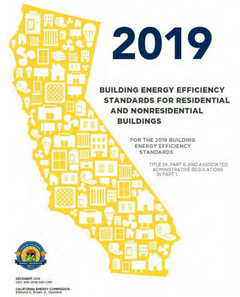
Sheet List	
Sheet Number	Sheet Name
A-000	COVER PAGE
A-001	GENERAL SPECIFICATIONS
A-050	SITE PLAN
A-055	LANDSCAPING & HARDSCAPING
A-100	BASEMENT/1ST FLOOR PLANS
A-150	2ND FLOOR/ROOF PLANS
A-200	AREA PLANS
A-500	ELEVATION VIEWS
A-500.1	MATERIAL, FINISH, AND COLOR DETAILS
A-550	SECTION VIEW
A-600	WINDOW & DOOR SCHEDULES
A-700	SIP SPECIFICATIONS
A-710	SIP STANDARD CONSTRUCTION DETAILS-1
A-720	SIP STANDARD CONSTRUCTION DETAILS-2



HALF MOON BAY SINGLE-FAMILY RESIDENTIAL DESIGN GUIDELINES
2019 CALIFORNIA BUILDING STANDARDS CODE (CAL. CODE REGS., TITLE 24) WAS PUBLISHED JULY 1, 2019, WITH AN EFFECTIVE DATE OF JANUARY 1, 2020

PART 1–CALIFORNIA ADMINISTRATIVE CODE
PART 2–CALIFORNIA BUILDING CODE
Part 2.5–CALIFORNIA RESIDENTIAL CODE
PART 3–CALIFORNIA ELECTRICAL CODE
PART 4–CALIFORNIA MECHANICAL CODE
PART 5–CALIFORNIA PLUMBING CODE
PART 6–CALIFORNIA ENERGY CODE

535 PALMA STREET, EL GRANADA, CALIFORNIA

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UNO RED will typically indicate special project requirements, construction details, specifications, or key structural elements
UNO BLUE will typically indicate non-structural areas that are normally subject to modification during construction
UNO GREEN will typically indicate sustainable materials or systems

NO.	DATE	DESCRIPTION
2	09/11/18	Applied revised rear B.L., Modified rear walls & roof. Rev. stairwells, add gable roof to rt. side, extend frt.gable roof, add trellis & corbel to grg, lower 1st & 2nd flr 1'9", add klt. sink.window
3	4/10/2020	Drop grg slab & d-way ~4"; rev. grg stairs, rev. o.d. stairs, added sidewalk, adjusted floor opening.
4	11/2/2021	Lowered ridge height below 28' (Reduce 1st Clg to 9', Staggered roof, changed roof slope ot 5:12)

OWNER / DEVELOPER
Houze Advanced Building Science Inc. ©

PROJECT
HOUZE
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME
COVER PAGE

A-000

DESIGN AND DESIGNER DISCLAIMER

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BASE SPECIFICATIONS

1. GENERAL

1.1. Follow applicable Building Codes, Local Amendments, and A-Plan and MEP-Plan page specified details and locations in that order.
1.2. Follow S-Plan page specified details and locations, then applicable Building Codes, Local Amendments in that order. If there is a conflict, contact the Engineer of Record before proceeding.
1.3. Written dimensions take precedence over drawing scale. Contractor to verify and be responsible for all dimensions and conditions on the job and notify the designer of any variations from the dimensions or conditions shown on drawings. Do not scale drawings.
1.4. All written Notes on these drawings shall take precedence over the minimum standard Notes detailed on last sheet of these drawings.
1.5. All bedroom windows to be max. 44" Above Finished Floor, min. 24" high x 20" wide with 5.7 SF Net clear opening. Grade floor openings shall have a minimum net clear opening of 5 SF. See IRC , Section R310. See IRC , Section R308.4.
1.6. Engineer of Record Note: When the local authority requires a registered engineer to provide a sealed and signed document for purposes of permitting, the engineer of record's details and schedules shall take precedence over the information shown on this sheet.

2. CODES AND WORK

2.1. Supply all materials & perform all work per area regulations, these plans, and per local adoption & revisions per the following codes:
2.1.1. International Residential Code (Current version for project site)
2.1.2. Site Applicable City Codes and Amendments to be the following:

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2.1.3. OSHA (Current version for project site)
2.1.4. National Plumbing Code (Current version for project site)
2.1.5. National Electric Code (Current version for project site)
2.1.6. Energy Code: CEC-400-2015-037-CMF, Building Energy Efficiency Standards for Residential and Nonresidential Buildings
2.1.7 ASHRAE 90.1 (Current version for project site)
2.1.8. If required, apply ADA Bathroom / Access per California codes
2.1.9. Sections and paragraphs of addition codes as printed in project drawings

3. OCCUPANCY

3.1. Classification of Occupancy: Residence

4. ATTIC ACCESS

4.1. Attic access to comply with IRC , Section M1305
4.2. Attic access is provided on plan to service mechanical equipment and limited light storage but in no case shall the combined decked attic areas exceed 500 SF
4.3. Access shall not be more than 20' (measured along the centerline of passageway) from MEP equipment, and no less than 24" wide.
4.4. Access opening shall not be less than 22"w x 30"h and must have a minimum of 30" clear head room above access opening.
4.5. Pull down stairs to have a minimum capacity of 350 lbs with minimum double joists on all sides.
4.6. A service access space no smaller than 30"x30" shall be provided along all sides of the appliance where access is required.

5. STAIR AND LANDING CONSTRUCTION

5.1. Stair Construction per drawings with adjustment to meet the following:
5.2. Stairs to meet R311.7
5.2.1. Max height of risers = 7.75 in. (New)
5.2.2. Min. height of risers = 4 in.
5.2.3. Min. tread depth = 10 in.
5.2.4. Max height between landings = 12 ft
5.2.5. Min. new stair width = 36 in.
5.3. Each stair non-combustible material
5.4. Grated stair treads and landings, aluminated.
5.5. Decking handrails 48 in. measured from deck to top of rail.
5.6. Stair Handrails min. 34 in. max 38 in., measured from tread to top of rail.
5.7 Handrails grip 1.25" to 2", with 1.5" minimum gap to walls.

6. FIRE PROTECTION

6.1. Per IRC R314.1 and R315, smoke alarm meeting UL 217 and NFPA 72, and carbon monoxide alarms meeting UL 2034, to be hard-wire installed, interconnected, and with battery backup and installed these household fire warning equipment provisions at each sleeping room, outside each separate sleeping, on each story and level of a dwelling.
6.2. Portable fire extinguisher shall be maintained in accordance with NFPA 10, Standard for portable fire extinguisher.
6.3. Interior finish shall be Class “A” (a) Flame spread index, 0-25, (b)Smoke developed index, 0-450
6.4. Floor Class I critical Radiant Flux Not less than 0.25 w/ca2 NFPA 220 Type I and Type II (222 or 111) Construction shall be approved noncombustible or limited combustible materials.
6.5. NFPA 101 12.7.9.3 Occupant load posting shall be near main exit from room.

7. AIR CONDITIONING

7.1. Tonnage, type, & duct routing to be decided based on plan sealing and low energy construction recommendations.
7.2. Require sizing only by written Manual J Residential Load Calculation (per Air Conditioning Contractors of America (www.acca.org).
7.3. DO NOT ALLOW SIZING OF HVAC ON A TON PER SF BASIS.

8. ELECTRICAL

8.1. Electrical Notes: See IRC Chapters 11, 35, 36, 37.
8.2. Smoke detectors (to be per IRC R314) require 110v connection to house wiring, and shall be interconnected. Provide one detector in each sleeping room, and one common (hallway) detector on each floor.
8.3. Provide a lighting fixture controlled by a switch at the required (attic) passageway opening, and a receptacle outlet at or near the appliance location. See IRC Section's M1305.1.3.1, E3801.11, and E3803.4.
8.4. Fire rated wall penetrations by electrical outlets - surface area of individual metallic outlet or switch boxes shall not exceed 16 sq. In.. The aggregate surface area of boxes shall not exceed 100 Sq. In. per 100 SF.
8.5. Boxes located on opposite sides on walls or partitions shall be separated by a horizontal distance of 24".
8.6. Metallic outlet or switch boxes shall be securely fastened to the studs, and the opening in the wallboard facing shall be cut so that the clearance between the box and the wallboard does not exceed 1/8 in. (taken from UL directory, page 13). See also, IRC , Section R321.3.
8.7. Switch and plate type and style to be decided by owner.
8.8. Routing will be by electrician. Surface race-ways cavities are acceptable with owner approval. Typical is formed by cedar finish carpentry can be used for base boards, vertical trim, and beam located cable raceways
8.9. Perimeter wall interior base board receptacles by electrician. Owner option to use "Beck Baseboard" specification)contact ECO for details)
8.10. Perimeter entry wall mounted switches per electrician. Owner option for surface mount in framed chase to fit 4 to 8 gang boxes.
8.11. Interior walls receptacles to be quad with standard wood frame installation.
8.12. Interior wall switches to be standard wood frame installation.
8.13. Interior light and fan electrical routing to be surface mounted conduit with metal hangers.
8.14. Exterior switches and receptacles to be weatherproof with wire in PVC conduit.

9. PLUMBING FIXTURES

9.1. Fixtures type and style to be decided by owner.
9.2. All utility (floor) drains to have overflow pan with a 2" relief line to outside or storm sewer (not to the sanitary sewer).
9.3. Provide plumbing access for bathtubs per plumbing code 82 (83 & 84 rev.) Sections 905.2 and 905.3. See also IRC , Section P2704.
9.4. Locate water heater(s) above load bearing wall/beam in a pan with overflow line to outside. See IRC M2005, M1305.1.3, and G2406.

10. KITCHEN APPLIANCES

10.1. Quantities per plan or by kitchen cabinetry supplier
10.2. All selections by owner.

11. LIFT - IF PLAN SPECIFIED

11.1. Recommend National Wheel-O-Vator, Inclinator Elevette or equal (www.Inclinator.com). 42" x 54" car / size shaft to accommodate / 2 landings, 1400# Capacity, 30 FPM.
11.2. Elevator shaft to be located per plan. Lift mechanism to be located in furr down partition above elevator shaft

12. TREES & LANDSCAPING

12.1. Locate Canopy Trees 20' to 25'+ from the foundation edge.
12.2. Locate Understory Trees 15' to 20' from your foundation edge.
12.3. Install 60 mil HDPE root barriers between trees closer than 20' from the foundation edge. Set root barriers 24 to 36" into the ground in a half moon shape approximately 15' from the tree.
12.4. Locate Seedlings, Saplings, Shrubs, and Herbs and Flowering plants 2' to 15' from foundation.
12.5. Use grass, mulch, annual, and biannual plantings closer than 3' from foundation edge.

ENVELOPE SPECIFICATIONS

1. ROOFING

1.1. Roofing per plans with type and color per owner.
1.2. Use only roofing rated for the site's wind speed for Half Moon Bay. Coastal zones may have additional requirements.
1.3. Owner Metal Roof Option - Constructed from 55% Aluminum-Zinc alloy coated sheet steel of 22 gage minimum with 24" wide metal standing seam.
1.4. Roofing Recommendation is for a light colored or light silver finish for low energy performance, but final approval per owner's color choice.

2. SIDING

2.1. Siding (if used) per plans with type and color per owner.
2.2. Use only siding rated for the site's wind speed for Half Moon Bay California is ASCE 7-10 110 MPH 3-second gust. Coastal zones may have additional requirements.
2.3. Project is based on use of Structural Insulated Panels for wallas and roof. Exterior finish, cladding, or veneer to be per owner.
2.4. Alternate is standard wood framing with 100% sheathing using APA rated exterior 5/8" structural panel with moisture wrap as follows:
2.4.1. Hardie Lap horizontal siding suitable for ASCE 7-10 110 MPH 3-second gust with nailing type and spacing per Hardie specification.
2.4.2. HardiPanel vertical siding of Cedarmill or Stucco finish with Olympic C quality paint or better.
2.4.3. Recommended Wall or Siding color to be warm blue-gray color per owner. If Hardie product is applied, a Hardie color can be factory applied. .
2.4.4. HardiPanel can be installed with 1/2" exposed gap over centered ALSCO Aluminum Trim Coil of matching or contracsting color (www.alscometals.com). Fasteners into sheathing can be Maze Nail or equal 4" o.c. vertical spacing / 12" o.c. horizontal spacing Alternate fastener is No. 8 x 1-5/8" Long x 0.375" head diameter ribbed wafer head screws set at 10" o.c. vertical spacing / 12" o.c. horizontal spacing.

3. BRICK AND MASONRY

3.1. Brick or Masonry veneer or block (if used) finish, type, split face, or stucco per plans or per owner. Color per owner.
3.2. All concrete masonry units shall conform to IBC Section 2103, mortar for concrete masonry shall conform to 2103.7 and 2105.4, and IRC R607.
3.3. Grout for concrete masonry shall be in accordance with IBC , Section's 2103.10 and 2105.5, and IRC Section R609.
3.4. Provide bond breaker at masonry bearing of all cast-in-place concrete slabs with building paper or as otherwise detailed.
3.5. Alternates: Concrete Masonry Units (CMU) installed per ACI-530. Precast Light weight or aerated concrete block (AAC) with surface bonded Portland Cement based Stucco installed per ACI-530 and per OEM requirements. Masonry Veneer to be installed per Masonry Veneer Manufacturers Association.

4. WINDOWS AND DOORS

4.1. Use only windows meeting Energy Code: CEC-400-2015-037-CMF and rated for the site's wind speed and building location wind pressures.
4.2. If ASCE 7-10 110 MPH rated, windows and doors must be suitable for minimum wind pressures, and meeting the energy requirements for the site.
4.3. Windows and glazed doors to meet requirements of Energy Code: CEC-400-2015-037-CMF and IEEC for the site.
4.4. The energy performance of windows and glazed doors will depend on meeting energy performance values for ceilings, walls, floors, and roofs (see Chapter 5 of IECC). For Windows the CEC-400-2015-037-CMF listed values are: 0.58 to 0.71 U-Factor with 0.63 to 0.70 SGHC or better. (Note: Lower U-Factor and SGCH values are more energy efficient). Use the Minimum Code Performance Specifications for the California County, City, or Local Area.
4.4.1. For window/wall area ratios < 15% use above Maximum (highest) U-Factor and SGCH values: For < 20% use above Intermediate values
4.4.2. For window/wall area ratios < 25% use Minimum (lowest) values, or choose values lower than the minimum U-Factor and SGCH values.

5. GLAZING NOTES

5.1. Provide safety glazing in these hazardous locations:
5.2. Glazing in tubs and showers where the bottom edge of a pane is less than 60" from any walking surface.
5.3. Glazing in side hinged doors except jalousies (louvered slats).
5.4. Glazing within 24" from a door and bottom of pane is less than 60" from the floor.
5.5. Exposed area of an individual pane greater than 9 SF E. Bottom edge of a pane is less than 18" from floor.
5.6. Top edge of a pane is greater than 36" from floor (when bottom of this same pane is lower than 36" from the floor).
5.7. One or more walking surfaces within 36" horizontally of the glazing.
5.8. Glazing in stairwells where the bottom edge of a pane is less than 60" vertically from any nosing, and 60" horizontally from any stair nosing, where the edge of pane is less than 60" above the floor.

6. VENTILATION NOTES

6.1. Provide ventilation at all baths and utility rooms through natural or mechanical means. Minimum operable window opening is 1 1/2 SF, and ventilation rate for a (intermittent) mechanical vent shall be 50 cfm. See IRC , Section R303.3.
6.2. Under-sizing of ventilation is a common mistake for well sealed homes. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (www.ashrae.org) recommends the greater of 0.35 air changes per hour or 15 cubic feet per minute (cfm) per person. We recommend timer controlled spot ventilation at all bathrooms, laundry rooms, and cooking areas. Install 15 min timers on 250 cfm ventilation fan with exterior wall mounted flap-vents, or a humidity controlled ventilation fan with flap vents such as a 110 cfm Broan model QTXE110S or equal.

7. COLOR, PAINTING, AND FINISHES

7.1. To be per Owner as applied by the Builder.

8. TRIM

8.1. Use a ASCE 7-10 110 MPH rated or designed system
8.2. Door and window molding, fascia, and other molding to be formed Light Weight Concrete, or HardieTrim of Smooth finish.
8.3. Recommended Trim Color to be factory applied white or owner color choice
8.4. Special highlights can be a contracting Gloss Finish auch as Olympic B52-4 Ship's Harbor" or peacock blue - or owner color choice.

9. SOFFIT

9.1. Use a ASCE 7-10 110 MPH rated or designed system
9.2. The underside of the roof/soffit shall be either Hardie Soffit or equal
9.3. To be primed with Kilz primer or equal
9.4. Painted with Matt Finish by owner color choice (recommend Olympic "C51-1 Stratosphere", a pale sky-blue)

FLOORING AND DECKING SPECIFICATIONS

10. FLOORING GENERAL NOTES

10.1. If flooring placed directly over and on concrete foundation, any type flooring system can be applied by following the manufacturer's recommendations.
10.2. If flooring placed over a wood floor faming system, due to the design required for a specific deflection, the flooring type is to be plan specified per the builder so the floor framing can be designed to have the required stiffness.
10.2.1. For flooring over a crawl space or on an upper floor, do not change a plan specified wood, carpet, or vinyl flooring type to a stone, travertine, or ceramic tile type without first confirming the floor framing stiffness with the engineer of record.
10.3. Recommend concrete surfaces to be trowel smooth finish concrete, stained, and sealed.
10.4. Recommend hardwood or bamboo laminate, or vinyl plank laminate or equal over 1-1/8" T&G Sturd-I-Floor structural decking or equal.
10.5. Alternate second level flooring can be direct 2x6 T&G Cargo decking with panel adhesive and joint toe-nailing, attached directly to joists with (2) 2 1/2" gray deck screws alternating at 24" o.c. spacing. Sand to desired finish quality. Treat with Behr 63N Wood brightener. Allow to dry and Stain by owner color choice (Recommend Behr 200 Line or Olympic 596XX "Colony Blue" Latex stain).

11. CERAMIC TILE, TRAVETINE, AND STONE FLOORING OVER FLOOR JOISTS

11.1. When supported on floor joists, we recommend dropping the framing for all Ceramic Tile Areas. Generally, for tile over wood, the stiffest method should be used. IRC Section R702.4.2 covers cement, fiber-cement, or glass mat gypsum backers (in compliance with ASTM C1288, C1325 or C1178) be installed in accordance with manufacturers' recommendations (level, laminate panels, nail 8"x8", embed 2" mesh tape at joints, set tile, wait 24 hrs min., set grout)
11.2. Use only installation methods to be as per IRC (R702.4.1,.2) and Tile Council of North America (TCNA) Handbook Method 1 (Approx. 2" Thickness) : Wood Panels + Cement Board + Latex Portland Adhesive
11.2.1. Method 1 (Approx. 2" Thickness) : Wood Panels + Cement Board + Latex Portland Adhesive (Based on APA Publication TT-0068 with Tile Installation per Tile Council of North America (TCNA) Handbook and per ANSI A108, A118, or A136.)
11.2.2. Method 2 (Approx. 2-1/4" Thickness) Double Wood Structural Panels + Thinset Tile (Based on APA Publication TT-0068 with Tile Installation per Tile Council of North America (TCNA) Handbook and per ANSI A108, A118, or A136.)
11.2.3. Method 3 (Approx. 2-1/4" Thickness) Wood Panels + Mortar Bed + Latex Portland Adhesive (Based on APA Publication TT-0068 with Tile Installation per Tile Council of North America (TCNA) Handbook and per ANSI A108, A118, or A136.)

BUILDER SELECTED MATERIALS AND FINISHES FOR THIS PROJECT

a. Exterior Walls: James Hardie Plank Lap Siding Color: Light Mist Grey
b. Trim: Hardie Trim Boards Smooth Color: Arctic White
c. Window: PELLA Impervia Fiberglass Color White
d. Doors: Steve's Premium Fiberglass Doors Color: Mahogany
e. Roof: Owens Corning Duration Premium Color: Harbor Fog
f. Chimneys: NextStone Statestone Column Wrap Color: Midnight Ash
g. Decks & Railings: TimberTech Color: Stone Ash & White
h. Stairs: TimberTech Color: Stone Ash & White
i. Retaining Walls: Concrete

DECKING – RECOMMENDED PRACTICE

1.1. Decking Materials
1.1.1. Use ACQ or CCA Treated Southern Pine Joists, sized for 60 to 100 psf balcony loads for 'wet' spans.
1.1.2. Recommended wood deck plank treatment types are ACQ and Timber-Sil. CCA treated decking is not recommended for skin exposure or for pet exposure unless it is sealed every 5 years.
1.1.3. Set supporting treated wood joists above soil and standing water areas
1.1.4. Use Treated Southern Pine decking (5/4 x 6", 2x6, or 2x8), or recycled plastic based manufactured decking planks
1.2. Decking Fasteners
1.2.1. Fasteners for pressure treated wood to be hot-dipped galvanized (ASTM-A153), stainless steel (type 304 or 316), epoxy coated, silicone bronze or copper.
1.2.2. Attach each plank at each joist with two (2) epoxy coated deck screws, stainless steel screws, galvanized or stainless steel 10d nails.
1.3. Decking Installation
1.3.1. Install wood decking planks with 1/8" to 3/16" wet spacing (will become 3/16 to ¼" dry spacing)
1.3.2. Install all planks 'Bark Side Up' so that the curve of the planks will shed rain water (convex) instead of cupping water (concave)
1.4. Railings and Stairs
1.4.1. Install railings and stairs per code
1.5. Deck Finishing - Optional
1.5.1. After 1 month weathering, recommend treating with Behr 63N Wood brightener.
1.5.2. Allow to dry and Stain by owner color choice (Recommend Behr 200 Line or Olympic 596XX Latex stain).

RECOMMENDED BEST ENERGY PRACTICES:

ENERGY EFFICIENT CONSTRUCTION ADVICE

1. ENERGY COMPLIANCE: Meet CEC-400-2015-037-CMF. Building Energy Efficiency Standards for Residential and Nonresidential Buildings
1.1. Residential single family homes, additions, renovation, alterations, and repairs requires an energy audit and testing (blower door test and duct pressure test) in compliance with the International Residential Code (IRC).
2. GENERAL: R-Values per CEC-400-2015-037-CMF. Building Energy Efficiency Standards for Residential and Nonresidential Buildings, Table 150.1 The code minimum R-Values are R7 to R14 Roof, R13 Walls, R30 Ceilings, and R19 Floors over unconditioned spaces. Local R-Value minimums may exceed these values. Depending on the SIP type, wall R-Values will range from R-18 to R-24 for 4" SIPs, to R-26 to R-40 for 6" SIPs.
2.1 Envelope, gap, and crack foam sealing is always required. Spray foam insulation will cover some but not all envelope sealing requirements
2.2. Excellent exterior envelope sealing with above insulation reduce utilities by up to 40%. Once sealing is completed, high efficiency windows, doors, and HVAC provide addition savings.
2.3. For traditional wood framing, sheathing thickness increases to 19/32"(~5/8") or 23/32" (~3/4") vs typical 15/32" (~1/2") will increase both strength and reduce energy usage.
3. ADDITIONAL ENERGY PLANNING AND INSPECTION IS RECOMMENDED: The owner should consider asking the building designer to provide an additional paid review of the plans applying a 'Whole-House' design basis. The expectation should be for no impact on the total cost of construction while reducing energy consumption by 10 to 30% for the home's life.
3.1 A whole-house energy designer should do the following:
(a) include construction sections and details of sealed and insulated building envelope types for walls, windows, doors, roof and floors.
(b) Identify all HVAC main component locations and each air ventilation location.
(c) Consider ductwork routing and chases and locate all ductwork and HVAC equipment inside the conditioned building envelope.
(d) Specify that HVAC equipment should be specified to be sized only per Manual
4. For additional reference download "Build Energy Efficient Walls" publication number J440 from www.APAwood.org and "Building America Best Practices Series: Volume 1 - Builders and Buyers Handbook for Improving New Home Efficiency, Comfort, and Durability in the Hot and Humid Climate" from U.S. DOE. www.nibs.orghttp://www.p2pays.org/ref/36/35780.pdf
[ ] OWNER/BUILDER TO CHECK HERE IF ENERGY EFFICIENT FRAMING WILL BE APPLIED. Owner/Builder to inform the framer in writing and discuss this list. The Owner/Framer should also discuss and decide who is responsible to complete below 'check-list' inspection.

SEALING: (Note: Spray foam insulation will cover most, but will not cover all, sealing requirements)

1. BOTTOM PLATE SEALING: Install Dow Styrofoam "Sill Seal" or equal, under treated wall bottom plates on all exterior and all garage walls.
2. WALLS: Apply minimal-expanding foam at all window and door frames and all MEP penetrations.
3. WALL CORNERS: Use construction adhesive caulk between for all corner assemblies. Apply sealant caulk at vertical inside corner of all corner studs
4. TOP PLATE SEALING: Apply minimal-expanding foam at top plate faces, at all plate splice ends, and at all exterior wall corner top plate joints. Use fire-block foam between levels, and between garage and living spaces
5. CRAWL SPACE OR UPPER FLOOR JOISTS AND RIM BOARDS: Apply minimal-expanding foam or construction adhesive to seal at all plates, rim joists, and all joints between framing sections. Extend exterior sheathing over rim joists.
6. USE WOOD WALL SHEATHING: Use APA 19/32" or minimum 15/32" OSB or Plywood. Wood sheathing provides variable permeability so as to not trap moisture.
7. LAP AND BLOCK ALL SHEATHING: Lap exterior sheathing panels over intersections between Rim Boards, band joists and plates and/or seal at panel joints and around edges. Install blocking with construction adhesive at panel joints.
8. SEAL ALL PENETRATIONS: Use expanding foam* to close and seal ALL wiring/plumbing penetrations in all areas (plates, sheathing, studs) *HILTI CF-116 filler foam or *Dow "GREAT STUFF PRO" or equal urethane foam sealant.
9. HOUSE WRAP: With the exception of ZIP sheathing with integrated moisture coating, 'House-Wraps' are required per code for all exterior sheathing types. Correct House-Wrap installation will always include correct overlapping and correct window and door opening overlap details. Suggested wraps include Dow "WEATHERMATE Plus" or DuPont "TYVEK HomeWrap" or equal installed per product information.
10. WINDOW AND DOOR FLASHING: Install flashing, flashing tape, or equal flashing system at all windows/doors. Suggested flashing systems include Dow "WEATHERMATE Flashing" tape or DuPont™ Flashing Tape.

INSULATION: With the above sealing done properly any insulation system can be used.

11.1. The minimum recommended R-Values the California coast are R30 Roof/Ceilings, R19 Walls, R30 Floors (over uninsulated areas) , and R13 Basement/crawlspace walls. Local R-Value minimums may exceed these above values.
11.2. R30 ceilng or roof batts will be 10"-11" deep. R30 spray foam will be ~ 5" deep
11.3 R19 wall batt insulation will require 2x6 framing. R19 spray foam will be ~3" deep.
11.4. Suggested insulation types are Spray Foam, Spray Cellulose, Batts, and Blown-In-Batts (BIB), .
Blanket fiberglass or natural fiber Batts and Rolls are the most cost-effective, but addition sealing is required and batt pieces must be hand-cut to fit snugly around obstructions.
11.5. Spray-in-Place Insulation is either fiberglass or cellulose BIB, or Spray polyurethane (open or closed cell) foam. Be sure to allow wet-blown BIB insulation to dry completely before installing drywall.
11.6. Spray foam materials and installation cost more than blanket insulation, but its effectiveness at minimizing air infiltration can reduce the amount of air sealing needed, making spray foam a cost-competitive option.
11.7. If spray urethane foam is chosen, be sure to verify that the installer understands the correct temperature before spraying, otherwise long term off gassing is possible.
12. WINDOWS AND DOORS: We recommend a U-factor of 0.30 or below and solar heat gain coefficient (SHGC) of 0.30 or below with coatings to reduce solar heat gain. Double or triple pane windows with low emissivity (low-e) coating on the glass minimize heat loss. Windows and doors cause one-third of the total energy loss and the cost of high-performance windows and doors will often offset the size of the required HVAC equipment.
13. HVAC SYSTEMS: Over-sizing of HVAC equipment is a common mistake for a correctly sealed and insulated building. DO NOT ALLOW SIZING OF HVAC ON A TON PER SF BASIS. Require sizing only by written Manual J Residential Load Calculation (per Air Conditioning Contractors of America (www.acca.org).
14. VENTILATION: Under-sizing of ventilation is a common mistake for well sealed homes. The American Society of Heating, Refrigerating and Air-Conditioning Engineers (www.ashrae.org) recommends the greater of 0.35 air changes per hour or 15 cubic feet per minute (cfm) per person. User timer controlled spot ventilation at all bathrooms, laundry rooms, and cooking areas. Install 15 min timers on 250 cfm ventilation fan with exterior wall mounted flap-vents, or a humidity controlled ventilation fan with flap vents such as a 110 cfm Broan model QTXE110S or equal.
15. INSPECTIONS: Use a third party inspector to verify air tightness by use of a blower door test and a thermo-graphic scan. Energy audits are often required to qualify for most energy efficiency incentive programs.

SPECIALIZED/OPTIONAL WOOD FRAMED BUILDING SYSTEM ENVELOPE ADVICE

1. BOTTOM AND TOP PLATES

1.1. We recommend a double bottom plate with Simpson MASA plate anchors at 36" spacing instead of J-bolts. The lower bottom plate treated, 2nd bottom plate is untreated, and both bottom plates need to be installed with sill gaskets. Single top plates would be blocked at all plate butt-joints. This is the opposite of what most framers and builders do (single bottom plate and double top plate). The reason is that the double bottom plate with this anchorage provides the opportunity for increased number of sheathing fasteners at the bottom plate, and the use of 10' or 12' tall wall sheathing (see "WALL SHEATHING" below) provides extra locations for upper fasteners.
1.2. IBC 2009 section 2308.9.2.1 allows for the single top plate joints to be fastened with a 3" x 6" galvanized steel plate with six 8ds on each side. Solid rim joists and wall sheathing will also connect across the single top plate joints. If the builder or framer cannot get it done in this recommended way, we can accept the traditional approach.

2. WALL SHEATHING

2.1. For California sites, for long term durability we recommend the use of Huber ZIP System long length wind zone sheathing, as a guard against moisture and water intrusion while saving construction time.
2.2 When all panel seams have been taped with ZIP System Tape, ZIP System sheathing is code-recognized as a water-resistive barrier, air barrier and wood structural panel. This means that in one step this panel places an integral moisture barrier on the outside surface as is recommended for a hot humid climate, eliminating the need for a house wrap step.
2.3. Structurally, for 9 and 10 foot 1st floor plate heights, horizontally staggering 2 or 3 panel levels will reach from a bottom plate or double bottom plate, over both the wall top plate and 2nd floor rim boards, to the 2nd floor studs. For an 8 to 9 foot second floor, a ZIP structural panel will continue to the 2nd floor top plate. This can alleviate the need to floor to floor clips or strapping, with only rafter to top plate clips or structural screws being normally required.

3. WALL SEALING

3.1. Our recommendation for Huber ZIP wall sheathing provides exterior sealing over the entire wall surface. For additional sealing recommendations refer to "ENERGY EFFICIENT WALL CONSTRUCTION SPECIFICATIONS"

4. WALL INSULATION

4.1. With a Huber ZIP wall system, we recommend the use of Blown-In-Batt insulation, spray cellulose, or Closed-Cell spray urethane foam in that order.
4.2 With OSB or Plywood with Moisture Barrier wall system, we recommend Blown-In-Batt insulation, spray cellulose, or Open-Cell spray urethane in that order.
4.3. Of these three insulation types, spray urethane is the best sealer and insulator. But if spray urethane foam is chosen, be sure to verify that the installer understands the correct temperature before spraying, otherwise long term off gassing is possible. For that reason (only) we recommend Blown-In-Batt fiberglass insulation or spray cellulose over spray urethane foam.

5. ZIP ROOF SHEATHING:

5.1. We recommend the use of 5/8-inch Huber ZIP System panels to achieve the same early water protection on the roof.
5.2 When all panel seams have been taped with ZIP System Tape, ZIP System sheathing is code-recognized as a water-resistive barrier, air barrier and wood structural panel. The 5/8" thickness also improves roof energy performance versus 7/16", 15/32" or 1/2" wood panels.
5.2. The Huber ZIP panel includes an integral moisture barrier that should cover IBC R905.2.7 Underlayment Application and R905.2.7.2 Underlayment and high wind requirements.
5.3. For Huber ZIP System installed as a low slope roof of 2:12-4:12 pitch, the ZIP sheathing will still require a second layer of roofing felt (30# or 2-15#) underlayment. Also check with local requirements for roofing underlayment.
5.4 With OSB or Plywood, installed roofing felt (30# or 2-15#) underlayment.

6. ROOFING

6.1. With manufacturer's approval, metal roofs can be applied directly over the Huber ZIP panel without underlayment.
6.2. For a vent-to-ridge metal roof, set 2x4 southern pine parallel with the ridge at 24 o.c. spacing screwed to the ZIP panels with 2.5" deck screws @ 16" o.c.
6.3. To increase venting vertically across the 2x4s, add 3/4"x3/4" notches at 16" o.c. (dado or router) before installing.
6.4. With manufacturer's approval, composite shingle roof types can be applied directly over the ZIP panel without felt.
6.5. If shingle loss and/or felt loss in a high wind event, the home is still well protected because of the ZIP System sheathing's water resistance.

7. ROOF SEALING

7.1. Our recommendation for Huber ZIP roof sheathing provides exterior sealing over the entire roof surface. Provide additional sealing at the wall-to-roof (soffit & plate area) per the "ENERGY EFFICIENT WALL CONSTRUCTION SPECIFICATIONS"

8. ROOF INSULATION AT RAFTER LINE:

8.1. With a Huber ZIP system roof, for rafter-line insulation we recommend the use of Blown-In-Batt insulation or spray cellulose (behind net) or closed cell spray urethane foam, in that order.
8.2. Spray urethane is the best sealer and insulator, but if it is chosen, be sure to verify that the installer understands the correct temperature before spraying, otherwise long term off gassing is possible. For that reason (only) we recommend Blown-In-Batt fiberglass insulation or spray cellulose, but this may be more difficult to install at the rafter-line.
8.3 With OSB or Plywood with roofing felt (30# or 2-15#) underlayment, at the rafter line we recommend Open-Cell spray urethane. Be sure to verify that the installer understands the correct temperature before spraying, otherwise long term off gassing is possible.

9. ROOF INSULATION AT CEILING LINE (VENTED ATTIC-ROOF):

9.1. For a vented attic-roof, use of Blown-In-Batt insulation or spray cellulose loose insulation at ceiling-line. Install soffit vents and ridge vents, with optional solar powered roof vents.

CALIFORNIA ENERGY CODE

The minimum applicable energy code for this project is the CEC-400-2015-037-CMF. Building Energy Efficiency Standards for Residential and Nonresidential Buildings for the 2019 Building Energy Efficiency Standards Title 24, Part 6, and Associated Administrative Regulations in Part 1, dated December 2018 CEC-400-2018-020-CMF California Energy Commission, Edmund G. Brown Jr., Governor. For areas not covered by the above CEC-400-2018-020-CMF specification, the following energy efficiency construction recommendations should be applied.

2019 CALIFORNIA BUILDING STANDARDS CODE

(CAL. CODE REGS., TITLE 24) WAS PUBLISHED JULY 1, 2019, WITH AN EFFECTIVE DATE OF JANUARY 1, 2020 and PART 6–CALIFORNIA ENERGY CODE

SOLAR ARRAY REQUIREMENT

The IECC 2019 / California's Title 24-2019 requires solar panels and nearly net zero levels of energy consumption in all new homes under 3-stories tall. 535 Palma St., El Granada, CA 94019 is 2-story plus basement structure located in California Building Climate Zone 3. The living area is 2416 sf with 746 sf garage/utility. Assuming the garage is conditioned the total area is 3164 sf.
For Zone 3 this required 3.2 kW (minimum) solar array without energy storage. If energy storage is added this reduces to 2.4 kW.

PROPOSED 3.6 Kw SOLAR ARRAY

The proposed solar array as shown is a 3.6 kW array without energy stroage consisting of (12) 300 watt solar panels with code required offsets from roof ridge/valle/hip and for roof edges.
This system can be changed by the solar array provider's detailed design based meeting California's Title 24-2019 using alternate selected panel types, layouts, and with or without energy storage.

ENERGY EFFICIENT WALL FRAMING INSPECTION CHECK LIST

The framer and builder is to inspect and check off each item as confirmation that each source of air infiltration has been properly sealed during wall framing construction while still accessible.
[ ] Sill gasket at all exterior bottom plates, plus Sealant per SIP mfr.
[ ] Sill gasket at plates, rim Boards, and band joists
[ ] Sealed exterior wall to interior partition intersections
[ ] Sealed and/or insulated Subfloor
[ ] Sealed Exterior wall corner assemblies
[ ] Seams and tears in house wrap or building paper
[ ] Proper 'Non-shingle-lapped' house wrap at windows and doors
[ ] If applicable, Correctly applied ZIP system sealing tape
[ ] Foamed Window frames
[ ] Foamed Door frames and thresholds
[ ] Insulated dropped ceilings and soffits
[ ] Attic hatches and knee wall access doors
[ ] Sealed vents, registers and HVAC penetrations
[ ] Sealed ductwork penetrations
[ ] Sealed plumbing and condensate penetrations
[ ] Insulated bathtubs and showers on outside walls
[ ] Sealed Utility chases
[ ] Sealed Chimney / flue penetrations and fireplace dampers
[ ] Sealed Electrical outlets and wiring penetrations
[ ] Sealed Recessed light and fan fixtures
[ ] Sealed Gypsum wallboard joints

LIGHTING RECOMMENDATIONS

Lighting types by Builder. See 100% LED DESIGN below.

1. Traditional 110 V bulb type used for for all can lights and ceiling fans
2. Recommend 110 V LED bulbs by Builder.
3. 110 V Incandescent and Compact fluorescent only as alternative to LED.
4. Track Lighting locations and switches approximately per plans
5. Final track lighting type and location by Builder.

LED Crown Molding and Under-Lighting Specification

1. All Crown molding and Under-Lighting locations and switches approximately per plans.
2. Crown Molding for LED Strip Lighting will be self-supporting, and any triangular shape.
3. Recommend: Creative Crown, or equal, or field built by trim carpenter.
4. Install approximately 4" below the ceiling.
5. Electrician installed LED Strip Lighting to sit on top (will shine up and out).
6. The lower the crown molding is set the more that light will come out.
7. Recommend: Use of non-conductive reflective tape (3M, Lowes)
8. LED Strip Light type and remote controls by Owner
9. Local 110 V switch for each LED strip lighting area per plans.
10. Remote or Wireless switching (Insteon, GE Link, or similar) by owner.
11. Rec. Warm White LED or variable color, dimmable, or similar.
12. Recommend 12-Volt UL 16.4-Feet Flexible LED Strip with 300xSMD2835 24-Watt or similar

100% LED LIGHTING DESIGN RECOMMENDATIONS TABLE

Table Application Notes:

1. The following guide to support our suggested 'green' lighting approach of ~100% LED lighting combined with natural lighting by windows, skylights, or sun-tubes.
2. Rooms are listed with a recommended LUX level (overall light intensity), a Lighting Color Temperature (in Kelvin of 'K') and a Color Rendering Index (CRI). Each effects how people or items will look.
3. Bulbs should list a lighting temperature (such as as 2700K), a bulb brightness (such as 630 Lumens). If the Color Rendering Index is not be listed on the bulb it should be available online or from the supplier.
4. Convert Bulb Lumens to Area LUX by know the room area. One (1) LUX is equal to One 1 Lumen per square meter, or 1 Lumen per 10.8 sf.
5. Estimating LUX: A 16'x16' living room at 200 LUX = 256 sf/10.8 = 23.7 square meters x 200 LUX = 4740 Lumens will require about 6 x 800 Lumen bulbs. This is just a rough estimation to get started. An area's actual measured LUX will be determined by how far away the bulbs are from a table or floor or wall.

COASTSIDE FIRE PROTECTION DISTRICT : Main Street, Half Moon Bay, CA 94019 : www.coastsidefire.org and www.cgqstsldefire.org {650) 726-5213 Fax: (650) 726-0132 ; Email: cpfdodmin@fire.ca.gov and cpfdodmln@fire.co.gov
Plan 2020-00216 535 Palma St: SFD I Fire Sprinkler Required
These building plans incorporate the following comments & conditions. It is the Builder's responsibility to make contact with the fire department (John Riddell, Deputy Fire Marshal at 925-519-1517) if the Builder or any of his Contractors do not understand any of the following project conditions.

Plan 2020-00216 535 Palma St: SFD I Fire Sprinkler Required

These building plans incorporate the following comments & conditions. It is the Builder's responsibility to make contact with the fire department (John Riddell, Deputy Fire Marshal at 925-519-1517) if the Builder or any of his Contractors do not understand any of the following project conditions.

1. All plan listed Smoke Detectors which are hard wired: As per the California Building Code, State Fire Marshal regulations, and Coastside Fire District Ordinance 2019-03, the applicant is required to install State Fire Marshal approved and listed smoke detectors which are hard wired, interconnected, and have battery backup. These detectors are required to be placed in each new and recondition sleeping room and at a point centrally located in the corridor or area giving access to each separate sleeping area, in existing sleeping rooms, areas may have battery powered smoke alarms, A minimum of one detector shall be placed on each floor. Smoke detectors shall be tested and approved prior to the building final. Date of installation must be added to exterior of the smoke alarm and will be checked at final.
2. Smoke alarm/detector are to be hardwired, interconnected, or with battery back-up, Smoke alarms to be installed per manufactures instruction and NFPA 72.
3. Escape or rescue windows shall have a minimum net clear openable area of 5.7 square feet, 5.0 sq. ft. allowed at grade, The minimum net clear openable height dimension shall be 24 inches, The net clear openable width dimension shall be 20 inches. Finished sill height shall be not more than 44 inches above the finished floor. (CFC 1030).
4. As per Coastside Fire District Standard CI-013, building identification shall be conspicuously posted and visible from the street, (TEMPORARY ADDRESS NUMBERS SHALL BE POSTED PRIOR TO COMBUSTIBLES BEING PLACED ON SITE), The letters/numerals for permanent address signs shall be 4 inches in height with a minimum 112-inch stroke, Such letters/numerals shall be internally illuminated and facing the direction of access, 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 shall be placed at the entrance from the nearest public roadway.
5. As per Coastside Fire District Ordinance 2019-03, the roof covering of every new building or structure, and materials applied as part of a roof covering assembly, shall have a minimum fire rating of Class "B" or higher as defined in the current edition of the California Building Code.
6. Vegetation Management (LRA) -The Coastside Fire District Ordinance 2019-03, the 2019 California Fire Code 304.1.2.
A fuel break of defensible space is required around the perimeter of all structures 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.
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. Maintain any tree adjacent to or overhanging a building free of dead or dying wood.
Fire Access Roads: The applicant must have a maintained asphalt surface for ingress and egress of fire apparatus Coastside Fire District Ordinance 2019-03.
7. Fire Hydrant: As per 2019 CFC, Appendix B and c, a fire district approved fire hydrant (Clow 960) must be located within 500 feet of the proposed single-family dwelling unit measured by way of drivable access. As per 2019 CFC, Appendix B the hydrant must produce a minimum fire flow of 500 gallons per minute at 20 pounds per square inch residual pressure for 2 hours. Contact the local water purveyor for water flow details.
8. Automatic Fire Sprinkler System: (Fire Sprinkler plans will require a separate permit). As per San Mateo County Building Standards and Coastside Fire District Ordinance Number 2019-03, the applicant is required to install an automatic fire sprinkler system throughout the proposed or improved dwelling and garage. All attic access locations will be provided with a pilot head on a metal upright. Sprinkler coverage shall be provided throughout the residence to include all bathrooms, garages, and any area used for storage. The only exception is small linen closets less than 24 square feet with full depth shelving. The plans for this system must be submitted to the San Mateo County Planning and Building Division or The City of HMB. A building permit will not be issued until plans are received, reviewed, and approved. Upon submission of plans, the County or City will forward a complete set to the Coastside Fire District for review.
9. Installation of underground sprinkler pipe shall be flushed and visually inspected by Fire District prior to hook-up to riser. Any soldered fittings must be pressure tested with a trench open. Please call Coastside Fire District to schedule an inspection. Fees shall be paid prior to plan review.
10. Exterior bell and interior ham/strobe are required to be wired into the required flow switch on your fire sprinkler system. The bell, horn/strobe, and flow switch, along with the garage door opener are to be wired into a separate circuit breaker at the main electrical panel and labeled.
11. Solar Photovoltaic Systems: These systems shall meet ·the requirements of the 2019 CFC Section.

STORMHAUS
3D MODELING & CAD SERVICES
4010 Blue Bonnet Blvd., Suite 114
Houston, Texas 77025

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UNO BLUE will typically indicate non-structural areas that are nomally subject to modification during construction
UNO GREEN will typically indicate sustainable materials or systems

NO.	DATE	DESCRIPTION
1	11/2/2021	Reissue set; No changes on page

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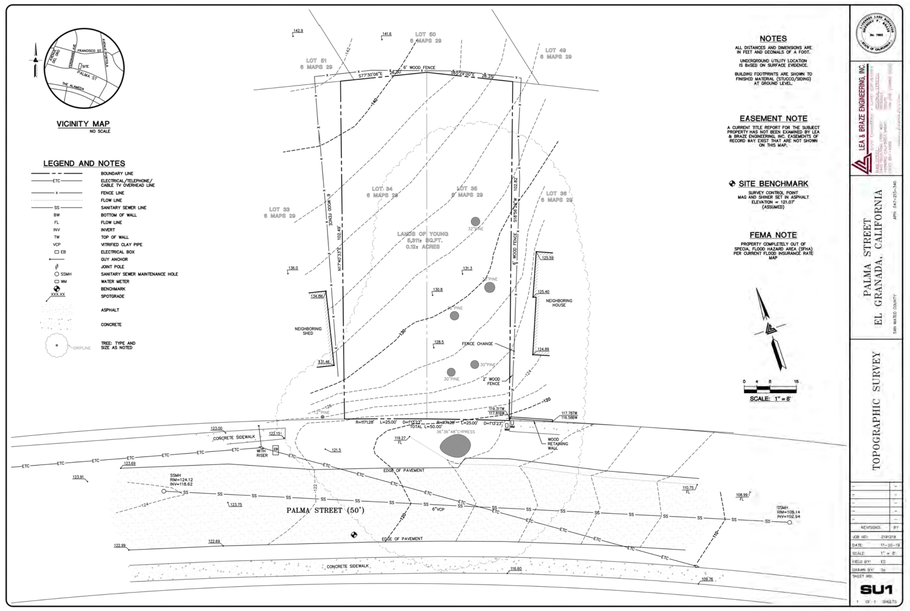
PROJECT
HOUZE
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME
GENERAL SPECIFICATIONS

A-001



COPY OF SURVEY

(NOTE: SEE C-1.0 FOR TREE REMOVAL PLAN)

APPLICABLE DESIGN GUIDELINES

HALF MOON BAY SINGLE-FAMILY RESIDENTIAL DESIGN GUIDELINES

CHAPTER 20. "S-17" DISTRICT (COMBINING DISTRICT- MIDCOAST)

** Per Item 4. Parcel Coverage: Max. Parcel Coverage 5311 sf x 0.35 = 1858 SF*
[All buildings plus balconies, deck, patios, etc., which are 18" above the ground.]
*** Per Item 5. Building Floor Area: Maximum Building Floor Area 5311 x 0.53= 2838.61 SF*
[All habitable floors plus all garages and carports; plus any decks, porches, balconies, etc., that are covered by roofs that extend 4 ft or greater from exterior walls]

2019 CALIFORNIA BUILDING STANDARDS CODE (CAL. CODE REGS., TITLE 24)
WAS PUBLISHED JULY 1, 2019, WITH AN EFFECTIVE DATE OF JANUARY 1, 2020

PART 1–CALIFORNIA ADMINISTRATIVE CODE
PART 2–CALIFORNIA BUILDING CODE
Part 2.5–CALIFORNIA RESIDENTIAL CODE
PART 3–CALIFORNIA ELECTRICAL CODE
PART 4–CALIFORNIA MECHANICAL CODE
PART 5–CALIFORNIA PLUMBING CODE
PART 6–CALIFORNIA ENERGY CODE

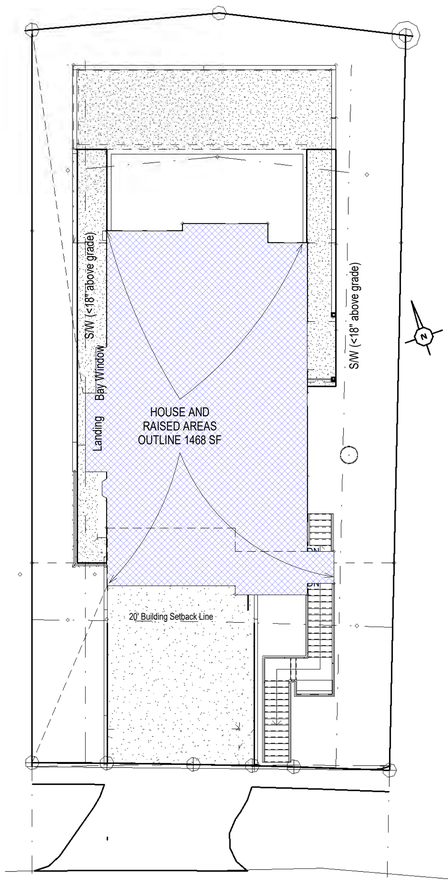
General Site/ Landscape Notes

1. The Builder is responsible for correct location of all structures on the site within all setbacks.
2. A form border survey shall be required to verify site locations and forming elevations, step, and slopes.
3. Contractor shall protect all existing trees shown on plans as necessary /as required by codes.
4. Site drainage shall be cut and configured such that no water from this lot shall drain onto adjacent property /lots on all sides.
5. Install full solid sod at front yard. Rear yard full solid sod shall be an upgrade option.
6. Contractor shall locate shrubbery beds at front yard and prep. With 3" bedding soil mix and 4" pine bark mulch topping.
7. If plan includes a full front landscape package contractor shall coordinate Shrub quantities/sizes/types.

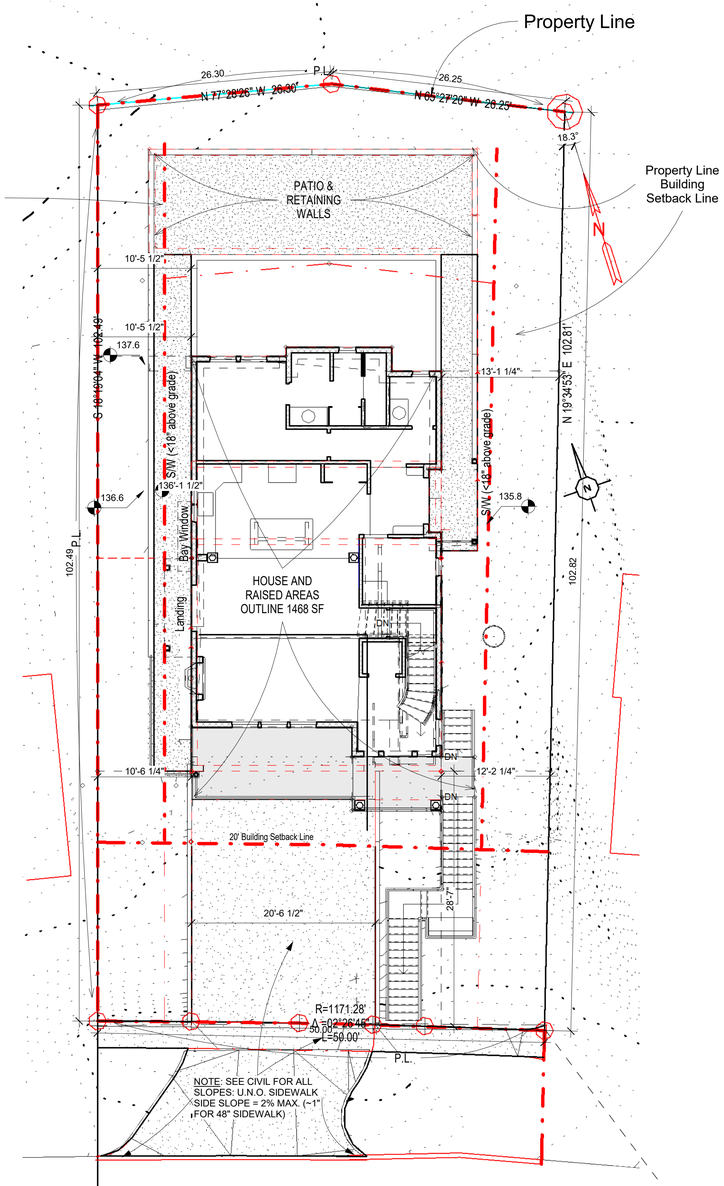
Allowable Parcel Coverage = 5311 x 0.35 = 1858.85 SF
*Project Total Parcel Coverage = 1468 SF < 1858.85 SF : **OK**

****Allowable Building Floor Area** = 5311 x 0.53 = 2814.83 SF

SITE / PARCEL	5311 SF	2814.83
Garage (including Grg-1st Stairs)	726.00	2088.83
1st Floor (Including 1st-2nd Stairs)	1192.00	896.83
1st Level Covered Entry 60 sf	60.00	836.83
1st level front patio 145 sf (not roof covered)	0.00	836.83
2nd Floor (not including stairs)	835.00	1.83
2st level front patio 72 sf (3'-11.5" roof <4')	0.00	1.83
	2813.00	
	2813.00 < 2814.83 SF : OK	



PALMA ST.
2 PROPOSED PARCEL COVERAGE
1" = 10'-0"



PALMA ST.
1 PROPOSED SITE
1/8" = 1'-0"

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NO.	DATE	DESCRIPTION
2	09/11/18	Rev.stairs, added rt. gable roof, ext'd frt.gable roof, added trellis & corbel to garage, lowered 1st&2nd flr by 1'9", add kit. window
3	4/10/2020	Dropped grg slab & dw by ~4"; rev. grg stairs, rev. outdoor stairs, added sidewalk, adj. floor opening.
4	10/7/2020	Property lines changed to bold red, setbacks to bold blue
5	5/22/2021	Added new survey. Removed tree removal plan (ref to C-1.0)
1	11/2/2021	Reissue set; No changes on page

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PROJECT

HOUZE

535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME

SITE PLAN

A-050

LANDSCAPING AND PLANTING RECOMMENDATIONS

The landscaping contractor is to develop and apply a landscaping design that is consistent with City requirements.

1. Contractor shall protect all existing trees shown on plans as necessary /as required by codes.
2. Site drainage shall be cut and configured such that no water from this lot shall drain onto adjacent property /lots on all sides.
3. Install full solid sod at front yard. Rear yard full solid sod shall be an upgrade option.
4. Contractor shall locate shrubbery beds at front yard and prepare with 3" bedding soil mix and 4" pine bark mulch topping.
5. If plan includes a full front landscape package contractor shall coordinate Shrub quantities/sizes/types.
6. Native plants and grasses are recommended to be integrated to provide an overall aesthetic landscape continuity to the area.
7. Include plants native to the area arrange in gentle mounds, and other border areas planted to complement the area. Consider including nectar mixes for pollinators such as Monarch butterflies and desirable species of birds and insects.
8. Planting walking paths should be decomposed granite, also used in area to support maintenance of the structure.
9. Larger trees and conifers can be included to soften building masses and to emphasize informally placed native plantings of varying sizes and to minimize maintenance and the need for watering.
10. Rear areas can include 18” to 24” raised structure planting beds for herbs and vegetables for kitchen use.

RECOMMENDED DESIGN GUIDANCE:

1. WETLAND DELINEATION REPORT 9/21/2019
   a. by Dana Riggs driggs@solecology.com 707-241-7718
2. BIOLOGICAL RESOURCES TECHNICAL REPORT 7/27/2017
   a. H.T. Harvey & Associates

RECOMMEND TREES/BUSHES (NATIVE)

1. ARROYO WILLOW
2. ELDERBERRY
3. BUGLE HEDGENETTLE
4. CALIFORNIA WILD ROSE

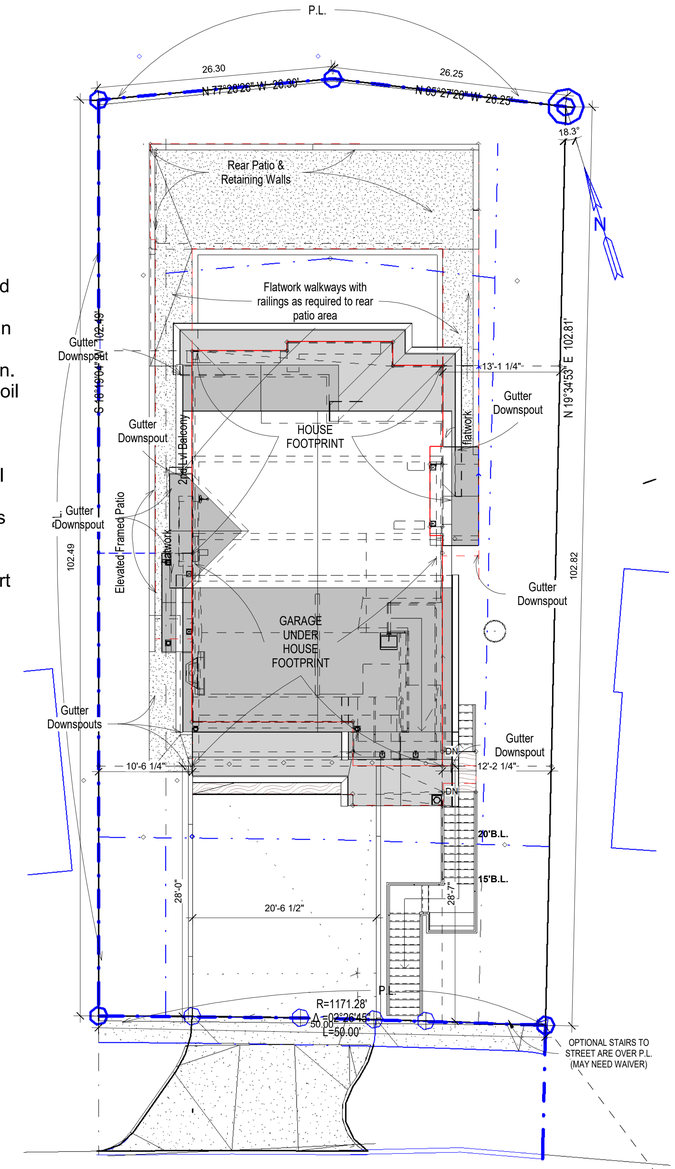
RECOMMEND PLANTS (NATIVE)

1. BEDSTRAW
2. CALIFORNIA BLACKBERRY
3. CURLY DOCK
4. STINGING NETTLE

RECOMMEND PLANTS (NON-NATIVE)

1. COMMON VETCH
2. WILD RADISH
3. VELDT PANIC GRASS
4. NEW ZEALAND CABBAGE TREE
5. SLENDER WILD OAT

.



1 PROPOSED LANDSCAPING & HARDSCAPING PLAN
1/8" = 1'-0"

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UNO BLUE will typically indicate non-structural areas that are nomally subject to modification during construction

UNO GREEN will typically indicate sustainable materials or systems

NO.	DATE	DESCRIPTION
2	09/11/18	Applied rev. rear B.L., Modified rear walls & roof
3	4/10/2020	Rev. stairwells, add gable roof to rt. side, ext. frt.gable roof, add trellis&corbel to grg, lower 1st&2nd flr by 1'9", add window by kit.sink
3	10/07/2020	Drop grg slab&driveway by ~4";rev. grg stairs, rev. outdr stairs, add sidewalk, adjusted floor opening. Dimensions added to house outline for area calculation
4	11/2/2021	Reissue set; No changes on page

OWNER / DEVELOPER

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PROJECT

HOUZE

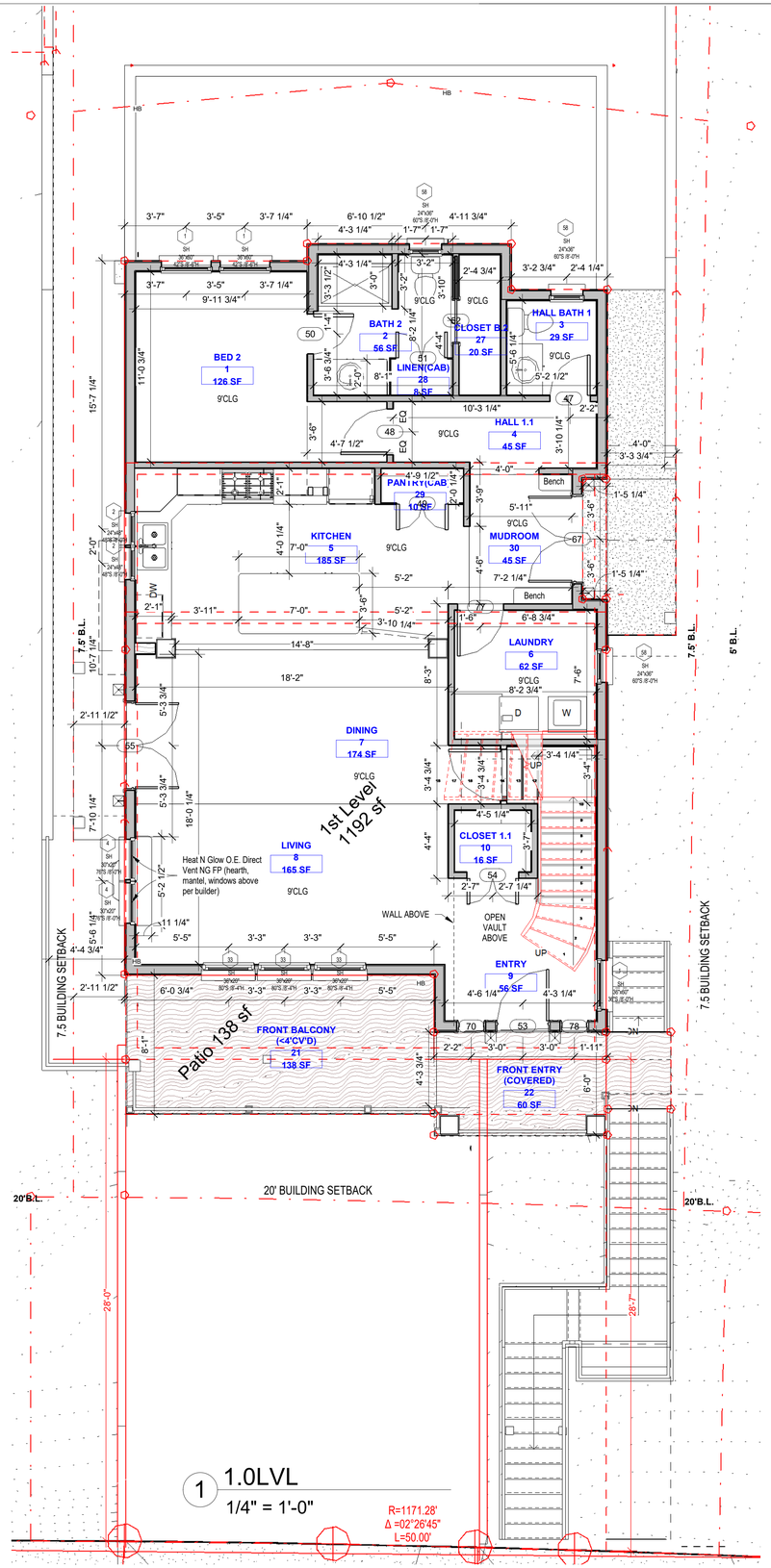
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME

LANDSCAPING & HARDSCAPING

A-055



1 1.0LVL
1/4" = 1'-0"

Room Schedule 1st Floor/Garage				
Name	Number	Level	Area	Perimeter
GARAGE	11	GARAGE (R.SLAB)	607 SF	125'-5 1/4"
GRG-STORAGE	43	GARAGE (R.SLAB)	40 SF	25'-3 1/4"
BATH 2	2	1.0LVL	56 SF	38'-10 1/4"
BED 2	1	1.0LVL	126 SF	51'-3 3/4"
CLOSET 1.1	10	1.0LVL	16 SF	16'-0 1/2"
CLOSET B.2	27	1.0LVL	20 SF	21'-1 3/4"
DINING	7	1.0LVL	174 SF	60'-10 1/2"
ENTRY	9	1.0LVL	56 SF	37'-4 3/4"
FRONT BALCONY (<4'CV'D)	21	1.0LVL	138 SF	50'-3 3/4"
FRONT ENTRY (COVERED)	22	1.0LVL	60 SF	35'-8 1/2"
HALL 1.1	4	1.0LVL	45 SF	32'-0 3/4"
HALL BATH 1	3	1.0LVL	29 SF	21'-8 1/4"
KITCHEN	5	1.0LVL	185 SF	59'-6 1/2"
LAUNDRY	6	1.0LVL	62 SF	31'-5 3/4"
LINEN(CAB)	28	1.0LVL	8 SF	11'-5 1/2"
LIVING	8	1.0LVL	165 SF	56'-4 1/4"
MUDROOM	30	1.0LVL	45 SF	26'-11 1/2"
PANTRY(CAB))	29	1.0LVL	10 SF	13'-7 1/2"

BUILDER SELECTED MATERIALS AND FINISHES FOR THIS PROJECT

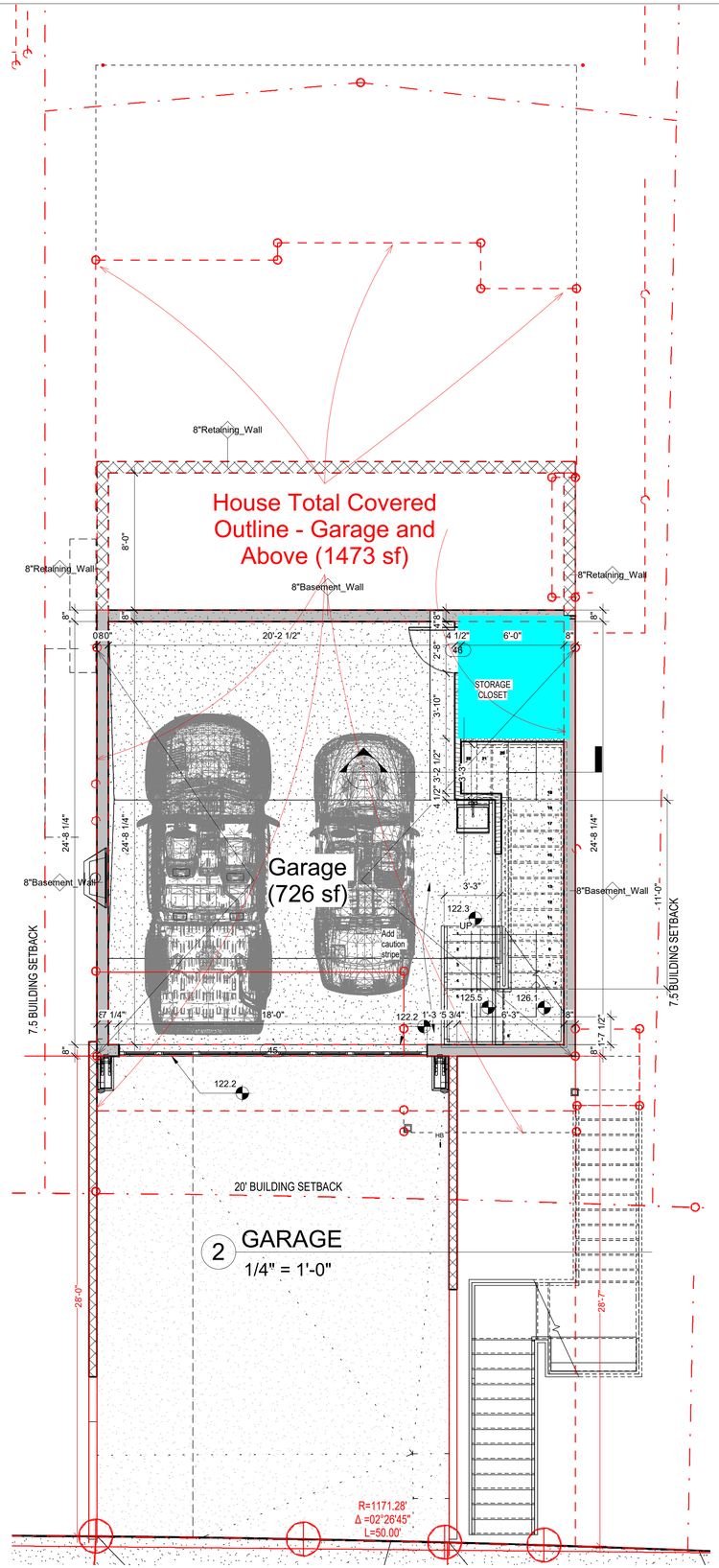
a. Exterior Walls: James Hardie Plank Lap Siding Color: Light Mist Grey
b. Trim: Hardie Trim Boards Smooth Color: Arctic White
c. Window: PELLA Impervia Fiberglass Color White
d. Doors: Steve's Premium Fiberglass Doors Color: Mahogany
e. Roof: Owens Corning Duration Premium Color: Harbor Fog
f. Chimneys: NextStone Statestone Column Wrap Color: Midnight Ash
g. Decks & Railings: TimberTech Color: Stone Ash & White
h. Stairs: TimberTech Color: Stone Ash & White
i. Retaining Walls: Concrete

GENERAL NOTES

1. All doors shall be 7' -0" tall on first floor and 6'-8" tall on second floor.
2. 2'-8" wide paneled fir door @ 1st floor to be 2'-8" wide paneled Masonite door @ 2nd floor.
3. All windows @ front elevation shall be Pella Series, O.E.
4. All windows @ side & rear elevations shall be Pella Series, O.E., (single hung) unless noted otherwise. Install tempered glass (TG) per code.
5. All windows @ front elevation shall be Pella Series, O.E.
6. All bedroom windows and doors to meet IRC egress requirements
7. All door and window Sill and Header elevations to be reviewed and verified by owner and builder before finalization with SIP manufacturer (who will precut all opening sizes and locations).
8. Fireplaces shall be Pre-Fab UL approved metal units meeting applicable energy codes. Contractor shall provide manufacturer Installation manuals at job site for building inspector review.
9. Install 5/8" fire rated gypsum board at all attached garage walls and ceilings or at garages with quarters room above.
10. Install fire rated solid core 1 3/4" thick doors w/ closer between house and attached garage.
11. All interior gypsum wallboard shall be one half inch (½") material. An alternate upgrade can be Type X Fire code 5/8".

PROVIDE EGRESS PER IBC/IRC

WINDOW EGRESS PER R310.1- One per sleeping room/basement. Minimum 5.7 sf (or 5 sf if at grade) of clear opening space, minimum 24" tall, minimum 20" wide, and 44" maximum sill elevation above the floor, opened without tools or keys.
Acceptable Minimum Window Types:
Single Casement Type - Minimum 2226CS (26"Wx30"T RO, 20"Wx24"T clear opening).
Single or Double Hung Type – Minimum 2246SH (26"Wx57"T RO, 20"Wx24"T minimum clear bottom opening)
Windows sill height can be field adjusted during construction but must remain no more that 44" above the floor surface.
DOOR EGRESS PER R311.2 - Minimum of one 32" wide x 78" tall door opening per dwelling requires a 36" door width.



2 GARAGE
1/4" = 1'-0"

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3	4/10/2020	Rev. stairwells, add gable roof to rt. side, extend frt.gable roof, add trellis & corbel to grg, lower 1st & 2nd fr 1'9", add kit. sink window Drop grg slab & d-way ~4"; rev. grg stairs, rev. o.d. stairs, added sidewalk, adjusted floor opening.
4	11/2/2021	Lowered ridge height below 28' (Reduce 1st Clg to 9', Staggered roof, changed roof slope ot 5:12)

OWNER / DEVELOPER

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PROJECT

HOUZE

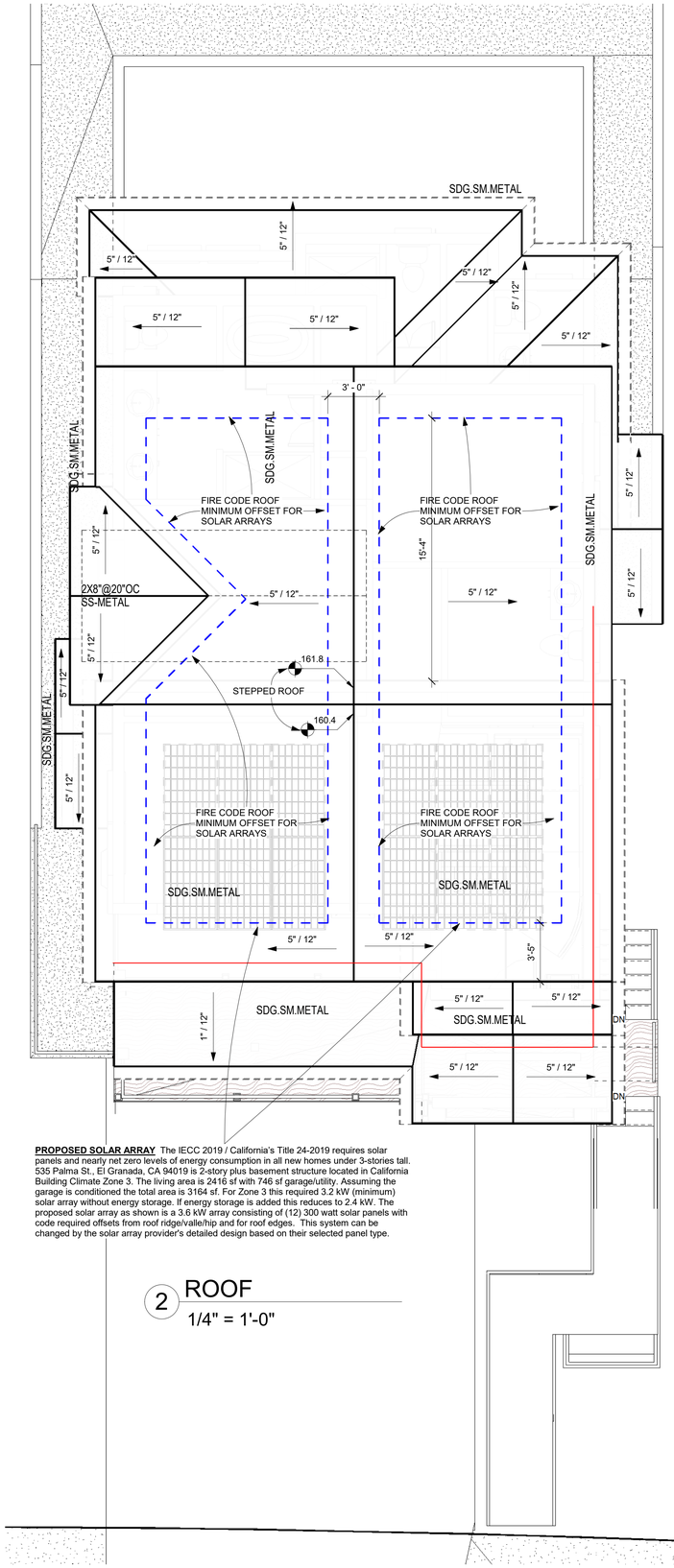
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME

BASEMENT/1ST FLOOR PLANS

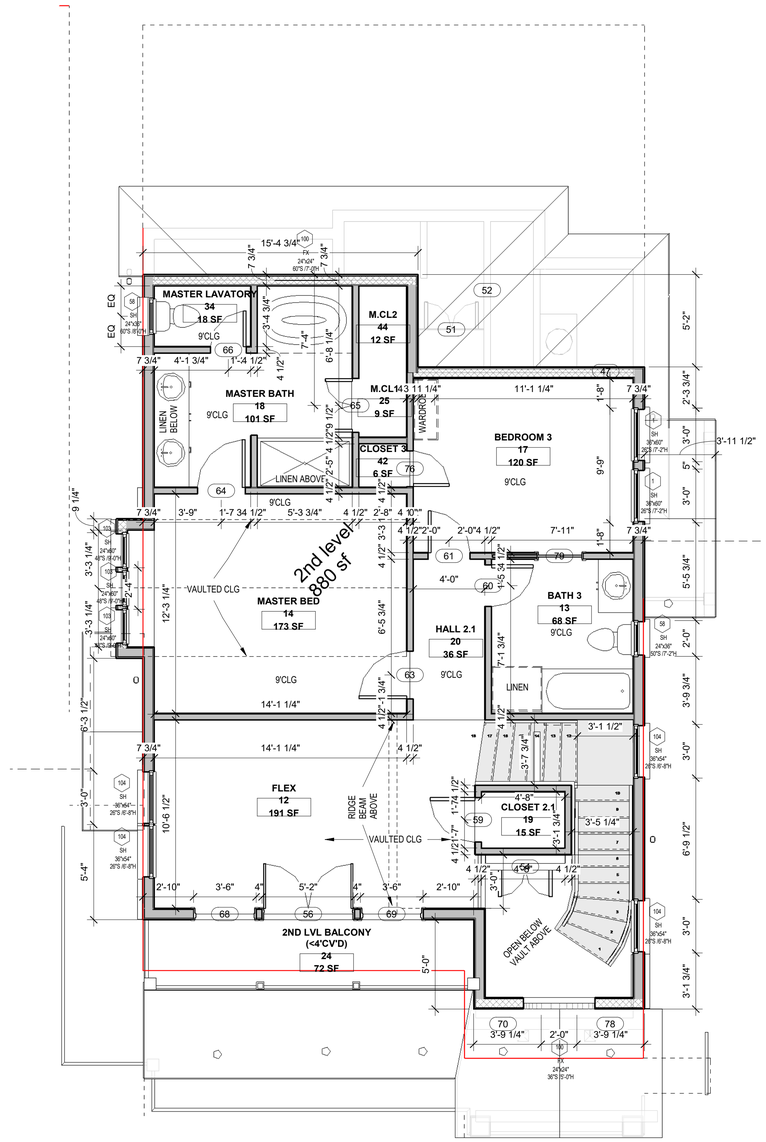
A-100



PROPOSED SOLAR ARRAY The IECC 2019 / California's Title 24-2019 requires solar panels and nearly net zero levels of energy consumption in all new homes under 3-stories tall. 535 Palma St., El Granada, CA 94019 is 2-story plus basement structure located in California Building Climate Zone 3. The living area is 2416 sf with 746 sf garage/utility. Assuming the garage is conditioned the total area is 3164 sf. For Zone 3 this required 3.2 kW (minimum) solar array without energy storage. If energy storage is added this reduces to 2.4 kW. The proposed solar array as shown is a 3.6 kW array consisting of (12) 300 watt solar panels with code required offsets from roof ridge/valle/hip and for roof edges. This system can be changed by the solar array provider's detailed design based on their selected panel type.

2 ROOF
1/4" = 1'-0"

Room Schedule 2nd Floor				
Name	Number	Level	Area	Perimeter
2ND LVL BALCONY (<4'CV'D)	24	2.0LVL	72 SF	44'-8 1/2"
BATH 3	13	2.0LVL	68 SF	33'-1"
BEDROOM 3	17	2.0LVL	120 SF	44'-1"
CLOSET 2.1	19	2.0LVL	15 SF	15'-7 1/4"
CLOSET 3	42	2.0LVL	6 SF	10'-2 1/4"
FLEX	12	2.0LVL	191 SF	57'-9 3/4"
HALL 2.1	20	2.0LVL	36 SF	26'-0"
M.CL1	25	2.0LVL	9 SF	12'-4 1/4"
M.CL2	44	2.0LVL	12 SF	14'-6"
MASTER BATH	18	2.0LVL	101 SF	52'-3"
MASTER BED	14	2.0LVL	173 SF	52'-9 1/4"
MASTER LAVATORY	34	2.0LVL	18 SF	17'-6 3/4"



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4	11/2/2021	Lowered ridge height below 28' (Reduce 1st Clg to 9', Staggered roof, changed roof slope ot 5:12)

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PROJECT

HOUZE

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CALIFORNIA 94018

PROJ #

SHEET NAME

2ND FLOOR/ROOF PLANS

A-150

Room

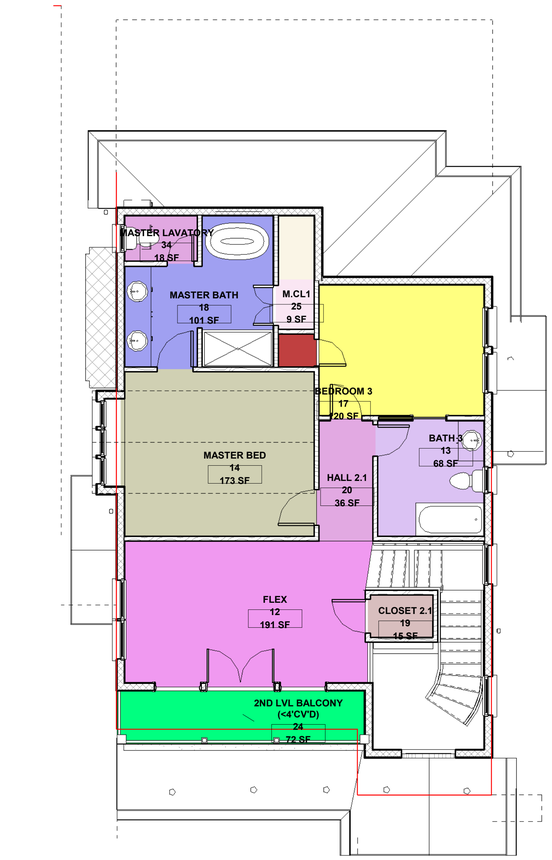
- 2ND LVL BALCONY (<4'CV'D)
- BATH 3
- BEDROOM 3
- CLOSET 2.1
- CLOSET 3
- FLEX
- HALL 2.1
- M.CL1
- M.CL2
- MASTER BATH
- MASTER BED
- MASTER LAVATORY

Room

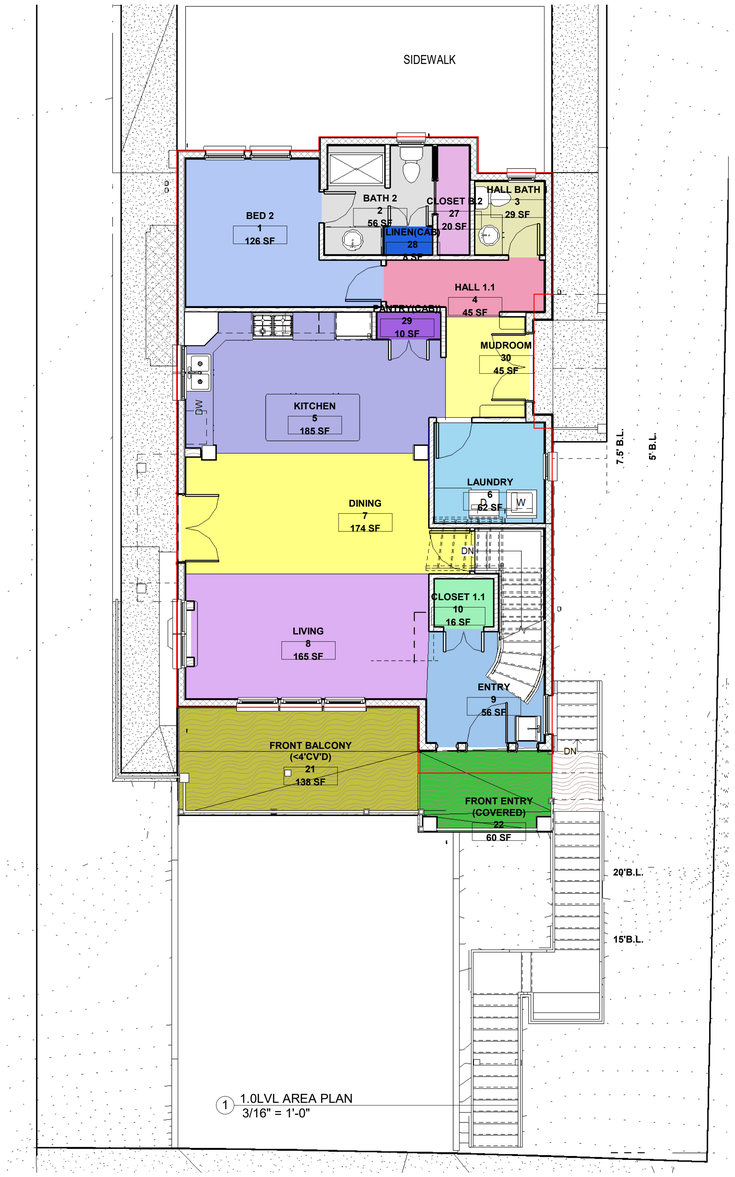
- BATH 2
- BED 2
- CLOSET 1.1
- CLOSET B.2
- DINING
- ENTRY
- FRONT BALCONY (<4'CV'D)
- FRONT ENTRY (COVERED)
- HALL 1.1
- HALL BATH 1
- KITCHEN
- LAUNDRY
- LINEN(CAB)
- LIVING
- MUDROOM
- PANTRY(CAB))

Room

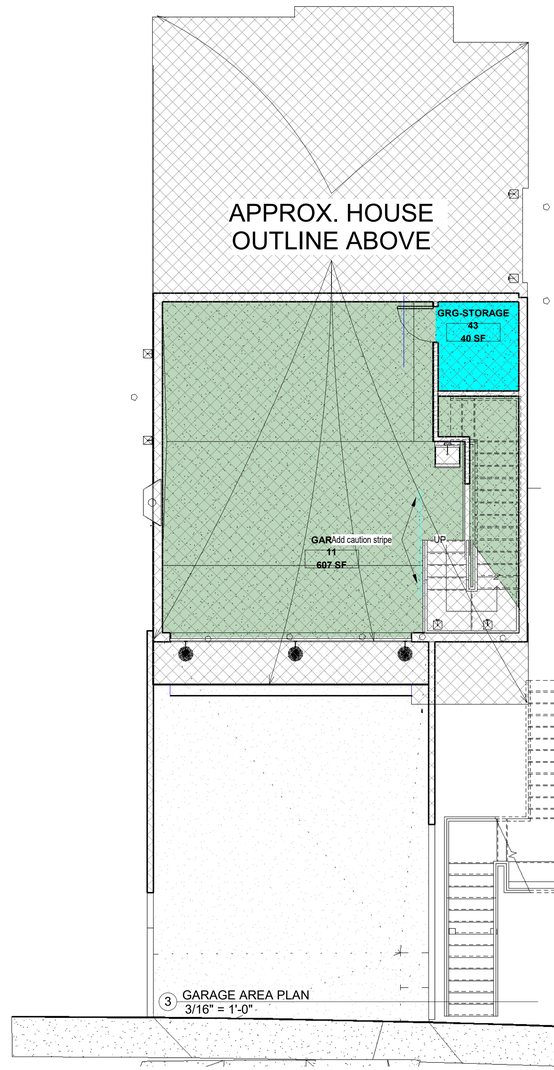
- GARAGE
- GRG-STORAGE



2 2.0LVL AREA PLAN
3/16" = 1'-0"



1 1.0LVL AREA PLAN
3/16" = 1'-0"



3 GARAGE AREA PLAN
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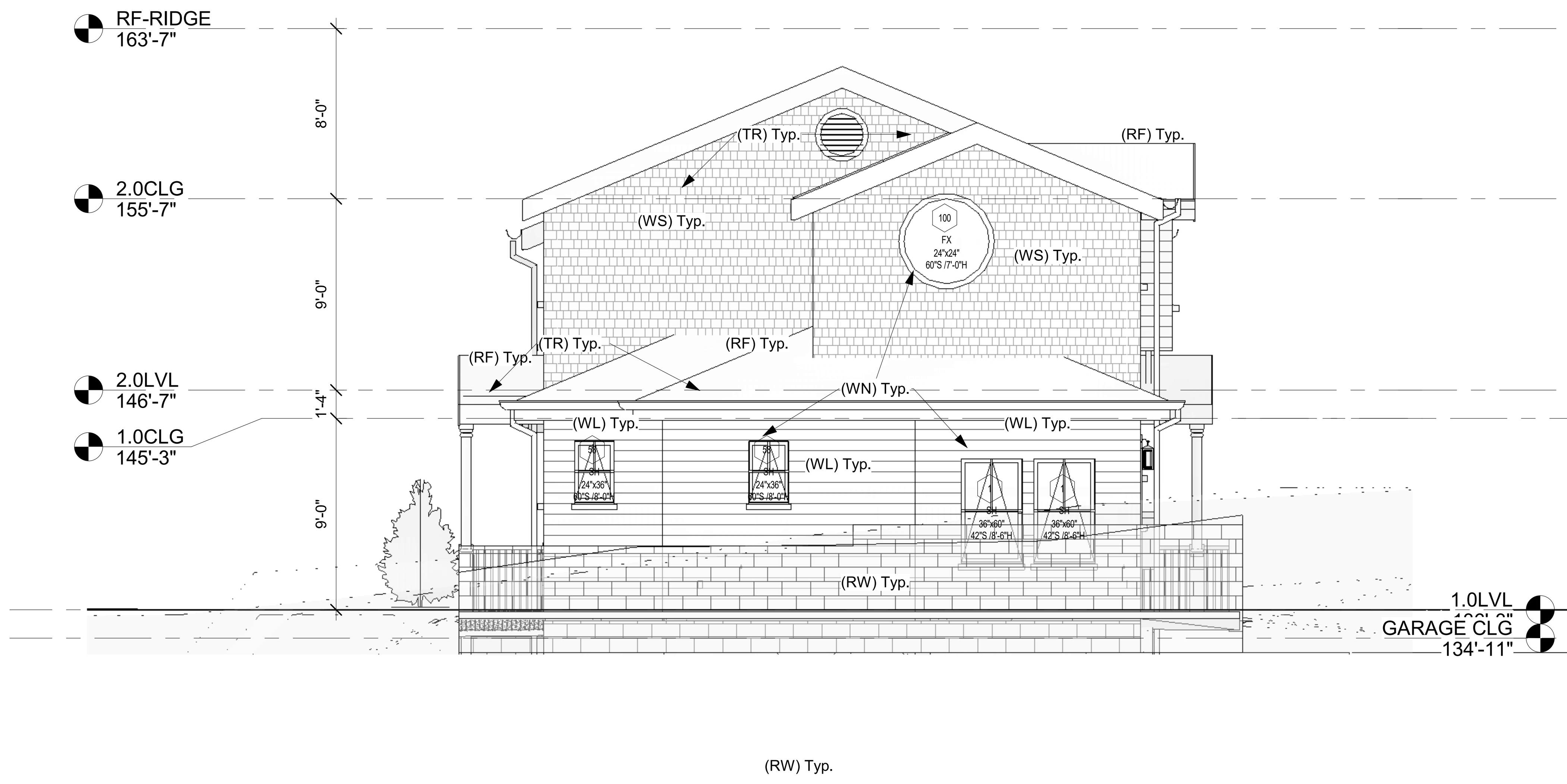
CALIFORNIA 94018

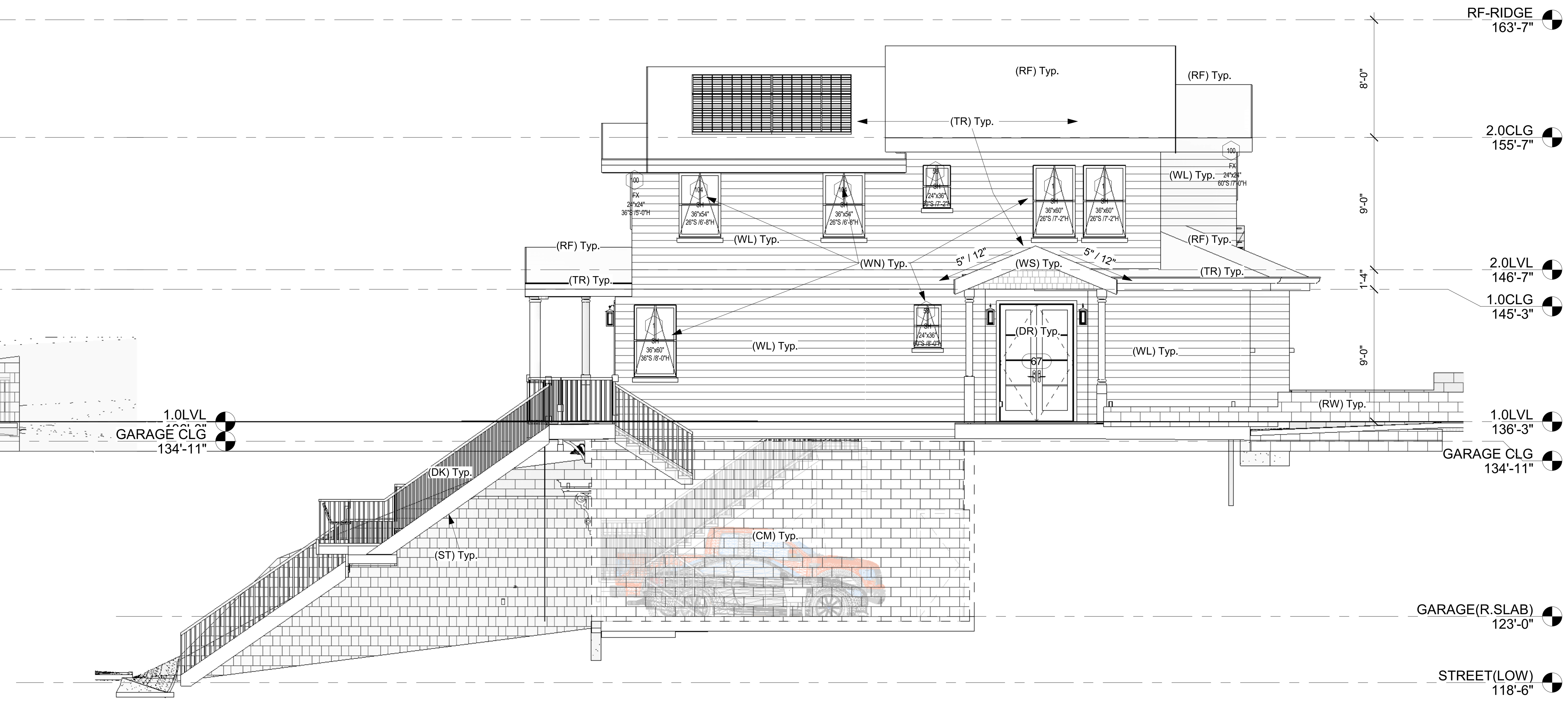
PROJ #

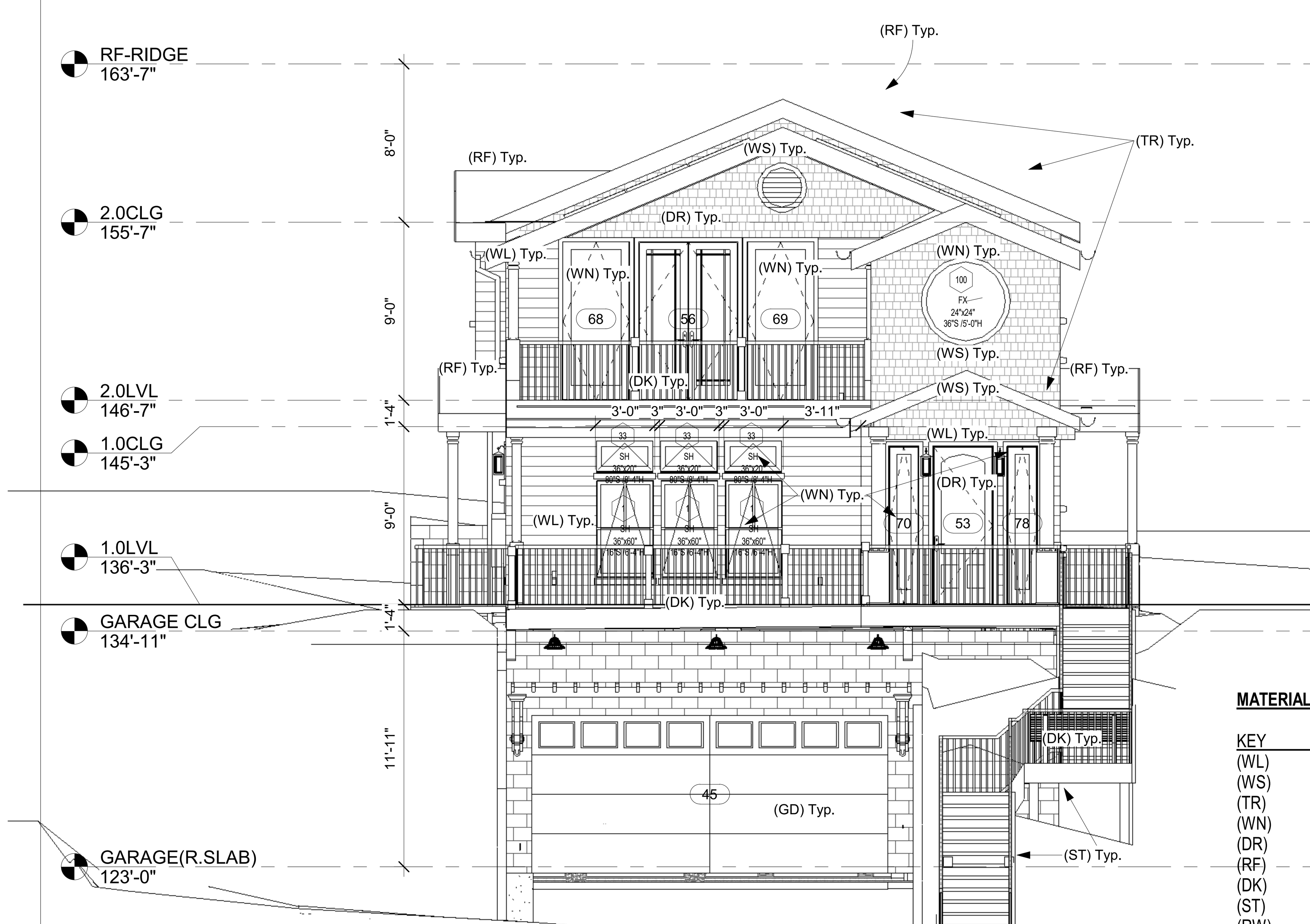
SHEET NAME

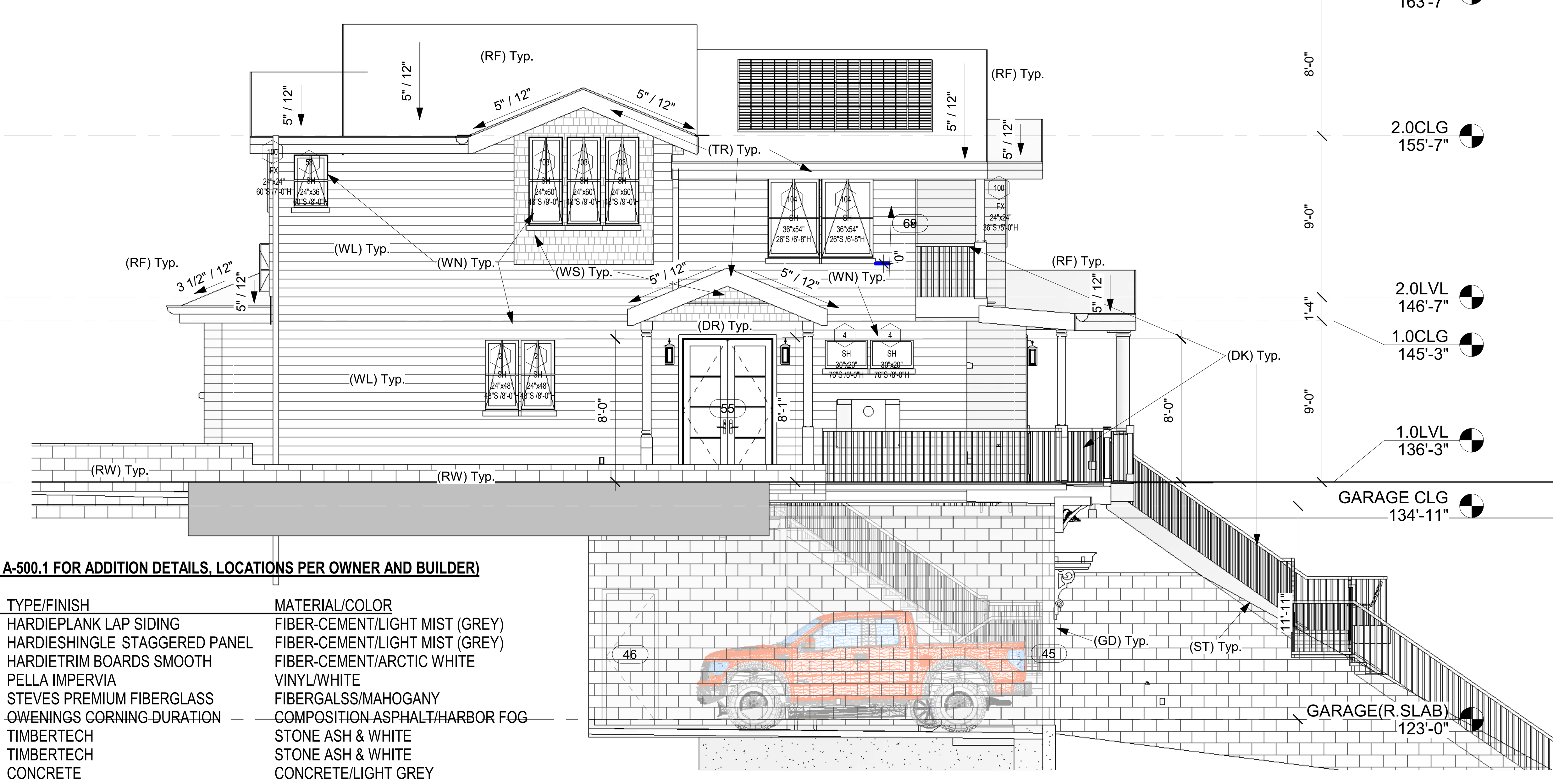
AREA PLANS

A-200









MATERIALS & FINISH KEY CHART (SEE PAGE A-500.1 FOR ADDITION DETAILS, LOCATIONS PER OWNER AND BUILDER)

KEY	ITEM	TYPE/FINISH	MATERIAL/COLOR
(WL)	EXTERIOR WALLS	HARDIEPLANK LAP SIDING	FIBER-CEMENT/LIGHT MIST (GREY)
(WS)	EXTERIOR WALLS	HARDIESHINGLE STAGGERED PANEL	FIBER-CEMENT/LIGHT MIST (GREY)
(TR)	TRIM	HARDIETRIM BOARDS SMOOTH	FIBER-CEMENT/ARCTIC WHITE
(WN)	WINDOWS	PELLA IMPERVIA	VINYL/WHITE
(DR)	DOORS	STEVES PREMIUM FIBERGLASS	FIBERGALSS/MAHOGANY
(RF)	ROOF	OWENINGS CORNING DURATION	COMPOSITION ASPHALT/HARBOR FOG
(DK)	DECKS & RAILINGS	TIMBERTECH	STONE ASH & WHITE
(ST)	STAIRS	TIMBERTECH	STONE ASH & WHITE
(RW)	RETAINING WALLS	CONCRETE	CONCRETE/LIGHT GREY
(FN)	FENCES (SIDES&BACK)	EXISTING (WOOD)	WOOD/NATURAL
(FF)	FENCES (FRONT) ZIPPITY	VINYL PICKET FENCE	VINYL/WHITE
(GD)	GARAGE DOOR	LUX GARAGE DOORS	WHITE
(CM)	CMU BASEMENT WALL	CMU/NATURAL	CONCRETE/LIGHT GREY

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3	4/10/2020	Dropped grg slab & dw by ~4'; rev.garage stairs, rev.outdoor stairs, add sidewalk, adj.flr.open'g
4	5/19/2021	Added roof ridge elevation line
4	11/2/2021	Lowered ridge height below 28' (Reduce 1st Clg to 9', Staggered roof, changed roof slope ot 5:12)
5	6/3/2021	
6	9/21/2021	Added key tags for material types and colors

OWNER / DEVELOPER

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PROJECT

HOUZE

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PROJ #

SHEET NAME

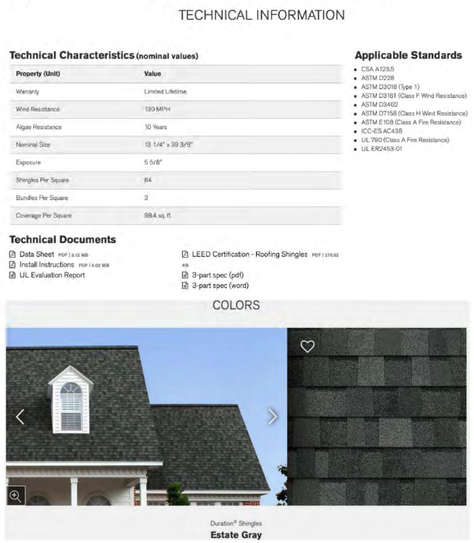
ELEVATION VIEWS

A-500

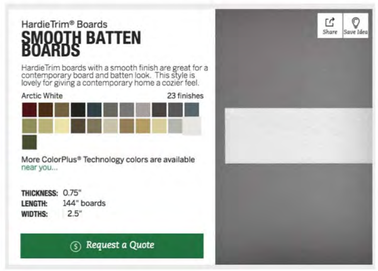
EXTERIOR WALLS **HARDIEPLANK LAP SIDING** **LIGHT MIST (GREY)**

SELECTED EXT. WALLS **HARDIE STAGGEREDSHINGLE** **LIGHT MIST (GREY)**

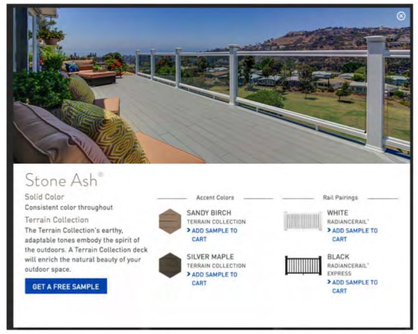
ROOF **OWENINGS CORNING DURATION** **HARBOR FOG**



TRIM **HARDIETRIM BOARDS SMOOTH** **ARCTIC WHITE**



DECKS & RAILINGS **TIMBERTECH** **STONE ASH & WHITE**



DOORS **STEVES PREMIUM FIBERGLASS** **MAHOGAN**

STAIRS **TIMBERTECH** **STONE ASH & WHITE**

WINDOWS **PELLA IMPERVIA** **WHITE VINYL**

FENCES (FRONT) **ZIPPITY VINYL PICKET FENCE (36" H)** **WHITE**

Style: **Fence Newport**

- Installs without digging holes, pouring concrete, or tearing up your yard; use a sledgehammer or post pounde install the no-dig pipe anchor
- Crafted from premium weather resistant vinyl with a 10 year warranty- won't crack, warp, yellow, splinter, etc
- Virtually maintenance-free; no painting, staining or maintaining required; assembles with relative ease
- Each unit includes 1 fence panel, 1 post, 1 no-dig pipe anchor and (1) cap; this product is designed to scale, you will need to order a finishing post to complete your fence project (item ZP19003)
- This fence is strong and sturdy and designed to be a permanent structure in your yard once installed; it is no easily removed

MATERIALS & FINISH KEY CHART (SEE PAGE A-500 FOR LOCATIONS PER OWNER AND BUILDER)

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(RF)	ROOF	OWENINGS CORNING DURATION	COMPOSITION ASPHALT/HARBOR FOG
(DK)	DECKS & RAILINGS	TIMBERTECH	STONE ASH & WHITE
(ST)	STAIRS	TIMBERTECH	STONE ASH & WHITE
(RW)	RETAINING WALLS	CONCRETE	CONCRETE/LIGHT GREY
(FN)	FENCES (SIDES&BACK)	EXISTING (WOOD)	WOOD/NATURAL
(FF)	FENCES (FRONT) ZIPPITY	VINYL PICKET FENCE	VINYL/WHITE
(GD)	GARAGE DOOR	LUX GARAGE DOORS	WHITE
(CM)	CMU WALL	CMU/NATURAL	CONCRETE/LIGHT GREY

GARAGE DOOR. Aspen - Craftsman Style Custom Wood Garage Door. White

LuxGarageDoors: Handmade
Materials: cedar, mahogany, MDO, wood, wooden, paint, stain, custom, solid wood
Description: Our Craftsman Wood Doors Collection incorporates handcrafted wood, which enhances its classic appearance. Lux's wood garage doors offer prominent features including, vertical grain lumber, with all sections reinforced with heavy duty struts that support the back of each of section. This provides extra strength and durability to prevent warping, which helps these stunning doors to last for many years.
Our wood garage doors are delivered complete, including all installation hardware and weather seals. The wood comes unfinished, so it needs to be stained on site. This allows you to choose the color and shade to match your home. We recommend staining before installation.
We offer three wood species: MDO paint grade, Western Red Cedar stain grade, and engineered Marine Mahogany stain grade. The wood garage doors are insulated with polystyrene and made out of a solid Douglas fir wood frame. Panel thickness is about 2.3" --much more robust than your average garage door.

535 PALMA ST.
EL GRANADA, CA. 94018
APN: 047-215-340

INSPIRATION PHOTO – EXAMPLE FOR COLOR AND FEEL

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NO.	DATE	DESCRIPTION
1	9/21/2021	Added key tags for material types and colors
2	11/2/2021	Reissue set; No changes on page

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PROJECT

HOUZE

535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME

MATERIAL, FINISH, AND COLOR DETAILS

A-500.1

CHAPTER 20. "S-17" DISTRICT
(COMBINING DISTRICT- MIDCOAST)
6. Building Height. The maximum building height shall be established, as follows:
a. Up to 30% Slope. Where the average slope of the parcel area covered by the main residence is less than 30%, maximum building height is 28 feet.
b. 30% Slope or Greater. Where the average slope of the parcel area covered by the main residence is 30% or greater, maximum building height is 28 feet, unless increased by the Design Review Committee. The Design Review Committee may increase the maximum building height to 33 feet for either:
(1) The center 40% of the house, or
(2) The downslope wall. Where the downslope wall height limit is increased to 33 feet, maximum building height for the house shall be the plane formed by connecting the maximum upslope wall height (28 feet) with the maximum downslope wall height (33 feet).

Building height shall be measured as the vertical distance from any point on the natural grade to the top most point of the building immediately above.

Finished grade, measured at the outside face of exterior perimeter walls, shall not significantly deviate from the natural grade, to the satisfaction of the Design Review Committee.

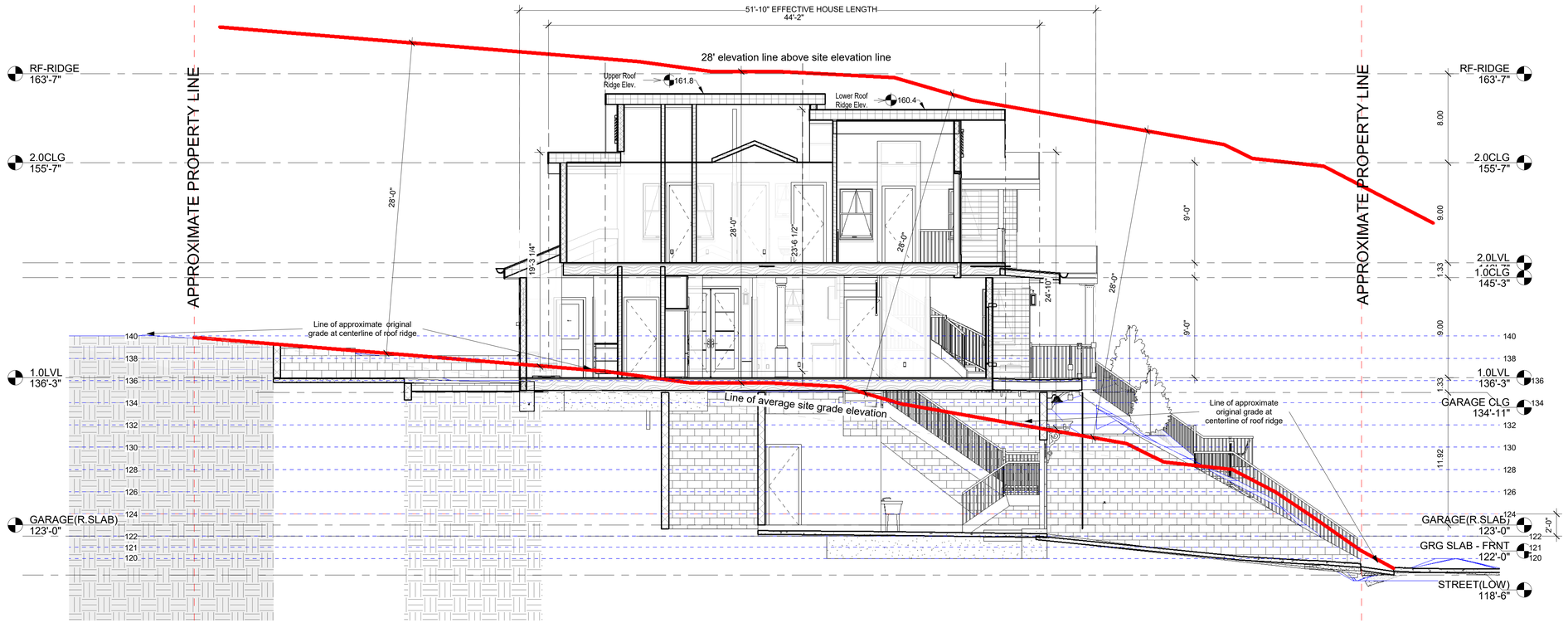
Where the average slope of a parcel is greater than a one (1) foot fall in seven (7) feet distance from the established street grade at the front lot line and where a sewer connection must be made uphill from the building location, the maximum height allowed may be increased to 36 feet.

PROJECT RESPONSE TO CHAPTER 20. "S-17" DISTRICT Items 6 a and 6 b (defining the maximum building elevation):
The lot has both a high rear-to-front slope and a high right-to left slope. The average side slope across the nominal 50' wide lot is ~7.5 feet (`15% side slope). The average rear-to-front slope drop across the nominal 105' lot length is ~22 feet (~21% downhill slope). Although some portions of the lot within the house footprint are greater than a 30% slope, the average slope is less than 30%. Based on this the building height is limited to 28 feet.

Site Elevation Comments: ***The natural grade elevation measurement varies greatly depending on the house footprint natural grade measurement location.***
a. The building footprint's upper-left natural grade (~137.25) is ~4' higher than the upper-right corner (~133.25).
b. The building footprint's lower-left natural grade (~130.5) is ~3' higher than the lower-right corner (~127.55).
c. To adjust for this during construction this site will be excavated and graded to provide a more uniform elevation under the building footprint.
d. Because of this, the visual elevation or presentation of the structure height (roof top elevations) will vary greatly depending on the viewing point.
- ***When viewed from the higher left side and upper left side properties, the house will appear low.***
- ***When viewed from the lower right side the house and upper right side properties, the house will respectively appear high or even.***

e. Based on this variability of the natural grade elevation across this site's rear-to-front and right-to-left sloped natural grade, a single line section cut at the highest proof point will not provide a true measurement of the building height versus the highly variable natural grade.

Details of Revised Elevations:
To address the 28' elevation limit, the project reduced the 1st level ceiling from 10' to 9' and changed the roof pitch from 6:12 to 5:12, and applied a stepped roof design that lowered the front section by an additional 1.4 feet (total ridge drop of 2.7') to 160.4' These design changes lowered the center roof ridge and all other roof elevations to below the 28' elevation limit.



1 BUILDING SECTION AT ROOF PEAK
3/16" = 1'-0"

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NO.	DATE	DESCRIPTION
2	8/17/2021	Add approx. orig. grd line+elev. lines per Sect 6300.2(6) Cty Zoning Regs
3	9/30/2021	Review&adj. orig. grade line. Rev. max.bldg.ht. meas. & response per Sect. 6300.2(6)Zoning Regs.
4	11/2/2021	Lowered ridge height below 28' (Reduce 1st Clg to 9', Staggered roof, changed roof slope to 5:12)
5	12/3/2021	Removed Blue 28' grade average line. Showing only Red 28' measurement lines.

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PROJECT
HOUZE
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

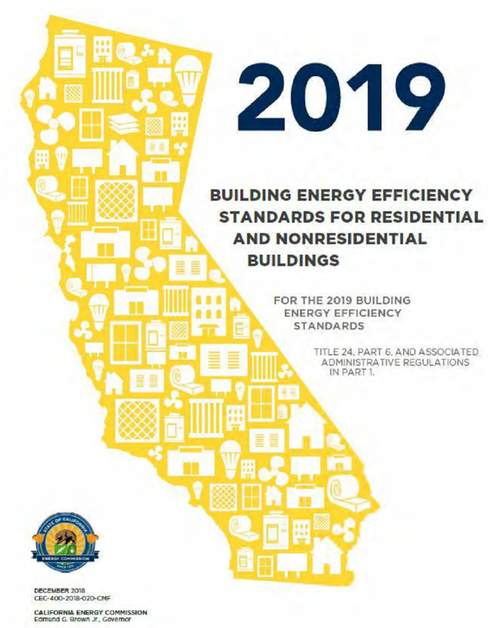
PROJ #

SHEET NAME
SECTION VIEW

A-550

CALIFORNIA ENERGY CODE REQUIRMENTS

Note: This code is applicable to this project



BUILDER SELECTED MATERIALS AND FINISHES FOR THIS PROJECT

a. Exterior Walls: James Hardie Plank Lap Siding Color: Light Mist Grey
b. Trim: Hardie Trim Boards Smooth Color: Arctic White
c. Window: PELLA Impervia Fiberglass Color White
d. Doors: Steve's Premium Fiberglass Doors Color: Mahogany
e. Roof: Owens Corning Duration Premium Color: Harbor Fog
f. Chimneys: NextStone Statestone Column Wrap Color: Midnight Ash
g. Decks & Railings: TimberTech Color: Stone Ash & White
h. Stairs: TimberTech Color: Stone Ash & White
i. Retaining Walls: Concrete

DOOR SCHEDULE

Assembly Code	Assembly Description	Count	Door Description	Type	Width	Height	Thickness	Door Type	Comments
C1020	Interior Doors	1	Single-Flush	30" x 80"	2'-6"	6'-8"	2"	5	
B2030100	Glazed Doors & Entrances	1	Door-Exterior-Single-Entry-Half Arch Glass-Wood_Clad	36" x 96"	3'-0"	8'-0"	1 1/2"	33	
B2030100	Glazed Doors & Entrances	2	Door-Exterior-Double-Full Glass-Wood_Clad	60" x 96"	5'-0"	8'-0"	1 1/2"	37	
B2030100	Glazed Doors & Entrances	2	Door Window	40" x 96"	3'-4"	8'-0"	1 1/2"	43	
B2030100	Glazed Doors & Entrances	2	Door Window	18" x 96"	1'-6"	8'-0"	1 1/2"	44	
B2030100	Glazed Doors & Entrances	1	Door-Exterior-Double-Full Glass-Wood_Clad_Craftsman	60" x 96"	5'-0"	8'-0"	1 1/2"	53	
		1	Garage Dooe With Windows	18'x8' Garage Door w/Windows	18'-0"	8'-0"		54	
C1020300	Interior Doors with Frames	2	M_Door-Interior-Single-Pocket-2_Panel-Wood	30"x80"Pocket-Dr	2'-6"	7'-0"	1 1/2"	58	
C1020	Interior Doors	2	Single-Flush	24" x 84"	2'-0"	7'-0"	2"	65	
C1020	Interior Doors	4	Single-Flush	28" x 84"	2'-4"	7'-0"	2"	66	
C1020	Interior Doors	3	Door-Double-Flush_Panel	36" x 84"	3'-0"	7'-0"	2"	67	
C1020	Interior Doors	5	Single-Flush	32" x 84"	2'-8"	7'-0"	2"	68	
C1020	Interior Doors	1	Single-Flush	36" x 84"	3'-0"	7'-0"	2"	69	
C1020	Interior Doors	1	Door-Double-Flush_Panel	48" x 84"	3'-0"	7'-0"	2"	70	

Grand total

CALIFORNIA ENERGY CODE REQUIRMENTS FOR WINDOWS

TABLE 110.6-A DEFAULT FENESTRATION PRODUCT U-FACTORS

FRAME	PRODUCT TYPE	SINGLE PANE [3,4] U-FACTOR	DOUBLE PANE [1,3,4] U-FACTOR	GLASS BLOCK [2,3] U-FACTOR
Metal	Operable	1.28	0.79	0.87
	Fixed	1.19	0.71	0.72
	Greenhouse/garden window	2.26	1.40	N.A.
	Doors	1.25	0.77	N.A.
	Skylight	1.98	1.30	N.A.
Metal, Thermal Break	Operable	N.A.	0.66	N.A.
	Fixed	N.A.	0.55	N.A.
	Greenhouse/garden window	N.A.	1.12	N.A.
	Doors	N.A.	0.59	N.A.
	Skylight	N.A.	1.11	N.A.
Nonmetal	Operable	0.99	0.58	0.60
	Fixed	1.04	0.55	0.57
	Doors	0.99	0.53	N.A.
	Greenhouse/garden windows	1.94	1.06	N.A.
	Skylight	1.47	0.84	N.A.

[1] For all dual-glazed fenestration products, adjust the listed U-factors as follows:
a. Add 0.05 for products with dividers between panes if spacer is less than 7/16 inch wide.
b. Add 0.05 to any product with true divided lite (dividers through the panes).
[2] Translucent or transparent panels shall use glass block values when not rated by NFRC 100.
[3] Visible Transmittance (VT) shall be calculated by using Reference Nonresidential Appendix NA6.
[4] Windows with window film applied that is not rated by NFRC 100 shall use the default values from this table.

TABLE 110.6-B DEFAULT SOLAR HEAT GAIN COEFFICIENT (SHGC)

FRAME TYPE	PRODUCT	GLAZING	FENESTRATION PRODUCT SHGC		
			Single Pane[2,3] SHGC	Double Pane[2,3] SHGC	Glass Block[1,2] SHGC
Metal	Operable	Clear	0.80	0.70	0.70
	Fixed	Clear	0.83	0.73	0.73
	Operable	Tinted	0.67	0.59	N.A.
	Fixed	Tinted	0.68	0.60	N.A.
Metal, Thermal Break	Operable	Clear	N.A.	0.63	N.A.
	Fixed	Clear	N.A.	0.69	N.A.
	Operable	Tinted	N.A.	0.53	N.A.
	Fixed	Tinted	N.A.	0.57	N.A.
Nonmetal	Operable	Clear	0.74	0.65	0.70
	Fixed	Clear	0.76	0.67	0.67
	Operable	Tinted	0.60	0.53	N.A.
	Fixed	Tinted	0.63	0.55	N.A.

[1] Translucent or transparent panels shall use glass block values when not rated by NFRC 200.
[2] Visible Transmittance (VT) shall be calculated by using Reference Nonresidential Appendix NA6.
[3] Windows with window film applied that is not rated by NFRC 200 shall use the default values from this table

WINDOW SCHEDULE

Level	Mark	Window Type	Type	Width	Height	Sill Height	Head Height	Assembly Description	Count	Comments
<varies>	<varies>	1	3050DH-CRFT	3'-0"	5'-0"	<varies>	<varies>	Exterior Windows	8	
1.0LVL	<varies>	2	2040DH-CRFT	2'-0"	4'-0"	4'-0"	8'-0"	Exterior Windows	2	
1.0LVL	<varies>	4	2618FX	2'-6"	1'-8"	6'-4"	8'-0"	Exterior Windows	2	
1.0LVL	<varies>	33	3018HP	3'-0"	1'-8"	6'-8"	8'-4"	Exterior Windows	3	
<varies>	<varies>	58	2030DH-CRFT	2'-0"	3'-0"	<varies>	<varies>	Exterior Windows	5	
2.0LVL	<varies>	100	Circular Window	2'-0"	2'-0"	<varies>	<varies>		2	
2.0LVL	<varies>	103	2050DH-CRFT	2'-0"	5'-0"	4'-0"	9'-0"	Exterior Windows	3	
2.0LVL	<varies>	104	3046DH-CRFT	3'-0"	4'-6"	2'-2"	6'-8"	Exterior Windows	4	

Grand total

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PROJECT

HOUZE

535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME

WINDOW & DOOR SCHEDULES

A-600

FLOOR AND CEILING JOIST TO WALL INSTALLATION REQUIREMENTS

1. U.N.O on plans, all joists to be hanger mounted inside of SIP walls to avoid any thermal bridging.
2. For dimension lumber joists, use joist matching Simpson JB or LB or equal. For non-perpendicular joists, use a skewered face mount hanger use a Simpson SUR or L210 or equal.
3. For engineered joists use the OEM recommended size matching top flange hanger type.
4. All joists to be in top flange hangers resting either on SIP top plate, or on an interior solid ledger plate equal to the joist height.
5. If joist hangers are installed on wall top plates, to fill the gap caused by the hanger's flange, add a sill gasket or a double lines of sealant adhesive before installing the floor deck or another SIP wall.
6. If top flange joist hangers are installed on an interior solid ledger, adjust the ledger plate thickness (1-2x12 or 2-212 etc.) to match the hanger top flange length.
7. All ledger to be nailed with construction adhesive and then bolted through the wall with two 3" staggered lines of 1/2" galvanized carriage bolts with interior nuts and 2" washers set on nominally on 16" centers.

SIP ROOFS (NOT FOR OCCUPIED ROOF DECKS)

1. SIP screws for roof panels to use 1-1/2" x 1/4" neoprene faced aluminum washers.
2. Use SIP sizes per plan. If not specified use the following SIP panel sizes.
3. Roof panel widths per engineer stamped plan, or maximum 4' wide unless clear span is less than 10' (except as noted on plan)
4. For unsupported spans up 16' use 4' wide 8.25" SIP with 2-2X SP/D.FIR block splines.
5. For unsupported spans up 20' use 4' wide 10.25" SIP with 2-2X SP/D.FIR block splines.
6. If no ridge beam, provide 2X ridge splines. For spans up to 8' use one 1X spline in each roof section. For spans >8' but less than 14' use (2)2X in each roof section.
7. Roof spans greater than 14' requires secondary roof lateral beam.
8. Cantilevered SIP roof panels to use double 2X splines with screw spacing per paragraph 3, plus one(1) Simpson H6 attached between the 2Xsplines to wall, header or beam.

SIP CRAWL SPAN FLOORS AND SIP OCCUPIED ROOF DECKS

1. ECO recommends painting all exposed SIP subfloor OSB bottoms at site with 2 coats of light colored exterior latex before installing
2. Important Sealing Note: Use of SIP panel for Subfloors must be correctly sealed at the bottom and top of all spline joints. Failure to correctly seal at the bottom surface will allow warm moist crawl space air to travel up and condense immediately under the cool finished floor surface. Use Do-All-Ply adhesive sealant to completely seal the joint between lumber splines, and between the SIP OSB edges. Then seal the spline joint using spray roofing sealant.
3. Use SIP floor plans sizes per plan. If not specified use the following SIP panel sizes. For unsupported spans up 12' use 4' wide 8" SIP or 10" SIP with 2X SP/D.FIR block splines.
4. All subfloor or roof deck beams to be bolted or strapped to supporting pilings or walls, and then SIP panels attached using SIP-Screws to beams per Paragraph 3 screw spacing.
5. L/360 SUBFLOORS: For L/360 and less deflection floors or occupied roof deck (typical for wood, carpet, or vinyl) add 3/4" APA rated floor decking on top. Use 8" SIP subfloor panels for up to 14' (4' wide by 8.25" thick with (2)2X8 splines). For spans >14' but <18' switch to 10" SIPs (4' wide by 10.25" thick with (2)2X10 splines).
6. L/480 SUBFLOORS: For L/480 deflection mortar set tile floors, use next size small SIP to create dropped floor sections. Use 6" SIPs for dropped floor section spans up to 8'. Use 8" SIPs for dropped floor section spans up to 10'.

ROOF DECKS

For occupied roof decks (wood decking on screeds) 10" SIP panels for spans up to 14' with (2)2X10 splines. Add plywood cricket overlays as required for correct transition for drainage. Add membrane / TPO roofing or hot mop tar roofing membrane system.

1. ROOF DECKS : Add treated 2x4 stacked block screeds at 24" o.c. to create level surface for attached 2x6 decking. Attach screeds over roofing sealing adhesive (Black-Jack or Tremco Dymonic FC or Geocel 4500 sealant) plus deck screws @ 16" o.c.
2. ROOF DECKS : Attach 2x6 decking at 6" o.c. spacing (1/4" gap) using 2 deck screws per block screed intersection. Decking to remain removable by screw removal for roofing servicing.
3. ECO recommends painting all exposed SIP subfloor OSB bottoms at site with 2 coats of light colored exterior latex before installing.
4. SIP floor panels support is per plan. (Typical perimeter is TRTD (2)2X pony wall top plate, or (2)2X secured ledger plate. Typical Interior is by (3)2X Beam or Glulam).
5. SIP floor panels share (2)2X matching size splines nailed and glued. ECO recommends using a treated 2X spline at perimeter. Treated wood tends to be oversized so accurate ripping may be required.
6. SIPs oriented and detailed per plan, and attached to beams or plates with SIP SIP-Screws at 12"o.c. minimum. For areas above ASCE 7-10 110 MPH wind secure at 8" o.c.
7. All splines must be installed and sealed with continuous 1/4" beads of SIP Do-All-Ply O.E. construction adhesive. See important details below.
8. 7.13. Based on recommended 16+" clearance below subfloor beams, an 8.25" SIP subfloor w/3/4" plywood, the Finished Floor should be ~36+" above original grade.

SUBSTITUTION GUIDELINES

1. With owners approval, Builder may substitute sections of SIP depth matching SP#2 2X @ 16" or less o.c. as wood framed sections with 7/17" APA rated structural sheathing on EACH SIDE. with insulation, bottom plates, top plates, and headers as needed when a SIP area falls into the following:
2. Wall section or roof section height is less than 2' tall
3. Wall section width between sill and top plates is less than 16" wide
4. Glazing area to wall section area ratio is >80%
5. Curved or irregularly broken wall plates section
6. Wall, Roof, or Floor Areas that are too complex to be efficiently managed by SIP panel framing.
7. Roof architecture or extensions such as small dormers, cupolas, parapets sections, bay windows, garden windows, and soffit extensions.

SIP MEP (MECHANICAL ELECTRICAL PLUMBING) BEST PRACTICES (SHARE WITH CONTRACTORS)

Note: Improper cutting or other damage to beams or joists by a Mechanical/Electrical/Plumbing (MEP) contractor can void the SIP structural integrity.

MEP Rough-In Responsibilities

Even if the Electrical, Plumbing, HVAC, or other MEP routing is detailed in the construction plan set, the Builder will have the responsibility to coordinate and explain to all MEP contractors where and how to locate MEP components and routing throughout the structure.

Electrical Chase Locations

When plans show formed wiring chases, and Electrical or Cable wire routing is not required to be specifically detailed in the construction plan set. The Builder will still have the responsibility to explain to electricians how to locate the wiring chases. Structural damage is not acceptable due to weakening the of engineered lumber.

1.Seal the wire penetrations with low expanding urethane foam.

MEP Detailing

1. When possible, limit the placement of plumbing and electrical in exterior SIP walls. Properly detailed MEP design will allow all MEP runs to be placed in interior 2X framed walls, into chases, or into furred out 2X walls sections.
2. ECO has also developed several special surface mounting wiring methods that will work for most receptacle and switch location requirements for a SIP house. These methods avoid large OSB skin structural damage cutting. These details are part of our detailed Revit MEP design services.

SIP Field forming of In-SIP-Wall Chases for Plumbing or Electrical (Not Preferred)

1.If Electrical and Plumbing routing is required in SIP exterior walls, it should be placed in a properly constructed electrical or plumbing chase.The correct method for field forming of an electrical or plumbing chase is as follows:

a. Contractor sizes and locates each chase (as narrow & short as possible)
b. Contract marks and cuts a straight chase in OSB skin - OSB will be reused later.
c. Chase EPS foam is 100% removed from chase in straight cuts using an EPS hot knife. If the EPS is cut in large pieces, it can be reused to re-insulate and close the chase.
d. And additional 3/4" depth of EPS is neatly removed at chase sides/top/bottom.
e. A SP#2 2X is sized, placed, glued and nail at each side leaving 3/4" exposed for OSB section replacement.
f. Electrical wiring should be placed at the back of the chase, attached to side 2X. Plumbing should also be placed in the back of the chase.
g. The cut out EPS pieces and/or low expanding Urethane Foam is used to seal and re-insulate the chase section behind and around piping and wiring.
h. The previously cut out OSB 'cover plate' is nailed over the exposed 2x4 framing. **2**.If a large 'home-run' wiring section is needed, it should turn outside just below the top plate, and then enter of conduit pipe into the top of the electrical panel.

Repair of Damage by Electrian or Plumber

SIP OSB damage is not acceptable due to weakening the SIPs due to the cuts, and also due to live wiring may end up being just beneath the surface of the SIP OSB skin so a nail could hit a live wire or a plumbing supply pipe or line. If damage occurs, the contractor causing the damage will be responsible for the following repair procedures.

1.Contractor to repair all the SIP OSB cuts with mending straps. **2**.Due to the size and quantity use light 20 gauge Simpson MP24 or MP36 strap.

SIP DO'S AND DON'TS

SIP DO'S:

1.) Handle SIPs with appropriate care. Store SIPs fully supported off the ground. Protect SIPs from weather with breathable covering.
2.) Lift and place SIPs with appropriate equipment.
3.) Support both SIP Wall OSB facings and spline plates fully on concrete foundations using sill gaskets (R-Control Sill Gasket, DENARCO Sill Seal, TERM Termite-resistant Sill Plate Barrier). Support both SIP Wall OSB facings and spline plates fully on floors using sill gaskets.
4.) Provide level and square foundations and supporting floors. If required use leveling compound, on-shrink grout, or other leveling method to provided level based for SIP walls.
5.) Install SIP panel and splines in accordance with approved drawings.
6.) Install fasteners flush to SIP facing surface.
7.) When using cap or sill plates, use plates equal to full SIP width, offsetting plate joints at least 4' from spline joints.When using 2X, engineered wood, or I-Beam splines, use only continuous members. Provide adequate bracing of SIPs during installation.
8.) Use factory cut walls at roof angles, or preinstall wedge plates providing continuous end bearing for roof SIPs. Install temporary blocking on Roof SIPs and use lifts or cranes and workers in fall protection to install roof SIPs.
9.) Use code approved flashings and exterior wall & roof coverings.Use code approved thermal barriers on interior.
10.) Protect SIPs from weather as soon as practical after installation.
11.) Meet with your electrician to plan all electrical. Decide on surface mounting, baseboard/casing mounting, or use factory provided electrical chases in SIP core.
12.) Meet with your plumber to plan all plumbing. Decide on plumbing furr-out walls, and on all penetrations for drain piping, vent piping, and supply piping.
13.) Have SIP structural requirements reviewed by a qualified design professional.
14.) Have any field modifications to SIPs, such as openings/penetrations reviewed by a qualified design professional.

SIP DON'TS:

1.) Don't drop SIPs on corners. Don't store SIPs directly on the ground.
2.) Don't leave SIPs exposed to weather for an extended period of time.
3.) Don't lift or place SIPs without appropriate equipment.
4.) Don't overcut OSB facings at openings.
5.) Don't have SIP facings and untreated plates in direct contact with concrete.
6.) Don't have unsupported SIP facings. Don't install SIPs without adequate bracing.
7.) Don't cut SIP facings for electrical or plumbing chases.
8.) Don't have cuts in 2X or I-Beam splines.
9.) Don't overdrive fasteners into SIP facings.
10.) Don't have unsupported horizontal joints in walls.
11.) Don't install plumbing inside SIPs, Don't install recessed lights inside SIPs.
12.) Don't install SIPs without structural review by a qualified design professional.
13.) Don't make any field modifications to SIPs, such as openings/penetrations, without review by a qualified design professional.

GENERAL SPECIFICATIONS FOR SIP BUILDINGS: (U.N.O. in apply the following minimum Specifications)

STRUCTURAL INSULATED PANEL CONSTRUCTION MINIMUM APPLICATION REQUIREMENTS

- U.N.O. SIPs shall comply with 2012 IRC section R613.
  - U.N.O., apply 2012 IRC Section R613 SIP details, connections, and sealing methods with adjustments to match project.
  - Any design exceeding the limits of 2012 IRC R613 will require an engineer or architect's seal.
- R613.: 1-story buildings <60 ft in length, 2-story buildings < 40 ft in width. Walls 10 ft high max.
- Site wind speeds of (equivalent to) ASCE 7-05 based V(asd) 120 mph Exposure A/B, or 110 mph Exposure C (in Seismic zones A, B and C; Snow loads of < 70 psf).
- U.N.O. all plans & details per engineer sealed plans & details, plus the SIP Original Equipment Manufacturers' (OEM) Span and load charts. If an OEM span and load chart is not provided use the R-Control "Load Design Charts" dated November 2004 and other SIP manufacturer information).
- Projects with wind speeds > ASCE 7-05 120 mph 3-sec gust require an engineer's design and seal.
- All structures must have egress, smoke, and CO detection per building codes (2012 IRC minimum).
- Provide fire separation per code between all garages and living areas (2012 IRC minimum).
- Provide Manual-J sized HVAC with power ventilation and/or air to air exchanger.

GENERAL NOTES

LUMBER AND SHEATHING

1. Use only structural rated OSB or plywood panels for SIP faces.
2. No open, exposed, or visible EPS material. SIP screws used to attach roof panels to each have 1-1/2" x 1/4" neoprene faced aluminum washers.
3. No open, exposed, or visible EPS material. No OSB-only splines.

SPLINE DEFINITION, SPECIFICATION, AND SUPPLY REQUIREMENTS

1. U.N.O. unless raw SIP panels are supplied, all splines to be provided by the SIP OEM.
   a. Use #2 SPF matching width lumber for top, bottom/edge splines, and top/bottom plates.
   b. Straight wall-to-wall connection may use block splines, lumber splines, or Double-2X factory installed insulated posts as joinery pieces.
   c. Wall-to-roof splines shall be straight & full top-plate dimensional lumber splines w/angle-cut lumber cont.block filler splines supplied by the SIP OEM.
2. U.N.O on the SIP designer's plans, the SIP designer or builder shall specify in writing any other specific spline types are to be used, which splines that SIP OEM is to supply, which splines require pre-installation in the SIP panels. The SIP OEM is responsible for the fabrication of all SIP spline types.
3. SIP OEM angled spline fabrication is to match the SIP panel size and SIP angled connection attachment as defined by the SIP roof and wall plans.

SIP WALLS, CORNERS, SPLINES, CHASES, AND APPLICATION

1. SIP Walls – General Notes
   a. Limit exterior SIP wall sections to 24' in length between brace walls.
   b. Walls up to 10' in height in a 110 mph wind zone builder can use nominal 4.5" SIP or larger.
   c. Walls up to 10' in height in a 120 mph wind zone builder can use nominal 6.5" SIP or larger with continuous 2X SPF block top plates and splines.
   d. Walls up to 16' in height builder to use nominal 8" SIP or larger with cont. 2X SPF block top plates and splines.
   e. For wall heights above 16' builder contact engineer.
2. Always align SIP wall panel top edges before making final screw connections.
3. Two(2) horizontal electrical chases to be provided by the SIP OEM in all SIP walls, one at 14" from the wall bottom and one at the midheight of the panel.
4. Two(2) vertical chases (2" dia. Max, 24" o.c. min spacing, centered in the wall) to be provided by the SIP OEM in all SIP walls. If not specified locate vertical chases next to spline joint members.
5. Wall-to-Wall straight connections supporting nominal distributed 40 psf live load with nominal 15 psf dead loads may be connected with SIP block splines (preferred) or by single #2 SPF lumber splines.
6. All Wall-to-Wall corner connections in high wind areas (ASCE 7-05 110 mph 3-sec gust) to use #2 SPF lumber splines arranged as screwed 'Butt-Corner' with double SIP screws at 12" o.c. vertical.
7. Wall-to-Wall corner connections in < 110 mph 3-sec gust may use (2)#2 SPF 'Fly-By Corners' with doubled 8d nailing 2X face nailing, plus single 8d 2X edge nailing, all at 6" o.c. vertical.
8. Walls supporting concentrated loads (beams, columns, etc.) to place concentrated loads over Double-2X factory installed insulated posts, or over multiple #2 SPF dimensional lumber splines (2, 3, or 4 members, size abnd type per engineer).

SIP ROOFS, SUPPORT, SPLINES, CHASES, AND APPLICATION

1. Roof panels no wider than 4' unless span < 10' (except as noted on plan)
2. If no ridge beam, provide 2-2X ridge splines (2X+2X).
3. Roof spans > 14' requires secondary roof lateral beam.
4. SIP roof panel electrical chases to be provided by the SIP OEM to match electrical wiring digram by designer or builder. U.N.O chases to centered in the SIP roof panel thickness with alignment to SIP wall vertical chases. If not specified locate SIP roof chases next to spline joint members.

SIP SCREW TYPE, LENGTH, AND SPACING

1. 1. SIP Screws: Corrosion resistant 0.188" min. shank dia., 0.620" min. head dia. with Wall connection spacing as follows: V(asd) /All exposures:
   a. 90 mph wind=12" o.c. ; 110 mph wind = 8" o.c. ; 120 mph wind=6" o.c.
2. For wind areas above 120 consult engineer for screw quantity and spacing for all connections.
3. All SIP screw connections to be by R-Control screw of length adequate to penetrate 2 inches into wood structural members such as doubled top plate, beam, or other wood structure.
   a. Note that filler blocks or other deadwood infill is not considered to be structural.

SIP ROOF SCREWS - PER PANEL SIZE PER PLANS

1. Install SIP screws long enough for panel + ~2" (1.5" minimum) into structural wood with 1-1/2" x 1/4" 'neo-washer' (neoprene faced aluminum washers).
   - Typical 11.25" roof panel will use requires min 13' or 14" screws
   - Typical 9.25" roof panel will use requires min 11" or 12" screws
   - Typical 7.25" roof panel will use requires min 9" or 10" screws
   - Typical 5.5" roof panel will use requires min 8" or 9" screws
2. For high wind areas, install Simpson H6 twist strap @ 4' 0.c. At all roof panel ends between double 2X splines to wall or header beam.
3. At corner roof panel sides, add a Simpson LSTI49 up from SIP wall corner spline (plunge cut thru SIP roof). Bend 12" over roof face and nail to SIP's top OSB add Simpson H6 twist strap connector @ 4' 0.c. Between double 2X splines to wall or beam.
4. SIP roof panels no wider than 4' unless clear span is less than 10' (except as noted on plan)
5. For unsupported spans up 16' use 4' wide 8.25" SIP with continuous 2-2X SP.D.FIR block splines.
6. For unsupported spans up 20' use 4' wide 10.25" SIP with continuous 2-2X SP.D.FIR block splines.
7. If no ridge beam, provide 2-2X ridge splines (2X+2X matching SIP i.d.)
8. Roof spans greater than 14' requires secondary roof lateral beam.

RECOMMENDED SIP TECHNICAL HOW-TO BASIC TRAINING RESOURCES:

Proper SIP sealant application recommendation video by R-Control: https://youtu.be/f9ulodyt0pa
Proper SIP electrical application recommendation video by R-Control: https://youtu.be/-1piwt5irjk

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Plan Color Key (if color used in plans)

Note: Colors/Keys are subject to change, and due to design changes and updates, may only be partially applied. Copies or other printing of plans may not produce colors. Use the below color key as applicable.

UNO RED will typically indicate special project requirements, construction details, specifications, or key structural elements

UNO BLUE will typically indicate non-structural areas that are nomally subject to modification during construction

UNO GREEN will typically indicate sustainable materials or systems

NO.	DATE	DESCRIPTION
1	11/2/2021	Reissue set; No changes on page

OWNER / DEVELOPER

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PROJECT

HOUZE

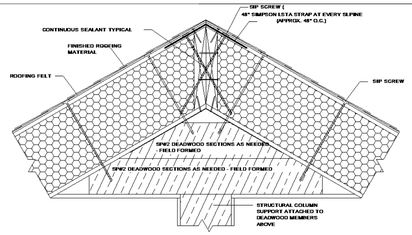
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME

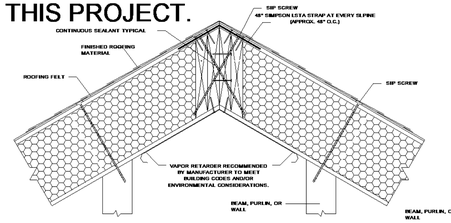
SIP SPECIFICATIONS

A-700

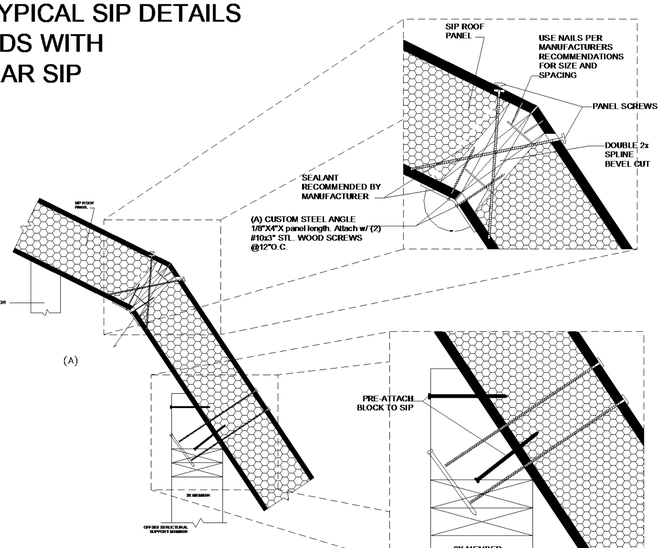


1 TURRET DETAIL W/O CENTER POST

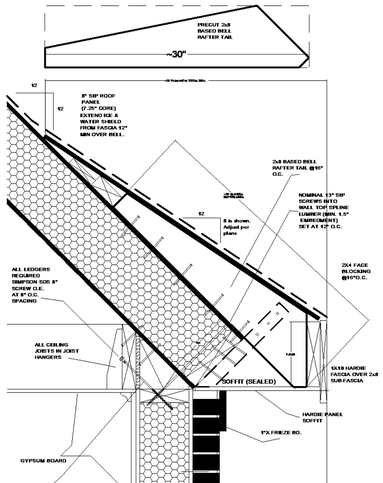
IMPORTANT NOTE : U.N.O. ON PLANS, APPLY THESE TYPICAL SIP DETAILS AND SPECIFIC SIP CONNECTION AND SEALING METHODS WITH ADJUSTMENT TO MATCH EACH PROJECT TO ALL SIMILAR SIP CONNECTIONS IN THIS PROJECT.



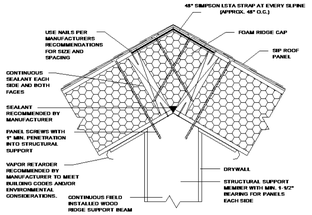
1X 120 MPH - 130 MPH RIDGE DETAIL W/O RIDGE BEAM

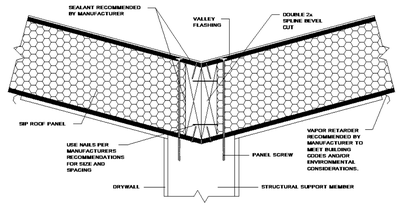


4 SIP ROOF PITCH CHANGE SECTION DETAIL

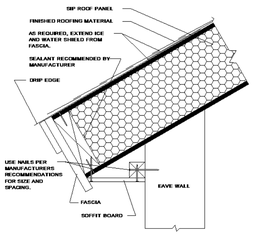


2 SIP ROOF PANEL RIDGE OR PEAK CONNECTION DETAIL
Straight End Roof Panel and Ridge Cap

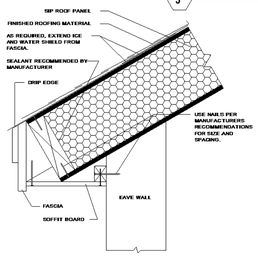




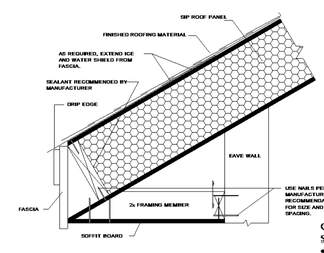
3 SIP ROOF PANEL VALLEY DETAIL



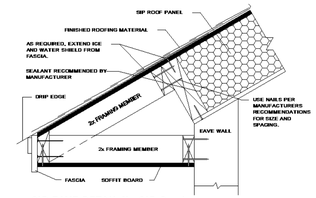
5 SIP EAVE DETAIL
Small SIP Overhang with SIP End Aligned Fascia



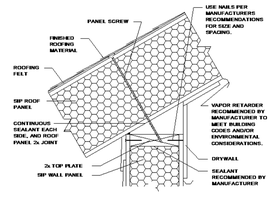
6 SIP EAVE DETAIL
Small SIP Overhang with Vertical Fascia



7 SIP EAVE DETAIL
Wide SIP Overhang with Soffit



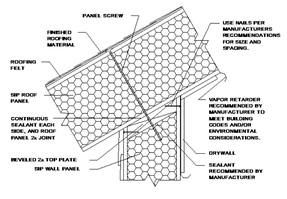
8 SIP EAVE DETAIL-No SIP Overhang
Traditionally Framed Soffit Overhang



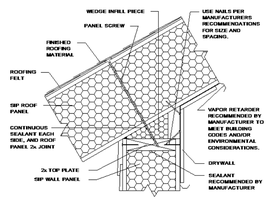
9 SIP ROOF PANEL CONNECTION DETAIL
Roof Panel on Beveled Top Wall Panel

1. These drawings depict 32" long 8:12 roof bell with 12" nominal overhang attached to 12:12 pitch sip roof panels.
2. Adjust as need for bell pitches down to 4:12 and roof pitches down to 6:12.
3. Use for up to 2' overhangs and 48" long roof bells.
4. Use spf3 or spf2 for other blocking and deadwood.
5. Consult with engineer for greater overhangs.
6. Bell rafter constructed from spf#2 2x8 x ~30" cut to angle and shape attached with a 12d minimum nails into sip osb skin.
7. Add spf#2 2x4 blocking face nail to side of bell rafter tail member.
8. Add 7/16" structural wood panel attached w/ 8d common or 10d box nails plus construction adhesive at 4" spacing into bell rafter tails, into roof 1x and 2x flat blocking, and into sip osb, all at 4" o.c. edge nailing.

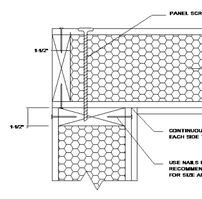
B BELL OR LADDER RAFTER DETAILS



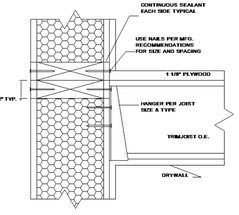
10 SIP ROOF PANEL CONNECTION DETAIL
Roof Panel on Straight Top Wall Panel
Wall Panel w/ SIP Infill Wedge



11 SIP ROOF PANEL CONNECTION DETAIL
Roof Panel on Straight Top

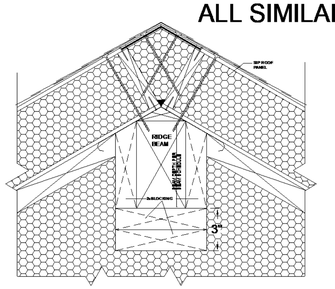


12 WALL-TO-WALL/ROOF-TO-ROOF PANEL

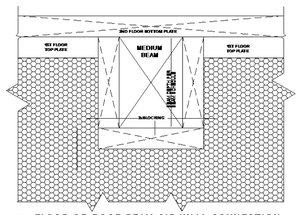


13 FLOOR JOIST HANGER DETAIL

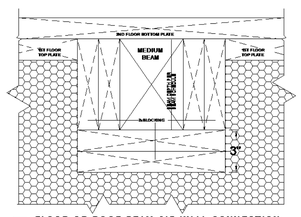
IMPORTANT NOTE : U.N.O. ON PLANS, APPLY THESE BEAM TO SIP WALL SUPPORT AND CONNECTION METHODS TO ALL SIMILAR BEAM TO SIP CONNECTIONS IN THIS PROJECT.



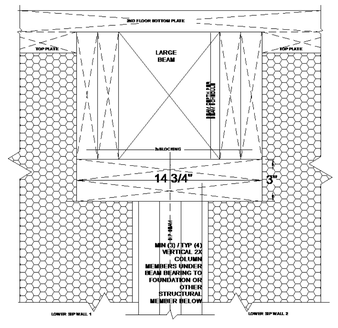
14 RIDGE AND SIP GABLE WALL CONNECTION
Use for 3" to 5.25" Wide Beams (Roof Beams)



15 FLOOR OR ROOF BEAM SIP WALL CONNECTION
Use for 3.0" to 4.25" Beams (Small Beams)



16 FLOOR OR ROOF BEAM SIP WALL CONNECTION
Use for 3" TO 5.25" Beams (Floor Beams)



17 LARGE BEAM SIP WALL/SIPLINE COLUMN
Use for 5.5" or Wider Beams (Large Beams)

1 SIP DETAILS
1 1/2" = 1'-0"

GENERAL SPECIFICATIONS FOR SIP BUILDINGS: (U.N.O in project plan specifications, apply the following minimum Specifications)

STRUCTURAL INSULATED PANEL CONSTRUCTION MINIMUM ENGINEERING REQUIREMENTS

- U.N.O. SIPs shall comply with 2012 IRC section R613.
- R613.: Buildings <60 ft in length and 3-story, or is < 40 ft in width and 2-stories max. with walls 10 ft high max.
- Site wind speeds of (equivalent to) ASCE 7-05 based V(asd) 120 mph Exposure A/B, or 110 mph Exposure C (in Seismic zones A, B and C; Snow loads of < 70 psf). Any design exceeding the limits of this 2012 IRC section R613 will require the seal of and engineer or architect.
- U.N.O. all plans & details per the project's engineer sealed plans & details, plus the SIP Original Equipment Manufacturers' (OEM) Span and load charts.
- If an OEM span and load chart is not provided use the R-Control "Load Design Charts" dated November 2004 and other SIP manufacturer information).
- Projects with wind speeds above ASCE 7-05 V (asd) 120 mph 3-second gust will required special engineering.

GENERAL NOTES: U.N.O. on the plans, apply these typical SIP details, connection, and sealing methods with adjustments to match project.

LUMBER AND SHEATHING

1. Use only structural rated OSB or plywood panels for all SIP faces.
2. Use #2 SP.D.FIR matching width lumber for all top, bottom and edge splines, and for all bottom plates and joinery pieces.
3. No open, exposed, or visible EPS material. SIP screws used to attach roof panels to each have 1-1/2" x 1/4" neoprene faced aluminum washers.
4. No open, exposed, or visible EPS material. No OSB splines. No SIP section splines, no open splines,

SPLINE DEFINITION, SPECIFICATION, AND SUPPLY REQUIREMENTS:

1. U.N.O. unless raw SIP panels are supplied, all splines to be provided by the SIP OEM.
2. Wall-to-roof splines shall be straight & full top-plate dimensional lumber splines w/angle-cut lumber cont.block filler splines supplied by the SIP OEM.
1. U.N.O on the SIP designer's plans, the SIP designer or builder shall specify in writing any other specific spline types are to be used, which splines that SIP OEM to supply, which splines require pre-installation in the SIP panels. The SIP OEM is then responsible for the fabrication of all SIP spline types.
2. SIP OEM angled spline fabrication is to match the SIP panel size and SIP angled connection attachment as defined by the SIP roof and wall plans.

SIP WALLS AND WALL PANELS

1. Always align SIP panel top edges before screw connections.
2. Wall-to-Wall straight connections supporting nominal distributed 40 psf live load with nominal 15 psf dead loads may be connected with SIP block (pre-fitted) or by single #2 SPF lumber splines.
3. All Wall-to-Wall corner connections in high wind areas (ASCE 7-05 110 mph 3-sec gust) to use #2 SPF lumber splines arranged as screwed 'Butt-Corner' double SIP screws at 12" o.c. vertical.
4. Wall-to-Wall corner connections in < 110 mph 3-sec gust may use (2)#2 SPF 'Fly-By Corners' with doubled 8d nailing 2X face nailing, plus single 8d 2X nailing wall at 6" o.c.
5. vertWalls supporting concentrated loads (beams, columns, etc.) to place concentrated loads over Double-2X factory installed insulated posts, or over multiple SPF #2 dimensional lumber splines (2, 3, or 4

SIP ROOF AND ROOF PANELS

1. Roof panels no wider than 4' unless span < 10' (except as noted on plan)
2. If no ridge beam, provide 2-2X ridge splines (2X+2X).
3. Roof spans > 14' requires secondary roof lateral beam.
4. All SIP/wood frame structures - more than one story must have second upper story exit
5. Provide fire wall between all garages and all mechanical rooms. No open, exposed, or visible EPS material.
6. Provide HVAC with dehumidifier and always provide air to air heat exchanger, and/or power ventilation options.

SCREW LENGTH AND SPACING

7. Attach with SIP screws as follows: V(asd) /All exposures:
90 mph wind=12" o.c. 110 mph wind = 8" o.c. 120 mph wind=6" o.c.
8. For wind areas above 120 consult engineer for screw quantity and spacing for all connections.
9. All SIP screw connections to be by R-Control screw of length adequate to penetrate 2 inches into wood structural members such as doubled top plate, beam, other wood structure.
   a. Note that filler blocks or other deadwood infill is not considered to be structural.
10. SIP walls - for exterior SIP wall sections up to 24' in length between brace walls
11. For walls up to 10' in height in a 110 mph wind zone builder can use nominal 4.5" SIP.
12. For walls up to 10' in height in a 120 mph wind zone builder can use nominal 6.5" SIP, with continuous 2X SP.D.FIR block top plates and splines.
13. For walls up to 16' in height builder to use nominal 8" SIP with continuous 2X SP.D.FIR block top plates and splines.
14. For wall heights above 16' builder contact engineer.

SIP ROOF SCREWS - USE SIP PANEL SIZE PER PLANS.

1. Install SIP screws long enough for panel + ~2"
   a. Typical 11.25" roof panel will use requires min 13' or 14" screws
   b. Typical 9.25" roof panel will use requires min 11" or 12" screws
   c. Typical 7.25" roof panel will use requires min 9" or 10" screws
   d. Typical 5.5" roof panel will use requires min 8" or 9" screws
2. All SIP screws for roof panels to use 1-1/2" x 1/4" "neo-washer" (neoprene faced aluminum washers).
3. For high wind areas, install Simpson H6 twist strap @ 4' O.c. At all roof panel ends between double 2X splines to wall or header beam.
4. At corner roof panel sides, add a Simpson 15TM9 up from SIP wall corner spline (plunge cut thru SIP roof). Bend 12" over roof face and nail to SIP's top OSB Simpson H6 twist strap connector @ 4' O.c. Between double 2X splines to wall or beam.
5. SIP roof panels no wider than 4' unless clear span is less than 10' (except as noted on plan)
6. For unsupported spans up 16' use 4' wide 8.25" SIP with continuous 2-2X SP.D.FIR block splines.
7. For unsupported spans up 20' use 4' wide 10.25" SIP with continuous 2-2X SP.D.FIR block splines.
8. If no ridge beam, provide 2-2X ridge splines (2X+2X matching SIP i.d.)
9. Roof spans greater than 14' requires secondary roof lateral beam.

RECOMMENDED SIP TECHNICAL HOW-TO BASIC TRAINING RESOURCES:

- Proper SIP sealant application recommendation video by R-Control: https://youtu.be/f9uIodyt0pa
- Proper SIP electrical application recommendation video by R-Control: https://youtu.be/-1piwtSirjk

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4010 Blue Bonnet Blvd., Suite 114
Houston, Texas 77025

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UNO BLUE will typically indicate non-structural areas that are normally subject to modification during construction

UNO GREEN will typically indicate sustainable materials or systems

NO.	DATE	DESCRIPTION
1	11/2/2021	Reissue set; No changes on page

OWNER / DEVELOPER

Houze Advanced Building Science Inc. ©

PROJECT

HOUZE

535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

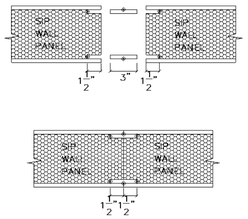
SHEET NAME

SIP STANDARD CONSTRUCTION DETAILS-1

A-710

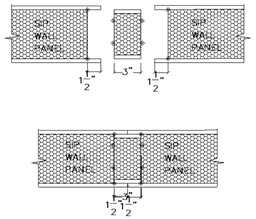
ENGINEER TO DETERMINE SPANS AND SUPPORTS!

OSB SPLINES: (2) 7/16" X 3" WIDE CENTERED (1.5" ON EACH SIDE). APPLY CONTINUOUS DO-ALL-PLY SEALANT ADHESIVE AT ALL FACES AND JOINTS, THEN FASTEN WITH 8D COMMON OR 1-1/4" COARSE-THREAD DRYWALL SCREWS @ 6" O.C. (DETAIL PER GENERAL PANEL, GRENADA, MS FACTORY http://www.sipsproducts.com/details.pdf)



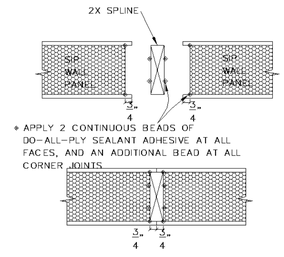
TYPE 1W (WALL)

BLOCK SPLINE: (1) SIP 3" BLOCK SPLINE (TYP. WIDTH AS PROVIDED BY SIP MANUFACTURER) CENTERED (1.5" ON EACH SIDE). APPLY CONTINUOUS DO-ALL-PLY SEALANT ADHESIVE AT ALL FACES AND JOINTS, FASTEN WITH 8D COMMON OR 1-1/4" COARSE-THREAD DRYWALL SCREWS @ 6" O.C.



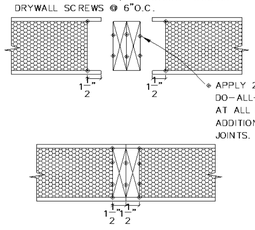
TYPE 2W (WALL)

LUMBER SPLINE: (1) 2X SYP SPLINE (WIDTH TO MATCH EPS CORE, CENTERED (3/4" ON EACH SIDE). APPLY CONTINUOUS DO-ALL-PLY SEALANT ADHESIVE AT ALL FACES AND JOINTS, FASTEN WITH 8D COMMON OR 1-1/4" COARSE-THREAD DRYWALL SCREWS @ 6" O.C.



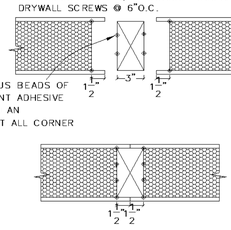
TYPE 3W (WALL)
TYPE 3R (ROOF)

DOUBLE LUMBER SPLINE: TYPICALLY UNDER BEAM POCKET. (2) 2X SYP SPLINES (WIDTH TO MATCH EPS CORE, CENTERED (1.5" ON EACH SIDE). APPLY CONTINUOUS DO-ALL-PLY SEALANT ADHESIVE AT ALL FACES AND JOINTS, FASTEN SPLINES TO EACH OTHER WITH 8D NAILS ON 3"X3" GRID, FASTEN OSB SKIN WITH 8D COMMON OR 1-1/4" COARSE-THREAD DRYWALL SCREWS @ 6"O.C.



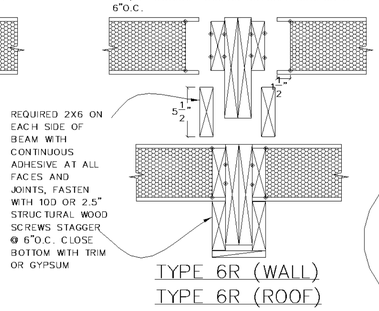
TYPE 4W (WALL)
TYPE 4R (ROOF)

GLULAMINATED COLUMN SPLINE: TYPICALLY UNDER BEAM POCKET. SIZE IS 3.5"X3.5 OR 5.5"X3.5" ENGINEERED WOOD GLULAM COLUMN (WIDTH TO MATCH EPS CORE, CENTERED (1.75" ON EACH SIDE). APPLY CONTINUOUS DO-ALL-PLY SEALANT ADHESIVE AT ALL FACES AND JOINTS, FASTEN OSB SKIN WITH 8D COMMON OR 1-1/4" COARSE-THREAD DRYWALL SCREWS @ 6"O.C.



TYPE 5W (WALL)
TYPE 5R (ROOF)

COMPOSITE GLULAMINATED COLUMN SPLINE: TYPICALLY UNDER LARGE BEAM. GLULAM SIZE PER PLANS, LUMBER ON EACH SIDE TO MATCH EPS CORE (1.5" ON EACH SIDE PLUS GLULAM WIDTH). APPLY CONTINUOUS DO-ALL-PLY SEALANT ADHESIVE AT ALL FACES AND JOINTS, FASTEN OSB SKIN WITH 8D COMMON OR 1-1/4" COARSE-THREAD DRYWALL SCREWS @ 6"O.C.



TYPE 6R (WALL)
TYPE 6R (ROOF)

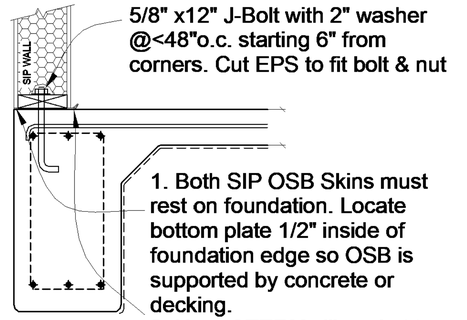
SIP SPLINE CONNECTION METHODS (USE PER PLAN)

8 SPLINE DETAILS
1 1/2" = 1'-0"

CEILING ATTIC DECKING FRAMING TO SIP WALL

USE PER PLAN ONLY - FOR LIGHT ATTIC STORAGE
(20 PSF LL / 10 PSF DL, NOT OCCUPIED)

7 ATTIC CEILING FRAMING
1 1/2" = 1'-0"

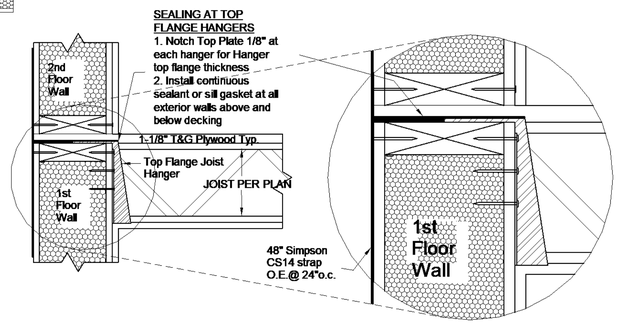


5/8" x12" J-Bolt with 2" washer @<48"o.c. starting 6" from corners. Cut EPS to fit bolt & nut

1. Both SIP OSB Skins must rest on foundation. Locate bottom plate 1/2" inside of foundation edge so OSB is supported by concrete or decking.
2. Use of TERM sill gasket tape or similar to seal and and to provide capillary break under SIP OSB Skin and bottom plate.

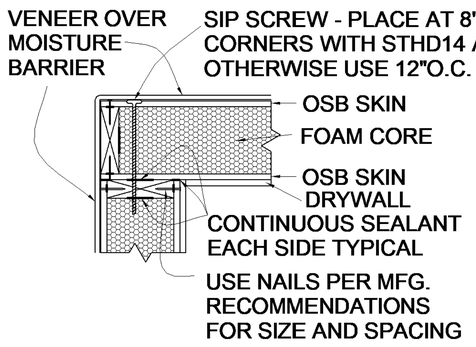
SIP WALL TO FOUNDATION

4 SIP TO PERIMETER BEAM
1 1/2" = 1'-0"



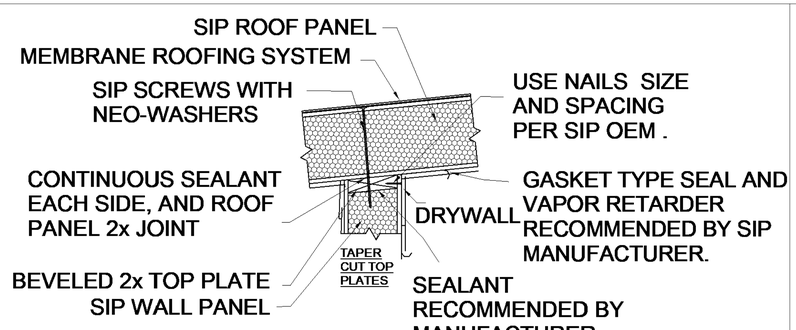
SIP WALL TO FLOOR JOIST

5 SIP WALL TO FLOOR JOIST
1 1/2" = 1'-0"



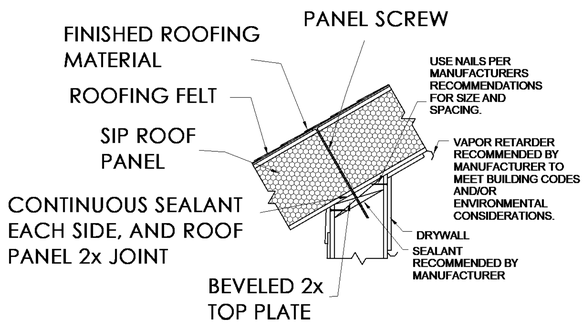
SIP WALL CORNER

1 SIP WALL CORNER
1 1/2" = 1'-0"



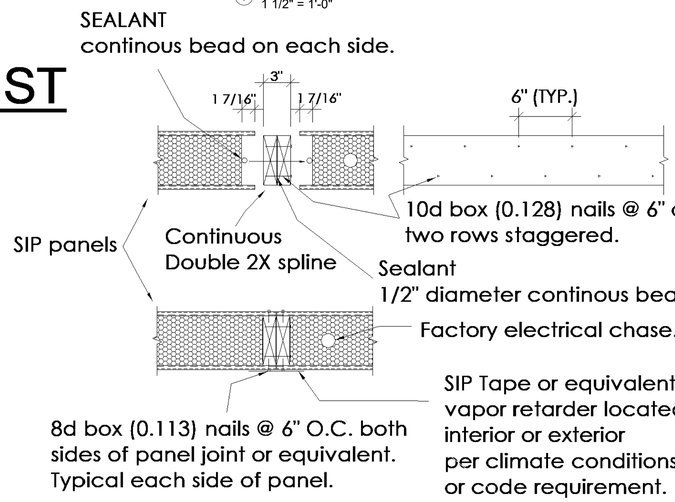
SIP ROOF TO SIP WALL

2 SIP ROOF TO SIP WALL
1 1/2" = 1'-0"



SIP ROOF TO 2X WALL

3 SIP ROOF TO 2X WALL
1 1/2" = 1'-0"



DOUBLE 2X SPLINE

6 DOUBLE 2X SPLINE
1 1/2" = 1'-0"

STORMHAUS
3D MODELING & CAD SERVICES
4010 Blue Bonnet Blvd., Suite 114
Houston, Texas 77025

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PROJECT
HOUZE
535 PALMA ST.
EL GRANADA,
CALIFORNIA 94018

PROJ #

SHEET NAME
SIP STANDARD CONSTRUCTION DETAILS-2

A-720

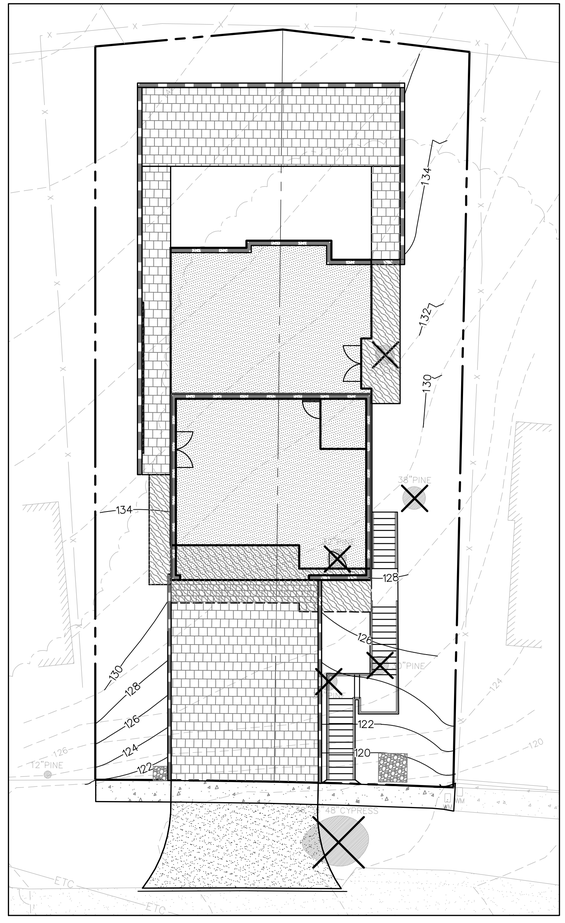
YOUNG RESIDENCE
535 PALMA STREET
EL GRANADA, CALIFORNIA

LEGEND

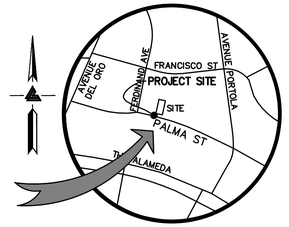
EXISTING	PROPOSED	DESCRIPTION
		BOUNDARY
		PROPERTY LINE
		RETAINING WALL
		LANDSCAPE RETAINING WALL
	RW RW	RAINWATER TIGHTLINE
	SUB	SUBDRAIN LINE
	TL	TIGHTLINE
SD		STORM DRAIN LINE
SS	SS	SANITARY SEWER LINE
W	W	WATER LINE
G	G	GAS LINE
P	P	PRESSURE LINE
JT	JT	JOINT TRENCH
		SET BACK LINE
		CONCRETE VALLEY GUTTER
		EARTHEN SWALE
CB	CB	CATCH BASIN
JB	JB	JUNCTION BOX
AD	AD	AREA DRAIN
SDMH	SDMH	CURB INLET
		STORM DRAIN MANHOLE
SSMH	SSMH	FIRE HYDRANT
		SANITARY SEWER MANHOLE
		STREET SIGN
222.57 INV	222.57 INV	SPOT ELEVATION
		FLOW DIRECTION
	D	DEMOLISH/REMOVE
		BENCHMARK
200	200	CONTOURS
XX" TREE		TREE TO BE REMOVED
	TP	TREE PROTECTION FENCING

ABBREVIATIONS

AB	AGGREGATE BASE	LF	LINEAR FEET
AC	ASPHALT CONCRETE	MAX	MAXIMUM
ACC	ACCESSIBLE	MH	MANHOLE
AD	AREA DRAIN	MIN	MINIMUM
BC	BEGINNING OF CURVE	MON.	MONUMENT
B & D	BEARING & DISTANCE	MRO	METERED RELEASE OUTLET
BM	BENCHMARK	(N)	NEW
BUB	BUBBLER BOX	NO.	NUMBER
BW/FG	BOTTOM OF WALL/FINISH GRADE	NTS	NOT TO SCALE
		O.C.	ON CENTER
CB	CATCH BASIN	O/	OVER
C & G	CURB AND GUTTER	(PA)	PLANTING AREA
℄	CENTER LINE	PED	PEDESTRIAN
CPP	CORRUGATED PLASTIC PIPE (SMOOTH INTERIOR)	PIV	POST INDICATOR VALVE
		PSS	PUBLIC SERVICES EASEMENT
CO	CLEANOUT	ℙ	PROPERTY LINE
COTG	CLEANOUT TO GRADE	PP	POWER POLE
CONC	CONCRETE	PUE	PUBLIC UTILITY EASEMENT
CONST	CONSTRUCT or –TION	PVC	POLYVINYL CHLORIDE
CONC COR	CONCRETE CORNER	R	RADIUS
CY	CUBIC YARD	RCP	REINFORCED CONCRETE PIPE
D	DIAMETER	RIM	RIM ELEVATION
DI	DROP INLET	RW	RAINWATER
DIP	DUCTILE IRON PIPE	R/W	RIGHT OF WAY
EA	EACH	S	SLOPE
EC	END OF CURVE	S.A.D.	SEE ARCHITECTURAL DRAWINGS
EG	EXISTING GRADE	SAN	SANITARY
EL	ELEVATIONS	SD	STORM DRAIN
EP	EDGE OF PAVEMENT	SDMH	STORM DRAIN MANHOLE
EQ	EQUIPMENT	SHT	SHEET
EW	EACH WAY	S.L.D.	SEE LANDSCAPE DRAWINGS
(E)	EXISTING	SPEC	SPECIFICATION
FC	FACE OF CURB	SS	SANITARY SEWER
FF	FINISHED FLOOR	SSCO	SANITARY SEWER CLEANOUT
FG	FINISHED GRADE	SSMH	SANITARY SEWER MANHOLE
FH	FIRE HYDRANT	ST.	STREET
FL	FLOW LINE	STA	STATION
FS	FINISHED SURFACE	STD	STANDARD
G	GAS	STRUCT	STRUCTURAL
GA	GAGE OR GAUGE	T	TELEPHONE
GB	GRADE BREAK	TC	TOP OF CURB
HDPE	HIGH DENSITY CORRUGATED POLYETHYLENE PIPE	TOW	TOP OF WALL
		TEMP	TEMPORARY
HORIZ	HORIZONTAL	TP	TOP OF PAVEMENT
HI PT	HIGH POINT	TW/FG	TOP OF WALL/FINISH GRADE
H&T	HUB & TACK	TYP	TYPICAL
ID	INSIDE DIAMETER	VC	VERTICAL CURVE
INV	INVERT ELEVATION	VCP	VITRIFIED CLAY PIPE
JB	JUNCTION BOX	VERT	VERTICAL
JT	JOINT TRENCH	W/	WITH
JP	JOINT UTILITY POLE	W, WL	WATER LINE
L	LENGTH	WM	WATER METER
LNDG	LANDING	WWF	WELDED WIRE FABRIC



KEY MAP
1" = 10'



VICINITY MAP
NTS

NOTES

ALL DISTANCES AND DIMENSIONS ARE IN FEET AND DECIMALS OF A FOOT.

UNDERGROUND UTILITY LOCATION IS BASED ON SURFACE EVIDENCE.

BUILDING FOOTPRINTS ARE SHOWN TO FINISHED MATERIAL (STUCCO/SIDING) AT GROUND LEVEL.

EASEMENT NOTE

A CURRENT TITLE REPORT FOR THE SUBJECT PROPERTY HAS NOT BEEN EXAMINED BY LEA & BRAZE ENGINEERING, INC. EASEMENTS OF RECORD MAY EXIST THAT ARE NOT SHOWN ON THIS MAP.

SITE BENCHMARK

SURVEY CONTROL POINT
MAG AND SHINER SET IN ASPHALT
ELEVATION = 121.07'
(ASSUMED)

FEMA NOTE

PROPERTY COMPLETELY OUT OF SPECIAL FLOOD HAZARD AREA (SFHA) PER CURRENT FLOOD INSURANCE RATE MAP

OWNER'S INFORMATION

OWNER:
CALVIN & DORIS YOUNG
3309 TABORA DRIVE
ANTIOCH, CA

APN: 047-215-340

REFERENCES

THIS GRADING AND DRAINAGE PLAN IS SUPPLEMENTAL TO:

1. TOPOGRAPHIC SURVEY BY LEA & BRAZE ENGINEERING INC., ENTITLED;
   "TOPOGRAPHIC SURVEY"
   535 PALMA STREET
   EL GRANADA,CA
   JOB# 2191218

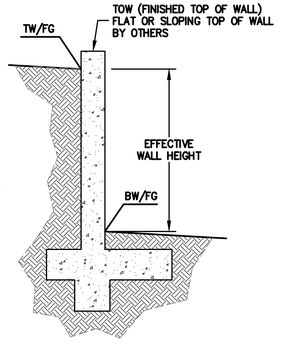
2. ARCHITECTURAL PLANS BY STORMHAUS ENTITLED:
   "535 PALMA ST"
   535 PALMA ST
   EL GRANADA, CA

3. LANDSCAPE PLANS BY TERRA FERMA LANDSCAPES ENTITLED:
   YOUNG RESIDENCE
   535 PALMA ST
   EL GRANADA, CA

THE CONTRACTOR SHALL REFER TO THE ABOVE NOTED SURVEY AND PLAN, AND SHALL VERIFY BOTH EXISTING AND PROPOSED ITEMS ACCORDING TO THEM.

RETAINING WALL NOTES

1. TW/FG REPRESENTS FINISHED EARTHEN GRADE OR PAVEMENT ELEVATION AT TOP OF WALL, NOT ACTUAL TOP OF WALL MATERIAL. BW/FG REPRESENTS FINISH EARTHEN GRADE OR PAVEMENT ELEVATION AT BOTTOM OF WALL NOT INCLUDING FILL FOUNDATION. GRADES INDICATED ON THESE PLANS REFER TO THE FINISHED GRADES ADJACENT TO THE RETAINING WALL, NOT INCLUDING FOOTING, FREEBOARD, ETC.
2. DIMENSIONS SHOWN IN BRACKETS SHOWN AS [X.X'] DENOTE THE EFFECTIVE WALL HEIGHT ONLY. THE ACTUAL WALL HEIGHT AND DEPTH MAY DIFFER DUE TO CONSTRUCTION REQUIREMENTS.
3. REFER TO SPECIFIC WALL CONSTRUCTION DETAIL FOR STRUCTURAL ELEMENTS, FREEBOARD, AND EMBEDMENT.
4. REFER TO ARCHITECTURAL, LANDSCAPE ARCHITECTURE, AND/OR STRUCTURAL PLANS FOR DETAILS, WALL ELEVATIONS, SUBDRAINAGE, WATERPROOFING, FINISHES, COLORS, STEEL REINFORCING, MATERIALS, ETC. PROVIDE CLIPS OR OTHER MEANS OF SECURING FINISH MATERIALS AS NECESSARY (WET SET INTO THE WALL).
5. ALL RETAINING WALLS SHOULD HAVE A BACK-OF-WALL SUB-SURFACE DRAINAGE SYSTEM INCLUDING WEEPHOLES TO PREVENT HYDROSTATIC PRESSURE.
6. SEE DETAIL SHEET FOR SPECIFIC INFORMATION.
7. PROVIDE GUARDRAIL (WHERE APPLICABLE AND DESIGNED BY OTHERS) AS REQUIRED FOR GRADE SEPARATION OF 30 INCHES OR MORE MEASURED 5' HORIZONTALLY FROM FACE OF WALL, PER CBC.



ESTIMATED EARTHWORK QUANTITIES

CUBIC YARDS	WITHIN BUILDING FOOTPRINT	OUTSIDE BUILDING FOOTPRINT	TOTAL CUBIC YARDS
CUT	290	280	570
FILL	0	20	20
EXPORT			550

NOTE:
GRADING QUANTITIES REPRESENT BANK YARDAGE. IT DOES NOT INCLUDE ANY SWELLING OR SHRINKAGE FACTORS AND IS INTENDED TO REPRESENT IN-SITU CONDITIONS. QUANTITIES DO NOT INCLUDE OVER-EXCAVATION, TRENCHING, STRUCTURAL FOUNDATIONS OR PIERS, OR POOL EXCAVATION (IF ANY). NOTE ADDITIONAL EARTHWORKS, SUCH AS KEYWAYS OR BENCHING MAY BE REQUIRED BY THE GEOTECHNICAL ENGINEER IN THE FIELD AT TIME OF CONSTRUCTION. CONTRACTOR TO VERIFY QUANTITIES.

*** BUILDING PAD NOTE:**
ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.

NOTE:
FOR CONSTRUCTION STAKING SCHEDULING OR QUOTATIONS PLEASE CONTACT ALEX ABAYA AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 116. aabaya@leabraze.com

1-800-227-2600 CALL BEFORE YOU DIG USA UNDERGROUND SERVICE ALERT

SHEET INDEX

REGISTERED PROFESSIONAL ENGINEER JAMES TOBY No. 63127 CIVIL STATE OF CALIFORNIA ORIGINAL SIGNATURES IN BLUE INK

LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS
MAIN OFFICE:
2495 INDUSTRIAL PKWY WEST
HAYWARD, CALIFORNIA 94545
(510) 887-4086
REGIONAL OFFICES:
ROSEVILLE
DUBLIN
SAN JOSE (COMING SOON)
WWW.LEABRAZE.COM

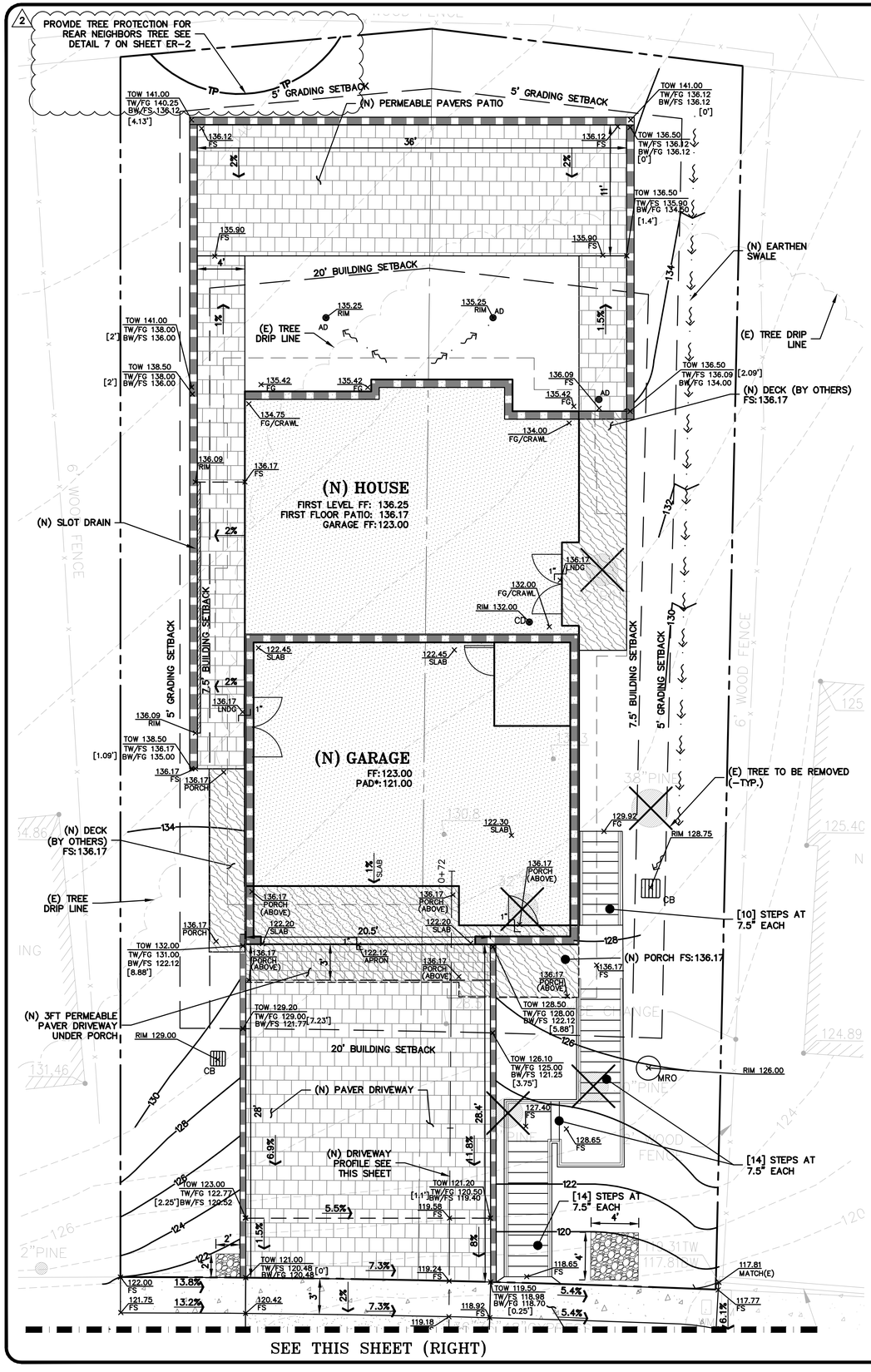
YOUNG RESIDENCE
535 PALMA STREET
EL GRANADA, CALIFORNIA
SAN MATEO COUNTY
APN: 047-215-340

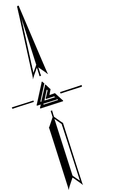
TITLE SHEET

–		–
–		–
–		–
2	PLAN CHECK 12-20-21	MG
1	PLAN CHECK 06-03-21	MG
	REVISIONS	BY

JOB NO:	2191097
DATE:	07-15-20
SCALE:	AS NOTED
DESIGN BY:	MG
CHECKED BY:	CP
SHEET NO:	C-1.0

1 OF 6 SHEETS





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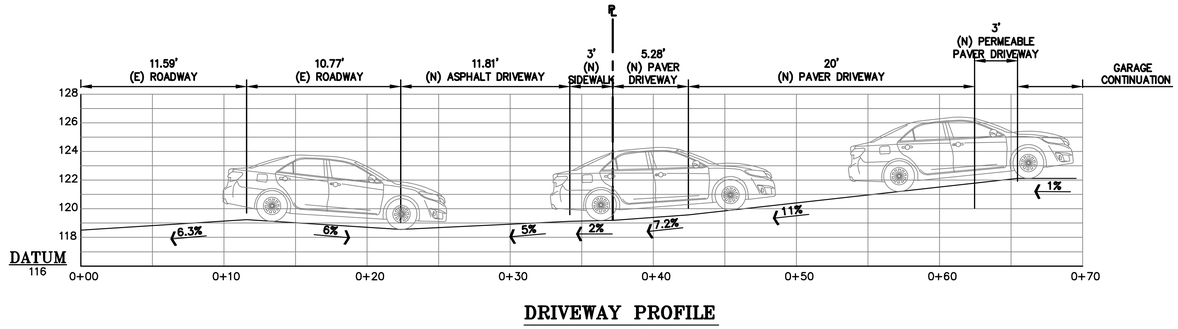
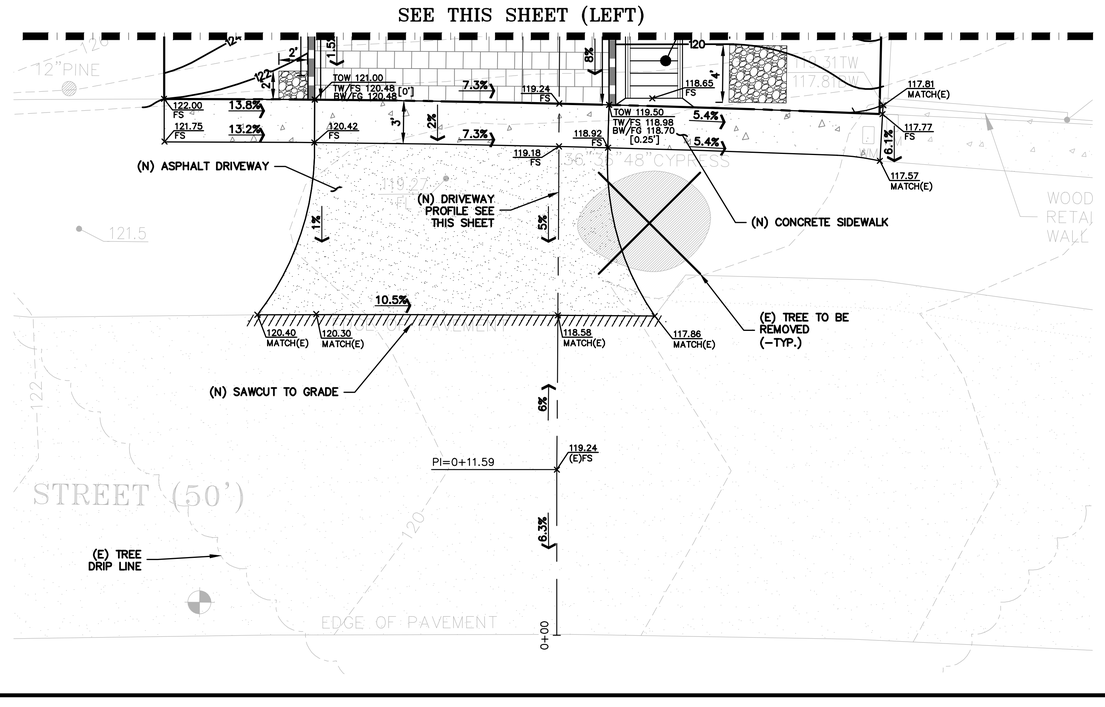


DRIVEWAY PROFILE
1" = 5' HORIZ & EV



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CIVIL
STATE OF CALIFORNIA
ORIGINAL SIGNATURES IN BLUE INK

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–		–
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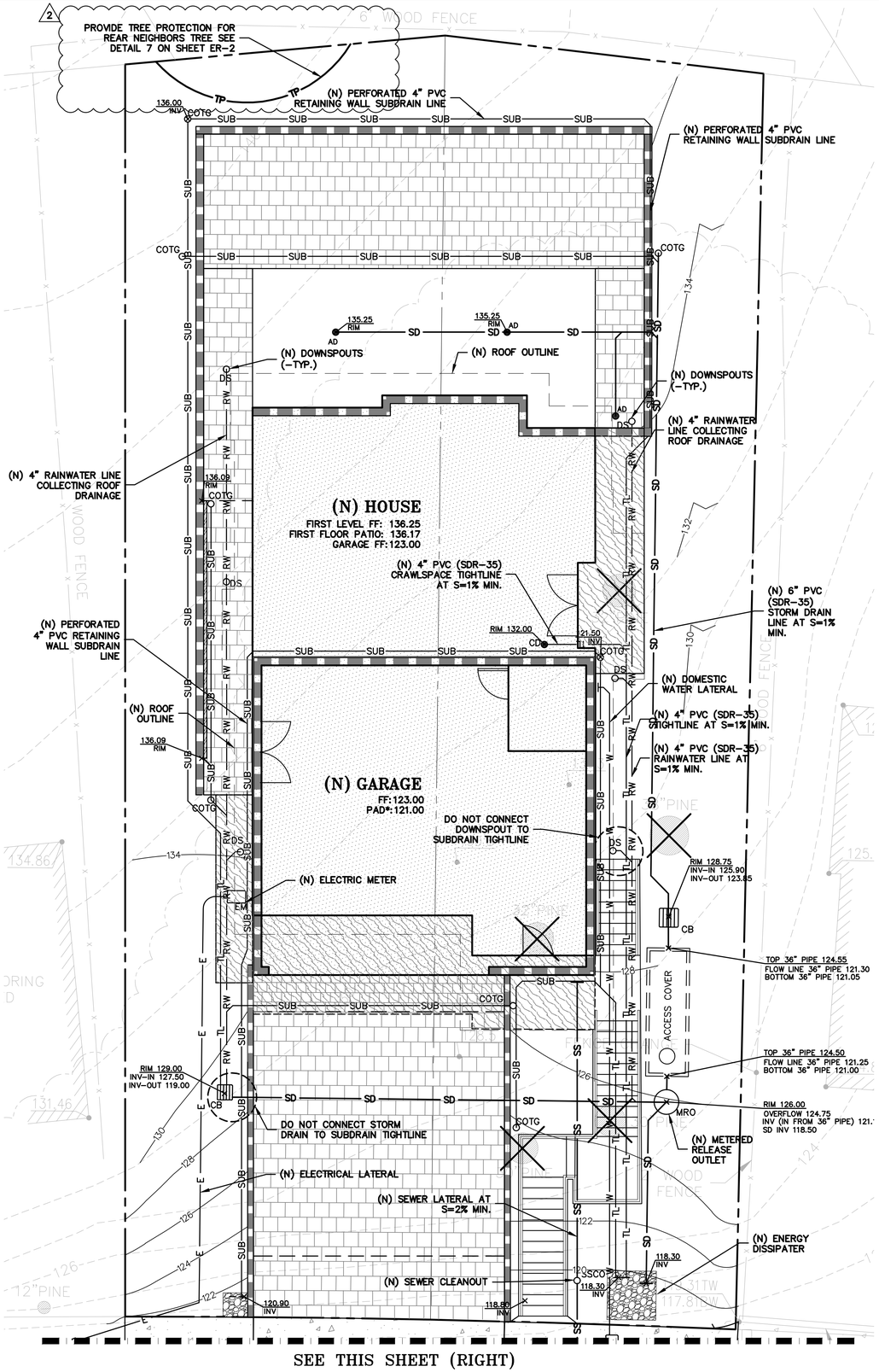
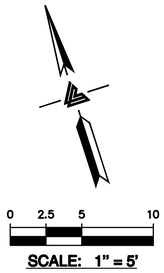
SHEET NO:	C-2.0

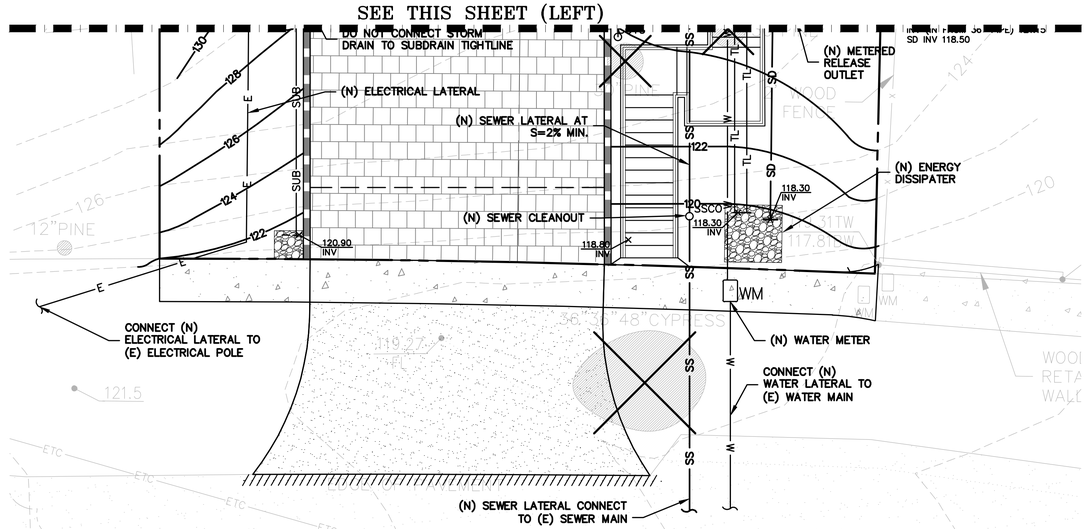




* BUILDING PAD NOTE:
ADJUST PAD LEVEL AS REQUIRED. REFER TO STRUCTURAL PLANS FOR SLAB SECTION OR CRAWL SPACE DEPTH TO ESTABLISH PAD LEVEL.

NOTE:
FOR CONSTRUCTION STAKING SCHEDULING OR QUOTATIONS PLEASE CONTACT ALEX ABAYA AT LEA & BRAZE ENGINEERING (510)887-4086 EXT 116. aabaya@leabraze.com

SEE THIS SHEET (LEFT)



REGISTERED PROFESSIONAL ENGINEER
JAMES TOBY
No. 63127
CIVIL
STATE OF CALIFORNIA
ORIGINAL SIGNATURES IN BLUE INK

LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS
MAIN OFFICE:
2495 INDUSTRIAL PKWY WEST
HAYWARD, CALIFORNIA 94545
(510) 887-4086
REGIONAL OFFICES:
ROSEVILLE
DUBLIN
SAN JOSE (COMING SOON)
WWW.LEABRAZE.COM

YOUNG RESIDENCE
535 PALMA STREET
EL GRANADA, CALIFORNIA
SAN MATEO COUNTY
APN: 047-215-340

UTILITY PLAN

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–		–
2	PLAN CHECK 12-20-21	MG
1	PLAN CHECK 06-03-21	MG
	REVISIONS	BY

JOB NO:	2191097
DATE:	07-15-20
SCALE:	AS NOTED
DESIGN BY:	MG
CHECKED BY:	CP
SHEET NO:	C-3.0

3 OF 6 SHEETS

GENERAL NOTES

ALL GENERAL NOTES, SHEET NOTES, AND LEGEND NOTES FOUND IN THESE DOCUMENTS SHALL APPLY TYPICALLY THROUGHOUT. IF INCONSISTENCIES ARE FOUND IN THE VARIOUS NOTATIONS, NOTIFY THE ENGINEER IMMEDIATELY IN WRITING REQUESTING CLARIFICATION.

THESE DRAWINGS AND THEIR CONTENT ARE AND SHALL REMAIN THE PROPERTY OF LEA AND BRAZE ENGINEERING, INC. WHETHER THE PROJECT FOR WHICH THEY ARE PREPARED IS EXECUTED OR NOT. THEY ARE NOT TO BE USED BY ANY PERSONS ON OTHER PROJECTS OR EXTENSIONS OF THE PROJECT EXCEPT BY AGREEMENT IN WRITING AND WITH APPROPRIATE COMPENSATION TO THE ENGINEER.

ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND TRADE STANDARDS WHICH GOVERN EACH PHASE OF WORK INCLUDING, BUT NOT LIMITED TO, CALIFORNIA MECHANICAL CODE, CALIFORNIA PLUMBING CODE, CALIFORNIA ELECTRICAL CODE, CALIFORNIA FIRE CODE, CALTRANS STANDARDS AND SPECIFICATIONS, AND ALL APPLICABLE STATE AND/OR LOCAL CODES AND/OR LEGISLATION.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND ALL SUBCONTRACTORS TO CHECK AND VERIFY ALL CONDITIONS, DIMENSIONS, LINES AND LEVELS INDICATED. PROPER FIT AND ATTACHMENT OF ALL PARTS IS REQUIRED. SHOULD THERE BE ANY DISCREPANCIES, IMMEDIATELY NOTIFY THE ENGINEER FOR CORRECTION OR ADJUSTMENT THE EVENT OF FAILURE TO DO SO, THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTION OF ANY ERROR.

ALL DIMENSIONS AND CONDITIONS SHALL BE CHECKED AND VERIFIED ON THE JOB BY EACH SUBCONTRACTOR BEFORE HE/SHE BEGINS HIS/HER WORK. ANY ERRORS, OMISSION, OR DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER/CONTRACTOR BEFORE CONSTRUCTION BEGINS.

COMMENCEMENT OF WORK BY THE CONTRACTOR AND/OR ANY SUBCONTRACTOR SHALL INDICATE KNOWLEDGE AND ACCEPTANCE OF ALL CONDITIONS DESCRIBED IN THESE CONSTRUCTION DOCUMENTS, OR EXISTING ON SITE, WHICH COULD AFFECT THEIR WORK.

WORK SEQUENCE

IN THE EVENT ANY SPECIAL SEQUENCING OF THE WORK IS REQUIRED BY THE OWNER OR THE CONTRACTOR, THE CONTRACTOR SHALL ARRANGE A CONFERENCE BEFORE ANY SUCH WORK IS BEGUN.

SITE EXAMINATION: THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL THOROUGHLY EXAMINE THE SITE AND FAMILIARIZE HIM/HERSELF WITH THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. THE CONTRACTOR SHALL VERIFY AT THE SITE ALL MEASUREMENTS AFFECTING HIS/HER WORK AND SHALL BE RESPONSIBLE FOR THE CORRECTIONS OF THE SAME. NO EXTRA COMPENSATION WILL BE ALLOWED TO THE CONTRACTOR FOR EXPENSES DUE TO HIS/HER NEGLECT TO EXAMINE, OR FAILURE TO DISCOVER, CONDITIONS WHICH AFFECT HIS/HER WORK.

LEA AND BRAZE ENGINEERING, INC. EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS. THESE PLANS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER, NOR ARE THEY TO BE ASSIGNED TO A THIRD PARTY WITHOUT FIRST OBTAINING THE WRITTEN PERMISSION AND CONSENT OF LEA AND BRAZE ENGINEERING, INC. IN THE EVENT OF UNAUTHORIZED REUSE OF THESE PLANS BY A THIRD PARTY, THE THIRD PARTY SHALL HOLD HARMLESS LEA AND BRAZE ENGINEERING, INC.

CONSTRUCTION IS ALWAYS LESS THAN PERFECT SINCE PROJECTS REQUIRE THE COORDINATION AND INSTALLATION OF MANY INDIVIDUAL COMPONENTS BY VARIOUS CONSTRUCTION INDUSTRY TRADES. THESE DOCUMENTS CANNOT PORTRAY ALL COMPONENTS OR ASSEMBLIES EXACTLY. IT IS THE INTENTION OF THESE ENGINEERING DOCUMENTS THAT THEY REPRESENT A REASONABLE STANDARD OF CARE IN THEIR CONTENT. IT IS ALSO PRESUMED BY THESE DOCUMENTS THAT CONSTRUCTION REVIEW SERVICES WILL BE PROVIDED BY THE ENGINEER. SHOULD THE OWNER NOT RETAIN THE ENGINEER TO PROVIDE SUCH SERVICES, OR SHOULD HE/SHE RETAIN THE ENGINEER TO PROVIDE ONLY PARTIAL OR LIMITED SERVICES, THEN IT SHALL BE THE OWNER'S AND CONTRACTOR'S RESPONSIBILITY TO FULLY RECOGNIZE AND PROVIDE THAT STANDARD OF CARE.

IF THE OWNER OR CONTRACTOR OBSERVES OR OTHERWISE BECOMES AWARE OF ANY FAULT OR DEFECT IN THE PROJECT OR NONCONFORMANCE WITH THE CONTRACT DOCUMENTS, PROMPT WRITTEN NOTICE THEREOF SHALL BE GIVEN BY THE OWNER AND/OR CONTRACTOR TO THE ENGINEER.

THE ENGINEER SHALL NOT HAVE CONTROL OF OR CHARGE OF AND SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, OR FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

SITE PROTECTION

PROTECT ALL LANDSCAPING THAT IS TO REMAIN. ANY DAMAGE OR LOSS RESULTING FROM EXCAVATION, GRADING, OR CONSTRUCTION WORK SHALL BE CORRECTED OR REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING SITE UTILITIES AND SHALL COORDINATE THEIR REMOVAL OR MODIFICATIONS (IF ANY) TO AVOID ANY INTERRUPTION OF SERVICE TO ADJACENT AREAS. THE GENERAL CONTRACTOR SHALL INFORM HIM/HERSELF OF MUNICIPAL REGULATIONS AND CARRY OUT HIS/HER WORK IN COMPLIANCE WITH ALL FEDERAL AND STATE REQUIREMENTS TO REDUCE FIRE HAZARDS AND INJURIES TO THE PUBLIC.

STORMWATER POLLUTION PREVENTION NOTES

1) STORE, HANDLE, AND DISPOSE OF CONSTRUCTION MATERIALS AND WASTES PROPERLY, SO AS TO PREVENT THEIR CONTACT WITH STORMWATER.

2) CONTROL AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING SOLID WASTES, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICALS, WASH WATER OR SEDIMENT, AND NON-STORMWATER DISCHARGES TO STORM DRAINS AND WATER COURSES.

3) USE SEDIMENT CONTROL OR FILTRATION TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

4) AVOID CLEANING, FUELING, OR MAINTAINING VEHICLES ON SITE, EXCEPT IN A DESIGNATED AREA IN WHICH RUNOFF IS CONTAINED AND TREATED.

5) DELINEATE CLEARING LIMITS, EASEMENTS, SETBACKS, SENSITIVE OR CRITICAL AREAS, BUFFER ZONES, TREES AND DISCHARGE COURSE WITH FIELD MARKERS.

6) PROTECT ADJACENT PROPERTIES AND UNDISTURBED AREAS FROM CONSTRUCTION IMPACTS USING VEGETATIVE BUFFER STRIPS, SEDIMENT BARRIERS OF FILTERS, DIKES, MULCHING, OR OTHER MEASURES AS APPROPRIATE.

7) PERFORM CLEARING AND EARTH MOVING ACTIVITIES DURING DRY WEATHER TO THE MAXIMUM EXTENT PRACTICAL.

8) LIMIT AND TIME APPLICATIONS OF PESTICIDES AND FERTILIZERS TO PREVENT POLLUTED RUNOFF.

9) LIMIT CONSTRUCTION ACCESS ROUTES AND STABILIZE DESIGNATED ACCESS POINTS.

10) AVOID TRACKING DIRT OR MATERIALS OFF-SITE; CLEAN OFF-SITE PAVED AREAS AND SIDEWALKS USING DRY SWEEPING METHODS TO THE MAXIMUM EXTENT PRACTICAL.

SUPPLEMENTAL MEASURES

A. THE PHRASE "NO DUMPING – DRAINS TO BAY" OR EQUALLY EFFECTIVE PHRASE MUST BE LABELED ON STORM DRAIN INLETS (BY STENCILING, BRANDING, OR PLAQUES) TO ALERT THE PUBLIC TO THE DESTINATION OF STORM WATER AND TO PREVENT DIRECT DISCHARGE OF POLLUTANTS INTO THE STORM DRAIN.

B. USING FILTRATION MATERIALS ON STORM DRAIN COVERS TO REMOVE SEDIMENT FROM DEWATERING EFFLUENT.

C. STABILIZING ALL DENUDED AREAS AND MAINTAINING EROSION CONTROL MEASURES CONTINUOUSLY FROM OCTOBER 15 AND APRIL 15.

D. REMOVING SPOILS PROMPTLY, AND AVOID STOCKPILING OF FILL MATERIALS, WHEN RAIN IS FORECAST. IF RAIN THREATENS, STOCKPILED SOILS AND OTHER MATERIALS SHALL BE COVERED WITH A TARP OR OTHER WATERPROOF MATERIAL.

E. STORING, HANDLING, AND DISPOSING OF CONSTRUCTION MATERIALS AND WASTES SO AS TO AVOID THEIR ENTRY TO THE STORM DRAIN SYSTEMS OR WATER BODY.

F. AVOIDING CLEANING, FUELING, OR MAINTAINING VEHICLES ON-SITE, EXCEPT IN AN AREA DESIGNATED TO CONTAIN AND TREAT RUNOFF.

GRADING & DRAINAGE NOTES:

1. SCOPE OF WORK

THESE SPECIFICATIONS AND APPLICABLE PLANS PERTAIN TO AND INCLUDE ALL SITE GRADING AND EARTHWORK ASSOCIATED WITH THE PROJECT INCLUDING, BUT NOT LIMITED TO THE FURNISHING OF ALL LABOR, TOOLS AND EQUIPMENT NECESSARY FOR SITE CLEARING AND GRUBBING, SITE PREPARATION, DISPOSAL OF EXCESS OR UNSUITABLE MATERIAL, STRIPPING, KEYING, EXCAVATION, OVER EXCAVATION, RECOMPACTION PREPARATION FOR SOIL RECEIVING FILL, PAVEMENT, FOUNDATION OF SLABS, EXCAVATION, IMPORTATION OF ANY REQUIRED FILL MATERIAL, PROCESSING, PLACEMENT AND COMPACTION OF FILL AND SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING TO CONFORM TO THE LINES, GRADING AND SLOPE SHOWN ON THE PROJECT GRADING PLANS.

2. GENERAL

A. ALL SITE GRADING AND EARTHWORK SHALL CONFORM TO THE RECOMMENDATIONS OF THESE SPECIFICATIONS, THE GEOTECHNICAL ENGINEER AND THE COUNTY OF SAN MATEO.

B. ALL FILL MATERIALS SHALL BE DENSIFIED SO AS TO PRODUCE A DENSITY NOT LESS THAN 90% RELATIVE COMPACTION BASED UPON ASTM TEST DESIGNATION D1557. FIELD DENSITY TEST WILL BE PERFORMED IN ACCORDANCE WITH ASTM TEST DESIGNATION 2922 AND 3017. THE LOCATION AND FREQUENCY OF THE FIELD DENSITY TEST WILL BE AS DETERMINED BY THE SOIL ENGINEER. THE RESULTS OF THESE TEST AND COMPLIANCE WITH THE SPECIFICATIONS WILL BE THE BASIS UPON WHICH SATISFACTORY COMPLETION OF THE WORK WILL BE JUDGED BY THE SOIL ENGINEER. ALL CUT AND FILL SLOPES SHALL BE CONSTRUCTED AS SHOWN ON PLANS, BUT NO STEEPER THAN TWO (2) HORIZONTAL TO ONE (1) VERTICAL.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SATISFACTORY COMPLETION OF ALL THE EARTHWORK IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS. NO DEVIATION FROM THESE SPECIFICATIONS SHALL BE MADE EXCEPT UPON WRITTEN APPROVAL BY THE SOILS ENGINEER. BOTH CUT AND FILL AREAS SHALL BE SURFACE COMPLETED TO THE SATISFACTION OF THE SOILS ENGINEER AT THE CONCLUSION OF ALL GRADING OPERATIONS AND PRIOR TO FINAL ACCEPTANCE. THE CONTRACTOR SHALL NOTIFY THE SOILS ENGINEER AT LEAST TWO (2) WORKING DAYS PRIOR TO DOING ANY SITE GRADING AND EARTHWORK INCLUDING CLEARING.

3. CLEARING AND GRUBBING

A. THE CONTRACTOR SHALL ACCEPT THE SITE IN ITS PRESENT CONDITION. ALL EXISTING PUBLIC IMPROVEMENTS SHALL BE PROTECTED. ANY IMPROVEMENTS DAMAGED SHALL BE REPLACED BY THE CONTRACTOR AS DIRECTED BY THE LOCAL JURISDICTION WITH NO EXTRA COMPENSATION.

B. ALL ABANDONED BUILDINGS AND FOUNDATIONS, TREE (EXCEPT THOSE SPECIFIED TO REMAIN FOR LANDSCAPING PURPOSES), FENCES, VEGETATION AND ANY SURFACE DEBRIS SHALL BE REMOVED AND DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

C. ALL ABANDONED SEPTIC TANKS AND ANY OTHER SUBSURFACE STRUCTURES EXISTING IN PROPOSED DEVELOPMENT AREAS SHALL BE REMOVED PRIOR TO ANY GRADING OR FILL OPERATION. ALL APPURTENANT DRAIN FIELDS AND OTHER CONNECTING LINES MUST ALSO BE TOTALLY REMOVED.

D. ALL ABANDONED UNDERGROUND IRRIGATION OR UTILITY LINES SHALL BE REMOVED OR DEMOLISHED. THE APPROPRIATE FINAL DISPOSITION OF SUCH LINES DEPEND UPON THEIR DEPTH AND LOCATION AND THE METHOD OF REMOVAL OR DEMOLITION SHALL BE DETERMINED BY THE SOILS ENGINEER. ONE OF THE FOLLOWING METHODS WILL BE USED:

(1) EXCAVATE AND TOTALLY REMOVE THE UTILITY LINE FROM THE TRENCH.

(2) EXCAVATE AND CRUSH THE UTILITY LINE IN THE TRENCH.

(3) CAP THE ENDS OF THE UTILITY LINE WITH CONCRETE TO PREVENT THE ENTRANCE OF WATER. THE LOCATIONS AT WHICH THE UTILITY LINE WILL BE CAPPED WILL BE DETERMINED BY THE UTILITY DISTRICT ENGINEER. THE LENGTH OF THE CAP SHALL NOT BE LESS THAN FIVE FEET, AND THE CONCRETED MIX EMPLOYED SHALL HAVE MINIMUM SHRINKAGE.

4. SITE PREPARATION AND STRIPPING

A. ALL SURFACE ORGANICS SHALL BE STRIPPED AND REMOVED FROM BUILDING PADS, AREAS TO RECEIVE COMPACTED FILL AND PAVEMENT AREAS.

B. UPON THE COMPLETION OF THE ORGANIC STRIPPING OPERATION, THE GROUND SURFACE (NATIVE SOIL SUBGRADE) OVER THE ENTIRE AREA OF ALL BUILDING PADS, STREET AND PAVEMENT AREAS AND ALL AREAS TO RECEIVE COMPACTED FILL SHALL BE PLOWED OR SCARIFIED UNTIL THE SURFACE IS FREE OF RUTS, HUMMOCKS OR OTHER UNEVEN FEATURES WHICH MAY INHIBIT UNIFORM SOIL COMPACTION. THE GROUND SURFACE SHALL THEN BE DISCED OR BLADED TO A DEPTH OF AT LEAST 6 INCHES. UPON ENGINEER'S SATISFACTION, THE NEW SURFACE SHALL BE WATER CONDITIONED AND RECOMPACTED PER REQUIREMENTS FOR COMPACTING FILL MATERIAL.

5. EXCAVATION

A. UPON COMPLETION OF THE CLEARING AND GRUBBING, SITE PREPARATION AND STRIPPING, THE CONTRACTOR SHALL MAKE EXCAVATIONS TO LINES AND GRADES NOTED ON THE PLAN. WHERE REQUIRED BY THE SOILS ENGINEER, UNACCEPTABLE NATIVE SOILS OR UNENGINEERED FILL SHALL BE OVER EXCAVATED BELOW THE DESIGN GRADE. SEE PROJECT SOILS REPORT FOR DISCUSSION OF OVER EXCAVATION OF THE UNACCEPTABLE MATERIAL. RESULTING GROUND LINE SHALL BE SCARIFIED, MOISTURE-CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE.

B. EXCAVATED MATERIALS SUITABLE FOR COMPACTED FILL MATERIAL SHALL BE UTILIZED IN MAKING THE REQUIRED COMPACTED FILLS. THOSE NATIVE MATERIALS CONSIDERED UNSUITABLE BY THE SOILS ENGINEER SHALL BE DISPOSED OF OFF THE SITE BY THE CONTRACTOR.

6. PLACING, SPREADING AND COMPACTING FILL MATERIAL

A. FILL MATERIALS

THE MATERIALS PROPOSED FOR USE AS COMPACTED FILL SHALL BE APPROVED BY THE SOILS ENGINEER BEFORE COMMENCEMENT OF GRADING OPERATIONS. THE NATIVE MATERIAL IS CONSIDERED SUITABLE FOR FILL; HOWEVER, ANY NATIVE MATERIAL DESIGNATED UNSUITABLE BY THE SOILS ENGINEER SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR. ANY IMPORTED MATERIAL SHALL BE APPROVED FOR USE BY THE SOILS ENGINEER, IN WRITING, BEFORE BEING IMPORTED TO THE SITE AND SHALL POSSESS SUFFICIENT FINES TO PROVIDE A COMPETENT SOIL MATRIX AND SHALL BE FREE OF VEGETATIVE AND ORGANIC MATTER AND OTHER DELETERIOUS MATERIALS. ALL FILL VOIDS SHALL BE FILLED AND PROPERLY COMPACTED. NO ROCKS LARGER THAN THREE INCHES IN DIAMETER SHALL BE PERMITTED.

B. FILL CONSTRUCTION

THE SOILS ENGINEER SHALL APPROVE THE NATIVE SOIL SUBGRADE BEFORE PLACEMENT OF ANY COMPACTED FILL MATERIAL. UNACCEPTABLE NATIVE SOIL SHALL BE REMOVED AS DIRECTED BY THE SOILS ENGINEER. THE RESULTING GROUND LINE SHALL BE SCARIFIED MOISTURE CONDITIONED AND RECOMPACTED AS SPECIFIED IN SECTION 4 OF THESE SPECIFICATIONS. COMPACTED FILL MATERIAL SHALL BE PLACED TO BRING GROUND LEVEL BACK TO DESIGN GRADE. GROUND PREPARATION SHALL BE FOLLOWED CLOSELY BY FILL PLACEMENT TO PREVENT DRYING OUT OF THE SUBSOIL BEFORE PLACEMENT OF THE FILL.

THE APPROVED FILL MATERIALS SHALL BE PLACED IN UNIFORM HORIZONTAL LAYERS NO THICKER THAN 8" IN LOOSE THICKNESS. LAYERS SHALL BE SPREAD EVENLY AND SHALL BE THOROUGHLY BLADE MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. THE SCARIFIED SUBGRADE AND FILL MATERIAL SHALL BE MOISTURE CONDITIONED TO AT LEAST OPTIMUM MOISTURE. WHEN THE MOISTURE CONTENT OF THE FILL IS BELOW THAT SPECIFIED, WATER SHALL BE ADDED UNTIL THE MOISTURE DURING THE COMPACTION PROCESS. WHEN THE MOISTURE CONTENT OF THE FILL IS ABOVE THAT SPECIFIED, THE FILL MATERIAL SHALL BE AERATED BY BLADING OR OTHER SATISFACTORY METHODS UNTIL THE MOISTURE CONTENT IS AS SPECIFIED.

AFTER EACH LAYER HAS BEEN PLACED, MIXED, SPREAD EVENLY AND MOISTURE CONDITIONED, IT SHALL BE COMPACTED TO AT LEAST THE SPECIFIED DENSITY.

THE FILL OPERATION SHALL BE CONTINUED IN COMPACTED LAYERS AS SPECIFIED ABOVE UNTIL THE FILL HAS BEEN BROUGHT TO THE FINISHED SLOPES AND GRADES AS SHOWN ON THE PLANS. NO LAYER SHALL BE ALLOWED TO DRY OUT BEFORE SUBSEQUENT LAYERS ARE PLACED.

COMPACTION EQUIPMENT SHALL BE OF SUCH DESIGN THAT IT WILL BE ABLE TO COMPACT THE FILL TO THE SPECIFIED MINIMUM COMPACTION WITHIN THE SPECIFIED MOISTURE CONTENT RANGE. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER ITS ENTIRE AREA UNTIL THE REQUIRED MINIMUM DENSITY HAS BEEN OBTAINED.

7. CUT OR FILL SLOPES

ALL CONSTRUCTED SLOPES, BOTH CUT AND FILL, SHALL BE NO STEEPER THAN 2 TO 1 (HORIZONTAL TO VERTICAL). DURING THE GRADING OPERATION, COMPACTED FILL SLOPES SHALL BE OVERFILLED BY AT LEAST ONE FOOT HORIZONTALLY AT THE COMPLETION OF THE GRADING OPERATIONS, THE EXCESS FILL EXISTING ON THE SLOPES SHALL BE BLADED OFF TO CREATE THE FINISHED SLOPE EMBANKMENT. ALL CUT AND FILL SLOPES SHALL BE TRACK WALKED AFTER BEING BROUGHT TO FINISH GRADE AND THEN BE PLANTED WITH EROSION CONTROL SLOPE PLANTING. THE SOILS ENGINEER SHALL REVIEW ALL CUT SLOPES TO DETERMINE IF ANY ADVERSE GEOLOGIC CONDITIONS ARE EXPOSED. IF SUCH CONDITIONS DO OCCUR, THE SOILS ENGINEER SHALL RECOMMEND THE APPROPRIATE MITIGATION MEASURES AT THE TIME OF THEIR DETECTION.

8. SEASONAL LIMITS AND DRAINAGE CONTROL

FILL MATERIALS SHALL NOT BE PLACED, SPREAD OR COMPACTED WHILE IT IS AT AN UNSUITABLY HIGH MOISTURE CONTENT OR DURING OTHERWISE UNFAVORABLE CONDITIONS. WHEN THE WORK IS INTERRUPTED FOR ANY REASON THE FILL OPERATIONS SHALL NOT BE RESUMED UNTIL FIELD TEST PERFORMED BY THE SOILS ENGINEER INDICATE THAT THE MOISTURE CONDITIONS IN AREAS TO BE FILLED ARE AS PREVIOUSLY SPECIFIED. ALL EARTH MOVING AND WORKING OPERATIONS SHALL BE CONTROLLED TO PREVENT WATER FROM RUNNING INTO EXCAVATED AREAS. ALL EXCESS WATER SHALL BE PROMPTLY REMOVED AND THE SITE KEPT DRY.

9. DUST CONTROL

THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY FOR THE ALLEVIATION OR PREVENTION OF ANY DUST NUISANCE ON OR ABOUT THE SITE CAUSED BY THE CONTRACTOR'S OPERATION EITHER DURING THE PERFORMANCE OF THE GRADING OR RESULTING FROM THE CONDITION IN WHICH THE CONTRACTOR LEAVES THE SITE. THE CONTRACTOR SHALL ASSUME ALL LIABILITY INCLUDING COURT COST OF CO-DEFENDANTS FOR ALL CLAIMS RELATED TO DUST OR WIND-BLOWN MATERIALS ATTRIBUTABLE TO HIS WORK. COST FOR THIS ITEM OF WORK IS TO BE INCLUDED IN THE EXCAVATION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

10. INDEMNITY

THE CONTRACTOR WILL HOLD HARMLESS, INDEMNIFY AND DEFEND THE ENGINEER, THE OWNER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS, FROM ANY AND ALL LIABILITY CLAIMS, LOSSES OR DAMAGE ARISING OR ALLEGED TO HEREIN, BUT NOT INCLUDING THE SOLE NEGLIGENCE OF THE OWNER, THE ARCHITECT, THE ENGINEER AND HIS CONSULTANTS AND EACH OF THEIR OFFICERS AND EMPLOYEES AND AGENTS.

11. SAFETY

IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE. INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THIS REQUIREMENT WILL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.

THE DUTY OF THE ENGINEERS TO CONDUCT CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES, IN, ON OR NEAR THE CONSTRUCTION SITE.

12. GUARANTEE

NEITHER THE FINAL PAYMENT, NOR THE PROVISIONS IN THE CONTRACT, NOR PARTIAL, NOR ENTIRE USE OR OCCUPANCY OF THE PREMISES BY THE OWNER SHALL CONSTITUTE AN ACCEPTANCE OF THE WORK NOT DONE IN ACCORDANCE WITH THE CONTRACT OR RELIEVES THE CONTRACTOR OF LIABILITY IN RESPECT TO ANY EXPRESS WARRANTIES OR RESPONSIBILITY FOR FAULTY MATERIAL OR WORKMANSHIP.

THE CONTRACTOR SHALL REMEDY ANY DEFECTS IN WORK AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THERE FROM WHICH SHALL APPEAR WITHIN A PERIOD OF ONE (1) CALENDAR YEAR FROM THE DATE OF FINAL ACCEPTANCE OF THE WORK.

13. TRENCH BACKFILL

EITHER THE ON-SITE INORGANIC SOIL OR APPROVED IMPORTED SOIL MAY BE USED AS TRENCH BACKFILL. THE BACKFILL MATERIAL SHALL BE MOISTURE CONDITIONED PER THESE SPECIFICATIONS AND SHALL BE PLACED IN LIFTS OF NOT MORE THAN SIX INCHES IN HORIZONTAL UNCOMPACTED LAYERS AND BE COMPACTED BY MECHANICAL MEANS TO A MINIMUM OF 90% RELATIVE COMPACTION. IMPORTED SAND MAY BE USED FOR TRENCH BACKFILL MATERIAL PROVIDED IT IS COMPACTED TO AT LEAST 90% RELATIVE COMPACTION. WATER JETTING ASSOCIATED WITH COMPACTION USING VIBRATORY EQUIPMENT WILL BE PERMITTED ONLY WITH IMPORTED SAND BACKFILL WITH THE APPROVAL OF THE SOILS ENGINEER. ALL PIPES SHALL BE BEDDED WITH SAND EXTENDING FROM THE TRENCH BOTTOM TO TWELVE INCHES ABOVE THE PIPE. SAND BEDDING IS TO BE COMPACTED AS SPECIFIED ABOVE FOR SAND BACKFILL.

14. EROSION CONTROL

A. ALL GRADING, EROSION AND SEDIMENT CONTROL AND RELATED WORK UNDERTAKEN ON THIS SITE IS SUBJECT TO ALL TERMS AND CONDITIONS OF THE COUNTY GRADING ORDINANCE AND MADE A PART HEREOF BY REFERENCE.

B. THE CONTRACTOR WILL BE LIABLE FOR ANY AND ALL DAMAGES TO ANY PUBLICLY OWNED AND MAINTAINED ROAD CAUSED BY THE AFORESAID CONTRACTOR'S GRADING ACTIVITIES, AND SHALL BE RESPONSIBLE FOR THE CLEANUP OF ANY MATERIAL SPILLED ON ANY PUBLIC ROAD ON THE HAUL ROUTE.

C. THE EROSION CONTROL MEASURES ARE TO BE OPERABLE DURING THE RAINY SEASON, GENERALLY FROM OCTOBER FIRST TO APRIL FIFTEENTH. EROSION CONTROL PLANTING IS TO BE COMPLETED BY OCTOBER FIRST. NO GRADING OR UTILITY TRENCHING SHALL OCCUR BETWEEN OCTOBER FIRST AND APRIL FIFTEENTH UNLESS AUTHORIZED BY THE LOCAL JURISDICTION.

D. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL DISTURBED AREAS ARE STABILIZED AND CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE SOILS ENGINEER.

E. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT-LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM.

F. ALL EROSION CONTROL FACILITIES MUST BE INSPECTED AND REPAIRED AT THE END OF EACH WORKING DAY DURING THE RAINY SEASON.

G. WHEN NO LONGER NECESSARY AND PRIOR TO FINAL ACCEPTANCE OF DEVELOPMENT, SEDIMENT BASINS SHALL BE REMOVED OR OTHERWISE DEACTIVATED AS REQUIRED BY THE LOCAL JURISDICTION.

H. A CONSTRUCTION ENTRANCE SHALL BE PROVIDED AT ANY POINT OF EGRESS FROM THE SITE TO ROADWAY. A CONSTRUCTION ENTRANCE SHOULD BE COMPOSED OF COARSE DRAIN ROCK (2" TO 3") MINIMUM DIAMETER) AT LEAST EIGHT INCHES THICK BY FIFTY (50) FEET LONG BY TWENTY (20) FEET WIDE UNLESS SHOWN OTHERWISE ON PLAN AND SHALL BE MAINTAINED UNTIL THE SITE IS PAVED.

I. ALL AREAS SPECIFIED FOR HYDROSEEDING SHALL BE NOZZLE PLANTED WITH STABILIZATION MATERIAL CONSISTING OF FIBER, SEED, FERTILIZER AND WATER, MIXED AND APPLIED IN THE FOLLOWING PROPORTIONS:

FIBER, 2000 LBS/ACRE
SEED, 200 LBS/ACRE (SEE NOTE J, BELOW)
FERTILIZER (11-8-4), 500 LBS/ACRE
WATER, AS REQUIRED FOR APPLICATION

J. SEED MIX SHALL BE PER CALTRANS STANDARDS.

K. WATER UTILIZED IN THE STABILIZATION MATERIAL SHALL BE OF SUCH QUALITY THAT IT WILL PROMOTE GERMINATION AND STIMULATE GROWTH OF PLANTS. IT SHALL BE FREE OF POLLUTANT MATERIALS AND WEED SEED.

L. HYDROSEEDING SHALL CONFORM TO THE PROVISIONS OF SECTION 20, EROSION CONTROL AND HIGHWAY PLANTING", OF THE STANDARD SPECIFICATIONS OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED.

M. A DISPERSING AGENT MAY BE ADDED TO THE HYDROSEEDING MATERIAL, PROVIDED THAT THE CONTRACTOR FURNISHES SUITABLE EVIDENCE THAT THE ADDITIVE WILL NOT ADVERSELY AFFECT THE PERFORMANCE OF THE SEEDING MIXTURE.

N. STABILIZATION MATERIALS SHALL BE APPLIED AS SOON AS PRACTICABLE AFTER COMPLETION OF GRADING OPERATIONS AND PRIOR TO THE ONSET OF WINTER RAINS, OR AT SUCH OTHER TIME AS DIRECTED BY THE COUNTY ENGINEER. THE MATERIAL SHALL BE APPLIED BEFORE INSTALLATION OF OTHER LANDSCAPING MATERIALS SUCH AS TREES, SHRUBS AND GROUND COVERS.

O. THE STABILIZATION MATERIAL SHALL BE APPLIED WITHIN 4-HOURS AFTER MIXING. MIXED MATERIAL NOT USED WITHIN 4-HOURS SHALL BE REMOVED FROM THE SITE.

P. THE CONTRACTOR SHALL MAINTAIN THE SOIL STABILIZATION MATERIAL AFTER PLACEMENT. THE COUNTY ENGINEER MAY REQUIRE SPRAY APPLICATION OF WATER OR OTHER MAINTENANCE ACTIVITIES TO ASSURE THE EFFECTIVENESS OF THE STABILIZATION PROCESS. APPLICATION OF WATER SHALL BE ACCOMPLISHED USING NOZZLES THAT PRODUCE A SPRAY THAT DOES NOT CONCENTRATE OR WASH AWAY THE STABILIZATION MATERIALS.

15. CLEANUP

THE CONTRACTOR MUST MAINTAIN THE SITE CLEAN, SAFE AND IN USABLE CONDITION. ANY SPILLS OF SOIL, ROCK OR CONSTRUCTION MATERIAL MUST BE REMOVED FROM THE SITE BY THE CONTRACTOR DURING CONSTRUCTION AND UPON COMPLETION OF THE PROJECT. COST FOR THIS ITEM OF WORK SHALL BE INCLUDED IN THE EXCAVATION AND COMPACTION ITEM AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED.

NOTE:
THESE NOTES ARE INTENDED TO BE USED AS A GENERAL GUIDELINE. THE REFERENCED SOILS REPORT FOR THE PROJECT AND GOVERNING AGENCY GRADING ORDINANCE SHALL SUPERSEDE THESE NOTES. THE SOILS ENGINEER MAY MAKE ON-SITE RECOMMENDATIONS DURING GRADING OPERATIONS.

REGISTERED PROFESSIONAL ENGINEER
JAMES TOBY
No. 63127
CIVIL
STATE OF CALIFORNIA
ORIGINAL SIGNATURES IN BLUE INK

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EL GRANADA, CALIFORNIA
SAN MATEO COUNTY
APN: 047-215-340

GRADING SPECIFICATIONS

REVISIONS	BY
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2 PLAN CHECK 12-20-21	MG
1 PLAN CHECK 06-03-21	MG

JOB NO:	2191097
DATE:	07-15-20
SCALE:	NO SCALE
DESIGN BY:	MG
CHECKED BY:	CP
SHEET NO:	C-4.0

PURPOSE:

THE PURPOSE OF THIS PLAN IS TO STABILIZE THE SITE TO PREVENT EROSION OF GRADED AREAS AND TO PREVENT SEDIMENTATION FROM LEAVING THE CONSTRUCTION AREA AND AFFECTING NEIGHBORING SITES, NATURAL AREAS, PUBLIC FACILITIES OR ANY OTHER AREA THAT MIGHT BE AFFECTED BY SEDIMENTATION. ALL MEASURES SHOWN ON THIS PLAN SHOULD BE CONSIDERED THE MINIMUM REQUIREMENTS NECESSARY. SHOULD FIELD CONDITIONS DICTATE ADDITIONAL MEASURES, SUCH MEASURES SHALL BE PER CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL AND THE CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION. LEA & BRAZE ENGINEERING SHOULD BE NOTIFIED IMMEDIATELY SHOULD CONDITIONS CHANGE.

EROSION CONTROL NOTES:

1. IT SHALL BE THE OWNER'S/CONTRACTOR'S RESPONSIBILITY TO MAINTAIN CONTROL OF THE ENTIRE CONSTRUCTION OPERATION AND TO KEEP THE ENTIRE SITE IN COMPLIANCE WITH THIS EROSION CONTROL PLAN.
2. THE INTENTION OF THIS PLAN IS FOR INTERIM EROSION AND SEDIMENT CONTROL ONLY. ALL EROSION CONTROL MEASURES SHALL CONFORM TO CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL, THE CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION, AND THE LOCAL GOVERNING AGENCY FOR THIS PROJECT.
3. OWNER/CONTRACTOR SHALL BE RESPONSIBLE FOR MONITORING EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO, DURING, AND AFTER STORM EVENTS. PERSON IN CHARGE OF MAINTAINING EROSION CONTROL MEASURES SHOULD WATCH LOCAL WEATHER REPORTS AND ACT APPROPRIATELY TO MAKE SURE ALL NECESSARY MEASURES ARE IN PLACE.
4. SANITARY FACILITIES SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
5. DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT–LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM, INCLUDING EXISTING DRAINAGE SWALES AND WATERCOURSES.
6. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION WILL BE MINIMIZED. COMPLIANCE WITH FEDERAL, STATE AND LOCAL LAWS CONCERNING POLLUTION SHALL BE MAINTAINED AT ALL TIMES.
7. CONTRACTOR SHALL PROVIDE DUST CONTROL AS REQUIRED BY THE APPROPRIATE FEDERAL, STATE AND LOCAL AGENCY REQUIREMENTS.
8. ALL MATERIALS NECESSARY FOR THE APPROVED EROSION CONTROL MEASURES SHALL BE IN PLACE BY OCTOBER 15TH.
9. EROSION CONTROL SYSTEMS SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE RAINY SEASON, OR FROM OCTOBER 15TH THROUGH APRIL 15TH, WHICHEVER IS LONGER.
10. IN THE EVENT OF RAIN, ALL GRADING WORK IS TO CEASE IMMEDIATELY AND THE SITE IS TO BE SEALED IN ACCORDANCE WITH THE APPROVAL EROSION CONTROL MEASURES AND APPROVED EROSION CONTROL PLAN.
11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CHECKING AND REPAIRING EROSION CONTROL SYSTEMS AFTER EACH STORM.
12. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY LOCAL JURISDICTION'S ENGINEERING DEPARTMENT OR BUILDING OFFICIALS.
13. MEASURES SHALL BE TAKEN TO COLLECT OR CLEAN ANY ACCUMULATION OR DEPOSIT OF DIRT, MUD, SAND, ROCKS, GRAVEL OR DEBRIS ON THE SURFACE OF ANY STREET, ALLEY OR PUBLIC PLACE OR IN ANY PUBLIC STORM DRAIN SYSTEMS. THE REMOVAL OF AFORESAID SHALL BE DONE BY STREET SWEEPING OR HAND SWEEPING. WATER SHALL NOT BE USED TO WASH SEDIMENTS INTO PUBLIC OR PRIVATE DRAINAGE FACILITIES.
14. EROSION CONTROL MEASURES SHALL BE ON–SITE FROM SEPTEMBER 15TH THRU APRIL 15TH.
15. ALL EROSION CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED THROUGHOUT THE RAINY SEASON OR FROM OCTOBER 15 THROUGH APRIL 15, WHICHEVER IS GREATER.
16. PLANS SHALL BE DESIGNED TO MEET C3 REQUIREMENTS OF THE MUNICIPAL STORMWATER REGIONAL PERMIT("MRP") NPDES PERMIT CAS 612008.
17. THE CONTRACTOR TO NPDES (NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM) BEST MANAGEMENT PRACTICES (BMP) FOR SEDIMENTATION PREVENTION AND EROSION CONTROL TO PREVENT DELETERIOUS MATERIALS OR POLLUTANTS FROM ENTERING THE TOWN OR COUNTY STORM DRAIN SYSTEMS.
18. THE CONTRACTOR MUST INSTALL ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO THE INCEPTION OF ANY WORK ONSITE AND MAINTAIN THE MEASURES UNTIL THE COMPLETION OF ALL LANDSCAPING.
19. THE CONTRACTOR SHALL MAINTAIN ADJACENT STREETS IN A NEAT, CLEAN DUST FREE AND SANITARY CONDITION AT ALL TIMES AND TO THE SATISFACTION OF THE TOWN INSPECTOR. THE ADJACENT STREET SHALL AT ALL TIMES BE KEPT CLEAN OF DEBRIS, WITH DUST AND OTHER NUISANCE BEING CONTROLLED AT ALL TIMES. THE CONTRACTOR BE RESPONSIBLE FOR ANY CLEAN UP ON ADJACENT STREETS AFFECTED BY THE BY THEIR CONSTRUCTION, METHOD OF STREET CLEANING SHALL BE BY DRY SWEEPING OF ALL PAVED AREAS. NO STOCKPILING OF BUILDING MATERIALS WITHIN THE TOWN RIGHT–OF–WAY.
20. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONTRACTOR SHALL INSTALL A STABILIZED CONSTRUCTION ENTRANCE PRIOR TO THE INSPECTION OF ANY WORK ONSITE AND MAINTAIN IT FOR THE DURATION OF THE CONSTRUCTION PROCESS SO AS TO NOT INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC RIGHT–OF–WAY UNTIL THE COMPLETION OF ALL LANDSCAPING.
21. THE CONTRACTOR SHALL PROTECT DOWN SLOPE DRAINAGE COURSES, STREAMS AND STORM DRAINS WITH ROCK FILLED SAND BAGS, TEMPORARY SWALES, SILT FENCES, AND EARTH PERMS IN CONJUNCTION OF ALL LANDSCAPING.
22. STOCKPILED MATERIALS SHALL BE COVERED WITH VISQUEEN OR A TARPAULIN UNTIL THE MATERIAL IS REMOVED FROM THE SITE. ANY REMAINING BARE SOIL THAT EXISTS AFTER THE STOCKPILE HAS BEEN REMOVED SHALL BE COVERED UNTIL A NATURAL GROUND COVER IS ESTABLISHED OR IT IS SEEDED OR PLANTED TO PROVIDE GROUND COVER PRIOR TO THE FALL RAINY SEASON.
23. EXCESS OR WASTE CONCRETE MUST NOT BE WASHED INTO THE PUBLIC RIGHT–OF–WAYOR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
24. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION AND DISPERSAL BY WIND

EROSION CONTROL NOTES CONTINUED:

24. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MUST NOT BE WASHED INTO THE DRAINAGE SYSTEM,
25. DUST CONTROL SHALL BE DONE BY WATERING AND AS OFTEN AS REQUIRED BY THE TOWN INSPECTOR.
26. SILT FENCE(S) AND/OR FIBER ROLL(S) SHALL BE INSTALLED PRIOR TO SEPTEMBER 15TH AND SHALL REMAIN IN PLACE UNTIL THE LANDSCAPING GROUND COVER IS INSTALLED. CONTRACTOR SHALL CONTINUOUSLY MONITOR THESE MEASURES, FOLLOWING AND DURING ALL RAIN EVENTS,TO PUBLIC OWNED FACILITIES.

EROSION CONTROL MEASURES:

1. THE FACILITIES SHOWN ON THIS PLAN ARE DESIGNED TO CONTROL EROSION AND SEDIMENT DURING THE RAINY SEASON, OCTOBER 15TH TO APRIL 15. EROSION CONTROL FACILITIES SHALL BE IN PLACE PRIOR TO OCTOBER 15TH OF ANY YEAR. GRADING OPERATIONS DURING THE RAINY SEASON WHICH LEAVE DENUDED SLOPES SHALL BE PROTECTED WITH EROSION CONTROL MEASURES IMMEDIATELY FOLLOWING GRADING ON THE SLOPES.
2. SITE CONDITIONS AT TIME OF PLACEMENT OF EROSION CONTROL MEASURES WILL VARY. APPROPRIATE ACTION INCLUDING TEMPORARY SWALES, INLETS, HYDROSEEDING, STRAW BALES, ROCK SACKS, ETC. SHALL BE TAKEN TO PREVENT EROSION AND SEDIMENTATION FROM LEAVING SITE. EROSION CONTROL MEASURES SHALL BE ADJUSTED AS THE CONDITIONS CHANGE AND THE NEED OF CONSTRUCTION SHIFT.
3. CONSTRUCTION ENTRANCES SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING. ALL CONSTRUCTION TRAFFIC ENTERING ONTO THE PAVED ROADS MUST CROSS THE STABILIZED CONSTRUCTION ENTRANCES. CONTRACTOR SHALL MAINTAIN STABILIZED ENTRANCE AT EACH VEHICLE ACCESS POINT TO EXISTING PAVED STREETS. ANY MUD OR DEBRIS TRACKED ONTO PUBLIC STREETS SHALL BE REMOVED DAILY AND AS REQUIRED BY THE GOVERNING AGENCY.
4. ALL EXPOSED SLOPES THAT ARE NOT VEGETATED SHALL BE HYDROSEEDED. IF HYDROSEEDING IS NOT USED OR IS NOT EFFECTIVE BY OCTOBER 15, THEN OTHER IMMEDIATE METHODS SHALL BE IMPLEMENTED, SUCH AS EROSION CONTROL BLANKETS, OR A THREE–STEP APPLICATION OF 1) SEED, MULCH, FERTILIZER 2) BLOWN STRAW 3) TACKIFIER AND MULCH. HYDROSEEDING SHALL BE IN ACCORDANCE WITH THE PROVISIONS OF SECTION 20" EROSION CONTROL AND HIGHWAY PLANTING" OF THE STANDARD SPECIFICATION OF THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION, AS LAST REVISED. REFER TO THE EROSION CONTROL SECTION OF THE GRADING SPECIFICATIONS THAT ARE A PART OF THIS PLAN SET FOR FURTHER INFORMATION.
5. INLET PROTECTION SHALL BE INSTALLED AT OPEN INLETS TO PREVENT SEDIMENT FROM ENTERING THE STORM DRAIN SYSTEM. INLETS NOT USED IN CONJUNCTION WITH EROSION CONTROL ARE TO BE BLOCKED TO PREVENT ENTRY OF SEDIMENT. MINIMUM INLET PROTECTION SHALL CONSIST OF A ROCK SACKS OR AS SHOWN ON THIS PLAN
6. THIS EROSION AND SEDIMENT CONTROL PLAN MAY NOT COVER ALL THE SITUATIONS THAT MAY ARISE DURING CONSTRUCTION DUE TO UNANTICIPATED FIELD CONDITIONS. VARIATIONS AND ADDITIONS MAY BE MADE TO THIS PLAN IN THE FIELD. A REPRESENTATIVE OF LEA & BRAZE ENGINEERING SHALL PERFORM A FIELD REVIEW AND MAKE RECOMMENDATIONS AS NEEDED. CONTRACTOR IS RESPONSIBLE TO NOTIFY LEA & BRAZE ENGINEERING AND THE GOVERNING AGENCY OF ANY CHANGES.
7. THE EROSION CONTROL MEASURES SHALL CONFORM TO THE LOCAL JURISDICTION'S STANDARDS AND THE APPROVAL OF THE LOCAL JURISDICTION'S ENGINEERING DEPARTMENT.
8. STRAW ROLLS SHALL BE PLACED AT THE TOE OF SLOPES AND ALONG THE DOWN SLOPE PERIMETER OF THE PROJECT. THEY SHALL BE PLACED AT 25 FOOT INTERVALS ON GRADED SLOPES. PLACEMENT SHALL RUN WITH THE CONTOURS AND ROLLS SHALL BE TIGHTLY END BUTTED. CONTRACTOR SHALL REFER TO MANUFACTURES SPECIFICATIONS FOR PLACEMENT AND INSTALLATION INSTRUCTIONS.

REFERENCES:

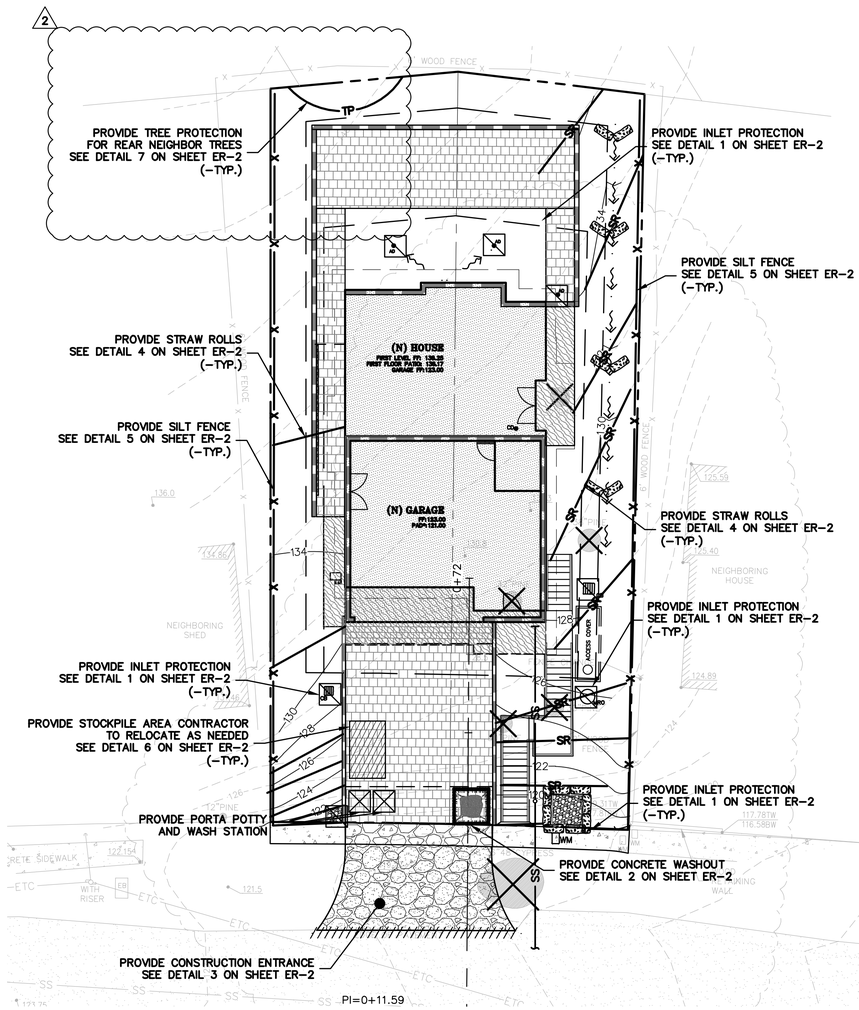
1. CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD'S FIELD MANUAL FOR EROSION AND SEDIMENTATION CONTROL
2. CALIFORNIA STORM WATER QUALITY ASSOCIATION BEST MANAGEMENT PRACTICES HANDBOOK FOR CONSTRUCTION

PERIODIC MAINTENANCE:

1. MAINTENANCE IS TO BE PERFORMED AS FOLLOWS:
   - A. DAMAGES CAUSED BY SOIL EROSION OR CONSTRUCTION SHALL BE REPAIRED AT THE END OF EACH WORKING DAY.
   - B. SWALES SHALL BE INSPECTED PERIODICALLY AND MAINTAINED AS NEEDED.
   - C. SEDIMENT TRAPS, BERMS, AND SWALES ARE TO BE INSPECTED AFTER EACH STORM AND REPAIRS MADE AS NEEDED.
   - D. SEDIMENT SHALL BE REMOVED AND SEDIMENT TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO A DEPTH OF 1' FOOT.
   - E. SEDIMENT REMOVED FROM TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
   - F. RILLS AND GULLIES MUST BE REPAIRED.
2. GRAVEL BAG INLET PROTECTION SHALL BE CLEANED OUT WHENEVER SEDIMENT DEPTH IS ONE HALF THE HEIGHT OF ONE GRAVEL BAG.
3. STRAW ROLLS SHALL BE PERIODICALLY CHECKED TO ASSURE PROPER FUNCTION AND CLEANED OUT WHENEVER THE SEDIMENT DEPTH REACHED HALF THE HEIGHT OF THE ROLL.
4. SILT FENCE SHALL BE PERIODICALLY CHECKED TO ASSURE PROPER FUNCTION AND CLEANED OUT WHENEVER THE SEDIMENT DEPTH REACHES ONE FOOT IN HEIGHT.
5. CONSTRUCTION ENTRANCE SHALL BE REGRAVELED AS NECESSARY FOLLOWING SILT/SOIL BUILDUP.
6. ANY OTHER EROSION CONTROL MEASURES SHOULD BE CHECKED AT REGULAR INTERVALS TO ASSURE PROPER FUNCTION

0 5 10 20

SCALE: 1" = 10'



EROSION CONTROL LEGEND

- GRAVEL BAG
- SEDIMENTATION BASIN
- INLET PROTECTION
- STRAW ROLL
- SILT FENCE
- CONCRETE WASHOUT
- CONSTRUCTION ENTRANCE
- TREE PROTECTION
- EROSION CONTROL BLANKET / MATTING

NOTE:
SEAL ALL OTHER INLETS NOT INTENDED TO ACCEPT STORM WATER AND DIRECT FLOWS TEMPORARILY TO FUNCTIONAL SEDIMENTATION BASIN INLETS. –TYP

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EROSION CONTROL PLAN

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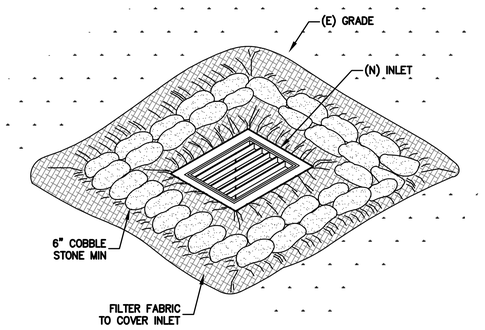
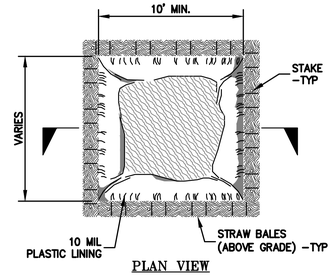
2	PLAN CHECK 12–20–21	MG
1	PLAN CHECK 06–03–21	MG
	REVISIONS	BY

JOB NO:	2191097
DATE:	07–15–20
SCALE:	AS NOTED
DESIGN BY:	MG
CHECKED BY:	CP
SHEET NO:	ER–1

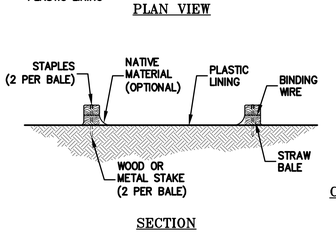
5 OF 6 SHEETS



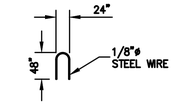
1 ER-2 **INLET PROTECTION**
NTS



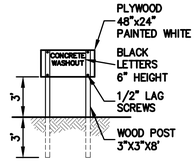
PLAN VIEW



SECTION



STAPLE DETAIL

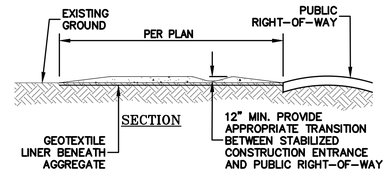


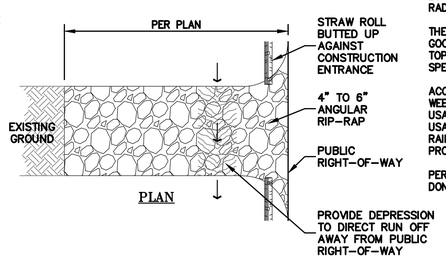
CONCRETE WASHOUT SIGN DETAIL

NOTES:
ACTUAL LAYOUT DETERMINED IN FIELD.

THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 10' OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

2 ER-2 **CONCRETE WASHOUT**
NTS





PLAN

NOTES:
STABILIZED CONSTRUCTION SITE ACCESS SHALL BE CONSTRUCTED OF 3" TO 4" WASHED, FRACTURED STONE AGGREGATE.

MATERIAL SHALL BE PLACED TO A MINIMUM THICKNESS OF 12". LENGTH OF ENTRANCE SHALL BE A MINIMUM OF 50'.

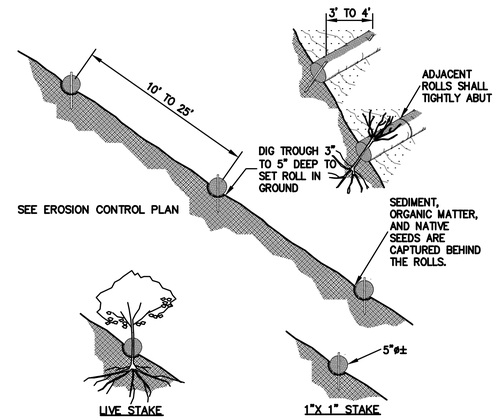
WIDTH SHALL BE A MIN. OF 15' OR GREATER IF NECESSARY TO COVER ALL VEHICULAR INGRESS AND EGRESS. PROVIDE AMPLE TURNING RADII.

THE ENTRANCE SHALL BE KEPT IN GOOD CONDITION BY OCCASIONAL TOP DRESSING WITH MATERIAL AS SPECIFIED IN ABOVE NOTE.

ACCESSES SHALL BE INSPECTED WEEKLY DURING PERIODS OF HEAVY USAGE, MONTHLY DURING NORMAL USAGE, AND AFTER EACH RAINFALL. WITH MAINTENANCE PROVIDED AS NECESSARY.

PERIODIC TOP DRESSING SHALL BE DONE AS NEEDED.

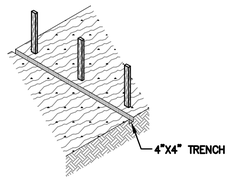
3 ER-2 **CONSTRUCTION ENTRANCE**
NTS



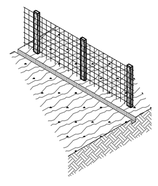
NOTE:
1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 3" TO 5" DEEP, DUG ON CONTOUR. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
2. CONTRACTOR IS RESPONSIBLE FOR REGULAR MAINTENANCE AND INSPECTION. THE SILT SHALL BE CLEANED OUT WHEN IT REACHES HALF THE HEIGHT OF THE ROLL.

4 ER-2 **STRAW ROLLS**
NTS

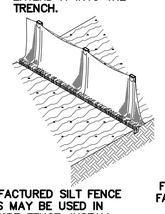
1. SET POSTS AND EXCAVATE A 4"X4" TRENCH UP SLOPE ALONG THE LINE OF POSTS.



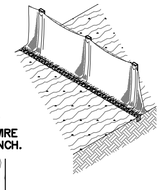
2. STAPLE WIRE FENCE TO THE POSTS.



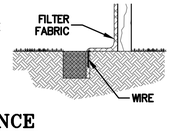
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCE AND EXTEND IT INTO THE TRENCH.



4. BACKFILL AND COMPACT THE EXCAVATED SOIL.



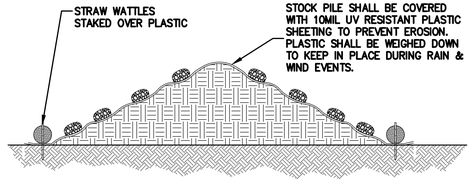
EXTENSION OF FABRIC AND WIRE INTO THE TRENCH.



NOTE:
PREMANUFACTURED SILT FENCE PRODUCTS MAY BE USED IN LIEU OF WIRE FENCE. INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND MAINTAIN KEYING OF FABRIC PER THIS DETAIL.

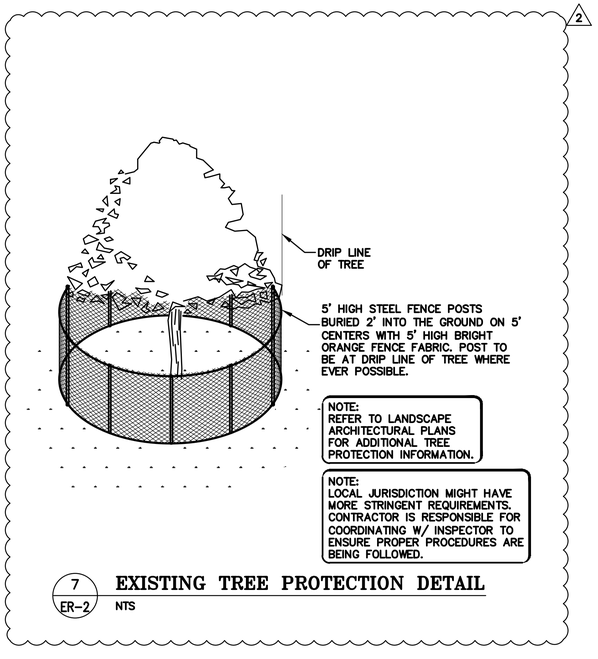
NOTE:
IT IS ESSENTIAL THAT THE WIRE/FABRIC BE FULLY EMBEDDED INTO THE GROUND SO RUN-OFF CANNOT FLOW FREELY UNDER FENCE.

5 ER-2 **SILT FENCE**
NTS



NOTE:
STOCKPILE TO BE WITHIN PROPERTY AND CLEAR OF TREE DRIPLINE AND ROOTS.

6 ER-2 **STOCK PILE COVERING**
NTS



7 ER-2 **EXISTING TREE PROTECTION DETAIL**
NTS

REGISTERED PROFESSIONAL ENGINEER
JAMES TOBY
No. 63127
CIVIL
STATE OF CALIFORNIA
ORIGINAL SIGNATURES IN BLUE INK

LEA & BRAZE ENGINEERING, INC.
CIVIL ENGINEERS • LAND SURVEYORS
MAIN OFFICE:
2495 INDUSTRIAL PKWY WEST
HAYWARD, CALIFORNIA 94545
(510) 887-4086
REGIONAL OFFICES:
ROSEVILLE
DUBLIN
SAN JOSE (COMING SOON)
WWW.LEABRAZE.COM

YOUNG RESIDENCE
535 PALMA STREET
EL GRANADA, CALIFORNIA
SAN MATEO COUNTY
APN: 047-215-340

EROSION CONTROL DETAILS

–		–
–		–
–		–
2	PLAN CHECK 12-20-21	MG
1	PLAN CHECK 06-03-21	MG
	REVISIONS	BY

JOB NO:	2191097
DATE:	07-15-20
SCALE:	AS NOTED
DESIGN BY:	MG
CHECKED BY:	CP
SHEET NO:	ER-2

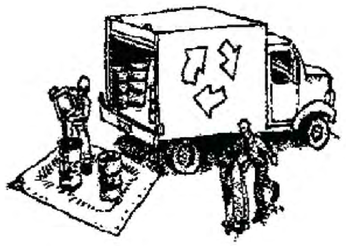
6 OF 6 SHEETS

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

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.

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 14 days.
- ❑ 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.

Waste Management

- ❑ 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 construction site.
- ❑ 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

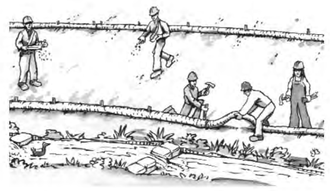
Maintenance and Parking

- ❑ 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.
- ❑ 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

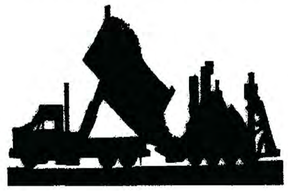


- ❑ Schedule grading and excavation work during dry weather.
- ❑ Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- ❑ Remove existing vegetation only when absolutely necessary, and seed 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.

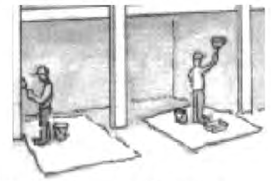
Concrete, Grout & Mortar Application

- ❑ 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.

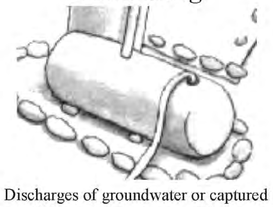
Painting & Paint Removal



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 state-certified 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.

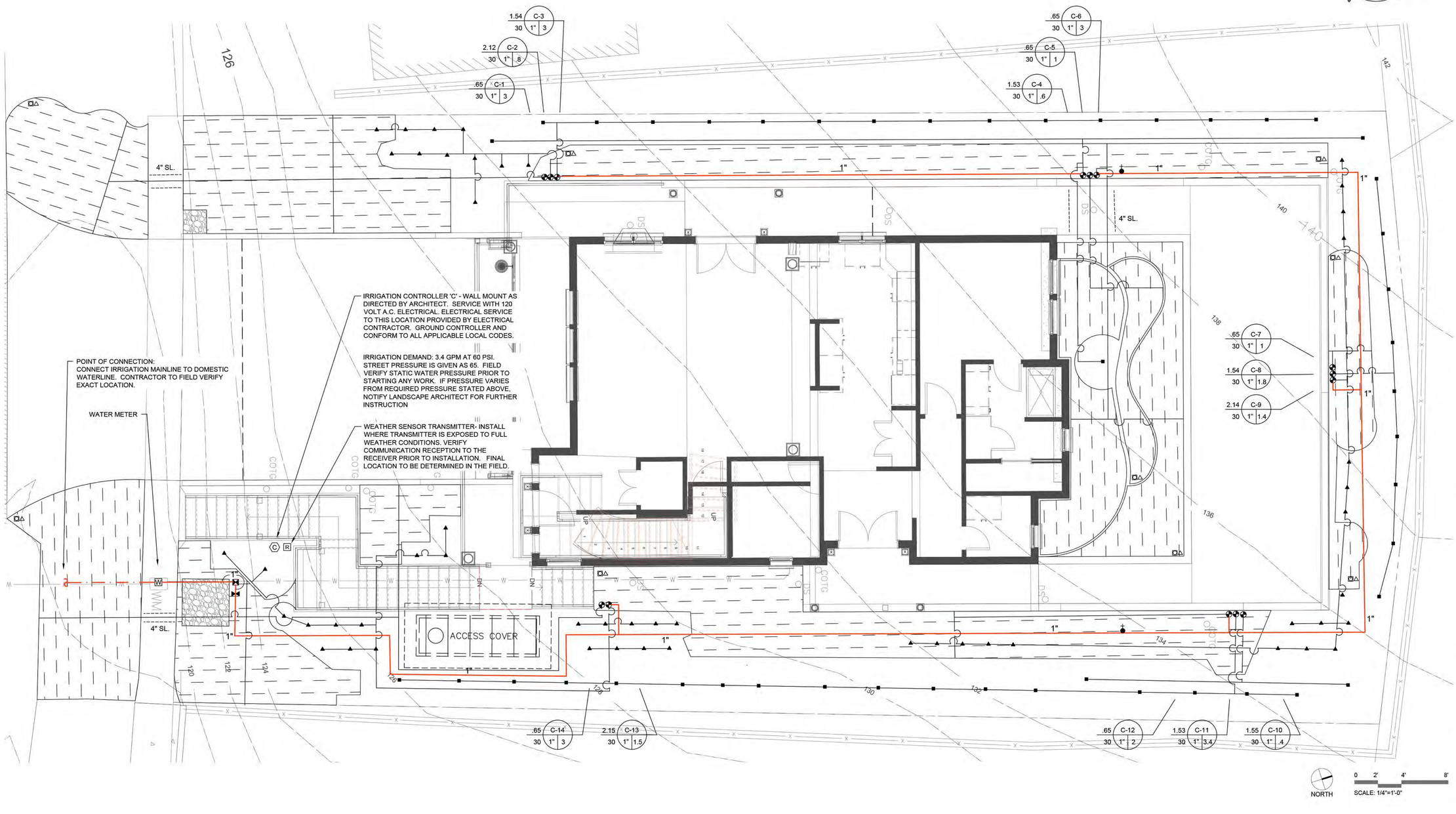
Storm drain polluters may be liable for fines of up to $10,000 per day!

The limit of professional liability for this project shall be limited to an amount equal to the fee paid or all work performed by Terra Ferma Landscapes, Inc.

BROOKWATER
IRRIGATION CONSULTANTS
480 ST. JOHN STREET, SUITE 220
PLEASANTON, CALIFORNIA 94566
TEL 925.855.0417 FAX 925.855.0357
E-MAIL JANET@BROOKWATER.COM

"I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDIANCE AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN."

JANET S. LUEHRS
Certified Irrigation Designer
CID
43274



TERRA FERMA LANDSCAPES
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Landscape Construction
Fine Gardening
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PERMIT SET

YOUNG RESIDENCE

535 PALMA STREET
EL GRANADA, CA 94019

APN: 047-215-340

LICENSED LANDSCAPE ARCHITECT
W. BRIANO CH No. LA 5516
Signature
06/30/22
Renewal Date
04/28/22
Date
STATE OF CALIFORNIA

REVISIONS:

#:	DATE:	ISSUED FOR:

DATE: 04/28/2021
DRAWN BY: JA
CHECKED BY: AN/VY
SCALE: N/A
PROJECT #: 2015

TITLE

IRRIGATION PLAN

SHEET NO.

L6.0

The limit of professional liability for this project shall be limited to an amount equal to the fee paid or all work performed by Terra Ferma Landscapes, Inc.

IRRIGATION NOTES

1. THE CONTRACTOR SHALL REVIEW RELATED DRAWINGS AND SHALL ENSURE COORDINATION WITH ALL APPLICABLE TRADES PRIOR TO SUBMITTING BID.

2. THE IRRIGATION SYSTEM SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE STATE AND LOCAL CODES AND ORDINANCES BY LICENSED CONTRACTORS AND EXPERIENCED WORKERS. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND FEES RELATING TO THEIR WORK.

3. THIS DESIGN IS DIAGRAMMATIC. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS IS FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE. AVOID ANY CONFLICTS BETWEEN THE SPRINKLER SYSTEM, PLANTING AND ARCHITECTURAL FEATURES. PARALLEL PIPES MAY BE INSTALLED IN COMMON TRENCH. PIPES ARE NOT TO BE INSTALLED DIRECTLY ABOVE ONE ANOTHER.

4. DO NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MIGHT NOT HAVE BEEN CONSIDERED IN THE ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHOULD BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.

5. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BECOME FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, RETAINING WALLS, ETC. COORDINATE WORK WITH THE GENERAL CONTRACTOR AND OTHER SUBCONTRACTORS FOR THE LOCATION AND THE INSTALLATION OF PIPE SLEEVES THROUGH WALLS, UNDER ROADWAYS, PAVING, STRUCTURES, ETC. CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES PRIOR TO THE EXCAVATION OF TRENCHES. CONTRACTOR IS TO REPAIR ANY DAMAGE CAUSED BY THEIR WORK AT NO ADDITIONAL COST TO THE OWNER.

6. DUE TO THE SCALE OF THE DRAWINGS, IT IS NOT POSSIBLE TO INDICATE ALL OFFSETS, FITTINGS, SLEEVES, ETC., WHICH MAY BE REQUIRED. CAREFULLY INVESTIGATE THE STRUCTURAL AND FINISHED CONDITIONS AFFECTING ALL WORK AND PLAN WORK ACCORDINGLY, FURNISHING SUCH FITTINGS, ETC., AS MAY BE REQUIRED TO MEET SUCH CONDITIONS. DRAWINGS ARE GENERALLY DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. THE WORK SHALL BE INSTALLED IN SUCH A MANNER AS TO AVOID CONFLICTS BETWEEN IRRIGATION SYSTEMS, PLANTING, AND ARCHITECTURAL FEATURES.

7. ELECTRICAL CONTRACTOR TO SUPPLY 120 VAC (2.5 AMP) SERVICE TO CONTROLLER LOCATION. IRRIGATION CONTRACTOR TO MAKE FINAL CONNECTION FROM ELECTRICAL STUB-OUT TO CONTROLLER. IRRIGATION CONTROL WIRE SHALL BE #14, U.L. APPROVED FOR DIRECT BURIAL. COMMON WIRE SHALL BE #12 U.L. APPROVED AND SHALL BE WHITE IN COLOR. WIRING TO INDIVIDUAL REMOTE CONTROL VALVES SHALL BE COLOR OTHER THAN WHITE.

8. EACH CONTROLLER SHALL HAVE ITS OWN INDEPENDENT GROUND WIRE.

9. REMOTE CONTROL VALVES SHALL BE WIRED TO CONTROLLER IN SEQUENCE AS SHOWN ON PLANS. RUN WIRE FROM EACH RCV TO THE CONTROLLER. SPLICING WIRES TOGETHER OUTSIDE OF VALVE BOXES WILL NOT BE PERMITTED.

10. SPLICING OF 24-VOLT WIRES WILL NOT BE PERMITTED EXCEPT IN VALVE BOXES. LEAVE A 36" COIL OF EXCESS WIRE AT EACH SPLICE AND 100 FEET ON CENTER ALONG WIRE RUN. TAPE WIRE IN BUNDLES 10 FEET ON CENTER. NO TAPING PERMITTED INSIDE SLEEVES.

11. WIRE CONNECTORS SHALL BE 3M-DBR/Y-6 DIRECT BURY UNLESS OTHERWISE NOTED.

12. INSTALL TWO (2) SPARE CONTROL WIRES ALONG THE ENTIRE MAIN LINE OR ONE (1) SPARE WIRE FOR EVERY TWO (2) VALVE BOX LOCATIONS. SPARE WIRES SHALL BE THE SAME COLOR (ONE WITH A WHITE STRIPE) AND OF A DIFFERENT COLOR THAN OTHER CONTROL WIRES. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES.

13. VALVE LOCATIONS SHOWN ARE DIAGRAMMATIC. INSTALL IN GROUND COVER/SHRUB AREAS WHERE POSSIBLE (NOT IN LAWN AREA.)

14. INSTALL VALVE BOXES MINIMUM 12" FROM AND PERPENDICULAR TO WALK, CURB, LAWN, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, EACH BOX SHALL BE AN EQUAL DISTANCE FROM THE WALK, CURB, LAWN, ETC. AND EACH BOX SHALL BE MINIMUM 12" APART. SHORT SIDE OF VALVE BOXES SHALL BE PARALLEL TO WALK, CURB, LAWN, ETC.

15. INSTALL 1/2 INCH GALVANIZED MESH GOPHER WIRE ABOVE PEA GRAVEL AND BELOW AND ENCIRCLING EACH VALVE BOX. LINE WITH FILTER FABRIC.

16. PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.

17. LOCATE HOSE BIBS A MINIMUM OF 12" FROM HARDSCAPE AREA.

18. FOR DRIP OR BUBBLER CIRCUITS, INSTALL KING BROS. CV SERIES CHECK VALVES IN LATERAL LINES FOR EVERY 10' OF ELEVATION CHANGE.

19. ALL MAIN LINES SHALL BE FLUSHED PRIOR TO THE INSTALLATION OF IRRIGATION HEADS, BUBBLERS AND DRIP TUBING. AT 30 DAYS AFTER INSTALLATION EACH SYSTEM SHALL BE FLUSHED TO ELIMINATE GLUE AND DIRT PARTICLES FROM THE LINES.

20. NOTIFY ARCHITECT OF ANY ASPECTS OF LAYOUT THAT WILL PROVIDE INCOMPLETE OR INSUFFICIENT WATER COVERAGE OF PLANT MATERIAL AND DO NOT PROCEED UNTIL HIS/HER INSTRUCTIONS ARE OBTAINED.

21. LOCATE BUBBLERS ON UPHILL SIDE OF TREES. TREE BUBBLERS ARE FOR ESTABLISHMENT AND DROUGHT CONDITIONS. THEY ARE TO BE TURNED OFF AFTER TREES ARE ESTABLISHED AND TURNED ON DURING DROUGHT CONDITIONS.

22. IN ADDITION TO THE SLEEVES AND CONDUITS SHOWN ON THE DRAWINGS, THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE INSTALLATION OF SLEEVES AND CONDUITS OF SUFFICIENT SIZE UNDER ALL PAVED AREAS.

23. ALL EXCAVATIONS ARE TO BE FILLED WITH COMPACTED BACKFILL. REPAIR ALL SETTLED TRENCHES PROMPTLY, FOR A PERIOD OF 1 YEAR AFTER COMPLETION OF WORK.

24. CONTRACTOR SHALL WARRANT THAT THE IRRIGATION SYSTEM WILL BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF 1 YEAR AFTER FINAL ACCEPTANCE OF WORK.

25. WHERE IT IS NECESSARY TO EXCAVATE ADJACENT TO EXISTING TREES, USE ALL POSSIBLE CARE TO AVOID INJURY TO TREES, AND TREE ROOTS. EXCAVATION IN AREAS WHERE 2 INCH AND LARGER ROOTS OCCUR SHALL BE DONE BY HAND. ROOTS 2 INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN A PLASTIC BAG AND SECURED WITH A RUBBER BAND. TRENCHES ADJACENT TO TREE SHOULD BE CLOSED WITHIN 24 HOURS; WHERE THIS IS NOT POSSIBLE, THE SIDE OF THE TRENCH ADJACENT TO THE TREE SHALL BE KEPT SHADED WITH BURLAP OR CANVAS.

26. THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM OPERATING PRESSURE SHOWN ON THE IRRIGATION DRAWINGS. VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION. REPORT ANY DIFFERENCE BETWEEN THE WATER PRESSURE INDICATED ON THE DRAWINGS AND THE ACTUAL PRESSURE READING AT THE IRRIGATION POINT OF CONNECTION TO THE OWNER'S AUTHORIZED REPRESENTATIVE.

27. IRRIGATION DEMAND: REFER TO IRRIGATION POINTS OF CONNECTION.

28. CONTRACTOR SHALL VERIFY REMOTE AND WEATHER SENSOR RECEPTION TO THE RECEIVER PRIOR TO INSTALLING THE CONTROLLER. IF SIGNAL IS TOO WEAK, EXTEND THE RECEIVER OUT TO A MAXIMUM OF 10' FROM THE CONTROLLER USING A 6 PIN PHONE CABLE WITH FEMALE ADAPTER. IF RECEPTION IS STILL TOO WEAK, CONTACT THE LANDSCAPE ARCHITECT FOR FURTHER INSTRUCTION.

29. OPERATE IRRIGATION CONTROLLER(S) BETWEEN THE HOURS OF 10:00 PM AND 7:00 AM.

30. NOTIFY ALL LOCAL JURISDICTIONS FOR INSPECTION AND TESTING OF INSTALLED BACKFLOW PREVENTION DEVICE.

31. NOTIFY UNDERGROUND SERVICE ALERT AT 811 AT LEAST 48 HOURS PRIOR TO ANY EXCAVATION.

32. A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.

33. A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE DESIGNER OF THE LANDSCAPE PLANS, IRRIGATION PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT.

34. AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION.

IRRIGATION LEGEND

SYMBOL	MODEL NUMBER	DESCRIPTION	PSI	FLOW RATE	MAX. RADIUS	MAX. SPACING
■	DB-09-PC-CV	TORO PRESSURE COMPENSATING DRIP BUBBLER INSTALL TWO BUBBLERS PER TREE	40	9 GPH		
▲	DB-04-PC-CV	TORO PRESSURE COMPENSATING DRIP BUBBLER INSTALL ONE BUBBLERS PER SHRUB	40	4 GPH		
△	TLSOV	NETAFIM MANUAL FLUSH VALVE				
	OPERIND	RAIN BIRD OPERATION INDICATOR				
	ICZ-101-40 / LT-1000-T	HUNTER DRIP ZONE VALVE KIT - INCL. REMOTE CONTROL VALVE, WYE FILTER WITH 150 MESH SCREEN, AND PRESET PRESSURE REGULATOR / KBI PVC BALL VALVE				
	261	ARROWHEAD-CHAMPION HOSE BIB WITH INTEGRAL VACUUM BREAKER				
	T-585-70-66	NIBCO BALL VALVE (LINE SIZE)				
	975XL2-1"	WILKINS LEAD-FREE REDUCED PRESSURE BACKFLOW PREVENTER				
R	WSS-SEN	HUNTER SOLAR SYNC WIRELESS WEATHER SENSOR				
C	IC-1800-M ROAM-KIT	HUNTER I-CORE MODULAR CONTROLLER (18 STATIONS) - WALL MOUNT HUNTER MAINTENANCE REMOTE				
C-1 / 1.6 / 1" / 15 / 30		CONTROLLER AND STATION NUMBER APPLICATION RATE (INCHES) OPERATING PRESSURE (PSI) OR AIR RELIEF VALVE QUANTITY APPROXIMATE GALLONS PER MINUTE REMOTE CONTROL VALVE SIZE				
		MAIN LINE: 1120-SCHEDULE 40 PVC PLASTIC PIPE. USE SCHEDULE 80 AND SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 18" COVER				
		LATERAL LINE: 1120-CLASS 200 PSI PVC SOLVENT WELD PIPE WITH SCHEDULE 40 PVC SOLVENT WELD FITTINGS. 12" COVER.				
		SUB-SURFACE DRIPLINE: NETAFIM TLHCVXR5-12 TECHLINE. USE ONLY NETAFIM TECHLOCK FITTINGS. 2" COVER. (18" EMITTER SPACING; 18" ROW SPACING; .6 GPH PER EMITTER)				
		SLEEVE (SL): 1120-CLASS 200 PVC PLASTIC PIPE. 24" COVER.				

DRIPLINE NOTES:

1. PLANS ARE DIAGRAMMATIC. INSTALL DRIPLINE AND COMPONENTS PER MANUFACTURERS INSTRUCTIONS AND INSTALLATION DETAILS.

2. INSTALL DRIPLINE A MAXIMUM OF 18" APART WITH EMITTERS TRIANGULARLY SPACED. INSTALL 2" FROM PERIMETER OF PLANTED AREA. THERE SHOULD BE A MINIMUM OF TWO DRIPLINE LATERALS IN EACH PLANTED AREA. DRIPLINE SHALL BE INSTALLED AT A CONSISTANT DEPTH THROUGHOUT THE CIRCUIT.

3. PLACE AIR/VACUUM RELIEF VALVES AT THE HIGHEST POINTS OF EACH ZONE AND JUST BELOW CHECK VALVES ON SLOPES. INSTALL ONE AIR/VACUUM RELIEF VALVE FOR EVERY 750' OF TOTAL DRIPLINE PER ZONE.

4. PLACE FLUSH VALVES AT THE HYDRAULIC CENTER OF THE EXHAUST HEADER OR AT LOW POINT ON SLOPES. INSTALL MINIMUM OF ONE FOR EVERY 15 GPM.

5. INSTALL IN-LINE CHECK VALVES ON SLOPES GREATER THAN 3% AND WHERE LOW-LINE DRAINAGE COULD CAUSE WET AREAS IN THE LOWEST AREAS OF AN IRRIGATION ZONE. CHECK VALVES SHALL BE PLACED EVERY 4-5 FEET BETWEEN DRIPLINE LATERALS AND BEFORE THE FLUSH VALVE.

6. ON ALL SLOPES AND MOUNDS, PLACE THE DRIPLINE LATERALS PARALLEL TO THE SLOPE CONTOUR WHERE POSSIBLE. INCREASE THE LATERAL SPACING BY 25% ON THE LOWER ONE-THIRD OF THE SLOPE TO AVOID EXCESS DRAINAGE.

7. PVC SUPPLY AND FLUSH LINE SIZING GUIDE (ALL SUPPLY AND FLUSH LINES SHALL BE THE SAME SIZE FOR THE ENTIRE ZONE):
   - 0-8 GPM - 3/4"
   - 8.1-15 GPM - 1"
   - 15.1-25 GPM - 1 1/4"

8. FITTINGS SHALL BE OF THE SAME MANUFACTURER AS DRIPLINE..

9. THOROUGHLY FLUSH EACH INSTALLATION SEGMENT TO ENSURE NO DEBRIS CONTAMINATION OCCURS.

10. RUN THE DRIPLINE SYSTEM EVERY DAY OR EVERY OTHER DAY TO ESTABLISH PLANT MATERIAL. MAINTAIN A CONSISTENT MOISTURE BALANCE IN THE SOIL. IT IS IMPORTANT TO KEEP THE SOIL MOIST WITHOUT SATURATION.

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TEL 925.855.0417 FAX 925.855.0357
E-MAIL JANET@BROOKWATER.COM

"I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDIANCE AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN."

JANET S. LUEHRS
Certified Irrigation Designer
CID
43274

TERRA FERMA LANDSCAPES
Landscape Architecture
Landscape Construction
Fine Gardening

139 Mitchell Avenue, Suite 220
So. San Francisco, CA 94080
p: 650.952.5659
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e: info@tflandscapes.com

PERMIT SET

YOUNG RESIDENCE
535 PALMA STREET
EL GRANADA, CA 94019
APN: 047-215-340

LICENSED LANDSCAPE ARCHITECT
W. BRIAN KOCH No. LA 5216
Signature
06/30/22
Renewal Date
04/28/22
Date
STATE OF CALIFORNIA

REVISIONS:

#:	DATE:	ISSUED FOR:

DATE: 04/28/2021
DRAWN BY: JA
CHECKED BY: AN/VY
SCALE: N/A
PROJECT #: 2015

TITLE: IRRIGATION NOTES & LEGEND

SHEET NO.

L6.1

The limit of professional liability for this project shall be limited to an amount equal to the fee paid or all work performed by Terra Ferma Landscapes, Inc.

BROOKWATER
IRRIGATION CONSULTANTS
480 ST. JOHN STREET, SUITE 220
PLEASANTON, CALIFORNIA 94566
TEL 925.855.0417 FAX 925.855.0357
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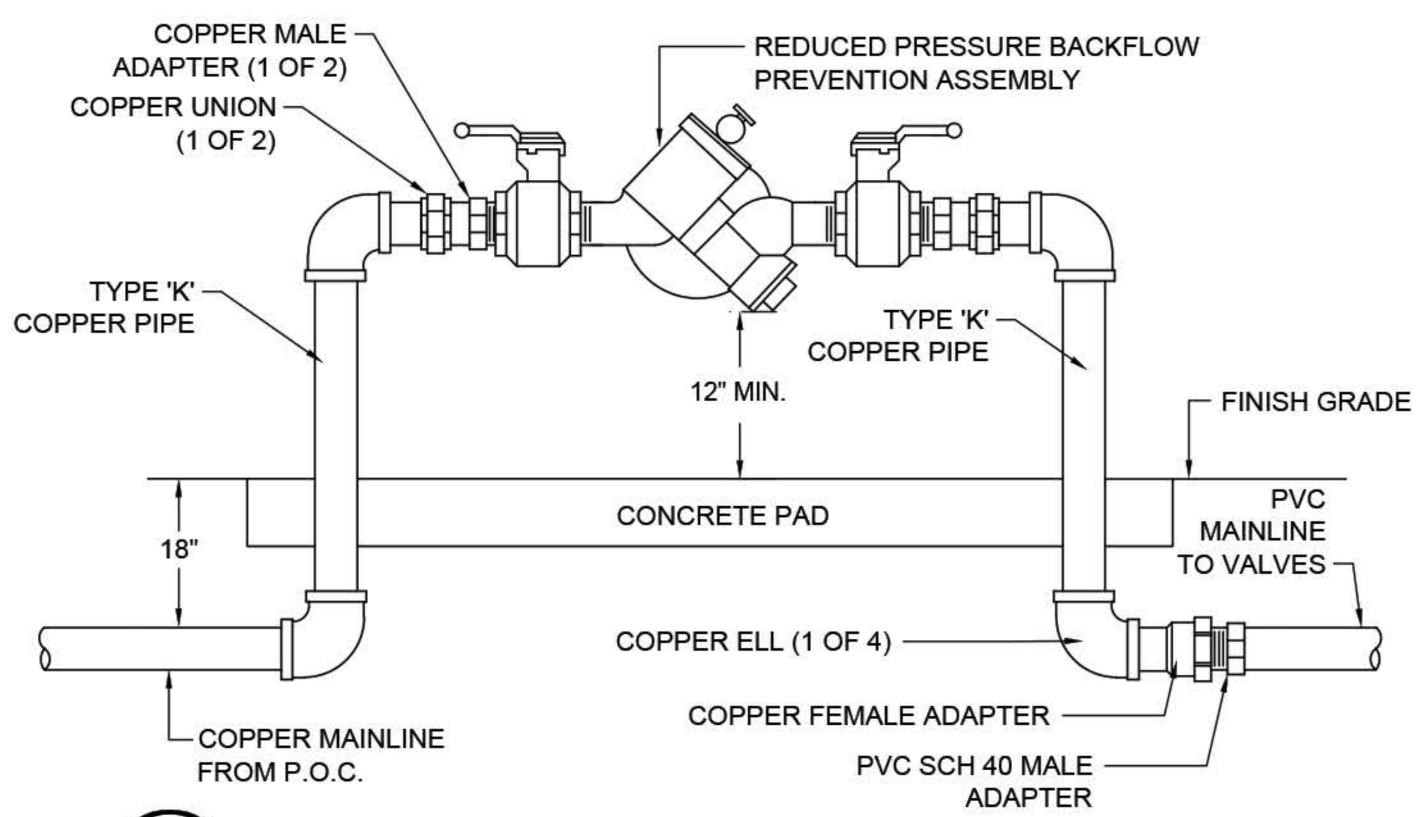
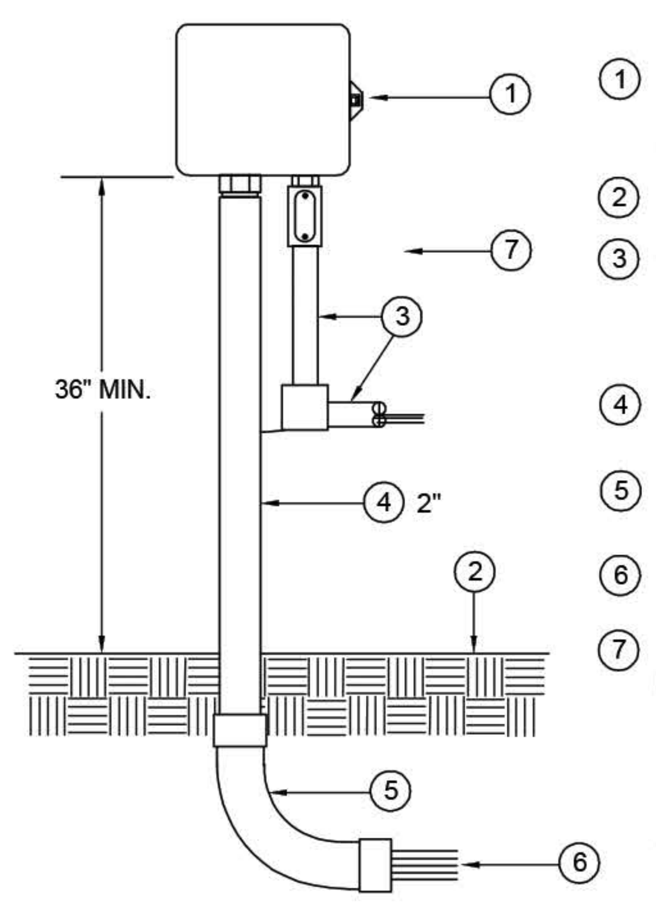
NOTE: EVENLY COAT METAL FITTINGS EXPOSED TO SOIL AND CONCRETE WITH 3M SCOTCHRAP PIPE PRIMER AND THEN WRAP WITH 3M SCOTCHRAP NO. 51 BLACK TAPE (3/4" OVERLAP). USE DIELECTRIC FITTINGS WHERE DISSIMILAR METALS COME INTO CONTACT.



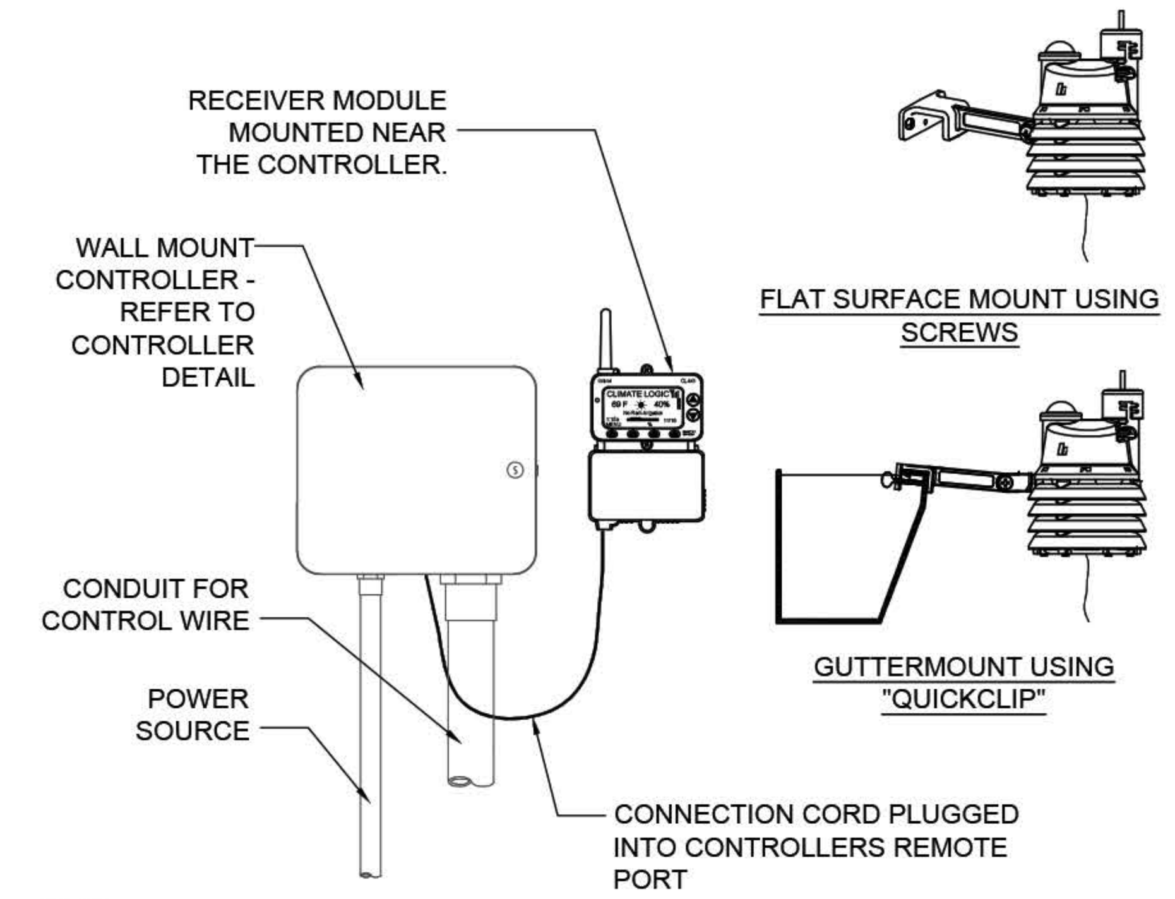
1 REDUCED PRESSURE BACKFLOW ASSEMBLY
NOT TO SCALE



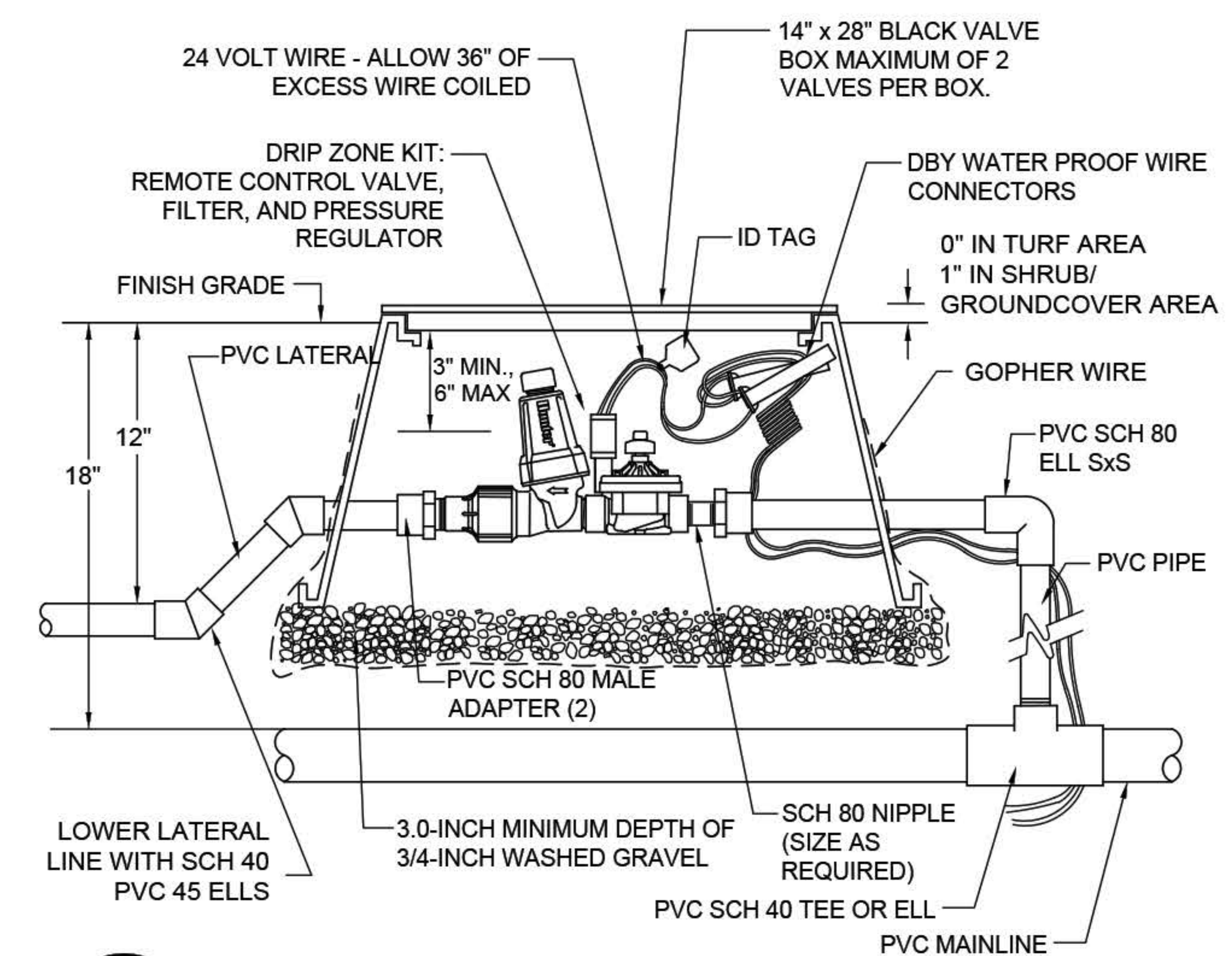
1. WALL MOUNT AUTOMATIC SPRINKLER CONTROLLER (EXTERIOR WALL MOUNT)
2. FINISH GRADE
3. 1/2" UL APPROVED ELECTRICAL CONDUIT, RING NUT AND JUNCTION BOX FOR 120V AC ELECTRICAL POWER
4. PVC SCHEDULE 40 CONTROL WIRE CONDUIT -
5. PVC SWEEP ELL (DEPTH AS REQUIRED)
6. CONTROL WIRES TO ELECTRIC VALVES
7. EXTERIOR SURFACE FOR MOUNTING OF SPRINKLER CONTROLLER

NOTE: ALL ELECTRICAL WORK MUST CONFORM TO LOCAL CODES. REFER TO PRODUCT LITERATURE FOR ADDITIONAL INSTALLATION REQUIREMENTS.

2 RESIDENTIAL CONTROLLER - OUTDOOR
NOT TO SCALE



3 IRRITROL CLIMATE LOGIC WEATHER SENSOR
NOT TO SCALE



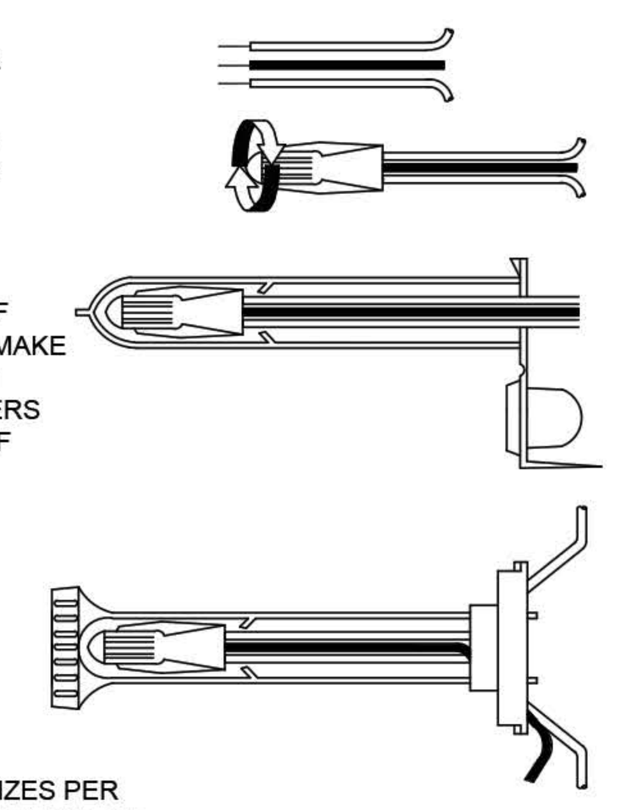
4 HUNTER DRIP ZONE KIT
NOT TO SCALE

STEP 1: STRIP WIRES 1/2" FROM ENDS.

STEP 2: APPLY SCOTCHLOK Y SPRING CONNECTOR IN A CLOCKWISE DIRECTION.

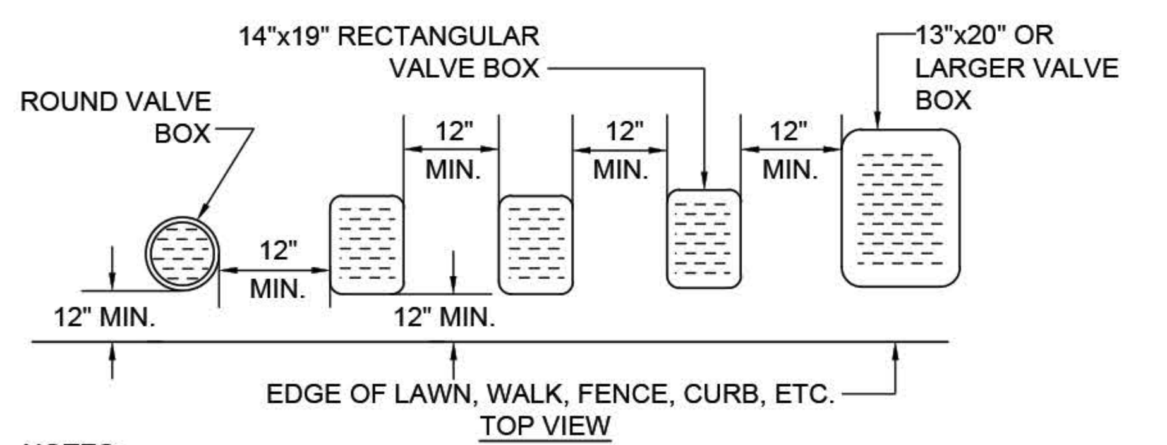
STEP 3: INSERT SPLICE TO BOTTOM OF GEL-FILLED TUBE. CHECK TO MAKE SURE CONNECTOR HAS BEEN PUSHED PAST LOCKING FINGERS AND IS SEATED AT BOTTOM OF TUBE.

STEP 4: POSITION WIRES IN WIRE CHANNELS AND CLOSE INSULATOR TUBE COVER.



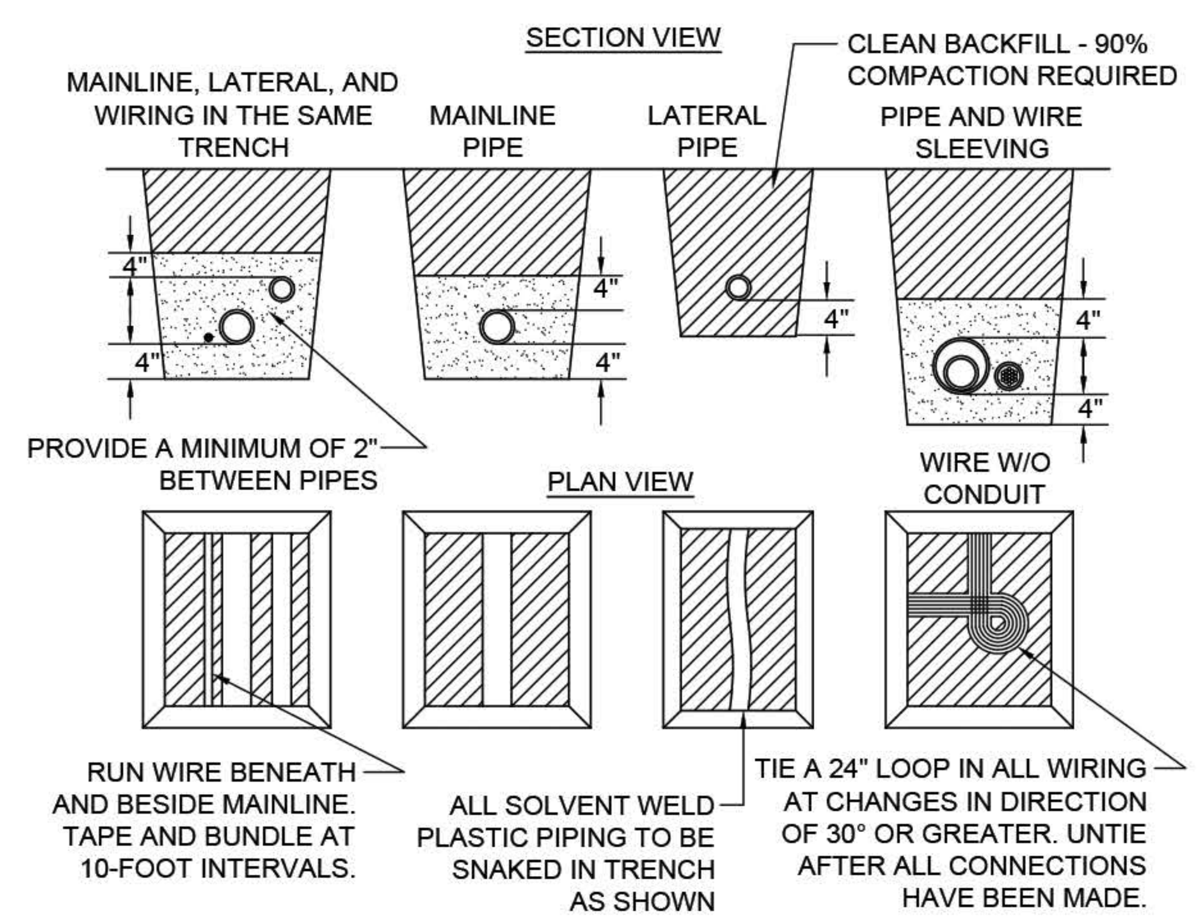
NOTE: MAXIMUM WIRE SIZES PER CONNECTOR ARE THREE # 14'S OR TWO #12'S.

5 WIRE CONNECTION DETAIL
NOT TO SCALE



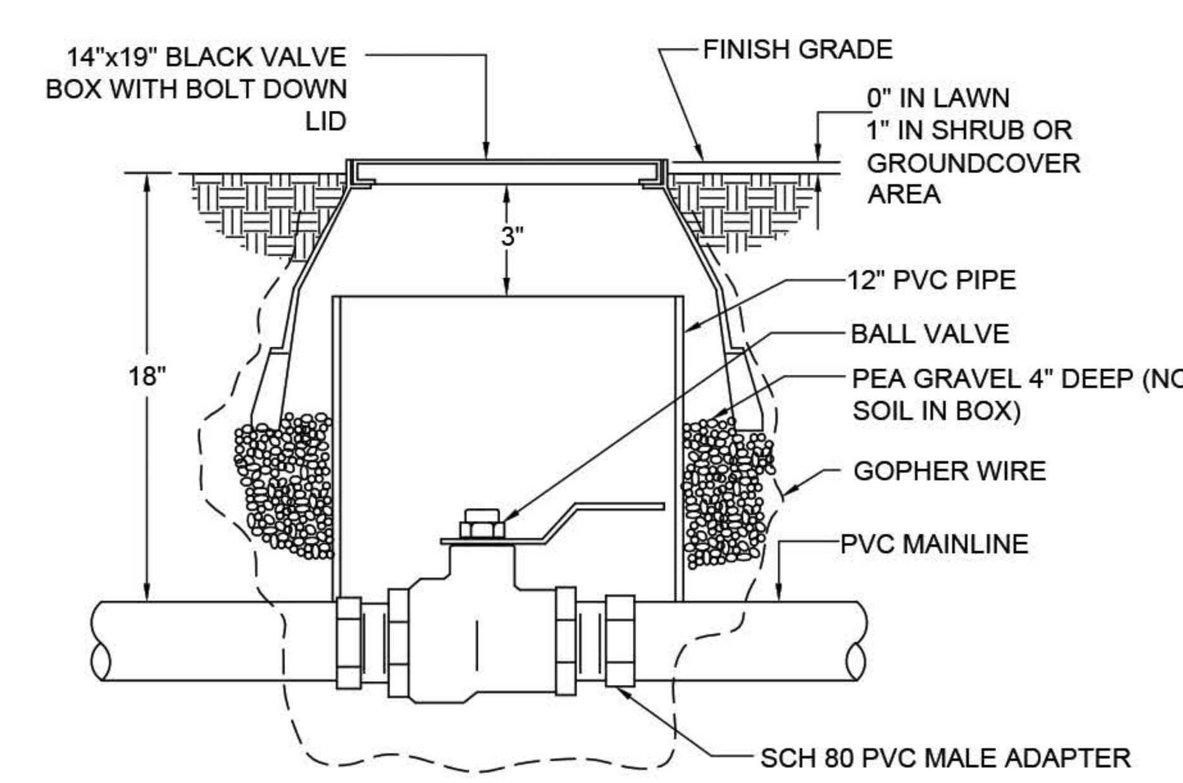
NOTES:
1. CENTER BOX OVER VALVE TO FACILITATE SERVICING VALVE.
2. SET BOXES 1" ABOVE FINISH GRADE OR MULCH COVER IN GROUND COVER/SHRUB AREA AND FLUSH WITH FINISH GRADE IN TURF AREA.
3. SET VALVE BOX ASSEMBLY IN GROUND COVER/SHRUB AREA WHERE POSSIBLE. INSTALL IN LAWN AREA ONLY IF GROUND COVER/SHRUB AREA DOES NOT EXIST ADJACENT TO LAWN.
4. SET BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.
5. AVOID HEAVILY COMPACTING SOIL AROUND VALVE BOX EDGES TO PREVENT COLLAPSE AND DEFORMATION OF VALVE BOX SIDES.
6. VALVE BOXES SHALL HAVE BOLT DOWN LIDS WITH BOLTS INSTALLED.
7. VALVE BOXES SHALL BE BY CARSON, APPLIED ENGINEERING, OR EQUAL.
8. BOXES AND LIDS SHALL BE BLACK IN COLOR.

6 VALVE BOX INSTALLATION DETAIL
NOT TO SCALE

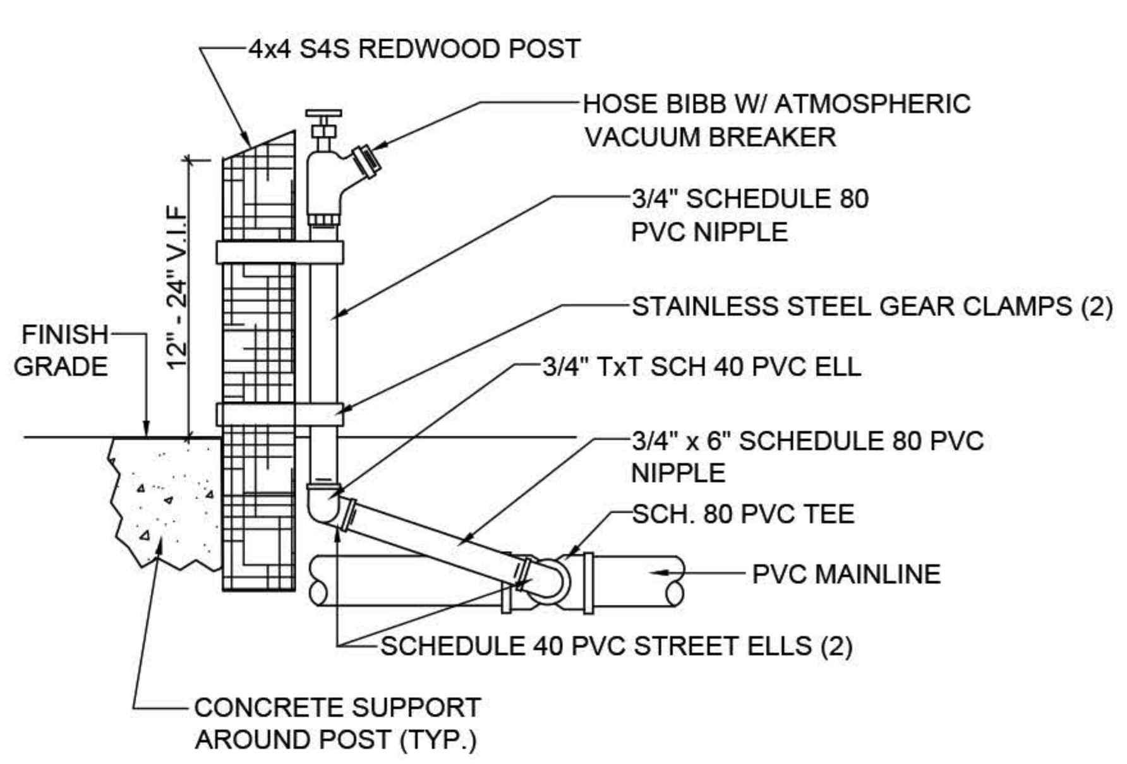


NOTES:
1. SLEEVE BELOW ALL HARDSCAPE ELEMENTS WITH SPECIFIED PVC PIPE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE WITHIN.
2. FOR PIPE AND WIRE BURIAL DEPTHS REFER TO IRRIGATION LEGEND AND SPECIFICATIONS.

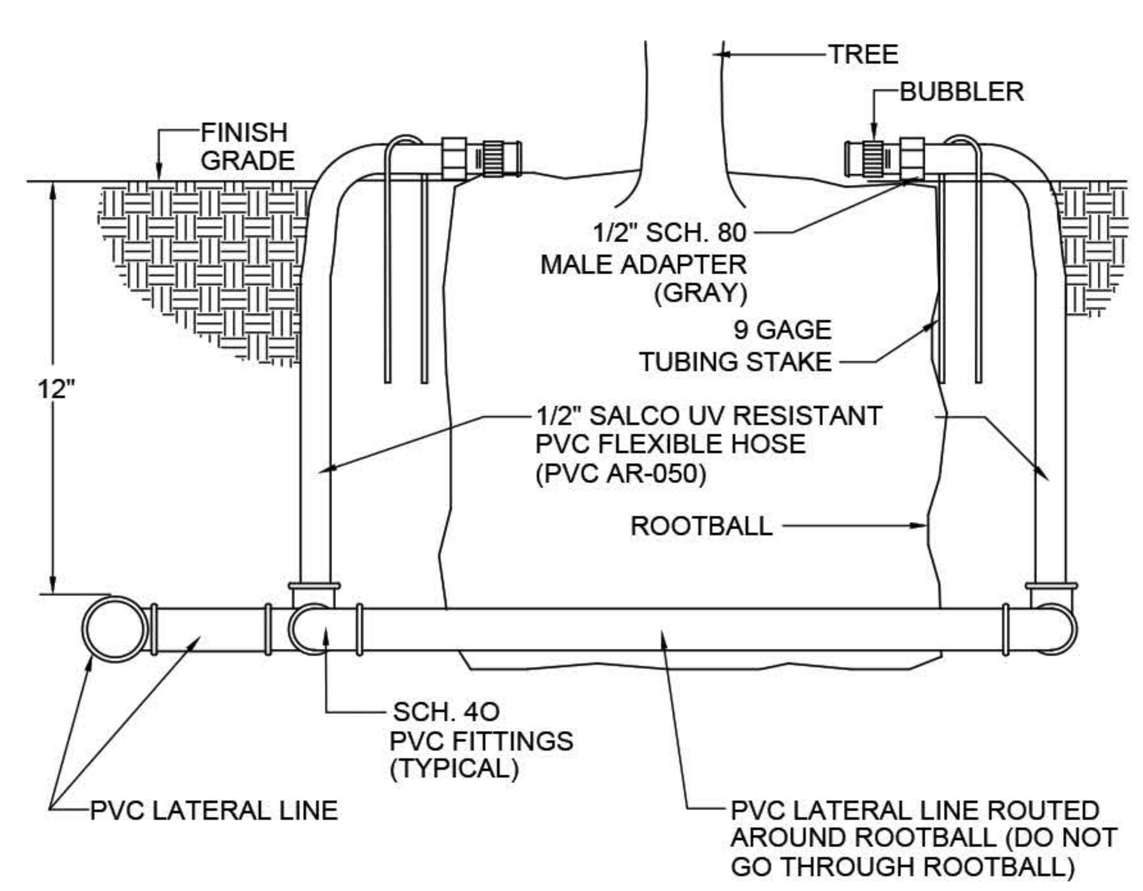
7 PIPE AND WIRE TRENCHING
NOT TO SCALE



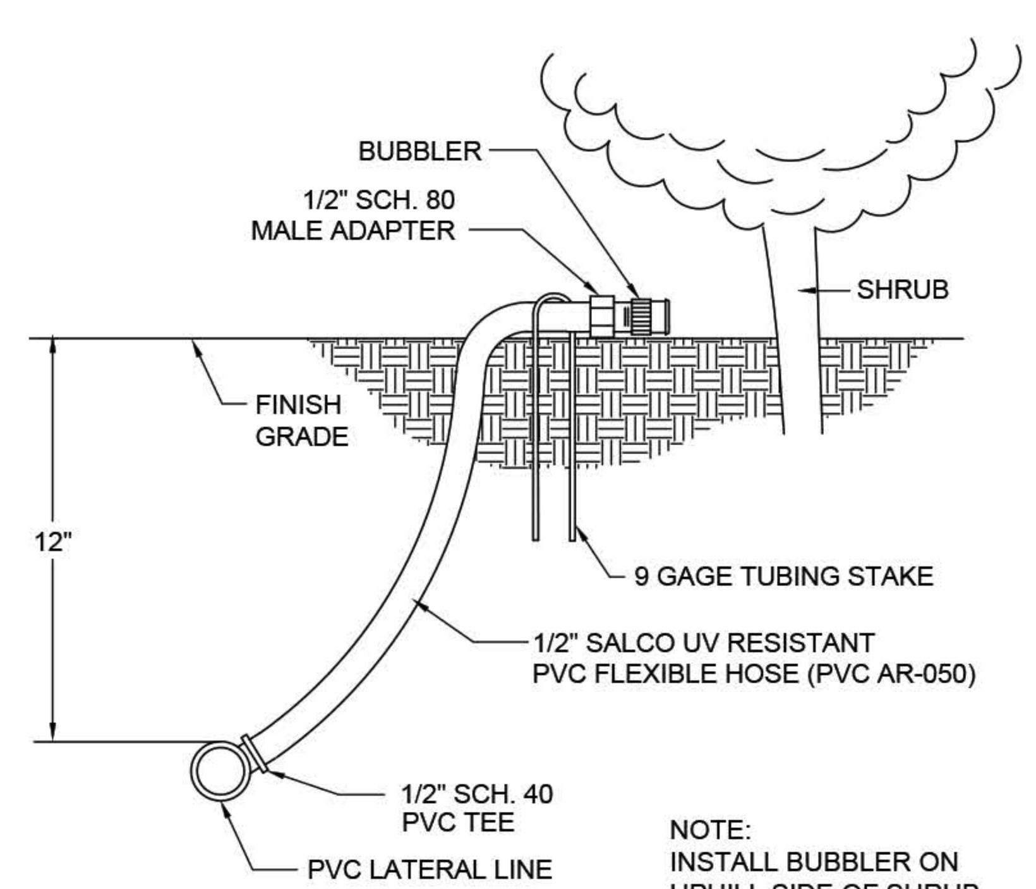
8 BALL VALVE DETAIL
NOT TO SCALE



9 HOSE BIBB DETAIL
NOT TO SCALE



10 TREE BUBBLER DETAIL
NOT TO SCALE



NOTE: INSTALL BUBBLER ON UPHILL SIDE OF SHRUB

11 SHRUB BUBBLER ON FLEX HOSE DETAIL
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DATE:	04/28/2021
DRAWN BY:	JA
CHECKED BY:	AN/VY
SCALE:	N/A
PROJECT #:	2015

TITLE
IRRIGATION DETAIL

SHEET NO.
L6.2

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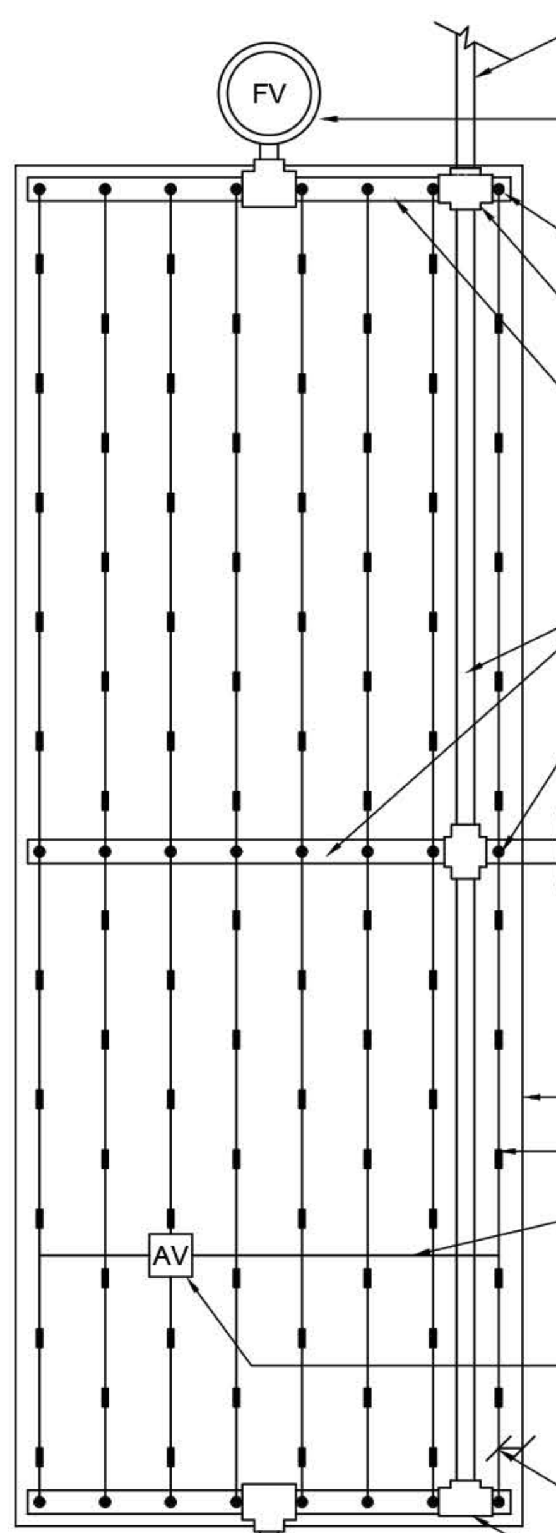
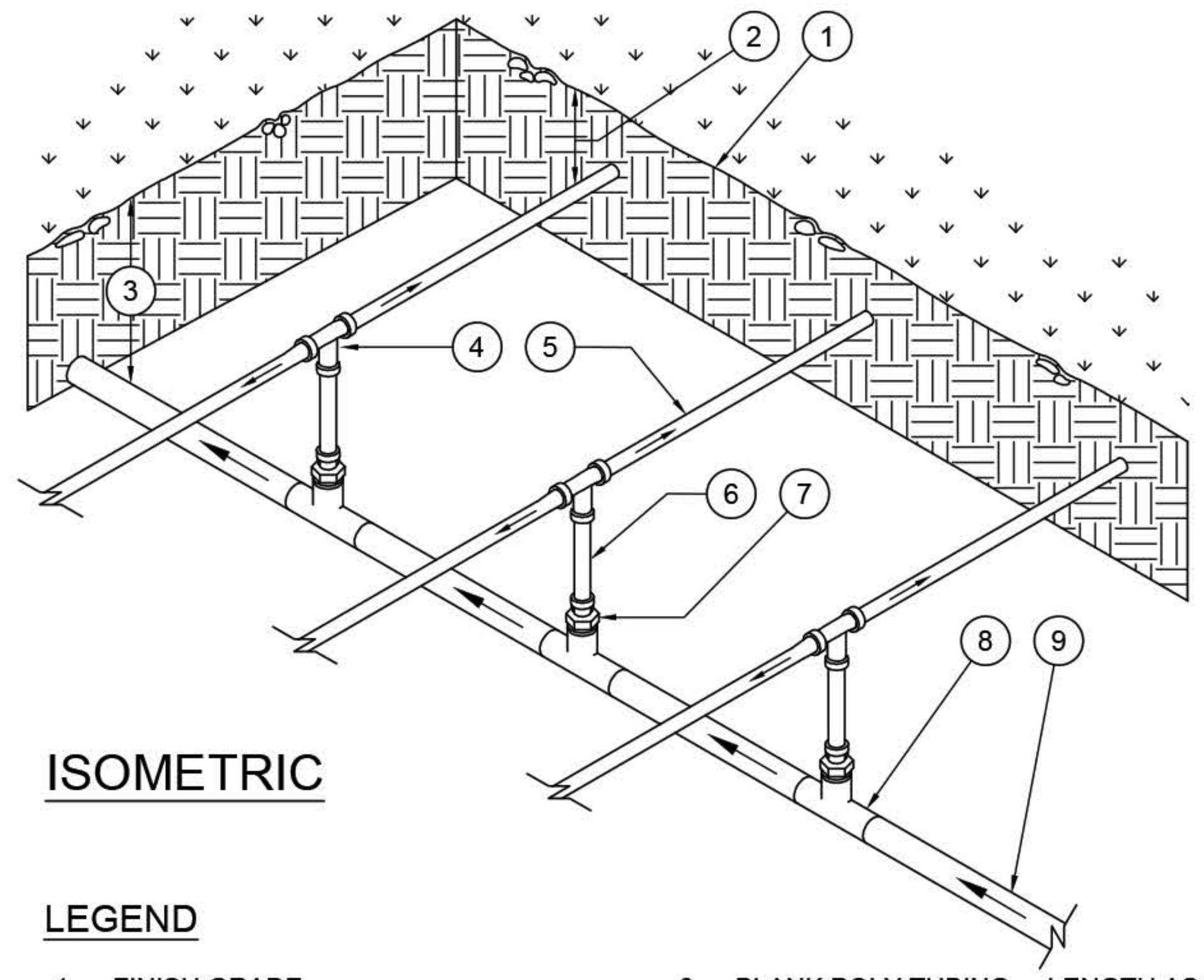


12 CENTER FEED INLINE DRIP LAYOUT

NOT TO SCALE



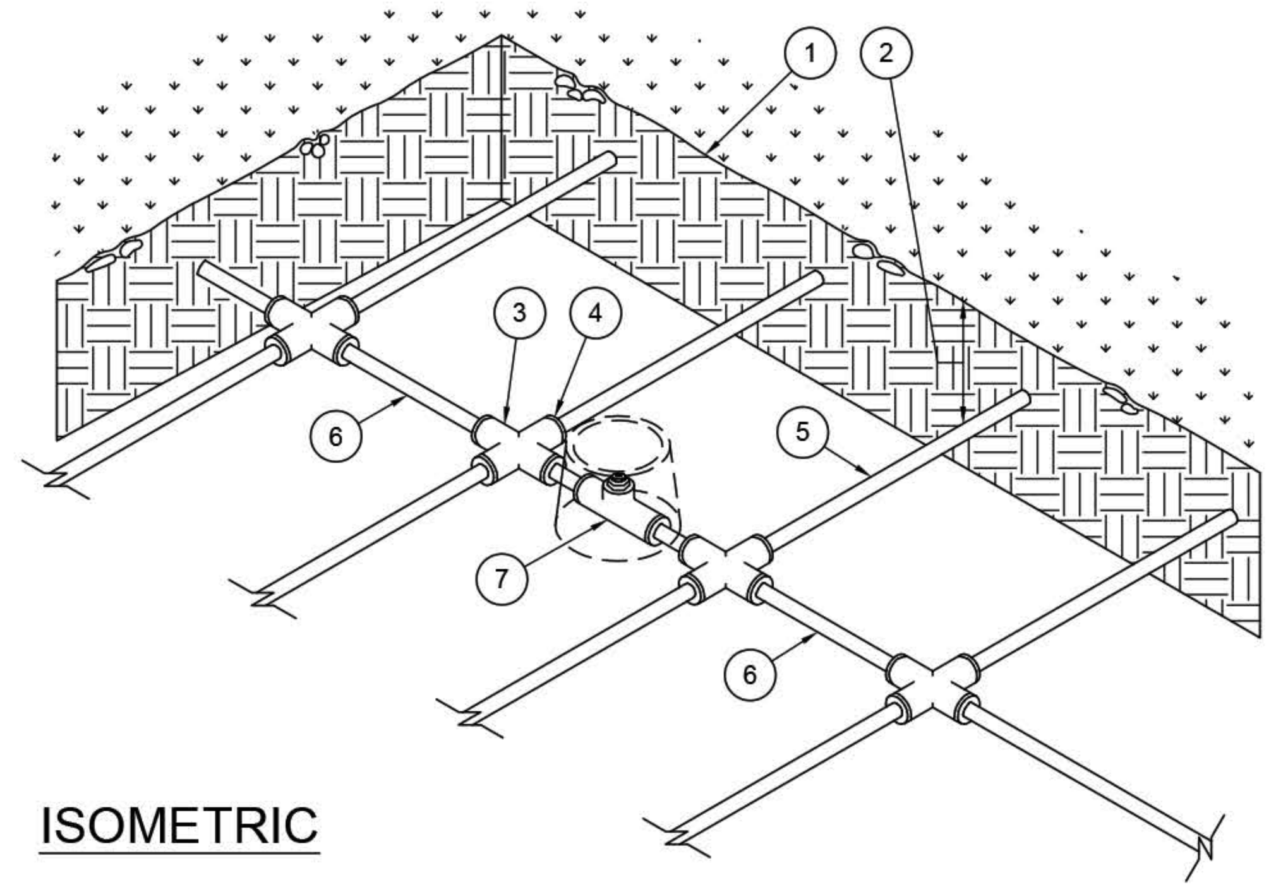
ISOMETRIC

LEGEND

1. FINISH GRADE.
2. DEPTH OF TUBING PER SPECIFICATIONS
3. DEPTH OF PVC SUPPLY MANIFOLD PER SPECIFICATIONS.
4. DRIPLINE TEE FITTING.
5. DRIPLINE LATERAL.
6. BLANK POLY TUBING, LENGTH AS NECESSARY.
7. DRIPLINE MPT ADAPTER.
8. PVC TEE (SxSxT) WITH 1/2" FPT OUTLET.
9. PVC SUPPLY MANIFOLD FROM REMOTE CONTROL VALVE ASSEMBLY.

13 CENTER FEED MANIFOLD

NOT TO SCALE



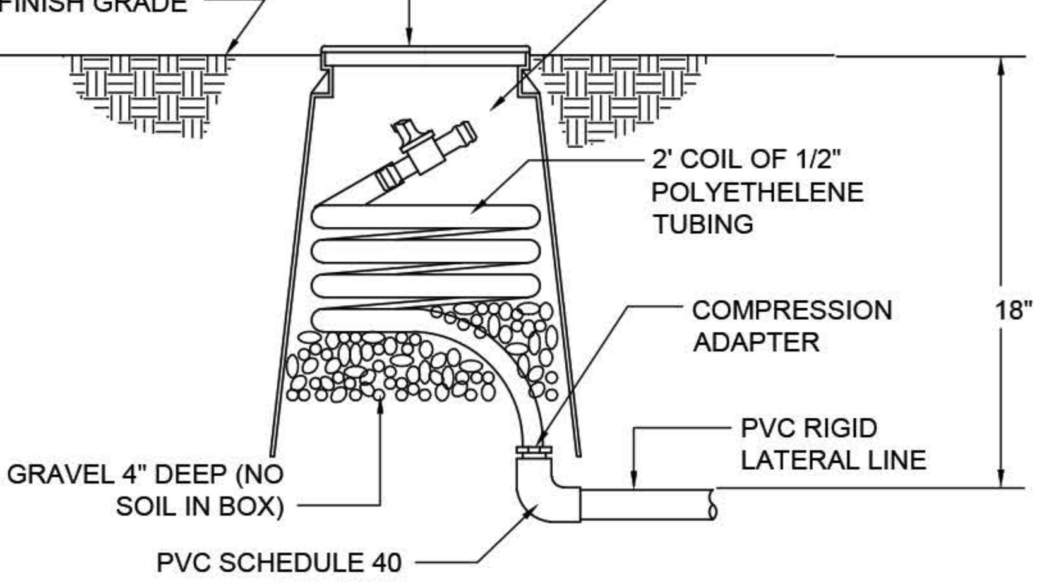
ISOMETRIC

LEGEND

1. FINISH GRADE.
2. DEPTH OF TUBING PER SPECIFICATIONS
3. PVC CROSS (SxSxSxS)
4. COMPRESSION ADAPER.
5. DRIPLINE LATERAL.
6. AIR/VACUUM RELIEF LATERAL, BLANK POLY TUBING CENTERED ON MOUND OR BERM
7. AIR/VACUUM RELIEF VALVE AT HIGH POINT. REFER TO AIR/VACUUM RELIEF VALVE DETAIL.

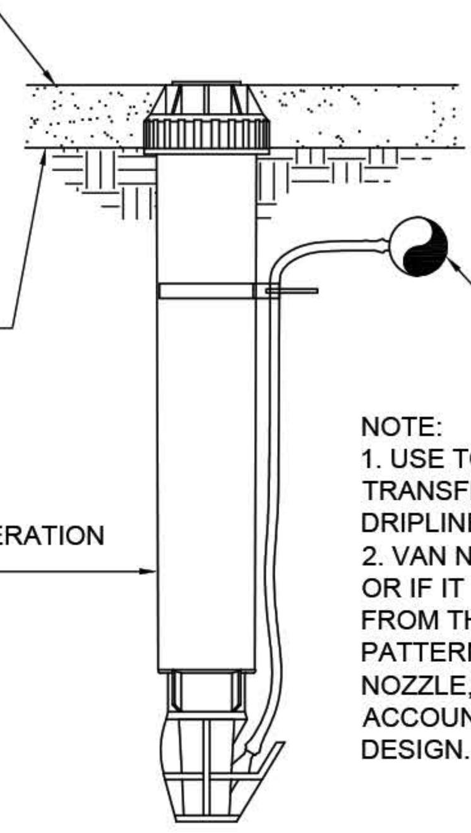
14 AIR/VACUUM RELIEF LATERAL

NOT TO SCALE



15 SHUT OFF FLUSH VALVE DETAIL

NOT TO SCALE



NOTE:
1. USE TOOL TO INSERT BARB TRANSFER FITTING DIRECTLY INTO DRIPLINE TUBING.
2. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO 1/4 PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

16 RAIN BIRD OPERIND OPERATION INDICATOR

NOT TO SCALE

CITY OF
HALF MOON BAY
LANDSCAPE WATER USE STATEMENT

PROJECT NAME: YOUNG RESIDENCE
PROJECT ADDRESS: 535 PALMA STREET

PREPARED BY: JANET LUEHRS (CID, CLIA #43274)
BROOKWATER INC., IRRIGATION CONSULTANTS
480 SAINT JOHN STREET, SUITE 220
PLEASANTON, CA 94566
925-855-0417
925-855-0357 (FAX)
Janet@Brookwater.com (e-mail)

"I have complied with the criteria of the Water Efficient Landscape Ordinance and applied them accordingly for the efficient use of water in the irrigation design plan."

Signed: Janet Luehrs

PART ONE — MAXIMUM APPLIED WATER ALLOWANCE (MAWA)

MAWA = ETo x .62 x [(ETAFx HA) + ((1-ETAF) x SLA)]

YEARLY ETo	33.7
CONVERSION FACTOR	0.62
ETAF	0.55
TOTAL IRRIGATED LANDSCAPE AREA (HA)	2,196 SQUARE FEET
SPECIAL LANDSCAPE AREA (SLA)	0 SQUARE FEET
LANDSCAPE WATER ALLOWANCE	**25,236 GALLONS PER YEAR**
TOTAL ACRE FEET	0.08 ACRE FEET

PART TWO — ESTIMATED TOTAL WATER USE (ETWU)

(AVERAGE *ETAF* AND *ETWU* FROM WATER EFFICIENT LANDSCAPE WORKSHEET)

AVERAGE ETAF FOR REGULAR LANDSCAPE AREAS (TOTAL ETAF x AREA / TOTAL AREA)	0.39
ETWU FOR REGULAR LANDSCAPE AREAS	**18,041 GALLONS PER YEAR**
SITE WIDE ETAF	0.39
ETWU FOR ALL LANDSCAPE AREAS	**18,041 GALLONS PER YEAR**
TOTAL ACRE FEET	0.06 ACRE FEET

YOUNG RESIDENCE
WATER EFFICIENT LANDSCAPE WORKSHEET

Reference Evapotranspiration (Eto) 33.7

ZONE NO.	PLANT TYPE	HYDROZONE* (PLANT WATER USE)	PLANT FACTOR (PF)	IRRIGATION METHOD**	IRRIGATION EFFICIENCY (IE)	ETAF (PF/IE)	HYDROZONE AREA (HA) (Sq Ft)	ETAF x HA	ESTIMATED TOTAL WATER USE (ETWU)	% LANDSCAPE AREA
REGULAR LANDSCAPE AREA										
C-1	SHRUB	LW	0.30	DL	0.81	0.37	319	118	2,469	14.5%
C-2	SHRUB	MW	0.50	B	0.81	0.62	35	22	451	1.6%
C-3	TREE	LW	0.30	B	0.81	0.37	188	70	1,455	8.6%
C-4	TREE	MW	0.50	B	0.81	0.62	38	23	490	1.7%
C-5	SHRUB	MW	0.50	DL	0.81	0.62	39	24	503	1.8%
C-6	SHRUB	LW	0.30	DL	0.81	0.37	415	154	3,211	18.9%
C-7	SHRUB	LW	0.30	DL	0.81	0.37	81	30	627	3.7%
C-8	TREE	LW	0.30	B	0.81	0.37	113	42	874	5.1%
C-9	SHRUB	LW	0.30	B	0.81	0.37	60	22	464	2.7%
C-10	TREE	MW	0.50	B	0.81	0.62	25	15	322	1.1%
C-11	TREE	LW	0.30	B	0.81	0.37	214	79	1,656	9.7%
C-12	SHRUB	LW	0.30	DL	0.81	0.37	268	99	2,074	12.2%
C-13	SHRUB	MW	0.50	B	0.81	0.62	66	41	851	3.0%
C-14	SHRUB	LW	0.30	DL	0.81	0.37	335	124	2,592	15.3%
TOTALS (REGULAR LANDSCAPE AREAS)							**2,196**	**863**	**18,041**	**100.0%**
SPECIAL LANDSCAPE AREA										
	0			0		1.00	0	0	0	0.0%
TOTALS (SPECIAL LANDSCAPE AREAS)							**0**	**0**	**0**	**0.0%**
TOTALS FOR ALL AREAS							***2,196***	***863***	***18,041***	***100%***

*Hydrozone Description	Total Sq. Ft.	% of Landscape
Cool Season Turf (CST)	0	0.0%
Warm Season Turf (WST)	0	0.0%
High Water Use Plants (HW)	0	0.0%
Bioretention Plants (BR)	0	0.0%
Medium Water Use Plants (MW)	203	9.2%
Low Water Use Plants (LW)	1,993	90.8%
Very Low Water Use Plants (VLW)	0	0.0%
Water Feature	0	0.0%
Special Landscape Area (SLA)	0	0.0%
TOTAL	2,196	100.0%

**Irrigation Method	Total Sq. Ft.	% of Landscape
Rotor (FC-R, PC-R)	0	0.0%
Multi-Stream Rotator (MR)	0	0.0%
Spray (S)	0	0.0%
Bubbler (B)	739	33.7%
Drip (D)	0	0.0%
In-Line Drip (DL)	1,457	66.3%
Micro Spray (MS)	0	0.0%
Other (O)	0	0.0%

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APN: 047-215-340

LICENSED LANDSCAPE ARCHITECT — W. BRIAN KOCH No. LA 5916 — Signature 06/30/22 — Renewal Date 04/28/22 — Date — STATE OF CALIFORNIA

REVISIONS:

#:	DATE:	ISSUED FOR:

DATE: 04/28/2021
DRAWN BY: JA
CHECKED BY: AN/VY
SCALE: N/A
PROJECT #: 2015

TITLE: IRRIGATION DETAIL & WORKSHEET

SHEET NO.

L6.3

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YOUNG RESIDENCE
SCHEDULING PARAMETERS

SOIL TYPE:	CLAY
ALLOWABLE WATER:	0.14
BASIC INTAKE RATE	0.1
MANAGEMENT ALLOWED DEPLETION	0.3

VALVE OR STATION NUMBER	PLANT TYPE / PLANT FACTOR	IRRIGATION TYPE / IRRIGATION EFFICIENCY	FLOW RATE (GPM)	PRECIPITATION RATE (inches per hour)	ROOT DEPTH (inches)	SLOPE FACTOR (%)	SHADE FACTOR	MAXIMUM CYCLE TIME (minutes)	INITIAL PLANT ESTABLISHMENT PERIOD 1st YEAR	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL ANNUAL WATER USE 1st YEAR
									ETo PER MONTH (INCHES)	1.5	1.7	2.4	3	3.9	4.3	4.3	4.2	3.5	2.8	1.3	1	
C-1	SHRUB	DL	2.1	0.64	9	NONE	1.00	9.35	RUN TIME PER MONTH (min.)	52	59	84	104	135	149	149	146	122	97	45	35	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	2	2	3	4	4	4	4	3	3	2	1	
									RUN TIME PER DAY (min.)	26	30	42	35	34	37	37	37	41	32	23	35	
									CYCLES PER DAY	3	4	5	4	4	4	4	4	5	4	3	4	
									APPLIED WATER (gallons)	111	128	179	223	289	315	315	315	262	204	98	74	2512
C-2	SHRUB	B	0.8	2.12	9	NONE	1.00	2.83	RUN TIME PER MONTH (min.)	27	30	42	53	69	76	76	74	62	49	23	18	
	0.50	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	3	4	4	6	6	6	6	5	4	2	2	
									RUN TIME PER DAY (min.)	14	10	11	13	12	13	13	12	12	12	12	9	
									CYCLES PER DAY	5	4	4	5	5	5	5	5	5	5	5	4	
									APPLIED WATER (gallons)	22	23	34	40	55	60	60	55	46	37	18	14	465
C-3	TREE	B	3.0	1.54	18	NONE	1.00	3.90	RUN TIME PER MONTH (min.)	22	25	35	44	57	63	63	61	51	41	19	15	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	1	1	1	2	2	2	2	2	2	2	1	1	
									RUN TIME PER DAY (min.)	22	25	35	22	29	32	32	31	26	21	19	15	
									CYCLES PER DAY	6	7	9	6	8	9	9	8	7	6	5	4	
									APPLIED WATER (gallons)	66	75	105	132	174	192	192	186	156	126	57	45	1506
C-4	TREE	B	0.6	1.52	18	NONE	1.00	3.95	RUN TIME PER MONTH (min.)	37	42	59	74	95	105	105	103	86	69	32	25	
	0.50	0.81					FULL SUN		IRRIG. DAYS PER MONTH	1	2	2	2	3	3	3	3	3	2	1	1	
									RUN TIME PER DAY (min.)	37	21	30	37	32	35	35	34	29	35	32	25	
									CYCLES PER DAY	10	6	8	10	9	9	9	9	8	9	9	7	
									APPLIED WATER (gallons)	22	25	36	44	58	63	63	61	52	42	19	15	501
C-5	SHRUB	DL	0.3	0.64	9	NONE	1.00	9.35	RUN TIME PER MONTH (min.)	87	99	139	174	225	249	249	243	202	162	75	58	
	0.50	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	3	4	4	6	6	6	6	5	4	2	2	
									RUN TIME PER DAY (min.)	44	33	35	44	38	42	42	41	40	41	38	29	
									CYCLES PER DAY	5	4	4	5	5	5	5	5	5	5	5	4	
									APPLIED WATER (gallons)	23	26	36	46	59	66	66	64	52	43	20	15	515
C-6	SHRUB	DL	2.8	0.64	9	NONE	1.00	9.35	RUN TIME PER MONTH (min.)	52	59	84	104	135	149	149	146	122	97	45	35	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	2	2	3	4	4	4	4	3	3	2	1	
									RUN TIME PER DAY (min.)	26	30	42	35	34	37	37	37	41	32	23	35	
									CYCLES PER DAY	3	4	5	4	4	4	4	4	5	4	3	4	
									APPLIED WATER (gallons)	144	166	232	291	376	409	409	409	340	266	127	97	3267
C-7	SHRUB	DL	0.5	0.64	9	NONE	1.00	9.35	RUN TIME PER MONTH (min.)	52	59	84	104	135	149	149	146	122	97	45	35	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	2	2	3	4	4	4	4	3	3	2	1	
									RUN TIME PER DAY (min.)	26	30	42	35	34	37	37	37	41	32	23	35	
									CYCLES PER DAY	3	4	5	4	4	4	4	4	5	4	3	4	
									APPLIED WATER (gallons)	28	32	45	57	73	80	80	80	66	52	25	19	638
C-8	TREE	B	1.8	1.53	18	NONE	1.00	3.91	RUN TIME PER MONTH (min.)	22	25	35	44	57	63	63	61	51	41	19	15	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	1	1	1	2	2	2	2	2	2	2	1	1	
									RUN TIME PER DAY (min.)	22	25	35	22	29	32	32	31	26	21	19	15	
									CYCLES PER DAY	6	7	9	6	8	9	9	8	7	6	5	4	
									APPLIED WATER (gallons)	40	45	63	79	104	115	115	112	94	76	34	27	904
C-9	SHRUB	B	1.3	2.13	9	NONE	1.00	2.81	RUN TIME PER MONTH (min.)	16	18	25	32	41	45	45	44	37	30	14	11	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	2	2	3	4	4	4	4	3	3	2	1	
									RUN TIME PER DAY (min.)	8	9	13	11	10	11	11	11	12	10	7	11	
									CYCLES PER DAY	3	4	5	4	4	4	4	4	5	4	3	4	
									APPLIED WATER (gallons)	21	24	35	44	53	59	59	59	48	40	19	15	473
C-10	TREE	B	0.4	1.54	18	NONE	1.00	3.89	RUN TIME PER MONTH (min.)	37	41	58	73	94	104	104	101	85	68	32	25	
	0.50	0.81					FULL SUN		IRRIG. DAYS PER MONTH	1	2	2	2	3	3	3	3	3	2	1	1	
									RUN TIME PER DAY (min.)	37	21	29	37	31	35	35	34	28	34	32	25	
									CYCLES PER DAY	10	6	8	10	8	9	9	9	8	9	9	7	
									APPLIED WATER (gallons)	15	17	23	30	37	42	42	41	34	27	13	10	330
C-11	TREE	B	3.4	1.53	18	NONE	1.00	3.92	RUN TIME PER MONTH (min.)	22	25	35	44	57	63	63	62	51	41	19	15	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	1	1	1	2	2	2	2	2	2	2	1	1	
									RUN TIME PER DAY (min.)	22	25	35	22	29	32	32	31	26	21	19	15	
									CYCLES PER DAY	6	7	9	6	8	9	9	8	7	6	5	4	
									APPLIED WATER (gallons)	75	85	119	150	197	218	218	211	177	143	65	51	1707
C-12	SHRUB	DL	1.8	0.64	9	NONE	1.00	9.35	RUN TIME PER MONTH (min.)	52	59	84	104	135	149	149	146	122	97	45	35	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	2	2	3	4	4	4	4	3	3	2	1	
									RUN TIME PER DAY (min.)	26	30	42	35	34	37	37	37	41	32	23	35	
									CYCLES PER DAY	3	4	5	4	4	4	4	4	5	4	3	4	
									APPLIED WATER (gallons)	93	107	150	188	243	264	264	264	220	172	82	63	2110
C-13	SHRUB	B	1.5	2.14	9	NONE	1.00	2.80	RUN TIME PER MONTH (min.)	26	30	42	52	68	75	75	73	61	49	23	18	
	0.50	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	3	4	4	6	6	6	6	5	4	2	2	
									RUN TIME PER DAY (min.)	13	10	11	13	11	13	13	12	12	12	12	9	
									CYCLES PER DAY	5	4	4	5	4	5	5	5	5	5	5	4	
									APPLIED WATER (gallons)	38	44	65	76	97	115	115	106	88	71	35	26	876
C-14	SHRUB	DL	2.2	0.64	9	NONE	1.00	9.35	RUN TIME PER MONTH (min.)	52	59	84	104	135	149	149	146	122	97	45	35	
	0.30	0.81					FULL SUN		IRRIG. DAYS PER MONTH	2	2	2	3	4	4	4	4	3	3	2	1	
									RUN TIME PER DAY (min.)	26	30	42	35	34	37	37	37	41	32	23	35	
									CYCLES PER DAY	3	4	5	4	4	4	4	4	5	4	3	4	
									APPLIED WATER (gallons)	116	134	188	235	304	331	331	331	275	214	103	78	2638
									TOTAL MONTHLY / ANNUAL WATER USE	**813**	**931**	**1,310**	**1,634**	**2,121**	**2,328**	**2,328**	**2,293**	**1,909**	**1,511**	**715**	**549**	**18,441.01** 18441.00667

THESE SCHEDULES ARE INTENDED TO BE USED AS A GUIDELINE ONLY AND INDICATE APPROXIMATE RUN TIMES IN MINUTES. RUN TIMES ARE BASED ON HISTORICAL EVAPOTRANSPIRATION DATA AND REFLECT MAXIMUM IRRIGATION REQUIREMENTS OF THE PLANT MATERIAL. ACTUAL RUN TIMES SHALL BE DETERMINED BY THE CONTRACTOR BASED ON ACTUAL FIELD CONDITIONS.

BROOKWATER
IRRIGATION CONSULTANTS
480 ST. JOHN STREET, SUITE 220
PLEASANTON, CALIFORNIA 94566
TEL 925.855.0417 FAX 925.855.0357
E-MAIL JANET@BROOKWATER.COM

"I HAVE COMPLIED WITH THE CRITERIA OF THE MODEL WATER EFFICIENT LANDSCAPE ORDIANCE AND HAVE APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN."

JANET S. LUEHRS
Certified Irrigation Designer
CID
43274

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PERMIT SET

YOUNG RESIDENCE
535 PALMA STREET
EL GRANADA, CA 94019
APN: 047-215-340

LICENSED LANDSCAPE ARCHITECT
W. BRIAN KOCH No. LA 5516
Signature
06/30/22
Renewal Date
04/28/22
Date
STATE OF CALIFORNIA

REVISIONS:

#	DATE:	ISSUED FOR:
3	9/17/2021	PERMIT RESUBMITTAL

DATE:	04/28/2021
DRAWN BY:	EK
CHECKED BY:	JO
SCALE:	N/A
PROJECT #:	2015

TITLE
IRRIGATION SCHEDULE

SHEET NO.
L6.4

The limit of professional liability for this project shall be limited to an amount equal to the fee paid or all work performed by Terra Ferma Landscapes, Inc.

IRRIGATION HYDROZONE LEGEND

SYMBOL	DESCRIPTION
	PROPERTY LINE
	SETBACKS
	UTILITY EASEMENT
100	(E) CONTOURS
100	PROPOSED CONTOURS
	HYDROZONE AREA
Z1	ZONE IDENTIFICATION

LOW WATER USE (L)

MEDIUM WATER USE (M)

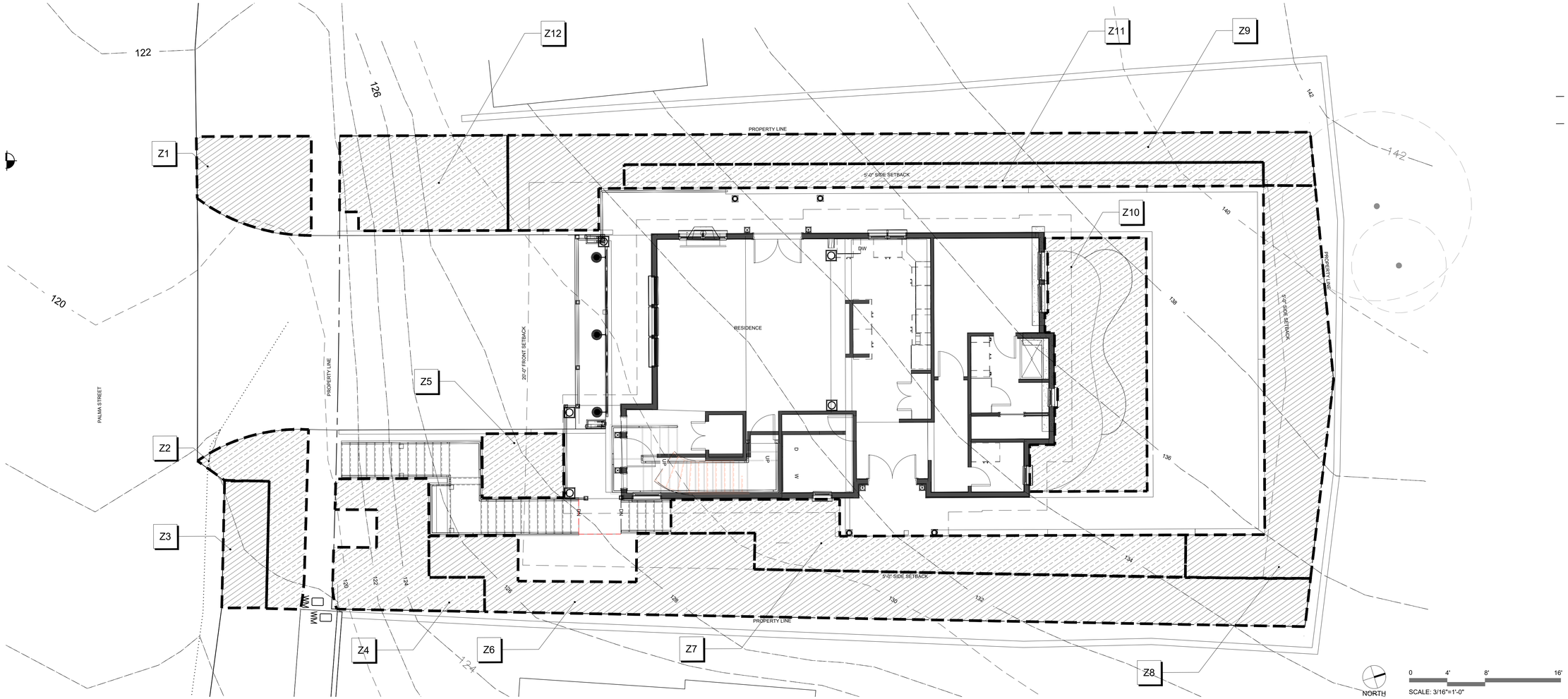
HIGH WATER USE (H)

(E) TREE

NOTES

1. AT THE TIME OF FINAL INSPECTION, THE PERMIT APPLICANT MUST PROVIDE THE OWNER OF THE PROPERTY WITH A CERTIFICATE OF COMPLETION, CERTIFICATION OF INSTALLATION, IRRIGATION SCHEDULE OF LANDSCAPE AND IRRIGATION MAINTENANCE.

2. TOTAL LANDSCAPE PLANTING AREA TO BE 2,196 SQUARE FEET.



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PERMIT SET

YOUNG RESIDENCE

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APN: 047-215-340

LICENSED LANDSCAPE ARCHITECT
M. BRIANO CH No. LA 5576
Signature
06/30/22
Renewal Date
04/28/22
Date
STATE OF CALIFORNIA

REVISIONS:

#:	DATE:	ISSUED FOR:
1	09/28/21	PERMIT RESUBMIT

DATE: 04/28/2021
DRAWN BY: JA
CHECKED BY: AN/VY
SCALE: 1/4"=1'-0"
PROJECT #: 2015

TITLE

HYDROZON PLAN

SHEET NO.

L6.5

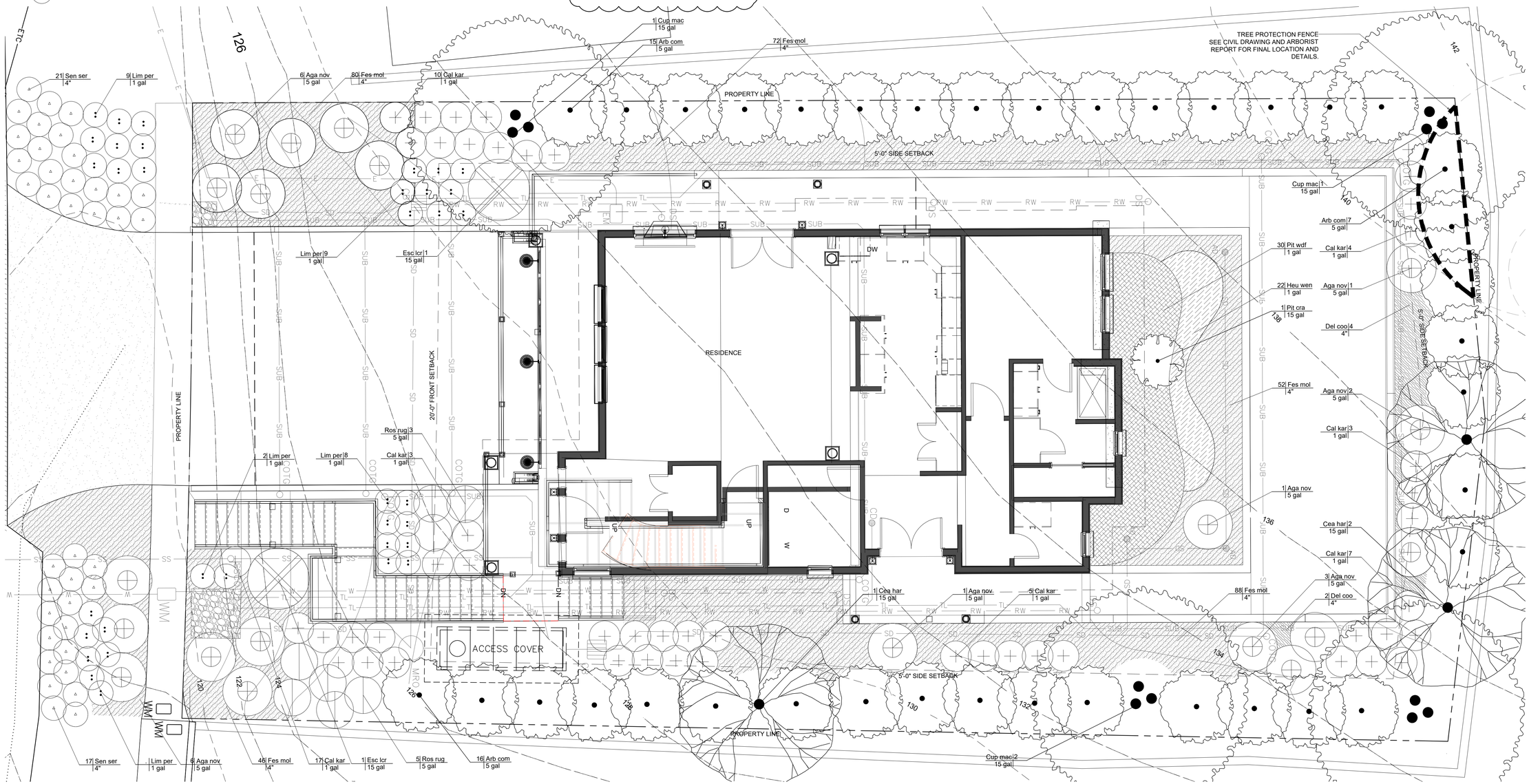
The limit of professional liability for this project shall be limited to an amount equal to the fee paid or all work performed by Terra Ferma Landscapes, Inc.

PLANT SCHEDULE

TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	WUCOLS PLANT FACTOR	DESIGNATION
	Arb com	38	ARBUTUS UNEDO `COMPACTA`	DWARF STRAWBERRY TREE	5 GAL	0.1/LOW	Z6, Z8, Z9
	Cea har	3	CEANOTHUS X `RAY HARTMAN`	RAY HARTMAN WILD LILAC	15 GAL	0.1/LOW	Z6, Z8
	Cup mac	4	CUPRESSUS MACROCARPA	MONTEREY CYPRESS	15 GAL	0.1/LOW	Z6, Z9
	Pit cra	1	PITTOSPORUM CRASSIFOLIUM `VARIEGATUM`	VARIEGATED KARO PITTOSPORUM	15 GAL	0.1/LOW	Z10

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	WUCOLS PLANT FACTOR	DESIGNATION
	Aga nov	20	AGAVE ATTENUATA `NOVA`	NOVA FOXTAIL AGAVE	5 GAL	48" o.c.	0.1/LOW	Z2, Z4, Z7, Z8, Z10, Z12
	Cal kar	49	CALAMAGROSTIS X ACUTIFLORA `KARL FOERSTER`	KARL FOERSTER FEATHER REED GRASS	1 GAL	30" o.c.	0.1/LOW	Z5, Z6, Z7, Z8, Z9
	Esc lcr	2	ESCALLONIA X EXONIENSIS `FRADES`	PINK ESCALLONIA	15 GAL	60" o.c.	0.4/MODERATE	Z4, Z9
	Lim per	35	LIMONIUM PEREZII	STATICE	1 GAL	24" o.c.	0.1/LOW	Z1, Z3, Z4, Z5, Z9
	Ros rug	8	ROSA RUGOSA	RUGOSA ROSE	5 GAL	36" o.c.	0.4/MODERATE	Z4, Z5
	Sen ser	38	SENECIO SERPENS	BLUE CHALKSTICKS	4"	24" o.c.	0.1/LOW	Z1, Z3

GROUND COVERS	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING	WUCOLS PLANT FACTOR	DESIGNATION
	Del coo	6	DELOSPERMA COOPERI	PURPLE ICE PLANT	4"	18" o.c.	0.1/LOW	Z8
	Fes mol	338	FESTUCA RUBRA `MOLATE`	MOLATE RED FESCUE	4"	18" o.c.	0.4/MEDIUM	Z2, Z4, Z7, Z10, Z11, Z12
	Heu wen	22	HEUCHERA X `WENDY`	WENDY CORAL BELLS	1 GAL	18" o.c.	0.4/MEDIUM	Z10
	Pit wdf	30	PITTOSPORUM TOBIRA `WHEELER`S DWARF`	WHEELER`S DWARF PITTOSPORUM	1 GAL	24" o.c.	0.4/MEDIUM	Z10



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PERMIT SET

YOUNG RESIDENCE

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EL GRANADA, CA 94019

APN: 047-215-340

LICENSED LANDSCAPE ARCHITECT
W. BRIAN KOCH No. LA 5578
Signature
06/30/22
Renewal Date
04/28/22
Date
STATE OF CALIFORNIA

REVISIONS:

#:	DATE:	ISSUED FOR:
1	09/28/21	PERMIT RESUBMIT

DATE: 04/28/2021
DRAWN BY: JA
CHECKED BY: AN/VY
SCALE: 1/4"=1'-0"
PROJECT #: 2015

TITLE

PLANTING PLAN

SHEET NO.

L7.0

The limit of professional liability for this project shall be limited to an amount equal to the fee paid or all work performed by Terra Ferma Landscapes, Inc.

PLANTING NOTES

1. CONTRACTOR SHALL VERIFY ALL SITE CONDITIONS, DISTANCES, AND DIMENSIONS AS RELATED TO TREE AND SHRUB PLACEMENT IN THE FIELD AND BRING ANY DISCREPANCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO PROCEEDING WITH WORK.

2. SOIL SAMPLES SHALL BE TAKEN BY CONTRACTOR AFTER GRADING OPERATIONS ARE COMPLETED FOR SOIL FERTILITY AND AGRICULTURAL SUITABILITY TESTING AND RECOMMENDATIONS, SEE GRADING NOTES. PROVIDE LANDSCAPE ARCHITECT WITH SOILS REPORT AND PROPOSED SOIL AND AMENDMENT MATERIALS FOR APPROVAL, PRIOR TO INSTALLATION OF MATERIALS.

3. ALL PLANTS TO BE OF THE FINEST QUALITY, GOOD FORM, AND FREE OF PESTS OR PLANT DISEASES AND DAMAGE. ALL PLANT MATERIAL SHALL BE CERTIFIED BY STATE DEPARTMENT OF AGRICULTURE AS FREE OF DISEASE OR HAZARDS INSECTS.

4. PLANT MATERIAL SHALL BE TYPICAL OF THE SPECIES, OR VARIETY, AND HAVE NORMAL HABITS OF GROWTH.

5. ALL PLANT MATERIAL SHALL BE INSPECTED AND APPROVED BY LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.

6. PLANTING PLAN PROVIDES A GUIDE FOR GENERAL PLANTING LAYOUT ONLY. PRIOR TO INSTALLATION LANDSCAPE ARCHITECT SHALL APPROVE FINAL LAYOUT OF PLANTS. FIELD ADJUSTMENTS MAY BE MADE AT THIS TIME.

7. PLANT SPACING SHALL TAKE PRIORITY OVER IRRIGATION VALVE BOX, PIPE, AND OTHER EQUIPMENT LOCATIONS.

8. NO PLANT SUBSTITUTIONS MAY BE MADE WITHOUT WRITTEN APPROVAL OF LANDSCAPE ARCHITECT.

9. PLANTING AND PLANT OPERATION WHICH COULD ENDANGER THE PUBLIC SAFETY BY OBSTRUCTING THE VISION OF PUBLIC TRAFFIC OR CONFLICTING WITH THE SAFE FUNCTION OF UTILITY WIRES WILL NOT BE PERMITTED IN THE PUBLIC RIGHT OF WAY. ANY SUCH INSTANCES SHOULD BE BROUGHT TO THE ATTENTION OF LANDSCAPE ARCHITECT.

10. CONTRACTOR SHALL SUBMIT FOR APPROVAL, PHOTOS OF ONE REPRESENTATIVE EXAMPLE OF EACH TREE VARIETY. PHOTOS SHOULD INCLUDE A PERSON FOR SCALE. TREE SPECIFICATIONS SHALL INCLUDE PLANTED HEIGHT, SPREAD, AND CALIPER SIZE.

11. IF CONFLICTS ARISE BETWEEN SIZE OF AREAS AND PLANS, CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT FOR RESOLUTION. FAILURE TO MAKE SUCH CONFLICTS KNOWN TO LANDSCAPE ARCHITECT WILL RESULT IN CONTRACTOR'S LIABILITY TO RELOCATE SUCH MATERIALS.

12. PROVIDE PLANT QUANTITIES AS INDICATED IN LEGEND. PLANT SYMBOLS SHOWN ON PLAN ARE FOR REFERENCE ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL PLANTS AS REQUIRED TO MEET ON-CENTER SPACING AS NOTES IN THE PLANT LEGEND.

13. CULTIVATE ALL AREAS TO BE PLANTED (EXCEPT SLOPES EXCEEDING 3:1) AND AMEND EVENLY PER SOILS REPORT.

14. BACKFILL FOR ALL PLANTING PITS SHALL BE PER SOILS REPORT/DETAILS.

15. CONTRACTOR TO EXCAVATE PLANT PITS AND CONDUCT PERCOLATION TESTS AT LEAST 2 WEEKS PRIOR TO TREE OR PLANT INSTALLATION. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IF PITS DO NOT PERCOLATE IN FIRST 24 HOURS.

16. ALL MATERIAL SHALL BE INSTALLED WHERE BOTTOM OF ROOT BALL RESTS ON NATIVE SUB-GRADE TO PREVENT SETTLING.

17. ALL AREAS THAT ARE 2:1 SLOPE OR LESS SHALL BE COVERED WITH 3" DEEP ORGANIC MULCH TO COMPLETELY COVER SOIL SURFACE, UNLESS OTHERWISE NOTED. SUBMIT 1 CU. FT. SAMPLE PRIOR TO APPLICATION.

18. SEE PLANTING DETAILS FOR PLANTING REQUIREMENTS, MATERIALS, STAKING, AND EXECUTION.

19. ALL GROUND COVERS SHALL BE TRIANGULARLY SPACED AND APPLIED IN ALL PLANTING AREAS INDICATED ON PLAN AS WELL AS UNDER SHRUBS UNLESS NOTED OTHERWISE.

20. ALL TREES PLANTED IN PUBLIC RIGHT OF WAY SHALL BE PLANTED PER CITY STANDARDS.

21. MULTI-TRUNK INDICATES (2) TRUNKS MINIMUM. BRANCHED FROM BASE OF TREE.

22. DO NOT DELIVER ANY PLANT MATERIAL OR TREES UNTIL ALL PLANTING PREPARATIONS HAVE BEEN COMPLETED.

23. MIX SPECIFIED SOIL AMENDMENTS AND FERTILIZERS WITH TOPSOIL AT RATES SPECIFIED PER SOIL REPORT RECOMMENDATIONS.

24. FINISHED GRADES FOR PLANTING AREAS VARIES, SEE PLANS AND DETAILS. LANDSCAPE ARCHITECT SHALL REVIEW AND APPROVE ALL FINISH SOIL ELEVATIONS PRIOR TO PLANTING INSTALLATION. CONTRACTOR SHALL MAKE ADJUSTMENTS AS DIRECTED IN THE FIELD BY LANDSCAPE ARCHITECT.

25. LYNGSO
A. AMENDMENT SOIL FOR ALL TREES AND SHRUBS
B. POTTING MIX FOR ALL CONTAINER PLANTINGS

26. AMERICAN SOIL & STONE
A. MULTIPURPOSE FOR ALL TREES AND SHRUBS
B. ULTRA POTTING MIX FOR ALL CONTAINER PLANTINGS
C. CLOUDBREAKER FOR ALL CLAY SOIL SITES

27. WHEELER FARMS
A. SPECIAL BLEND PLANTING MIX FOR ALL VEGETABLE AND EDIBLE GARDEN PLANTINGS

28. MULCH SHALL BE HELD 1/2" BELOW TOP OF PAVING, CURBS, AND STEEL HEADERS IN ALL PLANTING AREAS UNLESS OTHERWISE NOTED. MULCH TO BE HELD MINIMUM 4" FROM CROWN/ TRUNK OF PLANTS.

29. NO PLANTING SHALL COMMENCE UNTIL IRRIGATION MAINLINE HAS BEEN INSTALLED, REVIEWED, AND THE LATERALS ARE FULLY INSTALLED AND OPERATIONAL. DRIP IRRIGATION TO BE INSTALLED AFTER ALL PLANTS HAVE BEEN INSTALLED.

30. ALL PLANT MATERIAL SHALL BE VIGOROUS, WELL-BRANCHED, AND DENSELY FOLIATED WHEN IN LEAF. ALL PLANT MATERIAL SHALL HAVE WELL DEVELOPED ROOT SYSTEMS TO OUTSIDE OF EACH CONTAINER WITHOUT BEING ROOT BOUND. NO WEEDS OR OXALIS ALLOWED IN ROOTBALL OF PLANTS.

31. DO NOT PRUNE ANY PLANTS OR TREES PRIOR TO DELIVERY. PROTECT BARK, BRANCHES, AND ROOT SYSTEMS FROM SUNSCALD, DRYING, SWEATING, WHIPPING, AND OTHER HANDLING AND TYING DAMAGE. DO NOT BEND OR BIND-TIE TREES OR SHRUBS IN SUCH A MANNER AS TO DESTROY NATURAL SHAPE. PROVIDE ADEQUATE PROTECTIVE COVERING DURING TRANSPORT AND DELIVERY TO AVOID WIND BURN. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REJECT ANY PLANTS OR TREES IF THEY DO NOT MEET THESE MINIMUM STANDARDS.

32. CONTRACTOR SHALL INSTALL PLANTS AS SOON AS POSSIBLE UPON ARRIVAL AT SITE. AFTER ARRIVAL ONSITE CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING AND PROTECTING PLANTS FROM ANY CONDITIONS WHICH THREATEN THEIR SURVIVAL OR ABILITY TO THRIVE ONCE INSTALLED EXCEPT FOR WEATHER INTERFERENCE.

33. PLANT MATERIAL SHALL BE GUARANTEED TO BE AVAILABLE AND MEET OR EXCEED REQUIRED SPECIFICATION ON ESTIMATED DATE OF START OF PLANTING.

34. ALL PLANTS SHALL BE LABELED WITH PLANT NAME FOR IDENTIFICATION.

35. WHEN PLACING PLANT OR TREE INTO HOLE, MAKE SURE TO SCARIFTY ALL ROOTS TO PREVENT ANY GIRDLING. IT IS ACCEPTABLE AND ENCOURAGED TO SEVER AND REMOVE SOME ROOTS THAT COULD CAUSE FUTURE ROOT GIRDLING; THIS INCLUDES REMOVAL OF ROOTS AT BOTTOM OF CONTAINER SHAPED ROOT BALL. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING PLANT MATERIAL PLANTED WITHOUT ADEQUATE ROOT LOOSENING.

36. BACKFILL TO BE A MIX OF 50% NATIVE MATERIAL AND 50% AMENDMENT OR PER SOILS TESTING SPECS.

37. ALL TREES REQUIRING STAKING SHALL BE STAKED WITH (3) STAKES IN A TRIANGULAR FASHION. STAKES MUST BE REMOVABLE WITHIN THE FIRST 1-2 YEARS. DO NOT ALLOW BRANCHES OR TREE TO RUB AGAINST ANY STAKE. USE CANVAS BIO-TIE FOR GUYING PURPOSES.

38. CONTRACTOR SHALL REMOVE ALL EXISTING WEEDS AND THEIR LIVING PARTS (AND AGGRESSIVE GROUND COVERS). WEED SHALL BE ERADICATED AND REMOVED FROM THE SITE PRIOR TO BEGINNING OPERATIONS.

39. TFL WARRANTIES THE INSTALLATION OF ALL NEW PLANT MATERIAL FURNISHED BY THEM. ALL PLANT MATERIAL 15 GAL. SIZE AND LARGER HAS A WARRANTY PERIOD OF ONE YEAR. ALL OTHER PLANT MATERIAL, INCLUDING SOD LAWNS HAS A WARRANTY PERIOD OF SIX MONTHS. WARRANTY PERIOD STARTS UPON ACCEPTANCE OF PLANTING IN PART OR IN FULL. WARRANTY DOES NOT COVER ANY EXISTING PLANT MATERIAL, DAMAGE CAUSED BY RODENTS, INSECTS, DISEASES AND POOR MAINTENANCE PRACTICES BY OTHERS.

40. PRIOR TO IRRIGATION INSTALLATION THE LANDSCAPE ARCHITECT SHALL APPROVE ALL FREESTANDING PLANTER LOCATIONS.

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LICENSED LANDSCAPE ARCHITECT
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STATE OF CALIFORNIA

REVISIONS:

#:	DATE:	ISSUED FOR:

DATE: 04/28/2021
DRAWN BY: JA
CHECKED BY: AN/VY
SCALE: N/A
PROJECT #: 2015

TITLE

PLANTING NOTES

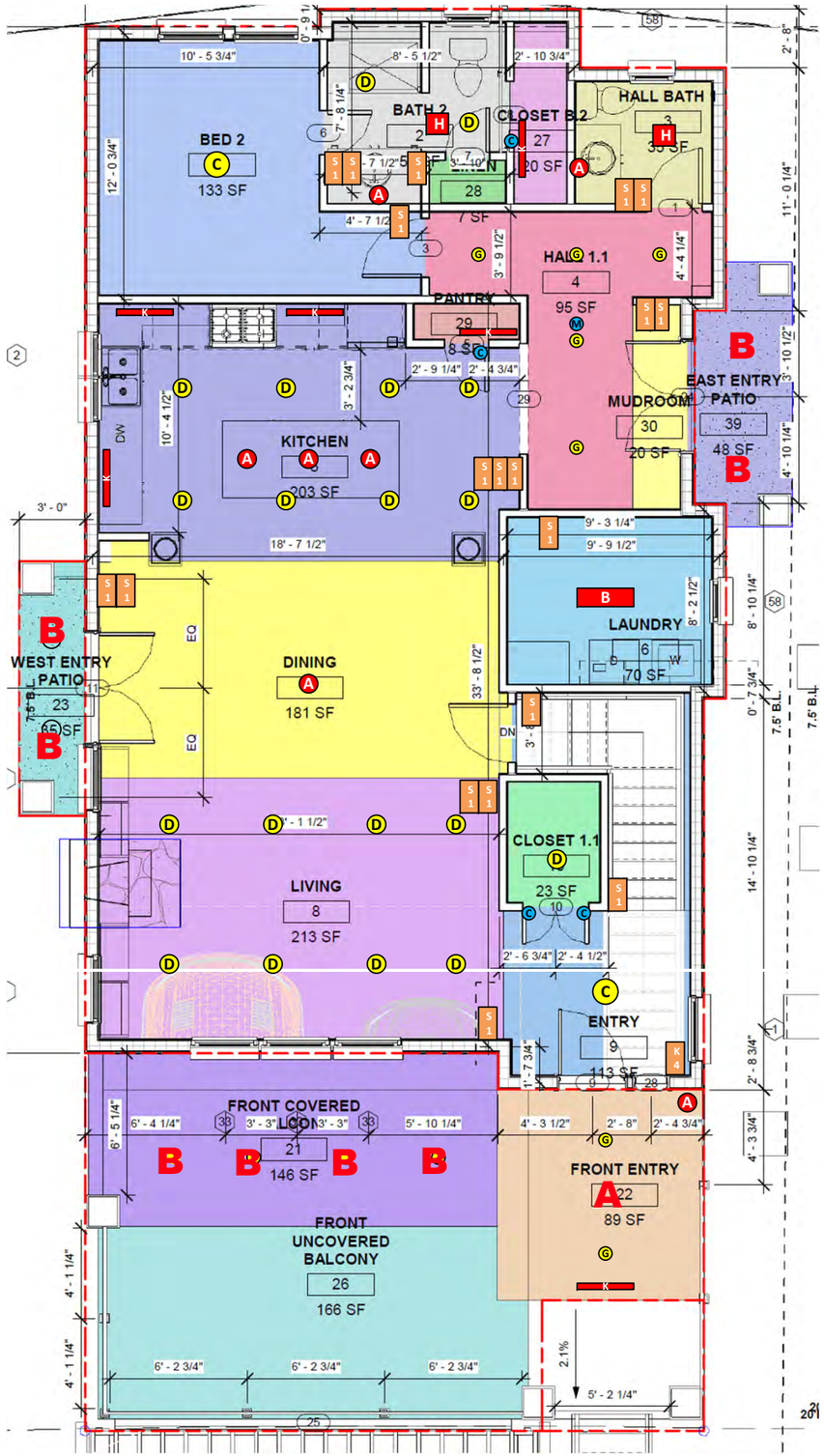
SHEET NO.

L7.1

OUTDOOR LIGHTING

A Hinkley Single Light 18" Dark Sky Compliant

B FEIT LEDR56FP/927/4 Light Round LED Downlight 8.8W, 3000K, 800 lumens



Project Name:
HOUZE.2

Project Location:
535 Palma Street
El Granada, CA 94019

Page Scope:

Page Name:
Main Level

Page:
2 of 4

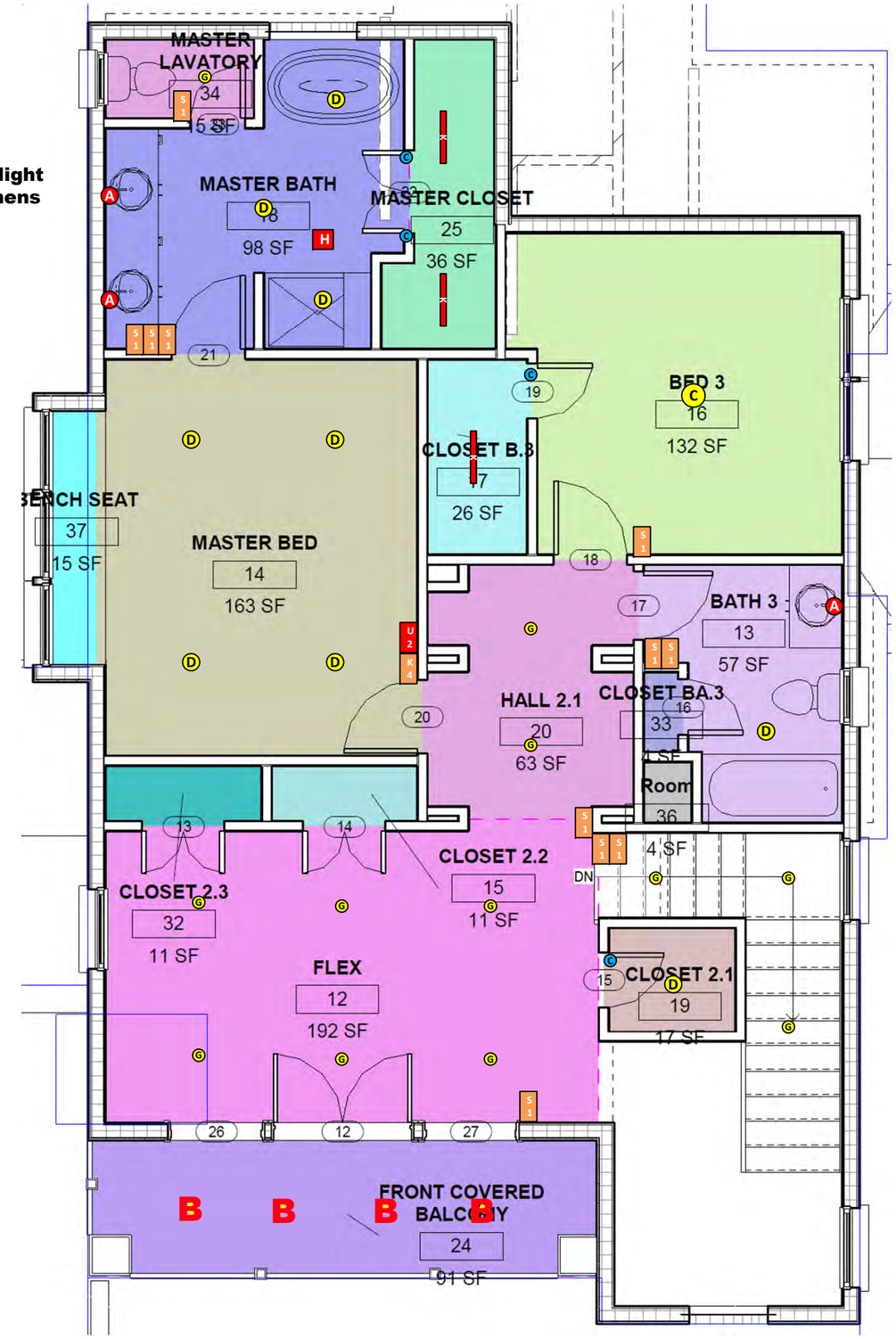
Drawn By:

Drawn For:
LumenCache

Revision Date: 6/13/2020

OUTDOOR LIGHTING

B FEIT LEDR56FP/927/4 Light 5-6' Round LED Downlight
8.8W, 3000K, 800 lumens



Project Name:
HOUZE.2

Project Location:
535 Palma Street
El Granada, CA 94019

Page Scope:

Page Name:
Upper Level

Page:
3 of 4

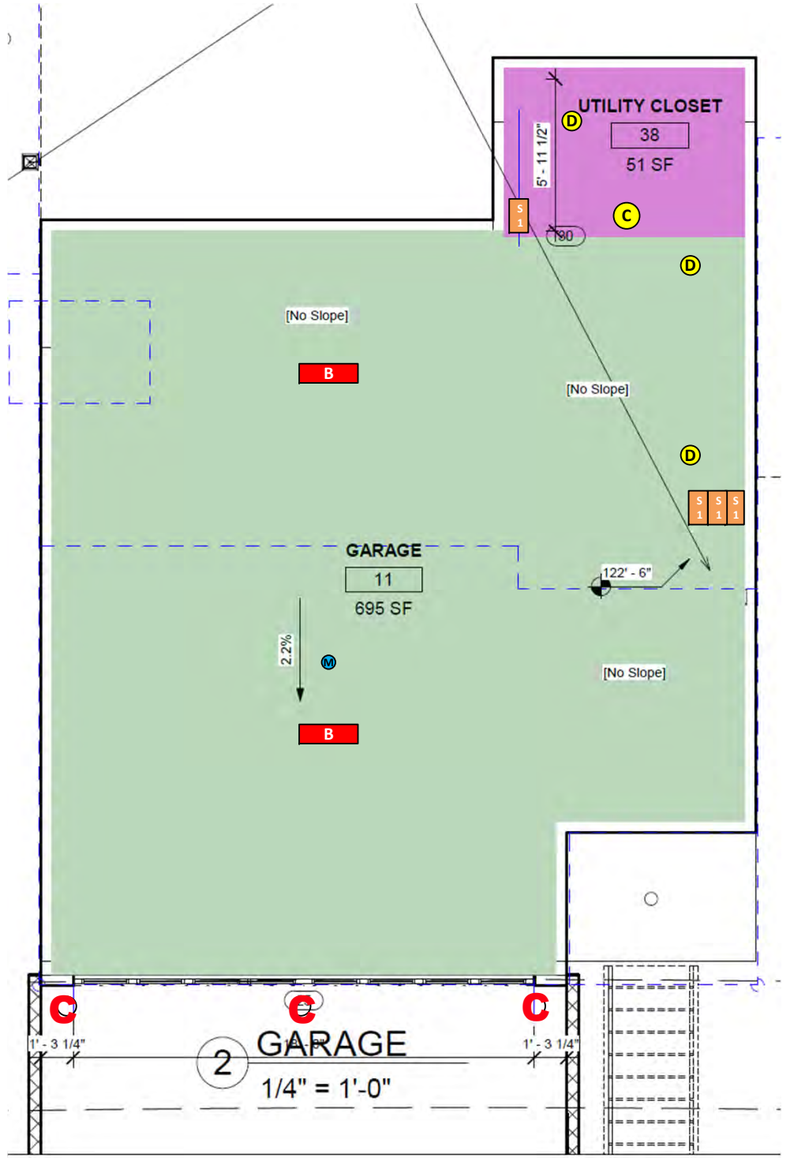
Drawn By:

Drawn For:
LumenCache

Revision Date: 6/13/2020

OUTDOOR LIGHTING

C Gunnora Outdoor Barn Style
8.8W, 3000K, 800 lumens



Project Name:
HOUZE.2

Project Location:
535 Palma Street
El Granada, CA 94019

Page Scope:

Page Name:
Lower Level

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4 of 4

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ESC-D, DMC-4K-E

Drawn For:
LumenCache

Revision Date: 6/13/2020