Registration Number: 219-P010012971A-000-000-0000000-0000 Registration Date/Time: 2019-01-21 09:38:30 HERS Provider: CalCERTS Inc.
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| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------|-------------|---|------------------|-------------------|--------------------|
| Name | System Type | Distribution Type | Water Heater | Number of Heaters | Solar Fraction (%) |
| DHW Sys 1 | DHW | (HERS req'd) Pipe Insulation, All Lines | DHW Heater 1 (1) | 1 | .0% |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
|--------------|---------------------|---------------------|-----------------|-------------------|--|---|-----------------------------------|-----------------------------|-------------------------------|--------------------------------------|------------------------------------|
| Name | Heater Element Type | Tank Type | Number of Units | Tank Volume (gal) | Uniform Energy Factor / Energy Factor / Efficiency | Input Rating / Pilot / Thermal Efficiency | Tank Insulation R-value (Int/Ext) | Standby Loss / Recovery Eff | First Hour Rating / Flow Rate | NEEA Heat Pump Brand / Model / Other | Tank Location or Ambient Condition |
| DHW Heater 1 | Gas | Small Instantaneous | 1 | 0 | 0.92 EF | <= 200 kBtu/hr | R-0/R-0 | 0 | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 | 07 |
|-----------------|----------------------------|-----------------|----------------------|--------------|-----------------------|--------------------------|
| Name | Pipe Insulation | Parallel Piping | Compact Distribution | Point-of Use | Recirculation Control | Central DHW Distribution |
| DHW Sys 1 - 1/1 | Pipe Insulation, All Lines | n/a | n/a | n/a | n/a | n/a |

| 01 | 02 | 03 | 04 | 05 | 06 |
|--------------|----------------------------------|---------------------|---------------------|------------|-------------------|
| SC Sys Name | System Type | Heating Unit Name | Cooling Unit Name | Fan Name | Distribution Name |
| Wall Heater1 | Other Heating and Cooling System | Heating Component 1 | Cooling Component 1 | HVAC Fan 1 | - none - |

| 01 | 02 | 03 | 04 |
|---------------------|----------------------|-----------------|------------|
| Name | System Type | Number of Units | Efficiency |
| Heating Component 1 | Wall/Furnace/Gravity | 1 | 81 AFUE |

| 01 | 02 | 03 | 04 | 05 | 06 |
|-----------------|---------|---------------|--------------|-------------------------------|-------------------|
| Dwelling Unit | IAQ CFM | IAQ Watts/CFM | IAQ Fan Type | IAQ Recovery Effectiveness(%) | HERS Verification |
| SFam IAQVentRpt | 17 | 0.25 | Default | 0 | Required |

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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Wayne Seward Documentation Author Signature: *Wayne Seward*

Company: Bear Technologies Consulting Inc. Signature Date: 2019-01-16 15:18:12

Address: 3431 Don Arturo Drive CEA/HERS Certification Identification (if applicable): R16-04-20130

City/State/Zip: Carlsbad, CA 92010 Phone: 760-635-2327

RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Bart M Smith Responsible Designer Signature: *Bart M Smith*

Company: DZN Partners Date Signed: 2019-01-21 09:38:30

Address: 682 2nd Street License: C-22558

City/State/Zip: Encinitas, CA 92024 Phone: 760-753-2464

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TITLE 24 ENERGY COMPLIANCE

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2016 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. (Original 08/2016)

| Building Envelope Measures: | |
|--|--|
| § 110.6(a)(1) | Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 cfm/ft ² or less when tested per NFRC-408 or ASTM E283 or AAMA WDMA/CSA 1014 S 244A-2011. |
| § 110.6(a)(5) | Labeling. Fenestration products must have a label meeting the requirements of § 10-111(a). |
| § 110.6(b) | Field Fabricated Exterior Doors and Fenestration Products. Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from TABLES 110.6-A and 110.6-B for compliance and must be caulked and/or weatherstripped. |
| § 110.7 | Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed or weather stripped. |
| § 110.8(a) | Insulation Certification by Manufacturers. Insulation specified or installed must meet Standards for Insulating Material. |
| § 110.8(b) | Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g). |
| § 110.8(c) | Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) when the installation of a cool roof is specified on the CFR. |
| § 110.8(j) | Radiant Barrier. A radiant barrier must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs. |
| § 150.0(a) | Ceiling and Rafter Roof Insulation. Minimum R-22 insulation in wood-frame ceiling, or the weighted average U-factor must not exceed 0.043. Minimum R-19 or weighted average U-factor of 0.054 or less in a rafter rafter. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. |
| § 150.0(b) | Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value. |
| § 150.0(c) | Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-formed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly. |
| § 150.0(d) | Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. |
| § 150.0(f) | Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without foaming, no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm-inch; be protected from physical damage and JV light deterioration; and when installed as part of a heated slab floor, meet the requirements of 110.8(i). |
| § 150.0(g)(1) | Vapor Retarder. In Climate Zones 1-16, the earth floor of unvented crawl space for buildings complying with the exception to § 150.0(h). |
| § 150.0(g)(2) | Vapor Retarder. In Climate Zones 14 and 15, 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-sealable insulation. |
| § 150.0(i) | Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58. |
| Fireplaces, Decorative Gas Appliances, and Gas Log Measures: | |
| § 150.0(e)(1A) | Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox. |
| § 150.0(e)(1B) | Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible operable, and gaspilot damper or combustion-air control device. |
| § 150.0(e)(1C) | Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. |
| § 150.0(e)(2) | Pilot Light. Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited. |
| Space Conditioning, Water Heating, and Plumbing System Measures: | |
| § 110.0(g) 110.3 | Certification. Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer and verified by the manufacturer's Energy Commission. |
| § 110.2(a) | HVAC Efficiency. Equipment must meet the applicable efficiency requirements in TABLE 110.2-A through TABLE 110.2-K. |
| § 110.2(b) | Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone, and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. |
| § 110.2(c) | Thermostats. All unitary heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat. |
| § 110.3(c)(5) | Water Heating Recirculation Loops Serving Multiple Dwelling Units. Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump sizing, pump installation, and recirculation loop connection requirements of § 110.3(c)(5). |
| § 110.3(c)(7) | Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu/hr (2 kW) must have isolation valves with hose bibbs or other fittings on both cold water and hot water lines of water heating systems to allow for water tank flushing when the valves are closed. |
| § 110.5 | Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (apartices) without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr; are exempt; and pool and spa heaters. |
| § 150.0(h)(1) | Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with ASHRAE Handbook, Equipment Sizing, Applications Volume, and Fundamentals Volume; SMACNA Residential Comfort System Installation Standards Manual; or ASCA Manual J using design conditions specified in § 150.0(h)(2). |



2016 Low-Rise Residential Mandatory Measures Summary

| § 150.0(m)(3) | Duct System Sizing and Air Filter Grills Sizing. Space conditioning systems that use forced air ducts to supply cooling to an occupiable space must have a hole for the placement of a static pressure probe (sPSP) or a permanently installed static pressure probe (PSP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grille and an air-handling unit fan efficiency ≥ 0.58 W/CFM as confirmed by field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.3. This applies to both single zone central forced air systems and every zone for zonally controlled central forced air systems. |
|--|--|
| § 150.0(o) | Ventilation for Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2. Neither window operation nor continuous operation of central forced air system air handlers used in central fan integrated ventilation systems are permissible methods of providing whole-building ventilation. |
| § 150.0(p)(1A) | Field Verification and Diagnostic Testing. Whole-building ventilation airflow must be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.7. |
| Pool and Spa Systems and Equipment Measures: | |
| § 110.4(a) | Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: a thermal efficiency that complies with the Appliance Efficiency Regulations; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must use electric resistance heating. |
| § 110.4(b)(1) | Piping. Any pool or spa heating equipment must be installed with at least 36 inches of pipe between the filter and the heater; or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating. |
| § 110.4(b)(2) | Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover. |
| § 110.4(b)(3) | Directional inlets and time switches for pools. Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be set or programmed to run early during off-peak electric demand periods. |
| § 110.5 | Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light. |
| § 150.0(p) | Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves. |
| Lighting Measures: | |
| § 110.9 | Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9. |
| § 110.9(e) | JAB High Efficacy Light Sources. To qualify as a JAB high efficacy light source for compliance with § 150.0(x), a residential light source must be certified to the Energy Commission according to Reference Joint Appendix JAB. |
| § 150.0(k)(1A) | Luminaire Efficacy. All installed luminaires must be high efficacy in accordance with TABLE 150.0-A. |
| § 150.0(k)(1B) | Blank Electrical Boxes. The number of electrical boxes that are more than 5 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) | Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must meet all of the requirements for insulation contact (IC) labeling; air leakage; sealing; maintenance; and socket and light source as described in § 150.0(k)(1C). A JAB-2016-E light source rated for elevated temperature must be installed by final inspection in all recessed downlight luminaires in ceilings. |
| § 150.0(k)(1D) | Electronic Ballasts. Ballasts for fluorescent lamps rated 15 watts or greater must be electronic and must have an output frequency no less than 20 kHz. |
| § 150.0(k)(1E) | Night Lights. Permanently installed night lights and night lights integral to install luminaires or exhaust fans must be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with § 150.0(c). Night lights do not need to be controlled by vacancy sensors. |
| § 150.0(k)(1F) | Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(x). |
| § 150.0(k)(1G) | Screw based Luminaires. Screw based luminaires must not be recessed downlight luminaires in ceilings and must contain lamps that comply with Reference Joint Appendix JAB. Installed lamps must be marked with 'JAB-2016-E' or 'JAB-2016-E' as specified in Reference Joint Appendix JAB. |
| § 150.0(k)(1H) | Enclosed Luminaires. Light sources installed in enclosed luminaires must be JAB compliant and must be marked with 'JAB-2016-E.' |
| § 150.0(k)(2A) | Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A. |
| § 150.0(k)(2B) | Interior Switches and Controls. Exhaust fans must be switched separately from lighting systems. |
| § 150.0(k)(2C) | Interior Switches and Controls. Luminaires must be switched with readily accessible controls that permit the luminaires to be manually switched ON and OFF. |
| § 150.0(k)(2E) | Interior Switches and Controls. No control must bypass a dimmer or vacancy sensor function if the control is installed to comply with § 150.0(k). |
| § 150.0(k)(2F) | Interior Switches and Controls. Lighting controls must comply with the applicable requirements of § 110.9. |
| § 150.0(k)(2G) | Interior Switches and Controls. An energy management control system (EMCS) may be used to comply with dimmer requirements if it functions as a dimmer according to § 110.9, meets the Installation Certificate requirements of § 130.4, meets the EMCS requirements of § 130.5(f), and meets all other requirements in § 150.0(k)(2). |
| § 150.0(k)(2H) | Interior Switches and Controls. An EMCS may be used to comply with vacancy sensor requirements in § 150.0(k) if it meets all of the following: it functions as a vacancy sensor according to § 110.9; the Installation Certificate requirements of § 130.4; the EMCS requirements of § 130.5(f); and all other requirements in § 150.0(k)(2). |
| § 150.0(k)(2I) | Interior Switches and Controls. A multiscene programmable controller may be used to comply with dimmer requirements in § 150.0(k) if it provides the functionality of a dimmer according to § 110.9, and complies with all other applicable requirements in § 150.0(k)(2). |



2016 Low-Rise Residential Mandatory Measures Summary

| § 150.0(h)(3A) | Clearances. Installed air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet from the outlet of any drain vent. |
|--------------------------|--|
| § 150.0(h)(3B) | Liquid Line Drier. Installed air conditioner and heat pump systems must be equipped with liquid line filter driers if required, as specified by manufacturer's instructions. |
| § 150.0(i)(1) | Storage Tank Insulation. Unlined hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have R-2 external insulation or R-15 internal insulation where the internal insulation R-value is indicated on the exterior of the tank. |
| § 150.0(i)(2A) | Water piping and cooling system line insulation. For domestic hot water system piping, whether buried or unburied, all of the following must be insulated according to the requirements of TABLE 120.3-A: the first 5 feet of hot and cold water pipes from the storage tank; all piping with a nominal diameter of 3/4 inch or larger; all piping associated with a domestic hot water recirculation system regardless of the pipe diameter; piping from the heating source to storage tank; piping buried below grade; and all hot water pipes from the heating source to kitchen fixtures. |
| § 150.0(i)(2B) | Water piping and cooling system line insulation. All domestic hot water pipes that are buried below grade must be installed in a water proof and non-permeable casing or sleeve. |
| § 150.0(i)(2C) | Water piping and cooling system line insulation. Pipes for cooling system lines must be insulated as specified in § 150.0(i)(2A). Distribution piping for steam and hydronic heating systems or hot water systems must meet the requirements in TABLE 120.3-A. |
| § 150.0(j)(1) | Insulation Protection. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. |
| § 150.0(j)(3A) | Insulation Protection. Insulation exposed to weather must be installed with a cover suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. The cover must be water resistant and provide shielding from solar radiation that can cause degradation of the material. |
| § 150.0(j)(3B) | Insulation Protection. Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must have a Class I or Class II vapor retarder. |
| § 150.0(k)(1) | Gas or Propane Systems. Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: a 120V electrical receptacle within 3 feet of the water heater, a Category II or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the water heater; and direct natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr. |
| § 150.0(m)(2) | Recirculating Loops. Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)(5). |
| § 150.0(n)(1) | Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a listing agency that is approved by the Executive Director. |
| Ducts and Fans Measures: | |
| § 110.8(i)(3) | Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify the customer in writing, that the insulation meets this requirement. |
| § 150.0(m)(1) | CMC Compliance. All air-distribution systems and plenums must be installed, sealed, and insulated to meet the requirements of CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSISMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6 (or higher if required by CMC § 605.0) or a minimum installed level of 1.42, when entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tapes are 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 for conveying conditioned air. Building cavities and support platforms may contain ducts. Ducts installed in cavities and support platforms must not be compressed to cause reductions in the cross-sectional area of the ducts. |
| § 150.0(m)(2) | Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seal of duct systems and their components must be sealed with duct back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. |
| § 150.0(m)(3) | Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastic, sealants, and other requirements specified for duct construction. |
| § 150.0(m)(7) | Backdraft Dampers. All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers. |
| § 150.0(m)(8) | Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers at all openings to the outside, except combustion inlet and outlet openings and elevator shaft vents. |
| § 150.0(m)(9) | Protection of Insulation. Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, 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(m)(10) | Porous Inner Core Flex Duct. Porous inner core flex duct must have a non-porous layer between the inner core and outer vapor barrier. |
| § 150.0(m)(11) | Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)(1) and Reference Residential Appendix RA3. |
| § 150.0(m)(12) | Air Filtration. Mechanical systems that supply air to an occupiable space through ductwork exceeding 10 feet in length and through a thermal conditioning component, except evaporator coils, must be provided with air filter devices that meet the design, installation, efficiency, pressure drop, and labeling requirements of § 150.0(m)(2). |



2016 Low-Rise Residential Mandatory Measures Summary

| § 150.0(k)(2) | Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by a vacancy sensor. |
|------------------------|---|
| § 150.0(k)(2C) | Interior Switches and Controls. Dimmers or vacancy sensors must control all luminaires required to have light sources compliant with Reference Joint Appendix JAB, except luminaires in closets less than 70 square feet and luminaires in hallways. |
| § 150.0(k)(2L) | Interior Switches and Controls. Undercabinet lighting must be switched separately from other lighting systems. |
| § 150.0(k)(3A) | Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)(3A)(ON and OFF switch) and the requirements in either item § 150.0(k)(3A)(i) (photo cell and motion sensor) or item § 150.0(k)(3A)(ii) (photo control and automatic time switch control, astronomical time clock, or EMCS). |
| § 150.0(k)(3B) | Residential Outdoor Lighting. For low-rise multifamily residential buildings, outdoor lighting for private patios, entrances, balconies, and porches, and outdoor lighting for residential parking lots and residential carports with less than eight vehicles per site must comply with either § 150.0(k)(3A) or with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0. |
| § 150.0(k)(3C) | Residential Outdoor Lighting. For low-rise residential buildings with four or more dwelling units, outdoor lighting not regulated by § 150.0(k)(3B) or § 150.0(k)(3D) must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0. |
| § 150.0(k)(3D) | Residential Outdoor Lighting. Outdoor lighting for residential parking lots and residential carports with a total of eight or more vehicles per site must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0. |
| § 150.0(k)(4) | Internally Illuminated Address Signs. Internally illuminated address signs must comply with § 140.0(c) or must consume no more than 5 watts of power as determined according to § 130.0(c). |
| § 150.0(k)(5) | Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.7, and 141.0. |
| § 150.0(k)(6A) | Interior Common Areas of Low-rise Multifamily Residential Buildings. 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 high efficacy luminaires and controlled by an occupant sensor. |
| § 150.0(k)(6B) | Interior Common Areas of Low-rise Multifamily Residential Buildings. 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 in that building must: i. Comply with the applicable requirements in §§ 110.9, 130.0, 130.1, 140.6 and 141.0; and 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 designated paths of ingress and egress. |
| Solar Ready Buildings: | |
| § 110.10(a)(1) | Single Family Residences. Single family residences located in subdivisions with ten or more single family residences and where the application for a tentative subdivision map for the residences has been deemed complete by the enforcement agency must comply with the requirements of § 110.10(b) through § 110.10(d). |
| § 110.10(a)(2) | Low-rise Multifamily Buildings. Low-rise multifamily buildings must comply with the requirements of § 110.10(b) through § 110.10(d). |
| § 110.10(b)(1) | Minimum Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single family residences the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. For low-rise multifamily 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. |
| § 110.10(b)(2) | Orientation. All sections of the solar zone located on steep-sloped roofs must be oriented between 110 degrees and 270 degrees of true north. |
| § 110.10(b)(3A) | Shading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment. |
| § 110.10(b)(3B) | Shading. Any obstruction located on the roof or any other part of the building that projects above the 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) | Structural Design Loads on Construction Documents. For areas of the roof designated as solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents. |
| § 110.10(c) | Interconnection Pathways. The construction documents must indicate a location for inverters and metering equipment and a pathway for routing of conduit from the solar zone to the point of interconnection with the electrical service for single family residences; the point of interconnection will be the main service panel; and a pathway for routing of plumbing from the solar zone to the water-heating system. |
| § 110.10(d) | Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b) through § 110.10(c) must be provided to the occupant. |
| § 110.10(e)(1) | Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps. |
| § 110.10(e)(2) | Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be positioned at the opposite (load) end from the input feeder location or main circuit location; and permanently marked as "For Future Solar Electric". |



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