



# COUNTY OF SANTA BARBARA PLANNING AND DEVELOPMENT

## MEMORANDUM

**TO:** Montecito Planning Commission

**FROM:** Travis Seawards, Deputy Director, Planning & Development

**STAFF CONTACT:** Katie Nall, Planner, (805) 884-8050  
Errin Briggs, Supervising Planner, (805) 568-2047

**DATE:** March 13, 2024

**RE:** Continued Babbit et al. Appeals of Scibird Exterior Alterations  
Case Nos. 23APL-00031 & 23APL-00033 [21LUP-00000-00292 & 22BAR-00000-00187]

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### **Background:**

The project was reviewed by the Montecito Planning Commission at the February 21, 2024 hearing. At the conclusion of the hearing, the Commission continued the project to March 20, 2024, and directed staff to obtain comments from the Historic Lands Advisory Committee (HLAC) focusing on the house's roof material. HLAC reviewed the project during their March 11, 2024 meeting and commented generally on the materials of the roof, stating that a grey or brown colored shingle roof would be more appropriate than the existing black metal roof. HLAC Chair Keith Kauffman, will provide more detailed comments in a memo to the Commission to be docketed separately from this staff memo.

### **Project Description:**

The project is a request for a Land Use Permit (Case No. 21LUP-0000-00292) to abate a zoning violation (Case No 21ZEV-00000-00007) for unpermitted exterior changes to an 831-square-foot Moody Sister's Cottage, including raising the northeastern portion of the roof by 3.5-inches, raising a portion of the eastern roof by 1-foot 5-inches, and installing new doors, windows and siding. Replacement windows match the appearance of the house's historic window types with regard to the type and appearance of glazing bars. Replacement board and batten siding will be installed to match the original material and appearance throughout the exterior, including the water heater door. The existing 532-square-foot carport/utility room

includes as-built exterior paint, and material changes as well. The existing black metal roof will remain. No grading or tree removal is proposed. The maximum height of the residence is 13-feet. The parcel is served by the Montecito Water District, the Montecito Sanitary District, and the Montecito Fire Protection District. Access is provided from Periwinkle Lane. The property is a 0.17-acre parcel zoned 20-R-1 and shown as Assessor's Parcel Number 011-220-003, located at 539 Periwinkle Lane in the Montecito Community Plan Area, first Supervisorial District.

**Updates to the Plans:**

- Since the February 21, 2024 MPC hearing date, the roof material is now proposed to be black metal standing seam, as is existing and permitted by Building Permit No. 20CNP-00000-00784. This change is reflected in the updated plans dated March 4, 2024, included as Attachment A to this memorandum.

**Attachments:**

- A. Updated plan set dated March 4, 2024





North elevation / front of the main residence



South elevation & west elevation of the utility room / carport



West elevation / side of the main residence



Utility room north elevation & house east elevation

  
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Abate Planning & Building violations and remodel house, convert garage / workshop into an ADU for:  
**Scibird / McGonegle**  
 539 Periwinkle Lane, Montecito CA 93108

**Pictures**

March 4, 2024

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**Building codes**

March 4, 2024

**A3**

## California Green Building Standards Code

- Mandatory provisions of Chapter 4 of the California Green Building Standards Code apply to additions or alterations of existing residential buildings where the addition or alteration increases the buildings conditioned area, volume or size. The requirements apply only to and/or within the specific area of the addition or alteration. Please address in plans as applicable. [CGBCS 301.1.1]
- An approved County sorting/recycling facility must be utilized for construction waste management to comply with Construction Waste Reduction, Disposal and Recycling provisions of California Green Building Standards Code Section 4.408.1. Please list the approved waste management company on the cover sheet of the plans. Alternatively, a complete Construction Waste Management (CSM) Plan shall be submitted and approved prior to issuance. Contact the plans examiner for proper forms to be filled out if a CSM is to be utilized. [CGBCS 4.408]

- Provide a note on the plans stating that at the time of final inspection, a manual, compact disc or web based reference shall be placed in the building. This manual shall include all of the items listed on California Green Building Standards Code Section 4.410.1. [CGBCS 4.410]

- Residences built and available for use on or before January 1, 1994 undergoing alterations and/or additions are to replace all non-compliant plumbing fixtures with water-conserving plumbing fixtures. Non-compliant plumbing fixtures are as follows: (1) any toilet manufactured to use more than 1.6 gallons of water per flush, (2) any urinal manufactured to use more than one gallon of water per flush, (3) showerhead manufactured to have a flow capacity of more than 2.5 gallons of water per minute, (4) any interior faucet that emits more than 2.2 gallons of water per minute. Please indicate this on the plans. [CGBCS 301; California Civil Code Section 1101.1]

- Water closets, showerheads and lavatory faucets are to be water-conserving type plumbing fixtures and meet the following criteria: (1) the effective flush of water closets shall not exceed 1.28 gallons per flush, (2) showerheads shall have a maximum flow rate of 2.0 gallons per minute at 80 psi, (3) lavatory faucets shall have a maximum flow rate of 1.5 gallons per minute at 60 psi and shall have a minimum flow rate of 0.8 gallons per minute at 20 psi. Please note this on the plans. [CGBCS 4.303]

- Kitchen faucets shall have a maximum flow rate of 1.8 gallons per minute at 60 psi. Faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi. Please note this on the plans. [CGBCS 4.303]

- 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. Please note this on the plans. (Note: A hand-held shower is to be considered a showerhead for purposes of this provision) [CGBCS 4.303]

## Safety Glazing

- Provide safety glazing in all fixed and operable panels of swinging, sliding and bi-fold doors. Show specific locations of safety glazing in door schedule or on floor plans. [CRC R308.4]
- Unless there is an intervening wall or other permanent barrier, provide safety glazing in sidelights or windows adjacent to a door where the nearest vertical edge is within a 24 inch arc of the door in a closed position and whose bottom edge is less than 60 inches above the floor or walking surface. Show specific locations of safety glazing in door schedule or on floor plans. [CRC R308.4]

- Unless protected by a horizontal protective railing at 34 inches to 38 inches above finish floor capable of withstanding a horizontal load of 50 pounds per linear foot, provide safety glazing at fixed or operable panels exceeding 9 square feet where the lower edge of the glazing is less than 18 inches above finish floor, the top edge is more than 36 inches above the floor and there are one or more walking surfaces within 36 inches of the glazing. Show specific locations of safety glazing in door schedule or on floor plans. [CRC R308.4]

- Provide safety glazing in glass railings or balusters. [CRC R308.4]

- Provide safety glazing in enclosures for or walls facing hot tubs, whirlpools, saunas, steam rooms, bathtubs and showers where the bottom edge of the glass is less than 60 inches from the floor and within 5 feet of the water's edge. Provide safety glazing in enclosures for or walls adjacent to swimming pools, hot tubs and spas where the bottom edge of the glass is less than 60 inches from the floor and within 5 feet of the water's edge. Show specific locations of safety glazing in door schedule or on floor plans. [CRC R308.4]

- Fixed or operable glass panels within 36 inches horizontally of the walking surface in stairways, ramps and landings, where the bottom edge of the glass is less than 36 inches above the finish surface, is to be safety glazing unless protected by a horizontal protective railing with a minimum of 1 1/2" cross sectional height located at 34 inches to 38 inches above finish floor capable of withstanding a horizontal load of 50 pounds per linear foot. Show specific locations of safety glazing in door schedule or on floor plans. [CRC R308.4]

- Fixed or operable glass panels within 60 inches in any direction from the bottom tread of a stair, where the bottom edge of the glass is less than 36 inches above the finish surface, is to be of safety glazing unless protected by a guard or handrail complying with CRC R312 and the plane of glass is more than 18" from the guard. [CRC R308.4]

## Wild-Urban Interface Area Construction

- Roof covering for structures located within a State or Local Agency Very-High Fire Hazard Severity Zone pursuant CRC Section R327 is to be a fire-retardant roof covering that is at least Class A. Roof covering for structures in the Montecito Fire Protection District is to be fire-retardant roof covering that is at least Class A. Provide listing report number of approved Class A roofing on plans. [CRC R902; Montecito Fire Protection District Ordinance]

- Roof covering for structures located within a State Agency High Fire Hazard Severity Zone or a Wildland-Urban Interface Fire Area pursuant CRC Section R327 is to be a fire-retardant roof covering that is at least Class A or B. Provide listing report number of approved Class A roofing on plans. [CRC R902] When provided, valley flashings subject to CRC Section R327 are not to be less than 26 galvanized sheet gauge corrosion resistant metal installed over a minimum 3/8" wide underlayment consisting of one layer of minimum 72 pound mineral surfaced non-perforated cap sheet complying with ASTM D3909 installed over the combustible decking. [CRC R327.5.3]

- Roof gutters subject to CRC Section R327 to be provided with means to prevent the accumulation of leaves and debris in the gutter. [CRC R327.5.4]

- Attic vents on vertical surfaces are to be non-combustible and corrosion resistant. The opening size in any ventilation device or material (such as wire mesh) is to have a minimum opening size of 1/16 inch and maximum opening size not to exceed 1/8 inch. [CRC R327.6]

- Exterior windows subject to CRC Section R327 are to be multi-pane glazing with a minimum of one tempered pane, or glass block units, or have a fire resistance rating of not less than 20 minutes when tested in accordance with ASTM 257, or conform to the performance requirements of SFM 12-7A-2. Window schedule shall clearly specify how products comply with these requirements (a general note is not adequate). [CRC 327.8]

- Exterior door assemblies pursuant CRC Section R327 shall conform to the performance requirements of SFM 12-7A-1, shall be of approved noncombustible or ignition-resistant materials, shall be solid core wood having stiles and rails not less than 1 7/8" thick with interior field panel thickness no less than 1 1/4" thick (except for the exterior perimeter of the raised panel that may taper to a tongue not less than 3/8" thick), or shall have a fire-resistance rating of not less than 20 minutes when tested in accordance with ASTM E 252. Glazing within exterior doors, including garage doors, are to be multi-pane tempered or have a fire resistance rating of not less than 20 minutes, when tested in accordance with ASTM 257, or conform to the performance requirements of SFM 12-7A-2. Door schedule shall clearly specify how products comply with these requirements (a general note is not adequate). [CRC R327.8]

## Roofing / Attic Access

- Provide minimum 22"x 30" access to attics that exceed 30 square feet in area and have a vertical height of 30 inches or greater (30" x 30" if FAU or water heater is to be in attic.) [CRC R807]

## Receptacles-Arc-Fault/Tamper/GFCI Requirements

- Unless in accordance with CEC 210.12 (A) Exception 1, 2, or 3, all 120-volt, single phase, 15 and 20 ampere branch circuits supplying outlets installed in dwelling unit family room, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways or similar rooms or areas shall be protected by a listed arc-fault/branch circuit interrupter, combination type, installed to provide protection of the branch circuit. A general note on the electrical plan is adequate. [CEC 210.12]

- Where branch-circuit wiring is modified, replaced or extended in areas specified in CEC 210.12(A), the branch circuit shall be protected by either a listed combination-type AFCI located at the origin of the branch circuit or a listed outlet branch-circuit type AFCI located at the first receptacle of the existing branch circuit. Please note this on plans. [CEC 210.12 (B)]

- All non-locking type 125-volt, 15 and 20 ampere receptacles in a dwelling unit shall be listed tamper-resistant receptacles. (Exceptions: (1) receptacles more than 5'-6" above the floor, (2) receptacles part of a luminaire or appliance, (3) a single receptacle or a duplex receptacle for two appliances that are not easily moved and located within dedicated space and are chord-and-plug connected as per CEC 400.7, and (4) non-grounding receptacles used for replacements as permitted in CEC 406.4 (D) (2) (a). A general note on the electrical plan is adequate. [CEC 406.12].

## Electrical Requirements (NEC)

- A 30" wide x 36" deep unobstructed clearance must be provided in front of electrical panels and/or sub-panels. Revise plans accordingly. [CEC 110.26].

- Electrical panels and/or sub-panels are not permitted in the vicinity of easily ignitable material, such as in a clothes closet. They are also not permitted in bathrooms of residential occupancies. Revise plans accordingly. [CEC 240.24(D)(E)].

- Electrical panels and/or sub-panels are not permitted over steps of a stairway. Revise plans accordingly. [CEC 240.24(F)].

- Electrical receptacle location/spacing is to be in accordance with the California Electrical Code. Receptacles are required at wall spaces 2 feet or wider, not more than 6 feet from openings, not more than 12 feet on center. These receptacles are in addition to any receptacle that is part of a luminaire, appliance, controlled by a switch or located within cabinets or cupboards. Note that fixed glazing panels are considered wall space for purposes of this code section. [CEC 210.52(A)(1)(2)].

- In kitchen, pantries, breakfast rooms, dining rooms and similar areas, countertop receptacles are required at each section of countertop 12" or wider. Receptacles are to be spaced such that no point along the wall line is more than 24" measured horizontally from a receptacle outlet in that space. Countertop space shall be considered continuous when the space is 12" or deeper behind a sink, countertop cooking unit or range placed parallel to a wall or 18" or deeper behind a sink, countertop cooking unit or range placed in a corner configuration (the 18" is measured to the inside corner of the wall along a line that is perpendicular to the rear of the sink, countertop cooking unit or range). [CEC 210.52(C)].

- Provide a minimum of (1) waterproof/GFCI outdoor receptacle at front and rear of structure. All exterior outlets shall be waterproof/GFCI outdoor receptacles. [CEC 210.52 (E)(1)].

- At least one receptacle outlet, in addition to those required for specific equipment, shall be installed in each basement, in each attached garage, and in each detached garage and/or accessory building with electric power. [CEC 210.52 (G)(1)].

- In garages at least one receptacle outlet shall be installed for each car space. [CEC 210.52 (G)(1)].

- Branch circuits supplying garage receptacle(s) shall not supply outlets outside of the garage. [CEC 210.52 (G)(1)].

- At least one receptacle outlet shall be installed in each hallway 10 feet or more in length (hallway length shall be considered the length along the centerline of the hallway without passing through a doorway). [CEC 210.52(H)]

- Receptacle outlets are required within 3' of the outside edge of each basin and shall be located on the wall or partition adjacent to the basin or in the countertop. Countertop receptacles must be listed for that use. Receptacles are to be GFCI protected. [CEC 210.52]

- Provide a waterproof/GFCI outdoor receptacle within the perimeter of balconies, decks and porches that are attached to a dwelling unit and are accessible from the inside of the dwelling unit with a usable area greater than 20 square feet. [CEC 210.52 (E)(3)].

- Provide a GFCI 15 or 20 amp receptacle at unfinished basement in addition to those specific for equipment. [CEC 210.52(G)]

- Provide AIR conditioning unit with anchored seismic strapping on min. 4" concrete slab 3" above grade. Indicate (1) GFI/WP outlet within 20 feet of unit and a disconnect switch by the unit. [CEC 210.63]

- All kitchen countertop receptacles are to be GFCI protected. Receptacles within 6 feet of the outside edge of any sink, bathtub or shower stall and laundry areas are to be GFCI protected. [CEC 210.8]

- All receptacles in bathrooms to be GFCI protected. [CEC 210.8].

- Receptacles on undedicated circuits in garage and basements to be GFCI protected. [CEC 210.8]

## Receptacles Wet Locations

- All receptacles in damp or wet locations (WP) shall be a listed weather-resistant type and be GFCI. [CEC 406.9].

## Lighting Fixtures - General Requirements / Locations

- Provide a minimum of one wall switch controlled lighting outlet in every habitable room: bathroom, hallways, stairways, attached garages, detached garages with electrical power and every outdoor entrance or exit which provides grade level access. [CEC 210.70].

- Where one or more lighting outlets are installed at interior stairways, there shall be a wall switch at each floor level. Any landing level that includes an entry way where the stairway between floor levels has six or more risers shall also be provided with a switch. [CEC 210.70]

## Lighting Fixtures - Wet Locations

- Lighting fixtures in a hydro-massage tub/spa shall be recessed, nonmetallic and GFCI protected if within 76" of the maximum water level.

## Electric Vehicle Charging Stations

- New one- and two- family dwellings with attached private garages are to comply with Section A4.106.4.1 and Section A4.106.4.1.1 of the California Green Building Standards Code to facilitate future installation and use of EV chargers. For each dwelling unit, install a minimum 1" inside diameter listed raceway to accommodate a dedicated 208/240v branch circuit. Raceway shall originate at main or sub panel and terminate in a listed box in close proximity to the proposed EV charger location. Raceways must be continuous at enclosed, inaccessible, or concealed spaces. Service panel shall provide capacity to install 40 amp minimum dedicated branch circuit and spaces reserved to permit installation of a branch circuit overcurrent device, identify the reserved space and raceway termination for future EV as "EV CAPABLE." [Santa Barbara County (SBCO) Building Ordinance No. 4922]

## Smoke Detector / Carbon Monoxide Alarms

- Provide 120 volt hard-wired, interconnected smoke alarms: (with battery back-up) at all new construction per CRC R314.3. They are to be provided:

In each sleeping room(s).  
 On the wall or ceiling outside each separate sleeping area in the immediate vicinity of the bedrooms. Minimum of (1) detector in each story including basements and habitable attics (with alarm audible in sleeping rooms).

- Smoke alarms:
  - shall be placed a minimum of 20 feet horizontally from a permanently installed cooking appliance unless listed for that use (Exceptions: Ionization smoke alarms with an alarm silencing switch or photoelectric smoke alarms may be installed 10 feet or greater from a permanently installed cooking appliance; photoelectric smoke alarms may be installed 6 feet or greater from a permanently installed cooking appliance where the kitchen or cooking area and adjacent spaces have no clear interior partitions and the 10 foot distance would prohibit the placement of a smoke alarm or smoke detector required by other sections of the code)
  - shall, where possible, not be placed within 3 feet horizontally of a door to a bathroom that contains a bathtub or a shower
  - where stairs lead to other occupied levels, shall be located so that smoke rising in the stairway cannot be prevented from reaching the smoke alarm or smoke detector by an intervening door or obstruction
  - for basements shall be located on the basement ceiling near the entry to the stairs
  - for tray-shaped ceilings (coffered ceilings), shall be installed on the highest portion of the ceiling or on the sloped portion of the ceiling within 12 inches vertically down from the highest point
  - for sloped ceilings with beams running up the slope, shall be placed on the ceiling between beams
  - for sloped ceilings with beams running parallel to the ridge or for sloped ceilings with beam pockets formed by intersecting beams, shall be located at the bottom of the beam

- When an addition or alteration valuation exceeds \$1,000.00, smoke detectors are required to be installed in existing sleeping rooms and areas providing access to sleeping areas in addition to those required for new construction (CRC R314.6). Unless the repair or remodel does not involve the removal of wall and ceiling finishes and there is no means of access by means of an attic, basement, or crawlspace, alarms are to be interconnected such that activation of one alarm shall activate all of the alarms in that individual unit. They are to be provided:
  - In each sleeping room(s).
  - On the wall or ceiling outside each separate sleeping area in the immediate vicinity of the bedrooms.
  - Minimum of (1) detector in each story including basements and habitable attics (with alarm audible in sleeping rooms).

- Per CRC R315, provide 120 volt hard-wired, interconnected Carbon Monoxide Alarm (with battery back-up) at all new dwelling units and in sleeping units within which fuel-burning appliances are installed and in dwelling units or sleeping units that have attached garages. Alarms are to be interconnected such that activation of one alarm shall activate all of the alarms in that individual unit. They are to be provided:

Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s)  
 On every level of a dwelling unit including basements

- When an addition or alteration valuation exceeds \$1,000.00, Carbon Monoxide Alarm (with battery back-up) at all new dwelling units and in sleeping units within which fuel-burning appliances are installed and in dwelling units or sleeping units that have attached garages (CRC R315.2). Unless the repair or remodel does not involve the removal of wall and ceiling finishes and there is no means of access by means of an attic, basement, or crawlspace, alarms are to be interconnected such that activation of one alarm shall activate all of the alarms in that individual unit. They are to be provided:
  - Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedroom(s)
  - On every level of a dwelling unit including basements

## Energy Conservation Requirements

(Lighting - Rooms other than bathrooms, garages, laundry rooms and utility rooms)

- All interior residential lighting is to be high efficacy. Luminaires with integral sources (e.g., LED luminaires) and changeable lamps must be CEC certified as meeting the requirements of JA8. (Note: Listing of CA certified fixtures is located on the California Energy Commission website at the following hyperlink: <<http://appliances.energy.ca.gov/advancedsearch.aspx>>.)

- Lighting not automatically classified as high efficacy by the CA Energy Commission (e.g., pin-based fluorescent luminaires, pulse-start halide luminaires, high pressure sodium luminaires) is to have a light source or lamp installed in them at the time of inspection that meets the requirements of Joint Appendix JA8.

- Recessed downlighting is to contain light sources that are JA8-certified, shall not contain screw based lamps and shall not contain light sources that are labeled "not for use in enclosed fixtures" or "not for use in recessed fixtures". They shall be listed for zero clearance, have a label that certifies the luminaire as airtight when tested in accordance with ASTM E283 (with the exception of exhaust fan housings) and be readily accessible for ballast or driver maintenance and replacement.

- Except for closets less than 70 square feet and hallways, all luminaires that are installed with JA8-certified light sources are required to be controlled by either a dimmer or vacancy sensor.

- The number of electrical boxes located more than 5 feet above finished floor that do not contain a luminaire or other device shall not exceed the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor or fan speed control. [California Energy Code Section 150 (k) 1 (B)]

(Lighting - Bathrooms, garages, laundry rooms and utility rooms)

- At least one luminaire each bathroom, garage, laundry room, and utility room shall be controlled by a manual on/automatic-off vacancy sensor. [California Energy Code Section 150 (k) 2 (J)]

(Outdoor Lighting)

- Outdoor lighting permanently mounted to a single family dwelling or other buildings in the same lot shall be high efficacy and must be controlled by an on/off switch that does to override to ON the items listed below. Also, the lighting must by one of the following methods:

- Controlled by photocell and motion sensor. Controls that override to ON shall not be allowed unless the override automatically reactivates the motion sensor within 6 hours, or
- Controlled by any of the following:
  - Photocell and automatic time switch control. Controls that override to ON shall not be allowed unless the override automatically return which provides grade level access. [CEC 210.70].
  - Astronomical time clock. Controls that override to ON shall not be allowed unless the override automatically turn the outdoor lighting OFF during daylight hours, or
  - Energy management control system which meets all of the following requirements. At a minimum provides the functionality of an astronomical time clock in accordance with Section 110.9 of the standards; meets the Installation Certification requirements in Section 130.4n within of the standards; meets the requirements for an EMCS in Section 130.5 of the standards; does not have an override or bypass switch that allows the luminaire to be always ON; and, is programmed to automatically turn the outdoor lighting OFF during daylight hours.

(ECAP Measures - Santa Barbara County)

- (September 1, 2015) For new single family residences, please note on the plans that two minimum 1" diameter metallic conduits be provided that originate at a readily accessible attic location with proximity to a solar zone area complying with California Energy Code Section 110.10 and terminate at a minimum 4" square approved electrical junction box located within 72" horizontally and 12" vertically of a main electrical panel. The electrical junction box and the segment of conduit run in the attic shall be permanently and visibly marked as "FOR FUTURE SOLAR PHOTOVOLTAIC". [Santa Barbara County Energy and Climate Action Plan (ECAP) Ordinance 15ORD-00]

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## Plumbing Requirements

- Provide a 30" clear width and 24" clear space in front of the water closet. [CPC 402.5]
- Showers are to have a minimum interior area of 1024 square inches and shall be capable of encompassing a 30 inch circle. [CPC 408.6]

## Mechanical Requirements

(Warm-Air Furnaces - General Requirements)

- Every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68 degrees F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms. [CRC R303.9]

- Provide 30 inch deep unobstructed working space in front of warm-air furnace. [CMC 304].

- Provide a 42" high guard where any portion of rooftop equipment is less than 6 feet from the edge of a roof or similar hazard. [CMC 303]

- Access opening to attic or under floor furnace shall be no more than 20 feet from furnace. [CMC 904.10].

- Provide protection from damage to furnace or other gas-fired equipment by automobiles, at rear of garage. Pilots, burners, or heating elements shall be 18" minimum above floor. [CMC 305].

CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code.

301.1.1 Additions and alterations. [HCD] 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 mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings.

Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings or high-rise residential buildings, or both.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

1. [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

Table with 2 columns: Abbreviation, Definition. Includes HCD, BSC, DSA-SS, OSHPD, LR, HR, AA, N.

CHAPTER 4 RESIDENTIAL MANDATORY MEASURES

SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference)

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope.

4.106 SITE DEVELOPMENT

4.106.1 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.

4.106.2 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.

- 1. Retention basins of sufficient size shall be utilized to retain storm water on the site.
2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
3. Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water\_issues/programs/stormwater/construction.html)

4.106.3 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.

- 1. Swales
2. Water collection and disposal systems
3. French drains
4. Water retention gardens
5. Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 and 4.106.4.2.

- 1. On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
1.1 Where there is no local utility power supply or the local utility is unable to supply adequate power.
1.2 Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project.
2. Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the California Electrical Code.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE".

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2.

4.106.4.2.1 Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping units or guest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exceptions:

- 1.When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.
2.When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

- a.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1.EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

Notes:

- a.Construction documents shall show locations of future EV spaces.
b.There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2.EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

3.EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.

4.106.4.2.2.1.1 Location. EVCS shall comply with at least one of the following options:

- 1.The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space.
2.The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section 4.106.4.2.2.1.2, Item 3.

4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions. The charging spaces shall be designed to comply with the following:

- 1.The minimum length of each EV space shall be 18 feet (5486 mm).
2.The minimum width of each EV space shall be 9 feet (2743 mm).
3.One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).
a.Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.2.1.3 Accessible EV spaces. In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A.

4.106.4.2.3 EV space requirements. 1.Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the California Electrical Code.

2.Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on average or installed or future receptacles or EVSE, raceway methods(s), wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the California Electrical Code.

4.106.4.2.4 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the California Electrical Code.

4.106.4.2.5 Electric Vehicle Ready Space Signage. Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings. When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

Notes:

- 1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.
2.There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department.

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

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.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 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.

4.303.1.4.2 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.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 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 to 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.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.1.4.5 Pre-rinse spray valves. When installed, shall meet the requirements in the California Code of Regulations, Title 20 (Appliance Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d)(7) and shall be equipped with an integral automatic shutoff.

FOR REFERENCE ONLY: The following table and code section have been reprinted from the California Code of Regulations, Title 20 (Appliance Efficiency Regulations) Section 1605.1 (h)(4) and Section 1605.3 (h)(4)(A).

Table H-2: STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALVES MANUFACTURED ON OR AFTER JANUARY 28, 2019. Columns: PRODUCT CLASS, MAXIMUM FLOW RATE (gpm).

Title 20 Section 1605.3 (h)(4)(A): Commercial pre-rinse spray valves manufactured on or after January 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf) [113 grams-force(gf)]

4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings. Submeters shall be installed to measure water usage of individual rental dwelling units in accordance with the California Plumbing Code.

4.303.3 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the California Plumbing Code, and shall meet the applicable standards referenced in Table 1701.1 of the California Plumbing Code.

NOTE: THIS TABLE COMPLETES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

Table: MAXIMUM FIXTURE WATER USE. Columns: FIXTURE TYPE, FLOW RATE.

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

- 1. The Model Water Efficient Landscape Ordinance (MWELO) is located in the California Code Regulations, Title 23, Chapter 2.7, Division 2. MWELO and supporting documents, including water budget calculator, are available at: https://www.water.ca.gov/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annual surveys around pipes, electric cables, conduits or other openings in solebottom 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.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 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 either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

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

4.408.2 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.

- 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
2. Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
3. Identify diversion facilities where the construction and demolition waste material collected will be taken.
4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 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.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, items 1 through 5, Section 4.408.3 or Section 4.408.4.

Notes:

- 1. 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.
2. Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 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:

- 1. Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
2. Operation and maintenance instructions for the following:
a. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
b. Roof and yard drainage, including gutters and downspouts.
c. Space conditioning systems, including condensers and air filters.
d. Landscape irrigation systems.
e. Water reuse systems.
3. Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
4. Public transportation and/or carpool options available in the area.
5. Educational materials on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
6. Information about water-conserving landscape and irrigation design and controllers which conserve water.
7. Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
9. Information about state solar energy and incentive programs available.
10. A copy of all special inspections verifications required by the enforcing agency or this code.
11. Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures.
12. Information and/or drawings identifying the location of grab bar reinforcements.

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide readily accessible area(s) that serves all buildings on the site and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals, or meet a lawfully enacted local recycling ordinance, if more restrictive.

Exception: Rural jurisdictions that meet and apply for the exemption in Public Resources Code Section 42649.82 (a)(2)(A) et seq. are not required to comply with the organic waste portion of this section.

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

4.501.1 Scope. The provisions of this chapter shall outline means of reducing the quality of air contaminants that are odorous, irritating and/or harmful to the comfort and well being of a building's installers, occupants and neighbors.

SECTION 4.502 DEFINITIONS

5.102.1 DEFINITIONS. The following terms are defined in Chapter 2 (and are included here for reference)

AGRIFIBER PRODUCTS. Agrifiber products include wheatboard, strawboard, panel substrates and door cores, not including furniture, fixtures and equipment (FF&E) not considered base building elements.

COMPOSITE WOOD PRODUCTS. Composite wood products include hardwood plywood, particleboard and medium density fiberboard. "Composite wood products" does not include hardboard, structural plywood, structural panels, structural composite lumber, oriented strand board, glued laminated timber, prefabricated wood I-joists or finger-jointed lumber, all as specified in California Code of regulations (CCR), title 17, Section 93120.1.

DIRECT-VENT APPLIANCE. A fuel-burning appliance with a sealed combustion system that draws all air for combustion from the outside atmosphere and discharges all flue gases to the outside atmosphere.

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Abate Planning & Building violations and remodel house, convert garage / workshop into an ADU for:

Scibird / McGonegle 559 Periwinkle Lane, Montecito CA 93108

March 4, 2024

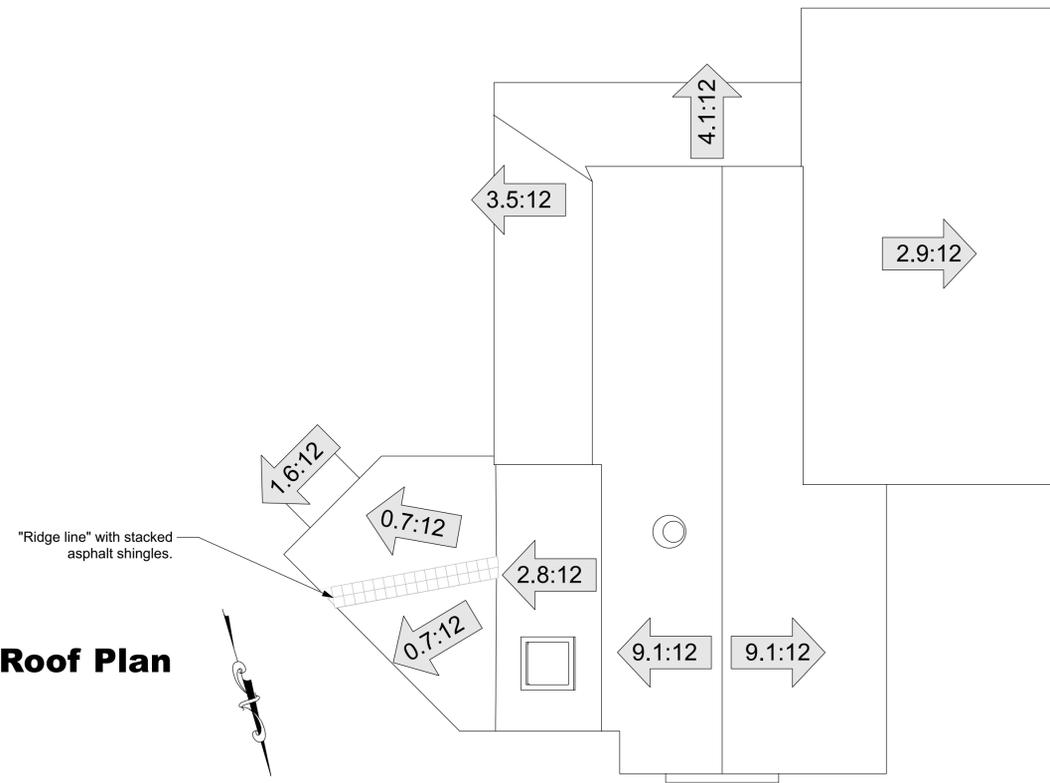
Green Building pg 1 A4





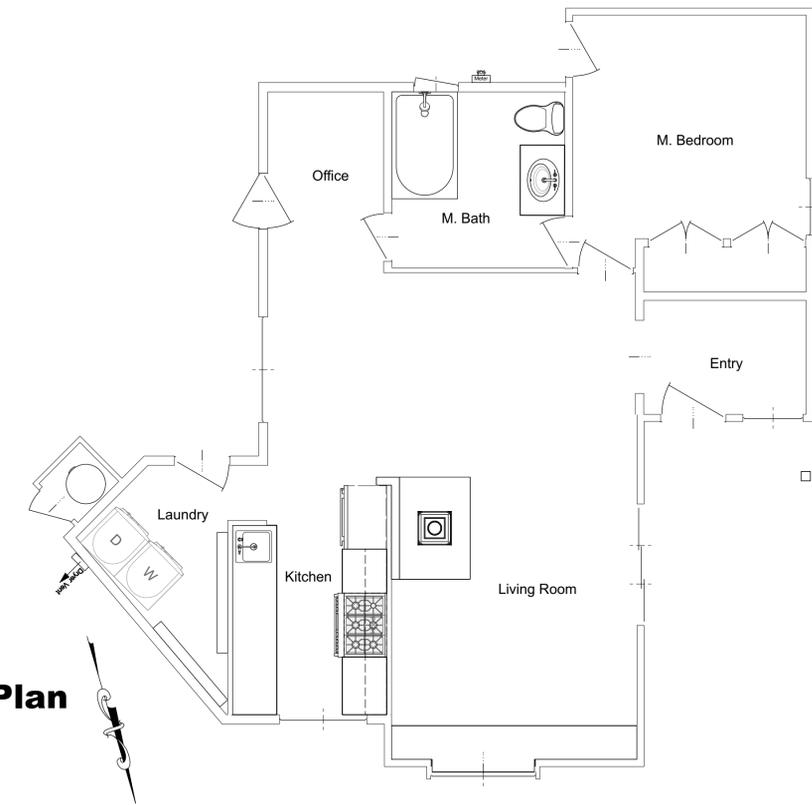
### Existing Roof Plan

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



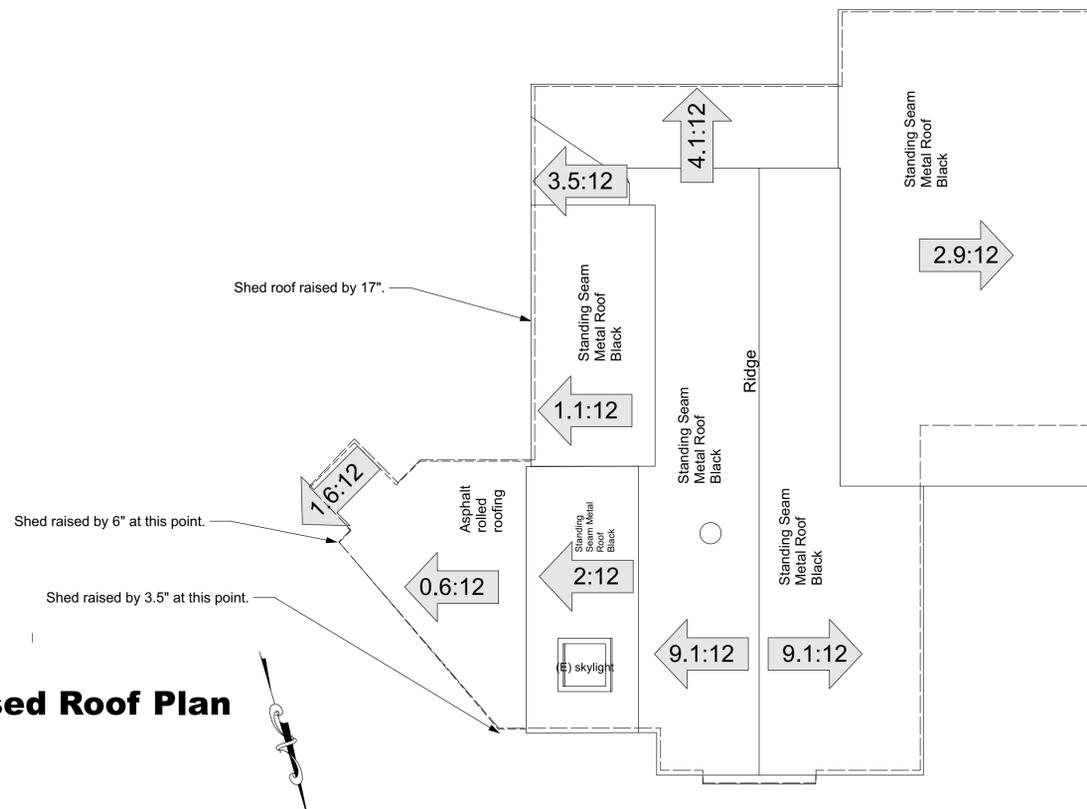
### Existing Floor Plan

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



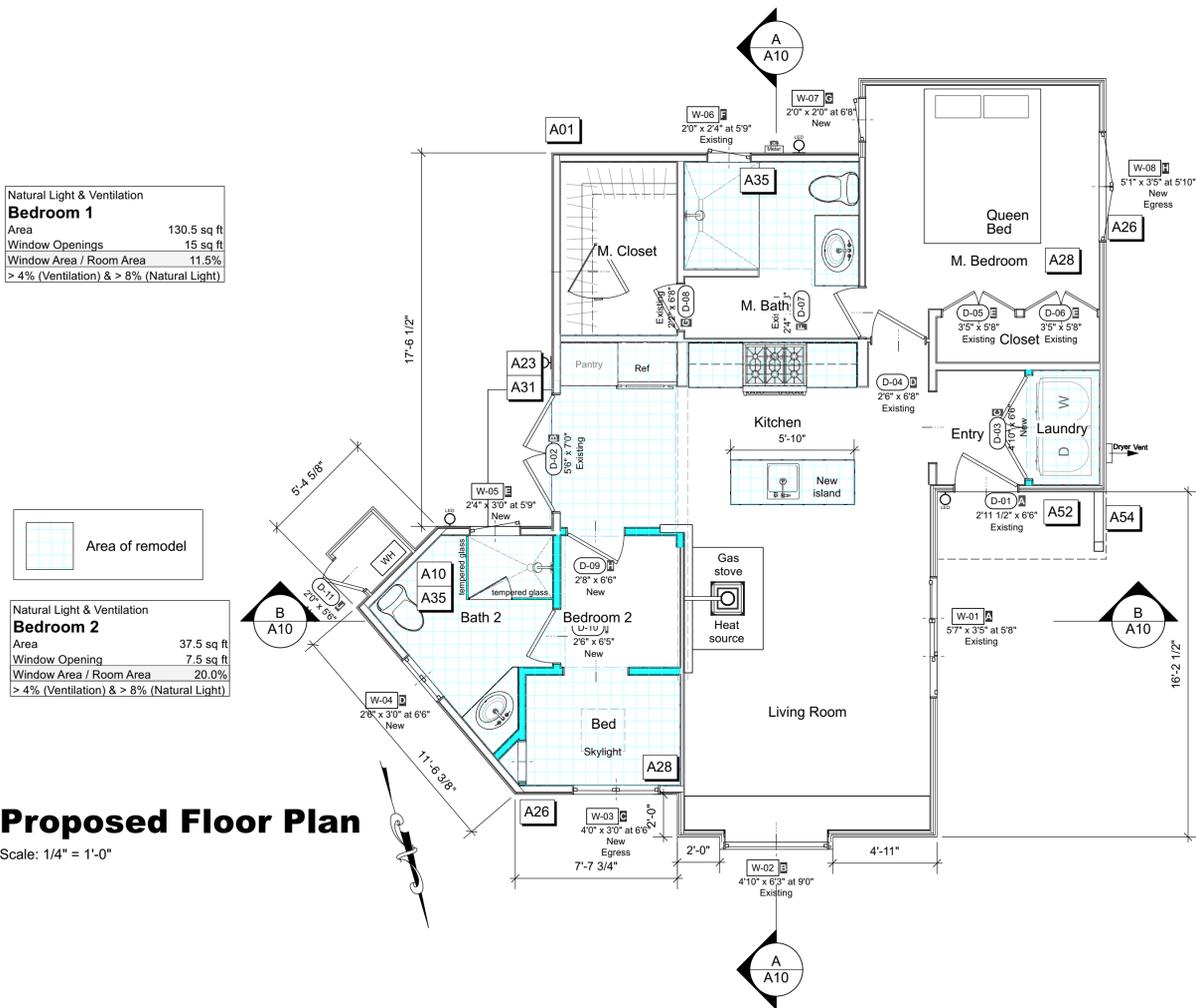
### Proposed Roof Plan

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



### Proposed Floor Plan

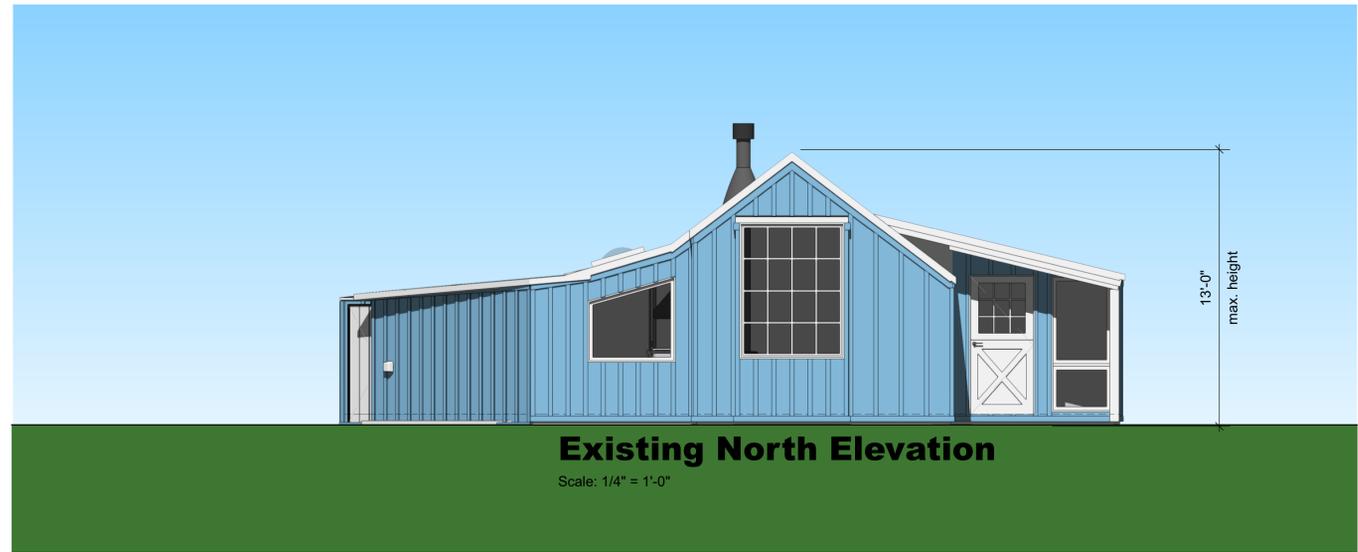
Scale: 1/4" = 1'-0"





**Existing West Elevation**

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



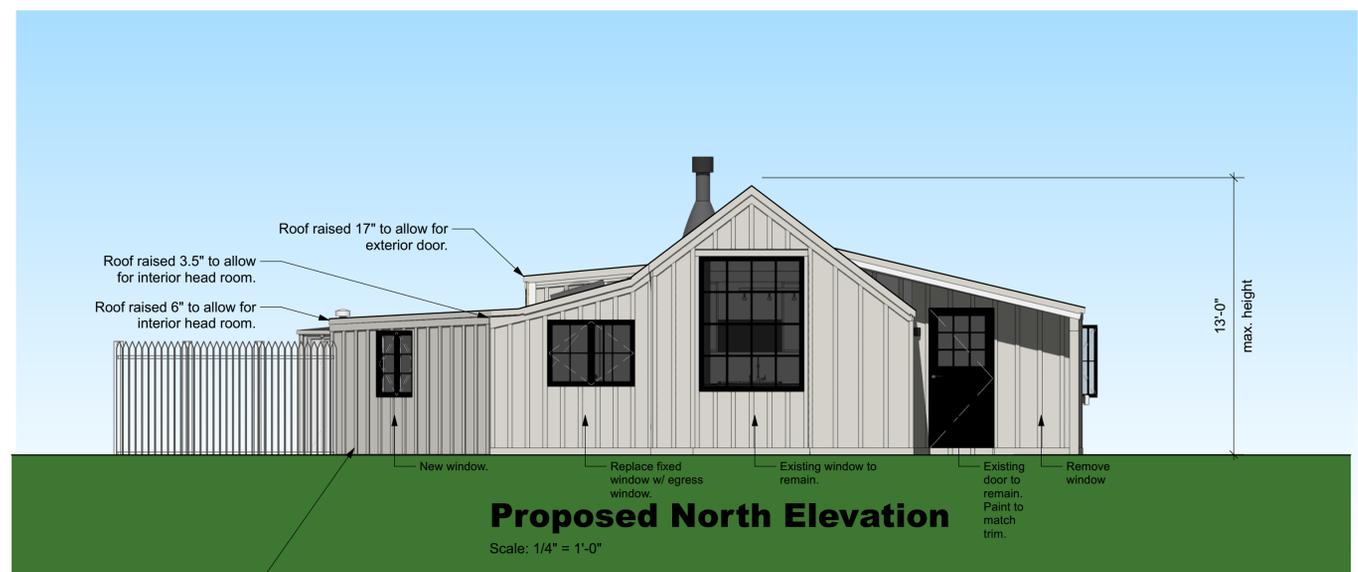
**Existing North Elevation**

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



**Proposed West Elevation**

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



**Proposed North Elevation**

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

Original board and batten siding to remain. Any replacement board and batten siding shall match the original in material and appearance.

Replacement windows shall match the appearance of the house's historic window types in regard to the type and appearance of glazing bars.



Hinkley Silo 8" High Black LED Outdoor Wall Light (Dark Sky Compliant)



Exterior paint on windows and trim



Certainteed Presidential Shake TL Charcol Black



Sherwin-Williams SW 7028 Incredible White LRV: 74



**Existing East Elevation**

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



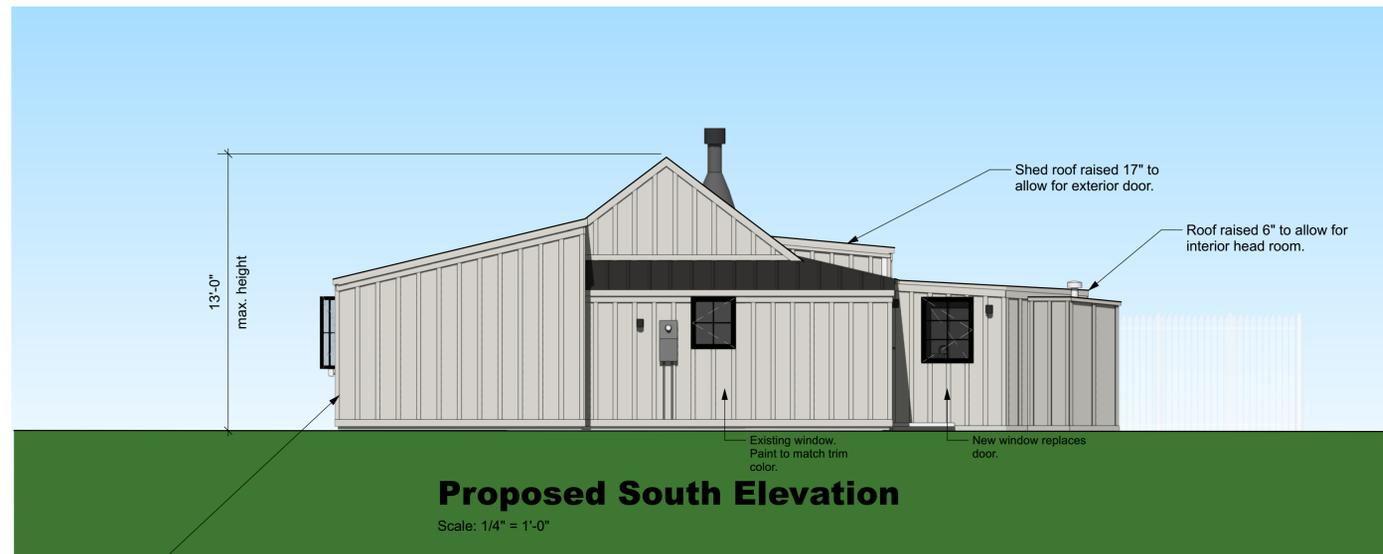
**Existing South Elevation**

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



**Proposed East Elevation**

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



**Proposed South Elevation**

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

Original board and batten siding to remain. Any replacement board and batten siding shall match the original in material and appearance.

Replacement windows shall match the appearance of the house's historic window types in regard to the type and appearance of glazing bars.



Hinkley Silo 8" High Black LED Outdoor Wall Light (Dark Sky Compliant)



Exterior paint on windows and trim



Certainteed Presidential Shake TL Charcol Black

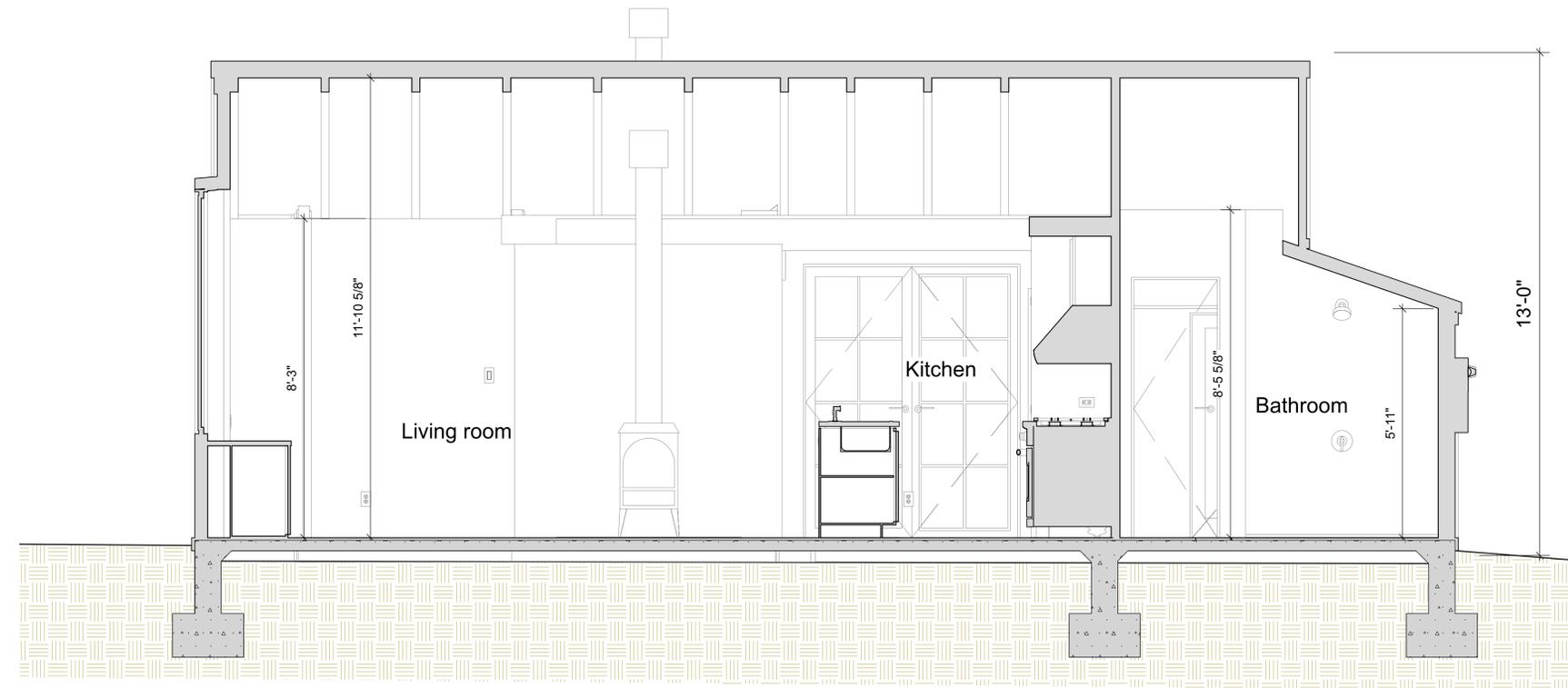


Sherwin-Williams SW 7028 Incredible White LRV: 74

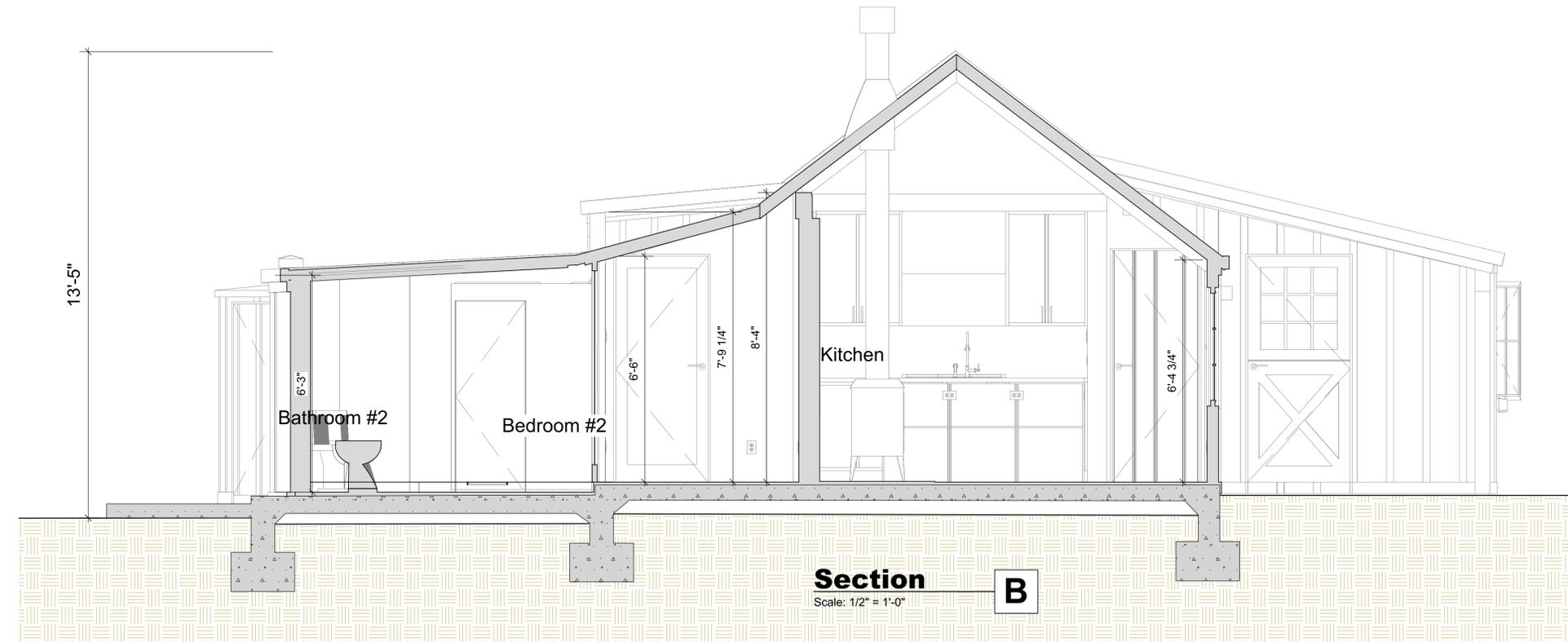


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**Section A**  
 Scale: 1/2" = 1'-0"



**Section B**  
 Scale: 1/2" = 1'-0"

Abate Planning & Building violations and remodel house, convert garage / workshop into an ADU for:  
**Scibird / McGonegle**  
 539 Periwinkle Lane, Montecito CA 93108

**House Sections**

March 4, 2024

**A10**

**PERFORMANCE PLUS® Non-Condensing Tankless Gas Water Heaters**  
are designed to provide continuous hot water

- The new degree of comfort™
- Efficiency**
- .81 - .82 UEF with all-copper heat exchanger
- Easy Installation and Service**
- 1/2" Gas line compatibility up to 24 ft.<sup>1</sup>
  - **Exclusive! Maintenance Notice Setting** – Alerts homeowner, after 500 hours of use, to call for service (optional)
  - Connects to Metal Fab, Inc., 3"/5" concentric venting without an adapter
  - High-altitude capability – up to 8,400 ft. elevation above sea level<sup>2</sup>
  - Digital remote control shows temperature setting and service codes
  - Requires 120V power supply
- Performance**
- **Industry Best! Low Flow Activation** – Minimum flow rate of .28 GPM and activation flow rate of .40 GPM ensures hot water in low demand situations
  - **Exclusive! Hot Start Programming** – Minimizes cold water bursts by staying in ready-fire state for back-to-back hot water needs
- Technology**
- **EcoNet® Enabled** – all Tankless products from 2010 to present can connect to EcoNet mobile app via Tankless EcoNet Accessory Kit (EENWRA630TWH)
  - For higher demand applications, accessories available to link multiple units in a load-sharing system
- Environmentally Friendly**
- **Low Emissions** – Ultra low NOx burner meets SCAQMD rule 1146.2 requirements
  - **Exclusive! Water Savings Setting** – upon activation, this setting can save up to 1,100 gallons water/year<sup>3</sup> by reducing flow at the tap until set temperature is achieved (optional)
- Safety**
- **Exclusive! Guardian OFW™ overheat film wrap** – prevents dangerous temperatures and provides industry best side-to-side clearance of 1/2 inch
  - Maximum water temperature is 140°F. For higher temperature applications, upgrade kits are available
- Warranty**
- 12-Year heat exchanger – residential, 5-year heat exchanger – commercial, 5-year parts and 1-year labor
- See Warranty Certificate for complete information



**WhisperWarm DC**  
Panasonic WhisperWarm DC Fan Heater Light

**Specification Submittal Data**

**Description:** WhisperWarm DC is a fan heater/light combination unit. It is designed for use in residential applications. The unit is available in two models: P1 and P2. The P1 model is a 150W unit and the P2 model is a 200W unit. Both models are available in two finishes: white and black. The unit is designed to be installed in a wall or ceiling. It features a built-in LED light and a fan heater. The unit is designed to be used in areas where a fan heater and light are needed. It is designed to be used in areas where a fan heater and light are needed.

**Notes:**

- WhisperWarm DC is a fan heater/light combination unit.
- The unit is available in two models: P1 and P2.
- The P1 model is a 150W unit and the P2 model is a 200W unit.
- Both models are available in two finishes: white and black.
- The unit is designed to be installed in a wall or ceiling.
- It features a built-in LED light and a fan heater.
- The unit is designed to be used in areas where a fan heater and light are needed.
- It is designed to be used in areas where a fan heater and light are needed.

**Architectural Specifications:**

1. Provide WhisperWarm DC Fan Heater Light, model P1 or P2, as indicated on the drawings.

2. Provide the unit in the finish indicated on the drawings.

3. Provide the unit in the location indicated on the drawings.

4. Provide the unit in the orientation indicated on the drawings.

5. Provide the unit in the orientation indicated on the drawings.

6. Provide the unit in the orientation indicated on the drawings.

7. Provide the unit in the orientation indicated on the drawings.

8. Provide the unit in the orientation indicated on the drawings.

9. Provide the unit in the orientation indicated on the drawings.

10. Provide the unit in the orientation indicated on the drawings.

**Performance Curve (°C)**

Flow Rate (GPM)	Water Temp (°C)	Power (W)
0.5	140	150
1.0	140	150
1.5	140	150
2.0	140	150
2.5	140	150
3.0	140	150
3.5	140	150
4.0	140	150
4.5	140	150
5.0	140	150
5.5	140	150
6.0	140	150
6.5	140	150
7.0	140	150
7.5	140	150
8.0	140	150
8.5	140	150
9.0	140	150
9.5	140	150
10.0	140	150

**Model**    **Quantity**    **Comments**    **Project:**

**Location:**

**Room:**

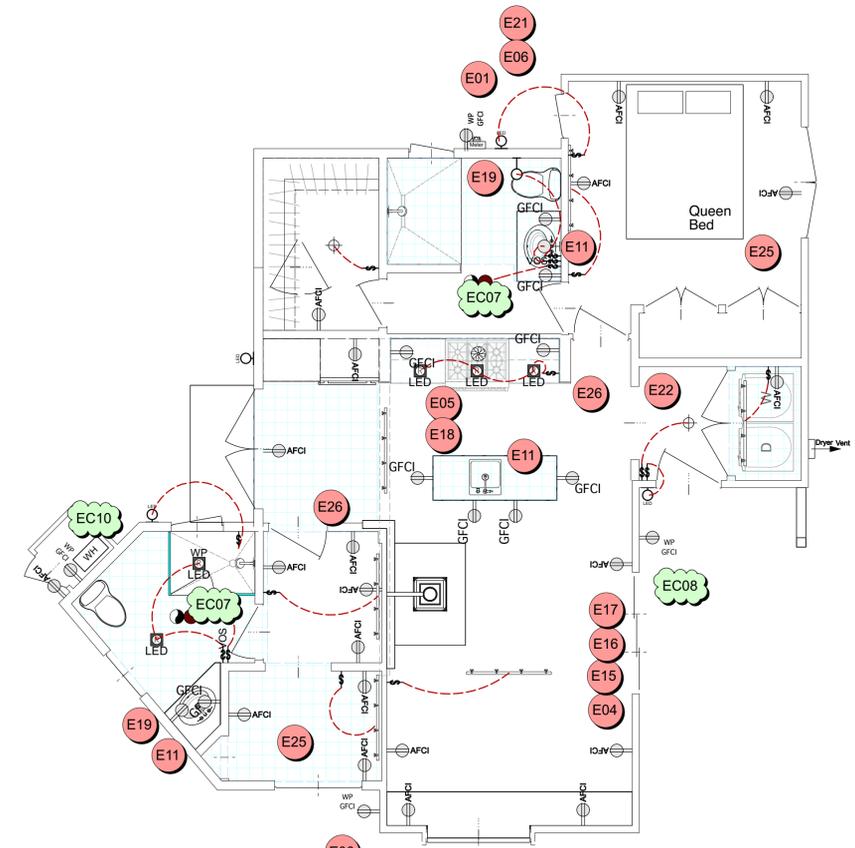
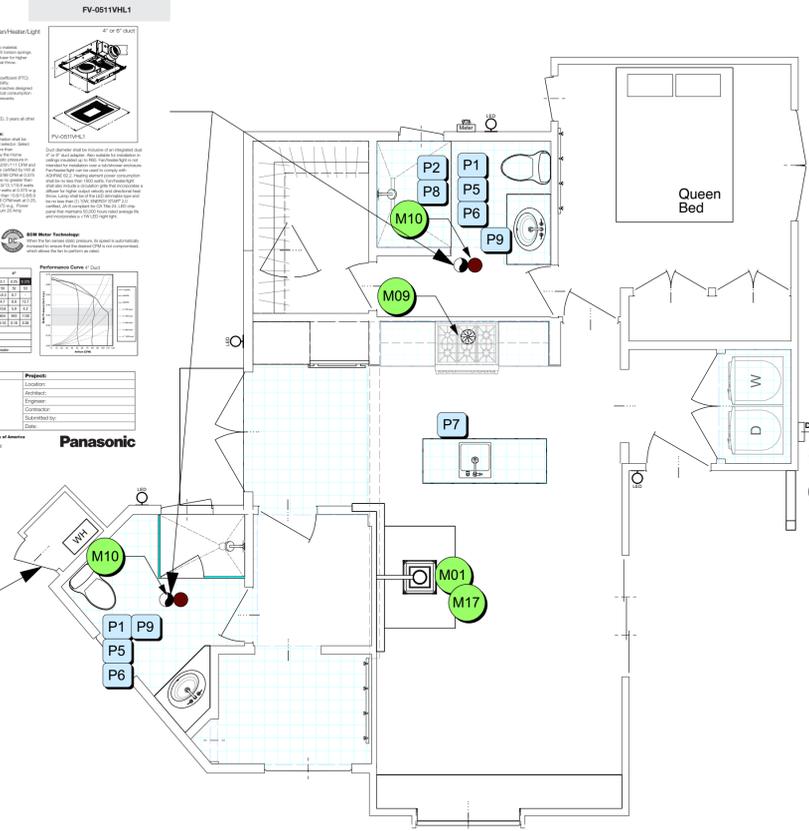
**Submitted by:**

**Date:**

**Approved by:**

**Date:**

**WhisperWarm DC**

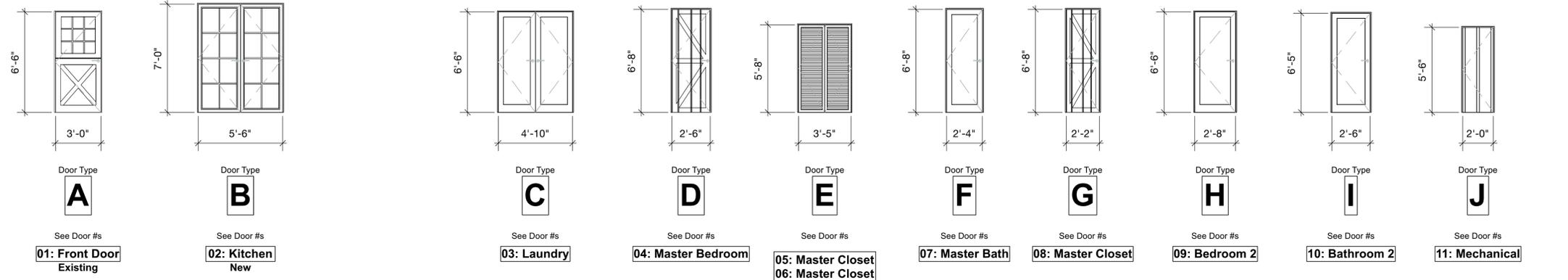


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Abate Planning & Building violations and remodel houses, convert garage / workshop into an ADU for:  
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539 Periwinkle Lane, Montecito CA 93108

# Project Doors

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



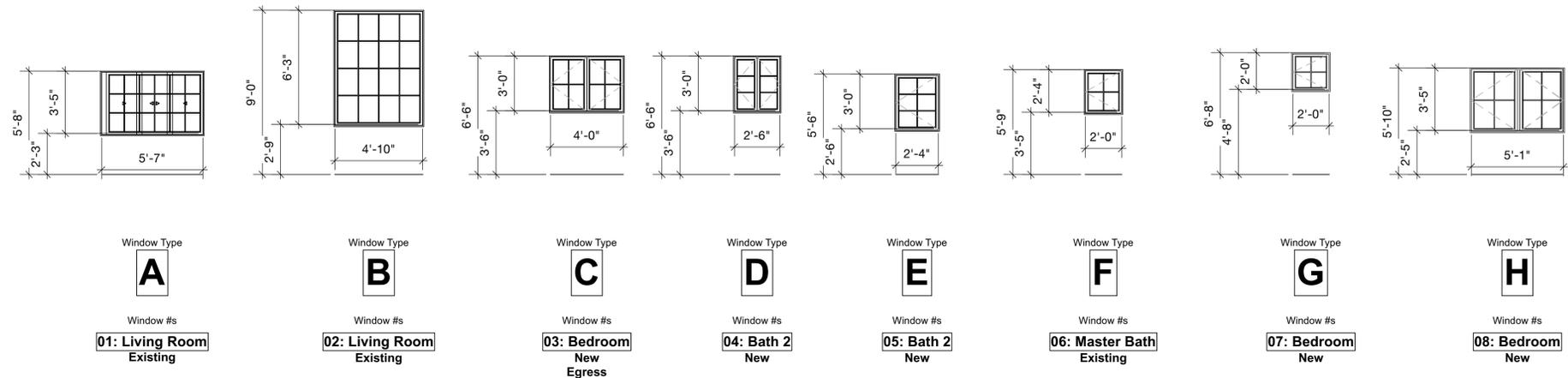
### Door Schedule

U- factor of new glazing is not to exceed 0.3 and SHGC shall not exceed 0.23

#	Type	Nominal Size		Door Operation	Leaf Style	Orientation	New/Existing	Location	Net Glazed Area
		Width	Height						
D- 01	A	2'11 1/2"	6'6"	Swing Simple	Dutch	16°	Existing	Front Door	5.3 sq ft
D- 02	B	5'6"	7'0"	Swing Bi-part	Glass	106°	Existing	Kitchen	5.3 sq ft
D- 03	C	4'10"	6'6"	Swing Bi-part	Panel	—	New	Laundry	
D- 04	D	2'6"	6'8"	Swing Simple	Panel	—	Existing	Master Bedroom	
D- 05	E	3'5"	5'8"	Swing Bi-part	Panel	—	Existing	Master Closet	
D- 06	E	3'5"	5'8"	Swing Bi-part	Panel	—	Existing	Master Closet	
D- 07	F	2'4"	6'8"	Swing Simple	Panel	—	Existing	Master Bath	
D- 08	G	2'2"	6'8"	Swing Simple	Panel	—	Existing	Master Closet	
D- 09	H	2'8"	6'6"	Swing Simple	Panel	—	New	Bedroom 2	
D- 10	I	2'6"	6'5"	Swing Simple	Panel	—	New	Bathroom 2	
D- 11	J	2'0"	5'6"	Swing Simple	Panel	—	New	Mechanical	

# Project Windows

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



### Window Schedule

U- factor of new glazing is not to exceed 0.3 and SHGC shall not exceed 0.23

#	Type	Nominal Size		Elevation	Sash Operation	Orientation	New / Existing	Location	Net Glazed Area	Notes
		O.A. Width	O.A. Height							
W- 01	A	5'7"	3'5"	5'8"	Horizontal Slider	286°	Existing	Living Room	15.2 sq ft	
W- 02	B	4'10"	6'3"	9'0"	Fixed Glass	16°	Existing	Living Room	26.6 sq ft	
W- 03	C	4'0"	3'0"	6'6"	Bi-parting Casement	16°	New	Bedroom	8.9 sq ft	
W- 04	D	2'6"	3'0"	6'6"	Bi-parting Casement	16°	New	Bath 2	4.9 sq ft	
W- 05	E	2'4"	3'0"	5'9"	Casement	196°	New	Bath 2	5.3 sq ft	
W- 06	F	2'0"	2'4"	5'9"	Casement	196°	Existing	Master Bath	3.3 sq ft	
W- 07	G	2'0"	2'0"	6'8"	Casement	196°	New	Bedroom	2.8 sq ft	
W- 08	H	5'1"	3'5"	5'10"	Bi-parting Casement	286°	New	Bedroom	13.6 sq ft	

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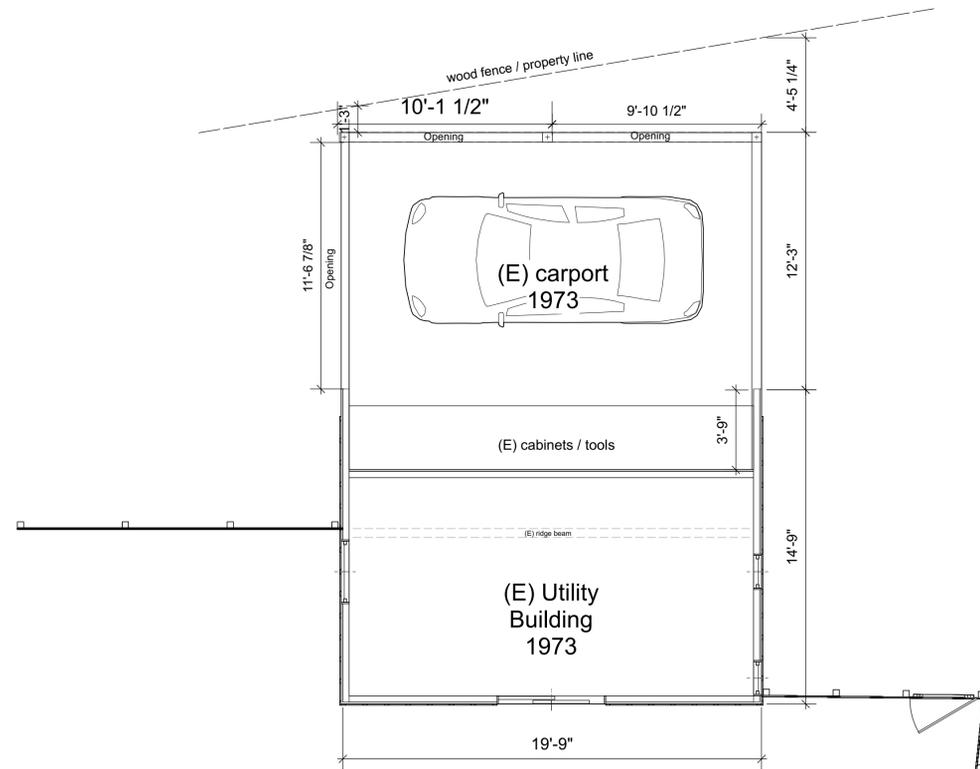
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**Door & Window Schedules**

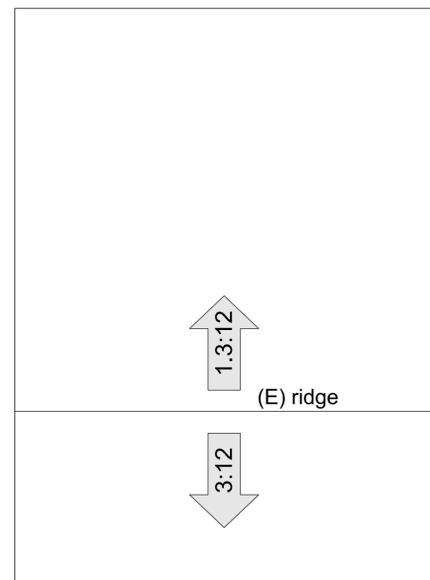
March 4, 2024

**A12**

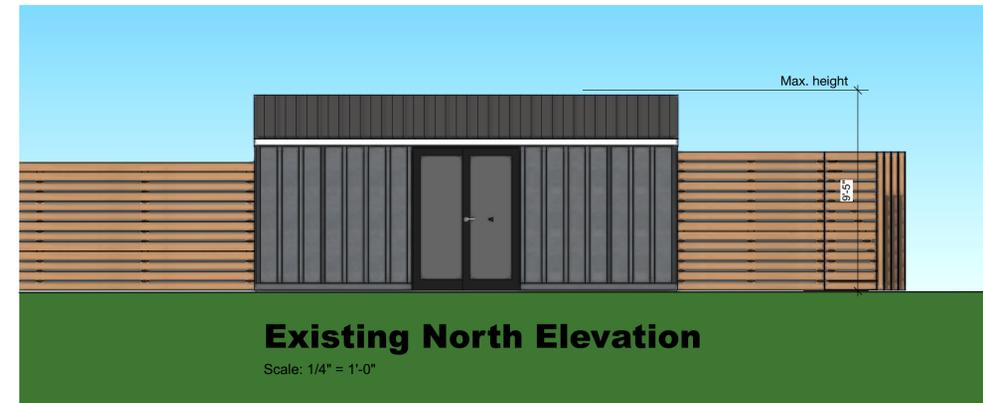
# NO WORK IN UTILITY/CARPORT



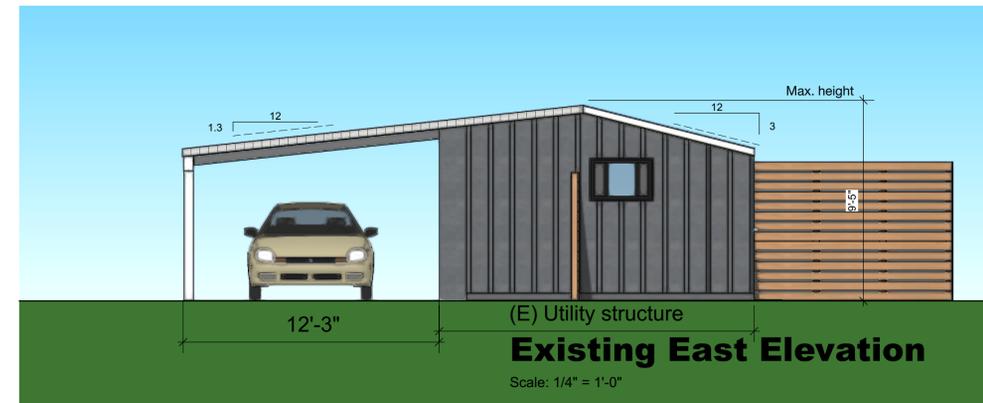
**Existing Utility Room / Carport Floorplan**  
Scale: 1/4" = 1'-0"



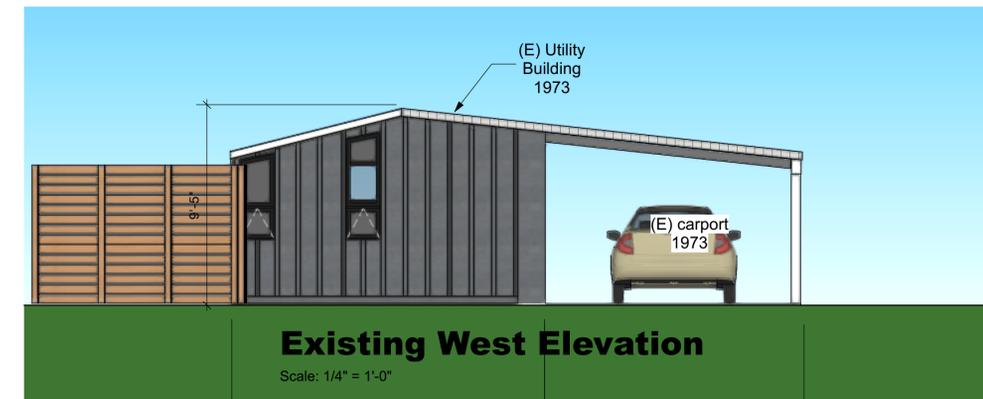
**Existing Utility Room / Carport Roof**  
Scale: 1/4" = 1'-0"



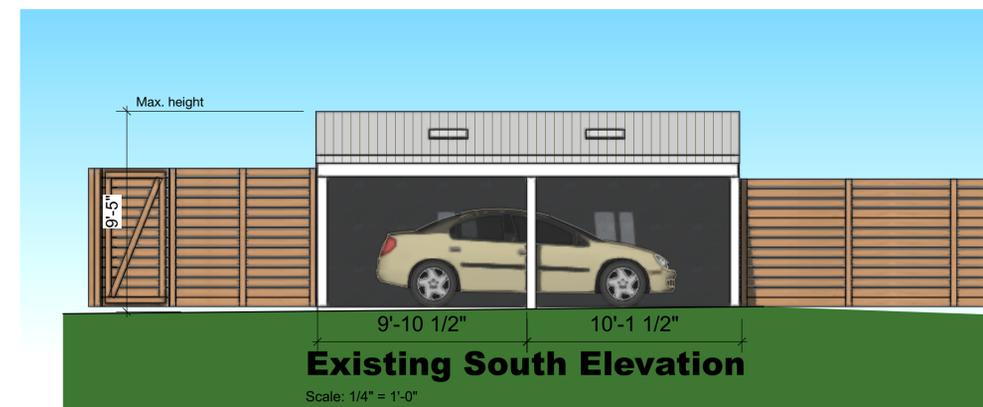
**Existing North Elevation**  
Scale: 1/4" = 1'-0"



**Existing East Elevation**  
Scale: 1/4" = 1'-0"



**Existing West Elevation**  
Scale: 1/4" = 1'-0"



**Existing South Elevation**  
Scale: 1/4" = 1'-0"



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**(E) Utility / Carport Elevations**

March 4, 2024

**A13**



STATEMENT OF SPECIAL INSPECTIONS, 2019 CBC

- 1. This Statement of Special Inspection is submitted in fulfillment of the requirements of the Governing Building Code, section 1704 and 1705.
2. Special Inspections and Testings will be provided in accordance with the approved plans and specifications, this statement and the Governing Building Code, Section 1704, 1705, 1707, and 1708.
3. The schedule of Special Inspections summarizes the Special Inspections and tests required. Special Inspectors will refer to the approved plans and specifications for detailed special inspection requirements. Any additional tests and inspections required by the approved plans and specifications will also be performed.
4. Interim reports will be submitted to the Building Official and the Registered Design Professional in Responsible Charge in accordance with the Governing Building Code Section 1704.2.4.
5. A Final Report of Special Inspections documenting required Special Inspections, testing and correction of any discrepancies noted in the inspections shall be submitted prior to issuance of a Certificate of Use and Occupancy (Section 1704.2.4). The Final Report will document:
(a) Required special inspections.
(b) Correction of discrepancies noted in inspections.
6. The Owner recognizes his or her obligation to ensure that the construction complies with the approved permit documents and to implement this program of special inspections. In partial fulfillment of these obligations, the Owner will retain and directly pay for the Special Inspections as required in the Governing Building Code, Section 1704.2.
7. 1704.4 Contractor responsibility. Each contractor responsible for the construction of a main wind- or seismic force-resisting system, designated seismic system or a wind- or seismic force-resisting component listed in the statement of special inspections shall submit a written statement of responsibility to the building official and the owner or the owner's authorized agent prior to the commencement of work on the system or component. The contractor's statement of responsibility shall contain acknowledgement of awareness of the special requirements contained in the statement of special inspection.

SCHEDULE OF TESTING AGENCIES & SPECIAL INSPECTORS

The following are the testing agencies and special inspectors that will be retained to conduct tests and inspection on this project.

Table with 3 columns: Responsibility, Firm, Address, Telephone, Email. Rows include Special Inspection (Except for Geotechnical), Materials Testing, Geotechnical Inspection, and Additional inspections may be required at the discretion of the Building Official.

SEISMIC REQUIREMENTS (Section 1705.12)

Description of seismic-force-resisting system and designated seismic systems subject to special inspections per Section 1705.12:
Light-framed walls sheathed with wood structural panels rated for shear resistance or steel sheets (ASCE 7, Table 12.2-1, Line A.15)

WIND REQUIREMENTS (Section 1705.11)

Description of main wind-force-resisting system and designated seismic systems subject to special inspections per Section 1705.11:
Not Applicable
The extent of the main wind-force-resisting system is defined in more detail in the construction documents.

SCHEDULE OF SPECIAL INSPECTIONS

Column Header Notation Used in Table:
C Indicates continuous inspection is required.
P Indicates periodic inspections are required. The notes and/or contract documents should clarify.

Box Entry Notation Used in Table:
X Is placed in the appropriate column to denote either "C" continuous or "P" periodic inspections.
-- Denotes a one-time activity or one whose frequency is defined in some other manner.
Additional details regarding inspections are provided in the project specifications or notes on the drawings.

Table with 4 columns: Verification & Inspection, C, P, Notes. Row 1: 1705.3 - Concrete, 1. Inspect anchors post-installed in hardened concrete. Row 2: Mechanical anchors and adhesive anchors not defined in 4.a.

FOOTNOTES:

- 1. Prior to epoxy placement, it must be verified that the hole is clean, dry, and free of loose debris.
2. Periodic inspection shall take place such that the installation of a minimum of two (2) anchors per each shear wall are observed

GENERAL NOTES

- 1. The following notes, details, schedules & specifications shall apply to all phases of this project unless specifically noted otherwise. Notes and details on the structural plans shall take precedence over general notes and typical details. Where no details are given, construction shall be as shown for similar work.
2. All drawings are considered to be part of the contract documents. The Contractor shall be responsible for the review and coordination of all drawings and specifications prior to the start of construction. Any discrepancies shall be brought to the attention of the Engineer prior to the start of construction so that a clarification can be issued. Any work performed in conflict with the contract documents or any applicable code requirements shall be corrected by the Contractor at no expense to the Owner or Engineer.
3. All information on existing conditions shown on the structural plans are based on best present knowledge available, but without guarantee of accuracy. The Contractor shall be responsible for the verifications of all dimension and conditions at the site. Any discrepancies between actual site conditions and information shown on the drawings or in the specifications shall be brought to the attention of the EOR prior to the start of construction.
4. Refer to the Architectural plans for the following:
(a) Dimensions
(b) Size and location of all interior and exterior wall locations.
(c) Size and location of all floor, roof and wall openings
(d) Size and location of all drains, slopes, depressions, steps, etc.
(e) Specification of all finishes & waterproofing
(f) All other non-structural elements
5. Refer to the mechanical, electrical and plumbing plans for the following:
(a) Size and location of all equipment
(b) Pipe runs, sleeves, hangers and trenches
(c) All other mechanical, electrical or plumbing related elements
6. DO NOT scale structural plans. Contractor shall use all written dimensions on Architectural plans.
7. Construction materials shall be uniformly spread out if placed on floor or roof so as to not overload the framing. Load shall not exceed the design live load per square foot. It is the Contractor's responsibility to provide adequate shoring and bracing as required.
8. Specifications and detailing of all waterproofing and drainage items, while sometimes shown on the structural plans for general information purposes only, are solely the design responsibility of others.
9. The Engineer will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the construction delineated by these plans. It should be understood that the Contractor (and his/her agents) shall supervise and direct all work and shall be solely and completely responsible for all construction means, methods, techniques, sequences, procedures and conditions on the job site, including safety of all persons and property during the entire period of construction. Periodic observations by the Engineer, his staff or representatives are not intended to include verification of dimensions or review the adequacy of the Contractor's safety measures on or near the construction site.
10. Modifications of the plans, notes, details and specifications shall not be permitted without prior approval of the Engineer.
11. All workmanship shall conform to the best practice prevailing in the various trades performing the work. The Contractor shall be responsible for coordinating the work of all trades.
12. It is the Contractor's responsibility to ensure that only approved structural plans are used during the course of construction. The use of unapproved documents shall be at the contractor's own risk. Corrections of all work based on such documents shall be performed at the Contractor's expense.
13. The plans and specifications represent the structural design only. No information nor warranty is provided for the work of any other Consultant (Architect, Mechanical, Electrical, etc.). This includes, but is not limited to, waterproofing, drainage, ventilation, accessibility, or dimensions.

FOUNDATIONS

- 1. Refer to Structural Design Parameters section on sheet S-1.1 for all soil design values used in calculations.
2. Soils values per geologic/geotechnical report (or "soils report") by GSI Soils Inc., Project No. SB01291-1, dated December, 2020. This report and all recommendations contained therein are to be considered a part of these plans.
3. It is the Contractor's responsibility to obtain a copy of the soils report from the Owner. A copy of the soils report shall be on the job site during the course of construction.
4. Unexpected Soil Conditions: Allowable values and subsequent foundation designs are based on soil conditions which are shown by test borings. Actual soil conditions which deviate appreciably from that shown in the test borings shall be reported to the EOR and/or soils engineer immediately.
5. All compaction, fill, backfilling and site preparation shall be performed in accordance with project soils report or the Governing Building Code Chapter 18 & Appendix J. All such work shall be performed per the recommendations of the project soils engineer.
6. Excavate to required depths and dimensions (as indicated on drawings), cut square and smooth with firm level bottoms. Care shall be taken not to over-excavate foundation at lower elevation and prevent disturbance of soils around high elevation.
7. Foundations shall be poured in neat excavations.
8. Excavate all foundations to required depths into compacted fill or natural soil (as per plans and details) and as verified by the building official and/or soils engineer.
9. All foundations shall be inspected and approved by the appropriate building official and/or a representative of the soils engineer prior to forming and placement of reinforcing or concrete.
10. Foundations shall not be poured until all required reinforcing steel, framing hardware, sleeves, inserts, conduits, pipes, etc. and formwork is properly placed and inspected by the appropriate building official/inspector(s).
11. It is the responsibility of the contractor in charge of framing to properly position all holdown bolts, anchor bolts, column bases, and all other cast-in-place hardware. Refer to typical details. All hardware to be secured prior to foundation inspections.
12. The sides and bottoms of dry excavations must be moistened to optimum moisture content or just above, just prior to placing concrete. Conversely, de-water footings as required to remove standing water and to maintain optimum working conditions.
13. The Contractor shall be solely responsible for all excavation procedures including lagging, shoring, and the protection of adjacent property, structures, streets, and utilities in accordance with all federal, state and local safety ordinances. The Contractor shall provide for the design and installation of all cribbing, bracing and shoring required.

ROD AND REBAR EPOXY INSTALLATION

- 1. Special inspection is required, unless specifically noted otherwise. Special inspection services shall conform to the Governing Building Code, Chapter 17 and as shown provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require the special inspection requirements [Governing Building Code sections 1704.1 & 1704.4]. Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material.
2. Epoxy for anchoring bolts, rods, and reinforcing bars shall be as follows:
(a) Concrete: Hilti HIT RE 500 v3 (ICC ESR-3814), Hilti HY 200 (ICC ESR-3187), or Simpson SET-3G (ICC ESR-4057)
(b) Fully Grouted Masonry: Hilti HY 200 (ICC ESR-3187), or Hilti HY 270 (ICC 2682), or Simpson SET-3G (ICC ESR-4057).
(c) Hollow Cell Masonry Units and Unreinforced Masonry: Hilti HY 270 (ICC 2682), or Simpson ET-HP (ICC ESR 3372).
3. Anchors shall be installed in accordance with the manufacturer's printed installation instructions by qualified personnel trained to install epoxy anchors.
4. Holes for post-installed anchors shall be drilled with a carbide tipped concrete/masonry drill bit using an electro-pneumatic hammer drill bit set in "rotation and hammer" mode. Hole diameter shall be 1/8" larger than the anchor diameter specified, unless noted otherwise. For installation in brick or hollow cell masonry units with a screen tube, the hole diameter shall be 1/4" larger than the anchor diameter, unless noted otherwise.
5. DO NOT drill through existing reinforcing. A small diameter test hole shall be drilled at the installation location. If existing reinforcing is encountered, the installation location shall be relocated to avoid conflict and the abandoned hole shall be filled with non-shrink grout or drypack. For holes drilled into columns and beams, remove the rebar cover in order to positively identify the rebar location such that the holes avoid the rebar. Other non-destructive means may be used to identify the positions and depth of reinforcing.
6. Holes shall be cleaned of dust and debris by blowing with 90 psi oil-free compressed air, brushing with a wire brush two times, and blowing with compressed air again to achieve a relatively dust-free wall surface.
7. The base material shall be a minimum of 28 days old, within a temperature range of 50°F - 100°F, and dry at the time of epoxy installation. The base material shall have a minimum strength as follows:
(a) Concrete: 2,500 psi
(b) Fully Grouted Masonry: 1,500 psi
8. Fill each hole 1/2 - 2/3 full with epoxy, starting from the bottom of the hole to prevent air pockets. Withdraw the nozzle as the hole fills up with epoxy. Insert clean, oil-free anchor, turning slowly until the anchor contacts the bottom of the hole. DO NOT disturb anchor until fully cured. Cure time shall be per the manufacturer's installation instructions.

CONCRETE

- 1. All concrete shall have:
(a) an ultimate compressive strength (f'c) of 3,000 psi at 28 days (UNO).
(b) a maximum slump of 5' at point of placement.
(c) a W/C ratio of 0.55 or less for all slabs, walls, and columns, and 0.60 or less for all foundations.
(d) a normal dry-weight density (UNO).
2. Special inspection is NOT required as the foundations have been designed with f'c = 2,500 psi in accordance with the Governing Building Code, section 1705.3, exceptions 1, 2, 1, and 2, 3, unless explicitly specified herein, on the structural plans, or by the Building Department. As a minimum, special inspection is always required on:
(a) structural slabs, flat plates
(b) walls, columns, beams
(c) piles, caissons
(d) welding of reinforcement, installation of mechanical bar splice devices, epoxy application
When required or specified, special inspection services shall conform to the Governing Building Code, Chapter 17 and shall be provided by an ICC certified inspector or Building Department approved engineer. The Building Department reserves the right to waive or require the special inspection requirements [Section 1704.1 and 1704.4]. Nothing in these plans waives the Building Department's right to require special inspection at any point and on any material.
3. Testing of materials used in concrete construction must be performed as noted on structural plans or at the request of the Building Department to determine if materials are quality specified. Tests of materials and of concrete shall be made by an approved agency and at the expense of the contractor, such tests shall be made in accordance with the standards listed in the Governing Building Code, Table 1705.3. When testing of concrete is required, four (4) test cylinders shall be taken from each 150 yards, or fraction thereof, poured in any one day. One (1) cylinder shall be tested at seven (7) days; two (2) at 28 days; one (1) shall be held in reserve. Where 4x8 cylinders are used, (5) test cylinders shall be taken, with (3) cylinders tested at 28 days. If Contractor elects to have additional tests performed for "early-break" results, additional test cylinders must be taken. At no time shall the Contractor instruct the testing agency to perform tests on a schedule different than above without the prior authorization of the Engineer. Contractor is responsible for complying with applicable testing requirements of the Building Department. Copies of all test reports shall be provided to Engineer and Building Department for review in a timely manner.
4. The Contractor shall remove and replace any concrete which fails to attain specified 28 day compressive strength if so directed by the Engineer. Any defects in the hardened concrete shall be repaired to the satisfaction of the Engineer and/or Architect or the hardened concrete shall be replaced at the Contractor's expense.
5. All concrete work shall conform with the Governing Building Code, Chapter 19.
6. All cement shall be Portland Cement Type I or II and shall conform to ASTM C 150.
7. All aggregates shall conform to ASTM C33. Maximum aggregate sizes:
(a) Footings: 1-1/2"
(b) All other work: 3/4"
8. Workmanship shall be as specified, including, but not limited to, the placement of concrete shall be:
(a) Permanently exposed to earth or weather
i. Cast against earth: 3"
ii. Cast against forms: 2"
(b) Not exposed to earth or weather
i. Stabs, walls, joists: 3/4"
ii. Beams, girders, columns: 1-1/2"
9. The minimum inspection prior to the placement of any concrete.
10. All reinforcing steel, anchor bolts, dowels, inserts, and any other hardware to be cast in concrete shall be well secured in position prior to foundation inspection. All hardware to be installed in accordance with respective manufacturer's specifications. Refer to architectural and structural plans for locations of embedded items.
11. Locations of all construction joints, other than specified on the structural plans, shall be approved by the Architect and Engineer prior to forming. Construction joints shall be thoroughly air and water cleaned and heavily roughened so as to expose coarse aggregates. All surfaces to receive fresh concrete shall be maintained continuously wet at least three (3) hours in advance of concrete placement. Unless specifically detailed or otherwise noted, construction and control joints shall be provided in all concrete slabs-on-grade. Joints shall be located such that the area does not exceed 400 sq. feet.
12. The Architect, Engineer and appropriate inspectors shall be notified in a timely manner for a formwork inspection prior to the placement of any concrete.
13. The Contractor shall obtain approval from the Architect and the Engineer prior to placing sleeves, pipes, ducts, chases, coring and opening or through structural concrete beams, walls, floors, and roof slabs unless specifically detailed or noted on the plans. All piles or conduits passing through concrete members shall be sleeved with standard steel pipe sections.
14. The Contractor is responsible for design, installation, maintenance and removal of all formwork. Forms shall be properly constructed, sufficiently tight to prevent leakage, sufficiently strong, and braced to maintain their shape and alignment until no longer needed for concrete support. Joints in formwork shall be tightly fitted and blocked, and shall produce a finished concrete surface that is true and free from blemishes. Forms for exposed concrete shall be pre-approved by the Architect to ensure conformance with design intent.
15. Remove formwork in accordance with the following schedule:
(a) Forms at slab edge: 1 day
(b) Side forms at footings: 2 days
(c) All other vertical surfaces: 7 days
(d) Beams, columns, girders: 15 days
(e) Elevated slabs: 28 days
Engineer reserves the right to modify removal schedule above based on field observations, concrete conditions, and/or concrete test results.
16. Retaining walls shall not be backfilled until concrete has set a minimum of 14 days. Refer to structural plans for slab and/or framing installation sequencing.
17. All concrete (except slabs-on-grade 6" or less) shall be mechanically vibrated as it is placed. Vibrator to be operated by experienced personnel. The vibrator shall not be used to consolidate the concrete. The vibrator shall not be used to convey concrete, nor shall it be placed on reinforcing and/or forms.
18. Concrete shall be maintained in a moist condition for a min. of five (5) days after placement.
19. Concrete shall not be permitted to free fall more than six (6) feet. For heights greater than six (6) feet, use trémie, pump or other method consistent with applicable standards.
20. When specified ultimate compressive strength is greater than 2500 psi, Contractor shall submit mix designs to Architect and Engineer for approval seven (7) days prior to placement. Mix designs shall be prepared by an approved testing laboratory. Sufficient data must be provided for all admixtures.
21. Refer to Architectural plans for locations of all dimensions, slab depressions, slopes, drains, curbs, and control joints.

REINFORCEMENT

- 1. Reinforcing steel shall be deformed, clean, free of rust, grease or any other material likely to impair concrete bond.
2. All bars shall conform to ASTM A615, Grade 60 minimum (UNO on structural plans). All weld wire fabric (WWF) shall conform to ASTM A185.
3. Reinforcing steel that is to be welded shall conform to ASTM A706. All welding of reinforcement shall be subject to special inspection.
4. Contractor shall take necessary steps (standard ties, anchorage devices, etc.) to secure all reinforcing steel in their true position and prevent displacement during concrete placement.
5. Fabrication, placement and installation of reinforcing steel shall conform to:
(a) Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice
(b) the Governing Building Code.
6. Shop drawings for fabrication of reinforcing steel shall be approved by the Contractor and submitted to the Architect and Engineer for review and approval prior to fabrication. Shop drawings are not required for slabs-on-grade or foundations unless specifically noted on the structural plans.
7. Heating of reinforcing steel to aid in bending and shaping of bars is not permitted. All bends in reinforcing steel are to be made cold. All bend radii shall conform to CRSI Manual of Standard Practice.
8. Refer to Concrete and Masonry notes for specific minimum splice length and splice staggering requirements. Lap welded wire fabric (WWF) reinforcement two (2) modules minimum (UNO). All splices are to be staggered.

ROUGH CARPENTRY

- 1. Refer to latest edition of the Governing Building Code, Table 2304.10.1. for all minimum nailing requirements.
2. Refer to individual sections for applicable material specifications.
3. Fabricate, size, install, connect, fasten, bore, notch, and cut wood and plywood with joints true, tight, and well-nailed, connected, screwed or bolted as required, all members to have solid bearing without being shimmed, unless noted otherwise. Set horizontal members subject to bending with the crown up. Install framing plumb, square, true and cut for full bearing. Splices are not permitted between bearings. Use full lengths unless otherwise specified.
4. Metal framing angles, anchor, clips, straps, ties, holdowns, etc. shall be mfg by Simpson Strong-Tie Co. No substitutions shall be permitted without prior approval of the Engineer.
5. All walls are to have continuous double 2x top plates spliced as followings unless specifically noted otherwise on the plans and details.
6. Wall Studs:
(a) Unless specifically noted on the plan and details, use the following guidelines for wall framing:
i. Use 2x4 studs at 16" oc for walls less than 9'-0" tall.
ii. Walls 9'-0" to 16'-0" tall shall be constructed of 2x6 studs at 16" oc
iii. Request specifically engineered wall details for walls greater than 16'-0" tall.
7. Blocking:
(a) Provide min. one row of nominal 2" thick blocking of same width as stud, fitted snugly and spiked into studs at mid-height of partitions or walls over 8' high.
(b) All foundation cripple walls (or "pony walls") less than 14" in height shall be solid blocking.
(c) Refer to shearnwall section for additional blocking requirements.
8. Notching:
(a) Is not permitted of any structural member without prior approval
(b) In exterior and bearing walls, notches shall not exceed 25% of the stud depth.
(c) Non-bearing partition walls, notches shall not exceed 40% of the stud depth.
(d) Successive notches in the same member shall be spaced a min of 18" apart.
9. Boring:
(a) Is not permitted of any structural member without prior approval
(b) In exterior and bearing walls, holes shall not exceed 40% of the stud depth.
(c) Non-bearing partition walls, may be drilled not greater than 60% of stud depth.
(d) Successive holes in the same member shall be spaced a minimum of 18" apart.
10. Bearing:
(a) Provide a min. of 1-1/2" of bearing for all 2x joists and hrs 4x10 / 6x8 & smaller.
(b) Provide a min. of 3" of bearing for all beams and hrs 4x12 / 6x10 & larger, UNO on plans.
(c) Members bearing on prefabricated hangers are to have full bearing and nailing per manufacturer's specifications.
11. Posts:
(a) Posts inside walls shall bear on sill plates and shall be continuous between top and bottom plates, unless specifically noted otherwise.
(b) Provide posts under all beams, girders or double joists equal to the width of the supported member.
(c) Posts on upper levels are to be stacked on posts of equal size at levels below, unless a larger post is specified on the plans.
(d) Vertically oriented blocking ("squash blocking") shall be used to fully transfer the post area through floors to foundation. Vertical blocking shall be equal to floor thickness plus 1/16".
(e) Headers framing into continuous posts without trimmer studs shall be supported in Simpson HUC hangers unless noted otherwise on the plans.
(f) Posts when isolated, shall be seated in Simpson post or column bases, unless noted otherwise on the plans.
12. Roof Framing:
(a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
(b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
(c) Provide full depth solid 2x bkg or cross-bridging between the joists at 8' oc max.
(d) Provide full cricket framing required to achieve positive drainage per Arch.
(e) Install plywood panels with the face grain across the framing and close joints and nail at each support. Fully nail with common nails per the plans.
(f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
(g) Provide Simpson "PSOL" clips at all plywood joints perpendicular to framing. Provide clips midway between framing members at the unsupported edges of plywood when members are spaced at 24" or greater. If clips are not used, provide solid blocking for joints perpendicular to framing.
13. Floor Framing:
(a) Provide wood joists, as specified, laid with the crown up and spaced as indicated.
(b) Provide a minimum of 1-1/2" end bearing unless otherwise shown.
(c) Provide full depth solid 2x bkg or cross-bridging between the joists at 8' oc max. For floors framed with I joists, refer to the mfg's spec's for bkg requirements.
(d) Provide full depth solid 2x blocking between the joists under all walls and partitions where the wall or partition is perpendicular to the floor framing (including floors framed with I joists)
(e) Install plywood sheathing with the face grain across supports, end supports staggered, and the edges of sheets centered over supports. If T&G plywood is used, blocking need not be provided at all plywood edges (UNO per plan). If T&G plywood is not used, blocking shall be provided at all plywood edges. Glue plywood to joists and fully nail with common nails per the plans.
(f) Plywood panels shall not be less than 4' x 8' except at boundaries and changes in framing direction, where the minimum panel dimension shall be no less than 24", unless all edges of undersized panels are supported by and fastened to framing members or blocking.
14. Shear Walls:
(a) Refer to plans for all shearnwall locations, length type and nailing.
(b) Refer to Shearnwall Schedule on title sheet for additional information.
(c) Shear wall lengths specified on plans are minimum required.
(d) Shear walls to be nailed with common nails. All nails to have minimum 3/8" edge distance to panel or framing member.
(e) Where 3x framing is required per the shear wall schedule, stagger edge nailing.
(f) Oriented Strand Board (OSB) may be used in lieu of plywood.

TIMBER / LUMBER

- 1. All structural lumber shall be Douglas Fir-Larch, S4S and shall conform to the Governing Building Code, section 2303.1.1.
2. The minimum lumber grade of each member shall be as follows (unless specifically noted otherwise on plans and details):
(a) 2x studs, blocking, plates: Stud
(b) 2x joists #2 or better
(c) 4x4, 4x8, or 6x6 beams or posts #2 or better
(d) 4x8, 6x8, or larger beams or posts #1 or better
It is recommended (but not required) that all exposed members be Select Structural or better and free of heart center due to visual characteristics.
3. All lumber in contact with concrete or masonry shall be pressure treated Douglas Fir. Whenever it is necessary to cut, notch, bore or splice pressure treated material, all newly cut surfaces shall be thoroughly painted with the same preservative.
4. Maximum moisture content for all structural members shall not exceed 19%.
5. All plywood sheathing shall be CDX grade (or better) Douglas Fir with exterior glue. All sheathing shall conform to the Governing Building Code and grade-marked by the American Plywood Association (APA). Panel index to be 40/20 for floors and 24/0 for roofs unless specifically noted otherwise on the plans and details.

ENGINEERED LUMBER

- 1. Glu-laminated Beams (GLB):
(a) shall have the following properties:
Table with 10 columns: Use, Combination Symbol, Species/Grade, Flexural Stress, Fb (ksi), Modulus of Elasticity, E (ksi), Horiz. Stress, E (psi), Shear, Fc (psi), Compression, Fc perp. (psi)
(b) shall not be notched, cut or drilled without prior approval from the Engineer
(c) shall be nailed in accordance with mfg's specifications unless otherwise specified.
(d) shall be fabricated by an approved manufacturer & in accordance with ANSI A 190.1
(e) shall have factory standard number of 3,500-5,000 ft on beams UNO per Plan
2. Laminated Veneer Lumber (LVL) :
(a) shall be 1-3/4" minimum thickness with the following minimum properties:
i. E = 2000 ksi
ii. Fb = 2600 psi
iii. Fc (parallel) = 285 psi
iv. Fc (perp.) = 2500 psi
v. Fc (perp.) = 750 psi
vi. Ft (parallel) = 1500 psi
vii. Specific Gravity = 0.50
(b) shall be fabricated by an approved manufacturer
(c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
(d) shall be nailed in accordance with mfg's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
(e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
(f) shall not be cut, notched or drilled without specific written approval of the EOR.
3. Laminated Strand Lumber (LSL) :
(a) shall be 1-1/4" minimum thickness with the following minimum properties:
i. E = 1550 ksi
ii. Fb = 2325 psi
iii. Fc (parallel) = 310 psi
iv. Fc (perp.) = 800 psi
v. Fc (perp.) = 1070 psi
vi. Ft (parallel) = 1070 psi
vii. Specific Gravity = 0.50
(b) shall be fabricated by an approved manufacturer
(c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
(d) shall be nailed in accordance with mfg's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
i. 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
ii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances.
(e) shall be, when comprised of multiple members, connected with 16d nail, 1/2" bolts or 1/4" lag screws in accordance with manufacturer's specifications.
(f) shall not be cut, notched or drilled without specific written approval of the EOR.
4. Parallel Strand Lumber (PSL) :
(a) shall be 2-1/2" minimum thickness with the following minimum properties:
i. E = 2200 ksi
ii. Fb = 2900 psi
iii. Fc (parallel) = 2900 psi
iv. Fc (perp.) = 750 psi
v. Ft (parallel) = 2025 psi
vi. Specific Gravity = 0.50
(b) shall be fabricated by an approved manufacturer
(c) shall bear a minimum of 3-1/2" on specified supports. Provide full depth solid blocking at all bearing points
(d) shall be nailed in accordance with manufacturer's specifications. Unless otherwise approved, nailing into the top edge shall not be spaced any closer than:
i. Narrow face: 16d @ 6" oc, 10d @ 4" oc, and 8d @ 3" oc
ii. Wide Face: 16d @ 8" oc, and 10d & 8d @ 6" oc
iii. When nailing must be reduced, stagger rows a minimum of 1/2" apart while maintaining proper edge distances
(e) shall not be cut, notched or drilled without specific written approval of the EOR.
5. Plywood Joists:
(a) shall be installed in accordance with manufacturer's specifications. Substitutions shall not be permitted without prior approval of the Engineer.
(b) shall be installed in accordance with applicable code approvals and mfg's spec's.
(c) shall bear a minimum of 1-3/4" at all end supports, and 3-1/2" at intermediate supports. Provide full depth solid blocking at all bearing points.
(d) shall be installed with intermediate blocking or bridging as specified by the Mfr. Only omit intermediate blocking when specifically allowed by the Mfr.
(e) shall not be cut, notched or drilled without specific written approval of the EOR.

FASTENERS

- 1. Nails:
(a) shall be with "common" nails unless noted otherwise.
(b) shall not be driven closer than 1/2 their length nor closer than 1/4 of their length to the edge or end of a member, except for sheathing.
(c) shall be installed in pre-drilled lead holes if necessary to avoid splitting.
(d) shall be hot-dipped zinc-coated galvanized steel, stainless steel, silicon bronze, or copper when in contact with preservative-treated wood.
i. When used in exterior applications, nails shall have coating types and weights in accordance with the treated wood or bolt manufacturer's Recs. A Min. of ASTM A653, type G185 zinc-coated galvanized steel (or equiv.) shall be used.
ii. When used in an interior, dry environment in SBX/DOT or zinc borate preservative-treated wood, plain carbon nails shall be permitted.
(e) All nailing shall conform to the Governing Building Code, Table 2304.10.1.
2. Lag screws:
(a) shall be installed into pre-drilled lead holes. Lubricant (or soap) shall be used to facilitate installation and prevent damage to the screws.
(b) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
3. Bolts:
(a) shall conform to ASTM A307, UNO specifically on plans and details.
(b) shall be installed in pre-drilled holes a max of 1/16" larger than the specified bolt dia.
(c) when installed against wood surfaces, shall have standard washers under the heads and nuts.
(d) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
4. Anchor Bolts:
(a) shall be installed at all exterior walls and all interior shear and/or bearing walls.
(b) shall be 5/8" diameter with 3x3x.225" steel plate washers at shearnwalls.
(c) shall be 5/8" diameter with 2x2x3/16" steel plate washers at non-shearnwalls.
(d) shall have 7" minimum embedment. (Contractor to coordinate length of bolts with sill plate thicknesses).
(e) shall conform to ASTM F1554, Grade 36.
(f) shall be hot-dipped zinc-coated galvanized steel or stainless steel when in contact with preservative-treated wood.
i. When used in exterior applications, bolts shall have coating types and weights in accordance with the treated wood or bolt manufacturer's rec's. A minimum of ASTM A653, type G185 zinc-coated galvanized steel (or equal) shall be used.
ii. When used in dry interior environments in SBX/DOT or zinc borate preservative-treated wood, plain carbon screws, nuts, and washers shall be permitted.
(g) shall not be spaced greater than 72" oc Refer to shearnwall schedule for specific anchor bolt spacing requirements.
(h) shall be placed a maximum of 12" from wall corners, wall ends, and sill plate splices (but not less than 7 dia.) and a maximum of two bolts per piece of sill plate is required.
(i) shall be secured in place prior to foundation inspection.
5. Powder Actuated Shot Pins:
(a) shall be installed at all interior non-bearing, non-shearnwalls.
(b) shall be 0.145x3" with 1.5" diameter steel washers.
(c) shall not be spaced greater than 32" o.c.

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Engineer of Record:



PLAN REVIEW SET CIVIL ENGINEER OF CALIFORNIA

Scibold Remodel 539 Periwinkle Ln. Montecito, CA 93108

Revision table with 2 columns: Revision, Description. Contains 10 empty rows for revisions.

Proj. Engr.: C. Huffman Phone Ext.: 142 Proj. Mngr.: P. Belmont Date: 17 Oct. 2022 Scale: NTS A&V Job No.: 211851

STRUCTURAL SPECIFICATIONS & SPECIAL INSPECTIONS S-1.2

DO NOT SCALE THESE DRAWINGS. Refer to Architectural plans for all dimensions.

