

2019 CALIFORNIA GREEN BUILDING CODE -MANDATORY MEASURES-

4.1 SITE DEVELOPMENT

1. PROJECT DISTURBS LESS THAN ONE ACRE OF SOIL AND IS NOT PART OF A LARGER DEVELOPMENT WHICH DISTURBS MORE THAN ONE ACRE OF SOIL. SEE EROSION AND DUST CONTROL ORDINANCE REGARDING SITE RUNOFF DURING CONSTRUCTION. RUNOFF WILL BE CONTROLLED PER LOCAL STORM WATER ORDINANCES WHERE THEY EXIST. **C.G.C. 4.106.2**
2. SITE HAS BEEN PLANNED TO PREVENT THE ENTRANCE OF STORM WATER INTO THE BUILDING PER **C.G.C. 4.106.3**

4.2 ENERGY EFFICIENCY

1. PROJECT AT MINIMUM COMPLIES WITH CALIFORNIA ENERGY STANDARDS. **C.G.C. 4.201.1**

4.3 WATER EFFICIENCY AND CONSERVATION

1. PLUMBING FIXTURES SHALL MEET THE FOLLOWING FLOW RATES PER **C.G.C. 4.303**:
 - A. 2.0 GALLONS MAXIMUM PER MINUTE FOR NEW SINGLE SHOWER HEADS AT 80 PSI
 - B. 2.0 GALLONS MAXIMUM PER MINUTE COMBINED FLOW RATE FOR NEW MULTIPLE SHOWER HEADS AND/OR OTHER OUTLETS CONTROLLED BY ONE VALVE AT 80 PSI
 - C. 1.2 GALLONS MAXIMUM PER MINUTE FOR NEW LAVATORY FAUCETS AT 60 PSI AND 0.8 GALLONS PER MINUTE MINIMUM AT 20 PSI
 - D. 1.8 GALLONS MAXIMUM PER MINUTE FOR NEW KITCHEN FAUCETS (EXCEPT FOR TEMPORARY FLOW RATES UP TO 2.2 GPM MAX @ 60 PSI)
 - E. 1.28 GALLONS MAXIMUM PER FLUSH FOR NEW TOILETS**C.G.C. 4.303**
2. RESIDENTIAL DEVELOPMENTS SHALL COMPLY WITH A LOCAL WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) WHICHEVER IS MORE STRINGENT. **C.G.C. 4.304.1**

4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

1. ANNUAL SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS, OR OTHER OPENINGS IN PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR A SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY. **C.G.C. 4.406.1**
2. A MINIMUM OF 65% OF THE NON-HAZARDOUS CONSTRUCTION WASTE GENERATED AT THE SITE IS DIVERTED TO RECYCLE OR SALVAGE PER **C.G.C. 4.408.1**
3. A CONSTRUCTION WASTE MANAGEMENT PLAN SHALL BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL THAT AT MINIMUM:
 - A. IDENTIFIES THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.
 - B. SPECIFIES IF THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE OR BULK MIXED.
 - C. IDENTIFIES THE DIVERSION FACILITY WHERE THE THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL WILL BE TAKEN.
 - D. IDENTIFIES CONSTRUCTION METHODS EMPLOYED TO REDUCE THE AMOUNT OF THE CONSTRUCTION AND DEMOLITION WASTE GENERATED.
 - E. SPECIFIES THAT THE AMOUNT OF THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BOTH.**C.G.C. 4.408.2**
4. AT THE TIME OF FINAL INSPECTION, A MANUAL, COMPACT DISK, WEB-BASED REFERENCE OR OTHER MEDIA ACCEPTABLE TO THE ENFORCING AGENCY WHICH INCLUDES ALL OF THE FOLLOWING SHALL BE PLACED IN THE BUILDING BY THE CONTRACTOR.
 - A. DIRECTIONS TO THE OWNER OR OCCUPANT THAT THE MANUAL SHALL REMAIN WITH THE BUILDING THROUGHOUT THE LIFE CYCLE OF THE STRUCTURE.
 - B. OPERATION AND MAINTENANCE INSTRUCTIONS FOR EQUIPMENT AND APPLIANCES, INCLUDING WATER-SAVING DEVICES AND SYSTEMS, HVAC SYSTEMS, PHOTOVOLTAIC SYSTEMS, ELECTRIC VEHICLE CHARGERS, WATER-HEATING SYSTEMS AND OTHER MAJOR APPLIANCES AND EQUIPMENT, ROOF AND YARD DRAINAGE, INCLUDING GUTTERS AND DOWNSPOUTS, SPACE CONDITIONING SYSTEMS, INCLUDING CONDENSERS AND AIR FILTERS, LANDSCAPE IRRIGATION SYSTEMS, WATER REUSE SYSTEMS.
 - C. INFORMATION FROM LOCAL UTILITY, WATER AND WASTE RECOVERY PROVIDERS ON METHODS TO FURTHER REDUCE RESOURCE CONSUMPTION, INCLUDING RECYCLE PROGRAMS AND LOCATIONS.
 - D. PUBLIC TRANSPORTATION AND/OR CARPOOL OPTIONS AVAILABLE IN THE AREA.
 - E. EDUCATIONAL MATERIAL ON THE POSITIVE IMPACTS OF AN INTERIOR RELATIVE HUMIDITY BETWEEN 30-60% AND WHAT METHODS ON OCCUPANT MAY USE TO MAINTAIN THE RELATIVE HUMIDITY LEVEL IN THAT RANGE.
 - F. INFORMATION ABOUT WATER CONSERVING LANDSCAPE AND IRRIGATION DESIGN AND CONTROLLERS WHICH CONSERVE WATER.
 - G. INSTRUCTION FOR MAINTAINING GUTTERS AND DOWNSPOUTS AND THE IMPORTANCE OF DIVERTING WATER AT LEAST 5 FEET AWAY FROM THE FOUNDATION.
 - H. INFORMATION ON REQUIRED ROUTINE MAINTENANCE MEASURES, INCLUDING, BUT NOT LIMITED TO, CAULKING, PAINTING, GRADING AROUND THE BUILDING, ETC.
 - I. INFORMATION ABOUT STATE SOLAR ENERGY AND INCENTIVE PROGRAMS AVAILABLE.
 - J. A COPY OF ALL SPECIAL INSPECTION VERIFICATIONS REQUIRED BY THE ENFORCING AGENCY OR THIS CODE.**C.G.C. 4.410.1**

4.5 ENVIRONMENTAL QUALITY

1. ANY INSTALLED GAS FIREPLACES SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS. THEY SHALL ALSO COMPLY WITH ALL LOCAL ORDINANCES. **C.G.C. 4.503.1**
2. AT THE TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE, AND UNTIL FINAL STARTUP OF THE HEATING AND COOLING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF WATER, DUST, AND DEBRIS WHICH MAY ENTER THE SYSTEM. **C.G.C. 4.504.1**
3. ADHESIVES, SEALANTS, CAULKS AND OTHER TOXIC COMPOUNDS SHALL MEET VOC LIMITS OF **C.G.C. TABLE 4.504.1 OR TABLE 4.504.2**. **C.G.C. 4.504.2.1**
4. PAINTS, STAINS AND OTHER COATINGS SHALL BE COMPLIANT WITH VOC LIMITS OF **C.G.C. TABLE 4.504.3**. **C.G.C. 4.504.2.2**
5. AEROSOL PAINTS AND COATINGS SHALL BE COMPLIANT WITH PRODUCT-WEIGHTED MIR LIMITS FOR ROC AND OTHER TOXIC COMPOUNDS IN COMPLIANCE WITH CALIFORNIA CODE OF REGULATIONS, TITLE 17. **C.G.C. 4.504.2.3**
6. ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE TESTING AND PRODUCT REQUIREMENTS OF ONE OF THE FOLLOWING:
 - A. CARPET AND RUG INSTITUTE'S GREEN LABEL PLUS PROGRAM
 - B. CALIFORNIA DEPARTMENT OF PUBLIC HEALTH "STANDARD PRACTICE FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS" VERSION 1.1, FEBRUARY 2010
 - C. NSF/ANSI 140 AT THE GOLD LEVEL
 - D. SCIENTIFIC CERTIFICATIONS SYSTEMS INDOOR ADVANTAGE GOLD**C.G.C. 4.504.3**
7. ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CARPET AND RUG INSTITUTE GREEN LABEL PROGRAM. **C.G.C. 4.504.3.1**
8. ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF **C.G.C. TABLE 4.504.1**. **C.G.C. 4.504.3.2**
9. WHERE RESILIENT FLOORING IS INSTALLED, AT LEAST 80 PERCENT OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:
 - A. PRODUCTS COMPLIANT WITH THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH "STANDARD PRACTICE FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS" VERSION 1.1, FEBRUARY 2010, CERTIFIED AS A CHPS LOW-EMITTING MATERIAL IN THE COLLABORATIVE FOR HIGH PERFORMANCE SCHOOLS HIGH PERFORMANCE PRODUCTS DATABASE
 - B. PRODUCTS CERTIFIED UNDER UL GREENGUARD GOLD
 - C. CERTIFICATION UNDER THE RESILIENT FLOOR COVERING INSTITUTE FLOORSORE PROGRAM.
 - D. MEET THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH "STANDARD PRACTICE FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS" VERSION 1.1, FEBRUARY 2010**C.G.C. 4.504.4**
10. HARDWOOD, PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDING SHALL MEET THE CARBON FORMALDEHYDE AS SPECIFIED IN ARB'S AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS SHOWN IN **C.G.C. TABLE 4.504.5**. **C.G.C. 4.504.5**
11. A CAPILLARY BREAK SHALL BE INSTALLED IN COMPLIANCE WITH AT LEAST ONE OF THE FOLLOWING:
 - A. A 4-INCH THICK BASE OF 3/4" OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR RETARDER IN DIRECT CONTACT WITH CONCRETE AND A CONCRETE MIX DESIGN, WHICH WILL ADDRESS BLEEDING, SHRINKAGE, AND CURLING, SHALL BE USED.
 - B. OTHER EQUIVALENT METHODS APPROVED BY THE ENFORCING AGENCY.
 - C. A SLAB DESIGN SPECIFIED BY A LICENSED DESIGN PROFESSIONAL.**C.G.C. 4.505.2.1**
12. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19 PERCENT MOISTURE CONTENT. MOISTURE CONTENT SHALL BE VERIFIED IN COMPLIANCE WITH THE FOLLOWING:
 - A. MOISTURE CONTENT SHALL BE DETERMINED WITH EITHER A PROBE-TYPE OR CONTACT-TYPE MOISTURE METER. EQUIVALENT MOISTURE VERIFICATION METHODS MAY BE APPROVED BY THE ENFORCING AGENCY AND SHALL SATISFY REQUIREMENTS FOUND IN SECTION **C.G.C. 101.8**.
 - B. MOISTURE READINGS SHALL BE TAKEN AT A POINT 2 FEET TO 4 FEET FROM THE GRADE STAMPED END OF EACH PIECE TO BE VERIFIED.
 - C. AT LEAST THREE RANDOM MOISTURE READINGS SHALL BE PERFORMED ON WALL AND FLOOR FRAMING WITH DOCUMENTATION ACCEPTABLE TO THE ENFORCING AGENCY PROVIDED AT THE TIME OF APPROVAL TO ENCLOSE THE WALL AND FLOOR FRAMING.**C.G.C. 4.505.3**
13. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND COMPLY WITH THE FOLLOWING:
 - A. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING.
 - B. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL. HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF 5 TO 50 PERCENT TO A MAXIMUM OF 80 PERCENT. A HUMIDITY CONTROL MAY UTILIZE MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT, AND MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN (IT IS NOT REQUIRED TO BE INTEGRAL/BUILT-IN).**C.G.C. 4.506.1**
14. HEATING AND AIR CONDITIONING SYSTEMS SHALL BE SIZED, DESIGNED, AND HAVE THEIR EQUIPMENT SELECTED USING THE FOLLOWING METHODS:
 - A. THE HEAT LOSS AND HEAT GAIN IS ESTABLISHED ACCORDING TO ANSI/ACCA 2 MANUAL J-2016, ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
 - B. DUCT SYSTEMS ARE SIZED ACCORDING TO ANSI/ACCA 1-MANUAL D 2016, ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
 - C. SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO ANSI/ACCA 3- MANUAL S 2014.**C.G.C. 4.507.2**

PUBLIC WORKS NOTES:

1. THE EXISTING WATER SERVICE AND METER MAY NEED TO BE UPSIZED TO A NEW 1 1/2" WATER SERVICE, 1" METER AND BACK FLOW DEVICE, IF REQUIRED.
2. ALL PORTIONS OF BROKEN, DISPLACED, CRACKED SIDEWALK SECTIONS ALONG THE PROPERTY FRONTAGE, IN EXCESS OF 1/2 INCH, SHALL BE REMOVED AND REPLACED PER CITY STANDARDS PRIOR TO ISSUANCE OF A FINAL INSPECTION.

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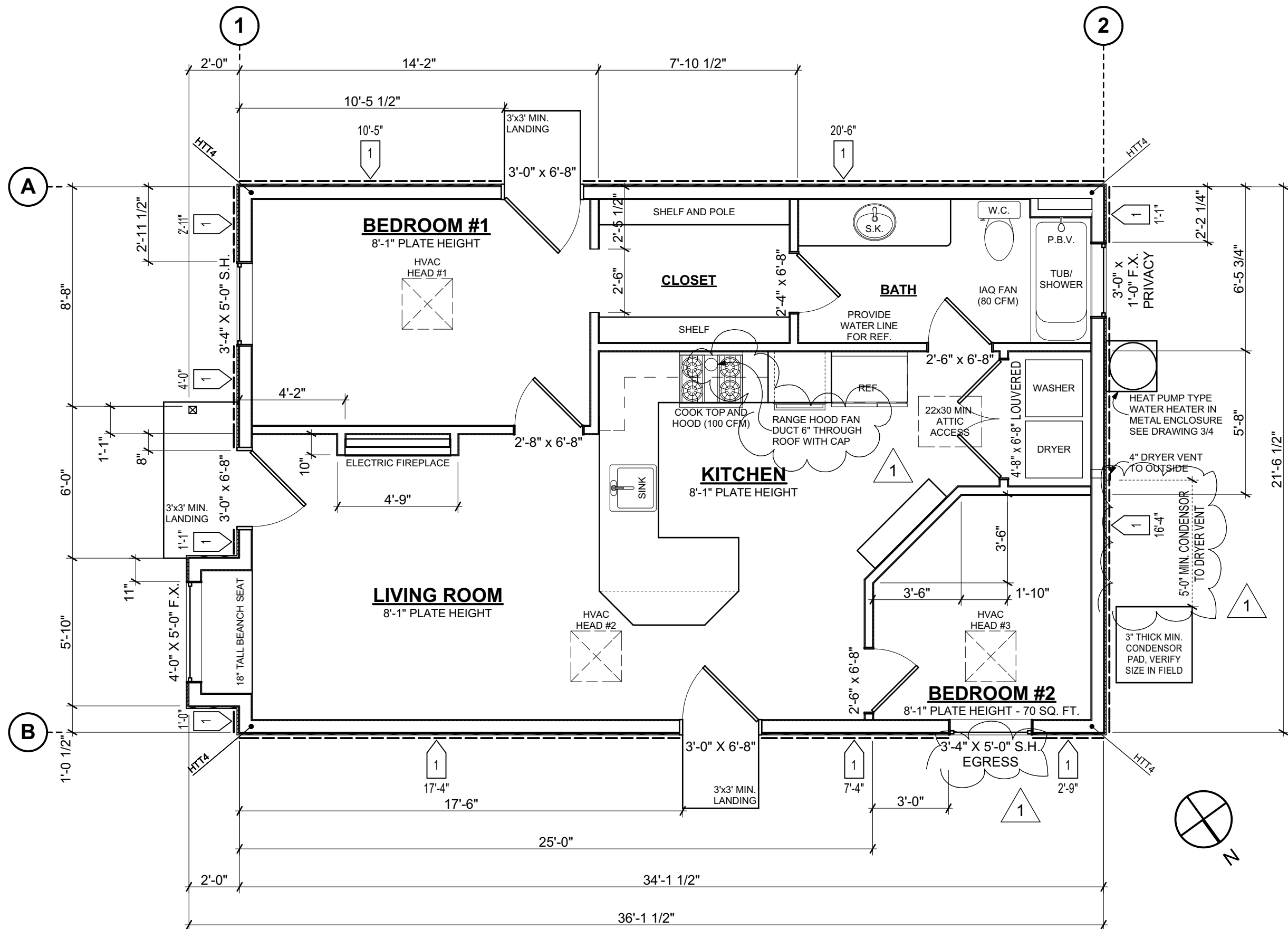
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FLOOR PLAN NOTES

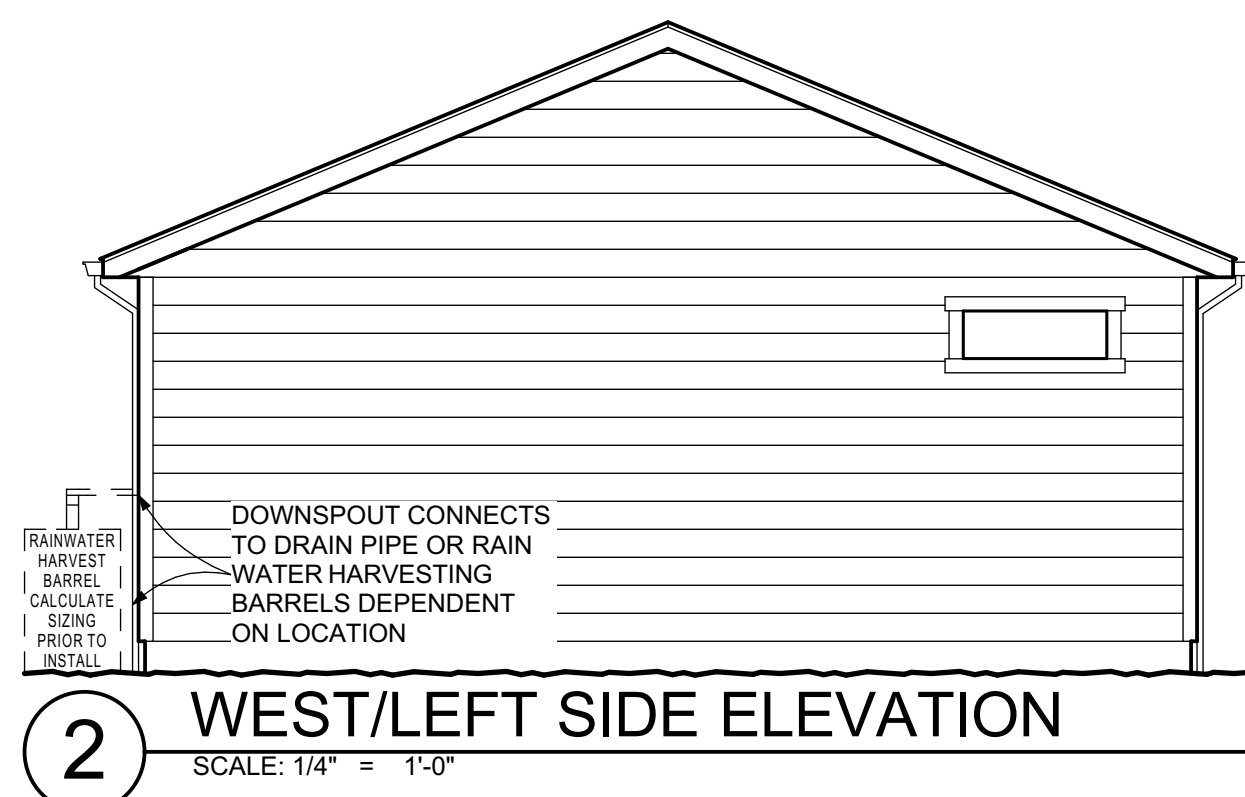
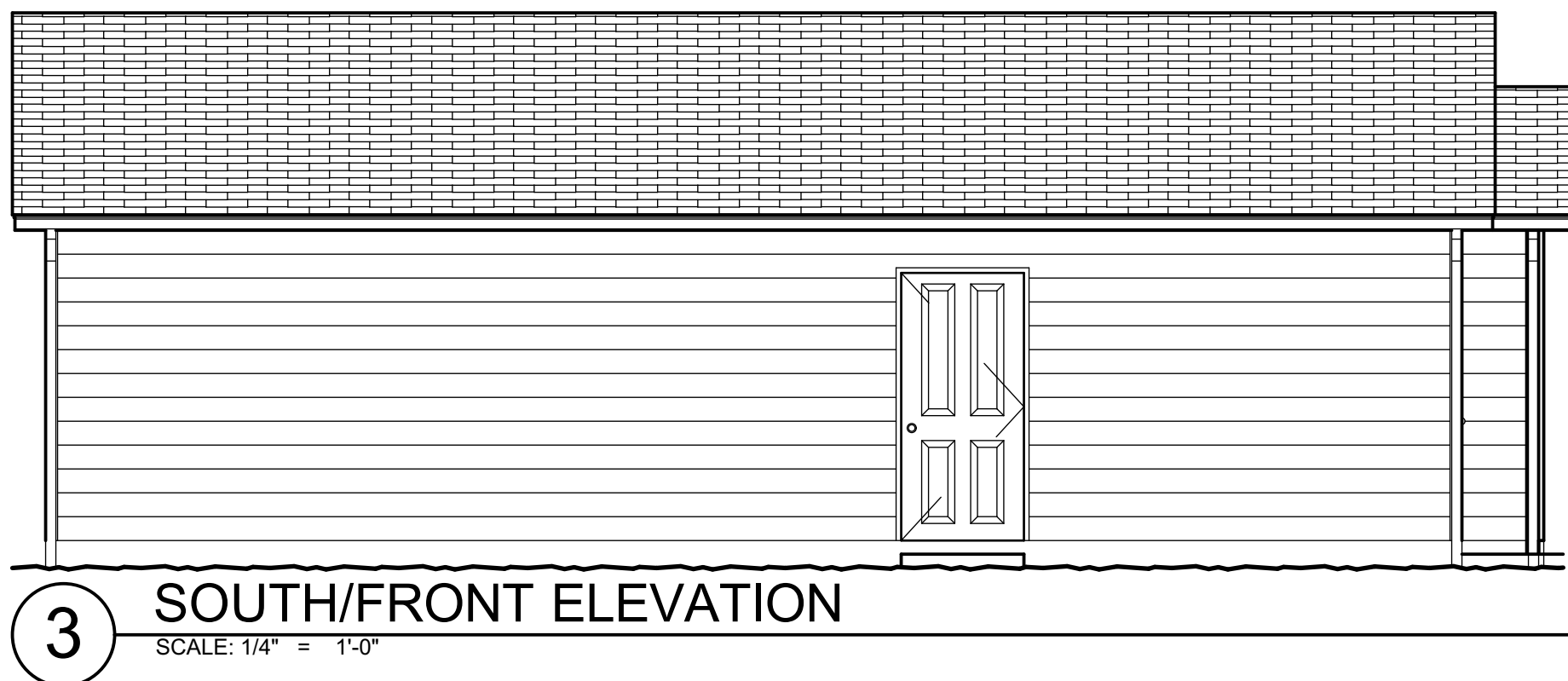
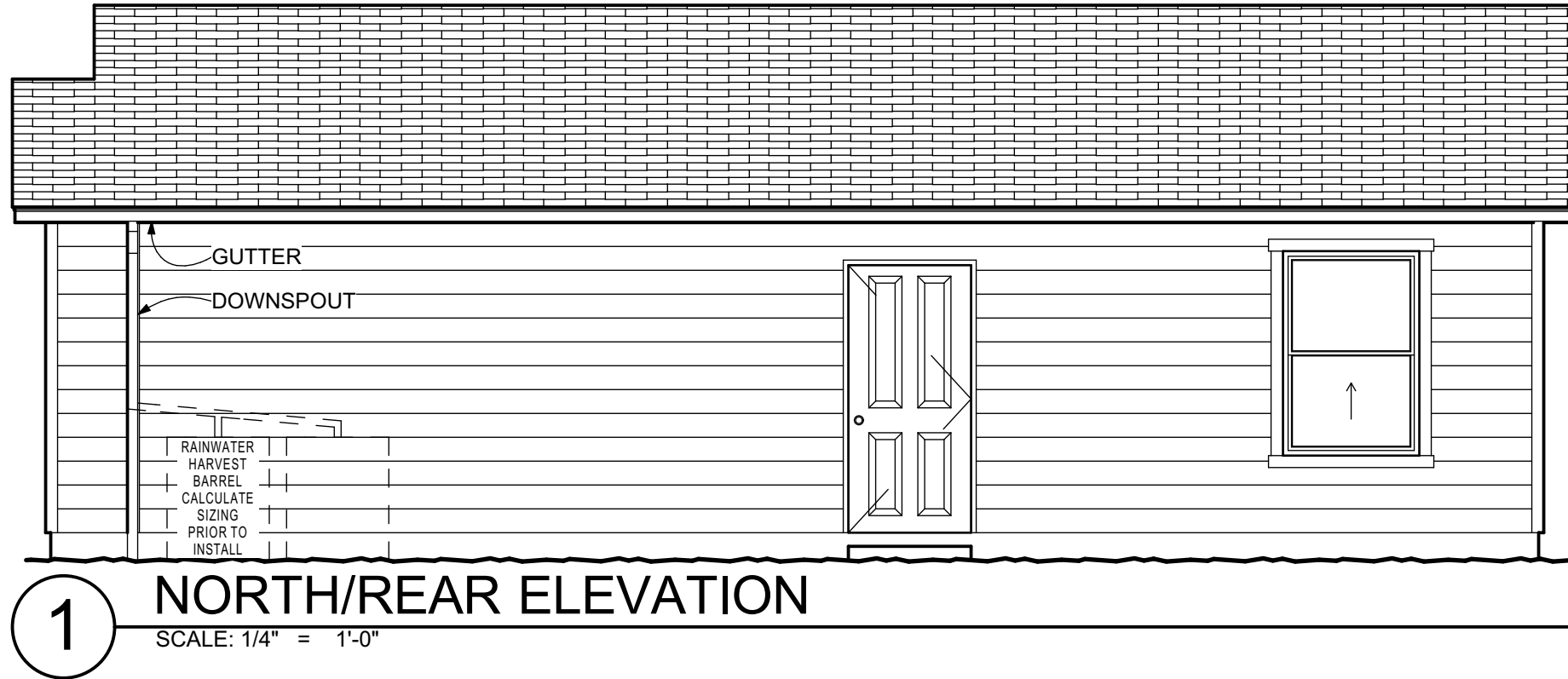
1. ALL GLAZING SHALL MEET THE REQUIREMENTS OF **C.R.C. 308**. SAFETY GLAZING SHALL BE PROVIDED IN ALL OF THE FOLLOWING LOCATIONS:
- GLAZING IN DOORS SHALL BE CONSIDERED A HAZARDOUS LOCATION EXCEPT GLAZING PANELS THROUGH WITH A 3 INCH DIAMETER SPHERE IS UNABLE TO PASS AND DECORATIVE GLAZING.
- GLAZING IN WALLS, ENCLOSURES, OR FENCES FACING HOT TUBS, SPAS, WHIRLPools, SAUNAS, STEAM ROOMS, BATHTUBS, SHOWERS AND INDOOR OR OUTDOOR SWIMMING POOLS WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE SHALL BE CONSIDERED A HAZARDOUS LOCATION. THIS SHALL APPLY TO SINGLE GLAZING AND ALL PANES IN MULTIPLE GLAZING.
- GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE AND WHERE THE GLAZING IS WITHIN 24 INCHES OF EITHER SIDE OF THE DOOR IN THE PLANE OF THE DOOR IN A CLOSED POSITION OR WHERE THE GLAZING IS ON A WALL PERPENDICULAR TO THE PLANE OF THE DOOR IN A CLOSED POSITION AND WITHIN 24 INCHES OF THE HINGE SIDE OF AN IN-SWINGING DOOR.
- GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 36 INCHES ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS SHALL BE CONSIDERED A HAZARDOUS LOCATION.
2. CAULK ALL DOORS, WINDOWS, JOINTS AND AREAS REQUIRED TO PROVIDE A WEATHERPROOF SEAL.
3. DRYWALL NAILING SHALL BE IN ACCORDANCE WITH C.B.C. REQUIREMENTS FOR THE TYPES AND THICKNESSES BEING USED UNLESS OTHERWISE NOTED.
4. NO WATER CLOSET OR BIDET SHALL BE SET CLOSER THAN 15 INCHES FROM ITS CENTER TO A SIDE WALL OR OBSTRUCTION OR CLOSER THAN 30" CENTER TO CENTER TO A SIMILAR FIXTURE. THE CLEAR SPACE IN FRONT OF A WATER CLOSET, LAVATORY, OR BIDET SHALL BE NOT LESS THAN 24 INCHES. **C.P.C. 402.5**
5. BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR. **C.R.C. 307.2**
6. WINDOW/FALL PROTECTION SHALL BE PROVIDED IN ACCORDANCE WITH **C.R.C. 312.2.1-312.2.2**
7. EGRESS WINDOW IN BEDROOM TO PROVIDE 5.7 SQUARE FEET OF CLEAR OPENING AND A MINIMUM CLEAR NET OPENING HEIGHT OF 24" AND WIDTH OF 20" **PER C.R.C. 310.2.1**

PLUMBING NOTES

1. ALL PLUMBING FOR THIS PROJECT IS NEW
2. SHOWERS AND TUB-SHOWER COMBINATIONS SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE BALANCE/THERMOSTATIC MIXING VALVE TYPE THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION FOR THE RATED FLOW RATE OF THE INSTALLED SHOWERHEAD. THESE VALVES SHALL BE INSTALLED AT THE POINT OF USE AND IN ACCORDANCE WITH ASSE 1016, OR ASME A112.1016/CSA B125.16 OR ASME A112.18.1/CSA B125.1. HANDLE POSITION STOPS SHALL BE PROVIDED ON SUCH VALVES AND SHALL BE ADJUSTED PER THE MANUFACTURER'S INSTRUCTIONS TO DELIVER A MAXIMUM MIXED WATER SETTING OF 120°F (49°C). **C.P.C. 408.3**
3. CONTROL VALVES AND SHOWERHEADS SHALL BE LOCATED ON THE SIDEWALL OF SHOWER COMPARTMENTS OR OTHERWISE ARRANGED SO THAT THE SHOWERHEAD DOES NOT LIE AT THE ENTRANCE TO THE SHOWER COMPARTMENT SO THAT THE BATHER CAN ADJUST THE VALVES BEFORE STEPPING INTO THE SHOWER SPRAY. **C.P.C. 408.9**
4. WATER HEATERS INSTALLED ON THIS PROJECT SHALL BE ANCHORED OR STRAPPED TO RESIST HORIZONTAL DISPLACEMENT DUE TO EARTHQUAKE MOTION. STRAPPING SHALL BE AT POINTS WITHIN THE UPPER ONE-THIRD AND LOWER ONE-THIRD OF ITS VERTICAL DIMENSIONS. AT THE LOWER POINT, A MINIMUM DISTANCE OF 4 IN. SHALL BE MAINTAINED ABOVE THE CONTROLS WITH THE STRAPPING. **C.P.C. 507.2** THIS APPLIES TO ALL NEW AND EXISTING WATER HEATERS PER THE CALIFORNIA HEALTH AND SAFETY CODE SECTION 19211(a)
5. WHERE A WATER HEATER IS INSTALLED PIPING SHALL BE INSULATED AS REQUIRED IN. **C.E.C. 150(J) 2**
6. POTABLE WATER OUTLETS WITH HOSE ATTACHMENTS OTHER THAN WATER HEATER DRAINS, BOILER DRAINS, AND CLOTHES WASHER CONNECTIONS. SHALL BE PROTECTED BY A NON REMOVABLE HOSE-BIB-TYPE BACKFLOW PREVENTER, A NON REMOVABLE HOSE BIB TYPE VACUUM BREAKER, OR BY AN ATMOSPHERIC VACUUM BREAKER INSTALLED NOT LESS THAN 6 IN. ABOVE THE HIGHEST POINT OF USAGE LOCATED ON THE DISCHARGE SIDE OF THE LAST VALVE. **C.P.C. 603.5.7**
7. EACH PLUMBING VENT SHALL TERMINATE NOT LESS THAN 10 FEET FROM, OR NOT LESS THAN 3 FEET ABOVE, AN OPENABLE WINDOW, DOOR, OPENING, AIR INTAKE, OR VENT SHAFT, OR NOT LESS THAN 3 FEET FROM A LOT LINE, ALLEY AND STREET EXCEPTED. **C.P.C. 906.2**



5 FLOOR PLAN
SCALE: 1/4" = 1'-0"



SHEAR WALL SCHEDULE

MARK	DESCRIPTION
1	15/32" C-C, C-D, OR OSB SHEATHING 8d COMMONS @ 6" O.C. AT ALL PANEL EDGES AND 12" O.C. IN THE FIELD. PLYWOOD SHALL BE ON ONE FACE WITH ALL EDGES BLOCKED. THE SILL PLATES SHALL BE ANCHORED WITH TWO 5/8"Ø A.B. MIN. PLACED AT 48" MAX. WITH 3" x 3" x 1/4" PLATE WASHERS AT FOUNDATION LEVEL FOR PLATES ANDCHORED TO FRAMING. SEE SHEAR WALL PANEL NOTES.
2	15/32" C-C, C-D, OR OSB SHEATHING 8d COMMONS @ 4" O.C. AT ALL PANEL EDGES AND 12" O.C. IN THE FIELD. PLYWOOD SHALL BE ON ONE FACE WITH ALL EDGES BLOCKED. THE SILL PLATES SHALL BE ANCHORED WITH TWO 5/8"Ø A.B. MIN. PLACED AT 32" MAX. WITH 3" x 3" x 1/4" PLATE WASHERS AT FOUNDATION LEVEL FOR PLATES ANDCHORED TO FRAMING. SEE SHEAR WALL PANEL NOTES.
3	15/32" C-C, C-D, OR OSB SHEATHING 10d COMMONS @ 3" O.C. AT ALL PANEL EDGES AND 12" O.C. IN THE FIELD. PLYWOOD SHALL BE ON ONE FACE WITH ALL EDGES BLOCKED. THE SILL PLATES SHALL BE ANCHORED WITH TWO 5/8"Ø A.B. MIN. PLACED AT 24" MAX. WITH 3" x 3" x 1/4" PLATE WASHERS AT FOUNDATION LEVEL FOR PLATES ANDCHORED TO FRAMING. SEE SHEAR WALL PANEL NOTES.
4	15/32" C-C, C-D, OR OSB SHEATHING 10d COMMONS @ 2" O.C. STAGGERED AT ALL PANEL EDGES AND 12" O.C. IN THE FIELD. PLYWOOD SHALL BE ON ONE FACE WITH ALL EDGES BLOCKED DOUBLE 2x FRAMING AT ALL PANEL EDGES. THE SILL PLATES SHALL BE ANCHORED WITH TWO 5/8"Ø A.B. MIN. PLACED AT 18" MAX. WITH 3" x 3" x 1/4" PLATE WASHERS AT FOUNDATION LEVEL FOR PLATES ANDCHORED TO FRAMING. SEE SHEAR WALL PANEL NOTES.

SHEAR WALL NOTES:

- LENGTHS (L) SHOWN ARE MINIMUMS. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL WALL LINES FLUSH.
- ANCHOR BOLTS SHALL HAVE 7" MIN. EMBEDMENT AND SHALL BE LOCATED NOT MORE THAN 12" OR CLOSER THAN 4" FROM THE SILL PLATE ENDS.
- No. 6x1-1/4" SCREWS MAY BE USED IN LIEU OF 5d COOLER NAILS.

FLOOR PLAN LEGEND

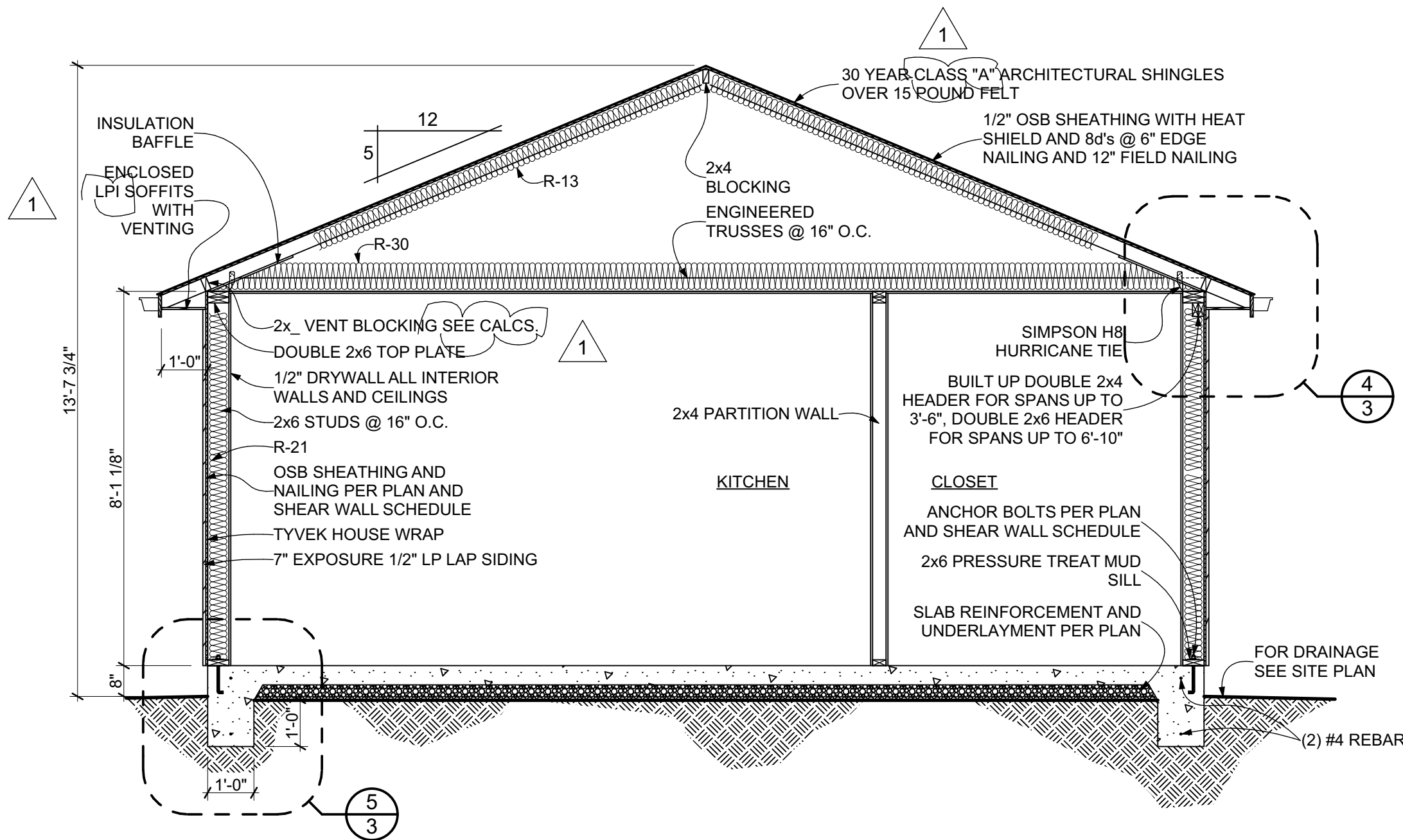
- 2x6 WALLS
- 2x4 WALLS

ABBREVIATIONS

- AT
DOUBLE
EXISTING
GARBAGE DISPOSAL
MINIMUM
ON CENTER
ORIENTED STRAND BOARD
OVERHANG
NEW
PRESSURE BALANCE VALVE
ROUGH OPENING
SINGLE HUNG
SINK
SLIDING WINDOW
TYPICAL
TANKLESS WATER HEATER
UNLESS OTHERWISE NOTED
WATER CLOSET
WITH
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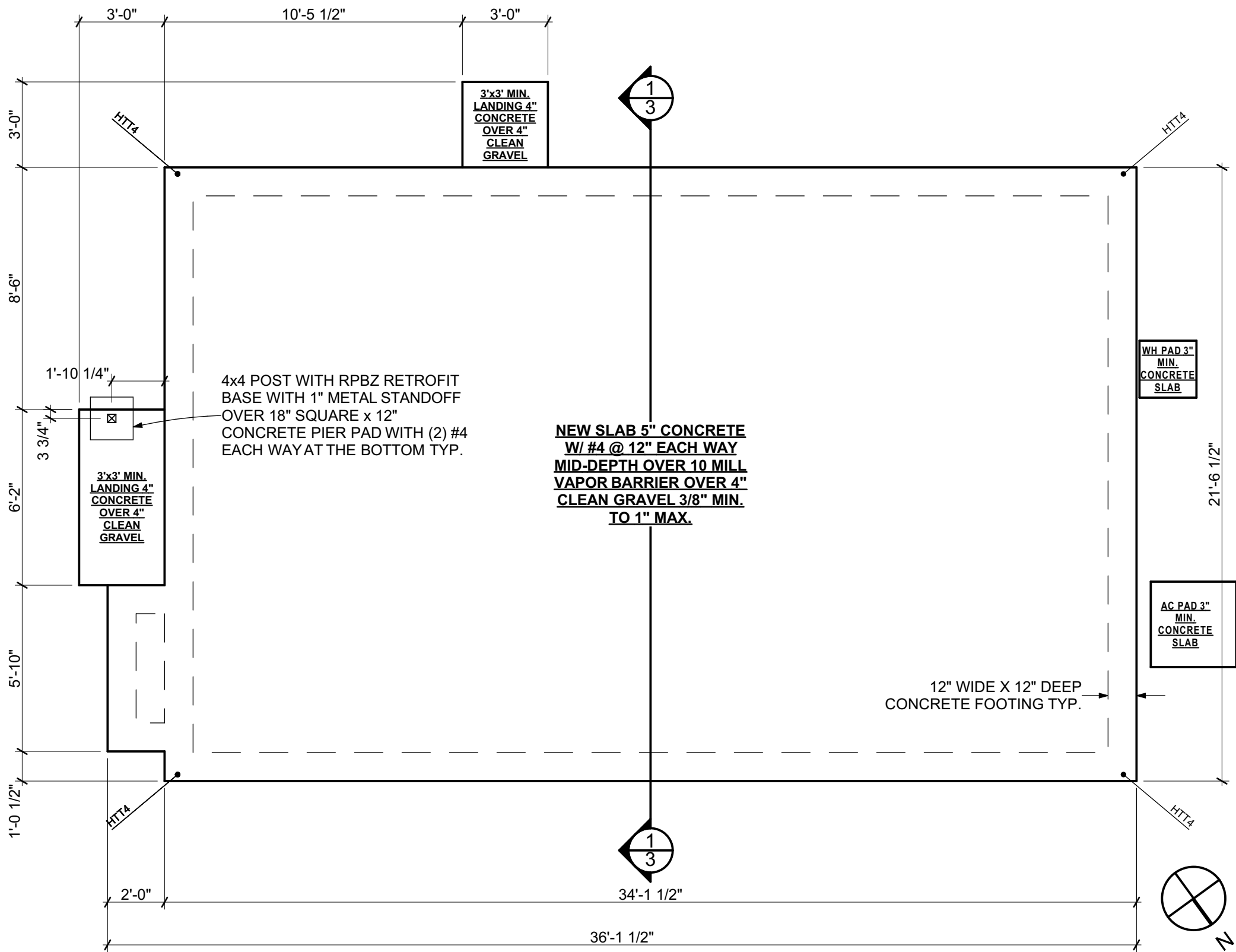
SHEAR WALL LEGEND

- INDICATES SHEAR WALL PANEL. SEE NOTES & SCHEDULE THIS SHEET
- INDICATES VERTICAL TIE DOWNSTRAP OR HOLDOWN. SEE SHEET 4 FOR DETAILS.

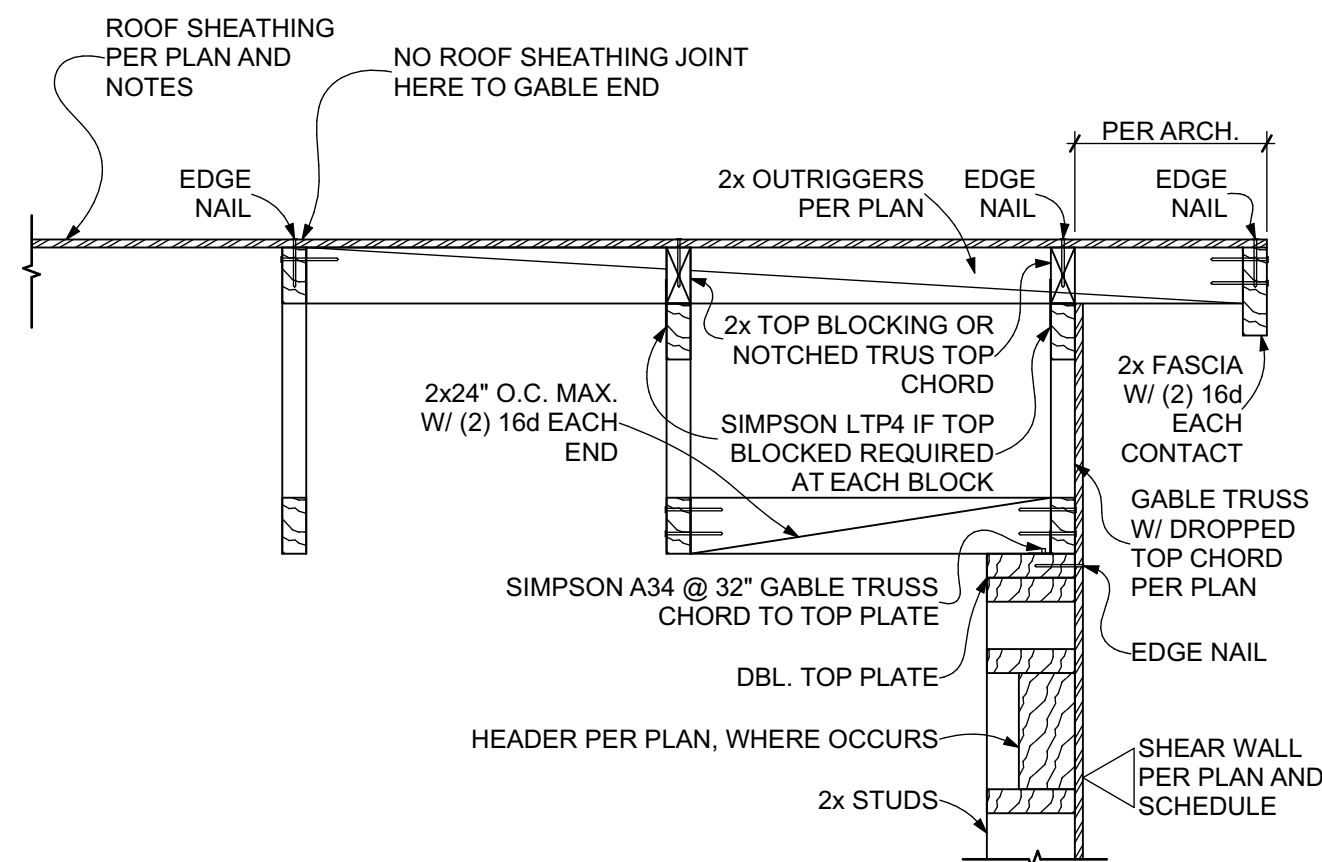


1 CROSS-SECTION
SCALE: 3/8" = 1'-0"

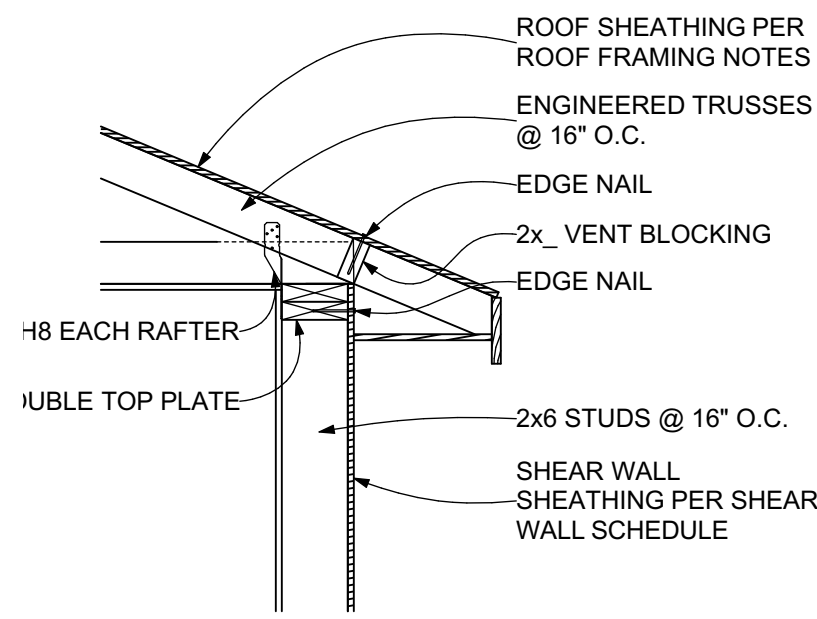
- FOUNDATION NOTES:**
- SEE CONCRETE NOTES ON SHEET 4.
 - ANCHOR BOLTS PER SHEAR SCHEDULE SHEET 2.
 - BOTTOMS OF ALL FOUNDATIONS SHALL BE LEVEL. SHED WILL BE LOCATED ON LEVEL GROUND, AND IT IS NOT ANTICIPATED THAT ANY STEP FOOTINGS WILL BE REQUIRED.



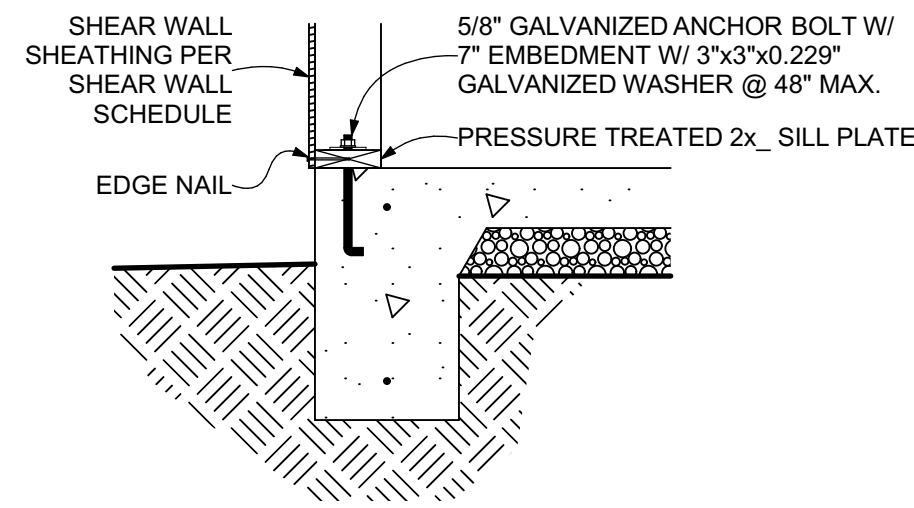
2 FOUNDATION PLAN
SCALE: 1/4" = 1'-0"



3 GABLE END DETAIL
SCALE: 1" = 1'-0"



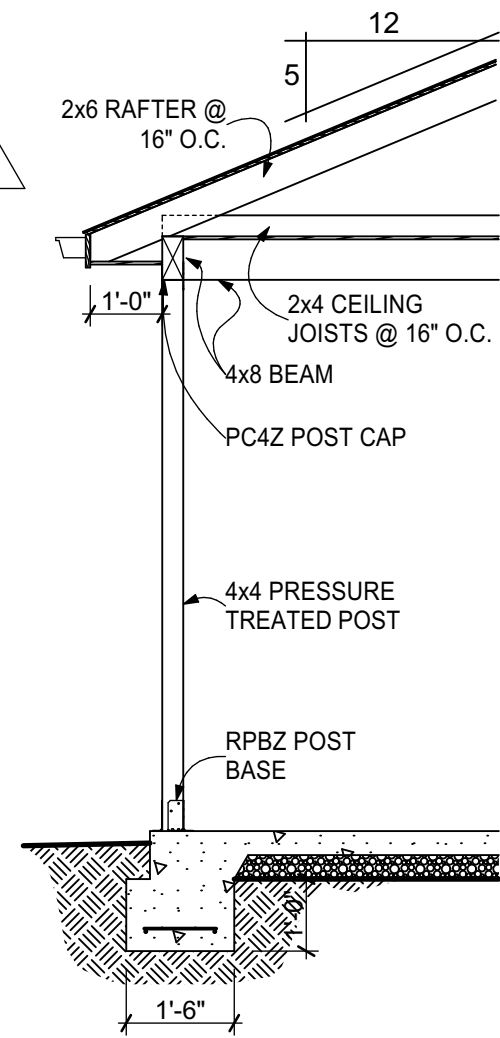
4 SHEAR TRANSFER@ EAVES
SCALE: 3/4" = 1'-0"



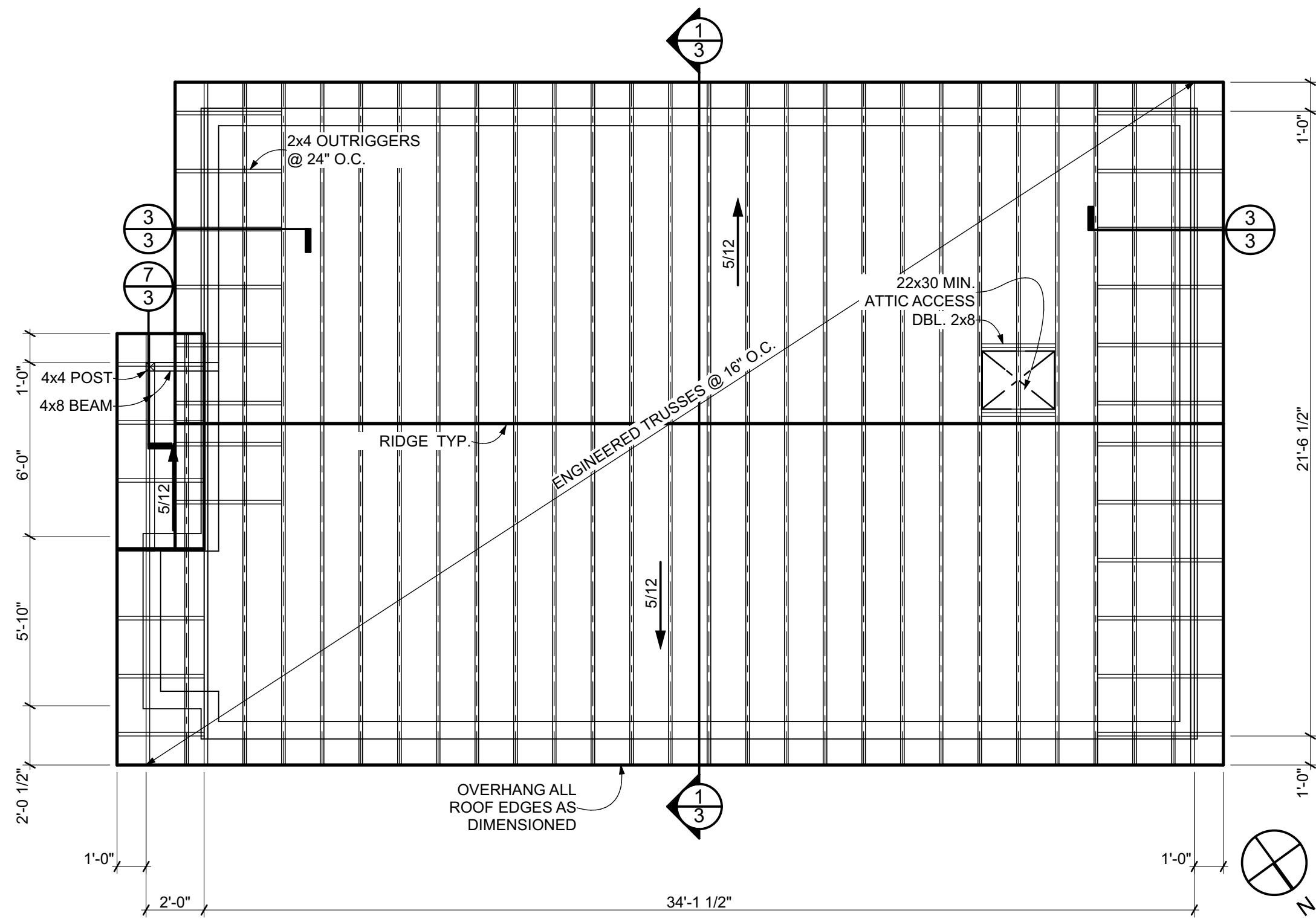
5 SHEAR TRANSFER @ FOUNDATION
SCALE: 3/4" = 1'-0"

- ROOF NOTES:**
- NEW ROOF ATTIC AREA VENTILATION IS THE FOLLOWING: ATTIC AREA IS 761 SQUARE FEET / 150 = 731 SQUARE INCHES OF VENTILATION, OR 761/300 = 381 SQUARE INCHES OF VENTILATION IF EVENLY DISTRIBUTED BETWEEN THE RIDGE AND THE EAVE.
OR 27 VENT BLOCKS WITH (3) 2" DIAMETER HOLES AND 1/4" MESH AT THE EAVES WITH 22" MIN GAF COBRA 8" RIDGE VENT (OR EQUAL) AT THE RIDGE. SOFFIT INCLUDES LPI SOFFIT WITH CONTINUOUS VENT, 10 SQUARE INCHES PER LINEAR FOOT, 20" MINIMUM.
 - ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN OR SNOW. VENTILATION OPENINGS SHALL HAVE A LEAST DIMENSION OF 1/16 INCH MINIMUM AND 1/4 INCH MAXIMUM. VENTILATION OPENINGS HAVING A LEAST DIMENSION LARGER THAN 1/4 INCH SHALL BE PROVIDED WITH CORROSION-RESISTANT WIRE CLOTH SCREENING, HARDWARE CLOTH, PERFORATED VINYL, OR SIMILAR MATERIAL WITH OPENINGS HAVING A LEAST DIMENSION OF 1/16 INCH MINIMUM AND 1/4 INCH MAXIMUM. REQUIRED VENTILATION OPENINGS SHALL OPEN TO THE OUTSIDE AIR AND SHALL BE PROTECTED TO PREVENT THE ENTRY OF BIRDS, RODENTS, SNAKES, AND OTHER SIMILAR CREATURES C.R.C. 806.1
 - THE MINIMUM NET FREE VENTILATING AREA SHALL BE 1/100 OF THE AREA OF THE VENTED SPACE, EXCEPT THAT THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/300 OF THE VENTED SPACE PROVIDED BOTH OF THE FOLLOWING CONDITIONS ARE MET:
A. IN CLIMATE ZONES 14 AND 16, A CLASS I OR II VAPOR RETARDER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.
B. NOT LESS THAN 40 PERCENT AND NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NOT MORE THAN 3 FEET (914 MM) BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY. THE BALANCE OF THE REQUIRED VENTILATION PROVIDED SHALL BE LOCATED IN THE BOTTOM ONE-THIRD OF THE ATTIC SPACE, WHERE THE LOCATION OF WALL OR ROOF FRAMING MEMBERS CONFLICTS WITH THE INSTALLATION OF UPPER VENTILATORS. INSTALLATION MORE THAN 3 FEET (914 MM) BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE SHALL BE PERMITTED. C.R.C. 806.2

- ROOF FRAMING NOTES:**
- SEE WOOD NOTES ON SHEET 4.
 - ALL BEAM SUPPORTING POSTS ARE TO BE AT LEAST THE WIDTH OF THE BEAM BEING SUPPORTED.
 - ROOF SHEATHING SHALL BE 1/2" OSB WITH HEAT SHIELD AND 8d's @ 6" O.C. EDGE NAILING & 12" O.C FIELD NAILING
 - TOP PLATE SPLICE AT LINES A AND B SHALL BE 48" MIN. LENGTH AND NAILED WITH (10) 16d'S EACH SIDE OF SPLICE, LINES 1 AND 2 SHALL HAVE 120" MIN. LENGTH WITH (25) 16 d's.



7 POST DETAIL
SCALE: 3/8" = 1'-0"



6 ROOF FRAMING PLAN
SCALE: 1/4" = 1'-0"

Revisions:	By:
2/6/21	JC
3/4/21	JC

Backyard
UNLIMITED
4765 Pacific Street
Rocklin, CA 95677
PH: (916) 630-58ED

22x36 ACCESSORY DWELLING UNIT FOR:
GENEREUX
PROJECT ADDRESS: 121 Payran Street,
Petaluma, California 94952-3205
APN: 007-021-006-000

STRUCTURAL PLANS

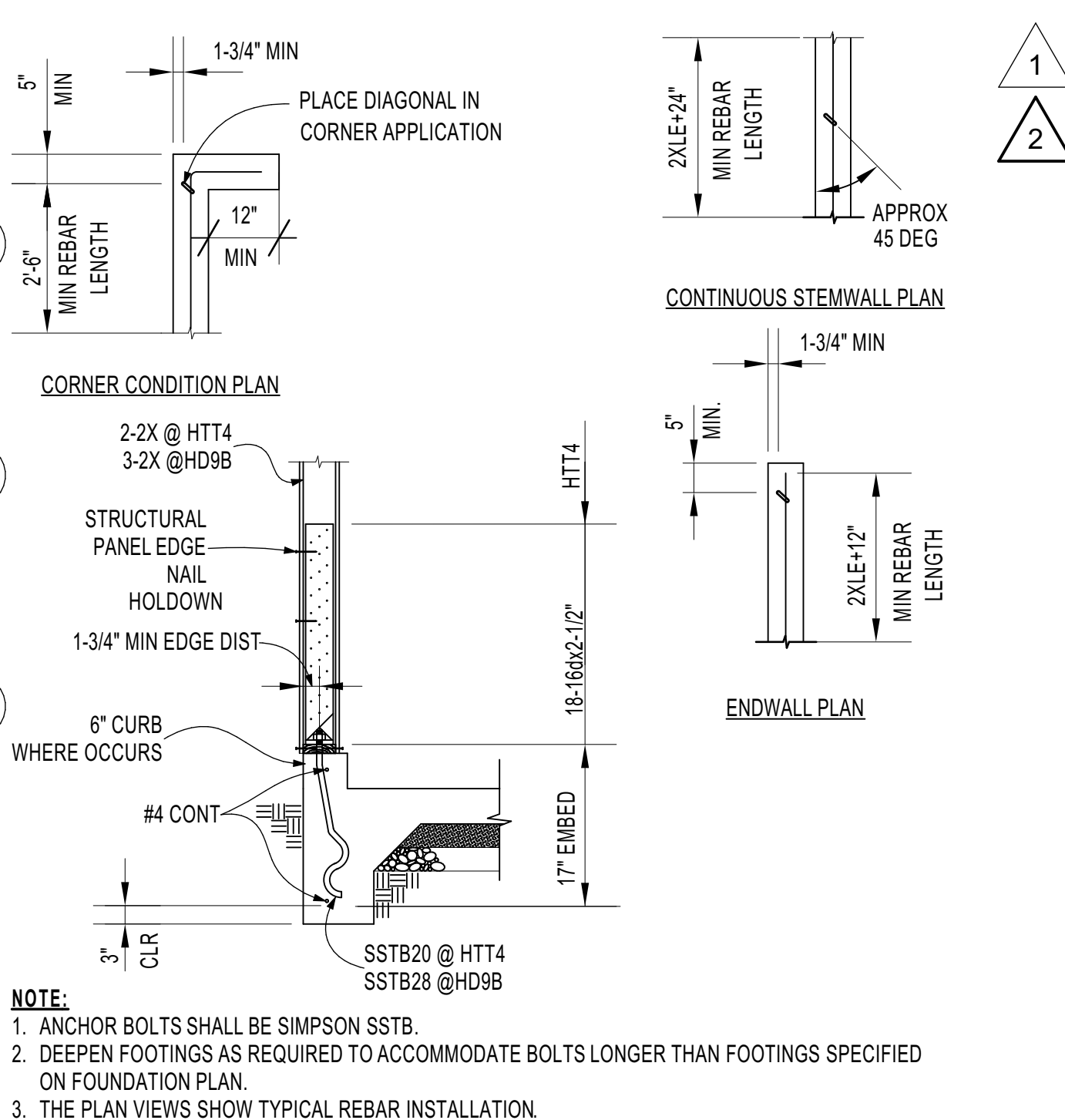
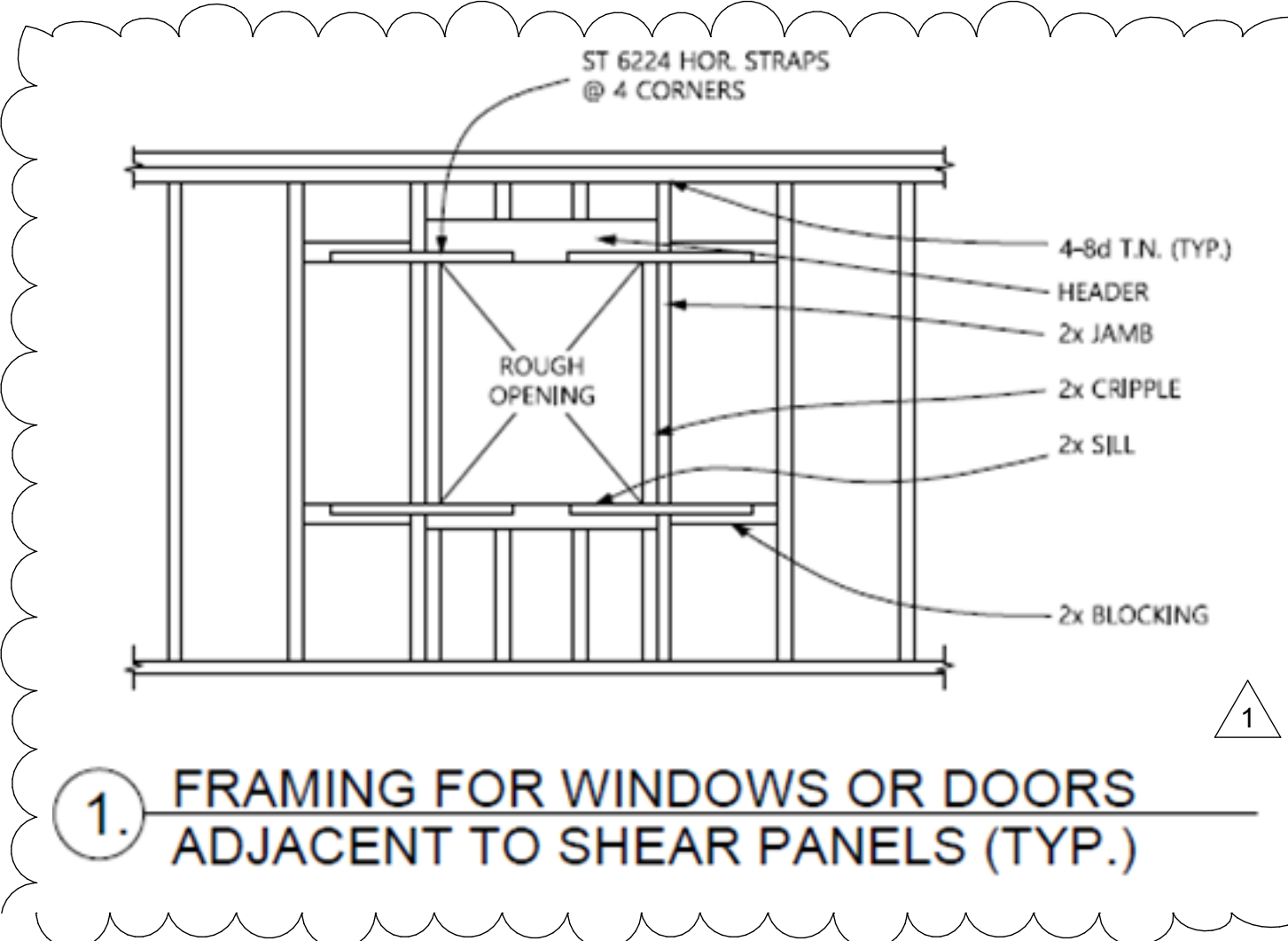
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WOOD NOTES:

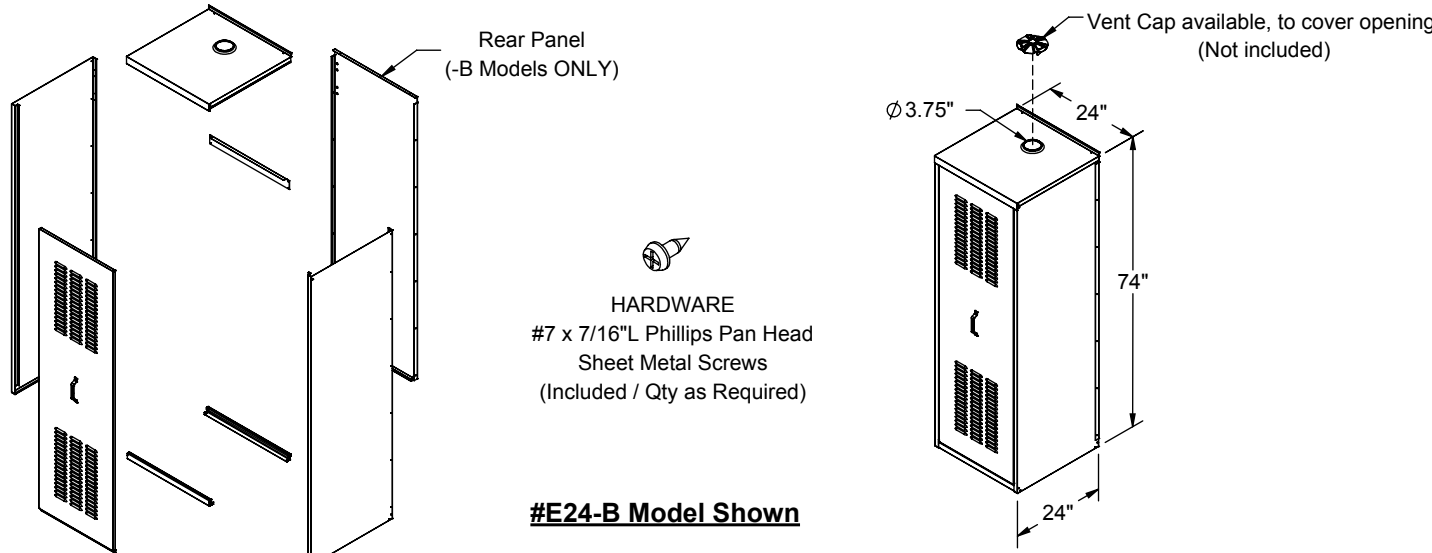
1. ALL STRUCTURAL WOOD SHALL CONFORM WITH THE FOLLOWING SPECIFICATIONS: ALL LUMBER SPECIES, GRADED VISUALLY OR MECHANICALLY, SHALL COMPLY WITH THE NDS BY AF+PA, AND THE AMERICAN SOFTWOOD LUMBER STANDARD' (PS-20-05) BY THE U.S. DEPARTMENT OF COMMERCE.
- THE MINIMUM GRADE AND SPECIES FOR POSTS, BEAMS, HEADERS, AND OTHER PRIMARY STRUCTURAL MEMBERS SHALL BE DENSE SELECTED SOUTHERN PINE, U.O.N.
- LUMBER USED FOR SECONDARY FRAMING SHALL BE #1 SOUTHERN PINE OR BETTER
- PLYWOOD - US PRODUCT STANDARD P.S. 2-10 FOR SOFT PLYWOOD STRUCTURAL 1 @ WALLS; CDX @ FLOORS AND ROOF U.O.N.
- PRESSURE TREATED DOUGLAS FIR - AWP (AMERICAN WOOD PRESERVERS' ASSOCIATION) U1.
2. ALL WOOD IN DIRECT CONTACT WITH EARTH OR CONCRETE SHALL BE PRESSURE TREATED.
3. BEARING/BRACE/SHEAR WALLS SHALL HAVE DOUBLE TOP PLATES, LAPPED AT WALL AND PARTITION INTERSECTION WITH (3) 16d's.
4. PROVIDE SOLID BLOCKING BETWEEN JOISTES AND RAFTERS AT ALL SUPPORTS.
5. LAY ALL STRUCTURAL PLYWOOD ON ROOF AND FLOORS WITH FACE GRAIN PERPENDICULAR TO SUPPORT U.O.N.
6. CONNECTOR HARDWARE MODEL NUMBERS ARE FOR SIMPSON STRON-TIE COMPANY. EQUIVALENT CONNECTORS WITH ICBO ACCEPTANCE MAY BE SUBSTITUTED.
7. FASTENERS FOR PRESERVATIVE TREATED & FIRE RETARDANT TREATED WOOD SHALL BE OF HOT DIPPED ZINC COATED GALVANIZED STEEL, STAINLESS STEEL, SILICON BRONZE OR COPPER. THE COATING WEIGHTS FOR ZINC COATED FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A 153

NAILING NOTES:

- ALL NAILS FOR STRUCTURAL WORK SHALL BE COMMON WIRE NAILS CONFORMING TO THE FOLLOWING MINIMUM SIZES
- | | |
|-----|--------------------------|
| 8d | 0.131" DIAMETER X 2 1/2" |
| 10d | 0.148" DIAMETER X 3" |
| 16d | 0.162" DIAMETER X 3 1/2" |
- HOLES SHALL BE SUBDRILLED WHERE NECESSARY TO PREVENT SPLITTING. NAILING NOT NOTED BELOW OR ON PLANS SHALL BE A MINIMUM OF TWO NAILS AT EACH CONTACT. 8d NAILS FOR 1" MATERIAL AND 16d NAILS FOR 2" MATERIAL.
- JOISTES TO SILL OR GIRDER, TOE NAIL (3) 8d
 - SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL 16d @ 16" O.C.
 - SOLE PLATE TO JOIST OR BLOCKING, AT BRACED WALL PANEL (3) 16d PER 16"
 - TOP PLATE TO STUD, END NAIL (2) 16d
 - STUD TO SOLE PLATE (4) 8d, TOENAIL OR (2) 16d, END NAIL
 - DOUBLE STUDS, FACE NAIL 16d @ 24" O.C.
 - DOUBLE TOP PLATES, TYPICAL FACE NAIL 16d @ 16" O.C.
 - DOUBLE TOP PLATES, LAP SPLICE , U.N.O. (8) 16d
 - BLOCKING BETWEEN JOISTES OR RAFTERS TO TOP PLATE, TOE NAIL (3) 8d
 - TOP PLATES, LAPS AND INTERSECTION, FACE NAIL (2)-16d
 - CONTINUOUS HEADER, TWO PIECES, TOENAIL 16d @ 16" O.C. ALONG EACH EDGE
 - RAFTER TO TOP PLATE, TOENAIL (3) 8d
 - BUILT UP CORNER STUDS 16d @ 24" O.C.



PRODUCT SPECIFICATION DRAWING
QUICK SHED #E24/E24-B, #E26/E26-B, #E30/E30-B & #E36-B
Water Heater Enclosures for 24", 26", 30" & 36"
(-B Indicates Models that include Back Panel)



The **HOLDRITE® QUICK SHED™** Water Heater Enclosures are constructed of galvanized steel and provide protection for water heaters installed in outdoor locations. Anchor points at the rear of the enclosure allows for optional attachment to the adjacent building structure. Rear panel (-B version ONLY) provides a four-sided enclosure.

Product Information:

- Material:
 - Top, Door, Left & Right Side and Rear Panel (Opt): .018" - .021" Thick, Galvanized CRS
 - Back Brace & Beam: .023" - .026" Thick, Galvanized CRS
 - Handle: 16GA, Galvanized CRS
- Material (#E36-B ONLY):
 - Top, Door, Left & Right Side and Rear Panel: .025" Thick, Galvanized CRS
 - Back Brace & Beam: .030" Thick, Galvanized CRS
 - Handle: 16GA, Galvanized CRS
- Weight (without Packaging & Water Heater):
 - Model #QS-E24 = 39 LBS / E24-B = 50 LBS
 - Model #QS-E26 = 42 LBS / E26-B = 54 LBS
 - Model #QS-E30 = 49 LBS / E30-B = 63 LBS
 - Model #QS-E36-B = 107 LBS
- Outside dimensions:
 - Model #QS-E24 = 24" x 24" x 74"
 - Model #QS-E26 = 26" x 26" x 74"
 - Model #QS-E30 = 30" x 30" x 74"
 - Model #QS-E36 = 36" x 36" x 84"
- Water Heater Dimensions:
 - QS-E24: Up to 40 gallons or 22" diameter by 68" high
 - QS-E26: Up to 40 gallons or 24" diameter by 68" high
 - QS-E30: Up to 80 gallons or 27" diameter by 68" high
 - QS-E36: Up to 120 gallons or 33" diameter by 78" high

THIS INFORMATION IS PROPRIETARY TO HOLDRITE AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT MAY NOT BE REPRODUCED IN PART OR WHOLE WITHOUT WRITTEN AUTHORIZATION.



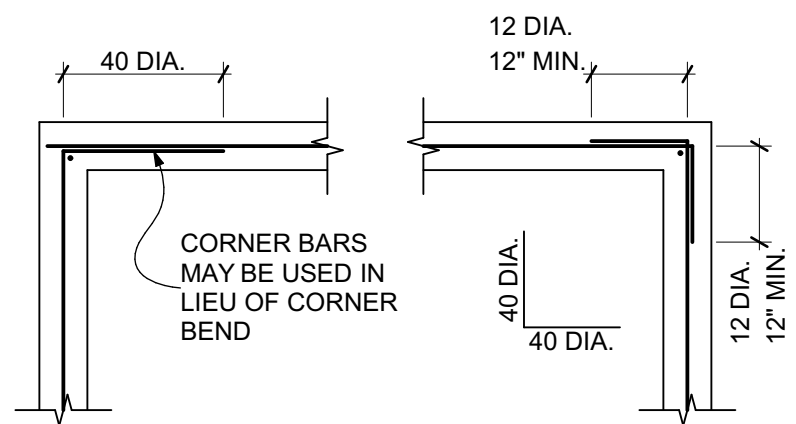
800-321-0316 OR 760-744-6844 / FAX: 760-744-0607 / WWW.HOLDRITE.COM
Spec: QuickShed_E24-B_E26-B_E30-B_E36-B_Rev0

Product Submittal	
Job Name:	
Date:	
Part Number:	Qty.
Architect / Owner:	
Contractor:	
Notes:	

3 Water Heater Enclosure

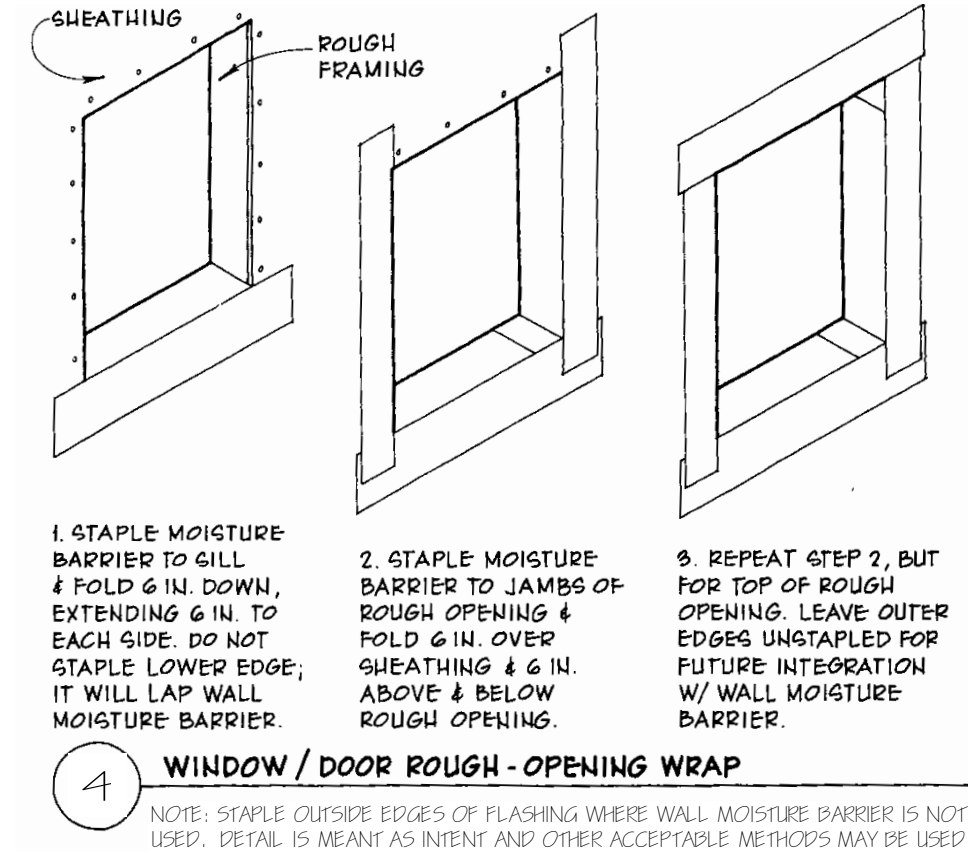
CONCRETE NOTES:

- STRUCTURAL CONCRETE SHALL ATTAIN 28 DAY COMPRESSIVE STRENGTH F' C = 2500 P.S.I.
- CONCRETE MIX DESIGN SHALL BE PREPARED BY AN INDEPENDENT LABORATORY. SELECTION OF CONCRETE MIX PROPORTIONS SHALL BE PER THE CALIFORNIA BUILDING CODE.
- CEMENT SHALL CONFORM TO ASTM C-150 TYPE I OR II.
- CONCRETE AGGREGATES SHALL CONFORM TO ASTM C-33. AGGREGATES FOR LIGHTWEIGHT CONCRETE SHALL CONFORM TO ASTM C-330.
- REINFORCING STEEL SHALL CONFORM TO ASTM A615- GRADE 60 FOR NO. 5 AND LARGER, AND ASTM A615- GRADE 40 FOR NO. 4 AND SMALLER, EXCEPT REINFORCING STEEL TO BE WELDED SHALL CONFRM TO ASTM A706.
- REINFORCING STEEL SHALL BE FABRICATED ACCORDING TO "MANUAL OF STANDARD PRACTICE FOR REINFORCED CONCRETE CONSTRUCTION".
- WIRE FABRIC SHALL CONFORM TO ASTM A-185.
- DIMENSIONS SHOWN FOR LOCATION OF REINFORCING ARE TO THE FACE OF MAIN BARS AND DENOTE CLEAR COVERAGE. CONCRETE COVERAGE SHALL BE AS FOLLOWS: CONCRETE DEPOSITED AGAINST GROUND (EXCEPT SLABS) 3" MIN. CONCRETE EXPOSED TO GROUND BUT PLACED IN FORMS 2" MIN. SLABS (ON GROUND) 2" CLEAR FROM TOP U.O.N.
- SPLICES IN CONTINUOUS REINFORCEMENT SHALL BE 48 BAR DIAMETERS AND SPLICES IN ADJACENT BARS SHALL NOT BE LESS THAN 5'-0" APART. SPLICE CONTINUOUS BARS IN SPANDRELS, GRADE BEAMS, ETC., AS FOLLOWS: TOP BARS AT MID-SPAN; BOTTOM BARS AT CENTERLINE AT SUPPORT, U.O.N. SPLICES IN WELDED WIRE FABRIC SHALL BE 1.5 MESHES WIDE.
- REMOVE ALL DEBRIS FROM FORMS BEFORE CASTING ANY CONCRETE.
- REINFORCING, DOWELS, BOLTS, ANCHORS, SLEEVES, ETC., TO BE EMBEDDED IN CONCRETE SHALL BE TIED SECURELY IN POSITION BEFORE PLACING CONCRETE.
- MAXIMUM FREE FALL OF CONCRETE SHALL BE 8'-0"
- CONSOLIDATE CONCRETE PLACED IN FORMS BY MECHANICAL VIBRATING EQUIPMENT SUPPLEMENTED BY HAND SPADING, RODDING OR TAMPING. USE EQUIPMENT AND PROCEDURES FOR CONSOLIDATION OF CONCRETE IN ACCORDANCE WITH THE RECOMMENDED PRACTICES OF ACI 309 TO SUIT THE TYPE OF CONCRETE AND PROJECT CONDITIONS.
- NO WOOD SPREADERS ALLOWED. NO WOOD STAKES ALLOWED IN AREAS TO BE CONCRETED.



TYP. CORNER REINFORCING

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



Revisions:	By:
2/6/21	JC
3/4/21	JC

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UNLIMITED
4765 Pacific Street
Rosedale, CA 95077
PH: (916) 630-SHED

22x36 ACCESSORY DWELLING UNIT FOR:
GENEREUX
PROJECT ADDRESS: 121 Payran Street,
Petaluma, California 94952-3205
APN: 007-021-006-000

STRUCTURAL NOTES AND
DETAILS

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ELECTRICAL NOTES

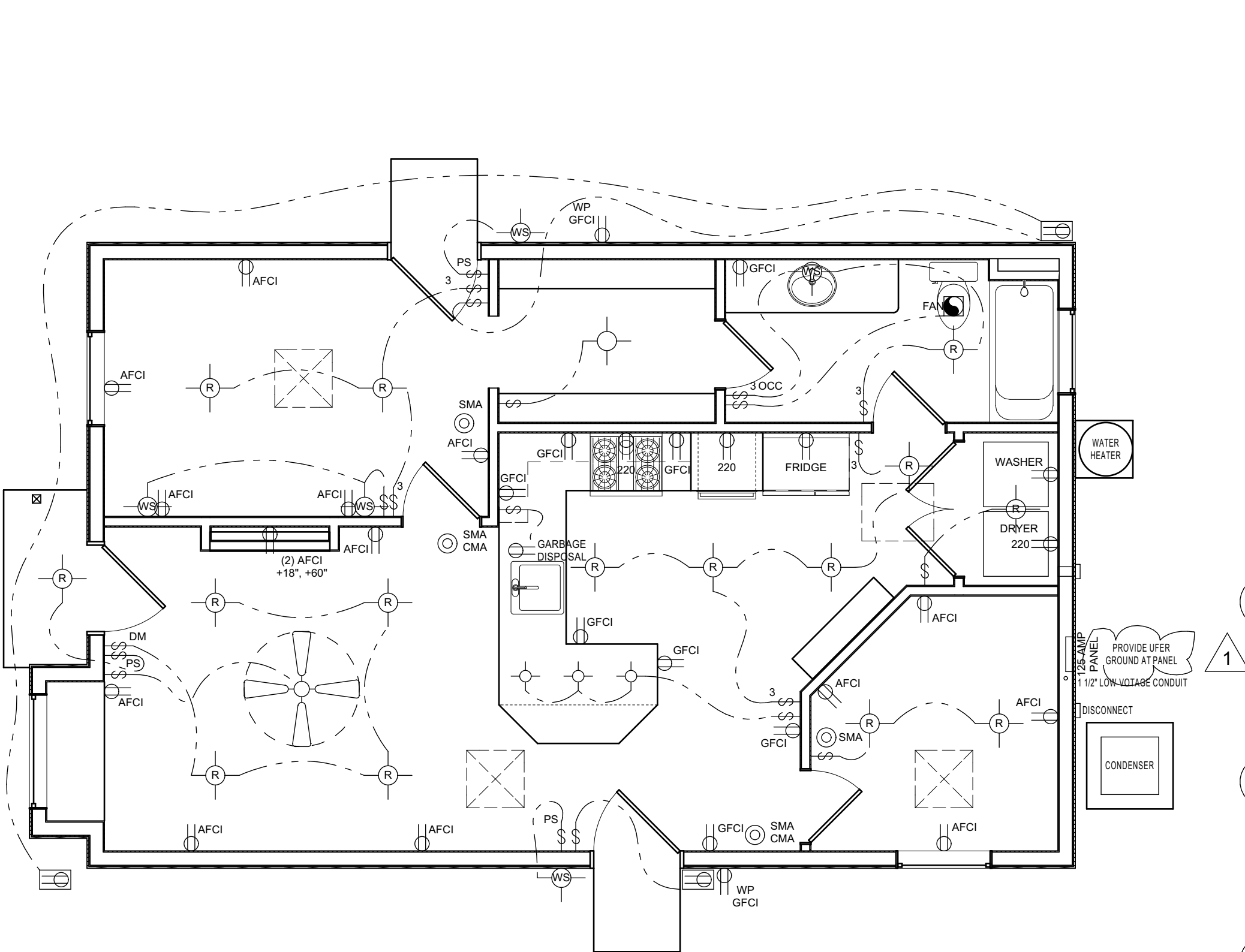
1. ALL WORK SHALL BE IN ACCORDANCE WITH CURRENT CODES, RULES, AND REGULATIONS AND COMPLY WITH THE REQUIREMENTS OF THE SERVING POWER AND TELEPHONE COMPANIES.
2. ALL ELECTRICAL SHOWN IS NEW UNLESS LABLED AS EXISTING (E).

RECEPTACLES

1. ALL 120-VOLT, SINGLE PHASE, 15- AND 20- AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN **C.E.C. 210.12 (A) 1-4**
2. IN DWELLING UNITS ALL 125 AMP, SINGLE PHASE, 15- AND 20-AMPERE RECEPTACLES INSTALLED IN THE FOLLOWING PLACES SHALL HAVE GROUND-FAULT CIRCUIT INTERRUPTER PROTECTION: BATHROOMS, GARAGES (AT OR BELOW GRADE) AND SIMILAR SPACES, OUTDOORS, CRAWL SPACES (AT OR BELOW GRADE), UNFINISHED PORTIONS OR AREAS THE BASEMENTS NOT INTENDED AS HABITABLE ROOMS (AT OR BELOW GRADE) KITCHENS (WHERE RECEPTACLES ARE INSTALLED TO SERVE COUNTERTOP SURFACES), SINKS (LOCATED IN AREAS OTHER THAN KITCHENS WHERE THE RECEPTACLES ARE INSTALLED WITHIN 6' OF THE TOP INSIDE EDGE OF THE BOWL OF THE SINK), BATHTUBS AND SHOWER STALLS (WHERE THE RECEPTACLES ARE INSTALLED WITHIN 6' OF THE OUTSIDE EDGE OF THE BATHTUB OR SHOWER STALL), AND LAUNDRY AREAS. **C.E.C. 210.8(A)**
3. IN ALL AREAS OF DWELLING UNITS SPECIFIED IN C.E.C. 210.52 AND 550.13, ALL NONLOCKING-TYPE 125 AND 50 VOLT, 15- AND 20-AMPERE RECEPTACLES SHALL BE LISTED TAMPER RESISTANT. **C.E.C. 406.12**
4. RECEPTACLE OUTLETS SHALL BE LOCATED ON OR ABOVE, BUT NOT MORE THAN 20 IN., ABOVE THE COUNTERTOP OR WORK SURFACE. RECEPTACLE OUTLET ASSEMBLIES LISTED FOR USE IN COUNTERTOPS OR WORK SURFACES SHALL BE PERMITTED TO BE INSTALLED IN COUNTERTOPS OR WORK SURFACES. RECEPTACLE OUTLETS RENDERED NOT READILY ACCESSIBLE BY APPLIANCES FASTENED IN PLACE, APPLIANCE GARAGES, SINKS, OR RANGE TOPS AS COVERED IN **C.E.C. 210.52 (C)(1)**, EXCEPTION, OR APPLIANCES OCCUPYING DEDICATED SPACE SHALL NOT BE CONSIDERED AS THESE REQUIRED OUTLETS. **C.E.C. 210.52(C)(5)**
5. AT LEAST ONE RECEPTACLE OUTLET SHALL BE INSTALLED IN BATHROOMS WITHIN 3 FT OF THE OUTSIDE EDGE OF EACH BASIN. THE RECEPTACLE OUTLET SHALL BE LOCATED ON A WALL OR PARTITION THAT IS ADJACENT TO THE BASIN OR BASIN COUNTERTOP, OR INSTALLED ON THE SIDE OR FACE OF THE BASIN CABINET. IN NO CASE SHALL THE RECEPTACLE BE LOCATED MORE THAN 12 IN. BELOW THE TOP OF THE BASIN OR BASIN COUNTERTOP. RECEPTACLES LISTED FOR USE IN COUNTERTOPS SHALL BE PERMITTED TO BE INSTALLED IN THE COUNTERTOP. AT LEAST ONE 120 VOLT 20-AMPERE BRANCH CIRCUIT SHALL BE PROVIDED FOR THESE RECEPTACLES. **C.E.C. 210.11 (C)(3) AND 210.52(D)**
6. BALCONIES, DECKS, AND PORCHES THAT ARE ATTACHED TO THE DWELLING UNIT AND ARE ACCESSIBLE FROM INSIDE THE DWELLING UNIT SHALL HAVE AT LEAST ONE RECEPTACLE OUTLET ACCESSIBLE FROM THE BALCONY, DECK, OR PORCH. THE RECEPTACLE OUTLET SHALL NOT BE LOCATED MORE THAN 6 1/2 FT. ABOVE THE BALCONY, DECK, OR PORCH WALKING SURFACE. **C.E.C. 210.52 (E)(3)**
7. RECEPTACLE OUTLETS INSTALLED IN DAMP OR WET CONDITIONS SHALL MEET THE REQUIREMENTS OF **C.E.C. 406.9**
8. A SWITCHED ELECTRICAL OUTLET INSTALLED 18" ABOVE THE FLOOR SHALL BE PROVIDED FOR THE GARBAGE DISPOSAL.
9. WIRING SHALL BE PROVIDED FOR RANGE, HOOD, LIGHT AND FAN AT 72" ABOVE FLOOR WHERE REQUIRED.
10. A 110-VOLT RECEPTACLE OUTLET SHALL BE PROVIDED FOR THE WATER HEATER AND ANY HEATING EQUIPMENT.

LIGHTING

1. ALL LUMINAIRES SHALL BE HIGH EFFICACY LIGHTING AS DEFINED PER **TABLE 150.0-A**
2. IN ADDITION TO COMPLYING WITH 150.0(K)1A, LUMINAIRES RECESSED INTO CEILINGS SHALL MEET ALL OF THE FOLLOWING REQUIREMENTS: **A.** BE LISTED, AS DEFINED IN SECTION 100.1, FOR ZERO CLEARANCE INSULATION CONTACT (IC) BY UNDERWRITERS LABORATORIES OR OTHER NATIONALLY RECOGNIZED TESTING/GRATING LABORATORIES; AND **B.** HAVE A LABEL THAT CERTIFIES THAT THE LUMINAIRE IS AIRTIGHT WITH AIR LEAKAGE LESS THAN 2.0 CFM AT 75 PASCALES WHEN TESTED IN ACCORDANCE WITH **ASTM E283**; AN EXHAUST FAN HOUSING SHALL NOT BE REQUIRED TO BE CERTIFIED AIRTIGHT; AND **C.** BE SEALED WITH A GASKET OR CAULK BETWEEN THE LUMINAIRE HOUSING AND CEILING, AND HAVE ALL AIR LEAK PATHS BETWEEN CONDITIONED AND UNCONDITIONED SPACES SEALED WITH A GASKET OR CAULK; AND **D.** FOR LUMINAIRES WITH HARDWIRED BALLASTS OR DRIVERS, ALLOW BALLAST MAINTENANCE AND REPLACEMENT TO BE READILY ACCESSIBLE TO BUILDING OCCUPANTS FROM BELOW THE CEILING WITHOUT REQUIRING THE CUTTING OF HOLES IN THE CEILING; AND **E.** SHALL NOT CONTAIN SCREW BASED SOCKETS. **C.E.C. 150.0 (k) 1 C**
3. SCREW BASED LUMINAIRES SHALL CONTAIN LAMPS THAT COMPLY WITH REFERENCE JOINT APPENDIX JAB8. **C.E.C. 150.0 (k) 1 G**



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

4. EXHAUST FANS SHALL BE CONTROLLED SEPARATELY FROM THE LIGHTING SYSTEM, EXCEPT FOR AN EXHAUST FANS WITH AN INTEGRAL LIGHTING MAY BE ON THE SAME CONTROL AS THE FAN PROVIDED THE LIGHTING CAN BE TRUNED OFF IN ACCORDANCE WITH THE APPLICABLE PROVISIONS IN SECTION 150.0 (K)2 WHILE ALLOWING THE FAN TO CONTINUE TO OPERATE. **C.E.C. 150 (k) 2 B**
5. IN BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS, AT LEAST ONE LUMINAIRE IN EACH OF THESE SPACES SHALL BE CONTROLLED BY AN OCCUPANT OR VACANCY SENSOR PROVIDING AUTOMATIC-OFF FUNCTIONALITY. IF AN OCCUPANT SENSOR IS INSTALLED, IT SHALL BE INITIALLY CONFIGUTRE TO MAUAL ON OPERATION USING THE MAUAL CONTROL REQUIRED UNDER SECTION 10.0 (K)2C. **C.E.C. 150 (k) 2 I**
6. DIMMERS OR VACANCY SENSORS SHALL CONTROL ALL LUMINAIRES REQUIRED TO HAVE LIGHT SOURCES COMPLIANT WITH REFERENCED JOINT APPENDIX JAB EXCEPT LUMINAIRES IN CLOSETS LESS THAN 70 SQUARE FEET AND LIGHTS IN HALLWAYS. **C.E.C. 150 (k) 2 J**
7. CLOSET LIGHTING SHALL BE OF A TYPE PERMITTED BY **C.E.C. 410.16** AND SHALL BE LOCATED SO AS TO COMPLY WITH THE REQUIREMENTS OF THIS SECTION.
8. LUMINAIRES INSTALLED NEAR COMBUSTIBLES SHALL MEET THE REQUIREMENTS OF **C.E.C. 410.11**
9. LUMINAIRES INSTALLED IN WET OR DAMP LOCATIONS SHALL MEET THE REQUIREMENTS OF **C.E.C. 410.10 (A)**
10. IN ADDITION TO MEETING THE REQUIREMENTS OF C.E.C. 150.0(K)1A, LUMINAIRES PROVIDING RESIDENTIAL OUTDOOR LIGHTING FOR THIS PROJECT SHALL MEET THE FOLLOWING REQUIREMENTS, AS APPLICABLE: FOR SINGLE-FAMILY RESIDENTIAL BUILDINGS, OUTDOOR LIGHTING PERMANENTLY MOUNTED TO A RESIDENTIAL BUILDING OR TO OTHER BUILDINGS ON THE SAME LOT SHALL BE CONTROLLED BY A MANUAL ON/OFF SWITCH THAT DOES NOT OVERRIDE TO OR THE AUTOMATIC ACTIONS OF THE REQUIRED PHOTOCELL AND MOTION SENSOR UNLESS THE OVERRIDE AUTOMATICALLY REACTIVATES THE MOTION SENSOR WITHIN 6 HOURS. ALL EXTERIOR LIGHTS DESCRIBED ABOVE WILL BE CONTROLLED BY A PHOTOCELL AND MOTION SENSOR OR BY OTHER MEANS APPROVED IN **C.E.C. 150 (k) 3**
11. LUMINAIRES AND LAMP HOLDERS SHALL BE SECURELY SUPPORTED. A LUMINAIRE THAT WEIGHS MORE THAN 6 LB OR EXCEEDS 16 IN. IN ANY DIMENSION SHALL NOT BE SUPPORTED BY THE SCREW SHELL OF A LAMP HOLDER. **C.E.C. 410.30 (A)**

SMOKE ALARMS

1. SMOKE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND UL 2034. THEY SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THE C.E.C. AND NFPA 72 SYSTEMS AND COMPONENTS SHALL BE CALIFORNIA STATE FIRE MARSHAL LISTED AND APPROVED IN ACCORDANCE WITH **CALIFORNIA CODE OF REGULATIONS, TITLE 19, DIVISION 1** FOR THE PURPOSE FOR WHICH THEY ARE INSTALLED. **C.R.C. 314.1**
2. WHERE MORE THAN ONE SMOKE ALARM IS REQUIRED TO BE INSTALLED WITHIN AN INDIVIDUAL DWELLING OR SLEEPING UNIT, THE SMOKE ALARMS SHALL BE INTERCONNECTED IN SUCH A MANNER THAT THE ACTIVATION OF ONE ALARM WILL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. THE ALARM SHALL BE CLEARLY AUDIBLE IN ALL BEDROOMS OVER BACKGROUND NOISE LEVELS WITH ALL INTERVENING DOORS CLOSED. INTERCONNECTION IS NOT REQUIRED IN BUILDINGS THAT ARE NOT UNDERGOING ALTERATIONS, REPAIRS OR CONSTRUCTION OF ANY KIND. SMOKE ALARMS IN EXISTING AREAS ARE NOT REQUIRED TO BE INTERCONNECTED WHERE ALTERATIONS OR REPAIRS DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL OR CEILING FINISHES EXPOSING THE STRUCTURE, UNLESS THERE IS AN ATTIC, CRAWL SPACE OR BASEMENT AVAILABLE WHICH COULD PROVIDE ACCESS FOR INTERCONNECTION WITHOUT THE REMOVAL OF INTERIOR FINISHES. SMOKE ALARMS ARE NOT REQUIRED TO BE INTERCONNECTED WHERE REPAIRS OR ALTERATIONS ARE LIMITED TO THE EXTERIOR SURFACES OF DWELLINGS, SUCH AS THE REPLACEMENT OF ROOFING OR SIDING, OR THE ADDITION OR REPLACEMENT OF WINDOWS OR DOORS, OR THE ADDITION OF A PORCH OR DECK. SMOKE ALARMS ARE NOT REQUIRED TO BE INTERCONNECTED WHEN WORK IS LIMITED TO THE INSTALLATION, ALTERATION OR REPAIRS OF PLUMBING OR MECHANICAL SYSTEMS OR THE INSTALLATION, ALTERATION OR REPAIR OF ELECTRICAL SYSTEMS WHICH DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL OR CEILING FINISHES EXPOSING THE STRUCTURE. **R. 314.6**
3. SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING PROVIDED THAT SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. SMOKE ALARMS WITH INTEGRAL STROBES THAT ARE NOT EQUIPPED WITH BATTERY BACKUP SHALL BE CONNECTED TO AN EMERGENCY ELECTRICAL SYSTEM. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVERCURRENT PROTECTION. SMOKE ALARMS ARE PERMITTED TO BE SOLELY BATTERY OPERATED IN EXISTING BUILDINGS WHERE NO CONSTRUCTION IS TAKING PLACE. SMOKE ALARMS ARE PERMITTED TO BE SOLELY BATTERY OPERATED IN BUILDINGS THAT ARE NOT SERVED FROM A COMMERCIAL POWER SOURCE. SMOKE ALARMS ARE PERMITTED TO BE SOLELY BATTERY OPERATED IN EXISTING AREAS OF BUILDINGS UNDERGOING ALTERATIONS OR REPAIRS THAT DO NOT RESULT IN THE REMOVAL OF INTERIOR WALLS OR CEILING FINISHES EXPOSING THE STRUCTURE, UNLESS THERE IS AN ATTIC, CRAWL SPACE OR BASEMENT AVAILABLE WHICH COULD PROVIDE ACCESS FOR BUILDING WIRING WITHOUT THE REMOVAL OF INTERIOR FINISHES. SMOKE ALARMS ARE PERMITTED TO BE SOLELY BATTERY OPERATED WHERE REPAIRS OR ALTERATIONS ARE LIMITED TO THE EXTERIOR SURFACES OF DWELLINGS, SUCH AS THE REPLACEMENT OF ROOFING OR SIDING, OR THE ADDITION OR REPLACEMENT OF WINDOWS OR DOORS, OR THE ADDITION OF A PORCH OR DECK. SMOKE ALARMS ARE PERMITTED TO BE SOLELY BATTERY OPERATED WHEN WORK IS LIMITED TO THE INSTALLATION, ALTERATION OR REPAIR OF PLUMBING OR MECHANICAL SYSTEMS OR THE INSTALLATION, ALTERATION OR REPAIR OF ELECTRICAL SYSTEMS WHICH DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL OR CEILING FINISHES EXPOSING THE STRUCTURE. **R. 314.4**

CARBON MONOXIDE ALARMS

1. CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 2034. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL 217 AND UL 2034. CARBON MONOXIDE DETECTORS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF NFPA 720 AND UL 2075. COMBINATION SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS SHALL COMPLY WITH UL 2075 AND UL 268. CARBON MONOXIDE ALARMS AND CARBON MONOXIDE DETECTORS AS WELL AS COMBINATION ALARMS OR DETECTORS MAY BE USED IN LIEU OF ONE ANOTHER **C.R.C. 315**
2. CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHERE SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND, WHERE PRIMARY POWER IS INTERRUPTED, SHALL RECEIVE POWER FROM A BATTERY. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN THOSE REQUIRED FOR OVERCURRENT PROTECTION. CARBON MONOXIDE ALARMS SHALL BE PERMITTED TO BE BATTERY OPERATED WHERE INSTALLED IN BUILDINGS WITHOUT COMMERCIAL POWER. CARBON MONOXIDE ALARMS INSTALLED IN ACCORDANCE WITH SECTION R315.2.2 SHALL BE PERMITTED TO BE BATTERY POWERED. CARBON MONOXIDE ALARMS IN GROUP R OCCUPANCIES SHALL BE PERMITTED TO RECEIVE THEIR PRIMARY POWER FROM OTHER POWER SOURCES RECOGNIZED FOR USE BY NFPA 720. CARBON MONOXIDE ALARMS IN GROUP R OCCUPANCIES SHALL BE PERMITTED TO BE BATTERY POWERED OR PLUG-IN WITH A BATTERY BACKUP IN EXISTING BUILDINGS BUILT PRIOR TO JANUARY 1, 2011, UNDER ANY OF THE FOLLOWING CONDITIONS: NO CONSTRUCTION IS TAKING PLACE. REPAIRS OR ALTERATIONS DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL AND CEILING FINISHES EXPOSING THE STRUCTURE IN AREAS/SPACES WHERE CARBON MONOXIDE ALARMS ARE REQUIRED. REPAIRS OR ALTERATIONS ARE LIMITED TO THE EXTERIOR SURFACES OF DWELLINGS, SUCH AS THE REPLACEMENT OF ROOFING OR SIDING, OR THE ADDITION OR REPLACEMENT OF WINDOWS OR DOORS, OR THE ADDITION OF A PORCH OR DECK. WORK IS LIMITED TO THE INSTALLATION, ALTERATION OR REPAIR OF PLUMBING, MECHANICAL OR ELECTRICAL SYSTEMS, WHICH DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL OR CEILING FINISHES EXPOSING THE STRUCTURE IN AREAS/SPACES WHERE CARBON MONOXIDE ALARMS ARE REQUIRED. **C.R.C. 315.5**
3. WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED WITHIN A DWELLING UNIT OR WITHIN A SLEEPING UNIT IN GROUP R OCCUPANCIES, THE ALARMS SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT. INTERCONNECTION IS NOT REQUIRED IN EXISTING BUILDINGS BUILT PRIOR TO JANUARY 1, 2011, UNDER ANY OF THE FOLLOWING CONDITIONS: PHYSICAL INTERCONNECTION IS NOT REQUIRED WHERE LISTED WIRELESS ALARMS ARE INSTALLED AND ALL ALARMS SOUND UPON ACTIVATION OF ONE ALARM. NO CONSTRUCTION IS TAKING PLACE. REPAIRS OR ALTERATIONS DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL AND CEILING FINISHES EXPOSING THE STRUCTURE IN AREAS/SPACES WHERE CARBON MONOXIDE ALARMS ARE REQUIRED. REPAIRS OR ALTERATIONS ARE LIMITED TO THE EXTERIOR SURFACES OF DWELLINGS, SUCH AS THE REPLACEMENT OF ROOFING OR SIDING, OR THE ADDITION OR REPLACEMENT OF WINDOWS OR DOORS, OR THE ADDITION OF A PORCH OR DECK. WORK IS LIMITED TO THE INSTALLATION, ALTERATION OR REPAIR OF PLUMBING, MECHANICAL, OR ELECTRICAL SYSTEMS, WHICH DO NOT RESULT IN THE REMOVAL OF INTERIOR WALL OR CEILING FINISHES EXPOSING THE STRUCTURE IN AREAS/SPACES WHERE CARBON MONOXIDE ALARMS ARE REQUIRED. **C.R.C. 315.7**

ELECTRICAL LEGEND

SWITCH	—●—
DIMMER	DM
MANUAL ON OCCUPANT SENSOR	OCC
MANUAL ON/MOTION SENSOR/PHOTO SENSOR FOR OUTDOOR LIGHTING	PS
3 WAY SWITCH	3
TAMPER RESISTANT DUPLEX RECEPTACLE	—●—
ARC FAULT CIRCUIT INTERRUPTER	AFCI
GROUND FAULT CIRCUIT INTERRUPTER	GFCI
GROUND FAULT CIRCUIT INTERRUPTER WITH ALL WEATHER USE COVER PER C.E.C. 406.8	WP GFCI
220 OUTLET FOR DRYER AND RANGE	220
TAMPER RESISTANT GFCI DUPLEX RECEPTACLE INSTALLED IN EAVES WITH ALL WEATHER USE COVER C.E.C. 406.8	—●—
GENERAL LIGHTING	—●—
PENDENT LIGHT	—●—
RECESSED LIGHTING	—●—
WALL SCONCE	—●—
UNDERCABINET LIGHTING	—●—
SMOKE ALARM/CARBON MONOXIDE ALARM COMBINATION	—●— SMA CMA
SMOKE ALARM ONLY	—●— SMA
EXHAUST FAN	FAN

ADU PANEL									
125 AMP					1 PHASE				
					3 WIRE				
CIRCUIT	BREAKER	DESCRIPTION	LOAD VA		LOAD VA	DESCRIPTION	BREAKER	CIRCUIT	
1	20	RECEPTACLES AFCEI LIVING	1080	1448	368	LIGHTING LIVING, BATH, KITCHEN	20	2	
2	20	RECEPTACLES GFCI BEDROOMS	1080	2080	1000	LIGHTING BEDROOMS	20	4	
3	20	RECEPTACLES GFCI KITCHEN AND BATH	480	1000	360	MICROWAVE WITH HOOD	20	6	
4	20	GARBAGE DISPOSAL	480	1260	360	REFRIGERATOR	20	8	
5	20	RECEPTACLE EXTERIOR GFCI	960	1000	360		20	10	
6	20	SPARE	2100	2100	2100	RANGE ELECTRIC (220)	40	12	
7	30	WATER HEATER (HEAT PUMP TYPE)	2800	3160	660	DISHWASHER	20	14	
8	30	SPARE	2800	3160	660	WASHER	20	16	
9	20	MINISPLIT (1.5 TON UNIT)	1260	3760	2500	ELECTRIC DRYER (220)	30	18	
10	20	SPARE	1260	3760	2500		30	20	
CONNECTED WATTAGE PER PHASE			13,448	13,042	CONNECTED WATTAGE PER PHASE				

WATTS ————— 26,490

25% LARGEST MOTOR/LIGHTS ————— 1,387.5

TOTAL ————— 27,877.5 ÷ 240 = 116.16 AMPS.

HIGHEST LEG ————— 14,165 ÷ 120 = 118.04 AMPS.

2 ELECTRICAL LOAD CALCS



RESIDENTIAL COMMERCIAL ENERGY ENGINEERING

RESCom
3166 Suisun Bay Road
West Sacramento, CA 95691
(916) 373-1383
(888) 372-2263
www.RescomEE.com

Max Kellogg
4765 Pacific Street
Rocklin, CA 95677

October 17, 2020

Re: Genereux ADU

Your project is complete and complies with the following 2019 Title 24 requirements for the new work:
(in addition to all the required Mandatory Measures as applicable to your project):

Floor insulation -	None (Slab-on-grade)
Wall insulation -	R-21 (in 2x6 framing)
Attic Insulation -	R-30 above ceiling
Roof-deck Insulation -	R-13 attached to underside of roof-deck between rafters
Radiant Barrier -	NO (do not install radiant barrier)
Cool Roof Required -	NO
Window Values -	U-0.30, SHGC-0.23
Exterior Wood Door -	U-0.20
Water Heater -	Heat-pump type 50-gallon (based on Rheem XE50T10HD50U1)
HVAC (mini-split) -	14.0 SEER / 8.2 HSPF
Duct Insulation -	None (ductless)
IAQ Exhaust Fan Required	YES (50 CFM min)
Whole House Fan Required	NO
PV Solar System -	1.86 kWdc (based on CFI defaults and 100% solar access)
	Solar designer responsible that installed system meets compliance

HERS Field Verifications

Duct Seal and Leakage -	NO
Proper Refrigerant Charge -	YES
SEER/EER Verification -	NO
Cooling Coil Air Flow (350 CFM/Ton)	NO
Cooling Fan Power (0.58 W/CFM) -	NO (Heat Pump)
IAQ Fan CFM -	YES
Kitchen Hood (HVI listed) -	YES
Quality Insulation Installation -	NO
Heat Pump Heating Capacity -	YES
HSPF Verification -	NO
Whole House Airflow -	NO
VCHP Verifications -	YES

Please verify the above features before submitting to the building department. If you have any questions regarding this analysis, please call (916) 373-1383.

Sincerely,

Melinda Wollny

TITLE 24 - CAD - LOAD CALCULATIONS - HVAC DESIGN

ASHRAE STANDARD 62.2, CEEC MF-1R measure 150(o)

Local Ventilation Rate Summary

Bathroom Fan Flow 50 (cfm) min. (# of Bathrooms 1) 80 CFM
Kitchen Fan Flow 100 (cfm) min. (# of Kitchens 1) 100 CFM

Use the Fan Flow rate from this summary for selection of the local ventilation fan duct length design for the local ventilation system from Table 7.1

Bathroom Duct size (in) = 5 Maximum allowable Duct Length (ft) = 70
Kitchen Duct size (in) = 6 Maximum allowable Duct Length (ft) = 85

Sound Rating and Continuous Operation

The whole building ventilation exhaust fan will operate continuously and is required to be rated for sound at a maximum of 1 sone. This exhaust fan can be controlled by a standard on/off switch but the switch must be labeled to inform the occupant that the exhaust fan is the whole building ventilation exhaust fan and is intended to operate continuously. The wording needs to make clear what the control is for and the importance of operating the system. This may be as simple as "Ventilation Control" or might include wording such as; "Operate when the house is in use" or "fan is on for indoor air quality" Majority of local exhaust fans (bathrooms & kitchen) will operate intermittently and are required to be rated at max. 3 sones.

Table 7.1 Prescriptive Duct Sizing Requirements

Duct Type	Flex Duct				Smooth Duct			
Fan Rating*	50	80	100	125	50	80	100	125
Maximum Allowable Duct Length (ft)								
Diameter in.	Flex Duct				Smooth Duct			
4	70	3	X	X	105	35	5	X
5	NL	70	35	20	NL	135	85	55
6	NL	NL	125	95	NL	NL	NL	145

7 and above have no length limitation, 3 inch is only allowed in smooth duct 50 cfm 5 ft. length
This table assumes no elbows. Deduct 15 ft of allowable duct length for each turn, elbow or fitting
*cfm @ 0.25 in. w.g. NL = no limit on duct length this size.
X = not allowed, any duct of this size will exceed the rated pressure drop.

CERTIFICATE OF COMPLIANCE

Project Name: Genereux ADU
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2020-10-17T11:13:51-07:00

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GENERAL INFORMATION					
01	Project Name	Genereux ADU			
02	Run Title	Title 24 Analysis			
03	Project Location	121 Payran Street			
04	City	Petaluma	05	Standards Version	2019
06	Zip code	94952	07	Software Version	CBECC-Res 2019.1.2
08	Climate Zone	2	09	Front Orientation (deg/ Cardinal)	210
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	NewConstruction	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor	0.34
18	Total Cond. Floor Area (ft²)	747	19	Glazing Percentage (%)	12.90%
20	ADU Bedroom Count	0	21	ADU Conditioned Floor Area	0
22	Is Natural Gas Available?	Yes			

COMPLIANCE RESULTS	
01	Building Complies with Computer Performance
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.
03	This building incorporates one or more Special Features shown below

Registration Number: 220-P010194445A-000-000-0000000-0000
CA Building Energy Efficiency Standards - 2019 Residential Compliance

Registration Date/Time: 2020-10-27 13:51:52
Report Version: 2019.1.108
Schema Version: rev 20200101

HERS Provider: CalCERTS, Inc.
Report Generated: 2020-10-17 11:14:16

CERTIFICATE OF COMPLIANCE

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REQUIRED SPECIAL FEATURES	
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.	
<ul style="list-style-type: none">Insulation below roof deckVariable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed	

HERS FEATURE SUMMARY

The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CF2Rs and CF3Rs are required to be completed in the HERS Registry

Building-level Verifications:

- Indoor air quality ventilation
- Kitchen range hood
- Cooling System Verifications:

- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)

Heating System Verifications:

- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

HVAC Distribution System Verifications:

- None --
- Domestic Hot Water System Verifications:
- None --

BUILDING - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
Genereux ADU	747	1	2	1	0	1

ZONE INFORMATION						
01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Water Heating System 2
ADU	Conditioned	Minisplit1	747	9	DHW Sys 1	N/A

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ENERGY DESIGN RATING				
	Energy Design Ratings		Compliance Margins	
	Efficiency ¹ (EDR)	Total ² (EDR)	Efficiency ³ (EDR)	Total ² (EDR)
Standard Design	55.9	29.1		
Proposed Design	55.4	28.6	0.5	0.5
RESULT: ³ COMPLIES				
1: Efficiency EDR includes improvements to the building envelope and more efficient equipment 2: Total EDR includes efficiency and demand response measures such as photovoltaic (PV) systems and batteries 3: Building complies when efficiency and total compliance margins are greater than or equal to zero				
<ul style="list-style-type: none">Standard Design PV Capacity: 1.86 kWdcPV System resized to 1.86 kWdc (a factor of 1.862) to achieve 'Standard Design PV' PV scaling				

ENERGY USE SUMMARY				
Energy Use (kTDV/ft²-yr)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	33.82	24.25	9.57	28.3
Space Cooling	4.22	9.53	-5.31	-125.8
IAQ Ventilation	3.59	3.59	0	0
Water Heating	34.16	36.34	-2.18	-6.4
Self Utilization Credit	n/a	0	0	n/a
Compliance Energy Total	75.79	73.71	2.08	2.7

REQUIRED PV SYSTEMS - SIMPLIFIED											
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff (%)	Annual Solar Access (%)
1.86	NA	Standard	Fixed (roof mount)	none	true	150-270	n/a	n/a	<=7:12	96	100

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OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Front	ADU	R-21 Wall	210	Front	288	20	90
Left	ADU	R-21 Wall	300	Left	168	16	90
Back	ADU	R-21 Wall	30	Back	288	31.7	90
Right	ADU	R-21 Wall	120	Right	168	48.65	90
Attic	ADU	R-30 Roof Attic + R-13	n/a	n/a	747	n/a	n/a

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic ADU	Attic RoofADU	Ventilated	7	0.1	0.85	No	No

FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
1NLG1 Glass Block	Window	Left	Left	300			1	16	0.57	Table 110.6-A	0.67	Table 110.6-B	Bug Screen
1NBG1	Window	Back	Back	30			1	15	0.3	NFRC	0.23	NFRC	Bug Screen
1NBG2	Window	Back	Back	30			1	16.7	0.3	NFRC	0.23	NFRC	Bug Screen
1NRG1	Window	Right	Right	120			1	16.65	0.3	NFRC	0.23	NFRC	Bug Screen
1NRG2 FD	Window	Right	Right	120			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
1NRG3	Window	Right	Right	120			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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Revisions:	By:
2/6/21	JC
3/4/21	JC

Backyard
UNLIMITED
4765 Pacific Street
Rocklin, CA 95677
PH: (916) 630-SHED

22x36 ACCESSORY DWELLING UNIT FOR:
GENEREUX
PROJECT ADDRESS: 121 Payran Street,
Petaluma, California 94952-3205
APN: 007-021-006-000

TITLE 24

Date: 11/11/20
Scale: NOTED
Drawn: JC
Job:
Sheet Number: 6
Total sheet count: 7

CERTIFICATE OF COMPLIANCE
Project Name: Genereux ADU
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01	02	03	04
Name	Side of Building	Area (ft ²)	U-factor
1NDoor	Front	20	0.2

01	02	03	04	05	06	07
Name	Zone	Area (ft2)	Perimeter (ft)	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab-on-Grade	ADU	747	110	None	80%	No

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: 3 Coat Stucco
Attic RoofADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-13	None / None	0.078	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Around Roof Joists: R-0.0 insul.
R-30 Roof Attic + R-13	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-30.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

Registration Number: 220-P010194445A-000-000-0000000-0000
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01	02	03	04
Quality Insulation Installation (QII)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	CFM50
Not Required	Not Required	Not Required	n/a

01	02	03	04	05	06	07
Name	System Type	Distribution Type	Water Heater Name (#)	Solar Heating System	Compact Distribution	HERS Verification
DHW Sys 1	Domestic Hot Water (DHW)	Standard Distribution System	DHW Heater 1 (1)	n/a	None	n/a

01	02	03	04	05	06	07	08	09	10	11	12
Name	Heating Element Type	Tank Type	# Units	Tank Vol. (gal)	Energy Factor or Efficiency	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff.	1st Hr. Rating or Flow Rate	NEEA Heat Pump Brand or Model	Tank Location or Ambient Condition
DHW Heater 1	Heat Pump	n/a	1	50	NEEA	n/a	n/a	n/a	80 gal	Rheem/RheemXE5 0T10U1	Outside

01	02	03	04	05	06	07	08
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Central DHW Distribution	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/1	Not Required	Not Required	Not Required	None	Not Required	Not Required	Not Required

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Schema Version: rev 20200101

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CERTIFICATE OF COMPLIANCE
Project Name: Genereux ADU
Calculation Description: Title 24 Analysis

Calculation Date/Time: 2020-10-17T11:13:51-07:00
Input File Name: Backyard-Ultd-Genereux_ADU.ribd19x

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01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Heating Unit Name	Cooling Unit Name	Fan Name	Distribution Name	Required Thermostat Type	Status	Verified Existing Condition	Heating Equipment Count	Cooling Equipment Count
Minisplit1	Heat pump heating cooling	Heat Pump System 1	Heat Pump System 1			Setback	New	NA	1	1

01	02	03	04	05	06	07	08	09	10	11
Name	System Type	Number of Units	HSPF/COP	Cap 47	Cap 17	SEER	EER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	VCHP	1	8.2	12000	7800	14	11.7	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge	Verified HSPF	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Not Required	Yes	No	Yes	Yes

01	02	03	04	05	06	07	08	09	10
Name	Certified Low-Static VCHP System	Airflow to Habitable Rooms	Ductless Units in Conditioned Space	Wall Mount Thermostat	Air Filter Sizing & Pressure Drop Rating	Low Leakage Ducts in Conditioned Space	Minimum Airflow per RA3.3 and SC3.3.3.4.1	Certified non-continuous Fan	Indoor Fan not Running Continuously
Heat Pump System 1	Not required	Required	Required	Required	Not required	Not required	Not required	Not required	Not required

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01	02	03	04	05	06
Dwelling Unit	IAQ CFM	IAQ Watts/CFM	IAQ Fan Type	IAQ Recovery Effectiveness (%)	IAQ Recovery Effectiveness - SREIAQ Recovery Effectiveness - SRE
Sfam IAQVentRpt	44	0.25	Default	0	n/a



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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: Melinda Wolny	Documentation Author Signature: <i>Melinda Wolny</i>
Company: ResCom Energy	Signature Date: 2020-10-17 11:17:29
Address: 3166 Suisun Bay Rd	
City/State/Zip: West Sacramento, CA 95691	
Phone: 916-373-1383	
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California: 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. 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 Regulations. 3. 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, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.	
Responsible Designer Name: Max Kellogg	Responsible Designer Signature: <i>Max Kellogg</i>
Company: Backyard Unlimited	Date Signed: 2020-10-27 13:51:52
Address: 4765 Pacific Street	
City/State/Zip: Rocklin, CA 95677	
Phone: 916-260-2474	

Digitally signed by CalCERTS. This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.



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Revisions:	By:
2/6/21	JC
3/4/21	JC



22x36 ACCESSORY DWELLING UNIT FOR:
GENEREUX
PROJECT ADDRESS: 121 Payran Street,
Petaluma, California 94952-3205
APN: 007-021-006-000

TITLE 24

Date: 11/11/20
Scale: NOTED
Drawn: JC
Job:

Sheet Number:
7

Total sheet count: 7