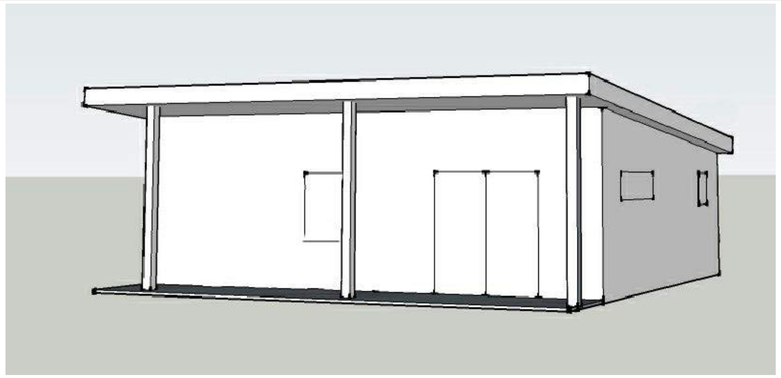

Accessory Dwelling Unit
2 Bedroom
Encinitas, C A

PLAN SELECTION INFORMATION

fire rated details:

X SELECTION

- ☐ ROOF EAVE DETAIL 11/A6.1 & 14/A6.1
- ☐ WALL FINISH DETAIL 5A/A6.1, 6A/A6.1 & 7A/A6.1
- ☐ WINDOW NOTES #12&13 AND DOOR NOTE #10 PER SCHEDULES ON SHEET A6.1

FIRE RATED DETAILS ABOVE ARE TO BE USED WHEN WALLS ARE LESS THAN 10 FT FROM PROPERTY LINE, WHEN ROOF EAVES ARE LESS THAN 5 FT FROM PROPERTY LINE, AND WHEN THE PROJECT IS LOCATED WITHIN THE VERY HIGH FIRE HAZARD SEVERITY ZONE. STRUCTURES SHALL COMPLY WITH THE CURRENT CBC CHAPTER 7A

roof material:

X MATERIAL

- ☐ STANDING SEAM METAL ROOF - AEP SPAN INC - IAPMO-UES ER 0309 - OAE
- ☐ TORCH APPLIED MODIFIED BITUMEN ROOFING - GAF INC - ICC ESR 1274 - OAE

exterior wall material:

X MATERIAL

- ☐ STUCCO
- ☐ STONE SIDING
- ☐ FIBER CEMENT - LAP SIDING

SHEET INDEX

BUILDING INFORMATION

GOVERNING CODES: APPROVAL OF THIS PROJECT SHALL COMPLY WITH THE 2016 CALIFORNIA RESIDENTIAL CODE, WHICH ADOPTS THE 2015 IRC, 2015 UMC, 2015 UPC AND THE 2014 NEC.

SITE ADDRESS: PROVIDED BY OWNER
PROVIDED BY OWNER
PROVIDED BY OWNER

GOVERNING AGENCY: CITY OF ENCINITAS, CA.
OCCUPANCY GROUP: R3
STORIES: 1
BUILDING HEIGHT: 12'
TYPE OF CONSTRUCTION: VB
FIRE SPRINKLERES REQUIRED: ☐ YES ☐ NO
FIRE SPRINKLERES IN EX'G RESIDENCE: ☐ YES ☐ NO
VERY HIGH FIRE HAZARD SEVERITY ZONE: ☐ YES ☐ NO
FIRE RATED DOORS AND WINDOWS REQ: ☐ YES ☐ NO
(SEE DOOR AND WINDOW SCHEDULE)

ZONING INFORMATION

CITY OF ENCINITAS TO PROVIDE THE FOLLOWING INFORMATION

ZONING :

OVERLAY :

ALLOWABLE BUILDING HEIGHT: 12'-0" / 14'-0"
ALLOWABLE HEIGHT IS FROM THE LOWER OF EXISTING OR FINISHED GRADE

LOT SIZE :

EXISTING HABITABLE SQ. FT. :

EXISTING FAR :

MAX. ALLOWABLE FAR :

PROPOSED FAR :

FLOOR AREA OF GARAGE:

EXISTING LOT COVERAGE:

ALLOWABLE LOT COVERAGE :

PROPOSED LOT COVERAGE :

LOT SLOPE :

SETBACKS : FRONT–
REAR–
SIDE–
STREET SIDE–

OFF STREET PARKING :

A DIMENSIONED SITE PLAN DRAWN TO SCALE SHALL BE PROVIDED 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 PER UNIFORM ADMINISTRATIVE CODE SECTION 302.

IF A GRADING PLAN IS REQUIRED, INCORPORATE THE ENTIRE APPROVED GRADING PLAN/IMPROVEMENT PLAN (ALL SHEETS) WITH THE BUILDING PLANS.

DIRECTORY

MODIFICATION TO PLANS MADE BY:
COMPANY
CONTACT PERSON
ADDRESS
CITY, STATE ZIP
PHONE: (---) ---------
EMAIL

PROPERTY OWNER:
NAME
ADDRESS
CITY, STATE ZIP
PHONE: (---)---------
EMAIL

BUILDING DEPARTMENT:
CITY OF ENCINITAS
505 S VULCAN AVE
ENCINITAS, CA 92024
P. 760-633-2710

PROJECT DESCRIPTION

NEW CONSTRUCTION OF A ONE STORY DETACHED 745 S.F. ACCESSORY DWELLING UNIT

LEGAL DESCRIPTION

PROVIDED BY OWNER

VICINITY MAP

PROVIDED BY OWNER

APN

PROVIDED BY OWNER

NOTES

FIRE GENERAL NOTES

F-1. AUTOMATIC FIRE SPRINKLER SYSTEM - WHEN REQUIRED, 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 ADDITION** - 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.

F-2. 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.

F-3. A FIRE UNDERGROUND FLUSH CERTIFICATE SHALL BE REQUIRED AT FINAL ISPECTION.

F-4. A HYDRO INSPECTION OF THE FIRE SPRINKLER SYSTEM IS REQUIRED PRIOR TO FRAME INSPECTION. ONLY NEW PIPING SHALL BE TESTED.

F-5. STRUCTURES IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE SHALL PROVIDE AND MAINTAIN A FUEL MODIFICATION ZONE.
FUEL MODIFICATION ZONES: THE APPLICANT SHALL PROVIDE AND MAINTAIN FIRE/FUEL BREAKS TO THE SATISFACTION OF THE ENCINITAS FIRE DEPARTMENT. FIRE/FUEL BREAKS SIZE (MINIMUM 100 FEET FROM STRUCTURE) AND COMPOSITION SHALL BE DETERMINED BY THE FIRE DEPARTMENT AND SHOWN ON THE IMPROVEMENT/GRADING PLANS, FINAL MAP AND BUILDING PLANS.

ARCHITECTUAL GENERAL NOTES

A-1. DO NOT SCALE THE DRAWING, USE THE DIMENSIONS ONLY. IF A DISCREPANCY IS FOUND TO EXIST, NOTIFY THE OWNER.

A-2. THESE PLANS/SPECIFICATIONS AND ALL WORK SHALL COMPLY WITH CURRENT EDITION OF STATE OF CALIFORNIA TITLE 24 CCR AND CURRENT UPC, UMC AND NEC CODES.

A-3. DETAILS ARE INTENDED TO SHOW METHOD AND MANNER OF ACCOMPLISHING WORK. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT THE JOB DIMENSIONS OR CONDITIONS AND IS TO BE REVIEWED AND APPROVED BY THE CITY OF ENCINITAS.

A-4. VERIFY ALL DIMENSIONS AND CONDITIONS AT THE SITE AND STAKE OUT STRUCTURE FOR OWNER'S APPROVAL PRIOR TO STARTING ANY WORK.

A-5. NOT USED

A-6. ALL WEATHER-EXPOSED SURFACES IS TO HAVE A WEATHER-RESISTIVE BARRIER TO PROTECT THE INTERIOR WALL COVERING AND THAT EXTERIOR OPENINGS ARE TO BE FLASHED IN SUCH A MANNER AS TO MAKE THEM WEATHERPROOF.

A-7. SAFETY GLAZING (TEMPERED) IS REQUIRED FOR:

A. WINDOWS ADJACENT TO HOT TUBS, SWIMMING POOLS, WHIRLPOOL, SAUNAS, STEAM ROOMS, BATHTUBS OR SHOWERS, STAIR ENCLOSURES AND WITHIN 60 INCHES OF THE FLOOR.

B. WINDOWS WITHIN A 24 INCH ARC OF EITHER VERTICAL EDGE OF DOORS IN THE CLOSED POSITION AND WITHIN 60 INCHES OF FLOOR.

C. WINDOWS WITHIN 18 INCHES OF WALKING SURFACE.

A-8. ALL NAILING IS TO BE IN COMPLIANCE WITH CODE, COMMON NAILS ONLY.

A-9. INFILTRATION/ EXFILTRATION CONTROL (2-5317 A - C) AT ALL NEW DOORS & WINDOWS

A. DOORS AND WINDOWS ARE TO BE DESIGNED TO IMIT AIR LEAKAGE

B. DOOR AND WINDOWS ARE TO BE CERTIFIED

C. DOORS AND WINDOWS ARE TO BE FULLY WEATHER STRIPPED AT ALL JOINTS AND PENETRATIONS CAULKED AND SEALED.

D. ALL NEW GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE U-VALUE.

A-10. NOT USED

A-11. PROVIDE ALL THE NECESSARY BACKING AND FRAMING FOR ALL MOUNTED ITEMS. LIGHTS AND ALL OTHER ITEMS REQUIRING SAME.

WINDOW SCHEDULE

WINDOW	WINDOW SIZE WIDTH	WINDOW SIZE HEIGHT	OPER.	QNTY	FRAME	HEAD HEIGHT	REMARKS
A	6' -0"	2' -0"	SLIDER	1	VINYL	6'-8"	LIVING ROOM WINDOWS
B	2' -0"	2'- 0"	SLIDER	1	VINYL	6'-8"	BATHROOM WINDOWS
C	6' -0"	4'- 0"	SLIDER	2	VINYL	6'-8"	BEDROOM WINDOWS
D	3' -0"	4'- 0"	SLIDER	1	VINYL	6'-8"	CLOSET/ HALLWAY WINDOWS

WINDOW NOTES

1. SEE EXTERIOR ELEVATION FOR DIRECTION OF OPERATION OF WINDOWS (ALL OPERABLE WINDOWS TO HAVE SCREENS).
2. ALL WINDOW DIMENSIONS PERTAIN TO ROUGH OPENINGS (R.O.), CONTRACTOR TO FIELD VERIFY ACTUAL DIMENSIONS FOR WINDOWS
3. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE NFRC LABEL.
4. ALL GLAZING SHALL BE SPECTRALY SELECTIVE LOW E COATED TO MEET TITLE 24 ENERGY REQUIREMENTS.
5. WINDOWS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.D
6. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303
7. EVERY SLEEPING ROOM SHALL HAVE ONE OPERABLE WINDOW FOR EMERGENCY ESCAPE OR RESCUE WITH A MIN. NET CLEAR OPENABLE AREA OF 5.7 SQ. FT, MIN. NET CLEAR OPENABLE HEIGHT OF 24" MIN., NET CLEAR WIDTH OF 20" AND A FIN. SILL HEIGHT OF NOT MORE THAN 44" A.F.F. PER CRC SECTION 3101
8. NOT USED
9. ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 36 OR GREATER.
10. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
11. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL VENTILATION AND NATURAL LIGHT BY MEANS OF VENTILATION / ARTIFICIAL LIGHT. CBC SECTIONS 1203.4 AND 1205.1 AND R303
A) THE MINIMUM NET GLAZED AREA FOR NATURAL LIGHT SHALL NOT BE LESS THAN 8%OF THE FLOOR AREA OF THE ROOM SERVED. CBC SECTION 1205.2
B) THE MINIMUM OPENABLE AREA TO THE OUTDOORS FOR NATURAL VENTILATION SHALL BE 4% OF THE FLOOR AREA BEING VENTILATED. SECTION 1203.4

DOOR SCHEDULE

DOOR	DOOR TYPE	DOOR SIZE WIDTH	DOOR SIZE HEIGHT	DOOR SIZE THICK.	CORE	MATERIAL	FRAME	REMARKS
1	DOUBLE DOOR	6'- 0"	6'- 8"	1-3/4"	GL	VNL/GLASS	VINYL	FRONT - ENTRY HINGED DOOR WITH GLAZING
2	SINGLE DOOR	2'- 6"	6'- 8"	1-3/4"	HLW	WD	WD	BATHROOM DOOR
3	SINGLE DOOR	2'- 6"	6'- 8"	1-3/4"	HLW	WOOD	WD	BATHROOM DOOR
4	SINGLE DOOR	2'- 6"	6'- 8"	1-3/4"	HLW	WOOD	WD	BEDROOM DOOR
5	SINGLE DOOR	2'- 6"	6'- 8"	1-3/4"	HLW	WOOD	WD	BEDROOM DOOR
6	SLIDER	9'- 8"	6'- 8"	1-3/4"	HLW	WOOD	WD	SLIDING CLOSET DOOR
7	SLIDER	9'- 8"	6'- 8"	1-3/4"	HLW	WOOD	WD	SLIDING CLOSET DOOR
8	SINGLE DOOR	2'- 6"	6'- 8"	1-3/4"	HLW	LOUVERED	WD	FAU CLOSET

DOOR NOTES

1. ALL GLASS IN DOORS SHALL BE TEMPERED. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
2. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE "U" VALUE.
3. REFER TO FLOOR PLANS FOR DIRECTION OF DOOR SWING.
4. DOORS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.
5. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303.
6. NOT USED
7. ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 36 OR GREATER.
8. DOORS MAY OPEN TO THE EXTERIOR ONLY IF THE FLOOR OR LANDING IS NOT MORE THAN 1½ INCH LOWER THAN THE DOOR THRESHOLD. SECTION R311.3.1 CRC
9. GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATNG-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE,

DESIGN PATH STUDIO
architecture + design
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P.O. BOX 230165 ENCINITAS CA 92023

project

PRADU
City Of Enicintas

description

Title Sheet
2 Bedroom

date March 27 2019

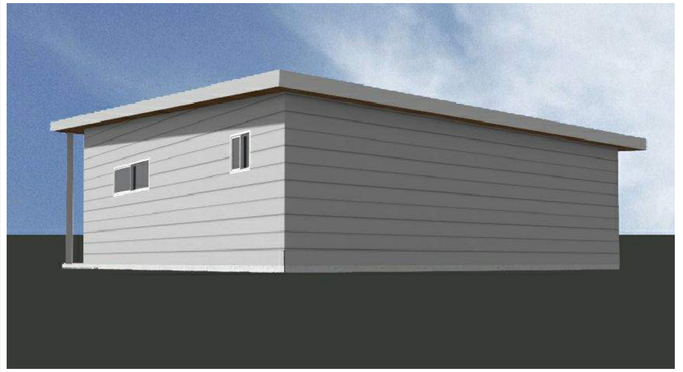
project no. 2018 PRADU

drawn by ysp

sheet no. T1.1

2 Bedroom -SIDING view #1

2 Bedroom -SIDING view #2



2 Bedroom -SIDING view #3

2 Bedroom -STUCCO view #1

2 Bedroom -STUCCO view #2

2 Bedroom -STUCCO view #3

2 Bedroom -STONE VENEER view #1

2 Bedroom -STONE VENEER view #2

2 Bedroom -STONE VENEER view #3

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project

PRADU
City Of Enicintas

description

Exterior Material Options
2 Bedrooms

date March 27 2019

project no. 2018 PRADU

drawn by ysp

sheet no. T1.2

Stormwater Pollution Control BMP Notes
Relative to Construction Activities

Concrete Washout
- 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
- A stabilized construction site access shall be provided for vehicles egress and irgress to prevent tracking dirt off site. This shall include using material such as gravel and/or corrugated steel panels/plates.

Construction Vehicles
- 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
- Erosion control must be provided for all erosive 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.
- 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.
- 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.
- Temporary vegetation must be planted on slopes or where construction is not immediately planned for erosion control purposes. Erosion shall be prevented by planting fast-growing annual and perennial grasses to shield and bind the soil.
- Plant permanent vegetation as soon as possible, once excavation and grading activities are complete.
- Water usage for dust control shall be minimized.

On-site Construction Material Storage
- 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.
- Eliminate or reduce pollution of stormwater from stockpiles kept on-site. Stockpiles may include soil, paring materials, asphalt concrete, aggregate base, etc. Stockpiles shall be located away from concentrated stormwater flows and stormdrain inlets. Stockpiles shall be covered or protected with soil stabilization measures and provided with a temporary sediment barrier around the perimeter at all times.

Training
- 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
- 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 cleaned 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) 714-1195. For information on landfills and to order dumpsters call **EDCO** at (760) 438-4151.
- Pollutants shall be kept off exposed surfaces. Place trash cans and recycling receptacles around the site.
- 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.
- 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.

Right-of-Way Note
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 line.

Utility Note
All utilities serving this site shall be installed underground.

Drainage Note
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.

Earthwork Note
Earthwork, cut or fill, which is over 50 cubic yards, requires an additional Engineering Grading Permit.
Provide earthwork quantities:
____ cubic yards cut, ____cubic yards fill, ____ cubic yards import/export
____ cubic yards over-excavation and re-compaction

Construction Best Management Practices (BMP) Note
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 pervious surface).

Post-Construction Best Management Practices (BMP) Note
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 designed 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.

Grading/Improvement Plans/Permits
If a grading/improvement plan/permit is approved for the project site, it shall supersede all grading, drainage, onsite, offsite, and storm water Best Management Practice improvements contained in these plans in the event of conflict.

Total Area of New Impervious Surfaces = _____
(Increase to building footprint, patios, decks, hardscape, etc.)

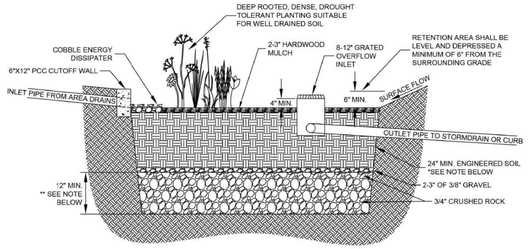
Total Area of Replaced Impervious Surfaces = _____
(Replacement to building footprint, patios, decks, hardscape, etc.)

EXISTING SWIMMING POOL REQUIREMENTS

WHEN A BUILDING PERMIT IS ISSUED FOR THE CONSTRUCTION OF A NEW SWIMMING POOL OR SPA OR THE REMODELING OF AN EXISTING SWIMMING POOL OR SPA AT A PRIVATE SINGLE-FAMILY HOME, THE RESPECTIVE SWIMMING POOL OR SPA SHALL BE EQUIPPED WITH AT LEAST TWO OF THE FOLLOWING SEVEN DROWNING PREVENTION SAFETY FEATURES:
(1) AN ENCLOSURE THAT MEETS THE REQUIREMENTS OF SECTION 115923 AND ISOLATES THE SWIMMING POOL OR SPA FROM THE PRIVATE SINGLE-FAMILY HOME.
(2) REMOVABLE MESH 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.
(3) AN APPROVED SAFETY POOL COVER, AS DEFINED IN SUBDIVISION (D) OF SECTION 115921.
(4) EXIT ALARMS ON THE PRIVATE SINGLE-FAMILY HOME'S DOORS THAT PROVIDE DIRECT ACCESS TO THE SWIMMING POOL OR SPA. THE EXIT ALARM MAY CAUSE EITHER AN ALARM NOISE OR A VERBAL WARNING, SUCH AS A REPEATING NOTIFICATION THAT "THE DOOR TO THE POOL IS OPEN."
(5) A SELF-CLOSING, SELF-LATCHING DEVICE WITH A RELEASE MECHANISM PLACED NO LOWER THAN 54 INCHES ABOVE THE FLOOR ON THE PRIVATE SINGLE-FAMILY HOME'S DOORS PROVIDING DIRECT ACCESS TO THE SWIMMING POOL OR SPA.
(6) AN ALARM THAT, WHEN PLACED IN A SWIMMING POOL OR SPA, WILL SOUND UPON DETECTION OF ACCIDENTAL OR UNAUTHORIZED ENTRANCE INTO THE WATER. THE ALARM SHALL MEET AND BE INDEPENDENTLY CERTIFIED TO THE ASTM STANDARD F2208 "STANDARD SAFETY SPECIFICATION FOR RESIDENTIAL POOL ALARMS," WHICH INCLUDES SURFACE MOTION, PRESSURE, SONAR, LASER, AND INFRARED TYPE ALARMS. A SWIMMING PROTECTION ALARM FEATURE DESIGNED FOR INDIVIDUAL USE, INCLUDING AN ALARM ATTACHED TO A CHILD THAT SOUNDS WHEN THE CHILD EXCEEDS A CERTAIN DISTANCE OR BECOMES SUBMERGED IN WATER, IS NOT A QUALIFYING DROWNING PREVENTION SAFETY FEATURE.
(7) OTHER MEANS OF PROTECTION, IF THE DEGREE OF PROTECTION AFFORDED IS EQUAL TO OR GREATER THAN THAT AFFORDED BY ANY OF THE FEATURES SET FORTH ABOVE AND HAS BEEN INDEPENDENTLY VERIFIED BY AN APPROVED TESTING LABORATORY AS MEETING STANDARDS FOR THOSE FEATURES ESTABLISHED BY THE ASTM OR THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
(B) BEFORE THE ISSUANCE OF A FINAL APPROVAL FOR THE COMPLETION OF PERMITTED CONSTRUCTION OR REMODELING WORK, THE LOCAL BUILDING CODE OFFICIAL SHALL INSPECT THE DROWNING SAFETY PREVENTION FEATURES REQUIRED BY THIS SECTION AND, IF NO VIOLATIONS ARE FOUND, SHALL GIVE FINAL APPROVAL.

THE APPLICANT SHALL PROVIDE A DIMENSIONED AND SCALED SITE PLAN SHOWING PROPERTY LINES, YARDS, DIMENSIONED SETBACKS, EASEMENTS, UTILITIES, STREETS, EXISTING AND PROPOSED BUILDINGS, MINIMUM SEPARATION FROM EXISTING STRUCTURES, AND FUEL MODIFICATION ZONES IF APPLICABLE

A — BIORETENTION DETAIL FOR STANDARD PROJECTS ONLY

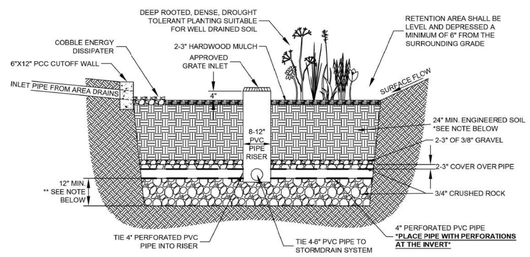


*BIORETENTION "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 24" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

**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.

B — BIORETENTION DETAIL FOR STANDARD PROJECTS ONLY



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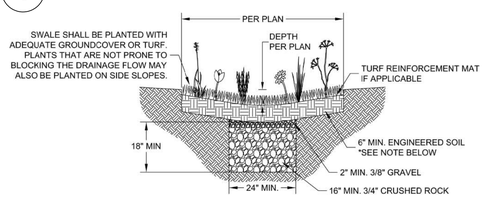
THE EFFECTIVE AREA OF THE BASIN SHALL BE LEVEL AND SHALL BE SIZED BASED ON CITY OF ENCINITAS BMP DESIGN MANUAL CALCULATIONS.

C — VEGETATED SWALE

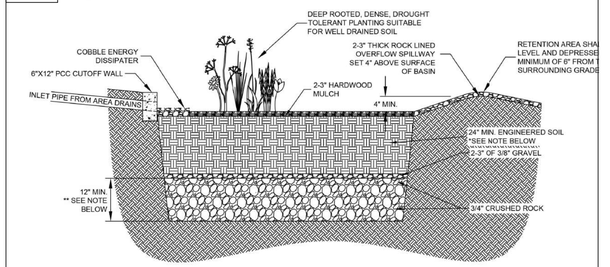


**ENGINEERED SOIL" LAYER SHALL BE MINIMUM 6" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

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.

D — BIORETENTION DETAIL FOR STANDARD PROJECTS ONLY

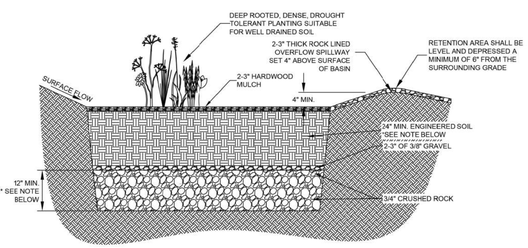


*BIORETENTION "ENGINEERED SOIL" LAYER SHALL BE MINIMUM 24" DEEP "SANDY LOAM" SOIL MIX WITH NO MORE THAN 5% CLAY CONTENT. THE MIX SHALL CONTAIN 50-60% SAND, 20-30% COMPOST OR HARDWOOD MULCH, AND 20-30% TOPSOIL.

**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.

E — BIORETENTION DETAIL FOR STANDARD PROJECTS ONLY



*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.

THE APPLICANT SHALL USE ONE OF THE BMP BIORETENTION OR VEGETATED SWALE DETAILS PROVIDED (OPTIONS A, B, C, D OR E). PLEASE CHECK THE BOX ADJACENT TO THE CORRESPONDING DETAIL LETTER FOR THE DETAIL TO BE USED ON THE PROJECT.

A SIZING CALCULATION IS REQUIRED FOR THE NEW BMP AREA.

FIRE NOTES

1. NEW AND EXISTING BUILDINGS SHALL HAVE APPROVED ADDRESS NUMBERS OR APPROVED BUILDING IDENTIFICATION PLACED IN A POSITION THAT IS PLAINLY LEGIBLE AND VISIBLE FORM THE STREET OR ROAD FRONTING THE PROPERTY. THESE NUMBERS SHALL BE A MINIMUM OF 4 INCHES HIGH WITH A MINIMUM STROKE OF .5 INCHES. WHERE ACCESS IS BY MEANS OF A PRIVATE ROAD AND THE BUILDING CANNOT BE VIEWED FROM THE PUBLIC WAY, A MONUMENT, POLE OR OTHER SIGN OR MEANS SHALL BE USED TO IDENTIFY THE STRUCTURE. CFC SECTION 505.1
2. ALL FIRE APPARATUS ROADS ACCESS ROADS SHALL HAVE AN UNOBSTRUCTED VERTICAL CLEARANCE OF NO LESS THAN 13 FEET 6 INCHES.
3. 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 MINIMUM OF 20 FEET OF UNOBSTRUCTED IMPROVED WIDTH. 2. SINGLE-FAMILY RESIDENTIAL DRIVEWAYS SERVING NO MORE THAN TWO SINGLE-FAMILY DWELLING 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 PACED SURFACE TO PROVIDE ALL-WEATHER DRIVING CAPABILITIES.
- GATED ENTRANCES WITH CARD READERS, GUARD STATIONS OR CENTER MEDIANS, WHICH WILL HAVE SEPARATED LANES OF ONE-WAY TRAFFIC, SHALL BE NOT LESS THAN 14 FEET WIDE PER LANE.
- EXISTING LEGAL LOTS THAT HAVE EASEMENTS 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 ROADWAY IN EXCESS OF 150 FEET IN LENGTH SHALL BE PROVIDED WITH AND APPROVED AREA FOR TURNING AROUND FIRE APPARATUS. ACCESS ROADS SERVING MORE THAN (4) FOUR 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.

4. SECURITY GATES: AN AUTOMATIC GATE ACROSS A FIRE ACCESS ROADWAY OR DRIVEWAY SHALL BE EQUIPPED WITH AN APPROVED EMERGENCY KEY-OPERATED SWITCH OVERRIDING ALL COMMAND FUNCTIONS AND OPENING THE GATE. WHERE THIS SECTION REQUIRES AN APPROVED KEY-OPERATED SWITCH, IT MAY BE DUAL-KEYED OR EQUIPPED WITH DUAL SWITCHES PROVIDED TO FACILITATE ACCESS BY LAW ENFORCEMENT PERSONNEL. (CFC SECTION 503.6 AMENDMENT)

   ALL GATES PROVIDING ACCESS FROM A ROAD TO A DRIVEWAY SHALL BE LOCATED A MINIMUM OF 30 FEET FROM THE NEAREST EDGE OF THE ROADWAY AND SHALL BE AT LEAST TWO FEET WIDER THAN THE WIDTH OF THE TRAFFIC LANE(S) SERVING THE GATE

GENERAL NOTES

1. SEE BUILDING PLANS FOR ALL OTHER DIMENSIONS AND NOTES NOT SHOWN.
2. SEE BUILDING PLANS AND SCHEDULES FOR ALL EXTERIOR DOOR AND WINDOW REFERENCES AND LOCATIONS.
3. YARD SETBACKS ARE TO BE MEASURED FROM THE EXTERIOR WALL FINISH TO THE PROPERTY LINE AND NOT FROM THE OUTSIDE OF THE FOOTING (OR FACE OF STUDS). THE PLANS MUST BE DESIGNED WITH THE WALL FINISH THICKNESS (I.E. 7/8" STUCCO, ETC.) ADDED TO THE PLAN FOR THE SETBACK MEASUREMENT. THE FIELD INSPECTOR WILL ADD THE PLANNED WALL FINISH THICKNESS TO THE FOUNDATION SETBACK.
4. NEW ELECTRIC SERVICE IS TO BE LOCATED - POOLS, SPAS, WALLS, FENCES, PATIO COVERS AND OTHER FREESTANDING STRUCTURES REQUIRE SEPARATE REVIEWS AND PERMITS
5. LANDSCAPE AND IRRIGATION WATER USE SHALL HAVE WEATHER OR SOIL BASED CONTROLLERS
6. ADU WILL BE CONNECTED TO THE PUBLIC SEWER SYSTEM OR WILL PROVIDE A COMPLYING SEPTIC SYSTEM.
7. CAL-OSHA PERMIT IS REQUIRED FOR EXCAVATIONS DEEPER THAN 5' AND SHORING AND UNDERPINNING.
8. A DIMENSIONED SITE PLAN DRAWN TO SCALE SHALL BE PROVIDED 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 PER UNIFORM ADMINISTRATIVE CODE SECTION 302.
9. IF A GRADING PLAN IS REQUIRED, INCORPORATE THE ENTIRE APPROVED GRADING PLAN/IMPROVEMENT PLAN (ALL SHEETS) WITH THE BUILDING PLANS. PROJECTIONS, INCLUDING EAVES, MUST BE AT LEAST 24" FROM PROPERTY LINES.
10. .

GREEN BUILDING CODE NOTES

1. SITE SHALL BE PLANNED AND 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. BMP'S THAT ARE CURRENTLY ENFORCED BY THE CITY ENGINEER MUST BE IMPLEMENTED PRIOR TO INITIAL INSPECTION BY THE BUILDING DEPT.
2. 65 % OF CONSTRUCTION WASTE IS TO BE RECYCLED.
3. VOC'S MUST COMPLY WITH THE LIMITATION LISTED IN SECTION 4.504.3 AND TABLES 4.504.1, 4.504.2, 4.504.3, AND 4.504.4 FOR: ADHESIVES, PAINTS AND COATINGS, CARPET AND COMPOSITION WOOD PRODUCTS.
4. INTERIOR MOISTURE CONTROL AT SLAB ON GRADE FLOORS SHALL BE PROVIDED BY THE SOIL ENGINEER. IF A SOIL ENGINEER HAS NOT PREPARED A SOIL REPORT FOR THIS PROJECT, THE FOLLOWING IS REQUIRED: A 4" THICK BASE OF 1/2" OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR BARRIER IN DIRECT CONTACT WITH CONCRETE, WITH A CONCRETE MIX DESIGN WHICH WILL ADDRESS BLEEDING, SHRINKAGE AND CURLING SHALL BE USED.
5. 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. BUILDING MATERIAL 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 LISTED METHODS LISTED IN CGC SECTION 4.503.3
6. 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 GIVEN TO THE BUILDING DEPT OFFICIAL TO BE FILED WITH THE APPROVED PLANS
7. LANDSCAPE IRRIGATION WATER USE SHALL HAVE WEATHER BASED CONTROLLERS.
8. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION BY ONE OF THE FOLLOWING: A. RETENTION BASIN. 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.
9. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN TO THE JURISDICTION AGENCY THAT REGULATES WASTE MANAGEMENT, PER CGC 4.408.2.
10. THE BUILDER IS TO PROVIDE AN OPERATION MANUAL (CONTAINING INFORMATION FORM MAINTAINING APPLIANCES, ETC.) FOR THE OWNER AT THE TIME OF FINAL INSPECTION. CGC 4.410.0
11. DURING CONSTRUCTION, ENDS OF DUCT OPENINGS ARE TO BE SEALED, AND MECHANICAL EQUIPMENT IS TO BE COVERED. CGC 4.504.1
12. BATHROOM FANS SHALL BE ENERGY STAR RATED, VENTED DIRECTLY TO THE OUTSIDE AND CONTROLLED BY A HUMIDISTAT.

DIVISION 2 - SITEWORK

1. SITE PREPARATION
PROJECT IS TO BE STAKED OUT FOR OWNER APPROVAL BEFORE FOR EARTHWORKIS TO BEGIN.

2. SITE CLEARING
CONTRACTOR WILL VERIFY WITH OWNER ALL PLANTING TO BE REMOVED PRIOR TO STARTING WORK.

3. LINES AND LEVELS
THE CONTRACTOR WILL VISIT THE SITE AND EVALUATE GRADE CONDITION. FOR BIDDING PURPOSES, THE CONTRACTOR WILL CALCULATE HIS OWN CUT AND FILL QUANTITIES BASED ON THE SITE PLAN.

4. SHORING IS TO BE PROVIDE AS REQUIRED

5. EARTH WORK
a. REMOVE AND RECOMPACT LOOSE TOPSOIL AND SLIGHTLY ALTER THE EXISTING TOPOGRAPHY. ALL GRADING SHOULD BE PERFORMED IN ACCORDANCE WITH THE CITY OF ENCINITAS GRADING ORDINANCE

b. THE CONTRACTOR IS TO VERIFY THE LOCATION OF UTILITY SERVICE IN THE AREA PRIOR TO EXCAVATION.

c. UNLESS OTHERWISE INDICATED ON THE DRAWINGS, ALL FINISH GRADES ARE TO SLOPE AWAY FROM THE BUILDING AND EXTERIOR PAVING 1/4" PER FOOT MINIMUM FOR A MINIMUM DISTANCE OF 5'-0". LOT DRAINAGE TO AVOID POOLING AT BUILDING.

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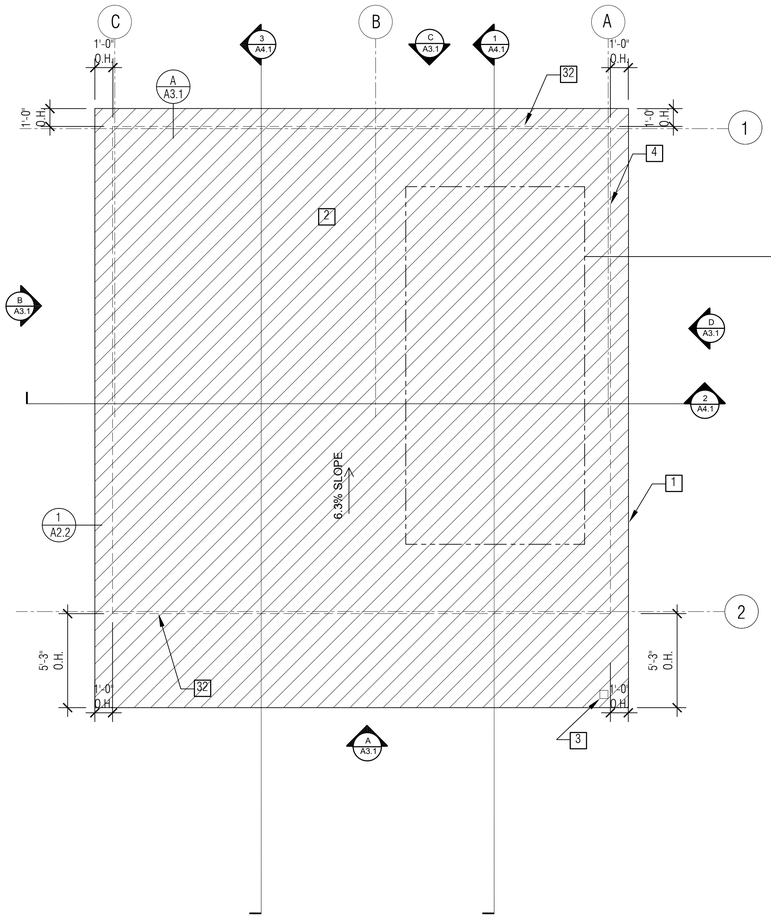
project

PRADU
City Of Enicintas

description

Site Information
2 Bedroom

date	March 27 2019
project no.	2018 PRADU
drawn by	ysp
sheet no.	AS.1



CLASS A ROOF ASSEMBLY

A CLASS A ROOF ASSEMBLY SHALL BE INSTALLED. IF THE APPLICANT DEVIATES FROM THE ROOF SPECIFICATIONS ON SHEET T1.1 THE APPLICANT SHALL PROVIDE A COPY OF THE ICC/UL LISTING

ICC NUMBER_____ UL NUMBER_____

SOLAR READY ROOF AREA

MIN. DIMENSION > 5FT. MIN. SF > 180SF
PER CALIFORNIA ENERGY CODE
200 SF PROVIDED
ROOF 1,000 SQFT/ 15%=150 SQFT REQUIRED

ROOF VENTING AREA - NON RATED EAVE

1 SF OF ROOF VENTING PER 150 SF OF ENCLOSED AREA OR ENCLOSED RAFTER AREA

FLOOR ENCLOSED RAFTER AREA =745 SF

VENTILATION AREA REQUIRED: 5 SF
950 SF/150 SF= 5 SF

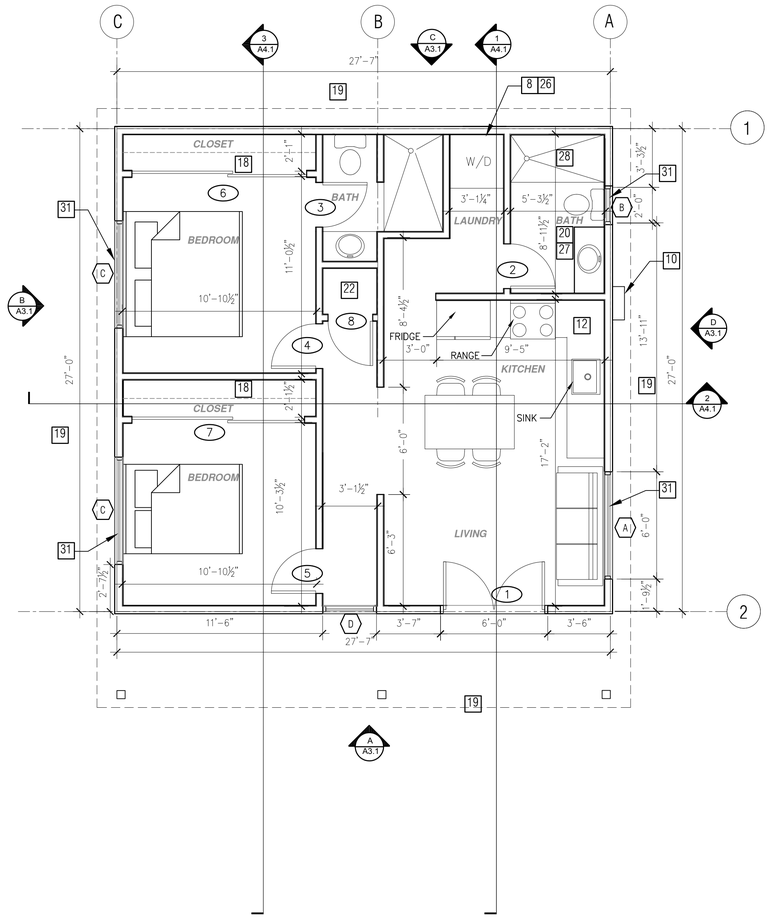
VENTILATION AREA PROVIDED: 6.75 SF
3" DIA HOLE X 2 PER RAFTER BAY

NON VENTED - FIRE RATED EAVE

PER SECTION R806.5/EM3.9.6:
a. IF 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 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.

PROJECTIONS

PROJECTIONS, INCLUDING EAVES, MUST BE AT LEAST 24" FROM PROPERTY LINE



Roof Plan - 2 Bedrooms

1/4"=1'-0" 935 S.F.

Floor Plan - 2 Bedroom

1/4"=1'-0" 745 S.F.

KEYNOTES

1 LINE OF ROOF OVERHANG
2 CLASS A ROOFING MATERIAL
3 SUPPORT POST BELOW
4 LINE OF WALLS BELOW
5 BEAMS PER STRUCTURAL DRWGS.
6 NOT USED
7 NOT USED
8 VENT DRYER THROUGH WALL
9 NOT USED
10 NEW TANKLESS WATER HEATER
12 36" HIGH COUNTER
13 NOT USED
14 NOT USED
15 NOT USED
16 NOT USED
17 NOT USED
18 CLOSET SHELF AND POLE
19 SLOPE SURFACE AWAY FROM BUILDING
20 PER SECTION 301.1.1 CALGREEN AND CIVIL CODE 1101.3(c), ALL PLUMBING FIXTURES SHALL BE COMPLIANT WATER -CONSERVING PLUMBING FIXTURES.
21 MECHANICAL DUCT CHASE
22 CLOSET TO BE SIZED PER HOMEOWNER REQUIREMENTS OR PER CURRENT MECHANICAL CODE WHEN USED FOR HVAC
23 NOT USED
24 NOT USED
25 NOT USED
26 DRYER VENT TERMINATION ON EXTERIOR WALL TO BE A MINIMUM OF 3 FT FROM ANY OPENING
27 WATER CONSERVING FIXTURES: NEW WATER CLOSETS SHALL USE NO MORE THAN 1.28 GALLONS OF WATER PER FLUSH, LAVATORIES MAY NOT EXCEED 1.2 GPM, KITCHEN FAUCETS MAY NOT EXCEED 1.8 GPM, AND SHOWERS MAY NOT EXCEED 1.8 GPM OF FLOW.
28 WALL COVERING SHALL BE CEMENT PLASTER, TILE OR APPROVED EQUAL TO 72" ABOVE DRAIN AT SHOWERS OR TUB WITH SHOWERS. MATERIALS OTHER THAN STRUCTURAL ELEMENTS ARE TO BE MOISTURE RESISTANT. CRC R307.2
30 NOT USED
31 VINYL WINDOW MUST HAVE A FRAME AND SASH COMPRISED OF VINYL MATERIAL WITH WELDED CORNERS, METAL REINFORCEMENT IN THE INTERLOCK AREA, AND CONSTRUCTED OF MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE.
32 RAFTER VENTS TO MEET REQUIRED VENTILATION TO ENCLOSED RAFTER SPACES. MAX.¼", MIN.⅛" OPENING SIZE ON VENT SCREEN WITH COOROSION-RESISTANT WIRE SCREEN MATERIAL. 1 SF OF VENTING PER 150 SF OF ENCLOSED RAFTER AREA IN NON-FIRE RATED CONSTRUCTION

GENERAL NOTES

1. ALL DIMENSIONS TO FACE OF STUD, U.N.O.
2. ALL DOORS SHOULD BE 3 1/2" FROM NEAREST INTERSECTING WALL AT HINGED SIDE, U.N.O.
3. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. CONTRACTOR TO VERIFY ALL DIM. PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY OWNER OF ANY DISCREPANCIES.
4. REFER TO FRAMING PLANS AND SECTIONS FOR CLARIFICATION AND DIM. NOT SHOWN .
5. ALL ROOF DRAIN PIPES TO BE MIN. 2"
STORM DRAINAGE SYSTEM
ROOF GUTTERS:
STYLE A , INSTALLED AND DESIGNED IN ACCORDANCE WITH SMACNA MANUAL, PLATE #1,#2 & #3,GUTTER, PAGE 6 - 11, WIDTH AS REQUIRED TO HANDLE THE AMOUNT OF ROOF WATER FOR MAXIMUM STORMS, SMACNA CHART #2, PAGE #2.

GUTTER: SIZE; PAGES 1,2, 3, 4, 5 &6, CHARTS#1,#2,#3,#4,#5#6 & #7
STYLE; PLATE #2, STYLE A, PAGE 9
EXPANSION;PLATE #6, PAGE 16 &17
HANGING; PLATE #19, FIG. C, PAGE 43.

DOWN SPOUTS:
PLAIN RECTANGULAR.AS REQUIRED BY SMACNA MANUAL CHART #3, PAGE #3. SEE ARCHITECT FOR LOCATIONS OF DOWN SPOUTS. ALL DOWN SPOUTS ARE TO BE DESIGNED TO HANDLE THE AMOUNT OF ROOF WATER FOR MAXIMUM STORMS, SMACNA CHART #2, PAGE #2. DOWN SPOUTS ARE TO DEPOSIT DIRECTLY OVER A NDS 6 INCH SQUARE, MODEL 641 OR APPROVED EQUAL.(SEE SECTION 02710 MORE INFORMATION)
6. TRANSITION OF FLOOR MATERIALS OCCURRING IN OPENINGS WITH DOORS TO BE LOCATED UNDER THE CENTER OF THE DOOR IN THE CLOSED POSITION. TRANSITION OF FLOOR MATERIAL OCCURRING WITH NO DOOR TO BE LOCATED TO ALIGN WITH THE FACE OF THE PARTITION, U.O.N
7. DIFFUSERS AND GRILLS TO MATCH COLOR OF SURFACE AT WHICH THEY ARE MOUNTED, U.O.N.
8. FLOOR FINISH TO CONTINUE UNDER MILLWORK WHERE FLOOR IS VISIBLE (I.E. TRASH, RECYCLING, ECT.) 8. SILICON SEALANT AT GLAZING TO BE CLEAR, U.O.N.
9. PLUMBING, ELECTRICAL, AND SPRINKLER EQUIPMENT, IF REQUIRED TO BE PAINTED TO MATCH COLOR OF ADJACENT SURFACE.
10. NOT USED
11. ALL FINISH MATERIAL MUST MEET ALL APPLICATION FIRE, LIFE SAFETY, AND BUILDING CODES.
12. OPERATION AND MAINTENANCE MANUAL: THE BUILDER IS TO PROVIDE AN OPERATION MANUAL (CONTAINING INFORMATION FOR MAINTAINING APPLIANCES, ETC.) FOR THE OWNER AT THE TIME OF FINAL INSPECTION.
13. WEEP SCREED FOR STUCCO AT THE FOUNDATION PLATE LINE SHALL BE A MIN. OF 4" ABOVE THE EARTH OR 2" ABOVE PAVED AREAS. CRC R703.7.2.1, CBC 2512.1.2
14. FASTENERS AND CONNECTIONS (NAILS, ANCHORS BOLTS ECT) IN CONTACT WITH PRESERVATIVE -TREATED WOOD SHALL BE OF HOT -DIPPED ZINC-COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. (CRC R317.3, CBC 2304.10.5.1)
15. ANCHOR BOLTS SHALL INCLUDE STEEL PLATE WASHERS A MIN. OF 0.229" X 3" X 3" IN SIZE, BETWEEN SILL PLATE AND NUT. (CRC R602.11.1, CBC 2308.3.2 ACCEPTANCE ALTERNATIVE SDPWS 4.3.6.4.3)
16. FUTURE WATER HEATERS AND PLUMBING FIXTURES SHALL MEET THE REQUIREMENTS OF SECTION 2-5314 AND TABLE 2-53G, TITLE 24, C.A.C.
17. 15, 20 AND 30 AMP. RECEPTACLE OUTLETS SHALL BE INSTALLED WITH CENTERS NOT LESS THAN 15" ABOVE THE FLOOR.

LEGEND

SECTION CUT 1 KEYNOTE
ELEVATION CALLOUT X DOOR SYMBOL
DETAIL DRAWING REF. 1 WINDOW SYMBOL
ELEVATION MARKER X'-X" T TEMPERED GLASS
ROOFING

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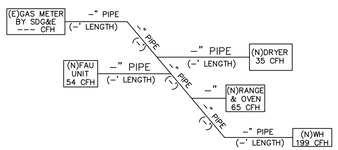
P.O. BOX 230165 ENCINITAS CA 92023

project
PRADU
City Of Enicintas

description
Floor Plan/
Roof Plan
2 Bedroom

date March 27 2019
project no. 2018 PRADU
drawn by ysp
sheet no. A1.1

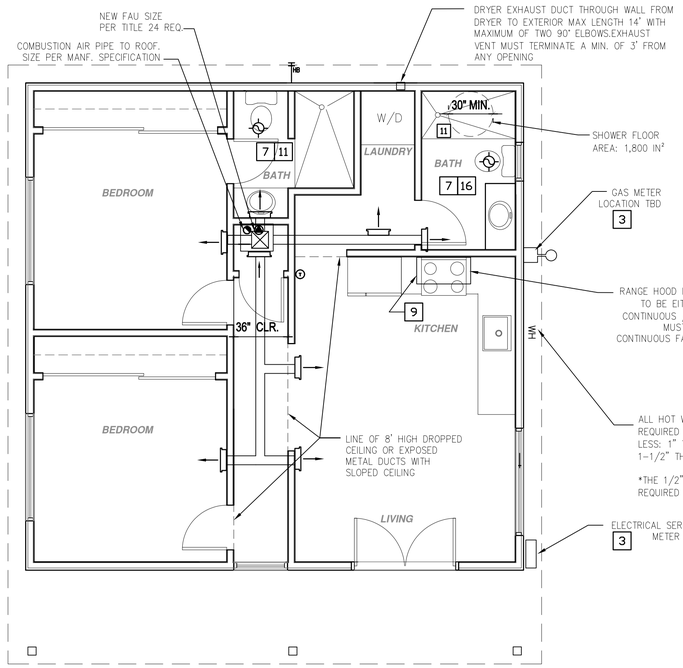
NOTE: EXISTING GAS SERVICE AND METER SIZE TO BE PROVIDED BY HOMEOWNER AND UPDATED ISOMETRIC LAYOUT PROVIDED BY DESIGNER OF CHOICE. CFH & BTUS PROVIDED AS SUGGESTED LOADS. OWNER/DESIGNER IS TO PROVIDE ACCURATE INFORMATION.



GAS PIPE ISOMETRIC LAYOUT

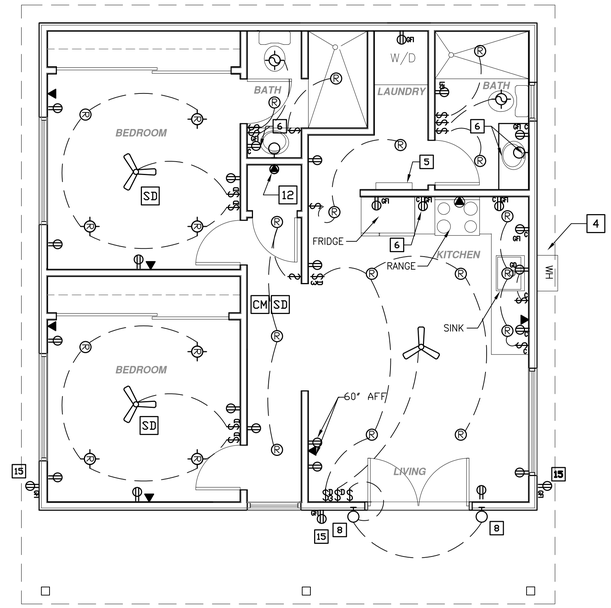
GAS CALCULATIONS			
APPLIANCE	QTY	CFH	TOTAL CFH
(NEW) DRYER	1	35	35
(NEW) OVEN & RANGE	1	65	65
(NEW) WATER HEATER	1	199	199
(NEW) FURNACE UNIT	1	54	54
TOTAL GAS LOAD FOR HOUSEHOLD APPLIANCES = 353,000 BTU/h 353 CFH			

PIPE SIZE SCHEDULE 40 METALLIC PIPE 125' LENGTH PER TABLE 1216.2(1) CALIFORNIA PLUMBING CODE						
SIZE	½"	¾"	1"	1¼"	1½"	2"
CFH	44	92	173	355	532	1,020



MECHANICAL / PLUMBING PLAN

1/4"=1'-0"



ELECTRICAL PLAN

1/4"=1'-0"

KEYNOTES

1. NOT USED
2. WALL HEATER
3. NEW ELECTRICAL SERVICE AND GAS METER LOCATED AS NEEDED
4. 120 V OUTLET FOR NEW TANKLESS WATER HEATER WITHIN 3' OF WATER HEATER.
5. SUB PANEL LOCATION
6. OUTLET AT COUNTER HEIGHT - SHALL COMPLY WITH CEC ARTICLE 210.52(C): IN KITCHENS A RECEPTACLE OUTLET SHALL BE INSTALLED AT EACH COUNTER SPACE 12" OR WIDER; SHALL BE INSTALLED SO THAT NO POINT ALONG THE WALL IS MORE THAN 24"; ISLAND IN PENINSULAR COUNTERTOPS 12" X 24" LONG (OR GREATER) SHALL HAVE AT LEAST ONCE RECEPTACLE
7. WATER CONSERVING FIXTURES: NEW WATER CLOSETS SHALL USE NO MORE THAN 1.28 GAL. OF WATER PER FLUSH, LAVATORIES LIMITED TO 1.2 GPM, KITCHEN FAUCETS NOT TO EXCEED 1.8 GPM, AND SHOWERS NOT EXCEED 1.8 GPM
8. OUTDOOR LIGHTING FIXTURES ARE REQUIRED TO BE HIGH EFFICACY OR CONTROLLED BY A COMBINATION PHOTOCONTROL / MOTION SENSOR.
9. EXHAUST HOOD ABOVE/ TO BE SMOOTH METALIC INTERIOR SURFACE (CMC 504.3)
10. NOT USED
11. CONTROL VALVES IN SHOWERS, BATHTUBS, AND BIDETS MUST BE PRESSURE BALANCED OR THERMOSTATIC MIX VALVES
12. SPECIAL PURPOSE OUTLET FOR HEATER
13. NOT USED
14. WATER METER CONNECTION
15. WEATHER RESISTANT TYPE RECEPTACLES
16. CLEARANCE FOR WATER CLOSET TO BE A MIN. OF 24" IN FRONT, AND 15" FROM ITS CENTER TO ANY SIDE WALL OR OBSTRUCTION. (CPC 402.5)

GENERAL NOTES:

1. RECEPTACLE OUTLET LOCATIONS WILL COMPLY WITH CEC ARTICLE 210.52. TAMPER RESISTANT RECEPTACLE OUTLET LOCATIONS SHALL COMPLY W/ NEC ART. 210-52(a).
2. ALL BRANCH CIRCUITS WILL BE ARC FAULT CIRCUIT PROTECTED PER NEC ART. 210-12(b).
3. BATHROOM CIRCUITING SHALL BE EITHER: a) A 20 AMPERE CIRCUIT DEDICATED TO EACH BATHROOM. b) AT LEAST ONE 20 AMPERE CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS PER NEC ART. 210-11(c)3.
4. ALL 125-VOLT, SINGLE-PHASE, 15- AND 20- AMPERE RECEPTACLES INSTALLED IN BATHROOMS, GARAGES, BASEMENTS, OUTDOORS, KITCHEN COUNTERS AND AT WET BAR SINKS SHALL BE GFCI PROTECTED PER NEC ART. 210-8.
5. SMOKE DETECTORS MUST BE PERMANTLY WIRED
6. MECHANICAL SUB-CONTRACTOR SHALL SIZE A.C./ FAU AND SUBMIT SPECS WITH BID PER CMC 303.1.
7. PER LIGHTING MEASURES 150(K)4 N T-24, THE BEDROOMS, HALLWAY, LIVING ROOM AND OFFICE ARE REQUIRED TO HAVE ANY INSTALLED FIXTURE TO BE ON A DIMMER SWITCH OR THE FIXTURE NEEDS TO BE HIGH EFFICACY.
8. OUTDOOR LIGHTING FIXTURES ARE REQUIRED TO BE HIGH EFFICACY OR CONTROLLED BY A COMBINATION PHOTOCONTROL / MOTION SENSOR.
9. NOT USED
10. IN NEW CONSTRUCTION, REQUIRED SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHERE SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACK-UP. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVERCURRENT PROTECTION.
11. WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED, THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL THE ALARMS IN THE INDIVIDUAL DWELLING UNIT. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED.
12. WHERE WATER CLOSET COMPARTMENT IS INDEPENDENT OF THE BATHROOM OR SHOWER AREA, A FAN WILL BE REQ. IN EACH AREA. BATHROOMS SHALL HAVE AN EXHAUST FAN WITH HUMIDITY CONTROL SENSOR, MIN. 50 CFM CAPACITY. (CRCR303.3.)
13. ROOMS CONTAINING BATHTUBS, SHOWERS, SPAS AND SIMILAR FIXTURES SHALL BE PROVIDED WITH AN EXHAUST FAN WITH HUMIDITY CONTROL SENSOR HAVING A MIN. CAPACITY OF 50 CFM DUCTED TO TERMINATE OUTSIDE THE BLDG. (CRC R303.3, CAL GREEN 4.505.1, CBC 1203 .5.2.1, CMC 402.5
14. SUPPLY AND RETURN AIRDUCTS TO BE INSULATED AT A MIN. OF R-6. (CAL ENERGY CODE TABLE 150.1-A)
15. WHERE WHOLE HOUSE FANS ARE USED IN BATHROOM AREAS, THE FAN MUST RUN CONTINUOUSLY AND SHALL NOT BE TIED TO HUMIDITY CONTROL SENSOR. (CAL GREEN 4.506.1)
16. ENVIRONMENTAL AIR DUCTS SHALL TERMINATE MIN. 3 FEET FROM PROPERTY LINE OR OPENINGS INTO BLDG., AND 10' FROM A FORCED AIR INLET. (CMC 502.2.1)
17. ABS AND PVC DRAIN WASTE AND VENT PIPING MATERAIL IS LIMITED TO 2 STORIES MAX. (CPC 701.2(2) (A) AND 903.1.1)
18. ABS AND PVC ROOF AND DECK DRAIN MATERIAL IS LIMITED TO 2 STORIES MAX. (CPC 1101.4)
19. ALL HOSE BIBBS ARE TO HAVE VACUUM BREAKERS. (CPC603.5.7)
20. THE MAX. AMOUNT OF WATER CLOSETS ON A 3" HORIZONTAL DRAINAGE SYSTEM LINE IS 3 (CPC TABLE 703.2)
21. THE MAX. AMOUNT OF WATER CLOSETS ON A 3" VERTICAL DRAINAGE LINE IS 4. (CPC TABLE 703.2)
22. PROVIDE GAS LINES WITH A MN. CAPACITY OF 200,000BTU FOR WATER HEATER. (CAL ENERGY CODE 150.0(N)).
23. PROVIDE A CONDENSATE DRAIN NO MORE THAN 2" ABOVE THE BASE OF THE WATER HEATER SPACE. (CAL ENERGY CODE 150.0 (N).
24. INSULATE ALL HOT WATER PIPES. CAL ENERGY CODE 150.0(j) (2), and CPC 609.11)
25. ISOLATION VALVES ARE REQ. FOR TANKLESS WATER HEATERS ON THE HOT AND COLD SUPPLY LINES WITH HOSE BIBBS ON EACH VALVE, TO FLUSH THE HEAT EXCHANGER. (CAL ENERGY CODE 110.3(7).

LEGEND

LIGHTING

- CEILING, RECESSED, ZERO CLEARANCE IC RATED LED BULB
- WALL MOUNTED LIGHT
- JUNCTION BOX FLUSH CEILING MOUNTED

MECHANICAL

EXHAUST FAN: MINIMUM 50 CFM TO BE DUCTED TO THE EXTERIOR AND SHALL PROVIDE FIVE AIR CHANGES PER HOUR; SECTION 1203.3. CFM AND NOISE RATING MAXIMUM 3 SONE FOR INTERMITTENT USE. SHALL BE ENERGY STAR RATED AND CONTROLLED BY A HUMIDISTAT CAPABLE OF AN ADJUSTMENT BETWEEN 50-80% HUMIDITY.

FIRE DETECTION

SD — SMOKE DETECTORS PER SECTION R314 DETECTORS SHALL BE PERMANENTLY WIRED WITH BATTERY BACKUP. SOUND AN ALARM AUDIBLE IN ALL SLEEPING AREAS. ALARM DEVICES SHALL BE INTERONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL O F THE ALARMS IN THE UNIT.

SHALL BE COMPLY WITH THE FOLLOWING:

- AT LEAST 3' FROM THE TIP OF THE BLADE OF A CEILING-MOUNTED FAN
- NOT LESS THAN 3' FROM THE DOOR OPENING OF A BATHROOM
- AT LEAS 20' FROM A COOKING APPLIANCE
- AT LEAST 3' FROM SUPPLY REGISTERS OF A HEATING /COOLING SYSTEM

CM — CARBON MONOXIDE ALARM PERMANENTLY WIRED WITH BATTERY BACKUP PER SECTION R315. ALARMS SHALL BE INTERONNECTED IN SUCH A MANNER THAT THE ACTUATION OF ONE ALARM WILL ACTIVATE ALL O F THE ALARMS IN THE UNIT.

POWER/DATA

- TAMPER RESISTANT RECEPTACLE WALL MOUNTED, 110 V DUPLEX U.O.N.
- GFI = WATER PROOF GFCI
- CT = COOKTOP/ GRILL 220 V
- O = OVEN 220 V
- MW = MICROWAVE 110 V
- GD = GARBAGE DISPOSAL 110 V
- R = RANGE 220V
- C = COUNTER HEIGHT 6" ABV COUNTER
- PHONE / DATA / MEDIA
- CEILING, WATERPROOF OUTLET
- FLOOR MOUNTED DUPLEX RECEPTACLE, VERIFY LOCATION IN FIELD.
- SPECIAL PURPOSE CONNECTION (VOLTAGE SHALL MATCH APPLIANCE REQ.)
- SUB PANEL

SWITCHING

- $ — SWITCH, MOUNT AT 43" AFF
- $3 — THREE-WAY SWITCH
- $4 — FOUR-WAY SWITCH
- $D — DIMMER SWITCH
- $C — MOUNT 6" ABV COUNTER

MISC.

- CEILING FAN/LIGHT COMBO
- CIRCUIT WIRING
- HOSE BIB
- GAS STUB OUT

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project

PRADU
City Of Enicintas

description

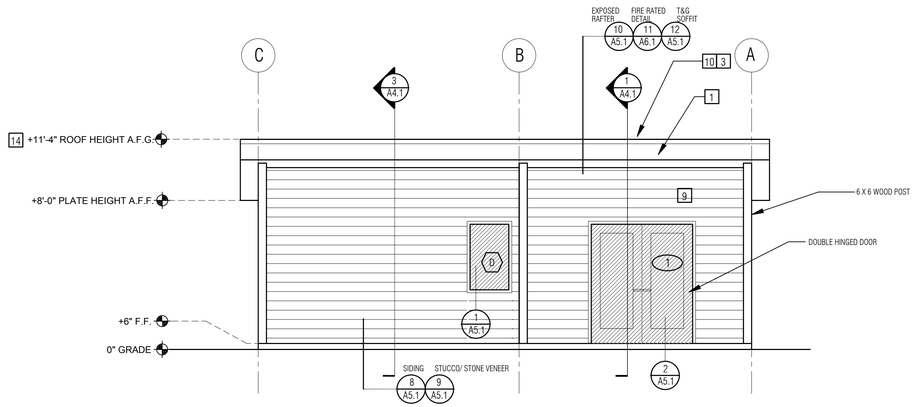
Mechanical/ Plumbing/ Electrical

date March 27 2019

project no. 2018 PRADU

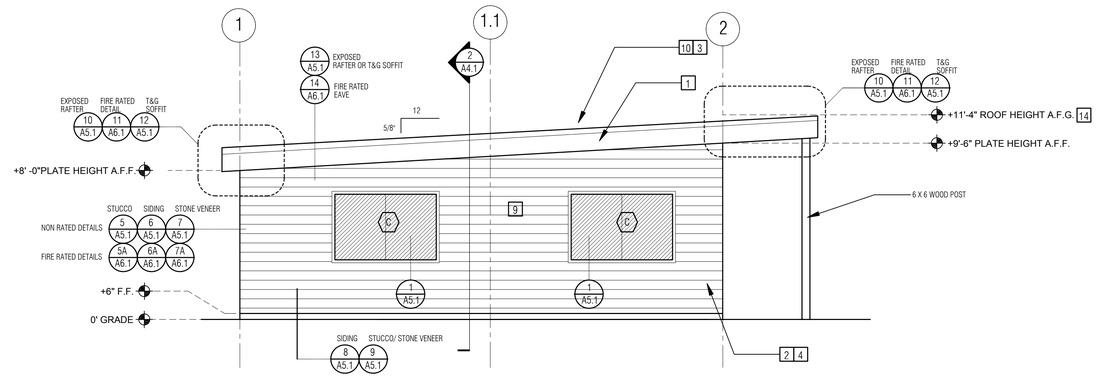
drawn by ysp

sheet no. A2.1



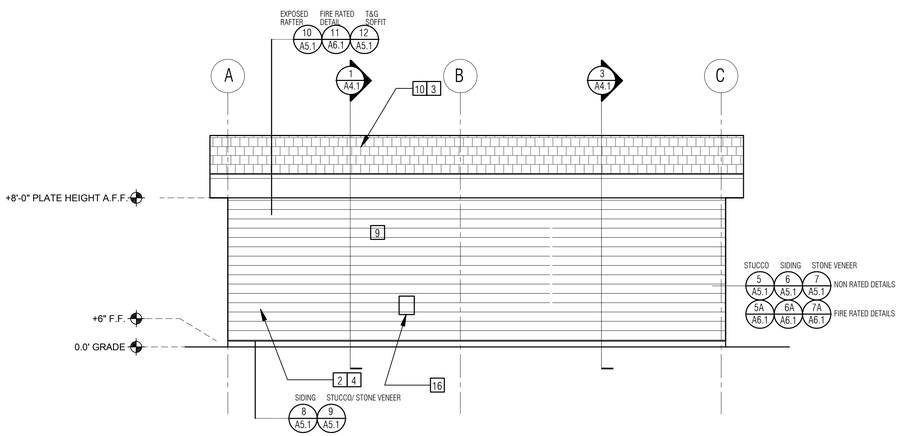
A 2 Bedroom - Front Elevation

1/4"=1'-0"



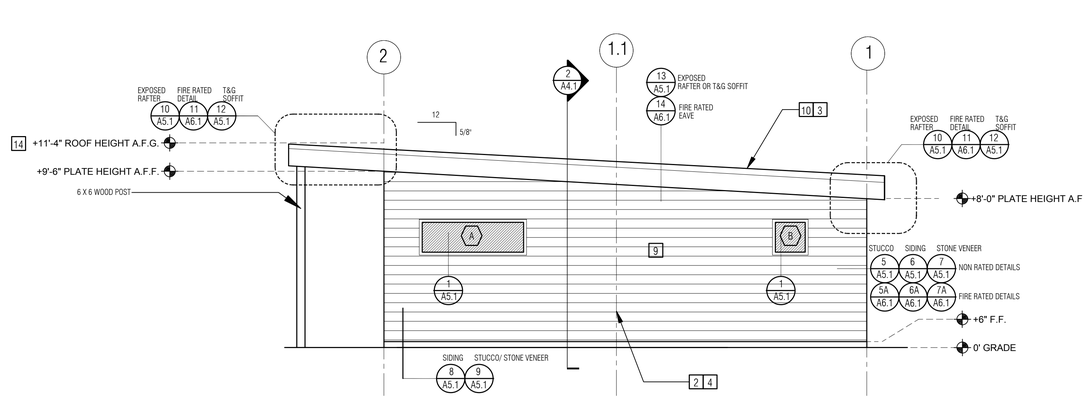
B 2 Bedroom - Side Elevation

1/4"=1'-0"



C 2 Bedroom - Rear Elevation

1/4"=1'-0"



D 2 Bedroom - Side Elevation

1/4"=1'-0"

KEYNOTES

1. FASCIA/RAFTERS PER PLAN SEE FRAMING
2. 2X4 STUDS @ 16" O.C.
3. R30 CEILING INSULATION
4. R15 WALL INSULATION
5. NOT USED
6. NOT USED
7. NOT USED
8. 2x6 STUDS @ 16" O.C.
9. SIDING/ STUCCO/ STONE VENEER: SEE DETAILS ON SHEET A5.1 OR SHEET A6.1 FOR FIRE RATED DETAILS
10. CLASS A ROOFING: STANDING SEAM METAL OR TORCH DOWN PER MANUFACTURERS DETAILS
11. NOT USED
12. NOT USED
13. IGNITION-RESISTANT MATERIAL TO BE 5/8" NON-COMBUSTIBLE CEMENTITIOUS MATERIAL
14. HEIGHT IS MEASURED AT FINISH ROOF LINE, FROM EXISTING OR PROPOSED FINISHED GRADES (WHICHEVER IS LOWER)
15. NOT USED
16. DRYER VENT TERMINATION (MINIMUM OF 3 FT FROM ANY OPENING) SEE A2.1 MECHANICAL PLAN

GENERAL NOTES

1. ALL TOP OF ROOF ELEVATIONS TO FINISH FACE, U.N.O.
2. ALL DOORS SHOULD BE 3 1/2" FROM NEAREST INTERSECTING WALL AT HINGED SIDE, U.N.O.
3. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. CONTRACTOR TO VERIFY ALL DIM. PRIOR TO CONSTRUCTION AND IMMEDIATELY NOTIFY OWNER OF ANY DISCREPANCIES.
4. REFER TO FRAMING PLANS AND SECTIONS FOR CLARIFICATION AND DIM.
5. SEE SCHEDULE FOR DOOR AND WINDOW INFORMATION AND HEIGHTS

LEGEND

- SECTION CUT
- 1 KEYNOTE
- EXTERIOR FINISH (VARIES)
- ELEVATION CALLOUT
- X DOOR SYMBOL
- GLAZING
- DETAIL DRAWING REF.
- 1 WINDOW SYMBOL
- ROOFING
- X'-X" ELEVATION MARKER
- T TEMPERED GLASS

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PRADU
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description

Exterior Elevations
2 Bedrooms

date March 27 2019

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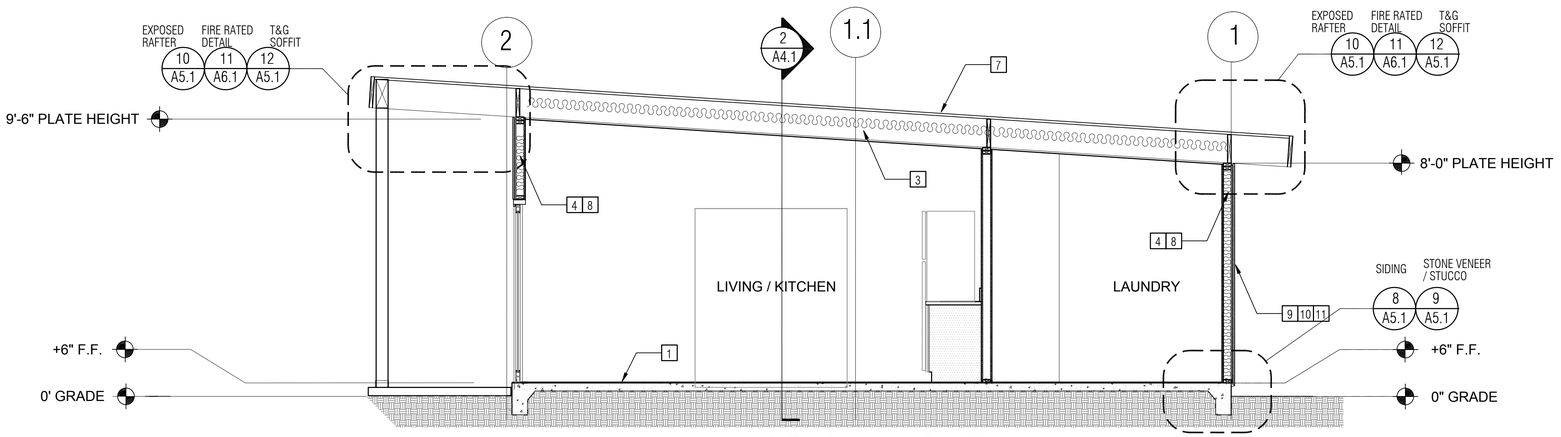
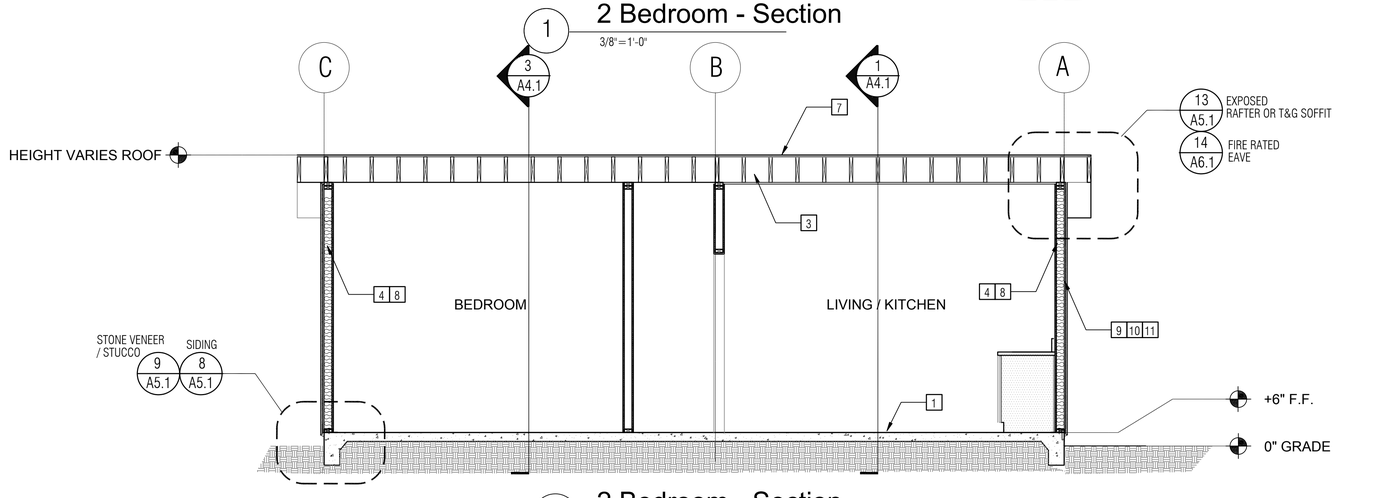
sheet no. A3.1



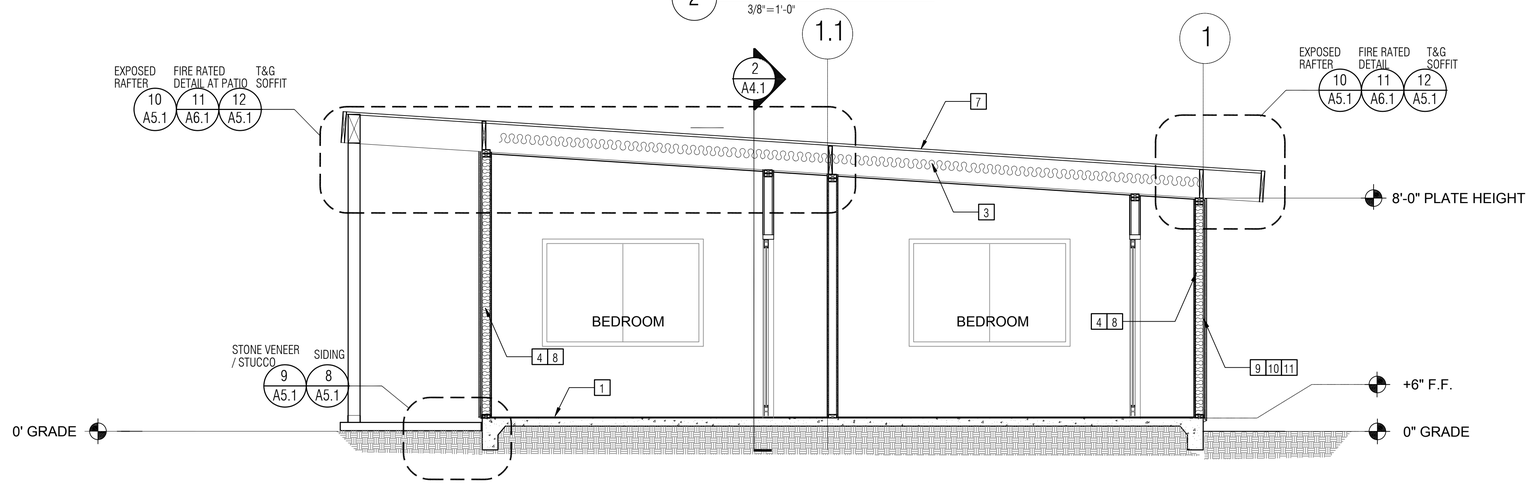
2 Bedroom - Section

3/8"=1'-0"



2 Bedroom - Section

3/8"=1'-0"



2 Bedroom - Section

3/8"=1'-0"

KEYNOTES

1	CONC. SLAB ON GRADE SEE STRUCTURAL
2	NOT USED
3	R30 CEILING INSULATION
4	R15 WALL INSULATION
5	NOT USED
6	NOT USED
7	MINIMUM CLASS A ROOF ASSEMBLY
8	2x STUDS @ 16" O.C.
9	SIDING - OWNER SPECIFY (FOR FIRE RATED DETAIL 6A/A6.1)
10	STUCCO - OWNER SPECIFY (FOR FIRE RATED DETAIL 5A/A6.1)
11	STONE VENEER (FOR FIRE RATED DETAIL 7A/A6.1)
12	NOT USED
13	IGNITION-RESISTANT MATERIAL TO BE 5/8" NON-COMBUSTIBLE CEMENTITIOUS MATERIAL
14	NOT USED
15	NOT USED
16	DRYER VENT TERMINATION (MINIMUM OF 3 FT FROM ANY OPENING)

GENERAL NOTES

1. ALL DIMENSIONS TO FACE OF FRAMING, U.N.O.

2. ALL DOORS SHOULD BE 3 1/2" FROM NEAREST INTERSECTING WALL AT HINGED SIDE, U.N.O.

3. WRITTEN DIMENSIONS TO PREVAIL OVER SCALING OF DRAWINGS. SUBCONTRACTOR TO VERIFY ALL DIM. PRIOR TO CONSTRUCTION

4. REFER TO PLANS FOR CLARIFICATION OF DIM.

5. SEE SCHEDULE FOR DOOR AND WINDOW INFORMATION AND HEIGHTS

6. METALS
SEE PLANS AND DETAILS FOR LOCATIONS, QUANTITY AND CONFIGURATION OF MISCELLANEOUS IRON AND STEEL WORK INCLUDING ASSORTED CLIPS, BRACKETS ANGLES, STRAPS, POST ANCHORS AND LIKE ITEMS.
FURNISH AND INSTALL ALL SUCH ITEMS NECESSARY TO MAKE A COMPLETE INSTILLATION WHETHER OR NOT SPECIFICALLY DETAILED OR NOTED ON THE DRAWINGS. ALL EXTERIOR METAL AND HARDWARE IS TO BE GALVANIZED. STEEL IS TO BE ASTM A3.

7. ALL VENTS ARE TO BE STAINLESS STEEL MESH SIZED AS TO NOT ALLOW ANY INSECTS TO PENETRATE THROUGH.

8. FRAMER IS TO LAYOUT CEILING JOISTS/ROOF RAFTERS TO ACCOMMODATE RECESSED LIGHTS EXHAUST FANS OR OTHER ELECTRICAL/MECHANICAL FIXTURES.

9. WOOD SOFFIT/CEILING, SIDING & TRIM
ALL NAILS, FASTENERS AND HARDWARE MUST BE STAINLESS STEEL. NUMBER OR TOP-QUALITY, HOT-DIPPED GALVANIZED. STAPLES ARE NOT PERMITTED

10. INSULATION
THERMAL INSULATION IS TO BE FOIL BACKED BATT INSULATION WITH AN R
FACTOR NOT LESS THAN R-15 FOR WALLS AND AN R-30 FOR CEILINGS
@ BATHROOMS, LAUNDRY ROOM AND MASTER BED/BATHROOMS ARE TO
BE PROVIDED WITH SOUND INSULATION FLOOR, WALLS AND CEILING LOCATIONS AS MANUFACTURED BY JOHNS-MANVILLE FORMALDAHYDE FREE OR APPROVED EQUAL.

11. FLASHING AND SHEET METAL
ALL FLASHING AND COUNTER FLASHING IS TO BE GALVANIZED AND INSTALLED AS PER SMACNA STANDARDS. ALL PROPOSED FLASHING AND SHEET METAL MATERIALS, GAUGE AND INSTALLATION IS TO BE IN ACCORDANCE WITH SMACNA MANUAL STANDARDS.

12. LATH & PLASTER
A. MATERIALS FOR PLASTER IS TO BE THE STANDARD PRODUCTS OF RECOGNIZED MANUFACTURES, AND SHALL BE AS MANUFACTURED BY US GYPSUM CO. AND APPROVED BY THE LATH AND PLASTER INSTIGAT OR APPROVED EQUAL.
B. ALL PLASTER CORNER BEADS, CASING BEADS, CONTROL JOINTS,EXPANSION SCREEDS AND ACCESSORIES ARE TO BE GALVANIZED.PROVIDE CASING BEADS AT ALL JOINTS OF STUCCO TO DISSIMILAR SURFACES UNLESS OTHERWISE NOTED
C. WHERE INDICATED ON THE DRAWINGS, PORTLAND CEMENT PLASTER IS TO BE HAND APPLIED (3) THREE COAT WORK, 7/8" THICK ON EXTERIOR SURFACES. THE COATS ARE TO CONSIST OF A SCRATCH (3/8" AND A TWO COAT FINISH (1/8" MIN.) COAT PROPORTIONED AND MIXED ADS RECOMMENDED BY THE CALIFORNIA LATHING AND PLASTERING CONTRACTORS ASSOCIATION.

LEGEND

SECTION CUT	KEYNOTE
ELEVATION CALLOUT	DOOR SYMBOL
DETAIL DRAWING REF.	WINDOW SYMBOL
ELEVATION MARKER	TEMPERED GLASS

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project

PRADU
City Of Enicintas

description

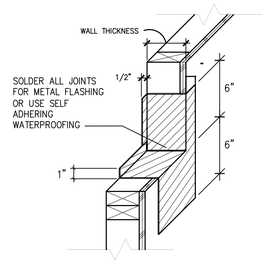
Sections
2 Bedrooms

date March 27 2019

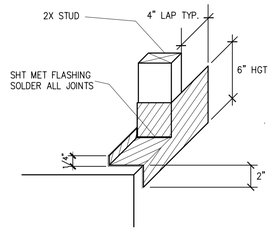
project no. 2018 PRADU

drawn by ysp

sheet no. A4.1



WINDOW SILL FLASHING 1

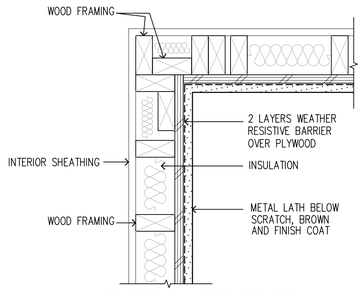


* PROVIDE SOLID BLK'G @ ALL FLASHING LOCATIONS

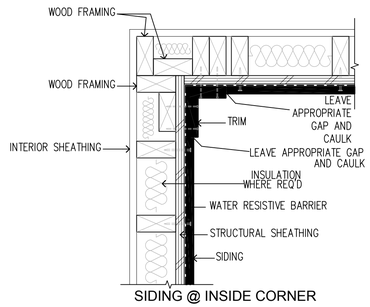
DOOR THRESHOLD FLASHING 2

3

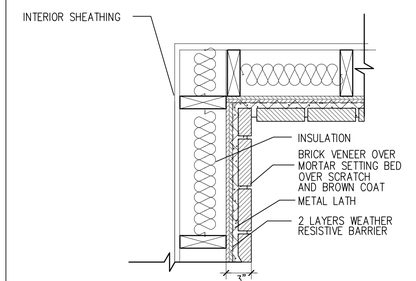
4



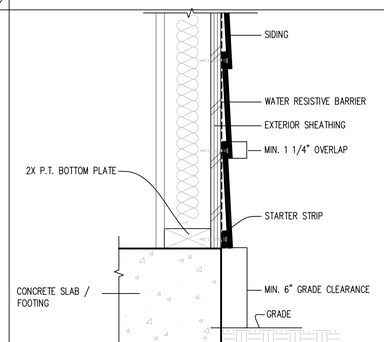
STUCCO @ INSIDE CORNER



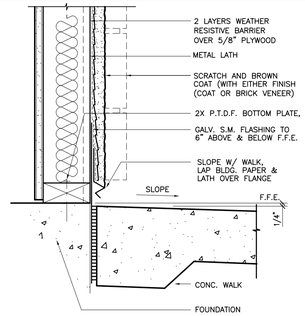
SIDING @ INSIDE CORNER



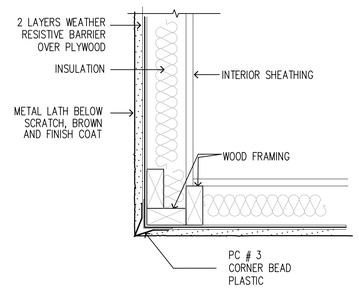
STONE VENEER @ INSIDE CORNER



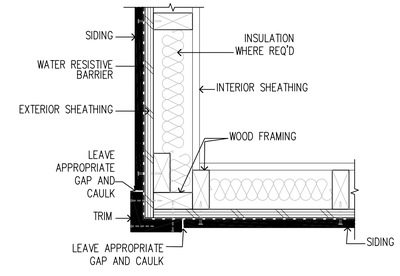
SIDING @ CONCRETE WALK



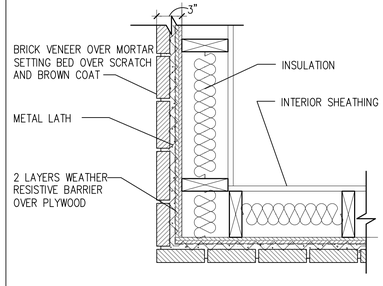
STUCCO / STONE WEEP SCREED AT CONCRETE WALK



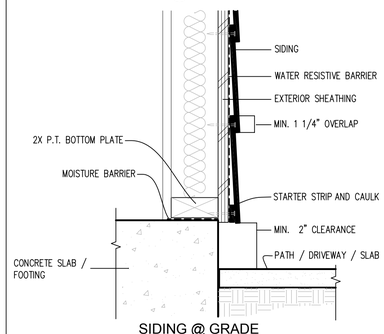
STUCCO @ OUTSIDE CORNER



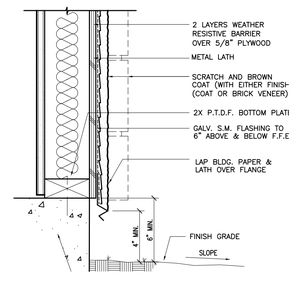
SIDING @ OUTSIDE CORNER



STONE VENEER @ OUTSIDE CORNER



SIDING @ GRADE



STUCCO / STONE WEEP SCREED AT GRADE

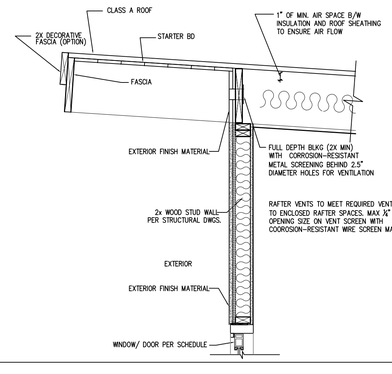
EXTERIOR STUCCO 5

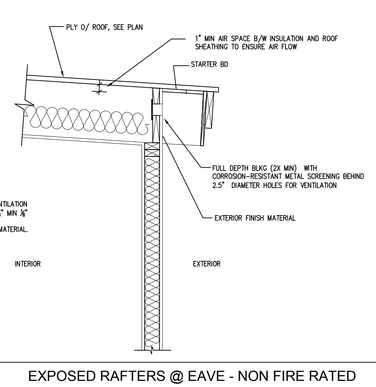
SIDING 6

STONE VENEER @ OUTSIDE CORNER - FIRE RATED 7

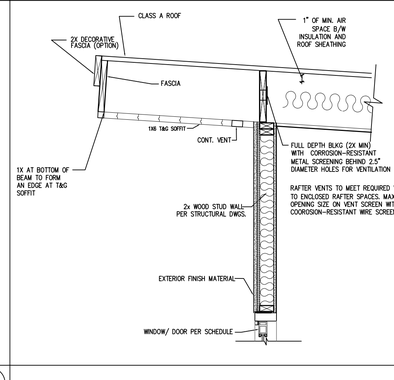
SIDING - WALL SECTION 8

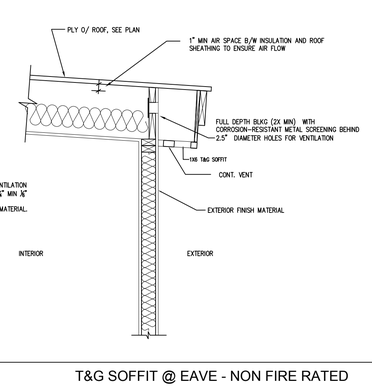
STUCCO/STONE - WALL SECTION 9



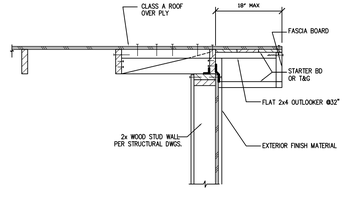


EXPOSED RAFTERS @ EAVE - NON FIRE RATED 10





T&G SOFFIT @ EAVE - NON FIRE RATED 12



OPEN ROOF OVERHANG - NON FIRE RATED 13

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project

PRADU
City Of Enicintas

description

Finish
Details
2 Bedroom

date March 27 2019

project no. 2018 PRADU

drawn by ysp

sheet no. A5.1

WINDOW SCHEDULE

WINDOW	WINDOW SIZE		OPER.	FIRE RATED	QNTY	FRAME	HEAD HEIGHT	REMARKS
	WIDTH	HEIGHT						
A	6'-0"	2'-0"	SLIDER	NOTE #12 & 13	1	VINYL	6'-8"	LIVING ROOM WINDOWS
B	2'-0"	2'-0"	SLIDER	NOTE #12 & 13	1	VINYL	6'-8"	BATHROOM WINDOWS
C	6'-0"	4'-0"	SLIDER	NOTE #12 & 13	2	VINYL	6'-8"	BEDROOM WINDOWS
D	3'-0"	4'-0"	SLIDER		1	VINYL	6'-8"	CLOSET/ HALLWAY WINDOWS

WINDOW NOTES

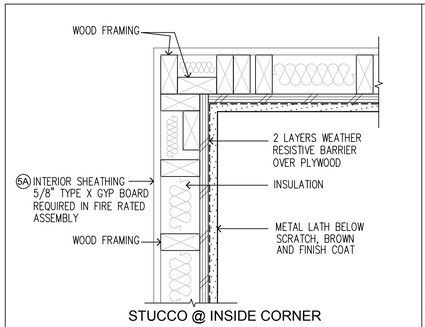
1. SEE EXTERIOR ELEVATION FOR DIRECTION OF OPERATION OF WINDOWS (ALL OPERABLE WINDOWS TO HAVE SCREENS).
2. ALL WINDOW DIMENSIONS PERTAIN TO ROUGH OPENINGS (R.O.), CONTRACTOR TO FIELD VERIFY ACTUAL DIMENSIONS FOR WINDOWS
3. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE NFRC LABEL.
4. ALL GLAZING SHALL BE SPECTRALY SELECTIVE LOW E COATED TO MEET TITLE 24 ENERGY REQUIREMENTS.
5. WINDOWS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.D
6. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303
7. EVERY SLEEPING ROOM SHALL HAVE ONE OPERABLE WINDOW FOR EMERGENCY ESCAPE OR RESCUE WITH A MIN. NET CLEAR OPENABLE AREA OF 5.7 SQ. FT, MIN. NET CLEAR OPENABLE HEIGHT OF 24" MIN., NET CLEAR WIDTH OF 20" AND A FIN. SILL HEIGHT OF NOT MORE THAN 44" A.F.F. PER CRC SECTION 3101
8. NOT USED
9. ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 36 OR GREATER.
10. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
11. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL VENTILATION AND NATURAL LIGHT BY MEANS OF VENTILATION / ARTIFICIAL LIGHT. CBC SECTIONS 1203.4 AND 1205.1 AND R303
   A) THE MINIMUM NET GLAZED AREA FOR NATURAL LIGHT SHALL NOT BE LESS THAN 8%OF THE FLOOR AREA OF THE ROOM SERVED. CBC SECTION 1205.2
   B) THE MINIMUM OPENABLE AREA TO THE OUTDOORS FOR NATURAL VENTILATION SHALL BE 4% OF THE FLOOR AREA BEING VENTILATED. SECTION 1203.4
12. EXTERIOR WINDOWS, WINDOW WALLS, GLAZED DOORS, AND GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATING-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE
13. FIRE-RESISTENCE RATED GLAZING TESTED AS PART OF A FIRE-RESISTANCE-RATED WALL ASSEMBLY IN ACCORDANCE WITH ASTM E 119 OR UL 263 TO BE CONSTRUCTED OF MULIT-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENT OF SECTION 2406, CONSTRUCTED OF GLASS BLOCK UNITS, OR HAVE A FIRE-RESISTIVE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 257.

DOOR SCHEDULE

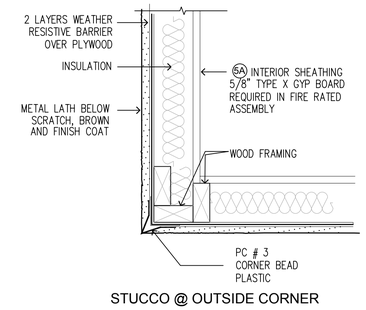
DOOR	DOOR TYPE	DOOR SIZE			CORE	MATERIAL	FRAME	FIRE RATING (WHEN REQ'D)	REMARKS
		WIDTH	HEIGHT	THICK.					
1	DOUBLE DOOR	6'-0"	6'-8"	1-3/4"	GL	VNL/GLASS	VINYL	NOTE #10	FRONT - ENTRY HINGED DOOR WITH GLAZING
2	SINGLE DOOR	2'-6"	6'-8"	1-3/4"	HLW	WD	WD	NR	BATHROOM DOOR
3	SINGLE DOOR	2'-6"	6'-8"	1-3/4"	HLW	WOOD	WD	NR	BATHROOM DOOR
4	SINGLE DOOR	2'-6"	6'-8"	1-3/4"	HLW	WOOD	WD	NR	BEDROOM DOOR
5	SINGLE DOOR	2'-6"	6'-8"	1-3/4"	HLW	WOOD	WD	NR	BEDROOM DOOR
6	SLIDER	9'-8"	6'-8"	1-3/4"	HLW	WOOD	WD	NR	SLIDING CLOSET DOOR
7	SLIDER	9'-8"	6'-8"	1-3/4"	HLW	WOOD	WD	NR	SLIDING CLOSET DOOR
8	SINGLE DOOR	2'-6"	6'-8"	1-3/4"	HLW	LOUVERED	WD	NR	FAU CLOSET

DOOR NOTES

1. ALL GLASS IN DOORS SHALL BE TEMPERED. TEMPERED GLASS SHALL BE PERMANENTLY IDENTIFIED AND VISIBLE WHEN THE UNIT IS GLAZED.
2. ALL GLAZING WILL BE INSTALLED WITH A CERTIFYING LABEL ATTACHED, SHOWING THE "U" VALUE.
3. REFER TO FLOOR PLANS FOR DIRECTION OF DOOR SWING.
4. DOORS SHALL MEET THE MINIMUM INFILTRATION REQUIREMENTS PER SECTION 116 E.E.S.
5. VENTILATION SHALL COMPLY WITH C.B.C. 1203.4 AND R303.
6. NOT USED
7. ALL EXTERIOR WINDOW AND EXTERIOR DOOR ASSEMBLIES TO HAVE AN STC RATING OF 36 OR GREATER.
8. DOORS MAY OPEN TO THE EXTERIOR ONLY IF THE FLOOR OR LANDING IS NOT MORE THAN 1-½ INCH LOWER THAN THE DOOR THRESHOLD. SECTION R311.3.1 CRC
9. GLAZED OPENINGS WITHIN EXTERIOR DOORS SHALL BE INSULATNG-GLASS UNITS WITH A MINIMUM OF ONE TEMPERED PANE,
10. EXTERIOR DOOR ASSEMBLIES SHALL CONFORM TO THE PERFORMANCE REQUIREMENTS OF STANDARD SFM 12-7A-1 OR SHALL BE OF APPROVED NONCOMBUSTIBLE CONSTRUCTION OR IGNITION-RESISTANT MATERIAL, OR SOLID CORE WOOD HAVING STILES AND RAILS NOT LESS THAN 1 3/8 INCHES THICK WITH INTERIOR FIELD PANEL THICKNESS NO LESS THAN 1 1/4 INCHES THICK, OR SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 257.

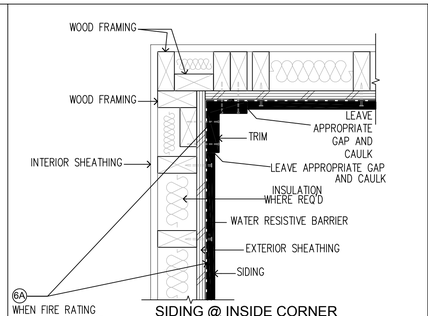


STUCCO @ INSIDE CORNER

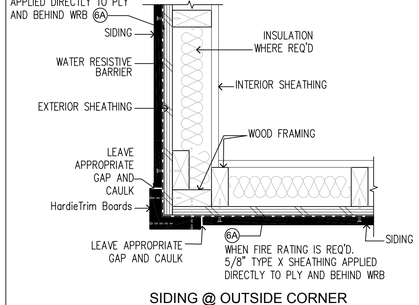


STUCCO @ OUTSIDE CORNER

EXTERIOR STUCCO - FIRE RATED 5A

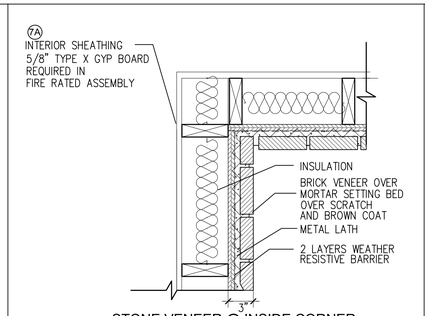


SIDING @ INSIDE CORNER

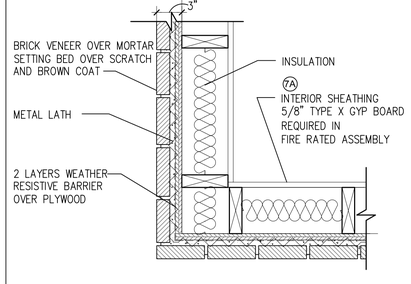


SIDING @ OUTSIDE CORNER

SIDING - FIRE RATED DETAIL 6A

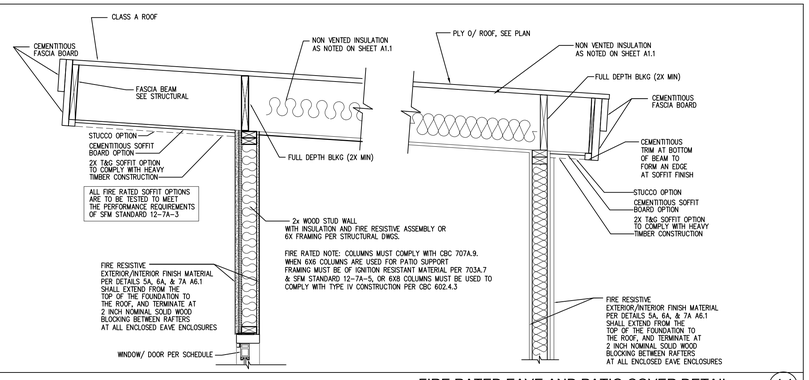


STONE VENEER @ INSIDE CORNER

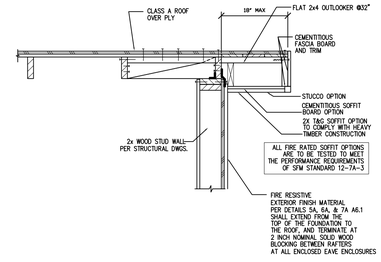


STONE VENEER @ OUTSIDE CORNER

STONE VENEER - FIRE RATED 7A



FIRE RATED EAVE AND PATIO COVER DETAIL 11



FIRE RATED OVERHANG 14

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project

PRADU
City Of Enicintas

description

Fire Rated Details 2 Bedroom

date March 27 2019

project no. 2018 PRADU

drawn by ysp

sheet no. A6.1

2. CONCRETE FOUNDATION CONSTRUCTION

200. THE FIELD INSPECTOR SHALL VERIFY FOUNDATION REQUIREMENTS DURING FOUNDATION INSPECTION.

201. CONCRETE STRENGTH SHALL BE NO LESS THAN 2,500 PSI @ 28 DAYS, OR HIGHER STRENGTH IF NOTED ON THE PLANS.

202. SLAB REINFORCEMENT SHALL BE PER STRUCTURAL DETAILS ON SHEET S3, CENTERED IN SLAB.

203. REINFORCING BARS TO BE GRADE 40 FOR #3 BARS, GRADE 60 FOR #4 BARS & LARGER

204. PROVIDE WEAKENED PLANE JOINTS FOR CRACK CONTROL (SAWCUT OR TOOLED JOINT) AT 14'-0" O/C MAX.

205. FOOTINGS SHALL BE PER STRUCTURAL DETAILS ON SHEET S3, TYPICAL.

206. SILL ANCHORAGE AT ALL SHEARWALL LOCATIONS SHALL BE PER THE SHEARWALL SCHEDULE. ALL SHEARWALL ANCHOR BOLTS SHALL RECEIVE A 3" SQUARE X 0.229" THICK WASHER. THE WASHER MAY BE DIAGONALLY SLOTTED (WIDTH >= BOLT DIAMETER + ‰", LENGTH<=1¦") PROVIDED THAT A STANDARD CUT WASHER IS USED ON TOP OF THE SQUARE WASHER. SHEARWALL ANCHORS SHALL BE PLACED A MIN. OF 1¦" FROM THE EDGE OF CONCRETE.

207. EMBEDDED SILL ANCHOR BOLTS AT TYPICAL NON-SHEARWALL CONDITIONS SHALL BE "X12" MIN. ANCHOR BOLTS WITH A STANDARD CUT WASHER. SPACING SHALL NOT EXCEED 48 INCHES O/C. LOCATE AN ANCHOR BOLT NOT MORE THAN 9 INCHES, OR LESS THAN 4" FROM ENDS AND SPLICES. EACH SILL SHALL HAVE (2) SILL BOLTS MIN.

208. ANCHOR BOLTS SHALL BE EMBEDDED A MIN. OF 7 INCHES INTO CONCRETE. IN A TWO-POUR SYSTEM, ANCHOR BOLTS TO BE EMBEDDED 5 INCHES MIN. INTO FIRST POUR.

209. SEE WOOD FRAMING CONSTRUCTION NOTES FOR ALTERNATE SILL ANCHORAGE.

210. ALL HOLDOWNS SHALL BE PLACED A MINIMUM DIM AS SHOWN IN DETAIL 5/S3 FROM EXTERIOR CORNER OF SLAB.

211. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS. SUBCONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO CONSTRUCTION. IMMEDIATELY NOTIFY HOMEOWNER AND CITY OF ENCINITAS OF ANY DISCREPANCY, TYPICAL.

212. PROVIDE A UFER GROUND FOR ELECTRICAL SYSTEM PER ARTICLE 250.52 N.E.C.

213. ALL SURROUNDING FLAT WORK SHALL BE VERIFIED WITH HOMEWONER FOR LOCATION AND AMOUNT TO BE POURED.

214. RETROFIT MISPLACED HOLDOWNS AS NOTED BELOW. AT EPOXY ANCHORS USE SIMPSON SET-XP EPOXY PER MANUFACTURERS INSTALLATION REQUIREMENTS AS FOLLOWS:

MISPLACED HOLDOWN	RETROFIT BOLT	REPLACEMENT HARDWARE
LSTHD8, HTT4	¦" ALL-THREAD, EMBED 9"	HTT4
STHD10, STHD14, HTT5	¦" ALL-THREAD, EMBED 9"	HTT5
LTT20B	¦" ALL-THREAD, EMBED 7"	LTT20B
LTT20B	ATTACH TO EXISTING A.B.	LTT20B
HDU8	‡" ALL-THREAD, EMBED 15"	HDU8

215. RETROFIT " & ¦" EMBEDDED ANCHOR BOLTS AS NOTED BELOW. AT EPOXY ANCHORS USE SIMPSON SET-XP EPOXY PER SIMPSON'S INSTALLATION REQUIREMENTS.

LOCATION	TYPE	REPLACEMENT
SLAB EDGE, 1.3/4" DIST.	SHEARWALL	¦" ALL-THREAD, EPOXY, EMBED 3" OR ¦" TITEN HD, EMBED 3" MIN.
INTERIOR > 6," EDGE DIST.	SHEARWALL OR NON-SHEAR	¦" TITEN HD, EMBED 3" MIN.
ANY OTHER	NON-SHEAR	0.145 DIA. SHOT PINS SPACED 4 INCHES APART ON SILL. (2) FOR EACH MISSING ANCHOR BOLT. MAX. OF (6) SHOT PINS EVERY 6 FT.

216. WHEN REQUESTING A BUILDING DEPARTMENT FOUNDATION INSPECTION, HAVE CONTRACTOR DOCUMENTATION IN WRITING FOR THE FOLLOWING:
A) THE PAD WAS PREPARED IN ACCORDANCE WITH THE SITE REQUIREMENTS AND CITY OF ENCINITAS APPROVAL.
B) THE UTILITY TRENCHES HAVE BEEN PROPERLY BACKFILLED & COMPACTED.
C) THE FOUNDATION EXCAVATIONS, EXPANSIVE CHARACTERISTICS AND BEARING CAPACITY COMPLIES WITH THE CITY OF ENCINTIAS RECOMMENDATIONS .

217. ALL HOLDOWN ANCHORS & HARDWARE MUST BE TIED IN PLACE PRIOR TO CALLING FOR A FOUNDATION INSPECTION.

3. WOOD FRAMING CONSTRUCTION

300. ROOFING MATERIALS SHALL BE PER ARCHITECTURAL DRAWINGS.

301. ROOF SHEATHING SHALL BE ‗" OR ‹" C-D GRADE, INTERIOR TYPE PLYWOOD WITH EXTERIOR GLUE, OR OSB PANELS. IDENTIFICATION INDEX (24/0) W/ 8D COMMON NAILS @ 6" O/C @ ALL PERIMETER EDGES AND ALL INTERIOR SUPPORTED EDGES AND @ 12" O/C @ ALL INTERMEDIATE SUPPORTS. SEE DETAILS FOR SHEAR AND DRAG NAILING.

302. FLOOR SHEATHING : NOT USED

303. TYPICAL WALL SHEATHING:
INTERIOR SURFACES: WHERE DRYWALL IS SPECIFIED, PROVIDE MIN. " GYPSUM WALLBOARD W/ 5D COOLER NAILS OR EQUAL @ 7" O/C TO ALL STUDS AND TO TOP & BOTTOM PLATES (UNBLOCKED) AT INTERIOR SIDE OF EXTERIOR WALLS AND AT BOTH SIDES OF ALL INTERIOR WALLS.

EXTERIOR SURFACES: SEE PLANS. WHERE "STUCCO" IS SPECIFIED PROVIDE ‡" EXTERIOR CEMENT PLASTER OVER WIRE LATH OVER TYPE 15 BUILDING PAPER. LATH ATTACHED TO ALL STUDS AND TOP AND BOTTOM PLATES (OR BLOCKING AS OCCURS) W/ 16 GAGE X‡" STAPLES @ 6" O/C OR NO. 11 GAGE X 1-1/2" FURRING NAILS WHERE INDICATED ON ELEVATIONS.

304. STRUCTURAL SHEATHING MAY BE EITHER OSB OR PLYWOOD. ANY NOTES REFERRING TO PLYWOOD ALSO APPLIES TO OSB.

3. WOOD FRAMING CONSTRUCTION (CONT.)

305. TOP PLATES SHALL BE DOUBLE 2X W/ WIDTH EQUAL TO STUDS BELOW, W/ (21)16D NAILS MIN. @ MINIMUM 4'-0" LAP SPLICES. USE SIMPSON RPS OR CS16 STRAP EACH SIDE OR ONE SIDE AND TOP WHERE LAP SPLICE IS NOT POSSIBLE. SEE DETAILS FOR NOTCHES, CUT-OUTS AND COMPLETE PLATE BREAKS AT HEATING, VENTING, AND PLUMBING.

306. TYPICAL SHEAR TRANSFER:
ROOF TO WALL: CONNECT ROOF FRAMING TO TOP PLATE W/ SIMPSON H1 @ 24" O/C OR A35 OR RBC @ 24" O/C OR PER SHEAR TRANSFER DETAILS.

FLOOR TO WALL: PER DETAILS ON SHEET S3

307. SILL PLATE ANCHORS:

GROUND FLOOR / SLAB ON GRADE WALLS: PROVIDE 2X (MIN.) PTDF SILL PLATES. SEE CONCRETE FOUNDATION CONSTRUCTION NOTES 206, 207 & 208 FOR ANCHOR BOLTS. AT INTERIOR NON-SHEAR CONDITIONS, 0.145 SHOT PIN ANCHORS @ 32" O/C MAY BE USED TO CONNECT PARTITIONS AND BEARING WALLS TO SLAB.

308. ALL WOOD SILL PLATES AND ALL WOOD MEMBERS DIRECTLY AGAINST CONCRETE OR MASONRY SHALL BE FOUNDATION GRADE REDWOOD SILLS OR PTDF SILLS, TREATED WITH SODIUM BORATE (SBX/DOT) WHEN INSTALLED IN A DRY OR ENCLOSED ENVIRONMENT. (SODIUM BORATE TREATMENT DOES NOT REQUIRE CORROSION RESISTANT CONNECTORS.) IF OTHER TREATMENTS ARE USED, SEE NOTE 309.

309. FASTENERS IN CONTACT WITH PRESSURE TREATED WOOD:
ALL NAILS AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER TREATED WITH ACQ-C, ACQ-D, CA-B, AND CBA-A WITHOUT AMMONIA SHALL BE GALVANIZED PER ASTM A153.

ALL NAILS AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER TREATED WITH ACQ-C, ACQ-D, CA-B, AND CBA-A WITH AMMONIA SHALL BE TYPE 303, 304, 305, OR 316 STAINLESS STEEL.

WHERE PRESSURE TREATED LUMBER IS INSTALLED IN AN EXTERIOR WET ENVIRONMENT, ALL NAILS AND FASTENERS IN CONTACT WITH THE PRESSURE TREATED LUMBER SHALL BE TYPE 303, 304, 305, OR 316 STAINLESS STEEL.

310. RE-TIGHTEN ALL HOLDOWN ANCHORS JUST PRIOR TO COVERING THE WALL FRAMING.

311. NOT USED

312. ENGINEERED BEAMS ARE AS FOLLOWS:
"PSL" REFERS TO PARALLEL STRAND LUMBER (E=2.0, FB=2900).
"LSL" REFERS TO LAMINATED STRAND LUMBER (E=1.55, FB=2325).
(E=1.3 & FB=1700 AT LSL CONDITIONS WITH D (DEPTH) < 9")
"LVL" REFERS TO LAMINATED VENEER LUMBER (E=1.9, FB=2600).
"GLB" REFERS TO 24F-1.8E GLU-LAM WITH STANDARD CAMBER, U.N.O.
"IJC" ENGINEERED GLU-LAM BEAM MAY BE USED UPON ENGINEER APPROVALS. AN A.I.T.C CERTIFICATE OF COMPLIANCE ISSUED BY A CURRENT ICC APPROVED QUALITY CONTROL AGENCY FOR GLUED LAMINATED WOOD MEMBERS SHALL BE GIVEN TO THE BUILDING INSPECTOR PRIOR TO INSTALLATION.

313. LUMBER SPECIFICATIONS:
ALL FRAMING LUMBER SHALL BE DOUGLAS FIR-LARCH. STUDS, PLATES & BLOCKING:

2X4 FRAMING LUMBER NOT LISTED BELOW	STANDARD GRADE OR BETTER
92-1/4", 104-1/4", & 116-1/4" 2X4 STUDS	STUD GRADE OR BETTER
2X4 STUDS OVER 10'	#2 OR BETTER
2X4 SILLS & PLATES	STANDARD OR BETTER
2X6 STUDS, SILLS, & PLATES	#2 OR BETTER
4X4 STUDS & POSTS	STANDARD OR BETTER OR #1
4X6, 6X6, & LARGER STUDS & POSTS	#1 OR BETTER
4X4, 4X6, 4X8, 4X10 BEAMS & HEADERS	#2 OR BETTER
4X12, 4X14 BEAMS & HEADERS	#1 OR BETTER
6X4 BEAMS & HEADERS	#2 OR BETTER
6X6 & LARGER BEAM & HEADERS	#1 OR BETTER
2X6 AND LARGER RAFTERS AND JOISTS	#2 OR BETTER

314. HOLES, CUTOUTS, AND NOTCHES IN FRAMING MEMBERS:
BY VIRTUE OF CODE COMPLIANCE WITH ELECTRICAL AND PLUMBING CODES, HOLES AND NOTCHES WILL INEVITABLY BE MADE IN FRAMING MEMBERS. THE CODE RECOGNIZES AND APPROVES VARIOUS HOLES AND NOTCHES WITHOUT ENGINEERING JUSTIFICATION IN CBC SECTION 2308.8.2. ENGINEERED (PSL, LSL) RECTANGULAR LUMBER BEAMS BEHAVE LIKE ANY OTHER RECTANGULAR SHAPE WHEN NOTCHED OR BORED, SO THE ENGINEER OR ARCHITECT MAY SPECIFY LIMITS WITHOUT MANUFACTURER APPROVAL OTHER HOLES AND NOTCHES ARE ALLOWED AS NOTED BELOW:

PSL AND LVL BEAMS: A HOLE 1 INCH IN DIAMETER CAN BE DRILLED ANYWHERE, AND A 2 INCH DIA. HOLE CAN BE DRILLED IN THE MIDDLE THIRD OF THE SPAN IN THE MIDDLE THIRD OF THE DEPTH OF THE BEAM FOR ANY PSL OR LVL BEAM, EXCEPT CANTILEVERED BEAMS AND BEAMS SUPPORTING CONCENTRATED LOADS. HOLES IN THOSE CONDITIONS REQUIRE APPROVAL IN WRITING FROM THE ENGINEER.

PSL AND LVL BEAMS: A RAKE CUT (TAPER) AT THE TOP OF THE BEAM AT THE END OF THE SUPPORT IS ALLOWED IF NOTED ON PLANS, TO A MINIMUM OF 4-3/8" AT INSIDE FACE OF SUPPORT. RAKE CUT (TAPER) THAT RESULTS IN A DEPTH AT THE INSIDE FACE OF THE SUPPORT OF 2/3RDS THE BEAM DEPTH IS ALLOWED AT CONDITIONS NOT SPECIFIED. OTHER TAPERED ENDS AND SQUARE NOTCHES IN TOP OR BOTTOM FACE REQUIRE APPROVAL IN WRITING FROM THE ENGINEER OR ARCHITECT.

STUDS AND PLATES: SEE STRUCTURAL DETAILS 8 & 11 ON SHEET S3 FOR NOTCHING AND BORING.

315. PROVIDE 2X4 TRIMMER & 2X4 KING STUD EACH END OF EACH 4X DROPPED BEAM OR HEADER. PROVIDE DOUBLE TRIMMERS AT EACH 4X10 OR LARGER. PROVIDE DOUBLE TRIMMERS AT EACH 3-1/2 X 7-1/2 PSL OR LSL OR LARGER.

316. PROVIDE 2X6 TRIMMER & 2X6 KING STUD EACH END OF EACH 6X DROPPED BEAM OR HEADER. PROVIDE DOUBLE TRIMMERS AT EACH 6X8 OR LARGER. PROVIDE DOUBLE TRIMMERS AT EACH 5-1/4 X 7-1/2 PSL OR LSL OR LARGER.

317. PROVIDE DOUBLE KING STUDS AT ALL OPENINGS 8'-1" WIDE AND WIDER OR PER PLAN.

318. PROVIDE MINIMUM 2-1/4" BEARING @ EACH END OF EACH FLUSH BEAM OR HEADER WHERE BEARING IS ON TOP PLATE. PROVIDE 2X4 STUD WITHIN 3" OF BEARING POINT. PROVIDE (2) 2X STUDS @ 6X OR LSL OR PSL BEAMS.

3. WOOD FRAMING CONSTRUCTION (CONT.)

323. ROOF RAFTERS SHALL BE 2X RAFTERS AS NOTED ON STRUCTURAL DRAWINGS

324. EAVES SHALL BE PER ARCHITECTURAL PLANS W/ APPLIED TAILS PER ARCHITECTURAL PLANS. OVERHANG DETAILS ARE NOT SHOWN ON STRUCTURAL PLANS.

325. SEE THE ARCHITECTURAL ROOF PLANS FOR ROOF PITCH AND ADDITIONAL INFORMATION.

326. COMBINE AND GROUP PLUMBING VENTS WHENEVER POSSIBLE TO MINIMIZE ROOF PENETRATIONS.

327. WOOD TO WOOD CONNECTORS SHALL BE SIMPSON STRONG TIE OR USP STRUCTURAL CONNECTORS. ALL SPECIFIED CONNECTOR CALL-OUTS ARE SIMPSON CATALOG CALL-OUTS. USP SUBSTITUTIONS SHALL HAVE A CAPACITY EQUAL TO OR GREATER THAN THE SIMPSON CATALOG VALUES. ANY OTHER ICC APPROVED METAL CONNECTOR MAY BE USED UPON APPROVAL BY THE ENGINEER OR ARCHITECT.

328. ICC APPROVED CONNECTORS SHALL BE USED WHERE CONNECTORS ARE SPECIFIED. UNLESS OTHERWISE NOTED, THE FOLLOWING BEAM AND JOIST HANGERS SHALL BE USED:

BEAM OR JOIST	SIMPSON/USP HANGER
I-JOIST FLOOR JOISTS	IUS, IUT, OR ITT HANGERS
1.75 X LSL AND LVL	HU, HUS, OR WPU
2.69 X PSL AND LVL	HU OR HWU
3.5 X PSL AND LVL	HHUS OR HWU
5.25 X PSL AND LVL	HHUS OR HWU
7 X PSL AND LVL	HHUS OR HWU

AT BEAM HANGER CALLOUTS, IE HGUS OR HU BEAMS, THE CALLOUT IS ABBREVIATED. THE HANGER WIDTH MAY BE OMITTED TO ALLOW FLEXIBILITY IN ORDERING. EXAMPLE: 2.69 PSL THE CALLOUT MAY READ HGUS12. AN HGUS2.75/12 OR HGUS412 (WITH FILLERS) ARE APPLICABLE. WHERE HANGERS OFFER (MIN) OR (MAX), NAIL TO APPLY (MAX) LOADS.

329. CS16 COIL STRAPS MAY BE USED AS AN ACCEPTABLE ALTERNATIVE TO THE FOLLOWING DETAILED CONDITIONS:
ST22 = CS16 X 28" LONG
ST6224 = (2) CS16 X 28" LONG
HTS24 = CS16 X 28" LONG
WB106 = CS16 X106" LONG W/ 10D @ 2-1/2" O/C

330. WHERE SHEARWALL LENGTHS ARE SPECIFIED ON THE PLANS, THE LENGTH SHOWN IS A MINIMUM DIMENSION. THE SHEARWALL MAY BE LENGTHENED FOR CONSTRUCTION PURPOSES, BUT SHALL NOT BE REDUCED UNLESS OTHERWISE NOTED. ALL ENGINEERED WOOD PANEL SHEAR (PLYWOOD OR OSB) SHALL BE BLOCKED.

331. THE FOLLOWING HOLES IN SHEARWALLS ARE ALLOWED:
A) APPROXIMATELY SQUARE HOLES NOTCHED, PUNCHED, OR CUT THAT ARE LESS THAN 25 SQ. INCHES
B) APPROXIMATELY SQUARE HOLES CLEAN CUT OR BORED IN SHEARWALLS THAT ARE LESS THAN 64 SQ. INCHES (ONE HOLE PER 4' OF SHEARWALL.)
C) APPROXIMATELY SQUARE HOLES, LESS THAN 64 SQ. INCHES (ONE HOLE PER 8' OF SHEARWALL) WITH ALL EDGES BLOCKED & EDGE NAILED.
D) HOLES INDIVIDUALLY APPROVED BY THE ENGINEER OR ARCHITECT OF RECORD.

332. CS16 NAILING:
A) 2X WALL BLOCKING & I JOIST BLOCKING, NAIL EVERY OTHER HOLE,OR NAIL 2 & SKIP 2
B) AT PLATES, BEAMS & COLUMNS PROVIDE ANY LENGTH NECESSARY FOR FULL NAILING: —(22) 8D (0.131)—(22) 16D BOX (0.135) — (20) 10D (0.148) LONGER LENGTHS OR GREATER NAIL SPACING IS ACCEPTABLE PROVIDED ALL REQUIRED NAILS ARE INSTALLED.

333. STUDS SHALL BE SPACED @ 16" O/C MAX. UNLESS OTHERWISE SPECIFIED.

334. NAILS FOR SHEAR TRANSFER MAY NOT BE DRIVEN PARALLEL WITH THE FLANGES OF I-JOISTS. (PERPENDICULAR TO THE FLANGE IS ALLOWED.)

335. ALL FINISHES, WATERPROOFING, DRAINAGE, AND FIRE-RELATED ELEMENTS ARE BY THE ARCHITECT OF RECORD AND ARE REQUIRED EVEN THOUGH THEY MAY NOT BE SHOWN ON THE STRUCTURAL PLANS AND DETAILS.

336. EACH CONTRACTOR RESPONSIBLE FOR THE CONSTRUCTION OF A MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM OR A WIND- OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTION.

4. ICC-ES AND NER APPROVALS

400. PLYWOOD AND OSB PANELS:
APA PLYWOOD & OSB--ESR-2586

FULL REPORTS FOUND AT: HTTP://WWW.ICC-ES.ORG

401. JOISTS AND RAFTERS AND BEAMS:
TRUS-JOIST TJI JOISTS AND PSL, LSL, & LVL--ICC-ES ESR-1387, 1153,
BOISE CASCADE BCI JOISTS, VERSA-LAM, & VERSA-STRAND--ICC-ESR-1040, 1336
LOUISIANA PACIFIC JOISTS & BEAMS--ESR-1305, 2403
ROSEBURG JOISTS & BEAMS--ESR-1210, 1251
GLU-LAM BEAMS-- ESR-1940

402. WOOD CONNECTORS:
SIMPSON CONNECTORS--ICC-ES ESR #S 1161, 1622, 1866, 2105, 2203, 2236, 2320, 2549, 2551, 2552, 2553, 2330, 2554, 2555, 2604, 2605, 2606, 2607, 2608, 2611, 2613, 2614, 2615, 2616, 2877, 2920, 3046
IAPMO ER-112, 130, 143, 192, 262
USP LUMBER CONNECTORS--ICC-ES ESR #S 1178, 1280, 1575, 1702, 1781, 1881, 1970, 2104, 2685, 1831, 1465, 2761, 2787, IAPMO ER-200
QUICK DRIVE WOOD SCREWS--ICC-ES ESR-1472

403. PREFABRICATED SHEAR PANELS:
SIMPSON STRONG-WALL SHEAR PANELS--ICC-ES ESR-1267
SIMPSON STEEL STRONG WALL--ICC-ES ESR-1679
SIMPSON STRONG-WALL SB SHEAR BRACES--ICC-ES ESR-2652
HARDY FRAME BY HARDY FRAMES INC.--ICC-ES ESR-2089

4. ICC-ES AND NER APPROVALS (CONT.)

404. ADHESIVES & ANCHORS:
SIMPSON EPOXY-TIE HIGH STRENGTH EPOXY (SET-XP)--ICC-ES ESR-1772, 2508.
SIMPSON WEDGE-ALL (WA) WEDGE ANCHORS--ICC-ES ES-1771
SIMPSON TITEN HD--ICC-ESR-1056, 2713
SIMPSON SHOT PINS ICC-ES ESR-2138
HILTI X-DN, X-ZF, X-CF SHOT PINS--ICC-ES ER-1663, 1752, 2269

5. NAILING & FASTENING

500. 16D NAILS AS SHOWN ON THE DETAILS MAY BE COMMON, BOX, OR SINKER NAILS (0.135" MIN. DIAMETER)

501. AS AN ALTERNATE TO THE COMMON AND BOX NAILS SPECIFIED IN THE STRUCTURAL PLANS, THE FOLLOWING "CUTLER" GUN NAILS (OR EQUAL) ARE ACCEPTABLE ALTERNATIVES.

502. ALTERNATE NAILING FOR ROOF SHEATHING:
8D 2..." X 0.135 WIRE BARBED NAILS BY CUTLER OR EQUAL.

503. ALTERNATE NAILING FOR FLOOR SHEATHING:
#8 X 2" SELF SETTING WOOD SCREWS, OR
8D 2..." X 0.135 OR 0.148 SCREW SHANK FLOOR NAILS BY CUTLER OR EQUAL

504. SHEAR PANELS WHERE 8D COMMON NAILS ARE SPECIFIED:
10D 2..." X 0.148" WIRE BARBED NAILS BY CUTLER OR EQUAL

NAIL SIZES

SIZE OF NAILS	STANDARD LENGTH	WIRE GAUGE	SIZE (INCHES)	PENETRATION REQUIRED
BOX NAILS				
6D	2"	12	0.099	1,"
8D	2"	11	0.113	1,"
10D	3"	10	0.128	1"
12D	3,"	10	0.128	1"
16D	3"	10	0.135	1"
16D SINKER	3,"	9	0.148	1"
COMMON NAILS				
6D	2"	11	0.113	1,"
8D	2"	10,	0.131	1"
10D	3"	9	0.148	1 ¦"
12D	3,"	9	0.148	1 ¦"
16D	3"	8	0.162	1 ¦"

NAILING SCHEDULE, MINIMUMS (CBC CHAPTER 23, TABLE 2304.9.1)

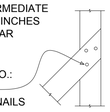
CONNECTION	NAILING[1,3]
1. JOIST TO SILL OR GIRDER	3-8d T.N.
2. BRIDGE TO JOIST	2-8d T.N. EA END
3. 1" x 6" SUBFLOOR TO EACH JOIST	2-8d F.N.
4. WIDER THAN 1" x 6" SUBFLOOR TO EACH JOIST	3-8d F.N.
5. 2" SUBFLOOR TO JOIST OR GIRDER	2-16d BLIND & F.N.
6. SOLE PLATE TO JOIST OR BLOCKING	16d @ 16" O.C.
SOLE PLATO TO JOIST OR BLOCKING, AT BRACED WALL PANELS	3-16d PER 16"
7. TOP PLATE TO STUD	2-16d END NAIL
8. STUD TO SOLE PLATE	4-8d TOENAIL OR 2-16d END NAIL
9. DOUBLE STUDS	16d @ 24" O.C. F.N.
10. DOUBLED TOP PLATES	16d @ 16" O.C. F.N.
DOUBLE TOP PLATES, LAP SPLICE	8-16d
11. BLOCKING BETWEEN JOISTS OF RAFTERS TO TOP PLATE	3-8d T.N.
12. RIM JOISTS TO TOP PLATE, TOENAIL	8d @ 6" O.C. T.N.
13. TOP PLATES, LAPS AND INTERSECTIONS	2-16d F.N.
14. CONTINUOUS HEADER, TWO PIECES	16d @ 16" O.C. ALONG EACH EDGE
15. CEILING JOISTS TO PLATE	3-8d T.N.
16. CONTINUOUS HEADER TO STUD	4-8d T.N.
17. CEILING JOISTS, LAPS OVER PARTITIONS	3-16d F.N.
18. CEILING JOISTS TO PARALLEL RAFTERS	3-16d F.N.
19. RAFTER TO PLATE	3-8d T.N.
20. 1" BRACE TO EACH STUD AND PLATE	2-8d F.N.
21. 1" x 8" SHEATHING OR LESS TO EACH BEARING	2-8d F.N.
22. WIDER THAN 1" x 8" SHEATHING TO EACH BEARING	3-8d F.N.
23. BUILT-UP CORNER STUDS	16d @ 24" O.C.
24. BUILT-UP GIRDER & BMS	20d @32"O.C. STAGRD T&B, 2-20d @ ENDS & EA. SPLICE
25. 2" PLANKS	2-16d @ EACH BEARING
26. COLLAR TIE TO RAFTER	3-10d F.N.
27. JACK RAFTER TO HIP	3-10d T.N. OR 2-16d F.N.
28. ROOF RAFTER TO 2x RIDGE BEAM	2-16d T.N. OR 2-16d F.N.
29. JOIST TO BAND JOIST	3-16d F.N.
30. LEDGER STRIP	3-16d F.N.
31. WOOD STRUCTURAL PANELS[2], ROOF AND WALL SHEATHING (TO FRAMING)	SEE SHEAR PANEL SCHEDULE

FOR ADDITIONAL FASTENING MINIMUMS, SEE CBC TABLE 2304.9.1, FASTENING SCHEDULE.

[1]COMMMON WIRE NAILS ARE TO BE USED, U.N.O. WHEN USING 16d BOX NAILS # OF NAILS MUST BE INCREASED BY 37% (MULTIPLY BY 1.37). FOR OTHER NAIL SUBSTITUTIONS CONSULT THE ENGINEER FOR INCREASED # OF NAILS.

[2]NAILS SPACED AT 6 INCHES ON CENTER AT EDGES, 12 INCHES AT INTERMEDIATE SUPPORTS EXCEPT 6 INCHES AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR MORE. FOR NAILING OF WOOD STRUCTURAL DIAPHRAGMS AND SHEAR WALLS, SEE SHEAR PANEL SCHEDULE AND DIAPHRAGM SCEDULE.

[3]WHERE 2" MEMBER IS DETAILED USE THE NUMBER OF 16d SHOWN, U.N.O.: MEANS 3-16d COMMON WIRE NAILS



1. GENERAL DESIGN CRITERIA

700. BUILDING CODE: 2016 CALIFORNIA BUILDING CODE AND 2016 CALIFORNIA RESIDENTIAL CODE (AS APPLICABLE)

701. SEISMIC DESIGN CRITERIA:

SOIL BEARING VALUE	1,500 psf
SITE CLASS	C
SEISMIC DESIGN CATEGORY	D
RISK CATEGORY	II
SEISMIC IMPORTANCE FACTOR	1
Ss	1.245
S1	0.442

BASIC SEISMIC FORCE RESISTING SYSTEM:BEARING WALL ANALYSIS METHOD: EQUIVALENT LATERAL FORCE PROCEDURE SEE STRUCTURAL CALCULATIONS FOR SD1, SDS, DESIGN BASE SHEAR, Cs, & R FACTORS.

702. WIND DESIGN CRITERIA :

WIND SPEED (V-ult)	110 mph
RISK CATEGORY	II
EXPOSURE	C
INTERNAL PRESSURE COEF	0.18
EXTERIOR CLADDIBFG (0.6W)	13 psf

704. SEE DETAIL SHEETS FOR REFERENCE DETAILS. SOME TYPICAL DETAILS WHICH APPLY THROUGHOUT MAY NOT BE REFERENCED, BUT STILL APPLY.

705. DESIGN LOADING:

ROOF DL	18 psf
ROOF LL	20 psf
FLOOR DL	N/A psf
FLOOR LL	N/A psf
GROUND SNOW LOAD	0 psf

2. STATEMENT OF SPECIAL INSPECTIONS

800. RETROFIT ANCHOR BOLTS FOR MISPLACED HOLDOWNS WITH ALL-THREAD ROD AND SIMPSON SET-XP EPOXY REQUIRE SPECIAL INSPECTION. (NO SPECIAL INSPECTION IS REQUIRED FOR RETROFIT ANCHOR BOLTS OR TITEN HD's WITHOUT A HOLDOWN ATTACHED.)

801. PER CBC 1705.3 SPECIAL INSPECTION IS NOT REQUIRED FOR NON-STRUCTURAL SLABS ON GRADE NOR FOR CONCRETE FOOTINGS THAT SUPPORT 3 STORIES ABOVE GRADE OR LESS.

802. PER CBC 1705.11 SPECIAL INSPECTION IS NOT REQUIRED FOR SEISMIC COMPONENTS FOR DETTACHED ONE- AND TWO-FAMILY DWELLINGS NOT EXCEEDING 2 STORIES ABOVE GRADE.

SOILS REPORT

A SOILS REPORT MAY BE REQUIRED BY THE BUILDING OFFICIAL. IN-LUE OF THE SOILS REPORT A CONSERVATIVE VALUE FOR THE SOIL BEARING ALLOWABLE OF 1500 PSF HAS BEEN USED IN DESIGN OF THE BUILDING.

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project

PRADU
City Of Enicintas

description

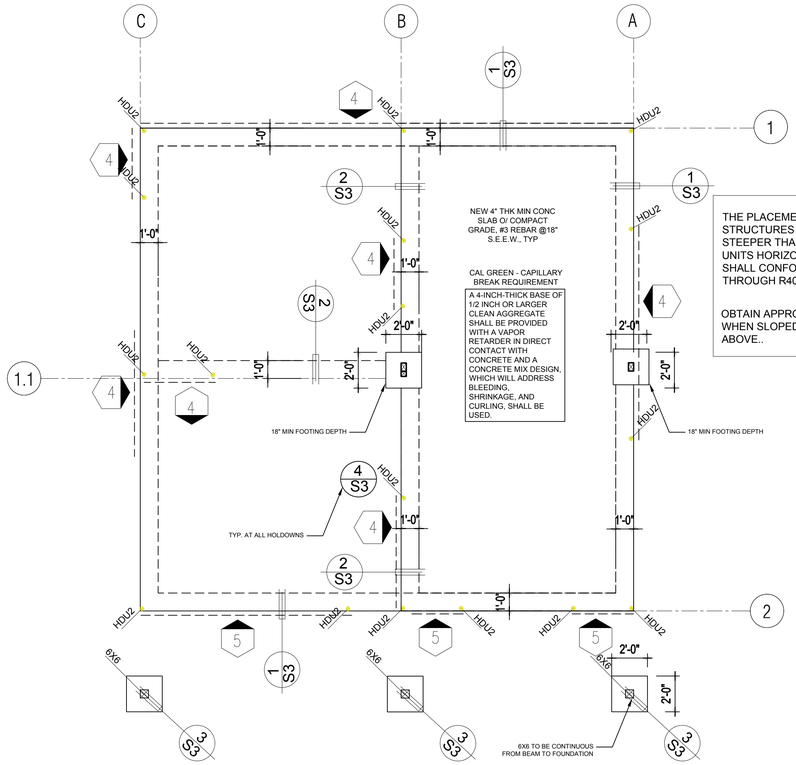
General Structural Notes

date March 27 2019

project no. 2018 PRADU

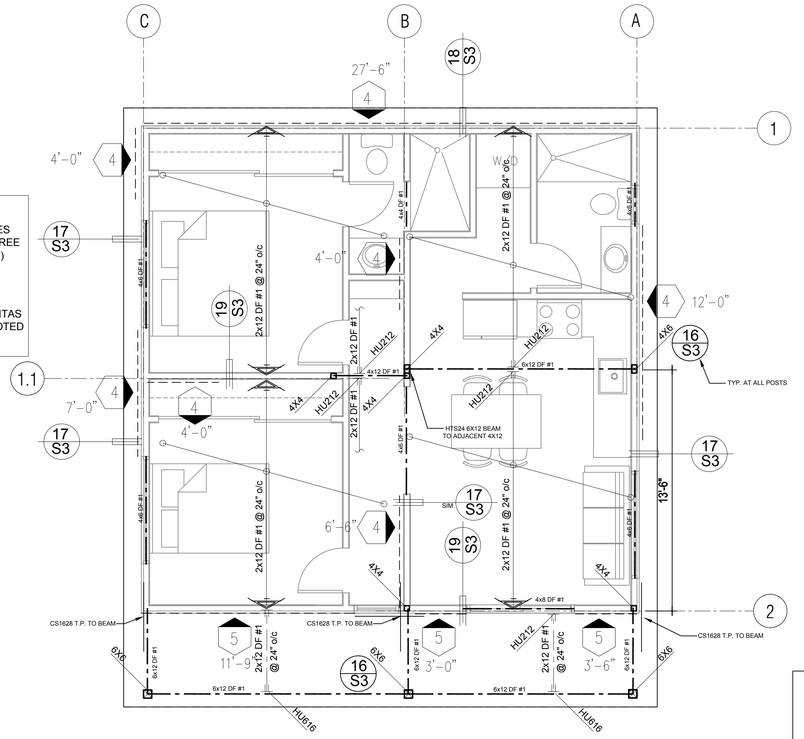
drawn by ysp

sheet no. S1



THE PLACEMENT OF BUILDINGS AND STRUCTURES ON OR ADJACENT TO SLOPES STEEPER THAN ONE UNIT VERTICAL IN THREE UNITS HORIZONTAL (33.3-PERCENT SLOPE) SHALL CONFORM TO SECTIONS R403.1.7.1 THROUGH R403.1.7.4.

OBTAIN APPROVAL BY THE CITY OF ENCINITAS WHEN SLOPED CONDITIONS OCCUR AS NOTED ABOVE..



FOUNDATION PLAN - 2 Bedrooms

1/4"=1'-0"

FRAMING PLAN - 2 Bedrooms

1/4"=1'-0"

LEGEND

- X' — SHEARWALL & A.B. SPACING PER SCHEDULE
- BOLT TYPE HOLDOWN
- BEARING OR EXTENT OF RAFTERS
- HANGER TO BEAM

SHEAR WALL SCHEDULE (ASD VALUES)

	1	2	3	4	5	6	7	8	9
SHEARWALL DESCRIPTION (See footnotes 1& 4)	½" gypsum wallboard, unblocked w/ 5d cooler or wallboard @ 7" o/c (See footnote 2)	⅝" gypsum wallboard, unblocked w/ 6d cooler or wallboard @ 4" o/c (See footnote 2)	⅞" stucco & 18ga. mesh, unblocked 0.120x1½" nails (7/16" heads) @ 6" o/c	⅜" ply. C-D or C-C sheathing, (1) side w/ 8d @ 6" o/c edge, 12" o/c field, blocked (See footnote 3 & 5)	⅜" ply. C-D or C-C sheathing, (1) side w/ 8d @ 4½" o/c edge, 12" o/c field, blocked (See footnote 3 & 5)	⅜" ply. C-D or C-C sheathing, (1) side w/ 8d @ 3" o/c edge, 12" o/c field 3x abutting panel studs blocked (See footnote 3, 5, & 6)	⅜" rated STRUCT 1 panel, (1) side w/ 8d @ 3" o/c edge, 12" o/c field 3x abutting panel studs blocked (See footnote 3, 5, & 6)	15/32" rated STRUCT 1 panel, (1) side w/ 10d @ 3" o/c edge, 12" o/c field 3x abutting panel studs blocked (See footnote 3, 5, 6, & 7)	15/32" rated STRUCT 1 panel, (1) side w/ 10d @ 2" o/c edge, 12" o/c field 3x abutting panel studs blocked (See footnote 3, 5, 6, & 7)
SHEAR VALUE	100	145	180	260*	350*	490*	550*	665*	870*
ANCHOR BOLT SPACING	⅝" @ 48" or ½" @ 48"	⅝" @ 48" or ½" @ 48"	⅝" @ 48" or ½" @ 48"	⅝" @ 48" or ½" @ 32"	⅝" @ 32" or ½" @ 24"	⅝" @ 24" or ½" @ 16"	⅝" @ 24" or ½" @ 16"	⅝" @ 16" or ½" @ 24"	⅝" @ 12" or ½" @ 8"
16d (0.148") SILL NAILING	12" or (2) @ 16"	8" or (2) @ 16"	8" or (2) @ 16"	6"	4½"	3½"	3"	¼"x4½" SDS screws @ 8"	¼"x4½" SDS screws @ 8"

(1) AT PLYWOOD OR OSB PS-1 OR PS-2 RATED PANELS USE COMMON NAILS OR GALVANIZED BOX NAILS (2) LAYERS OF PAPER EXTERIOR PLYWOOD REQUIRED. SHEARSHALL BE APPLIED OVER STUDS @ 16" O/C. GALVANIZED NAILS SHALL NOT BE HOT-DIPPED OR TUMBLED.

(2) WHEN GYPSUM WALLBOARD SHEAR IS SPECIFIED ON BOTH SIDES OF A WALL, ANCHOR BOLT SPACING SHALL BE ⅝" @ O/C OR ½" @42" O/C.

(3) WHEN PLYWOOD SHEAR IS SPECIFIED ON BOTH SIDES OF A WALL, PANEL JOINTS SHALL BE OFFSET TO FALL ON DIFFERENT FRAMING MEMBERS, OR FRAMING SHALL BE 3" NOMINAL OR THICKER AND NAILS ON EACH SIDE SHALL BE STAGGERED. STILL PLATES SHALL BE 3" NOMINAL OR THICKER WITH ANCHOR BOLTS STAGGERED TO ACHIEVE THE ½" MAX. EDGE DISTANCE FROM ALTERNATING SILL PLATE EDGES. ANCHOR BOLT SPACING TO BE REDUCED BY 50% OR AS NOTED ON THE PLANS.

(4) SILL PLATES & WASHERS SHALL COMPLY WITH THE CONCRETE FOUNDATION CONSTRUCTION AND WOOD FRAMING CONSTRUCTION NOTES. (SEE NOTES #206, 208, 209. 307, 308, 309, ETC.)

(5) IN PLYWOOD SHEARWALLS, THE EDGE OF THE 3" SQUARE WASHERS (SEE NOTE #206) SHALL BE ½" OR LESS FROM THE EDGE OF THE SILL PLATE ON THE SIDE OF THE SHEATHING. ALL NAILING SHALL BE ⅜" MIN. FROM THE EDGE OF SHEATHING.

(6) WHERE ALLOWABLE SHEAR VALUES EXCEED 350 PLF (SHEARWALL TYPES 6, 7, 8, & 9) ALL FRAMING RECEIVING NAILING FROM ABUTTING PANEL EDGES SHALL NOT BE LESS THAN A SINGLE 3" NOMINAL MEMBER OR (2) 2X MEMBERS NAILED WITH 10D , SPACING EQUAL TO THE E.N. SPACING. PLYWOOD JOINT AND SILL NAILING SHALL BE STAGGERED.

(7) IN SHEARWALL TYPES 8 & 9, SILL PLATE NAILING SHALL BE STAGGERED. AT SECOND FLOOR CONDITIONS, PROVIDE ADEQUATE RIM OR BLOCKING TO PREVENT SPLITTING.

(*) ALLOWABLE SHEAR VALUES FOR PLYWOOD SHEARWALLS MAY BE INCREASED BY 40% UNDER WIND LOADING.

SHEAR WALL NAILING

NAILS CALLED OUT IN THESE PLANS & DETAILS ARE COMMON NAILS.

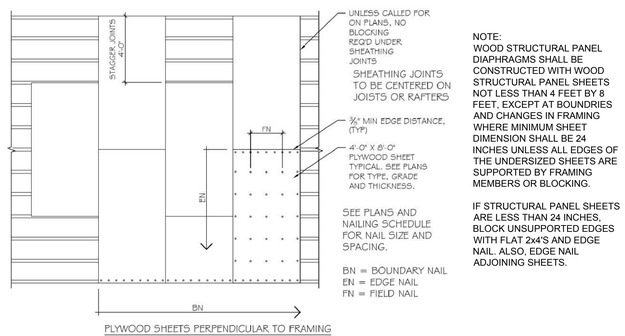
8d COMMON NAILS ARE 2½" LONG W/ 0.131" SHANK DIAM,

10d COMMON NAILS ARE 3" LONG W/ 0.148" SHANK DIAM,

16d COMMON NAILS ARE 3½" LONG W/ 0.162" SHANK DIAM.

8d, 10d, & 16d GUN OR BOX NAIL IS NOT AS LONG AND HAS LESSER SHANK DIAM, HENCE HAS A REDUCED LOAD CAPACITY OF APROX. 19%

SEE DETAIL 13/S3 FOR TYP. SHEAR WALL DETAIL



WOOD ROOF AND FLOOR SHEATHING LAYOUT

SCALE: 1" = 1'-0"

NOTE:
WOOD STRUCTURAL PANEL DIAPHRAGMS SHALL BE CONSTRUCTED WITH WOOD STRUCTURAL PANEL SHEETS NOT LESS THAN 4 FEET BY 8 FEET, EXCEPT AT BOUNDRIES AND CHANGES IN FRAMING WHERE MINIMUM SHEET DIMENSION SHALL BE 24 INCHES UNLESS ALL EDGES OF THE UNDERSIZED SHEETS ARE SUPPORTED BY FRAMING MEMBERS OR BLOCKING.

IF STRUCTURAL PANEL SHEETS ARE LESS THAN 24 INCHES, BLOCK UNSUPPORTED EDGES WITH FLAT 2x4'S AND EDGE NAIL. ALSO, EDGE NAIL ADJOINING SHEETS.

ROOF PLY:
⅝" (19/32) A.P.A. RATED SHEATHING, EXTERIOR PLY, 10d NAILS @6" B.N., 6" E.N., 12" F.N., TYPICAL

DIAPHRAGM NAILING
USE 10d NAILS, U.N.O. ON PLAN

B.N. - BOUNDRY, CONT. PANEL EDGES, STRUTS OR DRAGS	6"
E.N. - ALL OTHER PANEL EDGES	6"
F.N. - IN THE PANEL FIELD	12"
BLOCKING OF UNSUPPORTED EDGES OF PANELS W/ FLAT 2X4'S	NOT REQD, U.N.O.
ALLOWABLE SHEAR LOADS (LB/FT), FOR C-D, C-C, SHTNG, UBC STD. 23-2 & 23-3	285 / 215

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project

PRADU
City Of Enicintas

description

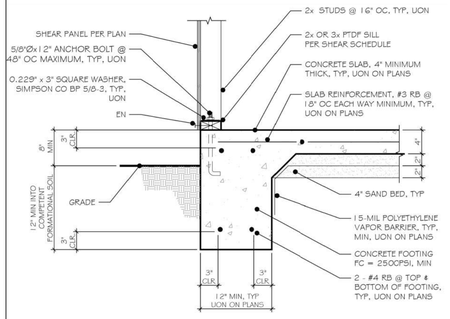
Foundation/
Framing Plan
2 Bedroom

date March 27 2019

project no. 2018 PRADU

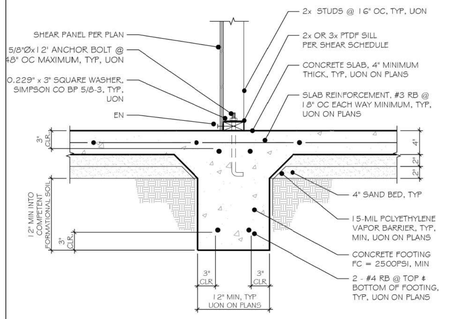
drawn by ysp

sheet no. S2



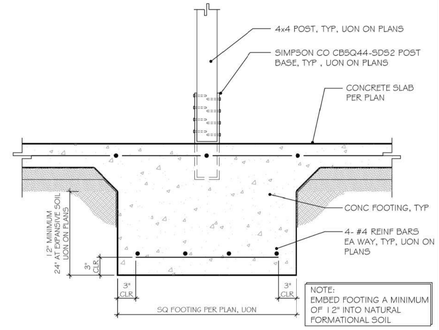
SLAB ON GRADE ONE STORY PERIMETER FOOTING

SCALE: 1" = 1'-0" 1



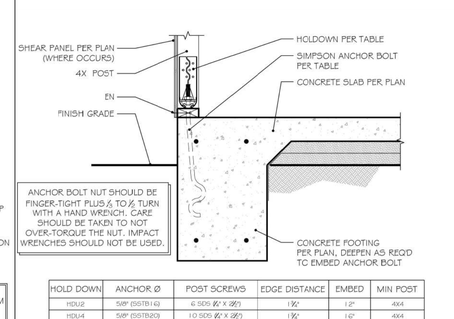
SLAB ON GRADE ONE STORY INTERIOR FOOTING

SCALE: 1" = 1'-0" 2



POST FOOTING WITHIN SLAB

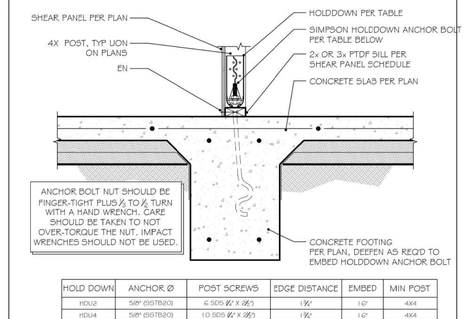
SCALE: 1" = 1'-0" 3



HOLD DOWN	ANCHOR Ø	POST SCREWS	EDGE DISTANCE	EMBED	MIN POST
HDU2	5/8" (SSTB16)	6 SDS ¼" X 2½"	1¾"	12"	4X4
HDU4	5/8" (SSTB20)	10 SDS ¼" X 2½"	1¾"	16"	4X4
HDU5	5/8" (SSTB24)	14 SDS ¼" X 2½"	1¾"	20"	4X4
HDU8	7/8" (SSTB28)	20 SDS ¼" X 2½"	1¾"	24"	4X4
HDU11	1" (S81X30)	30 SDS ¼" X 2½"	1¾"	24"	4X6
HDU14	1" (S81X30)	36 SDS ¼" X 2½"	1¾"	24"	4X8

HOLDOWN - PERIMETER FOOTING

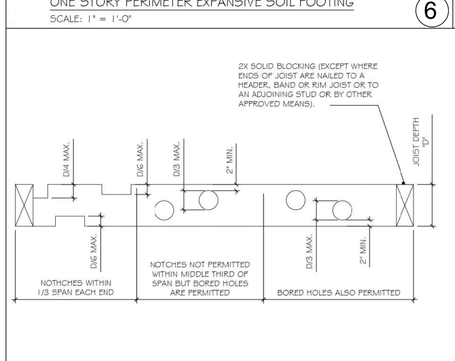
SCALE: 1" = 1'-0" 4



HOLD DOWN	ANCHOR Ø	POST SCREWS	EDGE DISTANCE	EMBED	MIN POST
HDU2	5/8" (SSTB20)	6 SDS ¼" X 2½"	1¾"	16"	4X4
HDU4	5/8" (SSTB20)	10 SDS ¼" X 2½"	1¾"	16"	4X4
HDU5	**5/8" (SSTB24)**	14 SDS ¼" X 2½"	1¾"	20"	4X4
HDU8	**7/8" (SSTB28)**	20 SDS ¼" X 2½"	1¾"	24"	4X4
HDU11	**1" (S81X30)**	30 SDS ¼" X 2½"	1¾"	24"	4X6
HDU14	**1" (S81X30)**	36 SDS ¼" X 2½"	1¾"	24"	4X8

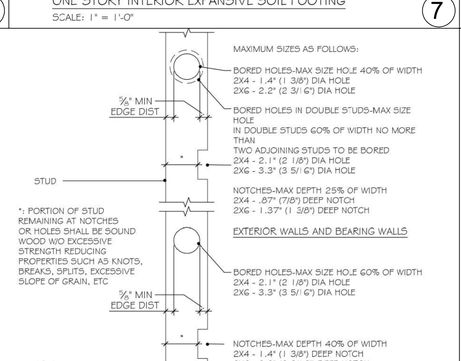
HOLDOWN - INTERIOR FOOTING

SCALE: 1" = 1'-0" 5



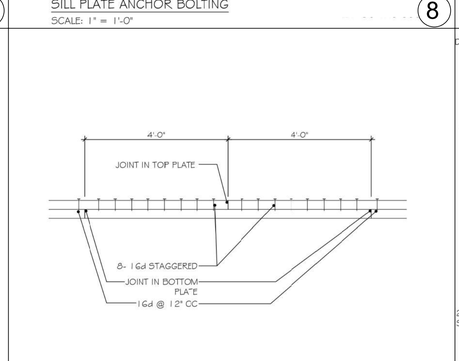
ONE STORY PERIMETER EXPANSIVE SOIL FOOTING

SCALE: 1" = 1'-0" 6



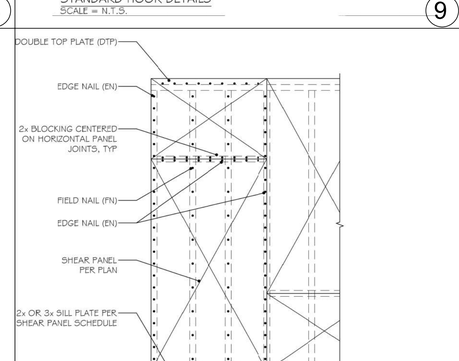
ONE STORY INTERIOR EXPANSIVE SOIL FOOTING

SCALE: 1" = 1'-0" 7



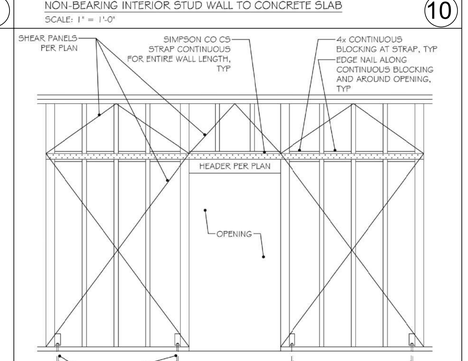
SILL PLATE ANCHOR BOLTING

SCALE: 1" = 1'-0" 8



STANDARD HOOK DETAILS

SCALE = N.T.S. 9



NON-BEARING/NON-SHEAR PARTITIONS AT TOP

SCALE: 1" = 1'-0"

NON-BEARING INTERIOR STUD WALL TO CONCRETE SLAB

SCALE: 1" = 1'-0" 10

JOIST CUTTING, BORING AND NOTCHING

SCALE = N.T.S. 11

STUD CUTTING, BORING AND NOTCHING

SCALE = NTS 12

DOUBLE TOP-PLATE SPLICE

SCALE : NTS 13

TYPICAL SHEAR PANEL

SCALE : NTS 14

SHEAR WALL DETAIL

SCALE : NTS

FRAMING FOR ROUGH WINDOW OR DOOR OPENING

SCALE: 1½" = 1'-0" 15

POST TO BEAM WITH CCQ/ECCQ

SCALE: 1" = 1'-0" 16

TYP. ROOF GABLE

EAVE CONNECTION - FRIEZE BLOCK OR SHAPED BLOCK

SCALE: 1" = 1'-0" 18

SHEAR TRANSFER @ INT. BEARING WALL AND RAFTER LAP DETAIL

19

DESIGN PATH STUDIO
architecture + design
DESIGNPATHSTUDIO.COM
P.O. BOX 230165 ENCINITAS CA 92023

project

PRADU
City Of Enicintas

description

Structural Details
2 Bedroom

date March 27 2019

project no. 2018 PRADU

drawn by ysp

sheet no. S3

PRADU 2 BED

GENERAL INFORMATION

01	Project Name	PRADU 2 Bed			
02	Calculation Description	Title 24 Analysis			
03	Project Location				
04	City	Encinitas	05	Standards Version	Compliance 2017
06	Zip Code	92024	07	Compliance Manager Version	BEMCmpMgr 2016.3.1 (1149)
08	Climate Zone	CZ7	09	Software Version	EnergyPro 7.2
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)	Cardinal
12	Project Scope	Newly Constructed	13	Number of Dwelling Units	1
14	Total Cond. Floor Area (ft^2)	745	15	Number of Zones	1
16	Slab Area (ft^2)	745	17	Number of Stories	1
18	Addition Cond. Floor Area(ft^2)	n/a	19	Natural Gas Available	Yes
20	Addition Slab Area (ft^2)	n/a	21	Glazing Percentage (%)	15.6%

COMPLIANCE RESULTS

01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

ENERGY USE SUMMARY

Energy Use ($kTDV/ft^2/yr$)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	0.47	3.77	-3.30	-702.1%
Space Cooling	8.37	3.28	5.09	60.8%
IAQ Ventilation	1.94	1.94	0.00	0.0%
Water Heating	18.57	18.57	0.00	0.0%
PV Credit	----	0.00	0.00	----
North Facing Compliance Total	**29.35**	**27.56**	**1.79**	**6.1%**
Space Heating	0.47	2.12	-1.65	-351.1%
Space Cooling	8.37	3.73	4.64	55.4%
IAQ Ventilation	1.94	1.94	0.00	0.0%
Water Heating	18.57	18.57	0.00	0.0%
PV Credit	----	0.00	0.00	----
East Facing Compliance Total	**29.35**	**26.36**	**2.99**	**10.2%**
Space Heating	0.47	1.92	-1.45	-308.5%
Space Cooling	8.37	5.05	3.32	39.7%
IAQ Ventilation	1.94	1.94	0.00	0.0%
Water Heating	18.57	18.57	0.00	0.0%
PV Credit	----	0.00	0.00	----
South Facing Compliance Total	**29.35**	**27.48**	**1.87**	**6.4%**
Space Heating	0.47	3.42	-2.95	-627.7%
Space Cooling	8.37	3.96	4.41	52.7%
IAQ Ventilation	1.94	1.94	0.00	0.0%
Water Heating	18.57	18.57	0.00	0.0%
PV Credit	----	0.00	0.00	----
West Facing Compliance Total	**29.35**	**27.89**	**1.46**	**5.0%**

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	55.0	55.0	0.0	55.0
East	55.0	54.5	0.0	54.5
South	55.0	55.0	0.0	55.0
West	55.0	55.2	0.0	55.2

☐ 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.

- **Window overhangs and/or fins**
- **Exposed slab floor in conditioned zone**
- **Non-standard duct location (any location other than attic)**

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:
- **IAQ mechanical ventilation**

Cooling System Verifications:
- **-- None --**

HVAC Distribution System Verifications:
- **Duct Sealing**
- **Ducts located entirely in conditioned space confirmed by duct leakage testing**

Domestic Hot Water System Verifications:
- **-- None --**

BUILDING - FEATURES INFORMATION

01 Project Name	02 Conditioned Floor Area (ft^2)	03 Number of Dwelling Units	04 Number of Bedrooms	05 Number of Zones	06 Number of Ventilation Cooling Systems	07 Number of Water Heating Systems
PRADU 2 Bed	745	1	2	1	0	1

ZONE INFORMATION

01 Zone Name	02 Zone Type	03 HVAC System Name	04 Zone Floor Area (ft^2)	05 Avg. Ceiling Height	06 Water Heating System 1	07 Water Heating System 2
2 Bed	Conditioned	New Furnace1	745	8.9	DHW Sys 1	n/a

OPAQUE SURFACES

01 Name	02 Zone	03 Construction	04 Azimuth	05 Orientation	06 Gross Area (ft^2)	07 Window & Door Area (ft^2)	08 Tilt (deg)
Front Wall 2 Bed	2 Bed	R-15 Wall	0	Front	271	52.02	90
Right Wall 2 Bed	2 Bed	R-15 Wall	270	Right	240	16	90
Back Wall 2 Bed	2 Bed	R-15 Wall	180	Back	221	0	90
Left Wall 2 Bed	2 Bed	R-15 Wall	90	Left	240	48	90

OPAQUE SURFACES - Cathedral Ceilings

01 Name	02 Zone	03 Type	04 Orientation	05 Area (ft^2)	06 Skylight Area (1/2)	07 Roof Rise (x in 12)	08 Roof Reflectance	09 Roof Emittance	10 Cool Roof
Roof 2 Bed	2 Bed	R-30 Roof Cathedral	Front	745	0	0.8	0.1	0.85	No

FENESTRATION / GLAZING

01 Name	02 Type	03 Surface (Orientation-Azimuth)	04 Width (ft)	05 Height (ft)	06 Multiplier	07 Area (ft^2)	08 U-factor	09 SHGC	10 Exterior Shading
SI Door #1	Window	Front Wall 2 Bed (Front-0)	6.0	6.7	1	40.0	0.32	0.23	Insect Screen (default)
Window #D	Window	Front Wall 2 Bed (Front-0)	3.0	4.0	1	12.0	0.32	0.23	Insect Screen (default)
Window #A	Window	Right Wall 2 Bed (Right-270)	----	----	1	12.0	0.32	0.23	Insect Screen (default)
Window #B	Window	Right Wall 2 Bed (Right-270)	----	----	1	4.0	0.32	0.23	Insect Screen (default)
Window (2) #C	Window	Left Wall 2 Bed (Left-90)	----	----	1	48.0	0.32	0.23	Insect Screen (default)

OVERHANGS AND FINS

01	02	03	04	05	06	07	08	09	10	11	12	13	14
	Overhang					Left Fin				Right Fin			
Window	Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	Dist L	Bot Up	Depth	Top Up	Dist R	Bot Up
SI Door #1	5.25	3.17	2	2	0	0	0	0	0	0	0	0	0
Window #D	5.25	3.17	2	2	0	0	0	0	0	0	0	0	0

OPAQUE SURFACE CONSTRUCTIONS

01 Construction Name	02 Surface Type	03 Construction Type	04 Framing	05 Total Cavity R-value	06 Winter Design U-factor	07 Assembly Layers
R-15 Wall	Exterior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 15	0.095	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-15 / 2x4* • *Exterior Finish: 3 Coat Stucco*
R-30 Roof Cathedral	Cathedral Ceilings	Wood Framed Ceiling	2x10 @ 24 in. O.C.	R 30	0.035	• *Inside Finish: Gypsum Board* • *Cavity / Frame: R-30 / 2x10* • *Roof Deck: Wood Siding/sheathing/decking* • *Roofing: Light Roof (Asphalt Shingle)*

SLAB FLOORS

01 Name	02 Zone	03 Area (ft^2)	04 Perimeter (ft)	05 Edge Insul. R-value & Depth	06 Carpeted Fraction	07 Heated
Slab-on-Grade 2 Bed	2 Bed	745	109	None	0	No

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

01 Name	02 System Type	03 Distribution Type	04 Water Heater	05 Number of Heaters	06 Solar Fraction (%)
DHW Sys 1	DHW	Standard	DHW Heater 1 (1)	1	0%

WATER HEATERS

01 Name	02 Heater Element Type	03 Tank Type	04 Number of Units	05 Tank Volume (gal)	06 Uniform Energy Factor / Energy Factor / Efficiency	07 Input Rating / Pilot / Thermal Efficiency	08 Tank Insulation R-value (Int/Ext)	09 Standby Loss / Recovery Eff	10 First Hour Rating / Flow Rate	11 NEEA Heat Pump Brand / Model / Other	12 Tank Location or Ambient Condition
DHW Heater 1	Gas	Small Instantaneous	1	0	0.82 EF	<= 200 kBtu/hr	R-0/R-0	0	n/a	n/a	n/a

SPACE CONDITIONING SYSTEMS

01 SC Sys Name	02 System Type	03 Heating Unit Name	04 Cooling Unit Name	05 Fan Name	06 Distribution Name
New Furnace1	Other Heating and Cooling System	Heating Component 1	Cooling Component 1	HVAC Fan 1	Air Distribution System 1

HVAC - HEATING UNIT TYPES

01 Name	02 System Type	03 Number of Units	04 Efficiency
Heating Component 1	Central Furnace	1	80 AFUE

HVAC - DISTRIBUTION SYSTEMS

01 Name	02 Type	03 Duct Leakage	04 Insulation R-value	05 Duct Location	06 Bypass Duct	07 HERS Verification
Air Distribution System 1	DuctsInAll	Sealed and tested	6	Conditioned zone	None	Air Distribution System 1-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION

01 Name	02 Duct Leakage Verification	03 Duct Leakage Target (%)	04 Verified Duct Location	05 Verified Duct Design	06 Buried Ducts	07 Deeply Buried Ducts	08 Low-leakage Air Handler
Air Distribution System 1-hers-dist	Required	5.0	Required	Not Required	not Required	Not Required	n/a

HVAC - FAN SYSTEMS

01 Name	02 Type	03 Fan Power (Watts/CFM)	04 HERS Verification
HVAC Fan 1	Single Speed PSC Furnace Fan	0.58	n/a

IAQ (Indoor Air Quality) FANS

01 Dwelling Unit	02 IAQ CFM	03 IAQ Watts/CFM	04 IAQ Fan Type	05 IAQ Recovery Effectiveness(%)	06 HERS Verification
SFam IAQVentRpt	30	0.25	Default	0	Required

PROJECT NOTES

Energy Pro uses Ashrae for HVAC sizing.

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name:	Documentation Author Signature:
Diane Mendoza	*Diane Mendoza*
Company: D & R Calcs	Signature Date: 2018-12-05 14:28:49
Address: 14107 Ipava Drive	CEA/HERS Certification Identification (If applicable): n/a
City/State/Zip: Poway, CA 92064	Phone: 858-486-9506

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:	Responsible Designer Signature:
Yvonne St Pierre	*Yvonne St Pierre*
Company: Design Path Studio	Date Signed: 2018-12-05 15:43:25
Address: 364 Second St Suite 2	License: C 34789
City/State/Zip: Encinitas. CA 92024	Phone: 760-944-1443

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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DESIGN PATH STUDIO
architecture + design
DESIGNPATHSTUDIO.COM
P.O. BOX 230165 ENCINITAS CA 92023

project

PRADU
City Of Enicintas

description

Energy Calculations
2 Bedrooms

date March 27 2019

project no. 2018 PRADU

drawn by ysp

sheet no. T24.1

T-24 NOTES

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/ft² or less when tested per NFRC-400 or ASTM E283 or AAMA/WDMA/CSA 101/I.S.2/A440-2011.*
§ 110.6(a)5:	**Labeling.** Fenestration products must have a label meeting the requirements of § 10-111(a).
§ 110.6(b):	**Field fabricated exterior doors and fenestration** products must use U-factors and solar heat gain coefficient (SHGC) values from TABLES 110.6-A and 110.6-B for compliance and must be caulked and/or weatherstripped.*
§ 110.7:	**Air Leakage.** All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather stripped.
§ 110.8(a):	**Insulation Certification by Manufacturers.** Insulation specified or installed must meet Standards for Insulating Material.
§ 110.8(g):	**Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(g).
§ 110.8(i):	**Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.8(i) when the installation of a cool roof is specified on the CF1R.
§ 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 roof alteration. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a continuous roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.*
§ 150.0(b):	**Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.
§ 150.0(c):	**Wall Insulation.** Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less (R-19 in 2x6 or U-factor of 0.074 or less). Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102, equivalent to an installed value of R-13 in a wood framed assembly.*
§ 150.0(d):	**Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor.*
§ 150.0(f):	**Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3%; have a water vapor permeance no greater than 2.0 perm/inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g).
§ 150.0(g)1:	**Vapor Retarder.** In Climate Zones 1-16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).
§ 150.0(g)2:	**Vapor Retarder.** In Climate Zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 150.0(q):	**Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.58; or the weighted average U-factor of all fenestration must not exceed 0.58.*
Fireplaces, 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 tight-fitting damper or combustion-air control device.*
§ 150.0(e)1C:	**Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.*
§ 150.0(e)2:	**Pilot Light.** Continuous burning pilot lights and the use of indoor air for cooling a firebox jacket, when that indoor air is vented to the outside of the building, are prohibited.
Space Conditioning, Water Heating, and Plumbing System Measures:	
§ 110.0-§ 110.3:	**Certification.** Heating, ventilation and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the Energy Commission.*
§ 110.2(a):	**HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in TABLE 110.2-A through TABLE 110.2-K.*
§ 110.2(b):	**Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.*
§ 110.2(c):	**Thermostats.** All unitary heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.*
§ 110.3(c)5:	**Water Heating Recirculation Loops Serving Multiple Dwelling Units.** Water heating recirculation loops serving multiple dwelling units must meet the air release valve, backflow prevention, pump priming, pump isolation valve, and recirculation loop connection requirements of § 110.3(c)5.
§ 110.3(c)7:	**Isolation Valves.** Instantaneous water heaters with an input rating greater than 6.8 kBTU/hr (2 kW) must have isolation valves with hose bibbs or other fittings on both cold water and hot water lines of water heating systems to allow for water tank flushing when the valves are closed.
§ 110.5:	**Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances (appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu/hr are exempt); and pool and spa heaters.*
§ 150.0(h)1:	**Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; SMACNA Residential Comfort System Installation Standards Manual; or ACCA Manual J using design conditions specified in § 150.0(h)2.

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 dryer 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(j)1:	**Storage Tank Insulation.** Unfired hot water tanks, such as storage tanks and backup storage tanks for solar water-heating systems, must have R-12 external insulation or R-16 internal insulation where the internal insulation R-value is indicated on the exterior of the tank.
§ 150.0(j)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 or between tanks; piping buried below grade; and all hot water pipes from the heating source to kitchen fixtures.*
§ 150.0(j)2B:	**Water piping and cooling system line insulation.** All domestic hot water pipes that are buried below grade must be installed in a water proof and non-crushable casing or sleeve.*
§ 150.0(j)2C:	**Water piping and cooling system line insulation.** Pipe for cooling system lines must be insulated as specified in § 150.0(j)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)3:	**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 retardant 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(n)1:	**Gas or Propane Systems.** Systems using gas or propane water heaters to serve individual dwelling units must include all of the following: a 120V electrical receptacle within 3 feet of the water heater; a Category III or IV vent, or a Type B vent with straight pipe between the outside termination and the space where the water heater is installed; a condensate drain that is no more than 2 inches higher than the base of the water heater, and allows natural draining without pump assistance; and a gas supply line with a capacity of at least 200,000 Btu/hr.
§ 150.0(n)2:	**Recirculating Loops.** Recirculating loops serving multiple dwelling units must meet the requirements of § 110.3(c)5.
§ 150.0(n)3:	**Solar Water-heating Systems.** Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC) or by a listing agency that is approved by the Executive Director.
Ducts and Fans Measures:	
§ 110.8(d)3:	**Ducts.** Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement.
§ 150.0(m)1:	**CMC Compliance.** All air-distribution system ducts and plenums must be installed, sealed, and insulated to meet the requirements of CMC §§ 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 (or higher if required by CMC § 605.0) or a minimum installed level of R-4.2 when entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8). Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable requirements of UL 181, UL 181A, or UL 181B or aerosol sealant that meets the requirements of UL 723. If mastic or tape is used to seal openings greater than ¼ inch, the combination of mastic and either mesh 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 seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.
§ 150.0(m)3:	**Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
§ 150.0(m)7:	**Backdraft Dampers.** All fan systems that exchange air between the conditioned space and the outside of the building must have backdraft or automatic dampers.
§ 150.0(m)8:	**Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.
§ 150.0(m)9:	**Protection of Insulation.** Insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service. For example, protected by aluminum, sheet metal, painted canvas, or plastic cover. Cellular foam insulation must be protected as above or painted with a coating that is water retardant and provides shielding from solar radiation.
§ 150.0(m)10:	**Porous Inner Core Flex Duct.** Porous inner core flex duct must have a non-porous layer between the inner core and outer vapor barrier.
§ 150.0(m)11:	**Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with § 150.0(m)11and 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 evaporative coolers, must be provided with air filter devices that meet the design, installation, efficiency, pressure drop, and labeling requirements of § 150.0(m)12.

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§ 150.0(m)13:	**Duct System Sizing and Air Filter Grille Sizing.** Space conditioning systems that use forced air ducts to supply cooling to an occupiable space must have a hole for the placement of a static pressure probe (HSPP), or a permanently installed static pressure probe (PSPP) in the supply plenum. The space conditioning system must also demonstrate airflow ≥ 350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy ≤ 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(o)1A:	**Field Verification and Diagnostic Testing.** Whole-building ventilation airflow must be confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.7.
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 not 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 only during off-peak electric demand periods.
§ 110.5:	**Pilot Light.** Natural gas pool and spa heaters must not have a continuously burning pilot light.
§ 150.0(p):	**Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate, piping, filters, and valves.*
Lighting 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):	**JA8 High Efficacy Light Sources.** To qualify as a JA8 high efficacy light source for compliance with § 150.0(k), a residential light source must be certified to the Energy Commission according to Reference Joint Appendix JA8.
§ 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 JA8-2016-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 13 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 installed luminaires or exhaust fans must be rated to consume no more than 5 watts of power per luminaire or exhaust fan as determined in accordance with § 130.0(c). Night lights do not need to be controlled by vacancy sensors.
§ 150.0(k)1F:	**Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(k).*
§ 150.0(k)1G:	**Screw based luminaires.** Screw based luminaires must not be recessed downlight luminaires in ceilings and must contain lamps that comply with Reference Joint Appendix JA8. Installed lamps must be marked with "JA8-2016" or "JA8-2016-E" as specified in Reference Joint Appendix JA8.*
§ 150.0(k)1H:	**Enclosed Luminaires.** Light sources installed in enclosed luminaires must be JA8 compliant and must be marked with "JA8-2016-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)2D:	**Interior Switches and Controls.** Controls and equipment must be installed in accordance with manufacturer's instructions.
§ 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.

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§ 150.0(k)2J:	**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)2K:	**Interior Switches and Controls.** Dimmers or vacancy sensors must control all luminaires required to have light sources compliant with Reference Joint Appendix JA8, 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)3Ai (ON and OFF switch) and the requirements in either item § 150.0(k)3Aii (photocell and motion sensor) or item § 150.0(k)3Aiii (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 § 140.8; 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, 140.6, and 141.0.
§ 150.0(k)6A:	**Interior Common Areas of Low-rise Multi-Family 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 Multi-Family 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 designed 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(e).
§ 110.10(a)2:	**Low-rise Multi-family Buildings.** Low-rise multi-family 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 multi-family buildings the solar zone must be located on the roof or overhang of the building, or on the roof or overhang of another structure located within 250 feet of the building, or on covered parking installed with the building project, and have a total area no less than 15 percent of the total roof area of the building excluding any skylight area.*
§ 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 a solar zone must be located at least twice the distance, measured in the horizontal plane, of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.*
§ 110.10(b)4:	**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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project

PRADU
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description

Energy
Calculations
2 Bedrooms

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