



GENERAL NOTES
<b>G101</b>
22040

<div><div><div>WASTE WATER:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><div><input type="checkbox"/></div><div>SEWER</div></div><div><input type="checkbox"/></div><div>SEPTIC*</div></div></div><div>SEPTIC OPTION NOTES:</div><div><div><div>1. PROVIDE PLAN SHEETS ADDRESSING SEPTIC OPTION INFORMATION.</div><div>2. IN ADDITION TO APPROVAL FROM BUILDING &amp; SAFETY, APPROVAL IS REQUIRED FROM THE SAN DEIGO COUNTY HEALTH DEPARTMENT. PROVIDE DOCUMENTATION SHOWING SEPTIC SYSTEM WAS REVIEWED AND APPROVED BY THE COUNTY HEALTH DEPARTMENT.</div><div>3. DESIGN AND LOCATION OF PROPOSED SEPTIC SYSTEM SHALL BE PROVIDED ON SITE PLAN IN ACCORDANCE WITH CPC APPENDIX H. ALL ELEMENTS INCLUDING DISPOSAL FIELD SIZING BASED ON PERCOLATION RATE SHALL BE SHOWN.</div><div><div>1. ON THE SITE PLAN, DIMENSION THE SEPTIC TANK AND DISPOSAL FIELD/SEEPAGE PIT FROM THE BUILDINGS, LOT LINES, TREES, ETC. ENSURE THE LOCATION OF THE SEWAGE DISPOSAL SYSTEM IS IN COMPLIANCE WITH CPC TABLE H 101.8.</div><div>2. PROVIDE THE CAPACITY OF THE SEPTIC TANK PER CPC H 201.0.</div><div>3. PROVIDE THE DESIGN FOR THE DISPOSAL FIELD AND SEEPAGE PITS PER CPC H 301.0.</div></div></div></div></div></div>	<div><div><div>WILDLAND-URBAN INTERFACE (WUI):</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><div><input type="checkbox"/></div><div>YES</div></div><div><input type="checkbox"/></div><div>NO</div></div></div><div><div>1. EAVES SHALL BE ENCLOSED PER THE CRITERIA LISTED IN CRC R337.7.5. SHOW ON APPLICABLE DETAILS.</div><div>2. EXTERIOR WALLS SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE. PROVIDE DETAILS AND INFORMATION FOR THE SIDING TO DEMONSTRATE COMPLIANCE. CRC R337.7.3</div><div>3. THE SCREENS COVERING VENTS SHALL HAVE A MAXIMUM MESH OF 1/8" AND SHALL BE OF CORROSION-RESISTANT METAL. CRC R337.6.2</div><div>4. VENTS SHALL NOT BE INSTALLED ON THE UNDERSIDE OF EAVES. CRC R337.6.3</div><div>5. PROVIDE ONE LAYER OF ROOF UNDERLAYMENT OF MINIMUM 72-POUND MINERAL-SURFACED NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909. CRC 337.5.2</div><div>6. ROOF GUTTERS SHALL BE SCREENED TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS. CRC R337.5.4.</div></div></div></div> <div><div><div>DEFENSIBLE SPACE ZONES</div><div><div>ZONE 0 - EMBER-RESISTANT ZONE</div><div>EXTENDS 5 FEET FROM BUILDINGS, STRUCTURES, DECKS, ETC.</div><div><div>THE EMBER-RESISTANT ZONE IS CURRENTLY NOT REQUIRED BY LAW, BUT SCIENCE HAS PROVEN IT TO BE THE MOST IMPORTANT OF ALL THE DEFENSIBLE SPACE ZONES. THIS ZONE INCLUDES THE AREA UNDER AND AROUND ALL ATTACHED DECKS, AND REQUIRES THE MOST STRINGENT WILDFIRE FUEL REDUCTION. THE EMBER-RESISTANT ZONE IN DESIGNED TO KEEP FIRE OR EMBERS FROM IGNITING MATERIALS THAT CAN SPREAD THE FIRE TO YOUR HOME. THE FOLLOWING PROVIDES GUIDANCE FOR THIS ZONE, WICH MAY CHANGE BASED ON THE REGULATION DEVELOPED BY THE BOARD OF FORESTRY AND FIRE PROTECTION.</div><div><div><div><div>• USE HARDSCAPE LIKE GRAVEL, PAVERS, CONCRETE AND OTHER NONCOMBUSTIBLE MULCH MATERIALS. NO COMBUSTIBLE BARK OR MULCH.</div><div>• REMOVE ALL DEAD AND DYING WEEDS, GRASS, PLANTS SHRUBS, TREES, BRANCHES AND VEGETATIVE DEBRIS (LEAVES, NEEDLES, CONES, BARK, ETC.); CHECK YOUR ROOFS, GUTTERS, DECKS, PORCHES, STAIRWAYS, ETC.</div><div>• REMOVE ALL BRANCHES WITHIN 10 FEET OF ANY CHIMNEY OR STOVEPIPE OUTLET.</div><div>• LIMIT PLANTS IN THIS AREA TO LOW GROWING, NONWOODY, PROPERLY WATERED AND MAINTAINED PLANTS.</div><div>• LIMIT COMBUSTIBLE ITEMS (OUTDOOR FURNITURE, PLANTERS, ETC.) ON TOP OF DECKS.</div><div>• RELOCATE FIREWOOD AND LUMBER TO ZONE 2.</div><div>• REPLACE COMBUSTIBLE FENCING, GATES, AND ARBORS ATTACH TO THE HOME WITH NONCOMBUSTIBLE ALTERNATIVES.</div><div>• CONSIDER RELOCATING GARBAGE AND RECYCLING CONTAINERS OUTSIDE THIS ZONE.</div><div>• CONSIDER RELOCATING BOATS, RV'S, VEHICLES AND OTHER COMBUSTIBLE ITEMS OUTSIDE THIS ZONE.</div></div><div><div>ZONE 1 - LEAN, CLEAN AND GREEN ZONE</div><div>EXTENDS 30 FEET FROM BUILDINGS, STRUCTURES, DECKS, ETC. OR TO YOUR PROPERTY LINE, WHICHEVER IS CLOSER.</div><div><div><div><div>• REMOVE ALL DEAD PLANTS, GRASS AND WEEDS (VEGETATION).</div><div>• REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.</div><div>• REMOVE BRANCHES THAT HANG OVER YOUR ROOF AND KEEP DEAD BRANCHES 10 FEET AWAY FROM YOUR CHIMNEY.</div><div>• TRIM TREES REGULARLY TO KEEP BRANCHES A MINIMUM OF 10 FEET FROM OTHER TREES.</div><div>• RELOCATE WOOD PILES TO ZONE 2.</div><div>• REMOVE OR PRUNE FLAMMABLE PLANTS AND SHRUBS NEAR WINDOWS.</div><div>• REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS, BALCONIES AND STAIRS.</div><div>• CREATE A SEPARATION BETWEEN TREES, SHRUBS AND ITEMS THAT COULD CATCH FIRE, SUCH AS PATIO FURNITURE, WOOD PILES, SWING SETS, ETC.</div></div><div><div>ZONE 2 - REDUCE FUEL ZONE</div><div>EXTENDS FROM 30 FEET TO 100 FEET OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. OR TO YOUR PROPERTY LINE, WHICHEVER IS CLOSER.</div><div><div><div><div>• CUT OR MOW ANNUAL GRASS DOWN TO A MAXIMUM HEIGHT OF 4 INCHES</div><div>• CREATE HORIZONTAL SPACE BETWEEN SHRUBS AND TREES. (SEE DIAGRAM)</div><div>• CREATE VERTICAL SPACE BETWEEN GRASS, SHRUBS AND TREES. (SEE DIAGRAM)</div><div>• REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES.</div><div>• ALL EXPOSED WOOD PILES MUST HAVE A MINIMUM OF 10 FEET OF CLEARANCE, DOWN TO BARE MINERAL SOIL, IN ALL DIRECTIONS.</div></div></div></div></div></div></div></div></div></div></div></div></div></div>	<div><div><div>FIRE SPRINKLERS:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div>EXISTING PRIMARY DWELLING UNIT</div><div><div><div><input type="checkbox"/></div><div>YES</div></div><div><input type="checkbox"/></div><div>NO</div></div><div><div>REQUIRED AT PROPOSED ACCESSORY DWELLING UNIT</div><div><div><div><input type="checkbox"/></div><div>YES</div></div><div><input type="checkbox"/></div><div>NO</div></div></div></div></div><div><div><div>VERY HIGH FIRE SEVERITY ZONE:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><div><input type="checkbox"/></div><div>YES</div></div><div><input type="checkbox"/></div><div>NO</div></div></div><div><div>1. ALL EXTERIOR GLAZED DOOR ASSEMBLIES SHALL BE MULTI-PANE WITH A MINIMUM OF ONE TEMPERED PANE AND COMPLY WITH SECTION CRC R337.8.2.1</div><div>2. ALL EXTERIOR DOORS SHALL BE 20-MINUTES FIRE RATED AND COMPLY WITH SECTION CRC R337.8.3</div><div>3. ALL EXTERIOR WINDOW ASSEMBLIES SHALL COMPLY WITH SECTION CRC R337.8.2.1</div><div>4. ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER. ALL ROOF GUTTERS AND DOWNSPOUTS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS PER CRC R337.5.4; SDMC 149.0327(E) (1).</div><div>5. DRIP EDGE FLASHING USED AT THE FREE EDGES OF ROOFING MATERIALS SHALL BE NON-COMBUSTIBLE PER SDMC 149.0327(E) (2).</div><div>6. VALLEY FLASHINGS SHALL BE NOT LESS THAN 0.019-INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL INSTALLED OVER A MINIMUM 36-INCH-WIDE UNDERLAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY PER CRC R337.5.3.</div><div>7. CHIMNEYS, FLUES OR STOVEPIPES ATTACHED TO ANY FIREPLACE, STOVE, BARBEQUE OR OTHER SOLID OR LIQUID FUEL BURNING EQUIPMENT OR DEVICE SHALL BE EQUIPPED WITH AN APPROVES SPARK ARRESTOR PER SDMC 149.0327(H).</div><div>8. TURBINE ATTIC VENTS SHALL BE EQUIPPED TO ALLOW ONE-WAY DIRECTION ROTATION ONLY AND SHALL NOT FREE SPIN IN BOTH DIRECTIONS PER SDMC 145.0706(D).</div><div>9. ATTIC VENTS SHOULD BE PROTECTED BY NONCOMBUSTIBLE, CORROSION RESISTANT MESH AND MEETS ALL THE FOLLOWING REQUIREMENTS (PER CRC R337.6.2; SDMC 149.0327(F).1):<div><div>A. INDIVIDUAL VENT OPENINGS SHALL NOT EXCEED 144 SQUARE INCHES.</div><div>B. THE DIMENSIONS OF THE OPENINGS SHALL BE A MINIMUM OF 1/16-INCH AND SHALL NOT EXCEED 1/8-INCH.</div></div></div></div></div></div><div><div><div>*SEE DETAILS: 1/A500, 2/A500, 3/A500; 1/A510; 2/A510, 3/A510, 4/A510, 5/A510, 6/A510, 12/A510. 1/A520; 2/A520, 3/A520, 4/A520, 5/A520, 6/A520, 12/A520. 1/A530; 2/A530, 3/A530, 4/A530, 5/A530, 6/A530, 12/A530.</div></div></div></div>	<div><div><div>ADU FLOOR PLAN:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><input type="checkbox"/></div><div>REVERSE STANDARD 3-BEDROOM PLAN</div></div><div><input type="checkbox"/></div><div>REVERSE 2-BEDROOM OPTION</div></div></div><div><div><div>MISC. AVAILABLE OPTIONS:</div><div><div><div>✓</div><div>SELECTION(S)</div></div></div></div><div><div><div><div><input type="checkbox"/></div><div>5' PENINSULA (SEE 1/A102R)</div></div><div><input type="checkbox"/></div><div>SIDE BY SIDE LAUNDRY (SEE 2/A102R)</div></div><div><input type="checkbox"/></div><div>ENLARGED BEDROOM &amp; BATH DOOR (SEE 3/A102R)</div></div><div><input type="checkbox"/></div><div>SKYLIGHTS (SEE 1/A121R)</div></div></div> <div><div><div>FOUNDATION TYPE:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><input type="checkbox"/></div><div>STANDARD SOIL, SLAB ON GRADE (SEE S1 / S2)</div></div><div><input type="checkbox"/></div><div>STANDARD SOIL, RAISED FLOOR FOUNDATION* (SEE S1 / S2)</div></div></div><div><div><div>* PROVIDE 18" X 24" MIN. UNDERFLOOR ACCESS, CLEARANCE, AND VENTILATION. UNDER-FLOOR VENTILATION SHALL BE NOT LESS THAN 1/150 OF UNDER FLOOR AREA. (1209.1, R408.2, R408.4). REFER TO DETAIL 9 AND 10/ SHEET A500</div></div></div></div>	<div><div><div>EXTERIOR WALL MATERIAL:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><input type="checkbox"/></div><div>ELEVATION A - STUCCO</div></div><div><input type="checkbox"/></div><div>ELEVATION B - LAP SIDING</div></div><div><input type="checkbox"/></div><div>ELEVATION C - BOARD &amp; BATTEN SIDING</div></div></div> <div><div><div>ROOF MATERIAL:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><input type="checkbox"/></div><div>ROOF TYPE 1 - ASPHALT SHINGLE - CLASS 'A'</div></div><div><input type="checkbox"/></div><div>ROOF TYPE 2 - CEMENT FLAT TILE - CLASS 'A'</div></div><div><input type="checkbox"/></div><div>ROOF TYPE 3 - CONCRETE S-TILE - CLASS 'A'</div></div></div> <div><div><div>* 242 HIGHLANDER NEX AR BY MALARKEY ROOFING; ICC: ESR-3150; OR SIMILAR. (SEE DETAILS 1/A500, 4/A500, 1/A510, 4/A510, 1/A520, 4/A520, 1/A530, 4/A530)</div><div><div>*** LOW PROFILE 'BEL AIR' CONCRETE ROOF TILE BY EAGLE ROOFING; IAPMO ER-1900; OR SIMILAR. (SEE DETAILS 2/A500, 5/A500, 2/A510, 5/A510, 2/A520, 5/A520, 2/A530, 5/A530)</div><div><div>**** HIGH PROFILE 'CAPISTRANO' CONCRETE S-TILE ROOF BY EAGLE ROOFING; IAPMO ER-1900; OR SIMILAR. (SEE DETAILS 3/A500, 6/A500, 3/A510, 6/A510, 3/A520, 6/A520, 3/A530, 6/A530).</div></div></div></div></div>	<div><div><div>DETAIL GROUP:</div><div><div><div>✓</div><div>SELECTION</div></div></div></div><div><div><div><div><div><div>A1</div><div>ROOF MATERIAL TYPE</div><div>EXTERIOR WALL MATERIAL TYPE</div></div></div><div><div><div>DETAIL GROUP DESIGNATOR</div>&lt;</div></div></div></div></div></div>
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[illegible]

CHECKLIST
<b>G102R</b>
22040

CODE COMPLIANCE NOTES

EXCERPTS FROM THE 2022 CALIFORNIA RESIDENTIAL CODE

CHAPTER 3 - BUILDING PLANNING

R302 FIRE-RESISTANT CONSTRUCTION

R302.1 EXTERIOR WALLS  
CONSTRUCTION, PROJECTIONS, OPENINGS AND PENETRATIONS OF EXTERIOR WALLS OF DWELLINGS AND ACCESSORY BUILDINGS SHALL COMPLY WITH TABLE R302.1(1) FOR DWELLINGS AND ACCESSORY BUILDINGS EQUIPPED THROUGHOUT WITH AN AUTOMATIC SPRINKLER SYSTEM INSTALLED IN ACCORDANCE WITH SECTION R313 SHALL COMPLY WITH TABLE R302.1(2).

R302.2 DWELLING-GARAGE OPENING AND PENETRATION PROTECTION  
OPENINGS AND PENETRATIONS THROUGH THE WALLS OR CEILINGS SEPARATING THE DWELLING FROM THE GARAGE SHALL BE IN ACCORDANCE WITH SECTIONS R302.5.1 THROUGH R302.5.3.

R302.6 DWELLING/GARAGE AND/OR CARPORT FIRE SEPARATION  
THE GARAGE AND/OR CARPORT SHALL BE SEPARATED AS REQUIRED BY TABLE R302.6. OPENINGS IN GARAGE WALLS SHALL COMPLY WITH SECTION R302.5. ATTACHMENT OF GYPSUM BOARD SHALL COMPLY WITH TABLE R702.3.5. THE WALL SEPARATION PROVISIONS OF TABLE R302.6 SHALL NOT APPLY TO GARAGE WALLS THAT ARE PERPENDICULAR TO THE ADJACENT DWELLING UNIT WALL. A SEPARATION IS NOT REQUIRED BETWEEN THE DWELLING UNIT AND A CARPORT, PROVIDED THE CARPORT IS ENTIRELY OPEN ON TWO OR MORE SIDES AND THERE ARE NOT ENCLOSED AREAS ABOVE.

R302.7 UNDER-STAIR PROTECTION  
ENCLOSED SPACE UNDER STAIRS THAT IS ACCESSED BY A DOOR OR ACCESS PANEL SHALL HAVE WALLS, UNDER-STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2-INCH (12.7 MM) GYPSUM BOARD.

R302.11 FIRELOCKING  
IN COMBUSTIBLE CONSTRUCTION, FIRELOCKING SHALL BE PROVIDED TO CUT OFF BOTH VERTICAL AND HORIZONTAL CONCEALED DRAFT OPENINGS AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE.

FIRELOCKING SHALL BE PROVIDED IN WOOD-FRAMED CONSTRUCTION IN THE FOLLOWING LOCATIONS:

- IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, AS FOLLOWS:
  - VERTICALLY AT THE CEILING AND FLOOR LEVELS.
  - HORIZONTALLY AT INTERVALS NOT EXCEEDING 10 FEET (3048 MM).
- AT INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
- IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN. ENCLOSED SPACES UNDER STAIRS SHALL COMPLY WITH SECTION R302.7.
- AT OPENINGS AROUND VENTS, PIPES, DUCTS, CABLES AND WIRES AT CEILING AND FLOOR LEVEL, WITH AN APPROVED MATERIAL, TO RESIST THE FREE PASSAGE OF FLAME AND PRODUCTS OF COMBUSTION. THE MATERIAL FILLING THIS ANNULAR SPACE SHALL NOT BE REQUIRED TO MEET THE ASTM E136 REQUIREMENTS.
- FOR THE FIRELOCKING OF CHIMNEYS AND FIREPLACES, SEE SECTION R1003.19.
- FIRELOCKING OF CORNICES OF A TWO-FAMILY DWELLING IS REQUIRED AT THE LINE OF DWELLING UNIT SEPARATION.

R303 LIGHT, VENTILATION AND HEATING

R303.1 HABITABLE ROOMS  
HABITABLE ROOMS SHALL HAVE AN AGGREGATE GLAZING AREA OF NOT LESS THAN 8 PERCENT OF THE FLOOR AREA OF SUCH ROOMS. NATURAL VENTILATION SHALL BE THROUGH WINDOWS, SKYLIGHTS, DOORS, LOUVERS OR OTHER APPROVED OPENINGS TO THE OUTDOOR AIR. SUCH OPENINGS SHALL BE PROVIDED WITH READY ACCESS OR SHALL OTHERWISE BE READILY CONTROLLABLE BY THE BUILDING OCCUPANTS. THE OPENABLE AREA TO THE OUTDOORS SHALL BE NOT LESS THAN 4 PERCENT OF THE FLOOR AREA BEING VENTILATED.

R303.2 ADJOINING ROOMS  
FOR THE PURPOSE OF DETERMINING LIGHT AND VENTILATION REQUIREMENTS, ROOMS SHALL BE CONSIDERED TO BE A PORTION OF AN ADJOINING ROOM WHERE NOT LESS THAN ONE-HALF OF THE AREA OF THE COMMON WALL IS OPEN AND UNOBSTRUCTED AND PROVIDES AN OPENING OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERIOR ROOM AND NOT LESS THAN 25 SQUARE FEET (2.3 M2).

R307 BATHTUB AND SHOWER SPACES

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 (1829 MM) ABOVE THE FLOOR.

R308 GLAZING

R308.1 IDENTIFICATION  
EXCEPT AS INDICATED IN SECTION R308.1.1, EACH PANE OF GLAZING INSTALLED IN HAZARDOUS LOCATIONS AS DEFINED IN SECTION R308.4 SHALL BE PROVIDED WITH A MANUFACTURER'S DESIGNATION SPECIFYING WHY APPLIED THE DESIGNATION. THE TYPE OF GLAZING AND THE SAFETY OF GLAZING STANDARD WITH WHICH IT COMPLES, AND THAT IS VISIBLE IN THE FINAL INSTALLATION, THE DESIGNATION SHALL BE A CODE ETCHED, SANDBLASTED, CERAMIC-FIRED, LASER ETCHED, EMBOSSED, OR BE OF A TYPE THAT ONCE APPLIED CANNOT BE REMOVED WITHOUT BEING DESTROYED. A LABEL SHALL BE PERMITTED IN LIEU OF THE MANUFACTURER'S DESIGNATION.

R308.4 HAZARDOUS LOCATIONS

THE LOCATIONS SPECIFIED IN SECTIONS R308.4.1 THROUGH R308.4.7 SHALL BE CONSIDERED TO BE SPECIFIC HAZARDOUS LOCATIONS FOR THE PURPOSES OF GLAZING.

R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

R310.2.1 MINIMUM SIZE  
EMERGENCY ESCAPE AND RESCUE OPENINGS SHALL HAVE A NET CLEAR OPENING OF NOT LESS THAN 5.7 SQUARE FEET (0.530 M2).

R310.2.2 MINIMUM DIMENSIONS

THE MINIMUM NET CLEAR OPENING HEIGHT DIMENSION SHALL BE 24 INCHES (610 MM). THE MINIMUM NET CLEAR OPENING WIDTH DIMENSION SHALL BE 20 INCHES (508 MM). THE NET CLEAR OPENING DIMENSIONS SHALL BE THE RESULT OF NORMAL OPERATION OF THE OPENING.

R310.2.3 WINDOW SILL HEIGHT

WHERE A WINDOW IS PROVIDED AS THE EMERGENCY ESCAPE AND RESCUE OPENING, IT SHALL HAVE THE BOTTOM OF THE CLEAR OPENING NOT GREATER THAN 44 INCHES (1118 MM) MEASURED FROM THE FLOOR.

R314 AREA WELLS

AN EMERGENCY ESCAPE AND RESCUE OPENING WHERE THE BOTTOM OF THE CLEAR OPENING IS BELOW THE ADJACENT GRADE SHALL BE PROVIDED WITH AN AREA WELL IN ACCORDANCE WITH SECTIONS R310.4.1 THROUGH R310.4.4.

R311 MEANS OF EGRESS

R311.3 FLOORS AND LANDINGS AT EXTERIOR DOORS  
THERE SHALL BE A LANDING OR FLOOR ON EACH SIDE OF EACH EXTERIOR DOOR. THE WIDTH OF EACH LANDING SHALL BE NOT LESS THAN THE DOOR SWEPT. LANDINGS SHALL HAVE A DIMENSION OF NOT LESS THAN 36 INCHES (914 MM) MEASURED IN THE DIRECTION OF TRAVEL. THE SLOPE AT EXTERIOR LANDINGS SHALL NOT EXCEED 1/4 INCH VERTICAL, IN 12 UNITS HORIZONTAL (2 PERCENT).

R311.3.1 FLOOR ELEVATIONS AT THE REQUIRED EGRESS DOORS

LANDINGS OR FINISHED FLOORS AT THE REQUIRED EGRESS DOOR SHALL BE NOT MORE THAN 1 1/2 INCHES (38 MM) LOWER THAN THE TOP OF THE THRESHOLD.

EXCEPTION: THE LANDING OR FLOOR ON THE EXTERIOR SIDE SHALL BE NOT MORE THAN 7 3/4 INCHES (196 MM) BELOW THE TOP OF THE THRESHOLD PROVIDED THAT THE DOOR DOES NOT SWING OVER THE LANDING OR FLOOR.

WHERE EXTERIOR LANDINGS OR FLOORS SERVING THE REQUIRED EGRESS DOOR ARE NOT AT GRADE, THEY SHALL BE PROVIDED WITH ACCESS TO GRADE BY MEANS OF A RAMP IN ACCORDANCE WITH SECTION R311.8 OR A STAIRWAY IN ACCORDANCE WITH SECTION R311.7.

CHAPTER 3 - BUILDING PLANNING (CON'T)

R314 SMOKE ALARMS

- R314.3 LOCATION  
SMOKE ALARMS SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS:
- IN EACH SLEEPING ROOM.
  - OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
  - ON EACH ADDITIONAL STORY OF THE DWELLING, INCLUDING BASEMENTS AND HABITABLE ATTICS AND NOT INCLUDING CRAWL SPACES AND UNINHABITABLE ATTICS. IN DWELLINGS OR DWELLING UNITS WITH SPLIT LEVELS AND WITHOUT AN INTERVENING DOOR BETWEEN THE ADJACENT LEVELS, A SMOKE ALARM INSTALLED ON THE UPPER LEVEL SHALL SUFFICE FOR THE ADJACENT LOWER LEVEL PROVIDED THAT THE LOWER LEVEL IS LESS THAN ONE FULL STORY BELOW THE UPPER LEVEL.
  - SMOKE ALARMS SHALL BE INSTALLED NOT LESS THAN 3 FEET (914 MM) HORIZONTALLY FROM THE DOOR OR OPENING OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER UNLESS THIS WOULD PREVENT PLACEMENT OF A SMOKE ALARM REQUIRED BY THIS SECTION.
  - IN THE HALLWAY AND IN THE ROOM OPEN TO THE HALLWAY IN DWELLING UNITS WHERE THE CEILING HEIGHT OF A ROOM OPEN TO A HALLWAY SERVING BEDROOMS EXCEEDS THAT OF THE HALLWAY BY 24 INCHES (610 MM) OR MORE.

R316 CARBON MONOXIDE ALARMS

- R316.3 LOCATION  
CARBON MONOXIDE ALARMS IN DWELLING UNITS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS IN THE FOLLOWING LOCATIONS:
- OUTSIDE OF EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS.
  - ON EVERY OCCUPABLE LEVEL OF A DWELLING UNIT, INCLUDING BASEMENTS.
  - WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR ITS ATTACHED BATHROOM, A CARBON MONOXIDE ALARM SHALL BE INSTALLED WITHIN THE BEDROOM.

R316 FOAM PLASTIC

R316.4 THERMAL BARRIER  
UNLESS OTHERWISE ALLOWED IN SECTION R316.5, FOAM PLASTIC SHALL BE SEPARATED FROM THE INTERIOR OF A BUILDING BY AN APPROVED THERMAL BARRIER OF NOT LESS THAN 1/2-INCH (12.7 MM) GYPSUM WALLBOARD, 23/32-INCH (18.2 MM) WOOD STRUCTURAL PANEL, OR A MATERIAL THAT IS TESTED IN ACCORDANCE WITH AND MEETS THE ACCEPTANCE CRITERIA OF BOTH THE TEMPERATURE TRANSMISSION FIRE TEST AND THE INTEGRITY FIRE TEST OF NFPA 275.

R316 PROTECTION AGAINST SUBTERRANEAN TERMITES

R316.4 FOAM PLASTIC PROTECTION  
IN AREAS WHERE THE PROBABILITY OF TERMITE INFESTATION IS "VERY HEAVY" AS INDICATED BY EXTERIOR ADJACENT TO THE AREA OF THE COMMON WALL IS OPEN AND UNOBSTRUCTED AND PROVIDES AN OPENING OF NOT LESS THAN ONE-TENTH OF THE FLOOR AREA OF THE INTERIOR ROOM AND NOT LESS THAN 25 SQUARE FEET (2.3 M2).

EXCEPTIONS: BUILDINGS WHERE THE STRUCTURAL MEMBERS OF WALLS, FLOORS, CEILINGS AND ROOFS ARE ENTIRELY OF NONCOMBUSTIBLE MATERIALS OR PRESSURE-PRESERVATIVE-TREATED WOOD.

WHERE IN ADDITION TO THE REQUIREMENTS OF SECTION R316.1, AN APPROVED METHOD OF PROTECTING THE FOAM PLASTIC AND STRUCTURE FROM SUBTERRANEAN TERMITE DAMAGE IS USED.

ON THE INTERIOR SIDE OF BASEMENT WALLS.

CHAPTER 4 - FOUNDATIONS

R401 GENERAL

R401.3 DRAINAGE  
SURFACE DRAINAGE SHALL BE DIVERTED TO A STORM SEWER CONVEYANCE OR OTHER APPROVED POINT OF COLLECTION THAT DOES NOT CREATE A HAZARD. LOTS SHALL BE GRADED TO DRAIN SURFACE WATER AWAY FROM FOUNDATION WALLS. THE GRADE SHALL FALL NOT FEWER THAN 6 INCHES (152 MM) WITHIN THE FIRST 10 FEET.

\* SURFACE WATER MUST BE MOVING AWAY FROM THE BUILDING AND ADJACENT PROPERTIES AND TOWARDS THE PUBLIC WAY.

EXCEPTION: WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6 INCHES (152 MM) OF FALL WITHIN 10 FEET (3048 MM), DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE. IMPERVIOUS SURFACES WITHIN 10 FEET (3048 MM) OF THE BUILDING FOUNDATION SHALL BE SLOPED NOT LESS THAN 2 PERCENT AWAY FROM THE BUILDING.

CHAPTER 7 - WALL COVERING

R702 INTERIOR COVERING

R702.3.7 WATER-RESISTANT GYPSUM BACKING BOARD  
GYPSUM BOARD USED AS THE BASE OR BACKER FOR ADHESIVE APPLICATION OF CERAMIC TILE OR OTHER REQUIRED NONABSORBENT FINISH MATERIAL SHALL CONFORM TO ASTM C1178, C1278 OR C1396. USE OF WATER-RESISTANT GYPSUM BACKING BOARD SHALL BE PERMITTED ON CEILINGS. WATER-RESISTANT GYPSUM BOARD SHALL NOT BE INSTALLED OVER A CLASS I OR I VAPOR RETARDER IN A SHOWER OR TUB COMPARTMENT, CUT OR EXPOSED EDGES, INCLUDING THOSE AT WALL INTERSECTIONS. SHALL BE SEALED AS RECOMMENDED BY THE MANUFACTURER.

R702.42 BACKER BOARDS

MATERIALS USED AS BACKERS FOR WALL TILE IN TUB AND SHOWER AREAS AND WALL PANELS IN SHOWER AREAS SHALL BE OF MATERIALS LISTED IN TABLE R702.4.2, AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

R703 EXTERIOR COVERING

R703.4 FLASHING  
APPROVED CORROSION-RESISTANT FLASHING SHALL BE APPLIED SHINGLE-FASHION IN A MANNER TO PREVENT ENTRY OF WATER INTO THE WALL CAVITY OR PENETRATION OF WATER TO THE BUILDING STRUCTURAL FRAMING COMPONENTS. SELF-ADHERED MEMBRANES USED AS FLASHING SHALL COMPLY WITH AAMA 711. FLUID-APPLIED MEMBRANES USED AS FLASHING IN EXTERIOR WALLS SHALL COMPLY WITH AAMA 714. THE FLASHING SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH. APPROVED CORROSION-RESISTANT FLASHINGS SHALL BE INSTALLED AT THE FOLLOWING LOCATIONS:

- EXTERIOR WINDOW AND DOOR OPENINGS. FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL EXTEND TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER-RESISTIVE BARRIER COMPLYING WITH SECTION 703.2 FOR SUBSEQUENT DRAINAGE. MECHANICALLY ATTACHED FLEXIBLE FLASHINGS SHALL COMPLY WITH AAMA 712. FLASHING AT EXTERIOR WINDOW AND DOOR OPENINGS SHALL BE INSTALLED IN ACCORDANCE WITH ONE OR MORE OF THE FOLLOWING:
  - THE PENETRATION MANUFACTURER'S INSTALLATION AND FLASHING INSTRUCTIONS, OR FOR APPLICATIONS NOT ADDRESSED IN THE PENETRATION MANUFACTURER'S INSTRUCTIONS, IN ACCORDANCE WITH THE FLASHING MANUFACTURER'S INSTRUCTIONS, WHERE FLASHING INSTRUCTIONS OR DETAILS ARE NOT PROVIDED, PAN FLASHING SHALL BE INSTALLED AT THE SILL OF EXTERIOR WINDOW AND DOOR OPENINGS. PAN FLASHING SHALL BE SEALED OR SLOPED IN SUCH A MANNER AS TO DIRECT WATER TO THE SURFACE OF THE EXTERIOR WALL FINISH OR TO THE WATER-RESISTIVE BARRIER FOR SUBSEQUENT DRAINAGE. OPENINGS USING PAN FLASHING SHALL INCORPORATE FLASHING OR PROTECTION AT THE HEAD AND SIDES.
  - IN ACCORDANCE WITH THE FLASHING DESIGN OR METHOD OF A REGISTERED DESIGN PROFESSIONAL.
  - IN ACCORDANCE WITH ANOTHER APPROVED METHOD.
- AT THE INTERSECTION OF CHIMNEYS OR OTHER MASONRY CONSTRUCTION WITH FRAME OR STUCCO WALLS, WITH PROJECTING LIPS ON BOTH SIDES UNDER STUCCO COPINGS.
- UNDER AND AT THE ENDS OF MASONRY, WOOD OR METAL COPINGS AND SILLS.
- CONTINUOUSLY ABOVE ALL PROJECTING WOOD TRIM.
- WHERE EXTERIOR PORCHES, DECKS OR STAIRS ATTACH TO A WALL OR FLOOR ASSEMBLY OF WOOD-FRAME CONSTRUCTION.
- AT WALL AND ROOF INTERSECTIONS.
- AT BUILT-IN GUTTERS.

R704 R703.7.2 I-WEEP SCREENS

A MINIMUM 0.019-INCH (0.5 MM) (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT WEEP SCREEN OR PLASTIC WEEP SCREEN, WITH A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3/12 INCHES (89 MM), SHALL BE PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD WALLS IN ACCORDANCE WITH ASTM C926. THE WEEP SCREEN SHALL BE PLACED NOT LESS THAN 4 INCHES (102 MM) ABOVE THE EARTH OR 2 INCHES (51 MM) ABOVE PAVED AREAS AND SHALL BE OF A TYPE THAT WILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. THE WEATHER-RESISTANT BARRIER SHALL LAP THE ATTACHMENT FLANGE. THE EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE OF THE WEEP SCREEN.

CHAPTER 7 - WALL COVERING (CON'T)

R703.10.1 PANEL SIDING

FIBER-CEMENT PANELS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C1186, TYPE A, MINIMUM GRADE II OR ISO 8336, CATEGORY A. MINIMUM CLASS 2. PANELS SHALL BE INSTALLED WITH THE LONG DIMENSION EITHER PARALLEL OR PERPENDICULAR TO FRAMING. VERTICAL AND HORIZONTAL JOINTS SHALL OCCUR OVER FRAMING MEMBERS AND SHALL BE PROTECTED WITH CAULKING, OR WITH BATTENS OR FLASHING, OR BE VERTICAL OR HORIZONTAL SHIP-LAP, OR OTHERWISE DESIGNED TO COMPLY WITH SECTION R703.1. PANEL SIDING SHALL BE INSTALLED WITH FASTENERS IN ACCORDANCE WITH TABLE R703.3(1) OR THE APPROVED MANUFACTURER'S INSTRUCTIONS.

R703.10.2 LAP SIDING

FIBER-CEMENT LAP SIDING HAVING A MAXIMUM WIDTH OF 12 INCHES (305 MM) SHALL COMPLY WITH THE REQUIREMENTS OF ASTM C1186, TYPE A, MINIMUM GRADE II OR ISO 8336, CATEGORY A, MINIMUM CLASS 2. LAP SIDING SHALL BE LAPPED A MINIMUM OF 1 1/4 INCHES (32 MM) AND LAP SIDING NOT HAVING TONGUE-AND-GROOVE END JOINTS SHALL HAVE THE ENDS PROTECTED WITH CAULKING, COVERED WITH AN IN-SIDE JOINT COVER, LOCATED OVER A STRIP OF FLASHING, OR SHALL BE DESIGNED TO COMPLY WITH SECTION R703.1. LAP SIDING COURSES SHALL BE INSTALLED WITH THE FASTENERS EDGES EXPOSED OR CONCEALED. IN ACCORDANCE WITH TABLE R703.3(1) OR APPROVED MANUFACTURER'S INSTRUCTIONS.

CHAPTER 8 - ROOF-CEILING CONSTRUCTION

R806 ROOF VENTILATION

R806.2 MINIMUM VENT AREA  
THE MINIMUM NET FREE VENTILATING AREA SHALL BE 1/150 OF THE AREA OF THE VENTED SPACE.

EXCEPTION: THE MINIMUM NET FREE VENTILATION AREA SHALL BE 1/300 OF THE VENTED SPACE PROVIDED BOTH OF THE FOLLOWING CONDITIONS ARE MET:

- IN CLIMATE ZONES 6, 7 AND 8, A CLASS I OR I VAPOR RETARDER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.
- 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.

R807.1 ATTIC ACCESS

BUILDINGS WITH COMBUSTIBLE CEILING OR ROOF CONSTRUCTION SHALL HAVE AN ATTIC ACCESS OPENING TO ATTIC AREAS THAT HAVE A VERTICAL HEIGHT OF 30 INCHES (762 MM) OR GREATER OVER AN AREA OF NOT LESS THAN 30 SQUARE FEET (2.8 M2). THE VERTICAL HEIGHT SHALL BE MEASURED FROM THE TOP OF THE CEILING FRAMING MEMBERS TO THE UNDERSIDE OF THE ROOF FRAMING MEMBERS.

THE ROUGH-FRAMED OPENING SHALL BE NOT LESS THAN 22 INCHES BY 30 INCHES (559 MM BY 762 MM) AND SHALL BE LOCATED IN A HALLWAY OR OTHER LOCATION WITH READY ACCESS, WHERE LOCATED IN A WALL, THE OPENING SHALL BE NOT LESS THAN 22 INCHES WIDE BY 30 INCHES HIGH (559 MM WIDE BY 762 MM HIGH). WHERE THE ACCESS IS LOCATED IN A CEILING, MINIMUM UNOBSTRUCTED HEADROOM IN THE ATTIC SPACE SHALL BE 30 INCHES (762 MM) AT SOME POINT ABOVE THE ACCESS MEASURED VERTICALLY FROM THE BOTTOM OF CEILING FRAMING MEMBERS. SEE THE CALIFORNIA MECHANICAL CODE FOR ACCESS REQUIREMENTS WHERE MECHANICAL EQUIPMENT IS LOCATED IN ATTICS.

EXCERPTS FROM THE 2022 CALIFORNIA MECHANICAL CODE

CHAPTER 3 - GENERAL REGULATIONS

M304.4 ACCESSIBILITY FOR SERVICE

M304.4.1 APPLIANCE AND UNDER-FLOOR SPACES  
AN ATTIC OR UNDER-FLOOR SPACE IN WHICH AN APPLIANCE IS INSTALLED SHALL BE ACCESSIBLE THROUGH AN OPENING AND PASSAGEWAY NOT LESS THAN THE LARGEST COMPONENT OF THE APPLIANCE, AND NOT LESS THAN 22 INCHES BY 30 INCHES (559 MM BY 762 MM).

M304.4.1 LENGTH OF PASSAGEWAY  
WHERE THE HEIGHT OF THE PASSAGEWAY IS LESS THAN 6 FEET (1829 MM), THE DISTANCE FROM THE PASSAGEWAY ACCESS TO THE APPLIANCE SHALL NOT EXCEED 20 FEET (6096 MM) MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY. (NFPA 54.9.5.1.2)

M304.4.2 WIDTH OF PASSAGEWAY  
THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE SOLID FLOORING NOT LESS THAN 24 INCHES (610 MM) WIDE FROM THE ENTRANCE OPENING TO THE APPLIANCE. (NFPA 54.9.5.1.2)

M304.4.3 WORK PLATFORM

A LEVEL WORKING PLATFORM NOT LESS THAN 30 INCHES BY 30 INCHES (762 MM BY 762 MM) SHALL BE PROVIDED IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. (NFPA 54.9.5.2)

EXCEPTION: A WORKING PLATFORM NEED NOT BE PROVIDED WHERE THE FURNACE IS CAPABLE OF BEING SERVICED FROM THE REQUIRED ACCESS OPENING. THE FURNACE SERVICE SIDE SHALL NOT EXCEED 12 INCHES (305 MM) FROM THE ACCESS OPENING.

M304.4.1 LIGHTING AND CONVENIENCE OUTLET

A PERMANENT 120V RECEPTACLE OUTLET AND A LIGHTING FIXTURE SHALL BE INSTALLED NEAR THE APPLIANCE. THE SWITCH CONTROLLING THE LIGHTING FIXTURE SHALL BE LOCATED AT THE ENTRANCE TO THE PASSAGEWAY. (NFPA 54.9.5.3)

CHAPTER 5 - EXHAUST SYSTEMS

M501.0 ENVIRONMENTAL AIR DUCTS

M501.0.1 CLOTHES DRYERS  
A CLOTHES DRYER EXHAUST DUCT SHALL NOT BE CONNECTED TO A VENT CONNECTOR, GAS VENT, CHIMNEY, AND SHALL NOT TERMINATE INTO A CRAWL SPACE, ATTIC, OR OTHER CONCEALED SPACE. EXHAUST DUCTS SHALL NOT BE ASSEMBLED WITH SCREWS OR OTHER FASTENING MEANS THAT EXTEND INTO THE DUCT AND THAT ARE CAPABLE OF CATCHING LINT, AND THAT REDUCE THE EFFICIENCY OF THE EXHAUST SYSTEM. EXHAUST DUCTS SHALL BE CONSTRUCTED OF RIGID METALLIC MATERIAL. TRANSITION DUCTS USED TO CONNECT THE DRYER TO THE EXHAUST DUCT SHALL BE LISTED AND LABELED IN ACCORDANCE WITH UL 2158A, OR INSTALLED IN ACCORDANCE WITH THE CLOTHES DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS. CLOTHES DRYER EXHAUST DUCTS SHALL TERMINATE TO THE OUTSIDE OF THE BUILDING IN ACCORDANCE WITH SECTION 502.2.1 AND SHALL BE EQUIPPED WITH A BACKDRAFT DAMPER. SCREENS SHALL NOT BE INSTALLED AT THE DUCT TERMINATION DEVICES, SUCH AS FIRE OR SMOKE DAMPERS THAT WILL OBSTRUCT THE FLOW OF THE EXHAUST SHALL NOT BE USED. WHERE JOINING OF DUCTS, THE MALE END SHALL BE INSERTED IN THE DIRECTION OF FLOW.

M504.4.1 PROVISIONS FOR MAKEUP AIR

MAKEUP AIR SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING:

- MAKEUP AIR SHALL BE PROVIDED FOR TYPE 1 CLOTHES DRYERS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. (NFPA 54.10.4.3.1) WHERE A CLOSET IS DESIGNED FOR THE INSTALLATION OF A CLOTHES DRYER, AN OPENING OF NOT LESS THAN 100 SQUARE INCHES (0.005 M2) FOR MAKEUP AIR SHALL BE PROVIDED IN THE DOOR OR BY OTHER APPROVED MEANS.
- PROVISION FOR MAKEUP AIR SHALL BE PROVIDED FOR TYPE 2 CLOTHES DRYERS, WITH A FREE AREA OF NOT LESS THAN 1 SQUARE INCH (0.0006 M2) FOR EACH 1000 BRITISH THERMAL UNITS PER HOUR (BTUH) (0.293 KW) TOTAL INPUT RATING OF THE DRYER(S) INSTALLED. (NFPA 54.10.4.3.2)

M504.4.2 DOMESTIC CLOTHES DRYERS

WHERE A COMPARTMENT OR SPACE FOR A TYPE 1 CLOTHES DRYER IS PROVIDED, NOT LESS THAN A 4 INCH DIAMETER (102 MM) EXHAUST DUCT APPROVED MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 504.0.

TYPE 1 CLOTHES DRYER EXHAUST DUCTS SHALL BE OF RIGID METAL AND SHALL HAVE SMOOTH INTERIOR SURFACES. THE DIAMETER SHALL BE NOT LESS THAN 4 INCHES NOMINAL (100 MM), AND THE THICKNESS SHALL BE NOT LESS THAN 0.016 OF AN INCH (0.406 MM).

CHAPTER 5 - EXHAUST SYSTEMS (CON'T)

M504.0 LENGTH LIMITATION

UNLESS OTHERWISE PERMITTED OR REQUIRED BY THE DRYER MANUFACTURER'S INSTRUCTIONS AND APPROVED BY THE AUTHORITY HAVING JURISDICTION, DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14 FEET (4287 MM), INCLUDING TWO 90 DEGREE (1.57 RAD) ELBOWS. A LENGTH OF 2 FEET (610 MM) SHALL BE DEDUCTED FOR EACH 90 DEGREE (1.57 RAD) ELBOW IN EXCESS OF TWO.

EXCEPTION: WHERE AN EXHAUST DUCT POWER VENTILATOR, IN ACCORDANCE WITH SECTION 504.4.2.3, IS USED, THE MAXIMUM LENGTH OF THE DRYER EXHAUST DUCT SHALL BE PERMITTED TO EXCEED THE LENGTH OF THE CHECK VALVE, BACKFLOW PREVENTER, OR OTHER APPROVED DEVICE AND BE SIZED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CHAPTER 11 - REFRIGERATION

M1105.0 GENERAL REQUIREMENTS

M1105.2 SUPPORTS AND ANCHORAGE  
SUPPORTS AND ANCHORAGE FOR REFRIGERATION EQUIPMENT AND PIPING SHALL BE DESIGNED IN ACCORDANCE WITH THE BUILDING CODE AS OCCUPANCY CATEGORY H (HAZARDOUS FACILITIES). SUPPORTS SHALL BE MADE OF NONCOMBUSTIBLE MATERIALS.

EXCEPTIONS:  
EQUIPMENT CONTAINING GROUP A1 REFRIGERANTS SHALL BE PERMITTED TO BE SUPPORTED BY THE SAME MATERIALS PERMITTED FOR THE BUILDING TYPE. THE USE OF APPROVED VIBRATION ISOLATORS SPECIFICALLY DESIGNED FOR THE NORMAL, WIND, AND SEISMIC LOADS ENCOUNTERED, SHALL BE PERMITTED.

A COMPRESSOR OR PORTION OF A CONDENSING UNIT SUPPORTED FROM THE GROUND SHALL REST ON A CONCRETE OR OTHER APPROVED BASE EXTENDING NOT LESS THAN 3 INCHES (76 MM) ABOVE THE ADJOINING GROUND LEVEL.

M1105.11 REFRIGERANT PORT PROTECTION

AIR CONDITIONING REFRIGERANT CIRCUIT ACCESS PORTS LOCATED OUTDOORS SHALL BE PROTECTED FROM UNAUTHORIZED ACCESS WITH A LOCKING-TYPE TAMPER-RESISTANT CAPS OR IN A MANNER APPROVED BY THE AUTHORITY HAVING JURISDICTION.

EXCEPTION: REFRIGERANT PORTS IN SECURE LOCATIONS PROTECTED BY WALLS OR FENCING AND REQUIRING KEY ACCESS.

EXCERPTS FROM THE 2022 CALIFORNIA PLUMBING CODE

CHAPTER 4 - PLUMBING FIXTURES AND FIXTURE FITTINGS

P401.2 RESIDENTIAL LAVATORY FAUCETS

[HCD] THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS (4.54 L) PER MINUTE AT 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS (3.03 L) PER MINUTE AT 20 PSI.

P408.0 SHOWERS

P408.2 WATER CONSUMPTION  
SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GPM AT 80 PSI (8.1 L/M AT 552 KPA). [HCD] 1) RESIDENTIAL SHOWERHEADS SHALL COMPLY WITH SECTION 4.3 OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN).

P408.2.1 SINGLE SHOWERHEAD

[BSC-CG, DSA-SS & DSA-SS(C)] SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS (8.1 L) PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS IN COMPLIANCE WITH CHAPTER 5, DIVISION 5.3 OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE (CAL GREEN).

P408.3 INDIVIDUAL SHOWER AND TUB-SHOWER COMBINATION CONTROL VALVES

SHOWER AND TUB-SHOWER COMBINATION VALVES 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 COMPLY WITH ASSE 1016ASME A112.1016(CSA B125.16 OR ASME A112.16.1(CSA B125.1.

GANG SHOWERS, WHERE SUPPLIED WITH A SINGLE TEMPERATURE-CONTROLLED WATER SUPPLY PIPE, SHALL BE CONTROLLED BY A MIXING VALVE THAT COMPLIES WITH ASSE 1069. HANDLE POSITION STOPS SHALL BE PROVIDED ON SUCH VALVES AND SHALL BE ADJUSTED PER THE MANUFACTURER'S INSTRUCTIONS TO DELIVER MAXIMUM MIXED WATER SETTING OF 120°F (49°C). WATER HEATER THERMOSTATS SHALL NOT BE CONSIDERED A SUITABLE CONTROL FOR MEETING THIS PROVISION.

P408.6 SHOWER COMPARTMENTS

SHOWER COMPARTMENTS, REGARDLESS OF SHAPE, SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1024 SQUARE INCHES (66.1 CM) AND SHALL ALSO BE CAPABLE OF ENCOMPASSING A 30 INCH (762 MM) CIRCLE. THE MINIMUM REQUIRED AREA AND DIMENSIONS SHALL BE MEASURED AT A HEIGHT EQUAL TO THE TOP OF THE THRESHOLD AND A POINT TANGENT TO ITS CENTERLINE. THE AREA AND DIMENSIONS SHALL BE MAINTAINED TO A POINT OF NOT LESS THAN 70 INCHES (1778 MM) ABOVE THE SHOWER DRAIN OR OUTLET WITH NO PROTRUSIONS OTHER THAN THE MIXING VALVE OR VALVES, SHOWERHEADS, SOAP DISHES, SHELVES, AND SAFETY GRAB BARS, OR RAILS. FOLD-DOWN SEATS IN ACCESSIBLE SHOWER STALLS SHALL BE PERMITTED TO PROTRUDE INTO THE 30 INCH (762 MM) CIRCLE.

EXCEPTIONS:  
SHOWERS THAT ARE DESIGNED TO BE IN ACCORDANCE WITH CHAPTER 11A OF THE CALIFORNIA BUILDING CODE.  
THE MINIMUM REQUIRED AREA AND DIMENSION SHALL NOT APPLY FOR A SHOWER RECEPTOR HAVING OVERALL DIMENSIONS OF NOT LESS THAN 30 INCHES (762 MM) IN WIDTH AND 60 INCHES (1524 MM) IN LENGTH.

P411.0 WATER CLOSETS

P411.2 WATER CONSUMPTION  
THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS (4.8 L) PER FLUSH WHEN TESTED IN ACCORDANCE WITH ASME A112.19.2(CSA B45.1.

P420.0 SINKS

P420.2.1 KITCHEN FAUCETS  
[BSC-CG, DSA-SS & DSA-SS(C)] KITCHEN FAUCETS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.2 GALLONS (8.1 L) PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.

## CODE COMPLIANCE NOTES

EXCERPTS FROM THE 2022 CALIFORNIA RESIDENTIAL CODE				EXCERPTS FROM THE 2022 CALIFORNIA PLUMBING CODE																	TABLE 703.2																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
TABLE R302.1(1)				TABLE 610.4																							MAXIMUM UNIT LOADING AND MAXIMUM LENGTH OF DRAINAGE AND VENT PIPING																																																																																																																																																																																																																																																																																																																																																																																																																																																														
EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE	METER AND STREET SERVICE (inches)	BUILDING SUPPLY AND BRANCHES (inches)	MAXIMUM ALLOWABLE LENGTH (feet)														SIZE OF PIPE (inches)																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
WALLS	FIRE-RESISTANCE RATED	1 HOUR-TESTED IN ACCORDANCE WITH ASTM E119, UL 263 OR SECTION 703.3 OF THE CALIFORNIA BUILDING CODE WITH EXPOSURE FROM BOTH SIDES	0 FEET																	Maximum Units	1 1/4	1 1/2	2	3	4	5	6	8	10	12																																																																																																																																																																																																																																																																																																																																																																																																																																																											
	NOT FIRE-RESISTANCE RATED	0 HOURS	≥ 5 FEET	PRESSURE RANGE - 30 to 45 psi <sup>1</sup>														Drainage Piping <sup>1</sup>	1		2 <sup>2</sup>	16 <sup>3</sup>	48 <sup>4</sup>	256	600	1380	3600	5600	8400																																																																																																																																																																																																																																																																																																																																																																																																																																																												
PROJECTIONS	NOT ALLOWED	NA	< 2 FEET	3/4	1/2 <sup>2</sup>	6	5	4	3	2	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

  
SIGNATURE

[illegible]

CODE COMPLIANCE NOTES
<b>G201</b>
22040



Y	=	YES
N/A	=	NOT APPLICABLE
RESPON. PARTY	=	RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

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760-259-2476  
INFO@SNAPADU.COM  
WWW.SNAPADU.COM

ADU: 748 LONG REVERSE

DESIGNER:  
LUIS CALDERON  
SnapADU

  
SIGNATURE

[illegible]

## CAL-GREEN REQUIREMENTS

# G300

22040

Autodesk Docs://22040\_City of Chula Vista/22040\_City of Chula Vista\_748  
Long\_V2 CD RVT22.rvt 3/24/2024 7:48:17 AM



Y = YES  
N/A = NOT APPLICABLE  
RESPON. PARTY = RESPONSIBLE PARTY (ie: ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

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ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

  
SIGNATURE

[illegible]

## CAL-GREEN REQUIREMENTS

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22040

3/24/2024 7:48:22 AM  
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Long\_V2\_CD\_RVT22.rvt

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD									
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG									
Calculation Description: Title 24 Analysis									
CF1R-PRF-01E									
(Page 1 of 11)									
Registration Number: 423-P010110973A-000-000-0000000-0000									
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CA Building Energy Efficiency Standards - 2022 Residential Compliance									
Report Version: 2022.0.000									
Schema Version: rev 20220901									
Registration Date/Time: 06/27/2023 14:20									
HERS Provider: CHEERS									
Report Generated: 2023-06-27 13:59:57									
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG.rbd22x									
GENERAL INFORMATION									
01	Project Name 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG								
02	Run Title Title 24 Analysis								
03	Project Location 276 4th Avenue								
04	City Chula Vista								
06	Zip code 91910								
08	Climate Zone 10								
10	Building Type Single family								
12	Project Scope Newly Constructed								
14	Addition Cond. Floor Area (ft²) 0								
16	Existing Cond. Floor Area (ft²) n/a								
18	Total Cond. Floor Area (ft²) 748								
20	ADU Bedroom Count n/a								
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								

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD									
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ENERGY DESIGN RATINGS									
Energy Design Ratings									
Compliance Margins									
Standard Design									
Proposed Design									
North Facing									
East Facing									
South Facing									
West Facing									
RESULT <sup>1</sup> : PASS									
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment									
<sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries									
<sup>3</sup> Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded									
• Standard Design PV Capacity: 2.03 kWdc									
• Proposed PV Capacity Scaling: North (2.03 kWdc) East (2.03 kWdc) South (2.03 kWdc) West (2.03 kWdc)									

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ENERGY USE SUMMARY									
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDU/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDU/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)			
Space Heating	0.32	1.43	1.07	7.82	-0.75	-6.39			
Space Cooling	1.7	33.86	1.12	25.09	0.58	8.77			
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0			
Water Heating	2.73	27.73	1.81	20.02	0.92	7.71			
Self Utilization/Flexibility Credit				0		0			
North Facing Efficiency Compliance Total	5.21	67.87	4.46	57.78	0.75	10.09			
Space Heating	0.32	1.43	1.26	9.13	-0.94	-7.7			
Space Cooling	1.7	33.86	1.39	31.2	0.31	2.66			
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0			
Water Heating	2.73	27.73	1.81	19.96	0.92	7.77			
Self Utilization/Flexibility Credit				0		0			
East Facing Efficiency Compliance Total	5.21	67.87	4.92	65.14	0.29	2.73			

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Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG							(Page 4 of 11)
Calculation Description: Title 24 Analysis							
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG.rbd22x							
ENERGY USE SUMMARY							
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDU/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDU/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)	
Space Heating	0.32	1.43	1.16	8.46	-0.84	-7.03	
Space Cooling	1.7	33.86	1.11	24.8	0.59	9.06	
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0	
Water Heating	2.73	27.73	1.81	20.04	0.92	7.69	
Self Utilization/Flexibility Credit				0		0	
South Facing Efficiency Compliance Total	5.21	67.87	4.54	58.15	0.67	9.72	
Space Heating	0.32	1.43	1.26	9.07	-0.94	-7.64	
Space Cooling	1.7	33.86	1.38	30.68	0.32	3.18	
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0	
Water Heating	2.73	27.73	1.81	19.96	0.92	7.77	
Self Utilization/Flexibility Credit				0		0	
West Facing Efficiency Compliance Total	5.21	67.87	4.91	64.56	0.3	3.31	



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Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG  
Calculation Description: Title 24 Analysis  
Calculation Date/Time: 2023-10-31T15:28:51-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG.rbd22x  
CF1R-PRF-01E  
(Page 1 of 11)

GENERAL INFORMATION													
01	Project Name 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG												
02	Run Title Title 24 Analysis												
03	Project Location 276 4th Avenue												
04	City	Chula Vista	05	Standards Version 2022									
06	Zip code	91910	07	Software Version EnergyPro 9.2									
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal) All orientations									
10	Building Type	Single family	11	Number of Dwelling Units 1									
12	Project Scope	Newly Constructed	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 0.3									
18	Total Cond. Floor Area (ft²)	748	19	Glazing Percentage (%) 11.63%									
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area n/a									
22	Fuel Type	All electric	23	No Dwelling Unit: No									

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

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CA Building Energy Efficiency Standards - 2022 Residential Compliance  
Registration Date/Time: 11/01/2023 09:58  
HERS Provider: CHEERS  
Report Version: 2022.0.000  
Schema Version: rev 20220901  
Report Generated: 2023-10-31 15:29:27

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
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CF1R-PRF-01E  
(Page 4 of 11)

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² - yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² - yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² - yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² - yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.03	0.14	0.31	2.36	-0.28	-2.22
Space Cooling	0.98	18.9	0.25	6.43	0.73	12.47
IAQ Ventilation	0.46	4.95	0.46	4.95	0	0
Water Heating	2.39	26.99	1.88	21.7	0.51	5.29
Self Utilization/Flexibility Credit						
South Facing Efficiency Compliance Total	3.86	50.98	2.9	35.44	0.96	15.54
Space Heating	0.03	0.14	0.37	2.79	-0.34	-2.65
Space Cooling	0.98	18.9	0.43	9.74	0.55	9.16
IAQ Ventilation	0.46	4.95	0.46	4.95	0	0
Water Heating	2.39	26.99	1.87	21.61	0.52	5.38
Self Utilization/Flexibility Credit						
West Facing Efficiency Compliance Total	3.86	50.98	3.13	39.09	0.73	11.89

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CF1R-PRF-01E  
(Page 7 of 11)

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)
New Front Wall	New ADU	R-21 Wall	0	Front	352	56	90
New Left Wall	New ADU	R-21 Wall	90	Left	136	0	90
New Back Wall	New ADU	R-21 Wall	180	Back	352	51	90
New Right Wall	New ADU	R-21 Wall	270	Right	144	0	90
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	748	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 New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	Yes	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
Window W6	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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ENERGY DESIGN RATINGS						
	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)
Standard Design	34	49	41			
Proposed Design						
North Facing	31.2	34.1	35.2	2.8	14.9	5.8
East Facing	32	37.7	36.6	2	11.3	4.4
South Facing	31.3	34	35.2	2.7	15	5.8
West Facing	31.9	37.6	36.5	2.1	11.4	4.5
RESULT <sup>3</sup> : PASS						
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment <sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries <sup>3</sup> Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded						
• Standard Design PV Capacity: 2.03 kWdc • Proposed PV Capacity Scaling: North (2.03 kWdc) East (2.03 kWdc) South (2.03 kWdc) West (2.03 kWdc)						

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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
North Facing				
Gross EUI <sup>1</sup>	22.47	20.76	1.71	7.61
Net EUI <sup>2</sup>	7.9	6.19	1.71	21.65
East Facing				
Gross EUI <sup>1</sup>	22.47	21.12	1.35	6.01
Net EUI <sup>2</sup>	7.9	6.55	1.35	17.09
South Facing				
Gross EUI <sup>1</sup>	22.47	20.78	1.69	7.52
Net EUI <sup>2</sup>	7.9	6.2	1.7	21.52
West Facing				
Gross EUI <sup>1</sup>	22.47	21.11	1.36	6.05
Net EUI <sup>2</sup>	7.9	6.53	1.37	17.34
Notes 1. Gross EUI is Energy Use Total (not including PV) / Total Building Area. 2. Net EUI is Energy Use Total (including PV) / Total Building Area.				

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CF1R-PRF-01E  
(Page 8 of 11)

OPAQUE DOORS			
01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Front Door D1	New Front Wall	20	0.2

SLAB FLOORS							
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
New Slab-on-Grade	New ADU	748	0.1	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS							
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 RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Sliding/sheathing/decking Cavity / Frame: no insul. / 2x4 Inside Finish: Gypsum Board
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 Insul. Cavity / Frame: R-0.1 / 2x4 Inside Finish: Gypsum Board

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(Page 3 of 11)

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² - yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² - yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² - yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² - yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.03	0.14	0.27	2	-0.24	-1.86
Space Cooling	0.98	18.9	0.26	6.86	0.72	12.04
IAQ Ventilation	0.46	4.95	0.46	4.95	0	0
Water Heating	2.39	26.99	1.87	21.67	0.52	5.32
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	3.86	50.98	2.86	35.48	1	15.5
Space Heating	0.03	0.14	0.38	2.87	-0.35	-2.73
Space Cooling	0.98	18.9	0.44	9.86	0.54	9.04
IAQ Ventilation	0.46	4.95	0.46	4.95	0	0
Water Heating	2.39	26.99	1.87	21.61	0.52	5.38
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	3.86	50.98	3.15	39.29	0.71	11.69

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CA Building Energy Efficiency Standards - 2022 Residential Compliance  
Registration Date/Time: 11/01/2023 09:58  
HERS Provider: CHEERS  
Report Version: 2022.0.000  
Schema Version: rev 20220901  
Report Generated: 2023-10-31 15:29:27

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG  
Calculation Description: Title 24 Analysis  
Calculation Date/Time: 2023-10-31T15:28:51-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG.rbd22x  
CF1R-PRF-01E  
(Page 6 of 11)

REQUIRED PV SYSTEMS											
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 (%)
2.03	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

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"><li>Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed</li></ul>	

CERTIFICATE OF COMPLIANCE – RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG

Calculation Date/Time: 2023-10-31T21:28:51-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG.rdb22x

CF1R-PRF-010

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Calculation Description: Title 24 Analysis

Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR SOG.rdb22x

Registration Number: 423-P010198387A-000-000-0000000-0000

Registration Date/Time: 11/01/2023 09:58

HERS Provider: CHEERS

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Report Version: 2022.0.000

Schema Version: rev 20220901

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SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
New HVAC1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	n/a	Setback

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Heating			Cooling			Zonally Controlled	Compressor Type	HERS Verification	
			Heating Efficiency Type	HSPF/HS PF2/COP	Cap 47	Cap 17	Cooling Efficiency Type	SEER/SE ER2/CEER				SEER/SE ER2/CEER
Heat Pump System 1	Ductless MiniSplit HP	1	HS PF2	7.5	35000	24000	EE R2SEER2	14.3	11.7	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HS PF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Not Required	No	No	Yes	Yes

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
Sfam IAQVentRpt	45	0.35	Exhaust	No	n/a / n/a	No	Yes	No

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF  
Calculation Description: Title 24 Analysis  
Calculation Date/Time: 2023-06-26T11:59:35-07:00  
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x  
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GENERAL INFORMATION									
01	Project Name		2306-22-0336 Chula-Vista ADU --- 748 Long --- Reverse 2BR RF						
02	Run Title		Title 24 Analysis						
03	Project Location		276 4th Avenue						
04	City	Chula Vista	05	Standards Version					
06	Zip code	91910	07	Software Version					
08	Climate Zone	10	09	Front Orientation (deg/ Cardinal)					
10	Building Type	Single family	11	Number of Dwelling Units					
12	Project Scope	Newly Constructed	13	Number of Bedrooms					
14	Addition Cond. Floor Area (ft <sup>2</sup> )	0	15	Number of Stories					
16	Existing Cond. Floor Area (ft <sup>2</sup> )	n/a	17	Fenestration Average U-factor					
18	Total Cond. Floor Area (ft <sup>2</sup> )	748	19	Glazing Percentage (%)					
20	ADU Bedroom Count		n/a						

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

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Registration Date/Time: 06/27/2023 14:22  
Report Version: 2022.0.000  
Schema Version: rev 20220901  
HERS Provider: CHEERS  
Report Generated: 2023-06-26 12:00:14

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF  
Calculation Description: Title 24 Analysis  
Calculation Date/Time: 2023-06-26T11:59:35-07:00  
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x  
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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> - yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> - yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> - yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> - yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.51	2.28	1.14	8.38	-0.63	-6.1
Space Cooling	2.16	41.03	1.52	31.02	0.64	10.01
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0
Water Heating	2.74	27.78	1.8	19.91	0.94	7.87
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	5.87	75.94	4.92	64.16	0.95	11.78
Space Heating	0.51	2.28	1.22	8.91	-0.71	-6.63
Space Cooling	2.16	41.03	1.79	37.17	0.37	3.86
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0
Water Heating	2.74	27.78	1.8	19.87	0.94	7.91
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	5.87	75.94	5.27	70.8	0.6	5.14

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OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft <sup>2</sup> )	Window and Door Area (ft2)	Tilt (deg)
New Front Wall	New ADU	R-21 w/R-5 Wall	0	Front	352	56	90
New Left Wall	New ADU	R-21 w/R-5 Wall	90	Left	136	0	90
New Back Wall	New ADU	R-21 w/R-5 Wall	180	Back	352	51	90
New Right Wall	New ADU	R-21 w/R-5 Wall	270	Right	144	0	90
New Roof Attic	New ADU	R-38 w/R-19 B.R.D.	n/a	n/a	748	n/a	n/a
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	748	n/a	n/a

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise [x in 12]	Roof Reflectance	Roof Emissance	Radiant Barrier	Cool Roof
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	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.	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	
Window W6	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
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Calculation Date/Time: 2023-06-26T11:59:35-07:00  
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x  
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ENERGY DESIGN RATINGS						
Standard Design	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)
	33.5	41.1	33.9			
Proposed Design						
North Facing	31.2	34.6	30.5	2.3	6.5	3.4
East Facing	32.1	38.7	32.6	1.4	2.4	1.3
South Facing	31.3	34.7	30.5	2.2	6.4	3.4
West Facing	32.1	38.3	32.4	1.4	2.8	1.5
RESULT <sup>3</sup> : PASS						
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment. <sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries <sup>3</sup> Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded						
• Standard Design PV Capacity: 2.13 kWdc • Proposed PV Capacity Scaling: North (2.13 kWdc) East (2.13 kWdc) South (2.13 kWdc) West (2.13 kWdc)						

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
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Calculation Description: Title 24 Analysis  
Calculation Date/Time: 2023-06-26T11:59:35-07:00  
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x  
CF1R-PRF-01E  
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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft <sup>2</sup> - yr)	Proposed Design (kBtu/ft <sup>2</sup> - yr)	Compliance Margin (kBtu/ft <sup>2</sup> - yr)	Margin Percentage
North Facing				
Gross EU1 <sup>1</sup>	25.21	23.33	1.88	7.46
Net EU1 <sup>2</sup>	8.61	6.74	1.87	21.72
East Facing				
Gross EU1 <sup>1</sup>	25.21	24.16	1.05	4.17
Net EU1 <sup>2</sup>	8.61	7.56	1.05	12.2
South Facing				
Gross EU1 <sup>1</sup>	25.21	23.35	1.86	7.38
Net EU1 <sup>2</sup>	8.61	6.76	1.85	21.49
West Facing				
Gross EU1 <sup>1</sup>	25.21	24.14	1.07	4.24
Net EU1 <sup>2</sup>	8.61	7.55	1.06	12.31
Notes 1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area. 2. Net EU1 is Energy Use Total (including PV) / Total Building Area.				

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OPAQUE DOORS			
01	02	03	04
Name	Side of Building	Area (ft <sup>2</sup> )	U-factor
Front Door D1	New Front Wall	20	0.2

OPAQUE SURFACE CONSTRUCTIONS							
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 w/R-5 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / 5	0.048	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-5 Sheathing Exterior Finish: 3 Coat Stucco
Attic RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / 0	0.059	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Around Roof Joists: R-6.0 insul.
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x10 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10
R-38 w/R-19 B.R.D.	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION				
01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Required	Not Required	N/A	n/a	n/a

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CF1R-PRF-01E  
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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> - yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> - yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> - yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> - yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.51	2.28	1.07	7.81	-0.56	-5.53
Space Cooling	2.16	41.03	1.53	31.34	0.63	9.69
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0
Water Heating	2.74	27.78	1.8	19.88	0.94	7.9
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	5.87	75.94	4.86	63.88	1.01	12.06
Space Heating	0.51	2.28	1.22	8.96	-0.71	-6.68
Space Cooling	2.16	41.03	1.8	37.72	0.36	3.31
IAQ Ventilation	0.46	4.85	0.46	4.85	0	0
Water Heating	2.74	27.78	1.8	19.88	0.94	7.9
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	5.87	75.94	5.28	71.41	0.59	4.53

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Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x  
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REQUIRED PV SYSTEMS											
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 (%)
2.13	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

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"><li>• Insulation below roof deck</li><li>• Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater; specific brand/model, or equivalent, must be installed</li></ul>

HERS FEATURE SUMMARY	
<p>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</p> <ul style="list-style-type: none"><li>• Quality insulation installation (QII)</li><li>• Indoor air quality ventilation</li><li>• Kitchen range hood</li><li>• Verified heat pump rated heating capacity</li></ul>	



Autodesk Docs://22040\_City of Chula Vista22040\_City of Chula Vista\_748 Long\_V2\_CD\_RVT22.rvt 3/24/2024 7:48:33 AM

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD										CF1R-PRF-01E										
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF				Calculation Date/Time: 2023-10-31T15:39:17-07:00				(Page 1 of 11)												
Calculation Description: Title 24 Analysis				Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x																
GENERAL INFORMATION																				
01	Project Name Title 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF																			
02	Run Title Title 24 Analysis																			
03	Project Location 276 4th Avenue																			
04	City	Chula Vista	05	Standards Version 2022																
06	Zip code	91910	07	Software Version EnergyPro 9.2																
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal) All orientations																
10	Building Type	Single family	11	Number of Dwelling Units 1																
12	Project Scope	Newly Constructed	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 0.3															
18	Total Cond. Floor Area (ft²)		748	19	Glazing Percentage (%) 11.63%															
20	ADU Bedroom Count		n/a	21	ADU Conditioned Floor Area n/a															
22	Fuel Type		All electric	23	No Dwelling Unit: No															
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: 423-P010198389A-000-000-0000000-0000  
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 11/01/2023 09:58  
Report Version: 2022.0.000  
Schema Version: rev 20220901

HERS Provider: CHEERS  
Report Generated: 2023-10-31 15:39:58

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD							CF1R-PRF-01E
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF				Calculation Date/Time: 2023-10-31T15:39:17-07:00			(Page 4 of 11)
Calculation Description: Title 24 Analysis				Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x			
ENERGY USE SUMMARY							
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)	
Space Heating	0.03	0.18	0.27	2.06	-0.24	-1.88	
Space Cooling	1.41	25.23	0.55	11.98	0.86	13.25	
IAQ Ventilation	0.46	4.95	0.46	4.95	0	0	
Water Heating	2.37	26.94	1.86	21.54	0.51	5.4	
Self Utilization/Flexibility Credit				0		0	
South Facing Efficiency Compliance Total	4.27	57.3	3.14	40.53	1.13	16.77	
Space Heating	0.03	0.18	0.32	2.4	-0.29	-2.22	
Space Cooling	1.41	25.23	0.77	15.48	0.64	9.75	
IAQ Ventilation	0.46	4.95	0.46	4.95	0	0	
Water Heating	2.37	26.94	1.86	21.45	0.51	5.49	
Self Utilization/Flexibility Credit				0		0	
West Facing Efficiency Compliance Total	4.27	57.3	3.41	44.28	0.86	13.02	

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

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Report Version: 2022.0.000  
Schema Version: rev 20220901

HERS Provider: CHEERS  
Report Generated: 2023-10-31 15:39:58

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD										CF1R-PRF-01E			
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF										Calculation Date/Time: 2023-10-31T15:39:17-07:00			
Calculation Description: Title 24 Analysis										Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x			
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)						
New Front Wall	New ADU	R-21 Wall	0	Front	352	56	90						
New Left Wall	New ADU	R-21 Wall	90	Left	136	0	90						
New Back Wall	New ADU	R-21 Wall	180	Back	352	51	90						
New Right Wall	New ADU	R-21 Wall	270	Right	144	0	90						
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	748	n/a	n/a						
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	748	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 New ADU	Attic Roof/New ADU	Ventilated	4.5	0.1	0.85	Yes	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
Window W6	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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Report Version: 2022.0.000  
Schema Version: rev 20220901

HERS Provider: CHEERS  
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF

Calculation Date/Time: 2023-10-31T15:39:17-07:00

(Page 2 of 11)

Calculation Description: Title 24 Analysis

Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)	Source Energy (EDR1)	Efficiency <sup>2</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)
Standard Design	34.2	50.8	40.7			
Proposed Design						
North Facing	31.1	36	34.7	3.1	14.8	6
East Facing	31.9	39.3	36	2.3	11.5	4.7
South Facing	31.2	35.9	34.7	3	14.9	6
West Facing	31.9	39.3	36	2.3	11.5	4.7
RESULT <sup>3</sup> : PASS						
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment <sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries <sup>3</sup> Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded						
<ul style="list-style-type: none"><li>Standard Design PV Capacity: 2.12 kWdc</li><li>Proposed PV Capacity Scaling: North (2.12 kWdc) East (2.12 kWdc) South (2.12 kWdc) West (2.12 kWdc)</li></ul>						

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

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Report Version: 2022.0.000  
Schema Version: rev 20220901

HERS Provider: CHEERS  
Report Generated: 2023-10-31 15:39:58

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF

Calculation Date/Time: 2023-10-31T15:39:17-07:00

Calculation Description: Title 24 Analysis

Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 2BR RF.rbd22x

(Page 5 of 11)

ENERGY USE INTENSITY				
	Standard Design (kBtu/ft <sup>2</sup> · yr)	Proposed Design (kBtu/ft <sup>2</sup> · yr)	Compliance Margin (kBtu/ft <sup>2</sup> · yr)	Margin Percentage
North Facing				
Gross EUI <sup>1</sup>	23.2	21.18	2.02	8.71
Net EUI <sup>2</sup>	7.93	5.9	2.03	25.6
East Facing				
Gross EUI <sup>1</sup>	23.2	21.61	1.59	6.85
Net EUI <sup>2</sup>	7.93	6.33	1.6	20.18
South Facing				
Gross EUI <sup>1</sup>	23.2	21.17	2.03	8.75
Net EUI <sup>2</sup>	7.93	5.89	2.04	25.73
West Facing				
Gross EUI <sup>1</sup>	23.2	21.6	1.6	6.9
Net EUI <sup>2</sup>	7.93	6.32	1.61	20.3

Notes

1. Gross EUI is Energy Use Total (not including PV) / Total Building Area.

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

Registration Number: 423-P010198389A-000-



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Long\_V2\_CD\_RVT22.rvt

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD										CF1R-PRF-01E				
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG										Calculation Date/Time: 2023-06-26T15:24:59-07:00				
Calculation Description: Title 24 Analysis										Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x				
(Page 1 of 11)														
GENERAL INFORMATION														
01	Project Name		2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG											
02	Run Title		Title 24 Analysis											
03	Project Location		276 4th Avenue											
04	City		Chula Vista							05	Standards Version		2022	
06	Zip code		91910							07	Software Version		EnergyPro 9.1	
08	Climate Zone		10							09	Front Orientation (deg/ Cardinal)		All orientations	
10	Building Type		Single family							11	Number of Dwelling Units		1	
12	Project Scope		Newly Constructed							13	Number of Bedrooms		1	
14	Addition Cond. Floor Area (ft <sup>2</sup> )		0							15	Number of Stories		1	
16	Existing Cond. Floor Area (ft <sup>2</sup> )		n/a							17	Fenestration Average U-factor		0.3	
18	Total Cond. Floor Area (ft <sup>2</sup> )		748							19	Glazing Percentage (%)		11.63%	
20	ADU Bedroom Count		n/a											
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													

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD									
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG									
Calculation Description: Title 24 Analysis									
CF1R-PRF-01E									
(Page 2 of 11)									
Registration Number: 423-P010110974A-000-000-0000000-0000									
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CA Building Energy Efficiency Standards - 2022 Residential Compliance									
Report Version: 2022.0.000									
Schema Version: rev 20220901									
Registration Date/Time: 06/27/2023 14:21									
HERS Provider: CHEERS									
Report Generated: 2023-06-26 15:25:35									
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x									
Calculation Date/Time: 2023-06-26T15:24:59-07:00									
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG									
Calculation Description: Title 24 Analysis									
ENERGY DESIGN RATINGS									
Energy Design Ratings									
Compliance Margins									
Source Energy (EDR1)									
Efficiency <sup>1</sup> EDR (EDR2efficiency)									
Total <sup>2</sup> EDR (EDR2total)									
Standard Design									
37.9									
38.1									
56.8									
Proposed Design									
North Facing									
36									
32.4									
53.7									
1.9									
5.7									
3.1									
East Facing									
37.1									
37									
56.2									
0.8									
1.1									
0.6									
South Facing									
36.2									
32.7									
53.9									
1.7									
5.4									
2.9									
West Facing									
37.1									
36.7									
56									
0.8									
1.4									
0.8									
RESULT <sup>3</sup> : PASS									
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment									
<sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries									
<sup>3</sup> Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded									
Standard Design PV Capacity: 0.00 kWdc									
Proposed PV Capacity Scaling: North (0.00 kWdc) East (0.00 kWdc) South (0.00 kWdc) West (0.00 kWdc)									

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD							CF1R-PRF-01E
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG				Calculation Date/Time: 2023-06-26T15:24:59-07:00		(Page 3 of 11)	
Calculation Description: Title 24 Analysis				Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.r1bd22x			
ENERGY USE SUMMARY							
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft²·yr)	Standard Design TDV Energy (EDR2) (kTDV/ft²·yr)	Proposed Design Source Energy (EDR1) (kBtu/ft²·yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft²·yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)	
Space Heating	0.64	2.85	1.34	9.74	-0.7	-6.89	
Space Cooling	1.4	28.93	0.85	20.44	0.55	8.49	
IAQ Ventilation	0.38	4.02	0.38	4.02	0	0	
Water Heating	2.54	25.87	1.62	18.31	0.92	7.56	
Self Utilization/Flexibility Credit				0		0	
North Facing Efficiency Compliance Total	4.96	61.67	4.19	52.51	0.77	9.16	
Space Heating	0.64	2.85	1.53	11.13	-0.89	-8.28	
Space Cooling	1.4	28.93	1.12	26.56	0.28	2.37	
IAQ Ventilation	0.38	4.02	0.38	4.02	0	0	
Water Heating	2.54	25.87	1.62	18.28	0.92	7.59	
Self Utilization/Flexibility Credit				0		0	
East Facing Efficiency Compliance Total	4.96	61.67	4.65	59.99	0.31	1.68	



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Long\_V2\_CD\_RVT22.rvt

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG  
Calculation Description: Title 24 Analysis  
CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T15:43:08-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x  
(Page 1 of 11)

GENERAL INFORMATION											
01	Project Name 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG										
02	Run Title Title 24 Analysis										
03	Project Location 276 4th Avenue										
04	City	Chula Vista		05	Standards Version		2022				
06	Zip code	91910		07	Software Version		EnergyPro 9.2				
08	Climate Zone	7		09	Front Orientation (deg/ Cardinal)		All orientations				
10	Building Type	Single family		11	Number of Dwelling Units		1				
12	Project Scope	Newly Constructed		13	Number of Bedrooms		1				
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		0.3				
18	Total Cond. Floor Area (ft²)	748		19	Glazing Percentage (%)		11.63%				
20	ADU Bedroom Count	n/a		21	ADU Conditioned Floor Area		n/a				
22	Fuel Type	All electric		23	No Dwelling Unit:		No				

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: 423-P010198390A-000-000-0000000-0000  
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Registration Date/Time: 11/01/2023 09:58  
Report Version: 2022.0.000  
Schema Version: rev 20220901  
HERS Provider: CHEERS  
Report Generated: 2023-10-31 15:43:43

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG  
Calculation Description: Title 24 Analysis  
CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T15:43:08-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x  
(Page 4 of 11)

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.08	0.38	0.51	3.87	-0.43	-3.49
Space Cooling	0.67	13.93	0.08	3.21	0.59	10.72
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.16	25.15	1.66	19.49	0.5	5.66
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	3.29	43.57	2.63	30.68	0.66	12.89
Space Heating	0.08	0.38	0.58	4.36	-0.5	-3.98
Space Cooling	0.67	13.93	0.25	6.13	0.42	7.8
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.16	25.15	1.66	19.38	0.5	5.77
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	3.29	43.57	2.87	33.98	0.42	9.59

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Calculation Description: Title 24 Analysis  
CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T15:43:08-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x  
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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)
New Front Wall	New ADU	R-21 Wall	0	Front	352	56	90
New Left Wall	New ADU	R-21 Wall	90	Left	136	0	90
New Back Wall	New ADU	R-21 Wall	180	Back	352	51	90
New Right Wall	New ADU	R-21 Wall	270	Right	146	0	90
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	748	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 New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	Yes	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
Window W6	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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CA Building Energy Efficiency Standards - 2022 Residential Compliance  
Registration Date/Time: 11/01/2023 09:58  
Report Version: 2022.0.000  
Schema Version: rev 20220901  
HERS Provider: CHEERS  
Report Generated: 2023-10-31 15:43:43

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG  
Calculation Description: Title 24 Analysis  
CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T15:43:08-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x  
(Page 2 of 11)

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency¹ EDR (EDR2efficiency)	Total² EDR (EDR2total)	Source Energy (EDR1)	Efficiency¹ EDR (EDR2efficiency)	Total² EDR (EDR2total)
Standard Design	38.8	46.1	65.1			
Proposed Design						
North Facing	36.6	32.2	59.6	2.2	13.9	5.5
East Facing	37.5	36.1	61.1	1.3	10	4
South Facing	36.8	32.5	59.7	2	13.6	5.4
West Facing	37.5	35.9	61	1.3	10.2	4.1
RESULT³: PASS						
¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment						
²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries						
³Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded						
• Standard Design PV Capacity: 0.00 kWdc • Proposed PV Capacity Scaling: North (0.00 kWdc) East (0.00 kWdc) South (0.00 kWdc) West (0.00 kWdc)						

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Report Version: 2022.0.000  
Schema Version: rev 20220901  
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG  
Calculation Description: Title 24 Analysis  
CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T15:43:08-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR SOG.rbd22x  
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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft² · yr)	Proposed Design (kBtu/ft² · yr)	Compliance Margin (kBtu/ft² · yr)	Margin Percentage
North Facing				
Gross EU1	19.36	18.06	1.3	6.71
Net EU2	19.36	18.06	1.3	6.71
East Facing				
Gross EU1	19.36	18.41	0.95	4.91
Net EU2	19.36	18.41	0.95	4.91
South Facing				
Gross EU1	19.36	18.1	1.26	6.51
Net EU2	19.36	18.1	1.26	6.51
West Facing				
Gross EU1	19.36	18.39	0.97	5.01
Net EU2	19.36	18.39	0.97	5.01
Notes 1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area. 2. Net EU1 is Energy Use Total (including PV) / Total Building Area.				

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OPAQUE DOORS			
01	02	03	04
Name	Side of Building	Area (ft²)	U-factor
Front Door D1	New Front Wall	20	0.2

SLAB FLOORS							
01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
New Slab-on-Grade	New ADU	748	0.1	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS							
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 RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.08	0.38	0.45	3.4	-0.37	-3.02
Space Cooling	0.67	13.93	0.09	3.46	0.58	10.47
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.16	25.15	1.66	19.45	0.5	5.7
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	3.29	43.57	2.58	30.42	0.71	13.15
Space Heating	0.08	0.38	0.59	4.42	-0.51	-4.04
Space Cooling	0.67	13.93	0.26	6.24	0.41	7.69
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.16	25.15	1.66	19.37	0.5	5.78
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	3.29	43.57	2.89	34.14	0.4	9.43

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REQUIRED PV SYSTEMS											
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 (%)
0		Standard (14-17%)	Fixed	none	true	n/a	n/a	n/a	n/a	n/a	

REQUIRED SPECIAL FEATURES  
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.  
• PV exception 2: No PV required when minimum PV size (Section 150.1(c)14) < 1.8 kWdc (0 kW)  
• 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



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
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GENERAL INFORMATION													
01	Project Name		2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF										
02	Run Title		Title 24 Analysis										
03	Project Location		276 4th Avenue										
04	City		Chula Vista		05	Standards Version		2022					
06	Zip code		91910		07	Software Version		EnergyPro 9.1					
08	Climate Zone		10		09	Front Orientation (deg/ Cardinal)		All orientations					
10	Building Type		Single family		11	Number of Dwelling Units		1					
12	Project Scope		Newly Constructed		13	Number of Bedrooms		1					
14	Addition Cond. Floor Area (ft <sup>2</sup> )		0		15	Number of Stories		1					
16	Existing Cond. Floor Area (ft <sup>2</sup> )		n/a		17	Fenestration Average U-factor		0.3					
18	Total Cond. Floor Area (ft <sup>2</sup> )		748		19	Glazing Percentage (%)		11.63%					
20	ADU Bedroom Count		n/a										

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

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ENERGY USE SUMMARY							
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)	
Space Heating	0.85	3.82	1.4	10.29	-0.55	-6.47	
Space Cooling	1.82	35.78	1.22	26.3	0.6	9.48	
IAQ Ventilation	0.38	4.02	0.38	4.02	0	0	
Water Heating	2.53	25.77	1.62	18.23	0.91	7.54	
Self Utilization/Flexibility Credit				0		0	
South Facing Efficiency Compliance Total	5.58	69.39	4.62	58.84	0.96	10.55	
Space Heating	0.85	3.82	1.5	10.9	-0.65	-7.08	
Space Cooling	1.82	35.78	1.48	32.42	0.34	3.36	
IAQ Ventilation	0.38	4.02	0.38	4.02	0	0	
Water Heating	2.53	25.77	1.62	18.2	0.91	7.57	
Self Utilization/Flexibility Credit				0		0	
West Facing Efficiency Compliance Total	5.58	69.39	4.98	65.54	0.6	3.85	

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OPAQUE SURFACES								
01	02	03	04	05	06	07	08	
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft <sup>2</sup> )	Window and Door Area (ft2)	Tilt (deg)	
New Front Wall	New ADU	R-21 w/R-5 Wall	0	Front	352	56	90	
New Left Wall	New ADU	R-21 w/R-5 Wall	90	Left	136	0	90	
New Back Wall	New ADU	R-21 w/R-5 Wall	180	Back	352	51	90	
New Right Wall	New ADU	R-21 w/R-5 Wall	270	Right	146	0	90	
New Roof Attic	New ADU	R-38 w/R-19 B.R.D.	n/a	n/a	748	n/a	n/a	
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	748	n/a	n/a	

ATTIC							
01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise [x in 12]	Roof Reflectance	Roof Emissance	Radiant Barrier	Cool Roof
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	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.	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading	
Window W6	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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ENERGY DESIGN RATINGS						
Standard Design	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)
Proposed Design						
North Facing	29.7	33.7	29.4	2.5	6.3	3.3
East Facing	30.7	38.2	31.7	1.5	1.8	1
South Facing	29.8	33.9	29.5	2.4	6.1	3.2
West Facing	30.7	37.8	31.5	1.5	2.2	1.2
RESULT <sup>3</sup> : PASS						
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment. <sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries <sup>3</sup> Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded						
• Standard Design PV Capacity: 1.81 kWdc • Proposed PV Capacity Scaling: North (1.81 kWdc) East (1.81 kWdc) South (1.81 kWdc) West (1.81 kWdc)						

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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft <sup>2</sup> - yr)	Proposed Design (kBtu/ft <sup>2</sup> - yr)	Compliance Margin (kBtu/ft <sup>2</sup> - yr)	Margin Percentage
North Facing				
Gross EU1	22.37	20.49	1.88	8.4
Net EU1	8.27	6.39	1.88	22.73
East Facing				
Gross EU1	22.37	21.31	1.06	4.74
Net EU1	8.27	7.21	1.06	12.82
South Facing				
Gross EU1	22.37	20.53	1.84	8.23
Net EU1	8.27	6.43	1.84	22.25
West Facing				
Gross EU1	22.37	21.3	1.07	4.78
Net EU1	8.27	7.2	1.07	12.94
Notes 1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area. 2. Net EU1 is Energy Use Total (including PV) / Total Building Area.				

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OPAQUE DOORS			
01	02	03	04
Name	Side of Building	Area (ft <sup>2</sup> )	U-factor
Front Door D1	New Front Wall	20	0.2

OPAQUE SURFACE CONSTRUCTIONS							
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 w/R-5 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / 5	0.048	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-5 Sheathing Exterior Finish: 3 Coat Stucco
Attic RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / 0	0.059	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Around Roof Joists: R-6.0 insul.
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x10 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10
R-38 w/R-19 B.R.D.	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceiling Joists: R-28.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION				
01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Required	Not Required	N/A	n/a	n/a

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.85	3.82	1.32	9.64	-0.47	-5.82
Space Cooling	1.82	35.78	1.23	26.6	0.59	9.18
IAQ Ventilation	0.38	4.02	0.38	4.02	0	0
Water Heating	2.53	25.77	1.61	18.19	0.92	7.58
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	5.58	69.39	4.54	58.45	1.04	10.94
Space Heating	0.85	3.82	1.5	10.96	-0.65	-7.14
Space Cooling	1.82	35.78	1.5	32.96	0.32	2.82
IAQ Ventilation	0.38	4.02	0.38	4.02	0	0
Water Heating	2.53	25.77	1.62	18.2	0.91	7.57
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	5.58	69.39	5	66.14	0.58	3.25

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF  
Calculation Description: Title 24 Analysis  
Calculation Date/Time: 2023-06-26T15:27:03-07:00  
Input File Name: 2306-22-0336 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x

CF1R-PRF



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF  
Calculation Description: Title 24 Analysis

CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T16:01:12-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x  
(Page 1 of 11)

GENERAL INFORMATION											
01	Project Name		2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF								
02	Run Title		Title 24 Analysis								
03	Project Location		276 4th Avenue								
04	City		05	Standards Version							
06	Zip code		07	Software Version							
08	Climate Zone		09	Front Orientation (deg/ Cardinal)							
10	Building Type		11	Number of Dwelling Units							
12	Project Scope		13	Number of Bedrooms							
14	Addition Cond. Floor Area (ft <sup>2</sup> )		15	Number of Stories							
16	Existing Cond. Floor Area (ft <sup>2</sup> )		17	Fenestration Average U-factor							
18	Total Cond. Floor Area (ft <sup>2</sup> )		19	Glazing Percentage (%)							
20	ADU Bedroom Count		21	ADU Conditioned Floor Area							
22	Fuel Type		23	No Dwelling Unit:							

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

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Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF  
Calculation Description: Title 24 Analysis

CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T16:01:12-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x  
(Page 4 of 11)

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> ·yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> ·yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> ·yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> ·yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.12	0.56	0.44	3.33	-0.32	-2.77
Space Cooling	1.03	19.63	0.36	8.61	0.67	11.02
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.15	25.17	1.65	19.33	0.5	5.84
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	3.68	49.47	2.83	35.38	0.85	14.09
Space Heating	0.12	0.56	0.5	3.8	-0.38	-3.24
Space Cooling	1.03	19.63	0.57	11.9	0.46	7.73
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.15	25.17	1.65	19.26	0.5	5.91
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	3.68	49.47	3.1	39.07	0.58	10.4

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Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x  
(Page 7 of 11)

OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft <sup>2</sup> )	Window and Door Area (ft <sup>2</sup> )	Tilt (deg)
New Front Wall	New ADU	R-21 Wall	0	Front	352	56	90
New Left Wall	New ADU	R-21 Wall	90	Left	136	0	90
New Back Wall	New ADU	R-21 Wall	180	Back	352	51	90
New Right Wall	New ADU	R-21 Wall	270	Right	146	0	90
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	748	n/a	n/a
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	748	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 New ADU	Attic Roof/New ADU	Ventilated	4.5	0.1	0.85	Yes	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 (ft <sup>2</sup> )	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W6	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD  
Project Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF  
Calculation Description: Title 24 Analysis

CF1R-PRF-01E  
Calculation Date/Time: 2023-10-31T16:01:12-07:00  
Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x  
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ENERGY DESIGN RATINGS						
	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)	Source Energy (EDR1)	Efficiency <sup>1</sup> EDR (EDR2efficiency)	Total <sup>2</sup> EDR (EDR2total)
Standard Design	39.4	48.2	65.4			
Proposed Design						
North Facing	36.9	34.4	59.7	2.5	13.8	5.7
East Facing	37.8	38.2	61.2	1.6	10	4.2
South Facing	37	34.5	59.7	2.4	13.7	5.7
West Facing	37.7	38.1	61.2	1.7	10.1	4.2
RESULT <sup>3</sup> : PASS						
<sup>1</sup> Efficiency EDR includes improvements like a better building envelope and more efficient equipment <sup>2</sup> Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries <sup>3</sup> building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded						
• Standard Design PV Capacity: 0.00 kWdc • Proposed PV Capacity Scaling: North (0.00 kWdc) East (0.00 kWdc) South (0.00 kWdc) West (0.00 kWdc)						

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Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x  
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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft <sup>2</sup> · yr)	Proposed Design (kBtu/ft <sup>2</sup> · yr)	Compliance Margin (kBtu/ft <sup>2</sup> · yr)	Margin Percentage
North Facing				
Gross EU1 <sup>1</sup>	20	18.4	1.6	8
Net EU1 <sup>2</sup>	20	18.4	1.6	8
East Facing				
Gross EU1 <sup>1</sup>	20	18.82	1.18	5.9
Net EU1 <sup>2</sup>	20	18.82	1.18	5.9
South Facing				
Gross EU1 <sup>1</sup>	20	18.41	1.59	7.95
Net EU1 <sup>2</sup>	20	18.41	1.59	7.95
West Facing				
Gross EU1 <sup>1</sup>	20	18.81	1.19	5.95
Net EU1 <sup>2</sup>	20	18.81	1.19	5.95
Notes 1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area. 2. Net EU1 is Energy Use Total (including PV) / Total Building Area.				

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OPAQUE DOORS			
01	02	03	04
Name	Side of Building	Area (ft <sup>2</sup> )	U-factor
Front Door D1	New Front Wall	20	0.2

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 RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-19 Floor Crawlspace	Floors Over Crawlspace	Wood Framed Floor	2x10 @ 16 in. O. C.	R-19	None / None	0.046	Floor Surface: Carpeted Floor Deck: Wood Siding/sheathing/decking Cavity / Frame: R-19 / 2x10
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION				
01	02	03	04	05
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Required	Not Required	N/A	n/a	n/a

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Input File Name: 2310-22-0616 Chula-Vista ADU -- 748 Long -- Reverse 1BR RF.rbd22x  
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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> ·yr)	Standard Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> ·yr)	Proposed Design Source Energy (EDR1) (kBtu/ft <sup>2</sup> ·yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft <sup>2</sup> ·yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.12	0.56	0.39	2.95	-0.27	-2.39
Space Cooling	1.03	19.63	0.38	8.96	0.65	10.67
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.15	25.17	1.65	19.29	0.5	5.88
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	3.68	49.47	2.8	35.31	0.88	14.16
Space Heating	0.12	0.56	0.51	3.86	-0.39	-3.3
Space Cooling	1.03	19.63	0.58	11.97	0.45	7.66
IAQ Ventilation	0.38	4.11	0.38	4.11	0	0
Water Heating	2.15	25.17	1.65	19.26	0.5	5.91
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	3.68	49.47	3.12	39.2	0.56	10.27

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REQUIRED PV SYSTEMS											
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 (%)
0		Standard (14-17%)	Fixed	none	true	n/a	n/a	n/a	n/a	n/a	

REQUIRED SPECIAL FEATURES	
---------------------------	--





**ADU: 748 LONG REVERSE**  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

[illegible]

## G440



### Building Envelope

**Space Conditioning, Water Heating, and Plumbing System:**

## 2022 Single-Family Residential Mandatory Requirements Summary

## 2022 Single-Family Residential Mandatory Requirements Summary

### Ducts and Fans:

## 2022 Single-Family Residential Mandatory Requirements Summary

### Ventilation and Indoor Air Quality

**Pool and Spa Systems and Equipment:**

**Lighting:**

## 2022 Single-Family Residential Mandatory Requirements Summary

## Solar Readiness

## Electric and Energy Storage Ready

Autodesk Docs://22040\_City of Chula Vista/22040\_City of Chula Vista\_748  
Long V2 CD RVT22.m



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ADU: 748 LONG REVERSE

CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

LUIS CALDERON  
SnapADU

  
SIGNATURE

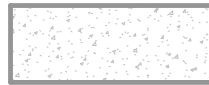


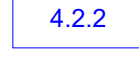

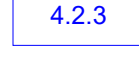

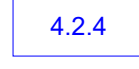











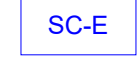


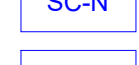


[illegible]

# BMP SITE PLAN

# C100







22040

## BMP SITE LEGEND

		SOURCE CONTROL BMPs	
	(E) CONCRETE, IMPERVIOUS SURFACE		PREVENTION OF ILLICIT DISCHARGES INTO THE MS4
	(E) PAVERS, IMPERVIOUS SURFACE		STORM DRAIN STENCILING OR SIGNAGE
	(E) LANDSCAPE, PERVIOUS SURFACE		PROTECT OUTDOOR MATERIALS STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL
	IMPERVIOUS AREA		PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL
	EXISTING DWELLING, IMPERVIOUS SURFACE		PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL
	PROPERTY LINE		ADDITIONAL BMPs BASED ON POTENTIAL SOURCES OF RUNOFF POLLUTANTS (MUST ANSWER FOR EACH SOURCE LISTED BELOW)
	APPROXIMATE DIRECTION OF LOT DRAINAGE		ONSITE STORM DRAIN INLETS
	(N) DOWNSPOUT		NEED FOR FUTURE INDOOR & STRUCTURAL PEST CONTROL
	APPROXIMATE DRAINAGE FROM STRUCTURES		LANDSCAPE / OUTDOOR PESTICIDE USE
	(E) 6'-0" PER METER FENCING		POOLS, SPAS, PONDS, DECORATIVE FOUNTAINS, AND OTHER WATER FEATURES
	CONTOUR LINE		REFUSE AREAS
			FIRE SPRINKLER TEST WATER
			MISCELLANEOUS DRAIN OR WASH WATER
			PLAZAS, SIDEWALKS, AND PARKING LOTS

## Chapter 4 and Appendix E BMP Design Manual

Chapter 4 and Appendix E BMP Design Manual

4.3.1	MAINTAIN NATURAL DRAINAGE PATHWAYS AND HYDROLOGIC FEATURES	WM-1	MATERIAL DELIVERY & STORAGE AREA	
4.3.2	CONSERVE NATURAL AREAS, SOILS, AND VEGETATION	WM-4	SPILL PREVENTION AND CONTROL	
4.3.3	MINIMIZE IMPERVIOUS AREA	WM-5	SOLID WASTE MANAGEMENT	
4.3.4	MINIMIZE SOIL COMPACTION	WM-8	CONCRETE WASTE MANAGEMENT	
4.3.5	IMPERVIOUS AREA DISPERSION	WM-9	SANITARY WASTE MANAGEMENT	
4.3.6	RUNOFF COLLECTION	SC-5	FIBER ROLLS BARRIER	
4.3.7	LANDSCAPING WITH NATIVE OR DROUGHT TOLERANT SPECIES	SC-7	STREET SWEEPING AND VACUUMING	
4.3.8	HARVESTING AND USING PRECIPITATION	SC-B	PROVIDE SPLASH BLOCKS FOR STORMWATER DISPERSAL AT RAINWATER LEADERS	
















## CONSTRUCTION BMP GENERAL NOTES

1. TO ANY SOIL DISTURBANCE; TEMPORARY SEDIMENT CONTROL MEASURES SHALL BE INSTALLED BY THE CONTRACTOR OR QUALIFIED PERSON(S) AS INDICATED BELOW.
2. ALL REQUIREMENTS OF THE CITY STORM WATER STANDARDS MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND/OR WATER POLLUTION CONTROL PLAN (WPCP) FOR CONSTRUCTION LEVEL BMPs AND, IF APPLICABLE, THE STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR POST-CONSTRUCTION BMPs.
3. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM DRAIN INLET PROTECTION, INLET PROTECTION IN THE PUBLIC RIGHT-OF-WAY MUST BE TEMPORARILY REMOVED PRIOR TO A RAIN EVENT TO ENSURE NO FLOODING OCCURS AND REINSTALLED AFTER RAIN IS OVER.
4. ALL CONSTRUCTION BMPs SHALL BE INSTALLED AND PROPERLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
5. THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING, AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED CONTACT PERSON CAN PROVIDE EROSION AND SEDIMENT CONTROL MEASURES.
6. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUB-CONTRACTORS AND SUPPLIERS ARE AWARE OF ALL STORM WATER BMPs AND IMPLEMENT SUCH MEASURES. FAILURE TO COMPLY WITH THE APPROVED SWPPP/WPCP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, CIVIL PENALTIES, AND/OR TOP WORK NOTICES.
7. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT, DEBRIS, AND MUD ON AFFECTED ROAD AND ADJACENT STREETS AND WITHIN STORM DRAIN SYSTEM DUE TO CONSTRUCTION VEHICLES/EQUIPMENT AND CONSTRUCTION ACTIVITY AT THE END OF EACH WORK DAY.
8. THE CONTRACTOR SHALL PROTECT NEW AND EXISTING STORM WATER CONVEYANCE SYSTEMS FROM SEDIMENTATION, CONCRETE RINSE, OR OTHER CONSTRUCTION-RELATED DEBRIS AND DISCHARGES WITH THE APPROPRIATE BMPs THAT ARE ACCEPTABLE TO THE CITY RESIDENT ENGINEER AND AS INDICATED IN THE SWPPP/WPCP.
9. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CLEAR DEBRIS, SILT, AND MUD FROM ALL DITCHES AND SWALES PRIOR TO AND WITHIN 3 BUSINESS DAYS AFTER EACH RAIN EVENT OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER.
10. IF A NON-STORM WATER DISCHARGE LEAVES THE SITE, THE CONTRACTOR SHALL IMMEDIATELY STOP THE ACTIVITY AND REPAIR THE DAMAGES. THE CONTRACTOR SHALL NOTIFY THE CITY RESIDENT ENGINEER OF THE DISCHARGE. PRIOR TO RESUMING ANY CONSTRUCTION ACTIVITY, ANY AND ALL SILT, DEBRIS, AND MUD FROM EACH STORM WATER DISCHARGE SHALL BE REMOVED FROM THE STORM DRAIN CONVEYANCE SYSTEM AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
11. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON-SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID DEPLOYMENT OF CONSTRUCTION BMPs WHEN RAIN IS IMMINENT.
12. THE CONTRACTOR SHALL RESTORE AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPs TO WORKING ORDER YEAR ROUND.
13. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DUE TO UNFORESEEN CIRCUMSTANCES TO PREVENT NON-STORM WATER AND SEDIMENT-LOADED DISCHARGES.
14. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRAFFIC INTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
15. ALL EROSION AND SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED SWPPP/WPCP SHALL BE INSTALLED AND MAINTAINED. ALL EROSION AND SEDIMENT CONTROLS FOR INTERIM CONDITIONS SHALL BE PROPERLY DOCUMENTED AND MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION OF THE PROJECT.
16. AS NECESSARY, THE CITY RESIDENT ENGINEER SHALL SCHEDULE MEETINGS FOR THE PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED CONTACT PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER, AND THE CITY RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION AND SEDIMENT CONTROL MEASURES AND OTHER BMPs RELATIVE TO ANTICIPATED CONSTRUCTION ACTIVITIES.
17. THE CONTRACTOR SHALL CONDUCT VISUAL INSPECTIONS AND MAINTAIN ALL BMPs DAILY AND AS NEEDED. VISUAL INSPECTIONS AND MAINTENANCE OF ALL BMPs SHALL BE CONDUCTED BEFORE, DURING, AND AFTER EVERY RAIN EVENT AND EVERY 24 HOURS DURING ANY PROLONGED RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL BMPs AS SOON AS POSSIBLE AS SAFETY ALLOWS.
18. CONSTRUCTION ENTRANCE AND EXIT AREA: A TEMPORARY CONSTRUCTION ENTRANCE AND EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF SAN DIEGO STANDARD SPECIFICATIONS FOR HIGHWAYS, SECTION 100.01.01 AND A NON-POTENTIAL POLLUTANTS ONTO PAVED SURFACES AND TRAVELED WAYS. WIDTH SHALL BE 10' OR THE MINIMUM NECESSARY TO ACCOMMODATE VEHICLES AND EQUIPMENT WITHOUT BYPASSING THE ENTRANCE. (a) NON-STORM WATER DISCHARGES SHALL BE EFFECTIVELY MANAGED PER THE SAN DIEGO MUNICIPAL CODE CHAPTER 4, ARTICLE 3, DIVISION 3 SUBSECTION 4.01.01.01 TO PREVENT DISCHARGE INTO THE STORM DRAIN SYSTEM.
19. SURFACE WATER WILL DRAIN AWAY FROM BUILDING AND DRIVEWAYS SHOW DRAINAGE PATTERN. THE GRADE SHALL FALL A MINIMUM OF 6" WITHIN THE FIRST 10 FEET. SECTION R401.3  
A. EXCEPTION: WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6 INCHES OF FALL WITHIN 10 FEET DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE. IMPERVIOUS CURBS WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED NOT LESS THAN 2 PERCENT AWAY FROM THE BUILDING
20. ALL NEW ROOF DOWNSPOUTS SHALL BE DISCONNECTED AND DIRECTED TO PERVIOUS AREAS.

## KEYNOTES:

KEYNOTE	DESCRIPTION

## EXISTING SITE PLAN LEGEND

	(E) STRUCTURES		PROPERTY LINE
			TO BE REMOVED
			SETBACK LINE
	(E) NATIVE LANDSCAPING		EASEMENT LINE
			STREET CENTERLINE
	(E) ASPHALT		(E) WATER LINE
			(E) ELECTRICAL LINE
			(E) NATURAL GAS LINE
	(E) PAVERS		(E) SEWAGE LINE
			COUNTOUR LINE
			(E) PERIMETER FENCING

## GENERAL NOTES

1. THIS PROJECT PROPOSES NO WORK WITHIN THE PUBLIC RIGHT-OF-WAY.
2. ALL DRAINAGE FROM IMPERVIOUS AREAS & DOWNSPOUTS TO BE ROUTED TO LANDSCAPE AREAS PLANTING BOXES.
3. A BOUNDARY SURVEY OR A BUILDING VERIFICATION SURVEY, TO DETERMINE EXACT LOCATION OF PROPERTY LINES, INCLUDING THE RELATION OF THOSE LINES TO THE ADJ. LOCATION IS REQUIRED AS PART OF THIS PLAN SET. WITHOUT CONDUCTING A BOUNDARY SURVEY IT IS NOT POSSIBLE TO PERFORM E A BUILDING VERIFICATION SURVEY FROM A LICENSE PROFESSIONAL LAND SURVEYOR.



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DESIGN BUILD

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ADU: 748 LONG REVERSE

CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:

LUIS CALDERON  
SnapADU

  
SIGNATURE

[illegible]

EXISTING SITE  
PLAN

# A010

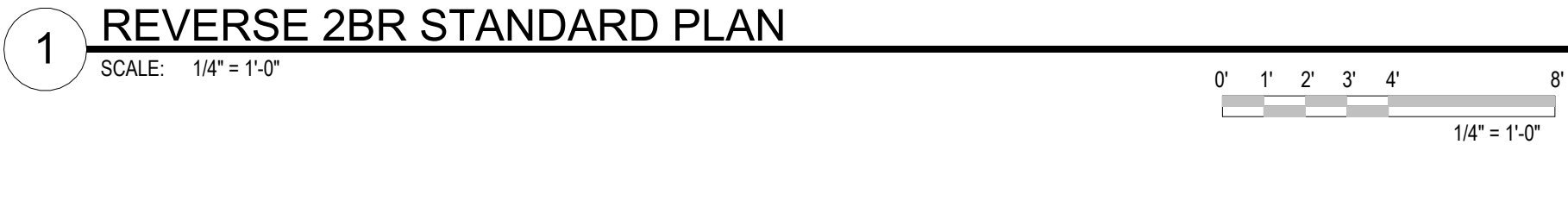
22040



MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	COMMENTS
D1	3' - 0"	6' - 8"	38"	82 1/2"	EXTERIOR DOOR	
D2	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D3	4' - 0"	6' - 8"			INTERIOR BYPASS SLIDING DOOR	
D4	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D5	4' - 0"	6' - 8"	50 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	100 SQ. IN. MIN. AIR TRANSFER GRILLE ABOVE DOOR
D6	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D7	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D8	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D9	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	

MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	HEADER HEIGHT	TYPE	COMMENTS
W1	3' - 0"	4' - 0"	36 1/2"	48 1/2"	3' - 0"	7' - 0"	SINGLE HUNG WINDOW	
W2	6' - 0"	4' - 0"	72 1/2"	48 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	
W3	3' - 0"	1' - 0"	36 1/2"	12 1/2"	6' - 9"	7' - 9"	SLIDING WINDOW	
W4	3' - 0"	4' - 0"	36 1/2"	48 1/2"	3' - 0"	7' - 0"	SINGLE HUNG WINDOW	
W5	3' - 0"	4' - 0"	36 1/2"	48 1/2"	3' - 0"	7' - 0"	SINGLE HUNG WINDOW	
W6	6' - 0"	4' - 0"	72 1/2"	48 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING.
2. DOOR SWING DIRECTION PER PLAN.
3. DIMENSIONS DO NOT INCLUDE DOOR FRAME, U.N.O.
4. PROVIDE SUITABLE ISOLATOR BETWEEN DIS-SIMILAR METALS (I.E. ALUMINUM & STEEL).
5. ALL GLAZING IN DOORS SHALL BE TEMPERED.
6. ALL WINDOWS (U.N.O.) SHALL BE GLAZED PER TITLE 24 REQUIREMENTS.
7. ALL MANUFACTURED WINDOWS SHALL HAVE A LABEL ATTACHED CERTIFIED BY THE NATIONAL ARCHITECTURAL RECORDING COUNCIL, (NARC) AND SHOWING COMPLIANCE WITH THE TITLE 24 ENERGY REPORT.
8. ALL WINDOWS SHOULD HAVE A MAX U-FACTOR OF .30, A MAXIMUM SHGC OF .23.
9. PROVIDE TEMPERED GLASS ("TEMP") AT WINDOWS WITHIN A 24-INCH ARCH OF A DOOR JAMB, AND AT GLAZING UNITS ABOVE THE SHOWER OR BATHTUB, IN SAUNAS OR STEAM ROOMS WITHIN THE SPACE WITHIN 60 INCHES MEASURED VERTICALLY FROM THE WET STANDING SURFACE.
10. TEMPERED GLASS AT THE FOLLOWING LOCATIONS REQUIRING SAFETY GLAZING:
  - A. GLAZING IN SWINGING, SLIDING, AND BI-FOLD DOORS (CRC R308 4.1).
  - B. GLAZING WITHIN 60 INCHES VERTICALLY AND HORIZONTALLY - OF SHOWERS, STEAM BATHS, SWIMMING POOLS, AND SAUNAS (CRC R308 4.5).
11. PER CBC SECTION 708A.2, EXTERIOR WINDOWS, EXTERIOR GLAZED SHALL COMPLY WITH THE FOLLOWING:
  - A. MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING IS NOT MADE OF TEMPERED GLASS, THE UNGLAZED AREAS SHALL HAVE GLASS REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 1011.5.2/IA440.
12. PER CBC SECTION 708A.3, EXTERIOR DOORS SHALL BE CONSTRUCTED WITH A NON-COMBUSTIBLE, INSULATING MATERIAL OR CONSTRUCTED WITH A SOLID CORE, STILES/FINES NO LESS THAN 1-3/8" THICK, AND PANELS NO LESS THAN 1-1/4" THICK, EXCEPT FOR THE EXTERIOR PERMITTING OF THE PANEL THAT SHALL BE PERMITTED TO TAPER TO THE TONGUE NO LESS THAN 3/8" THICK.
13. PER CBC SECTION 708A.2, GLAZED DOORS TO BE CONSTRUCTED WITH MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE CONFORMING TO SECTION 2406.
14. WINDOW OPENINGS IN BEDROOMS TO HAVE THE BOTTOM OF THE CLEAR OPENING TO BE 44 INCHES MAXIMUM, MEASURED FROM THE FLOOR. CRC R310.2.



KEYNOTE	DESCRIPTION
06110.F30	WOOD STOOP EXTERIOR DOOR LANDING
06110.G17	2X8 MIN. SOLID REINFORCEMENT LOCATED BETWEEN 32" AND 39 1/4" AFF. SEE SHEETS G101 AND A501 FOR MORE INFORMATION ABOUT AGING-IN-PLACE DESIGN
06220.C1	MILLWORK SHOWN FOR REFERENCE ONLY. SEE SHOP DRAWINGS
07710.B3	DOWNSPOUT
10800.A7	PROVIDE 14 1/4" x 25 1/4" R.O. FRAMING FOR MEDICINE CABINET. NO ELECTRICAL WIRING WITHIN FRAMING FOR MEDICINE CABINET PERMITTED
10800.D1	PROVIDE FRAMING FOR 16"x12" NICHE. BOTTOM OF NICHE TO BE 60" ABOVE SLAB AND CENTERED AGAINST WALL
15510.A3	APPLY CANTONMENT TO PROVIDE OUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS
15730.A5	4" DRYER VENT. SEE SHEET G200 CODE EXCERPTS CHAPTER 5: EXHAUST SYSTEMS FOR MORE INFORMATION
15730.A8	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 160 CFM OR 65% CE MIN. (GAS RANGE 280 CFM OR 85% CE MIN.) 2022 BEES TABLE 150.0-G


 EXTERIOR 2X6 WOOD STUDS @ 16" O.C.  
 INTERIOR 2X6 WOOD STUDS @ 16" O.C.  
 INTERIOR 2X4 WOOD STUDS @ 16" O.C.  
 OVERHEAD LINES  
 VAULTED CEILING  
 8" CLG  
 8" FLAT CEILING  
 VLT CLG  
 VAULTED CEILING

	WALL AREA (SF)	DOOR OPENING AREA (SF)	WINDOW OPENING AREA (SF)	TOTAL OPENING AREA (SF)	% OPENING AREA
NORTH	149.84	-	-	-	0%
SOUTH	149.84	-	-	-	0%
EAST	357.40	-	51	51	14.27%
WEST	357.40	-	56	56	15.67%



ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

  
SIGNATURE

[illegible]

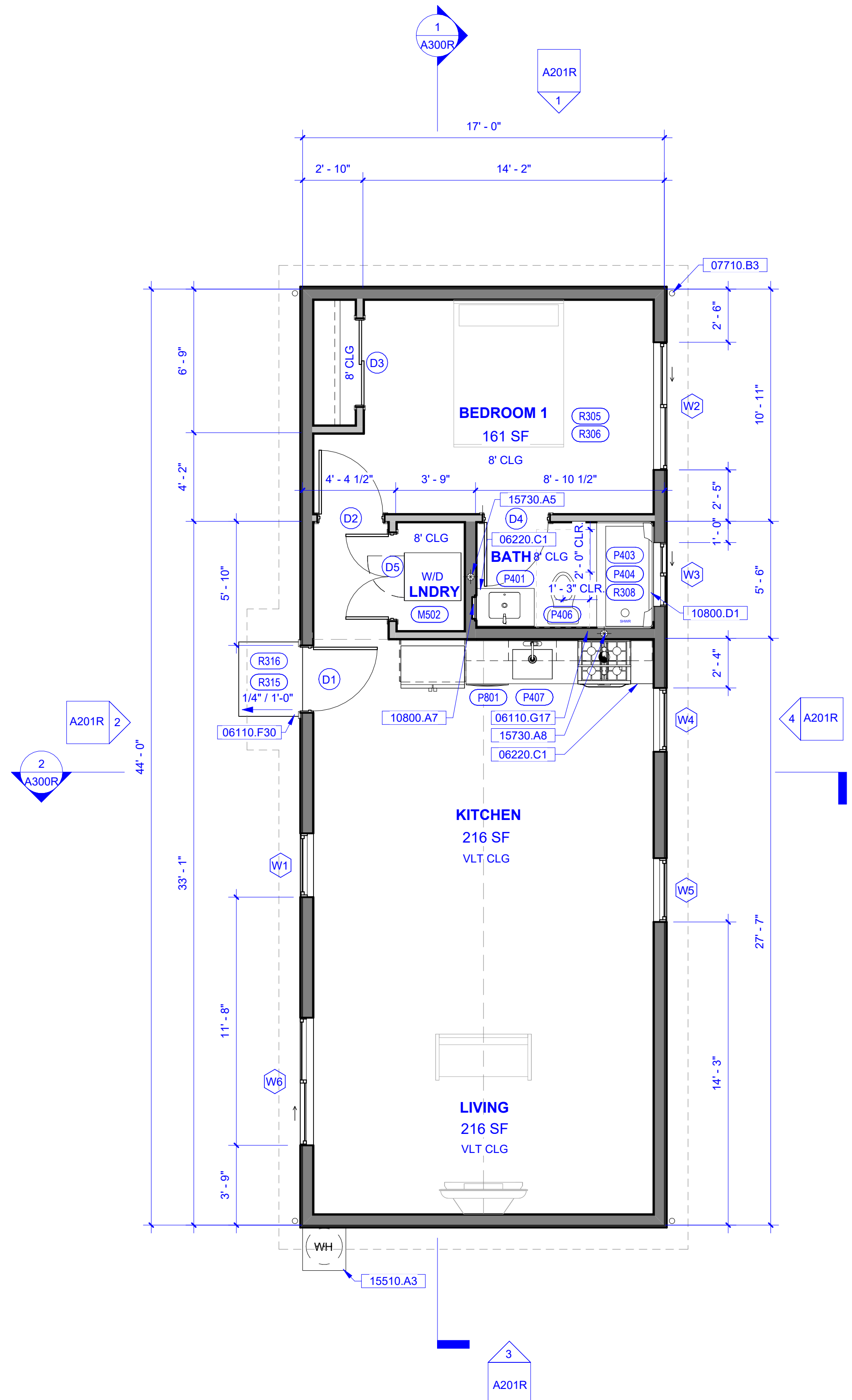
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PLAN - 2  
BEDROOM

<b>A100R</b>
22040

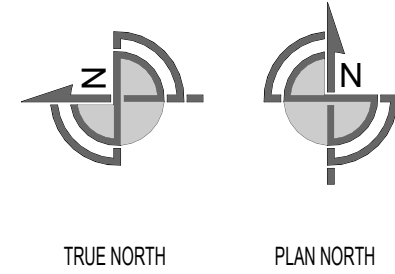
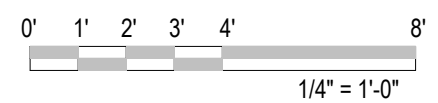
MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	COMMENTS
D1	3' - 0"	6' - 8"	38"	82 1/2"	EXTERIOR DOOR	
D2	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D3	4' - 0"	6' - 8"			INTERIOR BYPASS SLIDING DOOR	
D4	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D5	4' - 0"	6' - 8"	50 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	100 SQ. IN. MIN. AIR TRANSFER GRILLE ABOVE DOOR

MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	HEADER HEIGHT	TYPE	COMMENTS
W1	3' - 0"	4' - 0"	36 1/2"	48 1/2"	3' - 0"	7' - 0"	SINGLE HUNG WINDOW	
W2	6' - 0"	4' - 0"	72 1/2"	48 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	
W3	3' - 0"	1' - 0"	36 1/2"	12 1/2"	6' - 9"	7' - 9"	SLIDING WINDOW	
W4	3' - 0"	4' - 0"	36 1/2"	48 1/2"	3' - 0"	7' - 0"	SINGLE HUNG WINDOW	
W5	3' - 0"	4' - 0"	36 1/2"	48 1/2"	3' - 0"	7' - 0"	SINGLE HUNG WINDOW	
W6	6' - 0"	4' - 0"	72 1/2"	48 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING.
2. DOOR SWING DIRECTION PER PLAN.
3. DIMENSIONS DO NOT INCLUDE DOOR FRAME, U.N.O.
4. PROVIDE SUITABLE ISOLATOR BETWEEN DIS-SIMILAR METALS (I.E. ALUMINUM & STEEL).
5. ALL GLAZING IN DOORS SHALL BE TEMPERED.
6. ALL WINDOWS (U.N.O.) SHALL BE GLAZED PER TITLE 24 REQUIREMENTS.
7. ALL MANUFACTURED WINDOWS SHALL HAVE A LABEL ATTACHED CERTIFIED BY AN INDEPENDENT TESTING AGENCY, CALIFORNIA ENERGY EFFICIENCY COUNCIL, (NFR) AND SHOWING COMPLIANCE WITH THE TITLE 24 ENERGY REPORT.
8. ALL WINDOWS SHOULD HAVE A MAX U-FACTOR OF .30, A MAXIMUM SHGC OF .23.
9. PROVIDE TEMPERED GLASS ("TEMP") AT WINDOWS WITHIN A 24-INCH ARC OF A DOORJAMB, AND ALL GLAZING UNITS ABOVE THE SHOWER OR BATHTUB. IN SAUNAS OR STEAM ROOMS THE GLASS SHALL BE WITHIN 60 INCHES MEASURED VERTICALLY FROM THE WET STANDING SURFACE.
10. TEMPERED GLASS AT THE FOLLOWING LOCATIONS REQUIRING SAFETY GLAZING:
  - A. GLAZING IN SWINGING, SLIDING, AND BI-FOLD DOORS (CRC R308 4.1).
  - B. GLAZING WITHIN REACH OF CHILDREN AND HORIZONTALLY- OF SHOWERS, BATHTUBS, HOT TUBS, SWIMMING POOLS, AND SAUNAS (CRC R308 4.5).
11. PER CBC SECTION 704.2, EXTERIOR WINDOWS, EXTERIOR GLAZED SHALL COMPLY WITH THE FOLLOWING:
  - A. MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2408 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 1011/S.2/4440.
12. PER CBC SECTION 704.2.3, EXTERIOR DOORS SHALL BE CONSTRUCTED WITH A NON COMBUSTIBLE ADDING MATERIAL, OR BE CONTROLLED WITH A SOLID CORE, STILES/RAILS NO LESS THAN 1-3/8" THICK, AND PANELS NO LESS THAN 1-1/4" THICK, EXCEPT FOR THE EXTERIOR PERIMETER OF THE PANEL THAT SHALL BE PERMITTED TO TAPER TO THE TONGUE NO LESS THAN 3/8" THICK.
13. PER CBC SECTION 704.2, GLAZED DOORS TO BE CONSTRUCTED WITH MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE CONFORMING TO SECTION 2408.
14. WINDOW OPENINGS IN BEDROOMS TO HAVE THE BOTTOM OF THE OPENING TO BE 44 INCHES MAXIMUM, MEASURED FROM THE FLOOR. CRC R310.2.



1 REVERSE 1-BEDROOM OPTION FLOOR PLAN  
SCALE: 1/4" = 1'-0"



KEYNOTE	DESCRIPTION
06110.F30	WOOD STOOP EXTERIOR DOOR LANDING
06110.G17	2X8 MIN. SOLID REINFORCEMENT LOCATED BETWEEN 32" AND 39 1/4" AFF. SEE SHEETS G101 AND A501 FOR MORE INFORMATION ABOUT AGING-IN-PLACE DESIGN
06220.C1	MILLWORK SHOWN FOR REFERENCE ONLY. SEE SHOP DRAWINGS
07710.B3	DOWNSPOUT
10800.A7	PROVIDE 14 1/4" x 25 1/4" R.O. FRAMING FOR MEDICINE CABINET. NO ELECTRICAL WIRING WITHIN FRAMING FOR MEDICINE CABINET PERMITTED
10800.D1	PROVIDE FRAMING FOR 14" HIGH NICHE. BOTTOM OF NICHE TO BE 60" ABOVE SLAB TOP. PROVIDE 2" LONG WALL
15510.A3	APPLICANT/OWNER TO PROVIDE CUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS
15730.A5	4" DRYER VENT. SEE SHEET G200 CODE EXCERPTS CHAPTER 5: EXHAUST SYSTEMS FOR MORE INFORMATION
15730.B8	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 160 CFM OR 65% C.E. MIN. (GAS RANGE 280 CFM OR 85% C.E. MIN.) 2022 BEES TABLE 150.0-G

	EXTERIOR 2X6 WOOD STUDS @ 16" O.C.
	INTERIOR 2X6 WOOD STUDS @ 16" O.C.
	INTERIOR 2X4 WOOD STUDS @ 16" O.C.
	OVERHEAD LINES
	VAULTED CEILING
	8' FLAT CEILING
	8' VAULTED CEILING

	WALL AREA (SF)	DOOR OPENING AREA (SF)	WINDOW OPENING AREA (SF)	TOTAL OPENING AREA (SF)	% OPENING AREA
NORTH	149.84	-	-	-	0%
SOUTH	149.84	-	-	-	0%
EAST	357.40	-	51	51	14.27%
WEST	357.40	-	56	56	15.67%



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DESIGN BUILD

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ADU: 748 LONG REVERSE

CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:

LUIS CALDERON  
SnapADU

  
SIGNATURE

RELEASE	DATE	BY	APP.	RELEASED FOR...
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REVERSE FLOOR  
PLAN - 1  
BEDROOM

# A101R

22040

MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	COMMENTS
D10	5' - 6"	6' - 8"	68 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	100 SQ. IN. MIN. AIR TRANSFER GRILLE ABOVE DOOR
D11	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D12	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING.
2. DOOR SWING DIRECTION PER PLAN.
3. DIMENSIONS DO NOT INCLUDE DOOR FRAME, U.N.O.
4. PROVIDE SUITABLE ISOLATOR BETWEEN DIS-SIMILAR METALS (I.E. ALUMINUM & STEEL).
5. ALL GLAZING IN DOORS SHALL BE TEMPERED.
6. ALL WINDOWS (U.N.O.) SHALL BE GLAZED PER TITLE 24 REQUIREMENTS.
7. ALL MANUFACTURED WINDOWS SHALL HAVE A LABEL ATTACHED CERTIFIED BY THE CALIFORNIA REGISTRATION REVIEW COUNCIL (NRCR) AND SHOWING COMPLIANCE WITH THE TITLE 24 ENERGY REPORT.
8. ALL WINDOWS SHOULD HAVE A MAX U-FACTOR OF .30, A MAXIMUM SHGC OF .23.
9. PROVIDE TEMPERED GLASS ("TEMP") AT WINDOWS WITHIN A 24-INCH ARCH OF A DOORJAMB, AND ALL GLAZING UNITS ABOVE THE SHOWER OR BATHTUB. IN SAUNAS OR STEAM ROOMS THE GLASS SHALL BE WITHIN 60 INCHES MEASURED VERTICALLY FROM THE WET STANDING SURFACE.
10. TEMPERED GLASS AT THE FOLLOWING LOCATIONS REQUIRING SAFETY GLAZING:
  - A. GLAZING IN SWINGING, SLIDING, AND BI-FOLD DOORS (CRC R308 4.1).
  - B. GLAZING WITHIN RECREATION AREAS, AND HORIZONTAL GLAZING OF SHOWERS, BATHTUBS, HOT TUBS, SWIMMING POOLS, AND SAUNAS (CRC R308 4.5).
11. PER CBC SECTION 704.2, EXTERIOR WINDOWS, EXTERIOR GLAZED SHALL COMPLY WITH THE FOLLOWING:
  - A. MULTI-PANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2408 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 1011.5.2/4440.
12. PER CBC SECTION 704.2.3, EXTERIOR DOORS SHALL BE CONSTRUCTED WITH A NON-COMBUSTIBLE ADDING MATERIAL, OR BE CONTROLLED WITH A SOLID CORE, STILES/RAILS NO LESS THAN 1-3/8" THICK, AND PANELS NO LESS THAN 1-1/4" THICK, EXCEPT FOR THE EXTERIOR PERIMETER OF THE PANEL THAT SHALL BE PERMITTED TO TAPER TO THE TONGUE NO LESS THAN 3/8" THICK.
13. PER CBC SECTION 704.2, GLAZED DOORS TO BE CONSTRUCTED WITH MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE CONFORMING TO SECTION 2408.
14. WINDOW OPENINGS IN BEDROOMS TO HAVE THE BOTTOM OF THE OPENING TO BE 44 INCHES MAXIMUM, MEASURED FROM THE FLOOR. CRC R310.2.



KEYNOTE	DESCRIPTION
16110.D11	34" TALL 2X4 PONY WALL
16110.G17	2X8 MIN. SOLID REINFORCEMENT LOCATED BETWEEN 32" AND 39 1/4" AFF. SEE SHEETS G0101 AND A501 FOR MORE INFORMATION ABOUT AGING-IN-PLACE DESIGN
16220.C1	MILLWORK SHOWN FOR REFERENCE ONLY. SEE SHOP DRAWINGS
16220.C1	PROVIDE 1/4" X 25 1/4" R.O. FRAMING FOR MEDICINE CABINET. NO ELECTRICAL WIRING WITHIN FRAMING FOR MEDICINE CABINET PERMITTED
0800.O1	PROVIDE FRAMING FOR 16"x12" NICHE. BOTTOM OF NICHE TO BE 60" ABOVE SLAB AND CENTERED ALONG WALL
5730.A5	4" DRYER VENT. SEE SHEET G2000 CODE EXCERPTS CHAPTER 5: EXHAUST SYSTEMS FOR MORE INFORMATION
5730.A8	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 160 CFM OR 65% CE MIN. (GAS RANGE 200 CFM OR 85% CE MIN.); 2022 BEES TALE 150 0-G

	EXTERIOR 2X6 WOOD STUDS @ 16" O.C.
	INTERIOR 2X6 WOOD STUDS @ 16" O.C.
	INTERIOR 2X4 WOOD STUDS @ 16" O.C.
	OVERHEAD LINES
	VAULTED CEILING
	8' FLAT CEILING
	8' FLAT CEILING
	VAULTED CEILING



ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

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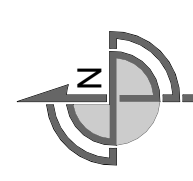
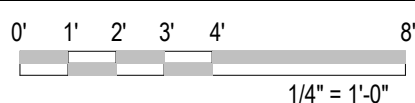
**A102R**

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1

REVERSE STANDARD 2-BEDROOM CEILING PLAN

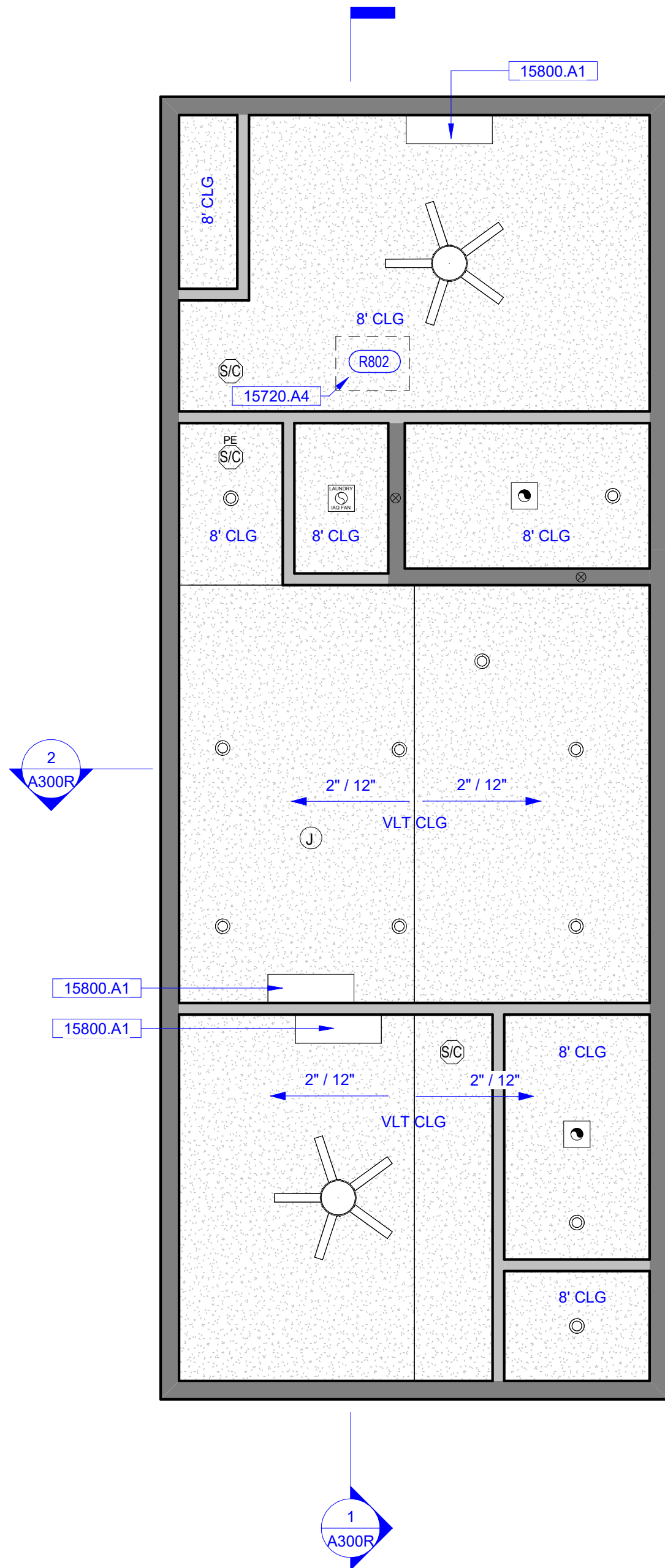
SCALE: 1/4" = 1'-0"



TRUE NORTH



PLAN NORTH



KEYNOTES:

KEYNOTE	DESCRIPTION
15720.A4	22"X30" ATTIC ACCESS
15800.A1	MINI SPLIT SYSTEM; APPLICANT/OWNER TO PROVIDE CUT SHEET TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS

REFLECTED CEILING PLAN LEGEND

	DRYWALL CEILING
	JUNCTION BOX
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	RECESSED LIGHT
	MICROWAVE-HOOD EXHAUST FAN COMBO 160 CFM MIN (IF GAS RANGE 280 CFM MIN. TO BE PROVIDED)
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	LAUNDRY EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	CEILING FAN WITH LIGHT
	DIRECTION OF CEILING SLOPE
	8' FLAT CEILING
	VAULTED CEILING

REFLECTED CEILING NOTES:

1. SMOKE ALARMS LOCATED BETWEEN 10 TO 20 FT FROM COOKING APPLIANCE SHALL BE IONIZED SMOKE ALARMS WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3 (4) EXCEPTION



**SNAPADU**  
DESIGN / BUILD

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760-259-2476  
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WWW.SNAPADU.COM

ADU: 748 LONG REVERSE

CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:

LUIS CALDERON  
SnapADU

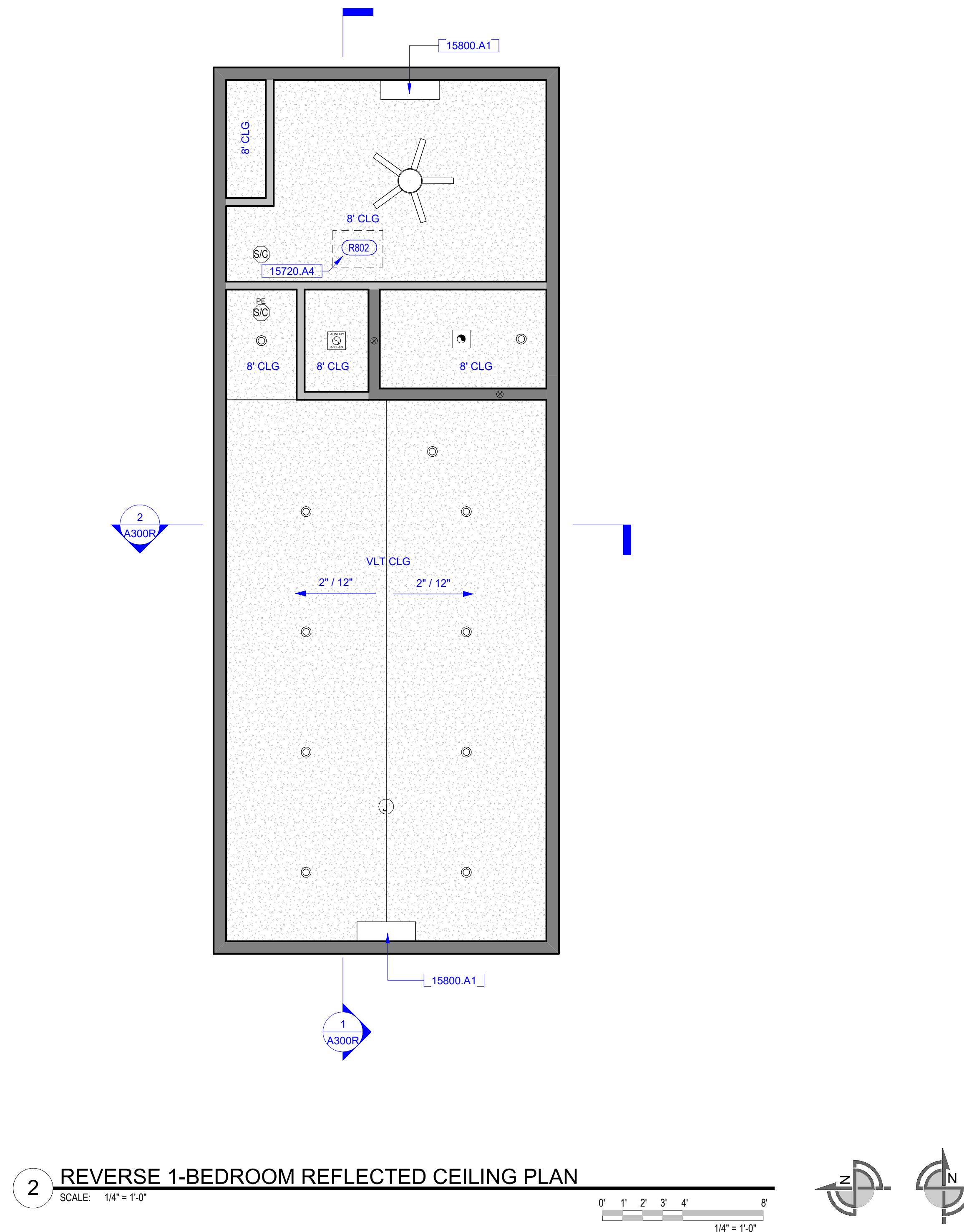
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RELEASE	DATE	BY	APP.	LAG	RELEASED FOR...
A	03/22/2024				

REVERSE  
REFLECTED  
CEILING PLAN - 2  
BEDROOM

**A110R**










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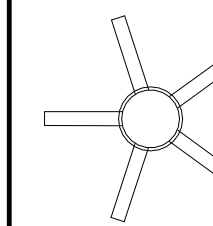


**KEYNOTES:**

KEYNOTE	DESCRIPTION
15720.A4	22"X30" ATTIC ACCESS
15800.A1	MINI SPLIT SYSTEM; APPLICANT/OWNER TO PROVIDE CUT SHEET TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS

### REFLECTED CEILING PLAN LEGEND

	DRYWALL CEILING
	JUNCTION BOX
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	RECESSED LIGHT
	MICROWAVE-HOOD EXHAUST FAN COMBO 160 CFM MIN (IF GAS RANGE 280 CFM MIN. TO BE PROVIDED)
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	LAUNDRY EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT



CEILING FAN WITH LIGHT

← SLOPE DIRECTION OF CEILING SLOPE

8' CLG      8' FLAT CEILING

VLT CLG    VAULTED CEILING

**REFLECTED CEILING NOTES:**

1. SMOKE ALARMS LOCATED BETWEEN 10 TO 20 FT FROM COOKING APPLIANCE SHALL BE IONIZED SMOKE ALARMS WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3 (4) EXCEPTION



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CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

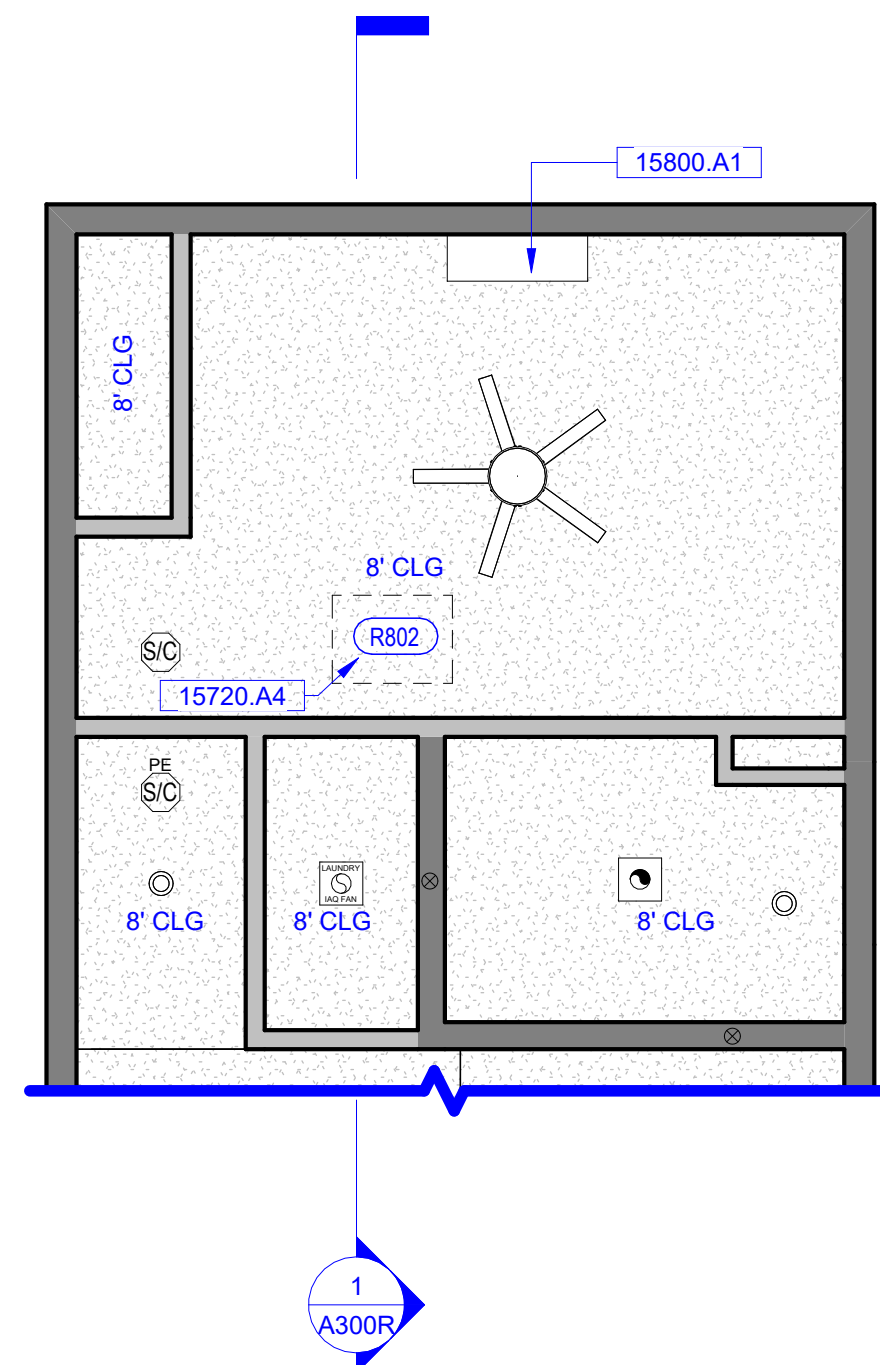
  
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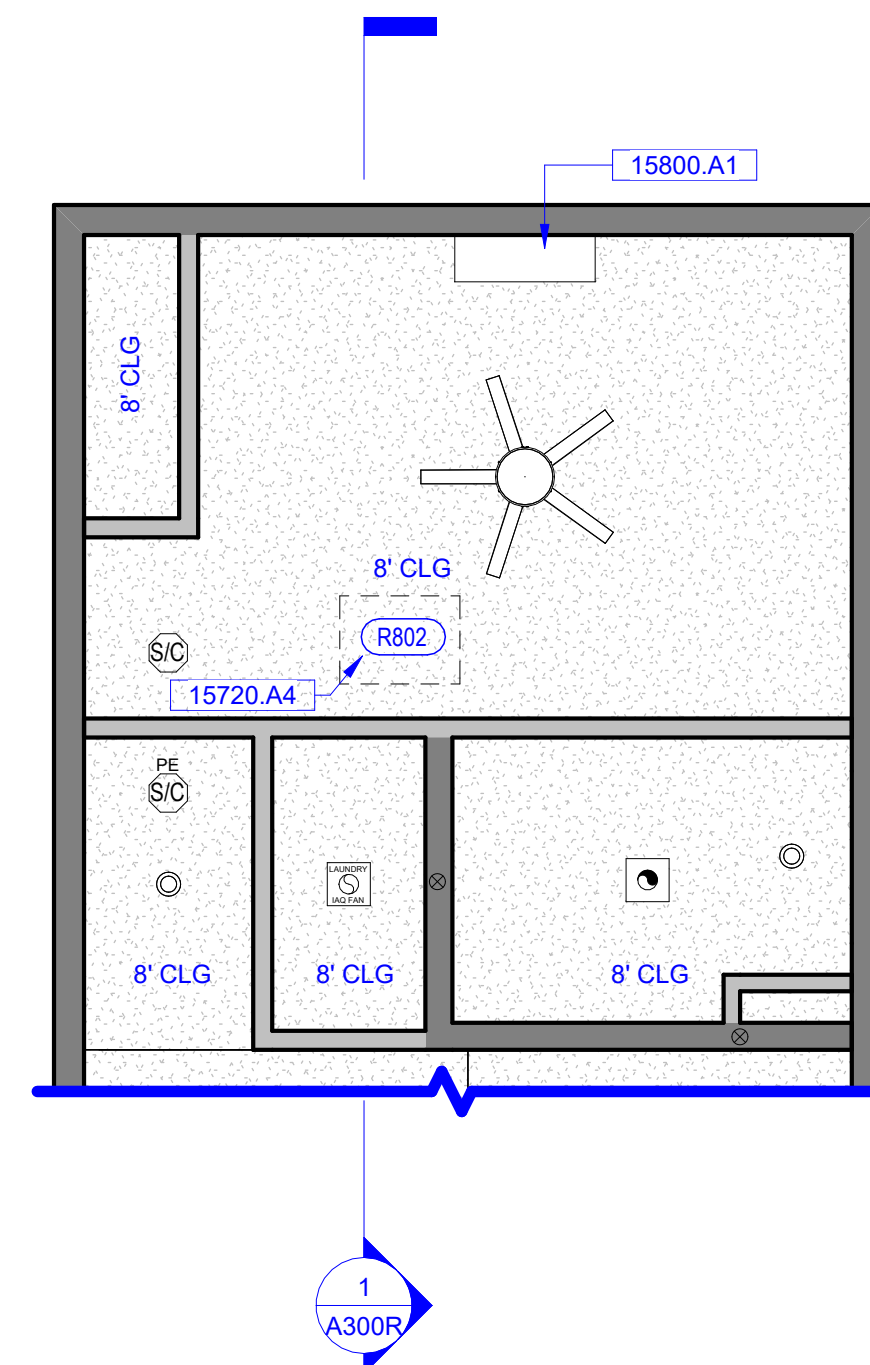
REVERSE  
REFLECTED  
CEILING PLAN - 1  
BEDROOM

**A111R**

22040



1 REVERSE SIDE BY SIDE LAUNDRY OPTION AT  
STANDARD 2-BEDROOM REFLECTED CEILING PLAN  
SCALE: 1/4" = 1'-0"












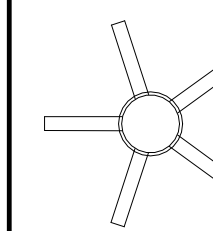
2 REVERSE ENLARGED BEDROOM & BATH DOOR  
OPTION AT STANDARD 2-BEDROOM REFLECTED  
CEILING PLAN  
SCALE: 1/4" = 1'-0"

**KEYNOTES:**

KEYNOTE	DESCRIPTION
15720.A4	22"X30" ATTIC ACCESS
15800.A1	MINI SPLIT SYSTEM; APPLICANT/OWNER TO PROVIDE CUT SHEET TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS

### REFLECTED CEILING PLAN LEGEND

	DRYWALL CEILING
	JUNCTION BOX
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	RECESSED LIGHT
	MICROWAVE-HOOD EXHAUST FAN COMBO 160 CFM MIN (IF GAS RANGE 280 CFM MIN. TO BE PROVIDED)
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	LAUNDRY EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT



← SLOPE DIRECTION OF CEILING SLOPE

8' CLG      8' FLAT CEILING

VLT CLG    VAULTED CEILING

**REFLECTED CEILING NOTES:**

1. SMOKE ALARMS LOCATED BETWEEN 10 TO 20 FT FROM COOKING APPLIANCE SHALL BE IONIZED SMOKE ALARMS WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3 (4) EXCEPTION



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DESIGN BUILD

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ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

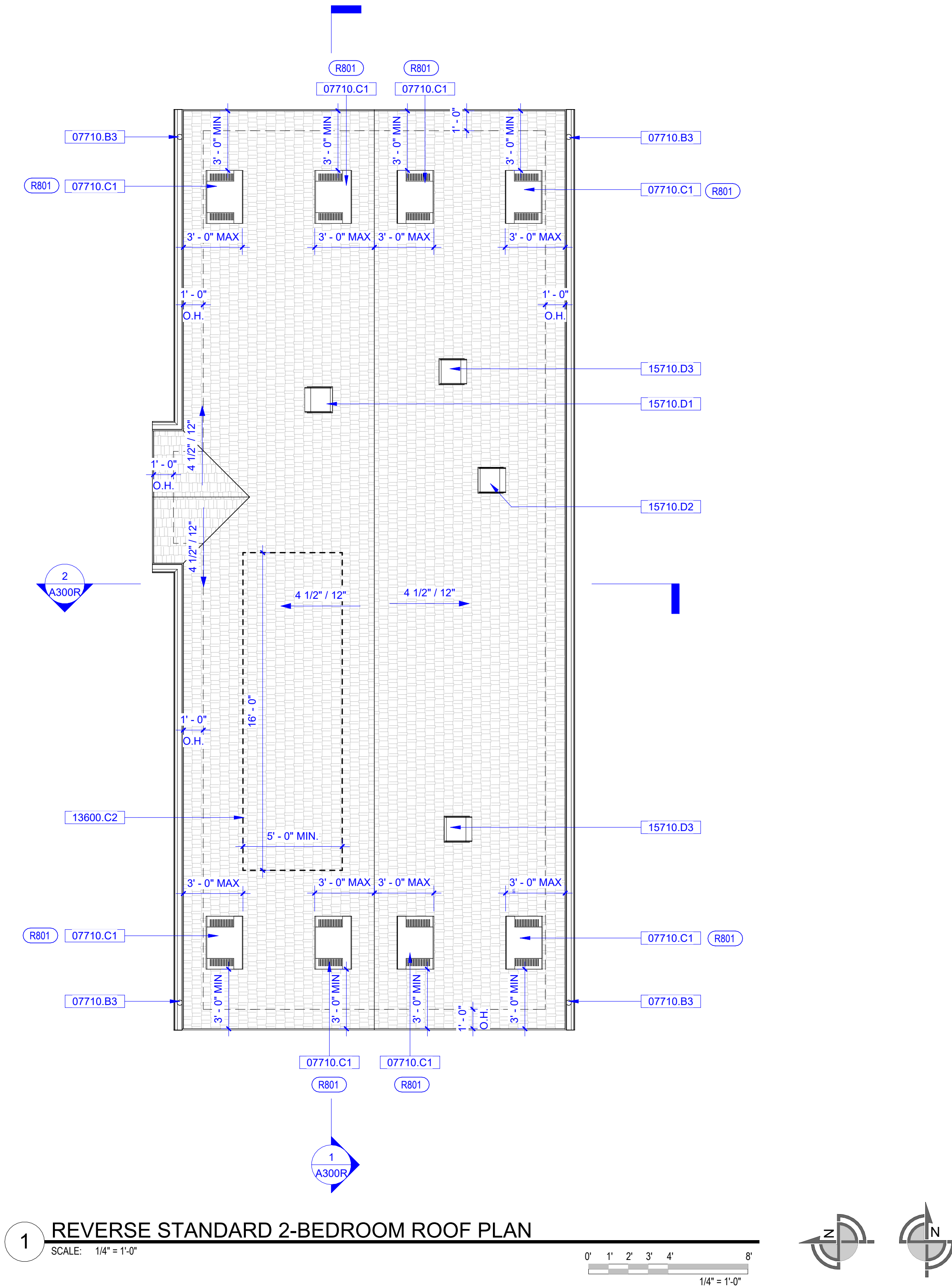
  
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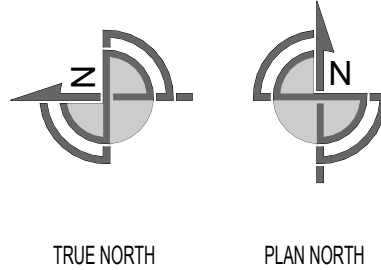
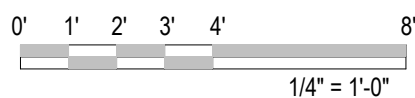
REVERSE  
REFLECTED  
CEILING PLAN -  
OPTIONS

# A112R

22040



1 REVERSE STANDARD 2-BEDROOM ROOF PLAN  
SCALE: 1/4" = 1'-0"



## KEYNOTES:

KEYNOTE	DESCRIPTION
07710.B3	DOWNSPOUT
07710.C1	O'HAGIN STANDARD LOW PROFILE ATTIC VENTS, 0.68 SF NFVA
13600.C2	SOLAR ZONE FOR PV SYSTEM (SEE G102R CHECKLIST FOR SIZING PER T24 CALCULATIONS). SOLAR ZONE LOCATION MIGHT VARY PER SITE CONDITIONS
15710.D1	DRYER EXHAUST ROOF EXHAUST VENT
15710.D2	RANGE HOOD ROOF EXHAUST VENT
15710.D3	BATH EXHAUST FAN ROOF VENT

## ROOF PLAN LEGEND

	ROOFING PER CHECKLIST SELECTION ON SHEET G102R
	SOLAR ZONE OUTLINE, CEC 110.10(B)1
	WALL LINE BELOW
	DIRECTION OF DRAINAGE
	ROOF VENT
	EXHAUST ROOF JACK VENT
	SOLAR PV PANEL

## ROOF NOTES:

- ROOF MATERIAL PER CHECKLIST SELECTION ON SHEET G102R.  
A. ROOF TYPE 1 - 242 HIGHLANDER NEX AR ASPHALT SHINGLE, MANUFACTURED BY MALARKEY ROOFING PRODUCTS, ICC APPROVAL: ESR-3150, UL RATING 2218; OR EQUAL APPROVED.  
a. SEE DETAILS: 1/A500, 4/A500, 1/A510, 4/A510, 1/A520, 4/A520, 1/A530, 4/A530.  
B. ROOF TYPE 2 - LOW PROFILE 'BEL AIR' CONCRETE ROOF TILE BY EAGLE ROOFING; IAPMO ER-1900; OR EQUAL APPROVED.  
a. SEE DETAILS: 2/A500, 5/A500, 2/A510, 5/A510, 2/A520, 5/A520, 2/A530, 5/A530.  
C. ROOF TYPE 3 - HIGH PROFILE 'CAPISTRANO' CONCRETE S-TILE ROOF BY EAGLE ROOFING; IAPMO ER-1900; OR EQUAL APPROVED.  
a. SEE DETAILS: 3/A500, 6/A500, 3/A510, 6/A510, 3/A520, 6/A520, 3/A530, 6/A530.  
D. OTHER ROOF TYPE MODEL:  
a. MAKE:  
b. MODEL:  
c. ICC ESR NUMBER:
- ROOF UNDERLAYMENT SHALL BE DOUBLE NEX POLYMER MODIFIED FIBERGLASS UNDERLAYMENT ON ROOF SLOPES EQUAL OR LESS TO 4:12 PER P905.1.1(2); ICC APPROVAL: ESR-1561; OR EQUAL APPROVED.
- ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER. (CBC 92.1.705A.4)
- ALL VENTS (ROOF, FOUNDATION, COMBUSTION-AIR, ETC.) SHALL RESIST THE INTRUSION OF FLAMES AND EMBERS. (CBC 92.1.706A.1)
- VENTILATION OPENING FOR ENCLOSED ATTICS, EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, UNDERFLOOR VENTILATION OPENINGS, AND VENT OPENINGS IN EXTERIOR WALLS AND EXTERIOR DOORS SHALL BE LISTED TO ASTM E 2886 AND COMPLY WITH ALL OF THE FOLLOWING: (CBC 92.1.706A.2, CBC 92.1.707A5)  
A. THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER ENTRUSION TEST.  
B. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST.  
C. THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662 DEGREES FAHRENHEIT (350 DEGREES CELIUS)
- EXHAUST DUCT TERMINATION IS AS FOLLOWS PER CMC 502.2:  
A. 3 FEET FROM A PROPERTY LINE.  
B. 10 FEET FROM A FORCED AIR INLET, AND  
C. 3 FEET FROM OPENINGS INTO THE BUILDING.
- EXHAUST DUCT SHALL NOT DISCHARGE ONTO A PUBLIC WAY. CMC 502.2
- UNLESS OTHERWISE PERMITTED OR REQUIRED BY THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND APPROVED BY THE CITY, DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF FOURTEEN FEET, INCLUDING TWO 90-DEGREE ELBOWS. TWO FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. CMC 504.4.2.

## ROOF VENT CALCULATION

CLASS-1 VAPOR BARREIR PROVIDED ON WINTER-WARM-SIDE: NO  
TOTAL ROOF VENT AREA REQUIRED: ROOF AREA / 150 SF

CALCULATIONS:

DESCRIPTION	AREA	REQ. ROOF VENT
ATTIC AREA	748 SF	5.00 SF

**TOTAL NET FREE VENTILATION AREA (NFVA) PROVIDE:**

O'HAGIN CONC.TILE LOW PROF. VENT NFVA = 98.75 SQ.IN. = 0.68 SF./V.  
5.00 SF. / 0.68 SF./VENT = 5.88 8 VENTS WILL BE PROVIDED AS FOLLOWS:

4 EXHAUST VENTS WITHIN 3 FT. BELOW THE RIDGE HIGHEST POINT  
& 4 INTAKE VENTS AT THE BOTTOM THIRD OF THE ATTIC SPACE

TOTAL VENT AREA = 8 VENTS X 0.68 SF./VENT = 5.44 SF.  
TOTAL PROVIDE = 5.44 SF > 5.00 SF REQ. ROOF VENT.



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ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:

LUIS CALDERON  
SnapADU

SIGNATURE

RELEASE	DATE	BY	APP.	LAG	RELEASED FOR...
A	03/22/2024				

REVERSE ROOF  
PLAN

A120R

22040



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ADU: 748 LONG REVERSE  
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276 FOURTH AVENUE  
CHULA VISTA, CA 91910

LUIS CALDERON  
SnapADU

  
SIGNATURE

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## REVERSE ROOF PLAN - OPTIONS

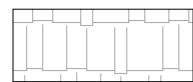
# A121R

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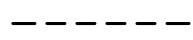
## KEYNOTES:

KEYNOTE	DESCRIPTION
07710.B3	DOWNSPOUT
07710.C1	OHAGIN STANDARD LOW PROFILE ATTIC VENTS, 0.68 SF NFVA
08620.A3	2X4 SKYLIGHT (APPLICANT/OWNER TO PROVIDE CUT SHEET FOR SKYLIGHT TO MEET REQUIREMENTS OF FIRE ZONING AND TITLE 24 CALCULATIONS)
15710.D1	DRYER EXHAUST ROOF EXHAUST VENT
15710.D2	RANGE HOOD ROOF EXHAUST VENT
15710.D3	BATH EXHAUST FAN ROOF VENT

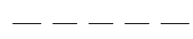
## ROOF PLAN LEGEND



ROOFING PER CHECKLIST SELECTION ON SHEET G102R



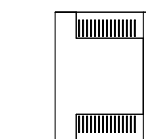
SOLAR ZONE OUTLINE. CEC 110.10(B)



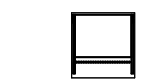
WALL LINE BELOW



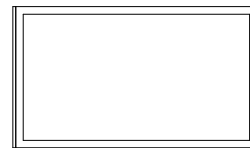
DIRECTION OF DRAINAGE



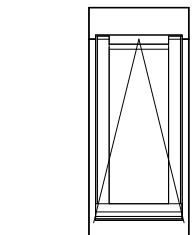
ROOF VENT



EXHAUST ROOF JACK VENT



SOLAR PV PANEL



ROOF SKYLIGHT:

MANUFACTURER:

MODEL:

ICC ESR:

**ROOF NOTES:**

- ROOF MATERIAL PER CHECKLIST SELECTION ON SHEET 6102R.
- a. ROOF TYPE 1 - 242 HIGHLANDER NEX AR ASPHALT SHINGLE, MANUFACTURED BY MALARIE ROOFING PRODUCTS; ICC APPROVAL: ESR-3150; UL RATINGS 2218; OR EQUAL APPROVED.
- b. ROOF DETAILS 1/A500, 4/A500, 1/A510, 4/A510, 1/A520, 4/A520, 1/A530, 4/A530.
2. ROOF TYPE 2 - LOW PROFILE "BEL AIR" CONCRETE ROOF TILE BY EAGLE ROOFING; IAPMO ER-1900; OR EQUAL APPROVED.
- a. SEE DETAILS 2/A500, 5/A500, 2/A510, 5/A510, 2/A520, 5/A520, 2/A530, 5/A530.
- c. ROOF TYPE 3 - HIGH PROFILE "CAPISTRANO" CONCRETE S-TILE ROOF BY EAGLE ROOFING; IAPMO ER-1900; OR EQUAL APPROVED.
- a. SEE DETAILS 3/A500, 6/A500, 3/A510, 6/A510, 3/A520, 6/A520, 3/A530, 6/A530.
- D. OTHER ROOF TYPE MODEL:
- a. MAKE:
- b. MODEL:
- c. ICC ESR NUMBER:
2. ROOF UNDERLAYMENT SHALL BE DOUBLE NEX POLYMER MODIFIED FIBERGLASS UNDERLAYMENT ON ROOF SLOPES EQUAL OR LESS TO 4:12 PER P905.1.1(2); ICC APPROVAL: ESR-1000; OR EQUAL APPROVED.
3. ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER. (CBC 92.1.705A.4)
4. ALL VENTS (ROOF, FOUNDATION, COMBUSTION-AIR, ETC.) SHALL RESIST THE INTRUSION OF FLAMES AND EMBERS. (CBC 92.1.706A.1)
5. RAFTER SPACES FOR ENCLOSED ATTICS, EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, UNDERFLOOR VENTILATION OPENINGS, AND VENT OPENINGS IN EXTERIOR WALLS AND EXTERIOR DOORS SHALL BE LISTED TO ASTM E 2886 AND COMPLY WITH ALL OF THE FOLLOWING: (CBC 92.1.706A.2, CBC 92.1.706A.3)
- a. THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER INTRUSION TEST.
- b. THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST.
- c. THE TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 682 DEGREES FAHRENHEIT (350 DEGREES CELSIUS)
6. EXHAUST DUCT TERMINATION IS AS FOLLOWS PER CMC 502.2:
- a. 3 FEET FROM A PROPERTY LINE,
- b. 10 FEET FROM A FORCED AIR INLET, AND
- c. 3 FEET FROM OPENINGS INTO THE BUILDING.
7. EXHAUST DUCT SHALL NOT DISCHARGE ONTO A PUBLIC WAY. CMC 502.2
8. UNLESS OTHERWISE PERMITTED OR REQUIRED BY THE DRYER MANUFACTURER'S INSTALLATION INSTRUCTIONS AND APPROVED BY THE CITY, DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF FOURTEEN FEET, INCLUDING TWO 90-DEGREE ELBOWS. TWO FEET SHALL BE DEDUCTED FOR EACH 90 DEGREE ELBOW IN EXCESS OF TWO. CMC 504.4.2.

## ROOF VENT CALCULATION

CLASS-1 VAPOR BARREIR PROVIDED ON WINTER-WARM-SIDE: NO

TOTAL ROOF VENT AREA REQUIRED: ROOF AREA / 150 SF

**CALCULATIONS:**

<u>DESCRIPTION</u>	<u>AREA</u>	<u>REQ. ROOF VENT</u>
ATTIC AREA	748 SF	5.00 SF

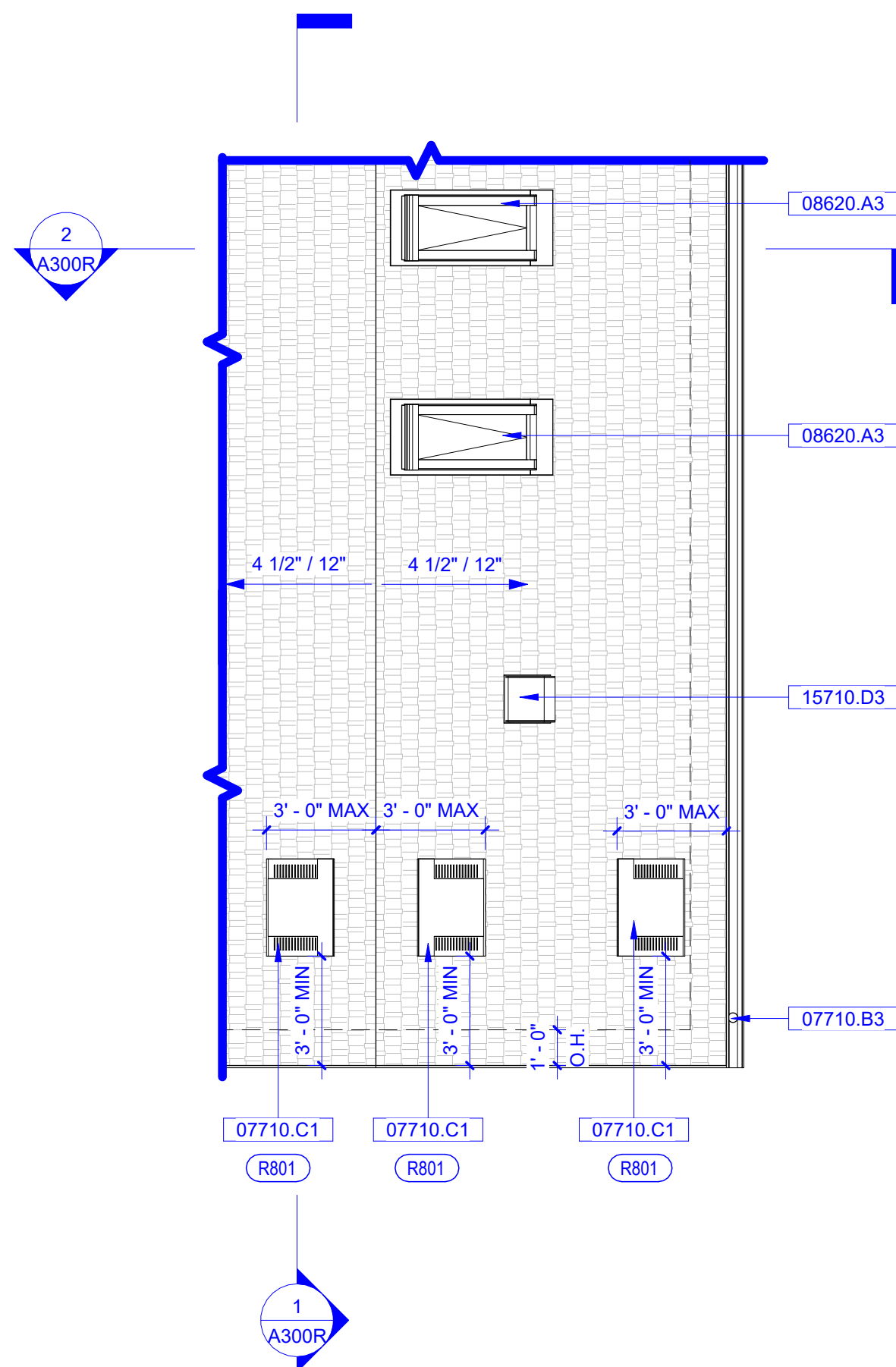
**TOTAL NET FREE VENTILATION AREA (NFVA) PROVIDE:**

O'HAGIN CONC.TILE LOW PROF.VENT NFVA = 98.75 SQ.IN.=0.68 SF./V.  
5.00 SF. / 0.68 SF./VENT = 5.88 8 VENTS WILL BE PROVIDED AS FOLLOWS:

4 EXHAUST VENTS WITHIN 3 FT. BELOW THE RIDGE HIGHEST POINT  
& 4 INTAKE VENTS AT THE BOTTOM THIRD OF THE ATTIC SPACE

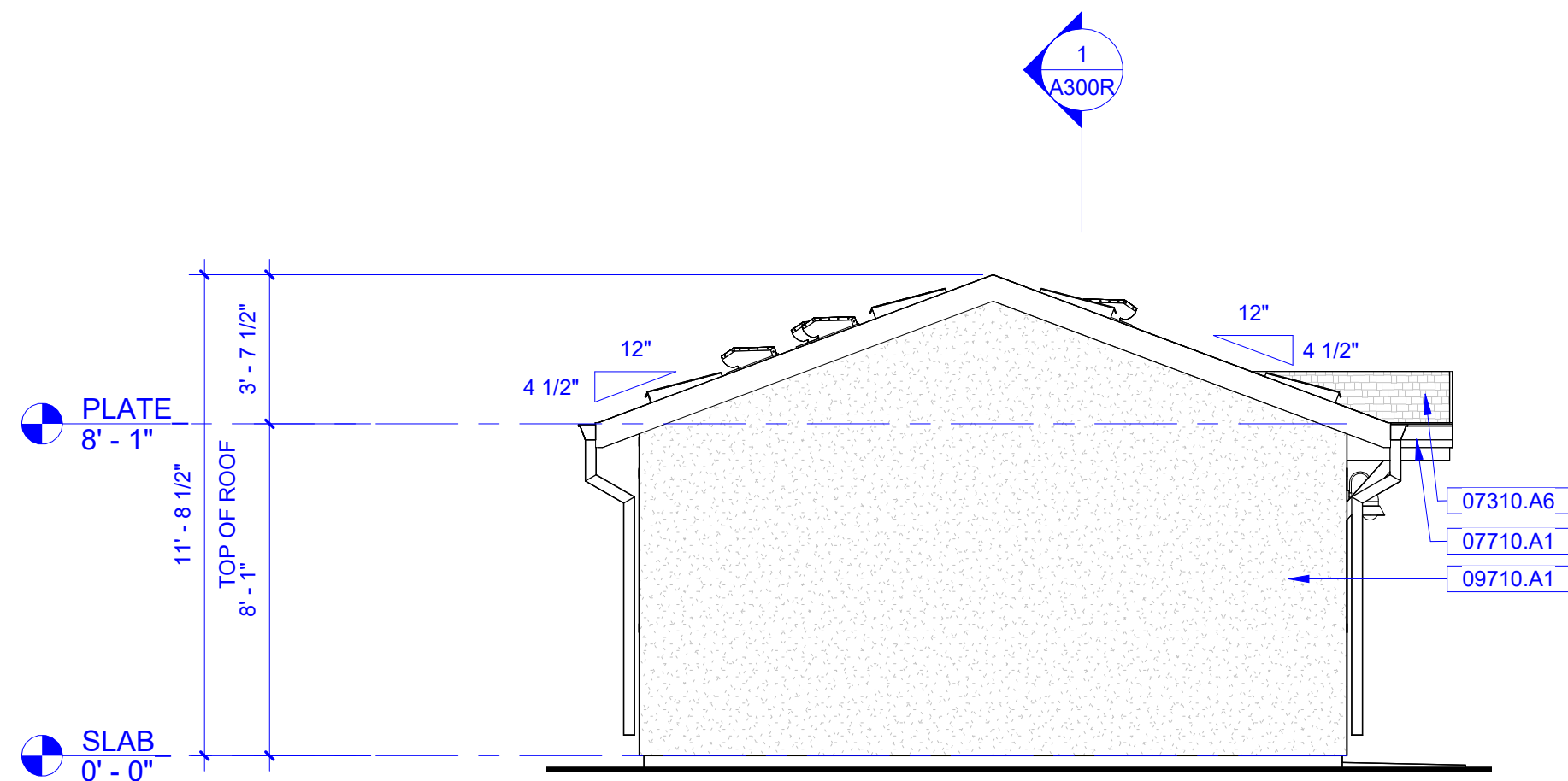
**TOTAL VENT AREA = 8 VENTS X 0.68 SF./VENT = 5.44 SF.**

**TOTAL PROVIDE = 5.44 SF > 5.00 SF REQ. ROOF VENT.**

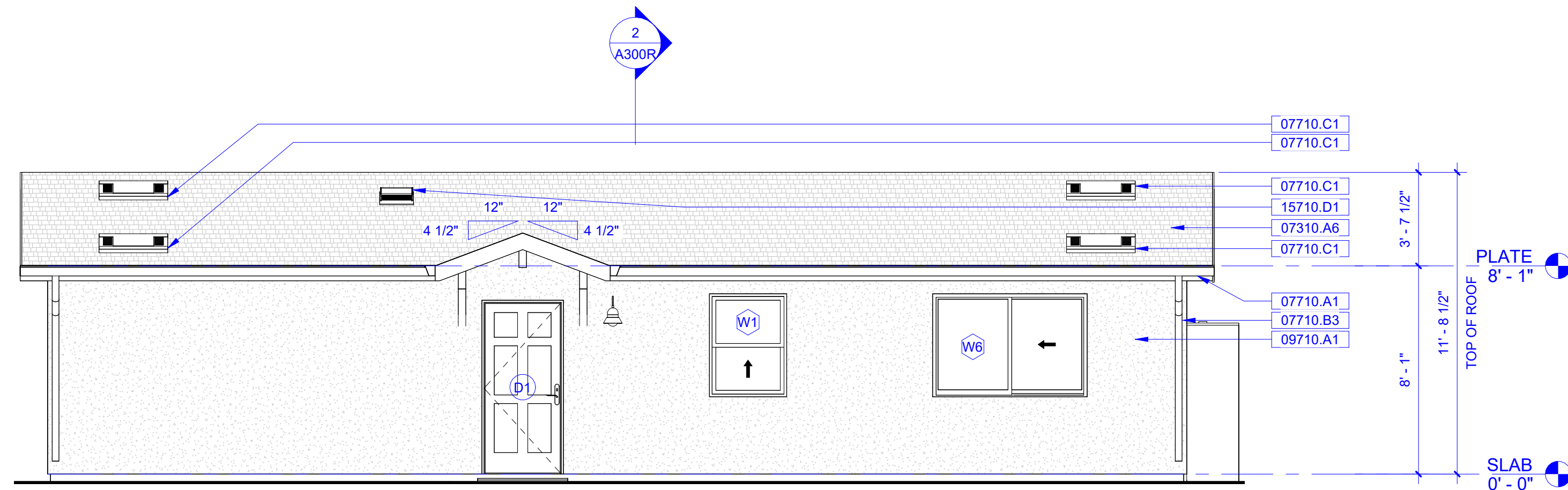


1 REVERSE SKYLIGHTS OPTION ROOF PLAN

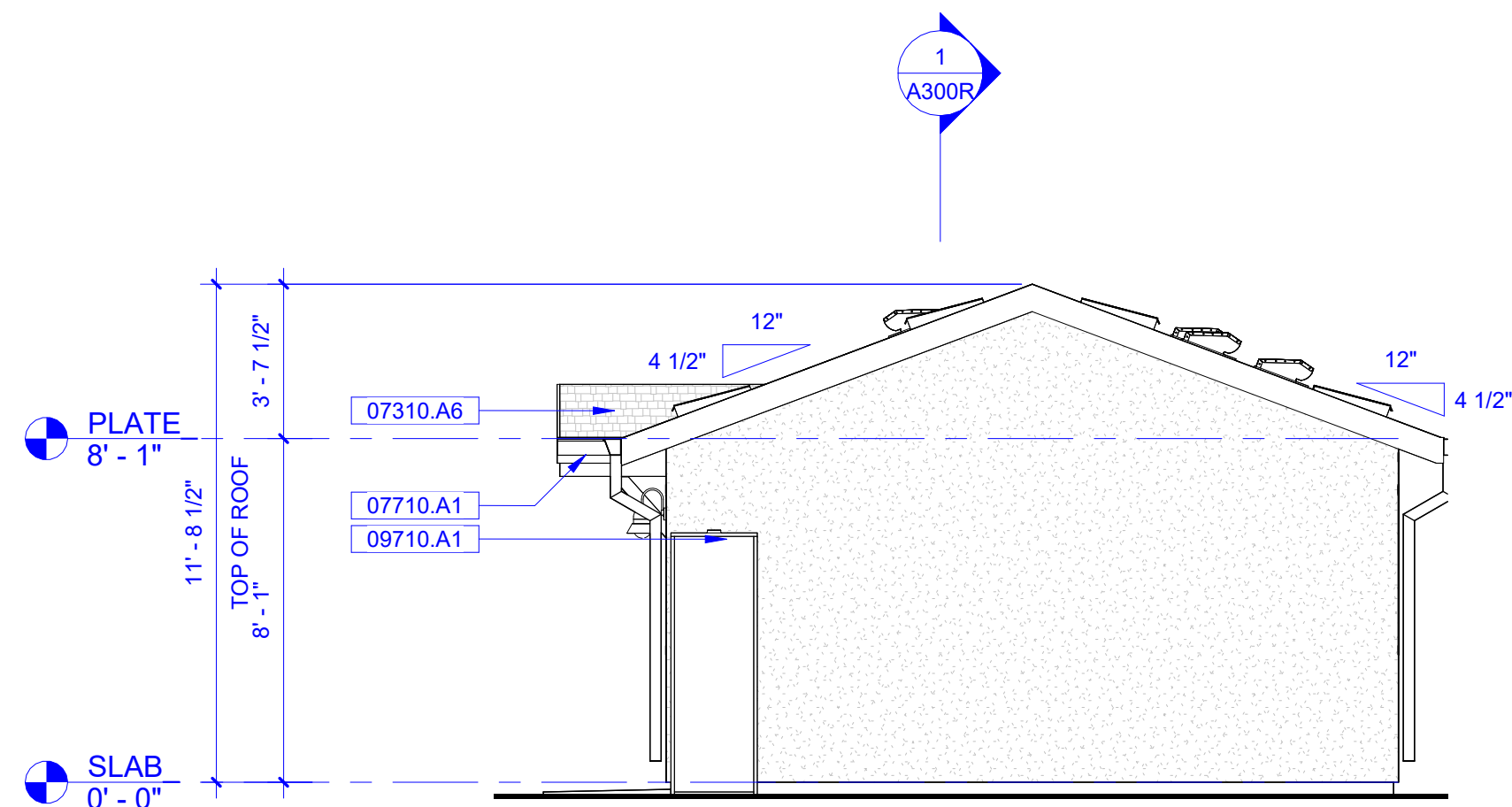
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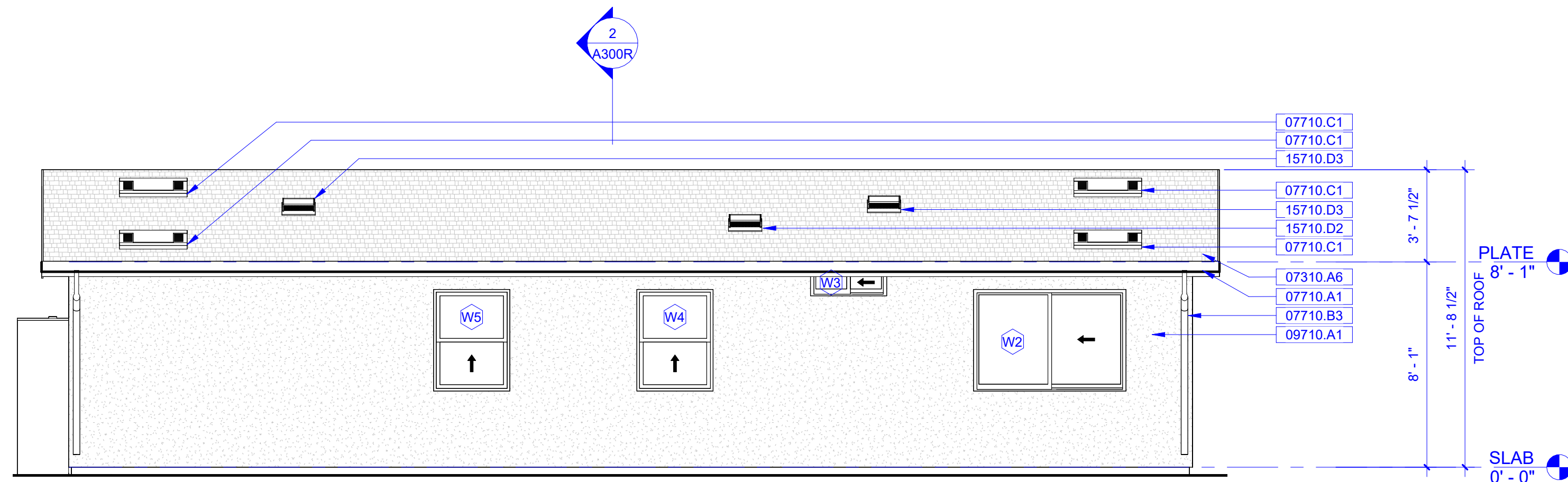
1 REVERSE NORTH ELEVATION - STUCCO  
SCALE: 1/4" = 1'-0"



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



3 REVERSE SOUTH ELEVATION - STUCCO  
SCALE: 1/4" = 1'-0"



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

#### KEYNOTES:

KEYNOTE	DESCRIPTION
07310.A6	ROOFING MATERIAL PER CHECKLIST ON SHEET G102R
07710.A1	GUTTER
07710.B3	DOWNSPOUT
07710.C1	O'HAGIN STANDARD LOW PROFILE ATTIC VENTS, 0.68 SF NFVA
09710.A1	STUCCO FINISH, COLOR TBD
15710.D1	DRYER EXHAUST ROOF EXHAUST VENT
15710.D2	RANGE HOOD ROOF EXHAUST VENT
15710.D3	BATH EXHAUST FAN ROOF VENT



**SNAPADU**  
DESIGN BUILD

YUCCA ROAD  
OCEANSIDE, CA 92054  
760-259-2476  
INFO@SNAPADU.COM  
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ADU: 748 LONG REVERSE

CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:

LUIS CALDERON  
SnapADU

*Luis Calderon*  
SIGNATURE

RELEASE DATE BY APP. RELEASED FOR...

A 03/22/2024

LAG

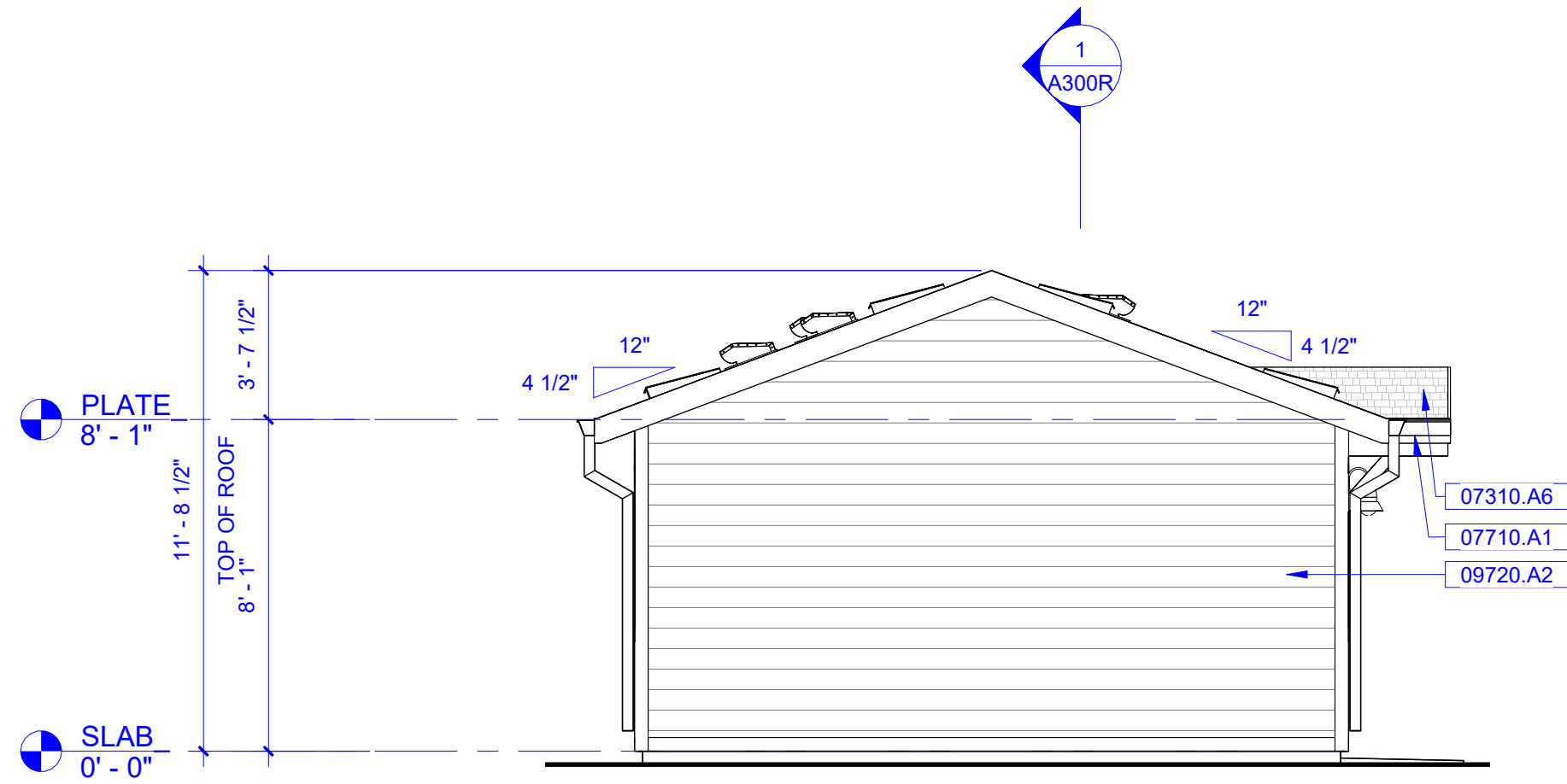
#### GENERAL NOTES

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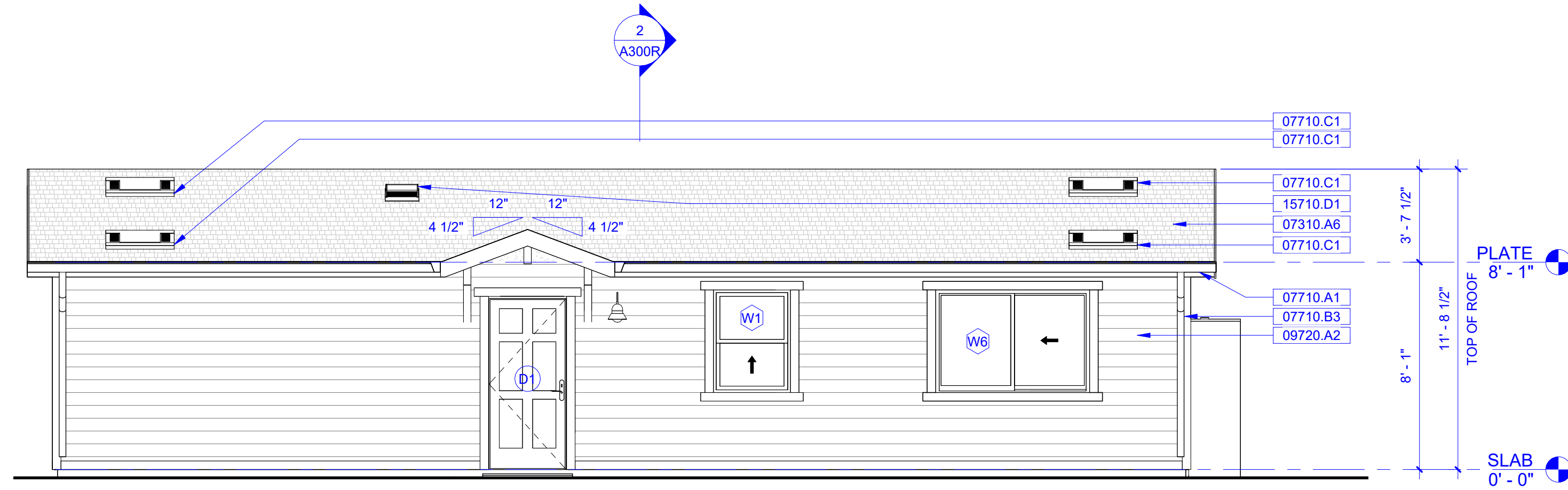
REVERSE  
ELEVATIONS A -  
STUCCO

**A201R**

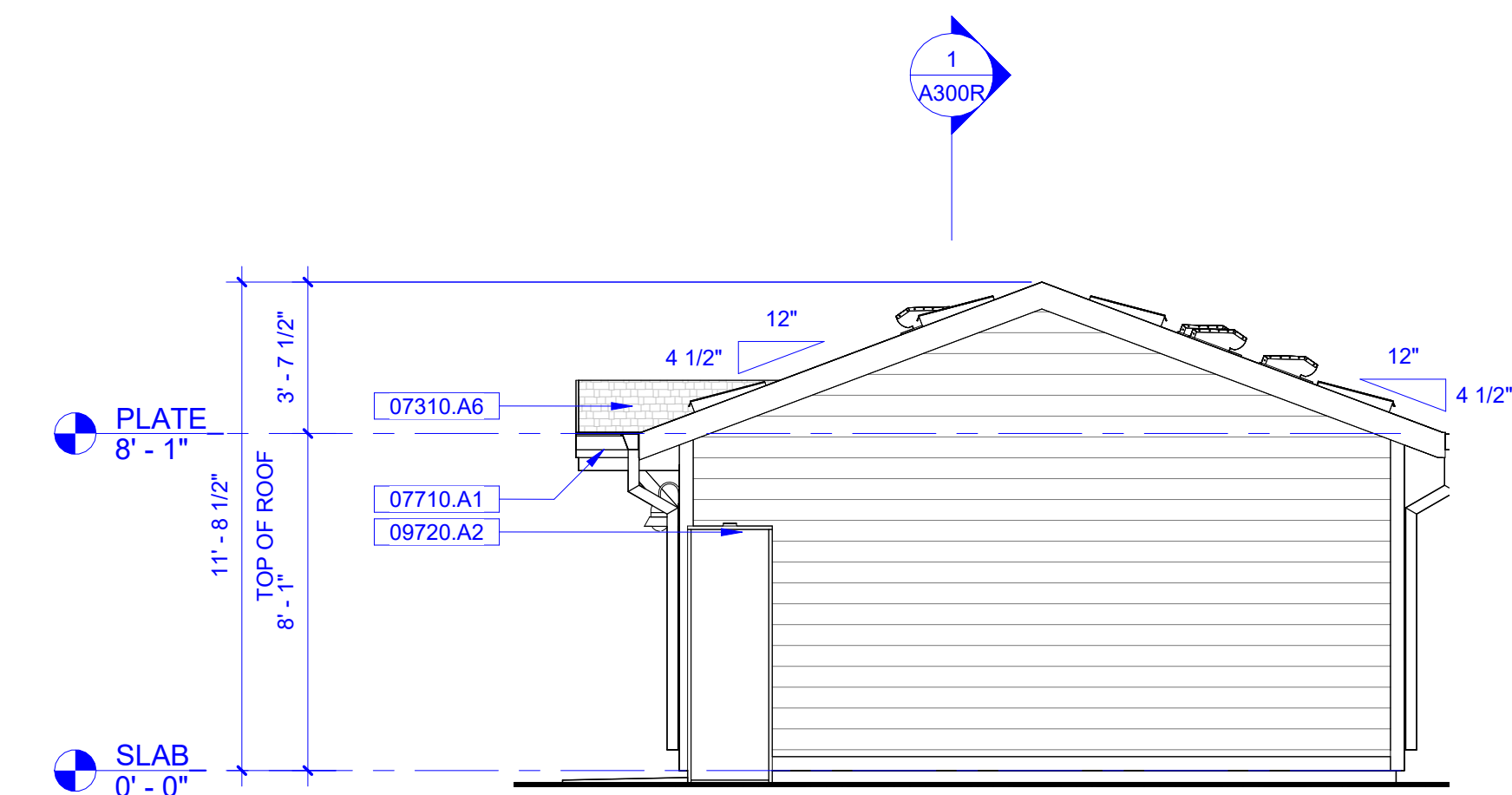
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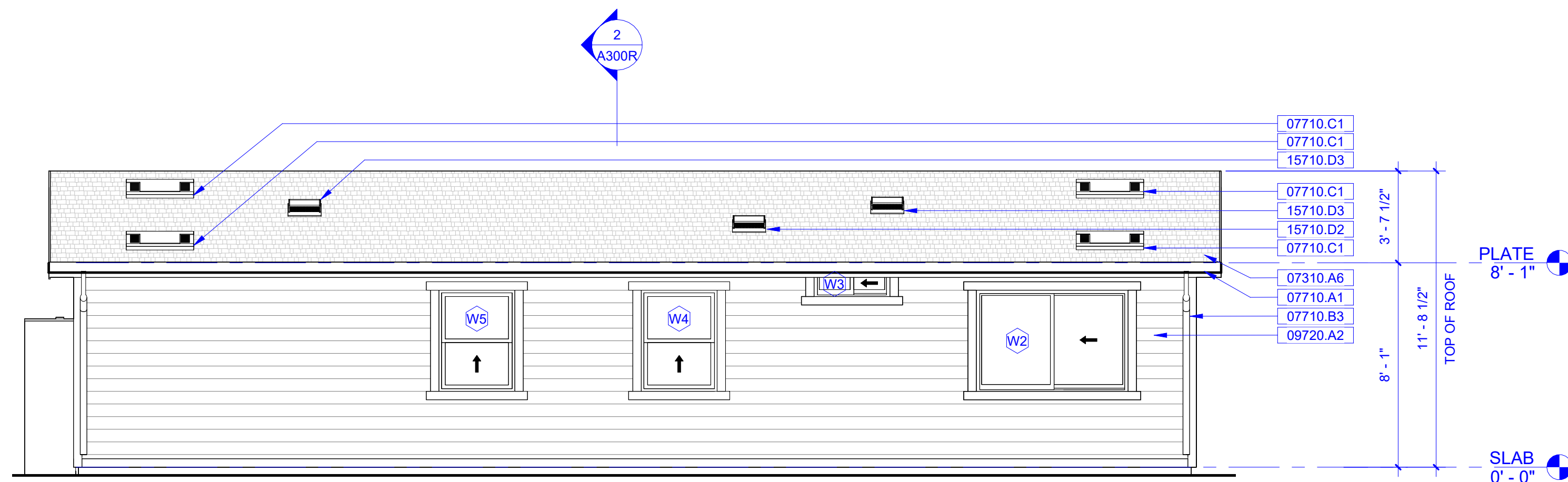
1 REVERSE NORTH ELEVATION - LAP SIDING  
SCALE: 1/4" = 1'-0"



2 REVERSE WEST ELEVATION - LAP SIDING  
SCALE: 1/4" = 1'-0"



3 REVERSE SOUTH ELEVATION - LAP SIDING  
SCALE: 1/4" = 1'-0"



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

#### KEYNOTES:

KEYNOTE	DESCRIPTION
07310.A6	ROOFING MATERIAL PER CHECKLIST ON SHEET G102R
07710.A1	GUTTER
07710.B3	DOWNSPOUT
07710.C1	O'HAGIN STANDARD LOW PROFILE ATTIC VENTS, 0.68 SF NFVA
09720.A2	FIBER CEMENT WALL LAP SIDING 'HARDIEPLANK' ESR-2290 OR SIMILAR, COLOR TBD TO MATCH MAIN RESIDENCE
15710.D1	DRYER EXHAUST ROOF EXHAUST VENT
15710.D2	RANGE HOOD ROOF EXHAUST VENT
15710.D3	BATH EXHAUST FAN ROOF VENT



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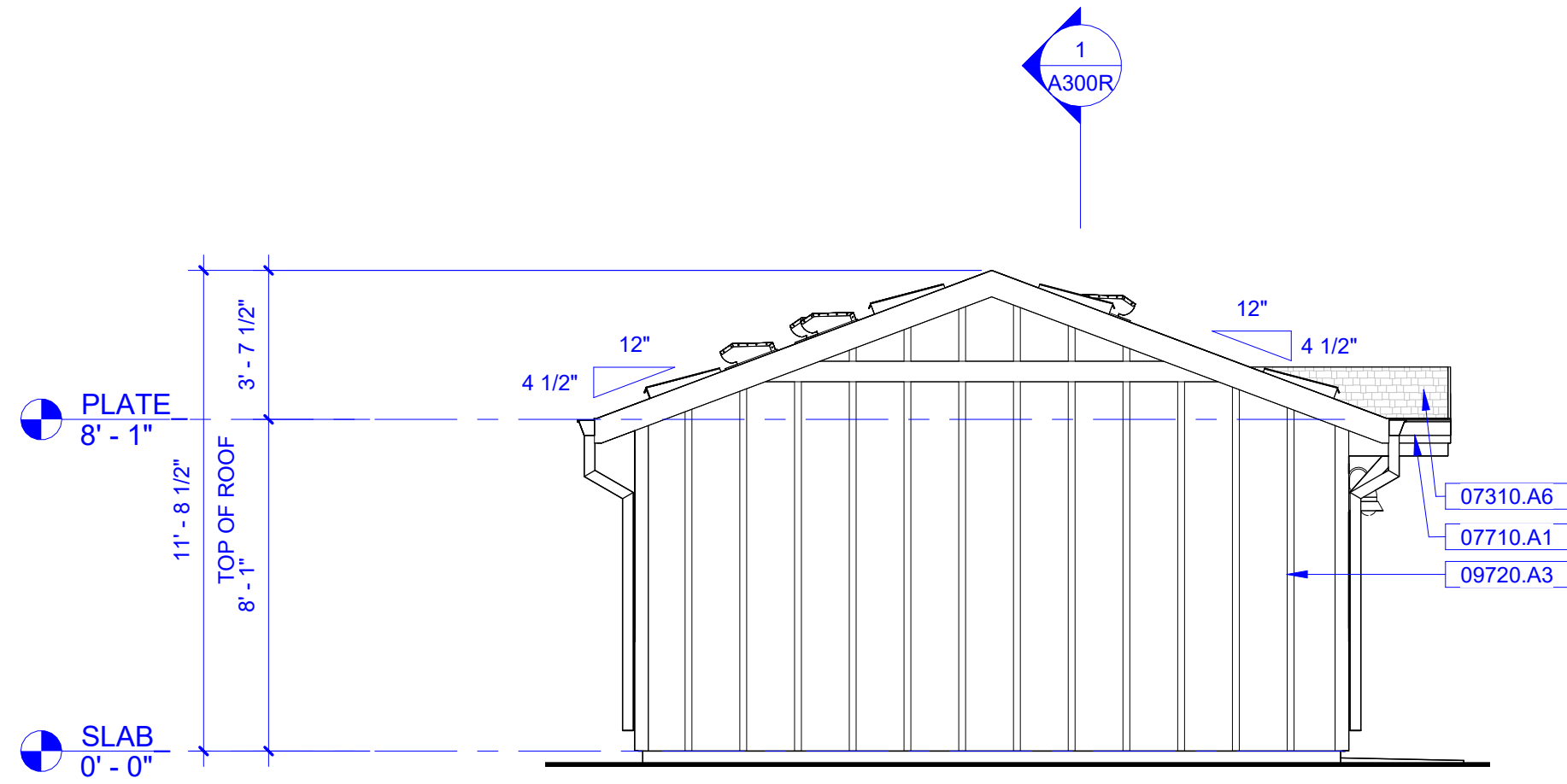
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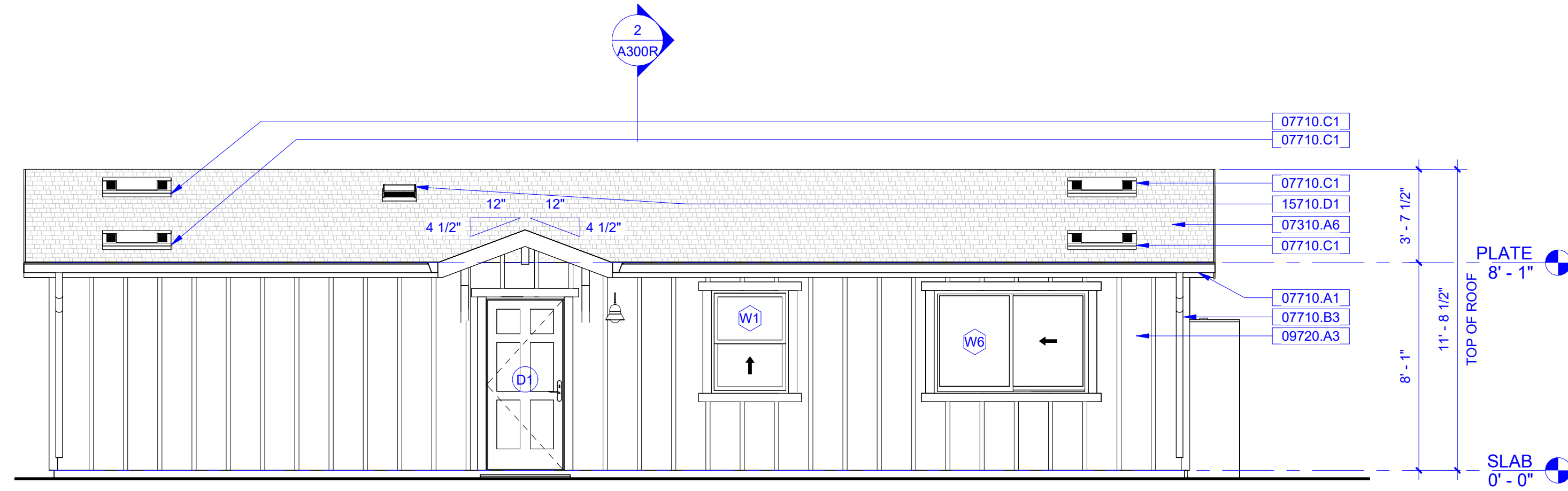
REVERSE  
ELEVATIONS B -  
LAP SIDING

**A211R**

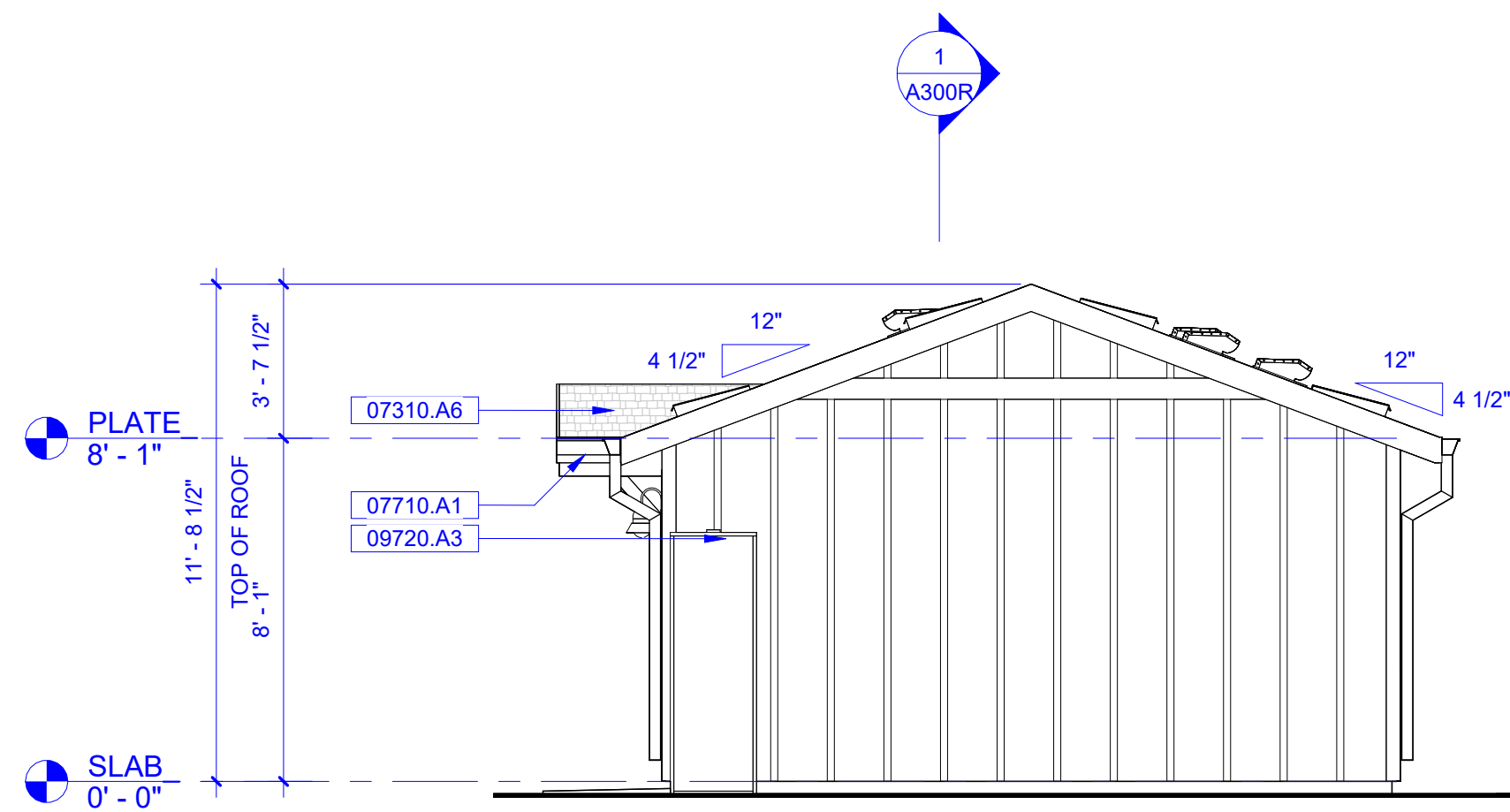
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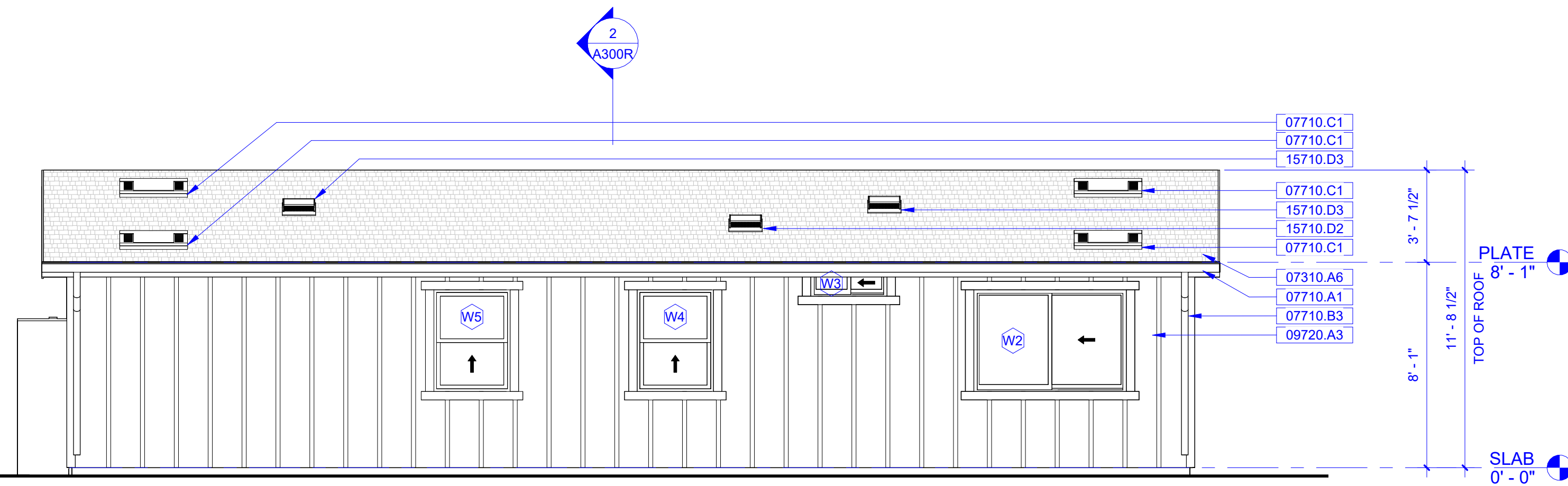
1 REVERSE NORTH ELEVATION - B&B SIDING  
SCALE: 1/4" = 1'-0"



2 REVERSE WEST ELEVATION - B&B SIDING  
SCALE: 1/4" = 1'-0"



3 REVERSE SOUTH ELEVATION - B&B SIDING  
SCALE: 1/4" = 1'-0"



4 REVERSE EAST ELEVATION - B&B SIDING  
SCALE: 1/4" = 1'-0"

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09720.A3	FIBER CEMENT WALL VERTICAL B&B SIDING 'HARDIEPANEL' ESR-1844 OR SIMILAR, COLOR TBD TO MATCH MAIN RESIDENCE
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03/22/2024 BY APP. RELEASED FOR...

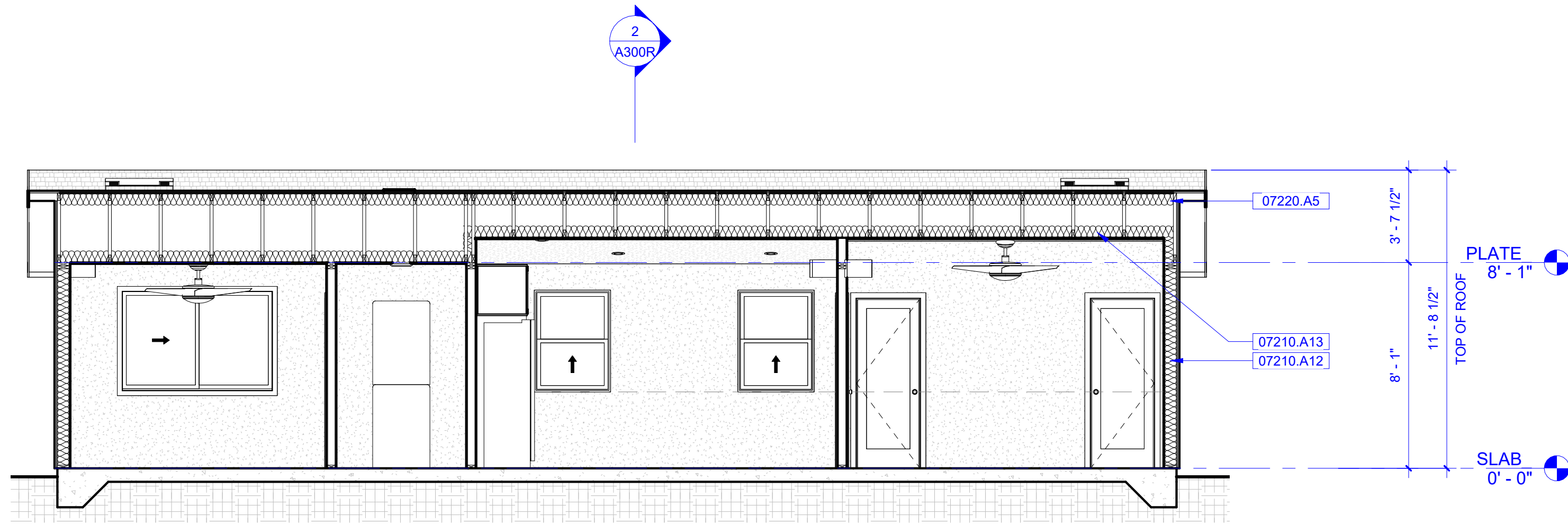
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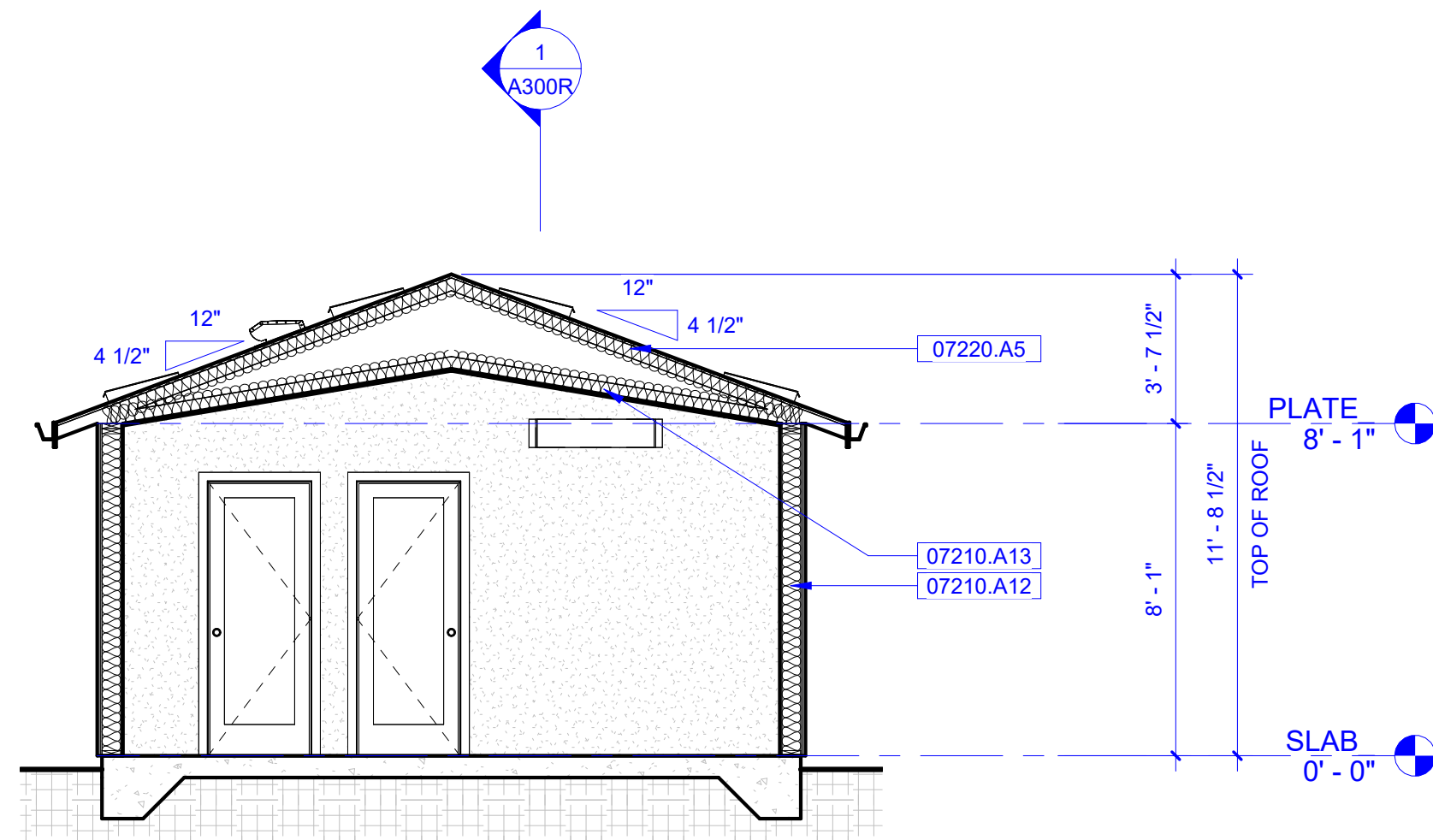
REVERSE  
ELEVATIONS C -  
BOARD & BATTEN

**A221R**

22040



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



2 REVERSE SECTION 2  
SCALE: 1/4" = 1'-0"

#### KEYNOTES:

KEYNOTE	DESCRIPTION
07210.A12	R-21 WALL INSULATION PER TITLE 24
07210.A13	R-38 CEILING INSULATION PER TITLE 24
07220.A5	BATT INSULATION BELOW ROOF DECK PER TITLE 24 CALCULATIONS



**SNAPADU**  
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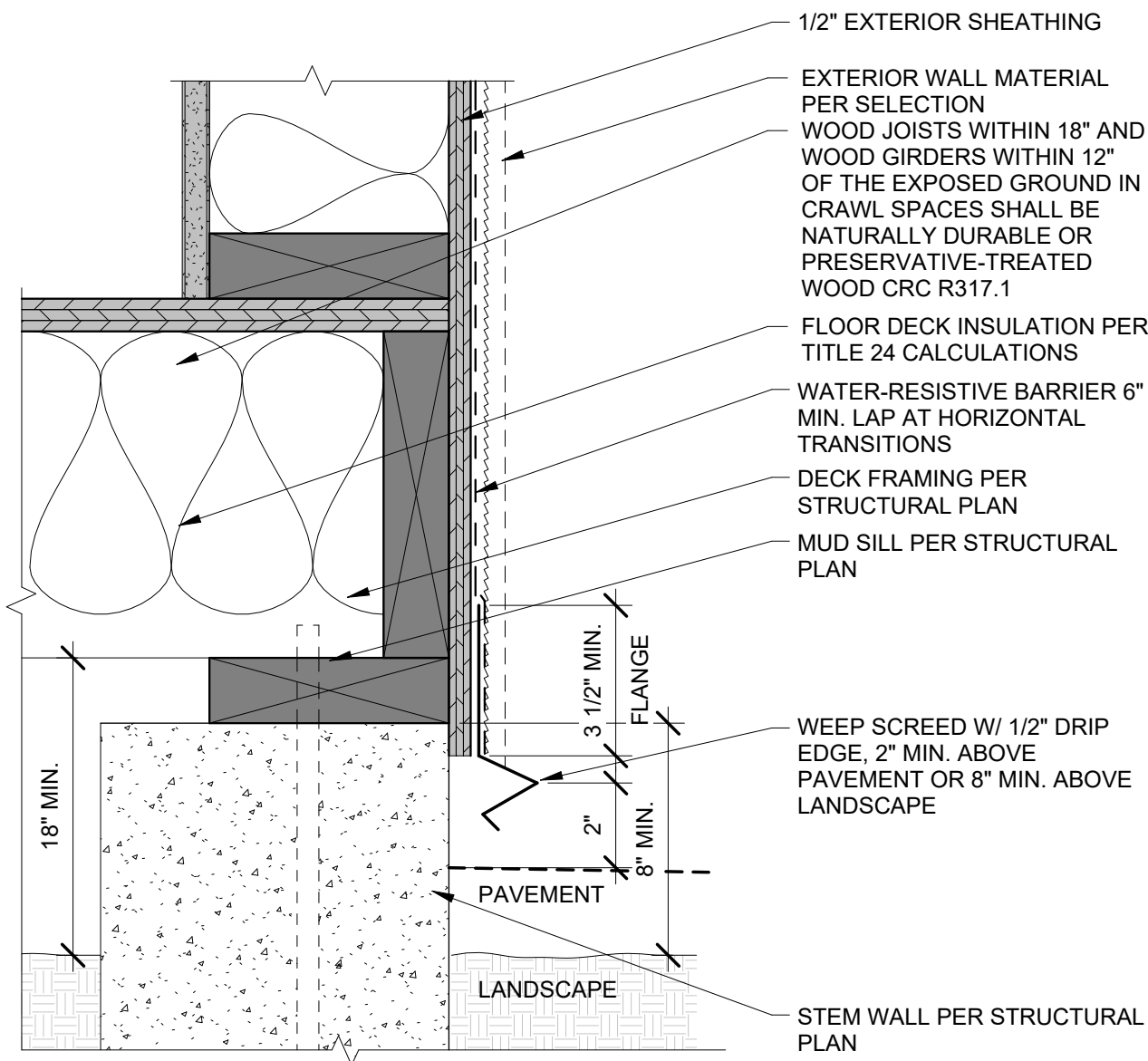
*Luis Calderon*  
SIGNATURE

RELEASE	DATE	BY	APP.	LAG	RELEASED FOR...
A	03/22/2024				

REVERSE  
BUILDING  
SECTIONS

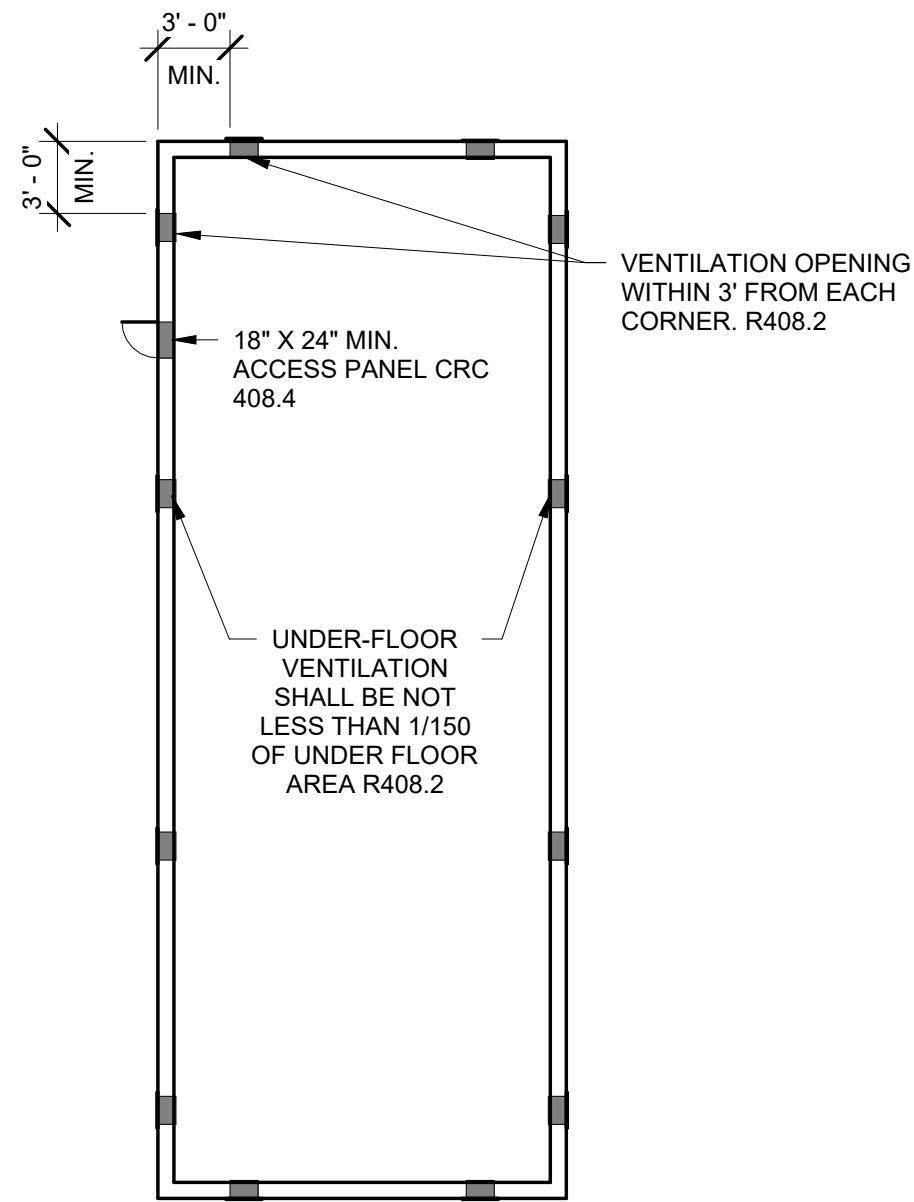
**A300R**

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9 RAISED FLOOR FOUNDATION

SCALE: 3" = 1'-0"



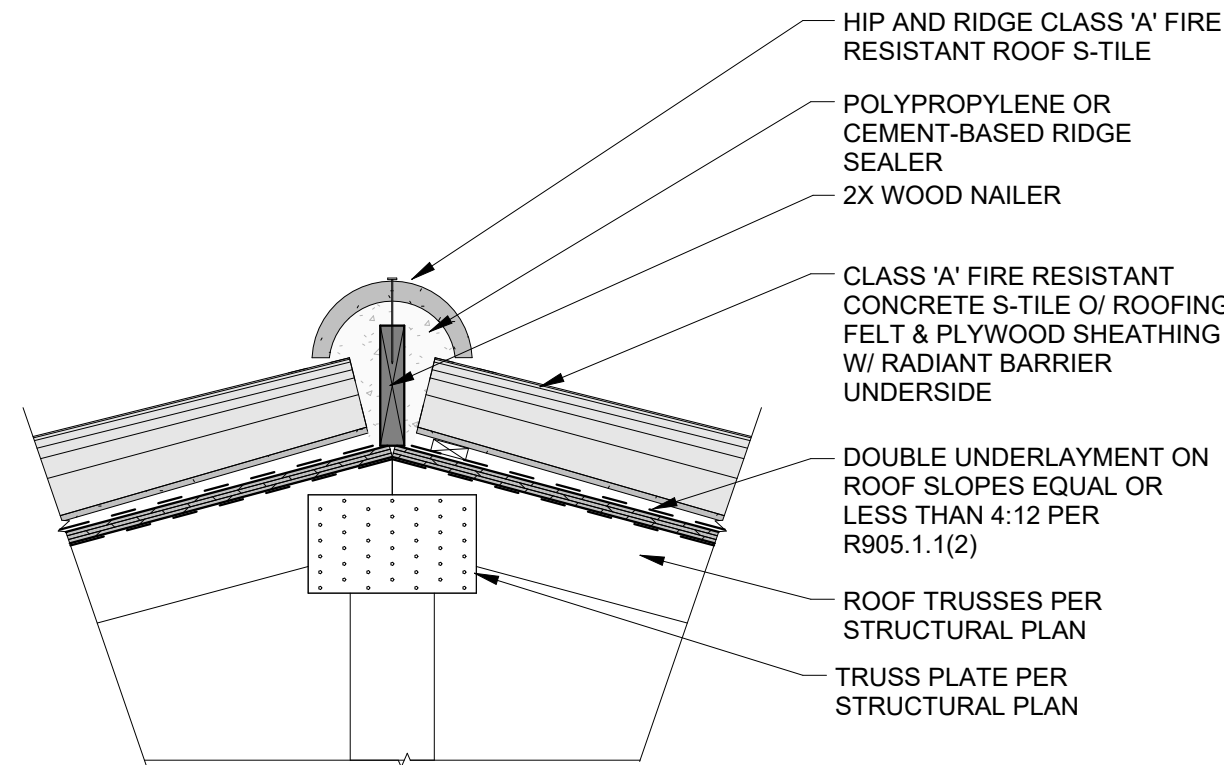
\* FOUNDATION VENTS AND ACCESS PANEL LOCATION MIGHT VARY ACCORDING TO SITE CONDITIONS.

### FOUNDATION VENT CALCULATIONS:

NET FREE VENTED AREA CALC.	CRAWL SPACE AREA	REQUIRED NFVA		
CRAWL SPACE AREA / 150 SF	748 SF	4.99 SF		
CRAWL SPACE VENT NFVA	REQUIRED NFVA / CRAWLSPACE VENT NFVA	REQUIRED VENTS	NFVA TO BE PROVIDED	
VULCAN FOUNDATION VENT MODEL VFS814S OR EQUAL. (NFVA = 62 SQ.IN. = 0.43 SF)	11.60 SF	12	5.16 SF	

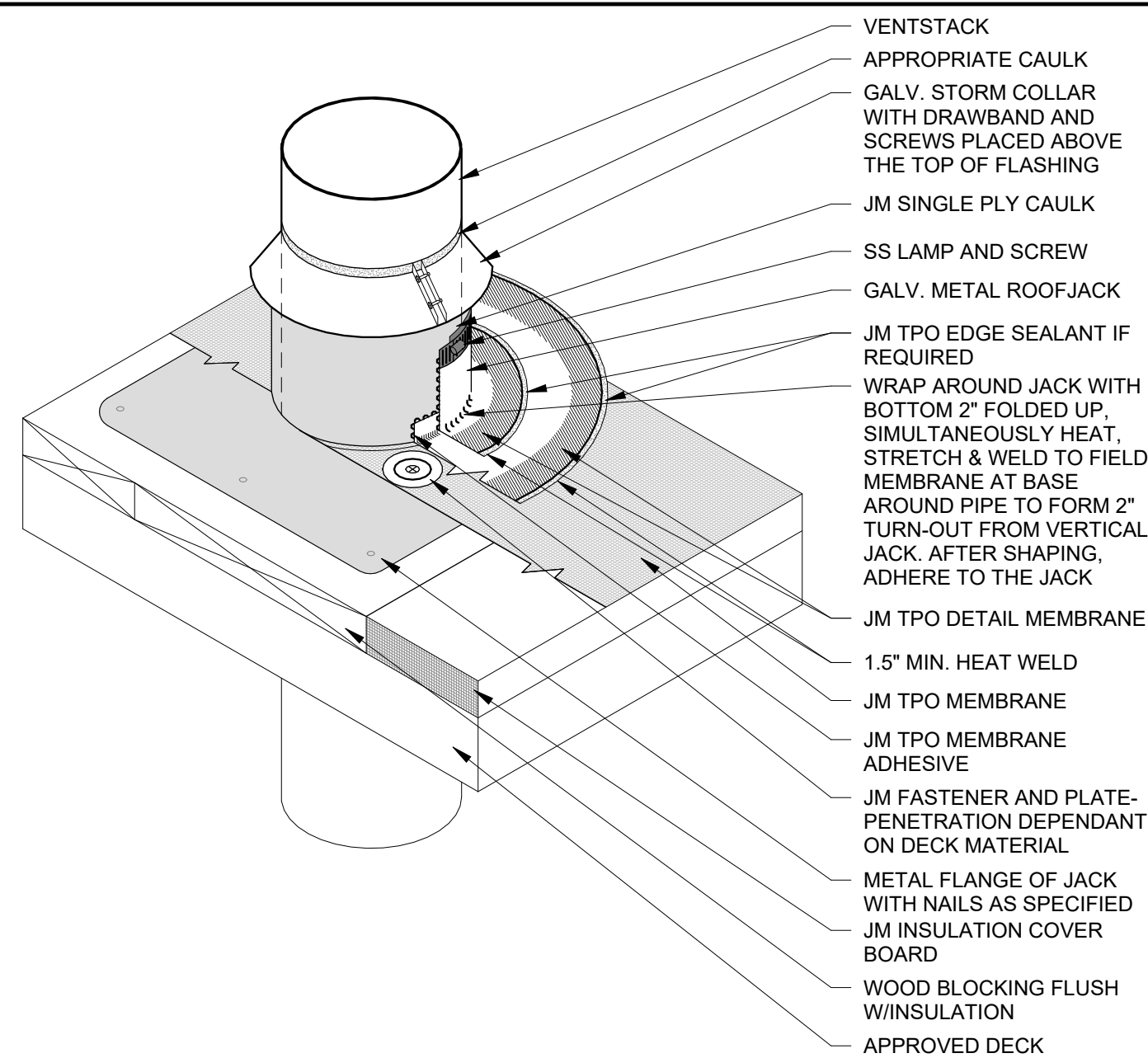
10 FOUNDATION VENT CALCS

SCALE: 1" = 1'-0"



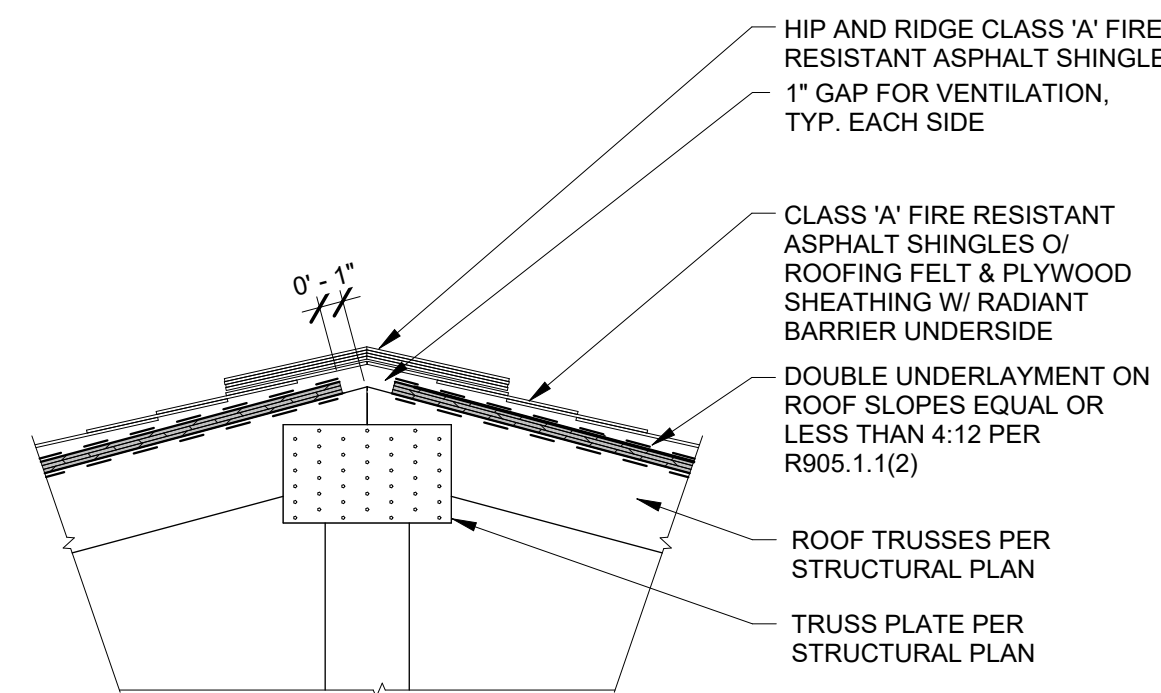
6 ROOF RIDGE W/ KING POST - S-TILE

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



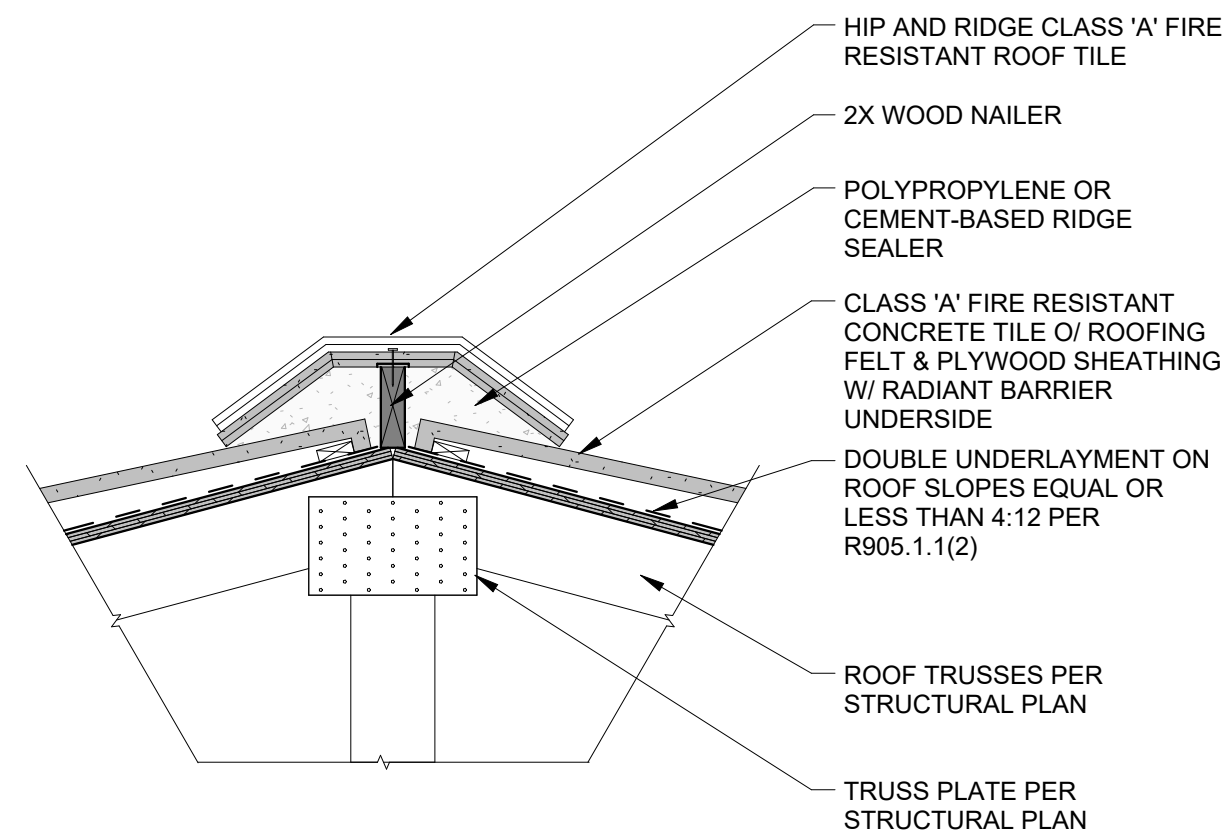
7 ROOF VENTILATION DETAIL

SCALE: N.T.S.



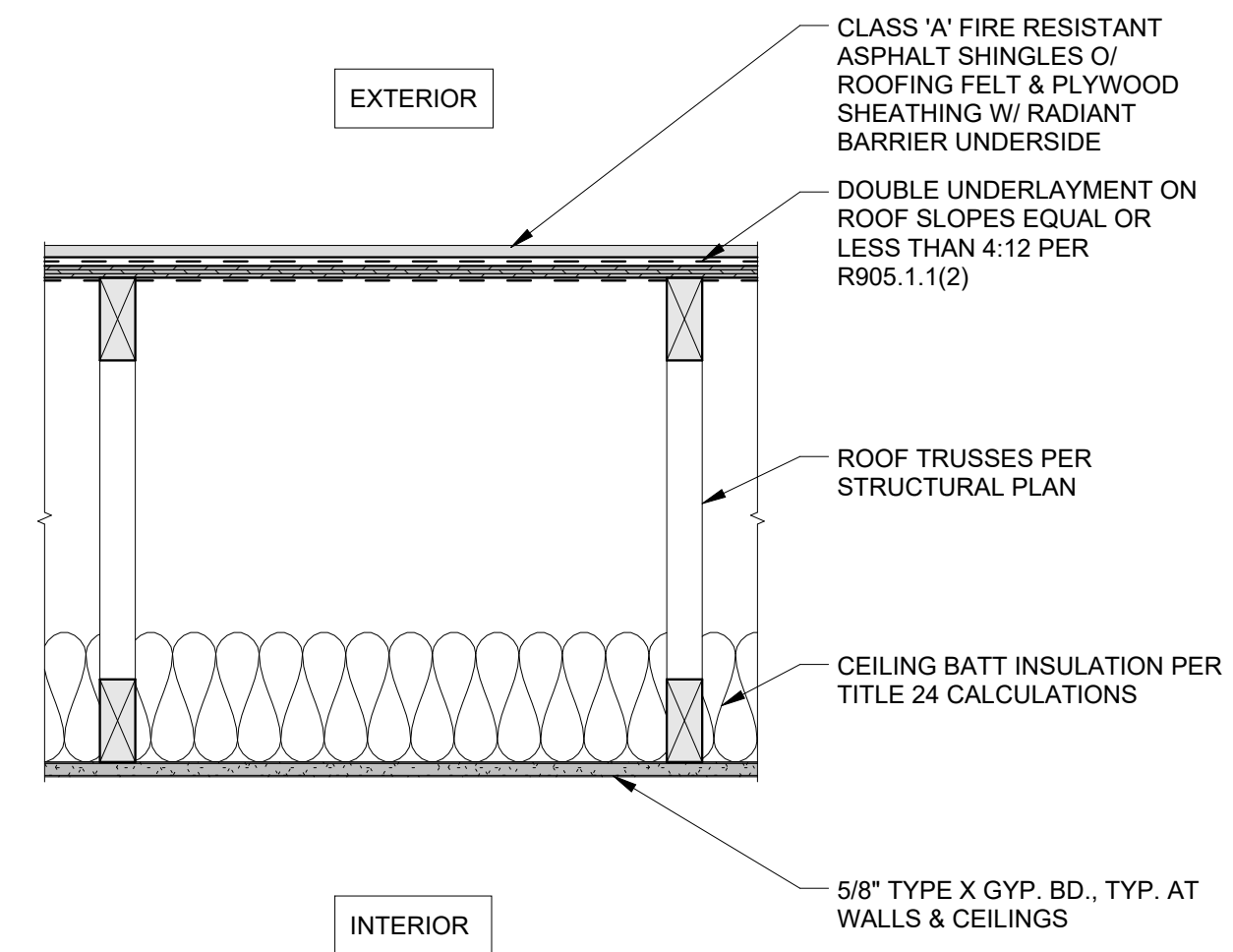
4 ROOF RIDGE W/ KING POST - SHINGLE

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



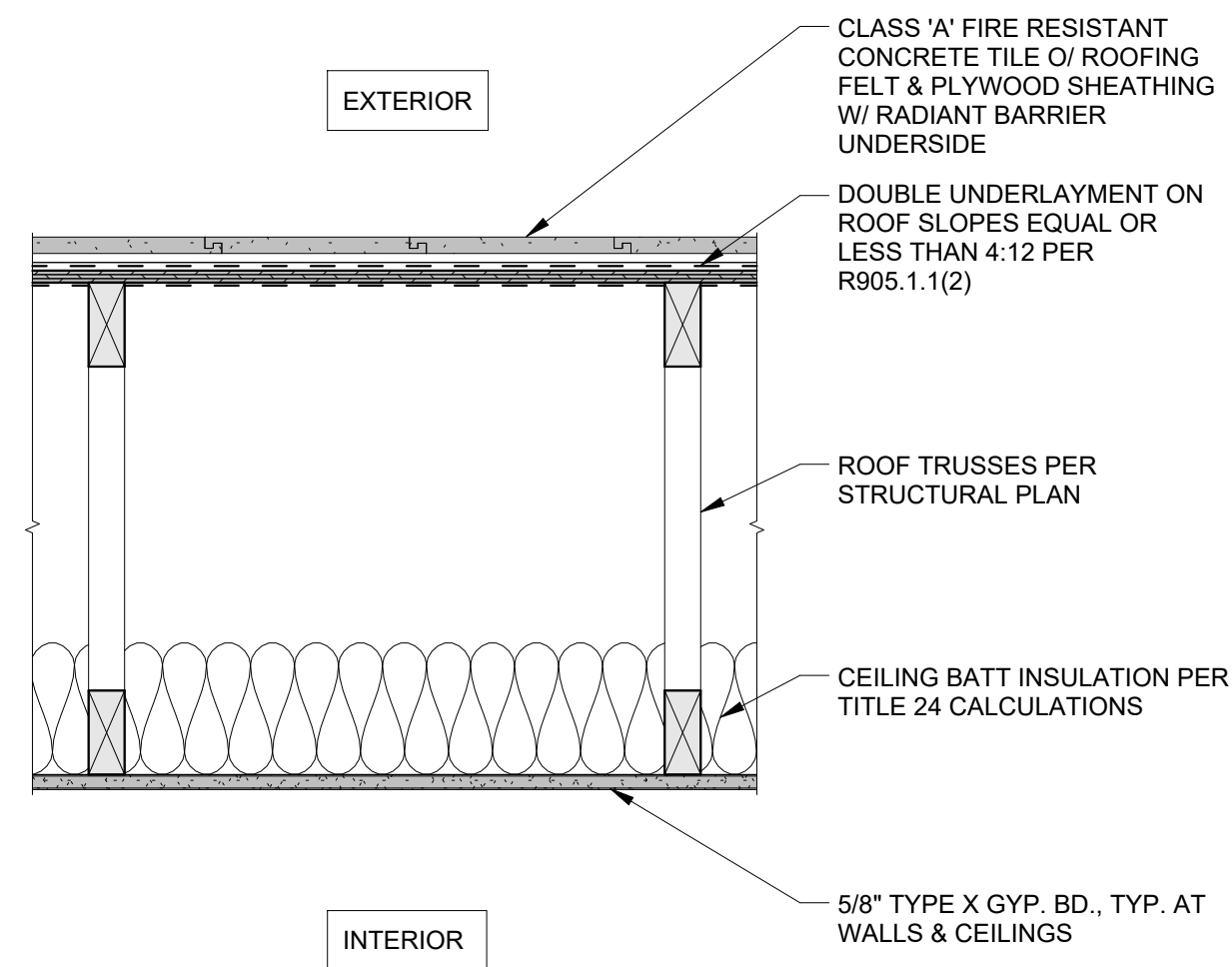
5 ROOF RIDGE W/ KING POST - CEMENT

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



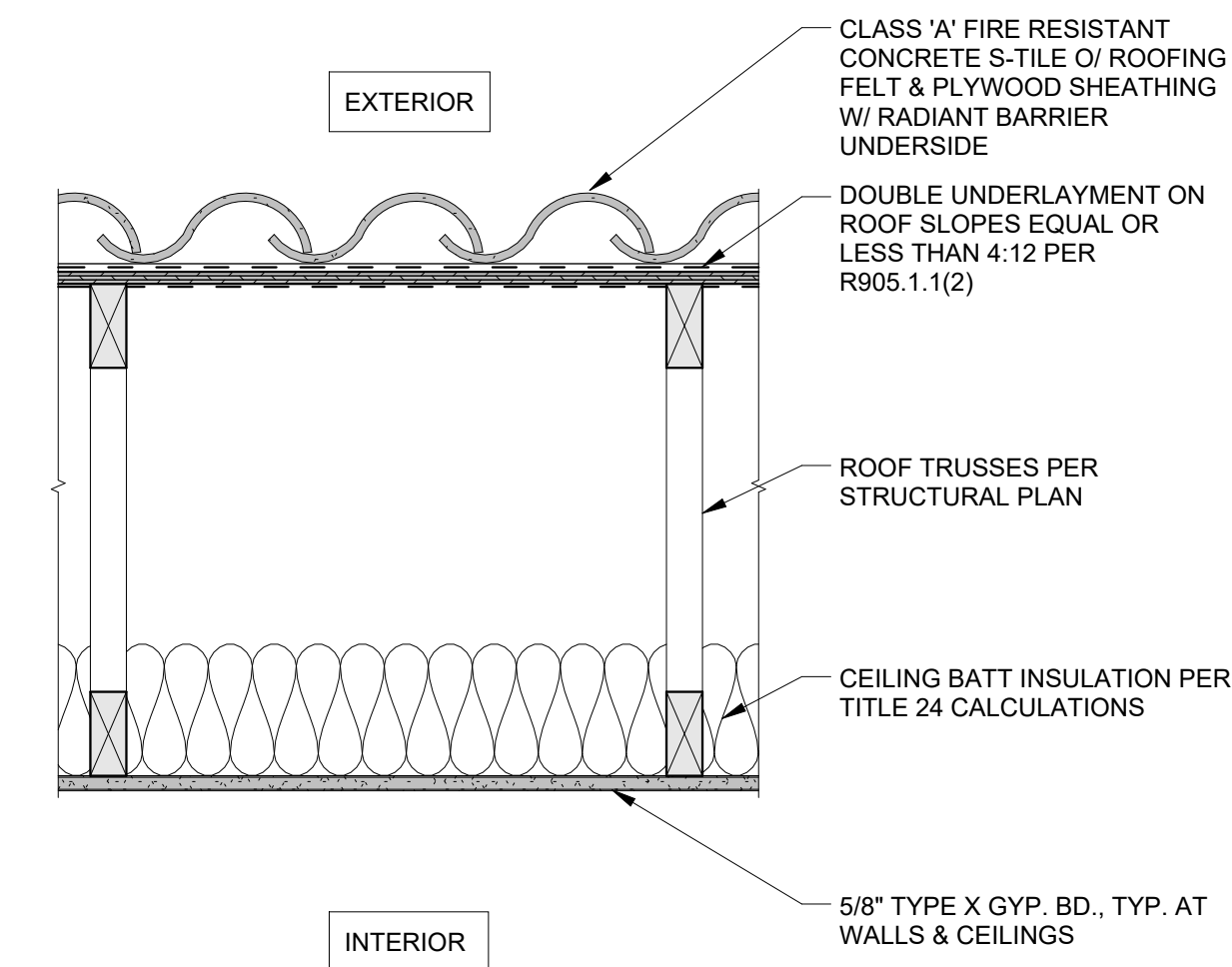
1 1-1-HR CLASS 'A' ROOF DETAIL - SHINGLE

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



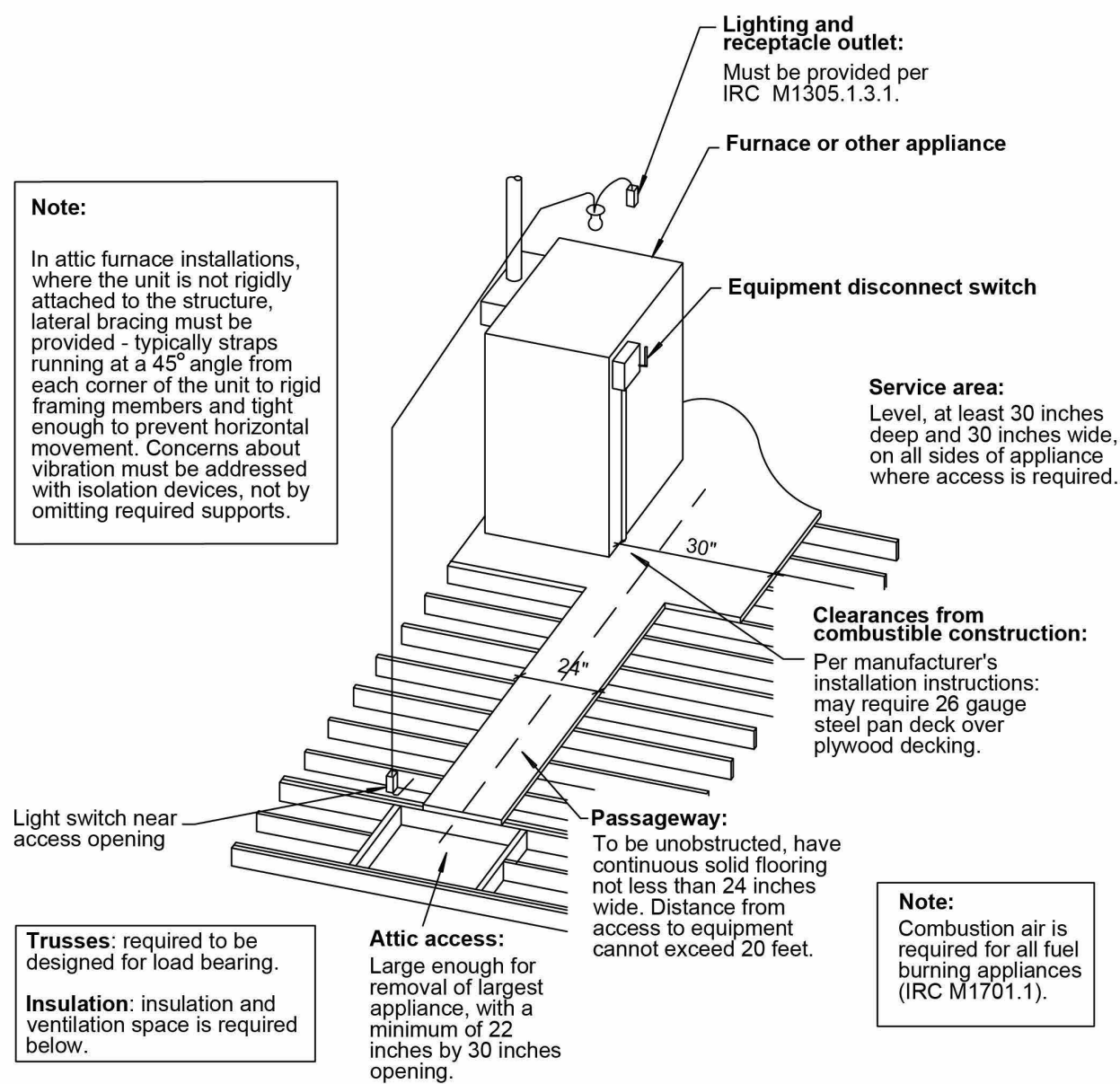
2 1-1-HR CLASS 'A' ROOF DETAIL - CEMENT

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



3 1-1-HR CLASS 'A' ROOF DETAIL - S-TILE

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



8 ATTIC PASSAGEWAY

SCALE: N.T.S.

CMC SECTION 304 REQUIRES THAT APPLIANCES INSTALLED IN ATTICS OR UNDERFLOOR AREAS BE ACCESSIBLE AS FOLLOWS:

- ACCESS OPENING. AN ACCESS OPENING (THROUGH CEILING, FLOOR OR WALL) AND PASSAGEWAY (WOOD, CONCRETE, ETC.) SIZED TO ALLOW FOR REMOVAL OF THE LARGEST COMPONENT OF THE APPLIANCE, AND NOT LESS THAN 22 INCHES BY 30 INCHES, SHALL BE PROVIDED.
- LENGTH OF PASSAGEWAY. WHERE THE HEIGHT OF THE PASSAGEWAY IS LESS THAN 6 FEET, THE DISTANCE FROM THE PASSAGEWAY ACCESS TO THE APPLIANCE SHALL NOT EXCEED 20 FEET MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY.
- WIDTH OF PASSAGEWAY. THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE SOLID FLOORING NOT LESS THAN 24 INCHES WIDE FROM THE ENTRANCE OPENING TO THE APPLIANCE.
- WORK PLATFORM. A LEVEL WORKING PLATFORM (WOOD, CONCRETE, ETC.) NOT LESS THAN 30 INCHES BY 30 INCHES SHALL BE PROVIDED IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. EXCEPTION: A WORKING PLATFORM NEED NOT BE PROVIDED WHERE THE FURNACE IS CAPABLE OF BEING SERVICED FROM THE REQUIRED ACCESS OPENING. THE FURNACE SERVICE SIDE SHALL NOT EXCEED 12 INCHES FROM THE ACCESS OPENING.
- LIGHTING AND CONVENIENCE OUTLET. A PERMANENT 120-VOLT RECEPTACLE OUTLET AND A LIGHTING FIXTURE SHALL BE INSTALLED NEAR THE APPLIANCE. THE SWITCH CONTROLLING THE LIGHTING FIXTURE SHALL BE LOCATED AT THE ENTRANCE TO THE PASSAGEWAY.
- EQUIPMENT DISCONNECT SWITCH. WHEN AN APPLIANCE REQUIRES AN EXTERNAL SOURCE OF ELECTRICAL POWER FOR ITS OPERATION, IT SHALL BE PROVIDED WITH A READILY ACCESSIBLE ELECTRICAL DISCONNECT MEANS WITHIN SIGHT OF THE APPLIANCE.
- CLEARANCE FROM COMBUSTIBLE CONSTRUCTION. THE APPLIANCE SHALL BE SEPARATED FROM COMBUSTIBLE CONSTRUCTION IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- TRUSSES. WHERE TRUSSES ARE USED AS ATTIC FLOOR FRAMING, THEY SHALL BE DESIGNED FOR BEARING THE LOAD FROM THE APPLIANCE. PLANS SHALL SPECIFICALLY INDICATE THE TRUSS LOADING LIMITATIONS.
- INSULATION. INSULATION AND VENTILATION SPACE IS REQUIRED BELOW THE EQUIPMENT.
- COMBUSTION AIR. COMBUSTION AIR SHALL BE PROVIDED IN ACCORDANCE WITH THE APPLIANCE LISTING INFORMATION AND MANUFACTURERS SPECIFICATIONS. PLANS SHALL SPECIFICALLY INDICATE HOW COMBUSTION AIR WILL BE PROVIDED.
- SEISMIC SUPPORT AND ATTACHMENT. IN ATTIC APPLIANCE INSTALLATIONS, WHERE THE UNIT IS NOT RIGIDLY ATTACHED TO THE STRUCTURE, LATERAL BRACING MUST BE PROVIDED. BRACING IS TYPICALLY STRAPS RUNNING AT A 45 DEGREE ANGLE FROM EACH CORNER OF THE UNIT TO RIGID FRAMING MEMBERS. STRAPS SHALL BE TIGHT ENOUGH TO PREVENT HORIZONTAL MOVEMENT. CONCERNS ABOUT VIBRATION MUST BE ADDRESSED WITH ISOLATION DEVICES, NOT BY OMITTING REQUIRED SUPPORTS.



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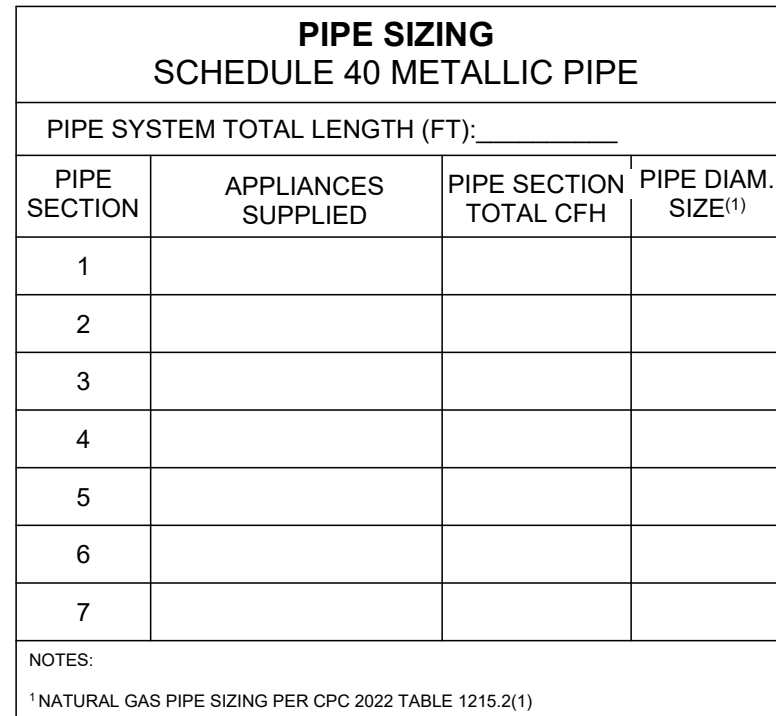
SIGNATURE

RELEASE DATE BY APP. LAG RELEASED FOR...

GENERIC ROOF  
DETAILS

A500

22040



6

### (A) GRAB BAR REINFORCEMENT FOR ADAPTABLE WATER CLOSETS

**(B) GRAB BAR REINFORCEMENT FOR ADAPTABLE BATHTUBS**

### (C) GRAB BAR REINFORCEMENT FOR ADAPTABLE SHOWERS

**NOTE:**

AREAS OUTLINED IN DASHED LINES REPRESENT LOCATION FOR FUTURE INSTALLATION OF GRAB BARS.

7

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

1. LINE-WIRE WHEN USED AS BACKING TO SUPPORT BUILDING PAPER BENEATH WIRE LATH (NETTING) FOR PORTLAND CEMENT (STUCCO), SHALL BE INSTALLED, AS FOLLOWS:
  - A. WIRE GAUGE, SPACING AND ATTACHMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIFICATIONS.
  - B. GENERAL FLASHING AT ALL EDGES OF WALL OPENINGS MUST COVER THE WIRE BAKING.
  - C. NO ATTACHMENT DEVICES NOR THE WIRE BACKING SHALL COVER OR PENETRATE THE FLASHING MATERIAL.
2. WINDOW FLASHING SHALL BE "MOISTOP" MINIMUM 12" WIDE (UNLESS OTHERWISE DETAILED).
3. PROVIDE SEALANT AROUND WINDOW (VERIFY WITH WINDOW MANUFACTURER ANY CONFLICT TO BE CONFIRMED WITH ARCHITECT PRIOR TO INSTALLATION).
4. AT WINDOW HEAD, JAMBS AND SILL, ALL FASTENERS ARE TO BE NAILED THROUGH THE WINDOW FIN NO CLOSER THAN 8 INCHES TO CORNERS, AND NO MORE THAN 10 INCHES FROM CORNERS, NAIL SHALL BE NO MORE THAN 16 INCHES ON CENTER.

4

## 5 SKYLIGHT SECTION

SCALE: 3" = 1'-0"

1 DOOR - INTERIOR HEAD (JAMB SIM.)

SCALE: 3" = 1'-0"

ISOMETRIC VIEW, N.T.S.

(2)

SCALE: 3" = 1'-0"

ISOMETRIC VIEW, N.T.S.

3

SCALE: 3" = 1'-0"



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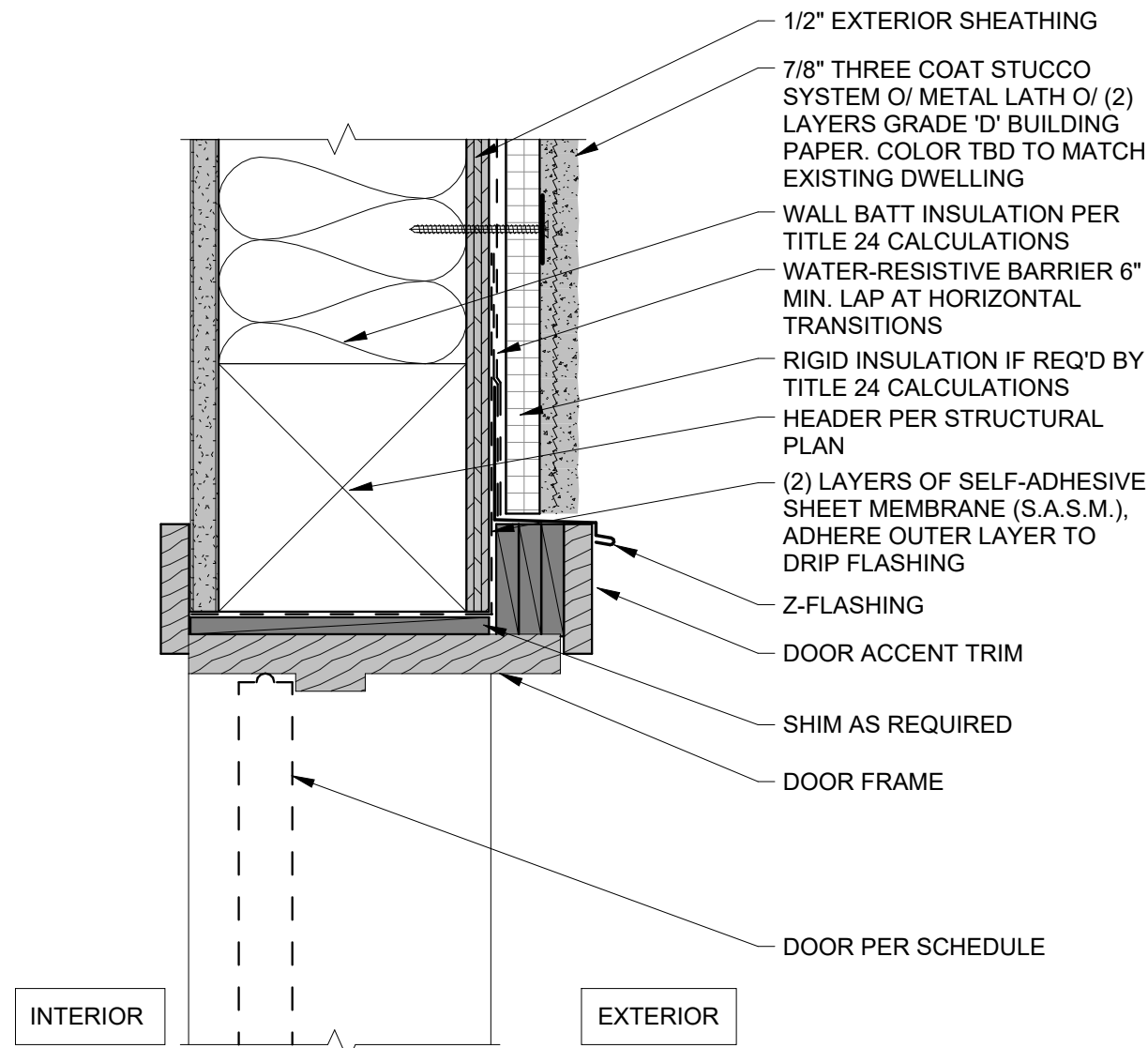
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RELEASE	DATE	PV	APP	RELEASED FOR

## GENERIC DOOR, WINDOW & MISC. DETAILS

# A501

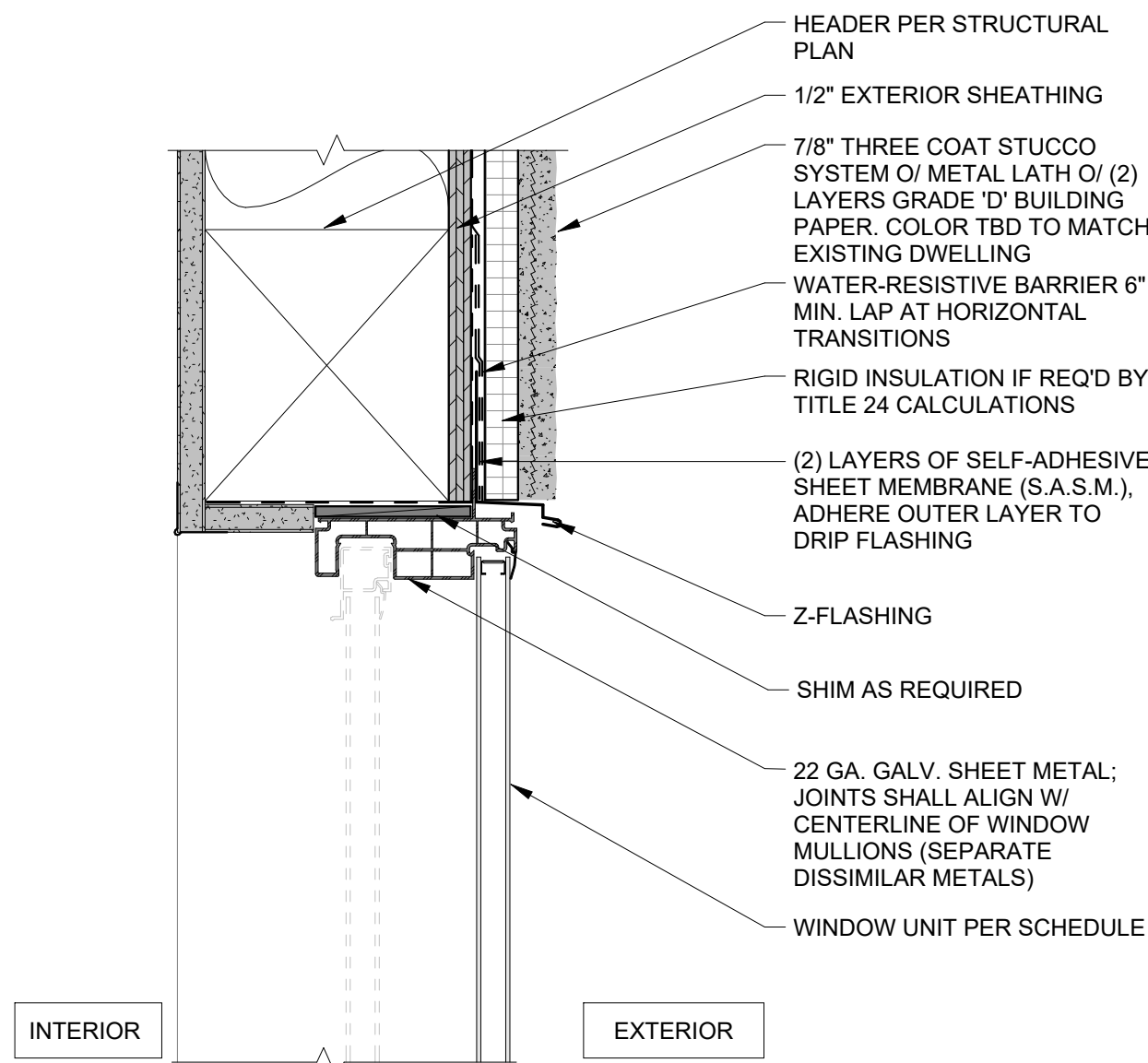
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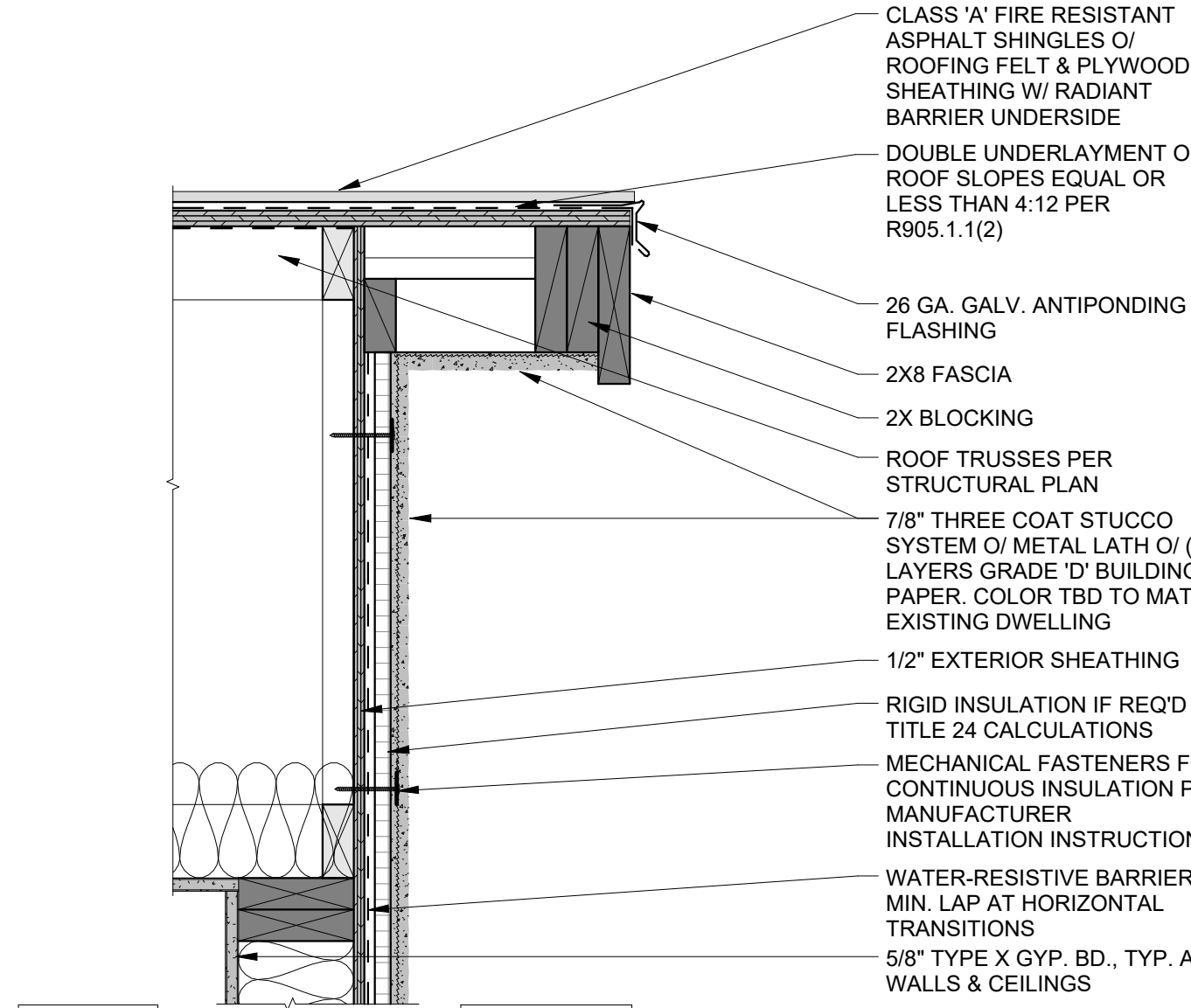
**10** DOOR - EXTERIOR HEAD @ STUCCO  
W/ CONT. INSULATION (JAMB SIM.)

SCALE: 3" = 1'-0"



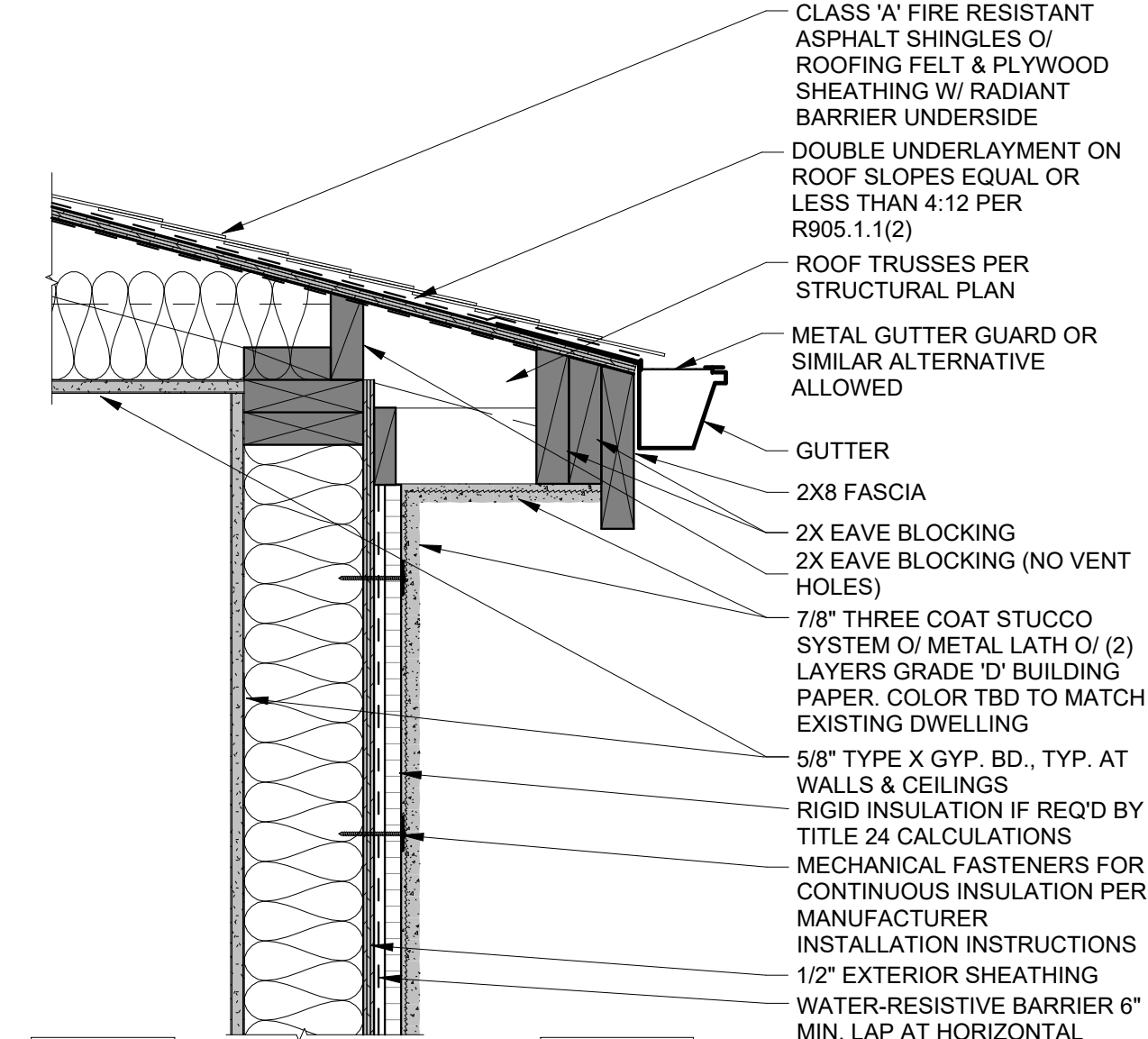
**7** WINDOW - EXTERIOR HEAD @ STUCCO  
W/ CONT. INSULATION (JAMB SIM.)

SCALE: 3" = 1'-0"



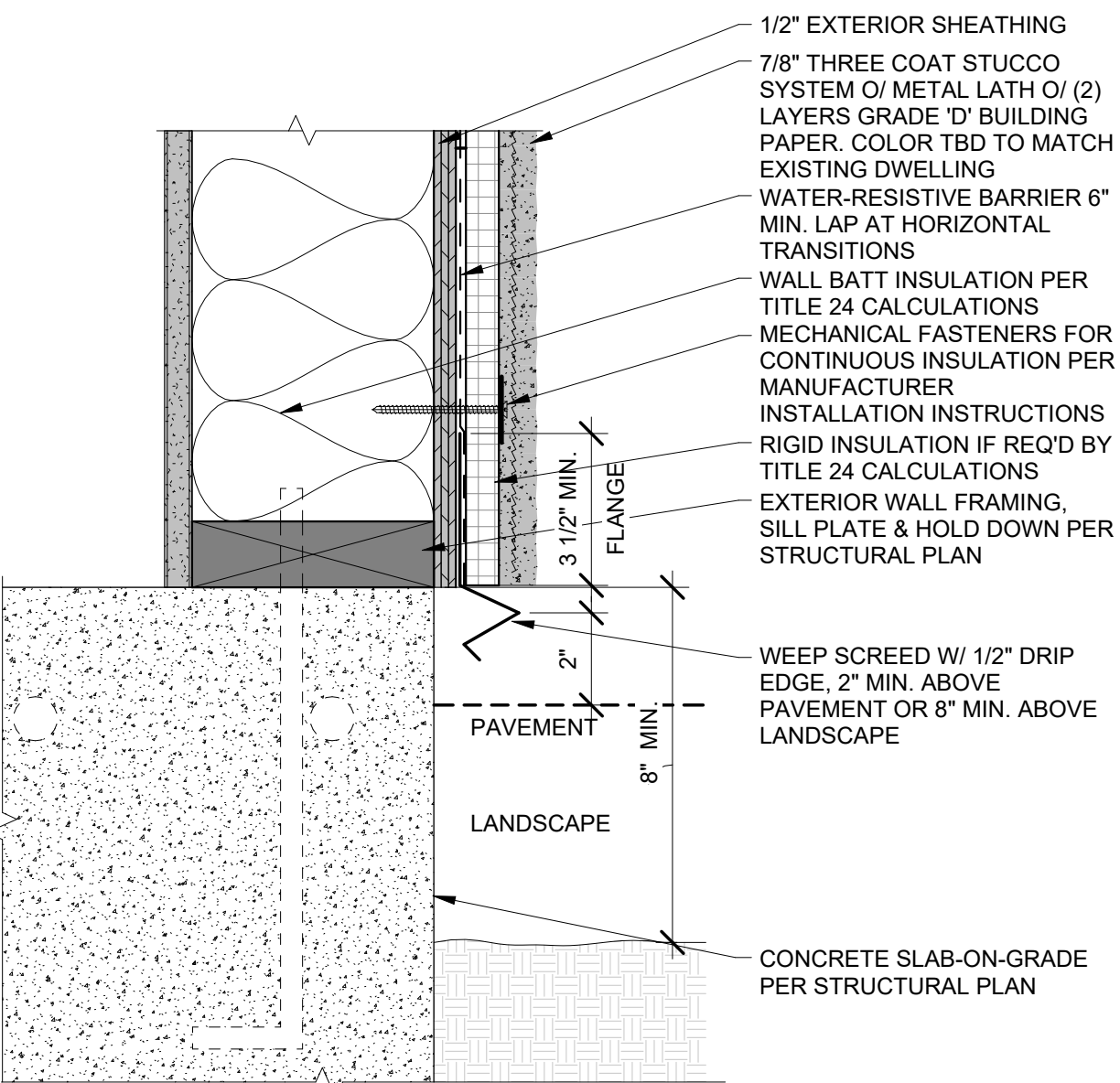
**4** A1 - ROOF RAKE - SHINGLE PROTECTED  
W/ CONT. INSULATION AND STUCCO

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



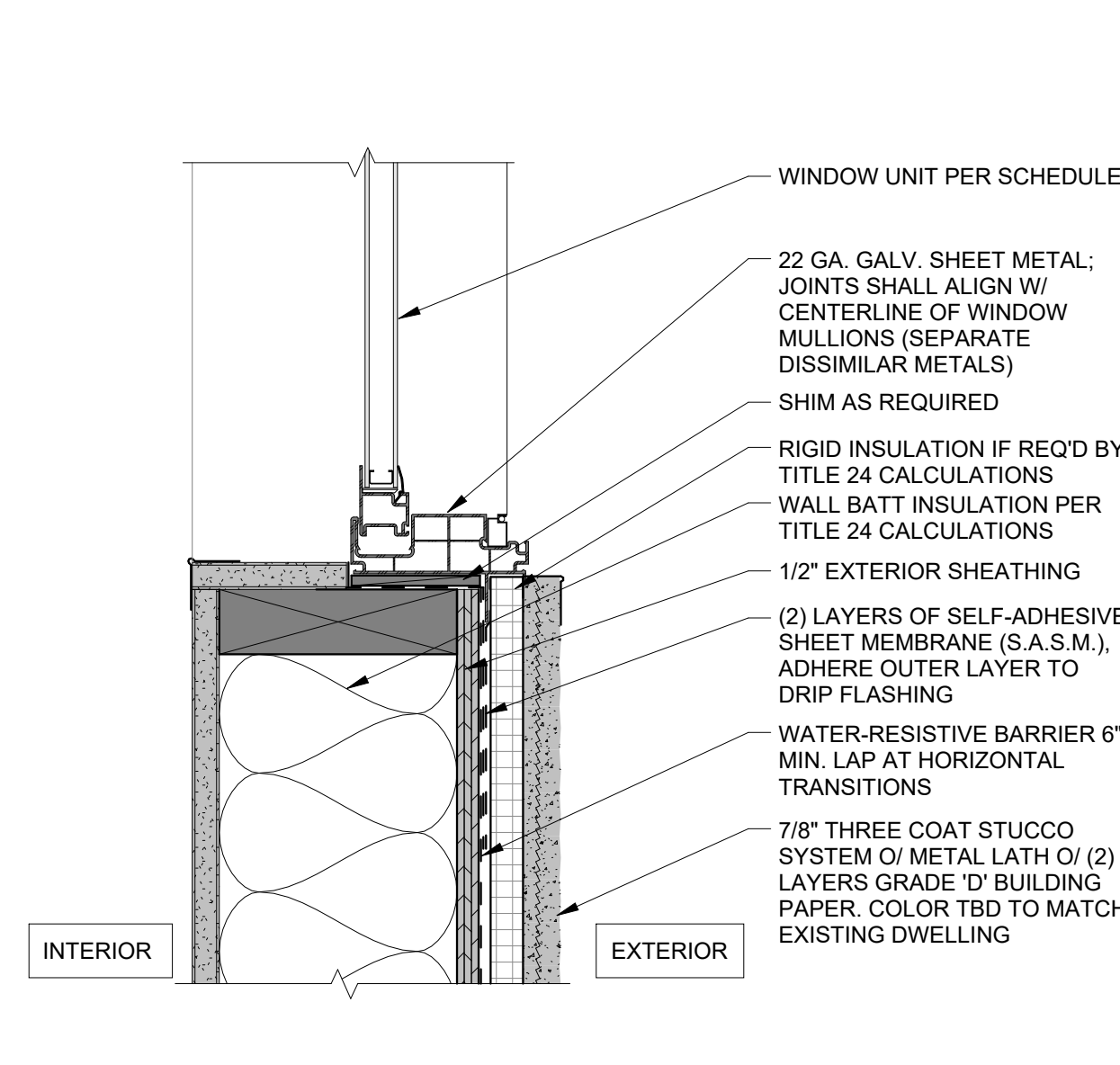
**1** A1 - ROOF EAVE - SHINGLE PROTECTED  
W/ CONT. INSULATION AND STUCCO

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



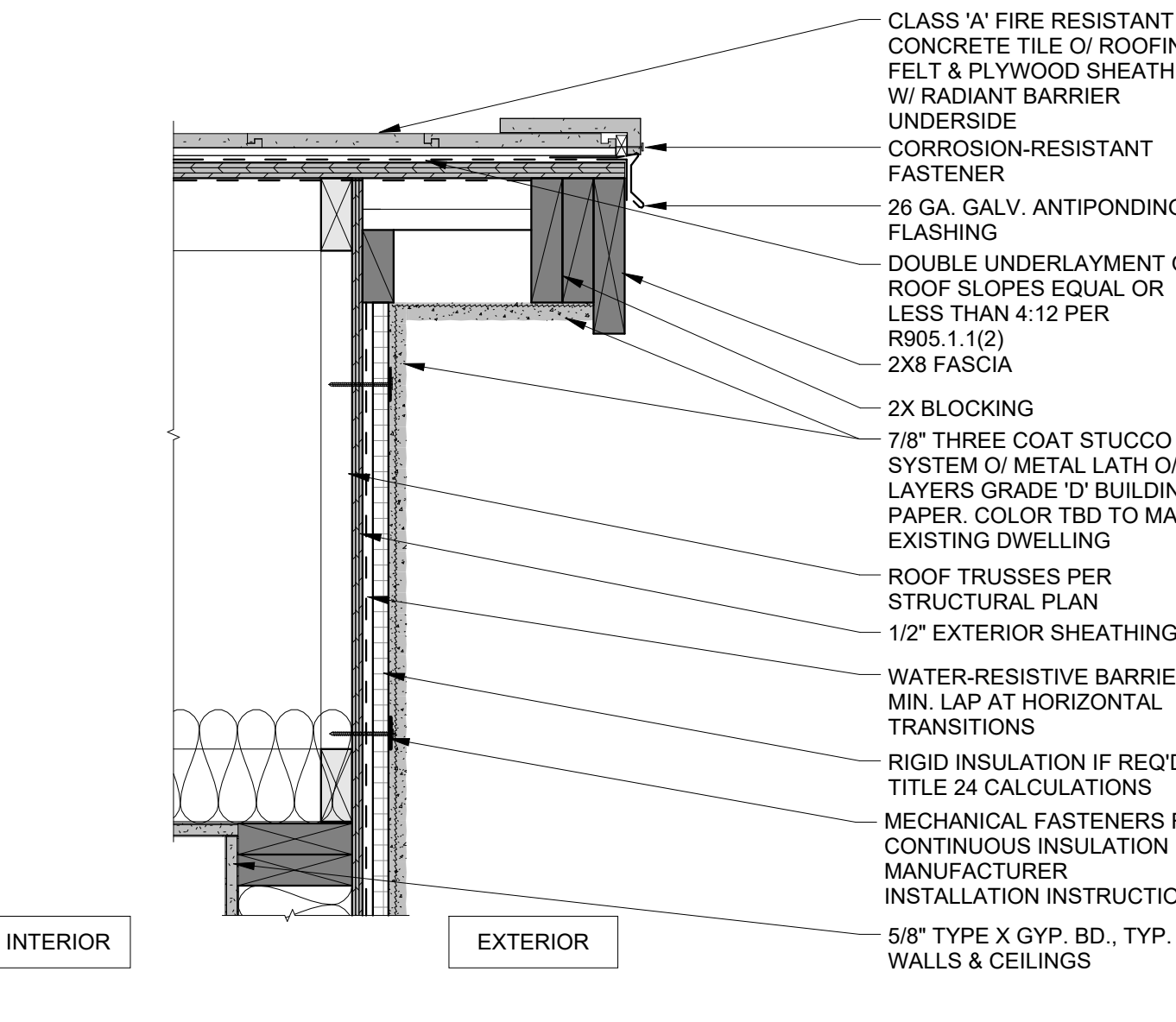
**11** WALL - EXTERIOR STUCCO SCREED  
W/ CONT. INSULATION

SCALE: 3" = 1'-0"



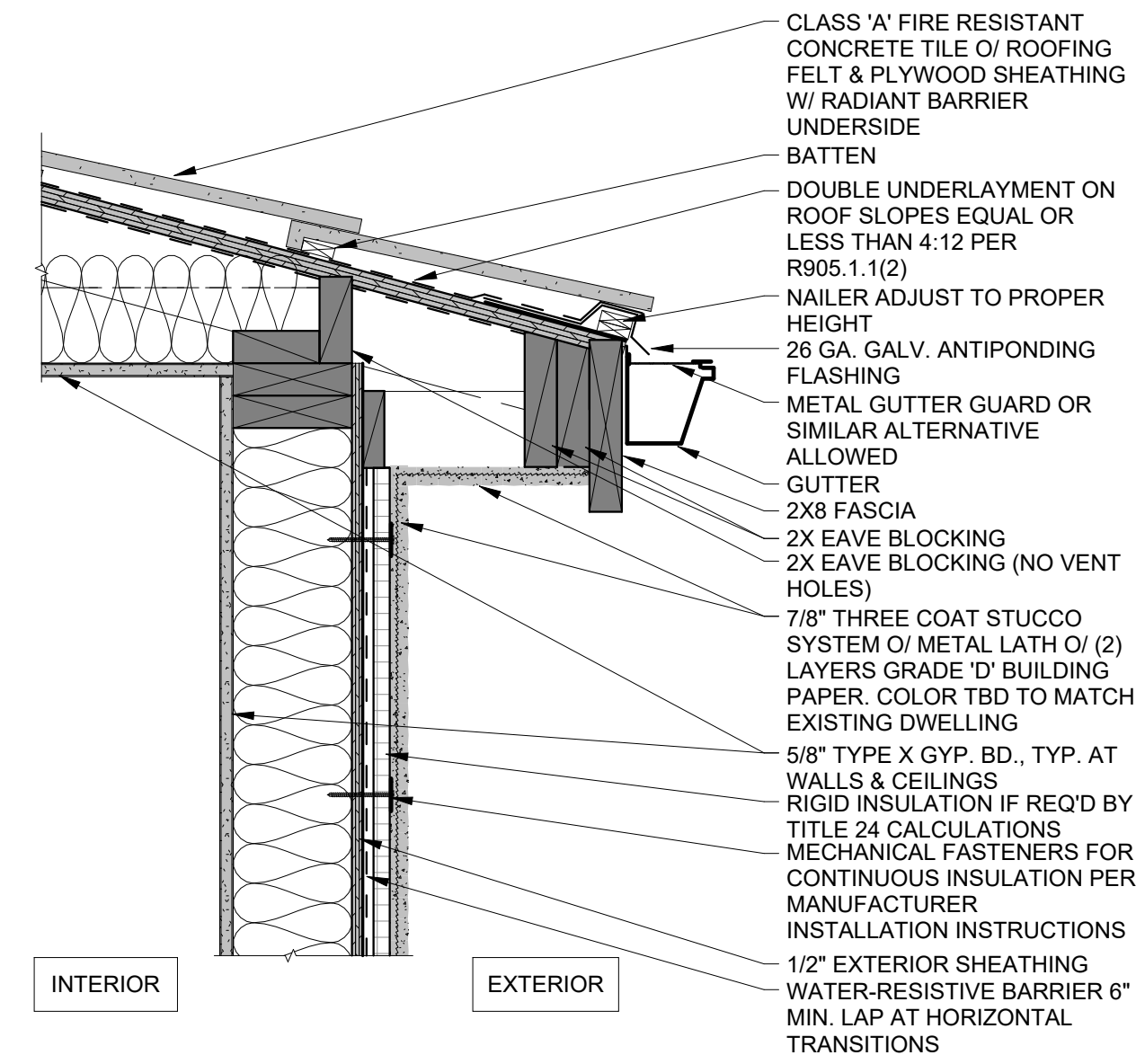
**8** WINDOW - EXTERIOR SILL @ STUCCO  
W/ CONT. INSULATION

SCALE: 3" = 1'-0"



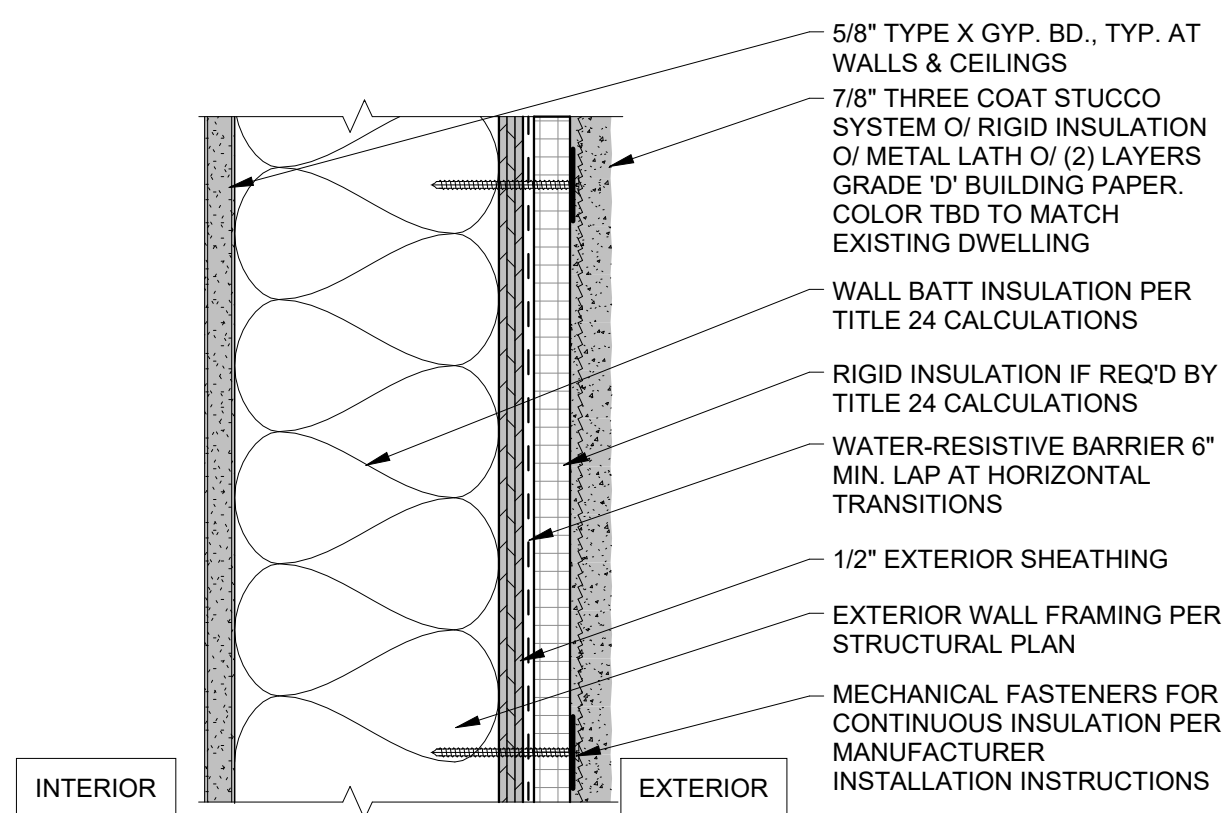
**5** A2 - ROOF RAKE - CEMENT PROTECTED  
W/ CONT. INSULATION AND STUCCO

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



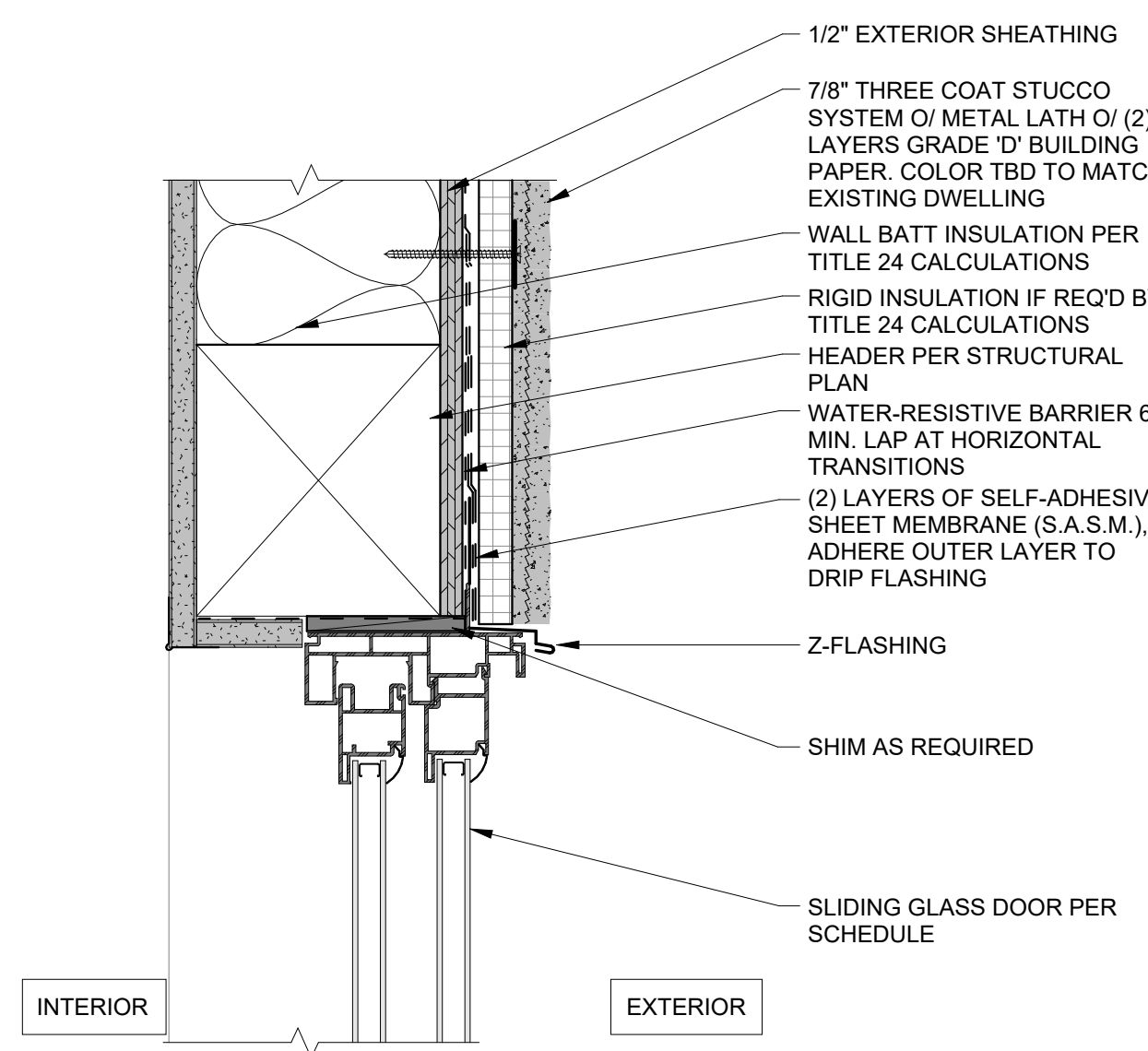
**2** A2 - ROOF EAVE - CEMENT PROTECTED  
W/ CONT. INSULATION AND STUCCO

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



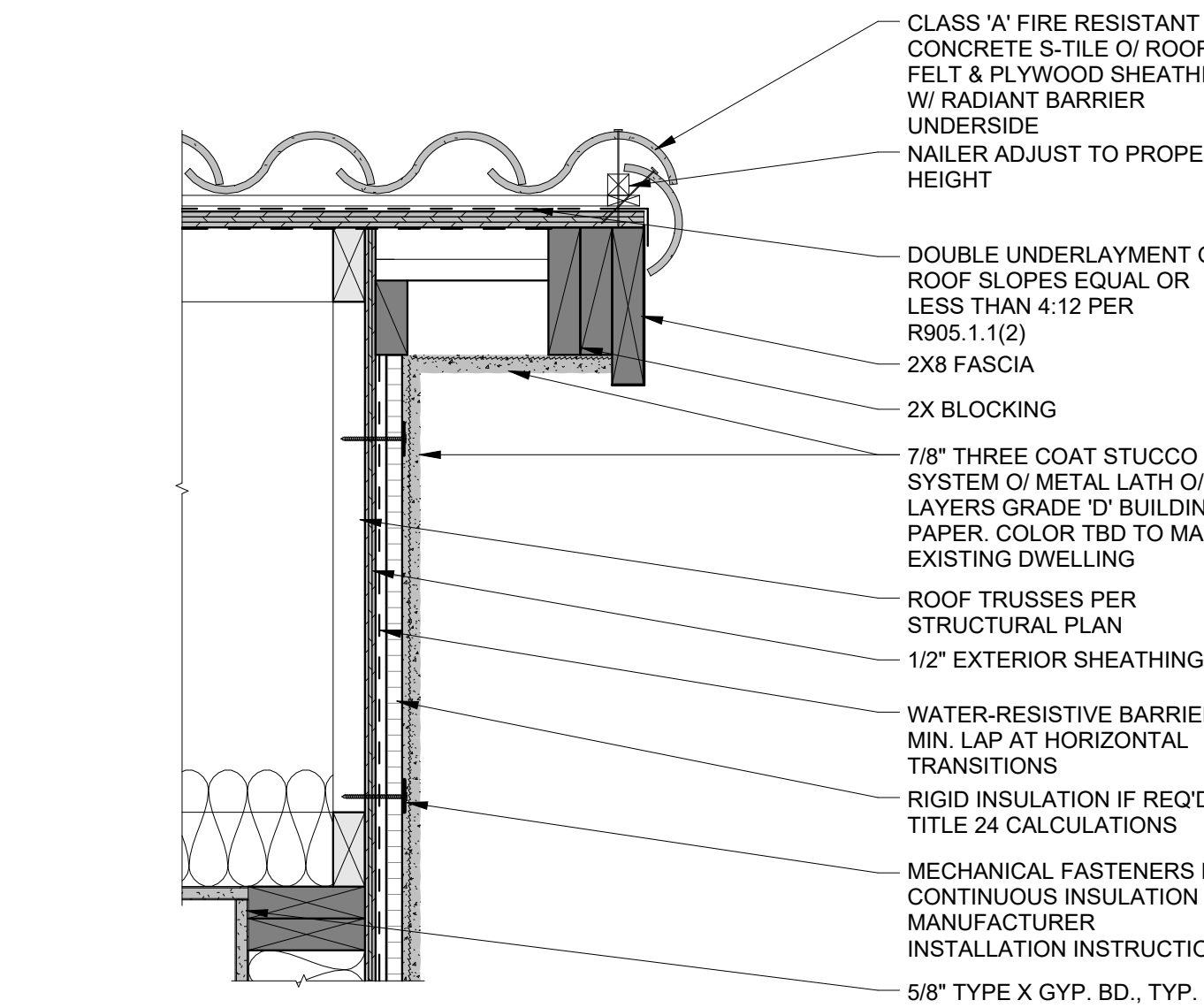
**12** A - WALL - EXTERIOR 1-HOUR RATED - STUCCO  
W/ CONT. INSULATION

SCALE: 3" = 1'-0"



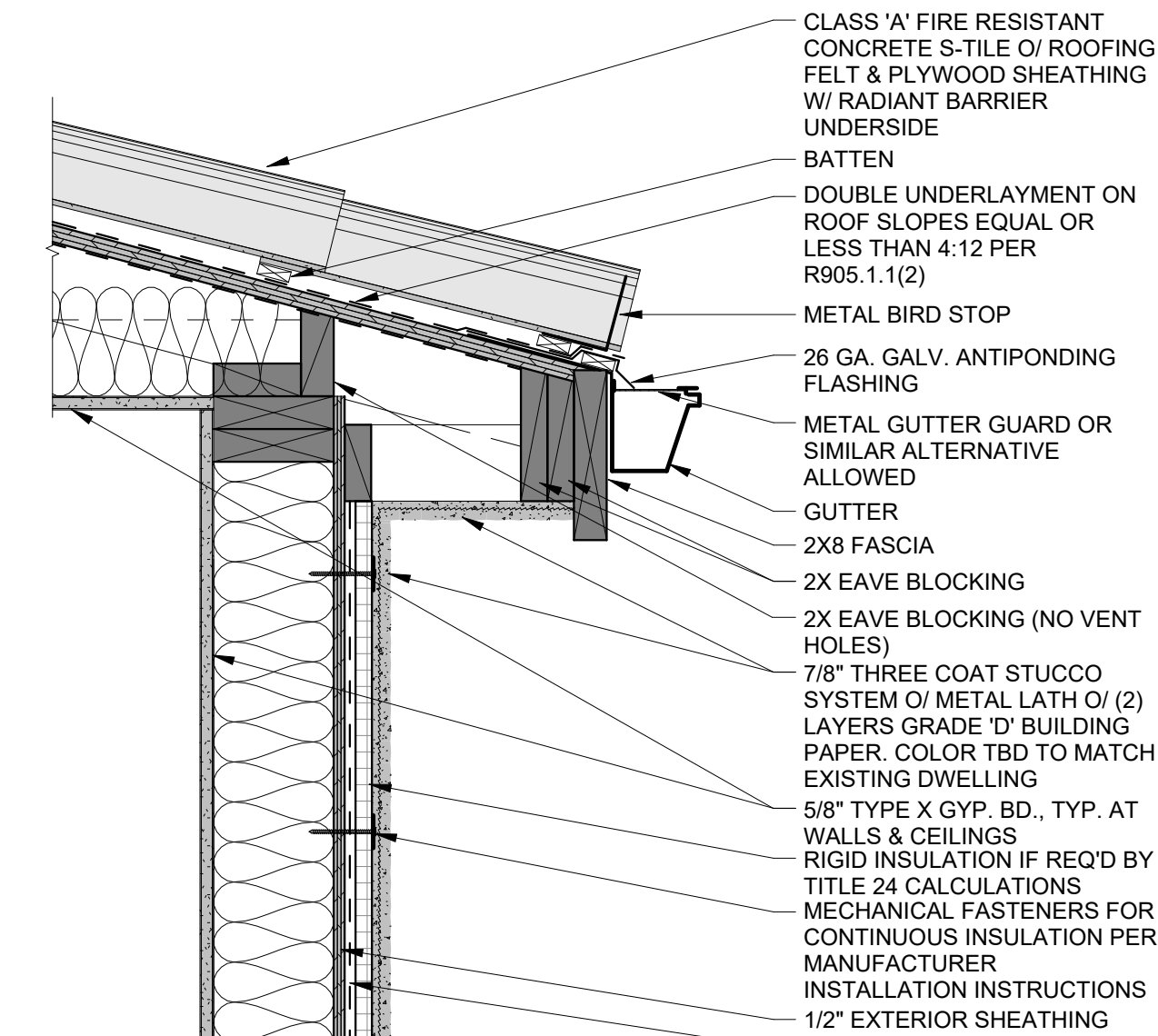
**9** DOOR - SLIDING GLASS DOOR HEAD @ STUCCO  
W/ CONT. INSULATION (JAMB SIM.)

SCALE: 3" = 1'-0"



**6** A3 - ROOF RAKE - S-TILE PROTECTED  
W/ CONT. INSULATION AND STUCCO

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



**3** A3 - ROOF EAVE - S-TILE PROTECTED  
W/ CONT. INSULATION AND STUCCO

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



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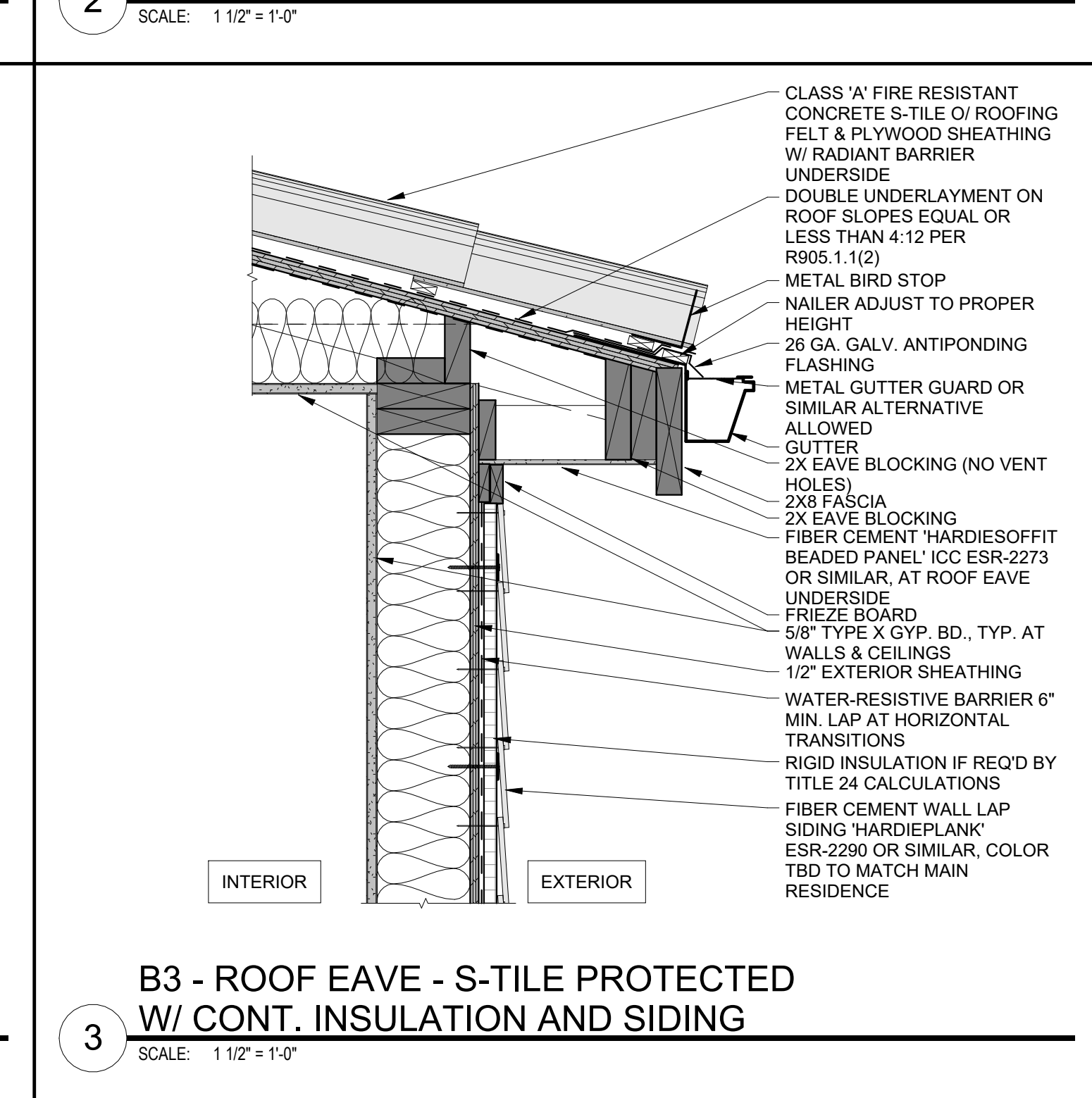
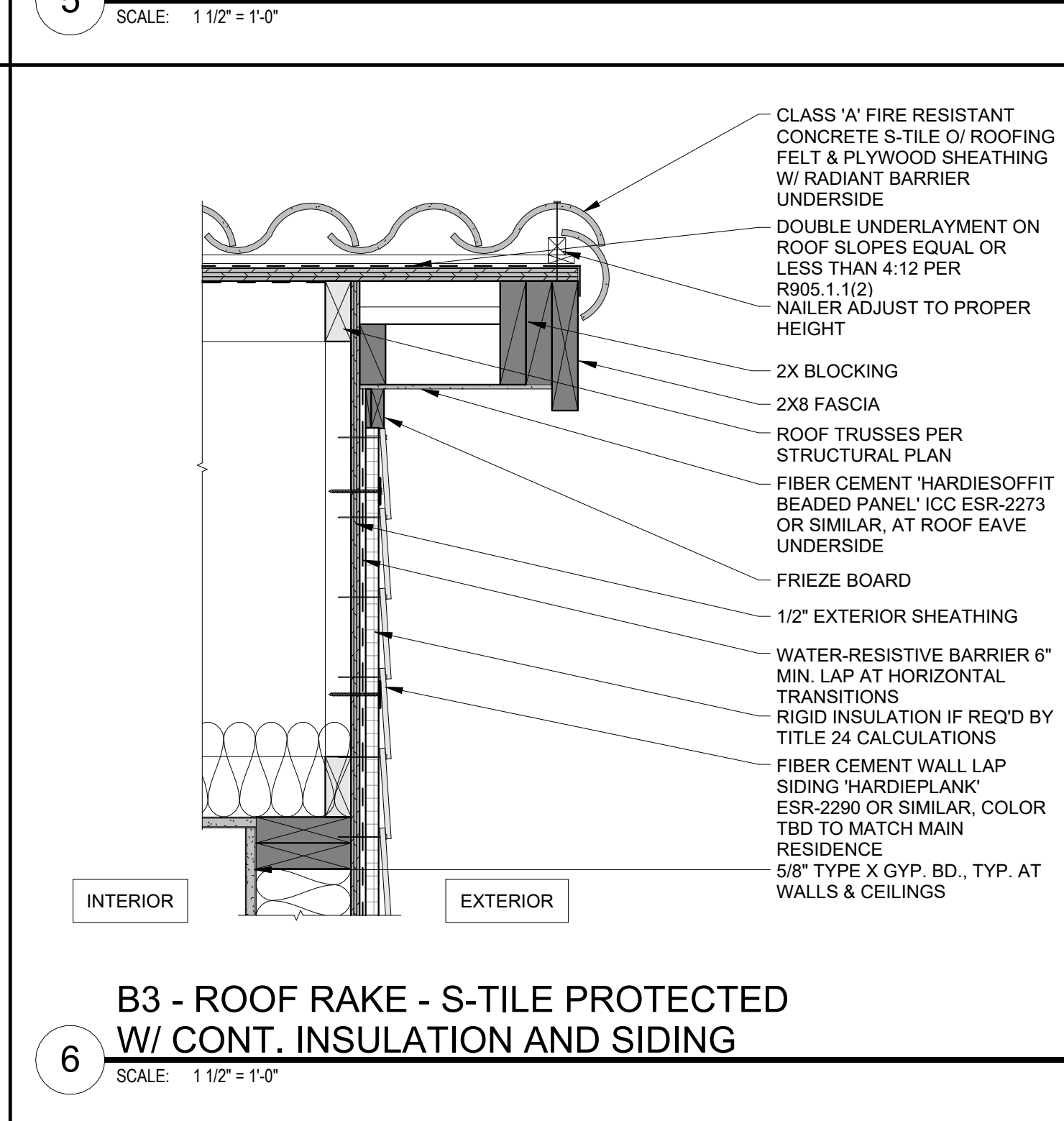
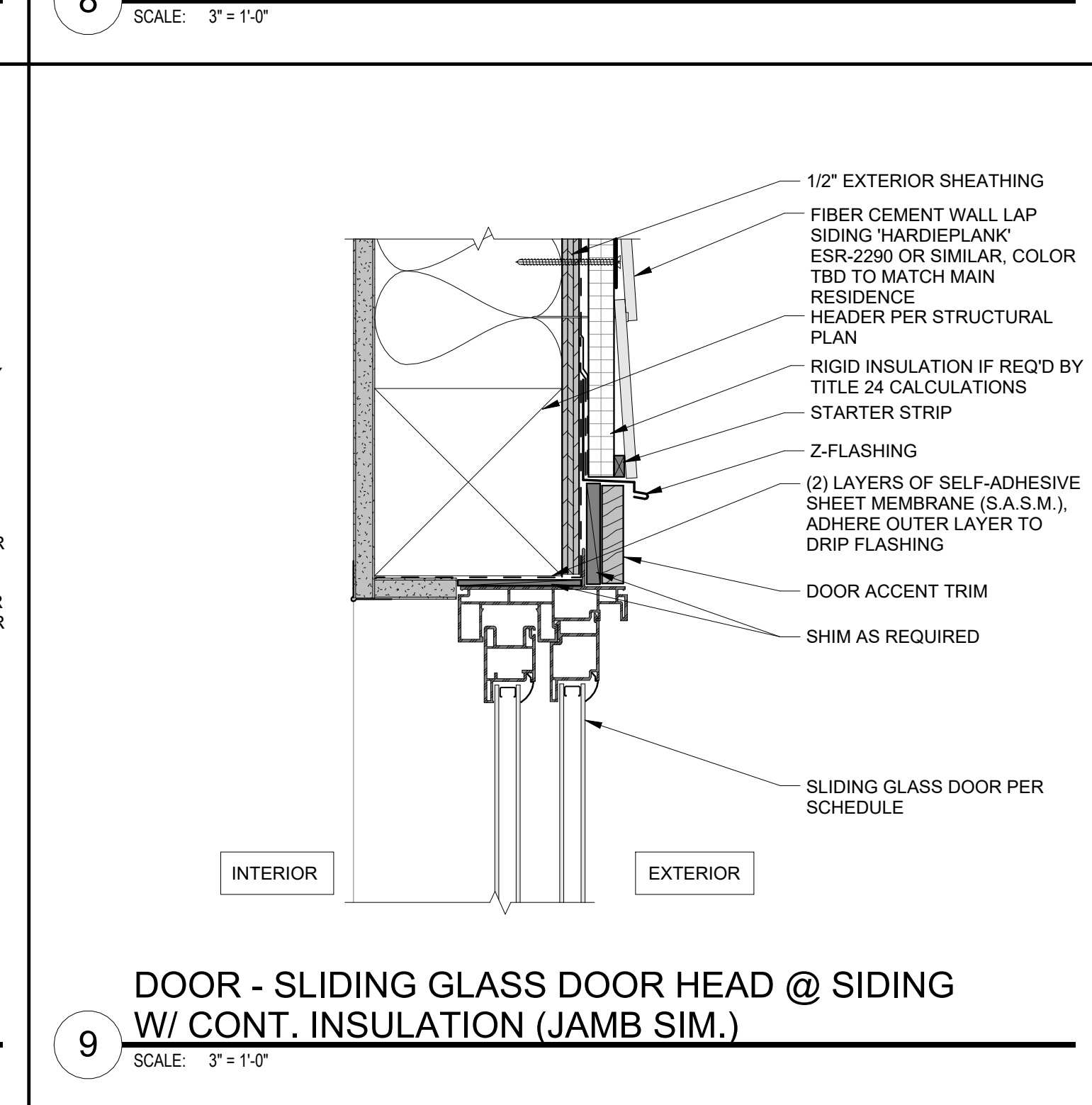
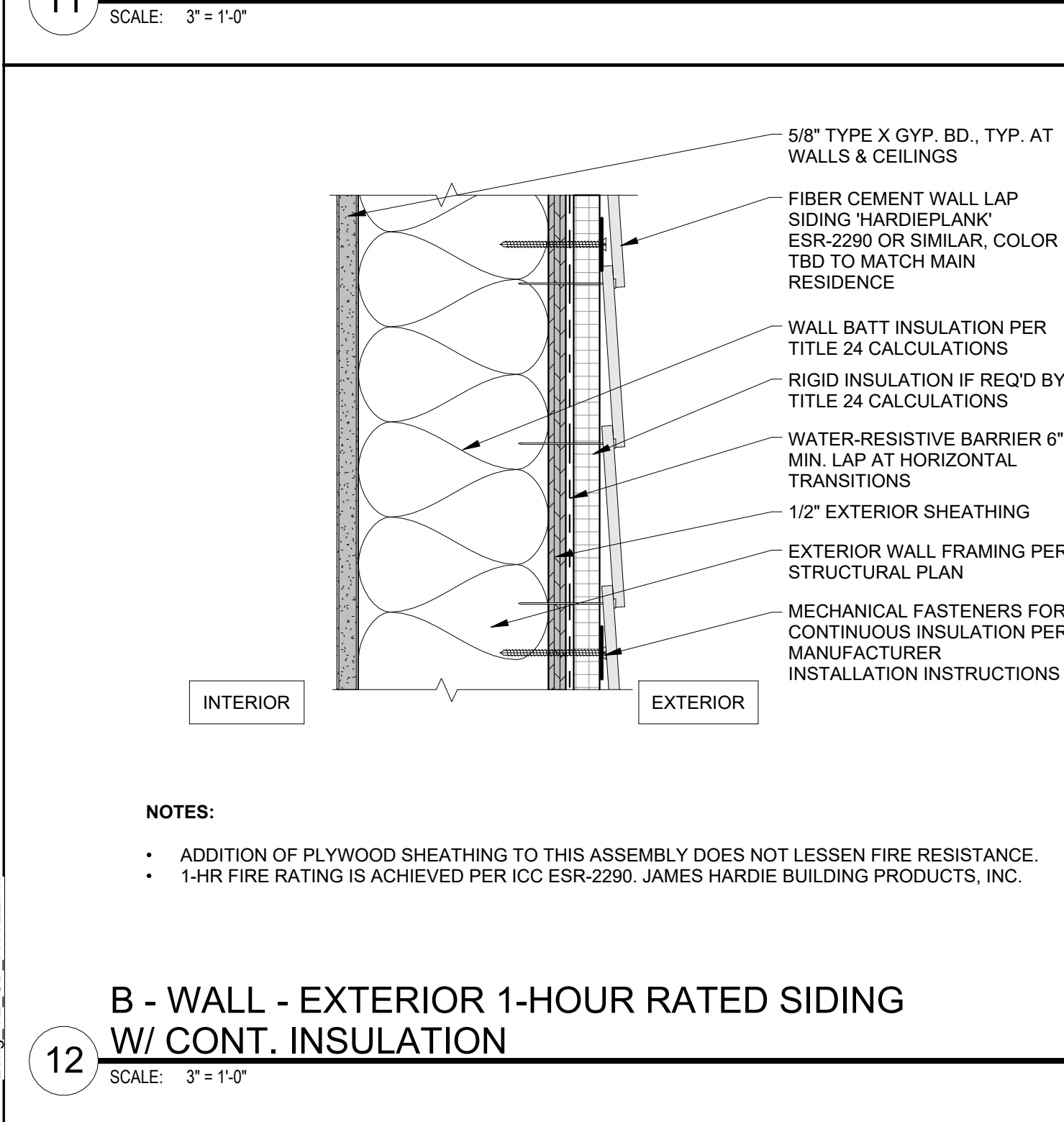
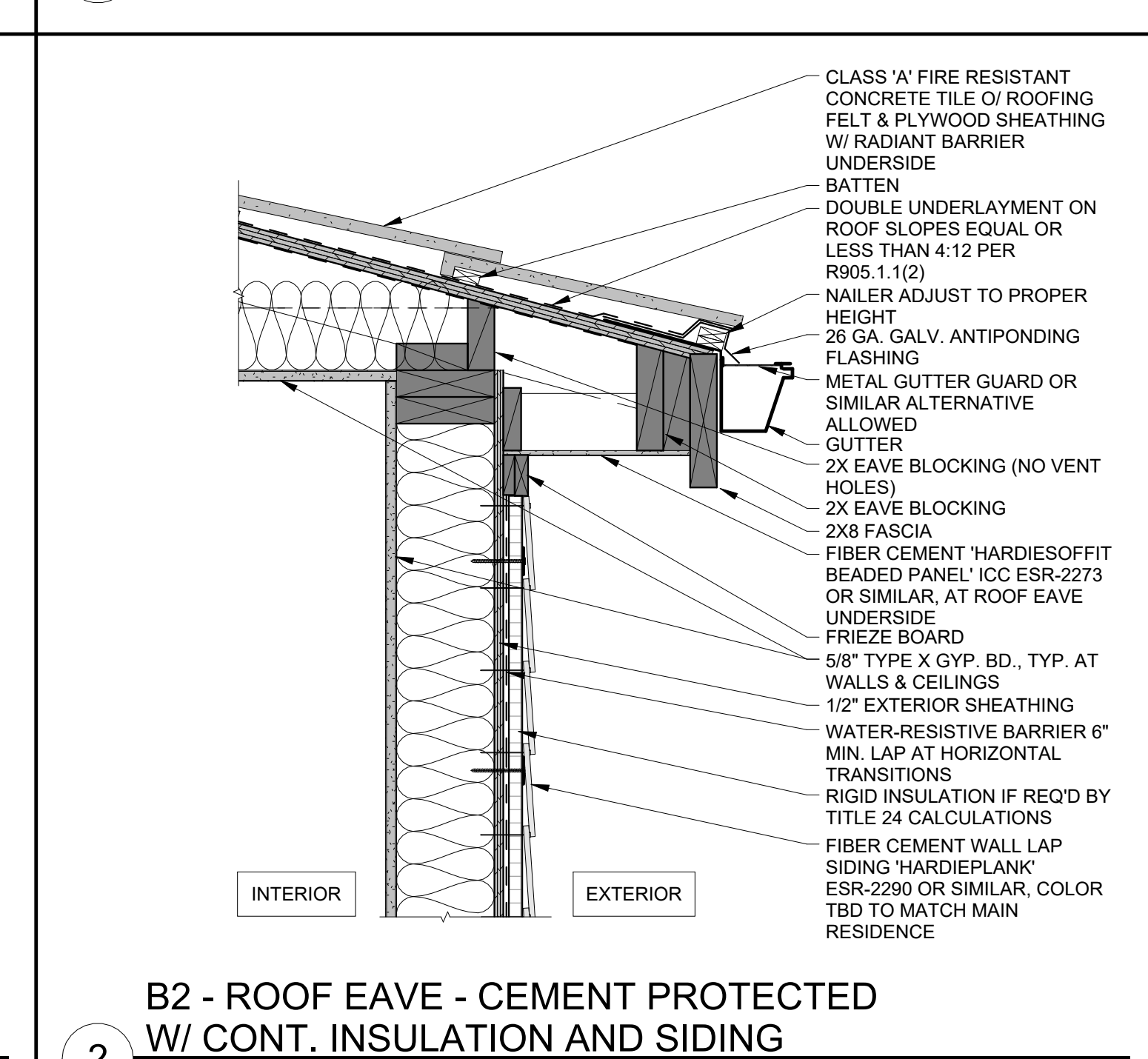
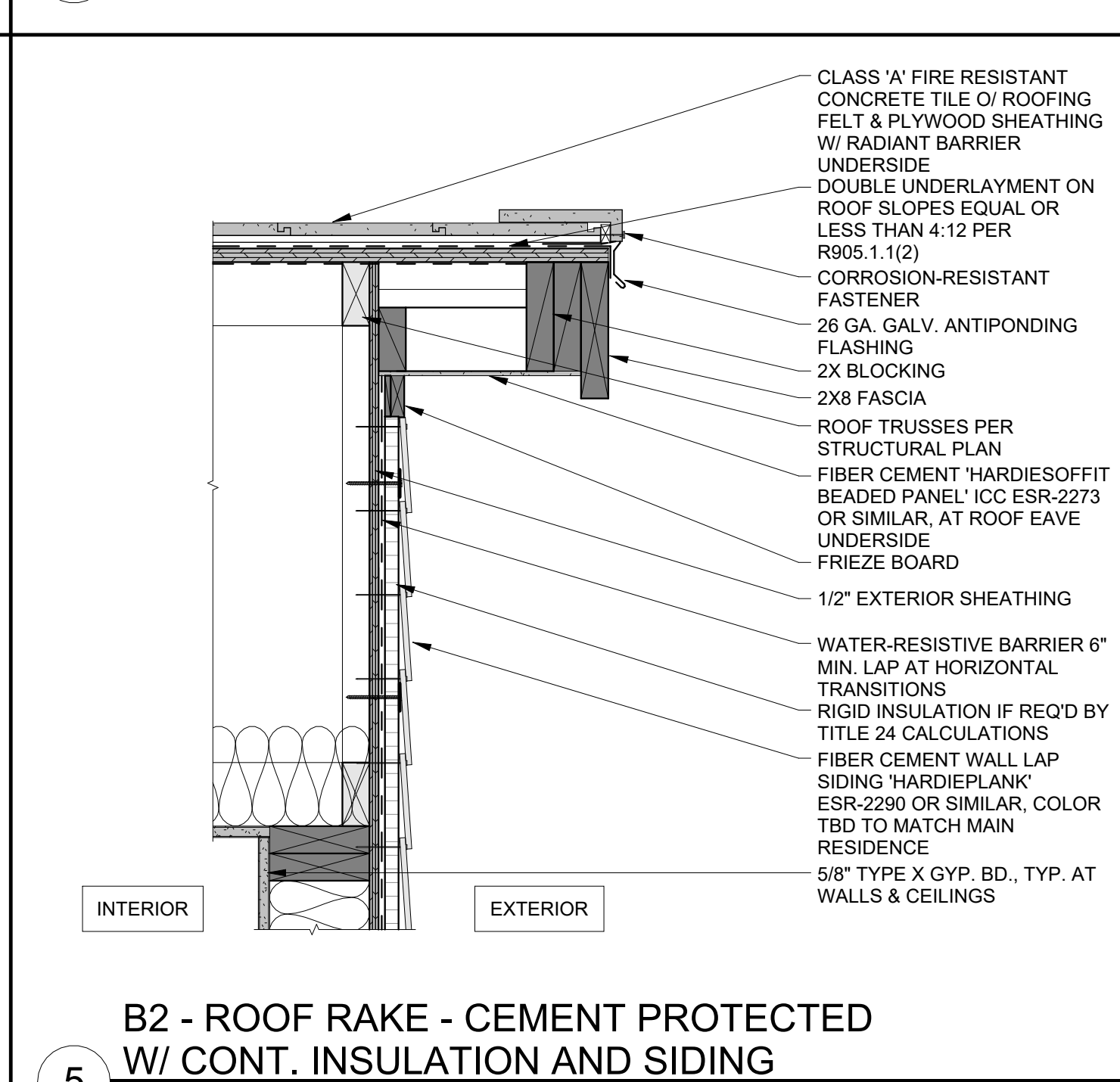
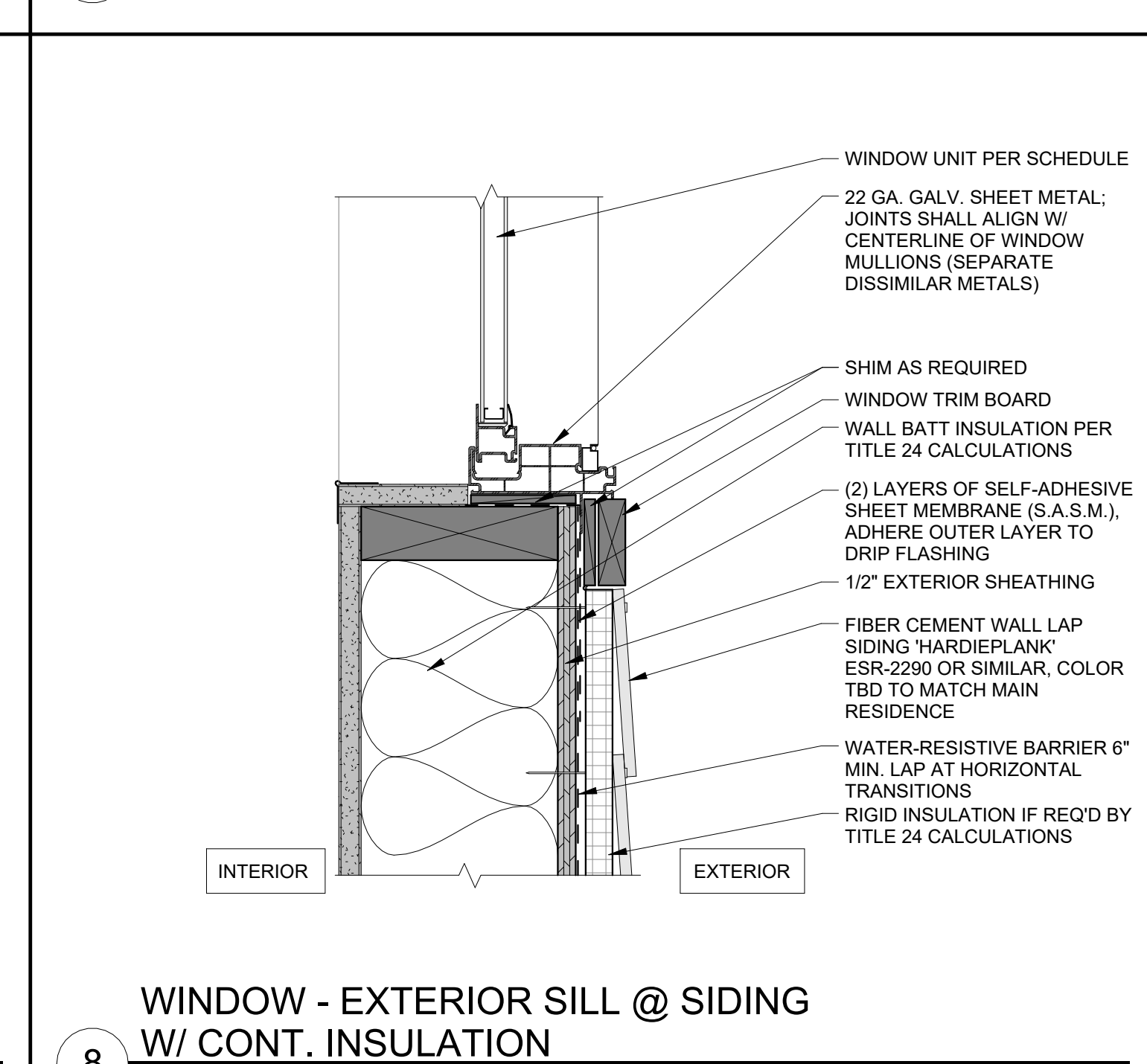
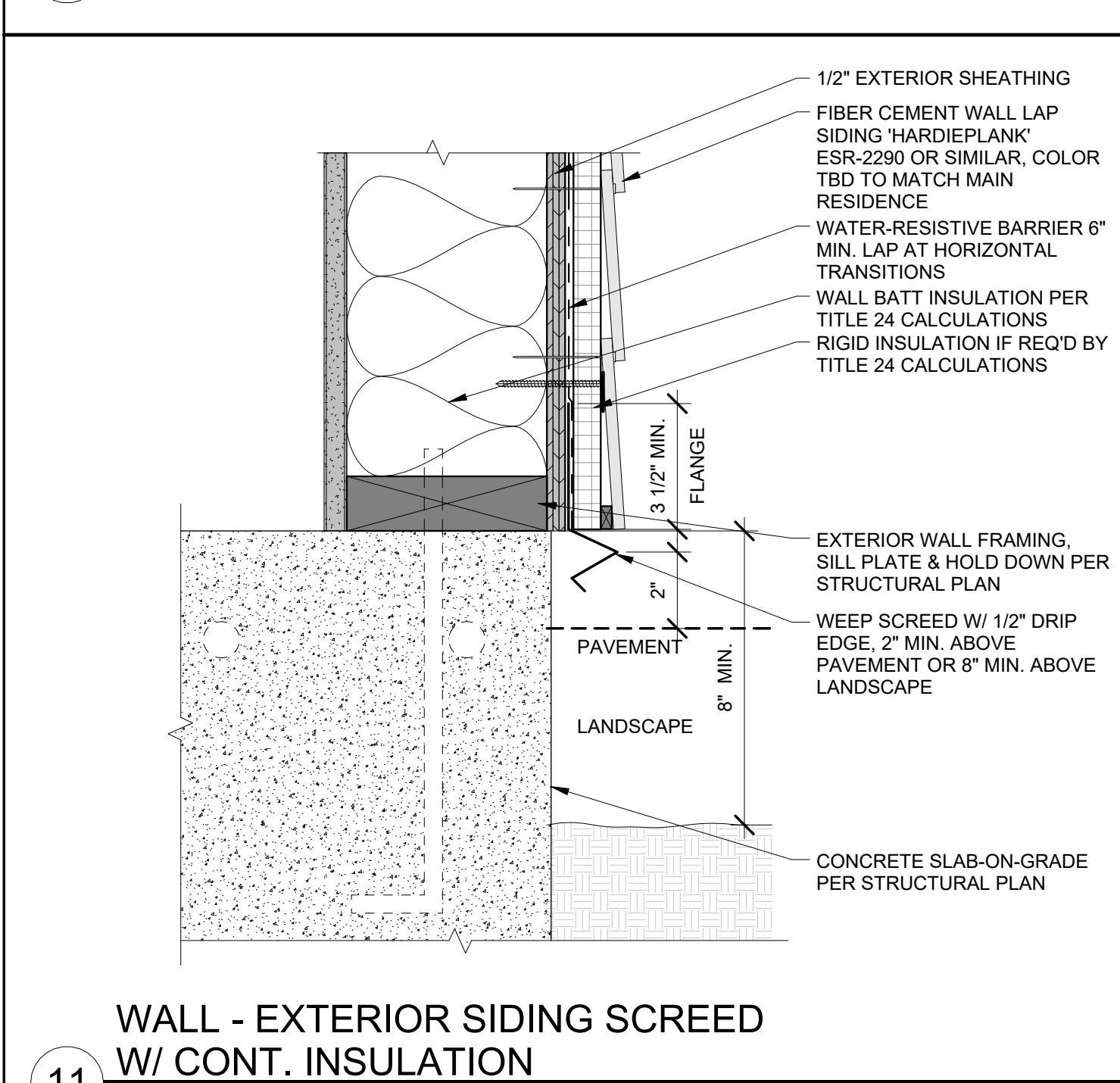
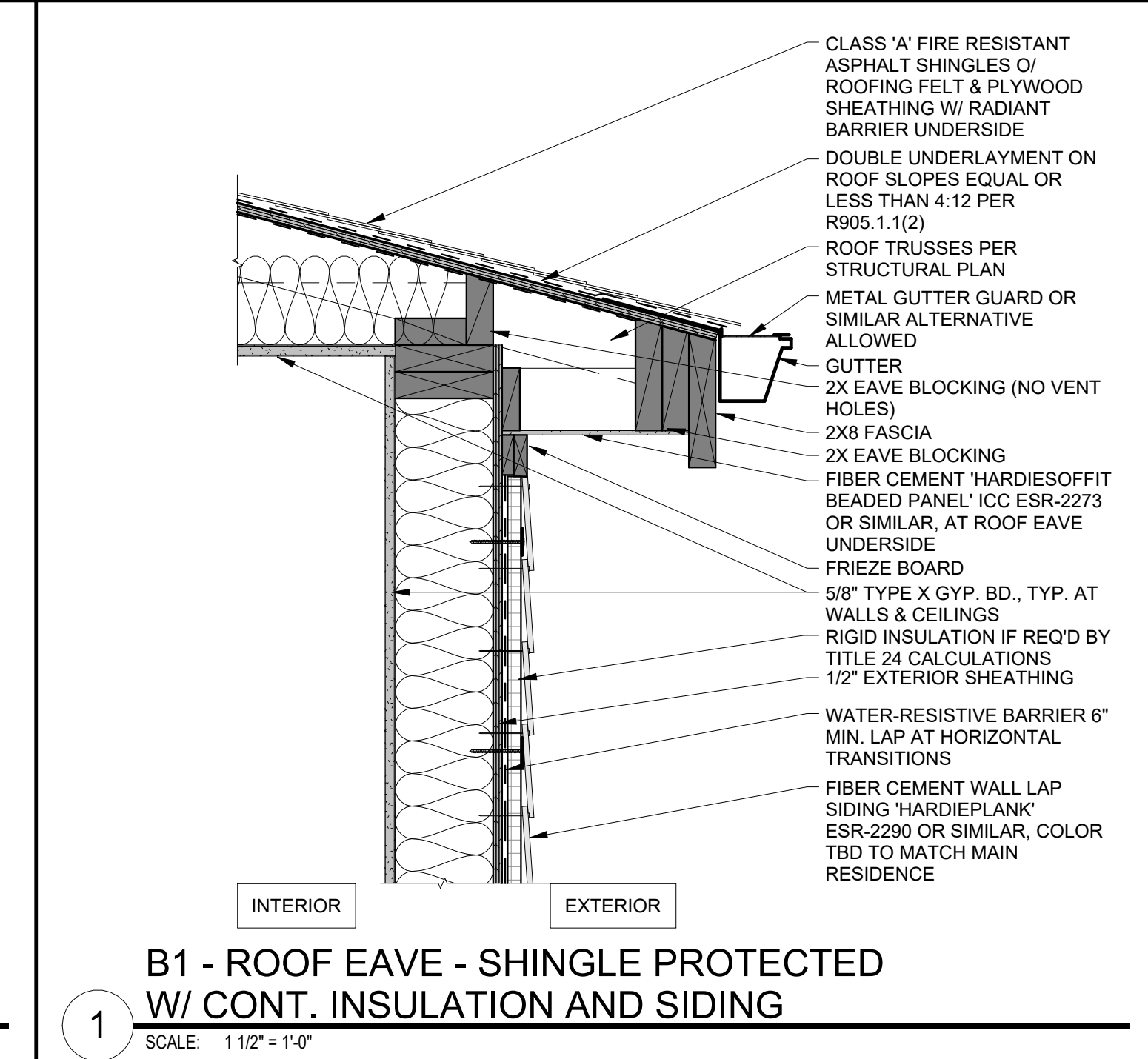
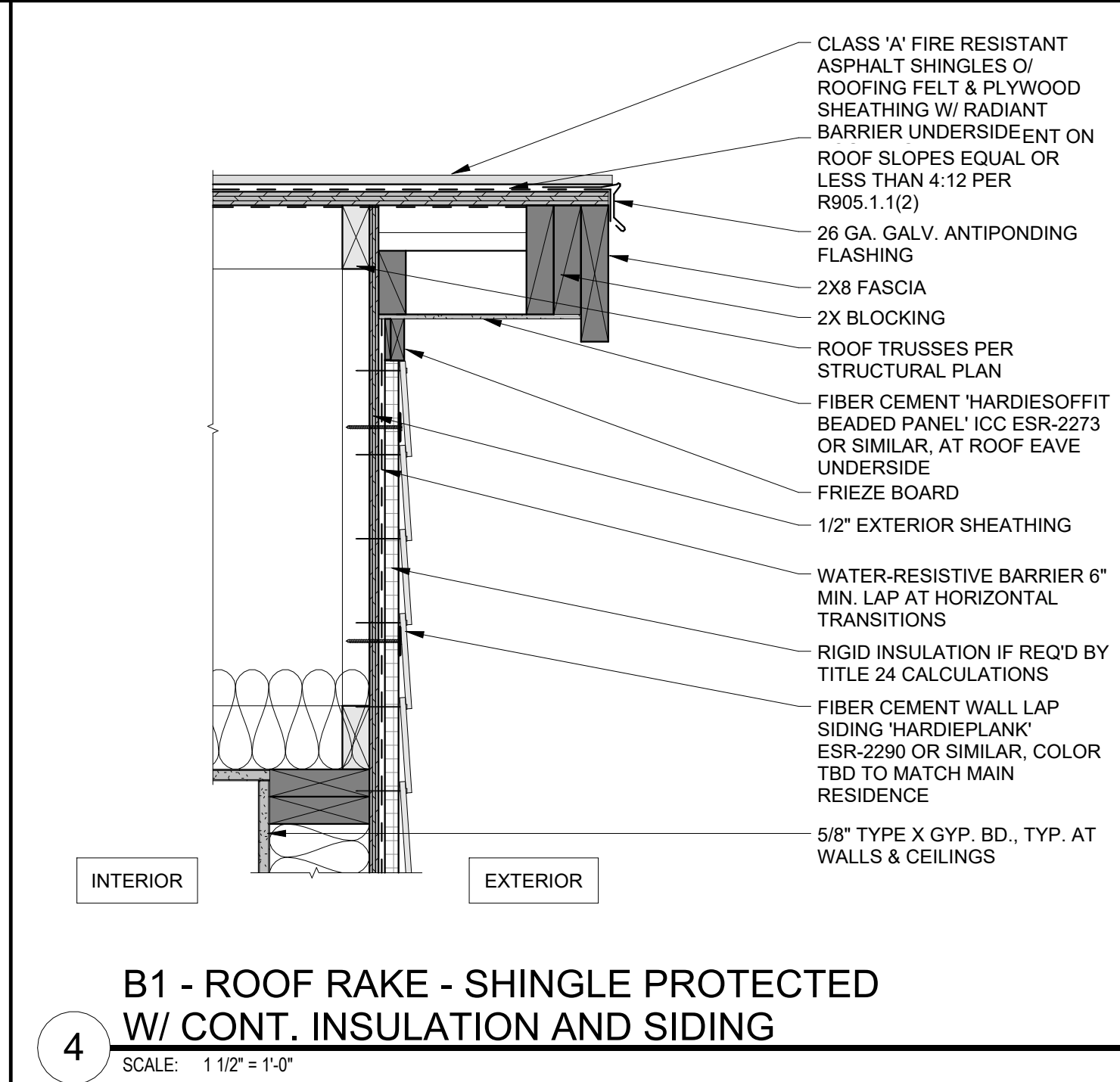
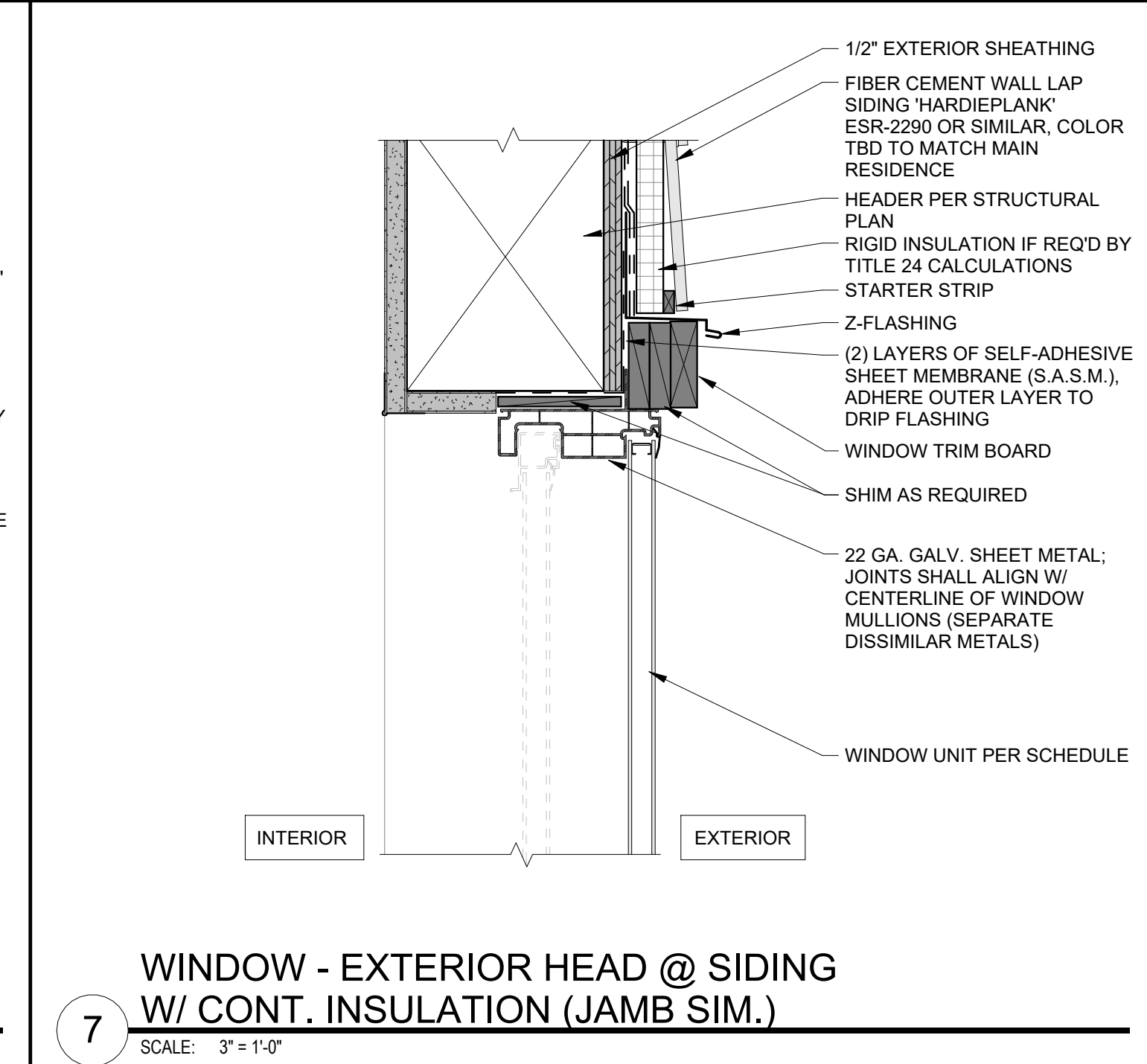
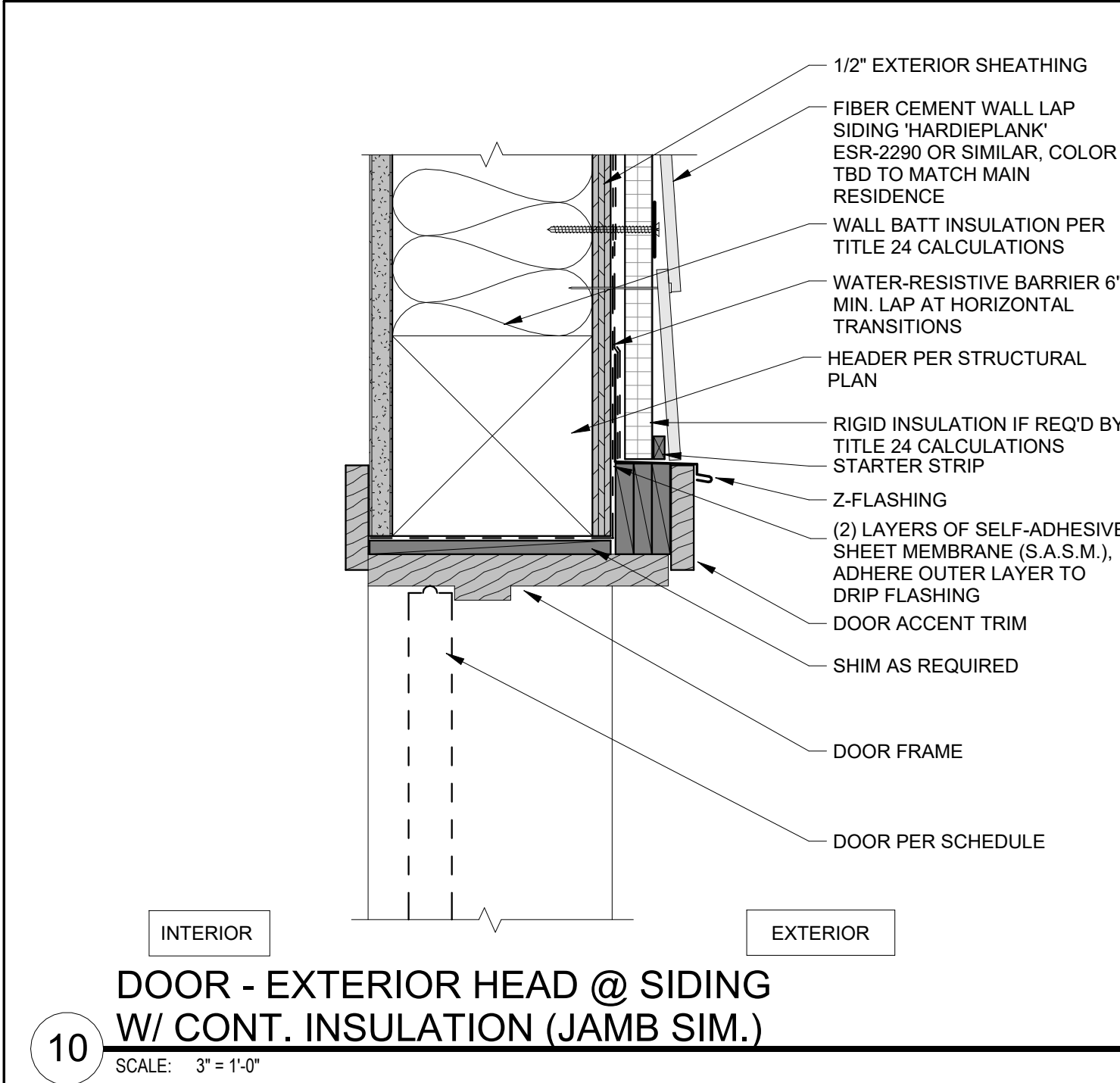
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STUCCO DETAILS

**A510**

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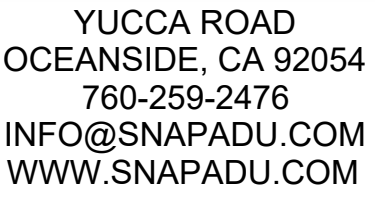


ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU  
  
SIGNATURE

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LAP SIDING  
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CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

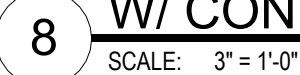
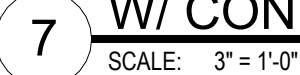
  
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## BOARD & BATTEN DETAILS

# A530

22040



**NOTES:**

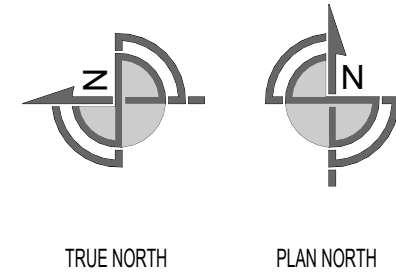
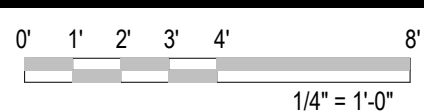
- ADDITION OF PLYWOOD SHEATHING TO THIS ASSEMBLY DOES NOT LESSEN FIRE RESISTANCE.
- 1-HR FIRE RATING IS ACHIEVED PER ICC ESR-1844. JAMES HARDIE BUILDING PRODUCTS, INC.



1

## REVERSE STANDARD 2-BEDROOM ELECTRICAL PLAN






























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



## KEYNOTES

KEYNOTE	DESCRIPTION
15500.1 A	ELECTRIC CLOTHES DRYER (GAS DRYER ALTERN SHALL COMPLY WITH CMC 701.4)
15510.4 A	APPLICANT/OWNER TO PROVIDE CUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS OF TABLE 24 CALCULATIONS
15730.5 A	4" DRYER VENT, SEE SHEET G200 CODE EXCERPTS CHAPTER 5. EXHAUST SYSTEMS FOR MORE INFORMATION
15730.8 B	HOOD EXHAUST FAN ABOVE EXHAUST RANGE 160 CFM OR 65% CMC MIN. (GAS RANGE 280 CFM OR 65% CMC MIN.), 2022 BEES TABLE 190.5
15800.1 A	MINI SPLIT SYSTEM, APPLICANT/OWNER TO PROVIDE CUT SHEET TO MEET MINIMUM REQUIREMENTS OF TABLE 24 CALCULATIONS

## ELECTRICAL FLOOR PLAN LEGEND

 SINGLE POLE SWITCH  
 THREE-WAY SWITCH  
 OCCUPANCY SENSOR SWITCH  
 DIMMER SWITCH  
 DUPLEX RECEPTACLE OUTLET  
 INDICATES OUTLET HEIGHT ABOVE FINISH FLOOR  
 GROUND FAULT CIRCUIT INTERRUPTER DUPLEX OUTLET  
 INDICATES 240V  
 INDICATES WEATHER PROOF  
 PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP  
 SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP  
 JUNCTION BOX  
 THERMOSTAT  
 (1) OUTLET AND BRUSH PLATE BOX @ +12" AND @ +60"  
 COAX CABLE  
 EXHAUST VENT FAN - INTERMITENT 50 CFM MIN / CONTINUOUS 20 CFM MIN  
 EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT  
 MICROWAVE-HOOD EXHAUST FAN COMBO 160 CFM MIN (IF GAS RANGE 280 CFM MIN. TO BE PROVIDED)  
 GAS POINT OF CONNECTION W/ SHUT OFF VALVE  
 WATER CONNECTION  
 HOSE BIB  
 RECESSED CAN LIGHT  
 EXTERIOR WALL MOUNTED LIGHT  
 VANITY SCONCE LIGHT  
 ELECTRIC HEAT PUMP WATER HEATER IN OUTDOOR ENCLOSURE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS  
 POWER AND DISCONNECT FOR A/C CONDENSER  
 A/C CONDENSER  
 EVAPORATOR  
 CEILING FAN WITH LIGHT

**INDOOR AIR QUALITY NOTES:**

1. PROPOSED DWELLING UNIT FOLLOW THE **EXHAUST-ONLY APPROACH** TO COMPLY INDOOR AIR QUALITY (IAQ)/REQUIREMENTS
- A. MANDATORY (CBEES 150.0 (C), ASHRAE STANDARD 62.2):
- EXCEPTION: ADDITIONS 1000 S.F. OR LESS AND ALTERATIONS:
- a. A MECHANICAL EXHAUST VENTILATION SYSTEM, SUPPLY VENTILATION SYSTEM, OR COMBINATION THEREOF SHALL BE INSTALLED FOR EACH DWELLING UNIT TO PROVIDE WHOLE-BUILDING VENTILATION WITH OUTDOOR AIR IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS DEMAND BY THE OCCUPANTS FOR ENERGY EFFICIENT VENTILATION.
  - b. HERS VERIFICATION REQUIRED TO CONFIRM WHOLE-BUILDING VENTILATION AIRFLOW.
  - c. AN INTERMITTENTLY OR CONTINUOUSLY OPERATING LOCAL MECHANICAL EXHAUST VENTILATION SYSTEM SHALL BE INSTALLED IN EACH BATHROOM WITH A BATHTUB, SHOWER, OR SIMILAR MOISTURE SOURCE AND IN EACH KITCHEN IN COMPLIANCE WITH ASHRAE STANDARD 62.2 BY CAPTURING AND EXHAUSTING ENERGY RECOVERY. INTERMITTENT LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 20 CFM IN BATHROOMS AND 5 AIR CHANGES PER HOUR IN KITCHENS BASED ON KITCHEN VOLUME.

**INDOOR AIR QUALITY NOTES:**

ASHRAE STANDARD 62.2 EQUATION 4.1(a)

THE WHOLE-BUILDING EXHAUST FAN SHALL PROVIDE A MINIMUM VENTILATION RATE ACCORDING TO EQUATION 4.1(A) BELOW:

 $Q_{fan} = 0$ 

WHERE:	
	Qfan = FAN FLOW RATE (CFM)
	Afloor = CONDITIONED FLOOR AREA (S.F.)
	Nbr = NUMBER OF BEDROOM, NOT LESS THAN ONE

## CALCUALTIONS

$$Q_{fan} = 0.03(748) + 7.5(2 + 1)$$
$$Q_{fan} = 22.44 + 22.5$$

$$= 44.94 \text{ CFM (50 CFM MIN.)}$$

**IAQ FAN SHALL PROVIDE 50 CFM PER T-24 REPORT**

**LISTED WHOLE-HOUSE FAN NOT REQUIRED**

EXHAUST FAN MODEL: S&P PCD110-PREMIUM CHOICE WITH DC MOTOR; 4" DUCT SONE RATING RANGE: 0.7 - 1.2;  
6" DUCT SONE RATING RANGE: 0.3 - 1.1

### ELECTRICAL NOTES:

## POWER NOTES

1. ALL ELECTRICAL WORK SHALL BE DESIGN PER 2022 CALIFORNIA ELECTRICAL CODE, 2022 NATIONAL ELECTRICAL CODE, AND 2022 BUILDING ENERGY EFFICIENCY STANDARDS.
2. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
3. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
4. ALL THE CONDUCTORS SPECIFIED IN THE PANEL SCHEDULES ARE GROUNDED SEPARATELY.
5. PURCHASE RTU WITH FACTORY INSTALLED DISCONNECT. COORDINATE PROPER RATING OF DISCONNECT WITH MANUFACTURER.
6. INSTALL WEATHERPROOF (WP), GFI PROTECTED, WEATHER RESISTANT RECEPTACLE OUTLETS ON THE ROOFTOP AND WITHIN 25 FT OF HEATING/AIR CONDITIONING AND IDENTIFIED AND LISTED AS "EXTRA DUTY" PER ARTICLE 406.9 (B)(1) & 406.4(D)(6)
7. ALL WORK PERFORMED SHALL COMPLY WITH ALL STATE AND LOCAL ALL ELECTRICAL CODES.
8. ALL BRANCH CIRCUIT BREAKERS SHALL BE 15,000 AIRC RATING, UNLESS NOTED OTHERWISE.
9. ALL THE HVAC UNITS ARE EQUIPPED WITH FACTORY INSTALLED DISCONNECT SWITCH UNLESS NOTIFIED OTHERWISE. COORDINATE WITH MANUFACTURE BEFORE INSTALLATION AND IN THE ABSENCE OF DISCONNECT SWITCH PROVIDE REQUIRED DISCONNECT AS PER NEC 430.104 AND 430.110.
10. THE BATHROOM CIRCUITING SHALL BE EITHER A 20-AMP CIRCUIT DEDICATED TO EACH BATHROOM, OR AT LEAST ONE 20 AMP CIRCUIT DEDICATED TO ONLY BATHROOM RECEPTACLE OUTLETS PER NEC 210.3(V)(3).
11. ALL ELECTRICAL DEVICES INSTALLED IN DWELLINGS SHALL BE PROVIDED WITH ARC-Fault PROTECTION OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A); KITCHENS, LAUNDRY AREAS, FAMILY, LIVING, BEDROOMS, DINING, HALLS, ETC. CEC ARTICLE 210 & 406.
12. ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, SUNROOMS, DINING ROOMS, LIVING ROOMS, PARLOR, TERRACE, PORCHES, PATIOS, BATHROOMS, RECEPTION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREA SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN 210.12(A)(1) THROUGH (6).
13. INSTALL A MINIMUM OF 2 SMALL APPLIANCE BRANCH CIRCUITS WITHIN THE KITCHEN AND DINING AREAS PER NEC 210.11(C)(1) & 210.52(B).
14. ALL OUTLETS IN KITCHEN AND BATHROOMS SHALL BE GFCI PER CEC 210.8.
15. ALL RECEPTACLES INSTALLED IN THE DWELLING SHOULD BE TAMPER RESISTANT PER ARTICLE 210.52 & 550.13.6. PER CEC 210.11(C)(3), BATHROOM CIRCUITING SHALL BE EITHER:
  - A. A 20 AMP CIRCUIT DEDICATED TO EACH BATHROOM, OR
  - B. AT LEAST ONE 20 AMP CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS.
16. ELECTRIC POWERED APPLIANCES SHALL BE PROVIDED WITH A 30A CIRCUIT. CEC 220.54.
17. ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX THERE TO.
18. DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED, SHALL NOT EXCEED 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY, WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES (1219.2 MM) MEASURED FROM THE EXTERIOR FLOOR OR LANDING. A STANDARD DOORBELL BUTTON OR CONTROL SHALL BE INSTALLED AT A HEIGHT NOT EXCEEDING 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL. R327.1.4.
20. SURGE PROTECTION REQUIREMENTS:
  - A. ALL SERVICES SUPPLYING DWELLING UNITS SHALL BE PROVIDED WITH A SURGE-PROTECTIVE DEVICE (SPD).
  - B. LOCATION - THE SPD SHALL NOT BE AN INTEGRAL PART OF THE SERVICE EQUIP-MENT OR SHALL BE LOCATED IMMEDIATELY AFTER THE SERVICE EQUIP-MENT.
  - C. EXCEPTION: THE SPD SHALL NOT BE REQUIRED TO BE IN THE SERVICE EQUIPMENT AS REQUIRED IN 1.
  - D. IF LOCATED AT EACH NEXT LEVEL DISTRIBUTION EQUIPMENT DOWN-STREAM TOWARD THE LOAD.
  - E. TYPE - THE SPD SHALL BE A TYPE 1 OR TYPE 2 SPD.

### LIGHTING NOTES

4. PROVIDE LIGHTING CONTROL WITH CONTINUOUS DIMMING IN ALL AREAS. PROVIDE REQUIRED DRIVERS AND DIMMER SWITCHES FOR CONTINUOUS DIMMING USING 0-10 VOLT DIMMING.
2. LIGHTING SHALL PROVIDE NOT LESS THAN 215 LUX (20 FOOTCANDLES) AS MEASURED 30" ABOVE FLOOR.
3. IF APPLICABLE, SPECIFY THAT THE EXHAUST FANS TO GO ON A SEPARATE SWITCH FROM LIGHTS PER CENC 150.0(K)2B.
- ALL INSTALLED LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH ES TABLE 150.0-A.
- A. LUMINAIRES MUST HAVE A LABEL CERTIFIED FOR AIRTIGHT CONSTRUCTION.
- B. LIGHT SOURCES THAT ARE NOT MARKED "JA8-219-D-E" SHALL NOT BE INSTALLED IN ENCLOSED LUMINAIRES, ES 150.0(K)
5. BATHS, GARAGE, LAUNDRY ROOMS, AND UTILITY ROOM LIGHTING TO HAVE ONE LUMINAIRE CONTROLLED BY A VACANCY OR OCCUPANCY SENSOR PROVIDING AUTOMATIC-OFF FUNCTIONALITY PER CENC SECTION 150.0(K)2. IF AN OCCUPANT SENSOR IS INSTALLED, IT SHALL BE INITIALLY CONFIGURED TO MANUAL-ON OPERATION USING THE MANUAL CONTROL REQUIRED UNDER SECTION 150.0(K)2C.
6. ALL OTHER LUMINAIRES THAT CONTAIN LIGHT SOURCES THAT MEET REFERENCE JOINT APPENDIX JA8 REQUIREMENTS ARE TO BE CONTROLLED BY A VACANCY/OCCUPANCY SENSOR OR DIMMER PER CENC SECTION 150.0(K)2J. NOTE THAT CLOSETED WITH AN AREA LESS THAN 70 FT2 AND HALLWAY LIGHTING ARE EXEMPT FROM THIS REQUIREMENT.
7. RECESSED CAN LIGHT FIXTURES SHALL BE C LISTED, AIR-TIGHT LABELED, AND NOT BE EQUIPPED WITH A STANDARDS MEDIUM BASE SCREW SHELL LAMP HOLDER, ES 150.0(K)
8. ALL LIGHT SOURCES IN BUILDING ARE REQUIRED TO BE HIGH EFFICACY, AND SHALL BE MANUALLY ON/OFF SWITCH CONTROLLED, AND HAVE BOTH MOTION SENSOR AND PHOTOCELL CONTROL, SEE ES 150.0(K) 3 FOR ADDITIONAL CONTROL OPTIONS.

**SDGE NOTES:**

1. SDGE HAS SPECIFIC REQUIREMENTS ABOUT THE NUMBER OF MAIN ELECTRICAL SERVICE PANELS (HOW MANY ELECTRICAL DROPS) ALLOWED ON THE SAME LOT, WHICH IS DIFFERENT FROM THE REQUIREMENTS OF THE CITY OF CHULA VISTA AND CALIFORNIA ELECTRICAL CODE.
2. SDGE MAY REQUIRE ALL NEW ADU(S)/JADU(S) TO BE PLACED ON A SEPARATE ELECTRIC METER.
3. IT IS THE RESPONSIBILITY OF THE PROJECT DESIGNER TO CONTACT SDGE FOR THE REQUIREMENTS FOR SETTING UP THE NEW ELECTRICAL UTILITIES TO ALL NEW ADU(S)/JADU(S).
4. REFER TO THE CURRENT SDGE SERVICE STANDARDS AND GUIDE TO ENSURE THAT PROJECT COMPLIES WITH THEIR REQUIREMENTS.

**MECHANICAL NOTES:**

### EXHAUST FAN NOTES

1. KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 160 CFM (280 CFM IF GAS RANGE) DUCTED TO THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST FAN OR A DUCTED RANGE HOOD TO THE EXTERIOR.
2. BATHROOMS REQUIRE EXHAUST FANS (MINIMUM 50 CFM) TO BE DUCTED TO THE EXTERIOR. A BATHROOM IS DEFINED "AS A ROOM WITH A BATHTUB, SHOWER, OR SPA OR SOME SIMILAR SOURCE OF MOISTURE".
3. RESIDENTIAL BATHROOM EXHAUST FANS SHALL BE ENERGY STAR RATED AND SHALL BE CONTROL BY A HUMIDISTAT CAPABLE OF AN ADJUSTMENT BETWEEN 50 AND 80% HUMIDITY. CALGREEN 4.506.1. EXCEPTION: CONTROL BY A HUMIDISTAT IS NOT REQUIRED IF THE BATHROOM EXHAUST FAN IS ALSO THE DWELLING WHOLE HOUSE VENTILATION.

**SMOKE & CARBON MONOXIDE NOTES:**

### SMOKE & CARBON MONOXIDE ALARM NOTES

2. SMOKE ALARMS SHALL BE INTERCONNECTED PER CRC R314.4.
3. SMOKE ALARMS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6 IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS (CRC R314.3):
  - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
  - B. ON EACH STORY OF DWELLING
  - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
3. CARBON MONOXIDE DETECTOR SHALL BE INTERCONNECTED PER CRC R315.17 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5 - IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS IN DWELLING UNITS WITH FUEL-BURNING APPLIANCES, FIREPLACE, OR AN ATTACHED GARAGE COMMUNICATING WITH THE DWELLING (CRC R315):
  - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
  - B. ON EACH STORY OF DWELLING
  - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
4. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL-217 AND UL-2034, CRC R314.1.1 & R315.1.1.
5. SMOKE ALARMS SHALL BE LOCATED AT LEAST 3 FT FROM THE ENTRY DOOR TO ANY BATHROOM CONTAINING A BATHTUB/SHOWER, CRC R314.3.3.
6. ALL SMOKE ALARMS SHALL BE LOCATED AT LEAST 20 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE, CRC R314.3.3.4.
  - A. SMOKE ALARMS ARE ALLOWED TO BE 10 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE IF THE SMOKE ALARM IS AN IONIZATION SMOKE ALARM WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3.4 (4) EXCEPTION.



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DESIGNER:  
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SnapADU

  
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REVERSE  
ELECTRICAL PLAN  
- 2 BEDROOM

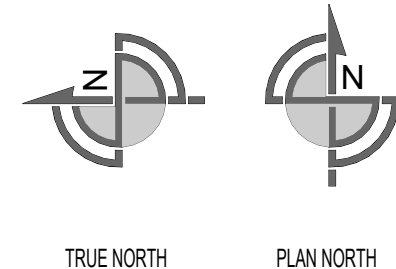
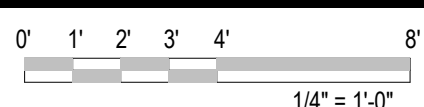
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## REVERSE 1-BEDROOM OPTION ELECTRICAL PLAN






























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## KEYNOTES

KEYNOTE	DESCRIPTION
15500.A1	ELECTRIC CLOTHES DRYER (GAS DRYER ALTERN SHALL COMPLY WITH CMC 701.4)
15510.A3	APPLICANT/OWNER TO PROVIDE CUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS FOR 222E BEES TABLE 2.2.4 CALCULATIONS
15730.A5	4" DRYER VENT; SEE SHEET G200 CODE EXCERPTS CHAPTER 5; EXHAUST SYSTEMS FORM MORE INFORMATION
15730.A8	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 160 CFM OR 65% CMC MIN. (GAS RANGE 280 CFM OR 65% CMC MIN.); 2022 BEES TABLE 2.2.4 CALCULATIONS
15800.A1	MINI SPLIT SYSTEM; APPLICANT/OWNER TO PROVIDE CUT SHEET TO MEET MINIMUM REQUIREMENTS OF TITLE 2.2.4 CALCULATIONS

## ELECTRICAL FLOOR PLAN LEGEND

 SINGLE POLE SWITCH  
 THREE-WAY SWITCH  
 OCCUPANCY SENSOR SWITCH  
 DIMMER SWITCH  
 DUPLEX RECEPTACLE OUTLET  
 INDICATES OUTLET HEIGHT ABOVE FINISH FLOOR  
 GROUND FAULT CIRCUIT INTERRUPTER DUPLEX OUTLET  
 INDICATES 240V  
 INDICATES WEATHER PROOF  
 PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP  
 SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP  
 JUNCTION BOX  
 THERMOSTAT  
 (1) OUTLET AND BRUSH PLATE BOX @ +12" AND @ +60"  
 COAX CABLE  
 EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 200 CFM MIN  
 EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT  
 MICROWAVE-HOOD EXHAUST FAN COMBO 160 CFM MIN (IF GAS RANGE 280 CFM MIN. TO BE PROVIDED)  
 GAS POINT OF CONNECTION W/ SHUT OFF VALVE  
 WATER CONNECTION  
 HOSE BIB  
 RECESSED CAN LIGHT  
 EXTERIOR WALL MOUNTED LIGHT  
 VANITY SCONCE LIGHT  
 ELECTRIC HEAT PUMP WATER HEATER IN OUTDOOR ENCLOSURE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS  
 POWER AND DISCONNECT FOR A/C CONDENSER  
 A/C CONDENSER  
 EVAPORATOR  
 CEILING FAN WITH LIGHT

**INDOOR AIR QUALITY NOTES:**

1. PROPOSED DWELLING UNIT FOLLOW THE **EXHAUST-ONLY APPROACH** TO COMPLY INDOOR AIR QUALITY (IAQ) REQUIREMENTS
- A. MANDATORY (CBEES 150.0 (O), ASHRAE STANDARD 62.2):
- EXCEPTION: ADDITIONS 1000 S.F. OR LESS AND ALTERATIONS:
- MECHANICAL EXHAUST VENTILATION SYSTEM, SUPPLY VENTILATION SYSTEM, OR COMBINATION THEREOF SHALL BE INSTALLED FOR EACH DWELLING UNIT TO PROVIDE WHOLE-BUILDING VENTILATION WITH OUTDOOR AIR IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION.
  - HERMETICALLY SEALED BUILDING ENVELOPE TO MAINTAIN BUILDING VENTILATION AIRFLOW.
  - AN INTERMITTENTLY OR CONTINUOUSLY OPERATING LOCAL MECHANICAL EXHAUST VENTILATION SYSTEM SHALL BE INSTALLED IN EACH BATHROOM WITH A BATHTUB, SHOWER, OR SIMILAR MOISTURE SOURCE AND IN EACH KITCHEN IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION. AN INTERMITTENT LOCAL MECHANICAL EXHAUST VENTILATION AIRFLOW RATE SHALL BE 100 CFM IN BATHROOMS AND 5 AIR CHANGES PER HOUR IN KITCHENS BASED ON KITCHEN VOLUME.

**INDOOR AIR QUALITY NOTES:**

ASHRAE STANDARD 62.2 EQUATION 4.1(a)	
THE WHOLE-BUILDING EXHAUST FAN SHALL PROVIDE A MINIMUM VENTILATION RATE ACCORDING TO EQUATION 4.1(a) BELOW:	
$Q_{fan} = 0.03A_{floor} + 7.5 (N_{br} + 1)$	
WHERE:	$Q_{fan}$ = FAN FLOW RATE (CFM) $A_{floor}$ = CONDITIONED FLOOR AREA (S.F.) $N_{br}$ = NUMBER OF BEDROOM, NOT LESS THAN ONE
CALCULATIONS:	$Q_{fan} = 0.03(749) + 7.5 (2 + 1)$ $Q_{fan} = 22.44 + 22.5$ $= 44.94 \text{ CFM (50 CFM MIN.)}$
IAQ FAN SHALL PROVIDE 50 CFM PER T-24 REPORT	
LISTED WHOLE-HOUSE FAN NOT REQUIRED	
EXHAUST FAN MODEL: S&P PCD110-PREMIUM CHOICE WITH DC MOTOR; 4" DUCT SONE RATING RANGE: 0.7 - 1.2; 6" DUCT SONE RATING RANGE: 0.3 - 1.1	

### ELECTRICAL NOTES:

### POWER NOTES

1. ALL ELECTRICAL WORK SHALL BE DESIGN PER 2022 CALIFORNIA ELECTRICAL CODE, 2022 NATIONAL ELECTRICAL CODE, AND 2022 BUILDING ENERGY EFFICIENCY STANDARDS.
2. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
3. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
4. ALL THE CONDUCTORS SPECIFIED IN THE PANEL SCHEDULES ARE GROUNDED SEPARATELY.
5. PURCHASE RUT WITH FACTORY INSTALLED DISCONNECT. COORDINATE PROPER RATING OF DISCONNECT WITH MANUFACTURER.
6. INSTALL WEATHERPROOF (WP), GFI PROTECTED, WEATHER RESISTANT RECEPTACLE OUTLETS ON THE ROOFTOP AND WITHIN 25 FT OF HEATING/AIR CONDITIONING AND IDENTIFIED AND LISTED AS "EXTRA DUTY" PER ARTICLE 406.9 (B)(1) & 406.4(D)(6)
7. ALL WORK PERFORMED SHALL COMPLY WITH ALL STATE AND LOCAL ALL ELECTRICAL CODES.
8. ALL BRANCH CIRCUIT BREAKERS SHALL BE 10,000 AIC RATING, UNLESS NOTED OTHERWISE.
9. ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING DISCONNECT SWITCH UNLESS NOTIFIED OTHERWISE. COORDINATE WITH MANUFACTURE BEFORE INSTALLATION AND IN THE ABSENCE OF DISCONNECT SWITCH PROVIDE REQUIRED DISCONNECT AS PER NEC 400.104 AND 430.110.
10. THE BATHROOM CIRCUITING SHALL BE EITHER A 20-AMP CIRCUIT DEDICATED TO EACH BATHROOM, OR AT LEAST ONE 20 AMP CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS PER NEC 210.11(C)(3).
11. ALL ELECTRICAL DEVICES IN DWELLINGS SHALL BE PROVIDED WITH ARC-Fault PROTECTION OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A); KITCHENS, LAUNDRY AREAS, FAMILY, LIVING, BEDROOMS, DINING, HALLS, ETC. EEC ARTICLE 210 & 406.
12. ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, SUNROOMS, DINING ROOMS, LIVING ROOMS, PORCHES, TERRACES, PATIOS, REAR PORCHES, REAR PATIOS, REAR PATIOS, REAR PATIOS, REAR PATIOS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREA SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN 210.12(A)(1) THROUGH (6).
13. INSTALL A MINIMUM OF 2 SMALL APPLIANCE BRANCH CIRCUITS WITHIN THE KITCHEN AND DINING AREAS PER NEC 210.11(C)(1) & 210.52(B).
14. ALL OUTLETS IN KITCHEN AND BATHROOMS SHALL BE GFCI PER NEC 210.8.
15. ALL RECEPTACLES INSTALLED IN THE DWELLING SHOULD BE TAMPER RESISTANT PER ARTICLE 210.52 & 550.13.
16. PER NEC 210.11(C)(3), BATHROOM CIRCUITING SHALL BE EITHER:
  - A. A 20 AMP CIRCUIT DEDICATED TO EACH BATHROOM, OR
  - B. AT LEAST ONE 20 AMP CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS.
17. ELECTRICAL POWERED APPLIANCES SHALL BE PROVIDED WITH A 30A CIRCUIT, EEC 220.54.
18. ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR. R327.1.2
19. DOORBELL BUTTONS OR CONTROLS SHALL BE LOCATED NOT EXCEED 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY, WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES (1219.2 MM) MEASURED FROM THE EXTERIOR FLOOR OR LANDING. A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL. R327.1.4
20. SURGE PROTECTION REQUIREMENTS:
  - A. ALL SERVICES SUPPLYING DWELLING UNITS SHALL BE PROVIDED WITH A SURGE-PROTECTIVE DEVICE (SPD), B. LOCATION - THE SPD SHALL BE AN INTEGRAL PART OF THE SERVICE EQUIP-MENT OR SHALL BE LOCATED IMMEDIATELY ADJACENT THERETO.
  - C. LOCATION - THE SPD SHALL NOT BE REQUIRED TO BE IN THE SERVICE EQUIPMENT AS REQUIRED IN D. IF LOCATED AT EACH NEXT LEVEL DISTRIBUTION EQUIPMENT DOWN-STREAM TOWARD THE LOAD.
  - E. TYPE - THE SPD SHALL BE A TYPE 1 OR TYPE 2 SPD.

### LIGHTING NOTES

4. PROVIDE LIGHTING CONTROL WITH CONTINUOUS DIMMING IN ALL AREAS. PROVIDE REQUIRED DIMMER AND DIMMER SWITCHES FOR CONTINUOUS DIMMING USING 0-10 VOLT DIMMING.
2. LIGHTING SHALL PROVIDE NOT LESS THAN 215 LUX (20 FOOTCANDLES) AS MEASURED 30" ABOVE FLOOR.
3. IF APPLICABLE, SPECIFY THAT THE EXHAUST FANS TO BE ON A SEPARATE SWITCH FROM LIGHTS PER CENC 150.0(K)2B.
4. ALL INSTALLED LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH ES TABLE 150.0-A.
- A. LUMINAIRES MUST HAVE A LABEL CERTIFIED FOR AIRTIGHT CONSTRUCTION.
- B. LIGHT SOURCES THAT ARE NOT MARKED "JAS-219-D-E" SHALL NOT BE INSTALLED IN ENCLOSED LUMINAIRES. SEE 150.0(K)
5. BATHS, GARAGE, LAUNDRY ROOMS, AND UTILITY ROOM LIGHTING TO HAVE ONE LUMINAIRE CONTROLLED BY A VACANCY OR OCCUPANCY SENSOR PROVIDING AUTOMATIC-OFF FUNCTIONALITY PER CENC SECTION 150.0(K)2. IF AN OCCUPANT SENSOR IS INSTALLED, IT SHALL BE INITIALLY CONFIGURED TO MANUAL-ON OPERATION USING THE MANUAL CONTROL REQUIRED UNDER SECTION 150.0(K)2C.
6. ALL OTHER LUMINAIRES THAT CONTAIN LIGHT SOURCES THAT MEET REFERENCE JOINT APPENDIX JAB REQUIREMENTS ARE NOT REQUIRED TO BE CONTROLLED BY A VACANCY/OCCUPANCY SENSOR OR DIMMER PER CENC SECTION 150.0(K)2J. NOTE THAT CLOSETED WITH AN AREA LESS THAN 70 FT2 AND HALLWAY LIGHTING ARE EXEMPT FROM THIS REQUIREMENT.
7. RECESSED CAN LIGHT FIXTURES SHALL BE CL LISTERED, AIR-TIGHT LABELED, AND NOT BE EQUIPPED WITH A STANDARDS MEDIUM BASE SCREW SHELL LAMP HOLDER. SEE 150.0(K)
8. ALL LIGHT SOURCES IN BUILDING ARE REQUIRED TO BE HIGH EFFICACY. ALL LIGHT SOURCES ARE REQUIRED TO BE MANUALLY ON/OFF SWITCH CONTROLLED, AND HAVE BOTH OCCUPANCY SENSOR AND PHOTOCELL CONTROL. SEE ES 150.0(K) 3 FOR ADDITIONAL CONTROL OPTIONS.

**SDGE NOTES:**

1. SDGE HAS SPECIFIC REQUIREMENTS ABOUT THE NUMBER OF MAIN ELECTRICAL SERVICE PANELS (HOW MANY ELECTRICAL DROPS) ALLOWED ON THE SAME LOT, WHICH IS DIFFERENT FROM THE REQUIREMENTS OF THE CITY OF CHULA VISTA AND CALIFORNIA ELECTRICAL CODE.
2. SDGE MAY REQUIRE ALL NEW ADU(S)/JADU(S) TO BE PLACED ON A SEPARATE ELECTRIC METER.
3. IT IS THE RESPONSIBILITY OF THE PROJECT DESIGNER TO CONTACT SDGE FOR THE REQUIREMENTS FOR SETTING UP THE NEW ELECTRICAL UTILITIES TO ALL NEW ADU(S)/JADU(S).
4. REFER TO THE CURRENT SDGE SERVICE STANDARDS AND GUIDE TO ENSURE THAT PROJECT COMPLIES WITH THEIR REQUIREMENTS.

**MECHANICAL NOTES:**

### EXHAUST FAN NOTES

1. KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 160 CFM (280 CFM IF GAS RANGE) DUCTED TO THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST FAN OR A DUCTED RANGE HOOD TO THE EXTERIOR.
2. BATHROOMS REQUIRE EXHAUST FANS (MINIMUM 50 CFM) TO BE DUCTED TO THE EXTERIOR. A BATHROOM IS DEFINED "AS A ROOM WITH A BATHTUB, SHOWER, OR SPA OR SOME SIMILAR SOURCE OF MOISTURE".
3. RESIDENTIAL BATHROOM EXHAUST FANS SHALL BE ENERGY STAR RATED AND SHALL BE CONTROL BY A HUMIDISTAT CAPABLE OF AN ADJUSTMENT BETWEEN 50 AND 80% HUMIDITY. CALGREEN 4.506.1. EXCEPTION: CONTROL BY A HUMIDISTAT IS NOT REQUIRED IF THE BATHROOM EXHAUST FAN IS ALSO THE DWELLING WHOLE HOUSE VENTILATION.

**SMOKE & CARBON MONOXIDE NOTES:**

### SMOKE & CARBON MONOXIDE ALARM NOTES

1. SMOKE ALARMS SHALL BE INTERCONNECTED PER CRC R314.4.
2. SMOKE ALARMS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6 IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS (CRC R314.3):
  - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
  - B. ON EACH STORY OF DWELLING
  - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
3. CARBON MONOXIDE DETECTOR SHALL BE INTERCONNECTED PER CRC R315.17 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5 - IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS IN DWELLINGS UNITS WITH FUEL-BURNING APPLIANCES, FIREPLACE, OR AN ATTACHED GARAGE COMMUNICATING WITH THE DWELLING UNIT (CRC R315):
  - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
  - B. ON EACH STORY OF DWELLING
  - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
4. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL-217 AND UL-203C (CRC R314.1.1 & R315.1.1).
5. SMOKE ALARMS SHALL BE LOCATED AT LEAST 3 FT FROM THE ENTRY DOOR TO ANY BATHROOM CONTAINING A BATHTUB/SHOWER (CRC R314.3.3).
6. ALL SMOKE ALARMS SHALL BE LOCATED AT LEAST 20 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE (CRC R314.3.3).
  - A. SMOKE ALARMS ARE ALLOWED TO BE 10 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE IF THE SMOKE ALARM IS AN IONIZATION SMOKE ALARM WITH A COOKING SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3, (4) EXCEPTION.



ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
SnapADU

  
SIGNATURE

[illegible]

REVERSE  
ELECTRICAL PLAN  
- 1 BEDROOM

# E101R

22040



KEYNOTE	DESCRIPTION

	<b>SINGLE POLE SWITCH</b>
	<b>THREE-WAY SWITCH</b>
	<b>OCCUPANCY SENSOR SWITCH</b>
	<b>DIMMER SWITCH</b>
	<b>DUPLEX RECEPTACLE OUTLET</b>
	<b>INDICATES OUTLET HEIGHT ABOVE FINISH FLOOR</b>
	<b>GROUND FAULT CIRCUIT INTERRUPTER DUPLEX OUTLET</b>
	<b>INDICATES 240V</b>
	<b>INDICATES WEATHER PROOF</b>
	<b>PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP</b>
	<b>SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP</b>
	<b>JUNCTION BOX</b>
	<b>THERMOSTAT</b>
	<b>(1) OUTLET AND BRUSH PLATE BOX @ +12" AND @ +60"</b>
	<b>COAX CABLE</b>
	<b>EXHAUST VENT FAN - INTERMITENT 50 CFM MIN / CONTINUOUS 20 CFM MIN</b>
	<b>EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT</b>
	<b>MICROWAVE-HOOD EXHAUST FAN COMBO 160 CFM MIN (IF GAS RANGE 280 CFM MIN. TO BE PROVIDED)</b>
	<b>GAS POINT OF CONNECTION W/ SHUT OFF VALVE</b>
	<b>WATER CONNECTION</b>
	<b>HOSE BIB</b>
	<b>RECESSED CAN LIGHT</b>
	<b>EXTERIOR WALL MOUNTED LIGHT</b>
	<b>VANITY SCONCE LIGHT</b>
	<b>ELECTRIC HEAT PUMP WATER HEATER IN OUTDOOR ENCLOSURE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS</b>
	<b>POWER AND DISCONNECT FOR A/C CONDENSER</b>
	<b>A/C CONDENSER</b>
	<b>EVAPORATOR</b>
	<b>CEILING FAN WITH LIGHT</b>

**POWER NOTES**

1. ALL ELECTRICAL WORK SHALL BE DESIGN PER 2022 CALIFORNIA ELECTRICAL CODE, 2022 NATIONAL ELECTRICAL CODE, AND 2022 BUILDING ENERGY EFFICIENCY STANDARDS.
2. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
3. THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
4. ALL THE CONDUCTORS SPECIFIED IN THE PANEL SCHEDULES ARE GROUNDED SEPARATELY.
5. PURCHASE RTU WITH FACTORY INSTALLED DISCONNECT. COORDINATE PROPER RATING OF DISCONNECT WITH MANUFACTURER.
6. INSTALL WEATHERPROOF (WP), GIP PROTECTED, WEATHER RESISTANT RECEPTACLE OUTLETS ON THE ROOFTOP AND WITHIN 25 FT OF HEATING/AIR CONDITIONING AND IDENTIFIED AND LISTED AS "EXTRA DUTY" PER ARTICLE 406.9 (B)(1) & 406.4(D)(6).
7. ALL WORK PERFORMANCE SHALL COMPLY WITH ALL STATE AND LOCAL ALL ELECTRICAL CODES.
8. ALL BRANCH CIRCUIT BREAKERS SHALL BE 10,000 AIC RATING, UNLESS NOTED OTHERWISE.
9. ALL THE HVAC UNITS ARE EQUIPPED WITH FACTORY INSTALLED DISCONNECT SWITCH UNLESS NOTIFIED OTHERWISE. COORDINATE WITH MANUFACTURE BEFORE INSTALLATION AND IN THE ABSENCE OF DISCONNECT SWITCH PROVIDE REQUIRED DISCONNECT AS PER NEC 430.104 AND 430.110.
10. THE BATHROOM CIRCUIT SHALL BE EITHER 20-AMP, CIRCUIT DEDICATED TO EACH BATHROOM, OR AT LEAST ONE 20-AMP, CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS PER NEC 210.11(C)(3).
11. ALL ELECTRICAL DEVICES INSTALLED IN DWELLINGS SHALL BE PROVIDED WITH ARC-FAULT PROTECTION OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A): KITCHENS, LAUNDRY AREAS, FAMILY, LIVING, BEDROOMS, DINING, HALLS, ETC. ETC ARTICLE 210 & 406.
12. THE BATHROOM CIRCUIT SHALL BE EITHER 20-AMP, CIRCUIT DEDICATED TO EACH BATHROOM OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, SUNROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, BEDS, BEDROOMS, AND SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREA SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN NEC 210.12(A)(1) THROUGH (6).
13. INSTALL A MINIMUM OF 2 SMALL APPLIANCE BRANCH CIRCUITS WITHIN THE KITCHEN AND DINING AREAS PER NEC 210.11(C)(1) & 210.52(B).
14. ALL OUTLETS IN KITCHEN AND BATHROOMS SHALL BE GFCI PER NEC 210.8.
15. ALL RECEPTACLES INSTALLED IN THE DWELLING SHOULD BE TAMPER RESISTANT PER 210.52 & 550.13.
16. PER NEC 210.11(C)(3), BATHROOM CIRCUITING SHALL BE EITHER:
  - A. A 20 AMP CIRCUIT DEDICATED TO EACH BATHROOM, OR
  - B. AT LEAST ONE 20 AMP CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS.
17. ELECTRIC POWERED APPLIANCES SHALL BE PROVIDED WITH A 30A CIRCUIT. ETC 220.54.
18. ELECTRIC HEATING, COOLING, VENTILATION, AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR. R327.1.2.
19. DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED, SHALL NOT EXCEED 48 INCHES (1219.2 MM) ABOVE THE FINISH FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY, WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES (1219.2 MM) MEASURED FROM THE EXTERIOR FLOOR OR LANDING, A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL. R327.1.4.
20. ALL ELECTRICAL PROTECTION SHALL BE:
  - A. ALL SERVICES SUPPLYING DWELLING UNITS SHALL BE PROVIDED WITH A SURGE-PROTECTIVE DEVICE (SPD),
  - B. LOCATION - THE SPD SHALL BE AN INTEGRAL PART OF THE SERVICE EQUIP-MENT OR SHALL BE LOCATED IMMEDIATELY ADJACENT THERETO.
  - C. EXCEPTION: THE SPD SHALL NOT BE REQUIRED TO BE IN THE SERVICE EQUIPMENT AS REQUIRED IN.
  - D. IF LOCATED AT EACH NEXT LEVEL DISTRIBUTION EQUIPMENT DOWN-STREAM TOWARD THE LOAD.
  - E. TYPE - THE SPD SHALL BE A TYPE 1 OR TYPE 2 SPD.

**LIGHTING NOTES**

1. PROVIDE LIGHTING CONTROL WITH CONTINUOUS DIMMING IN ALL AREAS. PROVIDE REQUIRED DRIVERS AND DIMMER SWITCHES FOR CONTINUOUS DIMMING USING 0-10 VOLT DIMMING.
2. LIGHTING SHALL PROVIDE NOT LESS THAN 215 LUX (20 FOOT-CANDLES) AS MEASURED 30" ABOVE FLOOR, IF APPLICABLE. SPECIFY THAT THE EXHAUST FANS TO BE ON A SEPARATE SWITCH FROM LIGHTS PER CEC 150.0(K)(2).
3. ALL INSTALLED LUMINAIRES SHALL BE HIGH-EFFICIACY IN ACCORDANCE WITH ES TABLE 150.0-A.
4. LUMINAIRES MUST HAVE A LABEL CERTIFIED FOR AIRTIGHT CONSTRUCTION.
5. LIGHT SOURCES THAT ARE NOT MARKED "JA8-2019-9" SHALL NOT BE INSTALLED IN ENCLOSED LUMINAIRES. ES 150.0(K)
6. BATHROOMS, GARAGE, LAUNDRY ROOMS, AND UTILITY ROOM LIGHTING TO HAVE ONE LUMINAIRE CONTROLLED BY A VACUANCY OR OCCUPANCY SENSOR PROVIDING AUTOMATIC-OF FUNCTIONALITY PER CENC SECTION 150.0(K)(2). IF AN OCCUPANT SENSOR IS INSTALLED, IT SHALL BE INITIALLY CONFIGURED TO MANUAL-ON OPERATION USING THE MANUAL CONTROL REQUIRED UNDER SECTION 150.0(K)(2).
7. ALL OTHER LUMINAIRES THAT CONTAIN LIGHT SOURCES THAT MEET REFERENCE JOINT APPENDIX JA8 SETTING UP THE NEW ELECTRICAL UTILITIES TO ALL NEW ADU(S)/ADU(S) PER CENC SECTION 150.0(K)(2). NOTE THAT CLOSETS WITH AN AREA LESS THAN 70 FT<sup>2</sup> AND HALLWAY LIGHTING ARE EXEMPT FROM THIS REQUIREMENT.
8. RECESSED CAN LIGHT FIXTURES SHALL BE IC LISTED, AIR-TIGHT LABELED, AND NOT BE EQUIPPED WITH A STANDARDS MEDIUM BASE SCREW SHALL LAMP HOLDER. ES 150.0(K)
9. ALL LIGHTING FIXTURES THAT ARE ATTACHED TO A BUILDING ARE REQUIRED TO BE HIGH EFFICIACY, BE MANUALLY ON/OFF SWITCH CONTROLLED, AND HAVE BOTH MOTION SENSOR AND PHOTOCCELL CONTROL. SEE ES 150.0(K) 3 FOR ADDITIONAL CONTROL OPTIONS.

**EDGE NOTES:**

1. SDGE HAS SPECIFIC REQUIREMENTS ABOUT THE NUMBER OF MAIN ELECTRICAL SERVICE PANELS (HOW MANY ELECTRICAL DROPS) ALLOWED ON THE SAME LOT, WHICH IS DIFFERENT FROM THE REQUIREMENTS OF THE CITY OF CHULA VISTA AND CALIFORNIA ELECTRICAL CODE.
2. SDGE MAY REQUIRE ALL NEW ADU(S)/JADU(S) TO BE PLACED ON A SEPARATE ELECTRIC METER.
3. IT IS THE RESPONSIBILITY OF THE PROJECT DESIGNER TO GET THE LATEST SDGE FOR THE REQUIREMENTS FOR SETTING UP THE NEW ELECTRICAL UTILITIES TO ALL NEW ADU(S)/ADU(S).
4. REFER TO THE CURRENT SDGE SERVICE STANDARDS AND GUIDE TO ENSURE THAT PROJECT COMPLIES WITH THEIR REQUIREMENTS.

PROPOSED DWELLING UNIT FOLLOW THE **EXHAUST-ONLY APPROACH** TO COMPLY INDOOR AIR QUALITY (IAQ)REQUIREMENTS.

A. MANDATORY (CBEES 150.0(O), ASHRAE STANDARD 62.2):

EXCEPTION: ADDITIONS 1000 S.F. OR LESS AND ALTERATIONS:

- ALL MECHANICAL EXHAUST VENTILATION SYSTEMS MUST BE MECHANICAL VENTILATION SYSTEM, OR COMBINATION THEREOF SHALL BE INSTALLED FOR EACH DWELLING UNIT TO PROVIDE WHOLE-BUILDING VENTILATION WITH OUTDOOR AIR IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION.
- HERS VERIFICATION REQUIRED TO CONFIRM WHOLE-BUILDING VENTILATION AIRFLOW.
- AN INTERMITTENTLY OR CONTINUOUSLY OPERATING LOCAL MECHANICAL EXHAUST VENTILATION SYSTEM SHALL BE INSTALLED IN EACH BATHROOM WITH A BATHTUB, SHOWER, OR SIMILAR MOISTURE SOURCE AND IN EACH KITCHEN IN COMPLIANCE WITH ASHRAE STANDARD 62.2 AS ADOPTED BY THE CALIFORNIA ENERGY COMMISSION. INTERMITTENT LOCAL EXHAUST VENTILATION AIRFLOW RATES SHALL BE 20 CFM IN BATHROOMS AND 5 AIR CHANGES PER HOUR IN KITCHENS BASED ON KITCHEN VOLUME.

ASHRAE STANDARD 62.2 EQUATION 4.1(a)	
THE WHOLE-BUILDING EXHAUST FAN SHALL PROVIDE A MINIMUM VENTILATION RATE ACCORDING TO EQUATION 4.1(a) FOLLOW:	
Qfan = 0.03Afloor + 7.5 (Nbr +1)	
WHERE:	
Qfan =	FAN FLOW RATE (CFM)
Afloor =	CONDITIONED FLOOR AREA (S.F.)
Nbr =	NUMBER OF BEDROOM, NOT LESS THAN ONE
CALCULATIONS:	
Qfan =	0.03(748) + 7.5 (2 + 1)
Qfan =	22.44 + 22.5
	= 44.94 CFM (50 CFM MIN.)
EXHAUST FAN SHALL PROVIDE 50 CFM PER T-24 REPORT	
TESTED WHOLE-HOUSE FAN NOT REQUIRED	
EXHAUST FAN MODEL: S&P PCD110-110-PMIUM CHOICE WITH DC MOTOR; 4" DUCT SONE RATING RANGE: 0.7 - 1.2; DUCT SONE RATING RANGE: 0.3 - 1.1	

**EXHAUST FAN NOTES**

1. KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 160 CFM (280 CFM IF GAS RANGE) DUCTED TO THE EXTERIOR. EXHAUST FANS INSTALLED BY INCLUDING A COMPLYING EXHAUST FAN OR A DUCTED RANGE HOOD TO THE EXTERIOR.

2. BATHROOMS REQUIRE EXHAUST FANS (MINIMUM 50 CFM) TO BE DUCTED TO THE EXTERIOR. A BATHROOM IS DEFINED "AS A ROOM WITH A BATHTUB, SHOWER, OR SPA OR SOME SIMILAR SOURCE OF MOISTURE".


3. RESIDENTIAL BATHROOM EXHAUST FAN SHALL BE ENERGY STAR RATED AND SHALL BE CONTROL BY A HUMIDISTAT OR THERMOSTAT ADJUSTABLE BETWEEN 50 AND 90% HUMIDITY. CAL GREEN 4.506.1. EXCEPTION: CONTROL BY A HUMIDISTAT IS NOT REQUIRED IF THE BATHROOM EXHAUST FAN IS ALSO THE DWELLING WHOLE HOUSE VENTILATION.

### **SMOKE & CARBON MONOXIDE ALARM NOTES**

1. SMOKE ALARMS SHALL BE INTERCONNECTED PER CRC R314.4.
2. SMOKE ALARMS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6 IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS (CRC R314.9):
  - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
  - B. ON EACH STORY OF DWELLING
  - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM.
3. CARBON MONOXIDE DETECTOR SHALL BE INTERCONNECTED PER CRC R315.17 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5. IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS IN DWELLING UNITS WITH FUEL-BURNING APPLIANCES, FIREPLACE, OR AN ATTACHED GARAGE COMMUNICATING WITH THE DWELLING UNIT (CRC R315.18):
  - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
  - B. ON EACH STORY OF DWELLING
  - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM.
4. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL-217 AND UL-2034. CRC R314.1.1 & R315.1.1.
5. SMOKE ALARMS SHALL BE LOCATED AT LEAST 3 FT FROM THE ENTRY DOOR TO ANY BATHROOM CONTAINING A TOILET SHOWER OR BAThtub.
6. ALL SMOKE ALARMS SHALL BE LOCATED AT LEAST 20 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. CRC R314.3.3.
  - A. SMOKE ALARMS ARE ALLOWED TO BE 10 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE IF THE SMOKE ALARM IS AN IONIZATION SMOKE ALARM WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3. (4) EXCEPTION.

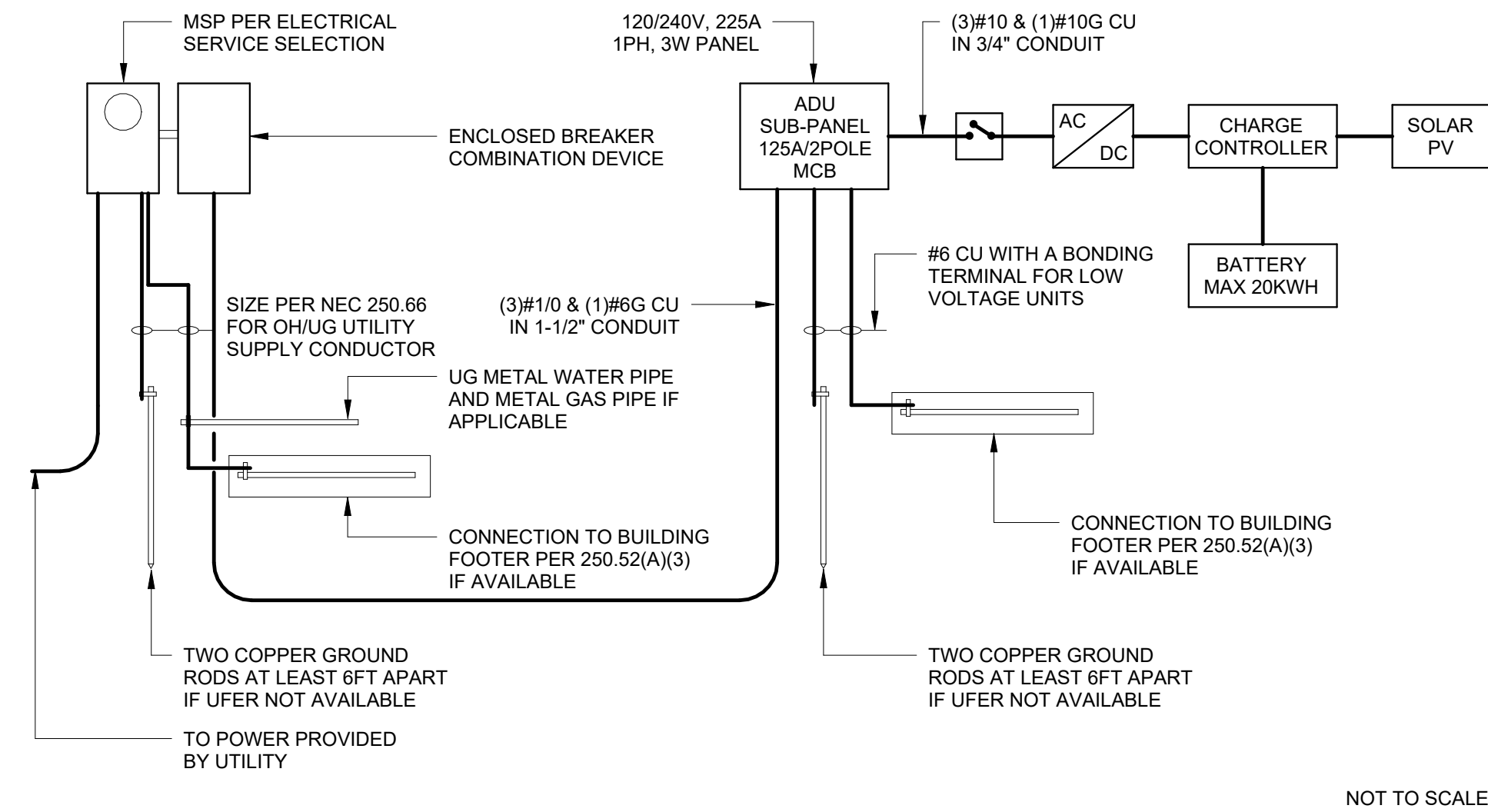


DESIGNER:  
LUIS CALDERON  
SnapADU

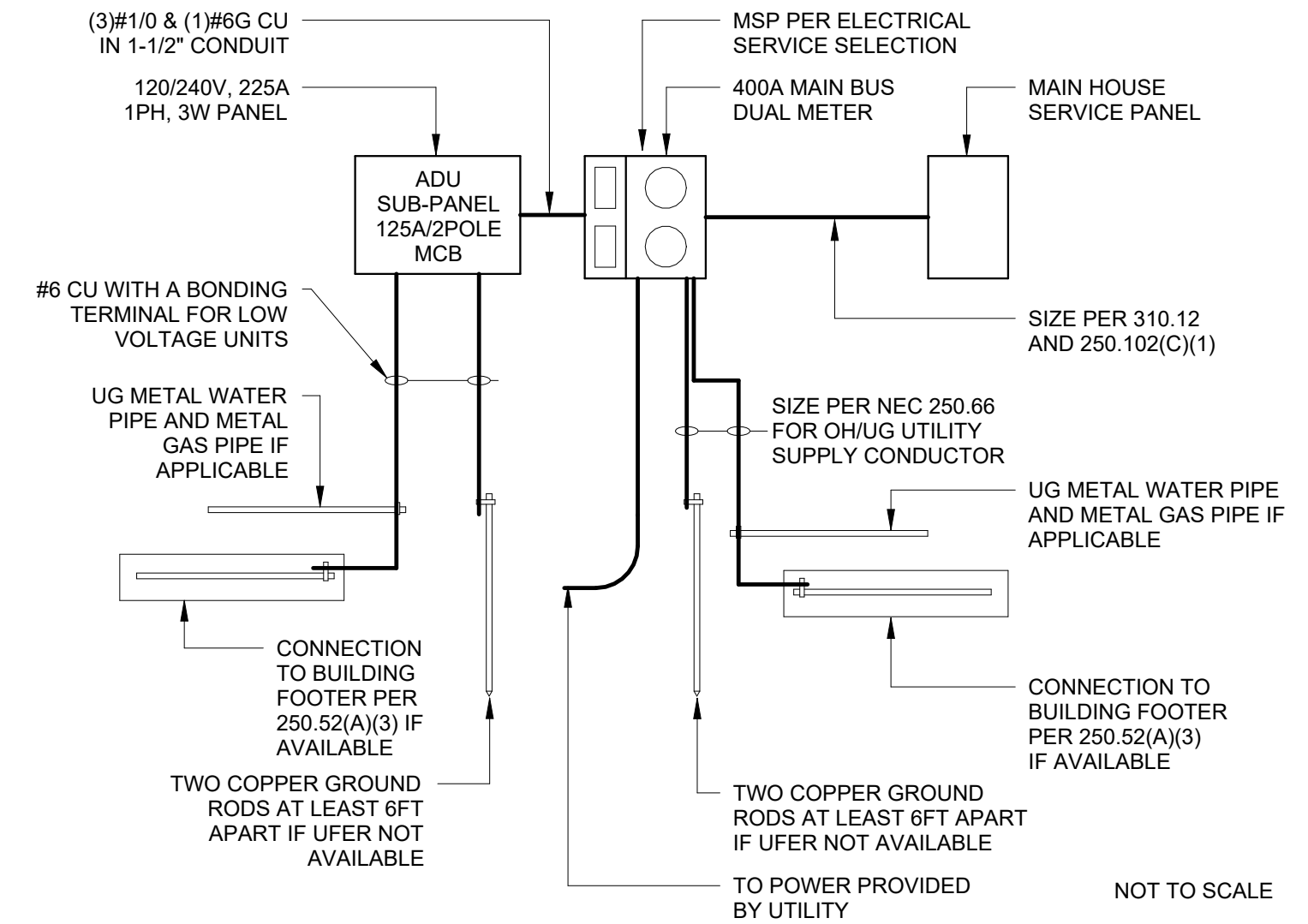
  
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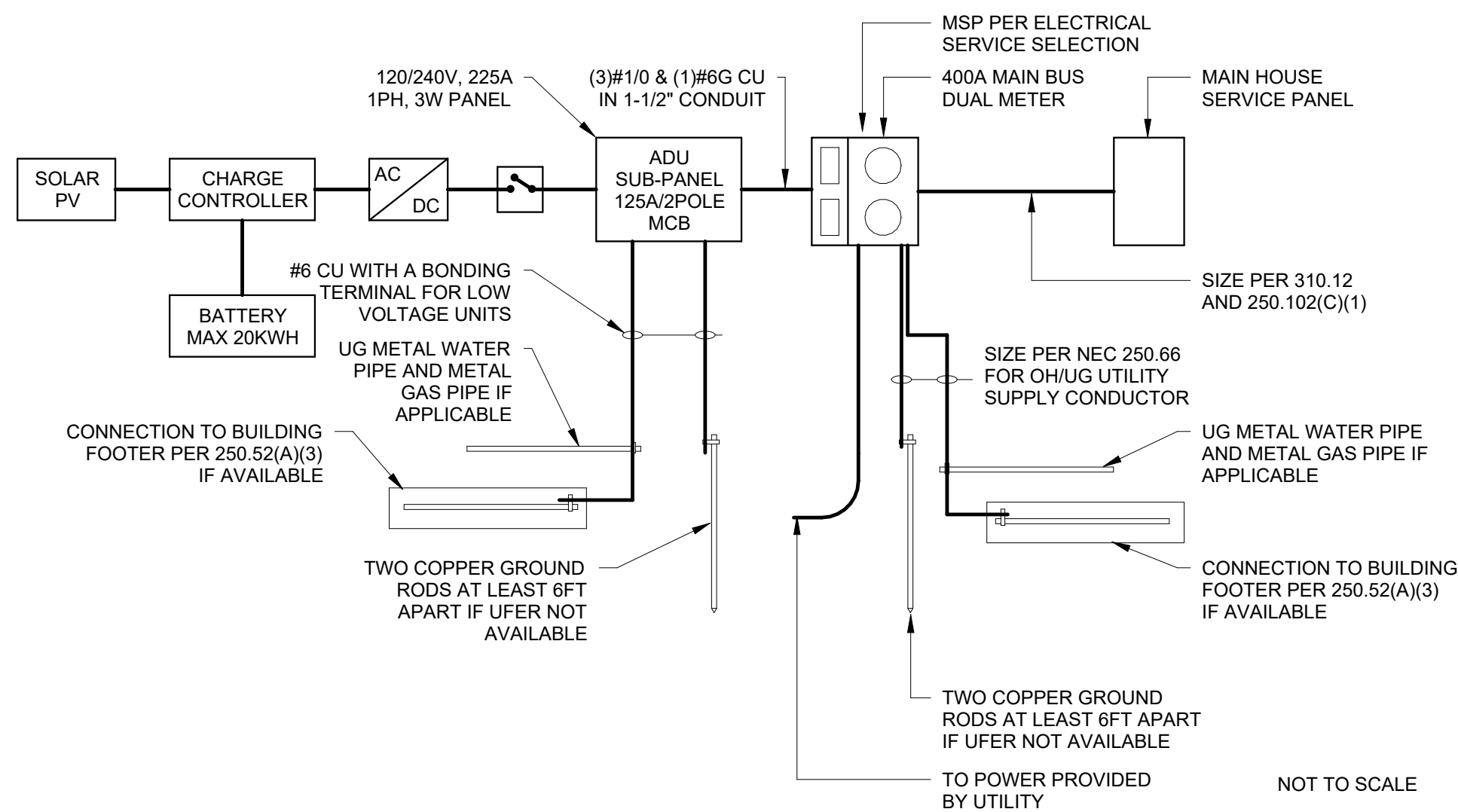
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<b>E102R</b>
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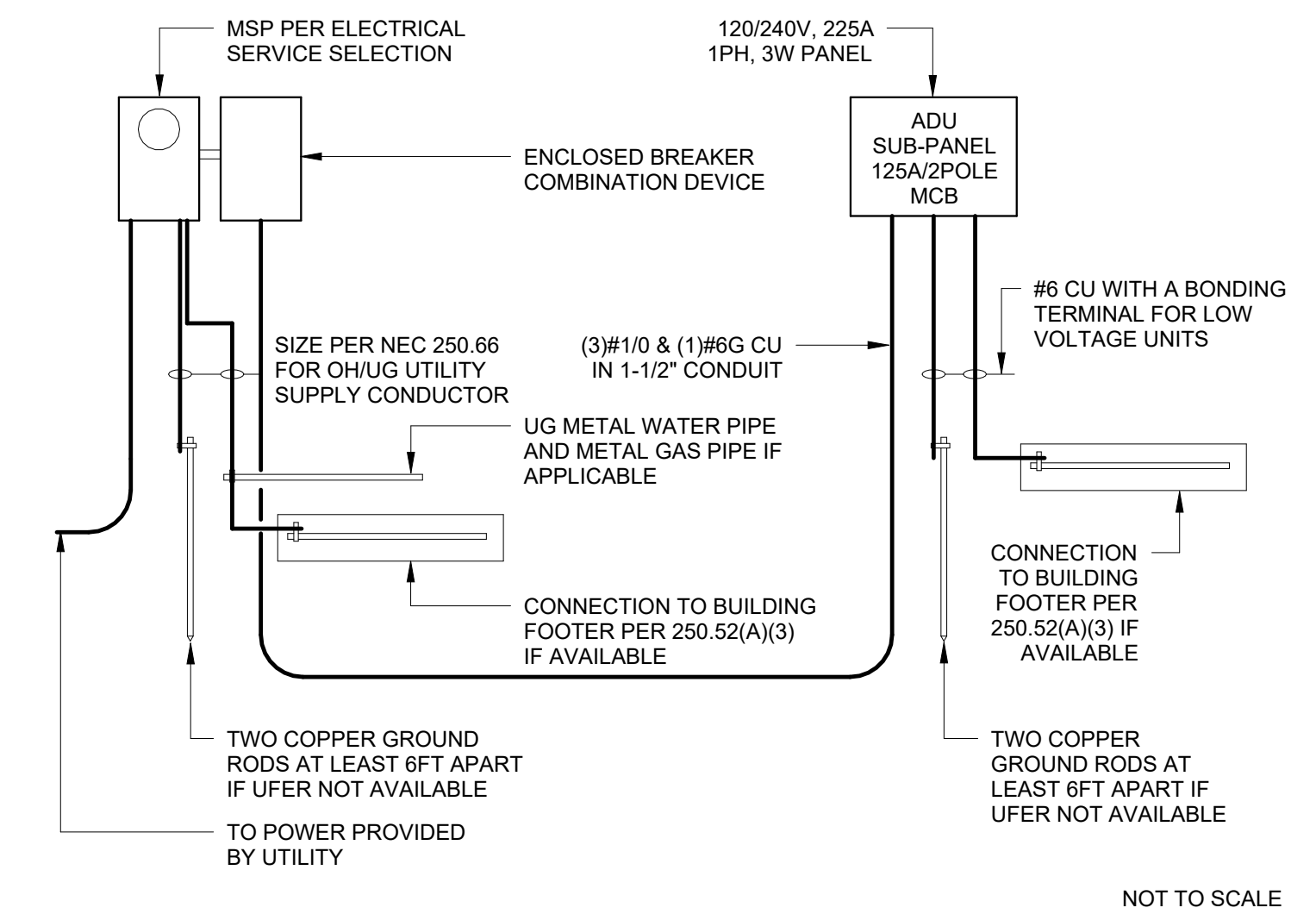
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NOT TO SCALE



NOT TO SCALE



NOT TO SCALE

## ESS PANEL SCHEDULE

ESS PANEL - 20/40 CKT 225A BUS 60A MLO 120/240V 1PH 3W OUTDOOR					
CKT #	C/B	LOAD	CKT #	C/B	LOAD
1			2		
3			4		
5			6		
7			8		
9			10		
11			12		
13			14		
15			16		
17			18		
19			20		

## ELECTRICAL PANEL SCHEDULE

SUBPANEL - 30/60 CKT 225A BUS 100A MLO 120/240V 1PH 3W OUTDOOR					
CKT #	C/B	LOAD	CKT #	C/B	LOAD
1			2		
3			4		
5			6		
7			8		
9			10		
11			12		
13			14		
15			16		
17			18		
19			20		
21			22		
23			24		
25			26		
27			28		
29			30		



**SNAPADU**  
DESIGN HOUSE

YUCCA ROAD  
OCEANSIDE, CA 92054  
760-259-2476  
INFO@SNAPADU.COM  
WWW.SNAPADU.COM

ADU: 748 LONG REVERSE  
CITY OF CHULA VISTA  
276 FOURTH AVENUE  
CHULA VISTA, CA 91910

DESIGNER:  
LUIS CALDERON  
napADU

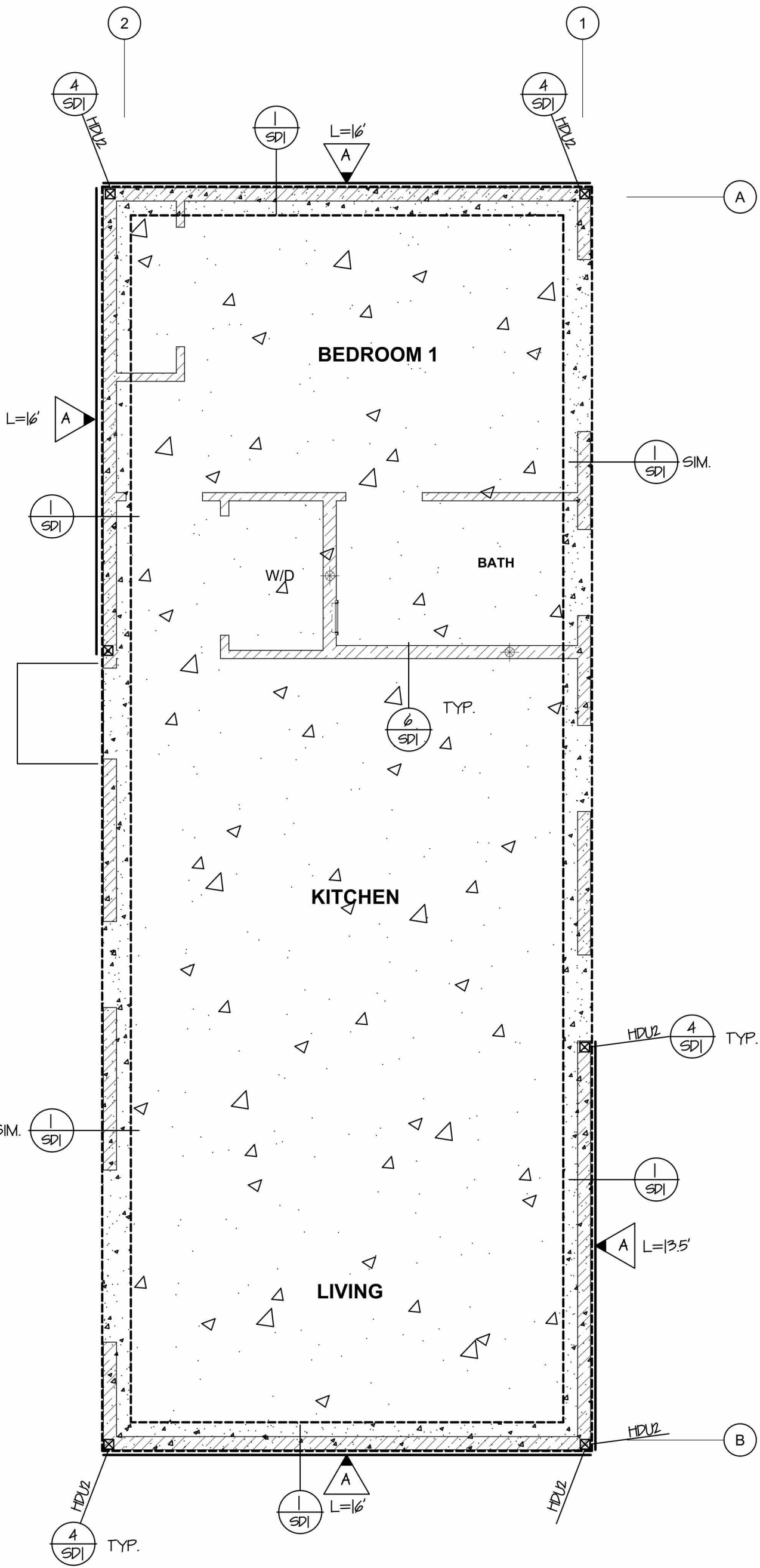
  
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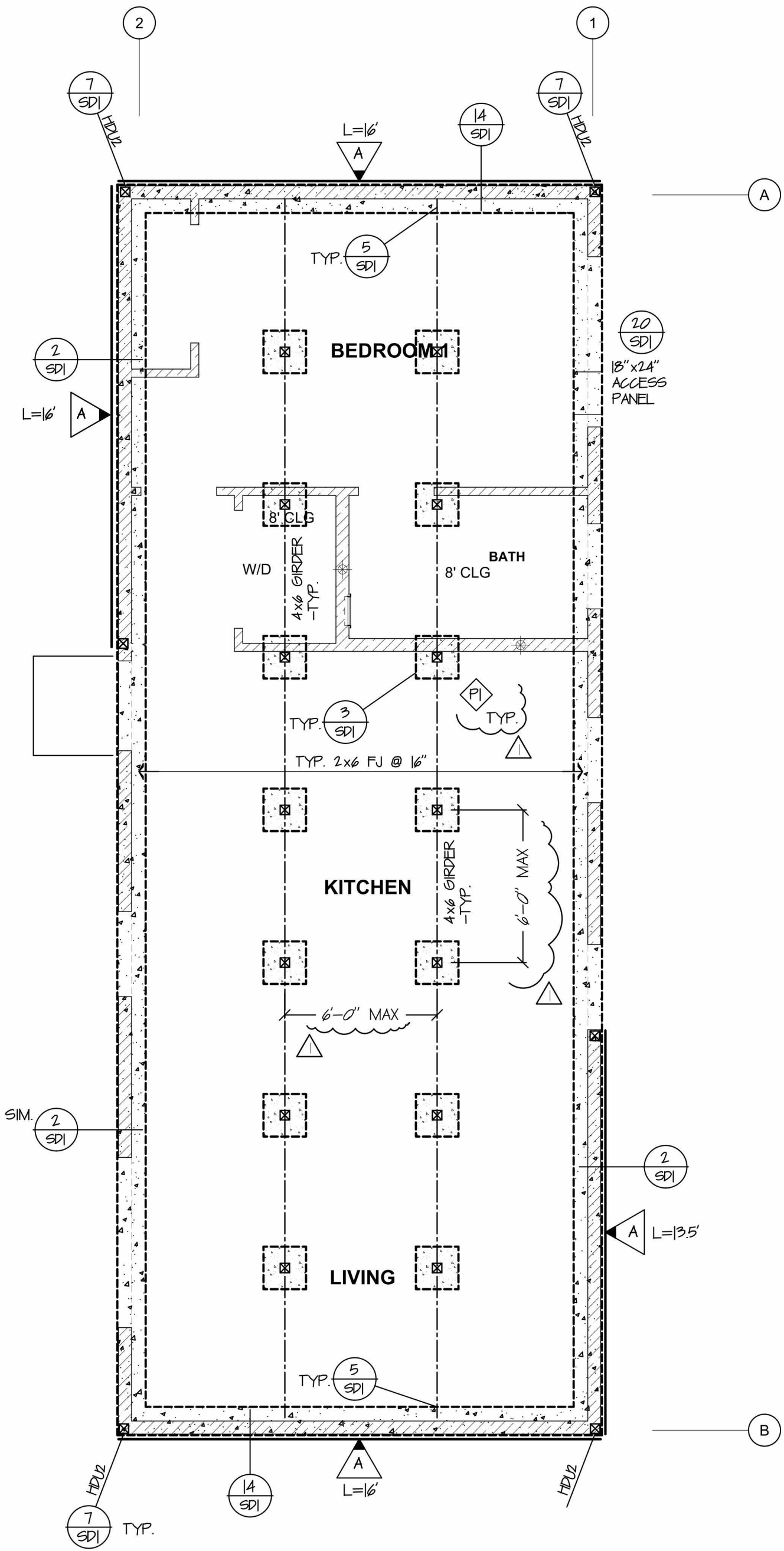
## ELECTRIC PANEL SCHEDULE

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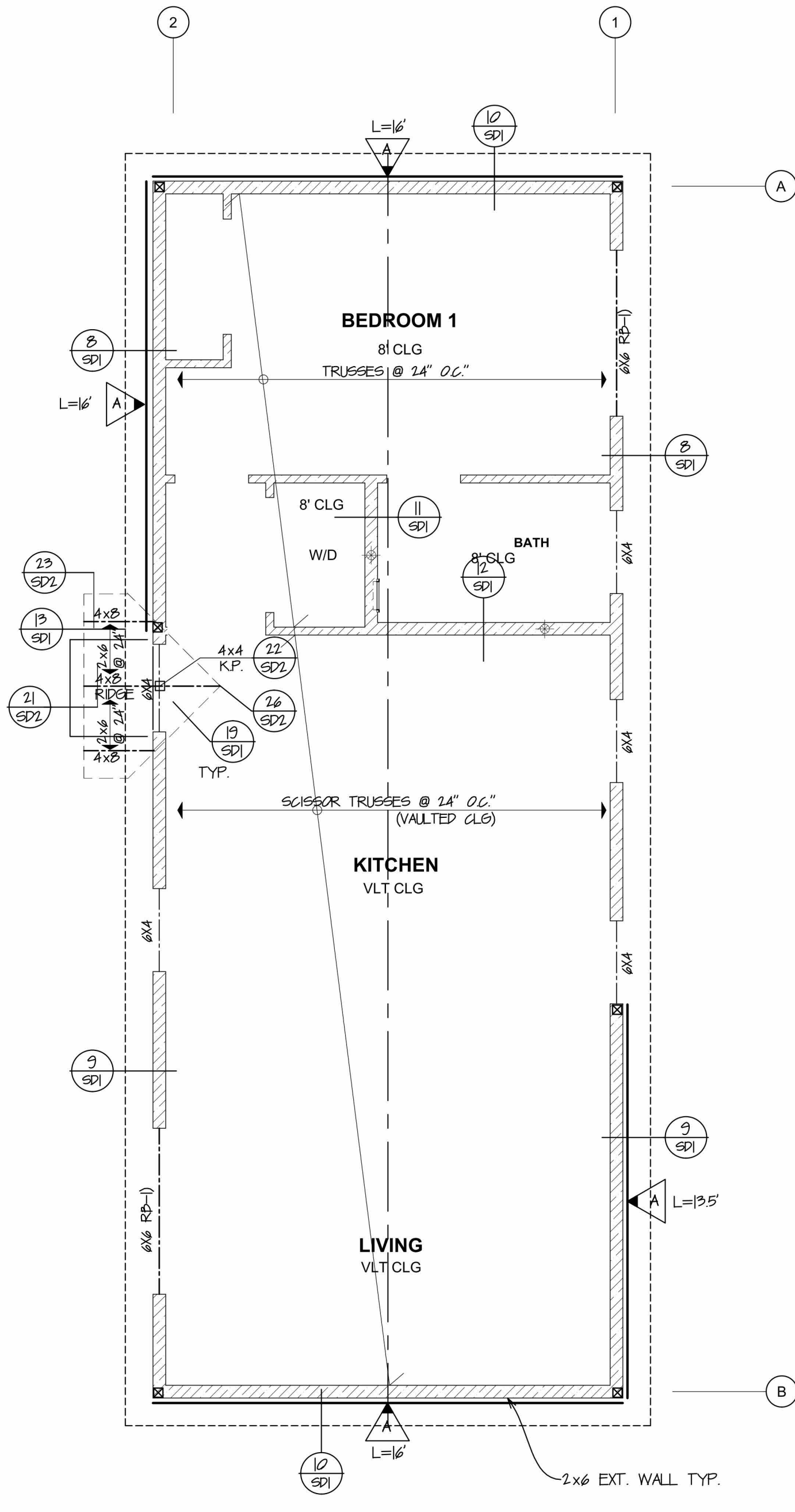
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SLAB FOUNDATION PLAN  
SC: 1/4" = 1'-0"



RIASED FOUNDATION PLAN  
SC: 1/4" = 1'-0"



WALLS AND ROOF FRAMING PLAN  
SC: 1/4" = 1'-0"

THE STRUCTURE(S) WILL BE LOCATED ENTIRELY ON UNDISTURBED NATIVE SOIL.

AS A CALIFORNIA LICENSED ENGINEER/ARCHITECT, I HAVE CLASSIFIED THE NON-EXPANSIVE NATURAL GROUND MATERIALS AS TYPE V PER TABLE RA204A1 OF THE 2022 CALIFORNIA RESIDENTIAL CODE AND ASSIGNED A LOAD BEARING PRESSURE OF 1500 PSF FOR DESIGN OF FOUNDATIONS RELATED TO THIS PROJECT.

THE UNDERSIGNED ACKNOWLEDGES BY THEIR SIGNATURE BELOW THAT THE PRESUMPTIVE LOAD BEARING VALUE OF 1500 PSF IS ALLOWED FOR FOUNDATION DESIGN WHERE THE FOUNDATIONS ARE EMBEDDED IN NON-EXPANSIVE NATURAL GROUND. THE UNDERSIGNED UNDERSTANDS THAT IF THE BUILDING INSPECTOR SUSPECTS FILL, EXPANSIVE SOILS, OR ANY GEOLOGIC INSTABILITY BASED UPON OBSERVATION OF THE FOUNDATION EXCAVATION, A SOILS OR GEOLOGICAL REPORT, AND RESUBMITTAL OF THE PLANS TO PLAN CHECK TO VERIFY THAT THE REPORT RECOMMENDATIONS HAVE BEEN INCORPORATED, MAY BE REQUIRED.

SIGNATURE: \_\_\_\_\_ OWNER/LICENSED ENGINEER OR ARCHITECT

SOILS

FRAMING NOTES

ROOF DIAPHRAGM

15/32" APA RATED SHEATHING (MIN), EXPOSURE 1, 24/0 MAX. SPAN RATING, w/ 8d COMMON NAILS @ 6" o.c. AT BOUNDARY & PANEL EDGE NAILING (EN), AND 12" o.c. AT INTERMEDIATE FRAMING MEMBERS

FLOOR DIAPHRAGM

23/32" APA STURD-I-FLOOR, EXPOSURE 1, TONGUE AND GROOVE, w/ 10d COMMON NAILS @ 4" o.c. AT BOUNDARY & PANEL EDGE NAILING (EN), AND 12" o.c. AT INTERMEDIATE FRAMING MEMBERS

FRAMING

- ALL (2) 2x ROOF & FLOOR FRAMING TO HAVE MIN. 16d AT 12" O.C. T&D, STAGGERED
- ALL (2) 2x FRAMING TO HAVE MIN. 1/2" DIAMETER BOLTS AT 18" O.C. T&D, STAGGERED
- 2x SOLID BLOCKING REQUIRED AT POINTS OF SUPPORT FOR ALL HORIZONTAL FRAMING MEMBERS. IN ADDITION, ALL 2x10 AND LARGER MEMBERS SHALL HAVE SOLID FULL DEPTH BLOCKING OR BRIDGING AT MAX. 8'-0" o.c.
- ALL WOOD POSTS AT UPPER FLOORS TO CONTINUE TO BEAM OR FOUNDATION
- UNLESS DETAILED OTHERWISE, ALL RIDGE / HIP / VALLEY CONNECTIONS TO HAVE A SIMPSON A95 CONNECTOR AT EACH CORNER WITH A 2x KICKER TO BEARING WALL
- AT ROOF-TO-WALL FRAMING, PROVIDE A95 FRAMING ANCHORS PER SHEARWALL SCHEDULE OR AT MAX. 48" O.C. FROM PLATES TO RAFTERS AND RAFTER BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR)
- AT FIRST FLOOR AND SUBTERRANEAN LEVEL, PROVIDE A95S PER SHEARWALL SCHEDULE OR AT 32" O.C. MAX. FROM PLATES TO FLOOR JOISTS AND BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR)
- PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL WALLS, UNO.
- WHEN SHEAR WALLS ARE SUPPORTED BY WOOD JOISTS THAT ARE PERPENDICULAR TO THE SHEAR WALL, ATTACH SOLID 4x BLOCKING UNDER SHEAR WALLS BETWEEN JOISTS. PROVIDE 2x SOLID BLOCKING UNDER NON-SHEAR WALLS PERPENDICULAR TO FLOOR JOISTS. SEE PLANS AND DETAILS FOR ANY ADDITIONAL REQUIREMENTS.
- ATTACH MIN. 2x SOLID BLOCKING AND EDGE NAIL THE PERIMETER OF ALL OPENINGS OVER 10" IN WIDTH OR LENGTH IN ALL SHEAR PANELS AND DIAPHRAGMS. SEE DETAILS WHERE OTHER REQUIREMENTS MAY OCCUR.
- ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION-RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

STUD SIZE	MAX. HEIGHT
2x4 @ 16" o.c.	10 FT
2x6 @ 16" o.c.	12 FT
2x6 @ 8" o.c.	14 FT
2x8 @ 16" o.c.	16 FT

LEGEND

RF TRUSSES @ 24" o.c., UNO.

2x6 F.J @ 16" o.c., UNO.

4x PM WIDTH POST UNO.

POST ABOVE

PLYWOOD SHEARWALL PER PLAN

ST636 SIMPSON STRAP, UNO.

DRAG LINE PER PLAN SEE SHEARWALL NOTES ON SHEET S01

FOUNDATION NOTES

- CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS FOR FORMED-IN-PLACE CONTINUOUS AND SPREAD FOOTINGS, AND 3000 PSI (SPECIAL INSP. REQ'D) AT 28 DAYS FOR GRADE BEAMS.
- PORTLAND CEMENT SHALL BE TYPE II PER ASTM C 150. AGGREGATES SHALL BE PER ASTM C 39 WITH MAXIMUM SIZE OF 1 1/2" FOR FOOTINGS AND 1" FOR ALL OTHER WORK.
- REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, CLEAN AND RUST FREE. LAPS AT SPLICES AND JOINT LINES TO BE 40 BAR DIAMETERS (2'-0" MINIMUM) UNLESS NOTED OTHERWISE ON PLANS.
- ALL NEW SILL PLATE ANCHOR BOLTS TO BE INSTALLED IN FRESH CONCRETE SHALL BE 5/8" DIAMETER A307 "L" BOLTS SPACED PER PLAN AND SHEARWALL SCHEDULE WITH MINIMUM 7" EMBEDMENT. MAXIMUM ANCHOR BOLT SPACING SHALL BE 4'-0" o.c. ANCHOR BOLTS AT ENDS OF WALL PANELS SHALL BE LOCATED WITHIN 12" AND GREATER THAN 7" BOLT DIAMETERS FROM THE END OF SILL PLATE. THERE SHALL BE A MINIMUM OF TWO ANCHOR BOLTS PER WALL PANEL (ANCHOR BOLTS TO EXISTING FOOTINGS PER NOTE #8 BELOW). PLATE WASHERS A MINIMUM 3"x3"x22g THICK SHALL BE USED ON EACH BOLT. ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION-RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.
- IF NO SOILS REPORT IS PROVIDED, ASSUMED ALLOWABLE SOIL BEARING PRESSURE (ASPP) SHALL BE 1500 PSF (PER SOL SITE CLASS D) & EMBED FOOTINGS A MINIMUM OF 12" INTO COMPETENT SOL.
- REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH INTERSECTIONS.
- CONSTRUCTION JOINTS SHALL BE PREPARED BY WIRE BRUSHING, CLEANING AND BRUSHING IN A PASTE OF NEAT CEMENT MORTAR IMMEDIATELY PRIOR TO POURING. LOCATION OF CONSTRUCTION JOINT SHALL BE APPROVED BY THE PROJECT STRUCTURAL ENGINEER.
- ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION-RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.
- PRIOR TO POURING INTERIOR CONCRETE FLOOR SLABS, ALL SOIL BELOW FLOOR SHALL BE COMPACTED TO REQUIRED 90% DENSITY AND MOISTENED TO A DEPTH NOT LESS THAN 18".
- DEEPEN NEW FOOTINGS AS NECESSARY TO OBTAIN REQUIRED EMBEDMENT FOR ALL NEW HILD DOWN BOLTS. ALL HILD DOWN BOLTS TO HAVE A MINIMUM OF 3" OF CONCRETE COVER TO SOL @ BOTTOM. ALL HILD DOWN BOLTS MUST BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.
- ALL HILDOWNS MUST BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.
- MINIMUM HORIZONTAL DISTANCE FROM BOTTOM LEADING EDGE OF FOOTING TO DAYLIGHT SHALL BE 7'-0"

FOUNDATION LEGEND

- (N) 12" WIDE x 24" DEEP FOOTING W/ 2-#4 T. & P.
- (N) CONC. PAD PER PLAN
- 4x PM WIDTH POST UNO.
- POST ABOVE
- SHEARWALL PER PLAN

CONCRETE SLAB

USE 4" THK. CONC. SLAB W/ #3 @ 16" O.C. EW. @ MID-HEIGHT, 0/ 2" SAND, 0/ 10 ML-VAPOR BARRIER (ASTM E36 & E1145), 0/ 2" SAND BASE.

CONCRETE PAD SCHEDULE

PAD	SIZE
P1	18" SQ.x14" THK. CONC. PAD W/ 2-#4 EW.

REVISIONS

BY	DATE	DESCRIPTION
PC	9-20-23	REVISED

PROJECT: New Detached ADU

PROJECT: Accessory Dwelling Unit

PROJECT: Standard Long 1-Bedroom 748 SF., Plan

PROJECT: Reverse Plan

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

DATE: 6-26-23

FILE: CV-ADU.dwg

DESIGN: PC

ENGINEER: PC

JOB #: 23-269

REGISTERED PROFESSIONAL ENGINEER

NO. 1057182

EXPI. 12-31-25

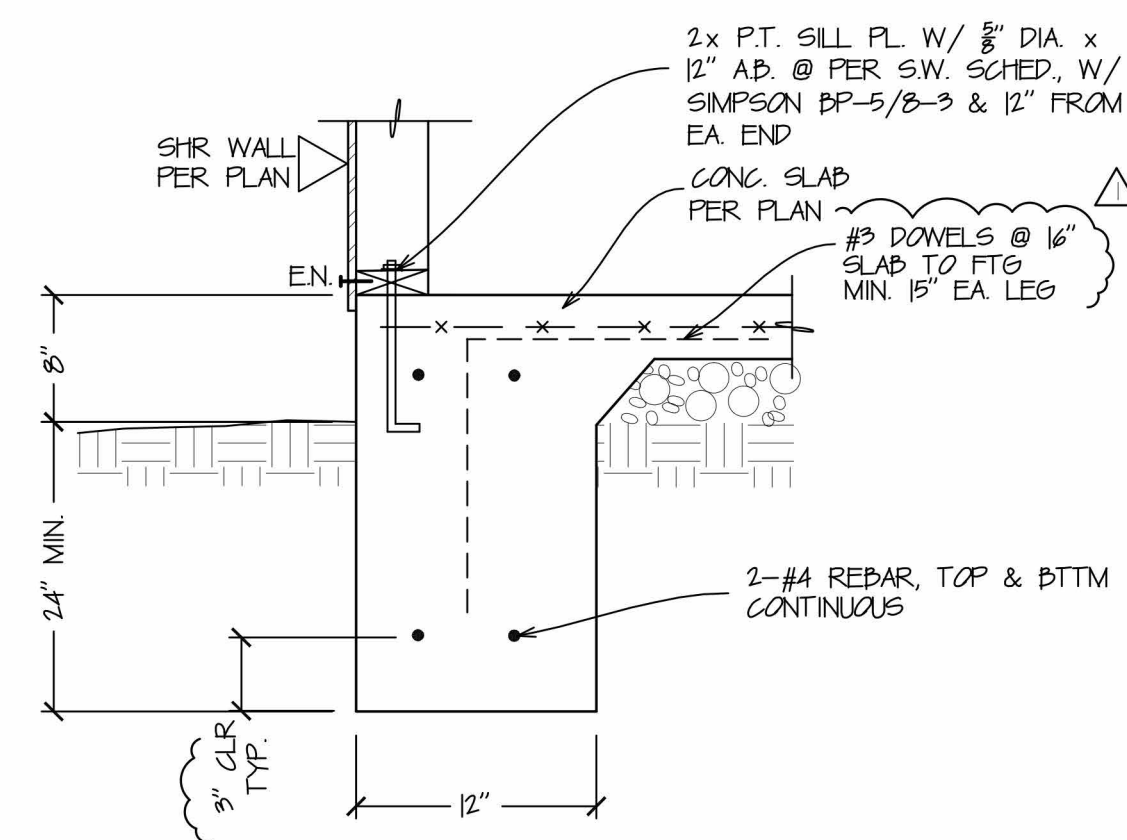
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STATE OF CALIFORNIA

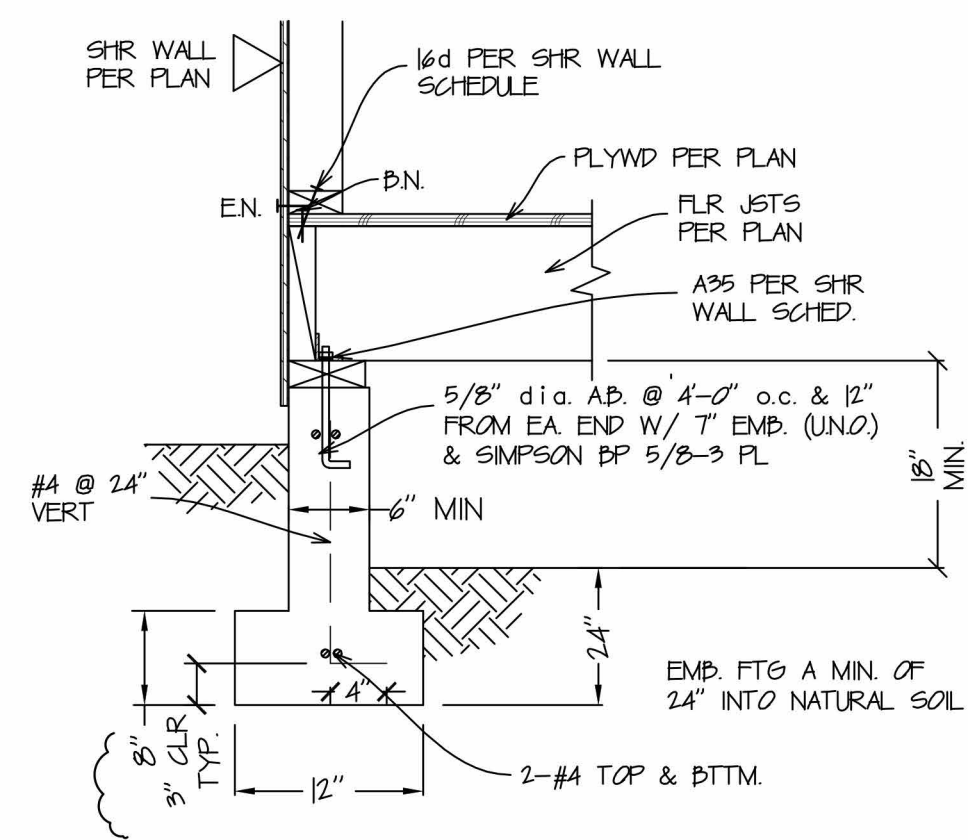
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SHEET - OF

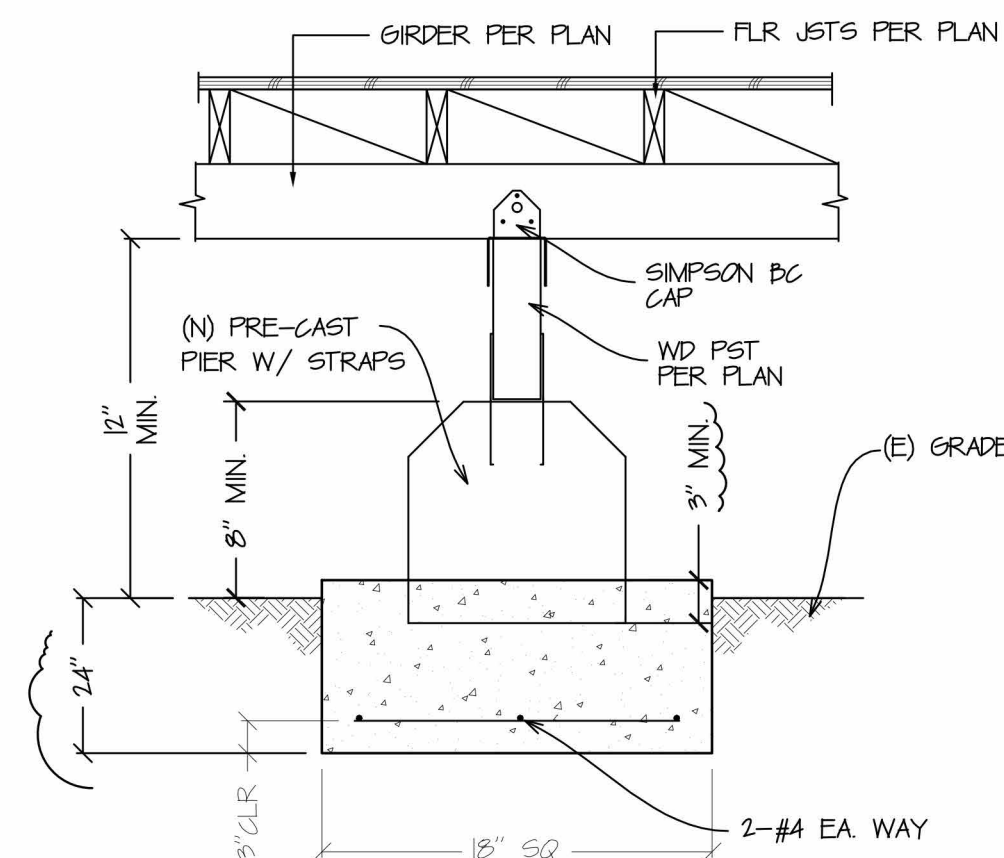




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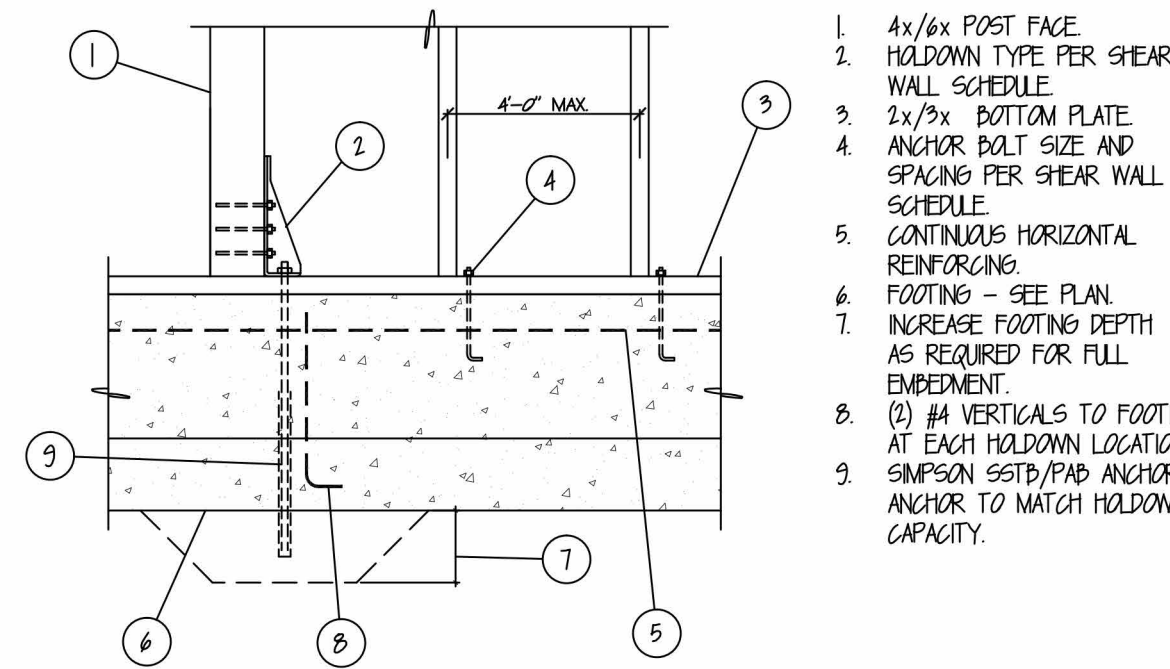
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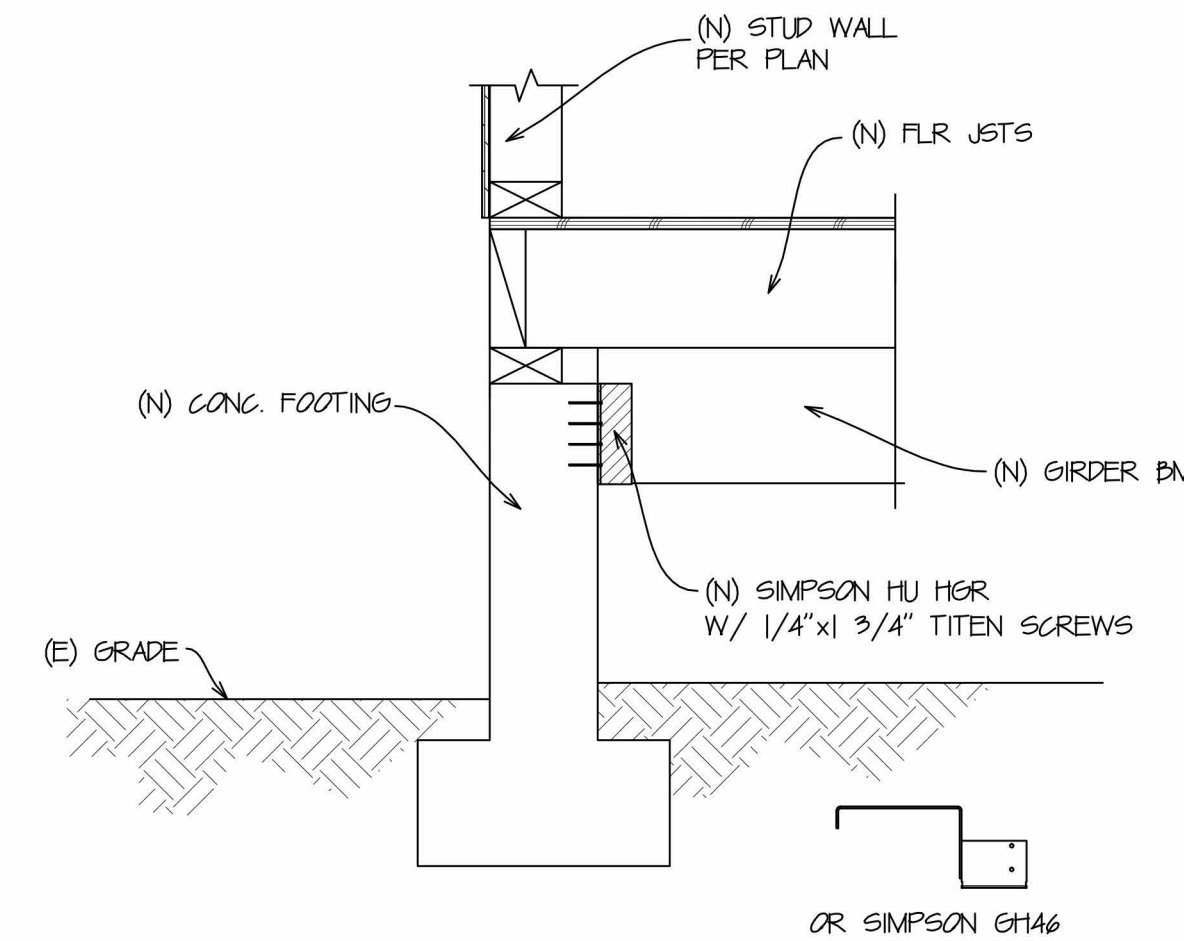
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## HOLDOWN SCHEDULE

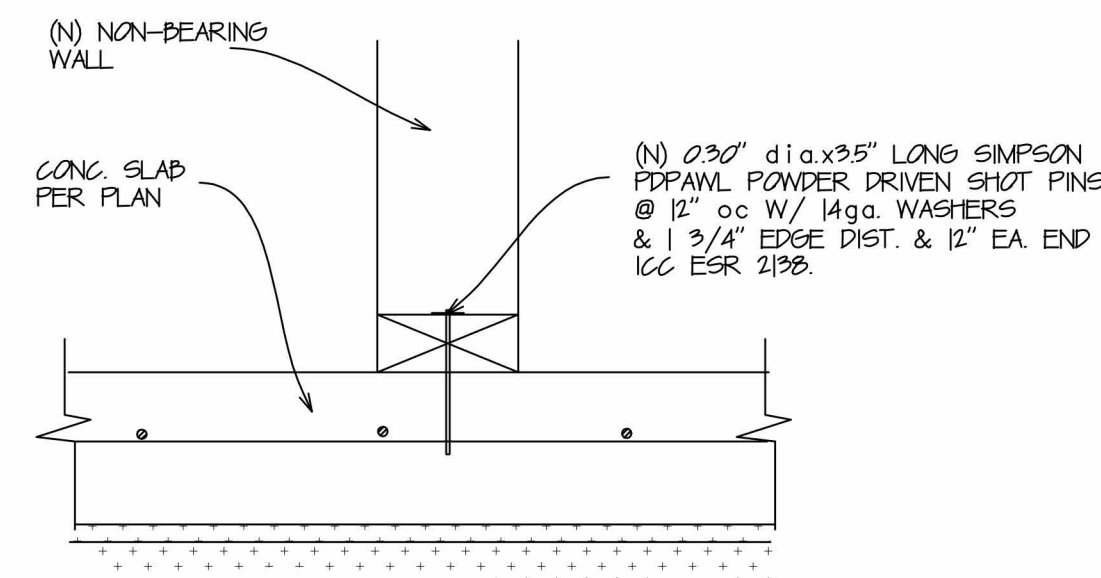
HOLDOWN	ANCHOR BOLT	POST SCREWS	MIN POST SIZE	EMBEDMENT
FDU	55T60	6-55 1/4" x 1 1/2"	4x	12 5/8"
FDU	55T60	12-55 1/4" x 1 1/2"	4x	8 5/8"
FDU	55T64	14-55 1/4" x 1 1/2"	4x	10 5/8"
FDU	55T60	12-55 1/4" x 1 1/2"	4x	24 1/8"
FDU	55T60	30-55 1/4" x 1 1/2"	6x	24"
FDU	P606	34-55 1/4" x 1 1/2"	6x6	11 1/2"
FDU	P602	(6) - 6" dia MB	6x6	14 1/2"



### DETAIL



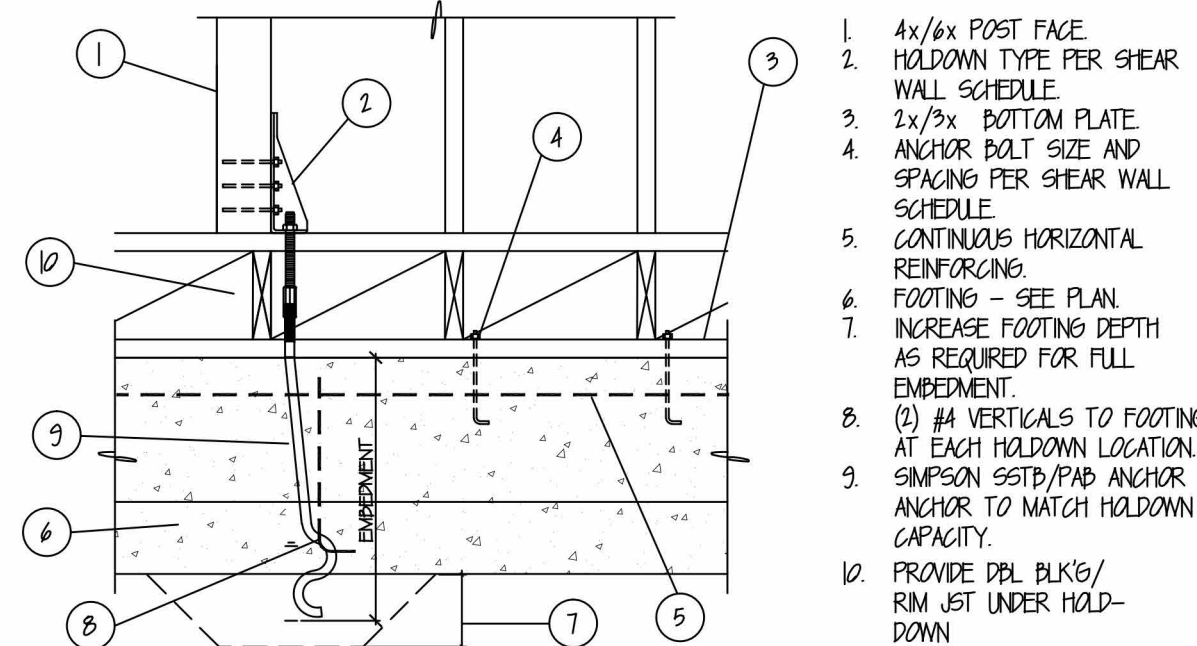
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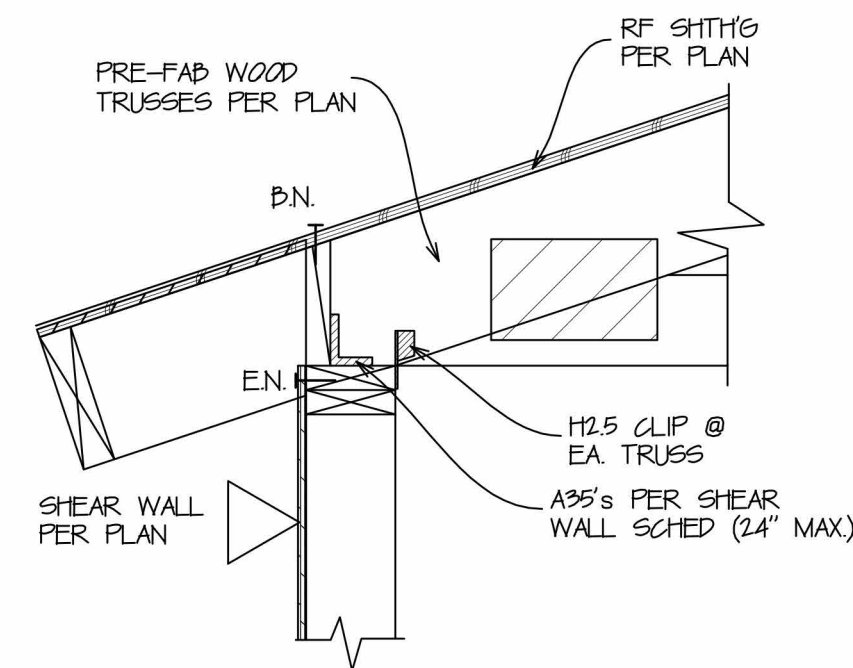
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# HALDOWN SCHEDULE

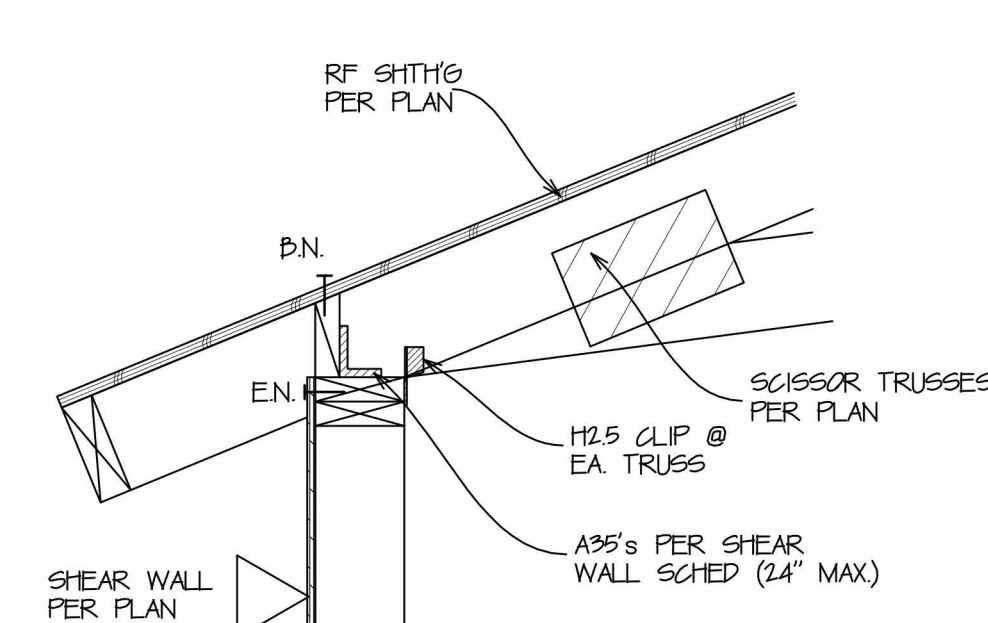
HALDOWN	ANCHOR DIA.	POST SCREWS	MIN. POST SIZE	EMBEDMENT
10L	5/8" dia	4-505 1/4" x 1/2"	4x	10"
10H	5/8" dia	10-505 1/4" x 1/2"	4x	10"
12L	5/8" dia	10-505 1/4" x 1/2"	4x	12"
12H	7/8" dia	10-505 1/4" x 1/2"	4x	12"
14L	1" dia	30-505 1/4" x 1/2"	6x	14"
14H	1 1/4" dia	30-505 1/4" x 1/2"	6x6	14"
16H	1 1/4" dia	60-1" dia MB	6x6	16"



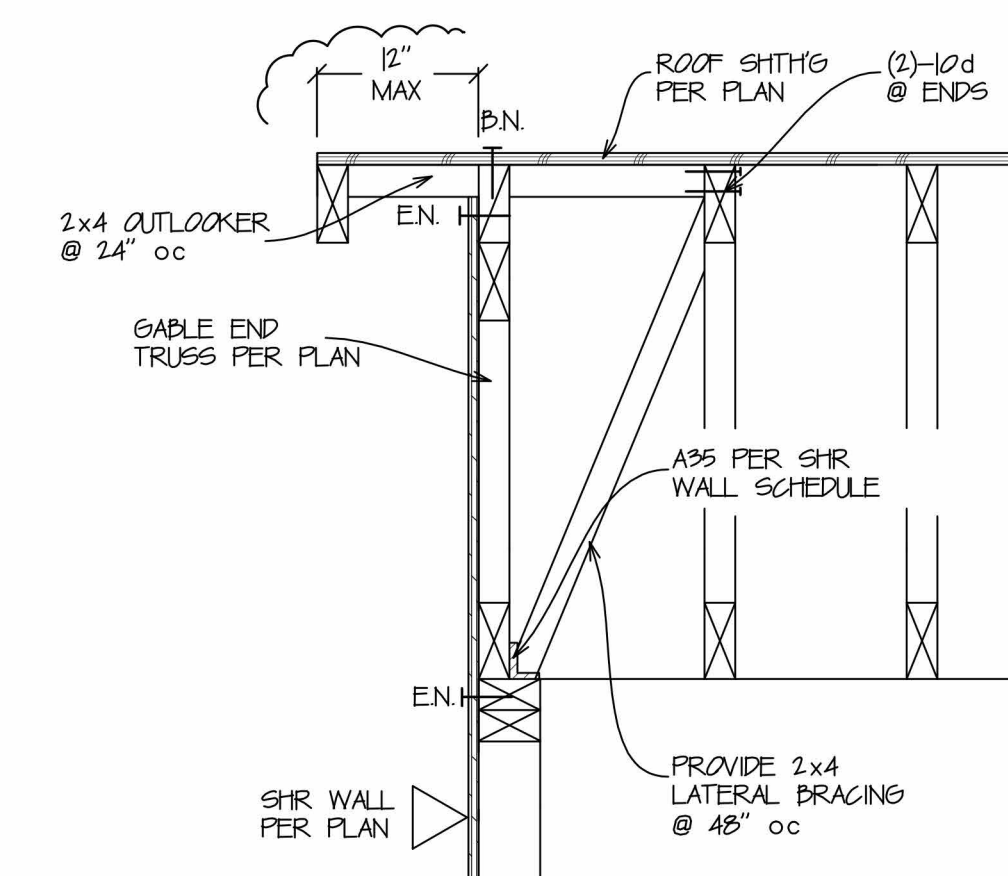
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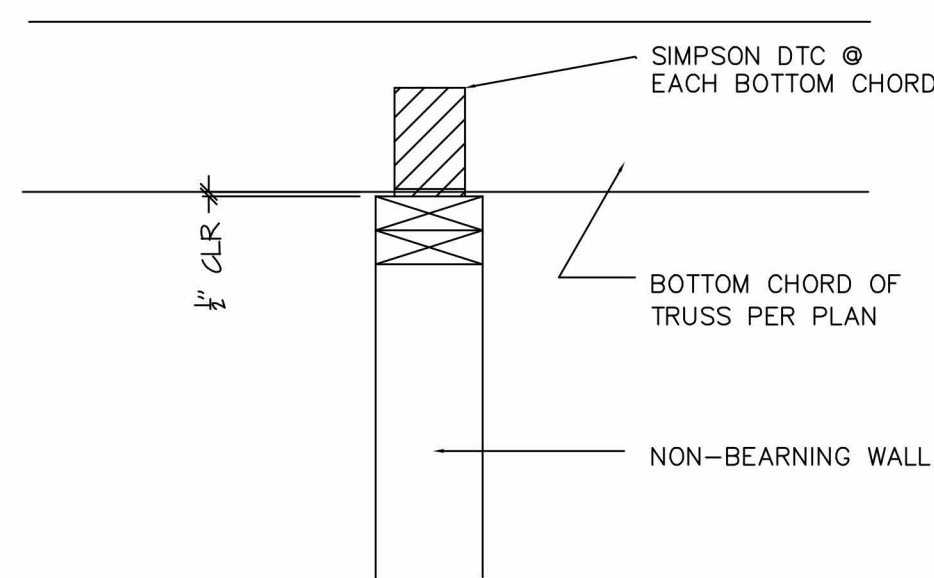
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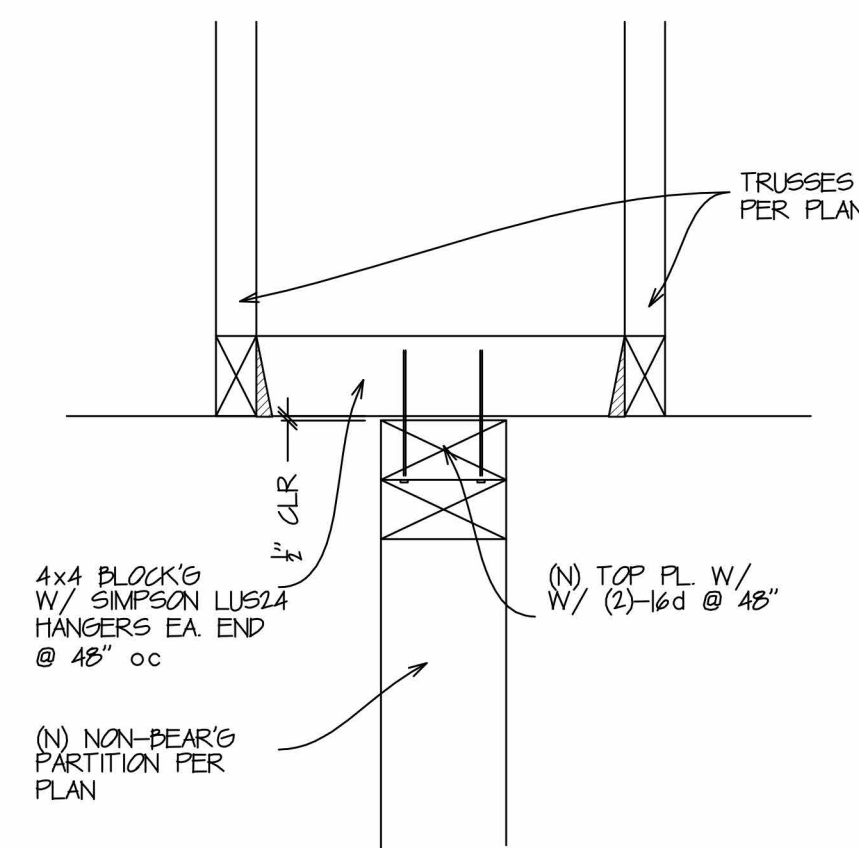
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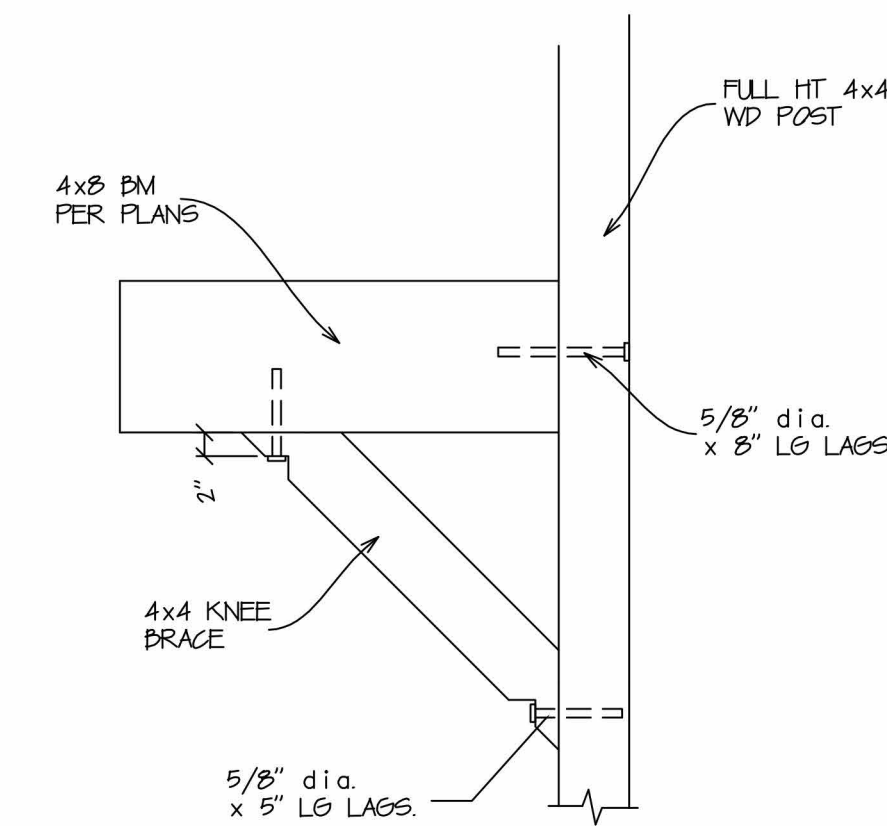
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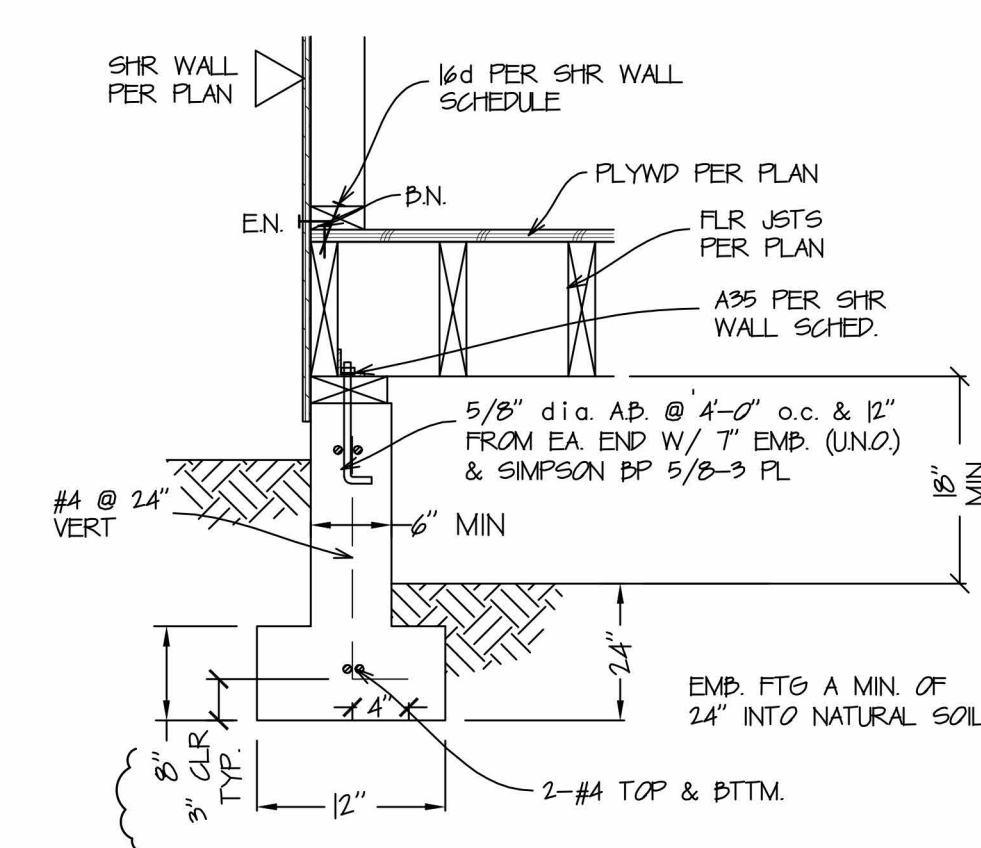
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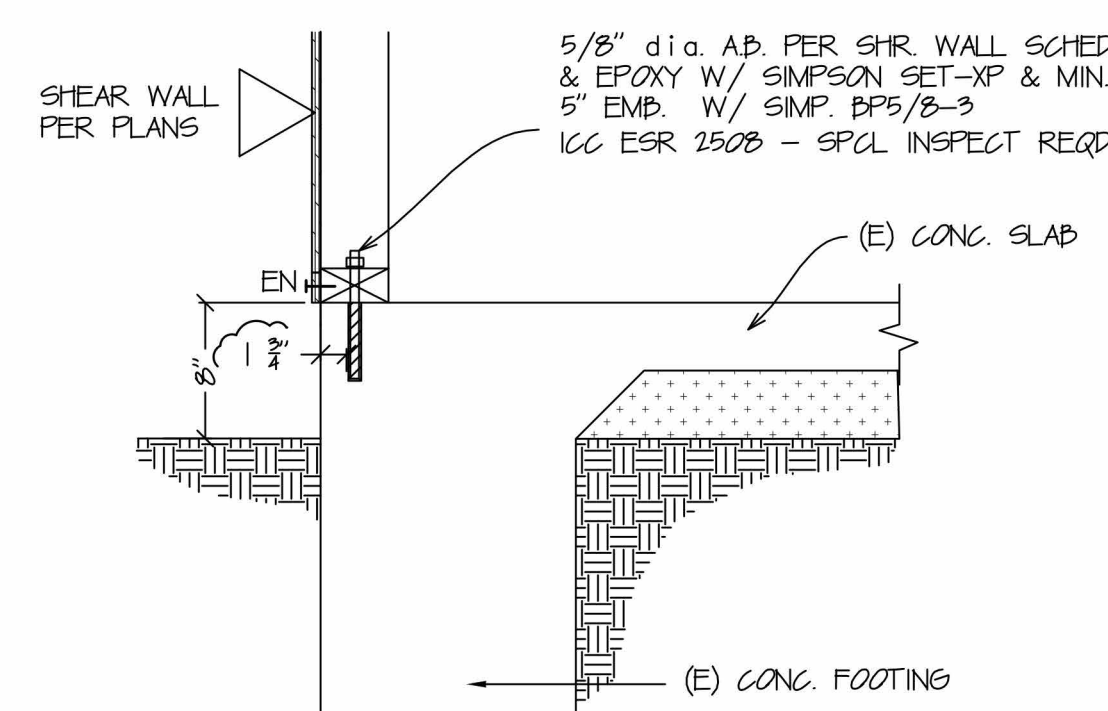
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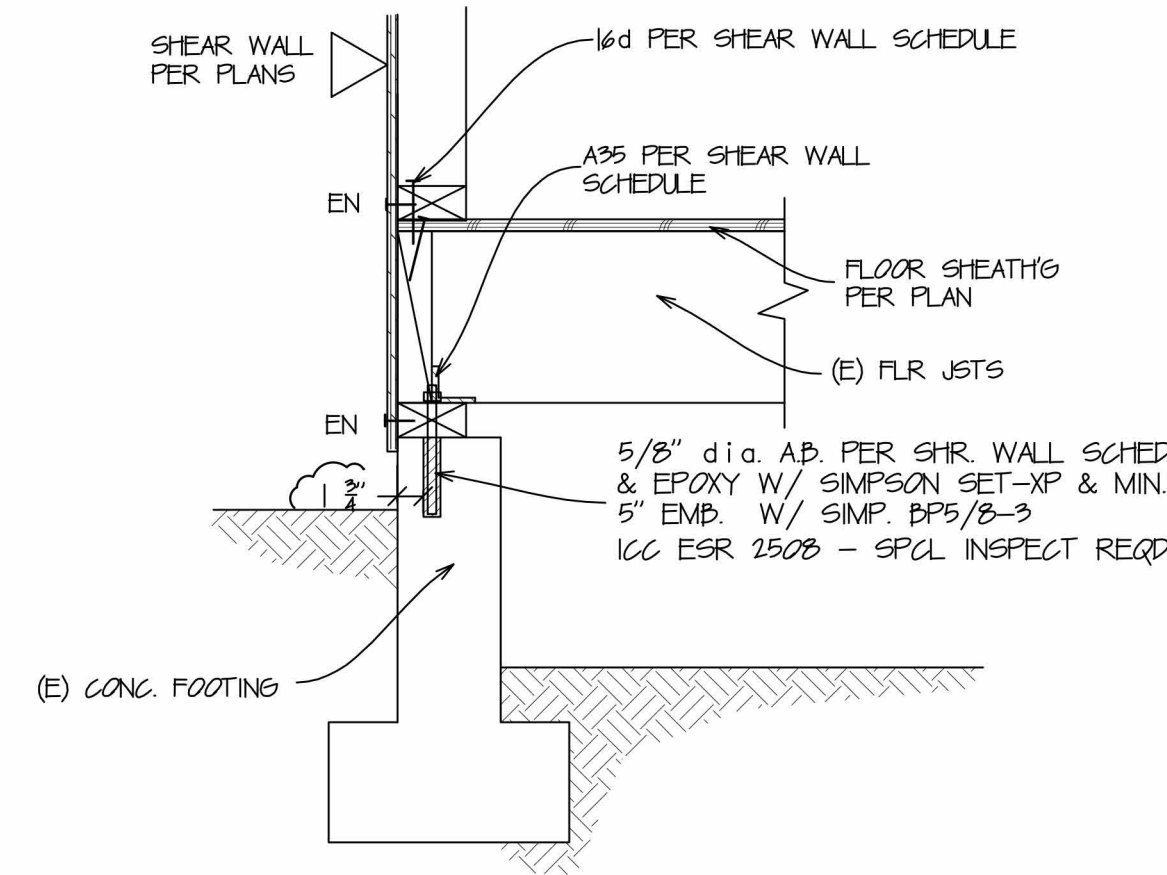
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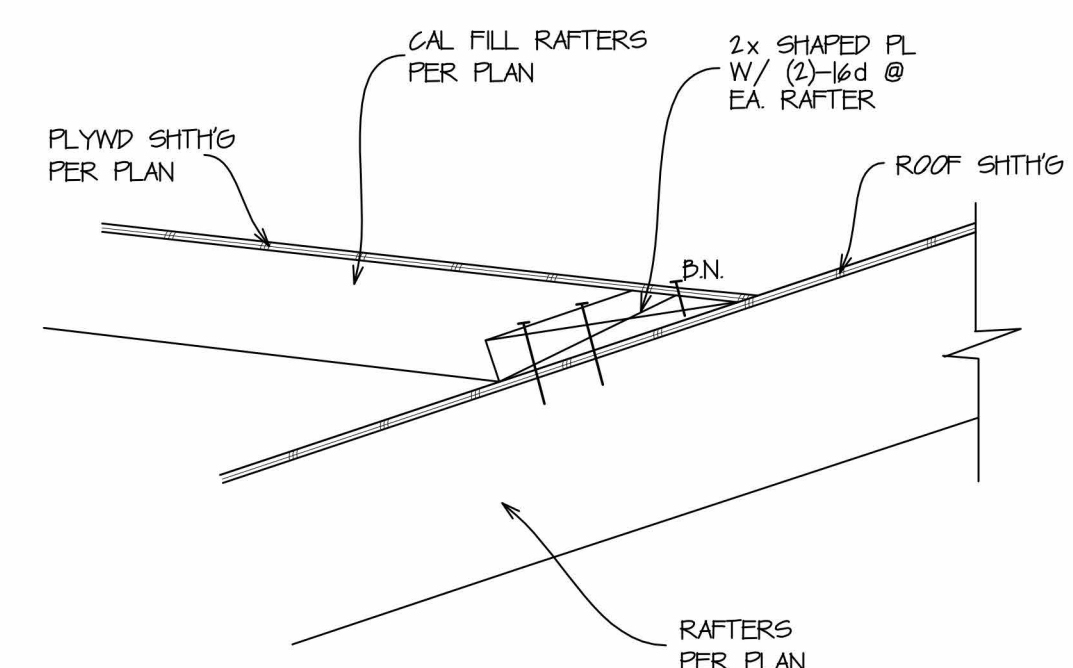
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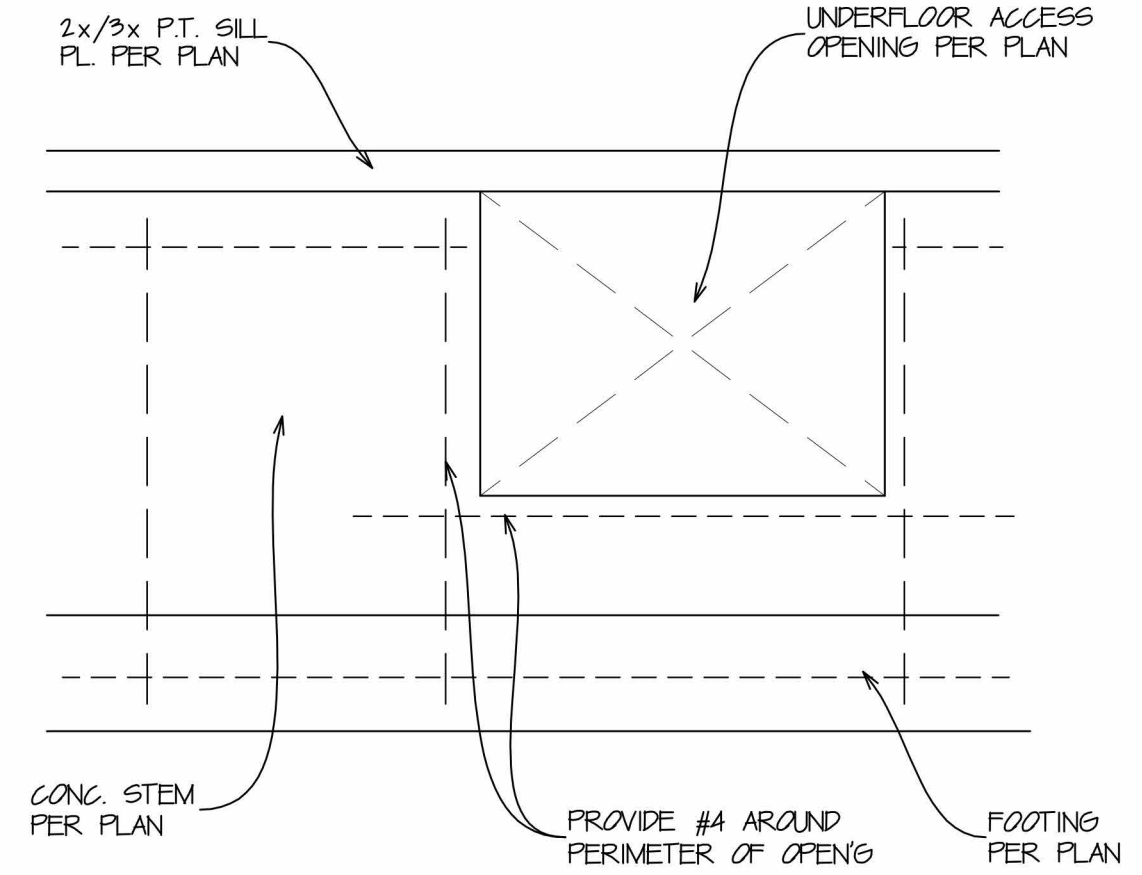
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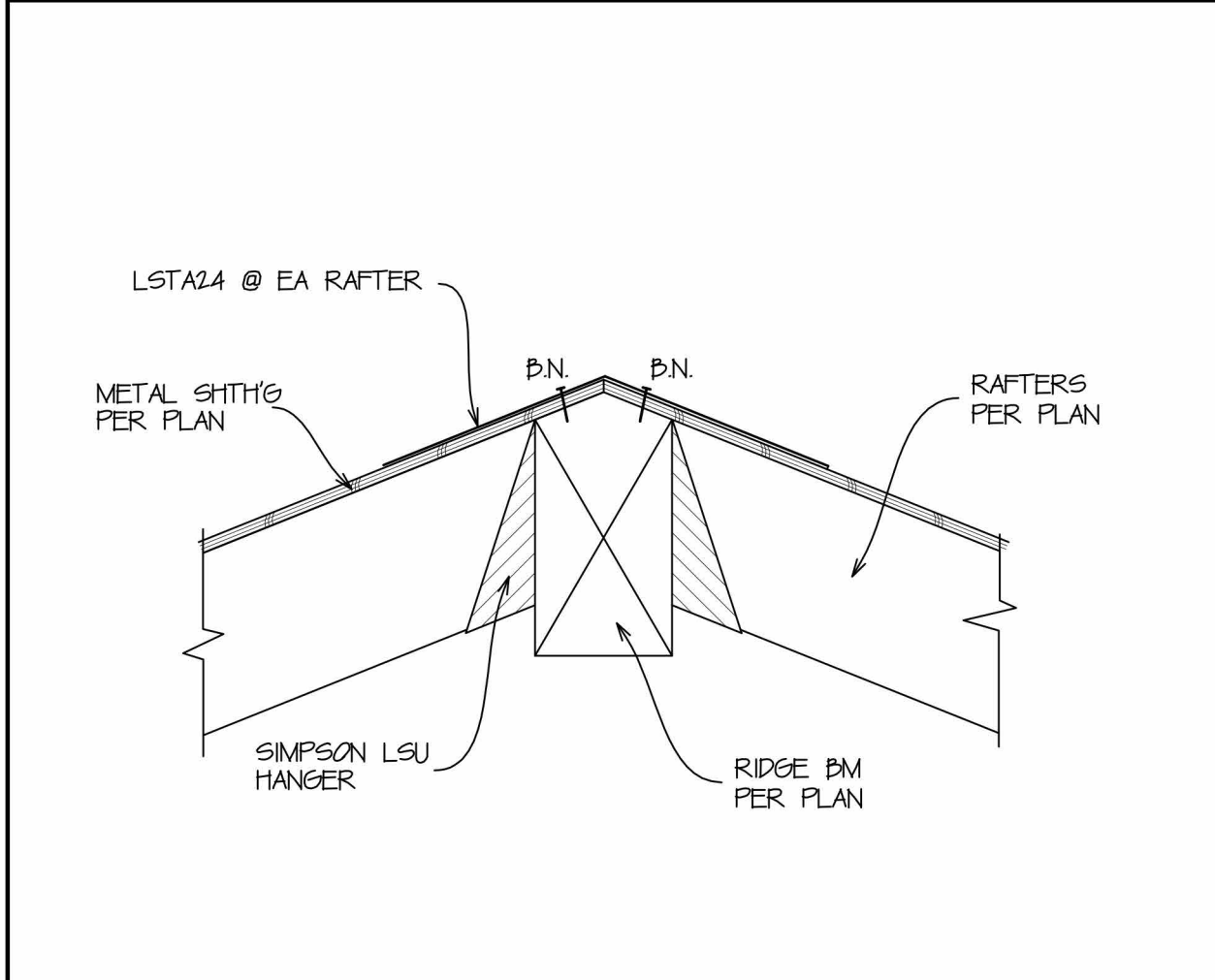
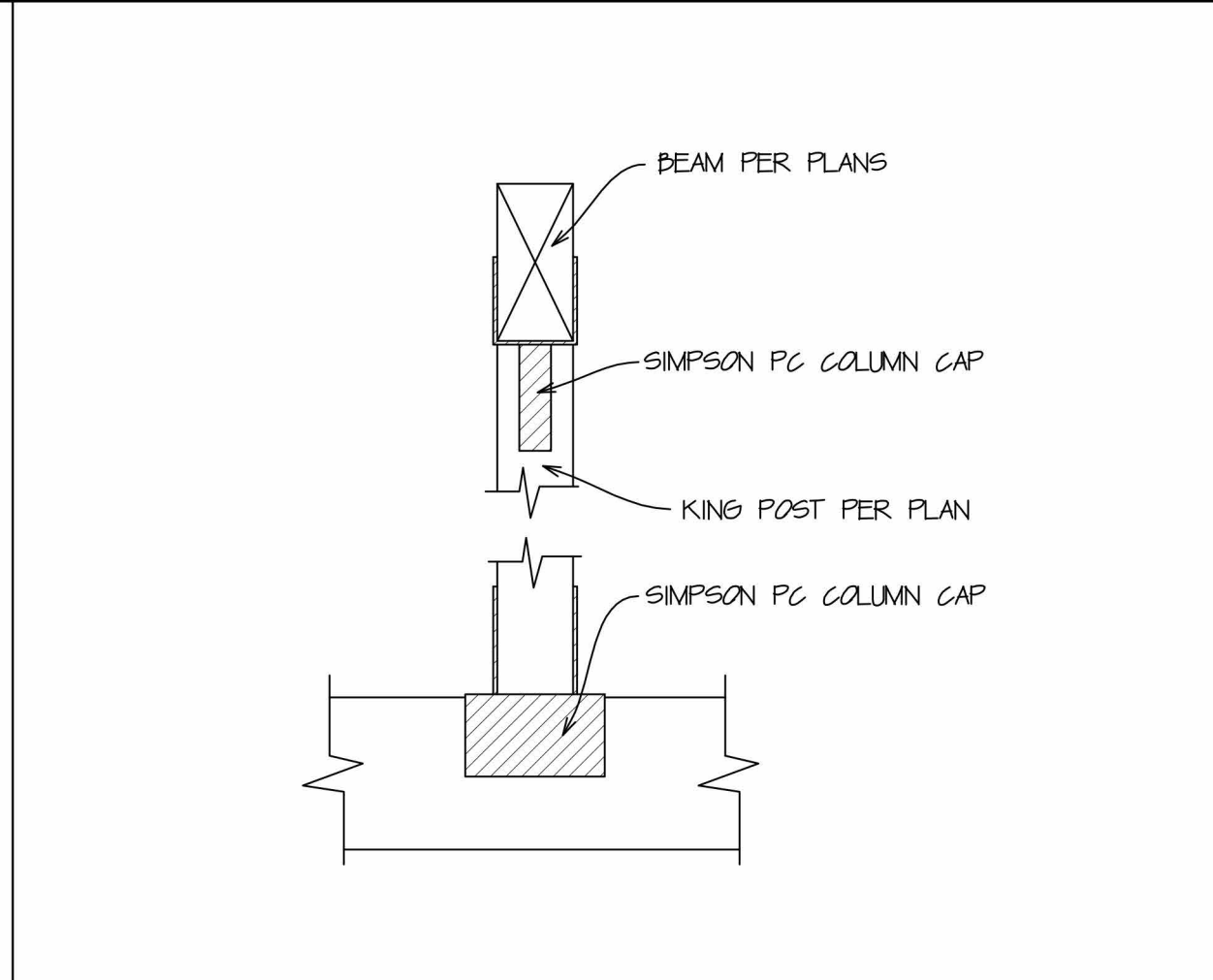
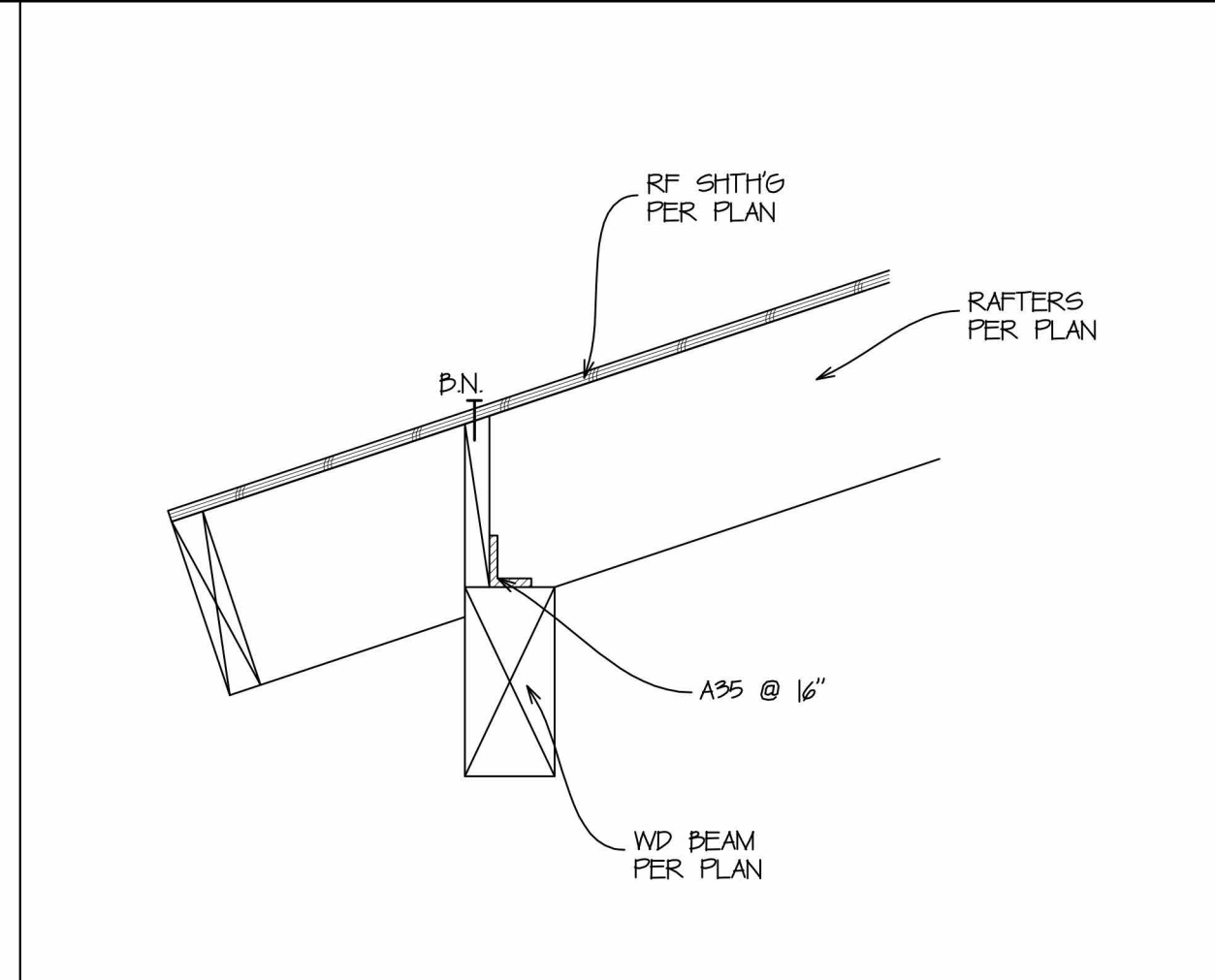
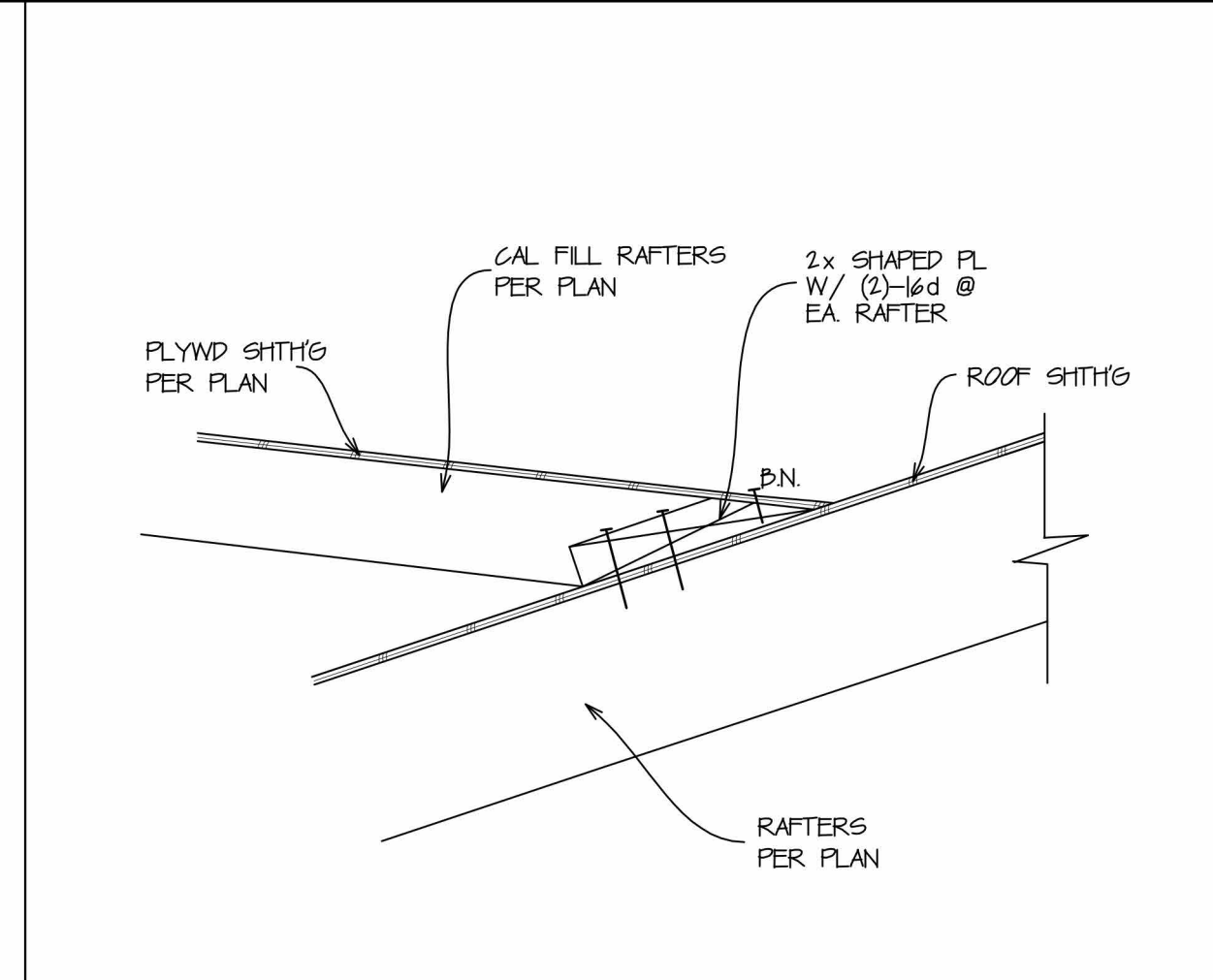
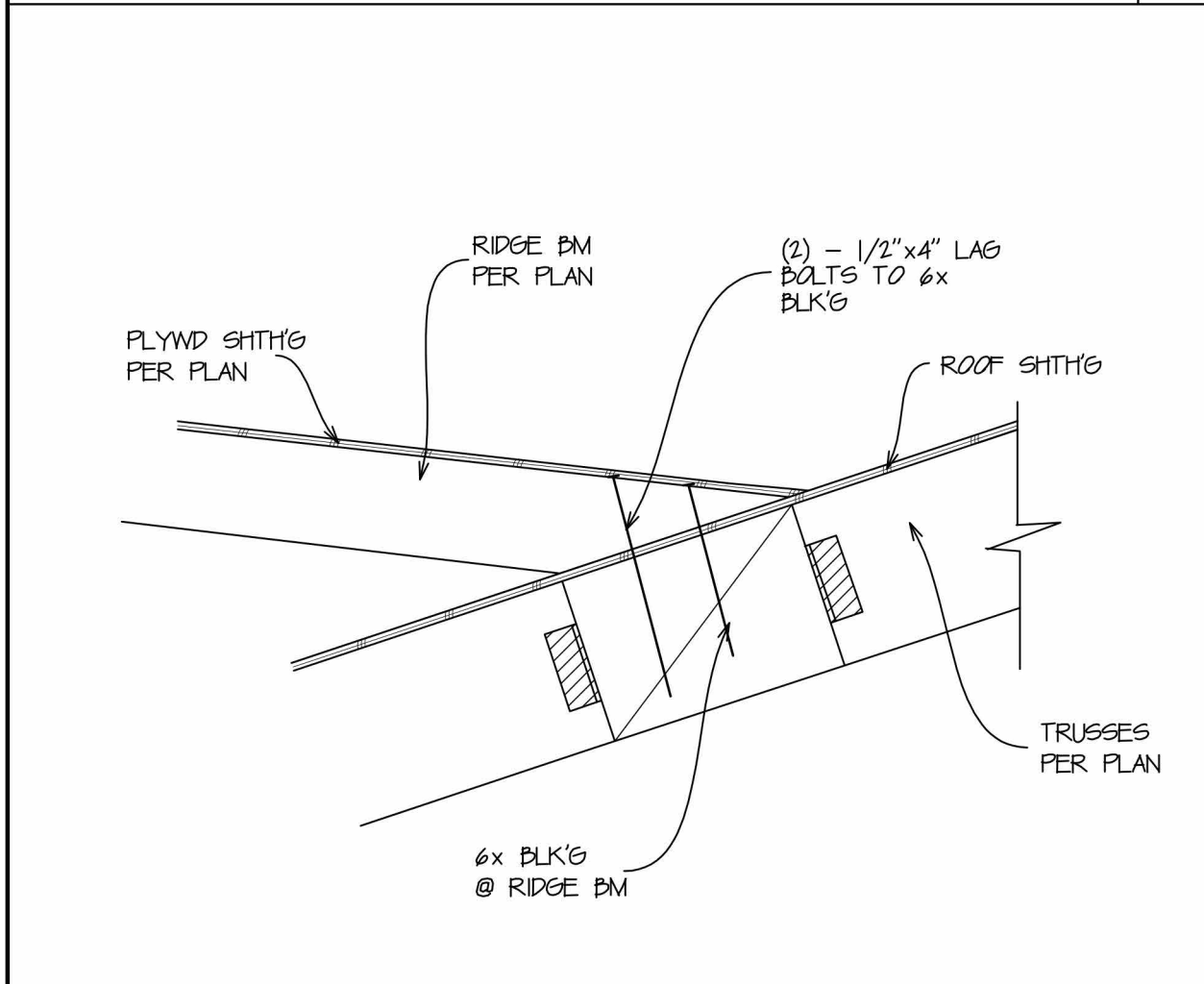




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DETAIL

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DETAIL	26	DETAIL	27	DETAIL	28	DETAIL	29	DETAIL	30
DETAIL	31	DETAIL	32	DETAIL	33	DETAIL	34	DETAIL	35
DETAIL	36	DETAIL	37	DETAIL	38	DETAIL	39	DETAIL	40

REVISIONS		BY
△	1-16-23	PC
		
PROJECT: New Detached ADU CHULA VISTA, CA		
DRAWING: Details		
JOB #: 23-269		
FILE: CV-ADU.dwg		
DRAWN: PC		
ENGINEER: PC		
DATE: 6-16-23		
SCALE: 1/4" = 1'-0"		
<small>ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED. ALL MATERIALS SHALL BE AS SHOWN OR EQUAL TO THE SPECIFICATIONS. ALL MATERIALS SHALL BE APPROVED BY THE ENGINEER.</small>		
		
SHEET SD2 SHEET - OF -		

GENERAL

1) ALL DESIGN, CONSTRUCTION, AND WORKMANSHIP SHALL CONFORM TO:  
2022 EDITION OF THE CALIFORNIA BUILDING CODE (CBC), AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE)  
7-16, 2022 CALIFORNIA MECHANICAL CODE (CMC), 2022 CALIFORNIA PLUMBING CODE, AND ALL LOCAL ORDINANCES AND REQUIREMENTS.

2) THE APPROVED CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION.

3) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO, BRACING AND SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC., THE METHODS, TECHNIQUES, SEQUENCES, PROCEDURES, SUPERVISION, AND INSTALLATION OF ALL TEMPORARY BRACING AND SHORING SHOULD ENSURE THE SAFETY OF THE WORK. BRACING AND SHORING IS TO BE INSTALLED PER THE LATEST OSHA STANDARDS. ALL BRACING AND/OR SHORING SHALL STAY IN PLACE UNTIL ALL WORK HAS BEEN SUITABLY COMPLETED.

4) THE GENERAL CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

5) DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES ON DRAWINGS. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

6) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO ENSURE THAT ALL APPLICABLE SAFETY LAWS ARE STRICTLY ENFORCED AND TO MAINTAIN A SAFE CONSTRUCTION PROJECT.

7) IT SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR TO PROVIDE SUPERVISION OF THE CONSTRUCTION WORK TO ENSURE THAT IT IS BUILT IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS. THE ENGINEER WILL PROVIDE ONLY OBSERVATION OF THE WORK DURING CONSTRUCTION.

8) THE APPROVED SET OF CONSTRUCTION DOCUMENTS, INCLUDING ALL APPROVED REVISIONS, SHALL BE PRESENT AT THE JOB SITE AT ALL TIMES.

9) CONSTRUCTION MATERIALS SHALL BE STORED OUT 1" PLACED ON FRAMED FLOORS OR ROOFS. LOADS SHALL NOT EXCEED THE DESIGN LOADING FOR THE SUPPORTING MEMBERS.

10) NO CHANGES IN THE PLANS WILL BE MADE AND NO EXTRA WORK PERFORMED UNLESS SO APPROVED BY THE OWNER, CIVIL/STRUCTURAL ENGINEER, SOILS ENGINEER/GEOLGISTS, COUNTY/CITY INSPECTOR AND BUILDING OFFICIALS.

11) A CLAIM FOR EXTRAS WILL BE CONSIDERED IF A CONDITION ARISES WHICH WAS CHANGED BY DESIGN BY OTHERS, UNFORESEEN OR HAS NOT BEEN SHOWN ON THE PLANS. SUCH CLAIMS FOR EXTRAS WILL NOT BE ALLOWED UNLESS THE CONTRACTOR HAS NOTIFIED THE OWNER AND SUPERVISING ENGINEER IN WRITING, INCLUDING AN AGREED-TO REIMBURSEMENT SCHEDULE, PRIOR TO PERFORMING THE EXTRA WORK.

INTENT OF THE DOCUMENTS

IT IS THE INTENT OF THE DRAWINGS AND THE SPECIFICATIONS TO REQUIRE THE COMPLETION OF THE WORK IN A THOROUGH AND WORKMANLIKE MANNER IN EVERY RESPECT.

DESCRIPTION OF WORK

THE CONTRACTOR SHALL FURNISH PERMITS, LICENSES, FEES, MATERIAL, LABOR, TOOLS, PLANT, SUPPLIES, EQUIPMENT, TRANSPORTATION, SUPERINTENDENCE, TEMPORARY CONSTRUCTION OF EVERY NATURE, INSURANCE, TAXES, CONTRIBUTIONS, AND ALL OTHER SERVICES AND FACILITIES, UNLESS SPECIFICALLY EXCEPTED NECESSARY TO COMPLETE THIS PROJECT.

LIABILITY AND COMPENSATION INSURANCE

THE CONTRACTOR SHALL MAINTAIN AT ALL TIMES, FULL AND UNLIMITED WORKMANS COMPENSATION INSURANCE IN ACCORDANCE WITH THE LABOR CODE OF THE STATE OF CALIFORNIA AND SHALL CARRY PUBLIC CONTINGENT LIABILITY OF INSURANCE, IN AMOUNTS SATISFACTORY TO AND IN COMPANIES SELECTED WITH THE CONSENT OF THE OWNER.

PERMITS

THE CONTRACTOR SHALL OBTAIN THE BUILDING PERMIT, AND ALL OTHER CERTIFICATIONS, INSPECTION REPORTS, RELEASES, JURISDICTIONAL SETTLEMENTS, NOTICES, RECEIPTS FOR FEE PAYMENTS, JUDGMENTS, AND SIMILAR DOCUMENTS, CORRESPONDENCE AND RECORDS IN COLLECTION.

SUBCONTRACTOR'S STATUS

EVERY ITEM MENTIONED IN THE SPECIFICATIONS IS INTENDED TO REPRESENT THE QUALITY OF MATERIALS THAT WILL BE DEMANDED. SHOULD THE SUBCONTRACTOR WISH TO SUGGEST ANY SUBSTITUTES THAT HE CONSIDERS EQUAL IN VALUE AND EFFICIENCY WITH THE ONE SPECIFIED, HE SHALL STATE WHAT THE ITEM SUGGESTED IS, AND THE DIFFERENCE IN COST, IF ANY.

IF SUBSTITUTES OF MATERIALS (EQUALLY GOOD) ARE OFFERED AT THE TIME BIDS ARE SUBMITTED, THEY WILL BE CONSIDERED. IN THE EVENT THE OWNER WISHES TO ACCEPT THE SUBSTITUTE, ARRANGEMENTS WILL BE MADE FOR THE CHANGE BEFORE ENTERING INTO A CONTRACT.

IF NO ITEMS ARE SUGGESTED AS A SUBSTITUTE AT THE TIME THE BIDS ARE SUBMITTED, THEN NO DEVIATION WILL BE ALLOWED FROM THE MATERIALS SPECIFIED WITHOUT FIRST SECURING THE APPROVAL OF THE OWNER.

WORKMAN SAFETY-EXCAVATIONS

ALL REGULATIONS OF THE STATE OR FEDERAL AGENCY SHOULD BE FOLLOWED BEFORE ALLOWING WORKMEN IN A TRENCH OR OTHER EXCAVATION.

IF EXCAVATIONS ARE TO BE MADE DURING THE RAINY SEASON PARTICULAR CARE SHOULD BE GIVEN TO INSURE THAT PERMS OR OTHER DEVICES PREVENT SURFACE WATER FROM FLOWING OVER THE TOP OF THE EXCAVATION OR PONDING AT THE TOP OF THE EXCAVATIONS.

NO TRENCHES OR EXCAVATIONS SHALL BE 5' OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND, OR OBTAIN NECESSARY PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO ISSUANCE OF A BUILDING OR GRADING PERMIT.

WRAP AND PROTECT ALL UTILITY LINES IN WAY OF CONSTRUCTION PER STANDARD CONSTRUCTION PRACTICES

TIMBER

1) ALL TIMBER DESIGN AND CONSTRUCTION SHALL BE PER 2022 CBC CHAPTER 23 AND 2020 NATIONAL DESIGN SPECIFICATION (NDS). ALL SAWN LUMBER SHALL BE GRADED BY EITHER NWFA OR WCLB.

2) UNJO, ALL WOOD SILL PLATES AND LEDGERS BEARING ON CONCRETE OR MASONRY SHALL BE PRESSURE TREATED DOUGLAS FIR-LARCH. ANCHOR BOLTS SHALL BE 5/8" DIAMETER SPACED A MAXIMUM 4'-0" O.C. AND WITHIN 12" AND GREATER THAN SEVEN BOLT DIAMETERS FROM EACH END OF A SILL, FROM A HOLE, OR FROM A NOTCH GREATER THAN 1/3 THE WIDTH OF THE SILL. SEE SHEARWALL SCHEDULE FOR OTHER REQUIREMENTS.

3) ALL WALL BRACING AND MATCHING OF STUDS SHALL CONFORM TO SECTION 2302B.33 OF THE 2022 CALIFORNIA BUILDING CODE.

4) UNLESS NOTED OTHERWISE ON FRAMING PLANS:

ROOF SHEATHING SHALL BE 15/32" APA-RATED SHEATHING, EXPOSURE I, MIN. SPAN RATING 24/0, NAILED WITH 8d COMMON @ 6" O.C. AT EDGES & BOUNDARIES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

FLOOR SHEATHING SHALL BE 23/32" APA-RATED STURD-I-FLOOR, T&G, EXPOSURE I, MIN. SPAN RATING 24" O.C., NAILED WITH 1d COMMON @ 6" O.C. AT EDGES & BOUNDARIES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

SHEARWALL SHEATHING SHALL BE APA "STRUCTURAL I" RATED, EXPOSURE I, GROUP 1, NAILING PER SHEARWALL SCHEDULE.

ALL WOOD STRUCTURAL PANEL SHEATHING SHALL BE GRADE MARKED BY APA, T&G, OR PTL AND SHALL CONFORM TO PS-1-9, PS-2-18, OR FRP-1-20.

TRASH REMOVAL

THE CONTRACTOR SHALL PROMPTLY REMOVE FROM THE BUILDING, LOT, SIDEWALKS, AND STREETS - ALL RUBBISH AND DIRT, AS IT ACCUMULATES, DUE TO THE WORK DONE UNDER THIS CONTRACT.

ALL COMBUSTIBLE DEBRIS SHALL BE REMOVED FROM THE BUILDING ON A DAILY BASIS.

FOUNDATION

1) CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS FOR POURED-IN-PLACE CONTINUOUS AND SPREAD FOOTINGS, AND 3000 PSI (SPECIAL INSP. REQ'D) AT 28 DAYS FOR GRADE BEAMS.

2) PORTLAND CEMENT SHALL BE TYPE II PER ASTM C 150. AGGREGATES SHALL BE PER ASTM C39 WITH MAXIMUM SIZE OF 1 1/2" FOR FOOTINGS AND 1" FOR ALL OTHER WORK.

3) REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, CLEAN AND RUST FREE. LAPS AT SPLICES AND FOUR LINES TO BE 40 BAR DIAMETERS (3'-0" MINIMUM) UNLESS NOTED OTHERWISE ON PLANS.

4) UNJO, SLABS ON GRADE SHALL BE 4" THICK WITH #2 BARS @ 16" O.C. EACH WAY WITH 2 INCH COVER AT BOTTOM. 4" CLEAN SAND SHALL BE PLACED BELOW THE SLAB WITH A 10 MIL PLASTIC VAPOR BARRIER PER ASTM E26 & ASTM E146 PLACED AT MID-HEIGHT. BARS SHALL BE LAPPED 20". SEE SOILS REPORT (IF AVAILABLE) FOR OTHER REQUIREMENTS.

5) ALL NEW SILL PLATE ANCHOR BOLTS TO BE INSTALLED IN FRESH CONCRETE SHALL BE 5/8" DIAMETER ABOUT 1" LONG SPACED PER PLAN AND SHEARWALL SCHEDULE WITH MINIMUM 7" EMBEDMENT. MAXIMUM ANCHOR BOLT SPACING SHALL BE 4'-0" O.C. ANCHOR BOLTS AT ENDS OF WALL PANELS SHALL BE LOCATED WITHIN 12" AND GREATER THAN 7 BOLT DIAMETERS FROM THE END OF SILL PLATE. THERE SHALL BE A MINIMUM OF TWO ANCHOR BOLTS PER WALL PANEL. ANCHOR BOLTS TO EXISTING FOOTINGS PER NOTE #10 (SEE BELOW). PLATE WASHERS A MINIMUM 9/32X2 1/2" THICK SHALL BE USED ON EACH BOLT. ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

6) IF NO SOILS REPORT IS PROVIDED, ASSUMED ALLOWABLE SOIL BEARING PRESSURE (ASBP) SHALL BE 100 PSF (PER SOIL SITE CLASS D) & EMBED FOOTINGS A MINIMUM OF 24" INTO COMPETENT SOIL.

7) REINFORCEMENT CLEARANCES FOR FOOTINGS AND GRADE BEAMS, (UNJO):

A) FURRED AGAINST EARTH - 3"

B) FORMED SURFACE - 2"

8) REMOVAL OF FORMS:

A) SUPPORTING VERTICAL SURFACES - 2 DAYS MINIMUM

B) SUPPORTING BEAMS & GIRDERS - 15 DAYS MINIMUM

9) REINFORCING SHALL BE CONTINUOUS AROUND CORNERS AND THROUGH INTERSECTIONS.

10) A CLAIM FOR EXTRAS WILL BE CONSIDERED IF A CONDITION ARISES WHICH WAS CHANGED BY DESIGN BY OTHERS, UNFORESEEN OR HAS NOT BEEN SHOWN ON THE PLANS. SUCH CLAIMS FOR EXTRAS WILL NOT BE ALLOWED UNLESS THE CONTRACTOR HAS NOTIFIED THE OWNER AND SUPERVISING ENGINEER IN WRITING, INCLUDING AN AGREED-TO REIMBURSEMENT SCHEDULE, PRIOR TO PERFORMING THE EXTRA WORK.

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NO TRENCHES OR EXCAVATIONS SHALL BE 5' OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND, OR OBTAIN NECESSARY PERMIT FROM THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO ISSUANCE OF A BUILDING OR GRADING PERMIT.

WRAP AND PROTECT ALL UTILITY LINES IN WAY OF CONSTRUCTION PER STANDARD CONSTRUCTION PRACTICES

FRAMING

ROOF DIAPHRAGM

15/32" APA RATED SHEATHING (MIN), EXPOSURE I, 24/0 MAX SPAN RATING, w/ 8d COMMON NAILS @ 6" O.C. AT BOUNDARY & PANEL EDGE NAILING (EN), AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS

FLOOR DIAPHRAGM

23/32" APA STURD-I-FLOOR, EXPOSURE I, TONGUE AND GROOVE, w/ 1d COMMON NAILS @ 6" O.C. AT BOUNDARY & PANEL EDGE NAILING (EN), AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS

FRAMING

- BUILT-UP WOOD FRAMING MEMBERS MAY NOT BE SUBSTITUTED FOR 4x AND WIDER BEAMS UNLESS NOTED BY ENGINEER.
- ALL (1) 2x ROOF & FLOOR FRAMING TO HAVE MIN. 16d AT 12" O.C. T&G, STAGGERED
- ALL (2) 4x FRAMING TO HAVE MIN. 1 1/2" DIAMETER BOLTS AT 18" O.C. T&G, STAGGERED
- 2x solid BLOCKING REQUIRED AT POINTS OF SUPPORT FOR ALL HORIZONTAL FRAMING MEMBERS. IN ADDITION, ALL 2x10 AND LARGER MEMBERS SHALL HAVE SOLID FULL DEPTH BLOCKING OR BRACING AT MAX. 8'-0" O.C. ON PLANS AND SECURELY WIRED.
- ALL WOOD POSTS AT UPPER FLOORS TO CONTINUE TO BEAM OR FOUNDATION.
- UNLESS DETAILED OTHERWISE, ALL RIDGE / HIP / VALLEY CONNECTIONS TO HAVE A SIMPSON A95 CONNECTOR AT EACH CORNER WITH A 2x KICKER TO BEARING WALL.
- AT ROOF-TO-WALL FRAMING, PROVIDE A95 FRAMING ANCHORS PER SHEARWALL SCHEDULE OR AT MAX. 48" O.C. FROM PLATES TO RAFTERS AND RAFTER BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR).

- AT FIRST FLOOR AND SUBTERRANEAN LEVEL PROVIDE A955 PER SHEARWALL SCHEDULE OR AT 32" O.C. MAX FROM PLATES TO FLOOR JOISTS AND BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR).
- PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL WALLS, UNJO.
- WHEN SHEAR WALLS ARE SUPPORTED BY WOOD JOISTS THAT ARE PERPENDICULAR TO THE SHEAR WALL, ATTACH SOLID 4x BLOCKING UNDER SHEAR WALLS BETWEEN JOISTS. PROVIDE 2x SOLID BLOCKING UNDER NON-SHEAR WALLS PERPENDICULAR TO FLOOR JOISTS. SEE PLANS AND DETAILS FOR ANY ADDITIONAL REQUIREMENTS.
- ATTACH MIN. 2x SOLID BLOCKING AND EDGE NAIL THE PERIMETER OF ALL OPENINGS OVER 10" IN WIDTH OR LENGTH IN ALL SHEAR PANELS AND DIAPHRAGMS. SEE DETAILS WHERE OTHER REQUIREMENTS MAY OCCUR.
- PROVIDE A MINIMUM 3x4 OR 2x6 @ 16" FOR ALL STUD WALLS SUPPORTING TWO OR THREE FLOORS WITH 10" MAX PLATE HEIGHTS.
- ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

REINFORCING STEEL

ALL PRIMARY REINFORCEMENT SHALL CONFORM TO ASTM A - #5, GRADE 60 KSI, STEEL.

ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-#5, GRADE 40 KSI, STEEL.

SPLICES OF REINFORCING SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS UNLESS SPECIFIED ON PLANS AND SECURELY WIRED TOGETHER, USING A MINIMUM OF 6 GA. WIRE. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHEREVER POSSIBLE.

TIMBER

5) HORIZONTAL WOOD STRUCTURAL PANELS SHALL BE LAP WITH THE LONG DIMENSION AND FACE GRAIN PERPENDICULAR TO THE RAFTERS OR JOISTS, AND THE SHEETS SHALL BE STAGGERED AS SHOWN IN 2022 CBC TABLE 2306.2.2 (CASES I AND 9). EACH SHEET SHALL CONTAIN A MINIMUM OF 8 SQUARE FEET AND EXTEND TO 3 SUPPORTS. 1/8" SPACING BETWEEN PANEL ENDS AND EDGES IS REQUIRED. ALL WOOD STRUCTURAL PANEL DIAPHRAGMS SHALL BE REVIEWED BY CONTRACTOR FOR COMPLIANCE WITH NAILING AND PANEL REQUIREMENTS BEFORE FINISH IS APPLIED.

6) UNJO, ALL 2x ROOF RAFTER AND FLOOR JOIST FRAMING MEMBERS SHALL BE MINIMUM GRADE DOUGLAS FIR-LARCH NO. 2 OR BETTER. ALL BEAMS, HEADERS, AND POSTS SHALL BE MINIMUM DOUGLAS FIR-LARCH NO. 1 OR BETTER. ALL VERTICAL WALL FRAMING MEMBERS SHALL BE DOUGLAS FIR -LARCH NO. 2 OR BETTER.

7) ALL PS1 AND LVL ENGINEERED FRAMING MEMBERS SHOWN ON PLANS TO BE 23E PARALLAM (E=2200 ksi) AND 10E MICROLAM BEAMS (E=1000 ksi), RESPECTIVELY, AS DESCRIBED IN CC-ES-ESR-109 & CC-ES-ESR-190. ALL WOOD I-JOIST MEMBERS SHOWN ON PLANS TO BE AS DESCRIBED IN ESR-109.

8) MOISTURE CONTENT OF SAWN LUMBER AT TIME OF INSTALLATION SHALL NOT EXCEED 19%.

9) ALL BOLT HEADS AND NUTS BEARING ON WOOD SHALL HAVE WASHERS. HOLES IN WOOD FOR BOLTS SHALL BE DRILLED MAX. 1/16" LARGER THAN NOMINAL BOLT SIZE.

10) NOTCHING OR DRILLING HOLES IN BEAMS OR JOISTS SHALL BE ONLY AS DETAILED PER ENGINEER AND SHALL COMPLY WITH 2022 CBC SECTION 2302B.33 & 2302B.34.

11) ALL SAWN LUMBER (2x, 4x, 6x) RAFTERS, FLOOR JOISTS, AND BEAMS SHALL HAVE SOLID WOOD BLOCKING AT ALL POINTS OF SUPPORT. MEMBERS WITH NOMINAL DEPTH 10" OR GREATER SHALL HAVE 2x FULL DEPTH SOLID BLOCKING OR CROSS BRIDGING SPACED AT 8'-0" FOR MAXIMUM.

12) UNJO, ALL FRAMING CONNECTION HARDWARE SHALL BE AS MANUFACTURED BY THE SIMPSON STRONG-TIE COMPANY AND SHALL BE REFERENCED AS SHOWN IN THEIR LATEST CATALOG. ALL CONNECTOR WALLS AND BOLTS SHALL BE AS DESIGNATED PER MANUFACTURER. ALTERNATE MANUFACTURER CONNECTOR HARDWARE MAY BE USED PROVIDED ENGINEER'S WRITTEN APPROVAL IS OBTAINED BY CONTRACTOR AND CC APPROVAL IS PROVIDED.

13) POST PLATES SHALL LAP LOWER PLATES AT CORNERS, AND BREAKS AT PLATE SHALL BE LAPPED A MINIMUM OF 4'-0", WITH 20-46d NAILS ON EACH SIDE.

14) ALL BEAMS SHALL BE SUPPORTED BY POSTS OR GIRDERS. FOR 4x8 AND SMALLER BEAMS A MINIMUM (2)-2X4 DF. #2 POST SHALL BE USED. UNJO. FOR 4x10 AND LARGER BEAMS A MINIMUM 4x4 DF. #1 POST SHALL BE USED. UNJO. ALL POSTS SHALL PROVIDE FULL BEARING WIDTH FOR THE BEAM, UNJO.

15) ALL POSTS SHALL BE CONTINUED BETWEEN FLOORS WITH SOLID FULL WIDTH BLOCKING AND A POST OF EQUAL OR GREATER SIZE BELOW, UNTIL A BEAM OR FOUNDATION IS ENCOUNTERED. ALL POSTS INSIDE WALLS MAY BEAR ON THE SOLE OR SILL PLATE, UNJO. ISOLATED POSTS SHALL BE SEATED IN POST OR COLUMN DEAKS PER PLAN.

16) ALL WALLS HIGHER THAN 10'-0" SHALL BE 2x6 OR 3x6 STUDS @ 16" O.C., UNLESS SPECIFICALLY DESIGNED OTHERWISE BY ENGINEER. ALL WALLS CONTAINING MECHANICAL PIPING 2" IN DIAMETER OR LARGER SHALL BE FRAMED WITH 2x6 STUDS @ 16" O.C.

17) CUTTING, NOTCHING, OR BORING HOLES IN STUDS SHALL COMPLY WITH 2022 CBC SECTION 2302B.32 & 2302B.31.

18) FRAMING AND NAILING NOT SPECIFICALLY DETAILED ON THE PLANS ARE TO CONFORM TO 2022 CBC TABLE 2306.2.2. COMMON NAILS ARE REQUIRED FOR ALL SHEARWALL, FLOOR AND ROOF DIAPHRAGMS. USE DOUBLE JOISTS UNDER PARALLEL PARTITIONS, UNJO. DOUBLED HORIZONTAL MEMBERS SHALL BE STITCH-WALLED TOGETHER WITH TWO ROWS OF 16d NAILS @ 12" O.C. STAGGERED, UNLESS OTHERWISE DETAILED. TRIPLED HORIZONTAL MEMBERS SHALL HAVE MIN. 1/2" DIAMETER BOLTS AT 18" O.C. T&G, STAGGERED.

19) ANCHOR BOLTS TO SILL AND SOLE PLATES SHALL HAVE NUTS DRIVEN FLUSH WITH SQUARE PLATE WASHERS IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

BOLT DIAMETER	PLATE SIZE
5/8"	02129" x 3" x 3"
3/4"	5/16" x 3" x 3"
1"	5/8" x 3" x 3"
	3/8" x 3 1/2" x 3 1/2"

THE ABOVE SCHEDULE ALSO APPLIES TO LAG SCREWS DRIVEN INTO SOLE PLATES FOR RAISED FLOOR AND UPPER STORY CONDITIONS.

20) LAG SCREWS SHALL BE INSTALLED IN PRE-DRILLED HOLES. THE CLEARANCE HOLE FOR THE SHANK PORTION SHALL HAVE THE SAME DIAMETER AND DEPTH AS THE SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A MINIMUM EQUAL TO 40%-100% OF THE SHANK DIAMETER FOR ALL DOUG-FIR LARCH MEMBERS). LAG SCREWS ARE TO BE INSTALLED WITH THE TURN OF A WRENCH. DRIVING, AS WITH A HAMMER, IS NOT PERMITTED.

21) MINIMUM NAILING SHALL BE PER TABLE 2304A.2 OF THE 2022 CBC.

22) ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

STRUCTURAL STEEL

1) ALL STRUCTURAL STEEL SHALL CONFORM TO SECTION 22021 - 2022 CBC.

W-WIDE FLANGE SHAPES: ASTM A992, Fy = 50-65 KSI  
PLATES, ANGLES, CHANNELS: ASTM A36, Fy = 36 KSI  
HOLLOW TUBE SHAPES: ASTM A500, GRADE B, Fy = 46 KSI  
ROUND PIPE SHAPES: ASTM A53, GRADE B, Fy = 36 KSI

2) ALL STRUCTURAL STEEL SHALL BE FABRICATED IN A SHOP APPROVED BY THE LOCAL MUNICIPAL BUILDING DEPARTMENT.

3) STRUCTURAL SHOP DRAWINGS SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION.

4) ALL STRUCTURAL STEEL SHALL BE IDENTIFIED PER 2022 CBC. DESIGN OF STEEL MEMBERS SHALL BE PER ASD PROVISIONS IN THE 2022 CBC SECTION 22051 & 22052.

5) STRUCTURAL STEEL SHALL HAVE A SHOP CONT OF RED-OXIDE PRIMER.

6) AFTER ERECTION, ALL FIELD CONNECTIONS, BOLTS, WELDS, AND ALL ABRADED PLACES ON THE SHOP PAINT SHALL BE TOUCHED UP WITH THE SAME TYPE OF PAINT AS THE SHOP COAT.

7) FIELD AND SHOP WELDING SHALL BE DONE BY A FULLY CERTIFIED WELDER USING LOW-HYDROGEN E70-T4 ELECTRODE RODS, UNLESS NOTED OTHERWISE. CONTINUOUS INSPECTION BY A REGISTERED INSPECTOR IS REQUIRED FOR FIELD WELDING. ALL WELDING SHALL BE PER AWS, LATEST EDITION, AND AWS SPECIFICATIONS.

8) BOLTS SHALL BE OF A307 QUALITY WITH WASHERS, UNLESS OTHERWISE SPECIFIED ON PLANS. ANY HIGH STRENGTH A305 OR A307 BOLTS SHALL HAVE SPECIAL INSPECTION, UNLESS NOTED OTHERWISE.

9) STEEL ERECTOR SHALL PROVIDE ALL ERECTION DRAGGING REQUIRED TO MAINTAIN STRUCTURE PLUMB AND PROPERLY BRACED DURING CONSTRUCTION.

10) ALL STRUCTURAL STEEL SHALL BE DESIGNED BASED UPON THE ALLOWABLE STRESS DESIGN METHOD PER AISI 360.

CONCRETE

1) ALL PHASES OF WORK PERTAINING TO CONCRETE CONSTRUCTION SHALL CONFORM TO 2022 CBC CHAPTER 19 (BASED ON ACI-308, LATEST ADOPTED EDITION) FOR REINFORCED CONCRETE.

2) MINIMUM ULTIMATE COMPRESSIVE CONCRETE STRENGTHS (F'c) SHALL BE:  
SLAB ON GRADE: 2500 PSI @ 28 DAYS  
STRUCTURAL DECK: 3000 PSI @ 28 DAYS  
COLUMNS: 3000 PSI @ 28 DAYS  
FOOTINGS: 3000 PSI @ 28 DAYS  
CONCRETE/GRADE BEAMS: 3000 PSI @ 28 DAYS  
CAISSONS: 3000 PSI @ 28 DAYS

3) CONTINUOUS INSPECTION BY AN APPROVED DEPUTY INSPECTOR IS REQUIRED FOR CAISSONS, GRADE BEAMS, STRUCTURAL SLABS, AND OTHER CONCRETE MEMBERS WHERE DESIGN COMPRESSIVE STRENGTH VALUE EXCEEDS 2500 PSI.

4) CEMENT SHALL BE TYPE II, LOW ALKALI, CONFORMING TO ASTM C-60.

5) ALL PRIMARY REINFORCEMENT SHALL BE PER ASTM A-#5, GRADE 60 KSI STEEL. ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-#5, GRADE 40 KSI STEEL.

6) UNLESS NOTED OTHERWISE, SPLICES OF REINFORCING SHALL BE LAPPED A MINIMUM OF 40 BAR DIAMETERS AND SECURELY WIRED TOGETHER, USING A MINIMUM OF 6 GA WIRE. SPLICES OF ADJACENT REINFORCING BARS SHALL BE STAGGERED WHEREVER POSSIBLE. WHERE SPECIFICALLY CALLED OUT, WELDING OF REINFORCING BARS SHALL BE PERFORMED BY A CERTIFIED WELDER USING E50 SERIES ELECTRODES PER AWS, LATEST EDITION.

7) INTERIOR CONCRETE SLABS ON GRADE SHALL HAVE A STEEL TROWEL FINISH. DRIVEWAYS, WALKS, AND GARAGE SLABS SHALL HAVE A BROOM FINISH AND SHALL BE FITTED TO SLED WATER.

8) PRIOR TO POURING INTERIOR CONCRETE FLOOR SLABS, ALL SOIL BELOW FLOOR SHALL BE COMPACTED TO REQUIRED DENSITY AND MOISTENED TO A DEPTH NOT LESS THAN 18" OR PER SOILS REPORT.

9) CLEAR COVERAGE OF CONCRETE OVER REINFORCING BARS, ANCHOR BOLTS, AND ALL OTHER CONCRETE INSERTS, UNLESS OTHERWISE SPECIFIED, SHALL BE AS FOLLOWS:  
FOURED AGAINST EARTH: 3" CLEAR  
FORMED CONCRETE: 2" CLEAR

10) FORMS FOR CONCRETE SHALL BE LAP OUT AND CONSTRUCTED TO PROVIDE THE SPECIFIED CAMBERS SHOWN. IF THE DRAWINGS, DECK CAMBERING SHOWN ON PLANS IS INTENDED TO PROVIDE A LEVEL DECK. ANY SLOPING FOR DRAINAGE SHALL BE ADDED OR SUBTRACTED FROM CAMBERING AS APPROPRIATE. THE DECK THICKNESS SHALL NOT BE REDUCED IN ORDER TO ACHIEVE DECK SLOPES.

11) DRYPACK UNDER BASEPLATES, SILL PLATES, AND WHERE OTHERWISE NOTED ON DRAWINGS SHALL CONSIST OF APPROVED NON-SHRINK HIGH STRENGTH GROUT. WHEN SPACE BETWEEN TWO SURFACES REQUIRES DRYPACK, IT SHALL BE PACKED BY TAMPING OR RAMMING WITH A BAR OR ROD UNTIL THE VOIDS ARE COMPLETELY FILLED.

12) PLACEMENT OF CONCRETE SHALL CONFORM TO ACI LATEST STANDARD AND PROJECT SPECIFICATIONS. WIRE BRUSH OR SANDBLAST ALL CONCRETE SURFACES AGAINST WHICH CONCRETE IS TO BE PLACED.

13) IF COLUMNS AND WALLS ARE PLACED WITH FLOORS, MINIMUM TIME OF TWO HOURS MUST ELAPSE BETWEEN END OF COLUMN OR WALL POUR AND BEGINNING OF FLOOR POUR.

14) PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. COPIING IN CONCRETE IS NOT PERMITTED, EXCEPT AS SHOWN, NOTIFY THE PROJECT STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

15) COVER TO BEAM REINFORCEMENT TO BE 2" MINIMUM FORMED CONCRETE & 3" MINIMUM AGAINST EARTH, UNLESS NOTED OTHERWISE.

16) ARCHITECTURAL DRAWINGS TO BE REFERRED TO FOR DECK SLOPES, DRAINAGE, PLUMBING, FRAMING AND ELECTRICAL HARDWARE & ALL DIMENSIONS.

17) REINFORCEMENT CALLED OUT IN DETAILS SHALL BE IN ADDITION TO THAT SHOWN ON PLANS (UNJO). REINFORCING METHODS SHOWN IN DETAILS SHALL BE USED AS APPLICABLE.

18) WHEN A MONOLITHIC PAIR IS NOT POSSIBLE, CONSTRUCTION JOINTS SHALL BE APPROVED BY THE PROJECT STRUCTURAL ENGINEER.

19) SHORING SHALL NOT BE REMOVED UNTIL CONCRETE HAS ACHIEVED MINIMUM 28 DAY COMPRESSIVE STRENGTH. FIFTEEN DAYS AFTER CONCRETE POUR IS COMPLETED THE PROJECT STRUCTURAL ENGINEER MAY RETEST, BASED ON COMPRESSION TESTS, IF SHORING MAY BE REMOVED.

20) ALL DECK SURFACES EXPOSED TO WEATHER SHALL BE WATERPROOFED. SEE ARCHITECTURAL DOCUMENTS FOR SPECIFICATIONS.

21) CONCRETE SHALL BE THOROUGHLY CONSOLIDATED IN A MANNER THAT WILL ELIMINATE THE REINFORCEMENT AND INSERTS, FILL THE FORMS, AND PROVIDE A SURFACE OF UNIFORM TEXTURE FREE OF ROCK POCKETS AND EXCESSIVE VOIDS. CONCRETE SHALL BE CONSOLIDATED BY MEANS OF HIGH FREQUENCY INTERNAL VIBRATORS WITHOUT CAUSING WATER OR CEMENT PASTE TO FLUSH TO THE SURFACE. INTERNAL VIBRATOR TYPE, SIZE, AND NUMBER SHALL BE APPROVED BY THE ENGINEER.

22) CONCRETE MIXING COMPANY SHALL PROVID