2022 CALIFORNIA EXISTING BUILDING CODE

2022 CALIFORNIA GREEN BUILDING CODE

2022 CALIFORNIA BUILDING CODE CRC-2022 CALIFORNIA RESIDENTIAL CODE CEC -2022 CALIFORNIA ELECTRIC CODE 2022 CALIFORNIA MECHANICAL CODE CMC-CPC 2022 CALIFORNIA PLUMBING CODE 2022 CALIFORNIA ENERGY (EFFICIENCY) CODE CHBC-2022 CALIFORNIA HISTORICAL BUILDING CODE 2022 CALIFORNIA FIRE CODE

ALL AMENDMENTS TO THE CA CODES ADOPTED BY THE COUNTY OF SAN MATEO, AND ALL OTHER CODES, REGULATIONS, AND APPROVALS ESTABLISHED BY THE COUNTY OF SAN MATEO

PROPERTY INFORMATION

ASSESSOR PARCEL NUMBER PROPERTY ADDRESS:		0 EL GRANADA , CA 94018	
OCCUPANCY: ZONING CODE : TYPE OF CONSTRUCTION: STORIES:	R-3/U S94-DR/CD V-B 1	DESCRIPTION OF USE FIRE SPRINKLERS MAX HEIGHT	S.F.D. YES 16'-0"
LOT SIZE (SQFT) TOTAL LIVING AREA (SQFT)	8,800 2,193	ACREAGE TWO CAR GARAGE	0.2 44

NUMBER OF BEDROOMS

SCOPE OF WORK

CONSTRUCT NEW ONE STORY WOOD FRAME SINGLE FAMILY RESIDENCE AND TWO CAR GARAGE

MAXIMUM LOT COVERAGE - 30%	
ACTUAL LOT SIZE -	8,800 SQFT
MAXIMUM ALLOWED LOT COVERAGE -	2,640 SQFT
1ST FLOOR LIVING	2,193 SQFT
GARAGE	445 SQFT.
TOTAL	
PROPOSED LOT COVERAGE	2,638 SQFT

COVERED ENTRY PORCH

FULL BATHS HALF BATHS

WE DO NOT EXCEED MAXIMUM LOT COVERAGE ALLOWABLE

MAXIMUM FLOOR AREA ALLOWED -	48%
ACTUAL LOT SIZE -	8,800 SQFT
MAXIMUM FLOOR AREA-	4,224 SQFT
1ST FLOOR LIVING	2,193 SQFT
GARAGE	445 SQFT
TOTAL PROPOSED FLOOR AREA	2,638 SQFT

WE DO NOT EXCEED MAXIMUM FLOOR AREA ALLOWABLE

LANDSCAPE TO LOT SIZE RATIO: 0.53:1 100% OF PLANTS ON LIST REQUIRE LOW WATER

TOTAL NON IRRIGATED LANDSCAPED 2,899 SQFT

These are not applicable to public utility piping.

GRADE (Not including concrete, etc...)

LOT SIZE: 8,	800 SQFT	
BUILDING FOOT PRINT (S) IMPERMEABLE SURFACES(CONCRET PERMEABLE (PAVERS) LANDSCAPING (NON TURF) LANDSCAPING - (TURF). TOTAL	2,638 SQFT (E) 669 SQFT 849 SQFT 4,754 SQFT 0 SQFT 8,800 SQFT	30.0% 7.6% 9.6% 52.8% 0.0% 100.00%
TOTAL IRRIGATED LANDSCAPE	1,855 SQFT	

Architectural Designer

WEST COAST DESIGN BUILD 1500 MARINER DRIVE SUITE B OXNARD CA, 93036 (805) 436-6918

Soils Engineer

SIGMA PRIME GEOSCIENCES, INC 332 PRINCETON AVENUE HALF MOON BAY, CALIFORNIA 94019 (650) 728-3590

Energy Calculations

Structural Engineer

SAA STRUCTURAL ENGINEERING, INC.

23901 Calabasas Rd. suite 1023

Calabasas CA. 91302

PH- 323-448-4682

EMAIL - nick@saaeng.com

Hovde Engineering Inc 1201 Coe St Camarillo, CA 93010 805-444-5029

FIRE SPRINKLERS

AEGIS FIRE SYSTEMS INC 500 BOULDER COURT STE - A PLEASANTON CA, 94566 (925) 417-5550

. NEW RESIDENTIAL BUILDINGS SHALL HAVE INTERNALLY

PUBLIC WAY FRONTING THE BUILDING. RESIDENTIAL

ADDRESS NUMBERS SHALL BE AT LEAST SIX FEET

PUBLIC ROADWAY, ADDITIONAL SIGNAGE AT THE

RIVEWAY/ROADWAY ENTRANCE LEADING TO THE

BUILDING AND/OR ON EACH INDIVIDUAL BUILDING

SHALL BE REQUIRED BY THE COASTSIDE FIRE

TO HY-KO 911 OR EQUIVALENT.

BY FIRE DEPARTMENT.

ABOVE THE FINISHED SURFACE OF THE DRIVEWAY.

WHERE BUILDINGS ARE LOCATED REMOTELY TO THE

DISTRICT. THIS REMOTE SIGNAGE SHALL CONSIST OF A

WITH 3 INCH REFLECTIVE NUMBERS/ LETTERS SIMILAR

REQUIRED FOR THIS PROJECT. MUST BE WITNESSED

6 INCH BY 18 INCH GREEN REFLECTIVE METAL SIGN

2. FIRE SPRINKLERS ARE TO BE SEPARATE SUBMITTAL

TO THE COASTSIDE FIRE PROTECTION DISTRICT

3. PROVIDE AUTOMATIC FIRE EXTINGUISHING SYSTEM

5. A FUEL BREAK OR DEFENSIBLE SPACE IS REQUIRED

THAN 30 FEET AND MAY BE REQUIRED TO A

THIS IS NEITHER A REQUIREMENT NOR AN

AUTHORIZATION FOR THE REMOVAL OF LIVING

TREES. TREES LOCATED WITHIN THE DEFENSIBLE

SPACE SHALL BE PRUNED TO REMOVE DEAD AND

DYING PORTIONS, AND LIMBED UP 6 FEET ABOVE

DEFENSIBLE SPACE SHALL BE LOCATED NO CLOSER

OR AT MATURITY.REMOVE THAT PORTION OF ANY

EXISTING TREES, WHICH EXTENDS WITHIN 10 FEET

OF THE OUTLET OF A CHIMNEY OR STOVEPIPE OR IS

PORTION OF ANY EXISTING TREES, WHICH EXTENDS

OVERHANGING A BUILDING FREE OF DEAD OR DYING

WITHIN10 FEET OF THE OUTLET OF A CHIMNEY OR

STOVEPIPE OR IS WITHIN 5' OF ANY STRUCTURE.

THAN 1 0' TO ADJACENT TREES WHEN FULLY GROWN

THE GROUND. NEW TREES PLANTED IN THE

WITHIN 5' OF ANY STRUCTURE. REMOVE THAT

MAINTAIN ANY TREE ADJACENT TO OR

AROUND THE PERIMETER OF ALL STRUCTURES,

EXISTING AND NEW, TO A DISTANCE OF NOT LESS

DISTANCE OF 100 FEET OR TO THE PROPERTY LINE.

THROUGHOUT THE NEW RESIDENCE UNDER

4. FIRE PROTECTION - UNDERGROUND FLUSH IS

SEPARATE SUBMITTAL AND PERMIT

ILLUMINATED ADDRESS NUMBERS CONTRASTING WITH THE BACKGROUND SO AS TO BE SEEN FROM THE

GENERAL CONTRACTOR

PACIFIC IMAGE BUILDERS INC. 1369 EAST WALDON WAY FRESNO CA, 93730 (559) 903-8902

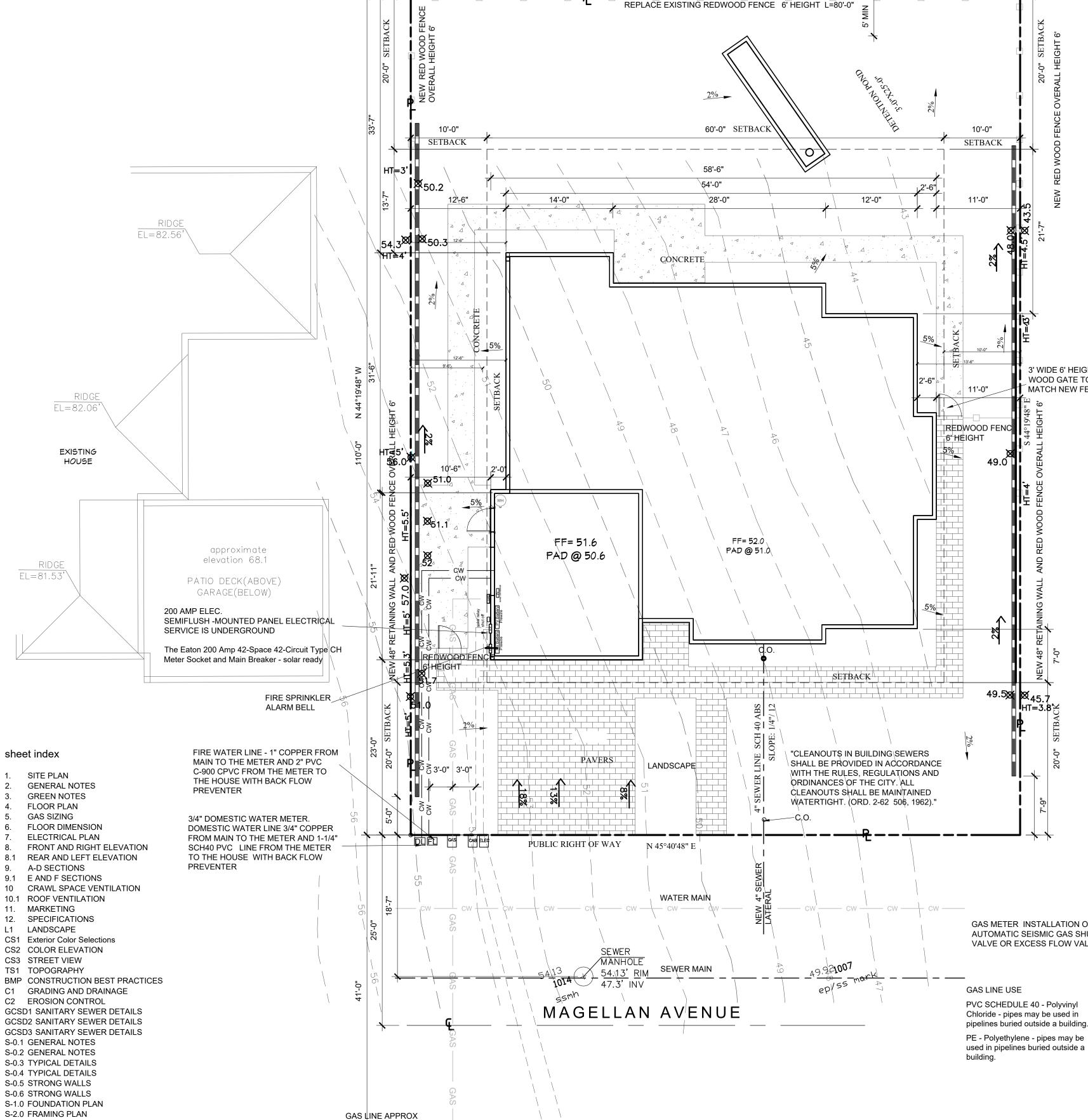
6. HERS VERIFICATION IS REQUIREDFOR HVAC DUCT. FURNACE AND IAQ WHOLE HOUSE FAN

7. THE INSTALLATION OF AN APPROVED SPARK ARRESTER IS REQUIRED ON ALL CHIMNEYS, EXISTING AND NEW. SPARK ARRESTERS SHALL BE CONSTRUCTED OF WOVEN OR WELDED WIRE SCREENING OF 12-GAUGE USA STANDARD WIRE HAVING OPENINGS NOT EXCEEDING 1/2"

8. A FUEL BREAK OR DEFENSIBLE SPACE IS REQUIRED AROUND THE PERIMETER OF ALL STRUCTURES, EXISTING AND NEW, TO A DISTANCE OF NOT LESS THAN 30 FEET AND MAY BE REQUIRED TO A DISTANCE OF 100 FEET OR TO THE PROPERTY LINE. THIS IS NEITHER A REQUIREMENT NOR AN AUTHORIZATION FOR THE REMOVAL OF LIVING TREES. ADD THE FOLLOWING NOTE TO THE PLANS: TREES LOCATED WITHIN THE DEFENSIBLE SPACE SHALL BE PRUNED TO REMOVE DEAD AND DYING PORTIONS, AND LIMBED UP 6 FEET ABOVE THE GROUND. NEW TREES PLANTED IN THE DEFENSIBLE SPACE SHALL BE LOCATED NO CLOSER THAN 10' TO ADJACENT TREES WHEN FULLY GROWN OR AT MATURITY.

REMOVE THAT PORTION OF ANY EXISTING TREES, WHICH EXTENDS WITHIN 10 FEET OF THE OUTLET OF A CHIMNEY OR STOVEPIPE OR IS WITHIN 5' OF ANY STRUCTURE. REMOVE THAT PORTION OF ANY EXISTING TREES, WHICH EXTENDS WITHIN 10 FEET OF THE OUTLET OF A CHIMNEY OR STOVEPIPE OR IS WITHIN 5' OF ANY STRUCTURE. MAINTAIN ANY TREE ADJACENT 「O OR OVERHANGING A BUILDING FREE OF DEAD OR

DYING WOOD. 10. UNDERGROUND ELECTRICAL SERVICE SHALL BE PROVIDED IN ALL NEW CONSTRUCTION, ADDITIONS OF MORE THAN 25% OF THE EXISTING FLOOR AREA, AND REMODELS WHERE THE ESTIMATED COST OF CONSTRUCTION IS 50% OR MORE OF THE ASSESSED VALUATION OF THE BUILDING. UNDERGROUND SERVICE SHALL BE INSTALLED IN ACCORDANCE WITH THE MOST RECENT EDITION OF THE PACIFIC GAS AND ELECTRIC COMPANY ELECTRIC AND GAS SERVICE REQUIREMENTS, SECTION 5, ELECTRIC SERVICE UNDERGROUND. (ORD. C-14-10 1(PART), 2010: ORD. 1-08 2(PART), 2008) PER MUNICIPAL CODE SECTION 14.04.070 (A)



SETBACK

1/8"=1'-0"

 SEE CIVIL PLAN SHEETS C1 & C2 FOR INFORMATION ABOUT SITE DRAINAGE AND SITE EROSION CONTROL.

• PV SYSTEM AND STORAGE BATTERIES WILL NEED TO BE SUBMITTED UNDER A SEPARATE PERMIT.

80'-0" N 45°40'48" E

60'-0"

10'-0"

SETBACK

10'-0"

3' WIDE 6' HEIGHT

WOOD GATE TO

HT=3.8'⊁

GAS METER INSTALLATION OF AN

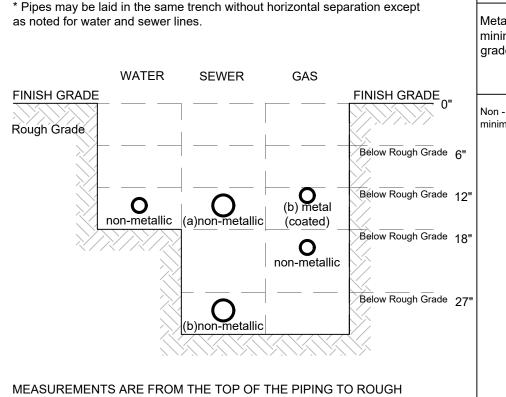
VALVE OR EXCESS FLOW VALVE .

pipelines buried outside a building.

AUTOMATIC SEISMIC GAS SHUT-OFF

MATCH NEW FENCE

THESE BURIAL DEPTHS APPLY OUTSIDE OF BUILDINGS WITHIN PRIVATE PROPERTY SUBJECT TO THE FOLLOWING PROVISIONS



Metallic piping shall be a | Metallic piping shall be a | Metallic piping must be 6" minimum of 12" below minimum above finish grade minimum of 12" below or factory wrapped w/ protective coating Non - Metallic piping shall be a (a) 12" minimum below Non-metallic gas piping must be 18" minimum below grade. minimum of 12" below grade (b) *For pipe not listed to | Note: riser to be metallic. be used inside buildings, | Horizontal metallic portion of | E.P the sewer must be 12" | the riser shall extend 30" below the water piping. | minimum before connecting The water pipe shall be to to the plastic piping. Use of a one side on a solid shelf - factory transition fitting is total depth to the top of required. All metal fittings the sewer 27" must be primed and wrapped *ABS AND PVC drain and with minimum of 40 mils of approved pipe wrap tape. water pipes can be Number 14 AWG copper together in the same trench without separation tracer wire shall be attached to non-metallic piping and shall terminate above grade at both ends. Pipe depths placed over the trench.

VACINITY MAP PROPOSED FIRE HYDRANT (F.H.)- IS 53 FEET FROM

THE BUILDING may be reduced by 6" when a NOTE: A FIRE HYDRANT IS REQUIRED minimum of 4" of concrete is WITHIN 250 FEET OF THE BUILDING AND THE FLOW A MINIMUM OF 1000 GPM AT 20 PSI ELECTRICAL SERVICE (E.P.) - IS 40 FEET FROM THE BUILDING

MAN HOLE (M.H.) - IS 20 FEET FROM THE

BURIAL DEPTHS FOR YARD PIPING & CONDUIT

SCALE: 1/8" = 1'-0"

SCALE

S-3.0 FOUNDATION DETAILS

S-3.1 FOUNDATION DETAILS

S-4.0 FRAMING DETAILS

S-4.1 FRAMING DETAILS

T24-1 TITLE 24

T24-2 TITLE 24

T24-3 TITLE 24

SHEET NO.

S

October 31, 2024

TAFFERA- MAGELLAN

SYM. REVISIONS DATE

048-022-370

FILE

CEBC-2022 CALIFORNIA EXISTING BUILDING CODE CGBC-2022 CALIFORNIA GREEN BUILDING CODE

2022 CALIFORNIA FIRE CODE

2022 CALIFORNIA HISTORICAL BUILDING CODE

CHBC-

CFC-

1. All work shall conform to the current california code

2. New residential buildings shall have an internally illuminated address . the numbers / letters shall be 4 inches in height with

DESIGN

a minimum 3/4 inch stroke contrasting with the background 3. All contractors shall verify all dimensions and acknowledge full cognizance of local building code

4. Dimensions on drawing take precedence over scale 5. Building shall comply with city burglary security ordinance

6. It is the responsibility of the owner or his agent to install h.v.a.c. equipment which is approved by california energy

7. Habitable rooms (except kitchens) shall not be less than 7'-0" in any dimension or 70 sq. ft. in area. kitchens shall be at least 50 sq. ft. in area with 3'-0" clearance between counters and appliances/walls. (r304.1; r304.2)

8. 7'-6" Minimum ceiling height for habitable rooms (except kitchens) and hallways (r305.1)

9. 7'-0" Minimum ceiling height for kitchens, storage rooms, laundry rooms, and bathrooms (r305.1) 10. Basement without habitable spaces shall have a ceiling height of no less than 6-ft. 8-in.,

except 6-ft. 4-in. is allowed under beams or ducts. (r305.1.1) 11. Hallways shall be a minimum width of 36". (r311.6)

GENERAL

1. Provide each bedroom, basement, and habitable attics with a minimum of one exterior window with a 44" maximum clear opening height, 5.7 sq. ft. minimum clear openable area (minimum 5.0 sq. ft. at grade floor openings), 24" minimum clear openable height and 20" minimum clear width, or an openable exterior exit door. (CRC R310.2.1 and CRC R310.2.2) Window wells, ladders, and steps shall comply with CRC R310.2.3. Bars, grilles, covers, ands screens shall be releasable or re- movable from the inside without the use of a key, tool, special knowledge, or force greater than 15lbs to operate the emergency escape and rescue openings. (CRC R310.4.4) Photovoltaic panels & modules shall not be below an emergency escape and rescue opening within 36". (R324.6.3)

2. Each bathroom containing a bathtub, shower or tub/shower combination shall be me-chanically ventilated with Energy Star approved equipment (minimum 50cfm) with an integral humidistat installed. (CRC R303.3.1)

3. Provide attic cross ventilation: 1/150 of attic area or 1/300 with at least 40% but not more than 50% of vents are a maximum 3 ft. below the ridge or highest space in the attic and the balance is provided in the lower third of the attic space (not limited to eaves or cornice vents). Baffles are required at vents for insulation. Provide minimum of 1" inch of air space between insulation and roof sheathing. (CRC R806.2)

4. Enclosed rafter spaces shall have a 1-inch clear cross ventilation. (Properly sized rafters for insulation) (CRC R806.1)

5. Under floor cross ventilation: minimum 1.0 sq. ft. for each 150 sq. ft. of under floor area. When a class 1 vapor retarder is installed on the ground surface the minimum area of ventilation may be limited to 1sq.ft for each 1,500 square feet of under-floor space. One ventilation opening shall be within three (3) feet of each corner of the building (CRC R408.1). Unvented crawl spaces shall com- ply with CRC R408.2. Unvented crawl space added option for dehumidification of 70 pints moisture per day per 1,000 sf to requirement for exemption. (R408.3)

6. Exterior balconies and elevated walking surfaces exposed to water, where structural framing is protected by an impervious moisture barrier require construction documents with manufacturer's installation instructions. (R106.1.6) Must be inspected and approved before concealing barrier. (R109.1.5.3)

7. Enclosed framing in exterior balconies and elevated walking surfaces exposed to rain, snow or drainage from irrigation shall be provided with cross-ventilation area of at least 1/150. (R317.1.3)

8. Provide landings and a porch light at all exterior doors. Landings are to be minimum 3 ft deep x width of door. Landings at required egress doors may step down a maximum of 7.75 inches when the door does not swing over the landing and 1.5 inches when door swings onto the landing. Other than required exterior exit doors may have a threshold of 7.75 inches maximum; a landing is not required if a stair with two or fewer risers is located on the exterior side and the door does not swing over the stairway. (CRC R311.3-R311.3.2)

9. Mezzanines shall not be greater than 1/3 of the story unless fire sprinklers are installed then the area can be ½ of the story.

10. At least one egress door shall be provided for each dwelling unit, the egress door shall be side hinged with a minimum openable width of 32 inches; the minimum clear openable height shall be 78 inches minimum (other doors shall not be required to comply with these dimensions). Egress doors shall be readily openable from the inside without the use of a key, special knowledge, or effort. (CRC R311.2)

11. Operable windows more than 72" above finish grade with a clear opening height less than 24" shall have openings not more than 4" apart or needs a compliant guard. (R312.2)

12. The following windows shall be fully tempered: (CRC R308.4) 12.1. Sliding/swinging glass doors

12.2. Glazing in walls and enclosures facing hot tubs, spas, whirlpools, saunas, steam rooms, bathtubs, showers and swimming pools where the giazing is less than 60 inch- es above the standing surface within the compartment and within 60 inches horizon- tally of the water's edge (CRC R308.4.5)

12.3. Glazing within a 24" arc of a door that is less than 60 inches above the floor. Safety glazing required on a wall less than 180 degrees from the plane of the door in a closed position and within 24" of hinge side of an in-swing door. (R308.4.2)

12.4. Glazing where the exposed area is greater than 9sq.ft, bottom is less than 18 in. and at least 36 in. above the floor, and adjacent to a walking surface

12.5. Within 60in. of the bottom tread of a stairway and less than 36in. above the landing 12.6. Glazing in guards and railings

12.7. Glazing adjacent to stairways, landings, and ramps within 36in. horizontally of the walking surface less than 36in. above the walking surface

FOUNDATIONS & CONCRETE SLABS

1. Slope drainage 6" within the first 10ft. from the foundation wall. If physical obstructions or lot lines prohibit the 10ft distance, a 2-5 percent slope shall be provided to an approved alternative method of diverting the water away from the foundation. Impervious surfaces shall also be sloped a minimum of 2 percent for 10ft away from structures to an approved drainage way.

2. Footings shall extend at least 12 inches into the undisturbed ground surface. (CRC R403.1.4) 3. Stepped footings shall be used when slope of footing bottom is greater than 1 in 10 (V: H). Step footing detail shall be shown

on building elevations and foundation plan. (CRC R403.1.5) 4. Concrete slabs: 3 ½" minimum (CRC R506.1). Slabs under living areas and garages shall be reinforced with wire 6" x 6", 10-gauge x 10 gauge welded mesh or equivalent steel reinforcement and 4" thickness of 3/8 minimum gravel under the concrete slab. Separate from soil with a 6-mil polyethylene vapor retarder with joints lapped not less than 6 inches in living

areas. A capillary break shall be installed when a vapor retarder is required. 5. Provide an 18" x 24" under-floor access, unobstructed by pipes or ducts and within 5' of each under-floor plumbing cleanout and not located under a door to the residence, is required. Provide a solid cover or screen. (CRC 408.4 & CPC 707.9)

6. Minimum sill bolting: ½" anchor bolts or approved anchors at 6 ft. o.c. maximum for one-story. (CRC R403.1.6) Use anchor bolts at 4 ft. o.c. maximum for three story con-struction. Embed bolts 7" minimum. The anchor bolts shall be placed in the middle third of the width of the plate. Locate end bolts not less than 7 bolt diameters, nor more than 12" from ends of sill members. In SDC D0 and above: Provide 3"X3"X0.229 plate washers on each bolt at braced or shear wall locations, standard cut washers shall be permitted for anchor bolts not located in braced/shear wall lines. (CRC R403.1.6.1 & R602.11.1) CLEARANCES AND TREATMENT FOR WOOD

FRAMING

1. Weather exposed glu-lam, beams and posts shall be pressure treated or shall be wood of natural resistance to decay (CRC

2. Columns exposed to the weather or in basements when supported on concrete pier or metal pedestals shall be pressure treated or natural resistance to decay unless the pier/pedestals project 1" above concrete or 6" above earth and the earth is covered by an approved impervious moisture barrier. (CRC R317.1

3. Columns in enclosed crawl spaces or unexcavated areas located within the periphery of the building shall be pressure treated or natural resistance to decay unless the column is supported by a concrete pier or metal pedestal of a height 8" or more and the earth is covered by an impervious moisture barrier. (CRC R317.1

4. Deck posts supported by concrete piers or metal pedestals projecting not less than 1" above a concrete floor or 6" above exposed earth. (CRC R317.1

1. Under-floor areas with storage, fuel-fired equipment or electric-powered equipment with less than 2x10 solid joists shall be

protected on the underside by half-inch sheet- rock or a sprinkler system. (R302.13) 2. Balconies must be designed for a minimum live load of 60lbs per square foot. (CRC T-R301.5)

WALLS

1. Specify post to beam connections. Positive connection shall be provided to ensure against uplift and lateral displacement.

3. Fire-block in concealed spaces of stud walls/partitions, vertically at ceiling/floor levels, & horizontally at 10ft. intervals.

2. All fasteners used for attachment of siding & into pressure treated lumber shall be of a corrosion resistant type. (CRC

Fire-block at soffits, drop ceilings/similar locations & in concealed spaces at the top/bottom of stair stringers. (CRC R302.11) 4. Provide approved building paper under the building siding and approved flashing at exterior openings. (CRC R703.2) Specify a minimum of 2 layers of Grade D paper under stucco and 2 layers of 15lb felt (or equivalent) under stone veneer.

5. Stucco shall have a minimum clearance to earth of 4 inches and 2 inches to paved surfaces with an approved weep screed. (CRC R703.7.2.1) Masonry stone veneer shall be flashed beneath the first course of masonry and provided with weep holes immedi-ately above the flashing. (CRC R703.8.5 and R703.8.6)

1. Roof sheathing can only cantilever 9 inches beyond a gable end wall unless supported by overhang framing. (CRC 803.2.3) 2. Provide a minimum 22" x 30" access opening to attic (CRC R807.1); may be required to be 30"x30" to remove the largest piece of mechanical equipment per the California Mechanical Code

4. Roof drains/gutters required to be installed per the California Plumbing Code with leaf/ debris noncombustible protection also

5. Roof construction and coverings shall comply with CRC Chapters 8, 9 and local ordi-nance. All roofing shall be tested/listed

Class A minimum Asphalt shingles with sloped roofs 2/12 to <4/12 shall have two layers of underlayment applied per CRC R905.2.2.

7. Roof sheathing fasteners shall be 6-inches on center in field and at panel edges [Table R602.3(1)]. GARAGE AND

1. Garage shall be separated from the dwelling unit & attic area by ½ inch gypsum board applied to the garage side. Garage beneath habitable rooms shall be separated by not less than 5/8" type X gypsum board. Structure supporting floor/ceiling assemblies used for required separations shall have ½" gypsum board installed minimum. Door openings from the garage to the dwelling shall be solid wood/steel doors or honeycomb steel doors not less than 1 3/8" thick or a 20-minute rated fire door. Doors shall be self-closing & self-latching. No openings directly into a sleeping room from the garage. When the dwelling and garage has fire sprinklers installed per R309.6 and R313, doors into the dwelling unit from the garage only need to be self- closing and self-latching. (CRC R302.5.1 & T-R302.6)

2. Ducts penetrating the garage to dwelling separation shall be a minimum of 26 gauge with no openings into the garage. (CRC

3. Penetrations through the garage to dwelling separation wall (other than ducts as listed above) shall be fire-blocked per CRC section R302.11, item #4.

4. Garage and carport floor surfaces shall be non-combustible material and slope to drain towards the garage door opening. 5. Appliances and receptacles installed in garage generating a glow, spark or flame shall be located 18" above floor unless it is

listed as flammable vapor ignition resistant. (CMC 305.1) Provide protective post or other impact barrier from vehicles. (CMC 6. Appliances in private garages and carports shall be installed with a minimum clearance of 6ft above the floor unless they are protected from vehicular impact. (CBC 406.2.9.3)

STAIRWAYS & RAMPS

Stair landings required every 12'7" of vertical rise. (CRC R311.7.3) Exterior stair stringers must be naturally resistant to decay or pressure treated. (CRC R317.1)

Rise shall be maximum 7.75"; Run shall be 10" minimum; headroom 6'-8" minimum; width 36" minimum, 31.5" between a handrail on one side and 27" with handrails on two sides. Variation between riser heights 3/8" maximum. A nosing not less than .75 inches but not more than 1.25 inches shall be provided on stairways with solid risers where the tread depth is less than 11 inches. The leading edge of treads shall project not more than 1.25 inches beyond the tread below. Open risers are permitted, provided the opening between the treads does not permit the passage of a 4" sphere. (Openings are not limited when the stair has a rise of 30" or less). (CRC R311.7.5.1)

4. Stairways with 4 or more risers shall have a handrail on one side 34" to 38" above the tread nosing. Circular handrails shall have an outside diameter of 1.25"-2"; if not circular, it shall have a perimeter dimension of 4"-6.25" with a maximum crosssectional dimension of 2.25". See R311.7.8.5 item# 2 for type II handrails with a parameter over 6.25". A minimum clearance of 1.5" shall be maintained from the wall or other surface. Handrails shall be returned, terminate in newel posts, or safety

5. Guards shall be 42" minimum height (unless acting as a handrail/guard for a stair- way; the guard height may be 34"-38" in height), with openings less than 4" inches clear (guards on the open sides of stairs may have 4 3/8" openings). (CRC R312) 6. Provide landings at the top/bottom of the stairway the width of the stairway. The depth of the landing shall be 36" minimum.

7. Usable spaces underneath enclosed/unenclosed stairways shall be protected by a minimum of ½" gypsum board. (CRC

8. Ramps serving the egress door shall have a slope of not more than 1 unit vertical in 12 units horizontal (8.3-percent slope). All other ramps shall have a maximum slope of 1 unit vertical in 8 units horizontal (12.5-percent slope). Exception: Where it is technically infeasible to comply because of site constraints, ramps shall have a slope of not more than 1 unit vertical in 8 units horizontal (12.5-percent slope) (CRC R311.8.1). Provide 3'X3' landings at the top and bottom of ramps, where doors open onto ramps, and where ramps change directions. (CRC R311.8.2)

DECKS

1. Guards are required if deck or floor is over 30" above grade, minimum 42" high, with openings less than 4" (CRC R312). Guardrails shall be designed and detailed for lateral forces according to CRC Table 301.5.

2. Provide deck lateral load connections at each end of the deck and at deck intersections per CRC R507.9.2. Specify connectors with a minimum allowable stress design capacity of 1,500lbs and install with 24" of the end of the deck. 750lb rated devices are allowed (DTT1Z as example) if located at 4 points along the deck.

3. Posts/columns shall be retrained at the bottom end to prevent lateral displacement; clearly show approved post bases, straps, etc. to achieve this per CRC R407.3

4. Joists, girders, structural blocking and support posts shall be wood of natural resistance to decay or pressure-treated lumber when exposed to the weather. (CRC R317.1(8))

ELECTRICAL

equipment and 6'-6" high for headroom. (CEC 110.26)

2. Provide a minimum 3 lug intersystem bonding busbar at the main electrical service. (CEC 250.94) 3. All automatic garage door openers that are installed in a residence shall have a battery backup function that is designed to operate when activated because of an electrical outage. (CBC 406.2.1)

4. A concrete-encased electrode (ufer) consisting of 20' of rebar or #4 copper wire placed in the bottom of a footing is required for all new construction. (CEC 250.52(A) (3)) Bond all metal gas and water pipes to ground. All ground clamps shall be

accessible and of an approved type. (CEC 250.104) All 15/20 ampere receptacles installed per CEC 210.52 including attached and detached garages and accessory buildings shall be listed tamper-resistant receptacles. (CEC 406.12)

6. All branch circuits supplying 15/20 ampere outlets in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, kitchens, laundry room or similar rooms/areas shall be protected by a listed combination type arc-fault circuit interrupter. (CEC 210.12)

7. Provide a minimum of one 20A circuit to be used for the laundry receptacle. (CEC 210.11(C)(2)) Provide a minimum of one 20A circuit for bathroom receptacle outlets. (CEC 210.11(C)(3)

8. Provide at least 1 outlet in basements, garages, laundry rooms, decks, balconies, porches and within 3' of the outside of each bathroom basin. (CEC 210.52 (D), (F) & (G)) 9. Furnaces installed in attics and crawl spaces shall have an access platform (catwalk in attics), light switch and receptacle in the space. Provide a service receptacle for the furnace. (CEC 210.63)

10. All dwellings must have one exterior outlet at the front and the back of the dwelling. (CEC 210.52(E)) 11. Garage receptacles shall not serve outlets outside the garage. Exception: Garage circuit may serve readily accessible outdoor receptacle outlets. ((CEC 210.11 (C)(4)) A minimum of 1 receptacle shall be provided for each car space.

12. At least one wall switched lighting outlet or fixture shall be installed in every habitable room, bathroom, hallways, stairways, attached garages and detached garages with electrical power, equipment spaces (attics, basements, etc). (CEC 210.70)

13. Surge protection device (SPD) required for all services supplying dwelling units. The SPD shall be an integral part of the service equipment or shall be located immediately adjacent thereto. The SPD shall be a Type 1 or Type 2 SPD. [CEC 13. Kitchens, dining rooms, pantries, breakfast nooks, and similar areas must have a minimum of two 20A circuits. Kitchen,

pantry, breakfast nooks, dining rooms, work surfaces and similar areas counter outlets must be installed in every counter space 12" inches or wider, not greater than 4' o.c., within 24" inches of the end of any counter space and not higher than 20" above counter. (CEC 210.52 (C)) Island counter spaces shall have at least 1 receptacle outlet unless a range top or sink is installed than 2 receptacles may be required. 1 receptacle is required for peninsular counter spaces. Receptacles shall be located behind kitchen sinks if the counter area depth behind the sink is more than 12" for straight counters and 18" for corner installations. (CEC Figure 210.52(C)(1)) 14. Receptacles shall be installed at 12' o.c. maximum in walls starting at 6' maximum from the wall end. Walls longer than two

feet shall have a receptacle. Hallway walls longer than 10 ft shall have a receptacle in hallways. (CEC 210.52(A)) 15. Stairways with 6 or more risers shall have wall switch at each floor level at the stair landings. (CEC 210.70(A)(2))

16. Receptacles shall not be installed within or directly over a bathtub or shower stall. (CEC 406.9(C) Light pendants, ceiling fans, lighting tracks, etc shall not be located within 3ft horizontally and 8ft vertically above a shower and/or bathtub threshold. (CEC 410.10(D)) 17. All lighting/fan fixtures located in wet or damp locations shall be rated for the appli-cation. (CEC 410.10)

18. GFCI outlets are required: for all kitchen receptacles that are designed to serve coun-tertop surfaces, dishwashers, bathrooms, in under-floor spaces or below grade level, in unfinished basements, crawl space lighting outlets, in exterior outlets, within 6' of a laundry/utility/wet bar sinks, indoor damp locations, mud rooms, finished basements, laundry areas and

in all garage outlets including outlets dedicated to a single device or garage door opener. (CEC 210.8) 19. Carbon-monoxide alarms shall be installed in dwelling units with fuel-burning appli-ances or with attached garages (CRC

R315.3): 19.1. Outside of each separate sleeping area in the immediate vicinity of bedrooms

19.2. On every level of a dwelling unit including basements 19.3. Alterations, repairs, or additions exceeding 1,000 dollars (May be battery operated)

20. Smoke alarms shall be installed (CRC (R314.3): 20.1. In each room used for sleeping purposes.

20.2. Outside of each separate sleeping area in the immediate vicinity of bedrooms.

20.3. In each story, including basements. 20.4. At the top of stairways between habitable floors where an intervening door or obstruction prevents smoke from reaching

fans and bathroom doors with a bathtub or shower unless this would prevent placement of a smoke detector (314.3(4)). 20.6. Alterations, repairs, or additions exceeding 1,000 dollars. (May be battery operated.) 20.7. All smoke and carbon-monoxide alarms shall be hardwired with a battery backup (smoke alarms shall have a 10-year sealed battery). (CRC R314.4 & R315.1)

20.5. Shall not be installed within 20ft horizontally of cooking appliances and no closer than 3ft to mechanical registers, ceiling

20.8. Smoke detectors within 10 feet to 20 feet of the stove shall be ionization type with alarm silencing switch. CRC R314.3.3. 21. All 15/20 ampere receptacles in wet locations shall have in-use (bubble) covers in-stalled. All receptacles in wet locations shall also be listed weather-resistant type. (CEC 406.9(B)(1))

22. all 125-volt, 15-and 20-ampere receptacle outlets shall be listed tamper-resistant receptacles per CEC 406.11

ENERGY STORAGE SYSTEMS

21. Energy storage systems shall only be installed in detached garages and accessory structures, attached garages, outdoor not less than 3' from door and windows and enclosed utility closets, basements, storage or utility closets within dwelling units with finished or noncombustible walls and ceiling. (CRC R328.4)

22. Individual ESS units shall have a maximum rating of 20 kWh. The aggregate rating of the ESS shall not exceed 40 kWh within utility closets, basements and storage or utility spaces, 80 kWh in attached or detached garages or detached

accessory structures, 80 kWh on exterior walls and 80 kWh outdoors on the ground. (CRC R328.5) 23. Rooms and areas within structures in which ESS are installed shall be protected by smoke alarms. A heat detector shall be

installed in locations within structures where smoke alarms cannot be installed based on their listing. (CRC R328.7) 24. ESS installed in locations subject to vehicle damage shall be provided with impact protection. (CRC R328.8)

PLUMBING

Underfloor cleanouts shall not be more than 5' from an underfloor access, access door or trap door. (CPC 707.9) Kitchen sinks require a cleanout above the floor level of the lowest floor of the building.

ABS piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paints. (CPC 906.1) PVC piping shall not be exposed to direct sunlight unless protected by water based synthetic latex paint, .04" thick wrap or otherwise protected from UV degradation. (CPC 605.12)

4. Underground water supply lines shall have a 14 awg blue tracer wire. (CPC 604.10.1) 5. The entire floor space in a room containing a shower without thresholds shall be considered a "wet location" when using the

CRC, CBC, and the CEC. (CPC 408.5) 6. Shower compartments, regardless of shape, shall have a minimum finished interior of 1024 square inches (32" by 32") and shall also be capable of encompassing a 30" circle. The required area and dimensions shall be measured at a height equal to the top of the threshold and shall be maintained to a point of not less than 70" above the shower drain outlet. (CPC 408.6)

absorbent surface up to 6' above the floor. (CRC R307.2) Minimum shower receptor slope is 1/8" per foot. (408.5) 7. Show location and size of the water heater on plans. Provide pressure relief valve with drain to outside for water heater. (CPC 504.6) Provide seismic strapping in the upper & lower third of the water heater a minimum of 4" above controls. (CPC 507.2) The water heater shall be of an instantaneous type, or the following shall be provided (new construction only) (CEC

Provide curtain rod or door a minimum of 22" in width. (CPC 408.5) Showers and tubs with showers require a non-

7.1. A 120V receptacles provided within 3ft

7.2. A category III or IV vent, or a straight (without bends) Type B vent

7.3. Condensate drain that is no more than 2 inches higher than the base of the water heater 7.4. Gas supply line with a minimum 200,000 Btu/hr dedicated capacity for the water heater 7.5. A dedicated 120/240, 3 wire circuit with 10AWG wire to a receptacle out- let within 3' of the water heater. The unused

conductor shall be electrically isolated and have a reserved circuit breaker space. Both ends of the conductor shall be labeled "spare" and be electrically isolated. A reserve single-pole circuit breaker space near this circuit labeled "Future 240V Use." (CEC 150.0(n)) 8. Water heaters using gas or propane shall designate a space 2.5 feet by 2.5 feet and 7 feet tall suitable for future installation

of a heat pump water heater. Additional features are required. (California Energy Code 150.0(n)) 9. Domestic hot water lines shall be insulated. Insulation shall be the thickness of the pipe diameter up to 2" in size and minimum 2" thickness for pipes larger than 2" in diameter. (CPC 609.12) 10. A 3-inch gravity drain shall be provided at the low point of the space, installed which provides 1/4-inch per foot grade and

terminate at an exterior point of the building protected from blockage. The opening shall be screened with a corrosionresistant wire mesh with mesh openings of 1/4-inch in dimension. Lengths of the gravity drains over 10 feet in length shall be first approved by the Building Official. (L-V 8.8)

11. Water heaters located in attics, ceiling assemblies and raised floor assemblies shall show a water-tight corrosion resistant minimum 1 ½" deep pan under the water heater with a minimum ¾ inch drain to the exterior of the building. (CPC 507.5)

12. Isolation water valves required for instantaneous water heaters 6.8kBTU/hr and above. Valves shall be installed on both cold and hot water lines. Each valve will need a hose bib or other fitting allowing for flushing the water heater when the valves are closed. (CEC 110.3(c)6) 13. Water closet shall be located in a space not less than 30" in width (15" on each side) and 24" minimum clearance in front.

14. Indicate on the plans that the maximum hot water temperature discharging from a bathtub or whirlpool bathtub filler shall not exceed 120 degrees F. (CPC 408.3.2)

16. Floor drains shall be provided with a trap primer. (CPC 1007) 17. Clearly label on the plans the maximum water flow rates per the (CGBSC 4.303.1):

15. Provide anti-siphon valves on all hose bibs. (CPC 603.5.7)

17.1. Water Closets: 1.28gpf 17.2. Urinals: .125gpf 17.3. Kitchen Faucets: 1.8gpm @ 60psi

17.4. Lavatory Faucets: 1.2gpm @ 60psi 17.5. Showerheads: 1.8gpm

MECHANICAL

1. All newly installed gas fireplaces shall be direct vent and sealed-combustion type. (CMC 912.2) 2. Any installed wood stove or pellet stove shall meet the U.S. EPA New Source Per-formance Standard emission limits and shall have a permanent label certifying emission limits.

3. Top chimney must extend a minimum of 2 ft. above any part of the building within 10 (CMC 802.5.4)

4. Fireplaces shall have closable metal or glass doors, have combustion air intake drawn from the outside and have a readily accessible flue dampener control. Continuous burning pilot lights are prohibited. (CEC 150.0(e)) 5. Provide combustion air for all gas fired appliances per CMC Chapter 7.

6. Gas vents passing through an insulated assembly shall have a metal insulation shield a minimum 2" above insulation. (CMC 7. Gas water heater and furnace are not allowed in areas opening into bathrooms, closets or bedrooms unless installed in a closet equipped with a listed gasketed door assembly and a listed self-closing device with all combustion air obtained from

the outdoors. (CPC 504) Roof top equipment on roofs with over 4/12 slope shall have a level 30"x30" working platform. (CMC 304.2) 9. Exhaust openings terminating to the outdoors shall be covered with a corrosion resistant screen 1/4"-1/2" in opening size (not required for clothes dryers). (CMC 502.1)

10. Vent dryer to outside of building (not to under-floor area). Vent length shall be 14 ft. maximum. Shall terminate a minimum of 3' from the property line and any opening into the building. (CMC 504.4.2) 11. Environmental Air Ducts shall not terminate less than 3' to a property line, 10' to a forced air inlet, 3' to openings into the

building and shall not discharge on to a public way. (CMC 502.2.1) 12. Provide minimum 100 square inches make-up air for clothes dryers installed in clos-ets. (CMC 504.4.1(1)) 13. Heating system is required to maintain 68 degrees at 3 ft. above floor level and 2ft from exterior walls in all habitable rooms.

14. Wood burning appliances shall not be installed in a new or existing project that is not one of the following:

14.1. A pellet-fueled wood burning heater 14.2. A U.S. EPA Phase II Certified wood burning heater.

14.3. An appliance or fireplace determined to meet the U.S. EPA particulate matter emission standard of less than 7.5 grams per hour for a non-catalytic wood fired appliance or 4.1 grams per hour for a catalytic wood fired appliance and is

approved in writing by the APCO. 15. All ducts in conditioned spaces must include R-4.2 insulation. (150.1(c)9) Minimum heating and cooling filter ratings shall be MRV 13 (150.0(m)12)

TITLE 24 ENERGY

1. All ducts in conditioned spaces must include R-4.2 insulation. (150.1(c)9) Minimum heating and cooling filter ratings shall be 2. Provide compliance documentation for mandatory measures to shown throughout the plans. All ducts in conditioned spaces must include R-4.2 insulation. (California Energy Code 150.1(c)9) Minimum heating and cooling filter ratings shall be MRV

13. (California Energy Code 150.0(m) 12) 3. Isolation water valves required for instantaneous water heaters 6.8kBTU/hr and above. Valves shall be installed on both cold and hot water lines. Each valve will need a hose bib or other fitting allowing for flushing the water heater when the valves are closed. (California Energy Code 110.3(c)6)

4. Energy storage system (ESS) ready. At least one of the following shall be provided: 4.1. ESS ready interconnection equipment with a minimum backed-up capacity of 60 amps and a minimum of four ESS-supplied branch circuits, or

4.2. A dedicated raceway from the main service panel to a panelboard (sub panel) that supplies the following branch circuits: refrigerator, lighting circuit near primary egress door, sleeping room receptacle and one additional. 5. The main panelboard shall have a minimum busbar rating of 225 amps. Space shall be re- served to allow future installation

of a system isolation equipment/transfer switch within 3 feet of the main panelboard. Raceways shall be installed between the panelboard and the system isolation equipment to allow the connection of backup power source. 6. Heat pump space heater ready. Systems using a gas or propane furnace shall include a dedicated 240-volt branch circuit with 3 feet of the furnace. The branch circuit shall be rated at 30 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked

as "For future 240V use". (California Energy Code 150.0(t)) 7. Electric cooktop ready. Systems using a gas or propane cooktop shall include a dedicated 240-volt branch circuit with 3 feet of the cooktop. The branch circuit shall be rated at 50 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For

future 240V use". (California Energy Code 150.0(u)) 8. Electrical clothes dryer ready. Systems using a gas or propane dryer shall include a dedicated 240-volt branch circuit with 3 feet of the clothes dryer. The branch circuit shall be rated at 30 amps minimum. The main electrical service shall have a reserved space to allow for the installation of a double pole circuit breaker. The reserved space shall be permanently marked as "For future 240V use". (California Energy Code 150.0(v))

9.3. They must be certified as airtight (AT) construction. 9.4. They must have a sealed gasket or caulking between the housing and ceiling to prevent flow of heated or cooled air out

9.1. Luminaries recessed in insulated ceilings must meet five requirements (150.0(k) 1C):

9. ALL luminaires must be high efficacy (150.0(k)1A)

of living areas and into the ceiling cavity.

9.5. They may not contain a screw base sockets

9.2. They must be rated for direct insulation contact (IC).

9.6. They shall contain a JA8 compliant light source 10. In bathrooms, garages, walk-in closet, laundry rooms, and utility rooms, at least on luminaire in each of these spaces shall be controlled by a vacancy sensor or occupant sensor provided the occupant sensor is initially programmed like a vacancy sensor (manual-on operation). (150.0(k)2I)

11. Lighting in habitable spaces, including but not limited to living rooms, dining rooms, kitchens and bedrooms, shall have readily accessible dimming controls. (California Energy Code 150(k) 2F) 12. Joint Appendix A (JA8) certified lamps shall be considered high efficacy. JA8 compli-ant light sources shall be controlled by a vacancy sensor or dimmer. (Exception: <70sf closets and hallway) (150.0(k)2K)

14.3. Astronomical time clock control turning lights off during the day

14.2. Photo-control and automatic time switch control

the kitchen and shall be HERS verified.

13. Under-cabinet lighting shall be switched separately from other lighting systems. (150.0(k)2L) 14. All exterior lighting shall be high efficacy, be controlled by a manual on/off switch and have one of the following controls (the

manual switch shall not override the automatic control device): (150.0(k)3A)

14.1. Photo-control and motion sensor

16. Contractor shall provide the homeowner with a luminaire schedule giving the lamps used in the luminaires installed.

17. The number of blank electrical boxes more than 5 feet above the finished floor shall not be greater than the number of bedrooms. These electrical boxes must be served by a dimmer, vacancy sensor, or fan speed control. (150(k)1B)

15. All high efficacy light fixtures shall be certified as "high-efficacy" light fixtures by the California Energy Commission.

18. Provide a gasket/ insulation on all interior attic/under-floor accesses. (110.7) 19. Provide verification on the plans how the building will meet the minimum ventilation and acceptable indoor air quality requirements per ASHRAE Standard 62.2. Window operation is not a permissible method of providing the whole building ventilation airflow required. This is subject to HERS testing. The following label must be attached to the fan switch: "To maintain minimum levels of outside air ventilation required for good health, the fan control should be on at all times when the building is occupied, unless there is severe outdoor air contamination." (California Energy Code 150.0(o)) A minimum 110 CFM Hood Over Electrical Range or minimum 180 CFM Hood Over Natural Gas Range indoor air quality fan is required in

GREEN BUILDING

1. 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, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site (CGBSC 1.1. Retention basins of sufficient size shall be utilized to retain storm water on site

1.2. 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. All new residential construction with attached private garages shall have the follow-ing for electric vehicle (EV) charging

stations (CGBSC 4.106.4): 3. Install a minimum 1-inch conduit capable of supplying a 208/240V branch circuit to a suitable box location for EV charging. The other end shall terminate to the main service and/or subpanel.

4. The main panel and/or subpanel shall be of sufficient size to install a 40-ampere dedicated branch circuit. The dedicated overcurrent protection space shall be labeled "EV CAPABLE". 5. Multiple shower heads serving a single shower shall have a combined flow rate of 1.8 gpm or the shower shall be designed to allow only one shower outlet to be in operation at a time. (CGBSC 4.303.1.3.2)

6. At time of final inspection, a building operation and maintenance manual, compact disc, etc shall be provided containing the following: (CGBSC 4.410.1)

6.1. Directions that manual shall remain onsite for the life of the building 6.2. Operation and maintenance instructions for equipment, appliances, roof/yard drain- age, irrigation systems, etc. Information from local utility, water and waste recovery providers

6.3. Public transportation and carpool options 6.4. Material regarding importance of keeping humidity levels between 30-60 percent Information regarding routine maintenance procedures

6.5. State solar energy incentive program information 6.6. A copy of any required special inspection verifications that were required (if any) 7. The project shall meet minimum pollutant control requirements for adhesives, seal-ants, caulks, paints, carpet, resilient

8. Duct openings related to HVAC systems shall be covered with tape, plastic, sheet metal or other methods to reduce the amount of water, dust and debris which may enter the system. (CGBSC 4.504.1) WINDOW

Sleeping rooms and basements must have an exterior egress door or window (r310.1) with:

1.a. 5.7 sq. ft. minimum net clear open able area (5.0 sq. ft. for grade-level openings); 1.b. 24" minimum net clear open able height; r310.1.2 1.c. 20" minimum net clear open able width; r310.1.3

flooring systems, etc. (CGBSC 4.504.2.1)

1.d. rescue openings no greater than 44" from floor to sill height

structural members supporting floor or ceiling assemblies. (t-r302.6)

1.e. direct opening to public way or yard/court opening to pub. way; 1.f. window wells of 9 sq. ft. horizontal area and 36" minimum dimensions and equipped with ladders/steps for escape. 2. All window area of at least 8% of the floor area in each room or show on utility plan permanently wired lighting supplying

average illumination of 10 foot-candles over area of the room at 30" height. (r303.1) 3. Guess rooms & habitable rooms within a dwelling unit or congregate residence shall be provided with natural ventilation by means of operable exterior openings with a area of not less than 1/20 of the floor area of such rooms with a minim of 5 s.q.f.t.

GARAGE

1. Garages beneath habitable rooms shall be separated by no less than 5/8-in. type x gypsum board. provide minimum 1/2-in. gypsum board on the garage side elsewhere. (t-r302.6)

2. Provide minimum 1/2-in. gypsum board on the garage side of detached garages less than 3-ft. from a dwelling unit or

Doors to the dwelling unit shall be solid wood or solid or honeycomb core steel and not less than 1-3/8-in. thick, or 20 minute rated, unless the dwelling unit and the garage are protected by an automatic fire sprinkler system. doors shall be self-closing and self-latching. (r302.5.1)

4. Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. (r302.5.1) 5. Garage floor surfaces shall be of an approved noncombustible material, and the area used to park vehicles shall be sloped

to a drain or toward the main vehicle entry. (r309.1) 6. Floors in garage/carport shall be designed to support a uniformly distributed load of 50-psf or concentrated live loads of 2,000-lbs acting on an area of 20-sq. in. (t-r301.5) 7. A minimum 18" high platform - from source of ignition - for water heater and heating/cooling equipment capable of igniting

flammable vapors (unless listing report number provided showing ignition-resistant appliance). (cpc 508.14(1) and cmc

8. Protection of water heater and/or heating/cooling equipment subject to vehicular impact. (cpc 508.14)

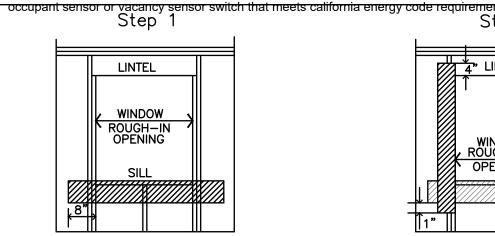
BATHROOM NOTES

1. For the purpose of humidity control, bathrooms containing a bathtub, shower or tub/shower combination, shall be mechanically ventilated at a rate of 20 cfm for continuous ventilation; otherwise a rate of 50 cfm shall be used for intermittent ventilation, an operable window is not a permissible method, exhaust air shall be ducted to terminate outside the building.

crc r303.3.1, cgbc 4.506.1 2. In bathroom, water closet compartments and other similar rooms, provide a window not less than 3 sq. ft. glazing area, 1/2"

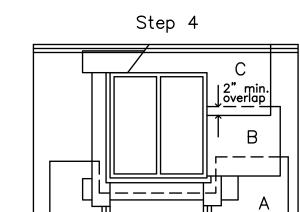
of which shall be operable, or provide exhaust fans with exhaust rate of 50 cfm for intermittent ventilation or 20 cfm for continuous ventilation. the exhaust air shall be exhausted directly to the outdoors. crc 303.3.1, 3. Bathtub and shower compartments shall be finished with nonabsorbent surface to a height of 72" above the floor

4. Glazing (glass) within 60" of tub or shower walking surface must be tempered, safety glass or other listed material. 5. All bathroom receptacles to be ground-fault circuit-interrupter protected. (gfci) 6. Lighting - permanently installed luminaries shall be of high efficacy type (led or pin-base fluorescent) and provide manual-on



Attach sill strip with top edge level with rough sill; extend beyond edge of rough opening at least 8". Secure all building paper or similar approved flashing material with galvanized nails or power driven staples.

Step 3



Attach jamb strips with side edge even with rough-jamb

framing. Start strip 1" below lower edge of sill strip and

extend 4" above lower edge of lintel.

Step 2

T TY LINTEL

Install window into rough opening with sill and jamb flanges over previously installed flashing. Attach head flashing over the window flange.

WINDOW FLASHING DETAIL

Commencing at the bottom(sole plate) of the wall, lay building paper under sill strip. Cut any excess building paper that may extend above the sill flange line on each side of opening (shown as dashed line). Do not cut building paper horizontally so the paper will lap over the jamb strips. Install successive lines of building paper (B,C,D etc) over jamb and head flanges, lapping each course.

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DATE: October 31, 2024 TAFFERA- MAGELLAN

048-022-370 SYM. REVISIONS DATE

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. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

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 requirements shall apply only to and/or within the specific area of the addition or alteration.

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. See Section 4.106.4.3 for application.

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. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

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 high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

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. Exceptions

[HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4. as applicable. [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the California Building Code, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS: Department of Housing and Community Development California Building Standards Commission DSA-SS Division of the State Architect, Structural Safety OSHPD Office of Statewide Health Planning and Development

LR Low Rise High Rise AA Additions and Alterations

New 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.

4.106 SITE DEVELOPMENT

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. Wattles are also used for perimeter and inlet controls.

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. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

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. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

1. Retention basins of sufficient size shall be utilized to retain storm water on the site 2. Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method,

water shall be filtered by use of a 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. Examples of methods to manage surface water include, but are not limited to, the following:

2. Water collection and disposal systems 3. French drains

1. Water retention gardens

. 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 or 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.

Exceptions:

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.

Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

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.

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. 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 other 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

Exemption: 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

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". The raceway termination location shall be permanently and visibly marked 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. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at

space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details. 4.106.4.2.1Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20

least one standard automobile parking space only for the purpose of complying with any applicable minimum parking

The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to

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.

1.When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV

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.

Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV

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

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.

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

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

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).

5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658

3.One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A

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 location or the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/ or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device installed, or 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 amperage of installed or future receptacles or EVSE, raceway method(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

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.

1.Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV 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

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. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important

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

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.

4.303.1.3.1 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

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).

FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

Title 20 Section 1605.3 (h)(4)(A): Commercial prerinse spray values 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.

THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE

TABLE H-2	
STANDARDS FOR COMMERCIAL PRE-RI MANUFACTURED ON OR AFTER JANUAF	· · · = · · · · · · · · · · · · · · · ·
PRODUCT CLASS [spray force in ounce force (ozf)]	MAXIMUM FLOW RATE (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (> 8.0 ozf)	1.28

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.

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

4.408 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. Excavated soil and land-clearing debris.

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. 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

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.

1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the

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.

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

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 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..

ww.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.

1. Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at

the foundation.

around the building, etc.

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. Space conditioning systems, including condensers and air filters. Landscape irrigation systems. e. Water reuse systems.

. Information from local utility, water and waste recovery providers on methods to further reduce resource

consumption, including recycle programs and locations. 4. Public transportation and/or carpool options available in the area. 5. Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range. 6. Information about water-conserving landscape and irrigation design and controllers which conserve water. . Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from

8. Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading

9. Information about state solar energy and incentive programs available

12. Information and/or drawings identifying the location of grab bar reinforcements.

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

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

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 waster, 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 note 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

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.

MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O³/g ROC). Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700

MOISTURE CONTENT. The weight of the water in wood expressed in percentage of the weight of the oven-dry wood.

PRODUCT-WEIGHTED MIR (PWMIR). The sum of all weighted-MIR for all ingredients in a product subject to this article. The PWMIR is the total product reactivity expressed to hundredths of a gram of ozone formed per gram of product (excluding container and packaging). Note: PWMIR is calculated according to equations found in CCR, Title 17, Section 94521 (a).

A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with

vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain

REACTIVE ORGANIC COMPOUND (ROC). Any compound that has the potential, once emitted, to contribute to

hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

SEALANT PRIMERS

ARCHITECTURAL

POROUS

MARINE DECK

NON-POROUS

MODIFIED BITUMINOUS

4.503.1 GENERAL. Any installed gas fireplace shall be a direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances. 4.504 POLLUTANT CONTROL

4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING **CONSTRUCTION.** At the time of rough installation, during storage on the construction site and until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of water, dust or debris which may enter the system.

4.504.2 FINISH MATERIAL POLLUTANT CONTROL. Finish materials shall comply with this section.

requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply: 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168

VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168

4.504.2.1 Adhesives, Sealants and Caulks. Adhesives, sealant and caulks used on the project shall meet the

perchloroethylene and tricloroethylene), except for aerosol products, as specified in Subsection 2 below. 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of

prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride

California Code of Regulations, Title 17, commencing with section 94507.

4.504.2.2 Paints and Coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-High Gloss VOC limit in Table 4.504.3 shall apply.

ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520; and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.3 Aerosol Paints and Coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for

4.504.2.4 Verification. Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following: TABLE 4 504 1 - ADHESIVE VOC LIMIT.

Manufacturer's product specification.		TABLE 4.504.1 - ADHESIVE VOC	C LIMIT _{1,2}
Field verification of on-site product contain	(Less Water and Less Exempt Compounds in	and Less Exempt Compounds in Grams per Lite	
		ARCHITECTURAL APPLICATIONS	VOC LIMIT
TABLE 4.504.5 - FORMALDEHYDE	E I IMITO	INDOOR CARPET ADHESIVES	50
		CARPET PAD ADHESIVES	50
MAXIMUM FORMALDEHYDE EMISSIONS IN F	ARTS	OUTDOOR CARPET ADHESIVES	150
PRODUCT	CURRENT LIMIT	WOOD FLOORING ADHESIVES	100
HARDWOOD PLYWOOD VENEER CORE	0.05	RUBBER FLOOR ADHESIVES	60
HARDWOOD PLYWOOD COMPOSITE CORE	0.05	SUBFLOOR ADHESIVES	50
PARTICLE BOARD	0.09	CERAMIC TILE ADHESIVES	65
MEDIUM DENSITY FIBERBOARD	0.11	VCT & ASPHALT TILE ADHESIVES	50
THIN MEDIUM DENSITY FIBERBOARD2	0.13	DRYWALL & PANEL ADHESIVES	50
	1	COVE BASE ADHESIVES	50
Values in this table are derived from those sp the calif. air resources board, air toxics control m	•	MULTIPURPOSE CONSTRUCTION ADHES	IVE 70
composite wood as tested in accordance with as	stm e 1333.	STRUCTURAL GLAZING ADHESIVES	100
for additional information, see calif. code of regular, sections 93120 through 93120.12.	lations, title	SINGLE-PLY ROOF MEMBRANE ADHESIV	ES 250
,		OTHER ADHESIVES NOT LISTED	50
2. Thin medium density fiberboard has a maxim	ium	SPECIALTY APPLICATIONS	
thickness of 5/16" (8 mm).		PVC WELDING	510
			400

490 CPVC WELDING TABLE 4.504.2 - SEALANT VOC LIMIT 325 (Less Water and Less Exempt Compounds in Grams per Liter) PLASTIC CEMENT WELDING 250 SEALANTS **VOC LIMIT** ADHESIVE PRIMER FOR PLASTIC 550 250 ARCHITECTURAL CONTACT ADHESIVE 760 MARINE DECK SPECIAL PURPOSE CONTACT ADHESIVE 250 STRUCTURAL WOOD MEMBER ADHESIVE 140 300 NONMEMBRANE ROOF TOP & TRIM ADHESIVE 250 250 ROADWAY SUBSTRATE SPECIFIC APPLICATIONS 450 SINGLE-PLY ROOF MEMBRANE METAL TO METAL 420

PLASTIC FOAMS

FIBERGLASS

250

775

500

760

750

POROUS MATERIAL (EXCEPT WOOD)

. If an adhesive is used to bond dissimilar substrates

together, the adhesive with the highest voc content shall be

2. For additional information regarding methods to measure the voc content specified in this table, see south coast air quality management district rule 1168.

50

30

80

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued) 4.504.3 CARPET SYSTEMS. All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)

See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.3.1 Carpet cushion. All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350) See California Department of Public Health's website for certification programs and testing labs.

https://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.3.2 Carpet adhesive. All carpet adhesive shall meet the requirements of Table 4.504.1.

4.504.4 RESILIENT FLOORING SYSTEMS. Where resilient flooring is installed , at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification See California Department of Public Health's website for certification programs and testing labs.

hhtps://www.cdph.ca.gov/Programs/CCDPHP/DEODC/EHLB/IAQ/Pages/VOC.aspx.

4.504.5 COMPOSITE WOOD PRODUCTS. Hardwood plywood, particleboard and medium density fiberboard composite wood products used on the interior or exterior of the buildings shall meet the requirements for formaldehyde as specified in ARB's Air Toxics Control Measure for Composite Wood (17 CCR 93120 et seq.), by or before the dates specified in those sections, as shown in Table 4.504.5

4.504.5.1 Documentation. Verification of compliance with this section shall be provided as requested by the enforcing agency. Documentation shall include at least one of the following:

1. Product certifications and specifications. 2. Chain of custody certifications.

3. Product labeled and invoiced as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 4. Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association. the Australian AS/NZS 2269, European 636 3S standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and

5. Other methods acceptable to the enforcing agency.

3. A slab design specified by a licensed design professional.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 General. Buildings shall meet or exceed the provisions of the California Building Standards Code. **4.505.2 CONCRETE SLAB FOUNDATIONS.** Concrete slab foundations required to have a vapor retarder by California Building Code, Chapter 19, or concrete slab-on-ground floors required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

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

1. A 4-inch (101.6 mm) thick base of 1/2 inch (12.7mm) or larger clean aggregate shall be provided with a vapor barrier in direct contact with concrete and a concrete mix design, which will address bleeding, shrinkage, and curling, shall be used. For additional information, see American Concrete Institute, ACI 302.2R-06. 2. Other equivalent methods approved by the enforcing agency.

4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. Building materials with visible signs of water damage shall not be installed. Wall and floor framing shall not be enclosed when the framing members exceed 19 percent moisture content. Moisture content shall be verified in compliance with the following:

1. Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.8 of this code 2. Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end

of each piece verified. 3. At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing. Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturers' drying recommendations prior to enclosure

4.506 INDOOR AIR QUALITY AND EXHAUST

4.506.1 Bathroom exhaust fans. Each bathroom shall be mechanically ventilated and shall comply with the

1. Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building. 2. Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity a. Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 80%. A humidity control may utilize manual or automatic means of adjustment. b. A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e.,

1. For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower

2. Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.

4.507 ENVIRONMENTAL COMFORT 4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods: 1. The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.

2. Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods. 3. Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

Exception: Use of alternate design temperatures necessary to ensure the system functions are acceptable.

CHAPTER 7 - INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS 702.1 INSTALLER TRAINING. HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC

systems. Examples of acceptable HVAC training and certification programs include but are not limited to the

are inspecting for compliance with this code.

5. Other programs acceptable to the enforcing agency.

1. State certified apprenticeship programs. 2. Public utility training programs. 3. Training programs sponsored by trade, labor or statewide energy consulting or verification organizations. 4. Programs sponsored by manufacturing organizations.

702.2 SPECIAL INSPECTION [HCD]. When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition to other certifications or qualifications acceptable to the enforcing agency, the following certifications or education may be considered by the enforcing agency when evaluating the qualifications of a special inspector:

Certification by a national or regional green building program or standard publisher. 2. Certification by a statewide energy consulting or verification organization, such as HERS raters, building performance contractors, and home energy auditors. 3. Successful completion of a third party apprentice training program in the appropriate trade.

Other programs acceptable to the enforcing agency.

1. Special inspectors shall be independent entities with no financial interest in the materials or the project they

HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in

California according to the Home Energy Rating System (HERS). [BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a pertification from a recognized state, national or international association, as determined by the local agency. The

area of certification shall be closely related to the primary job function, as determined by the local agency. Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

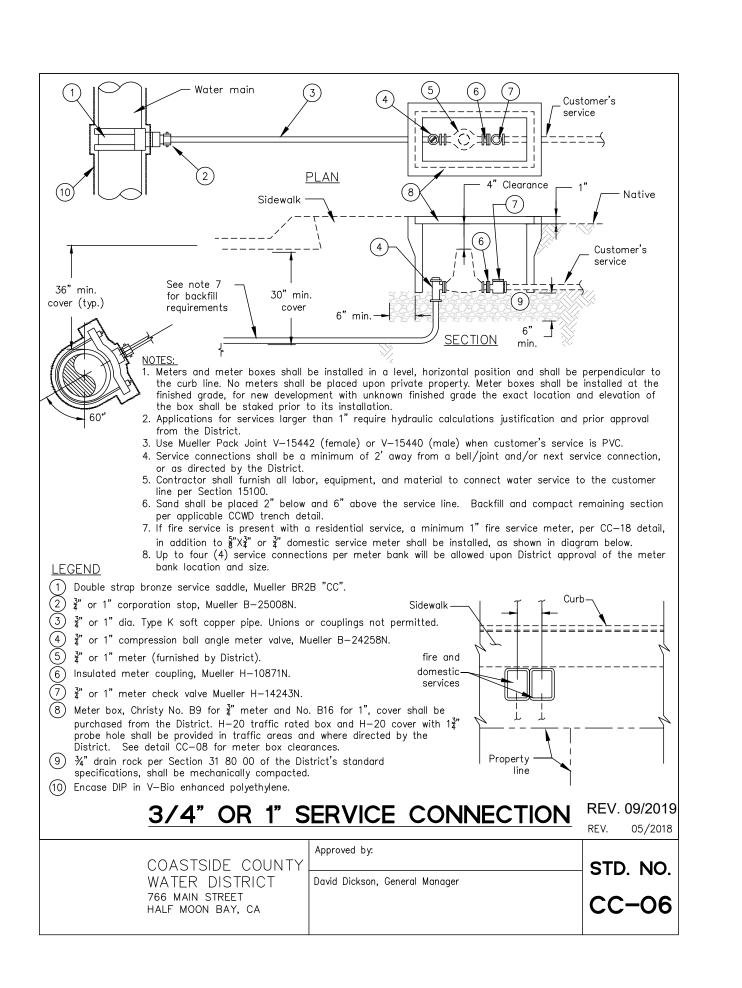
703 VERIFICATIONS 703.1 DOCUMENTATION. Documentation used to show compliance with this code shall include but is not limited

to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

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October 31, 2024 FILE TAFFERA- MAGELLAN 048-022-370 SYM. REVISIONS DATE



AGING-IN-PLACE DESIGN AND FALL

PREVENTION REQUIREMENTS CRC R327

39-1/4

HEAD END

See Note #5

approvals from the enforcing agency.

BATHTUB OR TUB/SHOWER

Reinforcement must be located between the dimensions specified.

floor plan and elevation details) required by CAL Green Section 4.410.1.

AMPLE LOCATION OF 2X8

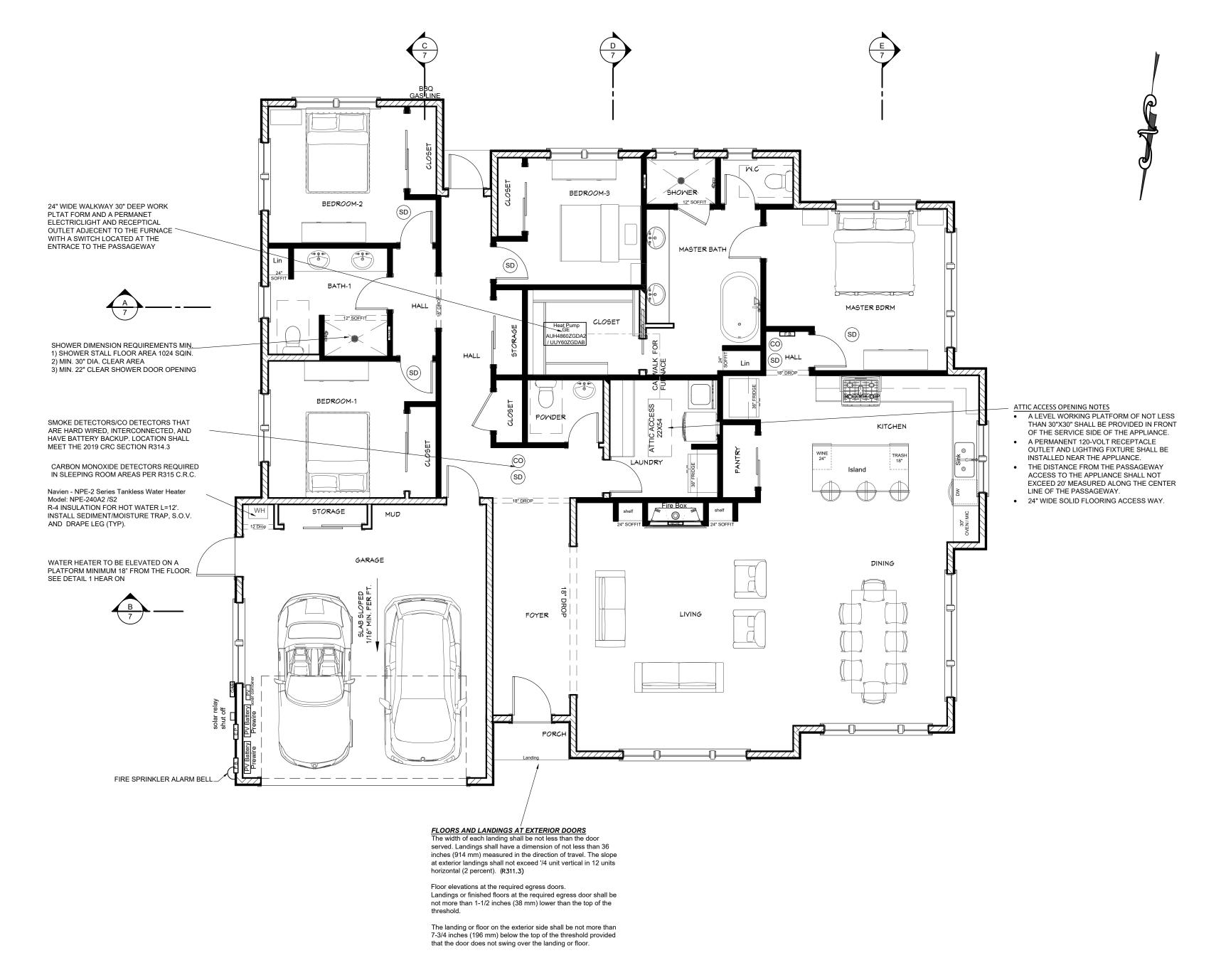
WATER CLOSET ADJACENT TO ONE SIDE WALL

SHOWER ENCLOSURE

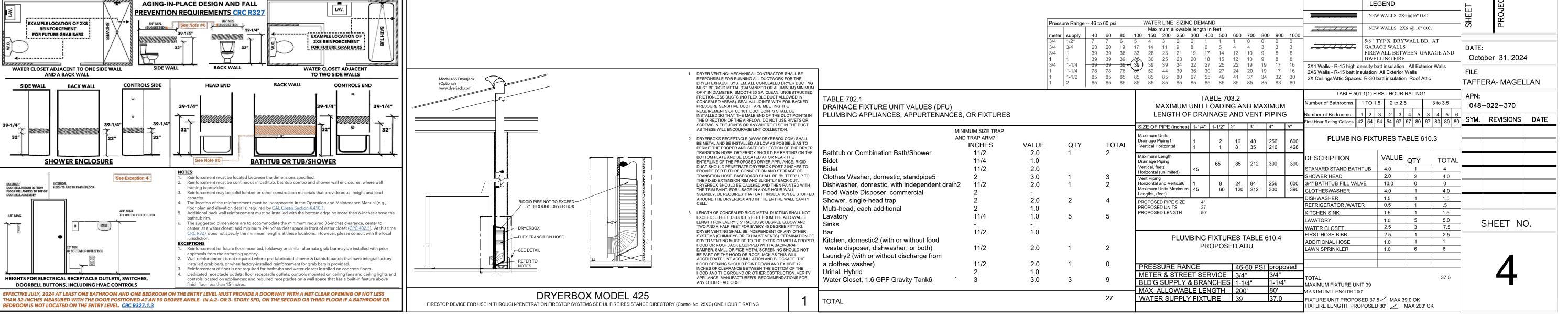
HEIGHTS FOR ELECTRICAL RECEPTACLE OUTLETS, SWITCHES,

EDROOM IS NOT LOCATED ON THE ENTRY LEVEL. CRC R327.1.3

FOR FUTURE GRAB BARS



FLOOR PLAN



SMOKE ALARMS AND CARBON MONOXIDE Smoke alarms shall be listed per UL 217, installed per NFPA 72 and shall be California State Fire Marshal listed. 2. Smoke alarms in new construction shall be installed, maintained and connected in the following locations/manner: [R314.3, .4, .6] a. In each sleeping room. b. Outside each separate sleeping area in the immediate vicinity c. On each additional story of the dwelling, including basement

and split levels. d. A minimum of 3 feet horizontally from the door or opening of a bathroom that contains a bathroom or shower. e. When more than one smoke alarm is installed, the alarm

devices shall be interconnected such that the actuation of one alarm will activate all the alarms. f. Smoke alarms shall receive their primary power from the building wiring and shall be equipped with a battery backup.

3. In existing dwellings where a permit for alterations, repairs or additions exceed \$1000 smoke alarms shall be installed. maintained and connected in the following locations/manner: [R314.2.2, .6, .8] a. The dwelling shall be equipped with smoke alarms located as require for new construction. b. Smoke alarms are permitted to be solely battery operated where no construction is taking place.

CARBON MONOXIDE (CO) ALARMS [R315] 4. For new dwelling unit construction having an attached garage, fuel-burning appliances or a fireplace, an approved carbon monoxide alarm shall be installed, maintained and connected in the following locations/manner: a. Outside of each sleeping area in the immediate vicinity of the bedroom(s). b. On every culpable level of a dwelling unit including

c. In the bedroom where a fuel burning appliance is located within the bedroom or its attached bathroon d. Where more than one CO alarm is installed, the alarm shall be interconnected in a manner that activation of one alarm shall activate all of the alarms.

5. In existing dwelling units where an addition is made, or a fuel burning heater, appliance, or fireplace is added CO alarms shall be installed, maintained and connected in the following locations/manner: [R315.2.2] a. The dwelling shall be equipped with CO alarms located as require for new construction. b. CO alarms are permitted to be solely battery operated where no construction is taking place.

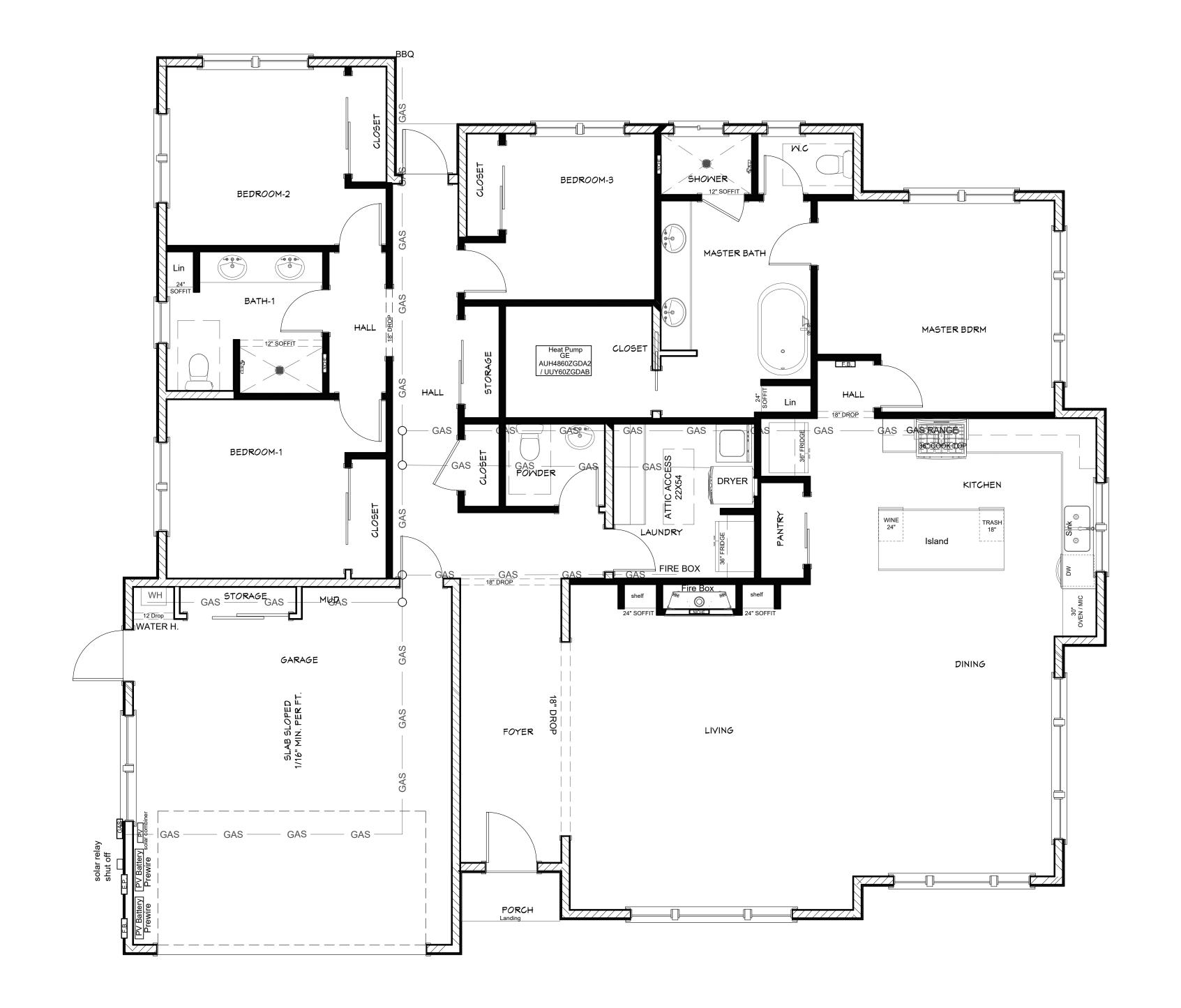
basements.

WATER HEATERS NOTES:

1. WATER HEATERS SHALL BE NATIONALLY LISTED AND BE INSTALLED IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS THAT WERE APPROVED AS PART OF THEIR LISTING." "THE GAS PIPING SERVING THIS APPLIANCE MUST BE SIZED IN COMPLIANCE WITH THE WATER HEATER'S LISTED INSTALLATION INSTRUCTIONS AND THE 2022 CALIFORNIA PLUMBING CODE."

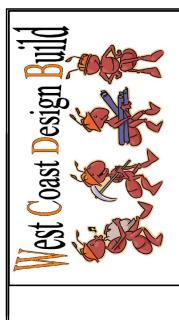
- 2. ALL NEW DOMESTIC HOT WATER PIPING SHALL BE INSULATED AS SPECIFIED IN CPC SECTION 609.11. THE FOLLOWING DOMESTIC HOT WATER SYSTEM PIPING CONDITIONS SHALL HAVE A MINIMUM INSULATION WALL THICKNESS OF 1 INCH OR A MINIMUM R-VALUE OF 7.7:
- 3. THE FIRST 5 FEET OF COLD WATER PIPES FROM THE
- 4. ALL HOT WATER PIPING WITH A NOMINAL DIAMETER EQUAL TO OR GREATER THAN 3/4 INCH AND LESS
- 5. ALL HOT WATER PIPING WITH A NOMINAL DIAMETER LESS THAN 3/4 INCH ASSOCIATED WITH RECIRCULATION SYSTEMS. FROM THE HEATING SOURCE TO KITCHEN FIXTURES, OR BURIED BELOW GRADE. NOTE ON PLANS.

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RESIDENCE GAS PIPE SIZING DEMAND

SCALE 1/4" = 1'-0"



PIPE SIZING DEMAND

New Single Family Residence

FERA FAMILY TRUST

Email:wc

DATE:
October 31, 2024

FILE
TAFFERA- MAGELLAN

TAFFERA- MAGEL

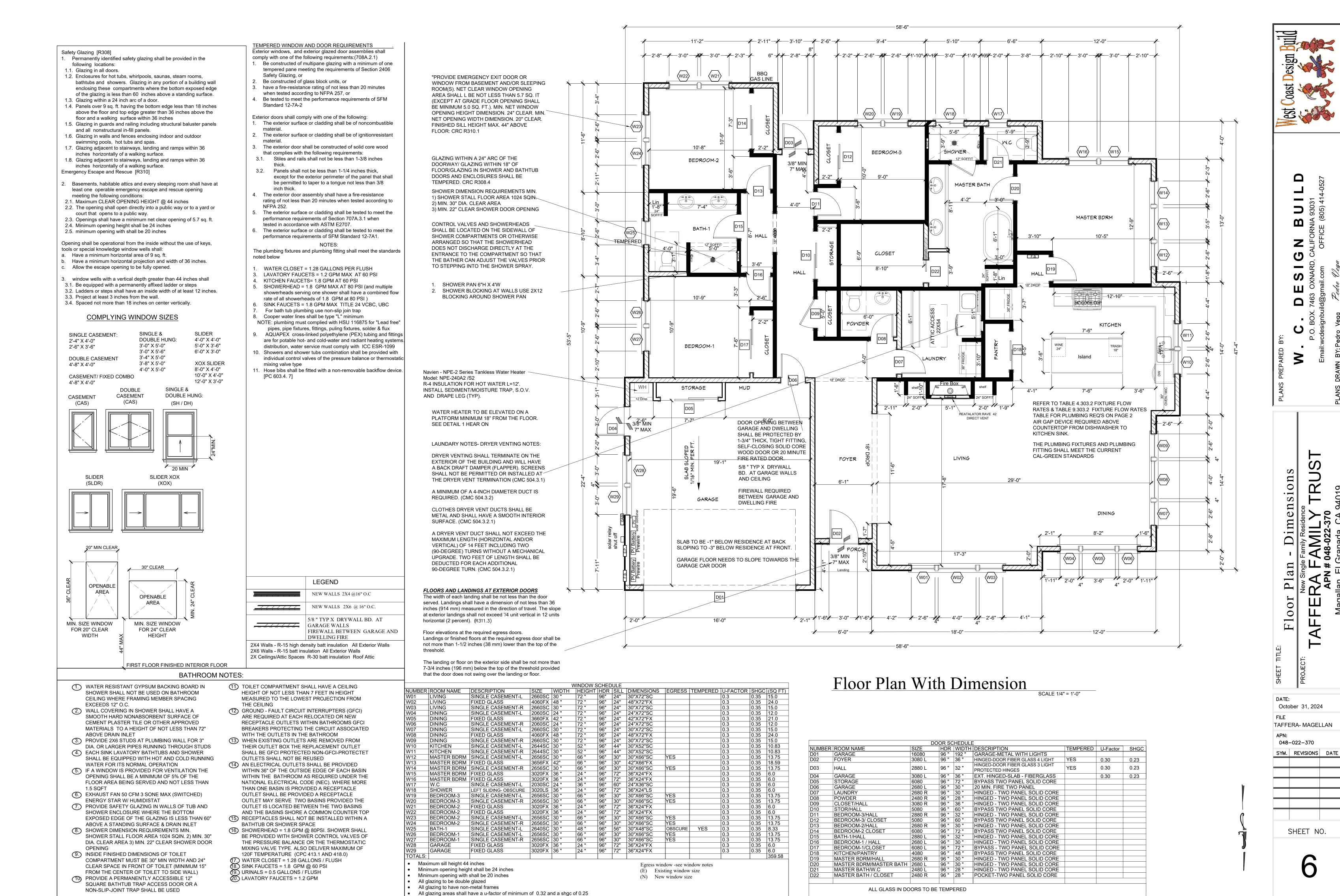
APN:
048-022-370

SYM. REVISIONS

SYM. REVISIONS DATE

SHEET NO.

5



ELECTRICAL LIGHTING NOTES PER 2022 CEC AND 2022 CGBSC:

- 1. ALL INTERIOR AND EXTERIOR LIGHTING SHALL BE HIGH EFFICACY PER TABLE 150.0-A AND JOINT APPENDIX
- 2. EXTERIOR LIGHTING SHALL BE CONTROLLED BY A PHOTOCELL AND EITHER A MOTION SENSOR OR A
- TIMESWITCH. 3. AT LEAST ONE LUMINAIRE IN BATHROOMS, LAUNDRY ROOMS, UTILITY ROOMS AND GARAGES SHALL BE
- CONTROLLED BY A VACANCY SENSOR. 4. BALLASTS SHALL BE ELECTRONIC TYPE WITH OUTPUT FREQUENCY NOT LESS THAN 20HZ
- ALL LUMINAIRES NOT REQUIRED TO HAVE A VACANCY SENSOR SHALL HAVE DIMMER CONTROLS 6. LIGHTING FIXTURES IN CLOTHES CLOSETS SHALL BE A SURFACE MOUNTED OR RECESSED FIXTURE WITH A
- COMPLETELY ENCLOSED LAMP WITH MIN. 12" CLEARANCE HORIZONTALLY AND VERTICALLY TO COMBUSTIBLE 7. ATTICS AND EQUIPMENT SPACES SHALL BE SERVED BY A LIGHT FIXTURE OR LIGHTING OUTLET CONTROLLED
- BY A WALL SWITCH. LIGHTING AND SWITCH TO BE LOCATED NEAR EQUIPMENT REQUIRING SERVICING. 8. AT LEAST ONE LIGHT FIXTURE OR LIGHTING OUTLET CONTROLLED BY A WALL SWITCH SHALL BE PROVIDED IN EACH HABITABLE ROOM AND BATHROOMS, HALLWAYS, S STAIRWAYS AND GARAGES. STAIRS WITH SIX OR MORE RISERS SHALL HAVE A LIGHT SWITCH AT EACH FLOOR LEVEL EXTERIOR ENTRANCES SHALL HAVE A
- LIGHT FIXTURE ON THE EXTERIOR SIDE CONTROLLED BY A WALL SWITCH 9. LIGHTING FIXTURES IN SHOWERS AND WITHIN THE BATHTUB AREA AND LESS THAN 8 FEET ABOVE THE RIM OF TUB SHALL BE RECESSED AND RATED FOR WET LOCATIONS.
- 10. EXHAUST FANS ARE TO BE SWITCHED SEPARATELY FROM LIGHTING. 11. HIGH EFFICACY LUMINAIRES SHALL CONTAIN ONLY HIGH EFFICACY LAMPS AND NOT MEDIUM SCREW BASE
- 12. BALLASTS FOR LAMPS 13 WATIS AND LARGER SHALL BE ELECTRONIC TYPE WITH OUTPUT FREQUENCY NOT
- LESS THAN 20HZ. 13. LUMINAIRES RECESSED INTO CEILINGS SHALL BE APPROVED IC TYPE CERTIFIED AND LABELED AIRTIGHT.
- 14. KITCHEN INTERNAL CABINET LIGHTING SHALL NOT EXCEED 20 WATTS PER LINEAR FOOT 15. ALL 125 VOLT SINGLE PHASE 15 AND 20 AMP RECEPTACLES INSTALLED IN BATHROOMS, GARAGES ACCESSORY BUILDINGS, OUTDOORS, CRAWL SPACES, UNFINISHED BASEMENTS, KITCHEN COUNTERTOP SURFACES, LAUNDRY, UTILITY AND WET BAR SINKS WHERE RECEPTACLES ARE INSTALLED WITHIN 6 FEET OF
- THE SINK EDGE SHALL HAVE GROUND-FAULT CIRCUIT-INTERRUPTER PROTECTION. [210.8] 16. ALL 125 VOLT SINGLE PHASE 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES DENS BEDROOMS, SUNROOMS RECREATION ROOMS CLOSETS AND HALLWAYS SHALL BE PROTECTED BY A LISTED ARC-FAULT TYPE CIRCUIT
- 17. RECEPTACLES SHALL BE INSTALLED SO THAT NO POINT MEASURED HORIZONTALLY ALONG THE FLOOR LINE IN ANY WALL SPACE OF 2 FEET OR MORE IN WIDTH IS MORE THAN 6 FEET FROM A RECEPTACLE KITCHEN COUNTER OUTLETS SHALL BE INSTALLED AT EACH WALL COUNER SPACE THAT IS 12 INCHES OR WIDER SO THAT NO POINT ALONG THE WALL LINE IS MORE THAN 241NCHES FROM A RECEPTACLE OUTLET. [CEC 210.52]
- 18. AT LEAST ONE GFCI PROTECTED OUTLET SHALL BE LOCATED IN BATHROOMS WITHIN 3 FEET OF THE SINK EDGE, ON BALCONIES OVER 20 SQUARE FEET, AND AT THE FRONT AND BACK OF THE DWELLING NOT MORE THAN 6.5 FEET ABOVE GRADE, WITHIN 25 FEET OF ANY HEATING AND AIR CONDITIONING EQUIPMENT, IN HALLWAYS 10 FEET OR MORE IN LENGTH, IN EACH BASEMENT AND GARAGE (ONE OUTLET MINIMUM), AT LAUNDRY EQUIPMENT (ONE MINIMUM). [210.52, 210.63, 210.8]
- 19. BATH EXHAUST FANS LOCATED WITHIN SHOWER ENCLOSURE SHALL BE RATED FOR WET LOCATIONS.
- 20. A MINIMUM OF (1) 20-AMP CIRCUIT FOR BATHROOM(S) OUTLET SUCH CIRCUIT SHALL HAVE NO OTHER OUTLETS. THIS CIRCUIT MAY SERVE MORE THAN ONE BATHROOM (210-11(C)3
- 21. "AF.C.I." PROTECTION FOR ALL 15 AND 20 AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS IN DWELLING UNIT KITCHENS, FAMILY, DINING, LIVING, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, OR SIMILANOOMS AND AREAS." (210.12)
- 22. PROVIDE A MINIMUM OF 2- 20 AMP SMALL APPLIANCE CIRCUITS FOR THE KITCHEN COUNTER TOPS. SUCH CIRCUIT SHALL HAVE NO OTHER OUTLETS LOADS SHALL BE BALANCED" (210-52(8)(2))

ELECTRICAL NOTES

- 1. ALL LIGHTS THROUGHOUT THE RESIDENCE, INCLUDING THE GARAGE AND EXTERIOR SHALL BE HIGH EFFICACY. [CENC 150.0(K)1A]
- 2. AT LEAST ONE LIGHT FIXTURE IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE CONTROLLED BY A VACANCY SENSOR. [CENC 150.0(K)2J]
- 3. OUTDOOR LIGHTS MUST BE HIGH EFFICACY AND CONTROLLED BY AN ASTRONOMICAL TIME CLOCK, OR BY AN ENERGY MANAGEMENT CONTROL SYSTEM, OR BY BOTH A MOTION SENSOR AND PHOTOCELL. [CENC 150.0(K)(3)]
- 4. ALL RECESSED LIGHTS MUST BE ON A DIMMER OR VACANCY SENSOR AND COMPLY WITH JA8-2019-E. [CENC TABLE 150.0-A #7] SCREW BASES ARE NOT ALLOWED FOR LUMINARIES RECESSED IN CEILINGS. [CENC 150.0(K)1GI] ELECTRICAL
- KITCHEN -THE LIGHTING FIXTURES THAT ARE RECESSED INTO INSULATED CEILINGS ARE REQUIRED TO BE RATED FOR INSULATION CONTACT (IC RATED) SO THAT INSULATION CAN BE PLACED OVER THEM. THE HOUSING OF THE FIXTURE SHALL BE AIRTIGHT TO PREVENT CONDITIONED AIR FROM ESCAPING INTO THE CEILING CAVITY OR ATTIC SPACE OR PREVENT UNCONDITIONED AIR FROM INFILTRATING INTO CONDITIONED
- 2. LIGHTING IN ROOMS OTHER THAN BATHROOMS, GARAGES, LAUNDRY ROOMS, & UTILITY ROOMS: PERMANENTLY INSTALLED LIGHTS IN ROOMS OTHER THAN RESTROOMS, GARAGES, LAUNDRY ROOMS, & UTILITY ROOMS SHALL BE HIGH EFFICACY LUMINAIRES. CALIFORNIA ENERGY CODE 150(K) 7
- 3. SCREW BASED SOCKETS: LUMINAIRES WITH SCREW BASED SOCKETS SHALL MEET THE FOLLOWING REQUIREMENTS:
- THE LUMINAIRE SHALL NOT BE A RECESSED DOWN-LIGHT IN A CEILING;
- THE LUMINAIRE SHALL CONTAIN LAMPS THAT COMPLY WITH REFERENCE JOINT APPENDIX JA8; AND THE INSTALLED LAMPS SHALL BE MARKED WITH "JAS-2019" OR "JAS-2019-E" AS SPECIFIED IN REFERENCE JOINT APPENDIX JA8.
- 4. DIMMERS OR VACANCY SENSORS SHALL CONTROL ALL LUMIMIIRES REQUIRED TO HAVE LIGHT SOURCES
- COMPLIANT WITH REFERENCE JOINT APPENDIX JA8. 5. ALL LIGHTING SHALL BE HIGH EFFICACY, PROVIDE LIGHTING SCHEDULE LISTING ALL LIGHTING FIXTURES.
- SCREW BASED LUMINARIES MUST CONTAIN LAMPS LISTED JA8-2019 CERTIFIED LIGHTING IN BATHROOMS, GARAGE, LAUNDRY ROOM, UTILITY ROOM SHALL BE HIGH EFFICACY AND EQUIPPED
- UNDERCABINET LIGHTING SHALL BE SWITCH SEPARATELY FROM OTHER SYSTEMS. 8. LIGHTS IN EXHAUST FANS SHALL BE HIGH EFFICACY.

ALLOW THE CONNECTION OF BACKUP POWER SOURCE.

CALIFORNIA ELECTRICAL CODE.

ELECTRIC READY NOTES: 2022 ENERGY EFFICIENCY STANDARDS 150.0

(S) ENERGY STORAGE SYSTEMS (ESS) READY. ALL SINGLE-FAMILY RESIDENCES THAT INCLUDE ONE OR TWO DWELLING UNITS SHALL MEET THE FOLLOWING. ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE:

- AT LEAST ONE OF THE FOLLOWING SHALL BE PROVIDED: ESS READY INTERCONNECTION EQUIPMENT WITH A MINIMUM BACKED-UP CAPACITY OF 60 AMPS AND A
- MINIMUM OF FOUR ESS-SUPPLIED BRANCH CIRCUITS, OR B. A DEDICATED RACEWAY FROM THE MAIN SERVICE TO A PANELBOARD (SUBPANEL) THAT SUPPLIES THE BRANCH CIRCUITS IN SECTION 150.0(S)(2). ALL BRANCH CIRCUITS ARE PERMITTED TO BE SUPPLIED BY THE MAIN SERVICE PANEL PRIOR TO THE INSTALLATION OF AN ESS. THE TRADE SIZE OF THE RACEWAY SHALL BE NOT LESS THAN ONE THE PANELBOARD THAT SUPPLIES THE BRANCH CIRCUITS (SUBPANEL) MUST BE LABELED "SUBPANEL SHALL INCLUDE ALL BACKED-UP LOAD CIRCUITS."
- 2. A MINIMUM OF FOUR BRANCH CIRCUITS SHALL BE IDENTIFIED AND HAVE THEIR SOURCE OF SUPPLY COLLOCATED AT A SINGLE PANELBOARD SUITABLE TO BE SUPPLIED BY THE ESS. AT LEAST ONE CIRCUIT SHALL SUPPLY THE REFRIGERATOR, ONE LIGHTING CIRCUIT SHALL BE LOCATED NEAR THE PRIMARY EGRESS, AND AT LEAST ONE CIRCUIT SHALL SUPPLY A SLEEPING ROOM RECEPTACLE OUTLET.
- THE MAIN PANEL BOARD SHALL HAVE A MINIMUM BUSBAR RATING OF 225 AMPS SUFFICIENT SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN PANELBOARD. RACEWAYS SHALL BE INSTALLED BETWEEN THE PANELBOARD AND THE SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH LOCATION TO

HEAT PUMP SPACE HEATER READY. SYSTEMS USING GAS OR PROPANE FURNACE TO SERVE

INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING: 1. A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE FURNACE AND ACCESSIBLE TO THE FURNACE WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V READY." ALL ELECTRICAL

SYMBOL

DESCRIPTION

THE INSTALLED LAMPS SHALL BE MARKED

RECESSED LED LIGHT FIXTURE MODEL #:

WITH "JAS-2022-E" AS SPECIFIED IN

SINGLE POLE SWITCH W/ DIMMER OR

ARC FAULT 110V DUPLEX RECEPTACLE ALI

Fire Test of Building Construction Materials

ARC FAULT 110V DUPLEX RECEPTACLE F.R. BOX FIRE RESISTANCE electrical box ANSI / UL 263:

OUTLETS AREAS NOT JUST THE RECEPTACLES

REFERENCE JOINT APPENDIX JA8.

CER6730WH (ASTM E283-04)

MANUAL MOTION SENSOR

DIMMER SWITCH

THREE WAY SWITCH

File No. CEYY.R9379

Brand: fiberglassBOX

110V DUPLEX RECEPTACLE

ALL RECEPTACLE OUTLETS IN KITCHENS, DINING ROOMS,

SERVED BY NO LESS THAN TWO, 20-AMPERE BRANCH

CIRCUITS THAT HAVE NO OTHER OUTLETS. CEC 210.52

BREAKFAST ROOM, PANTRY, OR SIMILAR ROOMS SHALL BE

SYMBOL

WP WP

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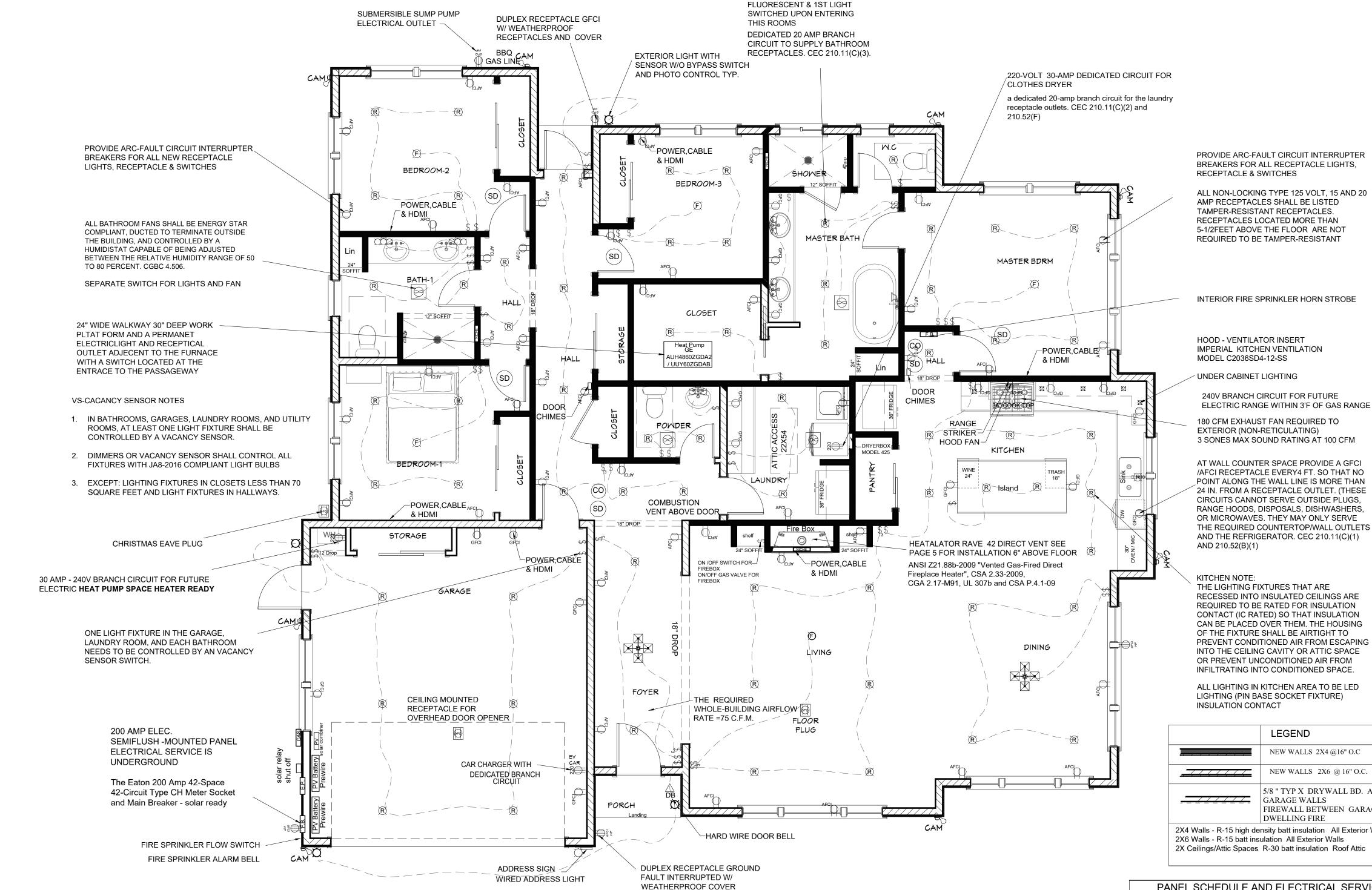
COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE. 2. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE HEAT PUMP SPACE HEATER INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."

(A) ELECTRIC COOKTOP READY. SYSTEMS USING GAS OR PROPANE COOKTOP TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING:

- 1. A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE COOKTOP AND ACCESSIBLE TO THE COOKTOP WITH NO OBSTRUCTIONS. THEBRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 50 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE.
- 2. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE ELECTRIC COOKTOP INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."

ELECTRIC CLOTHES DRYER READY. CLOTHES DRYER LOCATIONS WITH GAS OR PROPANE PLUMBING TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING:

- A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE CLOTHES DRYER LOCATION AND ACCESSIBLE TO THE CLOTHES DRYER LOCATION WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V READY." ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE
- 2. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE ELECTRIC CLOTHES DRYER INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."



GENERAL LIGHTING TO BE

SCALE 1/4" = 1'-0"

Fan Airflow Rating, cfm at minimum

Minimum Duct Diameter, in. (mm) a,b

Minimum Duct Diameter, in. (mm) a,b

l. For this scenario, use of elbows is not permitted.

static pressuref 0.25 in. water

(L/s at minimum 62.5 Pa)

Footnotes for Table 150.0-H:

diameter ratio of 1.0.

For Rigid duct

For Flex duct c

Electrical	l Floor	Plar
PV storage batteries will need	d to be covered under	a separate p

PV batteries pre wire only. Builder not providing PV batteries

DESCRIPTION
220V DUPLEX RECEPTACLE
110V DUPLEX RECEPTACLE GROUND FAULT INTERRUPTED
110V DUPLEX RECEPTACLE W/ WEATHERPROOF COVER
110V EXTERIOR LIGHT FIXTURE
EXHAUST FAN 50 CFM ENERGY STAR W/ HUMIDISTAT WITH LIGHT FIXTURE FLUORESCENT
MOKE DETECTOR INTERCONNECTED 120 VOLT HARD WIRED WITH BATTERY BACK UP
CARBON MONOXIDE INTERCONNECTED DETECTORS120 VOLT HARD WIRED WITH BATTERY BACK UP
CAT 6 FOR CAMERA ROUGH IN ONLY NO CAMARA
LED - FLOOD LIGHTS WITH MOTION SENSER
ctrical circuits serving all outlets must be Arc-Fault

(AFCI) All electrical circuits serving all outlets must be Arc-Fault Circuit Interrupter (AFCI) protected. An outlet includes receptacles, lighting fixtures, ceiling fans, switches, hard-wired smoke and carbon monoxide alarms.

LOAD CALCULATION Volt-Amps on LOAD TYPE Nameplate Rating Table 150.0-G Kitchen Range Hood Airflow Rates (cfm) Hood Over **Hood Over Natura** Electric Range Floor Area (ft2) Gas Range

in. panel capacity

PROPOSED ELECTRICAL PANEL

70% CE or 180 cfm

80% CE or 250 cfm

85% CE or 280 cfm

85% CE or 280 cfm

Shall not have screw based socket

Shall contain JA8- certified light

Shall meet all performance

requirements in 150.0(k)1C

(205)

*Recessed Downlight

≤200

(95)

(180)

(205)

Luminaires in Ceilings

50% CE or 110 cfm

50% CE or 110 cfm

55% CE or 130 cfm

65% CE or 160 cfm

Table 6-1: Summary of Compliant Luminaire Types

Lamps and Light Sources tha

LED luminaires with integra

Pin-based LED lamps (MR16,

GU-24 based LED light source

elsewhere on this table

≤150

(85)

(180)

(180)

(70)

(150)

(100)

Light sources in ceiling recessed

Screw-based LED lamps (Alamps,

must be JA8-certified

>1500

>1000 - 1500

750 - 1000

<750

≤125

(60)

(150)

(100)

High Efficacy Luminaires*

Pin-based linear fluorescent

Pulse-start metal halide High

Inseparable SSL luminaires

colored light sources for decorative lighting purpose

Table 150.0-H Prescriptive Ventilation System Duct Sizing

(50)

(125)

(150)

Use of this table for verification of flex duct systems requires flex duct to be fully extended and any flex duct elbows to have a minimum bend radius to duct

When a vented range hood utilizes a capture efficiency rating to demonstrate compliance with 150.0(o)1Giiib, a static pressure greater than or equal to 0.25

in. of water at the rating point shall not be required, and the airflow listed in the approved directory corresponding to the compliant capture efficiency rating

GU-24 other than LEDs

installed outdoors Inseparable SSL luminaires with

(40)

(125)

(125)

For this scenario, 4 in. (100 mm) oval duct shall be permitted, provided the minor axis of the oval is greater than or equal to 3 in. (75 mm)

(100)

a. For noncircular ducts, calculate the diameter as four times the cross-sectional area divided by the perimeter

o. NP = application of the prescriptive table is not permitted for this scenario.

point shall be applied to Table 150.0-H for determining compliance.

al		AMPS	PROTECTION	# OF CIRCUITS			
u.	General Lighting (2,203 S.F.)(3VA)	15	-	5	6,609		PROJECT:
	kitchen small appliance (1,500)(2MIN.)	20	DUAL DFCI	2	3,000	ET	빌
	Laundry Circuit	20	DUAL DFCI	-	1,500	SHEET	&
	Microwave	20	GFCI	1	1,400	S	∥凸
	Trash Compactor	20	GFCI	-	-		
	Dishwasher	20	GFCI	1	1,500	DATE:	
	Disposal	20	GFCI	1	1,000	Octob	er 3
	ELECTRICAL OVEN	20	GFCI	-	-		
	ELECTRICAL RANGE	20	GFCI	-	-	FILE	
	Electric Clothes Washer	20	GFCI	-	500	TAFFE	RA- M
	Electric Vehicle Supply Equipment (EVSE	50	-	-	-	APN:	
ets	WATER HEATER	20	GFI	-	-	048-	022-
						0.04	55.44
	(A) Sub-Total Volt-Amps Used				15,509	SYM.	REVIS
	(A) 15,509 (B)	5,50	9 (C)		2,204		
	-10,000 V-A	<u>X 0.</u>	40	-	+10,000		
	SUBTOTAL = 5,509 SUBTOTAL =	2,2	03.6 General lo	oad =	12,204		
	· ·	. , .	40 volts)	1,464			
) \	Heat load at (6.82	amps) (240 volts)	1,637	VA		
)							
	take the larger of the two	LARGE	ES LOAD	1,637	VA		
)							ПСС
)	General load + Larges load			13,841	1	3	HEE
<u>, </u>							
	Total Current Demand (Volt-Amps) =	(13,841)	/ (240)	58 AM	IPS		

LEGEND

NEW WALLS 2X4 @16" O.C

NEW WALLS 2X6 @ 16" O.C.

5/8 " TYP X DRYWALL BD. AT GARAGE WALLS FIREWALL BETWEEN GARAGE AND **DWELLING FIRE** 2X4 Walls - R-15 high density batt insulation All Exterior Walls 2X6 Walls - R-15 batt insulation All Exterior Walls 2X Ceilings/Attic Spaces R-30 batt insulation Roof Attic

PANEL SCHEDULE AND ELECTRICAL SERVICE LOAD

VALUE

31, 2024 MAGELLAN

future Photovoltaic System (Roof Solar Panels) 40 AMPS

Square D by Schneider Electric Homeline 100-Amp 20-Space

40-Circuit Outdoor Surface Mount Ring Type Model #

108 AMPS

200 AMPS

MAXIMUM BUILDING HEIGHT



ELEVATION NOTES:

- SMOOTH HARDIE BOARD/ BATTEN. (ESR-2290) VERTICAL BATTEN ARE 2-1/2" W X 3/4" D , 16" ON CENTER HARDIEWRAP WEATHER BARRIER (ESR-2658)
- 2 EAVES SMOOTH HARDIE VENTED SOFFIT 16" W
- 3 HARDIE SMOOTH TRIM 3-1/2"W X 5/4"D
- 4 ENTRY WAY OVER HANG HARDIE V GROOVE 8" SMOOTH
- FINISH GRADE SHALL SLOPE AWAY FROM BUILDING 6" MIN. VERTICALLY FOR THE FIRST 10 HORIZONTAL FEET
- 6 EXTERIOR SCONCE LIGHTS MODERN FORMS STYLE TWO IF BY SEA BLACK LED DARK SKY COMPLIANT 18"HX6"W
- 7 DUPLEX RECEPTACLE GROUND FAULT INTERRUPTED W/ WEATHERPROOF COVER
- 8 CertainTeed Limited Lifetime Landmark AR Cobblestone Gray Laminate Asphalt Roofing Shingles
- Two-piece laminated fiber glass-based construction UL Class A fire resistance
- UL certified to meet ASTM D3462 UL certified to meet ASTM 3018 Type I Conforms to CSA standard A123.5

MINIMUM 1-LAYER OF STORM GUARD UNDERLAYMENT ICC ESR-1677 approval for Self-Adhered underlayments used as Ice Barriers

- 9 O'HAGIN VENT SECTIONS ICC-ES 9650-A. 24"X32 GALVENIZED WALL VENT, 72 SQ IN NET FREE VENTILATION WITH BUG SCREEN. COMPLIANCE W/ C.B.C., CCR TITLE-14, CH7A COMPLIANCE POLICY #09-03, MODEL # VSC2120.
- 10 2X8 FASCIA BOARD COLOR- PURE WHITE SW-7005
- CONTINUOUS 28 GAUGE GALVANIZED METAL FLASHING WITH 2-1/2" DRIP EDGE AT PERIMETER OF ROOF WITH 4" WIDE GUTTERS PAINT (COLOR- PURE WHITE SW-7005) CONNECTED TO DOWNSPOUTS THAT DRAIN OVER 12"X18" MINIMUM CONCRETE SPLASH PAD.
- 12 FLOORS AND LANDINGS AT EXTERIOR DOORS
 The width of cook landing to the second landing The width of each landing shall be not less than the door served. Landings shall have a dimension of not less than 36 inches (914
- mm) measured in the direction of travel. The slope at exterior landings shall not exceed '/4 unit vertical in 12 units horizontal (2 percent). (R311.3)
- Floor elevations at the required egress doors. Landings or finished floors at the required egress door shall be not more than 1-1/2 inches (38 mm) lower than the top of the threshold.
- The landing or floor on the exterior side shall be not more than 7-3/4 inches (196 mm) below the top of the threshold provided that the door does not swing over the landing or floor.

- SEE WINDOW SCHEDULE IN SHEET 5
 Egress window -see window notes
- Maximum sill height 44 inches
- Minimum opening height shall be 24 inches
- Minimum opening with shall be 20 inches All glazing to be double glazed
- All glazing to have non-metal frames All glazing areas shall have a u-factor of minimum of 0.32
- and a shgc of 0.25
- Address sigh KICHLER TEXTURE BLACK LED 4 WATTS New residential buildings shall have internally illuminated address numbers contrasting with the background so as to be seen from the public way fronting the building. The letters/numerals for permanent address signs shall be 4 inches in height with a minimum 112-inch stroke. Residential address numbers shall be at least six feet above the finished surface of the driveway. Where buildings are located remotely to the public roadway, additional signage at the driveway/roadway entrance leading to the building and/or on each individual building shall be required by the Coastside Fire District. This remote signage shall consist of a 6 inch by 18 inch green reflective metal sign with 3 inch reflective Numbers/ Letters similar to Hy-Ko 911 or equivalent. (TEMPORARY ADDRESS NUMBERS SHALL BE POSTED PRIOR TO COMBUSTIBLES BEING PLACED ON SITE).
- EXTERIOR TRIM COLOR-PURE WHITE SW-7005
- EXTERIOR COMMUNITY COLOR- OYSTER BAY 6206
- ENTRY DOOR- THERMATRU FIBERGLAS 2/3 RD LIGHT COLOR SW 7075 WEB GRAY
- EXTERIOR BRACKETS PROWOOD MARKET #02T12 3-1/2" W X 14" D X24" H
- GARAGE DOOR- CLOPAY COACHMAN COLLECTION SERIES 1, DESIGN 11, REC 13 (GLASS) COLOR

STANDERD WHITE WITH BLACK HANDLES

COLOR - SW7005 PURE WHITE

- WINDOWS MILGARD TUSCANY WHITE VINYL CASEMENT WITH FOUR LIGHTS
- GARAGE SIDE ENTRY DOOR FIBER GLASS SLAB COLOR- SW7005 PURE WHITE

- REAR ENTRY DOOR THERMATRU FIBERGLAS 2/3 RD LIGHT GRIDS COLOR SW7060 ATTITUDE GRAY
- DRIVEWAY / PATH WAY PAVERS CALSTONE NARROW JOINT PERMEABLE QUARRY STONE COLOR SEQUOIA SAND STONE
- RETAINING WALLS LIGHT SAND FINISH PLASTER COLOR SW6206 OYSTER BAY
- 27 STACK STONE EL DORADO COURSE CUT STONE CANNONADE
- 8-1/4" HARDIE PLANK SMOOTH

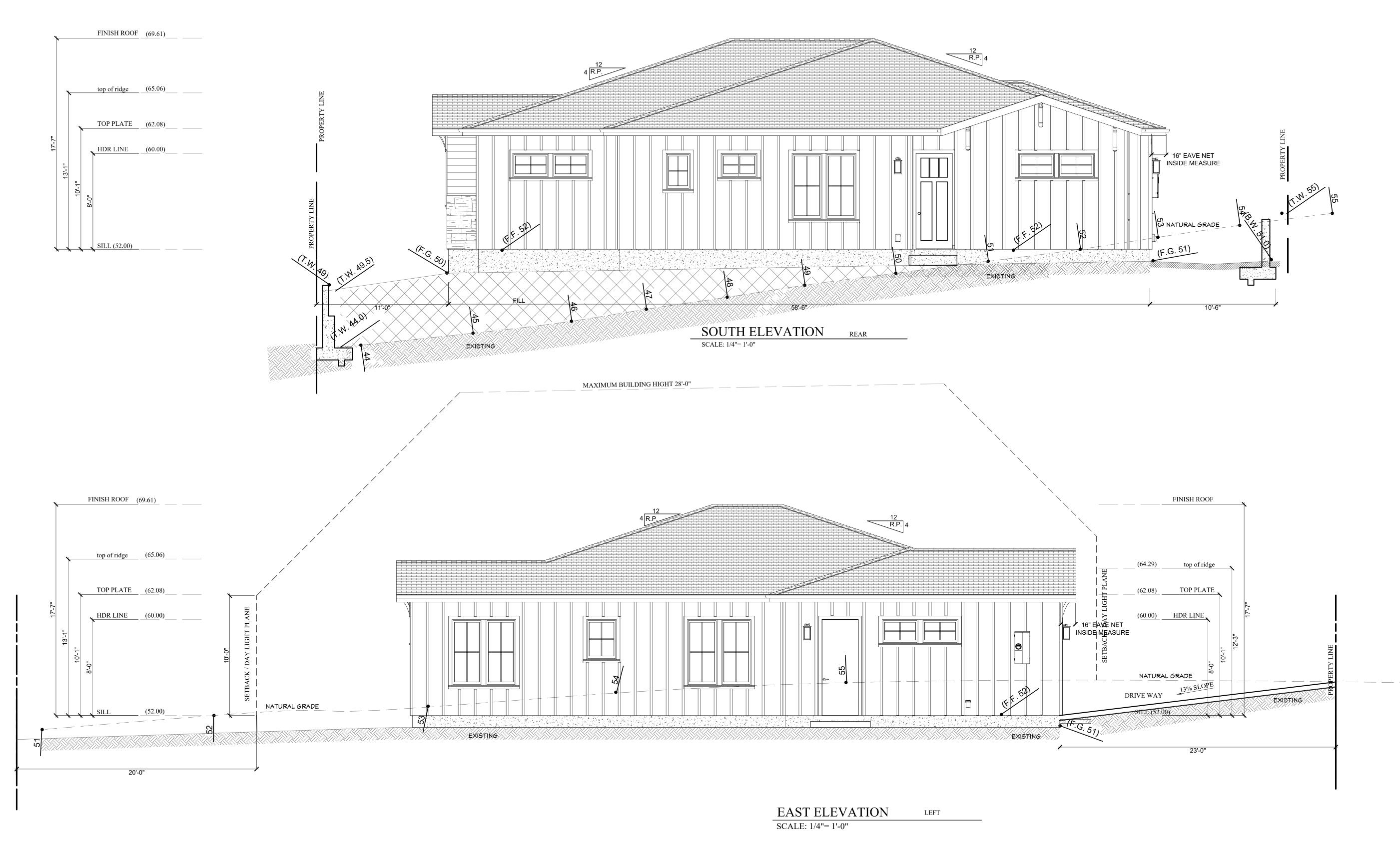
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West Coast Design Build

LIFORNIA 93031 DFFICE (805) 414-0527

BOX. 7463 OXNARD, CALIFORNIA signbuild@gmail.com OFFICE (8

P.O. BOX. 7463
Email:wcdesignbuild@gi

A T I O N
Family Residence
AMILY TRUST
048-022-370

E L E V

SOJECT:

New Single F

TAFFERA FA

DATE:
October 31, 2024

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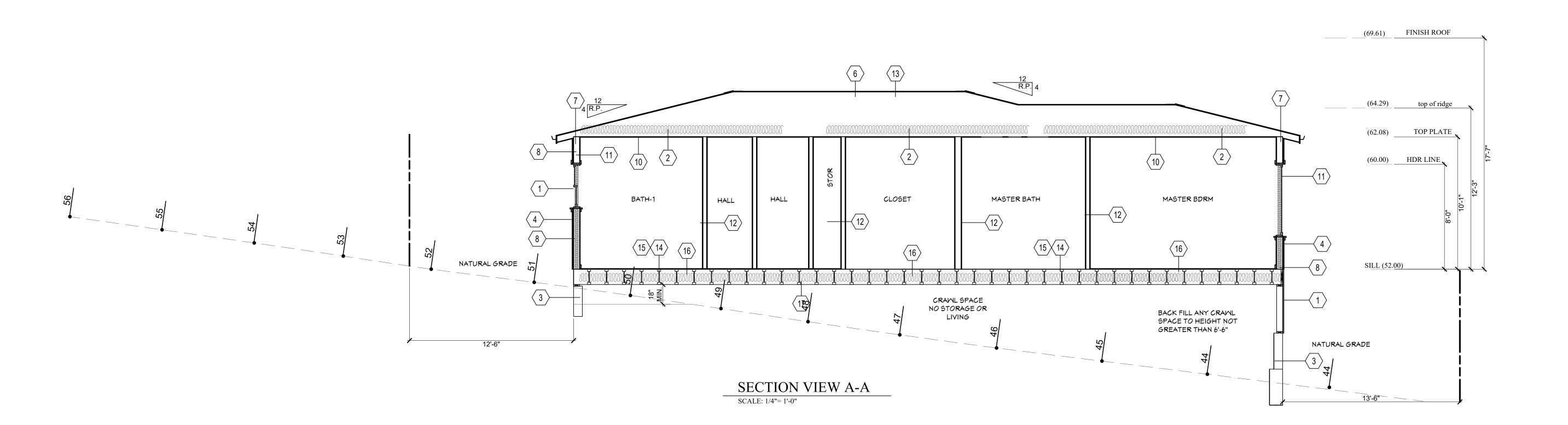
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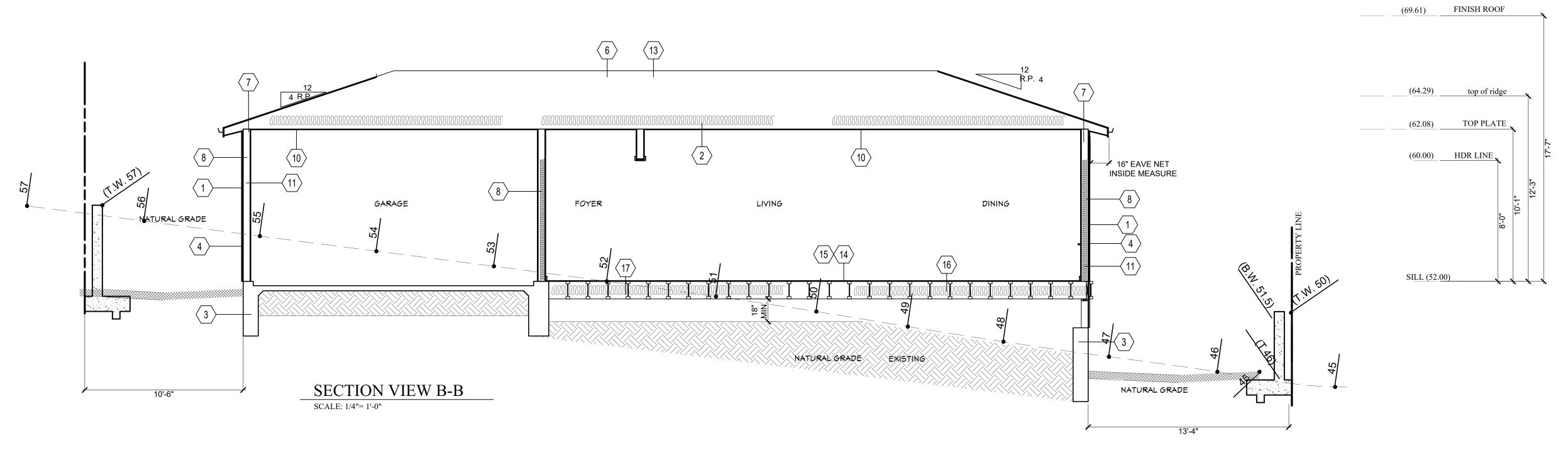
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048-022-370

SYM. REVISIONS DATE

SHEET NO.

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FOUNDATION SILLS SHALL BE NATURALLY DURABLE OR PRESEVATIVE TREATED DWOOD . FIELD -CUTS ENDS, NOTCHES ANDD DRILLED HOLES OF PRESERVATIVE WOODDD SHALL BE FIELDD-TREATED PER SECTION NOTES: AWPA M4 (R317.1.1(3))

2X Ceilings/Attic Spaces R-38 batt insulation Roof Attic

HARDIE SIDING PER PLAN (ESR-2290) W/ HARDIEWRAP WEATHER BARRIER (ESR-2658)

- 2 R-38 INSULATION TYP. @ ALL CEILINGS/ATTIC SPACES
- (3) FOUNDATION (SEE STRUCTURAL PLAN)
- WALL SHEATHING SEE STRUCTURAL PLANS
- $\overline{5}$ BEAM PER PLAN
- 6 TRUSS PER PLAN
- 7 VENTED 2X DF BLOCKS AT 16" ON CENTER WITH THREE 1.5" DIAMETER

- 2X6 @ 16" O.C. FRAME D.F. #2
- FIREWALL REQUIRED BETWEEN GARAGE AND DWELLING FIRE 5/8" TYP X GYPSUM BORD AT GARAGE WALLS AND CEILING (R302.6)
- 5/8" DRYWALL AT CELING ONLY
- R-21 High Density EcoTouch INSULATION TYP. @ ALL EXTERIOR WALLS WITH 2X6 WALL FRAME D.F. #2 @
- 2X4 @ 16" O.C. FRAME D.F. #2 @ 16" O.C.
- CertainTeed Limited Lifetime Landmark AR Cobblestone Gray Laminate Asphalt Roofing Shingles

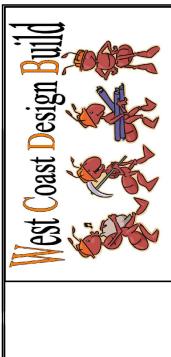
2X6 Walls - R-21 batt insulation All Exterior Walls
2X FLOOR /Attic Spaces R-30 batt insulation CRAWLSPACE

TAFFERA- MAGELLAN 048-022-370 SYM. REVISIONS DATE

14 FLOOR JOIST PER PLAN 3/4" T&G OSB STRUCTURAL FLOOR SHEATHING = 40/20 WITH 10d COMMON NAILS AT 6"/12", U.N.O.

16 R-30 INSULATION FLOOR JOIST BELOW GARAGE

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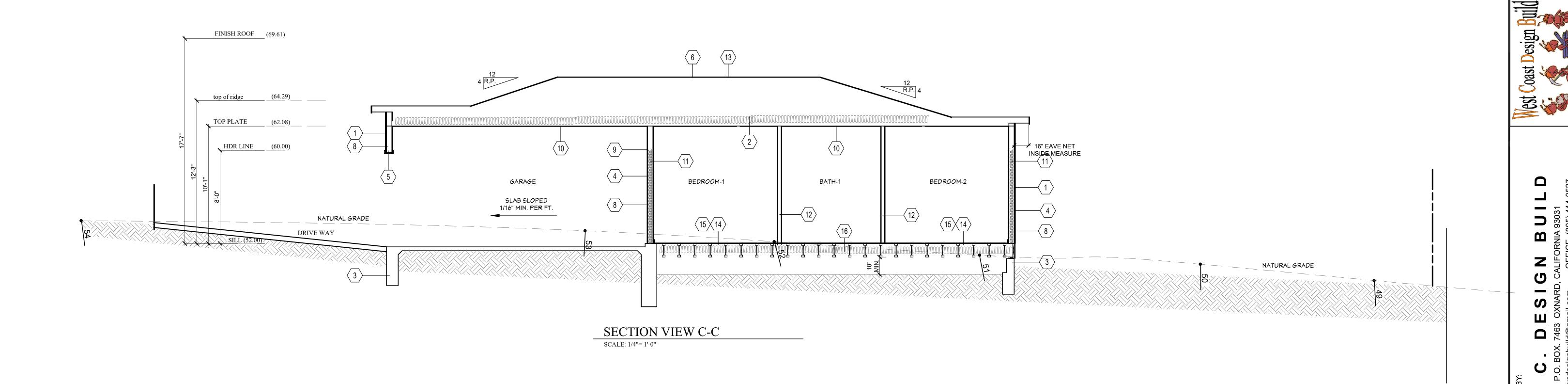
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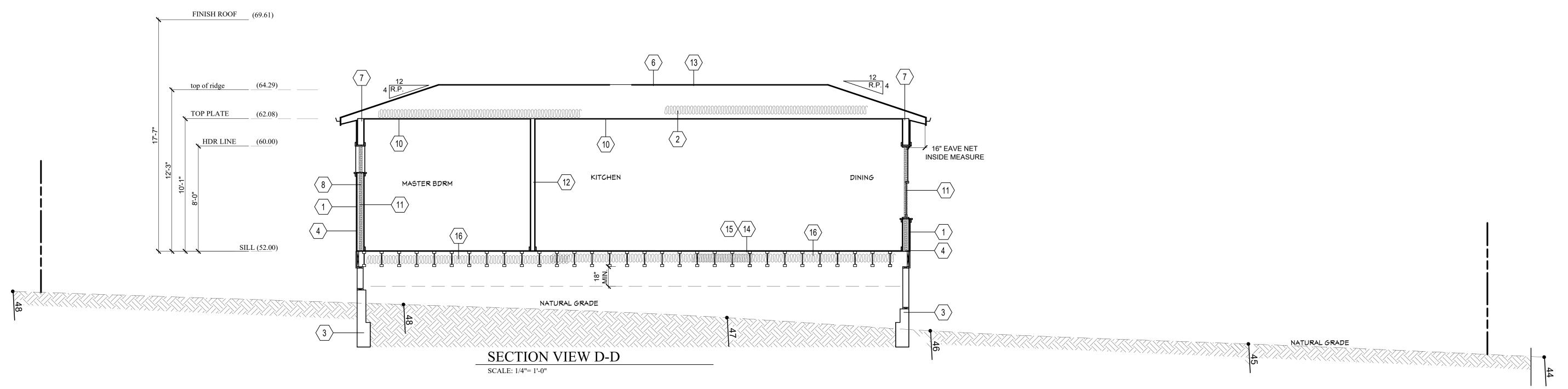
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2X6 Walls - R-21 batt insulation All Exterior Walls
2X FLOOR /Attic Spaces R-30 batt insulation CRAWLSPACE

2X Ceilings/Attic Spaces R-38 batt insulation Roof Attic

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October 31, 2024

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HARDIE SIDING PER PLAN (ESR-2290) W/ HARDIEWRAP WEATHER BARRIER (ESR-2658)

R-38 INSULATION TYP. @ ALL CEILINGS/ATTIC SPACES

(3) FOUNDATION (SEE STRUCTURAL PLAN) WALL SHEATHING - SEE STRUCTURAL PLANS

BEAM PER PLAN

TRUSS PER PLAN

7 VENTED 2X DF BLOCKS AT 16" ON CENTER WITH THREE 1.5" DIAMETER

⟨ 8 ⟩ 2X6 @ 16" O.C. FRAME D.F. #2

FIREWALL REQUIRED BETWEEN GARAGE AND DWELLING FIRE 5/8" TYP X GYPSUM BORD AT GARAGE WALLS AND CEILING (R302.6)

5/8" DRYWALL AT CELING ONLY

R-21 High Density EcoTouch INSULATION TYP. @ ALL EXTERIOR WALLS WITH 2X6 WALL FRAME D.F. #2 @ 16" O.C. 12 2X4 @ 16" O.C. FRAME D.F. #2 @ 16" O.C.

CertainTeed Limited Lifetime Landmark AR Cobblestone Gray Laminate Asphalt Roofing Shingles

TOTAL SQUARE FEET OF CRAWLSPACE SPACE TO BE VENTILATED

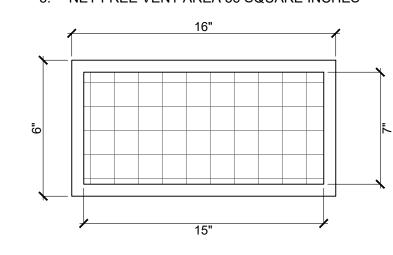
Total Square Feet Of Attic Space To Be Ventilated: 2,219'
Required Method: 1/300
Calculation: 2,219 ÷ 300 = 7.39 sq. ft. of Code Required Ventilation

CONVERT SQUARE FEET OF CODE-REQUIRED VENTILATION TO SQUARE INCHES

Square Feet Of Code Required Ventilation: 7.39
Calculation: 7.39 x 144 = 1065.12 sq. in of Code Required Ventilation
Square Inches Provided: 1,120
Square Inches Needed: 1,065.12

PROPOSED
FLOOR VENT- 20 (0.39 SQFT) = 7.8 SQFT
PROPOSED 7.8 SQFT \(\sum_{\sum} 7.39 \) SQFT REQUIRED OK

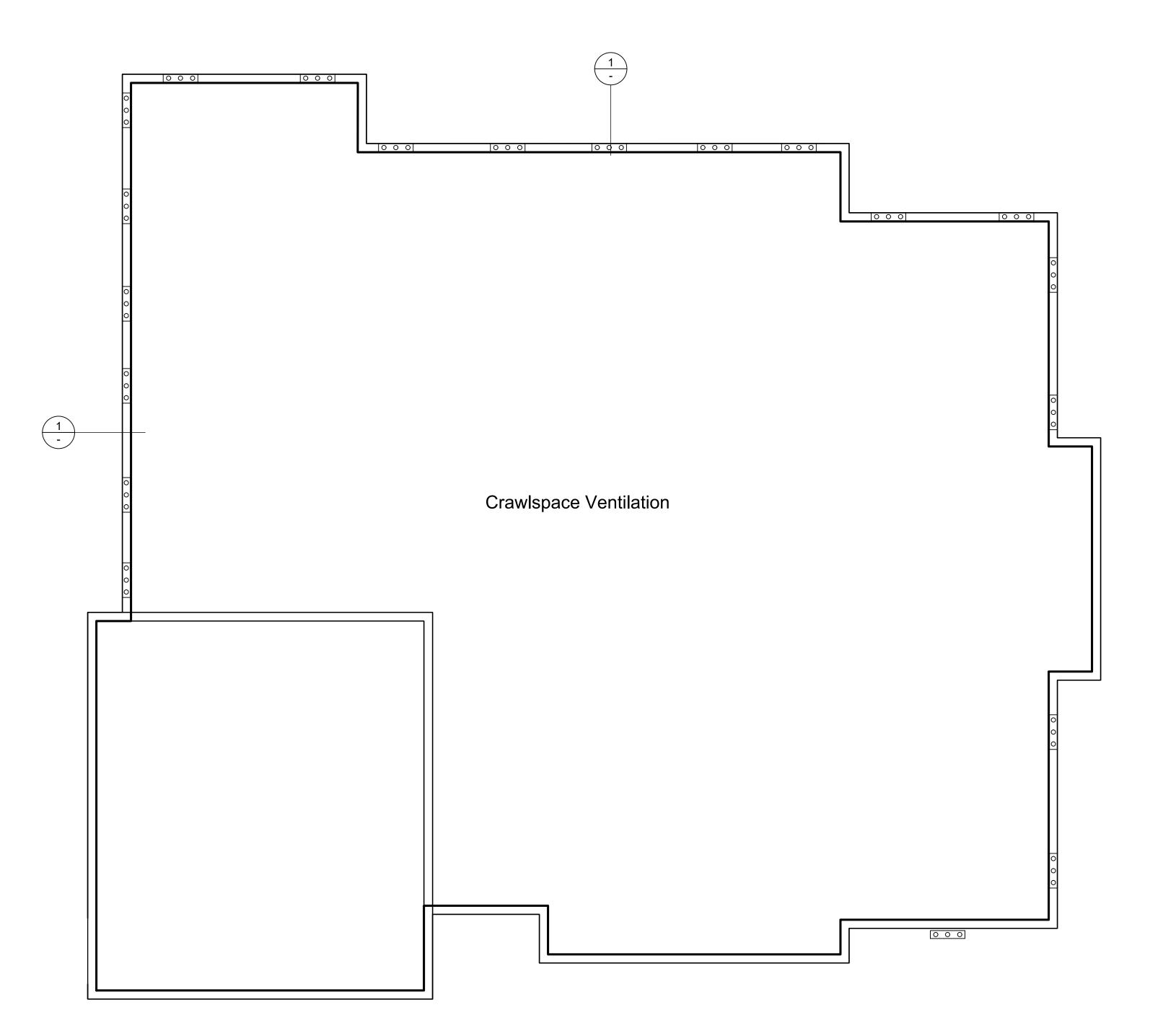
GALVANIZED STEEL FRAME
 1/8 INCH GALVANIZED WIRE MESH 23-GAUGE
 NET FREE VENT AREA 56 SQUARE INCHES



Galvanized Steel Soffit Vent

Air Vent 16 in. x 8 in. Rectangular White Screen Included Aluminum Soffit Vent

BRAND: GIBRALTAR BUILDING PRODUCTS MODEL: EV16824WH



Crawlspace Ventilation Plan

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

West Coast Design Build

SIGN BUILD

XNARD, CALIFORNIA 93031

OFFICE (805) 414-0527

V C D E S P.O. BOX. 7463 OXI nail:wcdesignbuild@gmail.

P.O. BC Email:wcdesign

ERA FAMILY TRUST
APN # 048-022-370

PROJECT:

New Single

TAFFERA F

APN # 0

DATE:
October 31, 2024

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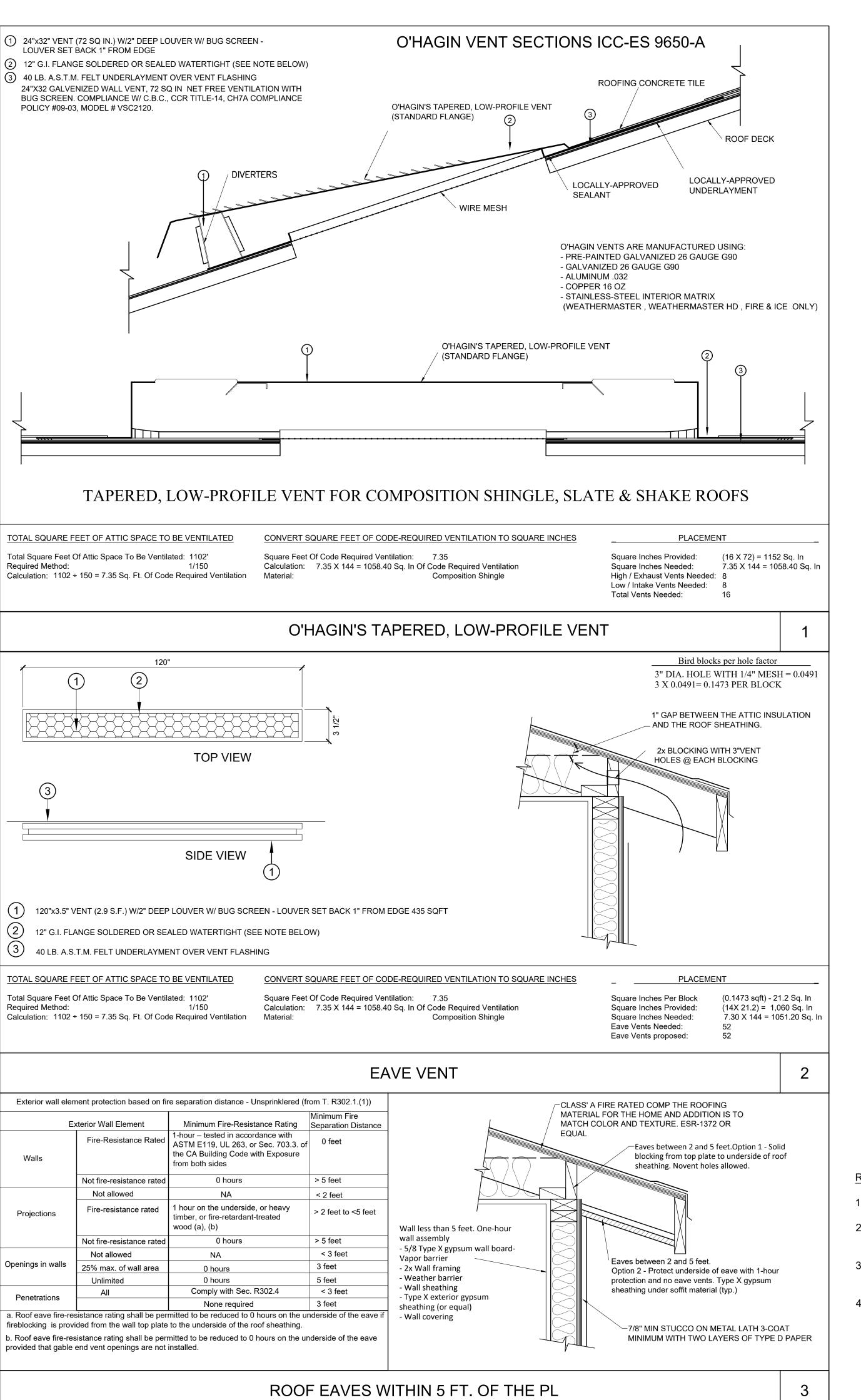
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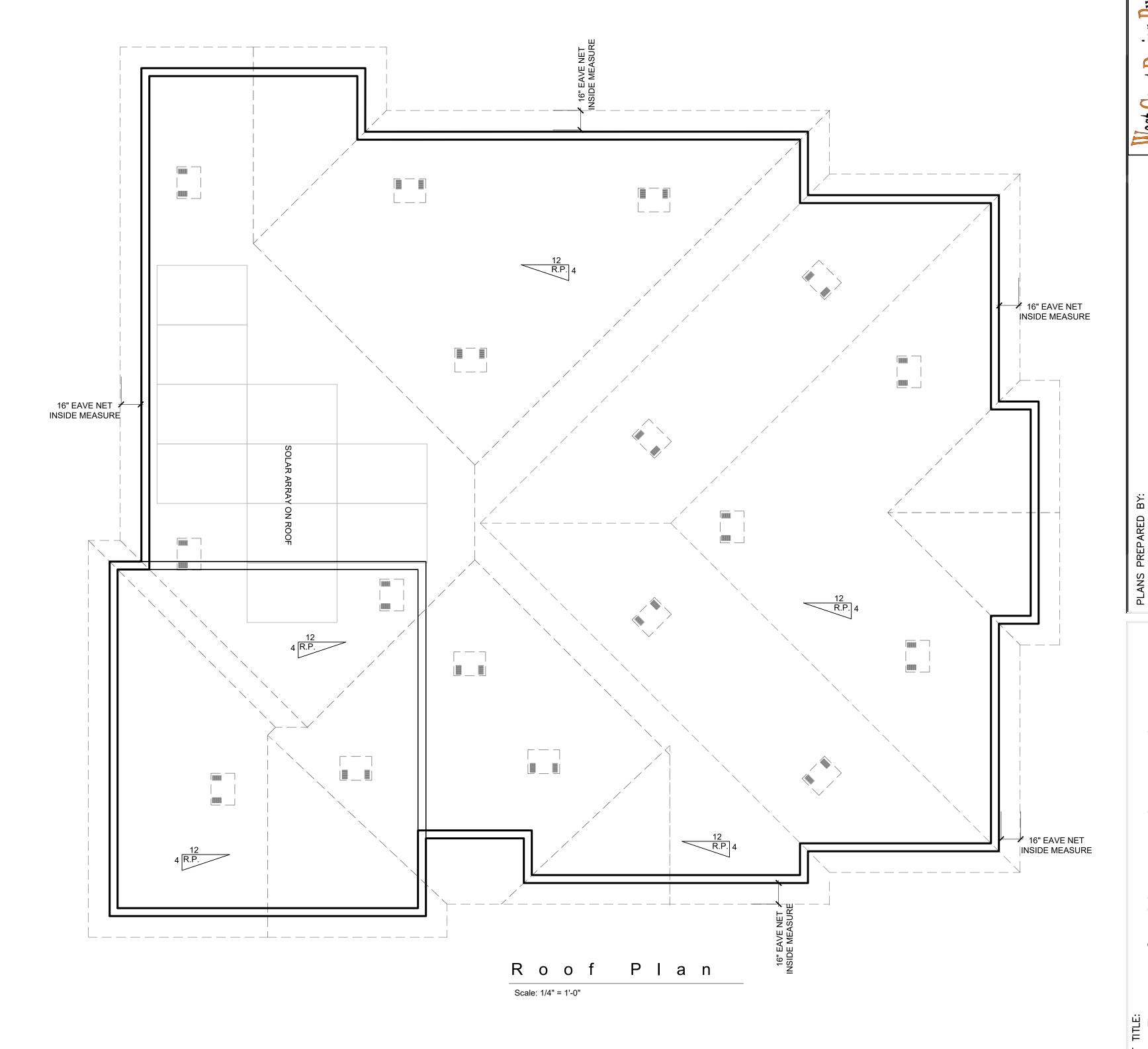
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ROOF ATTIC NOTES

- 1. 50% OF ROOF MINIMUM VENTILATION MUST COME FROM THE EAVE VENT
- 2. "ATTIC VENTILATION OPENINGS SHALL BE COVERED WITH CORROSION-RESISTANT METAL MESH WITH 1/16" MINIMUM TO 1/8" MAXIMUM OPENINGS. SECTION R806.1
- MINIMUM 1" CLEARANCE SHALL BE PROVIDED BETWEEN THE ATTIC INSULATION AND THE ROOF 15HEATHING WHERE EAVE OR CORNICE VENTS ARE INSTALLED R806.3 CRC]
- 4. PROVIDE ATTIC CROSS-VENTLATION THE NET FREE VENTILATION AREA SHALL BE NOT LESS THAN 1/150 OF THE AREA OF THE SPACE TO BE VENTILATED (CRC SECTION R806.2)
- 4.1. EXCEPTION: THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/300 OF THE VENTED SPACE PROVIDED NOT LESS THAN 40 PERCENT AND NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE.

CertainTeed Limited Lifetime Landmark AR Cobblestone Gray Laminate Asphalt Roofing Shingles

- Two-piece laminated fiber glass-based construction
- UL Class A fire resistance
- UL certified to meet ASTM D3462
- UL certified to meet ASTM 3018 Type I Conforms to CSA standard A123.5

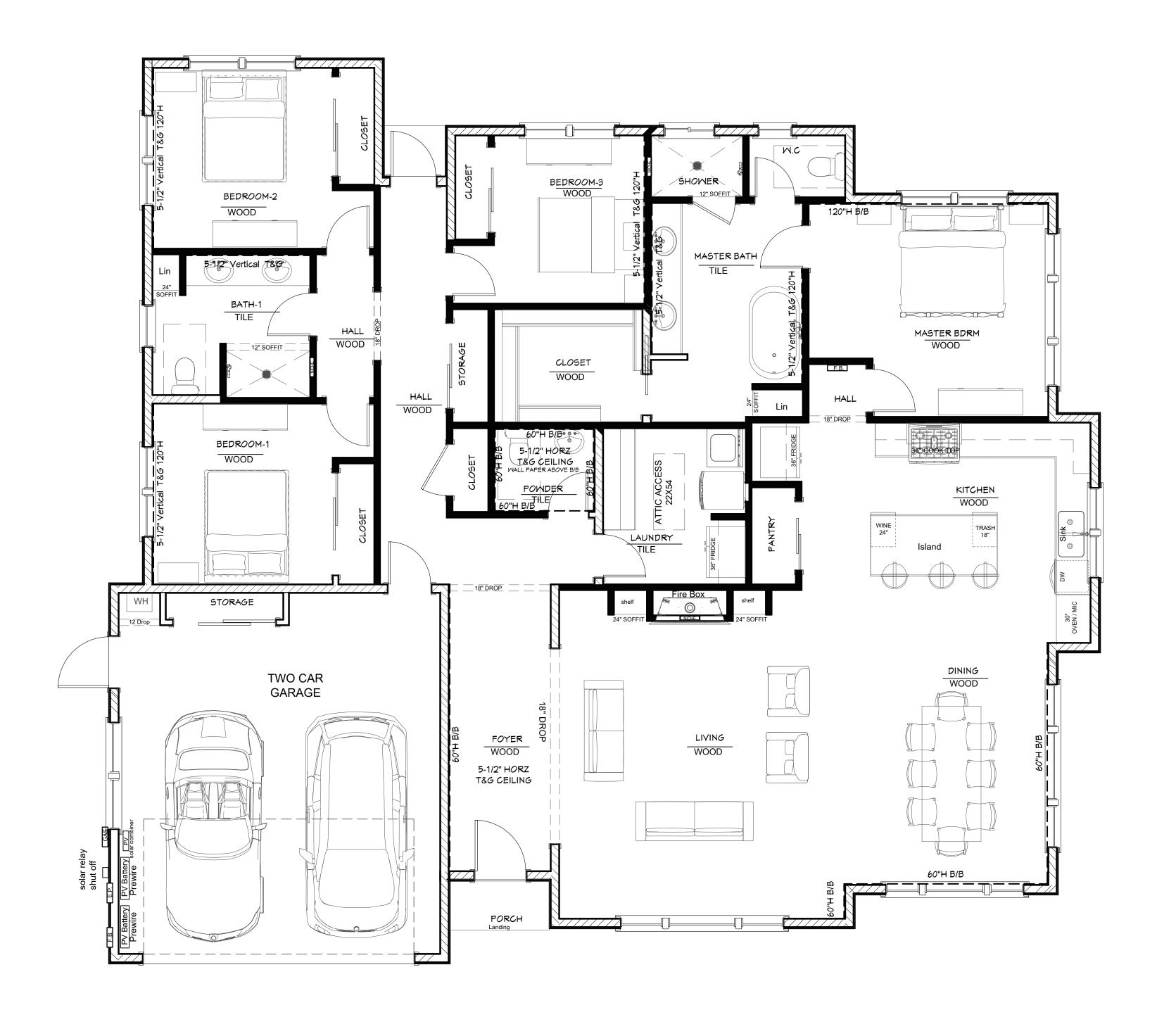
MINIMUM 1-LAYER OF ICE AND WATER SHIELD ROLL ROOFING UNDERLAYMENTICC ESR-1677 approval for

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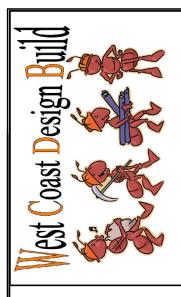
4X8X5/8" ROOF SHEATHING - COUNT 98 ROOF SHINGLES CertainTeed Corp. - Max Def Cobblestone Gray - 3091 SQFT RIDGE CAP: DEFAULT RIDGE CAP 234 LINEL FT

October 31, 2024 FILE TAFFERA- MAGELLAN 048-022-370 SYM. REVISIONS DATE



Floor Plan

SCALE 1/4" = 1'-0"



DESIGN BUIL.. 7463 OXNARD, CALIFORNIA 93031

.. ild@gmail.com OFFICE (805) 414-052

C. C. D

Jew Single Family Residence

RA FAMILY TRUST

APN # 048-022-370

Jan Fl Granada CA 94019

DATE:
October 31, 2024

FILE TAFFERA- MAGELLAN APN: 048-022-370

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SHEET NO.

11

I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE PRESCRIPTIVE COMPLIANCE OPTION TO THE MWELO

incorporate compost at a rate of at least four cubic yards per 1,000 square feet to a depth of six-inches into landscape area (unless contra-indicated by a soil

A minimum three inch (3") layer of mulch shall be applied on. all exposed soil surfaces of Planting areas except in turf areas, creeping or rooting groundcovers or direct seeding applications where mulch is contraindicated.

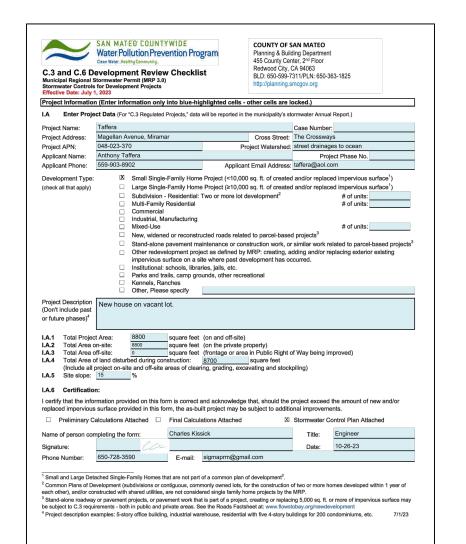
- (5). irrigation systems shall comply with the following:
- (A) Automatic irrigation controllers are required and must use evapotranspiration or soil moisture sensor data and utilize a rain sensor.
- (B) Irrigation controllers shall be of a type which does not lose programming data in the event the primary power source is interrupted.
- (C) Pressure regulators shalt be installed on the irrigation system to ensure the dynamic pressure of the system is within the manufacturers recommended pressure range.
- (D) Manual shut.off.valves (such as a gate valve, ball valve, or butterfly valve) shall be installed as close as possible to the point of connection of the water supply.
- (E) All irrigation emission devices must meet the requirements set in the ANSI standard, ASABE/ICC 802-2014. "landscape Irrigation Sprinkler and Emitter Standard," All sprinkler heads installed in the landscape must document a distribution uniformity low quarter of 0.65 or higher using the protocol defined in ASABE/ICC 802-2014.
- (F) Areas less than ten (100 feet in width in any direction shall be irrigated with subsurface irrigation or other means that produces no runoff or overspray.
- (6) For non residential projects with landscape areas of 1,000 sq. ft. or more, a private submeter(s) to measure landscape water use shall be installed.
- (c) At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule and a schedule of landscape and irrigation maintenance

IRRIGATION NOTES

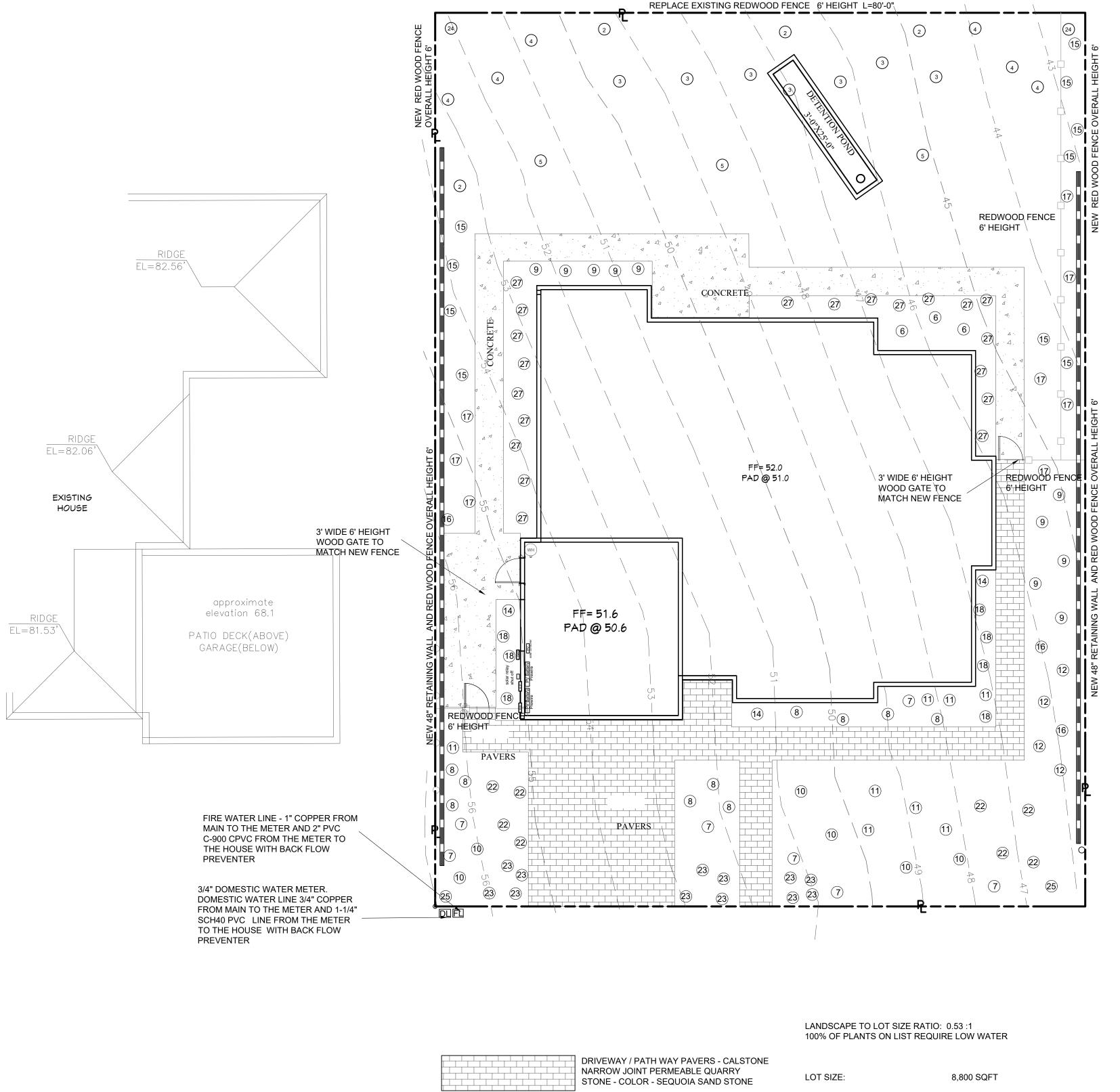
- Automatic weather-based or soil-moisture based irrigation controllers shall be installed on the irrigation system.
- Pressure regulators shall be installed on the irrigation system to ensure dynamic pressure of the system is within the manufacturer's recommended pressure
- Manual-shut-off valves shall be installed as close as possible to the point of connection of the water supply.
- 4. Manual-shut-off valves shall be installed as close as possible to the point of connection of the water supply.
- 5. For non-residential projects with landscape areas of 1,000 sq.ft. or more, private sub-meter(s) to measure landscape water use shall be installed.
- At the time of final inspection, the permit applicant must provide the owner of the property with a certificate of completion, certificate of installation, irrigation schedule of landscape and irrigation
- Unless contradicted by a soils test, compost at a rate of a minimum of four cubic yards per 1,000 sq. ft. of permeable area shall be incorporated to a depth of six inches into the soil.

PLANT KEY / MATERIAL KEY	WUCOLS WATER USAGE
1	
2 Sunshine Chinese privet	Low 10-30% ET0
(3) HESPERALOE BRAKELIGHTS	Low 10-30% ET0
4 LOMANDRA PLATINUM BEAUTY	Low 10-30% ET0
(5) COTONEASTER STREBS FINDLING	Low 10-30% ET0
6 CORDYLINE RED SENSATION	Low 10-30% ET0
7 YARROW MOONSHINE	Low 10-30% ET0
8 KNIPHOFIA PAPAYA POPSICLE	Low 10-30% ET0
9 DIANELLA CLARITY BLUE	Moderate 40-60% ET0
① SANTOLINA INCAURA	Low 10-30% ET0
(1) SEA LAVENDER	Low 10-30% ET0
(12) AEOHIUM KIWI	Moderate 40-60% ET0
13	
14) JADE	Low 10-30% ET0
(15) GREVILLEA COASTA GEMA	Low 10-30% ET0
(16) EUPHORBIA FIRE STICKS	Very Low < 10% ET0
17) PLATINUM BEAUTY LOMANDRA	Low 10-30% ET0
(18) EUPHORBIA SILVER SWAN	Low 10-30% ET0
(19)	
20 —	
(21) ————	
22 LAVENDER MEERLO	Low 10-30% ET0
23 ALOE BLUE ELF	Low 10-30% ET0
24 LEUCADENDRON SAFARI SUNSET	Low 10-30% ET0
②5 CISTUS LITTLE MISS SUNSHINE	Low 10-30% ET0
<u>26</u>	
	1 10 200/ ETC

(27) WESTRINGIA GRAY BOX



Low 10-30% ET0



BUILDING FOOT PRINT (S)

LANDSCAPING (NON TURF)

TOTAL IRRIGATED LANDSCAPE

PERMEABLE (PAVERS)

LANDSCAPING - (TURF).

CONCRETE: STANDARD GRAY

IMPERMEABLE SURFACES(CONCRETE) 669 SQFT

TOTAL NON IRRIGATED LANDSCAPED 2,899 SQFT

2,638 SQFT

849 SQFT

4,754 SQFT

0 SQFT

8,800 SQFT

1,855 SQFT

30.0%

7.6%

9.6%

0.0%

52.8%

Z

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October 31, 2024 FILE TAFFERA- MAGELLAN

048-022-370

SYM. REVISIONS DATE

SHEET NO.

1/8"=1'-0"

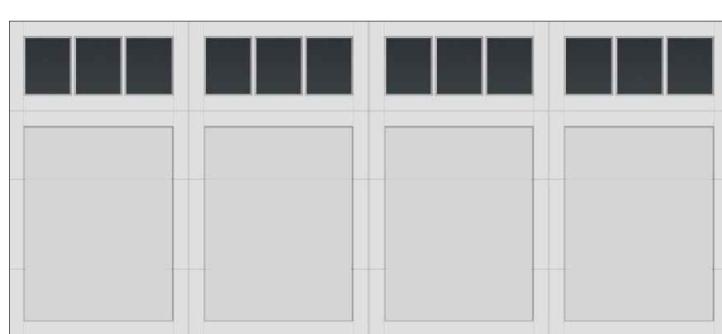
SCALE

SCALE: 1/8" = 1'-0"





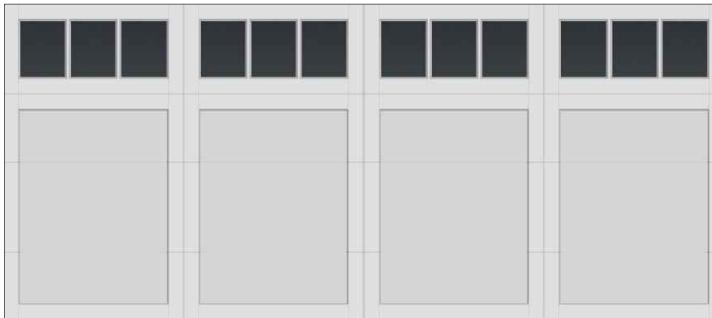
Roof Shingles Brand: Owens Corning Color: Cobblestone Gray



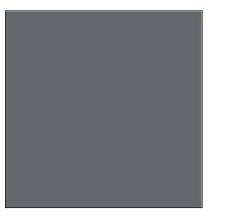
Garage Doors
Brand: Clopay Coachman Collection
series 1, design 11, rec 13 (glass)
Color: standerd white with black handles



LED Adress Light Brand: Kichler Finish: Textured Black style: 43800BKTLED



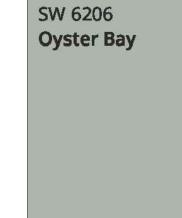
Brand : TIMBERBUILD model: Wood Bracket 02T12 MPN:02T12-1624 PRODUCT LINE:Brackets - 02 PROJECTION:16 in HEIGHT:24 in
THICKNESS:3 1/2 in
BRACE THICKNESS:2 1/2 in
BRACE SETTING:Recessed 1/2 in BODY TIMBER:3 1/2 in x 3 1/2 in



Sherwin-Williams

Pure White SW 7005

Exterior Doors Brand: Sherwin Williams Color: WEB GRAY SW7075



Main Body Color: Exterior trim color:

Exterior brackets color:

Brand: Sherwin Williams Color: Pure White SW 7005

Exterior - COMMUNITY COLOR Brand: Sherwin Williams Color: OYSTER BAY -SW6206



Exterior Sconce Lights Brand: Modern Forms Color: Black Style: Two if by sea Dark Sky - LED 18"H X 6" W



BRAND: JAMES HARDI 8.25" hardiplank





Brand: El Dorado Style: Cannonade Cut Coarse Stone





NORTH ELEVATION FRONT
SCALE: 1/4"= 1'-0"

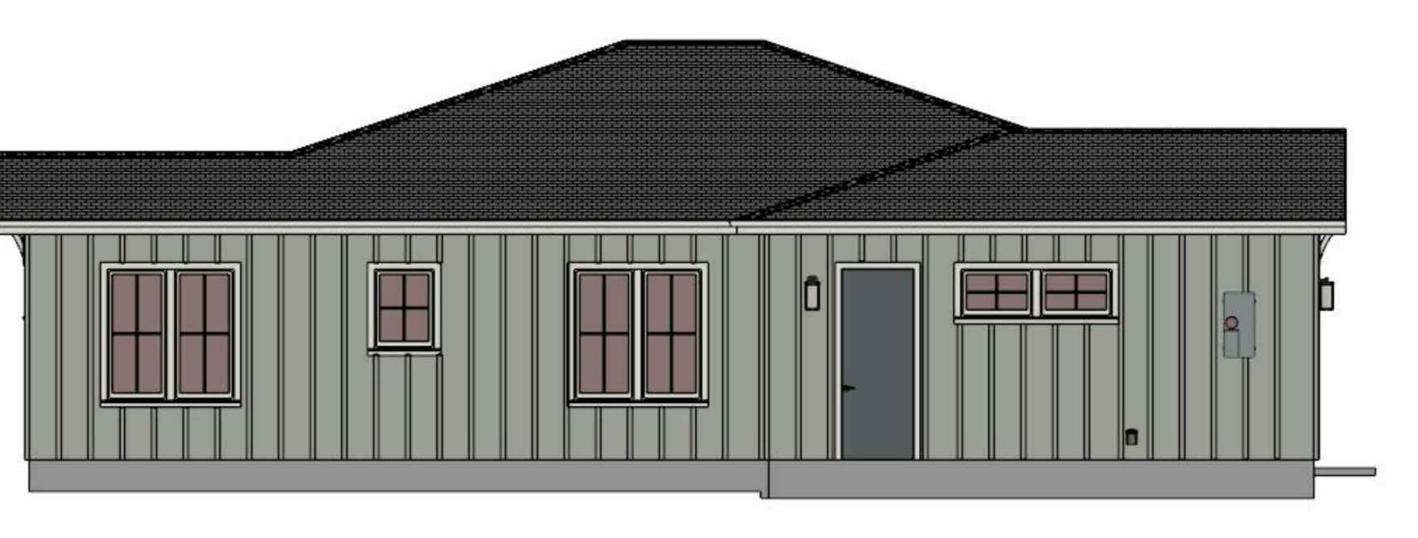


WEST ELEVATION SCALE: 1/4"= 1'-0"



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

REAR



LEFT

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

E L E V A T I O

New Single Family Residence

TAFFERA FAMILY

APN # 048-022-370

Magallan, El Granada, CA 94

DATE: October 31, 2024 FILE TAFFERA- MAGELLAN APN: 048-022-370

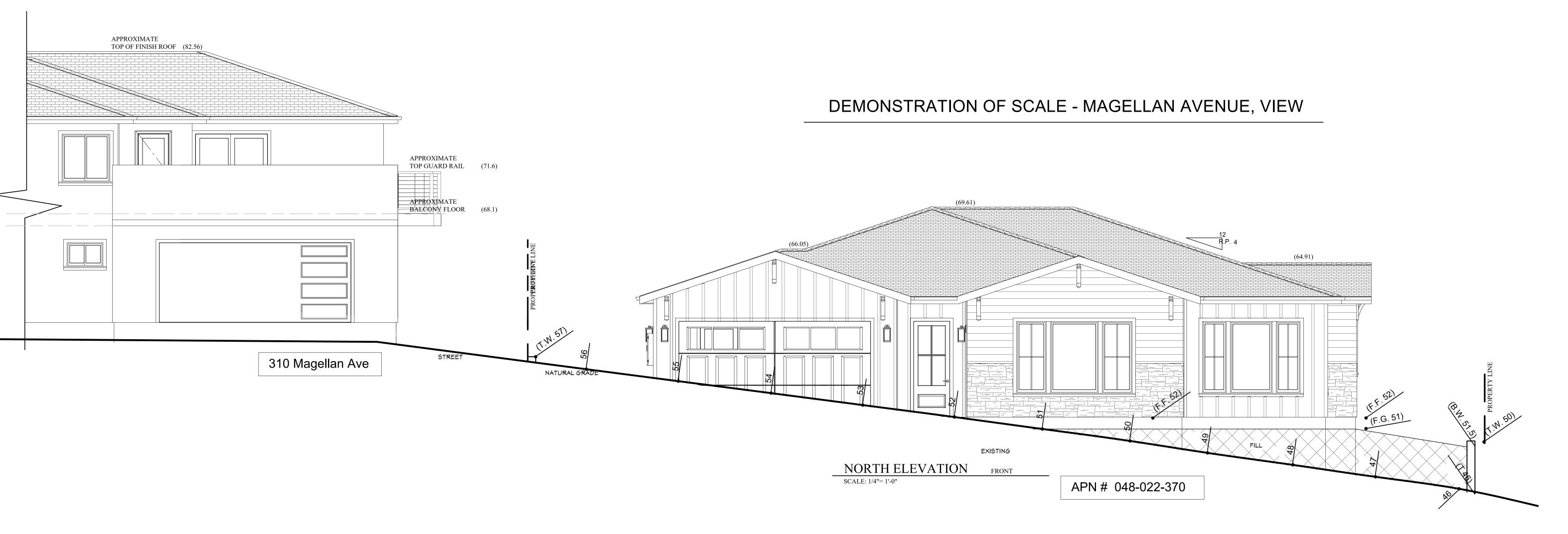
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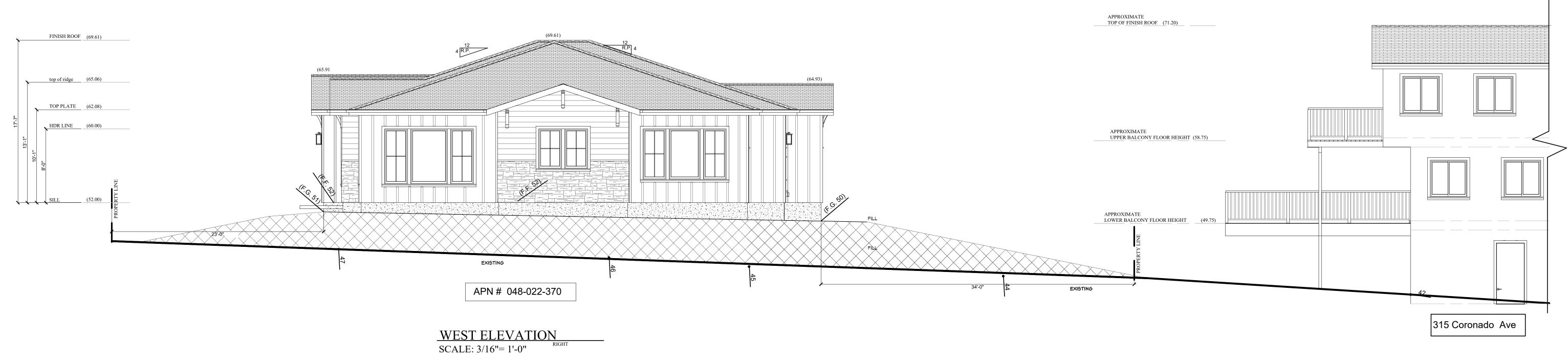
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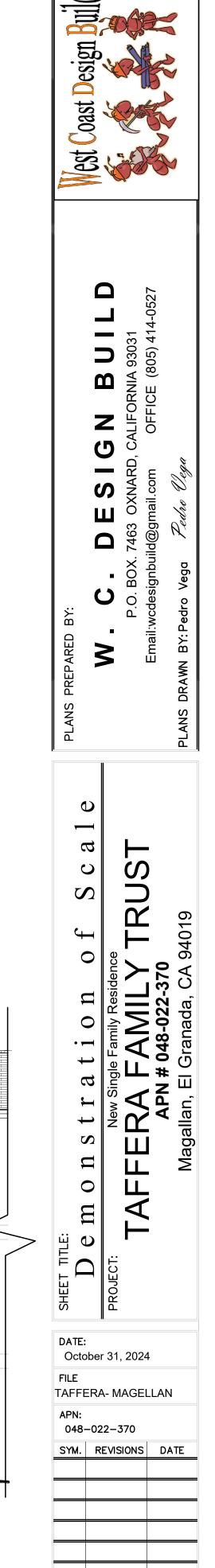
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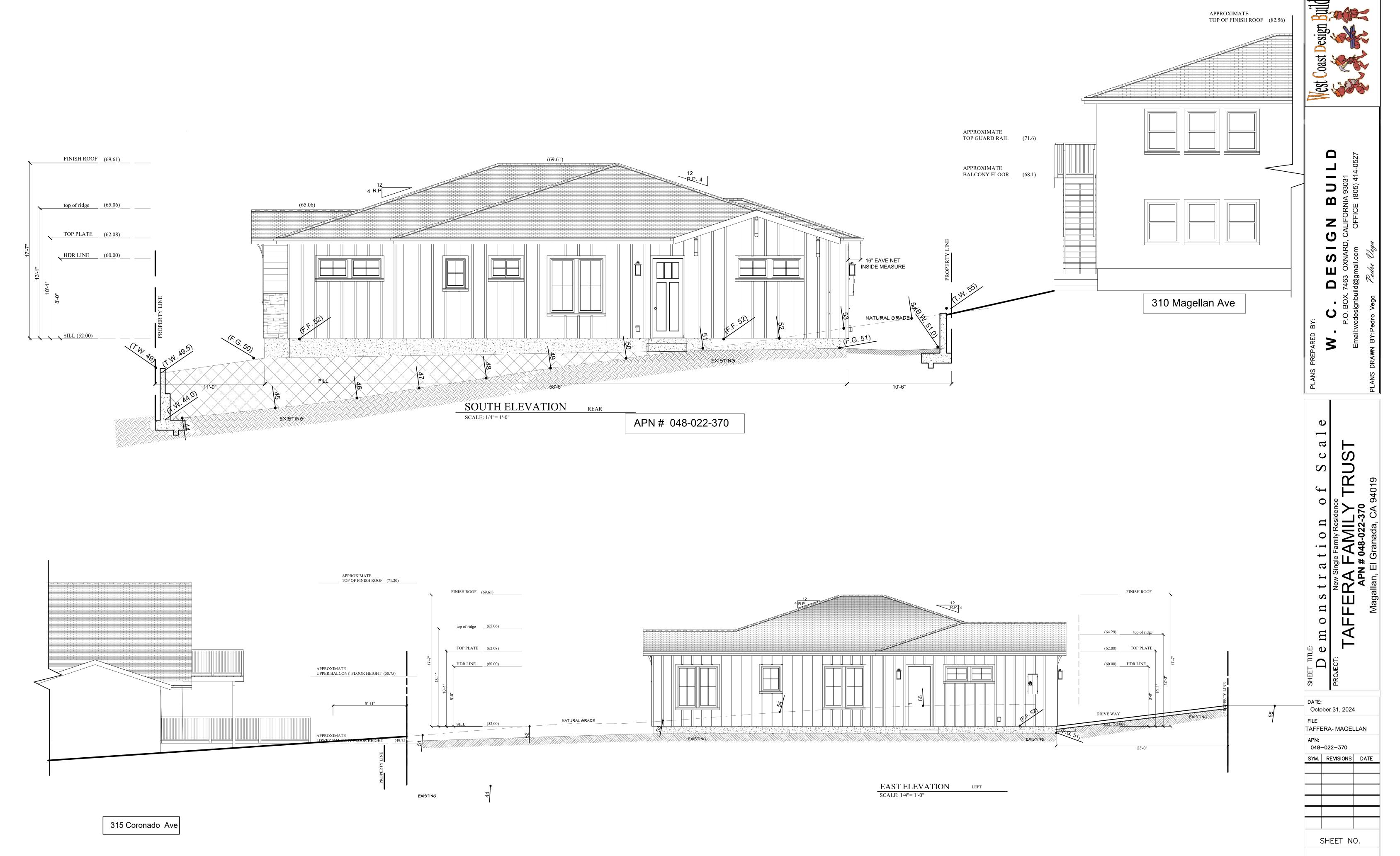
SYM. REVISIONS DATE



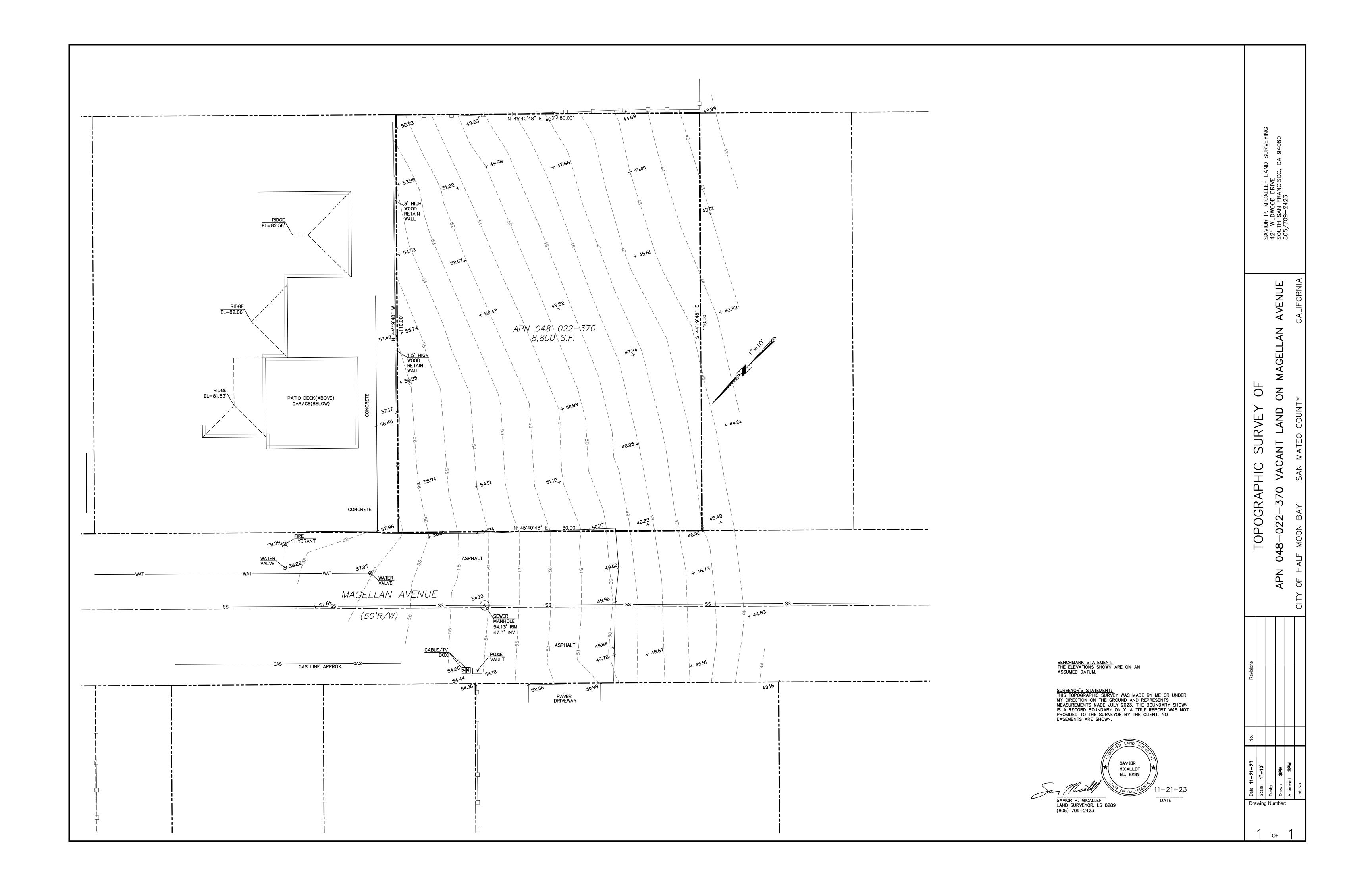




CS-3



CS-4



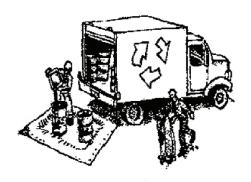


Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

Clean Water. Healthy Community.

Materials & Waste Management



Non-Hazardous Materials

- ☐ Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within
- ☐ Use (but don't overuse) reclaimed water for dust control.

Hazardous Materials

- ☐ Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- ☐ Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- ☐ Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- Arrange for appropriate disposal of all hazardous wastes.

- Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- ☐ Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the
- Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

Equipment Management & Spill Control



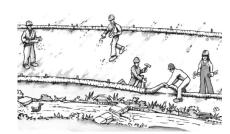
Maintenance and Parking

- Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- ☐ Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- ☐ If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- ☐ If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- ☐ Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

Spill Prevention and Control

- Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- Clean up spills or leaks immediately and dispose of cleanup materials properly.
- Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- X Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

Earthmoving



- Schedule grading and excavation work during dry weather.
- ▼ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- X Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- ☐ Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

Contaminated Soils

- ☑ If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
- Unusual soil conditions, discoloration, or odor.
- Abandoned underground tanks.
- Abandoned wells
- Buried barrels, debris, or trash

Paving/Asphalt Work



- ☐ Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- ☐ Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- ☐ Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- ☐ Do not use water to wash down fresh asphalt concrete pavement.

Sawcutting & Asphalt/Concrete Removal

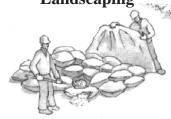
- ☐ Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- ☐ Shovel, abosorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner!).
- ☐ If sawcut slurry enters a catch basin, clean it up immediately.

Concrete, Grout & Mortar **Application**



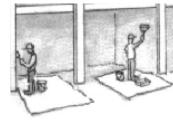
- ☐ Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- ☐ Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- ☐ When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

Landscaping



- ☐ Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- ☐ Stack bagged material on pallets and under cover.
- ☐ Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

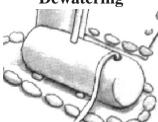
Painting & Paint Removal



Painting Cleanup and Removal

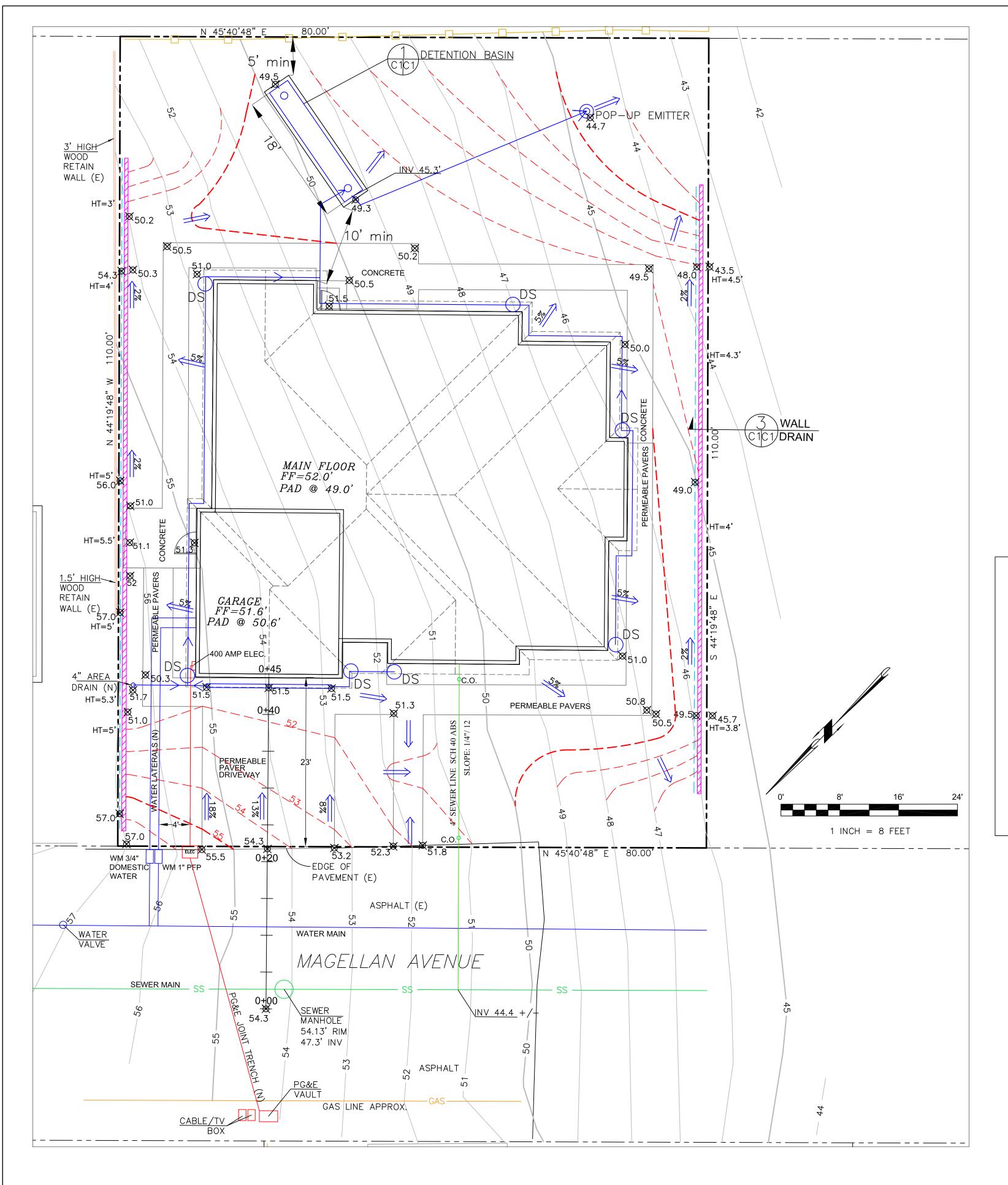
- ☐ Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- ☐ For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- ☐ For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- ☐ Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- ☐ Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury, or tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a statecertified contractor.

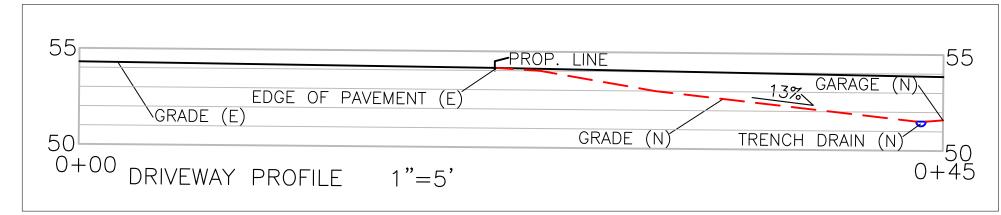
Dewatering



- ☐ Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- ☐ Divert run-on water from offsite away from all disturbed areas.
- ☐ When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- ☐ In areas of known or suspected contamination, call your local agency to determine whether the ground water must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

Storm drain polluters may be liable for fines of up to \$10,000 per day!





EXISTING CONTOURS PROPOSED CONTOURS PROPOSED SPOT ELEVATION DIRECTION OF SURFACE DRAINAGE DS DOWNSPOUT 4" SOLID DRAIN PIPE 4" MIN PERFORATED DRAIN PIPE

GENERAL NOTES

PLANS PREPARED AT THE REQUEST OF:
 ANTHONY TAFFERA, OWNER
 TOPOGRAPHY BY S. MICALLEF, SURVEYED JULY, 2023.

3. THIS IS NOT A BOUNDARY SURVEY.

4. ELEVATION DATUM ASSUMED.

5. THE GEOTECHNICAL REPORT

GEOTECHNICAL STUDY: BY SIGMA PRIME GEOSCIENCES, DATED 8-25-23, SHALL BE RETAINED ON THE CONSTRUCTION SITE. THE GEOTECHNICAL ENGINEER OF RECORD IS SIGMA PRIME GEOSCIENCES, WITH THE CONTACT NUMBER (650)-728-3590. THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER OF RECORD AT LEAST 48 HOURS BEFORE CONSTRUCTION OF GEOTECHNICAL RELATED WORK. THE GEOTECHNICAL PART OF CONSTRUCTION WORK, INCLUDING BUT NOT LIMITED TO, ALL THE EARTHWORK AND FOUNDATIONCONSTRUCTIONS, MUST SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER OF RECORD. 6. STORMWATER MANAGEMENT CONSTRUCTION INSPECTIONS SHALL BE SCHEDULED FOR APPLICABLE DRAINAGE INSPECTIONS, WHICH INCLUDE SITE CLEARANCE AND EROSION CONTROL MEASURES INSTALLATION AS WELL AS INSPECTION OF MAJOR DRAINAGE CONTAINMENT, TREATMENT, AND CONVEYANCE DEVICES BEFORE BEING BURIED (INCLUDING REQUIRED MATERIAL LABELS, E.G. PIPES, SUB-GRADE MATERIALS, ETC.). PLEASE FOLLOW THE INSPECTION CARD INSTRUCTIONS AND CALL SIGMA PRIME (650-728-3590) TO SCHEDULE DRAINAGE INSPECTIONS ACCORDINGLY. THERE SHALL BE THREE INSPECTIONS: ONE FOR EROSION CONTROL INSTALLATION, ONE BEFORE DRAINAGE FACILITIES ARE BURIED, AND ONE FOR FINAL WALK AROUND.

DRAINAGE NOTES 1. DRAINAGE INTENT: IT IS THE CONVEY ROOF RUNOFF TO A SA EXCESSIVE MOISTURE AROUND THAT STORMWATER WILL NOTE

1. DRAINAGE INTENT: IT IS THE INTENT OF THE DRAINAGE SYSTEM TO CONVEY ROOF RUNOFF TO A SAFE LOCATION, AND TO MINIMIZE EXCESSIVE MOISTURE AROUND FOUNDATIONS. DIRECT SLOPES SUCH THAT STORMWATER WILL NOT BE DIVERTED ONTO ADJACENT PROPERTIES.

2. ALL DOWNSPOUT DRAIN LINES SHALL LEAD TO DETENTION BASIN, AS

3. ALL ROOF DRAINAGE PIPES SHALL BE 4" DIAMETER MINIMUM SOLID PIPE, SLOPED AT 1% MINIMUM.

4. IT IS THE PROPERTY OWNER'S RESPONSIBILITY TO CHECK ON ALL STORMWATER FACILITIES SUCH AS ROOF GUTTERS, DOWNSPOUT LINES, AND THE DETENTION BASIN/ENERGY DISSIPATER TO BE SURE THAT THEY ARE CLEAR OF EXCESSIVE DEBRIS AND OPERATING EFFICIENTLY. THE FACILITIES SHALL BE CHECKED EVERY FALL AND PERIODICALLY DURING THE RAINY SEASON.

GRADING NOTES

CUT VOLUME: 490 CY FILL VOLUME: 415 CY TOTAL CUT/FILL: 905 CY

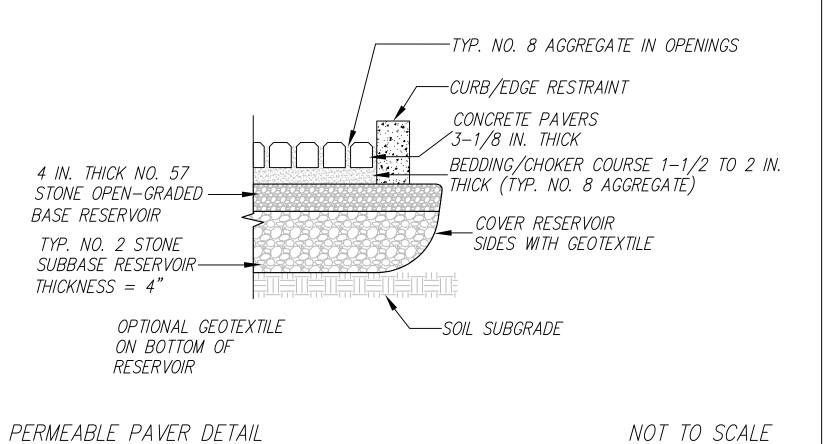
OTAL CUT/FILL: 905 CY

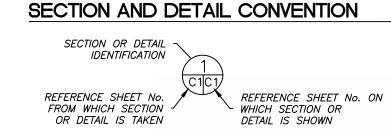
VOLUMES ABOVE ARE APPROXIMATE.

THE SUBGRADE BELOW ALL PAVED AREAS SHALL BE BASEROCK COMPACTED TO 95%.

ALL GRADING SHALL CONFORM TO LOCAL CODES AND ORDINANCES.

ALL TRENCHES UNDER PROPOSED PAVED AREAS OR CONCRETE SHALL BE BACKFILLED TO SUBGRADE ELEVATION WITH COMPACTED APPROVED GRANULAR MATERIALS. IF TRENCHES ARE IN PROPOSED LANDSCAPE AREAS, THEY SHALL BE BACKFILLED WITH COMPACTED APPROVED GRANULAR MATERIAL TO WITHIN ONE FOOT OF FINISHED GRADE, AND THEN FILLED WITH HAND TAMPED SOILS.

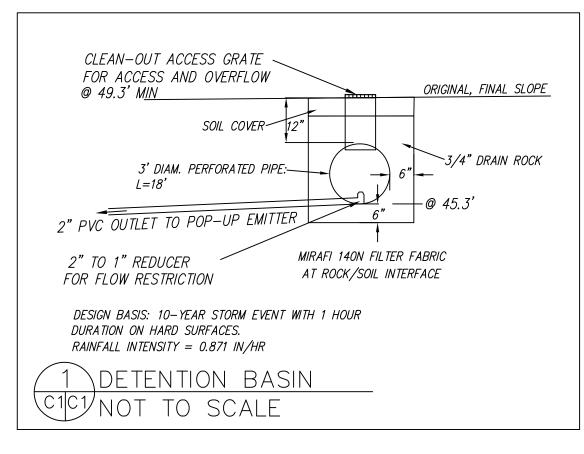


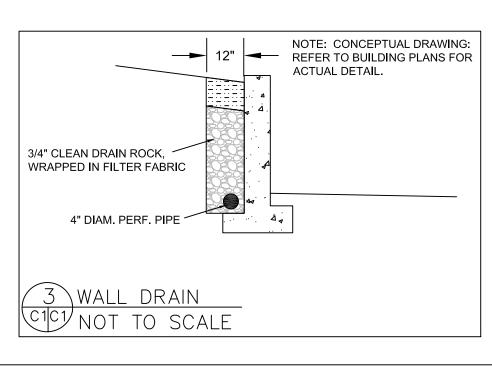




CHECKED BY: AZG CHECKED BY: AZG REV. DATE: 4-29-24 REV. DATE: 7-31-24 REV. DATE: 7	DATE: 10-26-23	
o l	DRAWN BY: CMK	Sigma Prime Geosciences
	CHECKED BY: AZG	ONI SEONEIOSOES EMIGE VMSIS
	REV. DATE: 4-29-24	332 PRINCETON AVENUE HAI F MOON BAY CA 94019
	REV. DATE: 7-31-24	(650) 728-3590 FAX 728-3593
	REV. DATE:	

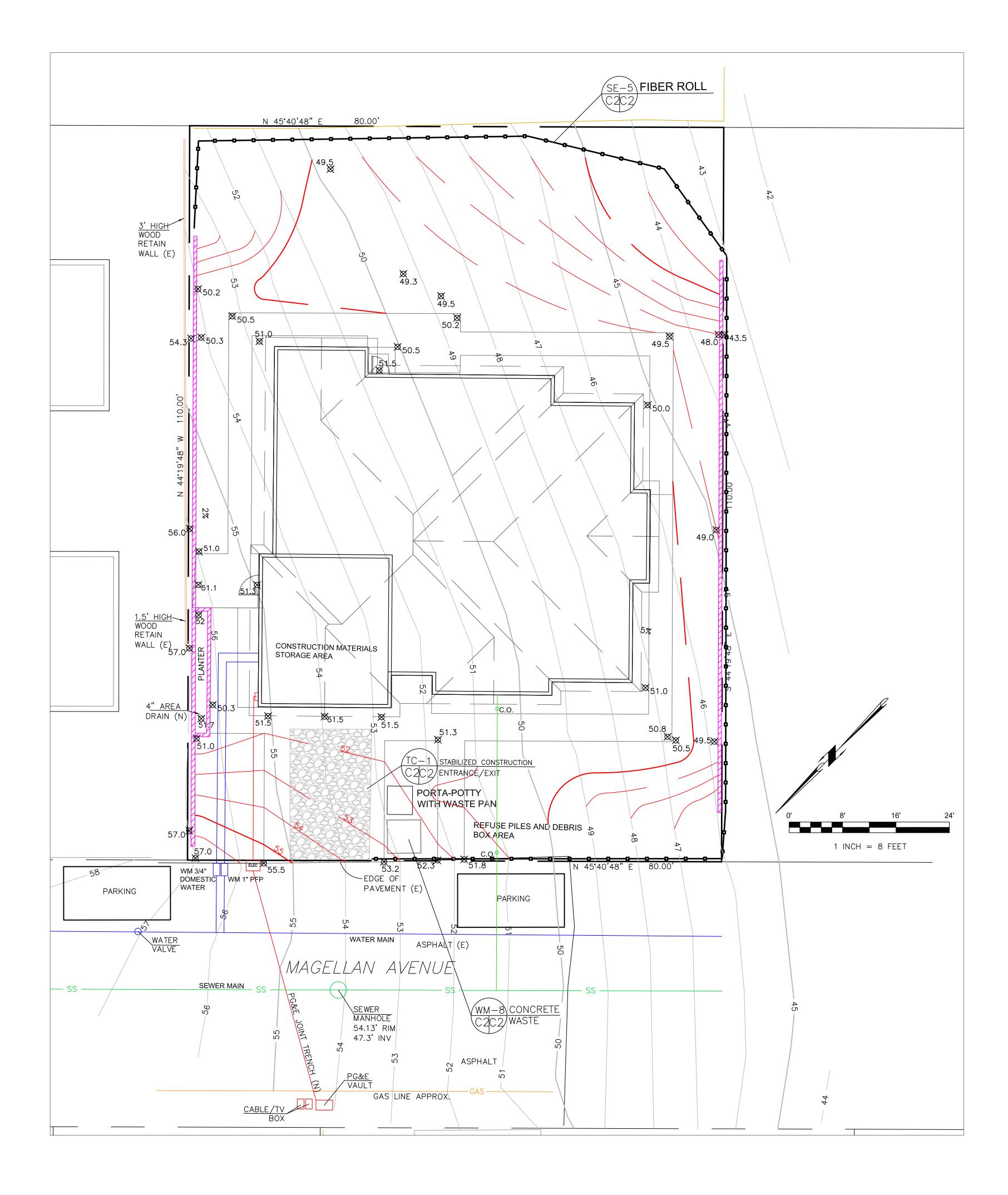
SLOPE ROCK	GRADING AND DRAINAGE PLAN
	SH

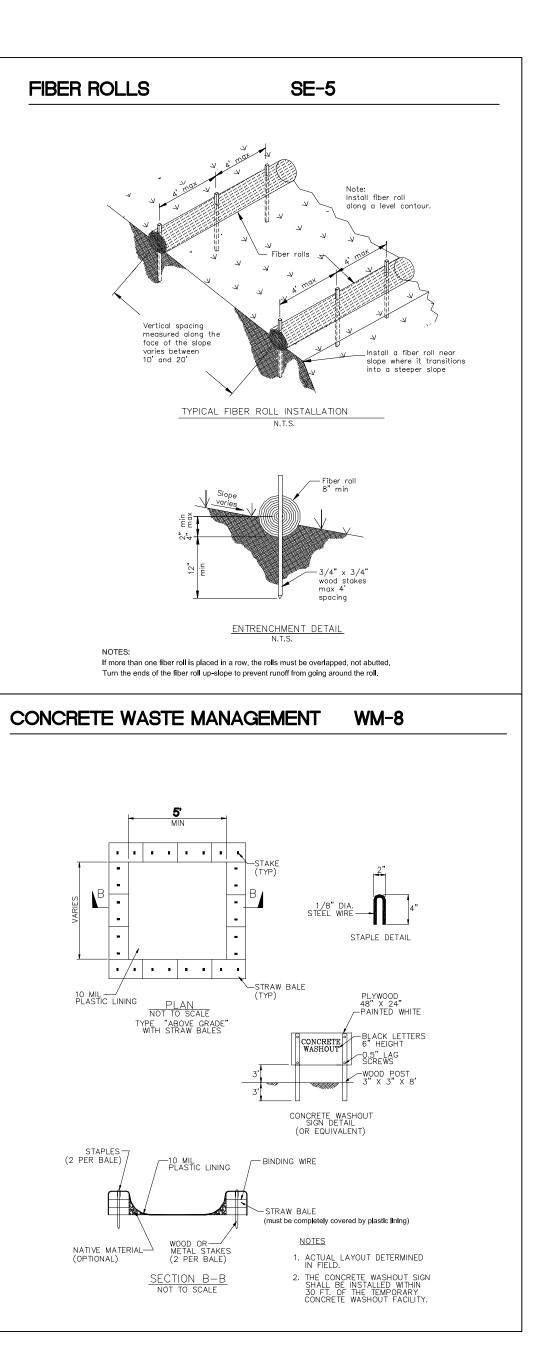




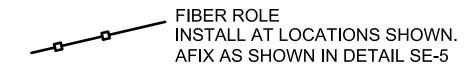


C-1





GENERAL EROSION AND SEDIMENT CONTROL NOTES

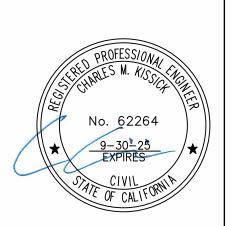


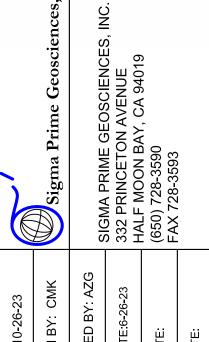
- There will be no stockpiling of soil. All excavated soil will be hauled off-site as it is excavated.
- Perform clearing and earth-moving activities only during dry weather. Measures to ensure adequate erosion and sediment control shall be installed prior to earth-moving activities and construction.
- Erosion control materials to be on-site during off-season.
- Measures to ensure adequate erosion and sediment control are required year-round.
 Stabilize all denuded areas and maintain erosion control measures continuously between October 1 and April 30.
- Store, handle, and dispose of construction materials and wastes properly, so as to prevent their contact with stormwater.
- Control and prevent the discharge of all potential pollutants, including pavement cutting wastes, paints, concrete, petroleum products, chemicals, wash water or sediments, and non-stormwater discharges to storm drains and watercourses.
- Avoid cleaning, fueling, or maintaining vehicles on-site, except in a designated area where wash water is contained and treated.
- · Limit and time applications of pesticides and fertilizers to prevent polluted runoff.
- · Limit construction access routes to stabilized, designated access points
- Avoid tracking dirt or other materials off-site; clean off-site paved areas and sidewalks using dry sweeping methods.
- Train and provide instruction to all employees and subcontractors regarding the Watershed Protection Maintenance Standards and construction Best Management Practices.
- · Placement of erosion materials is required on weekends and during rain events.
- The areas delineated on the plans for parking, grubbing, storage etc., shall not be enlarged or "run over."
- Dust control is required year-round.
- Erosion control materials shall be stored on-site.
- There are no trees or driplines on the site.

EROSION CONTROL POINT OF CONTACT

THIS PERSON WILL BE RESPONSIBLE FOR EROSION CONTROL AT THE SITE AND WILL BE THE COUNTY'S MAIN POINT OF CONTACT IF CORRECTIONS ARE REQUIRED.







JENT

DATE: 10-26-23

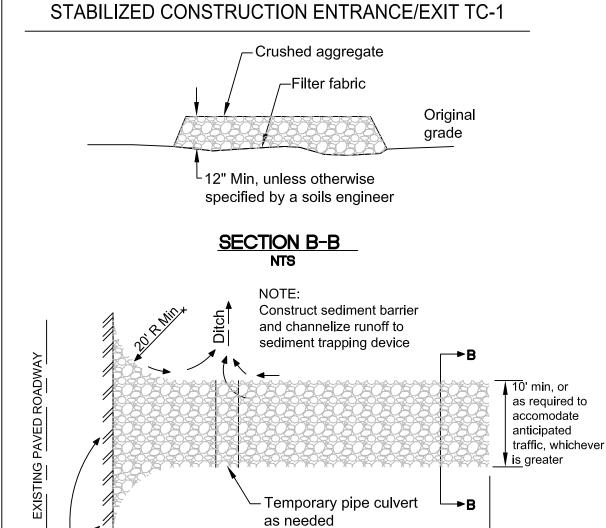
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CHECKED BY: AZG

EROSION AND SEDIMENT CONTROL PLAN TAFFERA PROPERTY MAGELLAN AVENUE MIRAMAR

SHEET

C-2

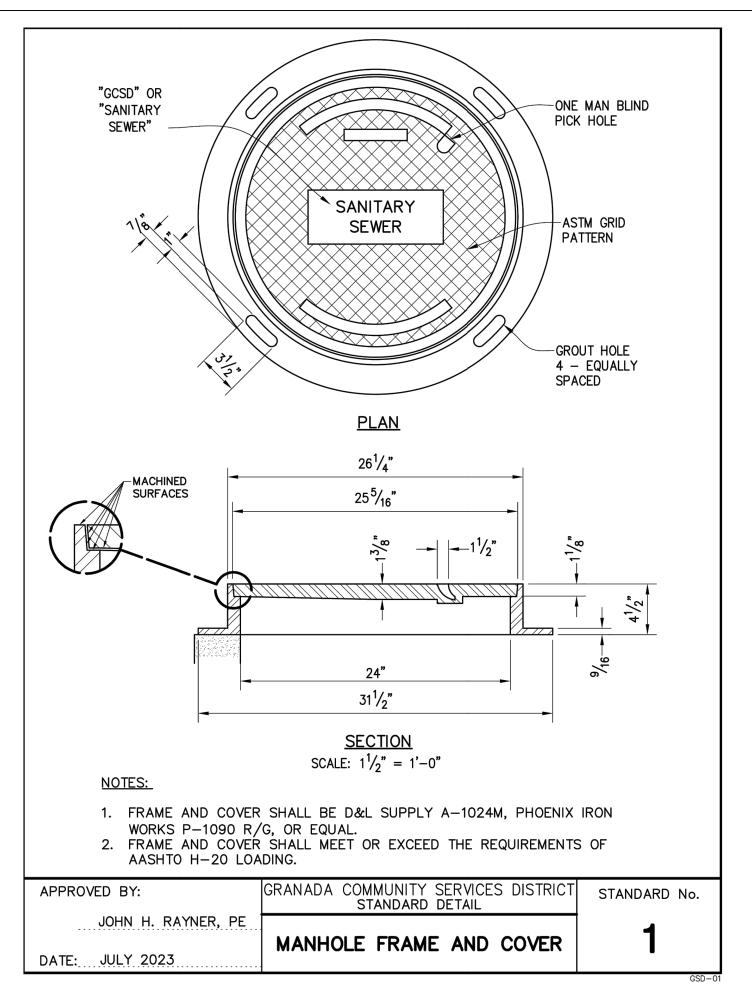


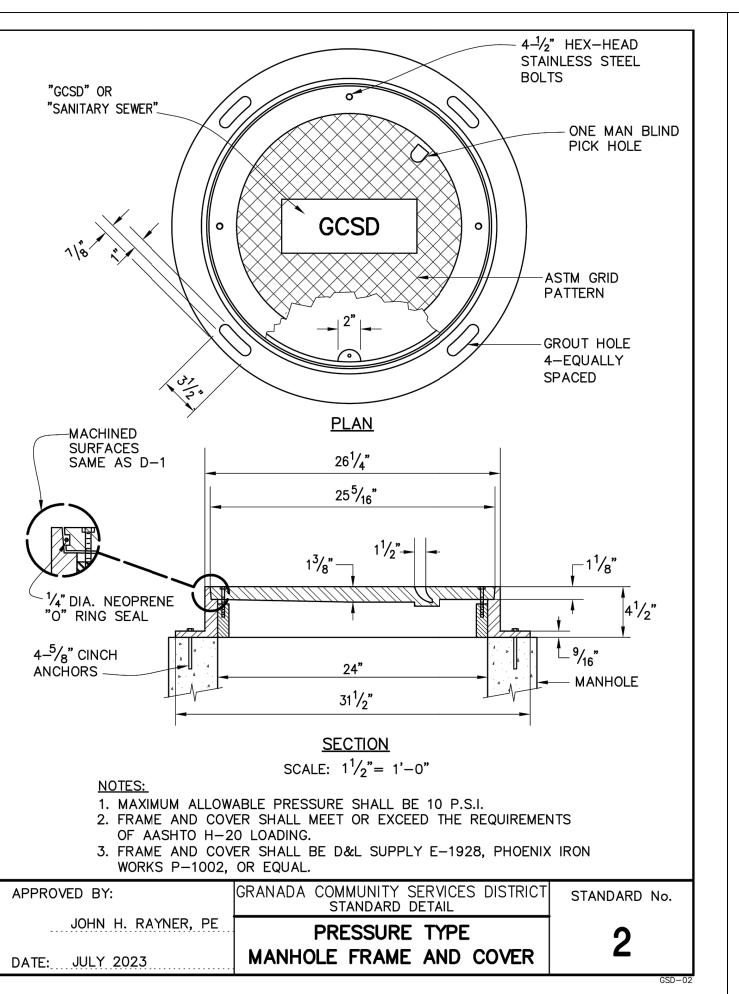
20' min, or max allowed by site (for smaller sites)

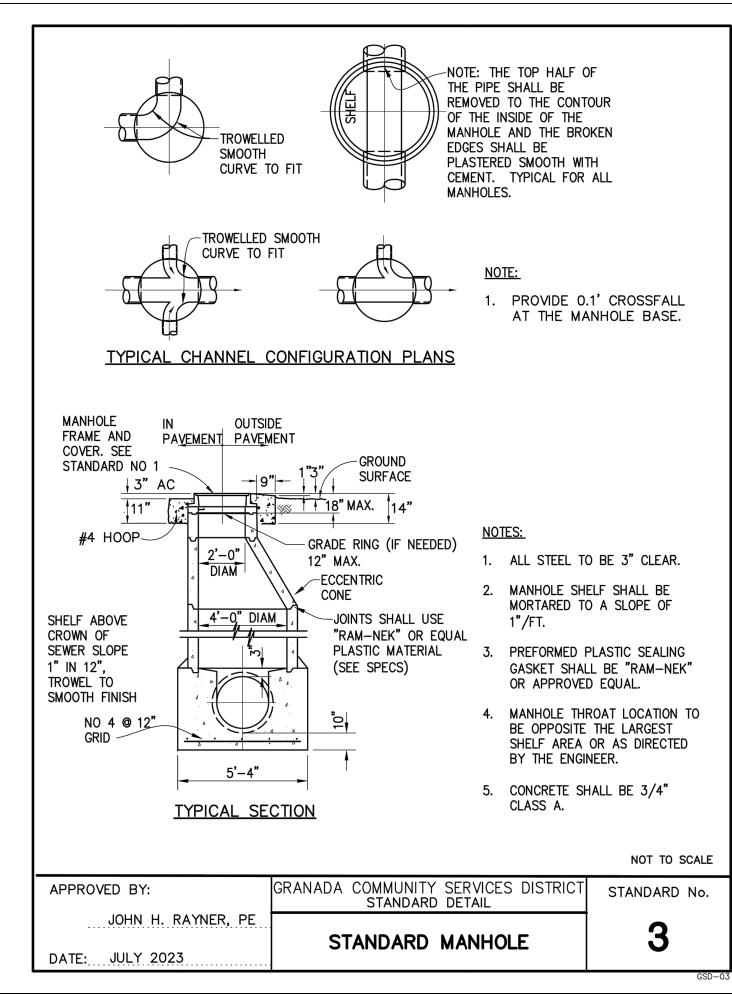
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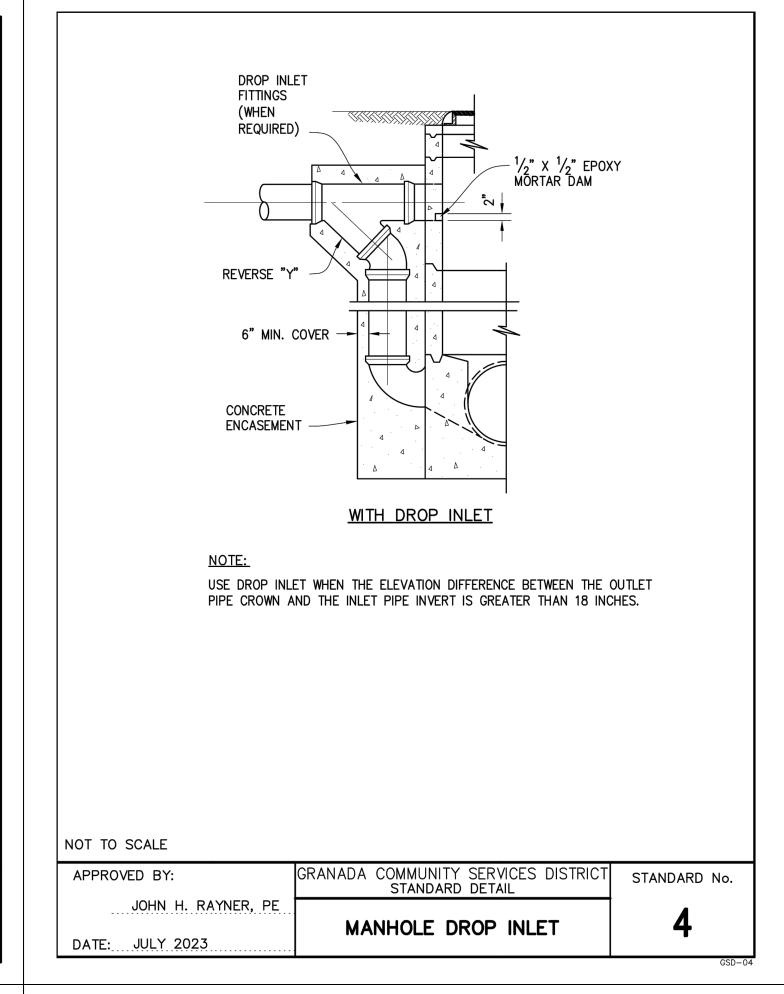
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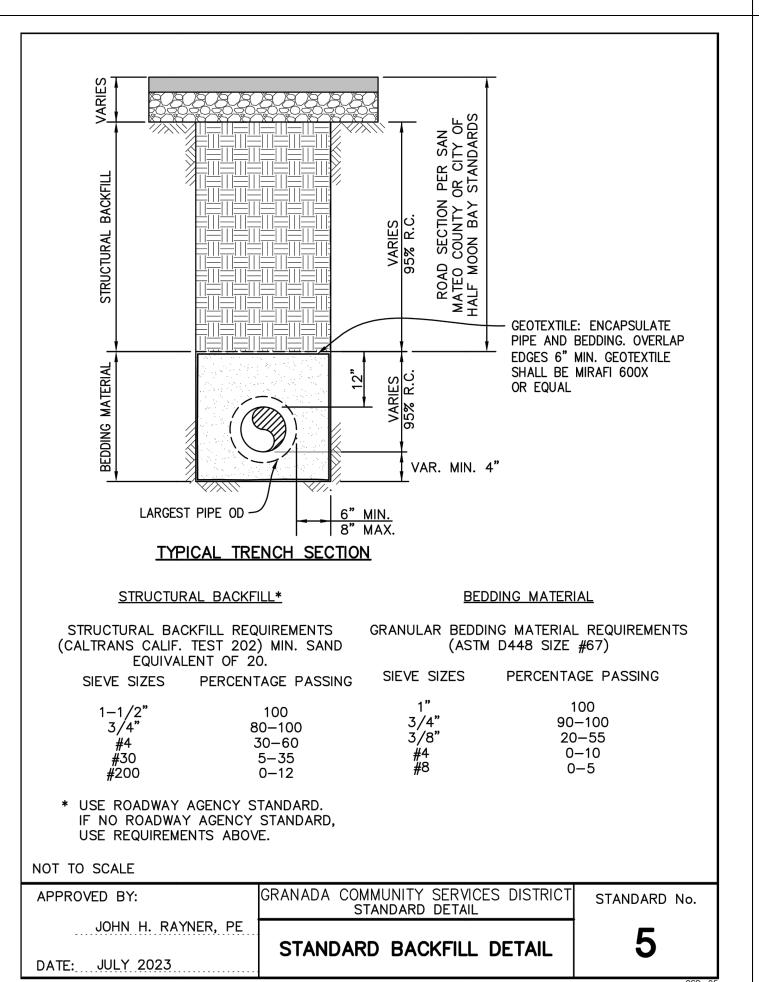
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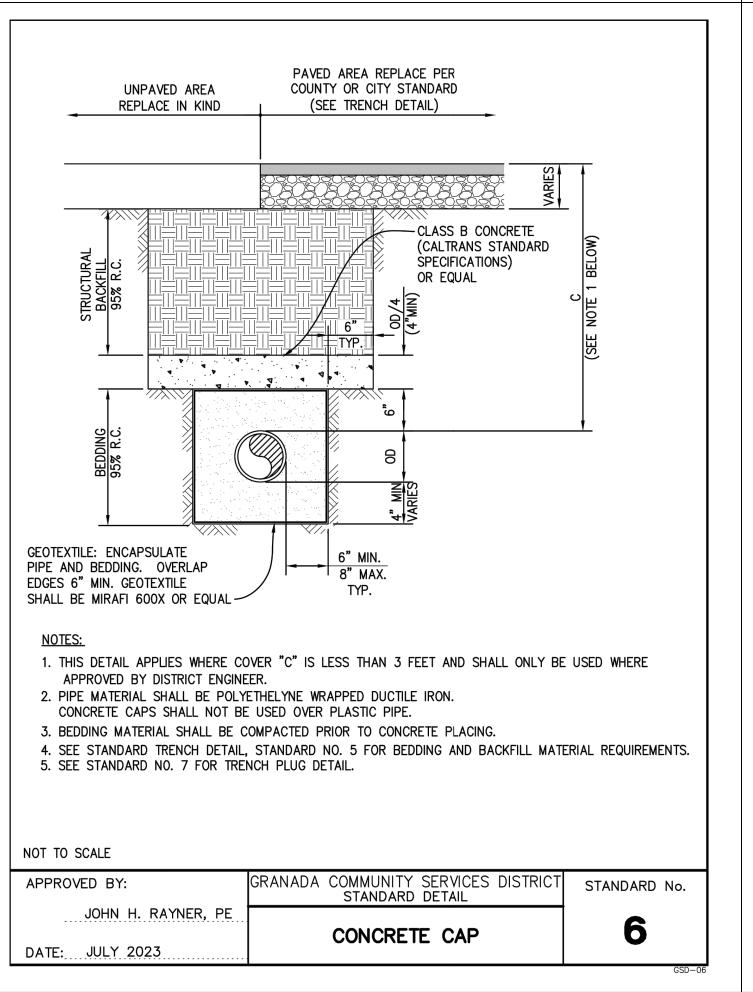


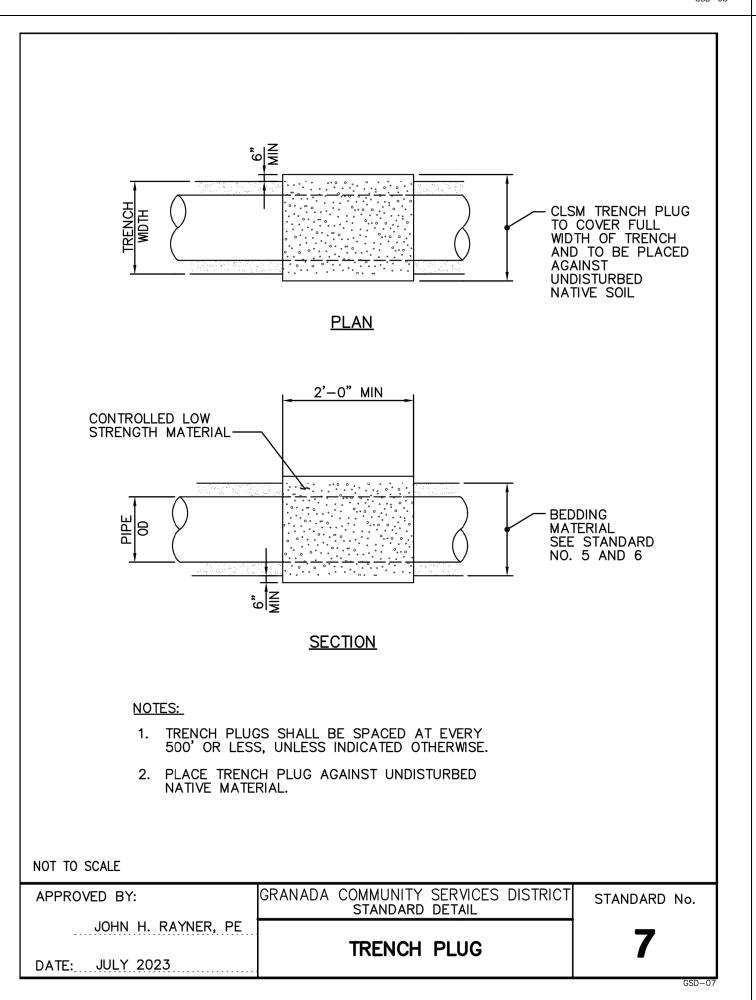


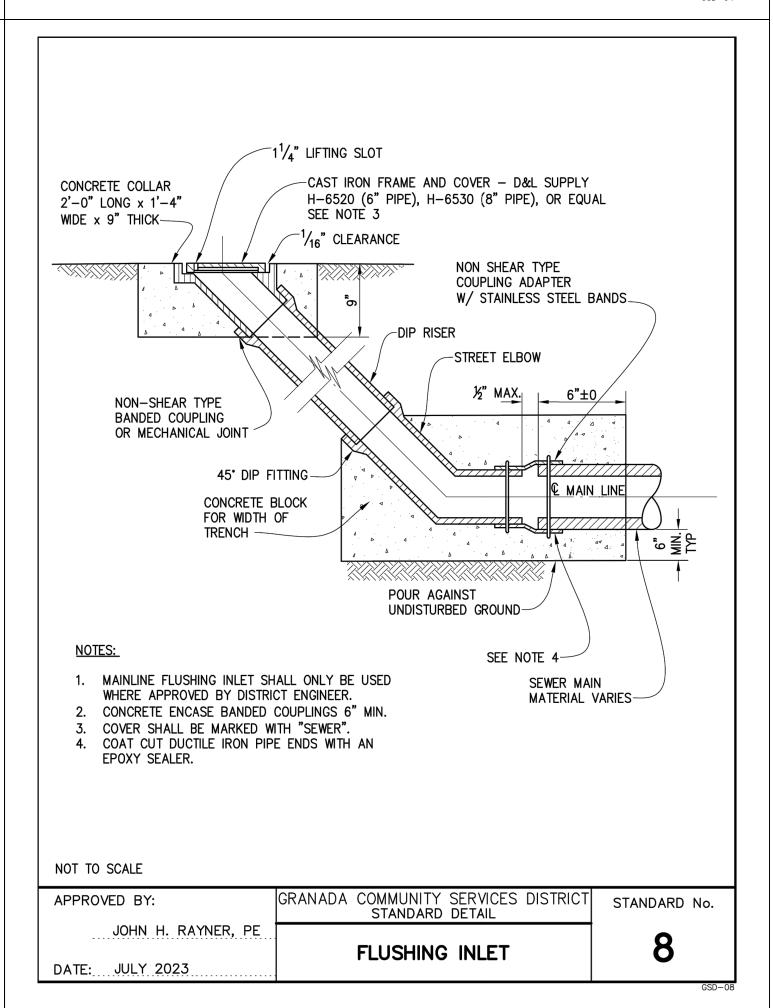


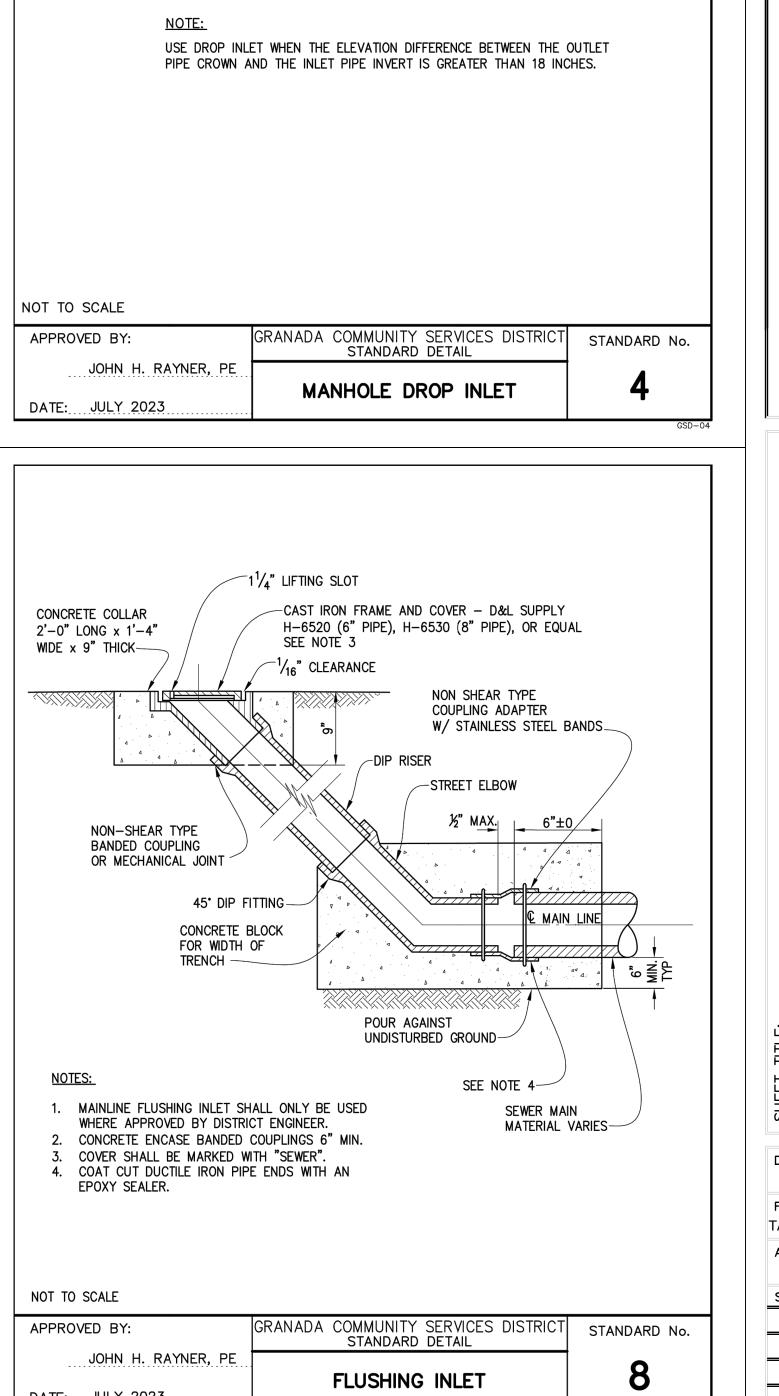






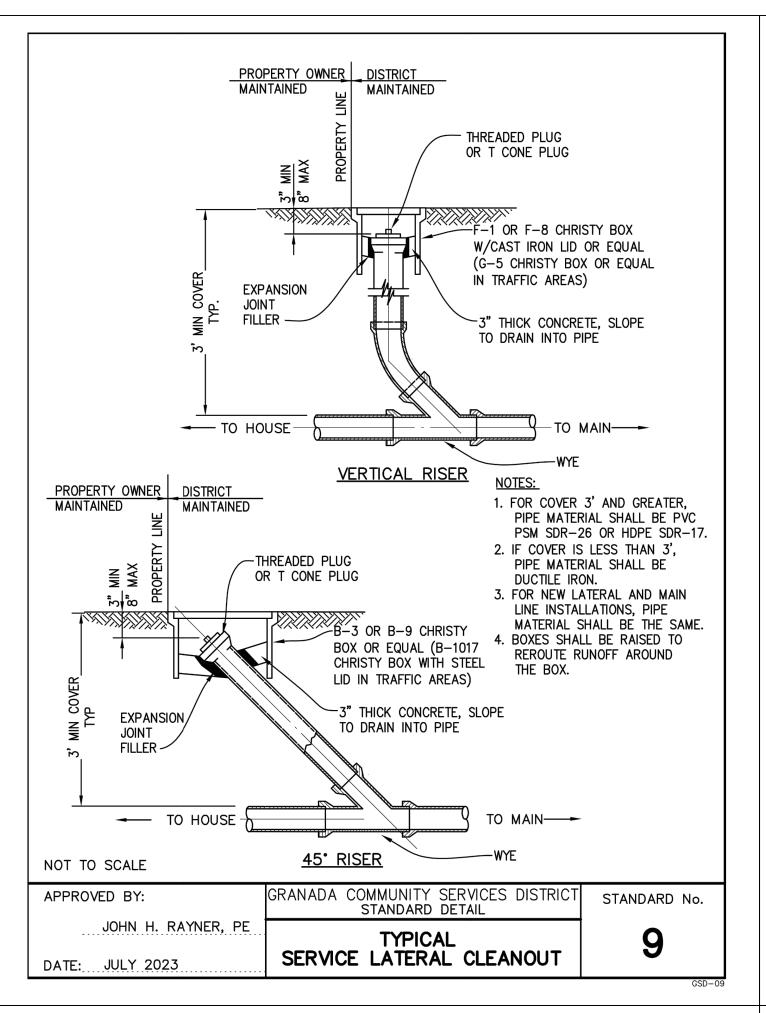


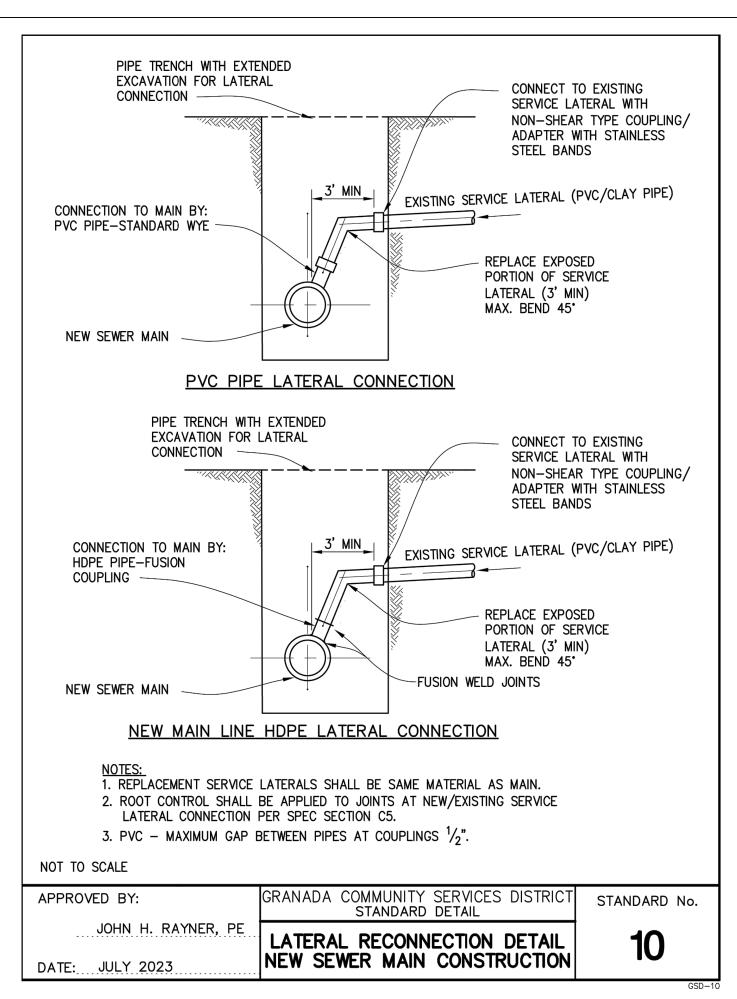


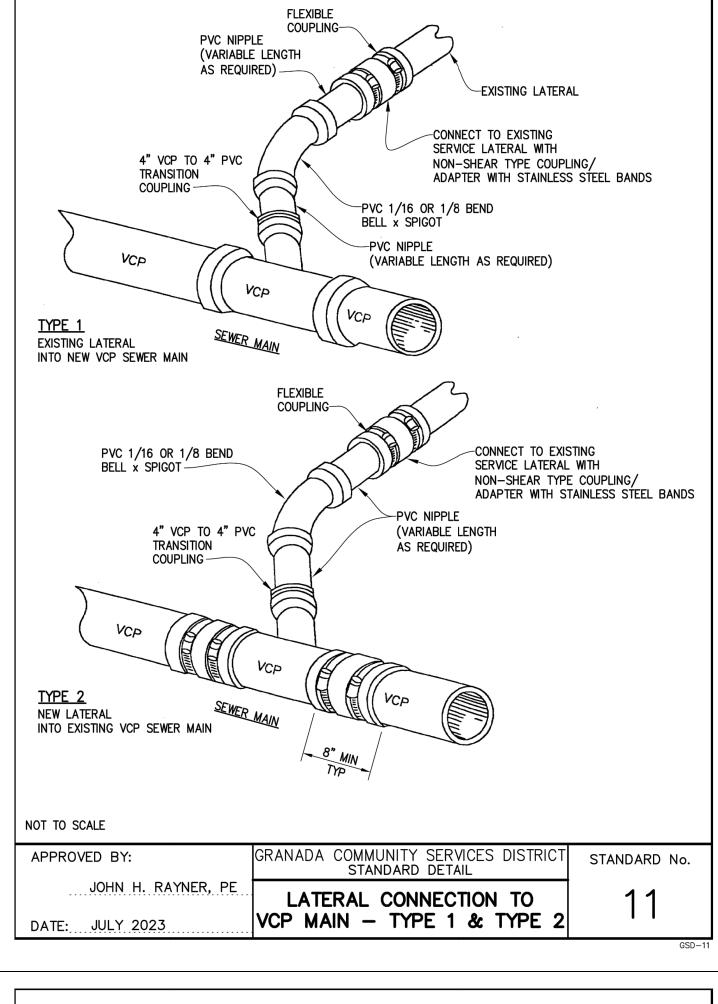


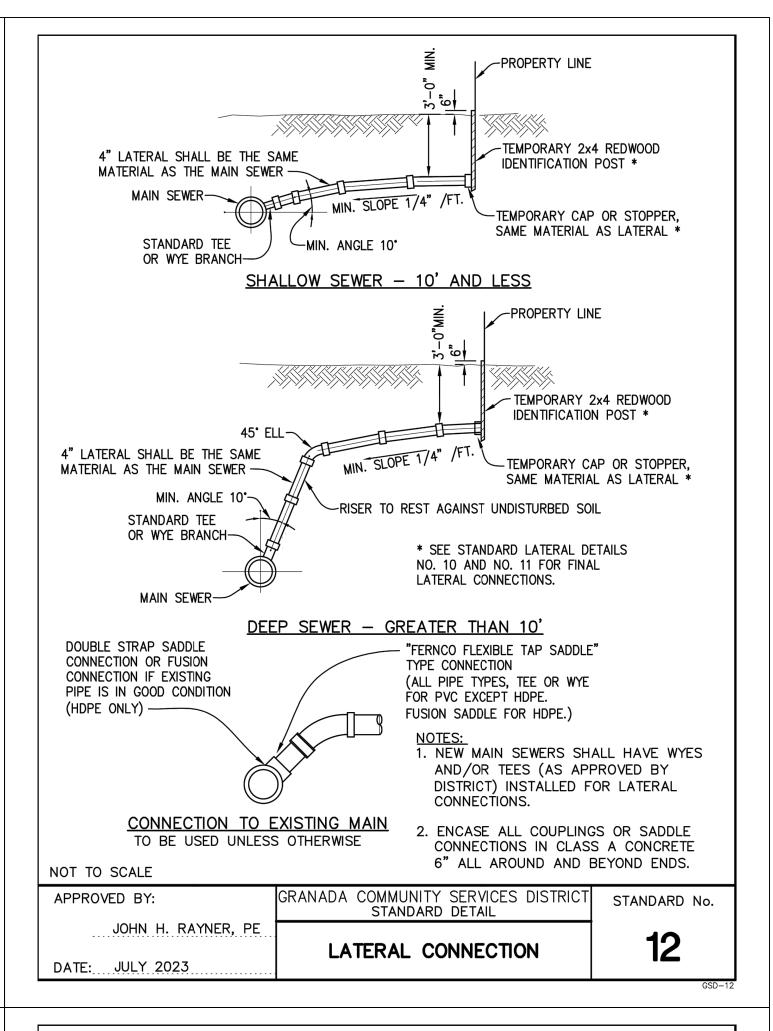


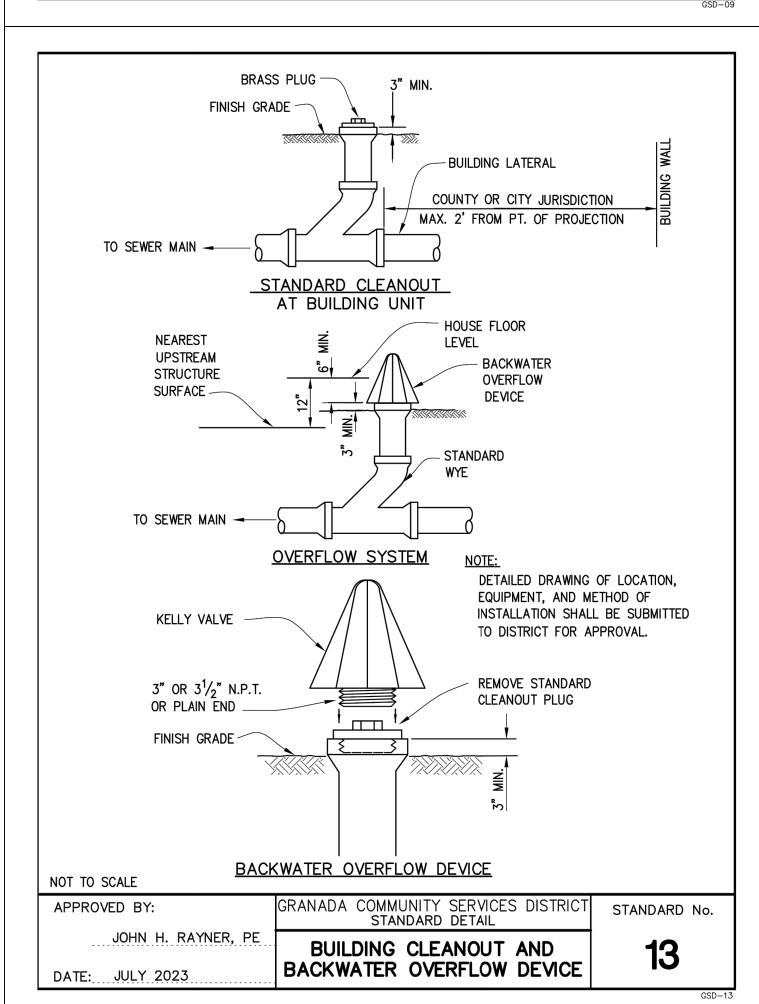
August 22, 2024 FILE TAFFERA- MAGELLAN 048-022-370 SYM. REVISIONS DATE

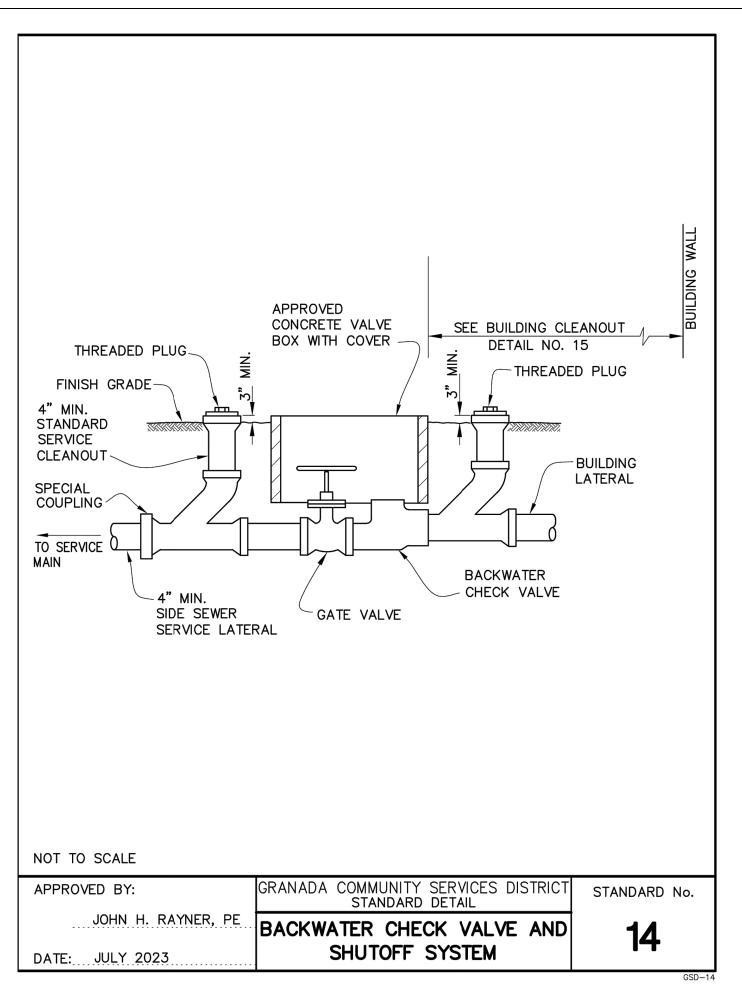


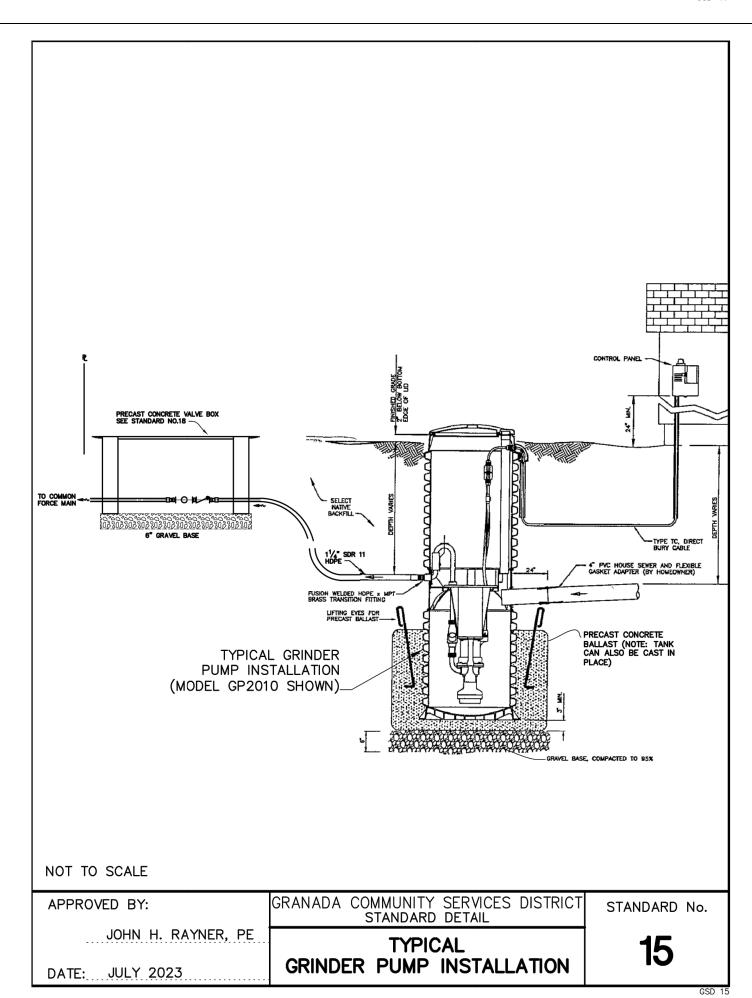


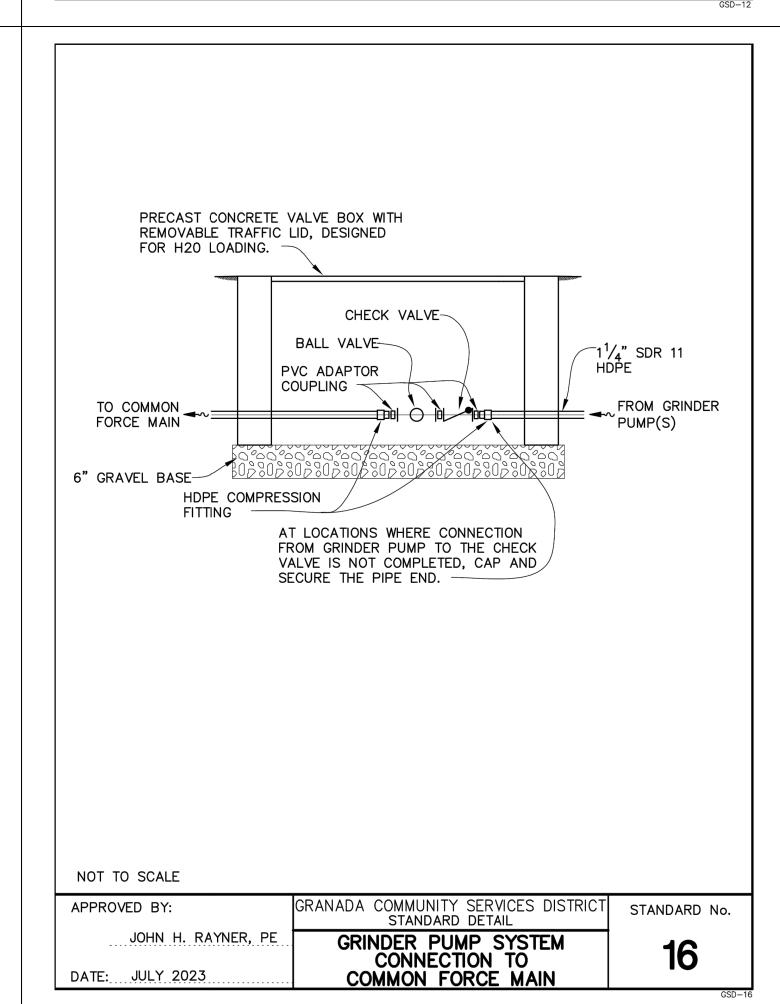


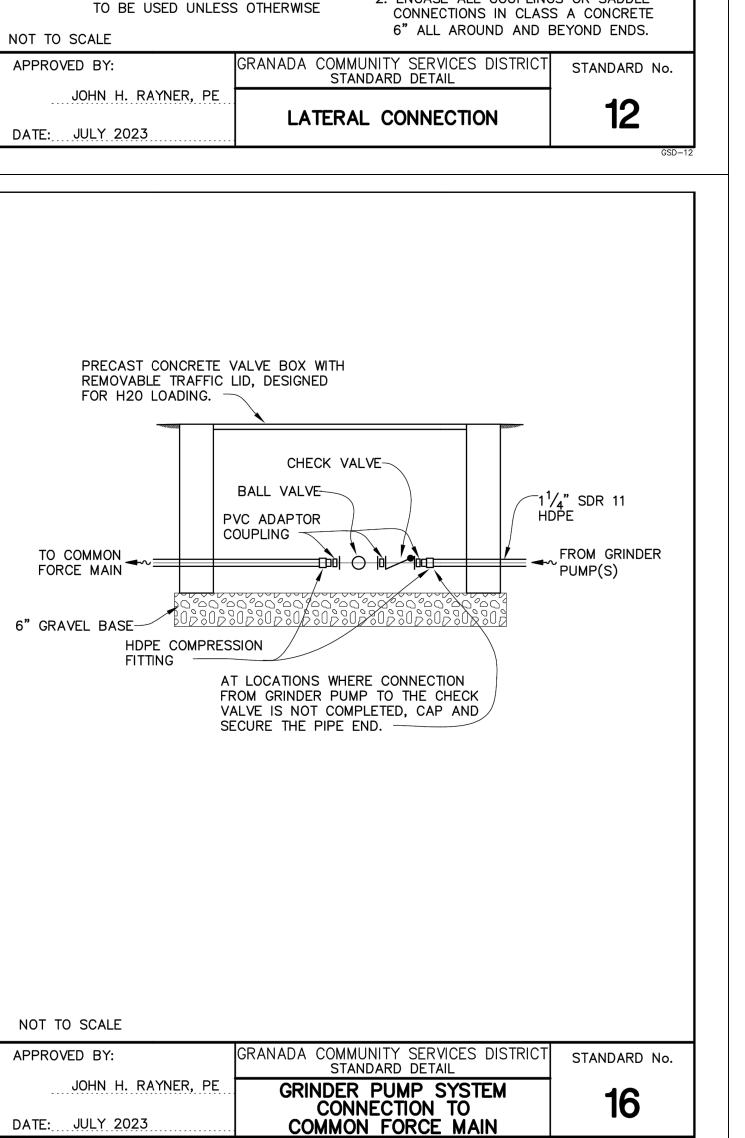




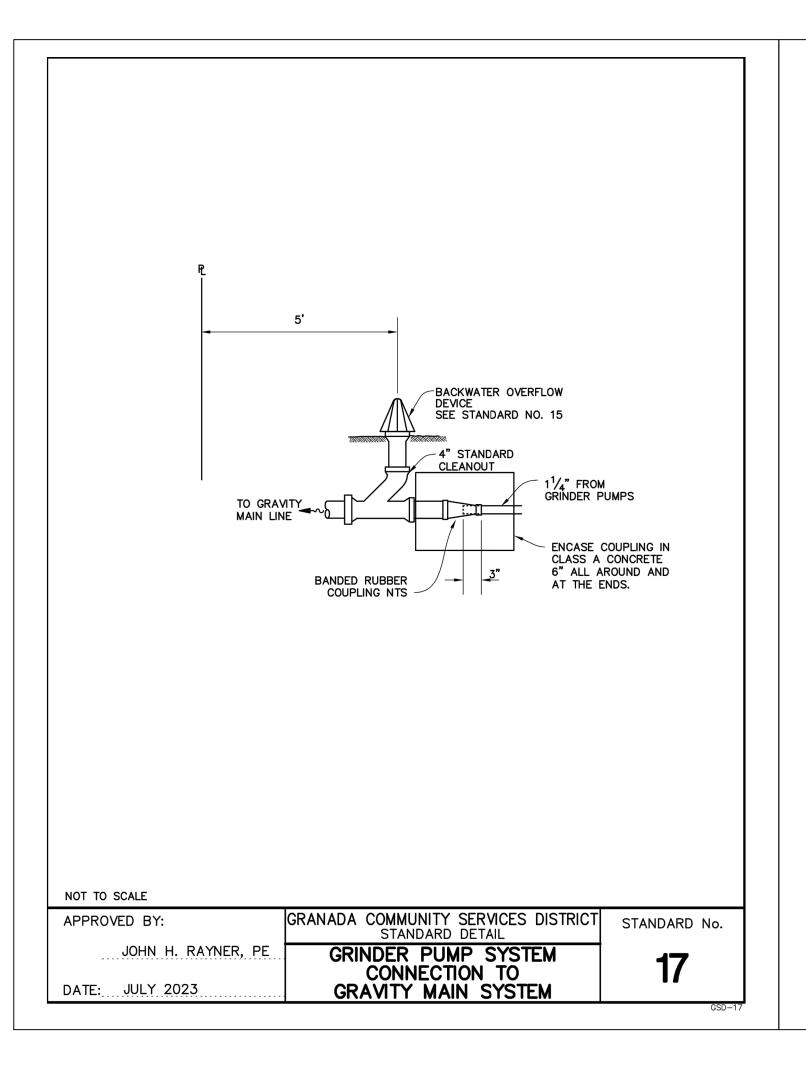


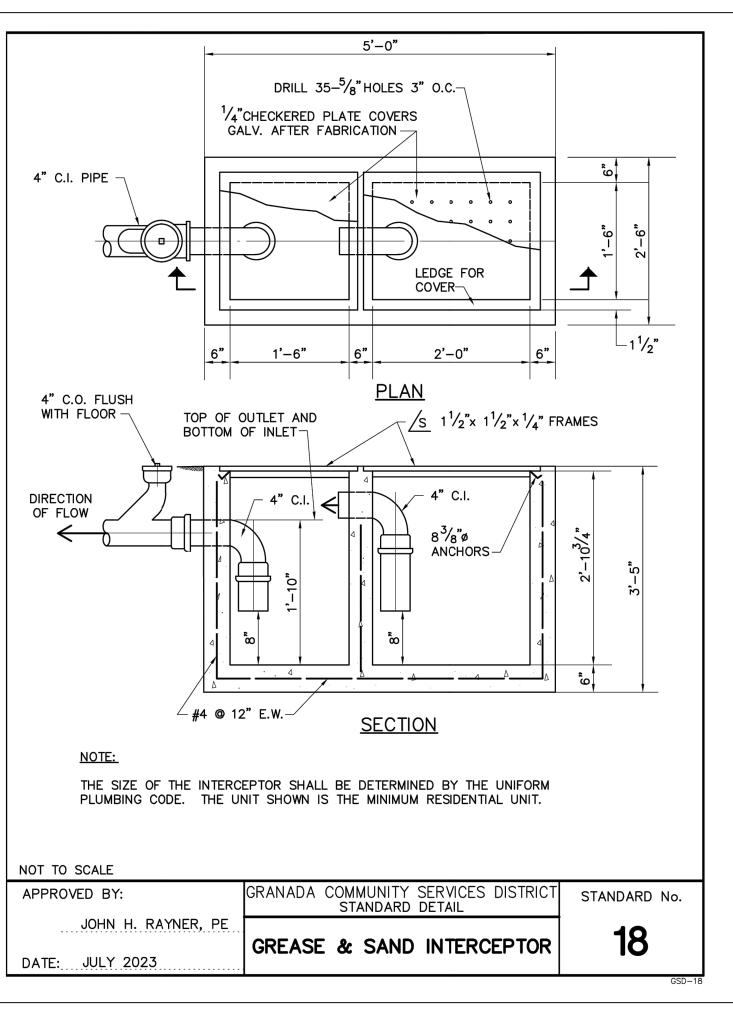


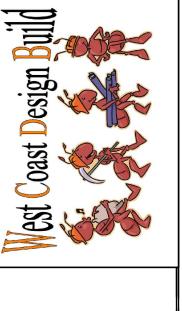












TAFFERA

DATE: August 22, 2024

FILE TAFFERA- MAGELLAN APN: 048-022-370

SYM. REVISIONS DATE

SHEET NO.

GCSD

ALL TRADES

			ALL TRADES
Α.	THE FOLLOWING	ABB	REVIATIONS OR ACRONYMS MAY BE USED IN THESE DRAWINGS:
	PROJECT	=	NEW SINGLE FAMILY RESIDENCE
	PROPERTY	=	300 MAGELLAN AVE, EL GRANADA, CA 94018
	ARCHITECT	=	WEST COAST DESIGN BUILD
	SAA	=	SAA STRUCTURAL ENGINEERING PRIMARY CONTACT: NICK SIVUSHENKA, P.E.
	GEOTECHNICAL ENGINEER	=	N/A
	BUILDING DEPARTAMENT	=	THE CITY OF SAN MATEO DEPARTMENT OF BUILDING AND SAFETY
	IBC	=	THE INTERNATIONAL BUILDING CODE, 2021 EDITION; SECONDARY BUILDING CODE FOR PROJECT.
	CBC	=	THE CALIFORNIA BUILDING CODE, 2022 EDITION (CONSISTING OF THE 2021 IBC AS ADOPTED BY THE STATE OF CALIFORNIA); SECONDARY BUILDING CODE FOR PROJECT
	ICC	=	THE INTERNATIONAL CODE CONFERENCE; AUTHOR OF IBC, SOURCE AUTHORITY FOR GENERAL CODE REQUIREMENTS.
	ACI	=	THE AMERICAN CONCRETE INSTITUTE; SOURCE AUTHORITY FOR STRUCTURAL CONCRE WORK.
	AISC	=	THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION; SOURCE AUTHORITY FOR STRUCTURAL STEEL WORK.
	AISI	=	THE AMERICAN IRON AND STEEL INSTITUTE; SOURCE AUTHORITY FOR LIGHT GAGE STEEL FRAMING.
	AWS	=	THE AMERICAN WELDING SOCIETY; SOURCE AUTHORITY FOR WELDING.
	ASTM	=	THE AMERICAN SOCIETY FOR TESTING OF MATERIALS; SOURCE AUTHORITY FOR MATERIAL QUALITY AND TESTING STANDARDS.
	CRSI	=	THE CONCRETE REINFORCING STEEL INSTITUTE; SOURCE AUTHORITY FOR REINFORCING STEEL FABRICATION AND INSTALLATION STANDARDS.
	A.B. APX ARCH BTWN BLW BOT COL CONT (E) EA EL EMBD EQ FIN FOF FP F.S. GA HORZ LLH LLV LSH LSV MAX M.B. MIN (N) NIC NOM NTS O.C. OP PC PP PSF RQD SIM SMS SYM STD TOC TOF TOS TYP		REQUIRED SIMILIAR SHEET METAL SCREW (SELD TAPPING UNO)
	UNO VERT	=	UNLESS NOTED OTHERWISE VERTICAL

B. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS ON THE SITE.

1. THE CONTRACTOR SHALL MAKE A SURVEY FOR GENERAL CONSISTENCY OF FIELD CONDITIONS WITH INFORMATION SHOWN IN THE CONTRACT DOCUMENTS BEFORE STARTING WORK. THIS SURVEY SHALL INCLUDE VERIFICATION OF DIMENSIONS

- 2. SHOULD THE CONTRACTOR BECOME AWARE OF A DISCREPANCY OR INCONSISTENCY BETWEEN FIELD CONDITIONS AND INFORMATION SHOWN IN THE CONTRACT DOCUMENTS AT ANY TIME, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ARCHITECT. IF THE DISCREPANCY OR INCONSISTENCY INVOLVES OR EFFECTS WORK SHOWN IN THE STRUCTURAL DRAWINGS, SAA SHALL ALSO BE NOTIFIED, AND THE CONTRACTOR SHALL OBTAIN DIRECTION FROM SAA BEFORE PROCEEDING WITH AFFECTED WORK.
- 3. THE CONTRACTOR SHALL CONFIRM AND LIMIT LOADS IMPOSED ON THE STRUCTURE BY NEW MECHANICAL EQUIPMENT OR OTHER NEW NONSTRUCTURAL ITEMS, INCLUDING FRAMES, CURBS OR OTHER SUPPORTS AS OCCUR. WEIGHTS AND OTHER LOADS SHALL BE COMPARED TO AND SHALL NOT EXCEED THOSE SHOWN IN THESE STRUCTURAL DRAWINGS. WHERE WEIGHTS OR LOADS ARE NOT SHOWN, THE CONTRACTOR SHALL DETERMINE AND SUBMIT THEM TO SAA, WHICH SHALL VERIFY COMPATIBILITY WITH STRUCTURAL DESIGN BEFORE INSTALLATION.
- 4. NO SUBSTITUTION, CHANGE OR OTHER DEVIATION FROM THE REQUIREMENTS OF ANY CONTRACT DOCUMENT SHALL BE MADE WITHOUT THE APPROVAL OF OWNER.
- a. UNAUTHORIZED SUBSTITUTION, CHANGE OR DEVIATION SHALL BE SUFFICIENT CAUSE FOR REJECTION OF THE WORK AND/OR OF PAYMENT REQUESTS.
- b. NO DEVIATION FROM INFORMATION SHOWN IN THE STRUCTURAL DRAWINGS SHALL BE MADE WITHOUT WRITTEN APPROVAL FROM SAA.
- 5. SHOP DRAWINGS AND OTHER SUBMITTALS PREPARED BY SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMISSION.
- a. ACCEPTANCE OF A SHOP DRAWING SHALL NOT CONSTITUE APPROVAL OF ANY

DEVIATION FROM REQUIREMENTS OF THE CONTRACT DOCUMENTS.

- b. REQUESTS FOR APPOROVAL OF PROPOSED ALTERNATE DETAILS, MATERIAL SUBSTITUTIONS OR OTHER DEVIATIONS SHALL BE DIRECTED TO SAA INDEPENDENTLY FROM AND IN ADVANCE OF SUBMISSION OF AFFECTED SHOP DRAWINGS OR START OF AFFECTED PARTS OF THE WORK.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY ON THE PROJECT SITE.
- 1. SHOULD THE CONTRACTOR BECOME AWARE OF ANY CONDITION WHICH IN HIS OPINION MIGHT CAUSE DISTRESS OF ANY PART OF THE CONSTRUCTION OR ENDANGER STABILITY, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY OWNER. ARCHITECT AND SAA AND TAKE ANY ACTION NECESSARY TO PROTECT LIFE AND PROPERTY PENDING DIRECTION FROM OWNER.
- 2. MEANS AND METHODS OF CONSTRUCTION SHALL BE SELECTED BY THE CONTRACTOR, WHO SHALL BE RESPONSIBLE FOR BRACING OR SHORING AS REQUIRED TO ASSURE SAFETY AND STABILITY DURING CONSTRUCTION AND TO SATISFY BUILDING DEPARTMENT REQUIREMENTS.
- D. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PLAN THE WORK SO AS TO MINIMIZE ITS IMPACT ON THE OPERATIONS OF THE BUILDING'S OCCUPANTS, WHO MAY INTEND TO ATTEMPT TO REMAIN IN OPERATION TO THE GREATEST EXTENT POSSIBLE DURING THE PROJECT.
- 1. NO PROCEDURE WHICH CAUSES DAMAGE TO THE BUILDING OR ITS CONTENTS OR WHICH AFFECTS OCCUPANT OPERATIONS SHALL BE USED UNLESS NO REASONABLE ALTERNATIVE THAT WOULD REDUCE THE IMPACT IS POSSIBLE.
- 2. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INFORM THE OWNER OR LANDLORD OF ANY PROCEDURE WHICH MIGHT IMPACT THEIR OPERATIONS WITH AS MUCH ADVANCE NOTICE AS POSSIBLE AND TO MAKE ALL TREASONABLE EFFORTS TO COORDINATE OPERATIONS WITH THE OCCUPANTS SO AS TO MINIMIZE THE DISTURBANCE.
- E. THE DESIGN REPRESENTED IN THESE DESIGN DRAWINGS IS BASED ON THE FOLLOWING DESIGN PARAMETERS:

1.	<u>GRAVITY LOADS:</u>			
	ROOF DEAD LOAD	=	16	PSF
	ROOF LIVE LOAD	=	20	PSF
	FLOOR DEAD LOAD	=	12	PSF
	FLOOR LIVE LOAD	=	40	PSF
2.	WIND DESIGN DATA:			
	EXPOSURE	=	С	
	BASIC WIND SPEED	=	95	MPH
	RISK CATEGORY	=	II	
3.	EARTHQUAKE DESIGN DATA:			
٥.			_	
	SEISMIC DESIGN CATEGORY	=	E	
		_	II .	

OCCUPANCY CATEGORY = II IMPORTANCE FACTOR I = 1.0 SITE CLASS = D = 2.07 = 0.788 SDS = 0.893

EQUIVALENT LATERAL FORCE PROCEDURE: LIGHT-FRAME (WOOD) SHEAR WALLS: R = 6.5; Cs = 0.255; REDUNDANCY FACTOR = 1.3

FOUNDATIONS HAVE BEEN PROPORTIONED BASED ON THE FOLLOWING ALLOWABLE BEARING PRESSURES PER SOILS REPORT NO. 23-178 DATED 08/25/2023 BY SIGMA PRIME GEOSCIENCES, INC.:

SKIN FRICTION 500 PSF

PROJECT SCOPE

THE PROPOSED PROJECT INVOLVES THE CONSTRUCTION OF NEW SINGLE FAMILY

STRUCTURAL OBSERVATION

THE STRUCTURAL OBSERVER SHALL PERFORM SITE VISITS AT THOSE STEPS IN THE PROGRESS OF THE WORK THAT ALLOW FOR CORRECTION OF DEFICIENCIES WITHOUT SUBSTANTIAL EFFORT OR UNCOVERING OF THE WORK INVOLVED.

THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT OF THE STRUCTURAL OBSERVATION REPORT FORM FOR EACH SIGNIFICANT STAGE OF CONSTRUCTION OBSERVED. THE ORIGINAL OF THE STRUCTURAL OBSERVATION REPORT SHALL BE SENT TO THE BUILDING INSPECTOR'S OFFICE AND SHALL BE SIGNED AND SEALED (WET STAMP) BY THE RESPONSIBLE STRUCTURAL OBSERVER. ONE COPY OF THE OBSERVATION REPORT SHALL BE ATTACHED TO THE APPROVED PLANS. THE COPY ATTACHED TO THE PLANS SHALL BE SIGNED AND SEALED BY THE RESPONSIBLE STRUCTURAL OBSERVER OR THE DESIGNEE. COPIES OF THE REPORT SHALL ALSO BE GIVEN TO THE OWNER, CONTRACTOR, AND DEPUTY INSPECTOR. ANY DEFICIENCY NOTED ON THE OBSERVATION REPORT WILL BECOME THE RESPONSIBILITY OF THE STRUCTURAL ENGINEER OF RECORD TO VERIFY ITS COMPLETION BY HIM (HER), OR BY A REGISTERED DEPUTY INSPECTOR AT THE DISCRETION OF THE STRUCTURAL OBSERVER.

A FINAL OBSERVATION REPORT AND THAT OF THE REGISTERED DEPUTY INSPECTOR MUST BE SUBMITTED WHICH SHOWS THAT ALL OBSERVED DEFICIENCIES WERE RESOLVED AND STRUCTURAL SYSTEM GENERALLY CONFORMS TO THE APPROVED PLANS AND SPECIFICATIONS. THE DEPARTMENT OF BUILDING AND SAFETY WILL NOT ACCEPT THE STRUCTURAL WORK WITHOUT THIS FINAL OBSERVATION REPORT AND THAT OF THE REGISTERED DEPUTY INSPECTOR (WHEN PROVIDED) AND THE CORRECTION OF SPECIFIC DEFICIENCIES NOTED DURING NORMAL BUILDING INSPECTION.

P/BC 2014-024

STRUCTURAL OBSERVATION/ SIGNIFICANT CONSTRUCTION STAGES (Only Checked items are required)

Architect or Engineer of Record for the project to be responsible for the "Structural Observation": Name: Nick Slvushenka □ Licensed Architect
□ Registered Engineer Phone: (323) 448-4682 California Registration Number: C-87698

Construction Stage	Construction Type	Elements/Connections to be observed
Foundation	 ☑ Footing, Stem Walls, Piers ☐ Mat Foundation ☑ Caisson, Pile, Grade beams ☐ Stepping/Retaining Foundation, Hillside Special Anchors ☒ Others: slab on grade 	Excavations, rebar placement, and anchor bolt templates prior to pouring concrete
Wall	□ Concrete □ Masonry ⋈ Wood □ Others:	Shear wall framing, sheathing, nailing and hardware (including holdowns)
Frame	□ Steel Moment Frame □ Steel Braced Frame □ Concrete Moment Frame □ Masonry Moment Frame □ Others:	
Diaphragm	□ Concrete □ Steel Deck ⋈ Wood □ Others:	Roof and floor framing, sheathing, nailing and hardware
Others		

DECLARATION BY OWNER OR OWNER'S REPRESENTATIVE I, □ the owner of the project □ the owner's representative, declare that the above listed firm or individual

is hired by me to be the Structural Observer.

As a covered entity under Title II of the Americans with Disabilities Act, the City of Los Angeles does not discriminate on the basis of disability and, upon request, will provide reasonable accommodation to ensure equal access to its programs, services and activities. For efficient handling of information internally and in the internet, conversion to this new format of code related and administrative information bulletins including MGD and RGA that were previously issued will allow flexibility and timely distribution of information to the public. Page 7 of 7

SPECIAL INSPECTIONS

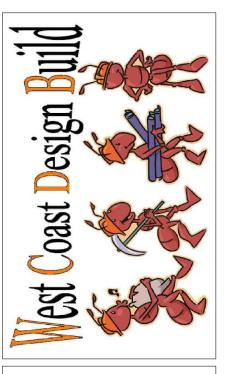
THE OWNER SHALL RETAIN A DEPUTY INSPECTOR LICENSED BY THE CITY OF SAN MATEO DEPARTMENT OF BUILDING & SAFETY IN ACCORDANCE WITH CHAPTER 17 OF CBC. THE FOLLOWING AREAS OF WORK REQUIRE INSPECTIONS BY A DEPUTY INSPECTOR TO VERIFY

TRADE	INSPECTION DUTIES	INSPECTION DURATION
REBAR PLACEMENT	MATERIAL SPEC, REBAR SIZE AND CONFIGURATION	INTERMITTENT
INSTALLATION OF HOLDOWN ANCHOR BOLTS PRIOR TO CONCRETE PLACEMENT	VERIFY MATERIAL, SIZE, LOCATION AND INSTALLATION FOR COMPLIANCE WITH DESIGN DRAWINGS	PERIODIC
ADHESIVE ANCHORS	INSPECTION OF MATERIALS ND INSTALLATION IN ACCORDANCE WITH ICC APPROVAL	CONTINUOUS

ICC/LARR

THE FOLLOWING ARE A LIST OF COMPONENTS USED WITHIN THE PROJECT WITH INTERNATIONAL CODE COUNCIL REPORT NUMBERS AND CITY OF LOS ANGELES RESEARCH REPORT NUMBERS FOR THE CONTRACTOR TO OBTAIN AND FOLLOW PROVISIONS OF.

COMPONENT ICC-ESR / IAPMO # SIMPSON SDS WOOD SCREWS ICC-ESR # 2236 SIMPSON A35 ICC-ESR # 2606 SIMPSON STRAPS ICC-ESR # 2105 ICC-ESR # 2330 SIMPSON HOLDOWNS







DATE: 09/06/2024 SCALE: AS NOTED 048-022-370 SYM. REVISIONS DATE

STRUCTURAL LUMBER

- A. IN ADDITION TO CODE, THE FOLLOWING SPECIFICATIONS AND STANDARDS APPLY TO STRUCTURAL LUMBER AND RELATED CARPENTRY WORK FOR PROJECT:
- NFPA NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION.
- 2. WCLIB GRADING RULES NO. 16 OR APPLICABLE WWPA GRADING RULES
- B. MATERIAL QUALITY SHALL BE CONSISTENT WITH DESIGN ASSUMPTIONS.
- STRUCTURAL LUMBER SHALL BE DOUGLAS FIR-LARCH (UNO). DOC PS 20.
- 2. MEMBER SIZES SPECIFIED ARE NOMINAL. STRUCTURAL LUMBER SHALL BE FINISHED
- 3. STRUCTURAL LUMBER SHALL BE GRADE MARKED IN ACCORDANCE WITH REFERENCED GRADING STANDARDS (UNO).
- 4. MINIMUM GRADES SHALL BE AS REQUIRED BY APPLICABLE STANDARDS BUT AT LEAST EQUAL TO THE FOLLOWING:
- a. 2X WALL STUDS ONLY -- CONSTRUCTION GRADE
- b. OTHER STUDS, JOISTS AND RAFTERS -- NO. 2
- c. BEAMS, POSTS AND ALL OTHER STRUCTURAL LUMBER -- NO. 1 OR BETTER
- 5. HIGHER LUMBER GRADES SHALL BE USED WHERE INDICATED.
- NAILS SHALL BE COMMON WIRE NAILS (UNO).
- 7. BOLTS SHALLS BE M.B. WITH STANDARD MALLEABLE IRON OR STEEL PLATE WASHERS UNDER ALL BOLT HEADS AND NUTS BEARING ON WOOD (UNO).
- CONNECTION HARDWARE SHALL BE AS CALLED FOR. ALTERNATE PRODUCTS SHALL BE SUBSTITUTED ONLY WITH THE APPROVAL OF SAA AND BUILDING DEPARTMENT.
- 9. MACHINE NAILING SYSTEMS SHALL BE SUBJECT TO SATISFACTORY DEMONSTRATION AND TO THE ACCEPTANCE OF SAA AND BUILDING DEPARTMENT
- a. THE CONTRACTOR SHALL MAKE APPROPRIATE SUBMISSIONS, INCLUDING TECHNICAL DATA, IN SUPPORT OF ANY PROPOSED MACHINE NAILING SYSTEM ON
- HEADS OR TOPS OF NAILS OR OTHER MACHINE DRIVEN FASTENERS SHALL NOT PENETRATE THE SURFACE OF THE WOOD MORE THAN WOULD BE NORMAL FOR
- c. LUMBER DAMAGED BY OVERDRIVING SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- d. PERSISTANT OVERDRIVING SHALL BE SUFFICIENT CAUSE FOR REJECTION OF A MACHINE NAILING SYSTEM.
- e. EDGE DISTANCES FOR MACHINE DRIVEN FASTENERS SHALL BE AS REQUIRED FOR HAND DRIVING AND BY APPLICABLE CODES AND STANDARDS AND SHALL BE CONSISTENT WITH THE NAILING SYSTEM MANUFACTURER'S RECOMMENDATIONS.
- ACCEPTANCE OF A MACHINE NAILING SYSTEM SHALL BE SUBJECT TO CONTINUED SATISFACTORY PERFORMANCE.
- g. MACHINE NAILING SHALL NOT BE USED WITH PLYWOOD LESS THAN 3/8" THICK.
- C. APPROPRIATE PRECAUTIONS SHALL BE TAKEN TO ASSURE DURABILITY:
- WOOD EXPOSED TO MOISTURE OR EARTH SHALL BE TREATED FOR PROTECTION AGAINST DECAY AND TERMITE ATTACK OR SHALL BE FOUNDATION GRADE REDWOOD. THIS REQUIREMENT SHALL APPLY TO:
- a. ANY WOOD EMBEDDED IN OR IN DIRECT CONTACT WITH CONCRETE OR
- b. ANY WOOD OTHER THAN WALL STUDS WITHIN ONE FOOT OF EARTH.
- c. ANY FLOOR JOIST WITHIN 18" OF EARTH.
- PRESSURE TREATMENT PROCESS SHALL BE APPROVED BY BUILDING DEPARTMENT AND SAA. TREATMENT PROCESSES EFFECTING MATERIAL PROPERTIES SHALL NOT BE USED ON STRUCTURAL LUMBER WITHOUT SAA'S WRITTEN APPROVAL ADDITIONALLY CUT ENDS OF LUMBERS MUST BE FIELD TREATED WITH AN APPROPRIATE AGENT TO AVOID COMPROMISING DECAY RESISTENCE OF LUMBER.
- 3. LUMBER USED IN THE WORK SHALL BE KILN DRIED TO AVOID EXCESSIVE SHRINKAGE OR WARPING. "GREEN" LUMBER WITH EXCESSIVE MOISTURE CONTENT SHALL NOT BE USED IN THE WORK.
- 4. SUBFLOORS, ATTICS, PLENUMS, AND OTHER VOID SPACES SHALL BE APPROPRIATELY VENTILATED.
- D. QUALITY FRAMING PRACTICES SHALL BE EMPLOYED IN THE CONSTRUCTION:
- WOOD COLUMNS AND POSTS SHALL BE SECURED IN POSITION AT TRUE END BEARINGS DESIGNED TO PROTECT AGAINST DECAY OR OTHER DAMAGE.
- 2. STUDS FOR WALLS AND PARTITIONS SHALL BE AS REQUIRED BY APPLICABLE STANDARDS OR SPECIFIC DETAILS. WHICHEVER ARE MORE RESTRICTIVE. BUT NO
- a. 2X4 AT 16" o.c. FOR ANY WALL OR PARTITION.
- b. 2X6 AT 16" o.c. FOR STUDS OVER 9'-0" HIGH, CARRYING COMBINED FLOOR LOADS FROM MORE THAN ONE LEVEL OR EXTERIOR WALLS (UNO)
- 3. DOUBLE TOP PLATES MATCHING STUDS FOR SIZE AND GRADE SHALL BE PROVIDED AT ALL WALLS (UNO). SPLICES IN PLATES, IF USED, SHALL BE STAGGERED NO LESS THAN 4'-0" o.c.
- 4. 4X6 OR BETTER HEADER BEAMS OR LINTELS SHALL BE PROVIDED AT ALL OPENINGS IN WALLS AND PARTITIONS.
- 5. CONTINUOUS HORIZONTAL 2X FIRE BLOCKING OF DEPTH TO MATCH STUDS SHALL BE PROVIDED AT FLOORS, CEILINGS, SOFFITS AND AT NO MORE THAN 8'-0" o.c. VERTICALLY IN ALL STUD WALLS.
- 6. BORED HOLES IN STUDS SHALL BE PERMITTED ONLY WITHIN THE FOLLOWING RESTRICTIONS:
- a. HOLES SHALL NOT APPROACH WITHIN 3/4" OF EITHER EDGE OF THE STUD.
- b. HOLES SHALL NOT OCCUR WIHIN 6" OF ANY OTHER BORED HOLE, CUT, NOTCH, OR END OF THE STUD.
- c. HOLE DIAMETER SHALL BE LIMITED TO 60% OF WIDTH AT NON-BEARING STUDS IN INTERIOR PARTITIONS SUPPORTING ONLY THEIR OWN WEIGHT AND 40% OF WIDTH AT ALL OTHER STUDS.
- NOTCHING OF STUDS SHALL BE PERMITTED ONLY WITHIN THE FOLLOWING RESTRICTIONS:
- a. NOTCHES SHALL BE NEATLY MADE WITH PREDRILLED CORNERS AND WITHOUT
- b. NOTCHES SHALL NOT OCCUR WITHIN 6" OF ANY OTHER NOTCH, CUT, BORED HOLE, OR END OF THE STUD.
- c. NOTCH DEPTH SHALL BE LIMITED TO 40% OF WIDTH AT NON-BEARING STUDS IN INTERIOR PARTITIONS SUPPORTING ONLY THEIR OWN WEIGHT AND 25% OF WIDTH AT ALL OTHER STUDS.
- d. NOTCH WIDTH SHALL BE LIMITED TO TWICE MAXIMUM PERMITTED DEPTH BUT IN NO CASE MORE THAN SIX INCHES.
- 8. ALL STUD WALLS SHALL BE BRACED BY ONE OF THE FOLLOWING METHODS:

- a. 1/2" GYPSUM BOARD SHEATHING WITH 5d COOLER NAILS AT 7" o.c. TO ALL STUDS AND TOP AND BOTTOM PLATES AND AT 12" o.c. AT ALL OTHER STUDS. EDGE BLOCKING NOT REQUIRED.
- b. OTHER SHEAR RESISTING FINISH APPROVED BY BUILDING DEPARTMENT FOR EQUAL OR GREATER SHEAR STRENGTH THAN ITEM (a) ABOVE.
- c. 1X6 LET IN DIAGONAL BRACING AT NO MORE THAN 25'-0" o.c. ALONG WALL ANGLED TO CROSS AT LEAST FOUR STUD SPACES IN WALL HEIGHT, WITH 2-8d NAILS AT EACH STUD AND AT TOP AND BOTTOM PLATES.
- d. APPROVED STEEL STRAP BRACING SIMILAR TO ITEM (c) ABOVE.
- e. 5/16" PLYWOOD PANELS AT LEAST 4'-0" WIDE AND EXTENDING FULL HEIGHT OF WALL AT NO MORE THAN 25'-0" o.c. WITH 6d NAILS AT 6" o.c. TO STUDS AT VERTICAL SHEET EDGES AND TO TOP AND BOTTOM PLATES AND AT 12" o.c. AT ALL OTHER STUDS. EDGE BLOCKING NOT REQUIRED.
- 10. BEAMS OR GIRDERS SUPPORTED BY HANGERS OR STRUCTURAL STEEL SHALL HAVE AT LEAST 3" OF FIRM BEARING IN A DETAIL APPROVED BY SAA (UNO).
- 11. BEAMS OR GIRDERS SUPPORTED BY CONCRETE OR MASONRY SHALL HAVE AT LEAST 4" OF FIRM BEARING ON SOUND MATERIAL (UNO).
- 12. BEAMS OR GIRDERS SUPPORTED BY TIMBER SHALL HAVE FULL BEARING ACROSS
- THE SECTION OF THE POST, GIRDER OR OTHER SUPPORT (UNO). 13. JOISTS OR RAFTERS SUPPORTED BY METAL HANGERS SHALL HAVE AT LEAST 1%%
- 14. JOISTS OR RAFTERS SUPPORTED BY CONCRETE OR MASONRY SHALL HAVE AT LEAST 3" OF FIRM BEARING ON SOUND MATERIAL (UNO).
- 15. JOISTS OR RAFTERS SUPPORTED BY TIMBER SHALL HAVE FULL BEARING ACROSS THE WIDTH OF BEAMS OR GIRDERS OR THE TOP PLATES OF STUD WALLS OR SHALL BE ALIGNED WITH AND FACE NAILED TO STUDS AND SUPPORTED BY A 1X4 RIBBON STRIP (UNO).
- 16. STABILITY BRACING SHALL BE PROVIDED AT NO MORE THAN 10'-0" o.c. FOR RAFTERS AND 8'-0" FOR JOISTS IN ONE OF THE FOLLOWING WAYS:
- a. CONTINUOUS 2X3 CROSS BRIDGING.
- b. CONTINUOUS FULL DEPTH BLOCKING.
- c. APPROVED METAL BRIDGING.

30 1/2" OF FIRM BEARING (UNO).

- 17. STABILITY BRACING SHALL BE PROVIDED FOR JOISTS AND RAFTERS AT ALL SUPPORTS IN ONE OF THE FOLLOWING WAYS:
- a. CONTINUOUS FULL DEPTH BLOCKING.
- b. FULL NAILING OF A HANGER APPROVED FOR ROTATIONAL RESTRAINT.
- c. END NAILING TO A RIM JOIST OR RAFTER.
- 18. RAFTERS OR JOISTS WITH COMMON INTERIOR BEARINGS SHALL BE LAPPED AT LEAST 4" OVER SUPPORT AND ATTACHED TO ONE ANOTHER WITH 3-16d NAILS.
- 19. FLOOR JOISTS UNDER PARTITIONS PARALLEL TO THEIR SPAN SHALL BE DOUBLED
- 20. DOUBLED JOISTS OR OTHER VERTICALLY LAMINATED MEMBERS SHALL BE SECURELY INTERCONNECTED ALONG THEIR ENTIRE LENGTH.
- a. FASTENERS SHALL BE PLACED AT TOP AND BOTTOM QUARTER POINTS OF DEPTH AND STAGGERED.
- b. FASTENERS FOR 2X MEMBERS LESS THAN 12" DEEP MAY BE 16d NAILS AT 12"
- c. FASTENERS FOR OTHER MEMBERS SHALL BE 1/2" DIAMETER BOLTS AT 24" o.c.
- 21. STRUCTURAL FRAMING MEMBERS SHALL NOT BE NOTCHED WITHOUT SAA'S SPECIFIC APPROVAL
- 22. BORED HOLES IN JOISTS OR RAFTERS SHALL BE PERMITTED ONLY WITHIN THE FOLLOWING RESTRICTIONS:
- a. HOLES SHALL NOT APPROACH WITHIN 2" OF EITHER EDGE OF THE MEMBER.
- b. HOLES SHALL NOT OCCUR WIHIN 12" OF ANY OTHER HOLE OR OF THE END OF
- c. HOLE DIAMETER SHALL BE LIMITED TO ONE-THIRD OF DEPTH.
- 23. END JOINTS IN ADJACENT BOARDS IN LUMBER SHEATHING SHALL BE SEPARATED BY AT LEAST TWO SUPPORT SPACES AND AT LEAST TWO BOARDS SHALL SEPARATE ANY TWO JOINTS ON THE SAME SUPPORT.
- 24. NAILS DRIVEN PERPENDICULAR TO GRAIN SHALL BE USED IN FAVOR OF TOE NAILS WHENEVER POSSIBLE.
- 25. WHEN TOE NAILS MUST BE USED, THEY SHALL BE DRIVEN AT AN ANGLE OF APPROXIMATELY THIRTY DEGREES TO THE FACE AND STARTED APPROXIMATELY ONE-THIRD OF THEIR LENGTH FROM THE END OF THE PIECE.
- 26. IMPROPERLY INSTALLED TOE NAILS SHALL NOT BE CONSIDERED AS HAVING STRUCTURAL VALUE AND MEMBERS DAMAGED BY IMPROPER TOE NAILING SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- 27. BOLT HOLES, INCLUDING THOSE AT SILL ANCHORS, SHALL BE NO LESS THAN 1/32" AND NO MORE THAN 1/16" LARGER THAN THE NOMINAL DIAMETER OF THE FASTENER (UNO). OVERSIZE BOLT HOLES SHALL BE SUFFICIENT CAUSE FOR REJECTION OF THE WORK.
- 28. THE CONTRACTOR SHALL VERIFY AND RETIGHTEN ALL BOLTS PRIOR TO APPLICATION OF FINISH OR TO OTHER CONSTRUCTION WHICH WOULD MADE THEM
- 29. NEITHER BOLTS, LAG SCREWS NOR WOOD SCREWS SHALL BE HAMMERED OR OTHERWISE DRIVEN INTO PLACE. DRIVING OF SUCH MEMBERS SHALL BE SUFFICIENT CAUSE FOR REJECTION OF THE FASTENING.
- 30. FRAMING HARDWARE SHALL BE INSTALLED WITH PROPER SIZE, LOCATION AND NUMBER OF FASTENERS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND CONDITIONS OF RELEVANT APPROVALS.
- 31. SILL PLATES AT STUD WALLS SHALL BE PROPERLY DETAILED AND ANCHORED:
- a. SILLS SHALL BE 3X MINIMUM (UNO).
- b. SILLS BEARING ON MASONRY OR CONCRETE SHALL BE SECURED IN POSITION WITH NO LESS THAN 1/2" ANCHOR BOLTS AT 48" o.c. MAXIMUM WITH AT LEAST 7" EMBEDMENT INTO SOUND CONCRETE OR MASONRY GROUT.
- c. SILL ANCHOR BOLTS SHALL BE PROVIDED WITHIN 9" OF EACH END OF EACH PIECE AND NO PIECE SHALL HAVE LESS THAN TWO BOLTS.
- d. SILL ANCHOR BOLTS SHALL BE ARRANGED TO AVOID INTERFERENCE WITH FRAMING WHENEVER POSSIBLE.
- 32. WHERE GYPSUM BOARD, PLYWOOD OR OTHER STRUCTURAL SHEATHING IS SPECIFIED IN THE STRUCTURAL DRAWINGS, JOINTS SHALL NOT BE TAPED OR FINISH APPLIED UNTIL ATTACHMENT TO SUPPORTING FRAMING HAS BEEN INSPECTED AND APPROVED.
- 33. WHERE PLASTER OR STUCCO IS SPECIFIED IN THE STRUCTURAL DRAWINGS, APPLICATION SHALL NOT BEGIN UNTIL LATH TYPE AND ATTACHMENT TO SUPPORTING FRAMING HAS BEEN INSPECTED AND APPROVED.

EXCAVATIONS AND FOUNDATIONS

- A. FOUNDATION EXCAVATION AND CONSTRUCTION SHALL BE ACCOMPLISHED IN A MANNER CONSISTENT WITH DESIGN ASSUMPTIONS:
- 1. FOOTINGS SHALL BE FOUNDED NO LESS THAN TWO FEET (2'-0") BELOW LOWEST ADJACENT FINISH GRADE, SLAB OR PAVEMENT AND BE EMBEDDED INTO NATIVE SOIL OR CERTIFIED COMPACTED FILL.
- B. ALL EXCAVATION AND GRADING OPERATIONS SHALL BE CONDUCTED IN ACCORDANCE WITH REQUIREMENTS OF GOVERNING AUTHORITIES AND IN A MANNER CONSISTENT WITH QUALITY CONSTRUCTION STANDARDS.
- 1. EXCAVATIONS SHALL BE LAID BACK OR SHORED AS REQUIRED FOR SAFETY AND STABILITY AT ALL STAGES OF THE WORK.
- 2. ADEQUATE PROVISIONS FOR DRAINAGE AND REMOVAL OF RAINWATER, AND GROUNDWATER IF PRESENT, SHALL BE INCORPORATED INTO TEMPORARY SLOPES OR GRADED SURFACES IN ORDER TO PRESERVE STABILITY AND PROTECT AGAINST ILLEGAL, DANGEROUS, UNSIGHTLY, OR OTHERWISE INAPPROPRIATE RUN-
- 3. BACKFILL WHICH WILL SUPPORT STRUCTURAL LOADS SHALL BE PLACED IN LIFTS AND COMPACTED TO AT LEAST 95% OF MAXIMUM DENSITY UNDER THE
- SUPERVISION OF GEOTECHNICAL ENGINEER. 4. BACKFILL SHALL NOT BE PLACED AGAINST NEW RETAINING STRUCTURES UNTIL THEY AND THEIR SUPPORTS HAVE ACHIEVED THEIR DESIGN STRENGTH UNLESS
- APPROPRIATE TEMPORARY SUPPORTS ARE PROVIDED. 5. COMPACTION METHODS USED FOR BACKFILL BEHIND RETAINING STRUCTURES SHALL TAKE SURCHARGE OF THOSE STRUCTURES INTO CONSIDERATION.

APPROPRIATE TEMPORARY SUPPORTS SHALL BE PROVIDED AS NECESSARY

- 6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR TO THE SATISFACTION OF OWNER, LANDLORD, ARCHITECT, BUILDING DEPARTMENT, AND SAA OF ANY DAMAGE TO RETAINING STRUCTURES CAUSED BY PREMATURE BACKFILLING, COMPACTION EFFORTS, OR OTHER CONSTRUCTION SURCHARGE.
- 7. CONCRETE SHALL NOT BE PLACED IN EXCAVATIONS CONTAINING STANDING WATER WITHOUT PRIOR APPROVAL. REQUESTS FOR SUCH APPROVAL SHALL INCLUDE DETAILED DESCRIPTION OF APPROPRIATE WET PLACEMENT PROCEDURES THAT SHALL BE SUBJECT TO THE APPROVAL OF GEOTECHNICAL ENGINEER, BUILDING DEPARTMENT, AND SAA AND WHICH, IF APPROVED, SHALL BE STRICTLY FOLLOWED.

STRUCTURAL CONCRETE

- A. IN ADDITION TO CODE, THE FOLLOWING SPECIFICATIONS AND STANDARDS APPLY TO STRUCTURAL CONCRETE WORK FOR PROJECT:
- ACI BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE (ACI 318).
- ACI CODE OF STANDARD PRACTICE.
- 3. ASTM C33 FOR AGGREGATE (UNO).
- 4. ASTM C330 FOR AGGREGATE FOR STRUCTURAL LIGHTWEIGHT CONCRETE (AS SPECIFIED).
- 5. ASTM C150 TYPE I OR II FOR CEMENT. ALL STRUCTURAL CONCRETE IN CONTACT WITH SOIL SHALL BE MADE WITH TYPE II CEMENT.
- 6. ASTM C260 FOR AIR ENTRAINING ADMIXTURES WHERE SPECIFIED OR ADDED AT CONTRACTOR'S OPTION.
- 7. ASTM C494 FOR WATER-REDUCING, RETARDING, ACCELERATING, WATER-REDUCING AND RETARDING OR WATER-REDUCING AND ACCELERATING ADMIXTURES WHERE SPECIFIED OR ADDED AT CONTRACTOR'S OPTION.
- 8. ASTM C618 FOR FLY ASH OR OTHER POZZOLANIC ADMIXTURES WHERE SPECIFIED OR ADDED AT CONTRACTOR'S OPTION. NO MORE THAN 15% OF THE TOTAL CEMENT CONTENT IN ANY STRUCTURAL CONCRETE MIX SHALL BE SUCH MATERIAL
- 9. ASTM C94 FOR READY-MIXED CONCRETE. ALL STRUCTURAL CONCRETE SHALL BE DELIVERED TO THE SITE READY-MIXED.
- B. STRUCTURAL CONCRETE SHALL BE OF SPECIFIED TYPES AND STRENGTHS AND OF QUALITY COMPATIBLE WITH THE REQUIREMENTS OF THE WORK.
- ALL STRUCTURAL CONCRETE SHALL HAVE AN ULTIMATE COMPRESSIVE STRENGTH OF AT LEAST 3000 PSI AT THE AGE OF 28 DAYS (UNO). STRUCTURAL CONCRETE FOR THIS PROJECT DESIGNED USING 3000 PSI BUT CONTRACTOR TO PLACE 4000 PSI MATERIAL (NO SPECIAL INSPECTION REQUIRED).
- 2. ALL STRUCTURAL CONCRETE SHALL BE STONE TYPE WITH A FULLY CURED DENSITY BETWEEN 140 AND 150 PCF (UNO).
- 3. STRUCTURAL LIGHTWEIGHT CONCRETE, WHERE SPECIFIED, SHALL HAVE A FULLY CURED DENSITY BETWEEN 110 AND 120 PCF (UNO).

4. SLUMPS OF STRUCTURAL CONCRETE SHALL BE AS SMALL AS PRACTICAL FOR THE

USED IN THE WORKWITHOUT THE SPECIFIC WRITTEN APPROVAL OF SAA.SLUMP

CEMENTITIOUS MATERIAL OBTAINING AN ULTIMATE COMPRESSIVE STRENGTH OF

AT LEAST 5000 PSI ATTHE AGE OF 28 DAYS WHEN TESTED IN ACCORDANCE WITH

PREPARED AND PLACED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

- INTENDED APPLICATION AND SHALL COMPLY WITH RECOMMENDATIONS OF REFERENCED STANDARDS AND LIMITATIONS OF THE MIX DESIGN. 5. NO CONCRETE WITH MEASURED SLUMP GREATERTHAN SIX INCHES SHALL BE
- MAY BE MEASURED AT POINT OF PLACEMENT. C. GROUT AND DRYPACK SHALL BE TREATED AS STRUCTURAL CONCRETE AND SHALL BE
- SUBJECT TO ALL APPLICABLE REQUIREMENTS OF THESE NOTES (UNO). GROUT SHALL BE A HIGH-STRENGTH SHRINKAGE-COMPENSATING ("NONSHRINK")
- 2. GROUT SHALL BE A PRE-ENGINEERED PRODUCT ACCEPTABLE TO BUILDING

ASTM C109.

DEHYDRATION OF THE MATERIAL.

PLACEMENT.

- DEPARTMENT AND SAA. 3. GROUT SHALL BE DELIVERED TO THE SITE PREMIXED IN MANUFACTURERS ORIGINAL PACKAGING. ONLY WATER SHALL BE ADDED ON SITE. GROUT SHALL BE
- 4. GROUT SHALL BE MIXED TO A UNIFORM FLUID CONSISTENCY, POURED INTO FORMS AS REQUIRED, AND CHAINED OR RODDED TO ASSURE THAT ALL VOIDS ARE
- 5. GROUT CONTAINING METALLIC ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF BOTH ARCHITECT AND SAA.
- CONSISTENCY. CARE SHALL BE TAKEN TO ASSURE UNIFORMITY PRIOR TO 7. EXISTING CONCRETE OR OTHER POROUS SURFACES AGAINST WHICH GROUT OR

6. DRYPACK, WHERE SPECIFIED, SHALL BE GROUT MIXED TO A STIFF CLAY-LIKE

8. INSPECTION REQUIREMENTS FOR STRUCTURAL GROUT AND DRYPACK SHALL BE AS FOR STRUCTURAL CONCRETE EXCEPT THAT CUBES RATHER THAN CYLINDERS MAY BE TAKEN FOR COMPRESSIVE STRENGTH TESTING.

DRYPACK IS TO BE PLACED SHALL BE MOISTENED TO PREVENT PREMATURE

9. CONSISTENCY, POURED INTO FORMS AS REQUIRED, AND CHAINED OR RODDED TO ASSURE THAT ALL VOIDS ARE FILLED.

10. GROUT CONTAINING METALLIC ADMIXTURES SHALL NOT BE USED WITHOUT THE

- WRITTEN APPROVAL OF BOTH ARCHITECT AND SAA. 11. DRYPACK, WHERE SPECIFIED, SHALL BE GROUT MIXED TO A STIFF CLAY-LIKE CONSISTENCY. CARE SHALL BE TAKEN TO ASSURE UNIFORMITY PRIOR TO
- 12. EXISTING CONCRETE OR OTHER POROUS SURFACES AGAINST WHICH GROUT OR DRYPACK IS TO BE PLACED SHALL BE MOISTENED TO PREVENT PREMATURE DEHYDRATION OF THE MATERIAL.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MIX DESIGNS.

- 1. MIX DESIGNS FOR CONCRETE WITH SPECIFIED STRENGTH UP TO 2500 PSI MAY BE BY SUPPLIER AND NEED NOT BE SUBMITTED FOR REVIEW PRIOR TO USE.
- 2. MIX DESIGNS FOR CONCRETE WITH SPECIFIED STRENGTH GREATER THAN 2500 PSI SHALL BE BY A CALIFORNIA LICENSED CIVIL ENGINEER IN THE EMPLOY OF A CERTIFIED INDEPENDENT TESTING LABORATORY ACCEPTABLE TO BUILDING DEPARTMENT AND SAA. COSTS OF SUCH DESIGN SHALL BE BORNE BY THE CONTRACTOR.
- 3. CALCIUM CHLORIDE OR OTHER ADMIXTURES CONTAINING CHLORIDE OTHER THAN AS AN IMPURITY SHALL NOT BE USED IN STRUCTURAL CONCRETE WITHOUT THE WRITTEN APPROVAL OF SAA.
- 4. COPIES OF EACH MIX DESIGN, BEARING THE SEAL AND SIGNATURE OF THEIR DESIGNER AND ACCOMPANIED BY CERTIFIED RESULTS OF 7 AND 28 DAY TRIAL BATCH CYLINDER TEST RESULTS, SHALL BE SUBMITTED TO BUILDING DEPARTMENT AND SAA NO LESS THAN TWO WORKING DAYS BEFORE USE.
- COPIES OF THE MIX DESIGN SHALL BE PRESENT AT BATCH PLANT AND JOB SITE
- E. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING PROPER PREPARATIONS PRIOR TO THE PLACEMENT OF STRUCTURAL CONCRETE.
- 1. THE CONTRACTOR SHALL DESIGN AND CONSTRUCT COMPETENT FORMS AS REQUIRED AND SHALL BE SOLELY RESPONSIBLE FOR THEIR ADEQUACY.
- 2. REINFORCEMENT SHALL BE PLACED AS CLOSE TO THE SURFACE OF CONCRETE AS PERMITTED WHILE MAINTAINING MINIMUM COVER AS FOLLOWS (UNO):
- a. AT SURFACES CAST AGAINST EARTH -- THREE INCHES (3").

b. AT SURFACES EXPOSED TO EARTH OR WEATHER:

 FOR #6 OR LARGER BARS -- TWO INCHES (2"). FOR #5 AND SMALLER -- ONE AND ONE-HALF INCHES (1-1/2").

5. EXCEPT FOR SIMPLE, SYMMETRICAL, UNIFORM CONFIGURATIONS, THE

- 3. PROJECTING CORNERS OF EXPOSED CONCRETE STRUCTURAL MEMBERS SHALL BE FORMED WITH 3/4" CHAMFER (UNO).
- 4. REINFORCING STEEL, ANCHOR BOLTS, AND OTHER INSERTS SHALL BE SECURED IN POSITION BEFORE CONCRETE PLACEMENT. SETTING DURING OR AFTER PLACEMENT SHALL NOT BE PERMITTED (UNO).
- CONTRACTOR SHALL PREPARE REINFORCEMENT PLACEMENT DRAWINGS. COPIES OF THESE DRAWINGS SHALL BE AVAILABLE FOR REFERENCE ON SITE AT LEAST ONE WORKING DAY BEFORE PLACEMENT OF CONCRETE AND BEFORE ANY INSPECTION OF THE REINFORCEMENT OR FORMWORK.
- 6. THE CONTRACTOR SHALL COORDINATE WITH ALL TRADES BEFORE PLACEMENT OF CONCRETE TO ASSURE PROPER INCORPORATION OF REQUIRED SLEEVES, INSERTS, CURBS, DEPRESSIONS AND SIMILAR ITEMS.
- CORRECTIVE ACTION IN CASE OF ITEMS IMPROPERLY LOCATED OR OMITTED FROM CONCRETE PLACEMENT. 8. THE CONTRACTOR SHALL SUBMIT SKETCHES SHOWING SIZE AND LOCATION OF

ANY REQUIRED SLEEVE, INSERT, DEPRESSION, OR OTHER MODIFICATION TO

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADDITIONAL COSTS OF

STRUCTURAL CONCRETE NOT SHOWN IN THESE STRUCTURAL DESIGN DRAWINGS TO SAA FOR REVIEW AND SHALL OBTAIN ITS APPROVAL BEFORE PLACEMENT. F. CONCRETE SHALL BE PLACED, FINISHED, AND CURED IN ACCORDANCE WITH THE

RECOMMENDATIONS OF REFERENCED STANDARDS.

AND EMBEDDED ITEMS.

- STRUCTURAL CONCRETE WITH SPECIFIED STRENGTH GREATER THAN 2500 PSI SHALL BE PLACED UNDER THE CONTINUOUS SUPERVISION OF A DEPUTY INSPECTOR LICENSED BY BUILDING DEPARTMENT. THIS INSPECTOR'S WORK SHALL INCLUDE PRE-PLACEMENT INSPECTION OF FORMWORK, REINFORCEMENT
- EXISTING CONCRETE AGAINST WHICH NEW CONCRETE IS TO BE PLACED SHALL BE ROUGHENED TO AT LEAST 1/4" AMPLITUDE TO EXPOSE COARSE AGGREGATE, SANDBLASTED OR OTHERWISE THOROUGHLY CLEANED BY AN APPROVED METHOD, MOISTENED AND SCOURED WITH A CEMENT/WATER PASTE IMMEDIATELY PRIOR TO PLACEMENT OF NEW MATERIAL.
- 3. COLD JOINTS IN STRUCTURAL CONCRETE SHALL BE MADE AT LOCATIONS INDICATED IN DESIGN DRAWINGS OR APPROVED BY SAA. INCORPORATION OF UNAPPROVED JOINTS SHALL BE SUFFICIENT CAUSE FOR REJECTION OF WORK.

4. CURING COMPOUNDS, IF USED, SHALL BE OF APPROVED TYPES. THE

PROPOSED FOR USE ON SURFACES TO RECEIVE FINISH FROM THE FINISH MANUFACTURER PRIOR TO APPLICATION. 5. FORMS SHALL BE KEPT DAMP AND STRUCTURAL CONCRETE SURFACES EXPOSED

CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL OF CURING COMPOUNDS

TO THE ENVIRONMENT SHALL BE MOIST CURED OR OTHERWISE PROTECTED

- AGAINST PREMATURE DEHYDRATION FOR AT LEAST 72 HOURS AFTER PLACEMENT. G. CONCRETE SHALL BE TESTED AND INSPECTED IN ACCORDANCE ACI-318 REQUIREMENTS BY QUALIFIED TECHNICIANS UNDER THE SUPERVISION OF A LICENSED
- CIVIL ENGINEER. 1. FOUR TEST CYLINDERS FROM EACH 150 YARDS, OR FRACTION THEREOF, POURED IN ANY ONE DAY, SHALL BE SECURED AND TESTED BY AN INDEPENDENT TESTING AGENCY; ONE TO BE TESTED AT 7 DAYS, TWO AT 28 DAYS, AND THE FOURTH HELD
- IN RESERVE. 2. QUALIFIED FIELD TESTING TECHNICIANS SHALL PERFORM TESTS ON FRESH CONCRETE AT THE JOB SITE, PREPARE SPECIMENS REQUIRED FOR CURING UNDER FIELD CONDITIONS. PREPARE SPECIMENS REQUIRED FOR TESTING IN THE LABORATORY, AND RECORD THE TEMPERATURE OF THE FRESH CONCRETE WHEN PREPARING SPECIMENS FOR STRENGTH TESTS. QUALIFIED LABORATORY

3. THE CONTRACTOR SHALL REMOVE AND REPLACE ANY CONCRETE WHICH FAILS TO

ATTAIN SPECIFIED STRENGTH IN 28 DAYS IF SO DIRECTED BY THE ENGINEER OF

RECORD. ANY DEFECTS IN THE HARDENED CONCRETE SHALL BE SATISFACTORILY

TECHNICIANS SHALL PERFORM ALL REQUIRED LABORATORY TESTS.

REPAIRED OR THE HARDENED CONCRETE SHALL BE REPLACED.

REINFORCING STEEL

- A. IN ADDITION TO CODE, THE FOLLOWING SPECIFICATIONS AND STANDARDS APPLY TO THE MANUFACTURE, FABRICATION AND INSTALLATION OF REINFORCING STEEL IN STRUCTURAL CONCRETE AND/OR MASONRY WORK FOR PROJECT:
- 2. ASTM A615 GRADE 60 FOR ALL REINFORCING STEEL (UNO).
- 3. ASTM A185 FOR COLD DRAWN WELDED WIRE FABRIC (UNO). 4.AWS D1.4 FOR WELDING OF REINFORCING STEEL.
- B. QUALITY DETAILING AND CONSTRUCTION STANDARDS SHALL BE OBSERVED.
 - REINFORCEMENT SHALL BE TRACEABLE FROM SOURCE TO SITE AND SHALL BE SAMPLED AND TESTED TO CONFIRM PHYSICAL PROPERTIES AS REQUIRED BY BUILDING DEPARTMENT OR OTHERWISE NOTED IN THE PROJECT SPECIFICATION.
- 2. REINFORCEMENT DELIVERED TO THE SITE SHALL BE ACCOMPANIED BY APPROPRIATE TESTING REPORTS AND CERTIFICATION, INCLUDING EVIDENCE OF CONFORMANCE WITH SPECIAL DUCTILITY REQUIREMENTS SPECIFIED ABOVE.
- 3. LACK OF CERTIFICATION OR INADEQUATE CERTIFICATION SHALL BE SUFFICIENT CAUSE FOR REJECTION OF MATERIAL. UNCERTIFIED OR INADEQUATELY CERTIFIED MATERIAL SHALL NOT BE STORED AT THE SITE OR USED IN THE WORK AND IF DELIVERED TO THE SITE SHALL BE IMMEDIATELY REMOVED.
 - 4. SUBJECT TO SAA'S WRITTEN APPROVAL, REINFORCEMENT NOT MEETING THE SPECIAL DUCTILITY REQUIREMENTS SPECIFIED ABOVE (NOTE 2) MAY BE PERMITTED IN LOCATIONS NOT SUBJECT TO YIELDING UNDER SEISMIC LOAD.
- 5. BARS SHALL BE COLD BENT AS DETAILED OR OTHERWISE NECESSARY AROUND PINS OF REQUIRED RADIUS. REBENDING OF BARS SHALL NOT BE PERMITTED (UNO).
- BENDS SHALL BE MADE IN SHOP WHENEVER POSSIBLE. BENDING OF IN PLACE BARS IN ANY MANNER WHICH MIGHT CAUSE STRESS TO EXISTING CONCRETE SHALL NOT
- 7. RUST, GREASE, MILL SCALE OR OTHER MATERIAL WHICH MIGHT EFFECT BOND TO CONCRETE SHALL BE REMOVED IN AN APPROVED MANNER WITHOUT DAMAGE TO THE REINFORCEMENT AND BEFORE PLACEMENT OF CONCRETE.

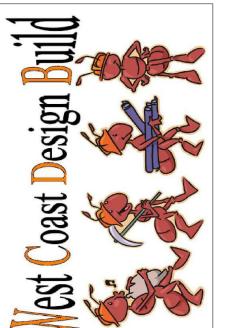
8. SEE CONCRETE NOTES FOR PLACEMENT DRAWING REQUIREMENTS

SHALL BE FABRICATED AND PLACED AT SAA'S DIRECTION.

THE CONSTRUCTION DOCUMENTS. ADDITIONAL TRIM AND CRACK CONTROL STEEL MAY BE REQUIRED DURING THE PROGRESS OF THE WORK. AN ALLOWANCE OF AT LEAST ONE PERCENT BY WEIGHT OF

WELDING OF REINFORCEMENT IS NOT PERMITTED, UNLESS SPECIFICALLY DETAILED IN

THE TOTAL REINFORCEMENT SHALL BE SET ASIDE FOR THIS PURPOSE. SUCH STEEL









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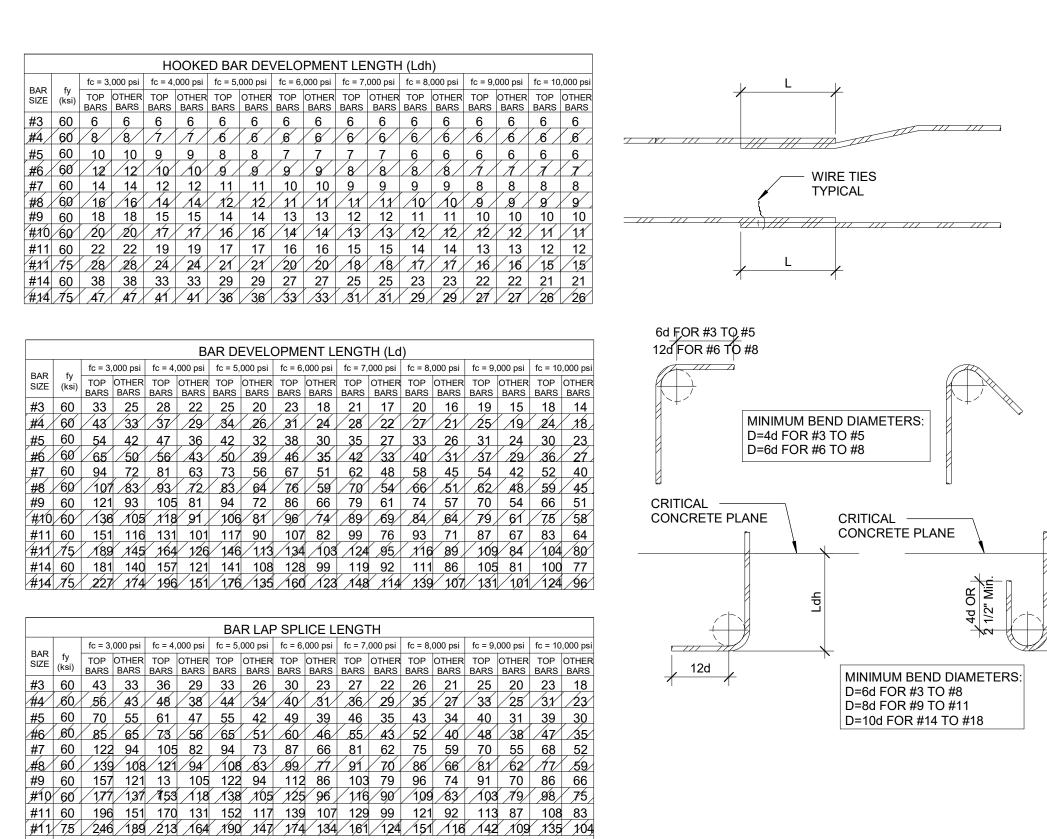
DATE:

09/06/2024

AS NOTED 048-022-370

SYM. REVISIONS DATE

SCALE:



NOTES:

- 1. TABULATED VALUES IN INCHES FOR NORMAL CONCRETE AND UNCOATED REINFORCING STEEL, FOR LIGHTWEIGHT CONCRETE INCREASE LENGTHS BY 30% FOR EPOXY COATED INCREASE LENGTHS BY 50%.
- BY 50%.

 2. TABULATED LAP SPLICE LENGTHS ARE FOR CLASS "B" SPLICES AS DEFINED IN ACI 318.9 FOR CLASS A SPLICES REDUCE LENGTH BY 30%. CLASS A SPLICES MAY BE USED WHEN SPECIFICALLY CALLED ON DRAWINGS AND IF ONE HALF OR LESS OF THE TOTAL NUMBER OF BARS ARE SPLICED
- WITHIN THE REQUIRED LAP LENGTH.

 3. BAR DEVELOPMENT LENGTHS AND SPLICE LENGTHS OF INDIVIDUAL BARS WITHIN A BUNDLE SHALL BE INCREASED BY 20% FOR A 3-BAR BUNDLE AND 33% FOR A 4-BAR BUNDLE.
- 4. TOP BARS ARE DEFINED AS HORIZONTAL BARS WITH MORE THAN 12" OF CONCRETE CAST BELOW THE BAR.
- 5. FOR COMPRESSION LAP SPLICE LENGTH (ONLY WHERE INDICATED ON DRAWINGS) USE 30 BAR DIAMETER, NOT LESS THAN 12".
- 6. MECHANICAL SPLICES MAY BE USED AT CONTRACTOR'S OPTION. MECHANICAL SPLICES SHALL BE TYPE 2 AS DEFINED IN ACI 318 AND SHALL DEVELOP IN TENSION AT LEAST 125% OF THE SPECIFIED YIELD STRENGTH (Fy) OF THE SPLICED BAR.
- WHERE MECHANICAL SPLICES ARE USED, STAGGER ADJACENT SPLICES BY 24" O.C.
- 8. THE SMALLER BAR SPLICE LENGTH SHALL BE USED WHEN SPLICING DIFFERENT SIZED BARS.



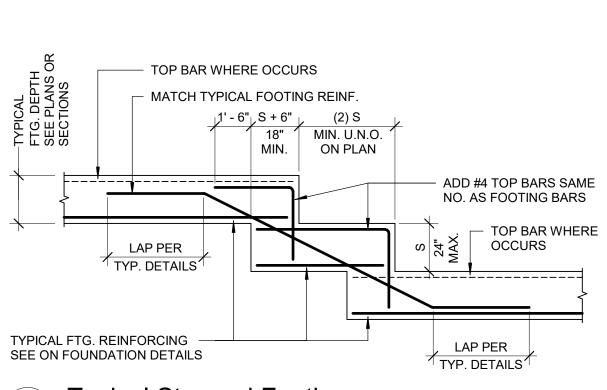
STRUCTURAL •

PHONE: 323-448-4682

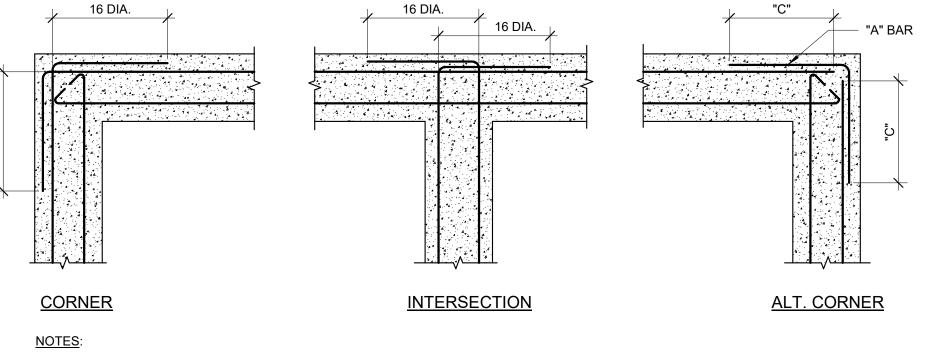
Tension Lap Splice & Embedment Length in Concrete

S-0.3 NOT TO SCALE

#14 USE MECHANICAL SPLICE



5 Typical Stepped Footing

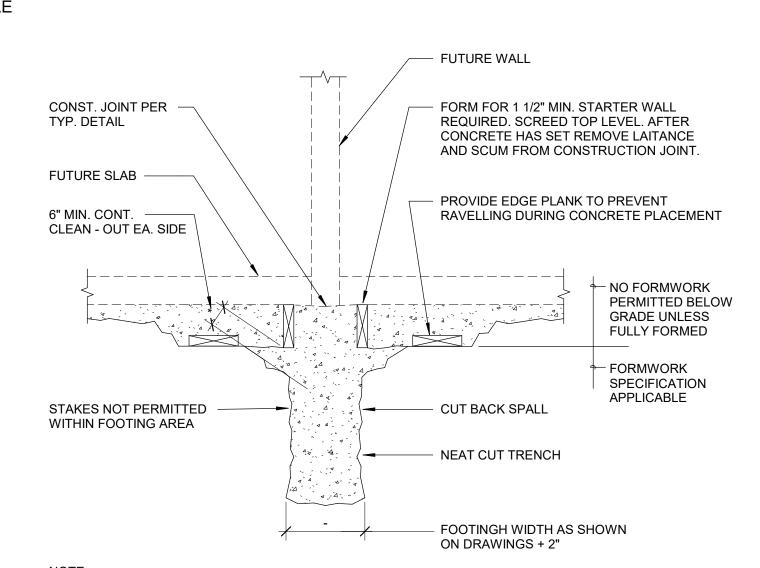


NOTES:

1. IF "A" BAR IS USED, "C" IS BASED UPON ACI CLASS "B" SPLICE PER DETAIL 1, THIS SHEET.

- 2. WHERE SINGLE LAYER OF REINFORCEMENT OCCURS, BEND BARS AS SHOWN FOR BARS AT OUTSIDE FACE.
- 3. AT INTERSECTIONS, ALTERNATE BENDS IN EACH DIRECTION.
- 4. WHERE SPLICES OF DIFFERENCT SIZE BARS OCCUR, CORNER DOWEL SIZE AND LAPS ARE BASED ON LARGER BAR SIZE.

4 Concrete Wall Corners



NOTE:

ALL FOOTINGS POURED AGAINST EARTH ARE SUBJECT TO APPROVAL OF SOIL AND STRUCTURAL ENGINEERS AND MUST BE CONSTRUCTED IN THE MANNER SHOWN UNLESS SPECIFICALLY NOTED OTHERWISE



TYPIC New Single TAFFERA

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DATE:

09/06/2024

SCALE:

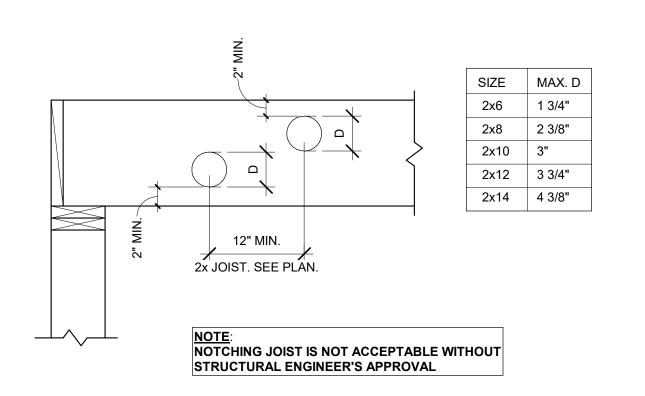
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048-022-370
SYM. REVISIONS DATE

SHEET NO.

S-0.3



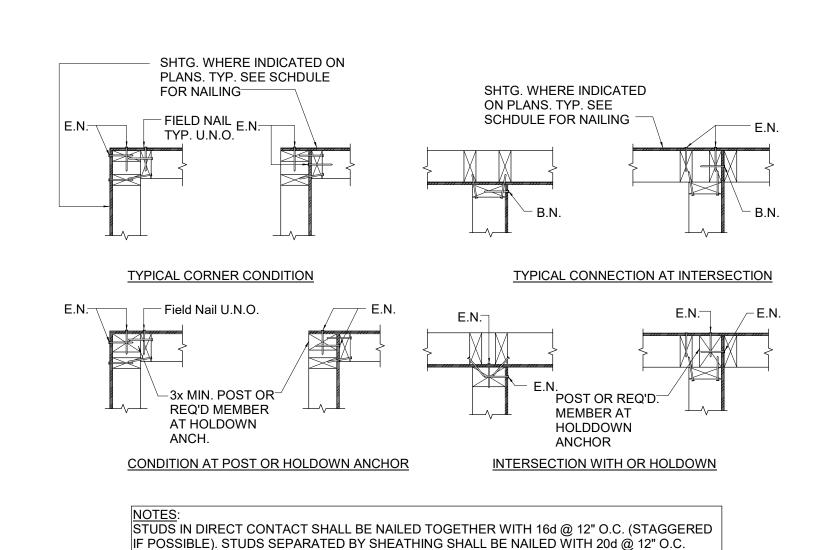
Typical Boring of Joists

4'-0" MIN. PLATE SPLICE (2) 2x TOP PLATE LINTEL (SOLID OR BUILT-UP) PER PLANS 2x BLK. AT MID-HEIGHT SIMPSON A35 OR 8'-0" MAX. (A34 @ 2x4) 16d@12"STAGGERED EA STUD TO STUD DBL. STUD WHEN 2x PRESSURE -OPNG EXCEEDS TREATED D.F. SILL **EXCEPT AS NOTED** JACK STUD (PROVIDE (2) JACK 5" Min STUDS AT OPNGS MIN. SILL BOLTS -OVER 6'-0" WIDE) 9" Max 5/8" DIA. x 12" @ 4'-0" O.C. (U.O.N.) 3/4" MIN., 1" MAX. DRYPACK AS REQ'D. SEE DETAIL A FOR TO LEVEL. WHERE TROWELED ANCHOR BOLL SURFACE IS LEVEL (1/8" MAX. IN 10-0") **BRIDGING DETAIL** - 2x STUDS -DRYPACK IS NOT RÈQ'D. 2x FLAT 2x BLOCKING DRY PACK **ANCHOR BOLT**

DETAIL A

Stud Wall Framing NOT TO SCALE

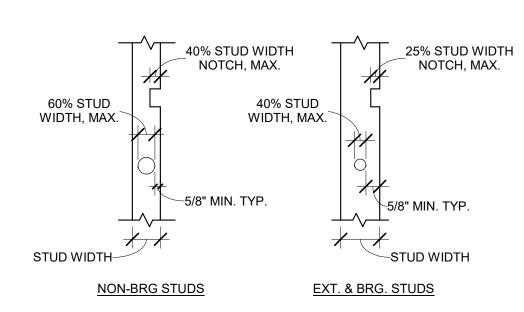
WHERE REQ'D



Shear Wall Corners & Intersections

U.N.O. PRE-DRILLED HOLES ARE REQUIRED FOR 20d SPIKES.

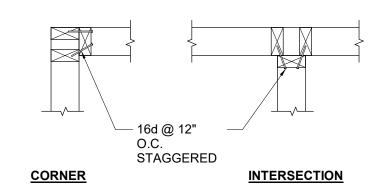
NOT TO SCALE



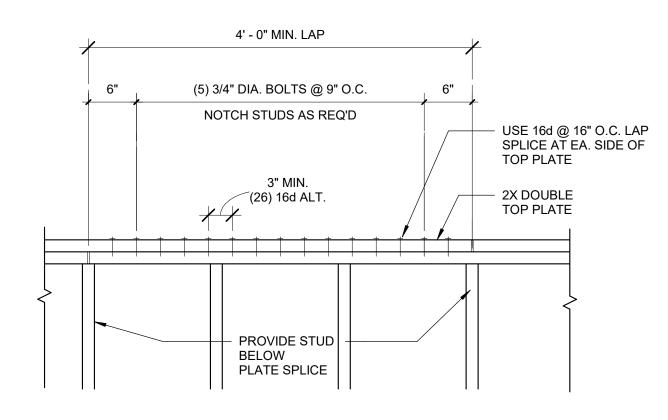
NOTE: NOTCH AND BORING NOT TO OCCUR IN	
	NOTE:
CAME CTUD CECTION	NOTCH AND BORING NOT TO OCCUR IN
SAME STUD SECTION.	SAME STUD SECTION.

NOTCH/BORE % OF STUD	2x4	2x6
25%	7/8"	1 3/8"
40%	1 3/8"	2 1/8"
60%	2"	3 1/4"

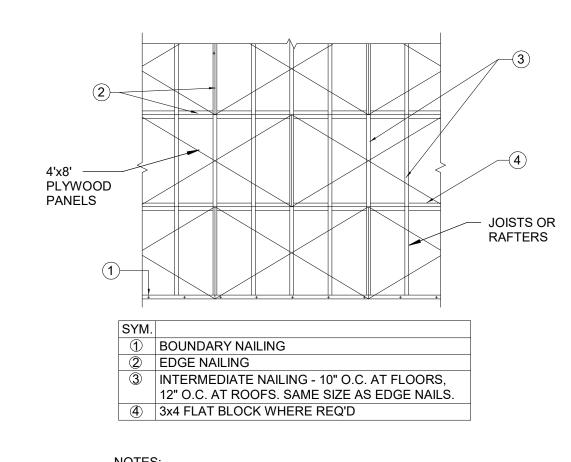
Typical Notching & Boring of Studs



Typ. Stud Wall Corners & Intersections



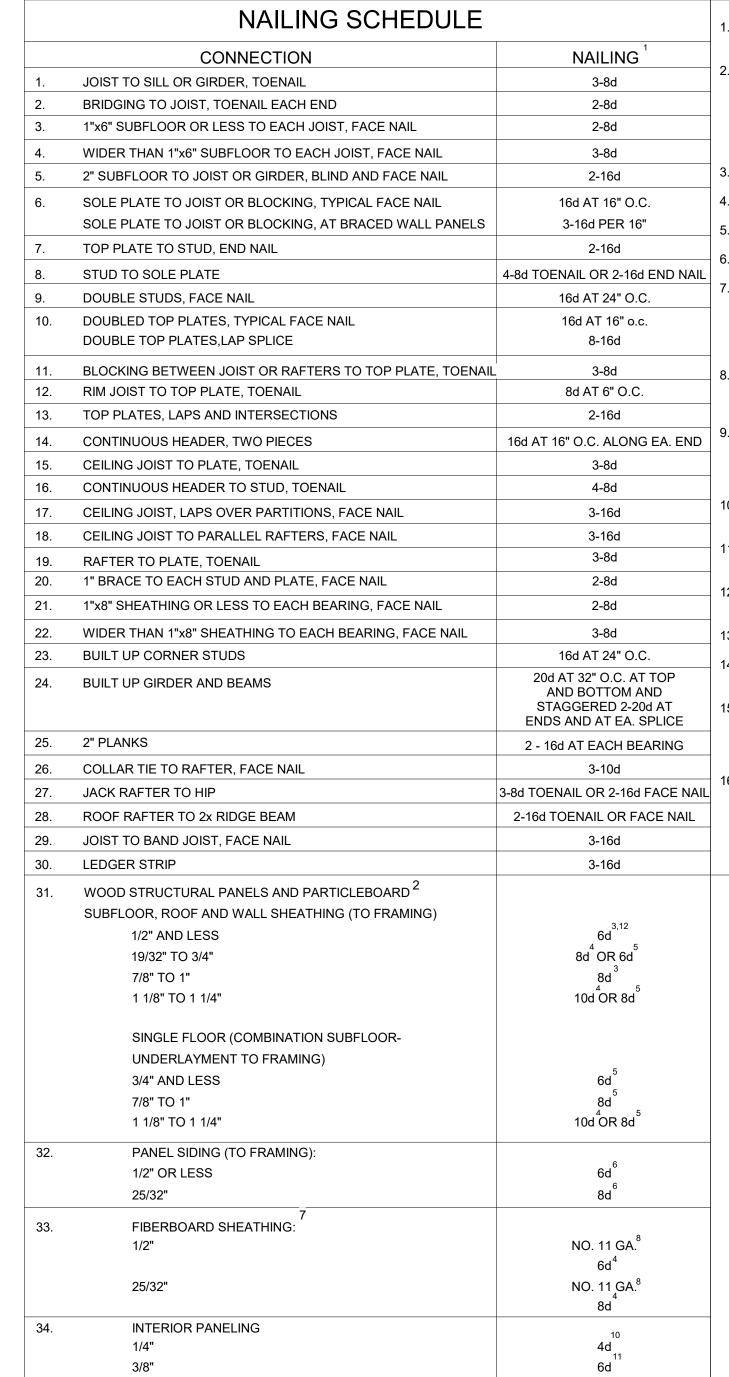
Double Top Plate Splice NOT TO SCALE

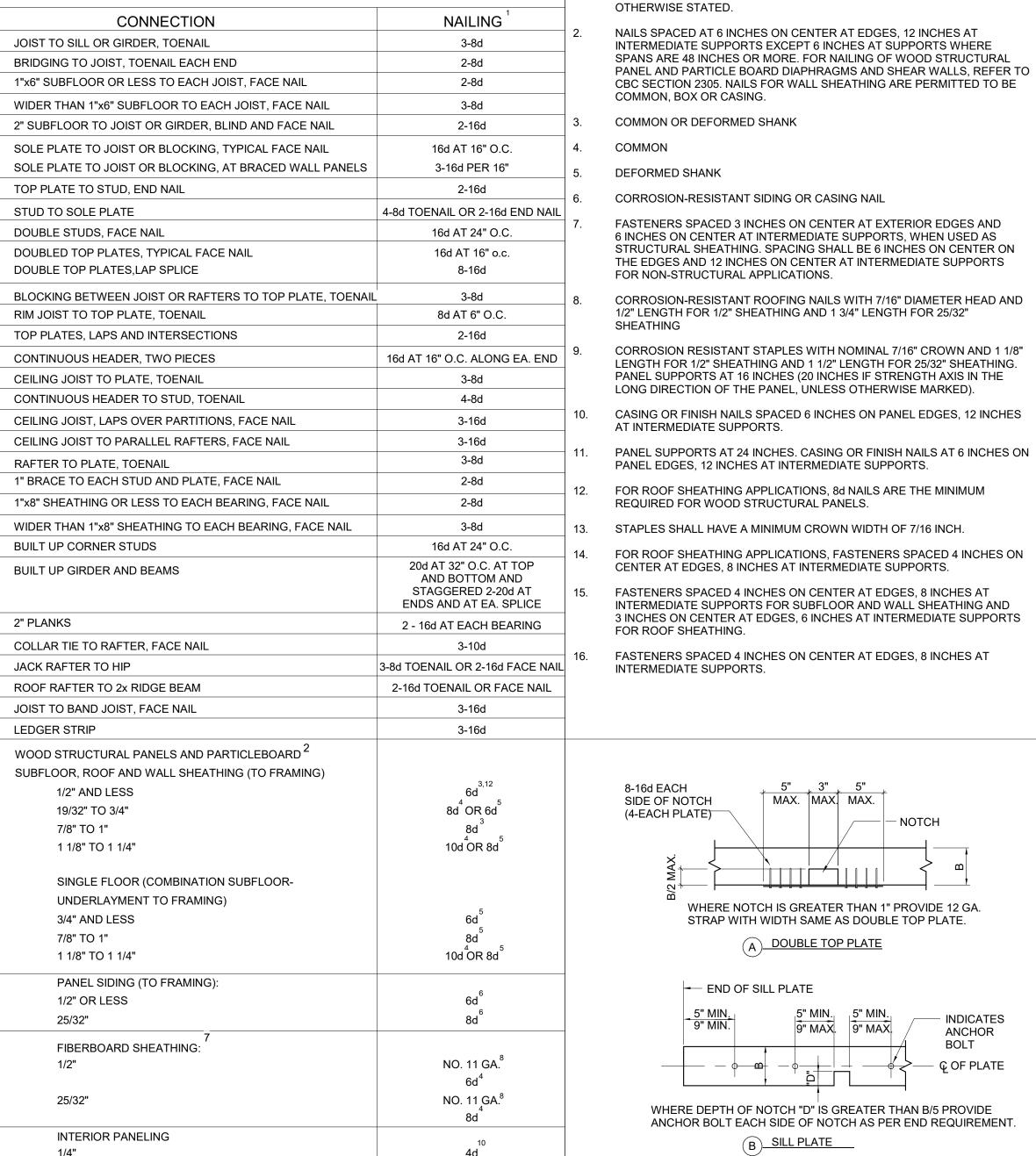


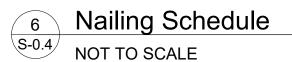
NOTES:

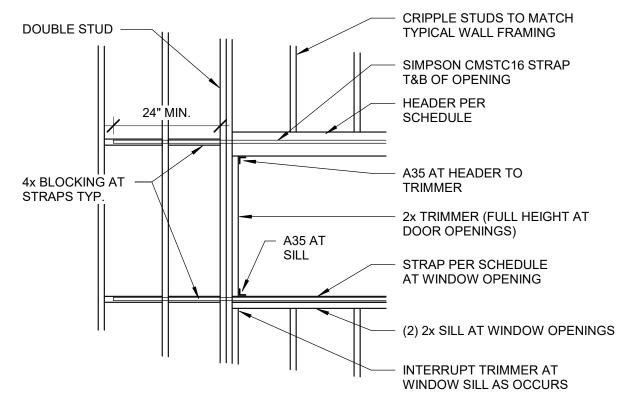
1. PLYWOOD THICKNESS AND NAILING PER PLAN.

- FACE GRAIN OF PLYWOOD SHALL RUN PERPENDICULAR TO SUPPORTS.
- NAILS SHALL HAVE MIN. 3/8" EDGE DISTANCE AND SHALL NOT BE OVER-DRIVEN THRU OUTER PLY.
- 4. CONTINUOUS PANEL EDGES SHALL RECEIVE BOUNDARY NAILING. 5. STAGGER PLYWOOD JOINTS.
- Typical Plywood Layout & Nailing NOT TO SCALE



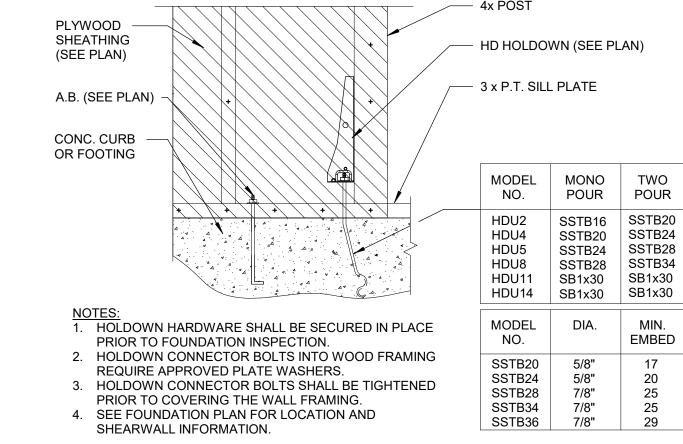






DOOR AND WINDOW HEADERS TO BE DF-L NO. 1. HEADER SIZES PER **HEADER SCHEDULE** SCHEDULE U.O.N. ON PLANS. STRAPS ARE TO BE INSTALLED OVER PLYWOOD. OPNG HEADER PROVIDE E.N. TO ALL FRAMING MEMBERS AROUND UP TO 3'-0" 4x4 OPENINGS AND BLOCKING. UP TO 6'-0" 4x6 UP TO 8'-0" 4x8

Typical Framed Opening in Shearwall NOT TO SCALE



Notching of Plates

NOT TO SCALE

COMMON OR BOX NAILS ARE PERMITTED TO BE USED EXCEPT WHERE

10 Typical Detail at Holdown NOT TO SCALE







048 9. El

INDICATES

ANCHOR

G OF PLATE

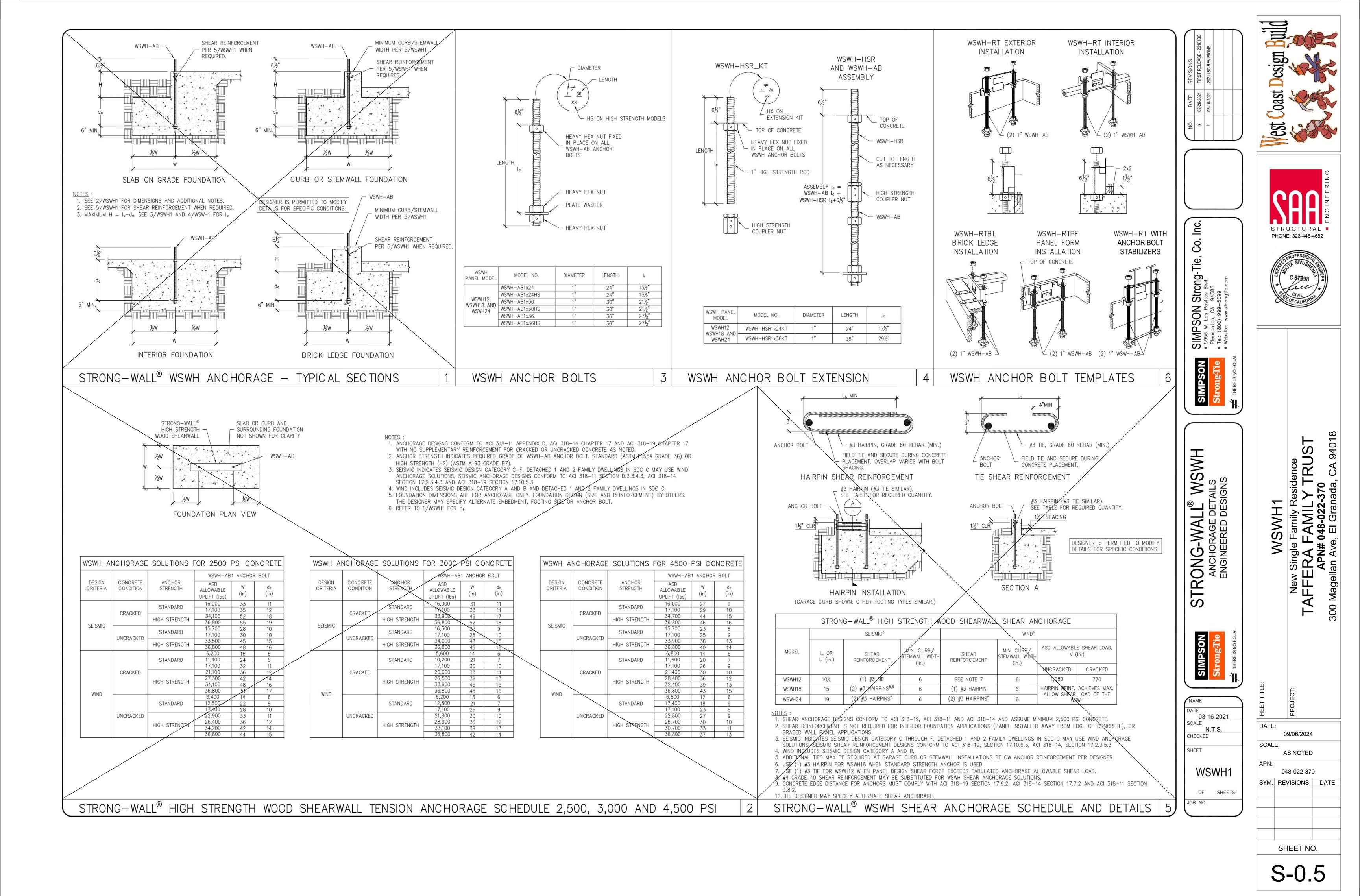
BOLT

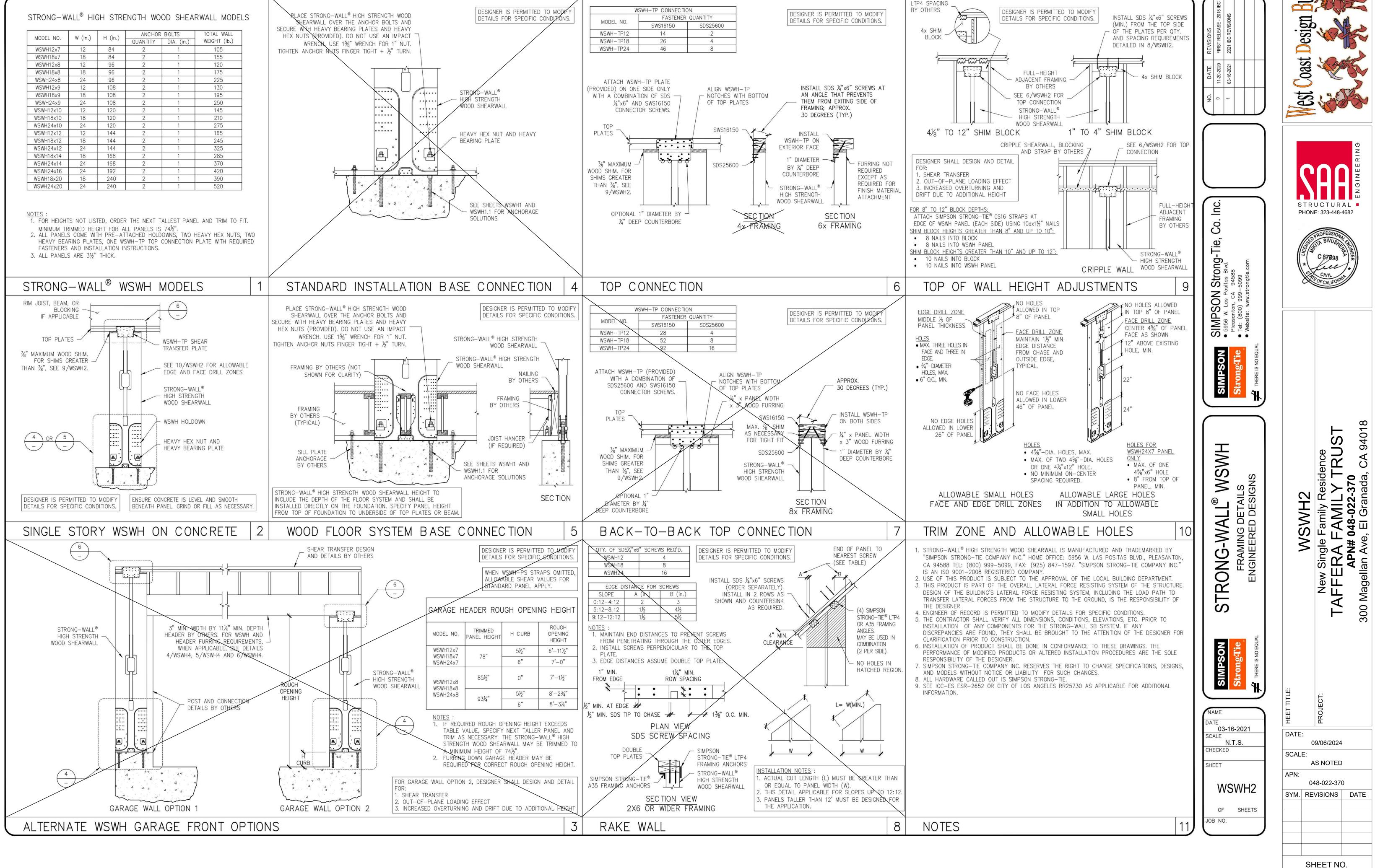
09/06/2024

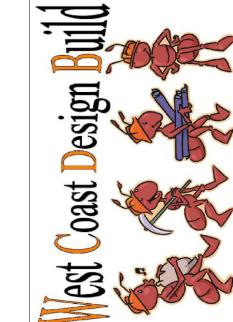
DATE: SCALE: AS NOTED 048-022-370 SYM. REVISIONS DATE

SHEET NO.

S-0.4











SHEET NO.

S-0.6

Foundation Plan Notes

- 1. For additional information on the foundation requirement and site preparation refer to soils report No. 23-178 dated 08/25/2023 by Sigma Prime Geosciences, Inc.
- 2. Slab on grade to be minimum 5" thick with #4 @ 16" o.c. each way chaired at mid thickness. Slab to be underlain by 10 mil vapor barrier/4" crusher-run base compacted by mechanical means in accordance with the Soils Report. Vapor barrier to be in conformance with ASTM E1643 and installed per manufacturer's recommendations with care taken to seal seams, penetrations and perimeter edges. See slab detail below.
- 3. Control joints are required for the slab on grade at a maximum spacing of 15' on centers each way. The contractor is required to submit a plan of proposed control joints to the Architect and SAA prior to placing concrete. See Typical Details for additional information.
- 4. Concrete curbs required along some exterior walls. Coordinate with Arch for extent and configuration of curbs. See structural detail sheets for relevant construction information where curbs required.
- 5. Foundation sills shall be naturally durable or preservative-treated wood.

	Shear Wall Schedule						
			Sill Atta	chment			
ID	Sheathing	Nailing	Concrete	Wood	Top Attachment	Capacity (ASD)	
1	1/2" CDX	10d@6,12	5/8"@32	SDS@16	A35@24	310 plf	
2	1/2" Struct 1	10d@4,12	5/8"@32	SDS@8	A35@16	510 plf	
3	1/2" Struct 1	10d@3,12	5/8"@24	SDS@8	A35@16	665 plf	
4	1/2" Struct 1	10d@2,12	5/8"@24	SDS@4	A35@8	870 plf	

10 Mill Vapor Barrier		_
4" Slab On Grade	ID	
6" Grusher run Gravel Base (1/2" min agg size)	A	
	B	
Capillary Break	0	

ents
330
330
330
,

Shear Wall Notes

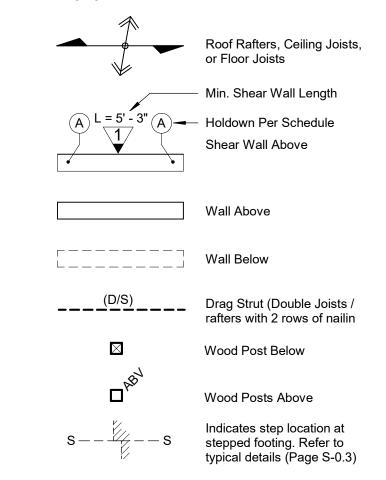
- 1. All exterior walls not otherwise designated as shear wall to be sheathed per item 1 in the Shear Wall Schedule.
- 2. Sill anchors to concrete to be A307 anchor rods with 7" embedment in foundation. If multiple pours used, specified embedment must be contained within top pour. If not, full embedment must be achieved in lower pour level. All sill anchors to have 2-1/2" square x 1/4" plate washers under nuts. Install sill anchors in centerline of sill plate.
- 3. Sill attachment to wood to be with Simpson SDS screws 1/4" with 1-1/2" min embed into subfloor or beams/framing below subfloor.
- 4. Where sheathing nailing is less than 4" on center or where sheathing is applied to both sides of studs use 3x studs at panel edges or panel joints.
- 5. Sill and sole plates to be 3x minimum thickness. Use pressure treated material where in contact with concrete. See Structural Lumber section of General Notes for additional
- 6. Contractor responsible for maintaining copies of referenced ICC-ESR reorts and/or conditions of listing shall be made available at the job site.

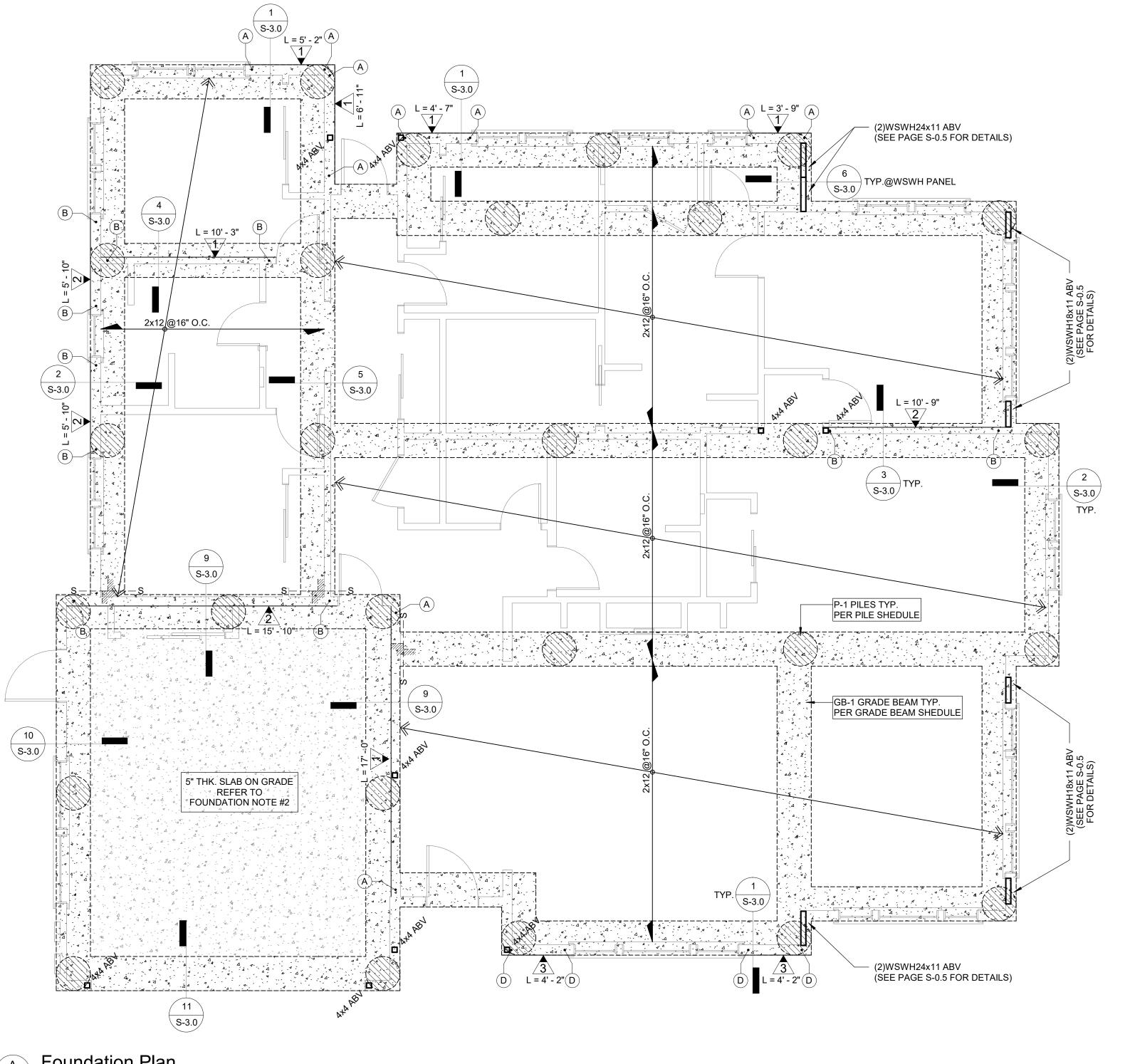
- 1. Post sizes are minimums. Coordinate with wall framing and post sizes indicated on plans.
- 2. SDS = Simpson SDS25xxx (provide 1-1/2" min embed).
- 3. Hold-down connector bolts into wood framing require approved plate washers. Hold-downs shall be finger tight and 1/2 wrench turn just prior to covering the wall framing. Connector bolts into wood framing require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.299 inch by 3 inches by 3 inches. (2305.5)
- 4. Where double holdowns are specified at shearwall use 6x post and vertically stagger devices if necessary to avoid fasteners from fouling each other.
- 5. Provide Simpson SB anchor bolts at all holdowns. Coordinate anchor bolt diameter with holdown hardware.
- 6. Hold-down hardware must be secured in place prior to foundation inspection.
- 7. Bolts, fasteners and framing hardware in contact with preservative treated lumber to be hot dipped galvanized.

Framing Plan Notes

- 1. New subfloor sheathing to be CD Grade 3/4" T&G Glued to the framing with elastometric adhesive. Nail to framing with 10d nailed @ 6,12. Place long sides parallel to framing and
- 2. Wall framing to be as follows unless noted otherwise: Exterior walls = 2x6 @16 Interior bearing walls = 2x4 @ 16 min
- Interior non-bearing walls = 2x4 @ 16 Plumbing walls = 2x6 @ 16 (or 2x4 @ 16 with furring to avoid cutting structural framing)
- 3. All diaphragm to utilize common nails or galvanized box nails.
- 4. All shearwall nailing shall utilize hot dipped galvanized box nails.
- 5. All bolt holes shall be drilled 1/32" to 1/16" oversized. For lag bolts provide lead hole 40% to 70% of threaded shank diameter and full diameter at smooth shank portion.
- 6. Contractor responsible for maintaining copies of referenced ICC-ESR Reports and/or conditions of Listing at the job site.
- 7. Double floor joists to support the vertical load from a non-bearing partition wall that is parallel to the floor joists

Key Symbols







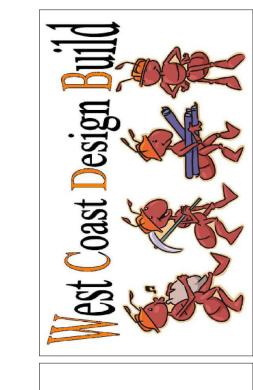
	GI	RADE BEAM SCH	EDULE
		REINFOR	CEMENT
I.D.	SIZE	LONGITUDINAL	TIES
GB-1	24" x 24"	(4) #6 T&B	#4 CLOSED TIES @ 8" O.C.

		PILE SCHE	DULE	
PILI	E INFO	MIN. EMBED.	REINFOR	RCEMENT
ID	Size	LENGTH INTO BEDROCK*	LONGITUDINAL	TIES
P-1	24"Ø	16 feet	(6) #7 BARS	#3 SPIRAL @ 3" PITCH

*NOTE: DEEPEN PILES AS REQUIRED BY SETBACK

DATE: 09/06/2024 SCALE: AS NOTED 048-022-370 SYM. REVISIONS DATE SHEET NO.

STRUCTURAL . PHONE: 323-448-4682





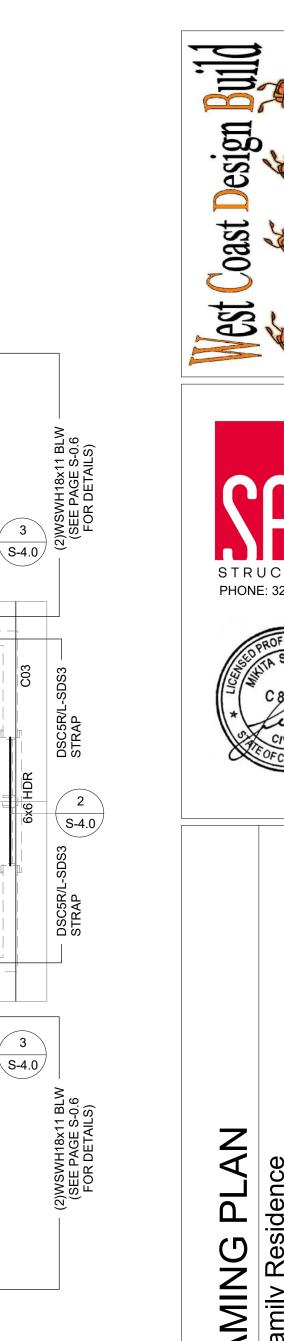


DATE: 09/06/2024 SCALE:

AS NOTED

048-022-370 SYM. REVISIONS DATE

SHEET NO.



Roof Framing Plan

S-2.0	1/4" = 1'-0"	
	DRAG TRU	SS SCHEDULE
	ID	SHEAR TO TRANSFER
	D03	120 PLF
E	03; F01; B04	220 PLF
AC	04; A06; C01	300 PLF

D01

D02

- = - - - 6x6 HDR

DSC5R/L-SDS3 -STRAP

S-4.0

6x10 HDR

L = 15' - 10" 2x4 DF#1 @24"\0.C

D03 (DRAG TRUSS)

D04 L = 10' - 3"

S-4.0

E03

E03

E03

E03

E03 (DRAG TRUSS)

(D/S) 1

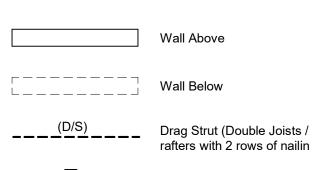
Key Symbols

S-4.0

S-4.0



or Floor Joists Min. Shear Wall Length (A) L = 5' - 3" (A) — Holdown Per Schedule Shear Wall Above



Wood Posts Above stepped footing. Refer to

typical details (Page S-0.3)

rafters with 2 rows of nailin Wood Post Below Indicates step location at

Holdown Notes

S-4.0

- 1. Post sizes are minimums. Coordinate with wall framing and post sizes indicated on plans.
- 2. SDS = Simpson SDS25xxx (provide 1-1/2" min embed).

DSC5R/L-SDS3 -

STRAP

6x6 HDR

3. Hold-down connector bolts into wood framing require approved plate washers. Hold-downs shall be finger tight and 1/2 wrench turn just prior to covering the wall framing. Connector bolts into wood framing require steel plate washers on the post on the opposite side of the anchorage device. Plate size shall be a minimum of 0.299 inch by 3 inches by 3 inches. (2305.5)

(CS14 STRAP)

(CMST14 STRAP)

(CMST14 STRAP)

TYP. 2x4 DF#1 @24"O.C. (U.N.C

4. Where double holdowns are specified at shearwall use 6x post and vertically stagger devices if necessary to avoid fasteners from fouling each other.

6x6 (LOW)

S-4.0

5. Provide Simpson SB anchor bolts at all holdowns. Coordinate anchor bolt diameter with holdown hardware.

7. Bolts, fasteners and framing hardware in contact with preservative treated lumber to be hot dipped galvanized.

6. Hold-down hardware must be secured in place prior to foundation inspection.

Framing Plan Notes

- 1. Roof sheathing to be 1/2" CD-X (Span Rating 32/16) with face grain perpendicular to framing direction with panel joints staggered. Nail to framing with 10d @ 6, 6,12.
- Exterior walls = 2x6 @16 min Interior bearing walls = 2x4 @ 16 min Interior non-bearing walls = 2x4 @ 16 Plumbing walls = 2x6 @ 16 (or 2x4 @ 16 with furring to avoid cutting structural framing)
- 3. All diaphragm to utilize common nails or galvanized box nails.

2. Wall framing to be as follows unless noted otherwise:

- 4. All shearwall nailing shall utilize hot dipped galvanized box nails. 5. All bolt holes shall be drilled 1/32" to 1/16" oversized. For lag bolts provide lead hole 40% to 70% of threaded shank diameter and full diameter at smooth shank portion.
- 6. Contractor responsible for maintaining copies of referenced ICC-ESR Reports and/or conditions of Listing at the
- 7. Roof diaphragm nailing to be inspected before covering. Face grain of plywood shall be perpendicular to

S-4.0

S-4.0 TYP.

 TYP. CALIFORNIA FRAMING PER DETAIL 7/S-4.0

\\S-4.0**

4x8 HDR

F01 (DRAG TRUSS)

/3\ L = 4' - 2"

9 S-4.0 TYP.

J010A

J09A

J08A

J07A

Sa L S-4.0

Shear Wall Notes 1. All exterior walls not otherwise designated as shear wall to be sheathed per item 1 in the

(2)WSWH24x10 BLW

(SEE PAGE S-0.6 FOR DETAILS)

Shear Wall Schedule. 2. Sill anchors to concrete to be A307 anchor rods with 7" embedment in foundation. If multiple pours used, specified embedment must be contained within top pour. If not, full embedment must be achieved in lower pour level. All sill anchors to have 2-1/2" square x

(2)WSWH24x11 BLW (SEE PAGE S-0.6 FOR DETAILS)

J02

J03 |

J05

J04

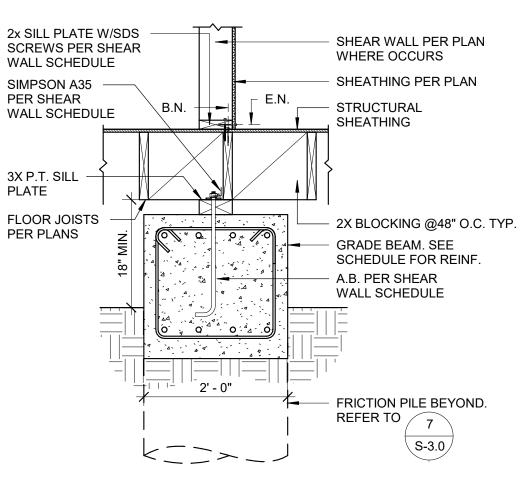
J03

J02

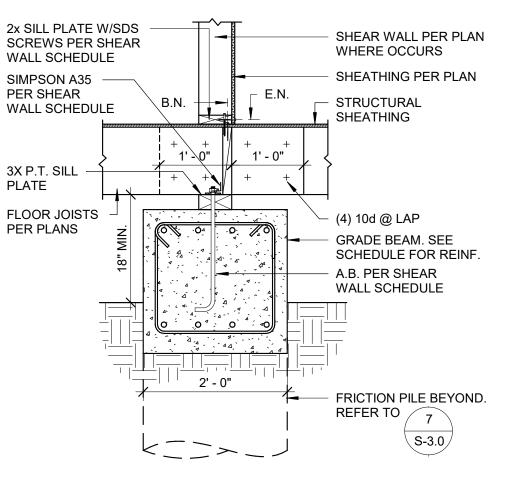
- 1/4" plate washers under nuts. Install sill anchors in centerline of sill plate. 3. Sill attachment to wood to be with Simpson SDS screws 1/4" with 1-1/2" min embed into
- subfloor or beams/framing below subfloor. 4. Where sheathing nailing is less than 4" on center or where sheathing is applied to both
- sides of studs use 3x studs at panel edges or panel joints. 5. Sill and sole plates to be 3x minimum thickness. Use pressure treated material where in contact with concrete. See Structural Lumber section of General Notes for additional
- information. 6. Contractor responsible for maintaining copies of referenced ICC-ESR reorts and/or

			Shear Wall	Schedule		
			Sill Atta	chment		
ID	Sheathing	Nailing	Concrete	Wood	Top Attachment	Capacity (ASD)
1	1/2" CDX	10d@6,12	5/8"@32	SDS@16	A35@24	310 plf
2	1/2" Struct 1	10d@4,12	5/8"@32	SDS@8	A35@16	510 plf
3	1/2" Struct 1	10d@3,12	5/8"@24	SDS@8	A35@16	665 plf
4	1/2" Struct 1	10d@2,12	5/8"@24	SDS@4	A35@8	870 plf

②2,12	5/8"@)24	SDS@)4	A	A35@8	870 plf
				Но	ldowr	n Schedule	
	ID		HD	Р	ost	Fasteners	Comments
	A	H	HDU2	4	1x4	(6) SDS	ESR-2330
	B	H	IDU4	4	1x4	(10) SDS	ESR-2330
	0	F	IDU5	4	1x4	(14) SDS	ESR-2330

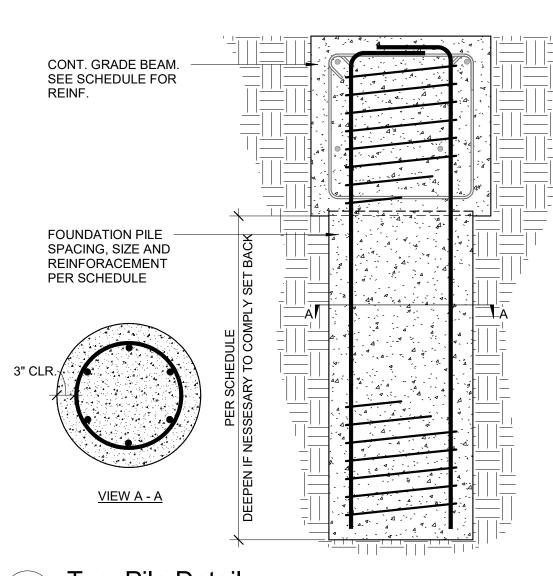


Interior Bearing Footing (Parallel)

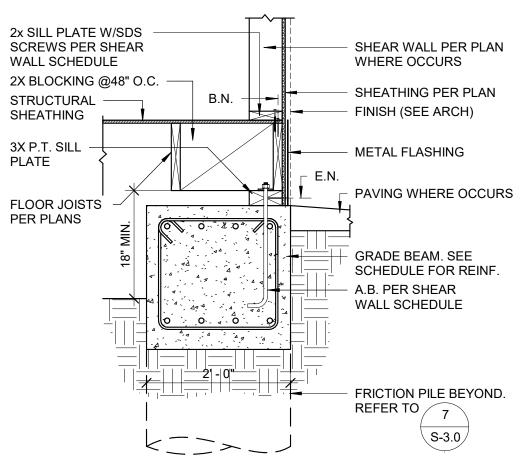


Interior Bearing Footing (Perpend.)

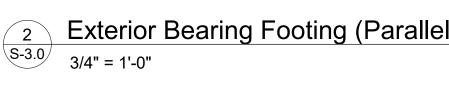


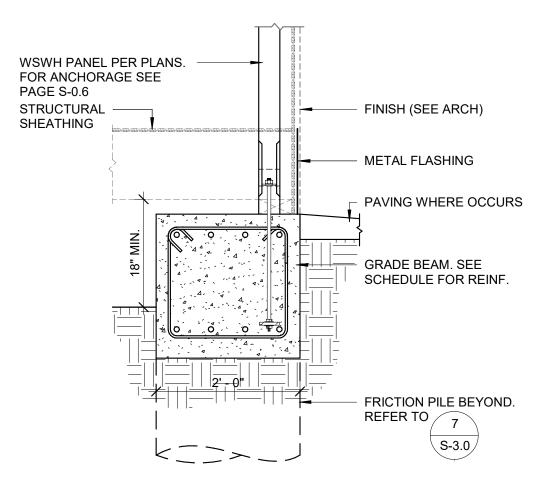


7 Typ. Pile Detail S-3.0 3/4" = 1'-0"

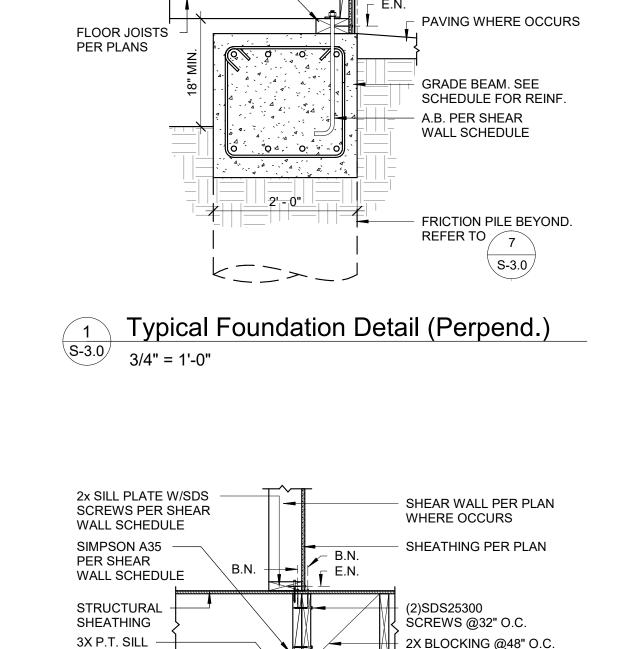


Exterior Bearing Footing (Parallel)





6 WSWH Foundation Detail (Grade Beam) 3/4" = 1'-0"



2x SILL PLATE W/SDS

SCREWS PER SHEAR

WALL SCHEDULE

STRUCTURAL

SHEATHING 3X P.T. SILL

PLATE

PLATE

FLOOR JOISTS

PER PLANS

SHEAR WALL PER PLAN

SHEATHING PER PLAN

Coast

STRUCTURAL • PHONE: 323-448-4682

FINISH (SEE ARCH)

METAL FLASHING

2X BLOCKING @48" O.C.

FRICTION PILE BEYOND.

REFER TO 7

FLOOR JOISTS

GRADE BEAM. SEE SCHEDULE FOR REINF.

A.B. PER SHEAR WALL SCHEDULE

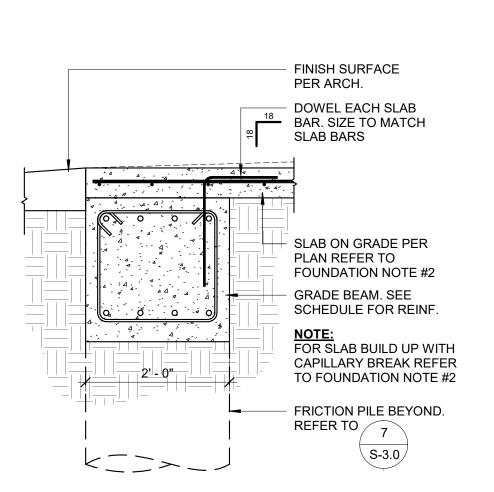
PER PLANS

WHERE OCCURS

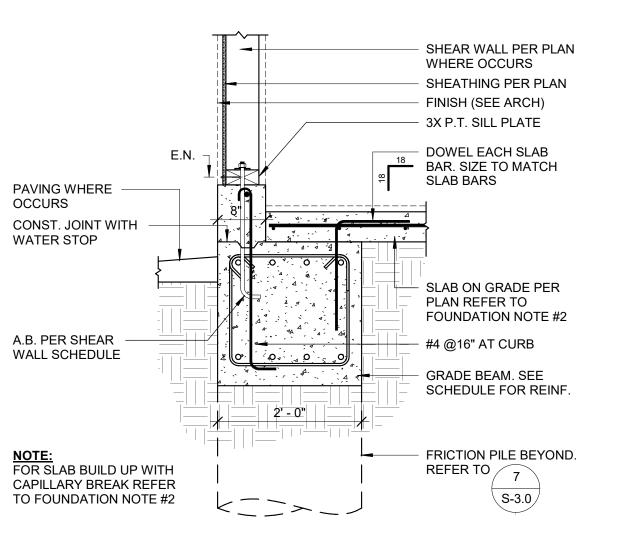
Interior Bearing Footing (Dif. Direct.) S-3.0 3/4" = 1'-0"

A A A A A

2' - 0"

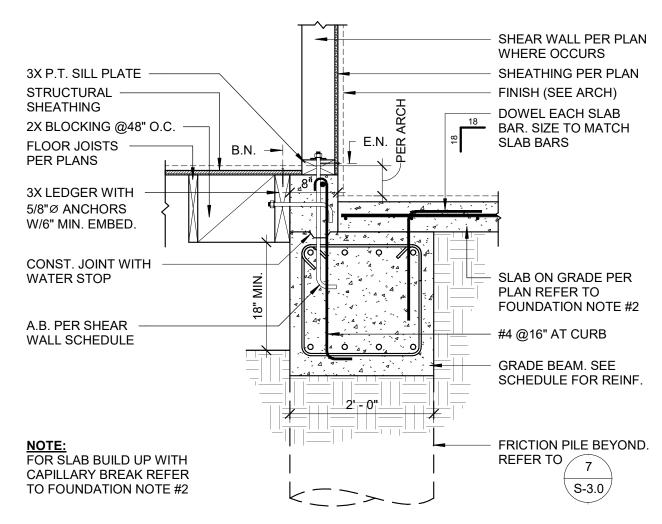


Exterior Wall Footing @ Garage



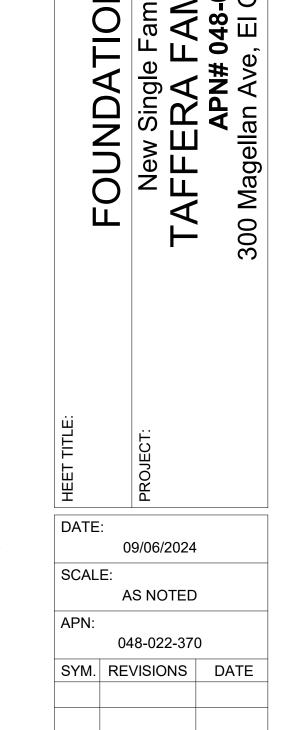
Exterior Bearing Footing (Perpend.)

3/4" = 1'-0"



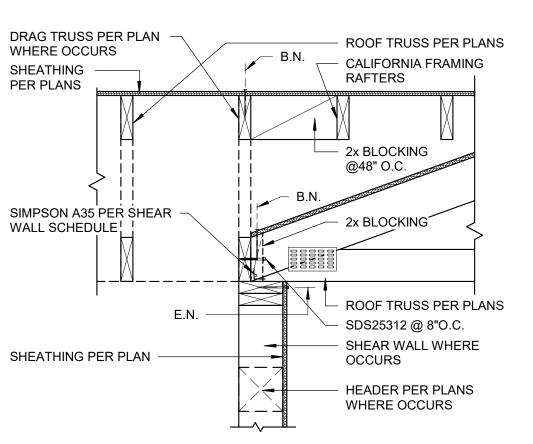
Exterior Bearing Footing (Parallel)



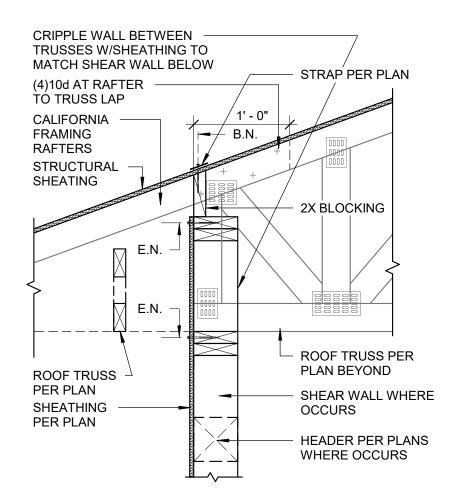


SHEET NO.

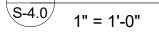
S-3.0

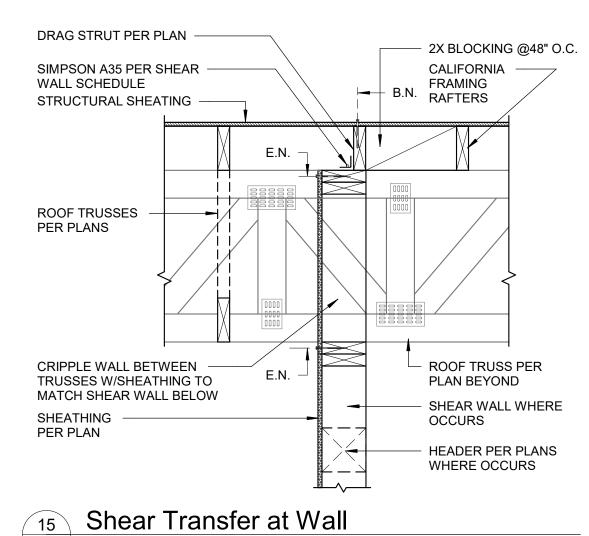


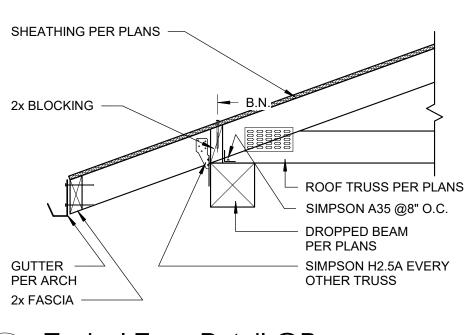




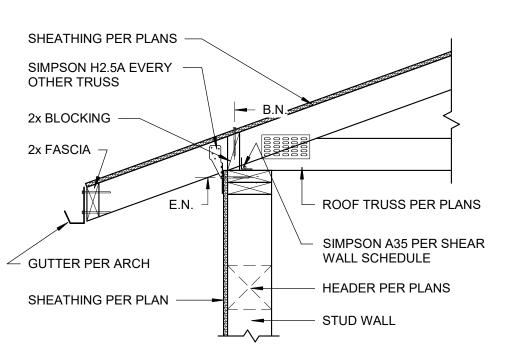
Shear Transfer at Wall



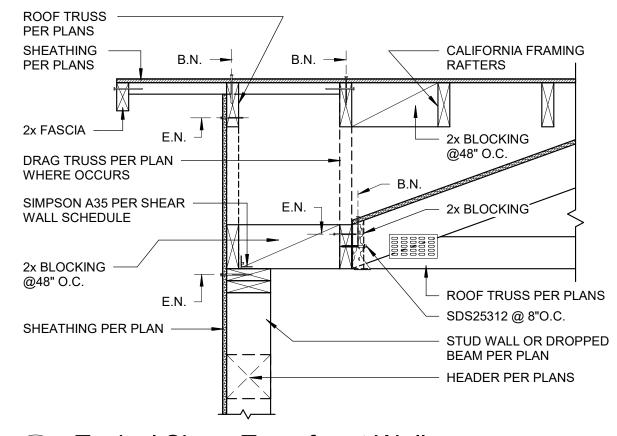




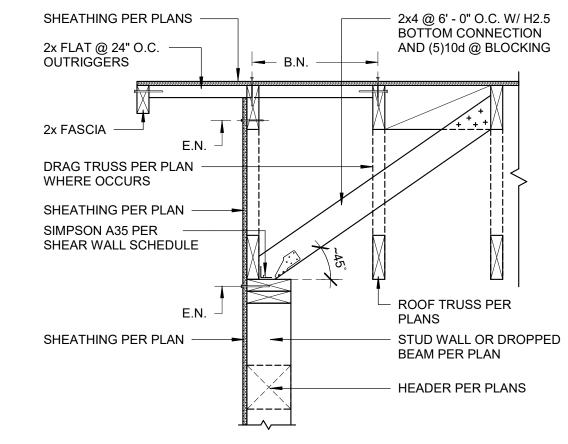




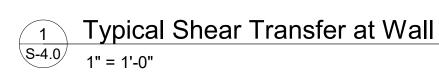
Typical Eave Detail S-4.0

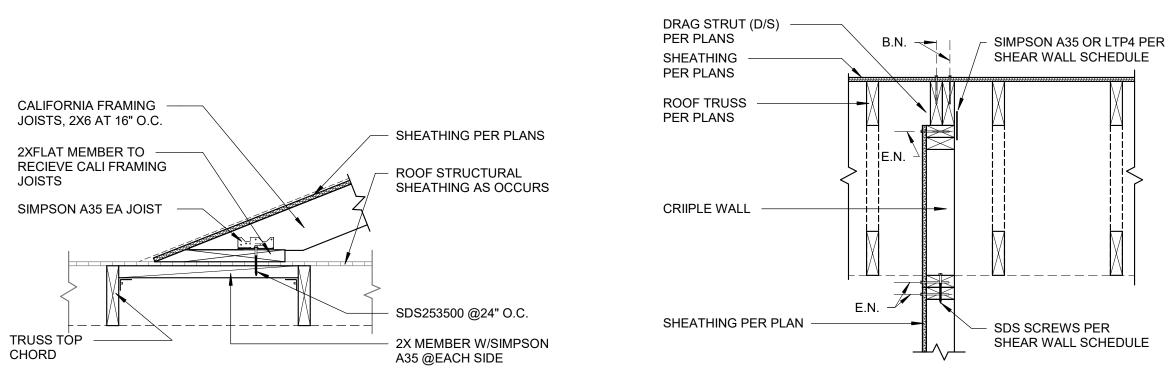


Typical Shear Transfer at Wall

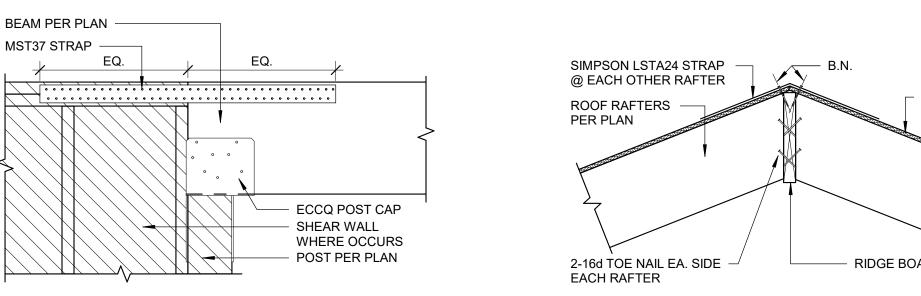


 $\underline{\mathsf{NOTE}}.$ DIAGONAL BRACE CAN BE OMITTED AT FULL HEIGHT WALL USED TO BOTTOM OF OUTRIGGER





7 Typ. California Franing Typical Shear Transfer Detail S-4.0



ROOF TRUSS PER PLANS

ROOF TRUSS PER PLANS

SHEAR WALL WHERE

HEADER PER PLANS

WHERE OCCURS

- CALIFORNIA FRAMING

RAFTERS

2x BLOCKING

@48" O.C.

2x BLOCKING

OCCURS

9 Typ. Dropped Beam Drag Strut Detail

DRAG TRUSS PER PLAN

| I I SIMPSON A35 PER SHEAR

WALL SCHEDULE

WALL SCHEDULE TYP.

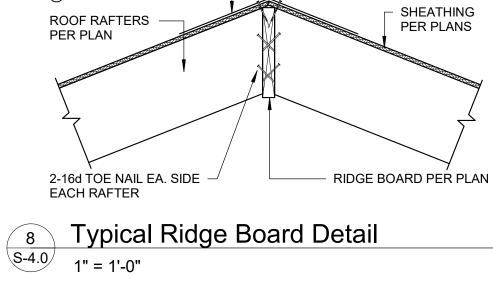
SHEATHING PER PLAN

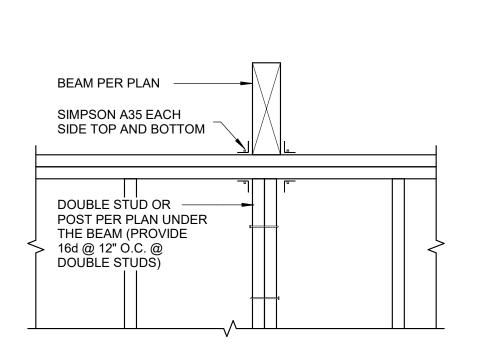
Shear Transfer Detail

WHERE OCCURS

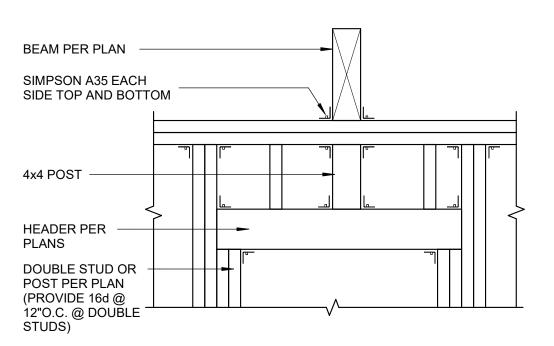
SHEATHING

PER PLANS

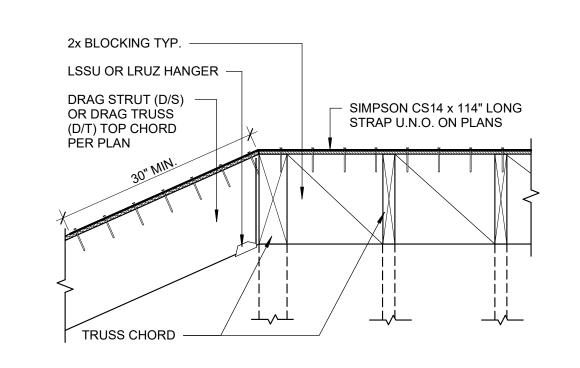




Typical Beam to Stud Wall Detail S-4.0 1" = 1'-0"



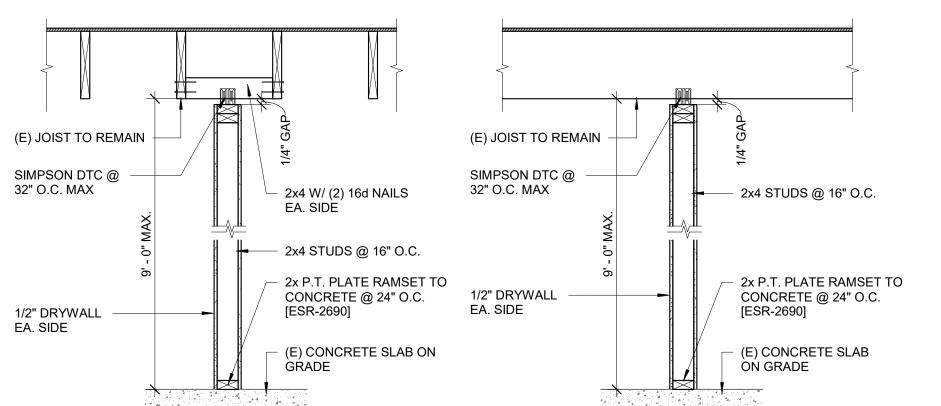




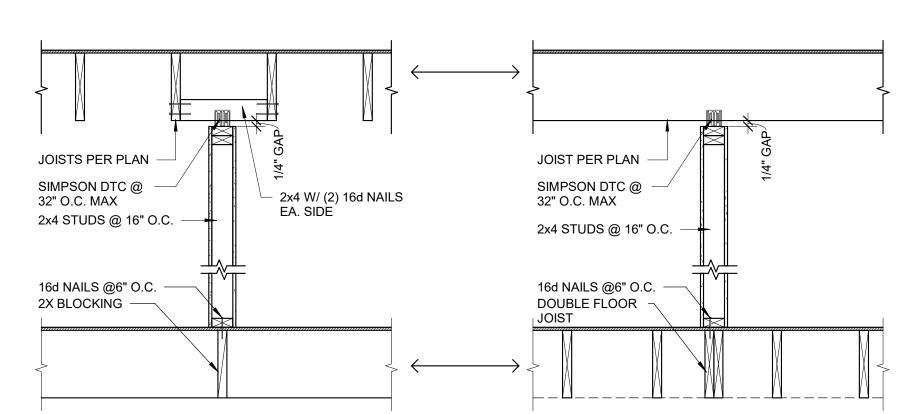
Typ. Drag Strut Detail

S-4.0

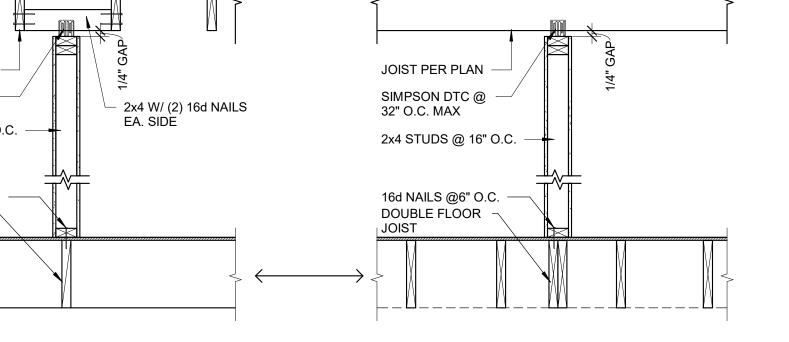
1" = 1'-0"







Typ. Non-Bearing Partition Wall Detail (On Wood Floor)



S-4.0

STRUCTURAL . PHONE: 323-448-4682



048),EI

FRAMING

DATE: 09/06/2024

SCALE: AS NOTED 048-022-370 SYM. REVISIONS DATE

Complian

Designed

Drawn

Checked

D Hovde

RCQ/DAH

Project Number

34541

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Calculation Date/Time: 2024-09-23T09:51:21+01:00 Project Name: Residential Building Input File Name: 34541.ribd22x Calculation Description: Title 24 Analysis

ENERGY USE SUMMARY Standard Design Source Standard Design TDV Energy Proposed Design Source Proposed Design TDV Energy Compliance Energy (EDR1) (kBtu/ft2 -yr (EDR2) (kTDV/ft²-yr) (EDR2) (kTDV/ft² -yr) Margin (EDR1) Margin (EDR2) Energy (EDR1) (kBtu/ft² -yr) 1.67 -0.06 -0.86 Space Heating 1.61 11.57 12.43 Space Cooling 0.03 0.06 4.27 2.52 0.03 1.75 0.35 3.77 0.35 0 5.29 18.01 3.9 **Water Heating** 21.91 4.31 0.98 tilization/Flexibili Credit **Efficiency Compliance** 4.79 7.31 41.52 Total Photovoltaics -1.15 -35.44 -1.15 -35.47 Battery 0 0.73 0.73 Indoor Lighting 7.6 7.6 Appl. & Cooking 2.97 20.46 2.95 20.37 2.87 30.51 Plug Loads 2.87 30.51 **Outdoor Lighting** 0.19 1.77 0.19 1.77 66.42 61.51 TOTAL COMPLIANCE 12.92 11.95

CF1R-PRF-01-E

(Page 3 of 14)

Registration Number: 424-P010221852A-000-000-00000-0000

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and cannot guarantee, the accuracy or completeness of the information contained in this document. Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS Report Generated: 2024-09-23 01:52:32 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Schema Version: rev 20220901

CF1R-PRF-01-E CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Calculation Date/Time: 2024-09-23T09:51:21+01:00 (Page 1 of 14) Project Name: Residential Building Input File Name: 34541.ribd22x Calculation Description: Title 24 Analysis Project Name Residential Building

GENERAL INFORMATION Run Title Title 24 Analysis Project Location APN 048-022-370 04 City El Granada 05 Standards Version 2022 Software Version EnergyPro 9.3 Zip code 94019 08 Climate Zone 3 09 Number of Dwelling Units Building Type | Single family Project Scope Newly Constructed Number of Bedrooms Number of Stories Addition Cond. Floor Area (ft²) Fenestration Average U-factor 0.3 Existing Cond. Floor Area (ft²) n/a Total Cond. Floor Area (ft²) 2219 19 Glazing Percentage (%) 18.04% ADU Bedroom Count n/a ADU Conditioned Floor Area n/a 22 23 Fuel Type Natural gas No Dwelling Unit: No

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

O3 This building incorporates one or more Special Features shown below

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

2. Net EUI is Energy Use Total (including PV) / Total Building Area.

Registration Number: 424-P010221852A-000-000-000000-0000 Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS

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Input File Name: 34541.ribd22x

Registration Number: 424-P010221852A-000-000-00000-0000 NOTICE: This document has been generated by California Home Energy Efficiency Rating Services ((and cannot guarantee, the accuracy or completeness of the information contained in this document. CA Building Energy Efficiency Standards - 2022 Residential Compliance

2219

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Source Energy

45

41.6

Efficiency EDR includes improvements like a better building envelope and more efficient equipment

PV System resized to 2.98 kWdc (a factor of 2.985) to achieve 'Standard Design PV' PV scaling

²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries

(EDR1)

Project Name: Residential Building

ENERGY DESIGN RATINGS

Calculation Description: Title 24 Analysis

Standard Design

Proposed Design

Standard Design PV Capacity: 2.98 kWdc

Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS

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Source Energy

(EDR1)

Input File Name: 34541.ribd22x

Total² EDR

(EDR2total)

35.5

32.9

RESULT³: PASS

Energy Design Ratings

Efficiency¹ EDR

(EDR2efficiency)

46.3

³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

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(Page 2 of 14)

Total² EDR

(EDR2total)

2.6

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(Page 5 of 14)

Compliance Margins

Efficiency¹ EDR

(EDR2efficiency)

CF1R-PRF-01-E (Page 4 of 14)

ENERGY USE INTENSITY Standard Design (kBtu/ft² - yr) Proposed Design (kBtu/ft² - yr) Compliance Margin (kBtu/ft² - yr) Margin Percentage 15.26 16.3 1.04 6.38 Gross EUI¹ 8.17 9.22 1.05 11.39 1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.

REQUIRED PV SYSTEMS 03 DC System Size Azimuth Tilt Array Angle Tilt: (x in Inverter Eff. **Module Type Array Type** (kWdc) (deg) Input (deg) 12) (%) (%) 2.98 Standard (14-17%) Fixed true 150-270 <=7:12

REQUIRED SPECIAL FEATURES

Project Name: Residential Building

Calculation Description: Title 24 Analysis

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

Ceiling has high level of insulation

Registration Number: 424-P010221852A-000-000-0000000-0000 Registration Date/Time: 09/23/2024 01:55 E: This document has been generated by California Home Energy Efficiency Rating Services (CHEERS) using information uploaded by third parties not affiliated with or related to CHEERS. Therefore, CHEERS is not responsible for, and guarantee, the accuracy or completeness of the information contained in this document. CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Generated: 2024-09-23 01:52:32 Report Version: 2022.0.000 Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Project Name: Residential Building Calculation Date/Time: 2024-09-23T09:51:21+01:00

Calculation Description: Title 24 Analysis Input File Name: 34541.ribd22x HERS FEATURE SUMMARY The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional

detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry Quality insulation installation (QII) Indoor air quality ventilation Kitchen range hood Minimum Airflow

Verified SEER/SEER2 Fan Efficacy Watts/CFM Verified HSPF Verified heat pump rated heating capacity

Duct leakage testing

Residential Building

BUILDING - FEATURES INFORMATION 03 05 04 Number of Ventilation Number of Water Number of Zones Project Name ditioned Floor Area (ft² lumber of Bedrooms **Cooling Systems Heating Systems** Units

ZONE INFORMATION 04 03 05 **Zone Name** Zone Type HVAC System Name Zone Floor Area (ft²) Avg. Ceiling Height Water Heating System 1 Status Living Area Zone 1 Conditioned HVAC System1 2219 DHW Sys 1 New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	Living Area Zone 1	R-21 Wall	0	Front	385	123	90
Left Wall	Living Area Zone 1	R-21 Wall	90	Left	366.7	65.2	90
Rear Wall	Living Area Zone 1	R-21 Wall	180	Back	565	83.6	90
Right Wall	Living Area Zone 1	R-21 Wall	270	Right	555	128.5	90

Registration Number: 424-P010221852A-000-000-0000000-0000 Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01-E Calculation Date/Time: 2024-09-23T09:51:21+01:00 Project Name: Residential Building (Page 6 of 14) Input File Name: 34541.ribd22x Calculation Description: Title 24 Analysis OPAQUE SURFACES 02 08 Window and Door Construction Azimuth Gross Area (ft²) Tilt (deg) Area (ft2) Living Area Zone Front Interior Surface R-19 Partition Wall n/a n/a 180 n/a 1>>__Garage_ Living Area Zone Left Interior Surface R-19 Partition Wall n/a 180 n/a 1>> Garage Living Area Zone 1 R-38 Roof Attic 2219 n/a n/a n/a n/a Roof 2 __Garage__ R-O Roof Attic n/a n/a 417 n/a n/a 2219 Raised Floor R-19 Floor Crawlspace n/a n/a Living Area Zone 1 n/a Front Wall 2 R-0 Wall Front 200 90 Garage 0 Left Wall 2 R-0 Wall 90 Left 229.2 90 __Garage__ Rear Wall 2 Garage R-0 Wall 180 Back 20 90 Right Wall 2 R-0 Wall 270 Right 49.2 __Garage__

03 04 05 06 07 Name Construction Roof Rise (x in 12) Roof Reflectance Roof Emittance Radiant Barrier Cool Roof Attic Garage Roof Cons Ventilated 0.1 0.85 Attic __Garage__ No Attic RoofLiving Area 0.1 Attic Living Area Zone 1 Ventilated 4 0.85 No

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
2060 Window 06	Window	Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
3660 Window 05	Window	Front Wall	Front	0			1	21	0.3	NFRC	0.23	NFRC	Bug Screen

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roject Name: Ro alculation Desc									:/Time: 2024 : 34541.ribd2	-09-23T09:51 22x	:21+01:00		(Page 7 of 14
ENESTRATION / G	GLAZING		0									<u></u>	y
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
2060 Window 04	Window	Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
2660 Window 03	Window	Front Wall	Front	0			1	15	0.3	NFRC	0.23	NFRC	Bug Screen
4060 Window 02	Window	Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
2660 Window 01	Window	Front Wall	Front	0			1	15	0.3	NFRC	0.23	NFRC	Bug Screen
3080 French Door	Window	Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 27	Window	Left Wall	Left	90			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 26	Window	Left Wall	Left	90			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
2640 Window 25	Window	Left Wall	Left	90			1	10	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 24	Window	Left Wall	Left	90			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 23	Window	Left Wall	Left	90			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
3020 Window 22	Window	Rear Wall	Back	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
3020 Window 21	Window	Rear Wall	Back	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen

Registration Number: 424-P010221852A-000-00000000-0000 Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS

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roject Name: R	esidential Bui	ilding					Calculat	ion Date	/Time: 2024	-09-23T09:51	:21+01:00		(Page 8 of 14)
alculation Desc	ription: Title	24 Analysis					Input Fi	e Name:	34541.ribd2	22x	11.27		*7777442
ENESTRATION / O	GLAZING		7										
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
2680 French Door	Window	Rear Wall	Back	180			i	20	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 20	Window	Rear Wall	Back	180			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 19	Window	Rear Wall	Back	180			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
3020 Window 18	Window	Rear Wall	Back	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
2030 Window 17	Window	Rear Wall	Back	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
3020 Window 16	Window	Rear Wall	Back	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
3020 Window 15	Window	Rear Wall	Back	180			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 14	Window	Right Wall	Right	270			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
3656 Window13	Window	Right Wall	Right	270			1	19.3	0.3	NFRC	0.23	NFRC	Bug Screen
2656 Window 12	Window	Right Wall	Right	270			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
2643 Window 11	Window	Right Wall	Right	270			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen
2643 Window 10	Window	Right Wall	Right	270			1	13.8	0.3	NFRC	0.23	NFRC	Bug Screen

Registration Number: 424-P010221852A-000-000-0000000-0000

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CERTIFICATE OF Project Name: R Calculation Desc	esidential Bu	ilding	L PERFORMAN	CE COMPLIA	ANCE ME	THOD				e: 2024-09-23 41.ribd22x	Т09:51	21+01:00		CF1R-PRF-01-E (Page 9 of 14)
ENESTRATION / (7.15-												
01	02	03	04	.05	06	07	08	09		10 1	121	12	13	14
Name	Туре	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-f	factor U-fa Sou	200	SHGC	SHGC Source	Exterior Shading
2660 Window 9	Window	Right Wall	Right	270			1	15	(0.3 NF	RC	0.23	NFRC	Bug Screen
4060 Window 8	Window	Right Wall	Right	270			1	24	(0.3 NF	RC	0.23	NFRC	Bug Screen
2660 Window 7	Window	Right Wall	Right	270			ĺ	15	(0.3 NF	RC	0.23	NFRC	Bug Screen
OPAQUE DOORS										/				
	01			02					0:	3			04	
	Name		3	Side of Build	ing				Area	(ft ²)			U-factor	
2	2680 Door 06		Fro	ont Interior Su	ırface				2	0			0.2	
SLAB FLOORS														
01		02	03		04			05		06			07	08
Name		Zone	Area (ft²)		Perimeter	r (ft)		nsul. R-val	lue	Edge Insul. R and Dep		Carpet	ed Fraction	Heated
Slab		_Garage	417		49.8		T I	none		0			0%	No
OPAQUE SURFACE	CONSTRUCTI	ONS												
01		02	03			04		05		06	1	07	08	1
Construction N	lame	Surface Type	Construction	1 Туре	Fra	aming		Total Cav R-value	ity	Interior / Exteri Continuous R-value		actor	Assembly	Layers
R-0 Wall		Exterior Walls	Wood Frame) ************************************	- 100	aming 16 in. O. C			The second			361	Inside Finish: G Cavity / Frame: I Exterior Finish:	ypsum Board no insul. / 2x4

Registration Number: 424-P010221852A-000-000-000000-0000 Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS

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Report Version: 2022.0.000

Schema Version: rev 20220901

CA Building Energy Efficiency Standards - 2022 Residential Compliance

Report Generated: 2024-09-23 01:52:32

alculation Description: PPAQUE SURFACE CONSTR			Шри	t File Name: 34	341.11bu22x		
01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: 3 Coat Stucco
R-19 Partition Wall	Interior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-19	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Other Side Finish: Gypsum Board
Attic Garage Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
Attic RoofLiving Area Zone 1	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x10 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10
R-0 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / None	0.481	Cavity / Frame: no insul. / 2x4 Inside Finish: Gypsum Board
R-38 Roof Attic	Ceilings (below	Wood Framed	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9.1 / 2x4

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Inside Finish: Gypsum Board

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Calculation Description: Title 24 Analysis

Registration Number: 424-P010221852A-000-000-000000-0000 Regist NOTICE: This document has been generated by California Home Energy Efficiency Rating Services (CHEERS) using it and cannot guarantee, the accuracy or completeness of the information contained in this document.

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CF1R-PRF-01-E CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Calculation Date/Time: 2024-09-23T09:51:21+01:00 Project Name: Residential Building (Page 13 of 14)

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely ir Conditioned Space
Air Distribution	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

Input File Name: 34541.ribd22x

01	02	03	04
Name	Туре	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.45	HVAC Fan 1-hers-far

AC FAN SYSTEMS - HERS VERIFICATION		
01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.45

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	100	0.35	Exhaust	No	n/a / n/a	No	Yes	

Registration Number: 424-P010221852A-000-000-0000000-0000 Registration Date/Time: 09/23/2024 01:55

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BUILDING ENV	ELOPE - HERS	VERIFICATIO	N										
	01		02	4		03			04		05	5	
Quality Insul	ation Installati	ion (QII) H	(QII) High R-value Spray Foam Insula			ilding Envelope Air I	.eakage	CI	FM50		CFM	150	
	Required		Not Requ	iired		N/A			n/a		n/a		
WATER HEATIN	NG SYSTEMS					7/1							
01 02		03		04	05	0	6	07	08		09		
Name System Type		Distribution Ty	oe Water H	leater Name	Number of Unit		leating tem	Compact Distribution	HERS Verification		Water Heater Name (#)		
DHW Sys	DHW Sys 1 Domestic Hot Water (DHW)		Standard	DHW	Heater 1	1	n,	n/a		None n/a		DHW Heater 1 (1)	
WATER HEATE	RS			Th.	H								
01	02	03	04	05	06	07	08	09	10	11	12	13	
Name	Heating Element Type	Tank Type	e # of Units	Tank Vol. (gal)	Heatin Efficien Type	cy Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rat or Flow Ra		
DHW Heater 1	Consume Gas Instantan us			0	UEF	0.97	Btu/Hr	200000	0	n/a	n/a		
WATER HEATIN	NG - HERS VER	IFICATION											
01 0		2	03		04	-1	05	06		07			
		Pipe Ins	sulation	Parallel Pip	ing	Compact Distribut	ion Com	Compact Distribution Type		Recirculation Control		Shower Drain Water Heat Recovery	
DHW Sys 1 - 1/1 No		Not Re	quired	Not Requir	ed	Not Required	5-1	None		Not Required		Not Required	

Schema Version: rev 20220901

Project Name: Residential Building	Calculation Date/Time: 2024-09-23T09:51:21+01:00 (Page 14 of 14
Calculation Description: Title 24 Analysis	Input File Name: 34541.ribd22x
DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Darrell Hovde	Documentation Author Signature: Davrell Hovde
Company: Hovde Engineering Inc	Signature Date: 09/23/2024
Address: 1201 Coe Street	CEA/ HERS Certification Identification (If applicable): RCN13803
City/State/Zip: Camarillo, CA 93010	Phone: (805) 388-7689
	(686) 666 7665
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility 1 2. I certify that the energy features and performance specifications identified on this Certificat	for the building design identified on this Certificate of Compliance. see of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility 1 2. I certify that the energy features and performance specifications identified on this Certificat	for the building design identified on this Certificate of Compliance. te of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. Soliance are consistent with the information provided on other applicable compliance documents, worksheets,
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility in the laws of the State of California: 1. I certify that the energy features and performance specifications identified on this Certificat in the building design features or system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate of Company is the system design features identified on this Certificate identified in this Certified in this Certificate identified in this	for the building design identified on this Certificate of Compliance. te of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. bliance are consistent with the information provided on other applicable compliance documents, worksheets,
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility 1 2. I certify that the energy features and performance specifications identified on this Certificat 3. The building design features or system design features identified on this Certificate of Compacilizations, plans and specifications submitted to the enforcement agency for approval with Responsible Designer Name:	for the building design identified on this Certificate of Compliance. te of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. Diance are consistent with the information provided on other applicable compliance documents, worksheets, the this building permit application. Responsible Designer Signature:
RESPONSIBLE PERSON'S DECLARATION STATEMENT I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility 2. I certify that the energy features and performance specifications identified on this Certificat 3. The building design features or system design features identified on this Certificate of Compaculations, plans and specifications submitted to the enforcement agency for approval with Responsible Designer Name: Darrell Hovde Company:	for the building design identified on this Certificate of Compliance. se of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. Dilance are consistent with the information provided on other applicable compliance documents, worksheets, the this building permit application. Responsible Designer Signature: Darrell Horde Date Signed:

Digitally signed by California Home Energy Efficiency Rating Services (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

Registration Number: 424-P010221852A-000-000-0000000-00000 Registration Date/Time: 09/23/2024 01:55 HERS Provider: CHEERS

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CERTIFICATE OF CO Project Name: Resi Calculation Descrip	dential Building		RMAN	CE CON	MPLIANC	Е МЕТН	Calculat	ion Date/Tin e Name: 345		-23T09:51:21+0	01:00	CF1R-PRF-01 (Page 12 of 1
SPACE CONDITIONIN	G SYSTEMS											
01	02	03		04			05	06		07	08	09
Name	System Type	Heating Unit	Name	Heating Equipment Count		ent Cod	oling Unit Name	Cooling Equipment Count		Fan Name	Distribution Name	Required Thermostat Type
HVAC System1	Heat pump heating cooling	Heat Pump Sy	ystem	1	1		at Pump System 1	1		HVAC Fan 1	Air Distribution System 1	Setback
HVAC HEAT PUMPS -	DUAL-FUEL HEAT PU	MPS				H						
01	02	03	0	4	05	06	07	08	09	10	11	12
				Heatin		ting		Cooling		Zonally		
Name	System Type	Number of Units	HSI HSPF2		Cap 47	Cap 17	Backup Heat AFUE	SEER/SEER2	EER / EER2 CEER	/ Controlle	d Compressor Type	HERS Verification
Heat Pump System 1	Central split HP	1	1	0	54000	38000	n/a	17	10.5	Not Zona	l Single Speed	Heat Pump System 1-hers-htpump
HVAC HEAT PUMPS -	HERS VERIEICATION									St.		
01	02	03	1	04			05	06		07	08	09
Name	Verified Airflow	Airflow Tar	get	Verified EER/EER2		R2	Verified SEER/SEER2	Verified Refrigerant Charge H		Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Required	350		Not	Required	- 1	Required	No		Yes	Yes	Yes
HVAC - DISTRIBUTIO	N SYSTEMS		-									
01	02	03		04	05	3 3	06 07	08	09	10	11	12
				Duet I	ns. R-valu		Ouct Location	Surface	Aron	1 2 2 2		

Registration Number: 424-P010221852A-000-000-0000000-0000 NOTICE: This document has been generated by California Home Energy Efficiency Rating Services (CHEER and cannot guarantee, the accuracy or completeness of the information contained in this document. CA Building Energy Efficiency Standards - 2022 Residential Compliance HERS Provider: CHEERS lated to CHEERS. Therefore, CHEERS is not responsible for, Registration Date/Time: 09/23/2024 01:55 Report Version: 2022.0.000 Report Generated: 2024-09-23 01:52:32 Schema Version: rev 20220901

Supply Return Supply Return Supply Return

Air Distribution

System 1

Unconditioned

Non-Verified

Duct Leakage HERS Verification

Sealed and Tested

Air Distribution

System 1-hers-dist

HOVDE ENGINEERING * ENERGY * DRAFTING 1201 Coe Street, Camarillo, CA 93010 (805) 388-7689 (800) 982-4270

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9401

Residen

Taffera 048-022-370, Energy

Designed D Hovde

Drawn

RCQ/DAH Checked

Project Number 34541

2022 Single-Family Residential Mandatory Requirements Summary

Reference Residential Appendix RA3.3. *

minimum airflow rate required by §150.0(o)1C

rates and sound requirements per §150.0(o)1G

use electric resistance heating. *

sizing, flow rate, piping, filters, and valves. *

closets with an efficacy of at least 45 lumens per watt.

control, low voltage wiring, or fan speed control.

hoods) must meet the applicable requirements of § 150.0(k).

Pool and Spa Systems and Equipment:

§ 150.0(p):

§ 110.9:

spaces must have mechanical ventilation airflow specified in § 150.0(o)1Ci-iii.

Space Conditioning System Airflow Rate and Fan Efficacy. Space conditioning systems that use ducts to supply cooling must have

handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal

a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must

cooling capacity, and an air-handling unit fan efficacy ≤ 0.62 watts per CFM. Field verification testing is required in accordance with

equirements for Ventilation and Indoor Air Quality. All dwelling units must meet the requirements of ASHRAE Standard 62.2,

Central Fan Integrated (CFI) Ventilation Systems. Continuous operation of CFI air handlers is not allowed to provide the whole-

prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per §150.0(o)1Biii&iv. CFI

ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for

Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and townhouses . Single-family detached dwelling units,

Local Mechanical Exhaust. Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-

controlled exhaust system meeting requirements of §150.0(o)1Giii,enclosed kitchens and bathrooms can use demand-controlled or

continuous exhaust meeting §150.0(o)1Giii-iv. Airflow must be measured by the installer per §150.0(o)1Gv, and rated for sound per

be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminals/grilles per Reference

Field Verification and Diagnostic Testing. Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating,

and HRV and ERV fan efficacy must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods

must be verified per Reference Residential Appendix RA3.7.4.3 to confirm if it is rated by HVI or AHAM to comply with the airflow

Certification by Manufacturers. Any pool or spa heating system or equipment must be certified to have all of the following: compliance

with the Appliance Efficiency Regulations and listing in MAEDbS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof plate or card with operating instructions; and must not

Piping. Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or

Directional Inlets and Time Switches for Pools. Pools must have directional inlets that adequately mix the pool water, and a time

Pool Systems and Equipment Installation. Residential pool systems or equipment must meet the specified requirements for pump

Lighting Controls and Components. All lighting control devices and systems, ballasts, and luminaires must meet the applicable

Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. *

Luminaire Efficacy. All installed luminaires must meet the requirements in Table 150.0-A, except lighting integral to exhaust fans, kitchen

range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 5 watts; and lighting internal to drawers, cabinets, and linen

Recessed Downlight Luminaires in Ceilings. Luminaires recessed into ceilings must not contain screw based sockets, must be airtight,

Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8

elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

Blank Electrical Boxes. The number of electrical boxes that are more than five feet above the finished floor and do not contain a

luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor

Lighting Integral to Exhaust Fans. Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust

dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.

switch that will allow all pumps to be set or programmed to run only during off-peak electric demand periods.

Covers. Outdoor pools or spas that have a heat pump or gas heater must have a cover.

Pilot Light. Natural gas pool and spa heaters must not have a continuously burning pilot light.

and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.

Residential Appendix RA3.7. Whole-Dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 §7.2 at no less than the

§ 150.0(o)1H&l: Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems. The airflow required per § 150.0(o)1C must

and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial

dwelling unit ventilation airflow required per §150.0(o)1C. A motorized damper(s) must be installed on the ventilation duct(s) that

Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(o)1. *

be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficacy ≤ 0.45 watts per CFM for gas furnace air

34541

2022 Single-Family Residential Mandatory Requirements Summary NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of the compliance approach used. Review the respective section for more information. Building Envelope: Air Leakage. Manufactured fenestration, exterior doors, and exterior pet doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WDMA/CSA 101/I.S.2/A440-2011. * Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 10-111(a). Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.6-A, 110.6-B, or JA4.5 for exterior doors. They must be caulked and/or weather-stripped. Air Leakage. All joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be § 110.7: caulked, gasketed, or weather stripped. Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household § 110.8(a): Goods and Services (BHGS). Insulation Requirements for Heated Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g). § 110.8(g): Roofing Products Solar Reflectance and Thermal Emittance. The thermal emittance and aged solar reflectance values of the § 110.8(i): § 110.8(j): § 150.0(a):

Building Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, § 150.0(h)1: Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)2. Clearances. Air conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any Liquid Line Drier. Air conditioners and heat pump systems must be equipped with liquid line filter driers if required, as specified by the § 150.0(h)3B: manufacturer's instructions. Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 609.11 of the California Plumbing Code. * Insulation Protection. Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment' maintenance, and wind as required by §120.3(b). Insulation exposed to weather must be water retardant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2.5' x 2.5' x 7' suitable for the future installation of a heat pump water heater, and meet electrical and § 150.0(n)1: plumbing requirements, based on the distance between this designated space and the water heater location; and a condensate drain no more than 2" higher than the base of the water heater Solar Water-heating Systems. Solar water-heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director. Ducts and Fans: Ducts. Insulation installed on an existing space-conditioning duct must comply with § 604.0 of the California Mechanical Code (CMC). If a contractor installs the insulation, the contractor must certify to the customer, in writing, that the insulation meets this requirement. CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSI/SMACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6.0 or higher; ducts located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealant that meets UL 723 The combination of mastic and either mesh or tape must be used to seal openings greater than ¼", If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts; ducts installed in Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures; joints and seams of duct systems and their components must not be sealed with cloth back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands. Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction. Backdraft Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic § 150.0(m)7: Gravity Ventilation Dampers. Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, § 150.0(m)8: manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents. Protection of Insulation. Insulation must be protected from damage due tosunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water retardant and solar radiation-resistant coating. § 150.0(m)10: Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer or air barrier between the inner core and Duct System Sealing and Leakage Test. When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in

2022 Single-Family Residential Mandatory Requirements Summary

Pilot Lights. Continuously burning pilot lights are prohibited for natural gas: fan-type central furnaces; household cooking appliances

(except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour); and pool and

roofing material must meet the requirements of § 110.8(i) and be labeled per §10-113 when the installation of a cool roof is specified Radiant Barrier. When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Roof Deck, Ceiling and Rafter Roof Insulation. Roof decks in newly constructed attics in climate zones 4 and 8-16 area-weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling; or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling. Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the labeled R-value. Wall Insulation. Minimum R-13 insulation in 2x4 inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.10 Raised-floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and, when installed as part of a heated slab floor, meet the requirements of § 110.8(g). Vapor Retarder. In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to Vapor Retarder. In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation. Fenestration Products. Fenestration, including skylights, separating conditioned space from unconditioned space or outdoors must have a maximum U-factor of 0.45; or area-weighted average U-factor of all fenestration must not exceed 0.45. Fireplaces, Decorative Gas Appliances, and Gas Log: Pilot Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces. Closable Doors. Masonry or factory-built fireplaces must have a closable metal or glass door covering the entire opening of the firebox. Combustion Intake. Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and tight-fitting damper or combustion-air control device. § 150.0(e)3: Flue Damper. Masonry or factory-built fireplaces must have a flue damper with a readily accessible control. ** Space Conditioning, Water Heating, and Plumbing System: Certification. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission. HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 110.2-N. Controls for Heat Pumps with Supplementary Electric Resistance Heaters. Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone; and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating. Thermostats. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a § 110.2(c): setback thermostat. Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating. Isolation Valves. Instantaneous water heaters with an input rating greater than 6.8 kBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

2022 Single-Family Residential Mandatory Requirements Summary

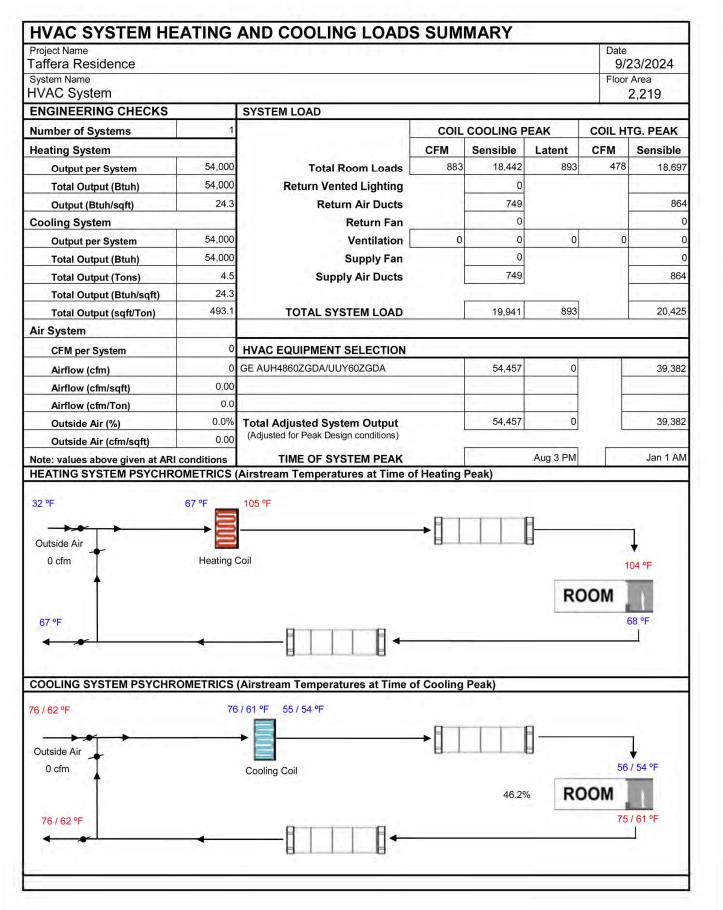
5/6/22

Energy Storage System (ESS) Ready. All single-family residences must meet all of the following: Either ESS-ready interconnection

marked as "For Future 240V use." Electric Clothes Dryer Ready. Clothes dryer locations with gas or propane plumbing to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the dryer location with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

*Exceptions may apply.

§ 150.0(s) equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated raceway from the main service to a subpanel that supplies the branch circuits in § 150.0(s); at least four branch circuits must be identified and have their source collocated at a single panelboard suitable to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary exit, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the mair panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source. Heat Pump Space Heater Ready. Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use." Electric Cooktop Ready. Systems using gas or propane cooktop to serve individual dwelling units must include: A dedicated unobstructed § 150.0(u) 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready;" and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently



2022 Single-Family Residential Mandatory Requirements Summary Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix JA8. § 150.0(k)1G: Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JA8 elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires. Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinetry or linen closets are not required § 150.0(k)11: to comply with Table 150.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or Interior Switches and Controls. All forward phase cut dimmers used with LED light sources must comply with NEMA SSL 7A. § 150.0(k)2A: Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems. Accessible Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned § 150.0(k)2A: Multiple Controls. Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed § 150.0(k)2B: to comply with § 150.0(k). Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.9. Energy Management Control Systems. An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified § 150.0(k)2D: Automatic Shutoff Controls. In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire § 150.0(k)2E: must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed. nmers. Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wallmounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase cut dimmers controlling LED light sources in these spaces must comply with NEMA SSL 7A. Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or § 150.0(k)2K: shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting. esidential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must have a manual on/off switch and either a photocell and motion sensor or automatic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets a applicable requirements may be used to meet these requirements. nternally illuminated address signs. Internally illuminated address signs must either comply with § 140.8 or consume no more than 5 § 150.0(k)4: watts of power. Residential Garages for Eight or More Vehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.0, 130.1, 130.4, 140.6, and 141.0. § 150.0(k)5: Single-family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, § 110.10(a)1: which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e). Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway, smoke ventilation, and spacing requirements as specified in Title 24, Part 9 or other parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 \$110.10(b)1A: square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet. * Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north. § 110.10(b)2: hading. The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features. and roof § 110.10(b)3A: Shading. Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the § 110.10(b)3B: horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane Structural Design Loads on Construction Documents. For areas of the roof designated as a solar zone, the structural design loads for § 110.10(b)4: roof dead load and roof live load must be clearly indicated on the construction documents. nterconnection Pathways. The construction documents must indicate: a location reserved for inverters and metering equipment and a § 110.10(c): pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service; and for single-family residences and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.

Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be § 110.10(e)1: Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amps. Main Electrical Service Panel. The main electrical service panel must have a reserved space to allow for the installation of a double pole § 110.10(e)2: circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric." Electric and Energy Storage Ready:

RESIDENTIAL MEASURES SUMMARY

Taffera Residence

APN 048-022-370 El Granada

Floor Wood Framed w/Crawl Space

roject Address

INSULATION

Construction Type

Roof Wood Framed Attic

Demising Wood Framed

HVAC SYSTEMS

1 Dual Fuel Heat Pump

HVAC DISTRIBUTION

WATER HEATING

1 Small Instantaneous Gas

EnergyPro 9.3 by EnergySoft User Number: 4403

Qty. Heating

Location

HVAC System

5/6/22

Wood Framed

Building Type
☐ Single Family ☐ Addition Alone

Cavity (ft²)

R 38

R 19

Orientation Area(ft²) U-Fac SHGC Overhang Sidefins Exterior Shades

0.23 none

123.0 0.300 0.23 none

128.5 0.300 0.23 none

0.300

0.300 0.23 none

Min. Eff Cooling

10.00 HSPF Split Air Conditioner 17.0 SEER

Ducted Attic

Gallons Min. Eff Distribution

Cooling Duct Location

1.471

2,219

340

2,219

Total Area: 400 Glazing Percentage: 18.0% New/Altered Average U-Factor:

none

none

none

Min. Eff

☐ Multi Family ☐ Existing+ Addition/Alteration 9/23/2024

Status

New

New

Thermostat Status

R-Value Status

New

Status

New

8.0

California Energy Climate Zone | Total Cond. Floor Area | Addition | # of Units

CA Climate Zone 03 2,219 n/a 1

Special Features

N/A

5/6/22

accordance with Reference Residential Appendix RA3.1.

Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a two inch depth or can be one inch if sized per Equation 150.0-A. Clean-filter pressure drop and labeling must meet the requirements in §150.0(m)12. Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevents air from bypassing the