Department of Community Development
RESIDENTIAL CORRECTIONS LIST (2016 CRC)
2000 MAIN ST., HB, CA 92648
(714) 536-5241 FAX: (714) 374-1647

PERMIT #:		**ADDRESS:**	
Date:		OWNER:	
Plan Checker:		Contact Person:	
Plan Checker Tel:		Contact Tel:	
Description:			

INSTRUCTIONS

- **Please see corrections on submitted plans. Red marked set must be returned with revised plans.** Plans resubmitted without the red markup set may result in delayed review time and additional plan check fees.
- Please note that additional corrections may be required following review of the revised plans. Completion of the corrections and/or submittal of revised plans do not presume approval.
- To expedite your project, please provide a written or oral response. Incomplete response may delay approval.
- Appointments need to be made prior to counter checks. Please call the plan checker to schedule an appointment.
- All substantial revisions or additions must be fully clouded with a revision mark.
- Three wet signed sets are required for permit issuance.
- Projects with Zoning Entitlements, Conditions of Approval and Code Requirements identified herein (*see Notice of Action*) and Code Requirements identified in separately transmitted memorandums from each department: Planning and Building, Fire and Public Works, shall be printed verbatim on one of the first three (3) pages of all the working drawing sets used for issuance of permits (i.e.: Architectural / Structural, Mechanical, Electrical and Plumbing), and shall be referenced in the title block index. The minimum font size utilized for printed text shall be 12 point..

PLEASE ADDRESS ALL CHECKED CORRECTION AND HAND-WRITTEN COMMENTS BELOW

APPROVALS

- ❑ **Planning Department**: Obtain Planning approval on the final plans prior to issuance of building permit. Call 714-536-5271 for status.
- ❑ **Public Works Department**: Obtain Public Works approval prior to issuance of building permit. Call 714-536-5431 for status.
- ❑ **Fire Department**: Obtain Fire Department approval prior to issuance of building permit. Call 714-536-5411 for status.

GENERAL

☐ 1. The following plans are required for plan review and shall be drawn to scale with sufficient clarity.
   a) Site plans: 1/8”=1’-0” or 1”=10’
   b) Floor plans: 1/4"=1’-0”
   c) Framing plans: 1/4’”=1’-0”
   d) Details: 1/2"=1’-0”
   e) Minimum 3-sets are required for review
   f) Minimum size: 11”x17”
   g) Provide complete details (including disabled access and structural), notes, and specifications

☐ 2. Submitted plans and related documents are not complete. Additional reviewing time may be necessary upon re-submittal. Please submit complete plans for review.

☐ 3. Plans are illegible and/or prints are to light/dark to microfilm. Provide clear legible plans for review.

☐ 4. Designer’s contact information is required on title sheet and wet signature required on all sheets.

☐ 5. Licensed architect or professional engineer’s contact information required on the title sheet. Wet stamp and signature or electronic signature required on all sheets and calculations cover page. (R106.1)

☐ 6. Huntington Beach Security Ordinance: the Security Ordinance shall be electronically placed / made a part of plans.
   a. Add a note that: “*All doors & windows shall meet Huntington Beach Security Ordinance*.”

☐ 7. Provide the following with each set of plans:
   a. Complete plot plan showing yard setbacks, easements, lot dimensions, distances between buildings, size of building, etc.
   b. Fully dimensioned floor plan of each level
   c. Fully dimensioned Roof plan
   d. Fully dimensioned Foundation plan
   e. Building cross sections
   f. Building elevations. Show floor and top of roof elevations, natural and finished grade around the perimeter of the building
   g. Architectural details
   h. Door/ window schedule – identify all “Egress” door/windows and all other door/window coordinate onto floor plan.

i. Structural foundation, roof, and floor plans, with referenced construction details

☐ 8. Please provide a copy of the City of Huntington Beach Construction & Debris Waste Reduction and Recycling Plan (WRRP) worksheets on all building plan check submittals

TITLE SHEET

☐ 1. Provide a **Table of Contents** or sheet legend.

☐ 2. **Project Info**: ☐ Job address ☐ Legal Information ☐ Owner ☐ Number of Stories

☐ 3. **Building Info**: ☐ Construction type ☐ Occupancy type

☐ 4. **Project Scope**: ☐ Full description ☐ New-Existing-Converted-Remodeled Areas ☐ Deck-Balcony-Covered Porch Areas

☐ Garage-Carport Areas ☐ Number of New and Existing Bedrooms & Bathrooms

☐ 5. List **applicable Codes**: 2016 CRC (and/or 2016 CBC), 2016 CPC, 2016 CMC, 2016 CEC, 2016 CA Energy Code (2016 Building Energy Efficiency Standards), 2016 CGBC, and H.B. Municipal Code

☐ 6. If applicable add note: "*Building design is based on Type V Conventional Framing provisions of the 2016 CRC*."

☐ 7. Deferred submittals for any element of a single family dwelling, except fire sprinklers & roof truss, shall not be allowed. All building elements shall be submitted and reviewed as a part of the plan review process prior to any permit issuance. Remove any reference to deferred submittals from the plans.

☐ 8. A statement shall be provided on the cover of the plans identifying that structural design and details fully conform to all appropriate requirements of this code, the California Residential Code. Should a portion or all of the structural design conform to the requirements of the California Building Code, as allowed in the CRC, the statement shall clearly identify which portions of the structural design conform to the CBC or that the full structural design is in conformance with the structural requirements of the California Building Code. (R301.1.3 CRC)

☐ 9. Building shall have address numbers placed in a position that is plainly legible and visible from the street or road fronting the property. Numbers shall contrast with background, be Arabic or alphabetical letters and be a minimum of 4" high with a minimum stroke of ½". (R319.1 CRC)

PLOT PLAN

☐ 1. Complete plot plan showing yard setbacks, easements, lot dimensions, all attached or detached structures, distances between buildings, size of building, etc.

☐ 2. Show exterior walls and allowable openings in walls for fire separation distance requirements per table R302.1 (1) and/or R302.1 (2).

☐ 3. Show eaves/overhangs/projections for fire separation distance requirements per table R302.1 (1) and/or R302.1 (2).

☐ 4. Lots shall be graded to drain surface water away from foundation walls. The grade shall fall a minimum of 6" within the first 10'. (R401.3)

FLOOR PLAN

☐ 1. Wall legend to distinguish between new / existing / demo walls.

☐ 2. List the use of each room (Note that rooms with closets shall be considered as bedrooms per H.B. City policy).

☐ 3. Every dwelling unit shall have at least one room of minimum 70 s.f. of net floor area. (R304.1 CRC)

☐ 4. Other habitable rooms shall not have a net floor area of less than 70 s.f., except kitchens. (R304.1CRC)

☐ 5. Habitable rooms shall not be less than 7' in any horizontal dimension, except kitchens. (R304.2 CRC)

☐ 6. Portions of a room with a sloping ceiling measuring less than 5' or a furred ceiling measuring less than 7' shall not be considered as contributing to the minimum required habitable area for that room. (R304.3 CRC)

☐ 7. Habitable space, hallways, bathrooms, toilet rooms, laundry rooms and portions of basements containing these spaces shall have a ceiling height of not less than 6'-8". (R305.1)
Exception:

a) For rooms with sloped ceilings, at least 50 percent of the required floor area of the room must have a ceiling height of at least 7' and no portion of the required floor area may have a ceiling height of less than 5'.

b) Bathrooms shall have a minimum ceiling height of 6'-8" at the center of the front clearance area for fixtures. The ceiling height above fixtures shall be such that the fixture is capable of being used for its intended purpose.

☐ 8. Basements that do not contain habitable spaces shall have a ceiling height of not less than 6'-8". Beams, girders, ducts or other obstructions may project to within 6'-4" of the floor. (R305.1.1 + exception)

☐ 9. Provide at least one side-hinged door with clear width of 32" and a clear height of 78" on floor plan. (R311.2)

☐ 10. Thresholds: ☐ ¾" maximum at sliders ☐ ½" maximum for other doors ☐ Thresholds > ¼" shall be beveled at 1:2

☐ 7 ¾" threshold drop for exterior doors not a component of a means of egress not to swing over landing or step

☐ 11. Provide a floor or landing on the each side of every exterior door. Landing shall have a width not less than the width of the door and be a minimum of 36" in length. (R311.3 CRC)

a) The landing at required out-swinging door shall not be more than 1-½" lower than the top of the threshold. (R311.3.1)

b) The landing at in-swinging doors and doors other than the required egress shall not be more than 7-¾" below the top of the threshold. (R311.3.1 Exception)

☐ 12. Minimum hallway width shall be not less than 3 feet. Revise plans. (R311.6 CRC)

☐ 13. Basements, habitable attics and every sleeping room shall have at least one operable emergency escape and rescue opening. Such openings shall open directly into a public way, yard or court that opens to a public way, provide details on plans: (R310.1 CRC).

a) Emergency escape and rescue openings shall have a net clear opening of 5.7 s.f. (R310.2.1)

Exception: Minimum clear opening for grade floor openings shall be 5 s.f. (R310.2.1)

b) Minimum net clear opening height dimension shall be 24". (R310.2.1)

c) Minimum net clear opening width dimension shall be 20". (R310.2.1)

d) Emergency escape and rescue opening shall have a sill height not more than 44" above the floor. (R310.2.2)

e) Emergency escape and rescue openings with finished sill height below adjacent ground level (basements) shall be provided with a window well. (R310.2.3)

f) Minimum horizontal area of a window well shall be 9 s.f. with a minimum horizontal dimension of 36" and shall be fully open. (R310.2.3)

☐ 14. Window wells with a vertical depth of more than 44" shall be equipped with a permanently affixed ladder or steps. (R310.2.3.1)

☐ 15. Walls separating two-family dwelling units shall be minimum 1-hour fire partition. Fire rated floor-ceiling and wall assemblies shall extend to and be tight against the exterior wall, and wall assemblies shall extend from the foundation to the underside of the roof sheathing. Provide details on the plans. (R302.3)
Exception:

1) A fire-resistance rating of ½ hour shall be permitted in buildings equipped with automatic fire sprinklers.

2) Wall assemblies need not extend through attic spaces when the ceiling is protected by not less than 5/8" Type X gypsum board and an attic draft stop per R302.12.1 is provided above and along the wall assembly separating the dwellings. Framing supporting the 5/8" ceiling shall be protected by ½" gypsum board or equivalent.

☐ 16. Penetrations in wall or floor/ceiling assemblies in two-family dwellings shall comply with Section R302.2 or R302.3. Provide complete details on the plans.

☐ 17. Walls separating dwelling units shall provide airborne sound insulation for walls with an STC rating of at least 45. Provide details on plans and provide verification of a tested assembly to achieve the required STC rating of 45. (A-K 102.1)

☐ 18. Floor/ceiling assemblies separating dwelling units shall have both an STC and an IIC rating of at least 45. Provide details on plans and provide verification of tested assemblies to achieve the required STC and IIC ratings of 45. (A-K102.1 & A-K103.1)
Exception:

a) A fire-resistance rating of ½ hour shall be permitted in buildings equipped with automatic fire sprinklers.

b) Wall assemblies need not extend through attic spaces when the ceiling is protected by not less than 5/8" Type X gypsum board and an attic draft stop per R302.12.1 is provided above and along the wall assembly separating the dwellings. Framing supporting the 5/8" ceiling shall be protected by ½" gypsum board or equivalent.

☐ 19. Townhouses shall be separated by either two 1-hr rated walls or may have a 1-hr rated wall if such walls do not contain plumbing or mechanical equipment, ducts or vents in the cavity of the common wall. The single wall shall be rated for fire exposure from both sides and shall extend to and be tight against exterior walls and the underside of roof sheathing. Provide complete details on the plans. (R302.2, See #1 & #2)

☐ 20. Townhouse fire-resistive-rated wall assemblies shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall, including extensions through and separating attached enclosed accessory structures. Provide complete details on the plans. (R302.2.1)

☐ 21. Townhouse exterior and common walls shall have parapets constructed of the same fire-resistive rating as required for the supporting wall. On any side adjacent to a roof surface, the parapet shall have noncombustible faces for the upper 18", to include counter flashing and coping. Where the roof slopes toward a parapet at slopes greater than 2:12, the parapet shall extend to the same height as any portion of the roof within 3', but not less than 30". The following conditions shall apply. Provide complete details on the plans. (R302.2.3)

1) Where roof surfaces on each side of the wall are the same elevation, the parapet shall be not less than 30" above the roof surface. (R302.2)

2) Where roof surfaces on each side of the wall are at different elevations and the higher roof is not more than 30" above the lower roof, the parapet shall extend not less than 30" above the lower roof.
Exception: A parapet is not required in the two cases above when the roof covering is Class C minimum, the roof decking or sheathing is noncombustible or fire retardant treated wood for a distance of 4' on each side of the wall or one layer of 5/8" Type X gypsum board is installed directly beneath the roof decking and supported by a minimum of 2" nominal ledgers attached to sides of the roof framing members, for a minimum of 4' on each side of the wall or walls and there are no openings or penetrations in the roof within 4 feet of the common wall. (R302.2)

3) A parapet is not required where roof surfaces on each side of the wall are of different heights and the higher roof is more than 30" above the lower roof. (R302.2)

☐ 22. Each individual townhouse shall be structurally independent. Provide complete details on the plans. (R302.2.4)

☐ 23. New one and two family dwellings and townhomes shall install an automatic residential fire sprinkler system. Note on the plans. (R313.1 & R313.2)

☐ 24. Existing one and two family dwellings and townhomes shall provide an automatic residential fire sprinkler system when one of the following conditions exist (R313.1 & R313.2):

a) An addition occurs and the combined area of the existing building plus the area of the addition, including attached garage, exceeds 5,000 s.f.; or (R313.2. Exception)

b) Any addition when the existing building is already provided with an automatic sprinkler system.
Note: Portions of the structure not required to be protected by the automatic sprinkler system do not need to be included into the floor area calculations. Sprinklers shall not be required in open attached porches, carports and similar open structures. Note on plans, submit sprinkler plans to City of Huntington Beach Fire Department and provide plans approved by City of Huntington Beach Fire Department at time of framing inspection. (R313.3.1.2)

☐ 25. Floor/ceiling assemblies separating dwelling units shall have a minimum 1-hr fire rated assembly. Provide details on the plans of a listed 1-hr rated assembly. (R302.3)

☐ 26. Bathtub and shower floors and walls above bathtubs with showers and shower compartments shall be finished with a nonabsorbent surface to a height of 6' above finished floor (R307.2 CRC)

☐ 27. Cement, fiber-cement, fiber-mat reinforced cement, glass mat gypsum or fiber-reinforced gypsum backers shall be used as a base for wall tile in tub and shower areas and wall and ceiling panels in shower areas. (R702.4.2 CRC) (see Table R702.4.2)

☐ 28. Safety or tempered glazing (CRC R308.4): Denote location where required.

a) Glazing in swinging, sliding and bi-fold doors. (R308.4.1)

b) Glazing in enclosures for or walls facing hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers where the bottom exposed edge is less than 60" measured vertically above a standing or walking surface. (R308.4.5 add Fences)
Exception: Glazing that is more than 60" measured horizontally from the water's edge of a hot tub, whirlpool or bathtub.

c) Glazing in walls and fences adjacent to indoor and outdoor pools, hot tubs and spas where the bottom edge of the glazing is less than 60" above the walking surface and within 60" measured horizontally of the water's edge. This shall apply to single and multiple pane glazing. (R308.4.5)

d) Glazing in an individual fixed or operable panel adjacent to a door where the nearest vertical edge is within a 24" arc of the door in a closed position and the bottom edge is less than 60" above the walking surface. (R308.4.2)
Exception:

1. Decorative glazing
2. Where there is an intervening wall or other permanent barrier between the door and the glazing.
3. Glazing on the latch side of and perpendicular to the plane of the door in the closed position.
4. Glazing adjacent to a door where access thru the door is to a closet or storage area 3' or less in depth.
5. Glazing that is adjacent to the fixed panel of a patio door.

e) Glazing in an individual fixed or operable panel that meets all of the following (R308.4.3);

1. The exposed area of an individual pane is larger than 9 s.f.; and
2. The bottom edge of the glazing is less than 18" above the floor; and
3. The top edge of the glazing is more than 36" above the floor; and
4. One or more walking surfaces are within 36" measured horizontally of the glazing.

Exception:

i. Decorative glazing.
ii. When a rail is installed on the accessible side(s) of the glazing 34"-38" above the walking surface.
iii. The rail shall be capable of withstanding 50 plf horizontal force without contacting the glass and be a minimum 1 ½" in cross section.
iv. Outboard panes in insulating glass units and other multiple glazed panels when the bottom edge is 25' or more above grade, a roof, walking surfaces or other horizontal (within 45 deg.) surface adjacent to the glass exterior.

f) Glazing in guards and railings regardless of area or height above walking surface. (R308.4.4)

g) Glazing adjacent to stairways, landings and ramps within 36" horizontally of a walking surface when the exposed surface of the glazing is less than 60" above the plane of the adjacent walking surface. (R308.4.6)
Exception:

a) When a rail is installed on the accessible side(s) of the glazing 34"-38" above the walking surface. The rail shall be capable of withstanding 50 plf horizontal force without contacting the glass and be a minimum 1 ½" in cross section.

b) The side of stairway has a complying guardrail or handrail and the glazing is more than 18" from the railing.

c) When a solid wall or panel extends from the plane of the adjacent walking surface to 34"-36" above the walking surface and the wall or panel and can withstand 50 plf horizontal loads.

h) Glazing adjacent to stairways within 60" horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glazing is less than 60" above the nose of the tread.
Exception:

a) The side of the stairway has a complying guardrail or handrail and the plane of the glass is more than 18" from the railing.9

b) When a solid wall or panel extends from the plane of the adjacent walking surface to 34"-36" above the walking surface of the wall or panel and can withstand 50 plf horizontal loads.

☐ 29. Smoke Alarms (R314.3): Smoke alarms shall be installed in the following locations:

a) In each sleeping room.

b) Outside each separate sleeping area in the immediate vicinity of the bedroom.

c) On each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwelling or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.

d) Alarms shall be interconnected such that the actuation of one alarm shall activate all alarms.

e) Alarms shall receive their primary power from the building wiring with battery backup.

f) Approved combined smoke alarms and carbon dioxide alarms shall be acceptable.

☐ 30. Carbon Monoxide Alarms (R315.1.4) - Alarm requirements (location):

a) Outside of each separate dwelling units sleeping area in the immediate vicinity of the bedroom(s).

b) On every level of a dwelling unit including basements.

c) Alarms shall receive their primary power from the building wiring with battery backup.

d) Alarms shall be interconnected such that the actuation of one alarm shall activate all alarms.

e) Approved combined smoke alarms and carbon dioxide alarms shall be acceptable.

☐ 31. Walking deck: List manufacturer's name and approved listing number and show all materials, plywood, and nailing requirements. Specify 1/4 unit in 12 units (2%) slope for drainage; show method of drainage and location of discharge without crossing over property lines.

☐ 32. Fabricated and pre-fabricated fireplaces: List manufacturer's name and approved listing number are required for prefabricated fireplaces or provide complete detailing for masonry or site fabricated fireplaces to include chimney, foundation, hearth, and interior design. (R1004.1)

☐ 33. Attic access: Building with combustible ceiling or roof construction shall have an attic access opening to attic areas that exceeds 30 square feet and have a vertical height of 30 inches or greater. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members. The rough opening shall not be less than 22 inches by 30 inches and shall be located in a hallway or other readily accessible locations. When located in a wall, the opening shall be a minimum of 22 inches wide by 30 inches high. When the access is located in a ceiling, minimum unobstructed headroom in the attic space shall be 30 inches at some point above the access measured vertically from the bottom of the ceiling framing members. (R807.1)

☐ 34. Under floor access. Access shall be provided to all under floor spaces. Access openings through the floor shall be a minimum of 18 inches by 24 inches. Openings through perimeter wall shall be not less than 16 inches by 24 inches. When any portion of the through-wall access is below grade, an areaway not less than 16 inches by 24 inches shall be provided. The bottom of the areaway shall be below the threshold of the access opening. Through wall access opening shall not be located under a door to the residence. (R408.4)

☐ 35. Patio cover openings shall be permitted to be enclosed with insect screening, approved translucent or transparent plastic not more than 0.125" thick or glass. (A-H103.1)

☐ 36. Patio covers shall not exceed 12' in height, the open or glazed area of the longer wall and one additional wall is at least 65% of the wall area below 6'-8" of each wall. (A-H104.1)

☐ 37. Patio shall be unenclosed if openings into the patio cover serve as emergency egress or rescue openings from sleeping rooms. (A-H103.2)

☐ 38. Patio covers shall be designed for all dead loads plus a minimum vertical live load of 10 psf. (A-H105.1)

☐ 39. Patio cover columns may be supported by a 3 ½" slab without footings provided column loads to the slab do not exceed 750 pounds per column. (A-H105.2)

EXTERIOR WALLS

☐ 1. Exterior walls of dwelling units and garages less than 5' from a property line shall be 1-hr. rated in unsprinklered buildings. In fire sprinklered buildings, exterior walls less than 3' from a property line shall be 1-hr. rated. Provide complete details on the plans for all exterior walls. (Tables R302.1(1) & 302.1(2))

☐ 2. Exterior walls of a dwelling unit and garages less than 5' from property line shall be 1-hr rated in sprinklered buildings. In sprinklered buildings, exterior walls may be constructed at 0' with 1-hr construction. Provide complete details on the plans for all exterior walls. (Table R302.1 (2))

☐ 3. Projections beyond the exterior wall in non-fire sprinklered buildings shall have 1-hr. fire protection on the underside for projections greater than or equal to 2' up to less than 5' from the property line. No protection is required when the projection is 5' or greater from a property line. Provide complete details on the plans for all projections. (Table R302.1(1))

☐ 4. Projections beyond the exterior wall in fire sprinklered buildings shall have 1-hr. fire protection on the underside for projections at 2'. No protection is required when the projection is at 3' from a property wall. (see footnote) Provide complete details on the plans for all projections. (R302.1(2))
Footnote (a): For residential subdivisions where all dwellings and accessory buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section R313, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0', and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6' or more on the opposite side of the property line. Provide complete details on the plans for all projections. (R302.1 (2))

☐ 5. In non-fire sprinklered buildings no openings are permitted in an exterior wall less than 3' from the property line. Exterior walls may have 25% maximum of wall area in openings when the exterior wall is from 3' to 5' from a property line. Exterior walls 5' or greater from a property line may have unlimited openings. Provide complete details on the plans for all openings in a wall. (Table R302.1(1))

☐ 6. In fire sprinklered buildings no openings are permitted in exterior walls less than 3' from a property line. Exterior walls located at 3' or more from a property line may have unlimited openings. (see footnote A) Provide complete details on the plans for all openings in a wall. (R302.1(2)-A
Footnote (a): For residential subdivisions where all dwellings and accessory buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section R313, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0', and unlimited unprotected openings and penetrations shall be permitted, where the adjoining lot provides an open setback yard that is 6' or more on the opposite side of the property line. Provide complete details on the plans.

☐ 7. In non-fire sprinklered buildings all penetrations in exterior walls less than 5' from the property line shall comply with Section R302.4. Provide complete details on the plans for all penetration. (Table R302.1(1))

☐ 8. In fire sprinklered buildings all penetrations in exterior walls less than 3' from the property line shall comply. Fire-resistance rating is not required at 3' (see footnote). Provide complete details on the plans for all penetrations. (Table R302.1(2))
Footnote (a): For residential subdivisions where all dwellings and accessory buildings are equipped throughout with an automatic sprinkler system installed in accordance with Section R313, the fire separation distance for nonrated exterior walls and rated projections shall be permitted to be reduced to 0', and unlimited unprotected openings and penetrations shall be permitted, where

the adjoining lot provides an open setback yard that is 6' or more on the opposite side of the property line. Provide complete details on the plans.

ROOF PLAN

☐1. Roofing Material: Specify roofing material, current approved listing number, weight, and provide specifications. Roof covering for new and reconstruction shall be a Class 'C' roof assembly. (R902.1.3)

☐2. Roof Ventilation calculation is required on plans (R806.1). Enclosed attic and enclosed rafter spaces shall have cross ventilation for each separate attic space. A net free ventilating area of not less than 1/150 of the space ventilated. (R806.2 CRC)
Exceptions:

1) In Climate Zones 14 and16, a Class 1or 2 vapor retarder is installed on the warm-in-winter side of the ceiling
The net free ventilating area may be not less than 1/300 of the ventilated space provided:
2) At least 40% and not more than 50% of the required ventilating area is provided by ventilators located in the upper portion of attic or rafter space. Upper ventilators shall be locating not more than 3'-0" below the ridge or high point with the balance of the required ventilating area provided by eave or cornice vents.

☐3. Coordinate all locations of required roof and roof attic vents on roof and elevation plans

☐4. Where eave or cornices are installed, insulation shall not block free flow of air. Specify minimum 1" airspace required between insulation and roof sheathing (R806.3

ELEVATIONS & SECTIONS

☐1. Show total height, top plate height, and floor to ceiling height

☐2. Show all chimney clearances and termination above roof line.

☐3. Show insulation envelop and insulation rating.

☐4. A minimum 26 ga. Corrosion –resistant or plastic weep screed with a minimum vertical flange of 3 ½" shall be provided at or below foundation plate line on exterior stud walls. Screed shall be a minimum of 4" above earth or 2" above paved areas. (R703.6.2.1 CRC)

LIGHT AND VENTILATION

☐1. All habitable rooms shall have an aggregate glazing area of not less than 8% of the floor area of the room. Natural ventilation shall be through windows, skylights, doors, louvers or other approved openings to the outdoor air. The minimum openable area to the outdoors shall be 4% of the floor area being ventilated. (R303.1)
Exception:

a) The glazed areas need not be openable where the opening is not required by Section R310 and a whole-house mechanical ventilation system is installed in accordance with the California Mechanical Code.
b) The glazed areas need not be installed in rooms where exception 'a' above is satisfied and artificial light in provided capable of producing an average illumination of 6 foot-candles (65 lux) over the area of the room at a height of 30 inches above the floor area.
c) Use of sunrooms and patio covers, as defined in Section R202, shall be permitted for natural ventilation if in excess of 40 percent of the exterior sunroom walls are open, or are enclosed only by insect screening.
d) The windows, doors, louvers and other approved closable openings not required by Section R310 may open into a passive solar energy collector for ventilation required by this section. The area of ventilation openings to the outside of the passive solar energy collector shall be increased to compensate for the openings required by the interior spaces.
e) Glazed openings may open into a passive solar energy collector provided the area of exterior glazed opening(s) into the passive solar energy collector is increased to compensate for the area required by the interior space.

☐ 2. For the purpose of determining light and ventilation, any room shall be considered as a portion of an adjoining room when at least 50% of the area of the common wall is open and unobstructed and provides an opening of not less than 10% of the floor area of the interior room but not less than 25 s.f. (R303.2)
Exception: Openings required for light and ventilation shall be permitted into sunrooms and patio covers provided there is an openable area between the adjoining room and the sunroom or patio cover not less than 10% of the floor area of the interior room but not less than 20 s.f. The minimum openable area to the outdoors shall be based on the total floor area being ventilated.

☐ 3. Bathrooms, water closet compartments and other similar rooms shall be provided with glazed area in windows of not less than 3 s.f., one half shall be openable. (R303.3)
Exception: The glazed areas shall not be required where artificial light and a local exhaust system are provided. The minimum local exhaust rates shall be 50 cubic feet per minute for intermittent ventilation or 20 cubic feet per minute for continuous ventilation in accordance with the California Mechanical Code, Chapter 4. Exhaust air from the space shall be exhausted directly to the outdoors.

a) Bathroom Exhaust fans: Each bathroom containing a bathtub, shower or tub/shower combination shall be mechanically ventilated for purposes of humidity control in accordance with the California Mechanical Code, Chapter 4; and the California Green Building Standards Code, Chapter 4, Division 4.5.
Note: Window operation is not a permissible method of providing bathroom exhaust for humidity control.

☐ 4. Required glazed openings shall open directly onto a street or public alley, sunroom additions, yard or court located on the same lot. (R303.8.1)

a) Required glazed openings may face into a roofed porch where the porch abuts a street, court or yard and the longer side of the porch is at least 65% unobstructed and the ceiling height is not less than 7'.
b) Eave projections shall not be considered as obstructing the clear open space of a yard or court/
c) Required glazed openings may face into an area under a deck, balcony, bay or floor cantilever provided a clear vertical space at least 36" high is provided.
d) Glazed openings covered by a passive solar energy collector in accordance with Section R303.8.1.1, Exception 5.

☐ 5. Every dwelling unit shall be provided with heating facilities capable of maintaining 68 deg. Minimum at a point 3' above the floor and 2' from exterior walls in all habitable rooms. The installation of portable space heaters shall not be used to achieve compliance. (R303.9)

☐ 6. Under-floor ventilation: The under floor space between the bottom of the floor joist and the earth shall be provided with ventilation openings through foundation or exterior walls. One such opening shall be within 3' of each corner of the building. Minimum net area of ventilation openings shall be not less than 1/150 of the under-floor space area. Openings shall also be not less than 1 s.f. for each 150 square feet of exterior wall. Openings shall be covered with openings not exceeding ¼". (R408.1 CRC). Coordinate onto plans.

☐ 7. For attic ventilation, see Roof Plan section on page 6.

☐ 8. Skylights: List manufacturer name and approved listing number. Show size, opening framing and flashing details.

GARAGES

☐ 1. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Revise the plans. (302.5.1)

☐ 2. Door openings between a private garage and the dwelling unit shall be either a solid wood door or a solid or honeycomb core steel door not less than 1 3/8" thick and self closing and self latching. The door may also be a 20 minute rated assembly. Show on plans. (R302.5.1)

☐ 3. Ducts penetrating wall or ceiling separations between a garage and a dwelling unit shall be constructed of minimum 26 gage sheet metal and shall have no openings into the garage. Show on plans. (R302.5.2)

☐ 4. Garage and/or carport shall be separated from the dwelling unit by a vertical wall from the slab thru the attic to the roof sheathing with minimum ½" gypsum board on the garage side. Show on plans. (Table R302.6)
Exception: A separation is not required between a carport and the dwelling provided the carport is open on two or more sides and there are not enclosed areas above. Also coordinate to cross-section plans if applicable.

☐ 5. Garages beneath habitable rooms above shall be separated by 5/8" gypsum board on the garage side. Show on plans. (Table R302.6) Also coordinate to cross-section plans if applicable.

☐ 6. Structures supporting floor/ceiling assemblies in a garage or carport (columns or beams in the garage) shall have not less than 1/2 " gypsum board protection. (Table R302.6)

☐ 7. Garages located less than 3' from a dwelling on the same lot shall have not less than ½" gypsum board applied to the interior side of all exterior walls that are within that area. (Table R302.6)
Exception: Dwellings protected by an automatic fire sprinkler system need only be self closing and self latching.

☐ 8. Garage floors shall be of noncombustible material. The area of the floor used for parking of vehicles shall be sloped to drain toward the main vehicle entry door. (R309.1)

☐ 9. Carports shall be open on at least two sides. Carport floor surfaces shall be of noncombustible material or asphalt. The area of the floor used for parking of vehicles shall be sloped to drain toward the main vehicle entry. (R309.2)

STAIRWAYS (R311.7) AND GUARDS (R312)

☐ 1. Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with ½ inch gypsum board. (R302.7)

☐ 2. Interior stairways shall be provided with an artificial light source to illuminate the landings and treads. The light source shall be

capable of illuminating treads and landings to levels of not less than 1 foot-candle (11 Lux) as measured at the center of treads and landings. There shall be a wall switch at each floor level to control the light source where the stairway has 6 or more risers. (R303.7)

Exception: A switch is not required where remote, central or automatic control of lighting is provided.

☐3. **Stairways**. (R311.7).

a) Width. Stairs shall be not less than 36 inches in clear width at all points above the permitted handrail height and below the required headroom height. Handrails shall not project more than 4 ½ inches on either side of the stairway and the clear width of the stairway at and below the handrail height, including treads and landings, shall be not less than 3 ½ inches where a handrail is installed on one side and 27 inches where handrails are provided on both sides (R311.7.1)

Exception: The width of spiral stairways shall be in accordance with Section R311.7.10.1.

b) Headroom. The headroom in stairways shall be not less than 6 feet 8 inches measured vertically from the sloped line adjoining the tread nosing or from the floor surface of the landing or platform on that portion of the stairway. (R311.7.2)

Exception: Where the nosing of treads at the side of a flight extend under the edge of a floor opening through which the stair passes, the floor opening shall be allowed to project horizontally into the required headroom a maximum of 4 ¾ inches.

c) The headroom for spiral stairways shall be in accordance with section R311.7.10.1

d) Vertical rise: A flight of stairs shall not have a vertical rise larger than 147 inches between floor levels or landing. (R311.7.3)

e) Walkline. The walkline across winder treads shall be concentric to the curve direction of travel through the turn and located 12 inches from the side where the winders are narrower. The 12 inch dimension shall be measured from the widest point of the clear stair width at the walking surface of the winder. If winders are adjacent within the flight, the point of the widest clear stair width of the adjacent winders shall be used. (R311.7.4)

f) Stair treads and risers. Stair treads and risers shall meet the requirements of this section. For the purposes of this section, dimensions and dimensioned surfaces shall be exclusive of carpets, rugs or runners. (R311.7.5)

a. Riser. The riser height shall be not more than 7 ¾ inches. The Riser shall be measured vertically between leading edges of the adjacent treads. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. Risers shall be vertical or sloped from the underside of the nosing of the tread above at an angle not more than 30 degrees (0.51 rad) from the vertical. Open risers are permitted provided that the openings located more than 30 inches, as measured vertically, to the floor or grade below. Do not permit the passage of a 4-inch-diameter sphere. (R311.7.5.1 CRC)

Exception:

a) The opening between adjacent treads is not limited on spiral stairways

b) The riser height of spiral stairways shall be in accordance with section R311.7.10.1

b. Treads. The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch (R311.7.5.2 CRC)

- Winder treads. Winder treads shall have a minimum tread depth of not less than 10 inches measured between the vertical planes of the foremost projection of adjacent treads at the intersections with the walkline. Winders treads shall have a tread depth of not less than 6 inches at any point within the clear width of the stair. Within any flight of stairs, the largest winder tread depth at the walkline shall not exceed the smallest winder tread by more than 3/8 inch. Consistently shaped winders at the walkline shall be allowed within the same flight of stairs as rectangular treads and do not have to be within 3/8 inch of the rectangular tread depth. (R311.7.5.2.1)

Exception: the tread depth at spiral stairways shall be in accordance with section R311.7.10.1

c. Nosings. The radius of curvature at the nosing shall be not greater than 9/16 inch. A nosing projection not less than ¾ inch and not more than 1 ¼ inches shall be provided on stairways with solid risers. The greatest nosing projection shall not exceed the smallest nosing projections by more than 3/8inch between two stories, including the nosing at the level of floors and landings. Beveling of nosing shall not exceed ½ inch. (R311.7.5.3)

Exception: A nosing is not required where the tread depth is a minimum of 11 inches.

d. Exterior plastic composite stair treads. Plastic composite exterior stair treads shall comply with the provisions of this section and section R507.3. (R311.7.5.4)

f. Landing for stairways. There shall be a floor or landing at the top and bottom of each stairway. The width perpendicular to the direction of travel shall be not less than the width of the flight served. Landings of shapes other than square or rectangular shall be permitted provided that the depth at the line and the total area is not less than that of a quarter-circle with a radius equal to the required landing width. Where the stairway has a straight run, the depth in the direction of travel shall be not less than 36" (R311.7.6)

Exception: A floor or landing is not required at the top of an interior flight of stairs, including stairs in an enclosed garage, provided a door does not swing over the stairs.

☐4. **Handrails** shall be provided on not less than one side of each continuous run of treads or flight with four or more risers. (R311.7.8)

e. Height. Handrail height, measured vertically from the sloped plane adjoining the tread nosing, or: finish surface of ramp slope, shall be not less than 34 inches and not more than 38 inches. (R311.7.8.1)

Exception:

c) The use of a volute, turnout easing shall be allowed over the lowest tread

d) Where handrail fittings or bending are used to provide continuous transition between flights, transitions at winder treads, the transition from handrail to guard, or used at the start of a flight, the handrail height at the fittings or bendings shall be permitted to exceed 38 inches.

☐5. **Continuity.** Handrails for stairways shall be continuous for the full length of the flight, from a point directly above the top riser of

the flight to a point directly above the lowest riser of the flight. Handrail ends shall be returned or shall terminate in newel posts or safety terminals. Handrails adjacent to a wall shall have a space of not less than 1 ½ inch between the wall and the handrails. (R311.7.8.2)

Exception:

e) Handrails shall be permitted to be interrupted by a newel post at the turn.

f) The use of a volute, turnout, starting easing or starting newel shall be allowed over the lowest tread.

☐ 6. **Grip size.** Required handrails shall be of one of the following types or provide equivalent graspability (311.7.8.3).

a) (Type I) Handrails with a circular cross section shall have an outside diameter of not less than 1 ¼ inches and not greater than 2 inches. If the handrail is not circular, it shall have a perimeter dimension of not less than 4 inches and not greater than 6 ¼ inches with a cross section of dimension of not more than 2 1/7 inches. Edges shall have a radius of not less than 0.01 inch.

b) (Type II) Handrails with a perimeter greater than 6 ¼ inch shall have a graspable finger recess area on both sides of the profile. The Finger recess shall begin within a distance of ¾ inch measured vertically from the tallest portion of the profile and achieve a depth of not less than 5/16 inch within ⅞ inch below the widest portion of the profile. This required depth shall continue for not less than ⅜ inch to a level that is not less than 1¾" below the tallest portion of the profile. The width of the handrail above the recess shall not be less than 1¼ inch and not more than 2 ¾ inch. Edges shall have a radius of not less than 0.01 inch.

a. Exterior plastic composite handrails. Plastic composite exterior handrails shall comply with the provisions of Section R507.3. (311.7.8.4)

☐ 7. **Special Stairways.** Spiral stairways and bulkhead enclosure stairways shall comply with the requirements of section R311.7 except as specified in sections R311.7.10.1 and R311.7.10.2 (R311.7.10)

☐ 8. **Guards.** Guards shall be provided in accordance with sections R312.1.1 and 312.1.4 (R312.1)

a) Where required. Guards shall be located along open sided walking surfaces, including stairs, ramps and landings, that are located more than 30 inches measured vertically to the floor or grade below it at any point within 36 inches horizontally to the edge of the open side. Insect screening shall not be considered as a guard. (R312.1.1)

b) Height. Required guards at open-sided walking surfaces, including stairs, porches, balconies or landings shall be not less than 42 inches in height as measured vertically above the adjacent walking surface or the line connecting the leading edges of the treads. (R312.1.2)

Exception:

a. Guards on the open side of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edges of the treads.

b. Where the top of the guard serves as a handrail on the open sides of stairs, the top of the guard shall not be less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edges of the treads.

c) Opening limitations. Required guards shall not have openings from the walking surface to the required guard height that allow passage of a sphere 4 inches in diameter (R312.1.3)

Exception:

a. The triangular openings at the open side of stair, formed by the riser, tread and bottom rail of a guard, shall not allow passage of a sphere 6 inches in diameter.

b. Guards on the open side of stairs shall not have openings which allow passage of a sphere 4 ⅜ inches in diameter.

d) Exterior plastic composite guards. plastic composite exterior guards shall comply with the requirements of Section R317.4.

☐ 9. **Window fall protection**. Window fall protection shall be provided in accordance with Sections R312.2.1 and R312.2.2.

a) Window sills. In dwelling units, where the top of the sill of an operable window opening is located less than 24 inches above the finished floor and greater than 72 inches above the finished grade or other surface fellow on the exterior of the building, the operable window shall comply with one of the following(R312.2.1):

a. Operable windows with opening that will not allow a 4 inch diameter sphere to pass through the opening where the opening is in its largest opened position.

b. Operable windows that are provided with window fall prevention devices that comply with ASTM F2090.

c. Operable windows that are provided with window opening control devices that comply with section R312.2.2.

b) Window opening control devices. Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section R310.2.1 (R312.2.2.).

CALIFORNIA ENERGY CODE

☐ 1. The plans must show conformance with the latest State Title 24 Energy Standards for Climate Zone 6. Either prescriptive or performance methods of Energy calculations shall be submitted. Include ENV forms on approved Building Plan.

☐ 2. A copy of the CF-1R, MF-1R, WS-4R, WS-5R forms shall be reproduced onto the plans.

☐ 3. Provide a specific listing on the plans of all the Installation Certificate Forms (CF-6R) and Certificate of Field Verification and Diagnostic Testing Forms (CF-4R) (if applicable) required to be presented to the City field inspector prior to the final inspection sign-off for this project in accordance with the requirements of the energy analysis. This listing shall be placed in the plans with the Certificate of Compliance Forms.

☐ 4. Show minimum R-30 with maximum U-factor 0.031 ceiling/roof insulation on the plans. (See Table 150.1-A Component Package A – Standard Building Design)

☐ 5. Show minimum R-19 with maximum U-factor 0.037 floor insulation on the plans. (See Table 150.1-A Component Package A – Standard Building Design)

- ☐ 6. Show minimum R-13 wall insulation + R-5 continuous insulation sheathing with maximum U-factor 0.065 on the plans. (See Table 150.1-A Component Package A – Standard Building Design) R-13, U-Factor 0.065
- ☐ 7. Show minimum R-19 with maximum U-factor 0.037 under floor insulation on the plans. (See Table 150.1-A Component Package A – Standard Building Design)
- ☐ 8. For allowable fenestration, show maximum U-factor 0.32 and Solar Heat Gain Coefficient (SHGC) 0.25. (See Table 150.1-A Component Package A – Standard Building Design)

☐ 9. Installation of fireplaces, decorative gas appliances and gas logs (150.0 (e))

a) Masonry or factory built fireplaces shall have:

a. Closable metal or glass covering over the entire opening of the fire box.

b. Combustion air intake from outside of the building directly into firebox of at least 6 sq. in. and has an accessible, operable and tight fitting damper or combustion air control device.
Exception: outside combustion-air intake not required if installed on a slab on grade and not on an exterior wall.

c. A flue damper with a readily accessible control.
Exception: When gas log, log lighter or decorative gas appliance is installed in a fireplace, the flue damper shall be blocked open if required by the California Mechanical Code (CMC) or the manufacturer's installation instructions.

b) 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.

☐ 10. Vapor retarder (150.0 (g))

a) In Climate Zone 6 with unvented crawl spaces the earth floor of the crawl space shall be covered with a Class I or Class II vapor retarder; or

b) In a building having a controlled ventilation crawl space, a Class I or Class II vapor retarder shall be placed over the earth floor of the crawl space to reduce moisture entry and protect insulation from condensation, as specified in the exception to Section 150.0 (d).

☐ 11. Ventilation for indoor air quality (150.0 (o)) shall be required for all dwelling units to meet the requirements of ASHRAE Standard 62.2. Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings. Window operation is not a permissible method of providing the whole-building ventilation airflow required in Section 4 of that ASHRAE Standard 62.2. Continuous operation of central forced air systems air handlers used in central fan integrated ventilation systems is not a permissible method of providing the whole-building ventilation airflow required in Section 4 of ASHRAE Standard 62.2. Additionally, all dwelling units shall meet the following requirements:

a) Field verification and diagnostic testing.

a. Airflow performance. The whole-building ventilation airflow required by Section 4 of ASHRAE Standard 62.2 shall be confirmed through field verification and diagnostic testing in accordance with the applicable procedures specified in Reference Residential Appendix RA3.7.

STRUCTURAL

☐ 1. **Conventional Construction** (CRC): Show rafter spans (Tables R802.5.1 (1) through R802.5.1 (6)), Ceiling joists (Table R802.4 (1) & (2), Rafter tie, Collar tie, Ceiling Joists ties (Chapter 8), Wall bracing (R602.10). Attach a copy of *CITY STANDARD PLAN 1: TYPE V CONVENTIONAL WOOD-FRAME CONSTRUCTION SHEET* to the plans if applicable.

- ☐ 2. **Portions exceeding limitations of Conventional Construction**: Provide structural calculations, details, specifications and notes, by a California licensed architect/engineer, for portions that do not meet the limitations for the Conventional Light-Frame Constructions.

☐ 3. Structures, or portions of structures, constructed of cold-formed steel, concrete, masonry or structural insulated panels shall require the floor, wall or roof ceiling structural elements to be designed and stamped by a California licensed engineer or architect. (R301.1.3 CRC)

☐ 4. Wind design shall be based upon a wind speed (V3s) of 110 and an exposure category of "B" or "C". Revise design.

- ☐ 5. The Seismic Design Category shall be C, Do, D1, D2 or E. Clearly show seismic design category on the plans and calculations. (R301.2.2 CRC)
- ☐ 6. Structures in Seismic Design Categories C, Do, D1, D2 shall not exceed the material weight or story heights of Sections R301.2.2.2. Provide design in accordance with the CBC.
- ☐ 7. Structures located in Seismic Design Category "E" shall be designed in accordance with the CBC. Provide full structural design. (301.2.2.4 CRC)
- ☐ 8. The maximum allowable height for laterally unsupported bearing wall studs shall not exceed 10'. Provide full design of bearing stud walls. (R301.3, Table R602.3(5) CRC)

☐ 9. Roof design live load shall conform to Table R301.6. Revise design.

- ☐ 10. **Soils Report** (R401.4 and Table R401.4.1 CRC; 1803.1 & 1803.2 CBC): A soils report is required for all new structures and additions with a footprint which exceeds 1000 square feet. Provide a prominent note on the foundation plan which refers to the soils report. List the report no., the author, and the date of the report. For additions less than 1000 square feet, see Policy B-4-3:

http://www.surfcity-hb.org/files/users/building_and_safety/SoilsReportPolicyPDF.pdf

- ☐ 11. When soils properties are not known in adequate detail as determined by a site specific soils report, seismic design shall be based upon Site Class D. Provide seismic design for the structure to Site Class D. (1613.5.2 CBC)

☐ 12. Provide ICC ESR approvals or other nationally recognized approved agencies for all alternate materials used or provide general notes that detail the necessary procedures and installation instructions per ICC ESR Evaluation Reports other nationally recognized approved agencies.

- ☐ 13. The plans shall provide a statement specifically listing all required special inspections for the project. Special inspections shall be as required by Section 1704 of the CBC.

☐ 14. **Deferred Submittals:** List all deferred submittals on cover sheet and note on the plan: "*Deferred submittals to be reviewed by project architect or engineer of record and certified prior to submittal for plan review*."

☐ 15. **Pre-fabricated trusses**: Provide truss plans, roof and floor, for all portions of the proposed structure(s). Plans shall include design for each individual truss, an overall truss layout plan and erection details. Plans shall be stamped, signed and dated by an engineer registered in the State of California. (R802.10.2 CRC)

☐ 16. Truss plans shall be submitted to the engineer of record for the overall building for review prior to submittal to the Building Division. The engineer of record shall provide a note on the truss plans or a shop drawing approval stamp stating that the truss plans are in general conformance with the design of the building. The plans submitted to the Building Division shall contain no red line revisions or corrections to the truss package. (R106.1 CRC)

☐ 17. **Construction Documents** (R106 CRC or 1603.1 CBC): The design loads and other information pertinent to the structural design required by the CRC or Sections 1603.1.1 through 1603.1.9 CBC shall be indicated on the construction documents.

☐ 18. **Calculations:**

a) Provide complete calculations for vertical & lateral loads based on the 2016 CBC.

b) Provide key plan sketches cross-referencing all design elements, and details to the plans.

c) **Seismic Drift** (ASCE 7-10 Section 12.8.6): Calculate seismic drift based on deflections of each level with Cd and I factors using strength level forces.

d) **Tie-downs**: Hold-downs are required for shear walls with any uplift force.

a. Use (0.6 - 0.14S_{DS}) D for earthquake [based on the critical load combination of 0.7(ρ Q_E) + D (0.6 - 0.14S_{DS})] and 0.6 D for wind to resist overturning (service level) forces. (CBC 1605.3.1)

b. Check the shear wall overturning reactions on the beams/columns per CBC Chapter 16 for the special seismic load combinations. See also ASCE 7-10 Section 12.8.5.

e) **Chords/collector and struts**: Provide calculations and details to show that collector elements, splices, and connections to resisting elements have the strength to resist the combined loads resulting from the special seismic load of ASCE 7-05 Section 12.14.7.3 and 12.14.3.2.2. (1605.2, 1605.3)

f) **Foundation**: Check foundation stability due to overturning moment from shear walls. Add pad footings or design continuous footings/ grade beams as required.

g) **Handrails/Guards** (1607.8): design the handrails/guards for:

a. Concentrated Load (1607.8.1.1): Handrail assemblies and guards shall be designed for a single concentrated load of 200 lbs. applied in any direction at any point along the top, and have attachment devices and supporting structure to transfer this load to appropriate elements of the building.

b. Components (1607.8.1.2): Design the intermediate rails, balusters and panel fillers for a horizontally applied normal load of 50 psf, including openings and space between rails).

c. The glass handrails and assemblies railing shall comply with CBC 2407. Provide design and details.

☐ 19. **Foundation:**

a) Provide complete specifications for the concrete slab-on-grade, continuous footings, and pads.

b) Foundations for one story buildings shall be a minimum of 12" wide and 12" deep. Foundations for two story buildings shall be a minimum of 15" wide and 12" deep. Footing sizes may be required to vary from this minimum as required by a soils report.

c) Show all shear walls, call out anchor bolt size & spacing, hold-downs & required 3x sills areas on the foundation plan.

d) Provide typical foundation details for two-pour system OR note on the plans that the foundation will be mono-pour only.

e) Foundation attachments: Provide minimum 3" x 3" x 0.229" thick plate washer for the anchor bolts. (R602.11.1)

f) Buildings and structures placed adjacent to descending slopes steeper than 1:3 shall be set back from the slope a distance equal to the height of the slope divided by 3, but need not exceed 40'. (R403.1.7.2 CRC)

a. Building or structure setbacks required by this section of the code may only be varied as specified by an engineer registered in California and justified by a soils report addressing slope stability and building or structure foundation requirements.

g) Buildings or structures placed adjacent to ascending slopes steeper than 1:3 shall be set back from the slope a distance equal to the height of the slope divided by 2, but need not exceed 15'. (R403.1.7.1 CRC)

a. Building or structure setbacks required by this section of the code may only be varied as specified by an engineer registered in California and justified by a soils report addressing slope stability and building or structure foundation requirements.

h) Post tensioned slabs on grade shall be designed to the standards adopted by the Post Tensioning Institute (PTI). Provide calculations and plans to the PTI standard.

i) Retaining walls not laterally supported and retaining in excess of 24" of fill shall be designed for a safety factor of 1.5 against lateral sliding and overturning and designed against excessive foundation pressure. Revise design. (R404.4 CRC)

j) All pier and pile foundation system designs shall be based upon recommendations provided in a formal soils investigation as specified in Sec. 1810 of the CBC. The required soils investigation shall be provided with the submittal of the pier or pile design and plan package.

k) Unless designed by an engineer, all sill plates for exterior walls, interior braced wall panels, interior and exterior bearing walls and shear walls shall be provided with 1/2" x 10" anchor bolts spaced not more than 6' o.c., with a minimum of two bolts for each piece of sill plate and 7" minimum embedment. (R403.1.6 CRC)

☐ 20. **Framing:**

a) Show size of headers and beams over all openings along with their posts & connecting hardware.

b) Call out all metal straps and hangers.

c) Show location of purlins and struts (kickers) to reduce rafter spans and support ridges, hips, valleys, etc.

d) Show on plans, rafter & ceiling joist size, spacing, span direction, and support locations

e) Show **drag trusses** with additional lateral loads over shear walls. Callout drag load on plans.

☐ 21. **Wall framing:**

a) Studs in bearing walls are limited to 10 feet in height unless an approval design is submitted. (R301.3, Table R602.3.1(5) CRC)

b) Specify on plan, at vaulted ceiling areas, balloon (full height) studs at interior and exterior walls.

c) Sleepers or sills on a concrete or masonry slab in direct contact with earth unless separated from such slab by an impervious moisture barrier shall be of naturally durable or preservative-treated wood. (R317.1 CRC)

d) Wood framing members that rest on concrete or masonry exterior foundation walls less than 8" from exposed earth shall be of naturally durable or preservative-treated wood. (R317.1 CRC)

e) Wood joist or the bottom of wood structural floor closer than 18" or wood girders when closer than 12" to the exposed ground in crawl spaces or unexcavated area located within the periphery of the building foundation shall be naturally durable or pressure treated wood. (R317.1 CRC)

f) Posts or columns exposed to weather or in basements and columns in crawl spaces or unexcavated areas located within the periphery of the building shall be supported by concrete piers or metal pedestals projecting 1" above a concrete floor or 6" above exposed earth and the earth is covered by an approved impervious moisture barrier impervious moisture barrier. Post or columns not so separated shall be of natural durability or preservative-treated wood. (R317.1.4 CRC)

g) Glued-laminated timbers that form the supports of a building or other structure and are exposed to weather and not properly protected by a roof, eave or similar covering shall be pressure treated with preservative or be from naturally durable or pressure treated wood. (R317.1.5 CRC)

h) Subterranean termite control shall be provided by one of the following methods. Provide information on the plans. (R318.1 CRC):

a. Chemical termiticide treatment.
b. Termite baiting system.
c. Pressure preservative treated wood.
d. Naturally durable termite-resistant wood.
e. Physical barriers as provided in Section R318.3.
f. Cold formed steel framing.

☐ 22. **Lateral:**

a) **Shear wall schedule:** Provide a shear wall schedule on the plans and specify the maximum design shear load for each shear wall type. Limit the design shear wall loads to those allowed by Code.

b) Provide 3x sill and framing members for shear walls where allowable shear value exceeds 350 plf.

c) **Pre-fabricated shear walls**: Note the ICC number or nationally recognized approved listing based on the 2012 IBC on the plans. Provide complete shear wall notes and installation details. Provide specific details where required to clarify the construction.

d) Show panel index, type, orientation and nailing of floor / roof / shear wall plywood.

e) The braced wall panels at exterior walls and all interior braced wall panels in buildings with a plan dimension greater than 50' in Seismic Design Category Do, D1 & D2 shall be supported by continuous footings. (403.1.2 CRC)

f) Braced wall lines and braced wall panels shall be designed in accordance with Section R602.10.

a. Show locations and lengths of all braced wall panels on the plans.
b. Show the braced wall panel type on the plans.
c. Indicate braced wall panel length adjustment factors used.

g) Braced wall panels shall be located as follows (R602.10 CRC):

a. In Seismic Design Category C, panels shall be located not more than 25' on center and not more than 12.5' from the end of a braced wall line. The total combined distance from each end of a braced wall line to the outermost panel(s) in the line shall not exceed 12.5'.
b. Braced wall panels may be off-set up to 4' from a braced wall line with the total out-of-plane off-set of not more than 8'.
c. In Seismic Design Category D, D1 & D2, panels shall be located not more than 8' from each end of the braced wall line provided a 24' wide panel is applied to each side of the building corner or each end of the braced wall panel closest to the corner has a hold-down device at the edge of the braced wall panel closest to the corner rated at a minimum of 1,800#.

Exception

i. Spacing between adjacent braced wall panels may be 35' to accommodate one single room not exceeding 900 s.f. All other braced wall lines shall not exceed 25'.
ii. A spacing of 35' or less between braced wall lines is permitted if the required braced wall panel length is multiplied by the adjustment factor of Table R602.10.1.5, the length to width ratio of the floor/roof diaphragm does not exceed 3:1, and top plate lap splice face nailing is 12-16d nails on each side of the splice.

☐ 23. **Details:** Detail all shear resistive elements on plans. Include nailing, blocking, hold-downs, shear anchors/nails, opening reinforcement, drag ties, floor/roof diaphragms, shear walls, drag ties, chord splices and continuity ties and etc. Provide calculations to verify size, spacing and force to be transferred.

☐ 24. **Add notes to plan:**

a. *All bolt holes shall be drilled 1/32" to 1/16" oversized.* (NDS-05 Section11.1.2.2)

b. *Shear wall anchor bolts and hold-down hardware must be secured in place prior to foundation inspection.*
c. *All diaphragm & shear wall nailing shall utilize "common" nails with full heads unless otherwise approved. (CBC 2306.2)*
d. *Fasteners in preservative-treated wood (i.e. anchor bolts, nails, screws, etc.) shall be approved silicon bronze or copper, stainless steel, or hot-dipped zinc-coated steel.* (*CBC 2304.10.5)*

☐ 25. **Material Specification**: Provide complete material notes and specifications.

California Green Building Standards Code (*applicable for New Constructions, Additions and/or Alterations*)

Administration – General

☐ 1. Scope. The provisions of this code shall apply to the planning, design, operation, construction, use and occupancy of every newly constructed building or structure, unless otherwise indicated in this code, throughout the State of California. (101.3)

☐ 2. Submittal documents. Construction documents and other data shall be submitted in one or more sets with each application for a permit. Where special conditions exist, the enforcing agency is authorized to require additional construction documents to be prepared by a license professional and may be submitted separately. (102.1)
Exception: The enforcing agency is authorized to waive the submission of construction documents and other data not required to be prepared by a licensed design professional.

☐ 3. Information on construction documents. Construction documents shall be of sufficient clarity to indicate the location, nature and scope of the proposed green building feature and show that it will conform to the provisions of this code, the California Building Standards Code and other relevant laws, ordinances, rules and regulations as determine by the enforcing agency. (102.2)

☐ 4. Verification. Documentation of conformance for applicable green measures shall be provided to the enforcing agency. Alternate methods of documentation shall be acceptable when the enforcing agency finds that the proposed alternate documentation is satisfactory to demonstrate substantial conformance with the intent of the proposed green building measure. (102.3)

Green Building - General

☐ 1. Scope. Buildings shall be designed to include the green building measure specified as mandatory in the application checklist contained in this code. (301.1)
   a. Additions and alterations. The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration. (Section 301.1.1)

☐ 2. Low-rise and high-rise residential buildings. The provisions of individual sections of CAL Green may apply to either low-rise residential buildings, high-rise residential buildings, or both. (section 301.2)

Residential Mandatory Measures – Planning and Design

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

☐ 2. Storm water drainage and retention during construction. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site. (4.106.2)
   a. Retention basins of sufficient size shall be utilized to retain storm water on the site.
   b. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
   c. Compliance with a lawfully enacted storm water management ordinance.

☐ 3. Grading and paving. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following (4.106.3):
   a. Swale
   b. Water collection and disposal systems
   c. French drains
   d. Water retention gardens
   e. Other water measures which keep surface water away from buildings and aid in groundwater recharge.
   Exception: Additions and alterations not altering the drainage path.

Residential Mandatory Measures – Energy Efficiency

☐ 1. See 2013 California Energy Code (4.201.1)

Residential Mandatory Measures – Water Efficiency and Conservation

☐ 1. Indoor Water Use (4.303)
   a. Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following (4.303.1):
      i. Water closets. The effective flush volume of all water closers shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets. (4.303.1.1)
      Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

ii. Urinals. The effective flush volume of urinals shall not exceed 0.5 gallons per flush. (4.303.1.2)

iii. Showerheads. (4.303.1.3)

1. Single showerhead. Showerheads shall have a maximum flow rate of not more than 2.0 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads. (4.303.1.3.1)
2. Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 2.0 gallons per minute at 80 psi, or the shower shall be designed to allow only one shower outlet to be in operation at a time. (4.303.1.3.2)
   Note: A hand-held shower shall be considered a showerhead.

iv. Faucets. (4.303.1.4)

1. Residential lavatory faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. the minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi. (4.303.1.4.1)
2. Lavatory faucets in common and public use areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.(4.303.1.4.2)
3. Kitchen faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi. (4.303.1.4.4)
   Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

b. Standards for plumbing fixtures and fittings. Plumb fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards reference in Table 1701.1 of the California Plumbing Code. (4.303.2)

☐ 2. Outdoor water use (4.304)

a. Irrigation controllers. Automatic irrigation system controllers for landscaping provided by the builder and installed at the time of final inspection shall comply with the following:

i. Controllers shall be weather-or soil moisture-based controllers that automatically adjust irrigation in response to changes in plants' needs as weather conditions change.

ii. Weather-based controllers without integral rain sensors or communication systems that account for local rainfall shall have a separate wired or wireless rain sensor which connects or communicates with the controller(s). Soil moisture-based controllers are not required to have rain sensor input.
   Note: More information regarding irrigation controller function and specifications is available from the Irrigation Association.

Residential Mandatory Measures – Material Conservation and Resource Efficiency

☐ 1. Rodent Proofing. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency. (4.406.1)

☐ 2. Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with wither Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance. (4.408.1)
Exception:

a. Excavated soil and land-clearing debris.
b. Alternate waste local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
c. The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facilities.

☐ 3. Construction waste management plan. Submit a construction waste management plan in conformance with items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency. (4.408.2)

a. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
b. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
c. Identify diversion facilities where the construction and demolition waste material will be taken.
d. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
e. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both. http://www.huntingtonbeachca.gov/files/users/building/C-and-D-Recycling-Worksheet.pdf

☐ 4. Waste Management Company. Utilize a waste management company, approved by the enforcing agency, which can provide Verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1. (4.408.3)
Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

☐ 5. Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed four (3.4) lbs./sq. ft. of the building area shall meet the minimum 65 percent construction waste reduction requirement in Section 4.408.1 (4.408.4)

☐ 6. Documentation. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Item 1 through 5, Section 4.408.3 or Section 4.408.4. (4.408.5)

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

☐ 7. Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

a. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
b. Operation and maintenance instructions for the following:
    i. Equipment and appliances, including water-saving devices and systems, HVAC systems, water-heating systems and other major appliances and equipment.
    ii. Roof and yard drainage, including gutters and downspouts.
    iii. Space conditioning systems, including condensers and air filters.
    iv. Landscape irrigation systems.
    v. Water re-use systems.
c. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
d. Public transportation and/or carpool options available in the area.
e. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
f. Information about water-conserving landscape and irrigation design and controllers which conserve water.
g. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
h. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
i. Information about state solar energy and incentive programs available.
j. A copy of all special inspection verifications required by the enforcing agency or this code.

Residential Mandatory Measures – Environmental Quality

☐ 1. Fireplaces. Any installed gas fireplace shall be a direct-vent sealed combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA Phase II emission limits where applicable. Woodstove, pellet stoves and fireplaces shall also comply with applicable local ordinances. (4.503.1)

☐ 2. Pollutant control. (4.504)

a. Covering of duct openings and protection of mechanical equipment during construction. At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilation equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet-metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust and debris, which may enter the system. (4.504.1)
b. Finished material pollutant control shall comply with:
    i. 4.504.2.1 for adhesives, sealants and caulk.
    ii. 4.504.2.2 for paints and coatings.
    iii. 4.504.2.3 for aerosol paints and coatings.
    iv. 4.504.2.4 for verification of compliance with the above sections.
c. Carpet systems. All carpet installed in the building interior shall meet the testing and product requirements of one of the following: (4.504.3)
    i. Carpet and Rug Institute's Green Label Plus Program.
    ii. California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350.).
    iii. NSF/ANSI 140 at the Gold level.
    iv. Scientific Certifications Systems Indoor Advantage™ Gold.
d. Resilient flooring systems. Where resilient flooring is installed, at least 80 percent of floor area receiving resilient flooring shall comply with one or more of the following: (4.504.4)
    i. VOC emission limits defined in the Collaborative for High Performance Schools (CHPS) High Performance Product Database.
    ii. Products compliant with CHPS criteria certified under the Greenguard Children & Schools program.
    iii. Certification under the Resilient Floor Covering Institute (RFCI) FloorScore program.
    iv. Meet the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.1, February 2010 (also known as Specification 01350).
e. Composite wood products. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the building shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5. (4.504.5)

☐ 3. Interior Moisture Control. (4.505)

a. Concrete slab foundations. Concrete slab foundations required to have a vapor retarder by the California Building Code, Chapter 19 or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

i. **Capillary break**. A capillary break shall be installed in compliance with at least one of the following (4.505.2.1):

1. A 4-inch thick base of ½-inch or larger clean aggregate shall be provided with a vapor retarder in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06.
2. Other equivalent methods approved by the enforcing agency.
3. A slab design specified by a licensed design professional.

ii. **Moisture Content of building materials**. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not exceed 19 percent moisture content. (4.505.3)

☐ 4. Indoor air quality and exhaust. (4.506)

a. Bathroom exhaust fans, Each bathroom shall be mechanically ventilated and shall comply with the following:

i. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.

ii. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.

1. Humidity controls shall be capable of adjustment between a relative humidity range of ≤ 50 percent to a maximum of 80 percent. A humidity control may utilize manual or automatic means of adjustment.
2. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e.: built-in).

Note: For the purposes of this section, a bathroom is a room which contains a bathtub, shower, or tub/shower combination. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.

☐ 5. Environmental Comfort. (4.507)

a. Heating and air-conditioning system design. Heating and air-conditioning systems shall be sized, designed and have their equipment selected using the following methods (4.507.2):

i. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J—2004 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.

ii. Duct system are sized according to ANSI/ACCA 1 Manual D—2009 (Residential Duct Systems), ASHRAE handbook or other equivalent design software or methods.

iii. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S—2004 (Residential Equipment Selection) or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the systems function is acceptable.

<u>California Plumbing Code</u>

☐ 1. Water closet and bidet shall have 15” to any wall or obstruction on each side of its centerline and 24” clear space in front. (402.5 CPC)

☐ 2. Shower compartments shall be not less than 1,024 sq. in. and also be capable of encompassing a 30” diameter circle. (408.6 CPC)

☐ 3. Provide combustion air to the water heater equal to; (506.0 CPC)

a) One opening within 12” of the top of the enclosure and one opening within 12” of the bottom of the enclosure. Each opening shall have a minimum free area of 1 sq. in. per 1,000 Btu, but not less than 100 sq. in., for enclosures opening indoors.

b) One opening within 12” of the top of the enclosure and one opening within 12” of the bottom of the enclosure. Openings shall communicate directly or by ducts to the outdoors. Each opening shall have a minimum free area of 1 sq. in. per 4,000 Btu of input when opening directly outdoors or thru vertical ducts.

c) One opening within the top 12” of the enclosure and one opening within the bottom 12” of the enclosure. When communicating thru horizontal ducts to the outdoors, each opening shall have a free area of 1 sq. in. per 2,000 Btu of input.

d) One opening within the upper 12” shall be ducted directly to the outdoors or area directly communicating to the outdoors (attic). 1 sq. in. per 3,000 Btu of appliance in an enclosure.

☐ 4. Water heaters located in Seismic Design Categories C, D, E & F, as defined by the Building Code, shall have straps located in the upper and lower 1/3 of its vertical dimension. Maintain 4” clearance above controls (507.2 CPC)

☐ 5. Water heaters located in attics, floor-ceiling assemblies or floor-subfloor assemblies, where damage results from a leaking water heater, a water-tight corrosion-resistant pan shall be installed. The pan shall be installed under the water heater with a ¾” drain to an approved location minimum depth of pan 1 &1/2”. (507.5 CPC)

☐ 6. Appliances installed on roofs shall have both a readily accessible disconnect <u>and</u> a GFCI and weatherproof receptacle adjacent to the appliance. (508.2.2 CPC)

☐ 7. Appliances in attics shall be accessible thru at least a 22”x30” access opening. The opening shall not be more than 20’ from the opening along the pathway, pathway shall have a solid floor not less than 24” wide from opening to appliance, provide a 30”x30” working platform in front of the appliance and provide a 120 volt outlet with a light fixture near the appliance with the light switch located near the opening. (508.4 CPC)

☐ 8. Water heaters located within a garage shall be installed so that all burners and ignition devices are not less than 18” above the Floor unless listed as flammable vapor ignition resistant. (507.13 CPC)

☐ 9. Mechanical equipment located in a garage shall be located or protected so it is not subject to damage by a moving vehicle. (507.13.1 CPC)

California Mechanical Code

☐1. Appliances installed on roofs shall have both a readily accessible disconnect and a GFCI and weatherproof receptacle adjacent to the appliance. The receptacle outlet shall be located on the supply side of the disconnect. (303.8.5CSM)

☐2. Appliances located in a garage shall be protected from mechanical damage by being installed behind protective barriers, by being elevated or by being located out of thee normal path of vehicles. (305.1.1 CMC)

☐3. Heating equipment located in a garage that generates a glow, spark or flame shall be installed with the pilots, burners or heating elements and switches at least 18" above the floor level unless listed as flammable vapor ignition resistant (305.1 CMC)

☐4. Condensate lines from mechanical equipment shall discharge to a plumbing fixture or an approved location by means of an indirect waste pipe, vented receptors, dry wells, leach pits or the tailpiece of plumbing fixtures. Condensate drains shall be trapped per the manufacturer's instructions (310.5 CMC)

☐5. When a domestic clothes dryer is located in a closet, a minimum opening of 100 sq. in. for makeup air shall be provided in the Door or per the manufacturers written installation instructions. (504.3.2 CMC)

☐6. A domestic clothes dryer duct shall be of metal and a minimum of 4" in diameter. The exhaust duct shall not exceed a total combined horizontal and vertical length of 14', including two 90 degree elbows. Two feet shall be deducted for each 90 degree elbow in excess of two. (504.4.2.1 & 504.4.2.2 CMC)

☐7. All new construction and additions exceeding 1,000 sf shall meet the requirements of ANSI/ASHRAE 62.2 ventilation and acceptable indoor air quality in low-rise residential buildings. Window operation is not a permissible method of providing the whole building ventilation required.

a) Noteblock, sheet notes, schedules or other forms of written communication that specify the requirements for ventilation airflow, the rooms where the whole-building and local ventilation exhaust fans are located, and duct sizing for Whole-Building Ventilation and Local Ventilation exhaust shall be specified on the plans submitted to the City of Huntington Beach Building Department for a permit. However, in all cases, Table 7.1 from the 2008 California Energy Code shall be electronically placed on the plans to allow for duct changes that may be required during construction of the system.

b) See ANSI/ASHRAE 62.2 for additional references and requirements.

California Electrical Code

☐1. All receptacles in bathrooms, garages, accessory buildings, outdoors, crawl spaces, unfinished basements, kitchens(where receptacles serve counter top surfaces), laundry, utility, wet bar sinks (within 6' of the edge of the sink), shall have ground-fault circuit-interrupter (GFCI) protection. Show on the plans. (210.8 CEC)

☐2. All branch circuits supplying 120v 15-ampere and 20-ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways and similar rooms or areas shall be protected by a listed arc-fault circuit interrupter (AFCI). Show on the plans. (210.12(B) CEC)

☐3. All wall spaces, 2' or more in width, shall have receptacles installed such that no point measured horizontally is more than 6' from a receptacle (12' maximum spacing). Show minimum receptacles on the plans. (210.52 (A) (1) & (2) CEC)

☐4. Countertops in kitchens, pantries, breakfast rooms, dining rooms and similar areas spaces 12" or wider shall have receptacles installed such that no point along the wall is more than 2' from a receptacle. Show receptacles on the plans. (210.52 (C) (1) CEC)

a) Receptacle outlets shall be located above, but not more than 20" above, the countertop. Receptacle shall be readily accessible.

☐5. Island and peninsular counters 24" x 12" or greater in length shall have at least one receptacle. Show receptacles on the plans. (210.52 (C) (2) & (3) CEC)

☐6. Range hoods shall be permitted to be cord-and-plug connect. The receptacle shall be accessible and shall be supplied by an individual branch circuit.

☐7. In bathrooms, at least one receptacle shall be installed within 3' of the outside edge of each basin. Show receptacles on the plans. (210.52 (D) CEC)

a) At least one 20-ampere branch shall be provided to supply bathroom receptacle outlets. This circuit shall have no other outlets. (210.11(C)(3) CEC)

☐8. At least one receptacle at grade level shall be installed in both the front and back of each dwelling unit. Show receptacles on the plans. (210.52 (E) (1) CEC)

☐9. Balconies, decks and porches accessible from inside the dwelling unit shall have at least one receptacle installed within the perimeter of the deck balcony or porch. Show receptacles on the plans. (210.52 (E) (3) CEC)

☐10 At least one receptacle shall be installed for the laundry. Show receptacles on the plans. (210.52 (F) CEC)

a) The receptacle shall be supplied by at least one additional 20-ampere circuit.

☐11 At least one receptacle, in addition to those for specific equipment, shall be provided in each attached or detached garage and in each unfinished basement. Show receptacles on the plans. (210.52 (G) (1) CEC)

☐12 Any hallway 10' or more in length shall have at least one receptacle. Show receptacles on the plans. (210.52 (H) CEC)

☐13 In closets, luminaries shall be (a) surface-mounted or recessed incandescent with completely enclosed lamps, (b) Surface mounted or recessed fluorescent luminaries, (c) surface mounted or LED luminaries identified as suitable for installation within storage areas. Minimum clearances between luminaries and the nearest point of storage space shall be as follows. Show on the plans. (410.16 CEC)

a) 12" for surface-mounted incandescent or LED luminaries with completely enclosed light installed on the wall above the door or on the ceiling.

b) 6" for surface mounted fluorescent luminaries installed on the wall above the door or on the ceiling.

c) 6" for recessed incandescent or LED luminaries with a completely enclosed light installed in the wall or ceiling.

d) 6” for recessed fluorescent luminaries installed in the wall or ceiling.

e) Surface-mounted fluorescent or LED luminaries installed within storage space where identified for this use.

☐ 14. Electrical boxes shall have drywall, plaster, or plasterboard surfaces finished so there will be no gaps or open spaces greater than 1/8" at the edge of the box per article 314.21 (CEC). In walls or ceilings boxes shall be installed so that the front edge of the box or plaster ring shall not be recessed more than ¼" from non-combustible finish surface and shall be flushed with a combustible surface per article 314.20 (CEC).

☐ 15. No cord-connected, chain, cable, cord-suspended, lighting track, pendant or ceiling-suspended fans shall be located within 3' horizontally and 8' vertically from the top of the bathtub rim or shower stall threshold, including directly over the tub or shower. Luminaries located in this zone shall be listed for damp areas or listed for wet locations where subject to shower spray. Show on the plans. (410.10 (D) CEC)

☐ 16. All 125v 15-ampere and 20-ampere receptacles in areas specified in article 210.52 (CEC) shall be listed tamper resistant receptacle.

☐ 17. Lighting shall comply with the applicable high efficacy requirement of the California Title 24 part 6 section 150.

☐ 18. New boxed used at luminaries or lamp holder outlets in a ceiling shall be required to support a luminaries weighing a minimum of 50lbs. boxes used at luminaries outlets in walls shall be designed for the purpose and shall be marked on the interior indicating the maximum weight of the luminaries permitted, If other than 50lbs. outlet boxes or systems used as the sole support of ceiling fans shall be listed and marked by the manufacture as suitable for this purpose. (314.27 CEC)

☐ 19. Driven grounding electrodes shall be stainless steel, a minimum of 5/8" diameter, and a minimum of 8' driven into the soil. (H.B.M.C.) The grounding electrode conductor connector to a driven electrode shall be listed for this purpose. (250.70 CEC)

Note: Provide complete electrical load calculations, on the plans, showing the main electrical service size required for the project. An electrical service sized larger than 400 amperes shall be designed by an Electrical Engineer registered in the State of California or a licensed C-10 electrical contractor per the Business and Professional Code. The Electrical Engineer shall stamp, sign and date all electrical sheets and the load calculations. An electrical service sized 400 amps or less may be designed by the homeowner or an appropriately licensed electrical contractor. When a registered Electrical Engineer or electrical contractor is responsible for the electrical design, the contractor shall sign all electrical sheets and load calculations showing the name of the person preparing the electrical plans, company name and state contractor's license number.

Additional comments

☐ 1. Provide general construction notes, material specifications, material strengths, material grades, species, etc. as appropriate for the project.

☐ 2. Plans and calculations shall be stamped, signed and dated by an engineer or architect registered in the State of California.

☐ 3. Show lengths of all shear walls on the plans.

☐ 4. Provide truss plans, stamped by an engineer registered in the state of California. Truss plans shall be reviewed by the building engineer of record and stamped with a shop drawing stamp stating that the plans are in compliance with the overall building design. (107.3.4. CBC)

Notes Required on the Plans

☐ 1. Applications for which no permit is issued within 180 days following the date of application shall automatically expire. (R105.3.2 CRC)

☐ 2. Every permit issued shall become invalid unless work authorized is commenced within 180 days or if the work authorized is suspended or abandon for a period of 180 days. **A successful inspection must be obtained within 180 days.** A permit may be extended if a written request stating justification for extension and an extension fee is received prior to expiration of the permit and granted by the Building Official. No more than one (1) extension may be granted. Permits which have become invalid shall pay a reactivation fee of approximately 50% of the original permit fee amount when the permit has been expired for up to six (6) months. When a permit has been expired for a period in excess of one (1) year, the reactivation fee shall be approximately 100% of the original permit fee. (R105.5 CRC)

☐ 3. Fire sprinkler plans stamped approved by the City of Huntington Beach Fire Department shall be provided at the site at time of framing inspection.

☐ 4. Water closets shall have an average water consumption of not more than 1.6 gallons of water per flush, 1.28 gallons per flush after July 1, 2011. (402.2 CPC)

☐ 5. Urinals shall have an average water consumption of not more than 1.0 gallons of water per flush, 0.5 gallons per flush after July 1, 2011. (402.3 CPC)

☐ 6. Shower heads shall have a water flow not to exceed 2.5 gallons per minute. (402.1.1 CPC)

☐ 7. Faucets in kitchens, wet bars, lavatories, laundry sinks, etc. shall have a water flow not to exceed 2.2 gallons per minute. (402.1.2 CPC)

☐ 8. Water piping materials within a building shall be in accordance with Sec. 604.1 of the California Plumbing Code. Pex, CPVC and other plastic water piping systems shall be installed in accordance with the requirements of Sec. 604 of the CPC, Installation Standards of Appendix I of the CPC and manufacturers recommended installation standards. CPVC water piping requires a Certification of Compliance as specified in Sec 604.1.1 of the CPC prior to permit issuance.

☐ 9. Two separate site visits and reports prepared by the Engineer of Record for the new home design are required; (109.3.8 CBC)

a) The Engineer of Record shall inspect the slab and foundation system installation just prior to the concrete pour to verify that the foundation installation is in accordance with the approved plans and design. The Engineer of Record shall then prepare a report stating the foundation installation is in accordance with the approved plans and design. The foundation inspection and

approval to pour concrete will not be approved until the inspection certification letter by the Engineer of Record has been received and approved by the City of Huntington Beach Building Division.

b) The Engineer of Record shall also inspect the completed framing system of the home after the installation of the rough plumbing, mechanical, electrical systems and the exterior of the home has been weather wrapped. The Engineer of Record shall then prepare a report stating that the framing system has been installed in accordance with the approved plans and design. The rough framing, plumbing, mechanical, electrical and exterior weather barrier inspection shall not be approved until the inspection certification letter by the Engineer of Record has been received and approved by the City of Huntington Beach Building Division

☐ A pre-construction meeting is required immediately prior to the start of construction. This meeting shall take place at the site of the new home. The meeting must include a representative of the Building Division, the general contractor, a representative of each of the subcontractors (electrical, plumbing, mechanical, grading, off-site contractor, etc) dependent upon what sub-contractors are to be involved in the new construction and a representative of the owner may also be present. The meeting will review required permits, temporary power requirements, documents required to be on site, inspection requirements, field correction notice procedure, changes in the field, final inspections and gas and power releases, questions from the contractors or owner and any other special procedures or conditions for that particular new home. The pre-construction meeting shall be scheduled through the Building Division front counter at 714-536-5241.

ADDITIONAL CORRECTIONS

1. For additional comments, see red markup corrections on the submitted set. Please comply with all redmarks.