GENERAL NOTES

- I. ALL CONSTRUCTION TO COMPLY W/ 2016 CALIFORNIA BUILDING CODE (CBC) , 2016 CALIFORNIA RESIDENTIAL - CODE (CRC) , 2016 CALIFORNIA ELECTRICAL CODE (CEC) , 2016 CALIFORNIA MECHANICAL CODE (CMC) , - 2016 CALIFORNIA PLUMBING CODE (CPC) , 2016 CALIFORNIA ENERGY EFFICIENCY STANDARDS CODE (CEES) :
 - 2016 CALIFORNIA FIRE CODE (CFC). 2016 CALIFORNIA GREEN BUILDING STANDARDS CODE (CGBS OR CALGREEN), 2016 CALIFORNIA ENERGY CODE AND ALL LOCAL CODES AND ORDINANCES.
- 2. ALL CONNECTORS WITH PRESSURE TREATED LUMBER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.
- 3. MANUFACTURED WINDOWS SHALL HAVE A LABEL ATTACHED CERTIFIED BY THE NATIONAL FENESTRATION RATING
- COUNCIL (NFRC) & SHOWING COMPLIANCE WITH THE ENERGY CALCULATIONS. 4. ALL INSULATION MATERIALS SHALL HAVE A FLAME-SPREAD RATING NOT TO EXCEED 25 & A SMOKE DENSITY NOT TO EXCEED 450.
- 5. ALL PENETRATIONS AT PLATES OR OTHER LOCATIONS TO BE PROTECTED FROM RODENT INTRUSION.

MATERIALS

- I. UNLESS OTHERMSE NOTED, ALL FRAMING LUMBER SHALL BE DOUGLAS FIR (HEM-FIR FOR PRESSURE TREATED MATERIAL),
 - AND MEET THE FOLLOWING COMMERCIAL GRADES: STANDARD OR BETTER STUDS, PLATES, BLOCKING: NO. 2 JOISTS, RAFTERS, LEDGERS & 4X BEAMS & POSTS:
 - EXPOSED JOISTS, RAFTERS, LEDGERS & 4X BEAMS & POSTS: BEAMS & POSTS 6X & LARGER:
- NO. 2. WOOD IN CONTACT WITH FOUNDATION CONCRETE SHALL BE PRESSURE TREATED DOUGLAS FIR (HEM-FIR FOR 2 X 4 & 2 X 6 SILLS) CONFORMING TO AWPB LP-2 STANDARD UNLESS OTHERWISE NOTED ON PLANS. WOOD POSTS EMBEDDED IN CONCRETE OR EARTH SHALL BE PRESSURE TREATED DOUGLAS FIR CONFORMING TO AWPA UI STANDARD AND STAMPED FOR "IN GROUND USE"

NO. I

- a. ALL PRESSURE TREATED LUMBER SHALL BE CLEAN, DRY & FREE FROM SURFACE RESIDUE.
- 6. HANDLE TREATED LUMBER & FIELD TREAT PENETRATION DAMAGE (ie. CUT ENDS, NOTCHES AND BORINGS) IN ACCORDANCE WITH AWPA STANDARD M-4.
- c. ALL PRESSURE TREATED LUMBER SHALL BE STAMPED WITH AWPB QUALITY MARK SPECIFYING "ABOVE GROUND-UI" OR "GROUND CONTACT-UI".
- 3. FLOOR SHALL BE SHEATHED WITH 23/32" MIN T & G APA RATED SHEATHING, 48/24, EXPOSURE I WITH FACE GRAIN OF -SHEATHING APPLIED PERPENDICULAR TO JOISTS. GLUE WITH PL400, OR EQUAL. NAIL SHEATHING W/ IOd RING OR SCREW SHANK NAILS @ 6" OC EDGES AND 12" OC FIELD, TYPICAL, UNLESS OTHERWISE NOTED, AT AREAS WHERE CARPET AND PAD - PAD WILL BE APPLIED DIRECTLY OVER THE FLOOR SHEATHING, USE T & G, APA RATED STURD-1-FLOOR, 24" OC, EXPOSURE I
- 4. WALLS SHALL BE SHEATHED WITH 15/32" MIN APA RATED SHEATHING, 24/0, EXPOSLIRE I. NAIL SHEATHING WITH 8d COMMON NAILS, 84 HOT DIPPED GALVANIZED BOX NAILS, OR IO4 ELECTROPLATED BOX NAILS AT 6" OC EDGES & 12" OC FIELD, TYPICAL UNLESS OTHERWISE NOTED.
- 5. ROOF SHALL BE SHEATHED WITH 15/32" MIN APA RATED SHEATHING, 24/0, EXPOSURE 1, WITH FACE GRAIN OF SHEATHING APPLIED PERPENDICULAR TO RAFTERS. NAIL SHEATHING WITH 8d SINKERS AT 6" OC EDGES, 12" OC FIELD, TYPICAL UNLESS OTHERWISE NOTED. USE PLY CLIPS AT UNBLOCKED PLY EDGES.
- 6. DO NOT NOTCH BEAMS, JOISTS AND POSTS UNLESS OTHERWISE NOTED OR APPROVED BY ENGINEER.

PLUMBING/ MECHANICAL

- I. SHOWER HEADS SHALL BE DESIGNED AND MANUFACTURED SO THAT THEY WILL NOT EXCEED A WATER SUPPLY FLOW RATE OF 2,0 GALLONS PER MINUTE.
- 2. WATER CLOSETS, EITHER FLUSH TANK, FLUSHOMETER TANK, OR FLUSHOMETER VALVE OPERATED, SHALL HAVE AN AVERAGE CONSUMPTION OF NOT MORE THAN 1.28 GALLONS OF WATER PER FLUSH.
- 3. LAVATORY FAUCETS SHALL BE DESIGNED AND MANUFACTURED SO THAT THEY WILL NOT EXCEED A WATER FLOW RATE OF 1.5 GALLONS PER MINUTE.
- 4. SHOWERS & TUBS W/ SHOWERS REQUIRE A NON-ABSORBANT SURFACE UP TO 72" ABOVE DRAIN INLET. PROVIDE CURTAIN ROD OR APPROVED ENCLOSURE MATERIAL.
- 5. PROVIDE CEMENT BOARD UNDER SHOWER ENCLOSURE MATERIALS, OR APPROVED BACKER BOARD UNDER TILE, TO A HEIGHT OF 72" MIN, ABOVE DRAIN INLET.
- 6. PROVIDE SHOWER W/ INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVES TYPE.

FOUNDATION

- 1. ALL CONCRETE SHALL BE f'c = 2500 PSI MINIMUM.
- 2. ALL REINFORCING STEEL IS TO BE ASTM AFIS, GRADE 40.
- 3. ALL REINFORCING STEEL LAPS SHALL BE 40 DIAMETERS MINIMUM.
- 4. FOOTINGS SHALL BE POURED AGAINST UNDISTURBED SOIL
- 5. ALL MUDSILLS SHALL BE PRESSURE TREATED DOUGLAS FIR NO. 2 GRADE OR BETTER.
- 6. GRADE UNDER FLOOR GROUND SURFACE TO PROVIDE POSITIVE DRAINAGE TO UNOBSTRUCTED OUTFALL.
- 7. FINISHED GRADE SHALL SLOPE AWAY FROM THE BUILDING AT A MINIMUM SLOPE OF 5% FOR A MINIMUM DISTANCE OF 10 FEET MEASURED PERPENDICULAR TO THE EXTERIOR WALL. IF LOT LINES OR OBSTRUCTIONS PROHIBIT 10 FEET OF SLOPE, PROVIED 5% SLOPE TO AN APPROVED ALTERNATE DRAINAGE METHOD. EXTERIOR PAVING, CONCRETE SLABS, OR OTHER IMPERVIOUS SURFACES WITHIN IO FEET OF THE FOUNDATION SHALL BE SLOPED A MINIMUM OF 2% AWAY FROM THE BUILDING.
- 8. FOUNDATION CONCRETE TO BE AT LEAST 20% FLY ASH (OR OTHER APPROVED ADDITIVE) CONTENT.

ELECTRICAL

I. BATH RECEPTACLES TO BE ON A SEPARATE 20A CIRCUIT. 2. ALL 120V, 15 & 20 AMP OUTLETS SHALL BE LISTED AS TAMPER RESISTANT.

ENERGY NOTES

I. LIGHTING IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND / OR LITILITY ROOMS MUST BE HIGH EFFICACY & MUST BE CONTROLLED BY A MANUAL-ON VACANCY SENSOR. A MANUAL-ON OCCUPANCY SENSOR MUST BE MANUALLY TURNED ON AND, AS LONG AS THE SENSOR DETECTS MOVEMENT, STAYS ON. WHEN MOVEMENT IS NOT DETECTED, WHICH CANNOT BE LONGER THAN 30 MINLITES, THE FIXTURE ALITOMATICALLY TURNS OFF. A BATHROOM IS DEFINED AS A ROOM CONTAINING A SHOWER, TUB, TOILET, OR SINK THAT IS USED FOR PERSONAL HYGENE. 11HIS WOULD INCLUDE A VANITY SINK IN A DRESSING AREA OR BEDROOM, REQUIRING A HIGH EFFICACY LIGHT SERVING THAT SPECIFIC AREA.

SCOPE OF WORK	SQUARE FOOTAGE	DRAWING INDEX
BATHROOM ADDITION TO AN EXISTING SINGLE FAMILY DWELLING	EXISTING: 1053 PROPOSED ADDITION: 51 TOTAL: 1104	 NOTES, SITE PLAN, FLOOR PLANS ELEVATIONS, FOUNDATION PLAN, ROOF FRAMING PLAN SECTIONS, DETAILS, ELECTRICAL TITLE 24 REPORT TITLE 24 REPORT

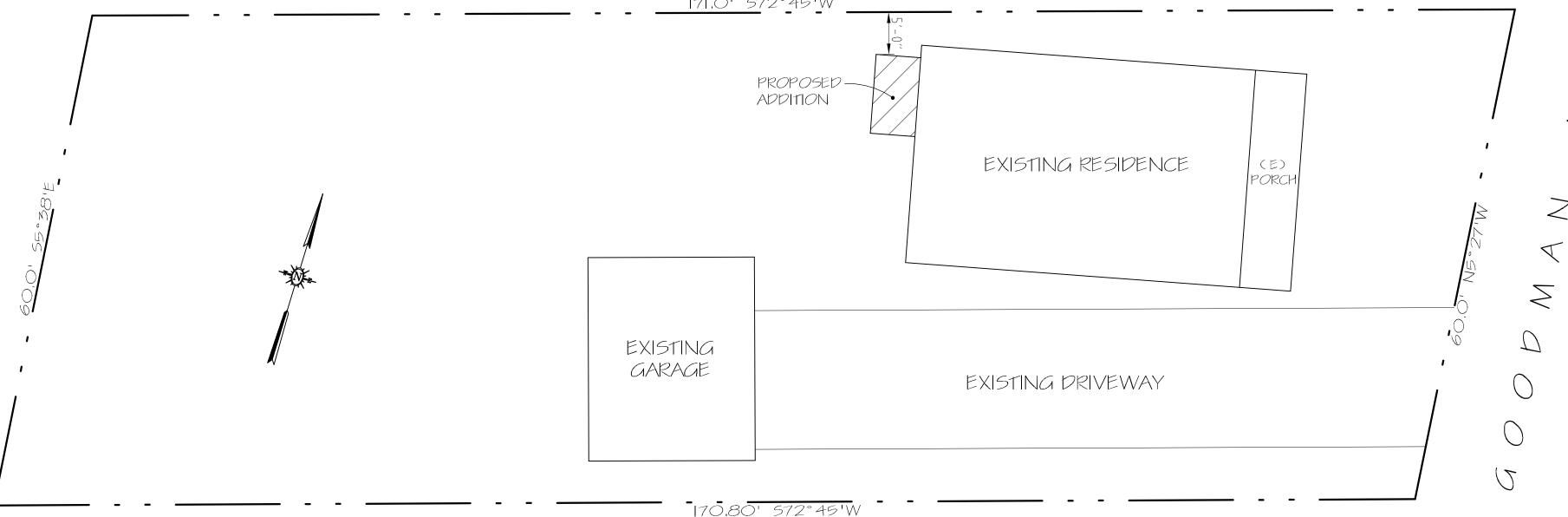
SHEARWALL SCHEDULE

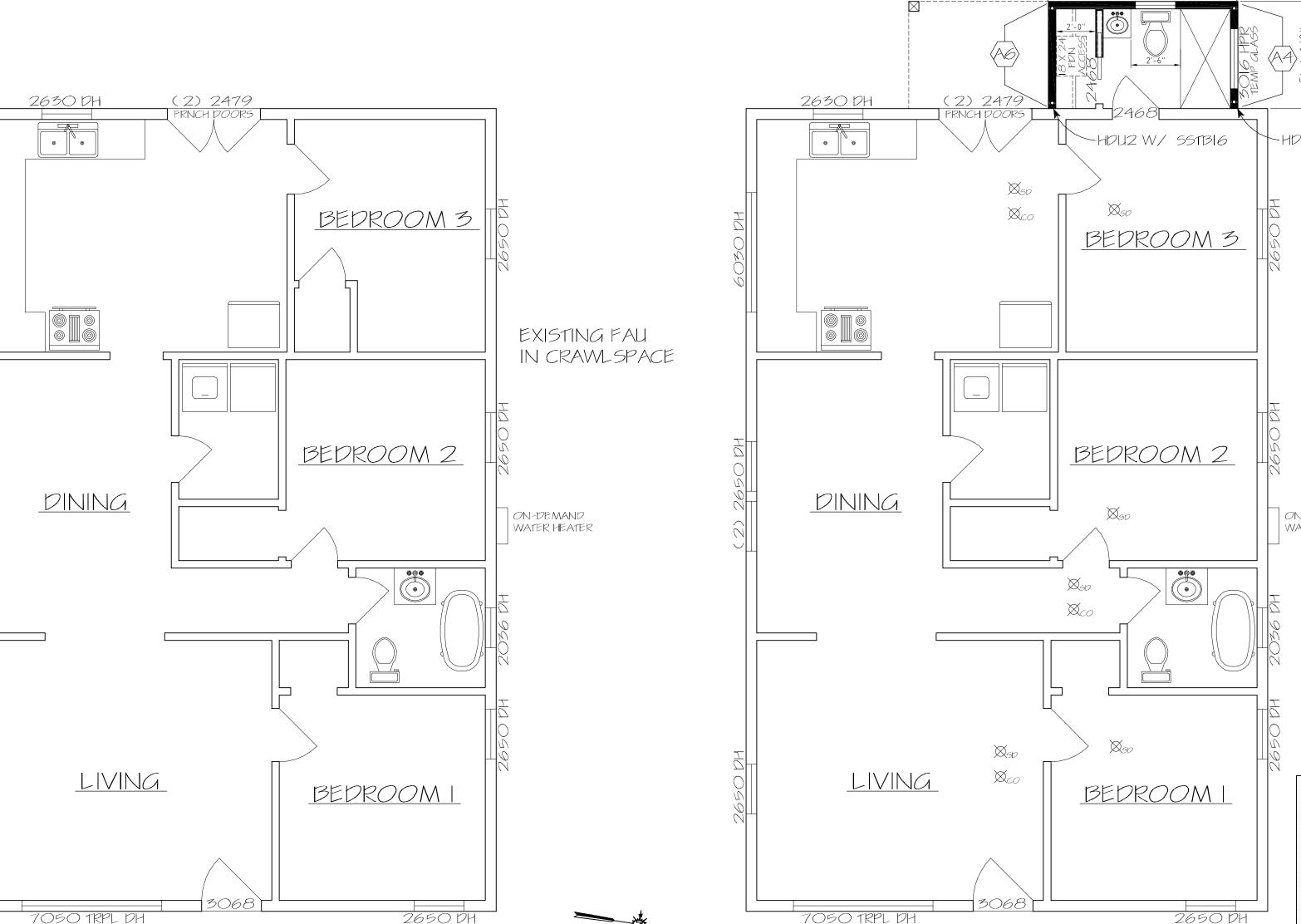
SYMBOL	SHEATHING & EDGE NAILS	ANCHOR BOLTS	NOTES
A6	3/8" MIN APA RATING W/8d@6" OC	5/8" @ 72" OC	1, 2
A4	3/8" MIN APA RATING W/8d@4" OC	5/8" @ 32" <i>0</i> C	I

GENERAL NOTES: FIELD NAILING SHALL BE 12" OC. BLOCK & NAIL ALL PANEL EDGES. USE COMMON NAILS OR HDG FOR SHEARWALLS, SPLICE AT CENTERLINE OF FRAMING. STAGGER NAILS AT JOINTS, "EN" REFERS TO 6" OC OR SHEAR WALL SPACING FOR THAT MEMBER (WHICHEVER HAS CLOSER SPACING), USE 3" X 3" X 0,229" WASHERS AT ANCHOR BOLTS. USE EN AT ALL KING POSTS. ANCHOR BOLTS HAVE 7" EMBEDMENT.

NOTE I: USE 4X MIN. AT TIEDOWNS, OR SISTER (2) 2 X 4 WITH 16d @ EN SPACING NOTE 2: USE A6 FOR ALL EXTERIOR SHEATHING LION.

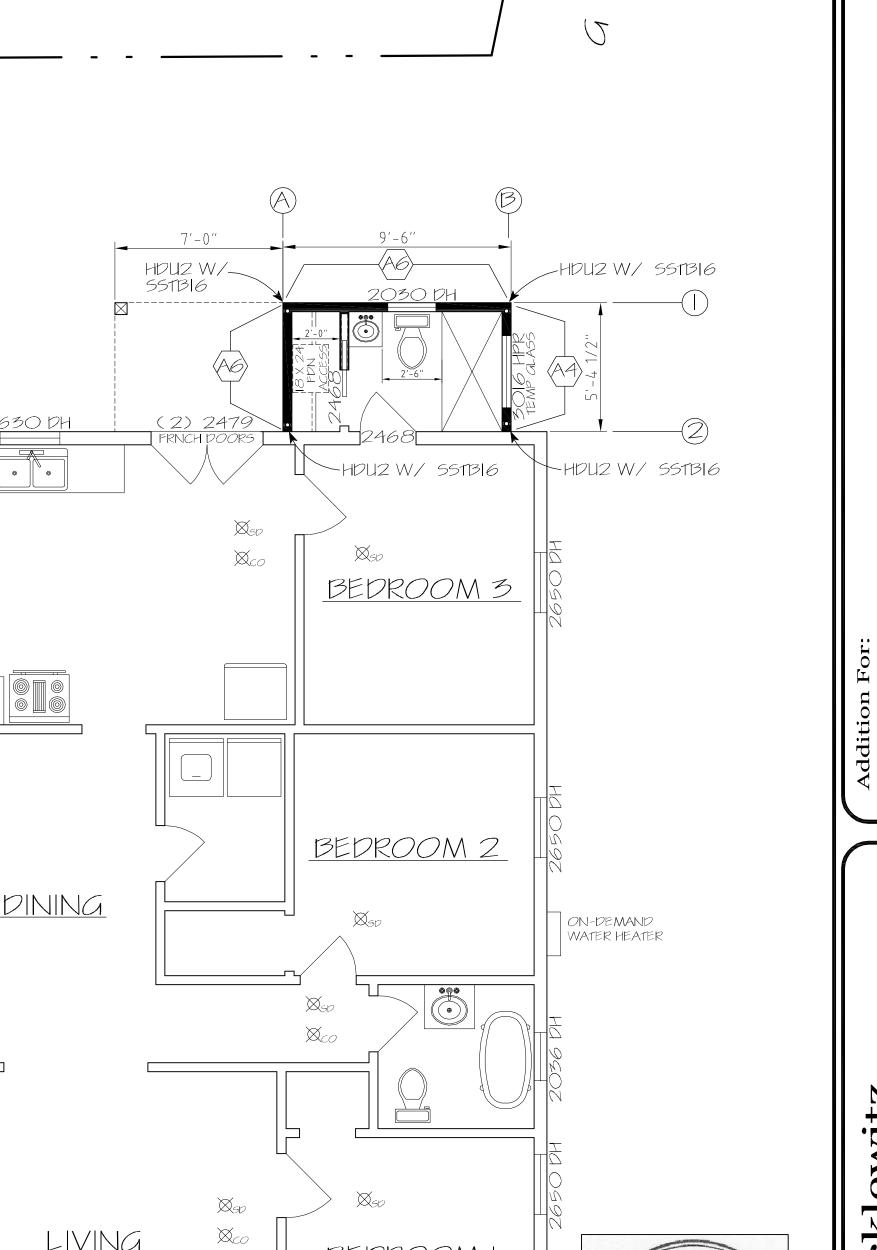






EXISTING FLOOR PLAN

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



PROPOSED FLOOR PLAN SCALE: 1/411 = 1'-011

Sheet:

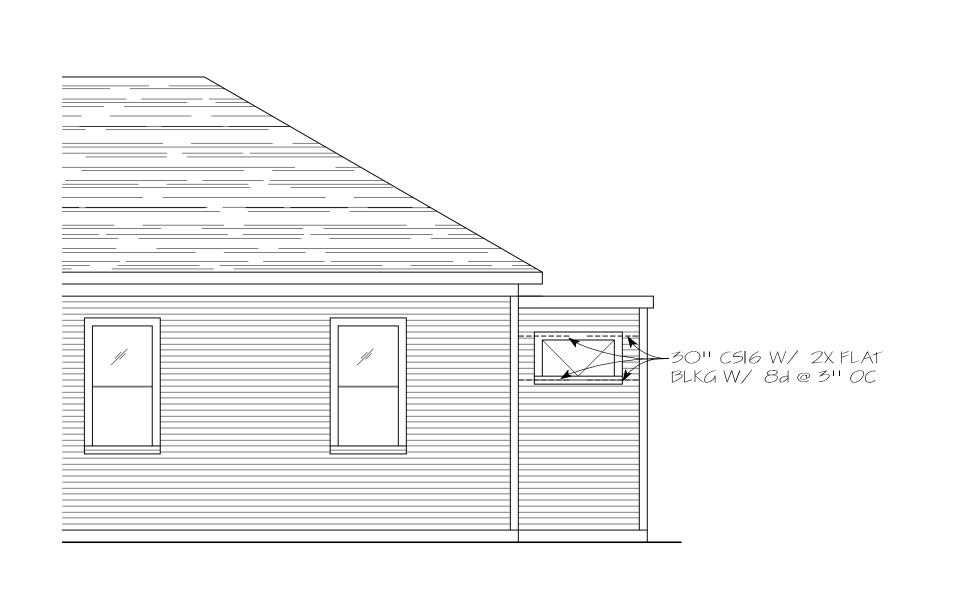
Job No. Drawn By:

Date: 2/17

date |

Revisions:

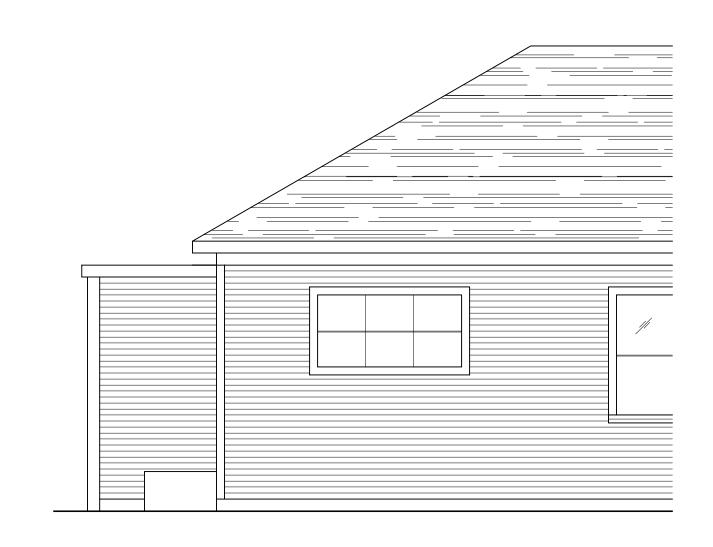
RAR II



RIGHT ELEVATION |/4" = |'-0" SCALE:



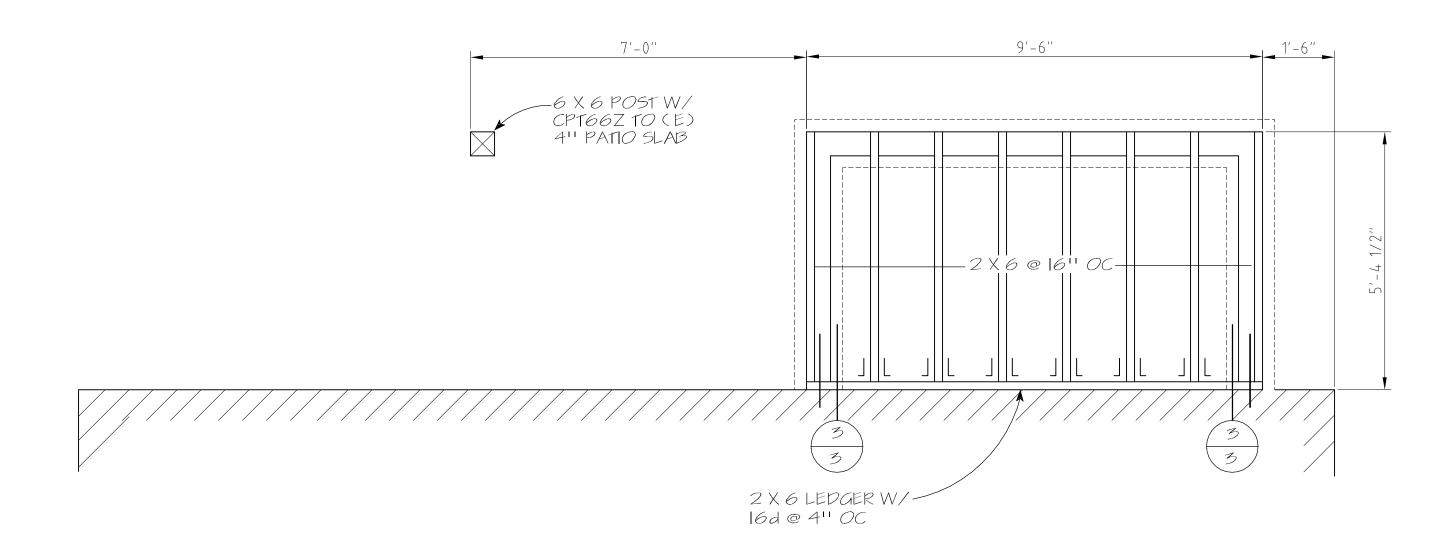
REAR ELEVATION SCALE: 1/4" = 1'-0"



LEFT ELEVATION 1/4" = |'-0" SCALE:

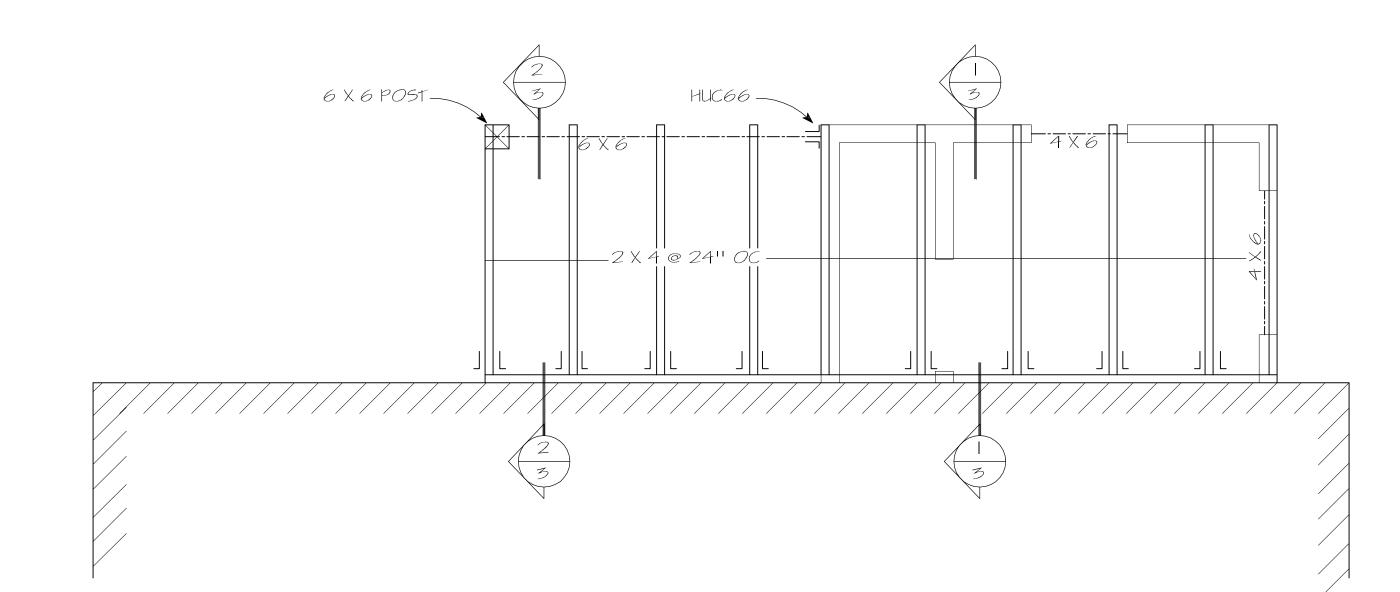
SUBFLOOR VENTS

AREA TO BE VENTED: 51 SQ FT
REQ'D VENT (1/150): 34 SQ FT
USE (2) 6 X 14 SCREENED VENTS,
EQUALLY SPACED

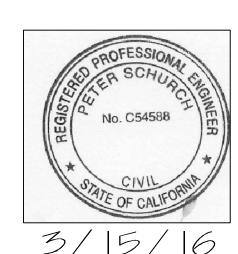


FOUNDATION PLAN

5CALE: 1/2" = 1'-0" SCALE:



ROOF FRAMING PLAN SCALE: 1/2" = 1'-0" SCALE:



Sheet: **2** of **5**

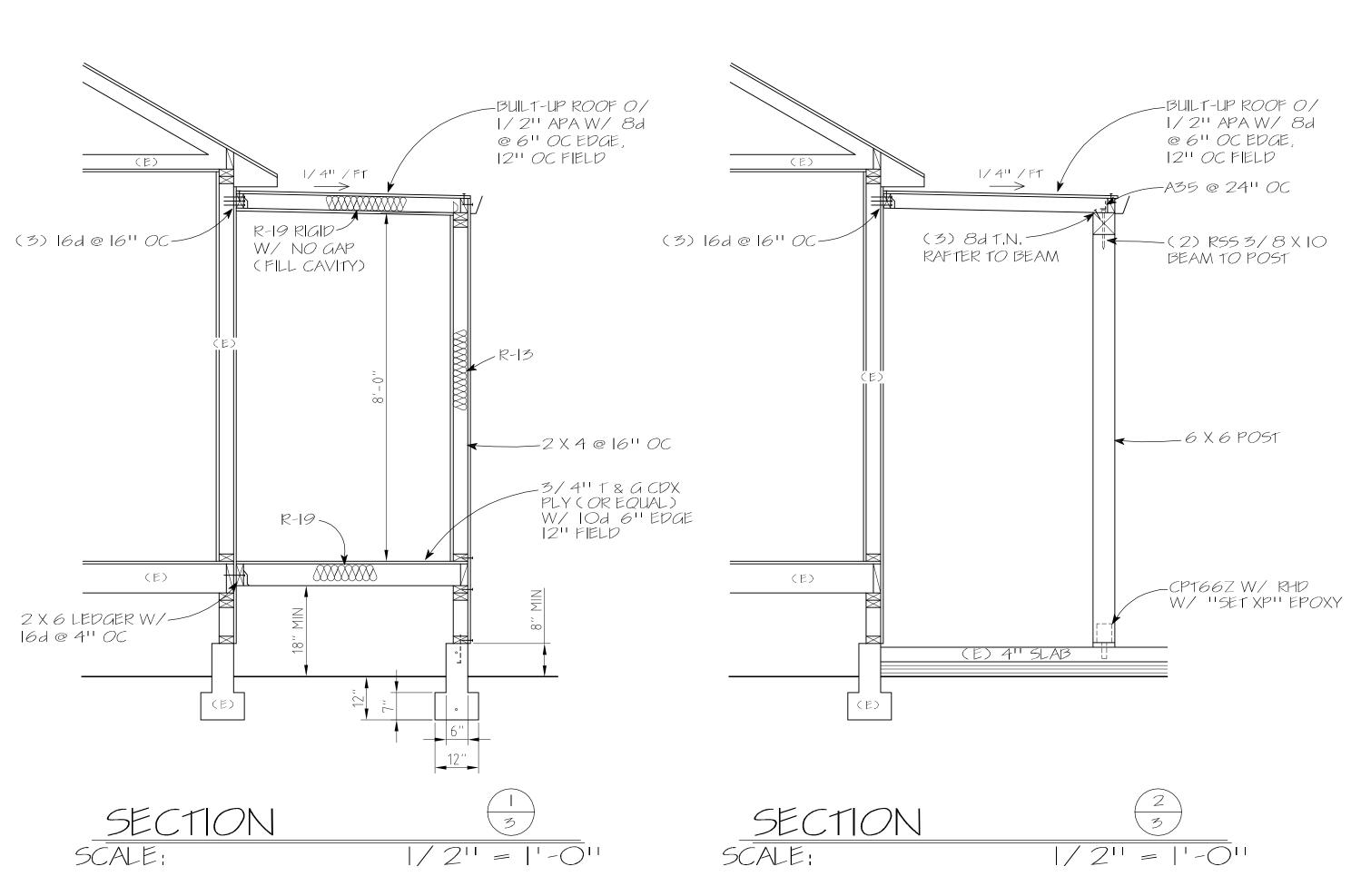
Date: <u>2/17</u>

Job No.

Drawn By:

RAR II

Revisions:



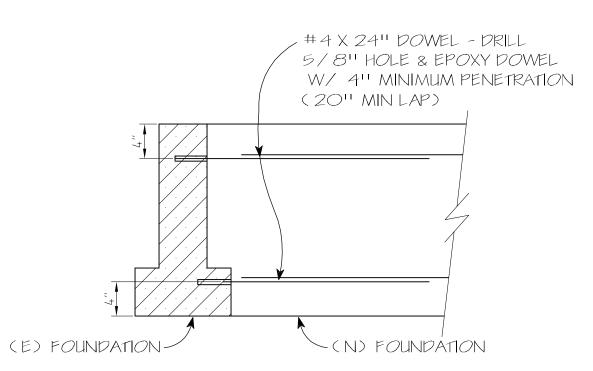
RHD: RETROFIT EPOXY HOLDOWNS

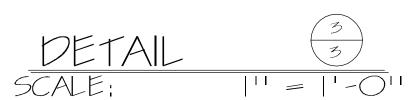
SIMPSON SETXP EPOXY IS REQUIRED USE 1/2" THREADED RODS W/3" EMBEDMENT FOR CPT66Z ENGINEERING OBSERVATION IS REQUIRED FOR RHD INSTALLATION

DRILLED HOLES SHALL BE 5/8" DIAMETER DO NOT DAMAGE REINFORCING

I. CLEAN HOLES USING THE FOLLOWING PROCEDURE: -BLOW DUST OUT FROM THE BOTTOM UP USING A COMPRESSED AIR TUBE WHICH EXTENDS DOWN TO THE BOTTOM OF THE HOLE -SCRUB HOLES WITH A 1/2" WIRE BOTTLE BRUSH

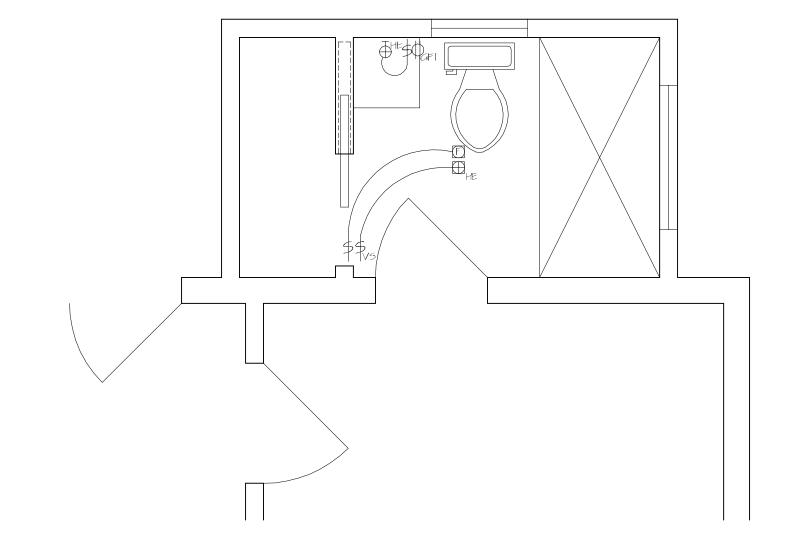
- -REPEAT PROCEDURE AT LEAST THREE TIMES UNTIL ALL SURFACES ARE CLEAN AND NO DUST COMES UP WITH THE COMPRESSED AIR
- 2. INSTALL EPOXY FROM THE BOTTOM OF THE HOLE AND FILL HOLE AT LEAST HALF FULL
- 3. INSERT ROD AND ROTATE ONE TURN TO ENSURE GOOD BONDING
- 4. ALL ANCHORS SHALL BE CLEAN AND GREASE FREE 5. THREADED RODS SHALL BE THREADED FOR THEIR FULL LENGTH





ELECTRICAL SYMBOLS

- GROUND FAULT INTERRUPTER
- X_{SD} IIOV SMOKE DET, W/ BAT, BACK-UP
- XCO CARBON MONOXIDE ALARM
- RECESSED LIGHT (IC RATED)
- RECESSED HIGH-EFFICACY LIGHT (40 LUMENS/WATT OR BETTER)
- OH WALL MOUNTED HIGH-EFFICACY LIGHT
- SINGLE POLE SWITCH
- SWITCH W/ VACANCY SENSOR
- D 50 CFM MIN EXHAUST FAN (W/ BACKDRAFT DAMPER)
- NOTE: ALL RECEPTACLE OUTLETS TO BE LISTED AS TAMPER RESISTANT





Sheet: 3 of 5

Date: <u>2/17</u>

no. | date | by

Job No.

Drawn By:

RAR II

Revisions:

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01 Project Name: Residential Building Project Name: Residential Building Calculation Date/Time: 18:04, Tue, Mar 14, 2017 Page 5 of 6 Calculation Date/Time: 18:04, Tue, Mar 14, 2017 Page 1 of 6 Calculation Description: Title 24 Analysis Input File Name: fitzpatrick addition ONLY.ribd16x Calculation Description: Title 24 Analysis Input File Name: fitzpatrick addition ONLY.ribd16x HVAC - FAN SYSTEMS GENERAL INFORMATION 03 Project Name Residential Building Fan Power (Watts/CFM) Name **HERS Verification** Calculation Description Title 24 Analysis HVAC Fan 1 Single Speed PSC Furnace Fan 0.58 Project Location | 427 Goodman Avenue City Santa Rosa Standards Version | Compliance 2017 07 Zip Code 95407 Compliance Manager Version | BEMCmpMgr 2016.2.1 (695) Climate Zone CZ2 09 Building Type | Single Family Front Orientation (deg/Cardinal) 9 12 Project Scope Newly Constructed (Addition Alone) Number of Dwelling Units Number of Zones Total Cond. Floor Area (ft²) 51 Number of Stories Slab Area (ft²) Addition Cond. Floor Area 51 Natural Gas Available Glazing Percentage (%) 20.6% Addition Slab Area (ft²) 0 ADDITION ALONE PROJECT ANALYSIS PARAMETERS TOTAL AREA **Total Bedrooms** Existing Area (excl. new addition) ft2 Addition Area (excl. existing) ft2 Existing Bedrooms Addition Bedrooms 1020 COMPLIANCE RESULTS **Building Complies with Computer Performance** This building DOES NOT require HERS Verification This building incorporates one or more Special Features shown below **ENERGY USE SUMMARY** 05 Energy Use (kTDV/ft²-yr) Standard Design Proposed Design Compliance Margin Percent Improvement 0.00 0.12 -0.12 Space Heating 0.0% 199.25 197.54 IAQ Ventilation 0.00 0.00 0.00 0.0% 0.00 0.0% 248.80 248.80 Water Heating Photovoltaic Offset 0.00 0.00 448.05 1.59 0.4% Compliance Energy Total HERS Provider: HERS Provider: Registration Number: Registration Date/Time: Registration Date/Time: CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-03032017-695 Report Generated at: 2017-03-14 18:05:25 CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-03032017-695 Report Generated at: 2017-03-14 18:05:25 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01 Project Name: Residential Building Calculation Date/Time: 18:04, Tue, Mar 14, 2017 Page 6 of 6 Project Name: Residential Building Calculation Date/Time: 18:04, Tue, Mar 14, 2017 Page 2 of 6 Calculation Description: Title 24 Analysis **Input File Name:** fitzpatrick addition ONLY.ribd16x Calculation Description: Title 24 Analysis Input File Name: fitzpatrick addition ONLY.ribd16x DOCUMENTATION AUTHOR'S DECLARATION STATEMENT REQUIRED SPECIAL FEATURES The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis. 1. I certify that this Certificate of Compliance documentation is accurate and complete. Documentation Author Name: Documentation Author Signature: New ductwork added is less than 40 ft. in length Rick Rocklewitz HERS FEATURE SUMMARY The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is NRG Compliance, LLC provided in the building components tables below. Address: PO Box 3777 CEA/HERS Certification Identification (If applicable): Building-level Verifications: **Cooling System Verifications:** City/State/Zip: Santa Rosa, California 95402 Phone: 707-237-6957 **HVAC Distribution System Verifications:** RESPONSIBLE PERSON'S DECLARATION STATEMENT Domestic Hot Water System Verifications: -- None --I certify the following under penalty of perjury, under the laws of the State of California: I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. BUILDING - FEATURES INFORMATION I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, Number of Ventilation Number of Water worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application. Number of Dwelling Cooling Systems **Project Name** Conditioned Floor Area (ft2) Number of Bedrooms Number of Zones Heating Systems Units Responsible Designer Signature: esponsible Designer Name: Rick Rocklewitz Residential Building Company: Rick Rocklewitz Date Signed: ZONE INFORMATION 03 04 06 07 Address: 401 Watertrough Road Zone Floor Area Avg. Ceiling License: Zone Type **HVAC System Name** (ft²) Water Heating System 1 Water Heating System 2 Zone Name Height First Floor Addition HVAC System1 Conditioned 51 City/State/Zip: Sebastopol, California 95472 707-824-1803 OPAQUE SURFACES 03 04 80 Name Zone Construction Azimuth Orientation Gross Area (ft²) | Window & Door Area (ft²) | Tilt (deg) First Floor Addition Left Wall R-13 Wall 180 Left First Floor Addition R-13 Wall 270 90 Rear Wall Back Right Wall First Floor Addition R-13 Wall 4.5 90 Raised Floor First Floor Addition R-19 Floor Crawlspace 51 Registration Date/Time: HERS Provider: Registration Number: Registration Date/Time: HERS Provider: CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-03032017-695 Report Generated at: 2017-03-14 18:05:25 CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-03032017-695 Report Generated at: 2017-03-14 18:05:25 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01 Project Name: Residential Building Calculation Date/Time: 18:04, Tue, Mar 14, 2017 Page 3 of 6 Calculation Description: Title 24 Analysis Input File Name: fitzpatrick addition ONLY.ribd16x OPAQUE SURFACES - Cathedral Ceilings 04 05 10 Orientatio Skylight Area Roof Rise Roof Roof Tilt Framing Area (ft²) (ft2) (x in 12) Pitch (deg) Reflectance Emittance Factor Roof First Floor Addition R-19 Roof No Attic Back 51 0.1 0.85 0.1 FENESTRATION / GLAZING 01 02 03 05 06 07 80 10 (ft²) Surface (Orientation-Azimuth) **Exterior Shading** Name Type Width (ft) (ft) Multiplier U-factor SHGC Window Window Rear Wall (Back-270) 6.0 0.34 0.30 Insect Screen (default) Right Wall (Right-0) 4.5 0.34 0.30 Insect Screen (default) Window 2 Window OPAQUE SURFACE CONSTRUCTIONS 03 Total Cavity Winter Design **Construction Name** Surface Type **Construction Type** Framing R-value U-value **Assembly Layers** Floor Surface: Carpeted Floors Over Floor Deck: Wood Siding/sheathing/decking R-19 Floor Crawlspace Wood Framed Floor 2x6 @ 16 in. O.C. R 19 Cavity / Frame: R-19 / 2x6 Crawlspace Inside Finish: Gypsum Board Cavity / Frame: R-13 / 2x4 Exterior Finish: Wood R-13 Wall Wood Framed Wall 2x4 @ 16 in. O.C. R 13 Exterior Walls Siding/sheathing/decking Inside Finish: Gypsum Board Cavity / Frame: R-19 / 2x8 Roof Deck: Wood Siding/sheathing/decking Cathedral Ceilings | Wood Framed Ceiling R-19 Roof No Attic 2x8 @ 16 in. O.C. R 19 0.054 Roofing: 5 PSF (Normal Gravel) BUILDING ENVELOPE - HERS VERIFICATION Quality Insulation Installation (QII) **Quality Installation of Spray Foam Insulation** CFM50 Not Required Not Required Not Required WATER HEATING SYSTEMS 02 Distribution Type Solar Fraction (%) Name System Type Water Heater Number of Heaters DHW Sys 1 DHW Heater 1 (1) Registration Date/Time: CA Building Energy Efficiency Standards - 2016 Residential Compliance Report Version - CF1R-03032017-695 Report Generated at: 2017-03-14 18:05:25 CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01 Calculation Date/Time: 18:04, Tue, Mar 14, 2017 Project Name: Residential Building Page 4 of 6 Calculation Description: Title 24 Analysis Input File Name: fitzpatrick addition ONLY.ribd16x WATER HEATERS Tank Energy ank Insulatio ank Location o Heater Volume Factor or R-value Standby Loss / Ambient NEEA Heat Pump Type Name **Element Type** Tank Type of Units (gal) Efficiency Rating/Pilot (Int/Ext) Recovery Eff Condition 0.82 EF 199000 Btu/h n/a DHW Heater 1 SPACE CONDITIONING SYSTEMS 04 03 SC Sys Name System Type **Heating Unit Name Cooling Unit Name** Fan Name **Distribution Name** Other Heating and Cooling HVAC Fan 1 HVAC System1 Heating Component 1 Cooling Component 1 Air Distribution System HVAC - HEATING UNIT TYPES System Type Number of Units Efficiency CntrlFurnace 78 AFUE **Heating Component 1** HVAC - COOLING UNIT TYPES 02 03 04 06 80 Efficiency System Type EER SEER **HERS Verification Number of Units** Zonally Controlled Compressor Type Cooling Component 1 **HVAC - DISTRIBUTION SYSTEMS** 03 04 05 06 07 Insulation R-value **HERS Verification** Name Type Duct Leakage **Duct Location** Bypass Duct Air Distribution System Air Distribution System 1 **DuctsCrawl** Existing (not specified) Crawl space 1-hers-dist HVAC DISTRIBUTION - HERS VERIFICATION 01 02 03 04 05 06 07 80 **Duct Leakage Duct Leakage Verified Duct** Verified Duct Buried **Deeply Buried** Low-leakage Verification Target (%) Location Ducts **Ducts** Air Handler Air Distribution System 1-hers-dist Not Required Not Required Not Required Not Required Not Required

Sheet:

Rick Rocklewitz

401 Watertrough Road, Sebastopol, CA 95472

phone: 707-824-1803 email: raj@sonic.net Addition For:

Brian Fitzpatrick

427 Goodman Avenue, Santa Rosa, CA 95407

APN: 125-172-042

phone: 707-548-7030 email: sparrowcarpentry@gmail.com

Registration Number:

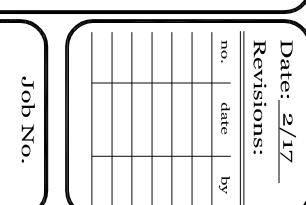
CA Building Energy Efficiency Standards - 2016 Residential Compliance

HERS Provider:

Report Generated at: 2017-03-14 18:05:25

Registration Date/Time:

Report Version - CF1R-03032017-695



RESIDENTIAL MEASURES SUMMARY		MMAKY	1	1		RMS-1
Brian Fitzpatrick		Building Type	☐ Multi Family	/ □ Existing+	☐ Existing+ Addition/Alteration	3/14/2017
venue	Santa Rosa	California En	California Energy Climate Zone CA Climate Zone 02	Total Cond. Floor Area 51	or Area Addition	# of Units
INSULATION		Carit				P to the contract of the contr
5	ace .	R 19	51			New
		R 13	152			New
Roof Wood Framed Rafter		R 19	51			New
Demising Wocd Framed		- no insulation	65			Existing
FENESTRATION	Total Area:	11 Glazino	Glazing Percentage: 20	20.6% New/Alte	New/Altered Average II-Factor	0.34
$ea(ft^2)$		SHGC Overhang	nang Sidefins		Exterior Shades	Status
5.0	0.340	0.30 none	none	Bug Screen	en	New
Right (N) 4.5	0.340	0.30 none	попе	Bug Screen	en	New
IVAC SYSTEMS	Min. Eff	Cooling	Min	F.	Thermostat	Status
IVAC SYSTEMS Oty. Heating Central Furnace	Min. Eff	Cooling No Cooling	Min 14.0	Min. Eff	Thermostat	Status Existing
AVAC DISTRIBUTION	Min. Eff 78% AFUE	Cooling No Cooling	Min	I. Eff	Thermostat	Status Existing
SYSTEMS Heating Central Furnace DISTRIBUTION on	Min. Eff 78% AFUE	Cooling No Cooling Cooling	Min 14.0	h. Eff	Thermostat Setback Duct R-Value	Status Existing Status
IVAC SYSTEMS Aty. Heating Mi Central Furnace 78 I Central Furna	Min. Eff 78% AFUE	Cooling Cooling Ducted	Min. Eff 14.0 SEER Duct Location Crawispace	h. Eff	Thermostat Setback SetDuct R-Value	Status Existing Status Altered
STRIBUTION STRIBUTION STRIBUTION STRIBUTION DO NOT THE ATTING Pe	Min. Eff (78% AFUE	No Cooling Cooling No Cooling No Cooling No Cooling	Min 14.0 Duct Locs Crawispace Crawispace	Min. Eff 14.0 SEER 1 Location pace	Thermostat Setback SetDuct R-Value 6.0	Status Existing Status Altered
AC SYSTEMS y. Heating Central Furnace AC DISTRIBUTION Cation C System C System D C Type Type		No Caoling No Caoling No Caling No Caoling No Caoling) Juc	bution	Thermostat Setback Puct R-Value 6.0	Status Existing Status Altered Status

EnergyPro 7.1 by EnergySoft User Number: 5581	NATER HEATING এty. TypeGallons	VAC System Ducted	STRIBUTIO	Central Furnace 78% AFUE	IVAC SYSTEMS Qty. Heating Min. Eff	4.5 0.340
	ns Min. Eff	Ducted		No Caoling	Cooling	0.30 none
	f Distribution	Crawispace		14.0 SEER	Min. Eff	none E
ID: 03141701		6.0	Duct	Setback	Thermostat	Bug Screen
Page 9 of 13	Status	Altered		Existing	Status	New

§ 150.0(k)3A:

Interior Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each of these spaces must be controlled by a vacancy sensor.

Interior Switches and Controls. Dimmers or vacancy sensors must control all luminaires required to have light sources compliant with Reference Joint Appendix JAB, except luminaires in closets less than 70 square feet and luminaires in hallways.'

Interior Switches and Controls. Undercabinet lighting must be switched seperately from other lighting systems.

Residential Outdoor Lighting. For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings on the same lot, must meet the requirement in item § 150.0(k)3Ai (ON and OFF switch) and the requirements in either item § 150.0(k)3Aii (photocell and motion sensor) or item § 150.0(k)3Aii (photo control and automatic time switch control, astronomical time clock, or

2016 Low-Rise Residential Mandatory Measures Summary Switches and Controls. In bathrooms, garages, laundry rooms, and utility rooms, at least one luminaire in each

EMCS).

Residential Outdoor Lighting. For low-rise multifamily residential buildings, outdoor lighting for private patios, entrences, balconies, and porches; and outdoor lighting. For low-rise multifamily residential buildings, outdoor lighting for private patios, entrences, balconies, and porches; and outdoor lighting. For low-rise multifamily residential buildings with four or more oveiling units, outdoor lighting not regulated by \$150.0(k)30 or with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.

Residential Outdoor Lighting. For low-rise residential buildings with four or more oveiling units, outdoor lighting not regulated by \$150.0(k)30 or § 150.0(k)30 must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7 and 141.0.

Residential Outdoor Lighting. Outdoor lighting for residential parking lots and residential carporis with a total of eight or more vehicles per site must comply with the applicable requirements in §§ 110.9, 130.0, 130.2, 130.4, 140.7, and 141.0.

Internally illuminated address signs. Internally illuminated address signs must comply with § 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).

Residential Garages for Eight or More Yehicles. Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for nonresidential garages in §§ 110.9, 130.1, 130.1, 130.4, 140.8; or must consume no more than 5 watts of power as determined according to § 130.0(c).

Residential Garages for Eight or More Yehicles. Lighting for residential Buildings. In a low-tise multifamily residential building where the total interior common area in a single building equals not either 20 percent of the floor area, permanently installed lighting in that building must:

1. Comply with the applicable requirements in §§ 110.9, 130.0, 130.1, 140.6 and 141.0; and

2. Lighting for the interior common area of Low-rise Multi-Family Residential Buildings. In a low-tise multifamily res

Single Family Residences. Single family residences boated in subdivisions with ten or more single family residences and where the application for a translative subdivision map for the residences has been ceamed complete by the enforcement agency must comply with the requirements of § 110.10(c) though § 110.10(c).

Low-rise Multi-family Buildings. Low-rise multi-family buildings must comply with the requirements of § 110.10(c) through § 110.10(c).

Winnum Area. The solar zone bust have a minimum total area as described below. The solar zone must comply with access, pathway, smoke verification, and specing requirements as specified in Title 24. Part 9 in other Parts of Title 24 or in any requirements adopted by a local jurisdiction. The solar zone bust have a minimum total area and the solar part of the solar zone must be comprised of areas that have no dimersion less than 5 feet and are no less than 60 square feet. For low-rise multi-family buildings the solar zone must be located on the roof or overhang of the buildings with nor direas less than or equal to 1000 square less.

The solar zone multi-family buildings to solar zone must be located on the roof or overhang of the building and have a total area no less than 60 square feet. For low-rise multi-family buildings or no covered perking insaltied with the building and have a total area no less than 250 square feet. For low-rise multi-family buildings or no covered perking insaltied with the building and have a total area no less than 60 square feet and care no feet for a contract of the solar zone must not contain any abstructions, including but not limited to vents, chirmays, architectural features, and roof mounted equipment.

Shading. The solar zone must not contain any obstructions, including but not limited to vents, chirmays, architectural features, and roof the least process on the roof or any other part of the building that projects above a solar zone must be located at east twice the distance, are solar to the politic of the construction documents. F

§ 150.0		Hage 9 of 13	D: 03141701			1007	Oser Number: 3567		energyFro 7.1 by EnergySon
§ 110.3(5		D. 00444704						
§ 110.20 § 110.30		Status	חת	Distribution	Min. Eff	Gallons		ATING	VATER HEATING Ωty. Type
§ 110.2		Altered	6.0	Crawispace		Ducted		Ducted	VAC System
§ 110.0- § 110.2		Status		Duct Location	ing	S)	Heating	RIBUTION He	Ocation H
Space (
§ 150.0		Existing	Setback	14.0 SEER	No Caoling		78% AFUE	urnace	1 Central Furnace
§ 150.00		Status	Thermostat	Min. Eff	Cooling		Min. Eff	ig EMS	Aty. Heating
§ 150.0									
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§ 150.0		New	Bug Screen	попе	none	0.30	0.340	4.5	ight (N)
		New	Bug Screen	none	none	0.30	0.340	6.0	ear (W)
§ 150.0		Status	Exterior Shades	idefins	Overhang	SHGC	U-Fac	Area(ft²)	Drientation
§ 110.8		0.34	New/Altered Average U-Factor:	20.6%	Glazing Percentage:	a: 11	Total Area:	NOI	ENESTRATION
§ 110.8									
§ 110.8		Existing		65	- no insulation	- no ins		ramed	emising Wocd Framed
§ 110.7:		New		51		R 19		Wood Framed Rafter	aof Wood F
§ 110.6		New		152	78	R 13		ramed	'all Wood Framed
S I I S		New		51		R 19	Space	5	loar Wood F
§ 110.6		Status	Special Features		Area (ft^2)	Cavity		n Type	NSULATION Construction
	1			,					



2016 Low-Rise Residential Mandatory Measures Summary

2016 Low-Rise Residential Mandatory Measures Summary nces. Installed air conditioner and heat pump outdoor condensing units must have a clearance of at least 5 feet

WOTE: Low-rise residence....

Used. Review the respective section for more minimal control of the section for the section for the section of the section for more minimal control of the section for more minimal control of the section for must be called and/or weatherstipped.

§ 110.8(a):

Insulation Certification by Manufacturers. Insulation specified or installed must meet Standards for Insulating Material.

The manufacturers and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing and the section of a cool tool is specified on the CF13.

The manufacturer of the section of the section of the control of the cooling of the requirement of Consumer Affairs. red Slab Floors. Heated slab floors must be insulated per the requirements of § 110.8(g).

Ince and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing is of § 110.8(f) when the installation of a cool roof is specified on the CF1R.

Inust have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.

In Minimum R-22 insulation in wood-frame ceiling; or the weighted average U-factor must not exceed 0.043.

U-factor of 0.054 or less in a rafter roof alteration. Attic access doors must have permanently attached rical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in for ceiling which is sealed to limit infiltration and exfiltration as specified in § 110.7, including but not limited below the roof deck or on top of a drywall ceiling.

§ 150.0(m)9:

Insulation Certification by Manufactures, Insulation specified or insulated must meat standards by insulation growing waters.

Insulation Requirements for Heated Stab Floore, Heated stab floore, must be insulated price and applications of \$110.8(g).

Roofing Products Solar Reflectance and Themal Emittance. The thermal emitterce and aged do bit reflectance values of the modify meterial must meet the requirements of \$110.8(g). Insulation in the stability of the product solar Reflectance and Themal Emittance. The thermal emitterce and aged do bit reflectance values of the modify meterial must meet the requirements of \$110.8(g). When the insulation is must be agreed to the CFFR.

Redard Barrier, A redard Interier must have an emitternance of 0.05 or less in a "after roof latement." All coacease door must have permanently administer the modifier of the product should be administrated of the CFFR.

Redard Barrier, A redard Interier must have an emitternance of 0.05 or less and be certified to the Department of Ordination of the CFFR.

Redard Barrier, A redard Interier must have an emitternance of 0.05 or less in a "after roof latement." All coacease door must have permanently attended insulation. Information of the product § 150.0(n)1:

Liquid Line Drier, installed air conditioner and heat pump systems must be equipped with I quid line their coros in requirements.

Liquid Line Drier, installed air conditioner and heat pump systems must be equipped with I quid line their color water-heafing systems, must have RA12 external installation. Infrared his water heating and pooling system line installation. For choracterish had were system piper grade; and all the storage tank; all piping sessociated with a domestic his water pipers grade and so ling system line installation. For choracterish had were system piper; grade; and all his blowing must be installed according to the requirements of TABLE 120.3 A: the first 6 feet of hot and cold violet pipes from the storage tank; all piping sessociated with a domestic his water piper grade; and all his down or larger, all piping sessociated with a domestic his water pipers from the storage tank; all piping with a mornimal dameter of SA indio charger, all the storage tank; all piping with a constitution system pipers from the storage tank; all piping with a constitution of the material constitution. The pipers from the storage tank; all piping source by the piper grade; and all the value pipers from the hadron source by the pipers from the pipers from the hadron source by the pipers from the pipers source by the pipers from the pipers from the hadron source by the pipers from the hadron source by the pipers from the hadron source by the first source that the content pipers from the hadron source by the first source and the pipers from the hadron source by the first source by the first source that the first source by the first source that the first source and the first source and the first source that source the pipers from the hadron source by the pipers from the hadron source by the source that it is not pipers from the hadron and the space where the water heater; a Calegory III or IV vent or all type By and the material code (and the pipers and the pipers from the hase of the water heater; and the pipers f

2016 Low-Rise Residential Mandatory Measures Summary ystem Sizing and Air Filter Grille Sizing. Space conditioning systems that use forced air ducts to supply cooling the strain of the

Rick Rocklewitz

401 Watertrough Road, Sebastopol, CA 95472

Brian Fitzpatrick

Addition For:

427 Goodman Avenue, Santa Rosa, CA 95407 APN: 125-172-042

email: sparrowcarpentry@gmail.com phone: 707-548-7030

Job

Revisions:

email: raj@sonic.net

Sheet: