

BY RECEIVING AND USING THESE PERMIT READY CONSTRUCTION DOCUMENTS, THE USER ACKNOWLEDGES AND ACCEPTS THE FOLLOWING CONDITIONS OF USE:

1. THE USE OF THESE PERMIT READY CONSTRUCTION DOCUMENTS AND INFORMATION CONTAINED THEREON IS RESTRICTED TO THE ORIGINAL PURPOSE FOR WHICH THEY WERE PREPARED, WHICH IS THE PERMIT READY ACCESSORY DWELLING UNIT (ADU) PROGRAM FOR THE COUNTY OF EL DORADO (COUNTY). THIS DOES NOT ELIMINATE OR REDUCE THE USER'S RESPONSIBILITY TO VERIFY ANY AND ALL INFORMATION RELEVANT TO THE USER'S CONSTRUCTION OF AN ADU. THE USER ACKNOWLEDGES AND AGREES THAT EACH PROPERTY SITE IS UNIQUE, AND IT WILL BE UP TO THE USER TO COMPLETE THE PLANS BASED ON THE SPECIFIC PROPERTY SITE AND POTENTIAL WIDE RANGE OF DESIGN CONDITIONS. IT IS ANTICIPATED THAT THE USER MAY TAKE THESE PLANS TO AN ENGINEER, ARCHITECT, CONTRACTOR AND/OR OTHER PROFESSIONAL FOR FINALIZATION. THE USER MAY MODIFY THE ADU PLANS; HOWEVER, THE COUNTY'S BUILDING DIVISION WILL NEED TO REVIEW AND APPROVE THE FINAL PLANS IF ANY MODIFICATIONS ARE MADE TO THE ADU PLANS.

2. THE USER RECOGNIZES AND ACKNOWLEDGES THAT THE USE OF THESE DOCUMENTS AND INFORMATION WILL BE AT THEIR SOLE RISK AND WITHOUT ANY LIABILITY OR LEGAL EXPOSURE TO THE COUNTY OR THE PROFESSIONAL PERSON(S) OR ENTITY(S) WHO PREPARED THE ADU PLANS. NO WARRANTIES OF ANY NATURE, WHETHER EXPRESS OR IMPLIED, SHALL ATTACH TO THESE DOCUMENTS OR THE INFORMATION CONTAINED THEREON. ANY USE, REUSE, OR ALTERATION OF THESE DOCUMENTS BY THE USER OR BY OTHERS WILL BE AT THE USER'S RISK AND FULL LEGAL RESPONSIBILITY. FURTHERMORE, THE USER WILL, TO THE FULLEST EXTENT PERMITTED BY LAW, INDEMNIFY AND HOLD THE COUNTY, AND THE PROFESSIONAL PERSON(S) OR ENTITY(S) WHO PREPARED THE ADU PLANS, HARMLESS FROM ALL CLAIMS, SUITS, LIABILITY, DEMANDS, JUDGMENTS, OR COSTS ARISING OUT OF OR RESULTING THEREFROM ON ACCOUNT OF ANY INJURY, DEATH, DAMAGE, OR LOSS TO PERSONS OR PROPERTY.

3. ALL IDEAS, DESIGNS, ARRANGEMENTS, AND PLANS INDICATED OR REPRESENTED BY THESE ADU PLANS ARE OWNED BY AND ARE THE PROPERTY OF RADAR, INC. AND WERE CREATED, EVOLVED, AND DEVELOPED FOR USE ON AND IN CONNECTION WITH THE COUNTY'S PERMIT READY ADU PROGRAM.

IF THE RECIPIENT OF THE ADU PLANS DOES NOT AGREE WITH THE ABOVE CONDITIONS OF USE AND HAS NOT SIGNED THE COUNTY'S HOLD HARMLESS AGREEMENT FOR PERMIT READY ACCESSORY DWELLING UNITS, THE RECIPIENT IS NOT AUTHORIZED TO USE THE ADU PLANS AND RECIPIENT SHALL NOT PROCEED BEYOND THIS DISCLAIMER/HOLD HARMLESS.

FURTHER INFORMATION MAY BE FOUND ON THE EL DORADO ADU WEBSITE. WWW.EDCGOV.US/GOVERNMENT/BUILDING/PAGES/ADU

NOTES FOR USE OF THESE PLANS:

- A SITE PLAN IS REQUIRED. REFER TO SITE PLAN REQUIREMENTS ON THIS SHEET.
- SOLAR PHOTOVOLTAIC EQUIPMENT IS REQUIRED. REFER TO TITLE 24 ENERGY CODE COMPLIANCE REPORT ON THIS SHEET. THE APPLICANT IS RESPONSIBLE FOR OBTAINING PLANS FOR SOLAR PV EQUIPMENT AND SUBMIT FOR PERMIT.
- DETERMINE CLIMATE ZONE THROUGH CALIFORNIA ENERGY COMMISSION CLIMATE ZONE WEBSITE ([HTTPS://WWW.ENERGY.CA.GOV/PROGRAMS-AND-TOPICS/PROGRAMS/BUILDING-ENERGY-EFFICIENCY-STANDARDS/CLIMATE-ZONE-TOOL-MAPS-AND](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/climate-zone-tool-maps-and))
- NEWLY CONSTRUCTED ADUS MUST HAVE AN AUTOMATIC RESIDENTIAL SPRINKLER SYSTEM WHEN EXISTING DWELLING HAS AN AUTOMATIC RESIDENTIAL SPRINKLER SYSTEM (R313.2, CB1069)

DEVELOPMENT SERVICES DEPARTMENT
COUNTY OF EL DORADO <http://www.edcgov.us/devservices>
Site Plan/Plot Plan Requirements

The following items are required for the site/plot plan to be deemed complete.

- Site/Plot Plan** - drawn at a conventional scale (i.e., 1" = 10', 1" = 20', etc.) showing the entire parcel with property lines dimensioned (if you have a very large parcel, you may use a reduced scale such as 1" = 50' or 1" = 100', as long as the *grading portion* of the site plan is no smaller than 1" = 20' (this method may require two or more drawings)).
 - Provide a North arrow on the site and/or plot plan.
 - Provide the scale being used for the site and/or plot plan.
- Show the location and dimension of all recorded easements on the parcel** - (i.e., road easements, public utility easements, drainage easements, etc.). Show distances from the proposed structure(s) to all property lines (or nearest edge of road easement(s)). Show to scale all existing or proposed structure(s) on the property (such as garage, well, shed, barn, swimming pool, propane tank, septic system, etc.) and building separation dimensioned.
 - Provide to scale and dimension all existing and proposed driveways and parking areas.
- Show how the California "Fire Safe/Defensible Space" Regulations will be met for driveway & property** - from the proposed structure to the addressed road, turnarounds, tumous and fuel modification (CRC R327.1.5).
 - A summary is available from Building Services or on our website: https://www.edcgov.us/Government/building/Pages/fire-safe-regulations_title_14_article_2.asp
 - Provide a fully dimensioned driveway profile that includes the following: *elevation* at road edge or top of curb, garage floor and at each grade break; *percentage of slope* between grade breaks; and *distance* between grade breaks. A sample profile is available at Building Services
- Show existing site topography (prior to grading)** - using contour lines at 1' or 2' vertical increments. The contour lines must extend a minimum of 20 feet beyond the building site, driveway or other area of disturbance. Use positive values only and state the source of the topography.
- Show the proposed grading** - This is generally done by using one of two methods: darker, thicker contour lines that overlay the (lighter) existing contour lines; or thicker lines that show cut and fill slopes to scale (the slopes are plotted using a scale). Also specify the yardage of cut and fill.
 - Provide the finish floor elevation of the proposed structure.
 - Due to the technical nature of this aspect of the building plans, we recommend that you have a design professional (i.e. civil engineer, architect or landscape architect) assist with this portion of your plan preparation. Depending on several factors, it may be required that a civil engineer prepares or supervises preparation of your plan.
- Show how CALGreen site development requirements will be met** - <https://www.edcgov.us/Government/building/Documents/Plan%20Review%202016%20New%20Residential%20Green%20Code.pdf>
- Parcels within an area of special flood hazard (identified by FEMA)** - Planning Services may require a licensed civil engineer or surveyor to determine the proposed building is outside a flood zone. Flood insurance rate maps shall show the flood zone.

PROJECT INFORMATION:

PROPERTY LOCATION:
EL DORADO COUNTY

BUILDING SUMMARY:
TYPE VB CONSTRUCTION

AREA SUMMARY

ADU: 2 BEDROOM, 1 BATH UNIT

GROSS AREA: 996 SF

COVERED PORCH: 128 SF

PARKING SUMMARY:

(N) PARKING: 1 PARKING SPACE PER SITE, PROVIDE EV CHARGING STATION.

BUILDING CODES:

2022 EDITION OF THE CALIFORNIA BUILDING CODE
2022 EDITION OF THE CALIFORNIA RESIDENTIAL CODE
2022 EDITION OF THE CALIFORNIA ELECTRICAL CODE
2022 EDITION OF THE CALIFORNIA MECHANICAL CODE
2022 EDITION OF THE CALIFORNIA PLUMBING CODE
2022 EDITION OF THE CALIFORNIA ENERGY CODE
2022 EDITION OF THE CALIFORNIA FIRE CODE
2022 EDITION OF THE CALGREEN CODE
THE COUNTY OF EL DORADO ORDINANCE CODE
AND ANY OTHER AUTHORITY HAVING JURISDICTION

DRAWING LIST:

ARCHITECTURAL	
PROJECT/SITE FORMS & ANALYSIS	
A0-00	PROJECT INFO, DRAWING LIST, VICINITY MAP
A0-10	GENERAL NOTES; ABBREVIATIONS
A0-30	CAL GREEN (1 OF 2)
A0-31	CAL GREEN (2 OF 2)
ENERGY COMPLIANCE	
T1-0	MANDATORY MEASURES
T2-0	TITLE 24 FORM - CLIMATE ZONES 12 (1 OF 3)
T2-1	TITLE 24 FORM - CLIMATE ZONES 12 (2 OF 3)
T2-2	TITLE 24 FORM - CLIMATE ZONES 12 (3 OF 3)
T3-0	TITLE 24 FORM - CLIMATE ZONES 16 (1 OF 3)
T3-1	TITLE 24 FORM - CLIMATE ZONES 16 (2 OF 3)
T3-2	TITLE 24 FORM - CLIMATE ZONES 16 (3 OF 3)
BUILDING	
A2-10	FLOOR PLAN & ROOF PLAN
A3-10	RCP / LIGHTING, APPLIANCE & PLUMBING SCHEDULE
A4-10	EXTERIOR ELEVATIONS - CABIN RUSTIC
A4-11	EXTERIOR ELEVATIONS - MOUNTAIN MODERN
A8-10	DOOR & WINDOW SCHEDULES & BLDG. SECTION
A9-10	DETAILS, TYP.
A9-11	DETAILS, MOUNTAIN MODERN & CABIN RUSTIC
A9-12	DETAILS, TYP.
STRUCTURAL	
S0-01	GENERAL NOTES
S1-01	TYPICAL DETAILS
S1-02	TYPICAL DETAILS
S1-03	TYPICAL DETAILS
S1-04	TYPICAL DETAILS
S2-01	FLOOR PLANS
S3-01	ELEVATIONS, SECTIONS AND DETAILS
MEP	
M0.01	MECHANICAL COVER SHEET
M3.01	MECHANICAL PLANS
M6.01	MECHANICAL SCHEDULES & DETAILS
M8.01	MECHANICAL DETAILS
M8.02	MECHANICAL DETAILS
E0-01	GENERAL NOTES, LEGENDS AND SHEET INDEX
E0-02	ELECTRICAL SPECIFICATION
E2-01	LIGHTING PLAN
E3-01	POWER PLAN
P0-01	PLUMBING LEGEND, SCHEDULE, NOTES, DETAILS & ABBREV.
P2-01	1ST FLOOR AND ROOF PLUMBING PLANS
P3-01	PLUMBING RISER DIAGRAMS

NOT FOR CONSTRUCTION

PROJECT DESCRIPTION:

996 SF 2-BEDROOM, 1 BATH, ACCESSORY DWELLING UNIT WITH A RAISED FLOOR FOUNDATION + 128 SF COVERED PORCH

TITLE 24 SUMMARY - ENERGY CODE COMPLIANCE REQUIREMENTS - CLIMATE ZONE 12

SYSTEM	RESULT	NOTES
Foundation	Raised Floor, R-19 Insulation	See A2-10 for Floor Plan, AB-10 for Building Section
Enclosure	Interior Walls, R-21 Insulation	See A2-10 for Floor Plan, AB-10 for Building Section
	Exterior Walls, R-18 Rigid Insulation	
	Between Rafters at Cathedral Ceiling, R-38 Insulation	
	At Attic on Ceiling Surface, R-38 Insulation	
	Between Rafters below roof deck at Attic, R-19 Insulation	
	Radiant Barrier, attached directly to underside of roof deck	See 9-11 for Roof Details
Glazing	Dual-Paneled, U-Factor: 0.30 / SHGC: 0.24 or lower	See AB-10 for Door/Window Schedule
	NFRC labels are required	
HVAC	Ducted HVAC: 11.5 HSPF, 18.8 SEER / 12.5 EER	See M6-01 for Suggested Model
	R-6 ducts in conditioned space	
Water Heating	Electric Storage water heater: 3.75 Uniform Energy Factor	See P0-01 for Suggested Model
	Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater	
Solar	Minimum 2.5 kW solar PV system	
	Quality Insulation Installation (QI1)	Visit energy.gov for Approved HERS raters
HERS Verification Required	Indoor air quality ventilation	https://www.energy.ca.gov/programs-and-topics/programs/home-energy-rating-system-hers-program/home-energy-rating-system
	Kitchen range hood	
	Minimum Airflow	Home Energy Rating System (HERS) providers are approved by the California Energy Commission (CEC) to train and certify raters. Each provider maintains a directory of raters who are qualified to verify the work of licensed contractors, including heating, ventilation, and air-conditioning (HVAC), insulation, and plumbing trades.
	Verified EER/SEER2	HERS providers oversee raters conducting Title 24 Energy Code compliance verification in residential and nonresidential newly constructed buildings and in additions and alterations of existing buildings. Providers have also supported the New Solar Homes Partnership Program and implemented California whole-house home energy rating systems.
	Verified SEER/SEER2	
	Fan Efficacy Watts/CFM - 0.58	
	Verified heat pump rated heating capacity - 24.7 MBH	
Duct leakage testing		

FOR TITLE 24 ENERGY CODE CERTIFICATE OF COMPLIANCE FOR CLIMATE ZONE 12, SEE T2-0

TITLE 24 SUMMARY - ENERGY CODE COMPLIANCE REQUIREMENTS - CLIMATE ZONE 16

SYSTEM	RESULT	NOTES
Foundation	Raised Floor, R-19 Insulation	See A2-10 for Floor Plan, AB-10 for Building Section
Enclosure	Interior Walls, R-21 Insulation	See A2-10 for Floor Plan, AB-10 for Building Section
	Exterior Walls, R-6 Rigid Insulation	
	Between Rafters at Cathedral Ceiling, R-38 Insulation	
	At Attic on Ceiling Surface, R-38 Insulation	
	Between Rafters below roof deck at Attic, R-19 Insulation	
Glazing	Dual-Paneled, U-Factor: 0.30 / SHGC: 0.65 or lower	See AB-10 for Door/Window Schedule
	NFRC labels are required	
HVAC	Ducted HVAC: 11.5 HSPF, 18.1 SEER / 12.5 EER	See M6-01 for Suggested Model
	R-6 ducts in conditioned space	
Water Heating	Electric Storage water heater: 3.75 Uniform Energy Factor	See P0-01 for Suggested Model
	Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater	
Solar	Minimum 2.5 kW solar PV system	
	Quality Insulation Installation (QI1)	Visit energy.gov for Approved HERS raters
HERS Verification Required	Indoor air quality ventilation	https://www.energy.ca.gov/programs-and-topics/programs/home-energy-rating-system-hers-program/home-energy-rating-system
	Kitchen range hood	
	Minimum Airflow	Home Energy Rating System (HERS) providers are approved by the California Energy Commission (CEC) to train and certify raters. Each provider maintains a directory of raters who are qualified to verify the work of licensed contractors, including heating, ventilation, and air-conditioning (HVAC), insulation, and plumbing trades.
	Verified EER/SEER2	HERS providers oversee raters conducting Title 24 Energy Code compliance verification in residential and nonresidential newly constructed buildings and in additions and alterations of existing buildings. Providers have also supported the New Solar Homes Partnership Program and implemented California whole-house home energy rating systems.
	Verified SEER/SEER2	
	Fan Efficacy Watts/CFM - 0.58	
	Verified heat pump rated heating capacity - 24.7 MBH	
Duct leakage testing		

FOR TITLE 24 ENERGY CODE CERTIFICATE OF COMPLIANCE FOR CLIMATE ZONE 16, SEE T3-0



VICINITY MAP 01
SCALE: N.T.S.



Waiver of Liability:
The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
PROJECT INFO,
DRAWING LIST,
VICINITY MAP

PROJECT
SCALE
VARIES
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A0-00



A. GENERAL NOTES:

- 1. ALL WORK SHALL BE IN CONFORMANCE WITH THE 2022 EDITION OF THE CALIFORNIA BUILDING CODE, THE 2022 EDITION OF THE CALIFORNIA RESIDENTIAL CODE, EL DORADO COUNTY ORDINANCE CODE, 2022 CALGREEN CODE AND WITH THE REQUIREMENTS OF ANY OTHER AGENCY HAVING JURISDICTION.
2. ALL THE VARIOUS PARTS OF THESE PLANS: ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, ETC., SHALL BE CONSIDERED AS A WHOLE, AND ANYTHING NOTED IN ONE SHALL BE CONSIDERED AS HAVING BEEN NOTED IN ALL.
3. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO FINISHED OPENINGS AND FINISHED WALL SURFACE.
4. A COPY OF ANY AND ALL REQUIRED EVALUATION REPORTS AND/OR CONDITIONS OF LISTING SHALL BE MADE AVAILABLE AT THE JOB SITE

B. BUILDER'S RESPONSIBILITIES:

- 1. THE BUILDER SHALL HAVE A BUILDING DEPARTMENT APPROVED SET OF PLANS ON THE JOB SITE THROUGHOUT THE PERIOD OF CONSTRUCTION.
2. THE BUILDER SHALL MAINTAIN INSURANCE AS REQUIRED BY THE WORKER'S COMPENSATION ACT UNDER THE LOCAL LABOR LAWS.
3. THE BUILDER SHALL PROTECT THE WORK AND THE PROPERTY AGAINST INJURY AND LOSS AND SHALL REPAIR OR REPLACE SUCH DAMAGE AT NO COST TO THE BUILDING OWNER.
4. THE BUILDER SHALL VERIFY WITH THE BUILDING OWNER AS TO THE OWNER'S DESIRE TO SAVE OR ESPECIALLY TO PROTECT ANY ITEM RELATED TO THE DEMOLITION WORK INCLUDING THE INTERIOR OF THE SPACE AND THE EXTERIOR AREAS.
5. IN THE EVENT THE BUILDER ENCOUNTERS ON THE SITE MATERIAL REASONABLY BELIEVED TO BE ASBESTOS POLYCHLORINATED BIPHENYL (PCB), OR ANY OTHER HAZARDOUS MATERIAL WHICH HAS NOT BEEN RENDERED HARMLESS, THE BUILDER SHALL IMMEDIATELY STOP WORK IN THE AREA AFFECTED AND REPORT ON THE CONDITION TO THE OWNER AND APPLICABLE GOVERNMENT AGENCIES IN WRITING.
6. THE BUILDER SHALL LEAVE THE COMPLETED WORK AND THE ENTIRE JOB SITE CLEAN AND NEAT SUBJECT TO THE OWNER'S APPROVAL AND SHALL PROVIDE THE OWNER WITH MAINTENANCE AND OPERATING MANUALS FOR ALL APPLIANCES AND EQUIPMENT INSTALLED.

C. SITE CONSTRUCTION & CLEARANCES:

- 1. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOKUP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES—WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY.

D. MATERIALS:

- 1. ALL LUMBER SHALL BE GRADE MARKED AND CONFORM TO THE STANDARD GRADING AND DRESSING RULES OF THE WEST COAST LUMBER INSPECTION BUREAU. ALL WOOD STUDS AND STUD BLOCKING SHALL BE DOUGLAS FIR #2 OR BETTER. ALL HORIZONTAL MEMBERS, FLOOR JOISTS, ROOF JOISTS, HEADERS, BEAMS, AND PURLINS SHALL BE DOUGLAS FIR #2 OR BETTER UNLESS OTHERWISE NOTED.

E. THERMAL & MOISTURE PROTECTION:

- 1. PROVIDE MINIMUM INSULATION IN WALLS, RAISED FLOORS, AND ATTIC/ROOF AS REQUIRED BY APPLICABLE ENERGY CODE
2. CLASS A ROOF COVERING IS REQUIRED.
3. ALL FLASHING, COUNTERFLASHING, AND COPING, WHEN OF METAL, SHALL BE NO. 2 US. GAUGE CORROSION RESISTANT METAL. FLASH ALL EXTERIOR OPENINGS WITH APPROVED WATERPROOFING WHICH CONFORMS WITH ALL APPLICABLE CODES.
4. ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER.
5. PROVIDE A WEEP SCREED FOR STUCCO AT THE FOUNDATION PLATE LINE A MINIMUM OF 8 INCHES ABOVE THE EARTH OR 4 INCHES ABOVE PAVED AREAS.

F. DOORS & WINDOWS:

- 1. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS OR SHALL BE PROVIDED WITH ARTIFICIAL LIGHT THAT IS ADEQUATE TO PROVIDE AN AVERAGE ILLUMINATION OF 10 FOOT-CANDELES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FLOOR LEVEL.
2. GLASS AND GLAZING: PROVIDE TEMPERED GLASS IN LOCATIONS WHICH ARE SUBJECT TO HUMAN IMPACT SUCH AS GLASS ENTRANCE AND EXIT DOORS, FIXED GLASS PANELS, SHOWER DOORS AND TUB ENCLOSURES. THE INSTALLER OF THE GLAZING IN THESE AREAS SHALL BE RESPONSIBLE FOR CONFIRMING TO ALL THE MOST RECENT AND RESTRICTIVE LOCAL, STATE, AND FEDERAL REGULATIONS. UNIT SKYLIGHTS SHALL BE LABELED BY AN APPROVED LABELING AGENCY; SUCH LABEL SHALL STATE THE APPROVED LABELING AGENCY NAME, PRODUCT DESIGNATION AND PERFORMANCE GRADE RATING (RESEARCH REPORT NOT REQUIRED).

G. FINISHES:

- 1. BATHUB AND SHOWER FLOORS, WALLS ABOVE BATHTUBS WITH A SHOWERHEAD, WALLS ADJACENT TO SHOWER, AND SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET ABOVE THE FLOOR.
2. PROVIDE APPROVED SHATTER-RESISTANT MATERIALS FOR SHOWER ENCLOSURES.

H. MECHANICAL, PLUMBING, ELECTRICAL:

- 1. ATTIC VENTILATION: ENCLOSED ATTIC SPACES AND ENCLOSED ROOF RAFTERS SHALL HAVE CROSS VENTILATION FOR EACH SPACE USING VENTILATING OPENINGS PROTECTED FROM THE ENTRANCE OF RAIN. THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED.
2. PLUMBING FIXTURES ARE REQUIRED TO BE CONNECTED TO A SANITARY SEWER OR TO AN APPROVED SEWAGE DISPOSAL SYSTEM.
3. KITCHEN SINKS, LAVATORIES, BATHTUBS, SHOWERS, BIDETS, LAUNDRY TUBS AND WASHING MACHINE OUTLETS SHALL BE PROVIDED WITH HOT AND COLD WATER AND CONNECTED TO AN APPROVED WATER SUPPLY.
4. WATER HEATER MUST BE STRAPPED TO WALL.
5. AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWN STREAM SIDE OF THE UTILITY METER AND BE RIIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING. SEPARATE PLUMBING PERMIT IS REQUIRED.
6. ALL ELECTRICAL WORK SHALL BE IN FULL ACCORDANCE WITH ALL CODES, RULES, AND REGULATIONS OF GOVERNING AGENCIES AND SHALL COMPLY WITH THE REQUIREMENTS OF THE SERVING POWER AND TELEPHONE/DATA COMPANIES. ALL EQUIPMENT INSTALLED OUTDOORS SHALL BE FULLY WEATHERPROOF. RECEPTACLES SHALL BE INSTALLED AT 15" ABOVE FINISHED FLOOR AND WALL SWITCHES AT 36" ABOVE THE FLOOR, UNLESS OTHERWISE NOTED.
7. PROVIDE ULTRA-LOW FLUSH WATER CLOSETS FOR ALL NEW CONSTRUCTION.
8. ROOMS CONTAINING BATHTUBS, SHOWERS, SPAS, AND SIMILAR BATHING FIXTURES, SHALL BE MECHANICALLY VENTILATED. SEPARATE MECHANICAL PERMIT MAY BE REQUIRED.

9. CARBON MONOXIDE ALARMS ARE REQUIRED.

10. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR SOLAR ELECTRIC INSTALLATION. THE RESERVED SPACE SHALL BE POSITIONED AT THE OPPOSITE (LOAD) END FROM THE INPUT FEEDER LOCATION OR MAIN CIRCUIT LOCATION AND SHALL BE PERMANENTLY MARKED AS 'FOR SOLAR ELECTRIC'.

I. FIRE-RESISTANCE RATED CONSTRUCTION & FIRE PROTECTION:

- 1. ROOF ASSEMBLIES IN THE FIRE HAZARD SEVERITY ZONES SHALL BE CLASS A RATING WHEN TESTED IN ACCORDANCE WITH ASTM E108 OR UL790.
2. WHERE PROVIDED, VENTILATION OPENINGS FOR ENCLOSED ATTICS, GABLE ENDS, RIDGE ENDS, UNDER EAVES AND CORNICES, ENCLOSED EAVE SOFFIT SPACES, ENCLOSED RAFTER SPACES FORMED WHERE CEILINGS ARE APPLIED DIRECTLY TO THE UNDERSIDE OF ROOF RAFTERS, UNDERFLOOR VENTILATION, FOUNDATIONS AND CRAWL SPACES, OR ANY OTHER OPENING INTENDED TO PERMIT VENTILATION, EITHER IN A HORIZONTAL OR VERTICAL PLANE, SHALL RESIST BUILDING IGNITION FROM THE INTRUSION OF BURNING EMBERS AND FLAME THROUGH THE VENTILATION OPENINGS.
3. VENTILATION OPENINGS SHALL BE FULLY COVERED WITH WILDFIRE FLAME AND EMBER RESISTANT VENTS APPROVED AND LISTED BY THE CALIFORNIA STATE FIRE MARSHAL, OR WUI VENTS TESTED TO ASTM E2886 AND LISTED, BY COMPLYING WITH ALL OF THE FOLLOWING REQUIREMENTS:
• THERE SHALL BE NO FLAMING IGNITION OF THE COTTON MATERIAL DURING THE EMBER INTRUSION TEST.
• THERE SHALL BE NO FLAMING IGNITION DURING THE INTEGRITY TEST PORTION OF THE FLAME INTRUSION TEST.
• THE MAXIMUM TEMPERATURE OF THE UNEXPOSED SIDE OF THE VENT SHALL NOT EXCEED 662F (350°C).
4. THE EXTERIOR WALL COVERING SHALL BE NON-COMBUSTIBLE, IGNITION-RESISTANT MATERIAL OR FIRE-RETARDANT-TREATED WOOD, THE FIRE-RETARDANT-TREATED WOOD SHALL BE LABELED FOR EXTERIOR USE AND SHALL EXTEND FROM THE TOP OF THE FOUNDATION TO THE ROOF, AND TERMINATE AT 2 INCH (50.8 MM) NOMINAL SOLID WOOD BLOCKING BETWEEN RAFTERS AT ALL ROOF OVERHANGS, OR IN THE CASE OF ENCLOSED EAVES, TERMINATE AT THE ENCLOSURE.
5. EAVES AND SOFFITS SHALL MEET THE REQUIREMENTS OF SFM 12-7A-3 OR SHALL BE PROTECTED BY RATION-RESISTANT MATERIALS OR NONCOMBUSTIBLE CONSTRUCTION ON THE EXPOSED UNDERSIDE.
6. EXTERIOR WALL ASSEMBLIES TO BE SUITABLE FOR EXTERIOR FIRE EXPOSURE WITH A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 257 OR MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-2.
7. EXTERIOR WINDOWS, SKYLIGHTS AND EXTERIOR GLAZED DOOR ASSEMBLIES SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 257 OR MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1.
8. EXTERIOR DOORS SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 20 MINUTES WHEN TESTED ACCORDING TO NFPA 252 OR MEET THE PERFORMANCE REQUIREMENTS OF SFM STANDARD 12-7A-1.
9. SMOKE ALARMS SHALL BE INSTALLED IN EACH SLEEPING ROOM AND OUTSIDE EACH SEPARATE SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOMS, 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 OR MORE

TITLE 24 LIGHTING NOTES

- KITCHENS:
1. PERMANENTLY INSTALLED LUMINAIRES IN KITCHEN SHALL BE HIGH EFFICIENCY LUMINAIRES.
2. EXCEPTION: UP TO 50% OF THE TOTAL RATED WATTAGE OF PERMANENTLY INSTALLED LUMINAIRES IN KITCHENS MAY BE IN LUMINAIRES THAT ARE NOT HIGH-EFFICACY LUMINAIRES, PROVIDED THAT THESE LUMINAIRES ARE CONTROLLED BY SWITCHES SEPARATE FROM THOSE CONTROLLING THE HIGH-EFFICACY LUMINAIRES, THE WATTAGE OF HIGH-EFFICACY LUMINAIRES SHALL BE THE TOTAL NOMINAL RATED WATTAGE OF THE INSTALLED HIGH-EFFICACY LAMP(S).
BATHROOMS, GARAGE, LAUNDRY, UTILITY ROOMS:
3. PERMANENTLY INSTALLED LUMINAIRES IN BATHROOMS, GARAGES, LAUNDRY ROOMS AND UTILITY ROOMS SHALL BE HIGH-EFFICACY LUMINAIRES.
4. EXCEPTION: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH-EFFICACY SHALL BE ALLOWED PROVIDED THAT THEY ARE CONTROLLED BY AN OCCUPANT SENSOR(S) [SIC] CERTIFIED TO COMPLY WITH THE CALIFORNIA ENERGY EFFICIENCY STANDARDS. SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS THE LUMINAIRE TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING LUMINAIRE TO BE ALWAYS ON.
OTHER SPACES:
5. PERMANENTLY INSTALLED LUMINAIRES LOCATED OTHER THAN IN KITCHENS, BATHROOMS, GARAGES, LAUNDRY ROOMS, AND UTILITY ROOMS SHALL BE HIGH-EFFICACY LUMINAIRES.
6. EXCEPTION 1: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH-EFFICACY LUMINAIRES SHALL BE ALLOWED PROVIDED THEY ARE CONTROLLED BY A DIMMER SWITCH.
7. EXCEPTION 2: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH-EFFICACY SHALL BE ALLOWED PROVIDED THAT THEY ARE CONTROLLED BY OCCUPANT SENSORS CERTIFIED TO COMPLY WITH THE CALIFORNIA ENERGY EFFICIENCY STANDARDS. SUCH MOTION SENSORS SHALL NOT HAVE A CONTROL THAT ALLOWS THE LUMINAIRE TO BE TURNED ON AUTOMATICALLY OR THAT HAS AN OVERRIDE ALLOWING THE LUMINAIRE TO BE ALWAYS ON.
8. EXCEPTION 3: PERMANENTLY INSTALLED LUMINAIRES THAT ARE NOT HIGH-EFFICACY LUMINAIRES SHALL BE ALLOWED IN CLOSETS LESS THAN 70 SF.
PORCHES AND OUTDOOR LIGHTING:
9. LUMINAIRES PROVIDING OUTDOOR LIGHTING AND PERMANENTLY MOUNTED TO A RESIDENTIAL BUILDING OR TO OTHER BUILDINGS ON THE SAME LOT SHALL BE HIGH-EFFICACY LUMINAIRES. EXTERIOR FIXTURES MUST BE FULL CUTOFF TO PREVENT DIRECT LIGHT TRESPASS ONTO NEIGHBORING PROPERTIES.
10. EXCEPTION 1: PERMANENTLY INSTALLED LUMINAIRES IN OR AROUND SWIMMING POOLS, WATER FEATURES, OR OTHER LOCATIONS SUBJECT TO ARTICLE 680 OF THE CALIFORNIA ELECTRIC CODE NEED NOT BE HIGH-EFFICACY LUMINAIRES.

ELECTRICAL AND LIGHTING GENERAL NOTES:

- 11. ALL ELECTRICAL WORK SHALL BE IN FULL ACCORDANCE WITH ALL CODES, RULES, AND REGULATIONS OF GOVERNING AGENCIES AND SHALL COMPLY WITH THE REQUIREMENTS OF THE SERVING POWER AND TELEPHONE/DATA COMPANIES.
12. BUILDER TO PROVIDE FOR ALL ELECTRIC AND PLUMBING ROUGH-INS PER DRAWINGS AND CODE.
13. REFER TO LIGHT FIXTURE SCHEDULE FOR SUGGESTED SPECIFICATIONS.
14. ALL EQUIPMENT INSTALLED OUTDOORS SHALL BE FULLY WEATHERPROOF.
15. RECEPTACLES SHALL BE INSTALLED AT 15" ABOVE FINISHED FLOOR TO BOTTOM EDGE, AND WALL SWITCHES AT 36" ABOVE FINISHED FLOOR TO CENTERLINE, UNLESS OTHERWISE NOTED. RECEPTACLES AT KITCHEN AND BATHS SHALL BE INSTALLED AT 42" ABOVE FINISHED FLOOR TO BOTTOM EDGE, UNLESS OTHERWISE NOTED.
17. ALL KITCHEN RECEPTACLES AND ANY RECEPTACLES WITHIN 6' OF A SINK TO BE GFI PROTECTED
18. ALL RECEPTACLES IN BEDROOMS TO BE ARC-FAULT PROTECTED
19. ALL SWITCHES CONNECTED TO ANY LIGHTING FIXTURE (INTERIOR AND EXTERIOR) TO BE ON DIMMERS, EXCEPT FOR BATHROOM OCC. SENSORS AND FLUORESCENTS.
20. EXHAUST FANS AT BATHROOMS TO PROVIDE MIN 4 AIR EXCHANGES PER HOUR.
21. SMOKE ALARMS SHALL RECEIVE THEIR PRIMARY POWER SOURCE FROM THE BUILDING WIRING AND SHALL BE EQUIPPED WITH BATTERY BACK UP AND LOW BATTERY SIGNAL. SMOKE ALARMS WITH INTEGRAL STROBES THAT ARE NOT EQUIPPED WITH BATTERY BACKUP SHALL BE CONNECTED TO AN EMERGENCY ELECTRICAL SYSTEM. SMOKE ALARMS SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVERCURRENT PROTECTION.
22. PROVIDE ARC-FAULT CIRCUIT INTERRUPTOR PROTECTION FOR ALL OUTLETS (NOT JUST RECEPTACLES) FOR ALL DWELLING UNIT BEDROOMS.
23. GFI RECEPTACLE PROTECTION IS REQUIRED IN BATHROOMS, GARAGE, OUTDOOR, UNDERFLOOR SPACE, KITCHEN COUNTERS, UNFINISHED BASEMENTS, AND LAUNDRY/UTILITY/WET BAR SINKS (WHERE THE RECEPTACLE IS WITHIN 6 FT OF THE OUTSIDE SINK EDGE).
24. A MINIMUM OF 2-20 AMP SMALL APPLIANCE BRANCH CIRCUITS SHALL BE PROVIDED FOR ALL RECEPTACLE OUTLETS IN THE KITCHEN, DINING ROOM, PANTRY, OR OTHER SIMILAR AREAS.
A. AT LEAST ONE 20-AMP BRANCH CIRCUIT SHALL BE PROVIDED TO SUPPLY BATHROOM RECEPTACLE OUTLETS. SUCH CIRCUITS SHALL HAVE NO OTHER OUTLETS.
B. WHOLE HOUSE EXHAUST FANS SHALL HAVE COVERS OR LOUVERS WHICH CLOSE WHEN THE FAN IS OFF AND THAT ARE INSULATED WITH A MINIMUM INSULATION VALUE OF R-4.2.
C. THE HEATING AND AIR-CONDITIONING SYSTEMS SHALL BE SIZED AND DESIGNED USING NSI/ACCA 2 MANUAL J-2016, ANSI/ACCA 1 MANUAL D-2016 OR ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS, ANSI/ACCA 3 MANUAL S-2014 OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS (CALGREEN 4.507.2). HEATER SHALL BE CAPABLE OF MAINTAINING A MINIMUM ROOM TEMPERATURE OF 68 DEGREES FAHRENHEIT AT A POINT 3- FEET ABOVE THE FLOOR AND 2- FEET FROM EXTERIOR WALLS IN ALL HABITABLE ROOMS AT THE DESIGN TEMPERATURE (CA RESIDENTIAL CODE 303.9).
D. BATHROOM EXHAUST FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE TO THE OUTSIDE OF THE BUILDING. FANS, NOT FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, MUST BE CONTROLLED BY A HUMIDITY CONTROL. (CALGREEN 4.506.1)

BUILDING ENERGY STANDARDS

- 1. COMPLIANCE INFORMATION: THE BUILDER SHALL LEAVE IN THE BUILDING, COPIES OF THE COMPLETED, SIGNED AND SUBMITTED COMPLIANCE DOCUMENTS FOR THE BUILDING OWNER AT OCCUPANCY. FOR LOW-RISE RESIDENTIAL BUILDINGS, SUCH INFORMATION SHALL, AT A MINIMUM, INCLUDE COPIES OF ALL CERTIFICATE OF COMPLIANCE, CERTIFICATE OF INSTALLATION, AND CERTIFICATE OF VERIFICATION DOCUMENTATION SUBMITTED.
2. OPERATING INFORMATION: THE BUILDER SHALL PROVIDE THE BUILDING OWNER AT OCCUPANCY, OPERATING INFORMATION FOR ALL APPLICABLE FEATURES, MATERIALS, COMPONENTS, AND MECHANICAL DEVICES INSTALLED IN THE BUILDING. OPERATING INFORMATION SHALL INCLUDE INSTRUCTIONS ON HOW TO OPERATE THE FEATURES, MATERIALS, COMPONENTS, AND MECHANICAL DEVICES CORRECTLY AND EFFICIENTLY. THE INSTRUCTIONS SHALL BE CONSISTENT WITH SPECIFICATIONS SET FORTH BY THE EXECUTIVE DIRECTOR.
A. FOR RESIDENTIAL BUILDINGS, SUCH INFORMATION SHALL BE CONTAINED IN A FOLDER OR MANUAL WHICH PROVIDES ALL CERTIFICATE OF COMPLIANCE, CERTIFICATE OF INSTALLATION, AND CERTIFICATE OF VERIFICATION DOCUMENTATIONS. THIS OPERATING INFORMATION SHALL BE IN PAPER OR ELECTRONIC.
3. MAINTENANCE INFORMATION: THE BUILDER SHALL PROVIDE TO THE BUILDING OWNER AT OCCUPANCY, MAINTENANCE INFORMATION FOR ALL FEATURES, MATERIALS, COMPONENTS, AND MANUFACTURED DEVICES THAT REQUIRE ROUTINE MAINTENANCE FOR EFFICIENT OPERATION. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY STATED AND INCORPORATED ON A READILY ACCESSIBLE LABEL. THE LABEL MAY BE LIMITED TO IDENTIFYING, BY TITLE AND/OR PUBLICATION NUMBER, THE OPERATION AND MAINTENANCE MANUAL FOR THAT PARTICULAR MODEL AND TYPE OF FEATURE, MATERIAL, COMPONENT OR MANUFACTURED DEVICE.
4. VENTILATION INFORMATION: THE BUILDER SHALL PROVIDE TO THE BUILDING OWNER AT OCCUPANCY, A DESCRIPTION OF THE QUANTITIES OF OUTDOOR AIR THAT THE VENTILATION SYSTEM(S) ARE DESIGNED TO PROVIDE TO THE BUILDING'S CONDITIONED SPACE, AND INSTRUCTIONS FOR PROPER OPERATION AND MAINTENANCE OF THE VENTILATION SYSTEM.
5. ALL SYSTEMS, EQUIPMENT, APPLIANCES AND BUILDING COMPONENTS SHALL COMPLY WITH THE APPLICABLE MANUFACTURING, CONSTRUCTION, AND INSTALLATION PROVISIONS OF SECTIONS 110.0 THROUGH 110.12 OF 2022 CALIFORNIA ENERGY CODE FOR NEWLY CONSTRUCTED BUILDINGS.
6. ANY APPLIANCE REGULATED BY THE APPLIANCE EFFICIENCY REGULATIONS, TITLE 20 CALIFORNIA CODE OF REGULATIONS, SECTION 1601 ET SEQ., MAY BE INSTALLED ONLY IF THE APPLIANCE FULLY COMPLES WITH SECTION 1608(A) OF THOSE REGULATIONS.
7. SERVICE WATER-HEATING SYSTEMS SHALL BE EQUIPPED WITH AUTOMATIC TEMPERATURE CONTROLS CAPABLE OF ADJUSTMENT FROM THE LOWEST TO THE HIGHEST ACCEPTABLE TEMPERATURE SETTINGS FOR THE INTENDED USE AS LISTED IN TABLE 3, CHAPTER 50 OF THE ASHRAE HANDBOOK, HVAC APPLICATIONS VOLUME.(2022 CA ENERGY CODE 110.3(A)1)
8. ON SYSTEMS THAT HAVE A TOTAL CAPACITY GREATER THAN 167,000 BTU/HR, OUTLETS THAT REQUIRE HIGHER THAN SERVICE WATER TEMPERATURES AS LISTED IN THE ASHRAE HANDBOOK, APPLICATIONS VOLUME, SHALL HAVE SEPARATE REMOTE HEATERS, HEAT EXCHANGERS, OR BOOSTERS TO SUPPLY THE OUTLET WITH THE HIGHER TEMPERATURE.(2022 CA ENERGY CODE 110.3(C)1)
9. SERVICE HOT WATER SYSTEMS WITH CIRCULATING PUMPS OR WITH ELECTRICAL HEAT TRACE SYSTEMS SHALL BE CAPABLE OF AUTOMATICALLY TURNING OFF THE SYSTEM (2022 CA ENERGY CODE 110.3(C)2)
10. UNFIRED SERVICE WATER-HEATER STORAGE TANKS AND BACKUP TANKS FOR SOLAR WATER-HEATING SYSTEMS SHALL HAVE:
A. EXTERNAL INSULATION WITH AN INSTALLED R-VALUE OF AT LEAST R-3.5, OR
B. INTERNAL AND EXTERNAL INSULATION WITH A COMBINED R-VALUE OF AT LEAST R-16, OR
C. THE HEAT LOSS OF THE TANK SURFACE BASED ON AN 80°F WATER-AIR TEMPERATURE DIFFERENCE SHALL BE LESS THAN 6.5 BTU/HR PER SQUARE FOOT. (2022 CA ENERGY CODE 110.3(C)3)
11. MANUFACTURED FENESTRATION PRODUCTS AND EXTERIOR DOORS SHALL HAVE AIR INFILTRATION RATES NOT EXCEEDING 0.3 CFM/FT2 OF WINDOW AREA, 0.3 CFM/FT2 OF DOOR AREA FOR RESIDENTIAL DOORS, 0.3 CFM/FT2 OF NONRESIDENTIAL SINGLE DOOR AREA (SWINGING AND SLIDING)(2022 CA ENERGY CODE 110.6(A)1)
12. FENESTRATION PRODUCTS SHALL BE RATED IN ACCORDANCE WITH NFRC 100 FOR U-FACTOR, NFRC 200 FOR SHGC, AND VT SHALL BE RATED IN ACCORDANCE WITH NFRC 200 OR ASTM E972 (2022 CA ENERGY CODE 110.6(A))
13. FENESTRATION PRODUCTS AND DOORS SHALL HAVE A TEMPORARY LABEL, FOR MANUFACTURED FENESTRATION PRODUCTS AND EXTERIOR DOORS, A TEMPORARY LABEL CERTIFICATE APPROVED BY THE SUPERVISORY ENTITY (NFRC) MEETS THE REQUIREMENTS OF THIS SECTION. WHEN COMPONENT MODELING APPROACH IS USED AND FOR SITE-BUILT

FENESTRATION PRODUCTS, THE TEMPORARY LABEL SHALL NOT BE REMOVED BEFORE INSPECTION BY THE ENFORCEMENT AGENCY.(2022 CA ENERGY CODE 110.6(A)5)

14. FIELD-FABRICATED FENESTRATION AND FIELD-FABRICATED EXTERIOR DOORS MAY BE INSTALLED ONLY IF THE COMPLIANCE DOCUMENTATION HAS DEMONSTRATED COMPLIANCE FOR THE INSTALLATION USING U-FACTORS FROM TABLE 110.6-A AND SHGC VALUES FROM TABLE 110.6-B OF 2022 CALIFORNIA ENERGY CODE. FIELD-FABRICATED FENESTRATION AND FIELD-FABRICATED EXTERIOR DOORS SHALL BE CAULKED BETWEEN THE FENESTRATION PRODUCTS OR EXTERIOR DOOR AND THE BUILDING, AND SHALL BE WEATHERSTRIPPED. (2022 CA ENERGY CODE 110.6(B))

15. JOINTS, PENETRATIONS AND OTHER OPENINGS IN THE BUILDING ENVELOPE THAT ARE POTENTIAL SOURCES OF AIR LEAKAGE SHALL BE CAULKED, GASKETED, WEATHER STRIPPED, OR OTHERWISE SEALED TO LIMIT INFILTRATION AND EXFILTRATION. (2022 CA ENERGY CODE 110.7)

16. INSULATION SHALL BE CERTIFIED BY DEPARTMENT OF CONSUMER AFFAIRS, BUREAU OF ELECTRONIC AND APPLIANCE REPAIR, HOME FURNISHING AND THERMAL INSULATION THAT THE INSULATION CONDUCTIVE THERMAL PERFORMANCE IS APPROVED PURSUANT TO THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 12, CHAPTER 12-13, ARTICLE 3, "STANDARDS FOR INSULATING MATERIAL."(2022 CA ENERGY CODE 110.8 (A))

17. UREA FORMALDEHYDE FOAM INSULATION MAY ONLY BE USED IN EXTERIOR SIDE WALLS, AND REQUIRES A FOUR-MIL-THICK PLASTIC POLYETHYLENE VAPOR BARRIER OR EQUIVALENT PLASTIC SHEATHING VAPOR RETARDER BETWEEN THE UREA FORMALDEHYDE FOAM INSULATION AND THE INTERIOR SPACE IN ALL APPLICATIONS. (2022 CA ENERGY CODE 110.8 (B))

18. INSULATING MATERIAL SHALL BE INSTALLED IN COMPLIANCE WITH THE FLAME SPREAD RATING AND SMOKE DENSITY REQUIREMENTS OF THE CALIFORNIA BUILDING CODE

ABBREVIATIONS

#	POUND OR NUMBER	T&G	TONGUE AND GROOVE
AND	AND	TELE	TELEPHONE
AT	AT	TOILET	TOILET
ACT	ACOUSTIC CEILING TILE	TME	TO MATCH EXISTING
AD	AREA DRAIN	TO	TOP OF
AFF	ABOVE FINISHED FLOOR	TOC	TOP OF CONCRETE
ALUM	ALUMINUM	TOS	TOP OF STEEL
ANOD	ANODIZED	TPD	TOILET PAPER DISPENSER
BASEMNT	BASEMENT	TD	TELEPHONE/DATA
BYND	BEYOND	TYP	TYPICAL
BOT	BOTTOM	UNO	UNLESS NOTED OTHERWISE
CIP	CAST IN PLACE	US	UNDERSIDE
CHNL	CHANNEL	VERIF	VERIFY IN FIELD
CJ	CONTROL JOINT	VP	VISION PANEL
CL	CENTER LINE	W/	WITH
CLG	CEILING	WD	WOOD
CLR	CLEAR		
CMU	CONCRETE MASONRY UNIT		
COL	COLUMN		
COMP	COMPRESSIBLE		
CONC	CONCRETE		
CONT	CONTINUOUS		
CARPET	CARPET		
CT	CERAMIC TILE		
CTYD	COURTYARD		
DBL	DOUBLE		
DEM	DEMOLISH OR DEMOLITION		
DIA	DIAMETER		
DIM	DIMENSION		
DIMS	DIMENSIONS		
DN	DOWN		
DR	DOOR		
DWG	DRAWING		
(E)	EXISTING		
EA	EACH		
EJ	EXPANSION JOINT		
EL	ELEVATION		
ELEC	ELECTRICAL		
ELEV	ELEVATOR OR ELEVATION		
EPDM	ETHYLENE PROPYLENE DIENE M-CLASS (ROOFING)		
EQUAL	EQUAL		
EXIST	EXISTING		
EXP JT	EXPANSION JOINT		
EXT	EXTERIOR		
FD	FLOOR DRAIN OR FIRE DEPARTMENT		
FEC	FIRE EXTINGUISHER CABINET		
FIXT	FIXTURE		
FLR	FLOOR		
FM	FILLED METAL		
FO	FACE OF		
FND	FOUNDATION		
GA	GAUGE		
GALV	GALVANIZED		
GWB	GYPSSUM WALL BOARD		
HI	HOLLOW CORE		
HI	HIGH		
HM	HOLLOW METAL		
HP	HIGH POINT		
HR	HOUR		
HVAC	HEATING, VENTILATING, AND AIR CONDITIONING		
IRGWB	IMPACT RESISTANT GYPSSUM WALL BOARD		
IN LIEU OF	IN LIEU OF		
INSUL	INSULATED OR INSULATION		
INT	INTERIOR		
LO	LOW		
MAX	MAXIMUM		
MCO	MASONRY OPENING		
MECH	MECHANICAL		
MEMBR	MEMBRANE		
MIN	MINIMUM		
MRGBW	MOISTURE-RESISTANT GYPSSUM WALL BOARD		
NO	NUMBER		
(N)	NEW		
NIC	NOT IN CONTRACT		
NOM	NOMINAL		
OC	ON CENTER		
OH	OVERHANG OR OPPOSITE HAND		
OPCI	OWNER-PURCHASED CONTRACTOR-INSTALLED		
OPOI	OWNER-PURCHASED OWNER-INSTALLED		
OPP	OPPOSITE OR OPPOSITE HAND		
OZ	OUNCE		
PCC	PRE-CAST CONCRETE		
PLUMB	PLUMBING		
PLYD	PLYWOOD		
PT	PRESSURE TREATED		
PNT	PAINT OR PAINTED		
PVC	POLYVINYL CHLORIDE		
RBR	RUBBER		
RCP	REFLECTED CEILING PLAN		
ROOF DRAIN	ROOF DRAIN		
REQUIRED ROOM	REQUIRED ROOM		
RM	ROOM		
SIM	SIMILAR		
SPEC	SPECIFIED OR SPECIFICATION		
SPRINKLER OR SPEAKER	SPRINKLER OR SPEAKER		
SSTL	STAINLESS STEEL		
STC	SOUND TRANSMISSION COEFFICIENT		
STL	STEEL		
STRUCT	STRUCTURE OR STRUCTURAL		

NOT FOR CONSTRUCTION

Waiver of Liability: The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its' employees arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County Permit-Ready Accessory Dwelling Unit

GENERAL NOTES; ABBREVIATIONS

PROJECT: SHEET NUMBER: A0-10 DATE: 11/10/2023

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 2 (January 2023)



MAXIMUM INCREMENTAL REACTIVITY (MIR). The maximum change in weight of ozone formed by adding a compound to the "Base Reactive Organic Gas (ROG) Mixture" per weight of compound added, expressed to hundredths of a gram (g O₃/g ROG).
Note: MIR values for individual compounds and hydrocarbon solvents are specified in CCR, Title 17, Sections 94700 and 94701.

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

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

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

VOC. A volatile organic compound (VOC) broadly defined as a chemical compound based on carbon chains or rings with vapor pressures greater than 0.1 millimeters of mercury at room temperature. These compounds typically contain hydrogen and may contain oxygen, nitrogen and other elements. See CCR Title 17, Section 94508(a).

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

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

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

4.504.2.1 **Adhesives, Sealants and Caulks.** Adhesives, sealant and caulks used on the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:

- Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products also shall comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
- Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with section 94507.

4.504.2.2 **Paints and Coatings.** Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.2 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat/High Gloss coating, based on its gloss, as defined in subsections 4.21, 4.26, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat/High Gloss VOC limit in Table 4.504.2 shall apply.

4.504.2.3 **Aerosol Paints and Coatings.** Aerosol paints and coatings shall meet the Product-weighted MIR limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(a)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94507, and in areas under the jurisdiction of the Bay Area Air Quality Management District additionally comply with the percent VOC by weight of product limits of Regulation 8, Rule 49.

4.504.2.4 **Verification.** Verification of compliance with this section shall be provided at the request of the enforcing agency. Documentation may include, but is not limited to, the following:

- Manufacturer's product specification.
- Field verification of on-site product containers.

ARCHITECTURAL APPLICATIONS	VOC LIMIT
INDOOR CARPET ADHESIVES	50
CARPET PAD ADHESIVES	50
OUTDOOR CARPET ADHESIVES	150
WOOD FLOORING ADHESIVES	100
RUBBER FLOOR ADHESIVES	60
SUBFLOOR ADHESIVES	60
CERAMIC TILE ADHESIVES	65
VCT & ASPHALT TILE ADHESIVES	50
DRYWALL & PANEL ADHESIVES	50
COVE BASE ADHESIVES	50
MULTIPURPOSE CONSTRUCTION ADHESIVE	70
STRUCTURAL GLAZING ADHESIVES	100
SINGLE-PLY ROOF MEMBRANE ADHESIVES	250
OTHER ADHESIVES NOT LISTED	50
SPECIALTY APPLICATIONS	
PVC WELDING	510
CPVC WELDING	490
ABS WELDING	325
PLASTIC CEMENT WELDING	250
ADHESIVE PRIMER FOR PLASTIC	550
CONTACT ADHESIVE	80
SPECIAL PURPOSE CONTACT ADHESIVE	250
STRUCTURAL WOOD MEMBER ADHESIVE	140
TOP & TRIM ADHESIVE	250
SUBSTRATE SPECIFIC APPLICATIONS	
METAL TO METAL	30
PLASTIC FOAMS	50
POROUS MATERIAL (EXCEPT WOOD)	50
WOOD	30
FIBERGLASS	80

1. IF AN ADHESIVE IS USED TO BOND DISSIMILAR SUBSTRATES TOGETHER, THE ADHESIVE WITH THE HIGHEST VOC CONTENT SHALL BE ALLOWED.
2. FOR ADDITIONAL INFORMATION REGARDING METHODS TO MEASURE THE VOC CONTENT SPECIFIED IN THIS TABLE, SEE SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT RULE 1168.

SEALANTS	VOC LIMIT
ARCHITECTURAL	250
MARINE DECK	760
NONMEMBRANE ROOF	300
ROADWAY	250
SINGLE-PLY ROOF MEMBRANE	450
OTHER	420
SEALANT PRIMERS	
ARCHITECTURAL	
NON-POROUS	250
POROUS	775
MODIFIED BITUMINOUS	500
MARINE DECK	760
OTHER	750

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NONFLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	40
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

1. GRAMS OF VOC PER LITER OF COATING, INCLUDING WATER & EXEMPT COMPOUNDS
2. THE SPECIFIED LIMITS REMAIN IN EFFECT UNLESS REVISED LIMITS ARE LISTED IN SUBSEQUENT COLUMNS IN THE TABLE.
3. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIFORNIA AIR RESOURCES BOARD, ARCHITECTURAL COATINGS SUGGESTED CONTROL MEASURE, FEB. 1, 2008. MORE INFORMATION IS AVAILABLE FROM THE AIR RESOURCES BOARD.

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD:	
1. VALUES IN THIS TABLE ARE DERIVED FROM THOSE SPECIFIED BY THE CALIF. AIR RESOURCES BOARD, AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD AS TESTED IN ACCORDANCE WITH ASTM E 1333. FOR ADDITIONAL INFORMATION, SEE CALIF. CODE OF REGULATIONS, TITLE 17, SECTIONS 93120 THROUGH 93120.12.	0.13
2. THIN MEDIUM DENSITY FIBERBOARD HAS A MAXIMUM THICKNESS OF 5/16" (8 MM).	

DIVISION 4.5 ENVIRONMENTAL QUALITY (continued)
4.504.3 **CARPET SYSTEMS.** All carpet installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)
See California Department of Public Health's website for certification programs and testing labs.
<https://www.cdph.ca.gov/Programs/CCDCDP/DEDC/ELH/BAQ/Pages/VOC.aspx>

4.504.3.1 **Carpet cushion.** All carpet cushion installed in the building interior shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)
See California Department of Public Health's website for certification programs and testing labs.
<https://www.cdph.ca.gov/Programs/CCDCDP/DEDC/ELH/BAQ/Pages/VOC.aspx>

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

4.504.4 **RESILIENT FLOORING SYSTEMS.** Where resilient flooring is installed, at least 80% of floor area receiving resilient flooring shall meet the requirements of the California Department of Public Health, "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," Version 1.2, January 2017 (Emission testing method for California Specification 01350)
See California Department of Public Health's website for certification programs and testing labs.
<https://www.cdph.ca.gov/Programs/CCDCDP/DEDC/ELH/BAQ/Pages/VOC.aspx>

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

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

- Product certifications and specifications.
- Chain of custody certifications.
- Product labels and invoices as meeting the Composite Wood Products regulation (see CCR, Title 17, Section 93120, et seq.).
- Exterior grade products marked as meeting the PS-1 or PS-2 standards of the Engineered Wood Association, the Australian AS/NZS 2269, European EN 338 SS standards, and Canadian CSA 0121, CSA 0151, CSA 0153 and CSA 0325 standards.
- Other methods acceptable to the enforcing agency.

4.505 INTERIOR MOISTURE CONTROL
4.505.1 **General.** Buildings shall meet or exceed the provisions of the California Building Standards Code.

4.505.2 **CONCRETE SLAB FOUNDATIONS.** Concrete slab foundations required to have a vapor retarder by the California Residential Code, Chapter 5, shall also comply with this section.

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

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

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

- Moisture content shall be determined with either a probe-type or contact-type moisture meter. Equivalent moisture verification methods may be approved by the enforcing agency and shall satisfy requirements found in Section 101.3 of this code.
- Moisture readings shall be taken at a point 2 feet (610 mm) to 4 feet (1219 mm) from the grade stamped end of each piece verified.
- At least three random moisture readings shall be performed on wall and floor framing with documentation acceptable to the enforcing agency provided at the time of approval to enclose the wall and floor framing.

Insulation products which are visibly wet or have a high moisture content shall be replaced or allowed to dry prior to enclosure in wall or floor cavities. Wet-applied insulation products shall follow the manufacturer's drying recommendations prior to enclosure.

4.506 INDOOR AIR QUALITY AND EXHAUST
4.506.1 **Bathroom exhaust fans.** Each bathroom shall be mechanically ventilated and shall comply with the following:

- Fans shall be ENERGY STAR compliant and be ducted to terminate outside the building.
- Unless functioning as a component of a whole house ventilation system, fans must be controlled by a humidity control.
 - Humidity controls shall be capable of adjustment between a relative humidity range less than or equal to 50% to a maximum of 90%. A humidity control may utilize manual or automatic means of adjustment.
 - A humidity control may be a separate component to the exhaust fan and is not required to be integral (i.e., built-in).

Notes:

- For the purposes of this section, a bathroom is a room which contains a bathtub, shower or tub/shower combination.
- Lighting integral to bathroom exhaust fans shall comply with the California Energy Code.

4.507 ENVIRONMENTAL COMFORT
4.507.2 **HEATING AND AIR CONDITIONING SYSTEM DESIGN.** Heating and air conditioning systems shall be sized, designed and have their equipment selected using the following methods:

- The heat loss and heat gain is established according to ANSI/ACCA 2 Manual J - 2011 (Residential Load Calculation), ASHRAE handbooks or other equivalent design software or methods.
- Duct systems are sized according to ANSI/ACCA 1 Manual D - 2014 (Residential Duct Systems), ASHRAE handbooks or other equivalent design software or methods.
- Select heating and cooling equipment according to ANSI/ACCA 3 Manual S - 2014 (Residential Equipment Selection), or other equivalent design software or methods.

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

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS

702 QUALIFICATIONS
702.1 **INSTALLER TRAINING.** HVAC system installers shall be trained and certified in the proper installation of HVAC systems including ducts and equipment by a nationally or regionally recognized training or certification program. Uncertified persons may perform HVAC installations when under the direct supervision and responsibility of a person trained and certified to install HVAC systems or contractor licensed to install HVAC systems. Examples of acceptable HVAC training and certification programs include but are not limited to the following:

- State certified apprenticeship programs.
- Public utility training programs.
- Training programs sponsored by trade, labor or statewide energy consulting or verification organizations.
- Programs sponsored by manufacturing organizations.
- Other programs acceptable to the enforcing agency.

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

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

Notes:

- Special Inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.
- HERS raters are special inspectors certified by the California Energy Commission (CEC) to rate homes in California according to the Home Energy Rating System (HERS).

[BSC] When required by the enforcing agency, the owner or the responsible entity acting as the owner's agent shall employ one or more special inspectors to provide inspection or other duties necessary to substantiate compliance with this code. Special inspectors shall demonstrate competence to the satisfaction of the enforcing agency for the particular type of inspection or task to be performed. In addition, the special inspector shall have a certification from a recognized state, national or international association, as determined by the local agency. The area of certification shall be closely related to the primary job function, as determined by the local agency.

Note: Special inspectors shall be independent entities with no financial interest in the materials or the project they are inspecting for compliance with this code.

703 VERIFICATIONS
703.1 **DOCUMENTATION.** Documentation used to show compliance with this code shall include but is not limited to, construction documents, plans, specifications, builder or installer certification, inspection reports, or other methods acceptable to the enforcing agency which demonstrate substantial conformance. When specific documentation or special inspection is necessary to verify compliance, that method of compliance will be specified in the appropriate section or identified applicable checklist.

NOT FOR CONSTRUCTION

Waiver of Liability: The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
CALGREEN
(2 OF 2)

PROJECT
--
SCALE
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A0-31



2022 Single-Family Residential Mandatory Requirements Summary

NOTE: Single-family residential buildings subject to the Energy Codes must comply with all applicable mandatory measures, regardless of compliance approach used. Review the respective section or more information.

(0/2/22)

Building Envelope:

§ 110.6(a)(1): **Air Leakage.** Manufactured fenestration, exterior doors, and exterior pit doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/WAMCA/CA 1011.2/2A40-2011.

§ 110.6(a)(5): **Labeling.** Fenestration products and exterior doors must have a label meeting the requirements of § 110.11(4).

§ 110.6(b): **Field Fabricated Exterior Doors and Fenestration Products.** Field fabricated exterior doors and fenestration products must use U-factors and solar heat gain coefficient (SHGC) values from Tables 110.5.A, 110.5-B, or A4.3 for exterior doors. They must be sealed and/or weather-stripped.

§ 110.7: **Air Leakage.** A joints, penetrations, and other openings in the building envelope that are potential sources of air leakage must be caulked, gasketed, or weather striped.

§ 110.8(a): **Insulation Certification by Manufacturers.** Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).

§ 110.8(b): **Insulation Requirements for Heated Slab Floors.** Heated slab floors must be insulated per the requirements of § 110.8(i).

§ 110.8(c): **Roofing Products Solar Reflectance and Thermal Emittance.** The thermal emittance and aged solar reflectance values of the roofing materials must meet the requirements of § 110.8(i) and be labeled per § 110-13 when the installation of a cool roof is specified on the CFI-R.

§ 110.8(j): **Radiant Barriers.** When required, radiant barriers must have an emittance of 0.05 or less and be certified to the Department of Consumer Affairs.

§ 110.8(k): **Roof Deck, Ceiling and Rafter Roof Insulation.** Roof decks in newly constructed dwellings in climate zones 4 and 6-16 are weighted average U-factor not exceeding U-0.184. Ceiling and rafter roofs minimum R-22 insulation in wood-frame ceiling, or area-weighted average U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 or area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulator using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with a roof or ceiling which is sealed to limit infiltration and exfiltration, as specified in § 110.7, including but not limited to placing insulation either above or below the roof deck or on top of a drywall ceiling.

§ 150.0(b): **Loose-fill Insulation.** Loose fill insulation must meet the manufacturer's required density for the labeled R-value.

§ 150.0(c): **Wall Insulation.** Minimum R-13 insulation in 2x4-inch wood framing wall or have a U-factor of 0.102 or less, or R-20 in 2x6-inch wood framing or have a U-factor of 0.071 or less. Opaque non-framed assemblies must have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 150.1-A or B.

§ 150.0(d): **Raised-floor Insulation.** Minimum R-19 insulation in raised wood framed floor or 1.037 maximum U-factor.

§ 150.0(f): **Slab Edge Insulation.** Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facing, no greater than 0.3 percent; have a water vapor permeance no greater than 2.0 perm per inch; be protected from physical damage and UV light deterioration; and when installed as part of a heated slab floor, meet the requirements of § 110.8(g).

§ 150.0(g): **Vapor Retarder.** In climate zones 1 through 16, the earth floor of unvented crawl space must be covered with a Class I or Class II vapor retarder. This requirement also applies to controlled ventilation crawl space for buildings complying with the exception to § 150.0(d).

§ 150.0(h): **Vapor Retarder.** In climate zones 14 and 16, a Class I or Class II vapor retarder must be installed on the conditioned space side of insulation in all exterior walls, vertical attics, and overhead attics with air-permeable insulation.

§ 150.0(i): **Fenestration Products.** Fenestration, including skylights, separating conditioned space from unconditioned space outdoors must have a maximum U-factor of 0.45, or area-weighted average U-factor of all fenestration must not exceed 0.45.

Fireplaces, Decorative Gas Appliances, and Gas Log:

§ 110.5(e): **Pilot Light.** Continuously burning pilot lights are not allowed for indoor and outdoor fireplaces.

§ 150.0(e)(1): **Closable Doors.** Masonry or factory-built fireplaces must have a closable metal or organic door covering the entire opening of the firebox.

§ 150.0(e)(2): **Combustion Intake.** Masonry or factory-built fireplaces must have a combustion outside air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and light-tight damper or combustion-air control device.

§ 150.0(e)(3): **Flue Damper.** Masonry or factory-built fireplaces must have a flue damper with a readily accessible control.

Space Conditioning, Water Heating, and Plumbing System:

§ 110.4-110.3: **Certification.** Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showerheads, faucets, and all other regulated appliances must be certified by the manufacturer to the California Energy Commission.

§ 110.2(a): **HVAC Efficiency.** Equipment must meet the applicable efficiency requirements in Table 110.2-A through Table 111.2-N.

§ 110.2(b): **Controls for Heat Pumps with Supplementary Electric Resistance Heaters.** Heat pumps with supplementary electric resistance heaters must have controls that prevent supplementary heater operation when the heating load can be met by the heat pump alone, and in which the cut-on temperature for compression heating is higher than the cut-on temperature for supplementary heating, and the cut-off temperature for compression heating is higher than the cut-off temperature for supplementary heating.

§ 110.2(c): **Thermostats.** All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.

§ 110.3(a): **Insulation.** Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.

§ 110.3(a)(6): **Isolation Valves.** Instantaneous water heaters with an input rating greater than 0.1 MBtu per hour (2 kW) must have isolation valves with hose bibbs or other fittings on both cold and hot water lines to allow for flushing the water heater when the valves are closed.

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2022 Single-Family Residential Mandatory Requirements Summary

§ 110.5: **Pilot Lights.** Continuously burning pilot lights are prohibited for natural gas, fan-gas central furnaces, household cooking appliances (except appliances without an electrical supply voltage connection with pilot lights that consume less than 150 Btu per hour), and pool and spa heaters.

§ 150.0(h)(1): **Building Cooling and Heating Loads.** Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual A using design conditions specified in § 150.0(h)(2).

§ 150.0(h)(3A): **Clearances.** All conditioner and heat pump outdoor condensing units must have a clearance of at least five feet from the outlet of any duct.

§ 150.0(h)(3B): **Liquid Line Drier.** Air conditioners and heat pump systems must be equipped with liquid line filter driers if required as specified by the manufacturer's instructions.

§ 150.0(i): **Water Piping, Solar Water-heating System Piping, and Space Conditioning System Line Insulation.** All domestic hot water piping must be installed as specified in § 908.11 of the California Plumbing Code.

§ 150.0(j): **Insulation Protection.** Piping insulation must be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind as required by § 120.3(b). Insulation exposed to weather must be water resistant and protected from UV light (no adhesive tapes). Insulation covering chilled water piping and refrigerant suction piping located outside the conditioned space must include, or be protected by, a Class I or Class II vapor retarder. Pipe insulation buried below grade must be installed in a waterproof and non-crushable casing or sleeve.

§ 150.0(k): **Gas or Propane Water Heating Systems.** Systems using gas or propane water heaters to serve individual dwelling units must designate a space at least 2'5" x 2'5" x 7' suitable for the future installation of a hot pump water heater, and meet electrical and plumbing requirements, based on the distance between this designated space and the water heater location, and a condensate drain no more than 2" higher than the base of the water heater.

§ 150.0(l): **Solar Water-heating Systems.** Solar water heating systems and collectors must be certified and rated by the Solar Rating and Certification Corporation (SRCC), the International Association of Plumbing and Mechanical Officials, Research and Testing (IAPMO R&T), or by a listing agency that is approved by the executive director.

Ducts and Fans:

§ 110.8(d)(3): **CMC Compliance.** All air-distribution system ducts and plenums must meet CMC §§ 601.0-605.0 and ANSIS/MACNA-006-2006 HVAC Duct Construction Standards Metal and Flexible 3rd Edition. Portions of supply-air and return-air ducts and plenums must be insulated to R-6 or higher products located entirely in conditioned space as confirmed through field verification and diagnostic testing (RA3.1.4.3.8) do not require insulation. Connections of metal ducts and inner core of flexible ducts must be mechanically fastened. Openings must be sealed with mastic, tape, or other duct-closure system that meets the applicable UL requirements, or aerosol sealed that meets UL 723. The combination of mastic and either mesh or tape must be used to seal openings greater than 1/2". If mastic or tape is used. Building cavities, air handler support platforms, and plenums designed or constructed with materials other than sealed sheet metal, duct board or flexible duct must not be used to convey conditioned air. Building cavities and support platforms may contain ducts/ducts installed in these spaces must not be compressed.

§ 150.0(m)(1): **Factory-Fabricated Duct Systems.** Factory-fabricated duct systems must comply with applicable requirements for duct construction, connectors, and closures; joints and seams of duct systems and their components must not be sealed with joint back rubber adhesive duct tapes unless such tape is used in combination with mastic and draw bands.

§ 150.0(m)(2): **Field-Fabricated Duct Systems.** Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastic, sealants, and other requirements specified for duct construction.

§ 150.0(m)(3): **Backdraft Damper.** Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.

§ 150.0(m)(7): **Gravity Ventilation Dampers.** Gravity ventilating systems serving conditioned space must have either automatic or readily accessible, manually operated dampers in all openings to the outside, except combustion inlet and outlet air openings and elevator shaft vents.

§ 150.0(m)(9): **Protection of Insulation.** Insulation must be protected from damage due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic cover). Cellular foam insulation must be protected as above or painted with a water resistant and solar radiation-resistant coating.

§ 150.0(m)(10): **Porous Inner Core Flex Duct.** Porous inner core of flex ducts must have a non-porous layer or air barrier between the inner core and outer vapor barrier.

§ 150.0(m)(11): **Duct System Sealing and Leakage Test.** When space conditioning systems use forced air duct systems to supply conditioned air to an occupiable space, the ducts must be sealed and duct leakage tested, as confirmed through field verification and diagnostic testing, in accordance with Reference Residential Appendix RA3.1.

§ 150.0(m)(12): **Air Filtration.** Space conditioning systems with ducts exceeding 10 feet and the supply side of ventilation systems must have MERV 13 or equivalent filters. Filters for space conditioning systems must have a high dust spot or can be one inch if rated per Equation 150.0-A. Clean-fair pressure drop and labeling must meet the requirements in § 150.0(m)(2). Filters must be accessible for regular service. Filter racks or grilles must use gaskets, sealing, or other means to close gaps around the inserted filters to and prevent air from bypassing the filter.

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2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(m)(13): **Space Conditioning System Airflow Rate and Fan Efficiency.** Space conditioning systems that use ducts to supply cooling must have a hole for the placement of a static pressure probe, or a permanently installed static pressure probe in the supply plenum. Airflow must be ≥ 350 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≤ 0.45 watts per CFM for gas furnaces air handlers and ≤ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ton of nominal cooling capacity, and an air-handling unit fan efficiency ≤ 0.62 watts per CFM. Field-verification testing is required in accordance with Reference Residential Appendix RA3.3.

Ventilation and Indoor Air Quality:

§ 150.0(n): **Requirements for Ventilation and Indoor Air Quality.** All dwelling units must meet the requirements of ASHRAE Standard 62.2, Ventilation and Acceptable Indoor Air Quality in Residential Buildings subject to the amendments specified in § 150.0(n)1.

§ 150.0(n)1E: **Central Fan Integrated (CFI) Ventilation Systems.** Continuous operation of CFI air handlers is not allowed to provide the whole-dwelling unit ventilation airflow required per § 150.0(n)1C. A motorized damper(s) must be installed on the ventilation duct(s) that prevents all airflow through the space conditioning duct system when the damper(s) is closed and controlled per § 150.0(n)1B(i)(v). CFI ventilation systems must have controls that track outdoor air ventilation run time, and either open or close the motorized damper(s) for compliance with § 150.0(n)1C.

§ 150.0(n)1C: **Whole-Dwelling Unit Mechanical Ventilation for Single-Family Detached and Townhouses.** Single-family detached dwelling units, and attached dwelling units not sharing ceilings or floors with other dwelling units, occupiable spaces, public garages, or commercial spaces must have mechanical ventilation airflow specified in § 150.0(n)1C-4.

§ 150.0(n)1D: **Local Mechanical Exhaust.** Kitchens and bathrooms must have local mechanical exhaust; nonenclosed kitchens must have demand-controlled exhaust system meeting requirements § 150.0(n)1G(ii)-iv. Allow flow must be measured by the installer per § 150.0(n)1Gv, and rated for sound per § 150.0(n)1Gvi.

§ 150.0(n)1H: **Airflow Measurement and Sound Ratings of Whole-Dwelling Unit Ventilation Systems.** The airflow required per § 150.0(n)1C must be measured by using a flow hood, flow grid, or other airflow measuring device at the fan's inlet or outlet terminal(s) per Reference Residential Appendix RA3.7. Whole-dwelling unit ventilation systems must be rated for sound per ASHRAE 62.2 § 2 at no less than the minimum airflow rate required by § 150.0(n)1C.

§ 150.0(n)2: **Field Verification and Diagnostic Testing.** Whole-Dwelling Unit ventilation airflow, vented range hood airflow and sound rating, and HRV and ERV fan efficiency must be verified in accordance with Reference Residential Appendix RA3.7. Vented range hoods must be verified per Reference Residential Appendix RA3.7.4 to confirm if it is rated by HVI or AHAM to comply with the airflow rates and sound requirements per § 150.0(n)1G.

Pool and Spa Systems and Equipment:

§ 110.4(a): **Certification by Manufacturers.** Any pool or spa heating system or equipment must be certified to have all of the following: compliance with the Appliance Efficiency Regulations and listing in MAEDS; an on-off switch mounted outside of the heater that allows shutting off the heater without adjusting the thermostat setting; a permanent weatherproof pilot or card with operating instructions; and must not use electric resistance heating.

§ 110.4(b)(1): **Piping.** Any pool or spa heating system or equipment must be installed with at least 36 inches of pipe between the filter and the heater, or dedicated suction and return lines, or built-in or built-up connections to allow for future solar heating.

§ 110.4(b)(2): **Covers.** Outdoor pools or spas that have a heat pump or gas heater must have a cover.

§ 110.4(b)(3): **Directional Inlets and Time Switches for Pools.** Pools must have directional inlets that adequately mix the pool water, and a time switch that will allow all pumps to be left or programmed to run only during off-peak electric demand periods.

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

§ 150.0(p): **Pool Systems and Equipment Installation.** Residential pool systems or equipment must meet the specified requirements for pump sizing, flow rate piping, filters, and valves.

Lighting:

§ 110.9: **Lighting Controls and Components.** All lighting control devices and systems, ballasts, and luminaires must meet the applicable requirements of § 110.9.

§ 150.0(p)(1A): **Luminaire Efficiency.** All installed luminaires must meet the requirements in Table 50.0-A, except lighting integral to exhaust fans, kitchen range hoods, bath vanity mirrors, and garage door openers; navigation lighting less than 6 watts; and lighting integral to drawers, cabinets, and linen closets with an efficacy of at least 45 lumens per watt.

§ 150.0(p)(1B): **Screw-based luminaires.** Screw-based luminaires must contain lamps that comply with Reference Joint Appendix JAB.

§ 150.0(p)(1C): **Recessed Downlight Luminaires in Ceilings.** Luminaires recessed into ceilings must not contain screw-based sockets, must be airtight, and must be sealed with a gasket or caulk. California Electrical Code § 410.116 must also be met.

§ 150.0(p)(1D): **Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separate light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

§ 150.0(p)(1E): **Blank Electrical Boxes.** The number of electrical boxes that are more than five feet above the finished floor and do not contain a luminaire or other device shall be no more than the number of bedrooms. These boxes must be served by a dimmer, vacancy sensor control, low voltage wiring, or fan speed control.

§ 150.0(p)(1F): **Lighting Integral to Exhaust Fans.** Lighting integral to exhaust fans (except when installed by the manufacturer in kitchen exhaust hoods) must meet the applicable requirements of § 150.0(x).

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2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(q)(1G): **Screw-based luminaires.** Screw-based luminaires must contain lamps that comply with Reference Joint Appendix JAB.

§ 150.0(q)(1H): **Light Sources in Enclosed or Recessed Luminaires.** Lamps and other separate light sources that are not compliant with the JAB elevated temperature requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.

§ 150.0(q)(1I): **Light Sources in Drawers, Cabinets, and Linen Closets.** Light sources in drawers, cabinets or linen closets are not required to comply with Table 50.0-A or be controlled by vacancy sensors provided that they are rated to consume no more than 5 watts of power, emit no more than 150 lumens, and are equipped with controls that automatically turn the lighting off when the drawer, cabinet or linen closet is closed.

§ 150.0(q)(2A): **Interior Switches and Controls.** All forward phase out dimmers used with LED light sources must comply with NEMA SSL 7A.

§ 150.0(q)(2B): **Interior Switches and Controls.** Exhaust fans must be controlled separately from lighting systems.

§ 150.0(q)(2C): **Accessible Controls.** Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off.

§ 150.0(q)(2D): **Multiple Controls.** Controls must not bypass a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.0(q).

§ 150.0(q)(2E): **Mandatory Requirements.** Lighting controls must comply with the applicable requirements of § 110.9.

§ 150.0(q)(2F): **Energy Management Control Systems.** An energy management control system (EMCS) may be used to comply with dimming, occupancy, and control requirements if it provides the functionality of the specified control per § 110.9 and the physical controls specified in § 150.0(q)(2).

§ 150.0(q)(2G): **Automatic Shutoff Controls.** In bathrooms, garages, laundry rooms, utility rooms and walk-in closets, at least one installed luminaire must be controlled by an occupancy or vacancy sensor providing automatic-off functionality. Lighting inside drawers and cabinets with opaque fronts or doors must have controls that turn the light off when the drawer or door is closed.

§ 150.0(q)(2H): **Dimmers.** Lighting in habitable spaces (e.g., living rooms, dining rooms, kitchens, and bedrooms) must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase out dimmer controlling LED light sources in these spaces must comply with NEMA SSL 7A.

§ 150.0(q)(2I): **Independent controls.** Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting in drawers and cabinets, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting.

§ 150.0(q)(3A): **Residential Outdoor Lighting.** For single-family residential buildings, outdoor lighting permanently mounted to a residential building, or to other buildings in the same lot, must have a manual on/off switch and either a photocell and motion sensor or a sonic time switch control) or an astronomical time clock. An energy management control system that provides the specified control functionality and meets all applicable requirements may be used to meet these requirements.

§ 150.0(q)(4): **Internally Illuminated Address Signs.** Internally illuminated address signs must either comply with § 144.8 or consume no more than 5 watts of power.

§ 150.0(q)(5): **Residential Garages for Eight or More Vehicles.** Lighting for residential parking garages for eight or more vehicles must comply with the applicable requirements for residential garages in §§ 110.9, 150.0, 150.1, 150.1, 150.1, 140.6, and 141.0.

Solar Readiness:

§ 110.10(a): **Single-family Residences.** Single-family residences located in subdivisions with 11 or more single-family residences and where the application for a tentative subdivision map for the residences has been deemed complete and approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(e).

§ 110.10(b): **Minimum Solar Zone Area.** The solar zone must have a minimum total area as described below. The solar zone must comply with access, pathway smoke ventilation, and spacing requirements as specified in Table 24, Part 9 or other parts of Table 24 or in any requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimension less than 5 feet and are no less than 80 square feet each for buildings with roof areas less than or equal to 10,000 square feet or no less than 160 square feet each for buildings with roof areas greater than 10,000 square feet. For single-family residences, the solar zone must be located on the roof or overhang of the building and have a total area no less than 250 square feet.

§ 110.10(b)(2): **Azimuth.** All sections of the solar zone located on steep-sloped roofs must have an azimuth between 90-300° of true north.

§ 110.10(b)(3A): **Shading.** The solar zone must not contain any obstructions, including but not limited to: vents, chimneys, architectural features, and roof mounted equipment.

§ 110.10(b)(3B): **Shading.** Any obstruction located on the roof or any other part of the building that projects above a solar zone must be located at least twice the horizontal distance of the height difference between the highest point of the obstruction and the horizontal projection of the nearest point of the solar zone, measured in the vertical plane.

§ 110.10(b)(4): **Structural Design Loads on Construction Documents.** For areas of the roof designated as a solar zone, the structural design loads for roof dead load and roof live load must be clearly indicated on the construction documents.

§ 110.10(c): **Interconnector Pathways.** The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing of conduit from the solar zone to the point of interconnection with the electrical service, and for single-family residences and entire water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system.

§ 110.10(d): **Documentation.** A copy of the construction documents or a comparable document containing the information from § 110.10(b)-(c) must be provided to the occupant.

§ 110.10(e): **Main Electrical Service Panel.** The main electrical service panel must have a minimum busbar rating of 200 amps.

§ 110.10(f): **Main Electrical Service Panel.** The main electrical service panel must have a reserved space to allow for the installation of a double pole circuit breaker for a future solar electric installation. The reserved space must be permanently marked as "For Future Solar Electric."

Electric and Energy Storage Ready:

5/6/22

2022 Single-Family Residential Mandatory Requirements Summary

§ 150.0(r): **Energy Storage System (ESS) Ready.** All single-family residences must meet all of the following: Either ESS-ready interconnection equipment with backed up capacity of 60 amps or more and four or more ESS supplied branch circuits, or a dedicated pathway from the main service to a subpanel that supplies the branch circuits in § 150.0(r); at least four branch circuits must be identified and have their source collocated at a single panelboard subunit to be supplied by the ESS, with one circuit supplying the refrigerator, one lighting circuit near the primary, and one circuit supplying a sleeping room receptacle outlet; main panelboard must have a minimum busbar rating of 225 amps; sufficient space must be reserved to allow future installation of a system isolation equipment/transfer switch within 3' of the main panelboard, with raceways installed between the panelboard and the switch location to allow the connection of backup power source.

§ 150.0(s): **Heat Pump Space Heater Ready.** Systems using gas or propane furnaces to serve individual dwelling units must include: A dedicated unobstructed 24V branch circuit wiring installed within 3' of the furnace with circuit conductors rated at least 30 amps with the blank cover identified as "24V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

§ 150.0(t): **Electric Cooktop Ready.** Systems using gas or propane cooktops to serve individual dwelling units must include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the cooktop with circuit conductors rated at least 50 amps with the blank cover identified as "240V ready," and a reserved main electrical service panel space to allow for the installation of a double pole circuit breaker permanently marked as "For Future 240V use."

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

*Exceptions may apply.

5/6/22

SHEET INDEX

SHT. NO.	DESCRIPTION
T1.0	MANDATORY MEASURES
T2.0	TITLE 24 – CLIMATE ZONE 12
T2.1	TITLE 24 – CLIMATE ZONE 12
T2.2	TITLE 24 – CLIMATE ZONE 12
T3.0	TITLE 24 – CLIMATE ZONE 16
T3.1	TITLE 24 – CLIMATE ZONE 16
T3.2	TITLE 24 – CLIMATE ZONE 16

NOT FOR CONSTRUCTION

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
MANDATORY MEASURES

PROJECT
SCALE
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
T1.0



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E
 Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit Calculation Date/Time: 2023-08-09T18:03:22-07:00
 Calculation Description: Title 24 Analysis Input File Name: El Dorado County - Climate Zone 12 - Final - 08.09.2023 - r1b22x
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GENERAL INFORMATION	
01	Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit
02	Run Title: Title 24 Analysis
03	Project Location:
04	City:
05	Standards Version: 2022
06	Zip code:
07	Software Version: EnergyPro 9.1
08	Climate Zone: 12
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 (ft ²): 0
15	Number of Stories: 1
16	Existing Cond. Floor Area (ft ²): n/a
17	Fenestration Average U-factor: 0.3
18	Total Cond. Floor Area (ft ²): 996
19	Glazing Percentage (%): 15.40%
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

Registration Number: 223-P10031588H-000-000-000000-0000
 Registration Date/Time: 2023-08-09 18:50:49
 CA Building Energy Efficiency Standards - 2022 Residential Compliance
 Report Version: 2022.0.000
 Schema Version: rv 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E
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ENERGY DESIGN RATINGS	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR1/Efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR1/Efficiency)	Total ² EDR (EDR2total)
Standard Design	36	36.7	0.8			
Proposed Design						
North Facing	11.1	33.3	5.3	4.9	3.4	5.5
East Facing	11.6	35.5	7.1	4.4	0.2	3.7
South Facing	11.7	35.8	16.7	4.3	0.9	4.1
West Facing	11.7	35	16.2	4.3	1.7	4.6
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: 2.29 kWdc

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTWh/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTWh/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.03	8.96	1.48	11.2	0.55	-1.24
Space Cooling	1.05	28.39	1	30.15	0.05	-1.76
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.52	16.79	1.13	10.31
Self Utilization/Flexibility credit				0		0
North Facing Efficiency Compliance Total	6.13	68.72	4.1	62.41	1.73	6.31
Space Heating	2.03	8.96	1.49	11.44	0.54	-1.48
Space Cooling	1.05	28.39	1.01	35.89	-0.14	-7.5
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.52	16.8	1.13	10.3
Self Utilization/Flexibility credit				0		0
East Facing Efficiency Compliance Total	6.13	68.72	4.1	68.4	1.53	0.32

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NOT FOR CONSTRUCTION

Waiver of Liability: The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

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ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTWh/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTWh/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.03	8.96	1.7	13.22	0.33	-4.26
Space Cooling	1.05	28.39	1.0	32.71	0.03	-4.32
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.9	16.86	1.13	10.24
Self Utilization/Flexibility credit				0		0
South Facing Efficiency Compliance Total	6.13	68.72	4.6	67.06	1.49	1.66
Space Heating	2.03	8.96	1.74	13.37	0.29	-4.41
Space Cooling	1.05	28.39	1	31.05	0.05	-2.66
IAQ Ventilation	0.4	4.27	0.1	4.27	0	0
Water Heating	2.65	27.1	1.9	16.84	1.13	10.26
Self Utilization/Flexibility credit				0		0
West Facing Efficiency Compliance Total	6.13	68.72	4.6	65.53	1.47	3.19

Registration Number: 223-P10031588H-000-000-000000-0000
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ENERGY USE INTENSITY				
	Standard Design (kBtu/ft ² -yr)	Proposed Design (kBtu/ft ² -yr)	Compliance Margin (kBtu/ft ² -yr)	Margin Percentage
North Facing				
Gross EUI ¹	21.38	19.05	2.33	10.9
Net EUI ²	9.68	5.05	4.59	47.61
East Facing				
Gross EUI ¹	21.38	19.31	2.07	9.68
Net EUI ²	9.68	5.31	4.33	44.92
South Facing				
Gross EUI ¹	21.38	19.19	2.19	10.24
Net EUI ²	9.68	5.2	4.48	46.06
West Facing				
Gross EUI ¹	21.38	19.31	2.07	9.68
Net EUI ²	9.68	5.31	4.33	44.92

Notes:
 1. Gross EUI is Energy Use Total (including PV) / Total Building Area.
 2. Net EUI is Energy Use Total (including PV) / Total Building Area.

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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	CFR	Altitude (deg)	Tilt Input	Array Angle (deg)	Tilt (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
2.5	NA	Standard (14-17%)	Fixed	none	false	180	Degrees	22	4.85	96	100

REQUIRED SPECIAL FEATURES
 The following are features that must be installed as condition for meeting the modeled energy performance or this computer analysis.
 • Insulation below roof deck
 • Northwest Energy Efficiency Alliance (NEEA) rated heat pump water heater, specific brand/model, or equivalent, must be installed

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

- Quality Insulation Installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Minimum airflow
- Verified EER/SEER2
- Verified SEER/SEER2
- Fan/Coils/Water/CFM
- Verified HSPF
- Verified heat pump rated heating capacity
- Duct leakage testing

BUILDING FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft ²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
El Dorado County Permit-Ready Accessory Dwelling Unit	996	1	2	1	0	1

Registration Number: 223-P10031588H-000-000-000000-0000
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 Report Version: 2022.0.000
 Schema Version: rv 20220901

El Dorado County Permit-Ready Accessory Dwelling Unit

TITLE 24 CLIMATE ZONE 12

PROJECT: NTS
SCALE: DRAWN BY: REX
DATE: 11/10/2023
SHEET NUMBER: T2.0



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
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 Calculation Date/Time: 2023-08-09T18:03:22-07:00
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01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Status
Undefined Zone	Conditioned	CU-11	996	8.75	DHW Sys 1	Now

01	02	03	04	05	06	07	08
Name	Zone	Construction	Asimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft ²)	Tilt (deg)
Exterior Wall E	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	90	left	140	25	90
Exterior Wall S	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	180	back	140	12	90
Exterior Wall E 2	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	90	left	150	25	90
Exterior Wall N	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	0	front	198	35	90
Exterior Wall S 2	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	180	back	116	25	90
Exterior Wall S 3	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	180	back	68	125	90
Exterior Wall S 4	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	180	back	210	25	90
Exterior Wall W	Undefined Zone	Wall F-21 + R-18 (3 Rgi)	270	right	230	13	90
Interior Surface	Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 2	Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 3	Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 4	Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 5	Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 6	Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 7	Undefined Zone	R-0	n/a	n/a	100	0	n/a

Registration Number: 2023-P10031865H-000-000-000000-6000
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 Report Version: 2022.0.000
 Schema Version: rv 20220901
 HERS Provider: CalCERTS Inc.
 Report Generated: 2023-08-09 18:04:15

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01	02	03	04	05	06	07	08
Name	Zone	Construction	Asimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft ²)	Tilt (deg)
Interior Surface 8	Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 9	Undefined Zone	R-0	n/a	n/a	100	0	n/a
Interior Surface 10	Undefined Zone	R-0	n/a	n/a	37	0	n/a
Interior Surface 11	Undefined Zone	R-0	n/a	n/a	138	0	n/a
Roof	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	174	n/a	n/a
Roof 2	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	356	n/a	n/a
Roof 3	Undefined Zone	ROOF attic R-38 Ceiling +	n/a	n/a	162	n/a	n/a
Roof 4	Undefined Zone	ROOF attic R-38 Ceiling +	n/a	n/a	94	n/a	n/a
Roof 5	Undefined Zone	ROOF attic R-38 Ceiling +	n/a	n/a	210	n/a	n/a
Interior Surface - Floor 2	Undefined Zone	Floor R19	n/a	n/a	174	n/a	n/a
Interior Surface - Floor 3	Undefined Zone	Floor R19	n/a	n/a	356	n/a	n/a
Interior Surface - Floor 4	Undefined Zone	Floor R19	n/a	n/a	162	n/a	n/a
Interior Surface - Floor 5	Undefined Zone	Floor R19	n/a	n/a	94	n/a	n/a
Interior Surface - Floor 6	Undefined Zone	Floor R19	n/a	n/a	210	n/a	n/a

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 Unfinished Zone	Attic Roof/Undefined Zone	Ventilated	0	0.1	0.85	Yes	No

Registration Number: 2023-P10031865H-000-000-000000-6000
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01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Asimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window	Window	Exterior Wall E	Left	90			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 2	Window	Exterior Wall E	Back	180			1	12	0.3	NFRC	0.24	NFRC	Bug Screen
Window 3	Window	Exterior Wall E 2	Left	90			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 4	Window	Exterior Wall N	Front	0			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 5	Window	Exterior Wall S 2	Back	180			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 6	Window	Exterior Wall S 3	Back	180			1	125	0.3	NFRC	0.24	NFRC	Bug Screen
Window 7	Window	Exterior Wall S 4	Back	180			1	25	0.3	NFRC	0.24	NFRC	Bug Screen
Window 8	Window	Exterior Wall W	Right	270			1	13	0.3	NFRC	0.24	NFRC	Bug Screen

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
Wall R-21 + R-18 (3 Rgi)	Exterior Walls	Wood-framed Wall	2x6 @ 16 in. O.C.	R-21	None / 18	0.028	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-18 Sheathing Exterior Finish: All Other Siding

Registration Number: 2023-P10031865H-000-000-000000-6000
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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-0	Interior Walls	Wood framed Wall	2x4 @ 16 in. O.C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roof/Undefined Zone	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O.C.	R-11	None / 0	0.088	boiling: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-11 / 2x4
R-38 Roof Attic - Kitchen	Ceilings (below attic)	Wood Framed Ceiling	2x12 @ 16 in. O.C.	R-38	None / None	0.027	Over Ceiling Joists: R-8.8 insul. Cavity / Frame: R-29.3 / 2x12 Inside Finish: Gypsum Board
ROOF Attic R-38 Ceiling +	Ceilings (below attic)	Wood Framed Ceiling	2x12 @ 16 in. O.C.	R-38	None / None	0.027	Over Ceiling Joists: R-8.8 insul. Cavity / Frame: R-29.3 / 2x12 Inside Finish: Gypsum Board
Floor R19	Interior Floors	Wood framed Floor	2x6 @ 24 in. O.C.	R-19	None / None	0.048	Floor Surface: Carpeted Floor Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-19 in 9-1/2 in. (R-18) / 2x6 Siding Below Finish: Gypsum Board

01	02	03	04	05
Quality Insulation Installation (QI)	High R-value SprayFoam Insulation	Building Envelope Air Leakage	CFM50	CFM50
Required	Not Required	N/A	n/a	n/a

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 HERS Provider: CalCERTS Inc.
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01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HERS Verification	Water Heater Name (ft)
DHW Sys 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW Heater 1	1	40	Rheem	RheemRCPH4072R H7550	Outside	Undefined Zone	Undefined Zone

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sys 1 - 1/2	Not Required	Not Required	Not Required	None	Not Required	Not Required

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
CU11	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Air Distribution System 1	Setback

Registration Number: 2023-P10031865H-000-000-000000-6000
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01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Efficiency Type	HEAT / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Central split HP	1	HSPF	11.5	24700	14000	ERSEER	18.8	12.5	Not Zonal	Single Speed	Heat Pump System 1-Hers-HPump

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/SEER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-Hers-HPump	Required	350	Required	Required	No	Yes	Yes	Yes

01	02	03	04	05	06	07	08	09	10	11	12	
Name	Type	Design Type	Duct Ins. R-value	Duct Location	Supply	Return	Surface Area	Supply	Return	Bypass Duct	Duct Leakage	HERS Verification
Air Distribution System 1	Unconditioned attic	Non-Verified	R-6	R-6	Attic	Attic	n/a	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-Hers-Attic

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El Dorado County
 Permit-Ready
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TITLE
 TITLE 24
 CLIMATE ZONE 12

PROJECT
 SCALE
 DRAWN BY
 DATE
 NTS
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HVAC DISTRIBUTION - HERS VERIFICATION								
01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
Air Distribution System 1-hers-dist	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

HVAC - FAN SYSTEMS			
01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	HVAC Fan 1-hers-fan

HVAC FAN SYSTEMS - HERS VERIFICATION			
01	02	03	
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)	
HVAC Fan 1-hers-fan	Required	0.58	

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 Recover Effectiveness - IRE	Includes Fault Indicator Display?	HERS Verification	Status
SFan IAQVentRpt	51	0.35	Exhaust	No	n/a	No	Yes	

Registration Number: 223-P0100318894-000-00-0000000-0000 Registration Date/Time: 2023-08-09 19:50:49 HERS Provider: CalCERTS Inc.
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Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E
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DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
 I, I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Shawn Shahfar Documentation Author Signature: *Shawn Shahfar*
 Company: REX Engineering Group Signature Date: 2023-08-09 18:06:32
 Address: 1000 Corporate Center Dr. CEA/HERS Certification Identification (if applicable):
 Monterey Park, CA 91754 Phone: 323-262-9199

RESPONSIBLE PERSON'S DECLARATION STATEMENT
 I certify the following under penalty of perjury, under the laws of the State of California:
 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
 3. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Rachel Allen Responsible Designer Signature: *Rachel Allen*
 Company: RADAR, Inc. Date Signed: 2023-08-09 19:50:49
 Address: 422 Gin Ling Way License: C28585
 City/State/Zip: Los Angeles, CA 90012 Phone: 213-617-0075 103

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

Registration Number: 223-P0100318894-000-00-0000000-0000 Registration Date/Time: 2023-08-09 19:50:49 HERS Provider: CalCERTS Inc.
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Waiver of Liability:
 The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

TITLE
 TITLE 24
 CLIMATE ZONE 12

PROJECT
 SCALE
 DRAWN BY: NTS
 DATE: REX
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E
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 Calculation Date/Time: 2023-08-09T18:00:20-07:00
 Calculation Description: Title 24 Analysis
 Input File Name: El Dorado County - Climate Zone 16 - Final - 08.09.2023 .rbd22x

GENERAL INFORMATION	
01	Project Name: El Dorado County Permit Ready Accessory Dwelling Unit
02	Run Title: Title 24 Analysis
03	Project Location:
04	City:
05	Standards Version: 2022
06	Zip code:
07	Software Version: EnergyPro 9.1
08	Climate Zone: 16
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): 996
19	Glazing Percentage (%): 15.40%
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

Registration Number: 223-P01004189F-000-000-000000-0000
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HERS Provider: CalCERTS, Inc.
 Report Generated: 2023-08-09 18:01:10

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ENERGY DESIGN RATINGS	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2/FlowWt)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2/FlowWt)	Total ² EDR (EDR2total)
Standard Design	-2.1	59.1	-1.6			
Proposed Design						
North Facing	11.9	49.5	11.7	10.2	9.6	9.9
East Facing	12.8	52	33	9.3	7.1	8.6
South Facing	14.1	56.2	35	8	2.9	6.6
West Facing	14.3	57.8	5.7	7.8	1.3	5.9

RESULTS: 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: 2.08 kWdc

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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	5.45	24.46	2.5	29.76	2.6	-5.3
Space Cooling	0.75	9.76	0.2	10.06	0.13	-0.3
IAQ Ventilation	0.4	4.36	0.1	4.36	0	0
Water Heating	3.14	41.61	1.0	23.02	1.27	18.59
Self Utilization/Feasibility credit				0		0
North Facing Efficiency Compliance Total	9.74	80.19	5.74	67.2	4	12.99
Space Heating	5.45	24.46	2.9	31.06	2.46	-6.6
Space Cooling	0.75	9.76	0.2	12.05	-0.16	-2.29
IAQ Ventilation	0.4	4.36	0.1	4.36	0	0
Water Heating	3.14	41.61	1.0	23.04	1.27	18.57
Self Utilization/Feasibility credit				0		0
East Facing Efficiency Compliance Total	9.74	80.19	6.7	70.51	3.57	9.68

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Waiver of Liability:
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NOT FOR CONSTRUCTION

PERMIT SET

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E
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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	5.45	24.46	3.7	40.2	1.68	-15.74
Space Cooling	0.75	9.76	0.7	8.5	0.05	1.26
IAQ Ventilation	0.4	4.36	0.1	4.36	0	0
Water Heating	3.14	41.61	1.8	23.19	1.25	18.42
Self Utilization/Feasibility credit				0		0
South Facing Efficiency Compliance Total	9.74	80.19	6.3	76.25	2.99	3.94
Space Heating	5.45	24.46	3.05	40.81	1.6	-16.35
Space Cooling	0.75	9.76	0.09	10.07	0.06	-0.31
IAQ Ventilation	0.4	4.36	0.1	4.36	0	0
Water Heating	3.14	41.61	1.8	23.15	1.25	18.46
Self Utilization/Feasibility credit				0		0
West Facing Efficiency Compliance Total	9.74	80.19	6.02	78.39	2.92	1.8

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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 ¹	25.05	21.08	4.77	18.45
Net EUI ²	14.18	6.58	7.7	53.92
East Facing				
Gross EUI ¹	25.05	21.43	4.42	17.1
Net EUI ²	14.18	6.93	7.35	51.47
South Facing				
Gross EUI ¹	25.05	21.74	4.31	15.9
Net EUI ²	14.18	7.23	7.05	49.37
West Facing				
Gross EUI ¹	25.05	21.93	3.92	15.16
Net EUI ²	14.18	7.43	6.85	47.97

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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REQUIRE 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 (%)
2.5	NA	Standard (14-1%)	Fixed	none	false	180	Degrees	22	4.85	96	100

REQUIRE SPECIAL FEATURES
 The following are features that must be installed at condition for meeting the modeled energy performance or this computer analysis.
 • Insulation below roof deck
 • Northwest Energy Efficiency Alliance (NEEA) rated hot pump water heater; specific brand/model, or equivalent, must be installed

HERS FEATURE SUMMARY
 The following is a summary of the features that must be field-verified by a certified HERS Rater as a condition for meeting the modeled energy performance for this computer analysis. Additional detail is provided in the building tables below. Registered CDRs and CDRs are required to be completed in the HERS Registry.
 • Quality insulation installation (QII)
 • Indoor air quality ventilation
 • Kitchen range hood
 • Minimum Airflow
 • Verified EER/EER2
 • Verified SEER/SEER2
 • FanEfficiency Motors/CFM
 • Verified HSPF
 • Verified heat pump rated heating capacity
 • Duct leakage testing

BUILDINGS - FEATURES INFORMATION						
01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
El Dorado County Permit Ready Accessory Dwelling Unit	996	1	2	1	0	1

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El Dorado County Permit-Ready Accessory Dwelling Unit

TITLE
**TITLE 24
 CLIMATE ZONE 16**

PROJECT
 SCALE
 DRAWN BY
 DATE
 11/10/2023

SHEET NUMBER
T3.0



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
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01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
Undefined Zone	Conditioned	CU-11	996	8.75	DHW Sp 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Asimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
Exterior Wall E	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	90	left	140	25	90
Exterior Wall S	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	180	back	140	12	90
Exterior Wall E 2	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	90	left	150	25	90
Exterior Wall N	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	0	front	198	25	90
Exterior Wall S 2	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	180	back	116	25	90
Exterior Wall S 3	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	180	back	88	125	90
Exterior Wall S 4	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	180	back	210	25	90
Exterior Wall W	Undefined Zone	Wall R-21 + R-6 (1 Rigid)	270	right	230	13	90
Interior Surface	Undefined Zone	n/a	n/a	n/a	1	0	n/a
Interior Surface 2	Undefined Zone	R-0	n/a	n/a	1	0	n/a
Interior Surface 3	Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 4	Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 5	Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 6	Undefined Zone	R-0	n/a	n/a	116	0	n/a
Interior Surface 7	Undefined Zone	R-0	n/a	n/a	100	0	n/a

Registration Number: 223-PS10084189F-000-000-000000-0000
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 HERS Provider: CUCERTS INC.
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
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01	02	03	04	05	06	07	08
Name	Zone	Construction	Asimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)
Interior Surface 8	Undefined Zone	R-0	n/a	n/a	68	0	n/a
Interior Surface 9	Undefined Zone	R-0	n/a	n/a	100	0	n/a
Interior Surface 10	Undefined Zone	R-0	n/a	n/a	37	0	n/a
Interior Surface 11	Undefined Zone	R-0	n/a	n/a	138	0	n/a
Roof	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	174	n/a	n/a
Roof 2	Undefined Zone	R-38 Roof Attic - Kitchen	n/a	n/a	356	n/a	n/a
Roof 3	Undefined Zone	ROOF attic R-38 Ceiling +	n/a	n/a	162	n/a	n/a
Roof 4	Undefined Zone	ROOF attic R-38 Ceiling +	n/a	n/a	94	n/a	n/a
Roof 5	Undefined Zone	ROOF attic R-38 Ceiling +	n/a	n/a	210	n/a	n/a
Interior Surface - Floor 1	Undefined Zone	Floor R19	n/a	n/a	174	n/a	n/a
Interior Surface - Floor 2	Undefined Zone	Floor R19	n/a	n/a	356	n/a	n/a
Interior Surface - Floor 3	Undefined Zone	Floor R19	n/a	n/a	162	n/a	n/a
Interior Surface - Floor 4	Undefined Zone	Floor R19	n/a	n/a	94	n/a	n/a
Interior Surface - Floor 5	Undefined Zone	Floor R19	n/a	n/a	210	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic Undefined Zone	Attic Roof/Undefined Zone	Ventilated	0	0.1	0.85	No	No

Registration Number: 223-PS10084189F-000-000-000000-0000
 CA Building Energy Efficiency Standards - 2022 Residential Compliance
 Registration Date/Time: 2023-08-09 19:50:16
 Report Version: 2022.0.000
 Schema Version: rv 20220901
 HERS Provider: CUCERTS INC.
 Report Generated: 2023-08-09 18:01:10

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
 Project Name: El Dorado County Permit-Ready Accessory Dwelling Unit
 Calculation Date/Time: 2023-08-09T18:00:20-07:00
 Calculation Description: Title 24 Analysis
 Input File Name: El Dorado County - Climate Zone 16 - Final - 08.09.2023 .rbd22x

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01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Asimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window	Window	Exterior Wall E	Left	90			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 2	Window	Exterior Wall S	Back	180			1	12	0.3	NFRC	0.65	NFRC	Bug Screen
Window 3	Window	Exterior Wall E 2	Left	90			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 4	Window	Exterior Wall N	Front	0			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 5	Window	Exterior Wall S 2	Back	180			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 6	Window	Exterior Wall S 3	Back	180			1	335	0.3	NFRC	0.65	NFRC	Bug Screen
Window 7	Window	Exterior Wall S 4	Back	180			1	25	0.3	NFRC	0.65	NFRC	Bug Screen
Window 8	Window	Exterior Wall W	Right	270			1	13	0.3	NFRC	0.65	NFRC	Bug Screen

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
Wall R-21 + R-6 (1 Rigid)	Exterior Walls	Wood/rammed Wall	2x6 @ 16 in. O. C.	R-21	None / 6	0.045	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-6 Sheathing Exterior Finish: All Other Siding

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NOT FOR CONSTRUCTION

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PERMIT SET

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
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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-0	Interior Walls	WoodFramed Wall	2x4 @ 16 in. O. C.	R-0	None / None	0.277	Inside Finish: Gypsum Board Cavity / Frame: no insul. / 2x4 Other Side Finish: Gypsum Board
Attic Roof/Undefined Zone	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-9	None / 0	0.105	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-9 / 2x4
R-38 Roof Attic - Kitchen	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 16 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
ROOF Attic R-38 Ceiling +	Ceilings (below attic)	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-38	None / None	0.027	Over Ceiling Joists: R-8.8 Insul. Cavity / Frame: R-29.3 / 2x12 Inside Finish: Gypsum Board
Floor R19	Interior Floors	Wood Framed Floor	2x6 @ 24 in. O. C.	R-19	None / None	0.048	Floor Surface: Carpeted Floor Deck: Wood Siding/Sheathing/Decking Cavity / Frame: R-19 in 5-1/2 in. (R-18) / 2x6 Siding Below Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

01	02	03	04	05
Quality Insulation Installation (QI)	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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WATER HEATING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Distribution Type	Water Heater Name	Number of Units	Solar Heating System	Compact Distribution	HRS Verification	Water Heater Name (B)
DHW Sp 1	Domestic Hot Water (DHW)	Standard	DHW Heater 1	1	n/a	None	n/a	DHW Heater 1 (1)

WATER HEATERS - NEEA HEAT PUMP

01	02	03	04	05	06	07	08
Name	# of Units	Tank Vol. (gal)	NEEA Heat Pump Brand	NEEA Heat Pump Model	Tank Location	Duct Inlet Air Source	Duct Outlet Air Source
DHW heater 1	1	40	Rheem	RheemRCPHQT2R K7550	Outside	Undefined Zone	Undefined Zone

WATER HEATING - HERS VERIFICATION

01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Compact Distribution Type	Recirculation Control	Shower Drain Water Heat Recovery
DHW Sp 1 - 1/2	Not Required	Not Required	Not Required	None	Not Required	Not Required

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
CU11	Heat pump heating/cooling	Heat Pump System 1	1	Heat Pump System 1	1	HVAC Fan 1	Ar Distribution System 1	Setback

Registration Number: 223-PS10084189F-000-000-000000-0000
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HVAC - HWT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Yr	SEER / SEER2	EER / EER2	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	Central split HP	1	HSPF	11.5	24700	14000	ERSEER	18.8	12.5	Not Zonal	Single Speed	Heat Pump System 1-hers-dict

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/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-dict	Required	350	Required	Required	No	Yes	Yes	Yes

HVAC - DISTRIBUTION SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
Name	Type	Design Type	Duct Ins. R-value Supply	Duct Ins. R-value Return	Duct Location	Surface Area	Bypass Duct	Joint Leakage	HERS Verification		
Air Distribution System 1	Unconditioned attic	Non-Verified	R-6	R-6	Attic	n/a	n/a	No Bypass Duct	Sealed and Tested	Air Distribution System 1-hers-dict	

Registration Number: 223-PS10084189F-000-000-000000-0000
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El Dorado County Permit-Ready Accessory Dwelling Unit

TITLE 24 CLIMATE ZONE 16

PROJECT SCALE DRAWN BY DATE 11/10/2023 SHEET NUMBER T3.1



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD CF1R-PRF-01E
 Project Name: El Dorado County Permit-ready Accessory Dwelling Unit Calculation Date/Time: 2023-08-09T18:00:20-07:00 (Page 13 of 14)
 Calculation Description: Title 24 Analysis Input File Name: El Dorado County - Climate Zone 16 - Final - 08.09.2023 .rbd22x

01	02	03	04	05	06	07	08	09
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	Buried Ducts	Deeply Buried Ducts	Low-leakage Air Handler	Low Leakage Ducts Entirely in Conditioned Space
AI Distribution System 1-hers-dist	Yes	5.0	Not Required	Not Required	Not Required	Credit not taken	Not Required	No

01	02	03	04
Name	Type	Fan Power (Watts/CFM)	Name
HVAC Fan 1	HVAC Fan	0.58	HVAC Fan 1-hers-fan

01	02	03
Name	Verified Fan Watt Draw	Required Fan Efficacy (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58

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	Includes Fault Indicator Display?	HERS Verification	Status
SFan IAQVentSpot	51	0.35	Exhaust	No	n/a	No	Yes	

Registration Number: 223-P010084189F-000-000-000000-0000 Registration Date/Time: 2023-08-09 19:50:16 HERS Provider: CalCERTS Inc.
 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2023-08-09 18:01:10
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 Project Name: El Dorado County Permit-ready Accessory Dwelling Unit Calculation Date/Time: 2023-08-09T18:00:20-07:00 (Page 14 of 14)
 Calculation Description: Title 24 Analysis Input File Name: El Dorado County - Climate Zone 16 - Final - 08.09.2023 .rbd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I, I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Shawn Shahfar Documentation Author Signature: *Shawn Shahfar*

Company: REX Engineering Group Signature Date: 2023-08-09 18:07:19

Address: 1000 Corporate Center Dr. CAJ/HERS Certification Identification (if applicable):

City/State/Zip: Monterey Park, CA 91754 Phone: 323-262-9199

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

- I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance.
- I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
- The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.

Responsible Designer Name: Rachel Allen Responsible Designer Signature: *Rachel Allen*

Company: RAQAR, Inc. Date Signed: 2023-08-09 19:50:16

Address: 421 Gin Ling Way License: C28585

City/State/Zip: Los Angeles, CA 90012 Phone: 213-617-0075 103

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

Registration Number: 223-P010084189F-000-000-000000-0000 Registration Date/Time: 2023-08-09 19:50:16 HERS Provider: CalCERTS Inc.
 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2023-08-09 18:01:10
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NOT FOR CONSTRUCTION

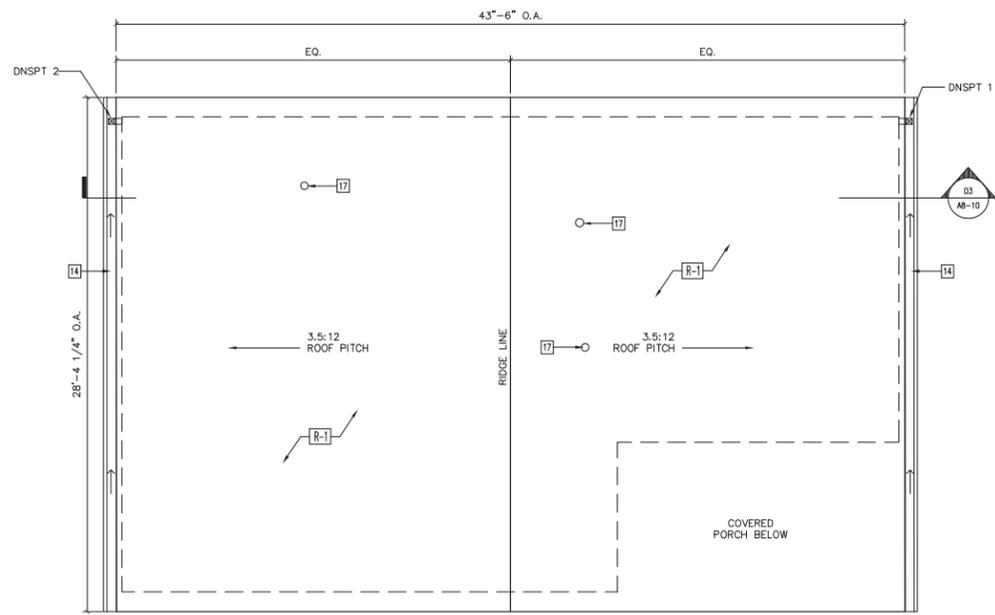
Waiver of Liability:
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PERMIT SET

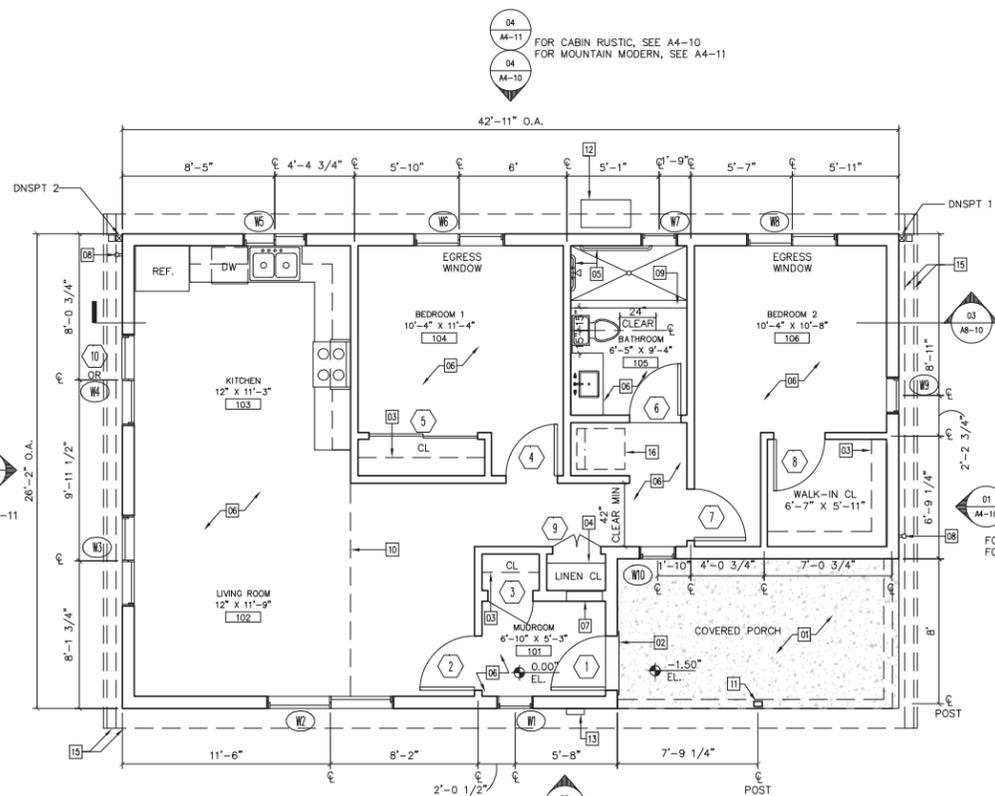
El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
TITLE 24
CLIMATE ZONE 16

PROJECT
SCALE
DRAWN BY: REX
DATE: 11/10/2023
SHEET NUMBER
T3.2



ROOF PLAN
SCALE: 1/4" = 1'-0" 02



FLOOR PLAN
SCALE: 1/4" = 1'-0" 01

- GENERAL NOTES:**
- SEE A3-10 FOR SUGGESTED CA GREEN CODE-COMPLIANT APPLIANCE AND PLUMBING FIXTURE SCHEDULES.
 - SEE A4-10/A4-11 FOR FINISH SCHEDULE.
 - SEE A8-10 FOR DOOR/WINDOW SCHEDULE.
 - R-21 INSULATION TO BE INSTALLED WITHIN ALL EXTERIOR WALLS.
 - R-38 INSULATION TO BE INSTALLED BETWEEN RAFTERS A CATHEDRAL CEILING.
 - R-38 INSULATION TO BE INSTALLED IN ATTIC ON CEILING SURFACE.
 - R-19 INSULATION TO BE INSTALLED BETWEEN RAFTERS BELOW ROOF DECK AT ATTIC.
 - R-19 INSULATION TO BE INSTALLED WITHIN THE RAISED FLOOR.
 - IF REQUIRED BY BUILDING OFFICIAL, 1-HR FIRE RATED WALL CONSTRUCTION, SEE 04/A9-12.
 - ONE PARKING SPACE PER SITE, PROVIDE EV CHARGING STATION.

- KEYNOTES:**
- 01 CONCRETE PORCH, FINISH TBD BY OWNER
 - 02 1-1/2" MAX. HEIGHT TO TOP OF DOOR THRESHOLD
 - 03 HANGING ROD + SHELF ABOVE
 - 04 SHELVING TBD BY OWNER
 - 05 ACCESSIBLE SHOWER GRAB BARS, AS NEEDED, SEE DETAIL 01/A9-12 FOR BLOCKING
 - 06 INTERIOR FLOOR FINISH TBD BY OWNER
 - 07 ELECTRICAL PANEL, SEE ELECTRICAL SHEETS
 - 08 EXTERIOR HOSE BIB, SEE PLUMBING SHEETS
 - 09 SHOWER CURB
 - 10 LINE OF EDGE OF CEILING SOFFIT ABOVE
 - 11 WOOD POST
 - 12 CONDENSER UNIT, LOCATION BY SITE AND CONFIRMED BY BUILDING OFFICIAL, SEE M3.01
 - 13 WALL-MOUNTED EV CHARGING STATION, SEE E3.01
 - 14 CONTINUOUS BOX GUTTER
 - 15 LINE OF ROOF & GUTTERS ABOVE
 - 16 STACKED WASHER & DRYER
 - 17 VENT, SEE PLUMBING SET

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NOT FOR CONSTRUCTION

MINIMUM DOWNSPOUT & GUTTER SIZES (O.A. OUTSIDE DIM.)

GUTTER	MIN. WIDTH	4 IN.
	MIN. DEPTH	3 IN.
DOWNSPOUT	IF ROUND, MIN SIZE	3 IN.
	IF RECTANGULAR, MIN SIZE	1.75 X 2.25 IN.

ROOFING MATERIAL
 [R-1] CLASS A ROOFING
 CABIN RUSTIC: SEE A4-10
 MOUNTAIN MODERN: SEE A4-11

- SYMBOL LEGEND**
- [1] KEYNOTE
 - [3] SMOKE DETECTOR
 - [4] CARBON-MONOXIDE DETECTOR
 - [2] EXHAUST FAN
 - [C] CEILING MTD. LIGHT FIXTURE
 - [W] WALL MTD. LIGHT FIXTURE
 - [A] WINDOW
 - [D] DOOR
 - [HB] HOSE BIB
 - [R-1] FINISH
 - LEVEL
 - EL ELEVATION/HEIGHT

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
FLOOR PLAN &
ROOF PLAN

PROJECT
SCALE
1/4"=1'-0"
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A2-10



SUGGESTED APPLIANCE & PLUMBING SCHEDULE FOR CALGREEN CODE COMPLIANCE					
LOCATION	ITEM	SUGGESTED MANUFACTURER	SUGGESTED MODEL #	FINISH	QTY. NOTES
KITCHEN	Refrigerator/Freezer	GE	G1E19J5NR55	TBD	1 ENERGY STAR® 19.2 Cu. Ft. Top-Freezer Refrigerator; Volts/Hz/Amps 120V; 60Hz; 15A
	Sink	American Standard	180B633211.075	TBD	1 ADA Compliant, as user-necessary
	Faucet	American Standard	7074300.002	TBD	1 1.8 Gallons/Min. at 60 psi. max. flow rate
	Air Gap Dishwasher Kit	Jones Stephens Corp.	A10-150	TBD	1 Included: Dishwasher elbow & vacuum breaker.
	Disposal	GE	GF8760N	TBD	1 3/4 HP Batch Feed Garbage Disposer Non-Corded; Power Connection Direct Wire Volts/Hz/Amps 120 V; 60 Hz; 6.0 A
	Dishwasher	GE	GD1630PYRFS	TBD	1 Air vent required. Top Control; Calrod Heater Watts 800500; Electrical Requirements 120V; 60Hz; 7.1A
	Range	GE	JB258RTSS	TBD	1 30" Free-Standing Coil Cooktop; Amp Rating at 208V40 Amp Rating at 240V40 Bake Wattage 3410W Broiler Wattage 3800W KW Rating at 208V 9.1 KW Rating at 240V 12.1
BATH	Hood	GE	JVX5305JSS	TBD	1 30" ENERGY STAR Certified Under the Cabinet Hood; Two-speed, 270-CFM venting system; Amp Rating at 120V 1.0; Exhaust Option: Recirculating or Vented to Outside
	Toilet	American Standard	2961A1045C.020	TBD	1 1.28 Gallons/Flush max. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specifications for Tank-type Toilets.
	Sink	American Standard	330000.02	TBD	1 Under Counter Sink
	Faucet	American Standard	2064101.030	TBD	1 1.2 Gallons/Min at 60 psi max./0.8 gallons/min at 20 psi min.
LAUNDRY	Shower & Trim	American Standard	TU064507.002	TBD	1 1.8 Gallons/Min. at 80 psi. max. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.
	Mirror Cabinet	TBD	TBD	TBD	1 TBD by owner.
LAUNDRY	Utilized Washer/Dryer	GE	GU027EESNWW	TBD	1 ENERGY STAR® 3.9 cu. ft. Capacity; Circuit Breaker or Time Delay Fuse 30 Amp; Volts/Hz 120/240V or 120/208V; 60Hz

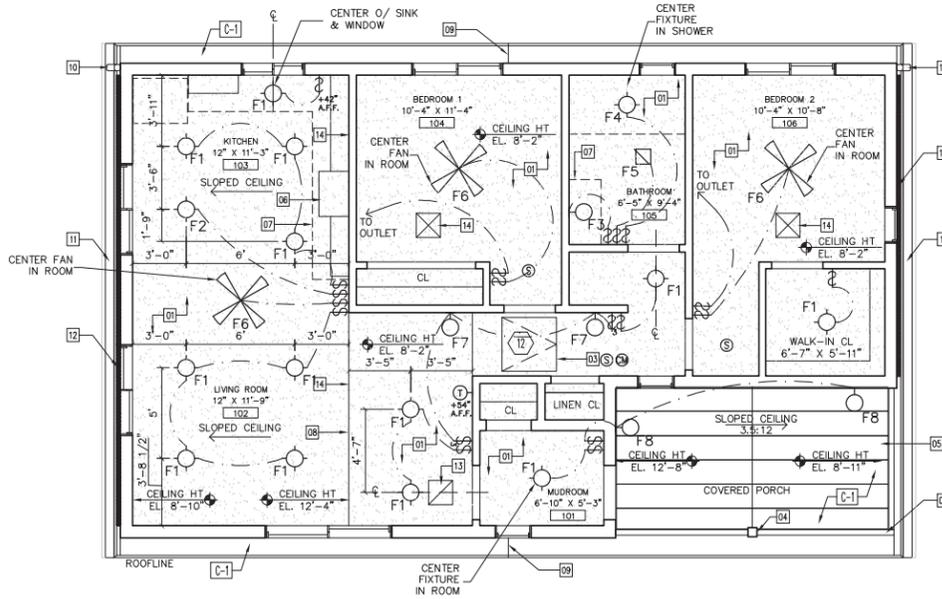
**Based on 2022 California Green Building Code

NOT FOR CONSTRUCTION

- GENERAL NOTES:
- SEE A2-10 FOR MINIMUM DOWNSPOUT AND GUTTER SIZES
 - SEE A3-10 FOR PLUMBING FIXTURE MAX WATER USE
 - SEE A4-10/A4-11 FOR EXTERIOR FINISH SCHEDULE
 - ALL OUTDOOR LIGHTING SHALL USE FULL CUTOFF FIXTURES THAT ARE DESIGNED AND CONSTRUCTED SO THAT NO LIGHT IS EMITTED FROM THE TOP OR SIDES OF THE FIXTURE. LIGHTING MUST BE PLACED AT A LOCATION, ANGLE OR HEIGHT TO PREVENT DIRECT ILLUMINATION OUTSIDE THE PROPERTY BOUNDARIES WHERE THE LIGHT FIXTURES ARE LOCATED

- KEYNOTES:
- PAINTED GYP. BD. FINISH (INTERIOR)
 - EXPOSED WOOD BEAMS, FINISH TBD BY OWNER.
 - ACCESS HATCH TO NON-HABITABLE ATTIC FOR EQUIPMENT
 - WOOD POST, SEE STRUCTURAL
 - FIBER CEMENT ROOF PANEL @ PORCH
 - VENT HOOD, BY OWNER
 - LINE OF COUNTER BELOW
 - LINE OF SOFFIT
 - RIDGELINE ABOVE
 - DOWNSPOUTS
 - CONTINUOUS BOX GUTTER
 - CONTINUOUS SOFFIT VENT, SEE VENT SCHEDULE ON A8-10
 - RETURN AIR, SEE MECHANICAL M3-01
 - SUPPLY AIR, SEE MECHANICAL M3-01

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REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0" 01

SEE LIGHTING INFORMATION AND SUGGESTED LIGHTING SCHEDULE ON SHEET E2-01;
SEE OUTLET LOCATIONS ON SHEET E3-01

- SYMBOL LEGEND
- ⊙ SMOKE DETECTOR
 - ⊕ CARBON-MONOXIDE DETECTOR
 - ⊠ EXHAUST FAN
 - ⊙ CEILING MTD. LIGHT FIXTURE
 - ⊙ WALL MTD. LIGHT FIXTURE
 - ⊕ THERMOSTAT
 - ⊠ FINISH
 - ⊠ CEILING FAN & LIGHT FIXTURE
 - ⊠ SWITCH, 48" A.F.F. U.N.O
 - ⊠ 3-WAY SWITCH
 - ⊠ SUPPLY GRILLE
 - ⊠ RETURN GRILLE

PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
RCP/LIGHTING;
APPLIANCE
& PLUMBING
SCHEDULE

PROJECT
SCALE
1/4"=1'-0"
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A3-10

EXTERIOR FINISH SCHEDULE - CABIN RUSTIC

SURFACE	TAG	DESCRIPTION	MANUFACTURER	STYLE / COLOR / ITEM #	NOTES
ROOF	R-1	Asphalt Shingle	GAF or similar	TBD by owner	GAF Timberline HD Reflector Series or similar; Meet cool roof requirements, rated by the cool roof rating council; UL 790 Class A fire resistance rating; Steep slope roof in climate zone 12: Minimum aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75 or a minimum SRI of 0.75
EXT. WALL	W-1	Fiber Cement Siding	James Hardie Products or similar	TBD by owner	Hardie Plank Lap Siding Smooth, Primed for Paint, 8.25" Width, 7" Exposure; Non-Combustible Rating (CalFire Listing No 8160-2026-0005)
	W-2	Fiber Cement Trim - Wide		TBD by owner	
	W-3	Fiber Cement Trim - Thin		TBD by owner	
PORCH CEILING AND UNDER EAVE	C-1	Fiber Cement Panel - Smooth - Thin		TBD by owner	Hardie Soffit Panels Non-Vented Smooth, Thickness 0.25", Primed for Paint, 144" Length, 14" Width; Non-Combustible Rating (CalFire Listing No 8160-2026-0007)
EXPOSED CONCRETE FOUNDATION	F-1	TBD	TBD	TBD by owner	

GENERAL NOTES:

- SEE A2-10 FOR MINIMUM DOWNSPOUT AND GUTTER SIZES
- SEE E2-01 FOR LIGHTING SCHEDULE AND FIXTURE REQ'S
- SEE A8-10 FOR DOOR/WINDOW SCHEDULE
- SEE A8-10 FOR VENT SCHEDULE
- SEE A9-10 AND A9-11 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 16
- SEE A9-12 AND A9-13 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 12

KEYNOTES:

- 01 DOWNSPOUT
- 02 ATTIC VENT, SEE VENT SCHEDULE 02/A8-10
- 03 4x6 WOOD POST, SEE STRUCTURAL
- 04 CONCRETE PORCH, FINISH TBD BY OWNER
- 05 EXPOSED BEAM
- 06 EXTERIOR HOSE BIB, SEE PLUMBING SHEETS
- 07 CONTINUOUS BOX GUTTER
- 08 OPPORTUNITY FOR FRENCH DOOR: WINDOW B CAN BE REPLACED WITH DOOR 10, SEE DOOR WINDOW SCHEDULE ON SHEET A1-11; 36" DEEP FLAT LEVEL LANDING OUTSIDE DOOR
- 09 24"-30" FROM FINISH FLOOR TO GRADE, PER FIELD CONDITIONS
- 10 RISERS BY OWNER AS NEEDED TO REACH PORCH LEVEL.
RISER: 4" MIN. - 7 3/4" MAX.
LANDING: 36" CLR. MIN. IN DIRECTION OF TRAVEL
- 11 FOUNDATION VENT, SEE VENT SCHEDULE 02/A8-10
- 12 WALL-MOUNTED EV CHARGING STATION, SEE E3-01; LOCATION MAY CHANGE BY SITE AND PARKING SPACE
- 13 CONDENSER UNIT, LOCATION BY SITE AND CONFIRMED BY BUILDING OFFICIAL, SEE M3-01
- 14 EXTERIOR FIXTURES MUST BE FULL CUT-OFF, SEE E2-01 & LIGHTING SCHEDULE.



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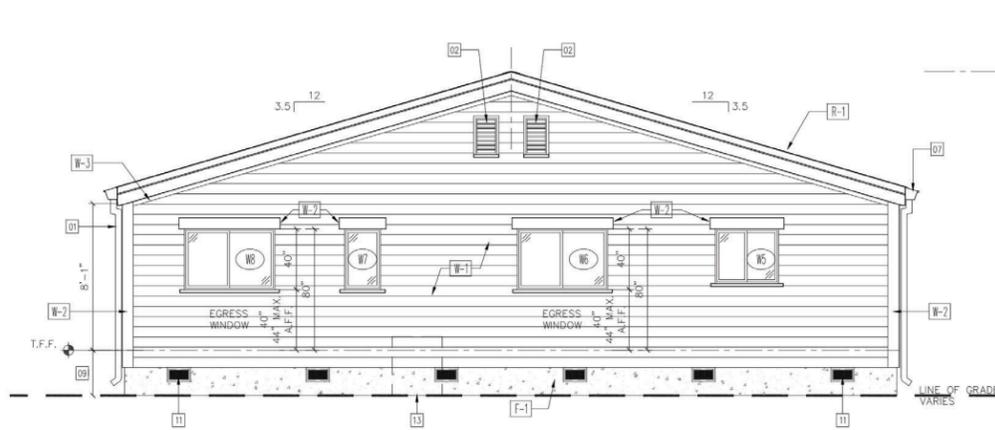
PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

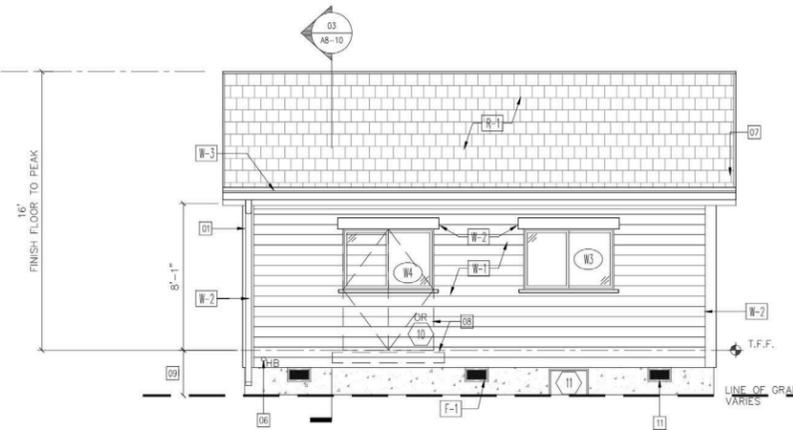
TITLE
EXTERIOR ELEVATIONS - CABIN RUSTIC

PROJECT
SCALE
1/4"=1'-0"
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A4-10

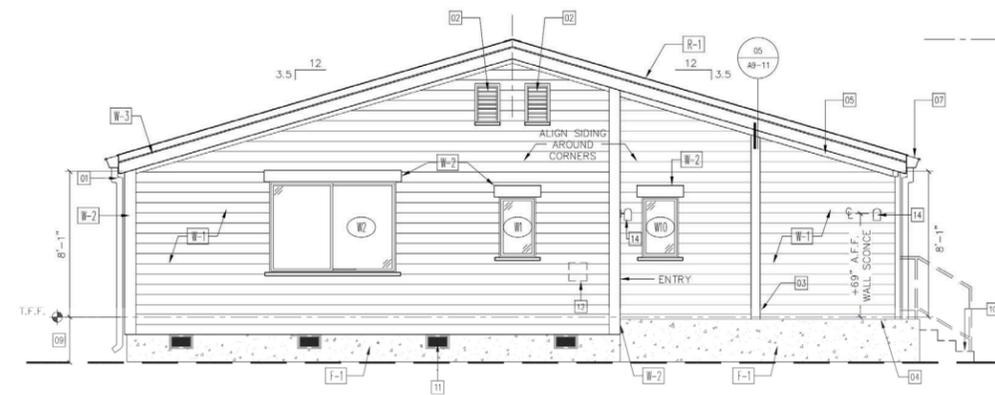


SIDE D
EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" 04

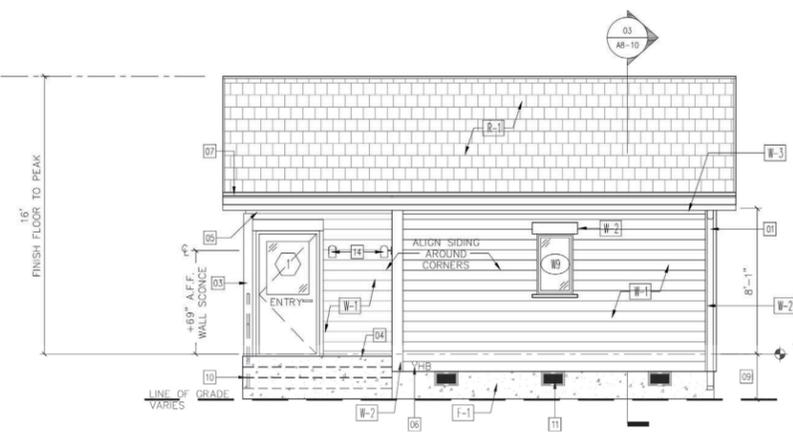


SIDE C
EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" 03

NOT FOR CONSTRUCTION



SIDE B
EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" 02



SIDE A
EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" 01

SYMBOL LEGEND

- 1 KEYNOTE
- 2 SMOKE DETECTOR
- 3 CARBON-MONOXIDE DETECTOR
- 4 EXHAUST FAN
- 5 CEILING MTD. LIGHT FIXTURE
- 6 WALL MTD. LIGHT FIXTURE
- 7 WINDOW
- 8 DOOR
- 9 HB HOSE BIB
- 10 FINISH
- 11 ELEVATION/HEIGHT



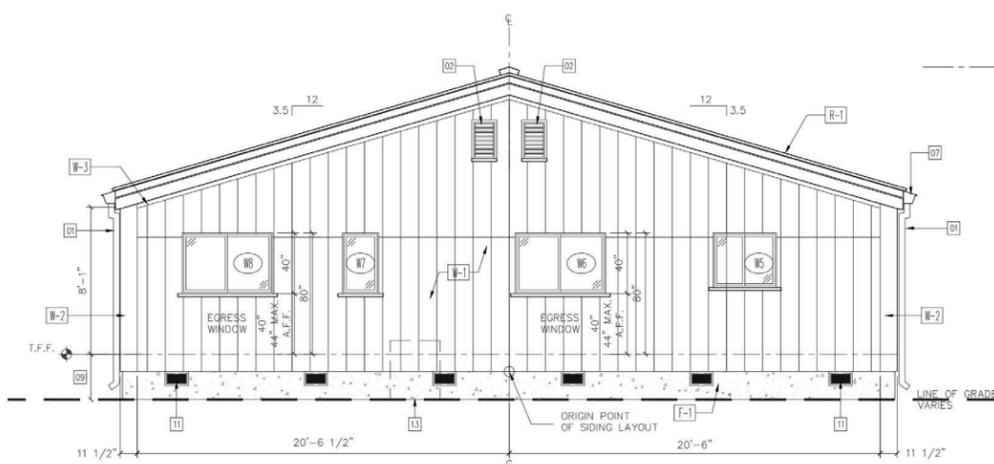
EXTERIOR FINISH SCHEDULE - MOUNTAIN MODERN

SURFACE	TAG	DESCRIPTION	MANUFACTURER	STYLE / COLOR / ITEM #	NOTES
ROOF	R-1	Standing Seam	Western States Metal Roofing or similar	TBD by owner	Western Lock Standing Seam Snap Lock Standing Seam Metal Roof Panel, Concealed Fasteners, 1.75 inch Rib height, 18" Panel, PVDF Resin Based * or similar; UL 790 Class A fire resistance rating steep slope roof in climate zone 12; Minimum aged solar reflectance of 0.20 and a minimum thermal emittance of 0.75 for a minimum SRI of 0.75
EXT. WALL	W-1	Fiber Cement Vertical Siding	James Hardie Products or similar	TBD by owner	Hardie Panel Vertical Siding Sierra 8, Primed for Paint, 48" Width, 96" Length; Non-Combustible Rating (CalFire Listing No 8160-2026-0502)
	W-2	Fiber Cement Trim - Wide		TBD by owner	Hardie Trim Boards 5/4 Smooth, Primed for Paint, 11.25" Width; Non-combustible
	W-3	Fiber Cement Trim - Thin		TBD by owner	Hardie Trim Boards 5/4 Smooth, Primed for Paint, 3.25" Width; Non-combustible
PORCH CEILING AND UNDER EAVE	C-1	Fiber Cement Panel - Smooth - Thin		TBD by owner	Hardie Soffit Panels Non-Vented Smooth, Thickness 0.25", Primed for Paint, 144" Length, 16" Width; Non-Combustible Rating (CalFire Listing No 8160-2026-0007)
EXPOSED CONCRETE FOUNDATION	F-1	TBD	TBD	TBD by owner	

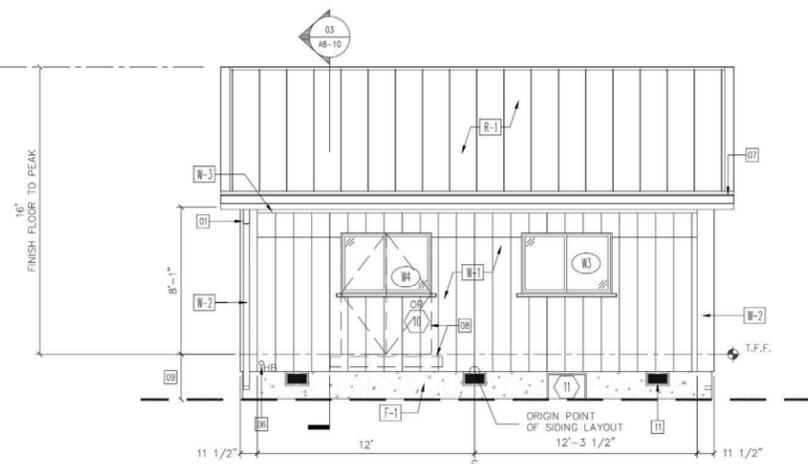
- GENERAL NOTES:**
- SEE A2-10 FOR MINIMUM DOWNSPOUT AND GUTTER SIZES
 - SEE E2-01 FOR LIGHTING SCHEDULE AND FIXTURE REQ'S
 - SEE A8-10 FOR DOOR/WINDOW SCHEDULE
 - SEE A8-10 FOR VENT SCHEDULE
 - SEE A9-10 AND A9-11 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 16
 - SEE A9-12 AND A9-13 FOR ROOF AND FOUNDATION DETAILS IN CLIMATE ZONE 12

- KEYNOTES:**
- DOWNSPOUT
 - ATTIC VENT, SEE VENT SCHEDULE 02/A8-10
 - 4x6 WOOD POST, SEE STRUCTURAL
 - CONCRETE PORCH, FINISH TBD BY OWNER
 - EXPOSED BEAM
 - EXTERIOR HOSE BIB, SEE PLUMBING SHEETS
 - CONTINUOUS BOX GUTTER
 - OPPORTUNITY FOR FRENCH DOOR; WINDOW B CAN BE REPLACED WITH DOOR 10, SEE DOOR WINDOW SCHEDULE ON SHEET A1-11; 36" DEEP FLAT LEVEL LANDING OUTSIDE DOOR
 - 24"-30" FROM FINISH FLOOR TO GRADE, PER FIELD CONDITIONS
 - RISERS BY OWNER AS NEEDED TO REACH PORCH LEVEL
RISER: 4" MIN. - 7 3/4" MAX.
LANDING: 36" CLR. MIN. IN DIRECTION OF TRAVEL
 - FOUNDATION VENT, SEE VENT SCHEDULE 02/A1-11 & 02/A9-10
 - WALL-MOUNTED EV CHARGING STATION, SEE E3-01; LOCATION MAY CHANGE BY SITE AND PARKING SPACE
 - CONDENSER UNIT, LOCATION BY SITE AND CONFIRMED BY BUILDING OFFICIAL, SEE M3-01
 - EXTERIOR FIXTURES MUST BE FULL OUT-OFF, SEE E2-01 & LIGHTING SCHEDULE.

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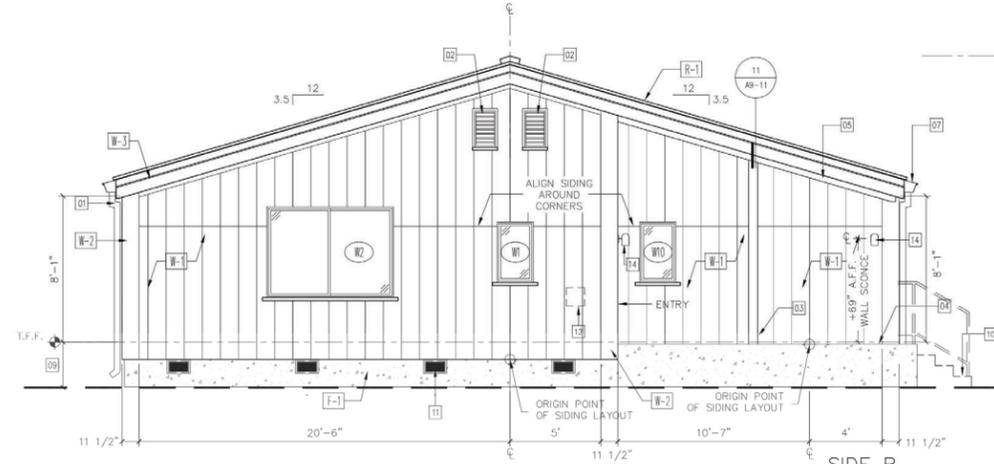


SIDE D EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" **04**

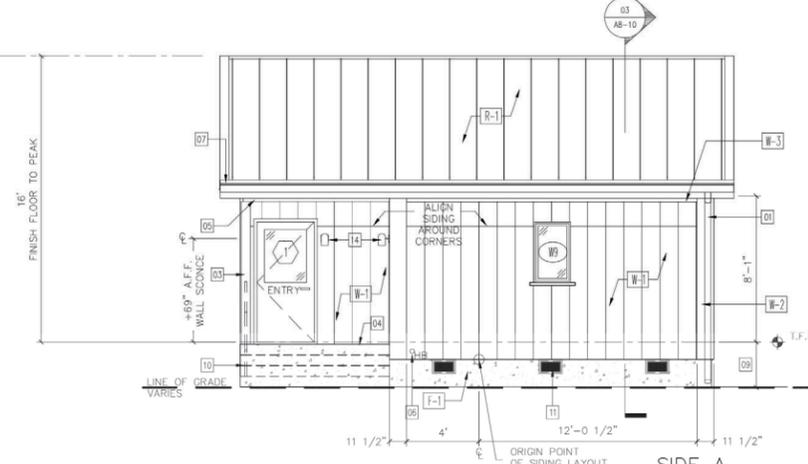


SIDE C EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" **03**

NOT FOR CONSTRUCTION



SIDE B EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" **02**



SIDE A EXTERIOR ELEVATION
SCALE: 1/4" = 1'-0" **01**

- SYMBOL LEGEND:**
- ① KEYNOTE
 - Ⓢ SMOKE DETECTOR
 - Ⓣ CARBON-MONOXIDE DETECTOR
 - Ⓜ EXHAUST FAN
 - Ⓛ CEILING MTD. LIGHT FIXTURE
 - Ⓦ WALL MTD. LIGHT FIXTURE
 - ⓐ WINDOW
 - ⓓ DOOR
 - Ⓜ HOSE BIB
 - Ⓡ FINISH
 - LEVEL EL ELEVATION/HEIGHT

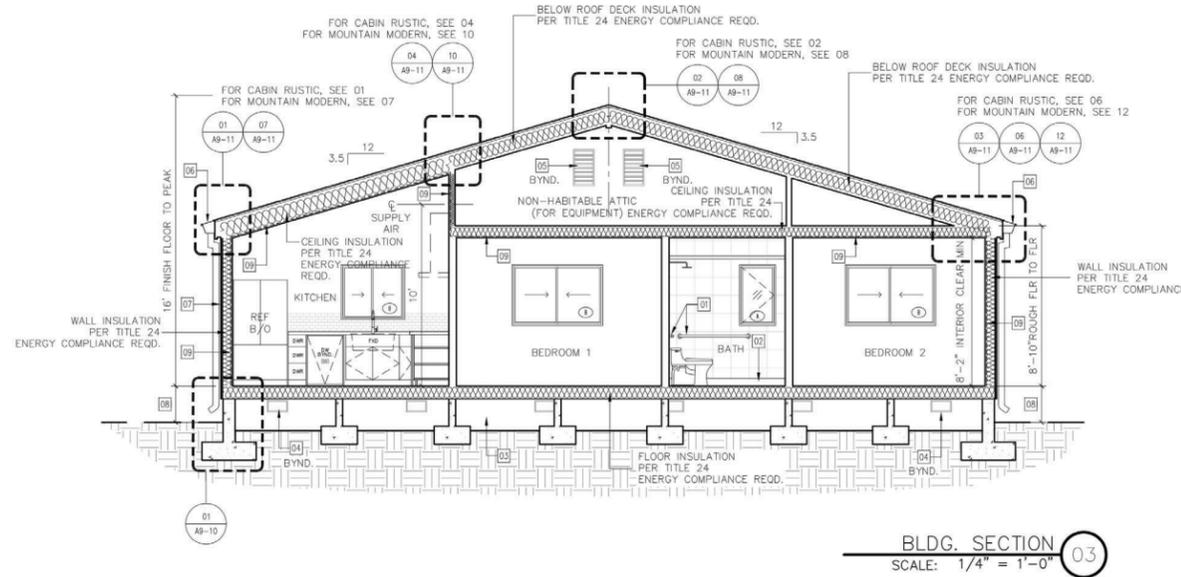
PERMIT SET

**El Dorado County
Permit-Ready
Accessory Dwelling Unit**

TITLE
EXTERIOR ELEVATIONS - MOUNTAIN MODERN

PROJECT
SCALE: 1/4" = 1'-0"
DRAWN BY
DATE: 11/10/2023

SHEET NUMBER
A4-11



- GENERAL NOTES:**
- WINDOW B AT KITCHEN CAN BE REPLACED WITH DOOR 10, SEE 03 ON ELEVATION SHEETS.
 - SEE A0-30 FOR SUMMARY OF TITLE 24 ENERGY COMPLIANCE REQUIREMENTS
- KEYNOTES:**
- 01 ACCESSIBLE SHOWER GRAB BARS, AS NEEDED. SEE DETAIL 01 ON SHEET A9-12 FOR BLOCKING
 - 02 SHOWER CURB
 - 03 CRAWL SPACE
 - 04 CRAWL SPACE VENT, SEE VENT SCHEDULE
 - 05 ATTIC VENTILATION, SEE VENT SCHEDULE
 - 06 CONTINUOUS BOX GUTTER ALONG BOTH SIDES
 - 07 HORIZONTAL OR VERTICAL SIDING DEPENDANT ON STYLE CHOSEN, SEE FINISH SCHEDULE
 - 08 24"-30" FROM FINISH FLOOR TO GRADE, PER FIELD CONDITIONS
 - 09 CLASS II VAPOR BARRIER ON INTERIOR SIDE OF FRAME WALL OR CEILING

CLASS II VAPOR BARRIER:
 KRAFT-FACED FIBERGLASS BATTS, VAPOR RETARDER PAINT OR OTHER APPROVED MATERIALS APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR A PERM RATING GREATER THAN 0.1 AND LESS THAN OR EQUAL TO 1.0 (R702).

EGRESS WINDOW:
 EMERGENCY EGRESS WINDOWS OR DOORS SHALL HAVE A MIN. NET CLEAR OPENING AREA OF 5.7 S.F. WITH A MIN. NET CLEAR HEIGHT OF 24" AND A MIN. NET CLEAR WIDTH OF 20". THE SILL HEIGHT SHALL NOT BE MORE THAN 44" ABOVE THE INTERIOR FLOOR.



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WINDOW SCHEDULE												
WINDOW LOCATION	TYPE	SILL HT.	HEAD HT.	W	H	MATERIAL	FINISH	FUNCTION	HEAD	JAMB	SILL	REMARKS
W1 Mudroom	A	40"	80"	24"	40"	VIN	PT	CAS	TYP.	TYP.	09/A9-10	07/A9-10
W2 Living Room	B	30"	90"	84"	60"	VIN	PT	SL	TYP.	TYP.	09/A9-10	07/A9-10
W3 Living Room	B	40"	80"	60"	40"	VIN	PT	SL	TYP.	TYP.	09/A9-10	07/A9-10
W4 Kitchen	B	40"	80"	60"	40"	VIN	PT	SL	TYP.	TYP.	09/A9-10	07/A9-10
W5 Kitchen	B	40"	80"	42"	36"	VIN	PT	SL	TYP.	TYP.	09/A9-10	07/A9-10
W6 Bedroom 1	B	40"	80"	60"	40"	VIN	PT	SL	TYP.	TYP.	09/A9-10	07/A9-10
W7 Bathroom	A	40"	80"	24"	40"	VIN	PT	CAS	TYP.	TYP.	09/A9-10	07/A9-10
W8 Bedroom 2	B	40"	80"	60"	40"	VIN	PT	SL	TYP.	TYP.	09/A9-10	07/A9-10
W9 Bedroom 2	A	40"	80"	24"	40"	VIN	PT	CAS	TYP.	TYP.	09/A9-10	07/A9-10
W10 Hallway	A	40"	80"	24"	40"	VIN	PT	CAS	TYP.	TYP.	09/A9-10	07/A9-10

Notes:

- For Climate Zone 12: Dual paned Non-Metal Low-E NFRC labeled glazing at all glass doors / windows to have a U-factor of 0.30 and an SHGC value of 0.24 or better (lower), refer to Title 24 Energy Compliance Documents, see T3-0
- For Climate Zone 16: Dual paned Non-Metal Low-E NFRC labeled glazing at all glass doors / windows to have a U-factor of 0.30 and an SHGC value of 0.65 or better (lower), refer to Title 24 Energy Compliance Documents, see T3-0
- All (N) glazing to be dual-glazed, UV blocking
- Tempered glass where required by code.
- 1" undercut on door

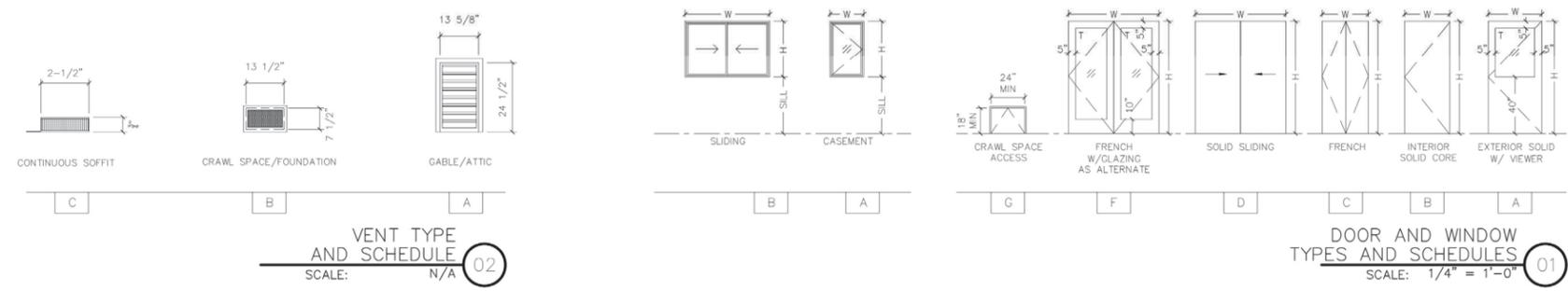
KEY TO ABBREVIATIONS

FXD: Fixed	PT: Paint	WD: Wood (Solid)
FR: French	VIN: Vinyl	SC: Solid Core
RH/L: Right/Left Hand Swing	SL: Slider	
CAS(ement)	1/2: Single/Double Glazed	N/A: Not Applicable

DOOR SCHEDULE													
DOOR LOCATION	INT/EXT	TYPE	DOOR				FRAME				REMARKS		
			TH	W	H	MATERIAL	FINISH	FUNCTION	MATERIAL	FINISH		HEAD DTL	JAMB DTL
1 Entry	EXT	A	1-3/4"	36"	80"	WD	PT	LH	WD	PT	06/A9-10	05/A9-11	04/A9-12
2 Mudroom	INT	B	1-3/8"	36"	80"	SC	PT	LH	WD	PT	-	-	-
3 Mudroom Closet	INT	B	1-3/8"	30"	80"	SC	PT	RH	WD	PT	-	-	-
4 Bedroom 1	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-
5 Closet 1	INT	D	1-3/8"	72"	80"	SC	PT	SL	WD	PT	-	-	-
6 Bathroom	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-
7 Bedroom 2	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-
8 Walk-In Closet	INT	B	1-3/8"	34"	80"	SC	PT	RH	WD	PT	-	-	-
9 Linen Closet	INT	C	1-3/8"	32"	80"	SC	PT	FR	WD	PT	-	-	-
10 Kitchen	EXT	F	1-3/4"	60"	80"	SC	PT	FR	WD	PT	-	-	-
11 Crawl Space Access	EXT	G	-	24"	18"	MIN	-	-	-	-	03/A9-10	-	03/A9-12
12 Attic Access	INT	-	-	36"	36"	-	-	-	-	-	-	-	-

NOT FOR CONSTRUCTION

VENT SCHEDULE (WUI-COMPLIANT)								
LOCATION(S)	TYPE	MANUFACTURER	MODEL #	MODEL SIZE	NFVA	QTY.	DETAIL	NOTES
Attic/Gable	A		VG1424FC	13-5/8" x 24-1/2"	115 sq. in.	4	06/A9-12	Fiber Cement Flange Type
Crawl Space/Foundation	B	Vulcan Vents	VFS814FF	13-1/2" x 7-1/2"	62 sq. in.	16	02/A9-10	Front Flange Type
Continuous Soffit	C		VSC25120SL	2-1/2" x 120"	120 sq. in.	4	01/A9-11	Single-Leg Flange Type Strip Vent

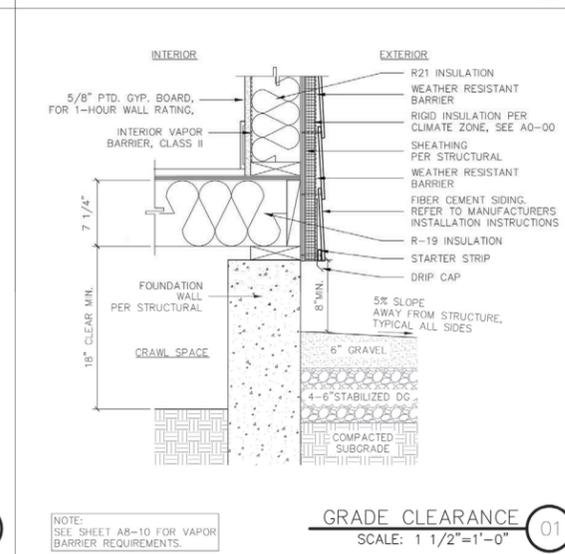
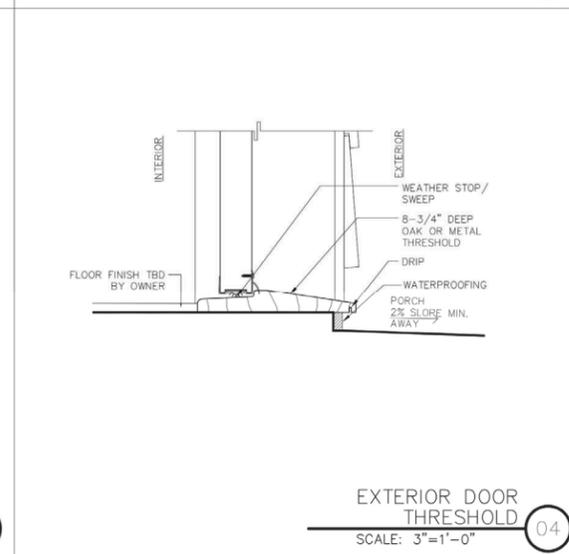
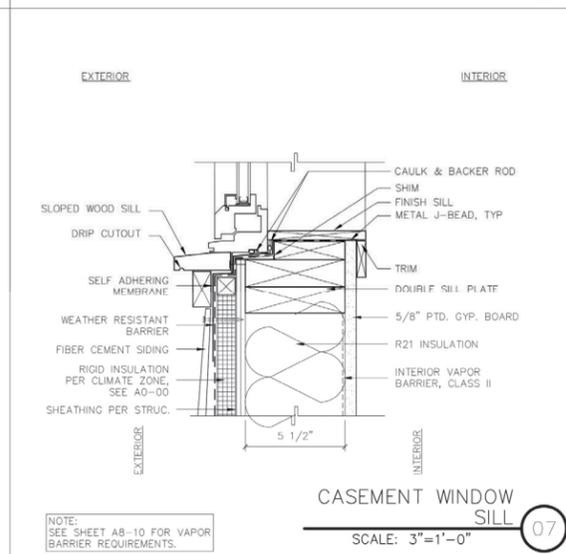
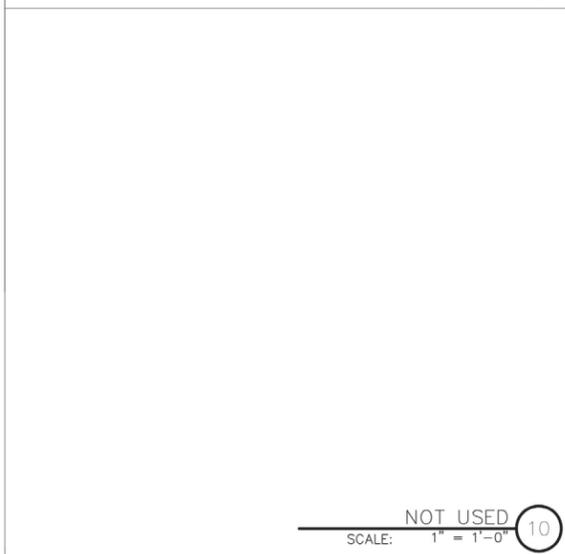
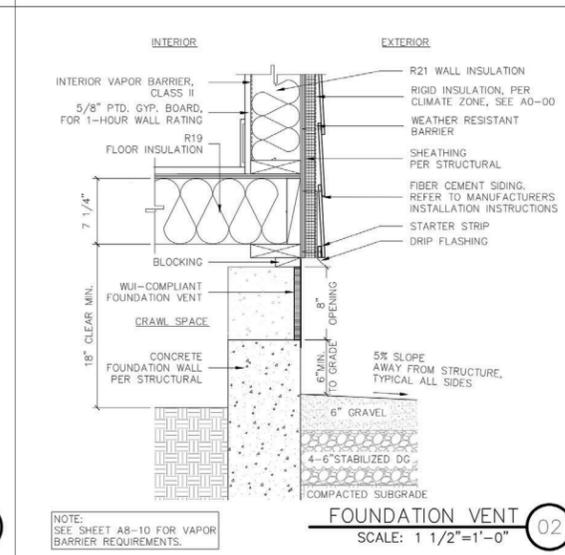
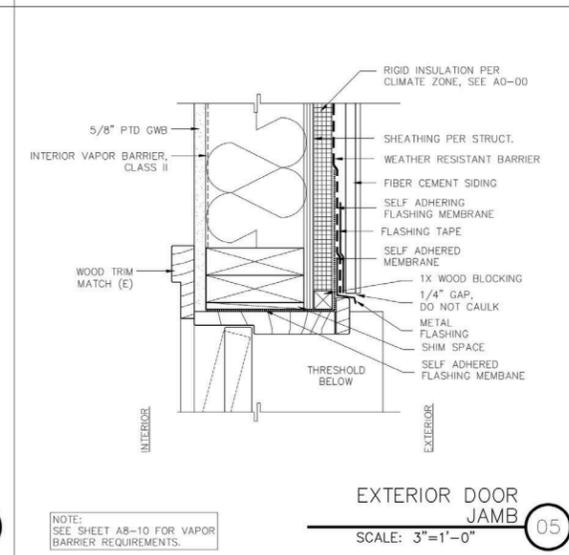
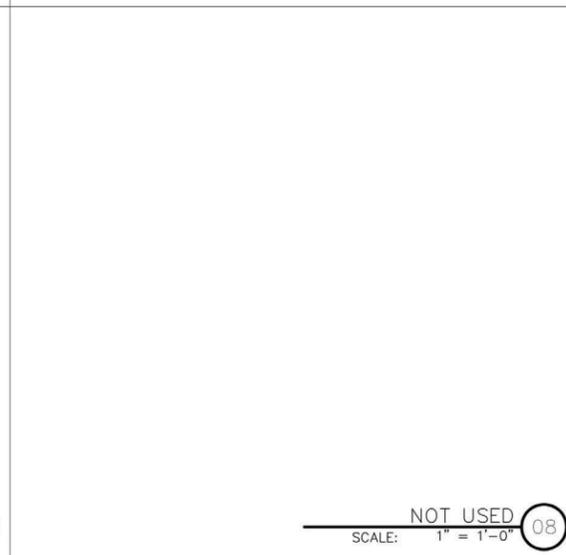
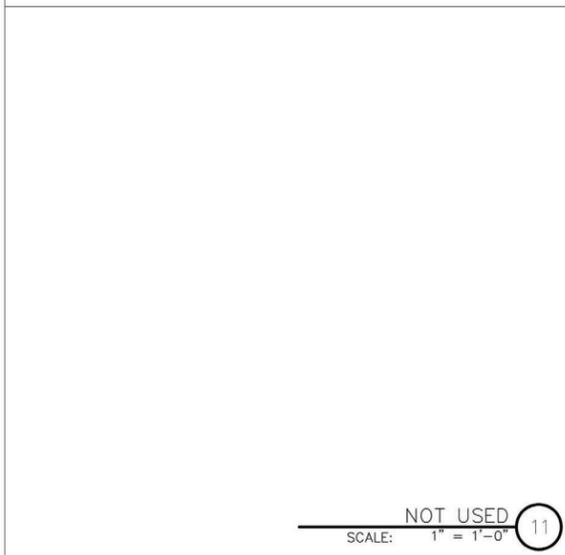
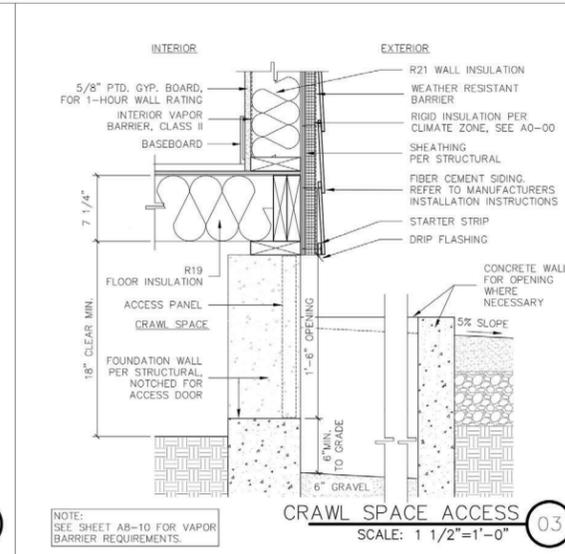
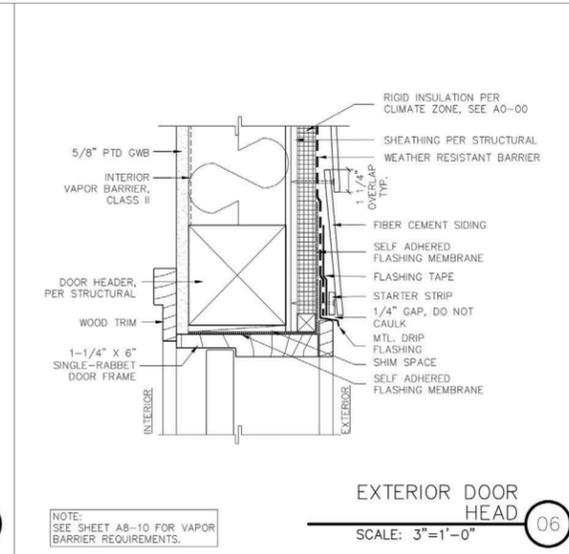
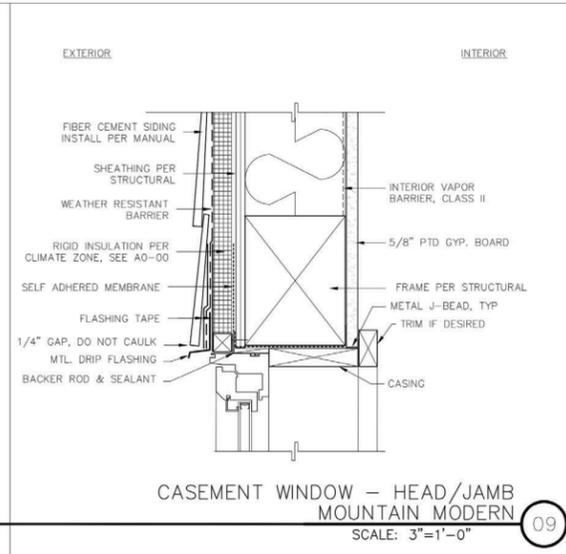
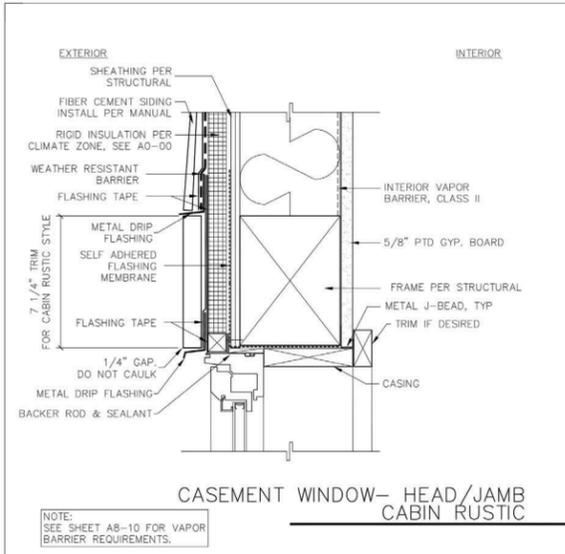


- SYMBOL LEGEND**
- 1 KEYNOTE
 - 2 SMOKE DETECTOR
 - 3 CARBON-MONOXIDE DETECTOR
 - 4 EXHAUST FAN
 - 5 CEILING MTD. LIGHT FIXTURE
 - 6 WALL MTD. LIGHT FIXTURE
 - 7 WINDOW
 - 8 DOOR
 - 9B HOSE BIB
 - 10 FINISH
 - LEVEL ELEVATION/HEIGHT
 - 11 INSULATION
 - 12 INSULATION+RIGID INSULATION
 - 13 VAPOR BARRIER

El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

TITLE
 DOOR, WINDOW,
 & VENT
 SCHEDULES
 & BLDG. SECTION

PROJECT
 SCALE
 1/4"=1'-0"
 DRAWN BY
 A8-10
 DATE
 11/10/2023



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El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
DETAILS, TYP.

PROJECT
SCALE
AS NOTED
DRAWN BY
DATE
SHEET NUMBER
A9-10
11/10/2023



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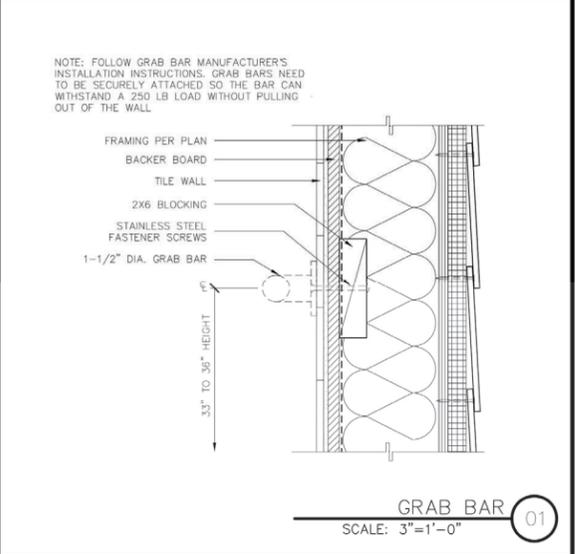
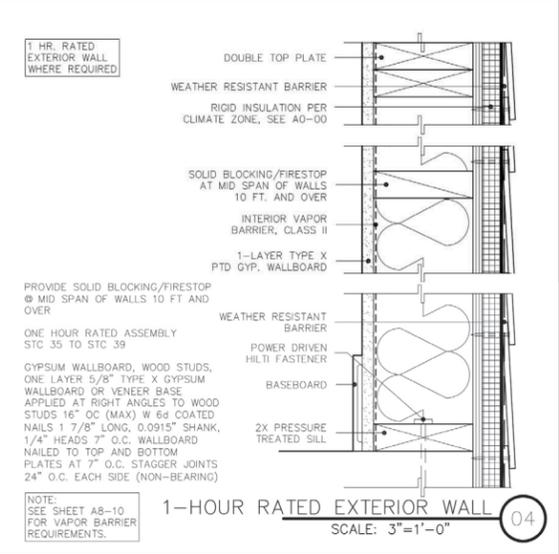
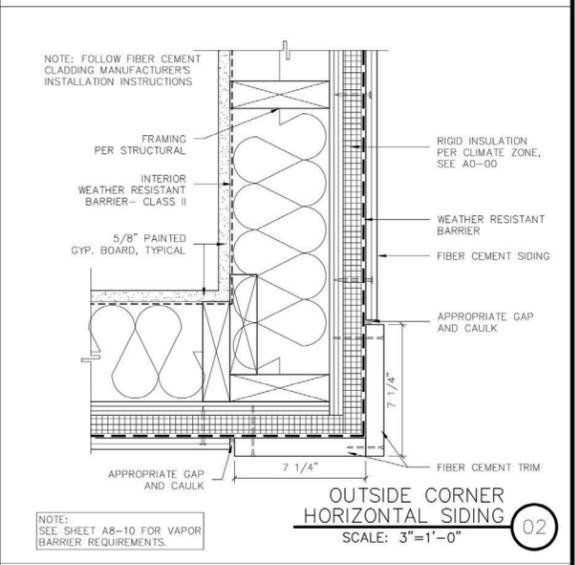
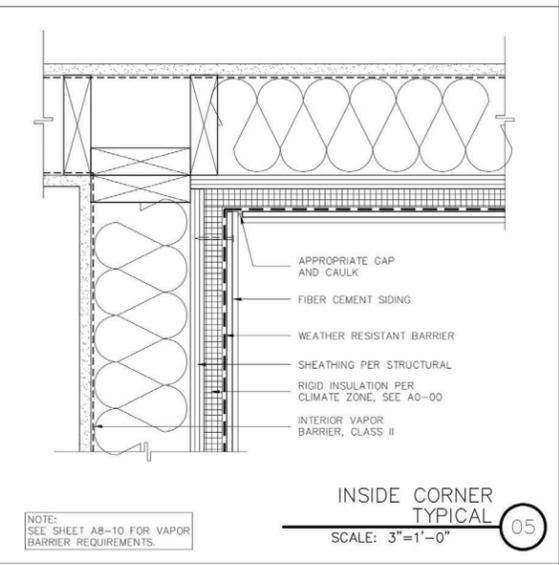
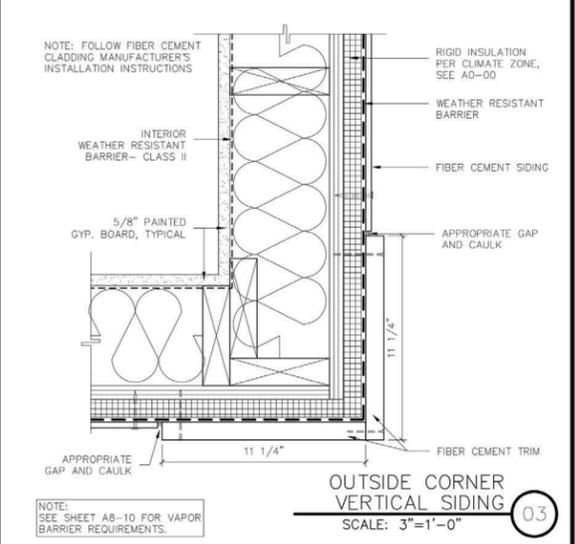
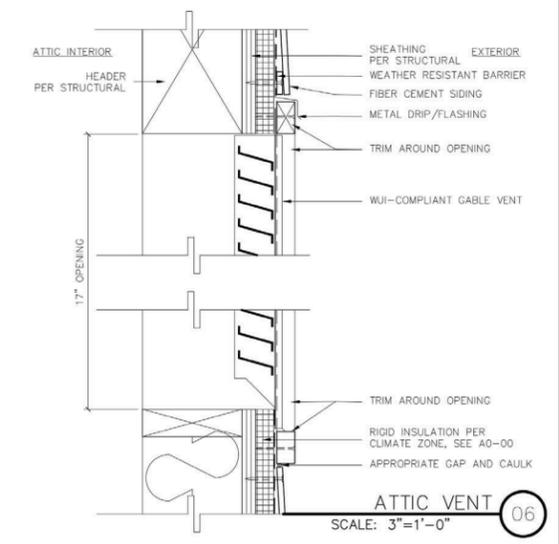
PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
MISC. DETAILS

PROJECT
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SCALE
AS NOTED
DRAWN BY
DATE
11/10/2023

SHEET NUMBER
A9-12



NOT FOR CONSTRUCTION

SPECIAL INSPECTIONS

1. THE OWNER SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS DURING CONSTRUCTION ON THE TYPE OF WORK SPECIFIED HEREIN.
2. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS IDENTIFIED IN SECTION 110 OF THE CBC 2022.
3. SPECIAL INSPECTOR QUALIFICATIONS: THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING HIS OR HER COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING.
4. REPORT REQUIREMENTS: THE SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE BUILDING OFFICIAL. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE APPLICANT AND THE BUILDING OFFICIAL.

STATEMENT OF SPECIAL INSPECTIONS:

CONTINUOUS SPECIAL INSPECTION SHALL BE PROVIDED FOR THE FOLLOWING:

- A. - INSTALLATION OF EPOXY ANCHORS.
- B. - INSTALLATION OF EXPANSION ANCHORS.
- C. - NON-SHRIEK GROUT MIXING AND PLACING.
- D. - PLACEMENT OF REINFORCING STEEL AND CONCRETE FOR CONCRETE WITH WITH DESIGN STRENGTH EXCEEDING 2,500 PSI.

PERIODIC SPECIAL INSPECTION SHALL BE PROVIDED FOR THE FOLLOWING:

- A. - WOOD SHEAR WALLS, SHEAR PANELS, AND DIAPHRAGMS, INCLUDING NAILING, BOLTING, ANCHORING, AND OTHER FASTENING TO COMPONENTS OF THE SEISMIC FORCE RESISTING SYSTEM, SPECIAL INSPECTION BY A
- B. - DEPUTY INSPECTOR IS REQUIRED WHERE THE FASTENER SPACING OF THE SHEATHING IS 4 INCHES ON CENTER OR LESS.
- C. - DESIGNATED SEISMIC SYSTEMS AND SEISMIC FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO SPECIAL INSPECTIONS:
- D. - PLYWOOD SHEAR WALLS AND PLYWOOD DIAPHRAGMS.

6. BUILDER RESPONSIBILITY: EACH BUILDER RESPONSIBLE FOR THE CONSTRUCTION OF A WIND OR SEISMIC FORCE RESISTING SYSTEM COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTION SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL INSPECTORS AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON SUCH SYSTEM OR COMPONENT.

NOTE

THESE SCHEDULES AND PLANS ARE NOT APPLICABLE TO GROUND SNOW LOAD EXCEEDING 99 LBS/SQ.FT. (PSF)

REINFORCED CONCRETE

1. MATERIALS:

- A. -PORTLAND CEMENT: ASTM C150 TYPE II (U.N.O. IN SOILS REPORT)
- B. -AGGREGATE:
 - (a) ASTM C33 FOR NORMAL WEIGHT
 - (b) ASTM C330 FOR LIGHTWEIGHT
- C. - WATER: ASTM C1602
- D. -STEEL REINFORCEMENT: REINFORCEMENT SHALL BE DEFORMED REINFORCEMENT AS FOLLOWS:
 - (a) ASTM A615 GRADE 60 EXCEPT AS NOTED IN (b).
 - (b) ASTM A706 GRADE 60 FOR WELDED REBARS.

2. CONCRETE STRENGTHS: THE CONCRETE STRENGTHS SHOWN IN THE FOLLOWING TABLE ARE THE MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS; AND THE AGGREGATE (AGG) SHOWN IS THE MAXIMUM SIZE. CONCRETE SHALL BE STANDARD WEIGHT CONCRETE (145 PCF).

CONSTRUCTION	STRENGTH	MAX. SLUMP	AGG.	W/C
SLAB ON GRADE.	2,500 PSI	4"	1/2"	0.45
FOOTINGS	2,500 PSI	4"	3/4"	0.45

3. REINFORCEMENT:

- A. DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL CONFORM TO ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES; THE MOST RECENT EDITION.
- B. CAST-IN-PLACE CONCRETE PROTECTION FOR REINFORCEMENT: CONCRETE CLEAR COVER TO REINFORCING BARS IS AS FOLLOWS, UNLESS OTHERWISE NOTED:

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH.....	3 INCHES
CONCRETE EXPOSED TO EARTH OR WEATHER: #6 BAR AND LARGER.....	2 INCHES
#5 BAR AND SMALLER.....	1-1/2 INCHES
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS, JOISTS: #11 BAR AND SMALLER.....	3/4 INCHES
BEAMS, COLUMNS: PRIMARY REINFORCEMENT, TIES, STRIPPERS, SPIRALS.....	1-1/2 INCHES

- C. BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.
- D. ACCURATELY POSITION SUPPORT, AND SECURE REINFORCEMENT FROM DISPLACING DUE TO FORMWORK, CONSTRUCTION, OR CONCRETE PLACEMENT OPERATIONS. LOCATE AND SUPPORT REINFORCING BY CHAIRS, RUNNERS, BOLSTERS, SPACERS, AND HANGERS AT A MAXIMUM 3-FOOT SPACING.
- E. TERMINATE REINFORCING STEEL IN STANDARD HOOKS, UNLESS OTHERWISE SHOWN.
- F. VERTICAL REINFORCEMENT SHALL BE DOWELED TO SUPPORTING MEMBERS WITH THE SAME SIZE AND SPACING OF REINFORCEMENT AS SHOWN IN THE DRAWINGS AND GENERAL NOTES.
- G. SPACING: CLEAR DISTANCE BETWEEN PARALLEL REINFORCEMENT IN A LAYER SHALL NOT BE LESS THAN 1-1/2 TIMES THE NOMINAL DIAMETER OF THE REINFORCEMENT, OR 1-1/3 TIMES MAXIMUM SIZE AGGREGATE, NOR LESS THAN 1-1/2".
- H. TACK WELDING, WELDING, HEATING OR CUTTING OF BARS: NOT PERMITTED.
- I. SLAB CORNERS: PROVIDE 2-#4 X 4-1/2" AT RE-ENTRANT CORNERS AND EACH CORNER OF RECTANGULAR HOLES IN SLABS. PLACE BARS DIAGONALLY.

4. ANCHOR BOLTS, DOWELS AND HOLD DOWN ANCHORS: SECURELY HELD IN PLACE PRIOR TO FOUNDATION INSPECTION BY THE BUILDING OFFICIAL.
5. PIPES, SLEEVES AND DUCTS: NOT TO BE PLACED IN WALLS, BEAMS, SLABS, FOOTINGS OR COLUMNS UNLESS SPECIFICALLY DETAILED.
6. CHAMFER: 3/4 INCH ON EXPOSED CORNERS.
7. ADMIXTURES: CALCIUM CHLORIDE OR ADDED CHLORIDES ARE NOT PERMITTED.
8. CONSTRUCTION JOINTS: ACI 117.2 & 64. 1/4 INCH AMPLITUDE MINIMUM, WAIT 48 HOURS BETWEEN JOINTS.
9. SLAB-ON-GRADE JOINTS: MAXIMUM SPACING OF CONTROL JOINTS IS 10' O.C. EACH WAY.
10. ACTUAL DIMENSIONS: SLAB, WALL, BEAM AND COLUMN DIMENSIONS SHOWN ARE ACTUAL DIMENSIONS NOT NOMINAL DIMENSIONS (i.e. A 4 INCH SLAB IS 4 INCHES THICK, NOT 3-1/2 INCHES).
11. VIBRATION: ALL CONCRETE SHALL BE CONSOLIDATED WITH MECHANICAL VIBRATORS.
12. CONTINUOUSLY MOIST CURE CONCRETE SLAB-ON-GRADE FOR 7 DAYS MINIMUM. WATER FOG SPRAYS, PONDING, SATURATED ABSORPTIVE COVERS, OR MOISTURE RETAINING COVERS MAY BE USED, CURING COMPOUNDS ARE NOT ACCEPTABLE.

WOOD STRUCTURAL PANELS

1. IDENTIFICATION REQUIREMENTS: EACH PANEL SHALL BE IDENTIFIED WITH THE APPROPRIATE TRADEMARK OF APA AND SHALL MEET THE REQUIREMENTS OF THE LATEST EDITION OF VOLUNTARY PRODUCT STANDARD PS 1 VOLUNTARY PRODUCT STANDARD PS 2 OR APA PRP-108 PERFORMANCE STANDARDS, ALL PANELS WHICH HAVE ANY EDGE OR SURFACE EXPOSED LONG TERM TO THE WEATHER SHALL BE CLASSIFIED EXTERIOR.

2. ROOF, FLOOR & WALL SHEATHING: PANEL PERFORMANCE CATEGORY, GRADE, AND GROUP NUMBER OR SPAN RATING SHALL BE AT LEAST EQUAL TO THAT SHOWN ON THE DRAWINGS. PLYWOOD SHALL BE MINIMUM-PLY-LAYERS CONSTRUCTION AND SHALL BE STAMPED BY AN APPROVED FABRICATOR.

3. NAILING: COMMON WIRE NAILS, PANEL NAILS SHALL BE DRIVEN SO THAT THE HEADS ARE FLUSH WITH THE SURFACE OF THE PANEL. FIELD NAILING (FN) SHALL BE 12 INCHES ON CENTER AND THE MINIMUM PANEL EDGE DISTANCES SHALL BE MAINTAINED. REFER TO TYPICAL DETAIL 05A-12.

4. FIELD-GLUED FLOORS: FIELD GLUE TO ALL SUPPORTS AND T&G EDGES. USE ADHESIVES MEETING ASTM D3488 OR APA SPECIFICATION AF-G01. FRAMING SHALL BE FREE OF SURFACE MOISTURE & DEBRIS PRIOR TO GLUING.

5. WOOD STRUCTURAL PANELS: WHERE ADJACENT WALLS ARE paneled, PANELS SHALL BE INSTALLED OVER AND UNDER OPENINGS.

6. WOOD STRUCTURAL PANELS ORIENTATION: INSTALL WITH THE LONG DIMENSION OR STRENGTH AXIS OF THE PANEL ACROSS SUPPORTS, AND WITH PANEL CONTINUOUS OVER TWO OR MORE SPANS.

7. EXTERIOR WALLS: SPACING OF 18" IS RECOMMENDED AT ALL PANEL ENDS AND EDGES TO ALLOW FOR PANELS EXPANSION.

8. ORIENTED STRAND BOARD (OSB): APA RATED OSB MAY BE USED IN LIEU OF PLYWOOD FOR VERTICAL SHEATHING PROVIDED THAT IT HAS THE SAME PROPERTIES AS THE SPECIFIED PLYWOOD.

PARALLAM STRAND LUMBER (PSL):

1. PARALLAM PSL BEAMS SHALL BE MANUFACTURED BY TRUS JOIST MACMILLAN IN ACCORDANCE WITH ICC ESR-387. THE DESIGN VALUES PROVIDED SHALL BE EQUAL TO OR EXCEED THE FOLLOWING:

F _b 2700 PSI IN BENDING	E 2,000,000 PSI MODULUS OF ELASTICITY
F _v 280 PSI	
2. THE MANUFACTURER'S LOGO IS TO BE IMPRINTED ON THE SIDE OF THE ALL PSL & LVL MEMBERS.
3. FOLLOW ALL MANUFACTURER INSTALLATION RECOMMENDATIONS.

FOUNDATION AND SLAB ON GRADE

1. FOUNDATION DESIGN BASED UPON PRESCRIPTIVE VALUES IN THE 2022 CBC AND AMENDMENTS BY EL DORADO COUNTY REQUIREMENTS.
2. THE CONTRACTOR SHALL CONFORM TO ALL RECOMMENDATIONS AND CONDITIONS INDICATED IN CHAPTER 18 OF CBC NOTE THAT THE STRUCTURAL DOCUMENTS DO NOT NECESSARILY INDICATE ALL SUBGRADE PREPARATION AND UNDERLAYMENT REQUIREMENTS. SEE THE TABLE BELOW FOR SITE SOIL CONDITIONS, ESPECIALLY REGARDING EXCAVATION, TRENCHING AND COMPACTION METHODS.
3. A GEOTECHNICAL ENGINEER SHALL BE RETAINED TO PROVIDE OBSERVATION AND TESTING SERVICES DURING THE GRADING AND FOUNDATION PHASE OF THE CONSTRUCTION IF REQUIRED BY THE BUILDING OFFICIAL OR INSPECTOR.
4. FOUNDATION BEARING AND FILL MATERIALS UNDER STRUCTURE SHALL BE INSPECTED AND APPROVED BY THE BUILDING INSPECTOR BEFORE PLACING CONCRETE.
5. UNLESS OTHERWISE STATED BY THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL OR INSPECTOR EXISTING UNDOCUMENTED FILL WITHIN THE BUILDING FOOTPRINT SHALL BE REMOVED AND RECOMPACTED. TOPSOILS, ORGANIC MATERIAL AND OTHER DEBRIS SHALL BE REMOVED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. NATIVE AND IMPORTED SOILS SHALL BE AS FILL BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT.
6. CONTRACTOR SHALL COORDINATE BOTTOM OF FOOTINGS AND GRADE BEAMS WITH FINISH GRADE AND UTILITIES PRIOR TO EXCAVATION, COORDINATE WITH ARCHITECTURAL AND CIVIL PLANS FOR LOCATION OF FINISH GRADE, FINISH FLOOR, SLOPE AND DEPRESSIONS.
7. FOUNDATION ELEVATIONS AND OTHER OVEREXCAVATION REQUIREMENTS ON THE CONSTRUCTION DOCUMENTS SHALL BE USED FOR PHOSING. ACTUAL DEPTH OF REMOVAL WILL BE DETERMINED AS DIRECTED BY THE GEOTECHNICAL ENGINEER DURING GRADING.
8. SUBGRADE WITHIN THE BUILDING FOOTPRINT SHALL BE MECHANICALLY COMPACTED IN LAYERS WITH THE APPROVAL OF THE GEOTECHNICAL ENGINEER OR BUILDING OFFICIAL OR INSPECTOR. BACKFILL JETTING OR FLOODING IS NOT PERMITTED.
9. BACKFILL BEHIND RETAINING WALLS SHALL BE PERFORMED AFTER NEW CONCRETE OR MASONRY HAS ATTAINED ITS FULL DESIGN STRENGTH. WALL DRAINAGE MUST BE PROVIDED, UNLESS OTHERWISE NOTED IN THE GEOTECHNICAL REPORT OR CONSTRUCTION DOCUMENTS. PROVIDE A 2-INCH WIDE CONTINUOUS PER GRAVEL STRIP IMMEDIATELY BEHIND THE WALL WITH PERFORATED DRAIN LINES AT THE BASE CONNECTED TO A DESIGNED STORM DRAINAGE SYSTEM.

MINIMUM FOOTING AND SLAB-ON-GRADE SCHEDULE

MINIMUM FOOTING WIDTH:	1'-0" FOR CONTINUOUS / WALL FOOTINGS AND FOR ISOLATED PAD / COLUMN FOOTINGS
MINIMUM FOOTING EMBEDMENT:	1'-0" BELOW LOWEST ADJACENT GRADE (SEE PLANS AND DETAILS IN THIS SET)
MINIMUM SUBGRADE RELATIVE TO FOOTING PER ASTM D1557:	90% UNDER FOUNDATIONS, SLAB-ON-GRADE AND OTHER BACKFILL
MINIMUM SLAB-ON-GRADE:	(SEE PLANS AND DETAILS IN THIS SET)

DESIGN LOAD BEARING VALUES OF SOILS (SHALLOW FOUNDATIONS)

ALLOWABLE SOIL BEARING:	1000 PSF FOR CONTINUOUS FOOTINGS (DL+LL) AND FOR ISOLATED PAD FOOTINGS (DL+LL) AN ADDITIONAL 1/3 INCREASE IS NOT PERMITTED FOR WIND OR SEISMIC EFFECTS.
ALLOWABLE COEFFICIENT OF FRICTION:	N/A
ALLOWABLE PASSIVE SOIL PRESSURE:	100 PSF/FT OF DEPTH ON THE SIDES OF FOUNDATIONS POURED AGAINST UNDETERMINED OR RECOMPACTED SOIL. A ONE-THIRD INCREASE IS PERMITTED FOR WIND OR SEISMIC EFFECTS.
LATERAL RESISTANCE:	PROVIDED BY PASSIVE EARTH PRESSURE ONLY

WIND LOADS

1. BASIC WIND SPEED, V_{WIND} = 110 MPH V_{WIND} = 95 MPH
2. RISK CATEGORY- II
3. WIND EXPOSURE - C
4. APPLICABLE INTERNAL PRESSURE COEFFICIENT, GC_{PI} = 0.18, -0.18

SNOW LOADS

1. THE FOLLOWING DESIGN CRITERIA IS BASED ON A MAXIMUM GROUND SNOW LOAD OF p = 99 PSF.
2. TO DETERMINE GROUND SNOW LOAD, USE COUNTY WEBSITE: <https://cdccops.edogov.us/Planning/paradistainfo.asp>

WOOD

1. GRADE UNLESS OTHERWISE NOTED, ALL LUMBER SHALL BE DOUGLAS FIR-ARCH, OF THE FOLLOWING GRADES, CONFORMING TO STANDARD GRADING RULES OF THE WEST COAST LUMBER INSPECTION BUREAU (WCLIB). MOISTURE CONTENT SHOULD NOT EXCEED 19%.

- | | |
|--|------|
| A. DIMENSION LUMBER: BLOCKING & STUD (12" MAX.)..... | No.2 |
| B. DIMENSION LUMBER: 4x HEADERS, JOISTS & RAFTERS..... | No.2 |
| C. BEAMS, POSTS AND STRINGERS..... | No.1 |
| D. POSTS AND TIMBERS..... | No.1 |

2. NAILS: COMMON WIRE UNLESS OTHERWISE NOTED. EDGE OR END DISTANCES IN THE DIRECTION OF STRESS SHALL NOT BE LESS THAN ONE HALF OF THE REQUIRED PENETRATION (TABLE 2304.8.1). THE SPACING CENTER TO CENTER OF NAILS IN THE DIRECTION OF STRESS SHALL NOT BE LESS THAN THE REQUIRED PENETRATION. HOLES FOR NAILS, WHERE NECESSARY TO PREVENT SPLITTING, SHALL BE BORED TO A DIAMETER SMALLER THAN THAT OF THE NAIL.

3. ANCHOR BOLTS, FOUNDATION ANCHOR BOLTS: PROVIDE 5/8 INCH DIAMETER ANCHOR OR MACHINE BOLTS WITH A MINIMUM OF 7 INCHES EMBEDMENT INTO THE CONCRETE AND WITHIN 9 INCHES OF EACH END OF EACH PLATE. SPACE ANCHORS AT 48 INCHES ON CENTER U.N.O. ANCHORS SHALL BE LOCATED A MAXIMUM OF 2 INCHES FROM THE FACE OF STUD RECEIVING WOOD STRUCTURAL PANELS. ANCHOR BOLT HOLES 1/2 TO 1/16 INCH LARGER THAN THE ANCHOR BOLT DIAMETER. HOLES MORE THAN 1/16 INCH LARGER THAN THE ANCHOR BOLT SHALL BE EPOXY FILLED UNDER THE CONTINUOUS SUPERVISION OF A LICENSED SPECIAL INSPECTOR. ALL WASHERS SHALL BE 3" X 3" 1/4".

4. BOLTS: NOT LESS THAN 7 BOLT DIAMETERS FROM THE END AND 4 DIAMETERS FROM THE EDGE OF THE MEMBER. BOLT HOLES 1/2 TO 1/16 INCH LARGER THAN THE BOLT DIAMETER. ALL NUTS SHALL BE TIGHTENED WHEN INSTALLED AND RE-TIGHTENED AT THE COMPLETION OF WORK OR BEFORE CLOSING IN. THREAD PROJECTION SHALL BE 1/16 INCH MINIMUM BEYOND THE NUT. BOLTS IN SPECIFIED SLOTTED HOLES SHALL BE CENTERED IN THE SLOT U.N.O. (INSPECTOR TO VERIFY).

5. LAG SCREW CLEARANCE & LEAD HOLES SHALL BE BORED AS FOLLOWS: THE CLEARANCE HOLE FOR THE SHANK SHALL HAVE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH OF PENETRATION AS THE LENGTH OF UNTHREADED SHANK. THE LEAD HOLE FOR THE THREADED PORTION SHALL HAVE A DIAMETER EQUAL TO 40%-70% OF THE SHANK DIAMETER AND A LENGTH EQUAL TO AT LEAST THE LENGTH OF THE THREADED PORTION.

6. CUT STEEL WASHERS: FOR BOLTS, LAGS AND NUTS, U.N.O.

7. FRAMING CONNECTORS: SIMPSON COMPANY.

8. NAILS/SCREWED HOLD DOWN ANCHORS: INSTALL PER MANUFACTURER'S APPROVED ICC PRODUCT EVALUATION REPORT. INSTALL HOLD DOWNS 1/2 INCH MINIMUM ABOVE THE PLATE TO ALLOW FOR TIGHTENING ANCHOR BOLT. THE HOLD DOWN SHALL BE INSTALLED TIGHT TO THE HOLD DOWN POST WITHOUT FILLERS OR DAPPING. DO NOT BEND HOLD DOWN ANCHORS.

9. BOLTED HOLD-DOWN ANCHORS: INSTALL PER MANUFACTURER'S APPROVED ICC PRODUCT EVALUATION REPORT. INSTALL HOLD DOWNS 1/2 INCH MINIMUM ABOVE THE PLATE TO ALLOW FOR TIGHTENING ANCHOR BOLT. TIGHTEN HOLD DOWN ANCHOR BEFORE TIGHTENING POST BOLTS. USE EXTRA CARE IN BORING THE POST BOLT HOLES 1/16 LARGER THAN THE BOLT DIAMETER. THE HOLD DOWN SHALL BE INSTALLED TIGHT TO THE HOLD-DOWN POST WITHOUT FILLERS OR DAPPING. THE POST BOLTS SHALL NOT BE COUNTERSUNK INTO THE HOLD DOWN POST U.N.O. DO NOT BEND HOLD-DOWN ANCHORS.

10. PRESERVATIVE TREATED WOOD: WOOD EXPOSED TO THE WEATHER AND ALL LUMBER (GILL PLATES, LEDGERS, ETC.) WHICH ARE IN DIRECT CONTACT WITH CONCRETE, MASONRY OR EARTH SHALL BE PRESURE TREATED WOOD WITH PRESERVATIVE RETENTION AS REQUIRED FOR USE. NEWLY EXPOSED SURFACES RESULTING FROM FIELD CUTTING, BORING OR HANDLING SHALL BE FIELD TREATED IN ACCORDANCE WITH AWPA 114. USE ONLY SODIUM BORATE TREATED WOOD FOR INTERIOR USE.

11. TOP PLATES: TWO PIECES, SAME SIZE AS STUDS. STAGGER SPLICES 4" MINIMUM, CENTER SPLICES OVER STUDS. SPLICE WITH 16-168 MIN. U.N.O.

12. FULL-DEPTH SOLID BLOCKING OR CROSS BRACING: INSTALLED AT INTERVALS NOT EXCEEDING 8 FEET FOR ALL JOISTS AND RAFTERS 2x12 AND DEEPER AND 1 3/4" LSL FULL DEPTH BLOCKING AT ALL TJI JOISTS.

13. SOLID BLOCKING: TWO INCH FULL WIDTH BLOCKING (FIRE STOPS) IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS AND AT 16'-0" INTERVALS BOTH VERTICAL AND HORIZONTAL.

14. CUTTING AND NOTCHING: DO NOT CUT, BORE, COUNTERSINK OR NOTCH WOOD MEMBERS EXCEPT WHERE SHOWN IN THE DETAILS. HOLES THROUGH PLATES, STUDS AND DOUBLE PLATES IN WALLS SHALL NOT EXCEED 40% THE MEMBER WIDTH & SHALL BE LOCATED IN THE CENTER OF THE MEMBER. STUDS AT BEARING WALLS SHALL NOT BE NOTCHED MORE THAN 25%.

15. PARTITIONS: DOUBLE JOISTS UNDER PARTITIONS PARALLEL TO JOISTS AND PROVIDE SOLID BLOCKING UNDER PARTITIONS PERPENDICULAR TO JOISTS U.N.O. ON PLANS.

16. END SUPPORT: ROOF AND FLOOR JOISTS SHALL HAVE THEIR ENDS HELD IN POSITION WITH FULL DEPTH SOLID BLOCKING, 1 3/4" LSL FULL DEPTH BLOCKING AT ALL TJI JOISTS.

17. GALVANIZING: USE GALVANIZED CONNECTORS AND FASTENERS GALVANIZED PER ASTM A153 FOR ALL OUTDOORS, OR TREATED WOOD CONNECTIONS.

18. POSTS AND BEAMS: ALL POSTS SHALL BE SUPPORTED BY SOLID BLOCK FULL WIDTH TO MATCH POST ABOVE AT ALL FLOORS, UNDER FLOOR, AND ABOVE CRIPPLE WALLS. ALL BEAMS SHALL BE SUPPORTED WITH SAME WIDTH POST OR STUDS, (U.N.O.)

GENERAL REQUIREMENTS

1. VERIFICATION: VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS BEFORE STARTING WORK.
2. CONFLICTS: NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL NOTES AND TYPICAL DETAILS IN CASE OF CONFLICT.
3. CODES: ALL MATERIALS AND WORK SHALL CONFORM TO THE REQUIREMENTS OF THE 2022 CALIFORNIA BUILDING CODE (CBC), 2021 IBC, ASCE 7-16 AND ALL OTHER APPLICABLE ORDINANCES AND REGULATIONS.
4. SIMILAR WORK: WHERE CONSTRUCTION DETAILS ARE NOT SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE DRAWINGS.

5. PIPES, DUCTS, SLEEVES, CHASES, ETC.: SHALL NOT BE PLACED IN SLABS, BEAMS, OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED. NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC., UNLESS SPECIFICALLY SHOWN, OBTAIN PRIOR WRITTEN APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.
6. EXCAVATIONS: LOCATE AND PROTECT UNDERGROUND OR CONCEALED CONDUIT, PLUMBING OR OTHER UTILITIES WHERE NEW WORK IS BEING PERFORMED.
7. CONSTRUCTION LOADS: MATERIALS SHALL BE EVENLY DISTRIBUTED IF PLACED ON FRAMED FLOORS OR ROOFS, LOADS SHALL NOT EXCEED THE ALLOWABLE LOADING FOR THE SUPPORTING MEMBERS AND THEIR CONNECTIONS

8. CONSTRUCTION METHODS AND PROJECT SAFETY: THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE AND DO NOT INDICATE METHODS, PROCEDURES OR SEQUENCE OF CONSTRUCTION. TAKE NECESSARY PRECAUTIONS TO MAINTAIN AND INSURE THE INTEGRITY OF THE STRUCTURE DURING CONSTRUCTION. NEITHER THE OWNER NOR ARCHITECT/ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS. BUILDER SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING AND BRACING. THE BUILDER SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES.

9. WATER PROOFING: ALL WATER PROOFING MATERIALS SHALL BE INSPECTED BY A WATER PROOFING EXPERT.
10. OPTIONS: OPTIONS ARE FOR THE BUILDER'S CONVENIENCE. HE SHALL BE RESPONSIBLE FOR ALL CHANGES NECESSARY IF HE CHOOSES AN OPTION AND SHALL COORDINATE ALL DETAILS. THE COST OF ADDITIONAL DESIGN WORK NECESSITATED BY THE SELECTION OF AN OPTION SHALL BE BORNE BY THE BUILDER.
11. ADDITIONAL DESIGN: THE COST OF ADDITIONAL DESIGN WORK DUE TO ERRORS OR OMISSIONS IN CONSTRUCTION SHALL BE BORNE BY THE CONTRACTOR.
12. COORDINATION: THE BUILDER SHALL BE RESPONSIBLE FOR COORDINATING THE WORK OF ALL TRADES & SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK.

13. STANDARDS: A.S.T.M. DESIGNATIONS AND ALL STANDARDS REFER TO THE LATEST EDITIONS.
14. WRITTEN DIMENSIONS: TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE DRAWINGS.
15. DRILLING FOR BOLTS AND DOWELS: SHALL BE DONE WITH AN ELECTRIC ROTARY DRILL. IMPACT TOOLS SHALL NOT BE USED FOR DRILLING HOLES OR TIGHTENING ANCHORS AND SHEAR BOLTS & NUTS.
16. DETAILS ON TYPICAL DETAILS SHEETS OR IDENTIFIED AS TYPICAL APPLY WHETHER CALLED OUT OR NOT. ANY REVISIONS TO THE CONSTRUCTION DETAILS ON THESE SET OF APPROVED PLANS ARE SUBJECT TO ENGINEERING AND COUNTY APPROVAL.

NOT FOR CONSTRUCTION

LIVE LOADS

1. ROOF LIVE LOAD 20 PSF
2. ATTIC (UNINHABITABLE ATTICS WITHOUT STORAGE) 10 PSF
3. FLOOR 40 PSF

EARTHQUAKE DESIGN DATA

1. SEISMIC IMPORTANCE FACTOR, I=1.0
2. RISK CATEGORY: II
3. SITE CLASS = D
4. SEISMIC DESIGN CATEGORY= D
5. MAPPED SPECTRAL RESPONSE ACCELERATIONS

S _{RS} =	1,800 g
S _S =	0,550g
6. SPECTRAL RESPONSE COEFFICIENTS

S _{DS} =	1,200 g
S _{DS} =	0,640 g
7. BASIC SEISMIC FORCE-RESISTING SYSTEM(S): LIGHT FRAME (TWO-D) WALLS SHEATHED WITH WOOD STRUCTURAL PANELS (BEARING)
8. SEISMIC RESPONSE COEFFICIENT(S),

C _{s,DRIB} =	0.197
C _{s,DRIB} =	0.138
9. RESPONSE MODIFICATION FACTOR(S),

R=6.5
C _d = 4.0
I = 0.138
10. ANALYSIS PROCEDURE USED: EQUIVALENT LATERAL FORCE ANALYSIS.
11. REDUNDANCY FACTOR USED = 1.0
12. DESIGN BASE SHEAR V = C_sW

V _{DRIB} =	13.92 k
V _{DRIB} =	9.7 k

SHEET INDEX

- | | |
|-------|-----------------------------------|
| SD-01 | GENERAL NOTES |
| S1-01 | TYPICAL DETAILS |
| S1-02 | TYPICAL DETAILS |
| S1-03 | TYPICAL DETAILS |
| S1-04 | TYPICAL DETAILS |
| SD-01 | FLOOR PLANS |
| SD-01 | ELEVATIONS, SECTIONS, AND DETAILS |



Waiver of Liability: The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County Permit-Ready Accessory Dwelling Unit

TITLE

GENERAL NOTES

PROJECT

SHEET NUMBER

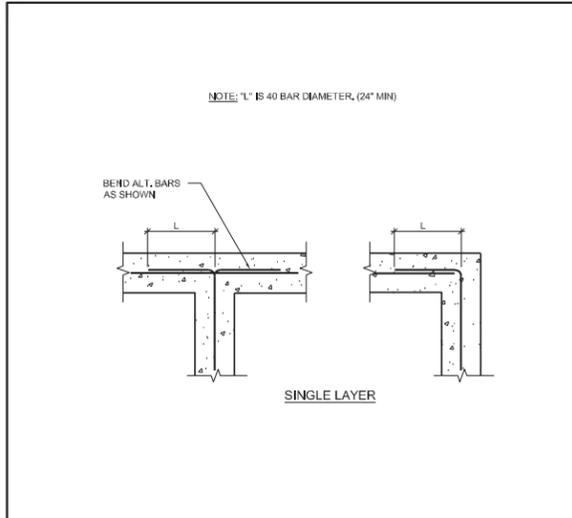
SCALE

DRAWN BY

SD-01

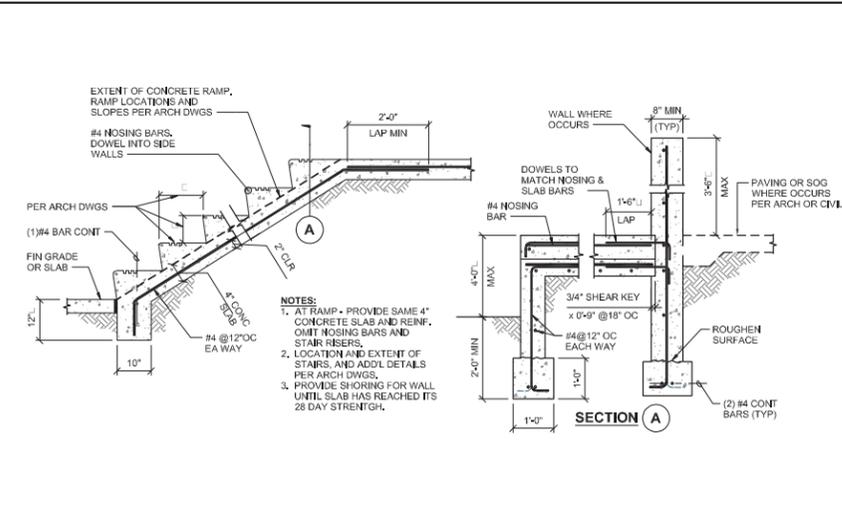
DATE

11/10/2023



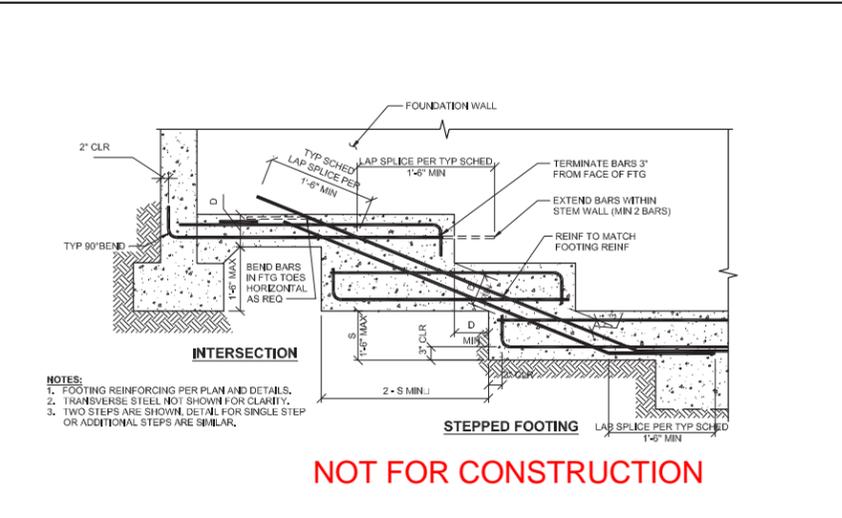
FOOTING INTERSECTION

10



TYPICAL CONCRETE STAIR OR RAMP

7



NOT FOR CONSTRUCTION

TYPICAL STEPPED FOOTING

1

SPLICES (STANDARD LAPS) SCHEDULE

REBAR SPLICES IN INCHES		4	5	6	7	8	9	10	11
REBAR SIZE (GRADE 60)		0.5	0.62	0.75	0.87	1.0	1.12	1.27	1.41
REBAR DIAMETER (IN)		0.5	0.62	0.75	0.87	1.0	1.12	1.27	1.41
f _c =2,500	OTHER BAR	24	30	36	42	48	54	60	66
	TOP BAR	36	45	54	63	72	81	90	99
f _c =3,000	OTHER BAR	22	27	33	39	45	51	57	63
	TOP BAR	33	41	49	57	66	75	84	93

TABLE NOTES:

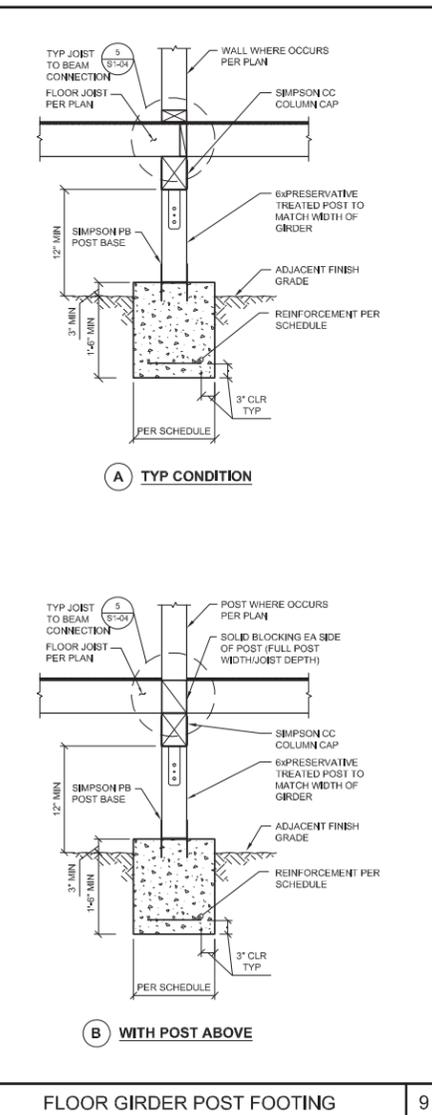
- REBAR LENGTHS SHOWN IN THE SCHEDULE SHALL BE INCREASED 50% WHEN COVER IS < OR = 1 BAR DIAMETER OR CLEAR SPACING BETWEEN BARS IS LESS THAN 2 BAR DIAMETERS.
- 75% OF REBAR LENGTHS SHOWN IN THE SCHEDULE MAY BE USED WHEN COVER IS > 2 BAR DIAMETERS AND CLEAR SPACING BETWEEN BARS IS GREATER THAN 3 BAR DIAMETERS.
- LAP SPLICE IN MASONRY SHALL BE 40s.
- REBAR LENGTHS SHOWN IN THE SCHEDULE SHALL BE INCREASED 50% WHEN USING EPOXY COATED REBARS.
- TOP BARS ARE HORIZONTAL BARS WITH MORE THAN 12 INCHES OF CONCRETE CAST BELOW THE BARS.

STANDARD HOOK DETAILS

COLUMN & BEAM TIE **TYP. REBAR BEND & SPLICE**

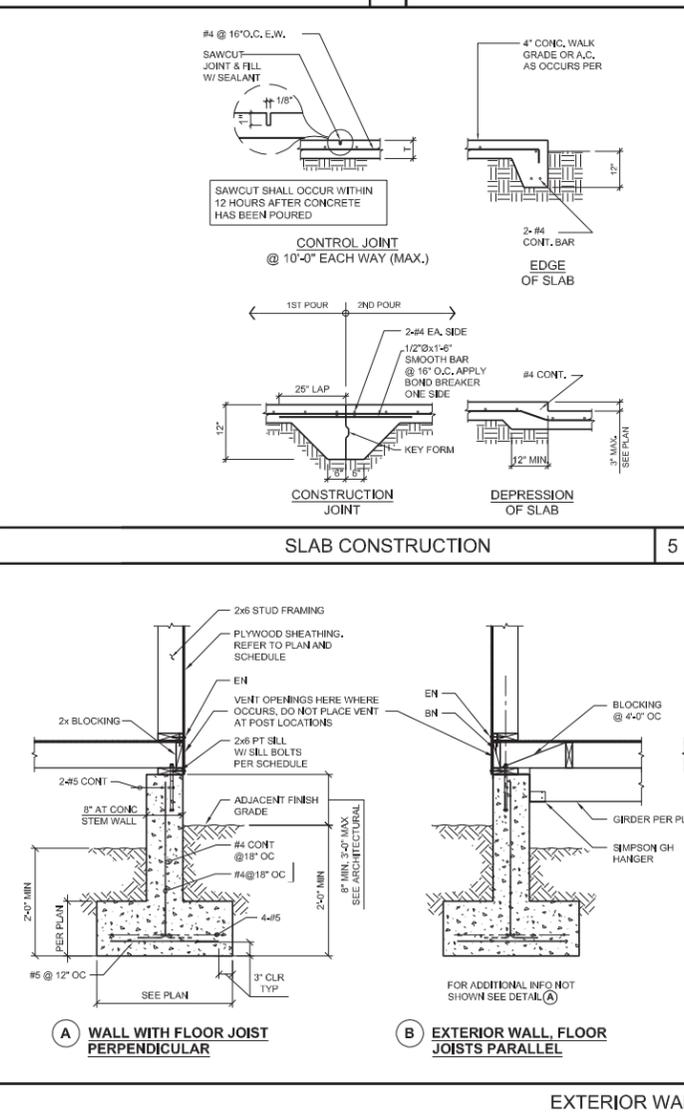
REBAR BEND, SPLICE & HOOK

12



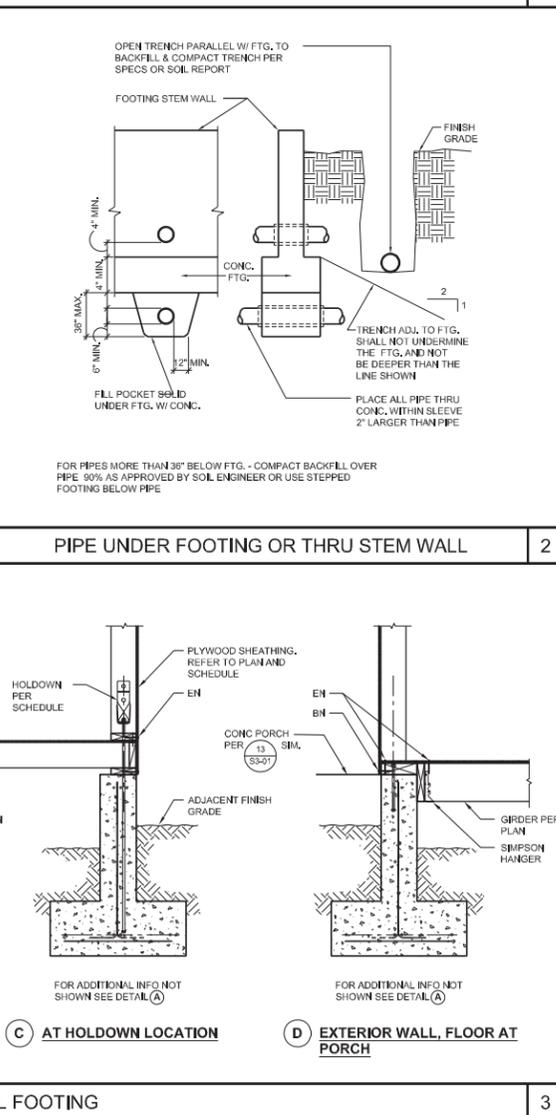
FLOOR GIRDER POST FOOTING

9



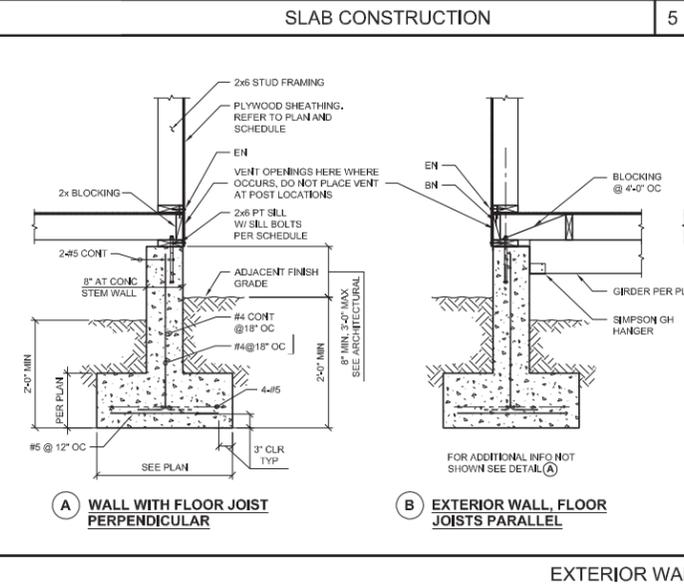
EXTERIOR WALL FOOTING

3



PIPE UNDER FOOTING OR THRU STEM WALL

2



SLAB CONSTRUCTION

5

Waiver of Liability:
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PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
TYPICAL DETAILS

PROJECT

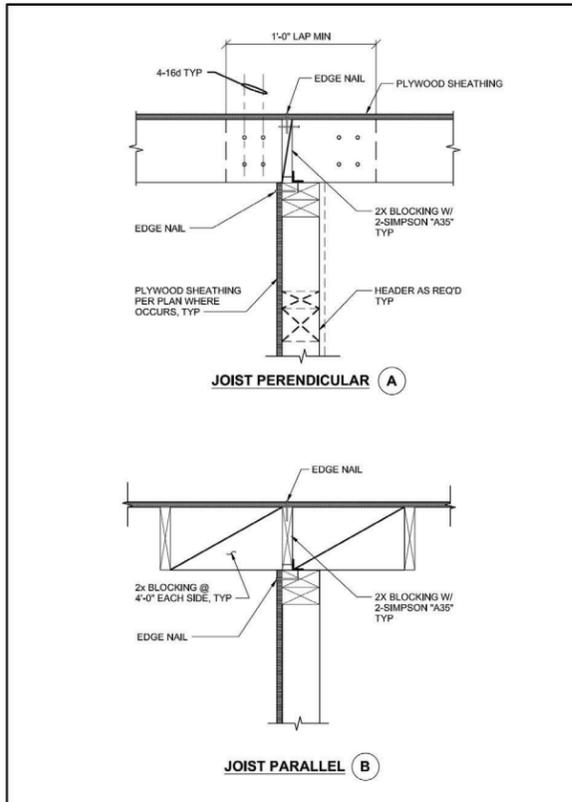
SHEET NUMBER

SCALE

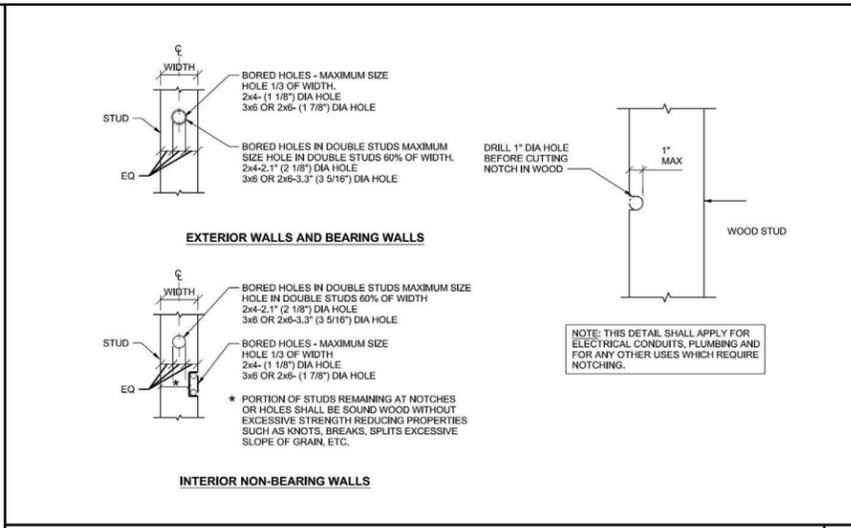
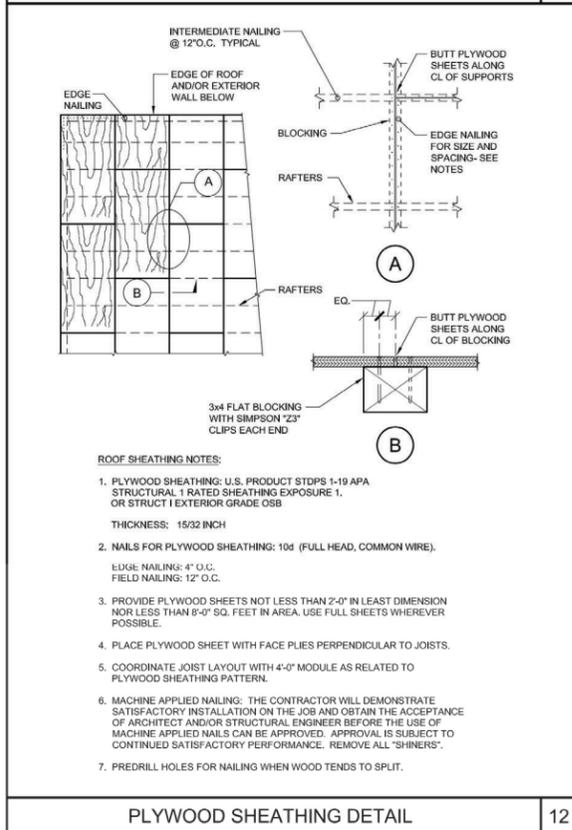
S1-01

DRAWN BY

DATE
11/10/2023

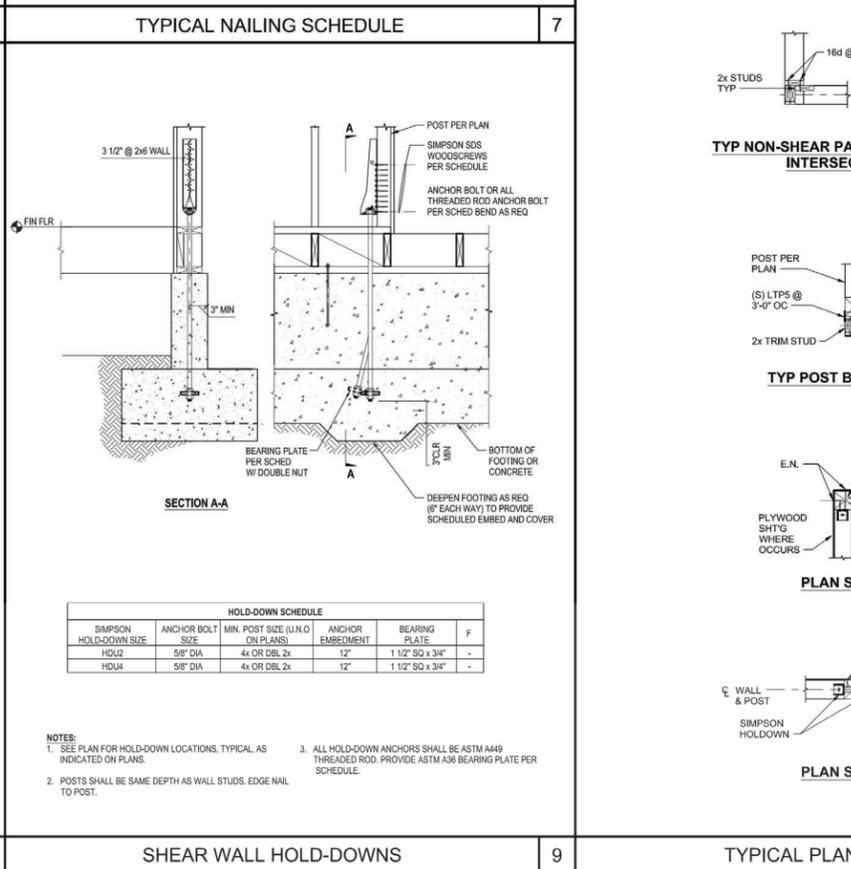


TYPICAL INTERIOR WALL DETAIL 11



NAILING SCHEDULE:

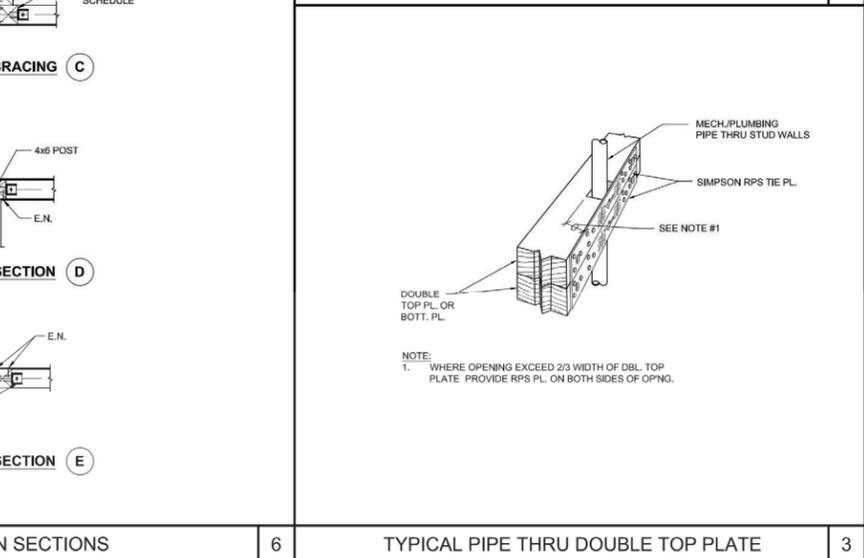
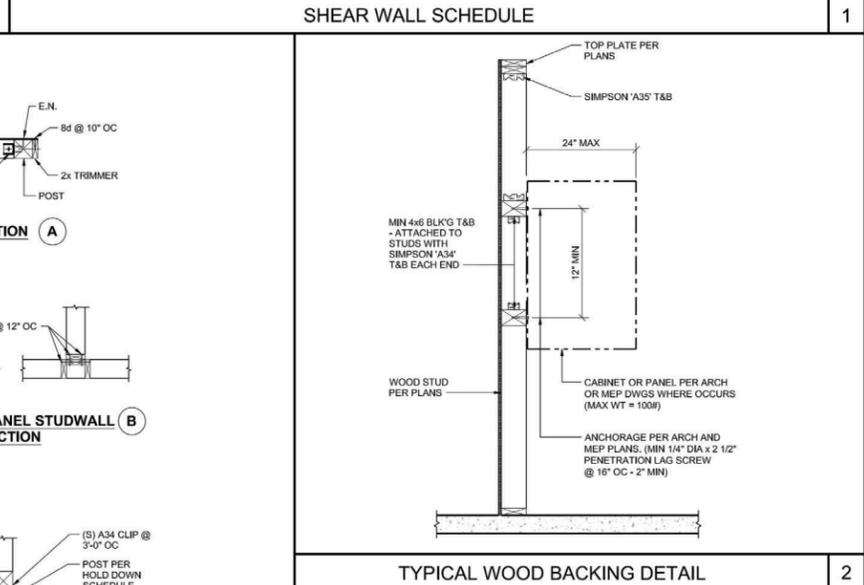
1. BLOCK TO TOP PLATE, TOE NAIL	3-8d
2. BRIDGING TO JOIST, TOE NAIL EACH END	2-8d
3. SOLE PLATE TO JOIST OR BLOCKING, FACE NAIL	16d @ 16" OC
4. TOP PLATE TO STUD, END NAIL	2-16d
5. STUD TO SOLE PLATE	4-8, toe nail or 2-16d, end nail
6. DOUBLE STUDS, FACE NAIL	16d @ 24" OC
7. DOUBLED TOP PLATES, FACE NAIL	16d @ 16" OC
8. TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL	2-16d
9. CEILING JOISTS TO PLATE, TOE NAIL	3-8d
10. CONTINUOUS HEADER TO STUD, TOE NAIL	4-8d
11. CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL	3-16d
12. CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL	3-16d
13. JOIST OR RAFTERS AT ALL BEARINGS - TOE NAILS EACH SIDE	3-8d
14. 1" BRACE TO EACH STUD AND PLATE, FACE NAIL	2-8d
15. BUILT-UP CORNER STUDS	16d @ 24" OC



NOTES:

- WOOD STRUCTURAL PANELS SHALL BE 1/2 PERFORMANCE CATEGORY, APA STRUCTURAL I RATED SHEATHING, SPAN RATING 32/16, EXPOSURE 1, 5-PLY/5-LAYERS OR STRUCTURAL 1 GRADE RATED OSB
- STUDS SPACING TO BE @ 16" O.C. MIN.
- ALL FIELD NAILING TO BE AT 12" O.C.
- SDS SCREWS ARE BY SIMPSON STRONG TIE, ICC ESR-2236, PROVIDE 2" MIN. PENETRATION INTO RIMBOARD OR BLOCKING.
- USE HEX HEAD BOLT WITH WASHER SILL ANCHORS. PROVIDE 7" MIN. EMBEDMENT INTO FOOTING.
- USE COMMON NAILS ONLY. (8d = 0.131" DIA. x 2 1/2" LONG, 10d = 0.148" DIA. x 3" LONG)
- MIN. 1/2" EDGE NAILING DISTANCE @ PANEL ENDS AND EDGES.
- USE 3" SQ. x 1/4" WASHERS FOR SILL ANCHORS. PLATE WASHER SHALL EXTEND TO WITHIN 1/2" INCH OF THE EDGE OF THE BOTTOM PLATE ON THE SHEATHED SIDE (SEE SECTION 1 THIS SHEET).
- SIMPSON LTP4 MAY BE USED IN LIEU OF A35.

NOT FOR CONSTRUCTION



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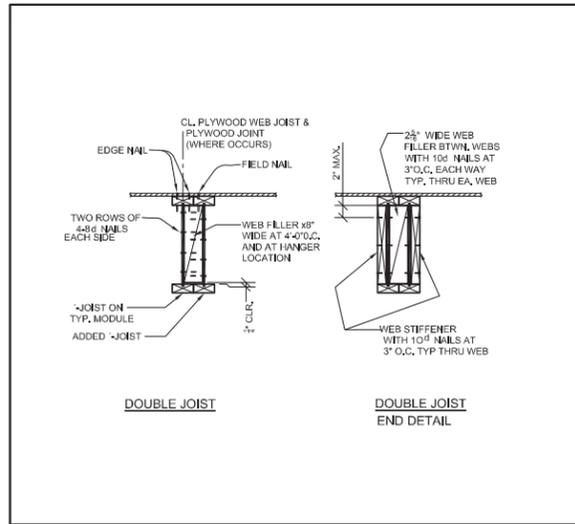
PERMIT SET

El Dorado County Permit-Ready Accessory Dwelling Unit

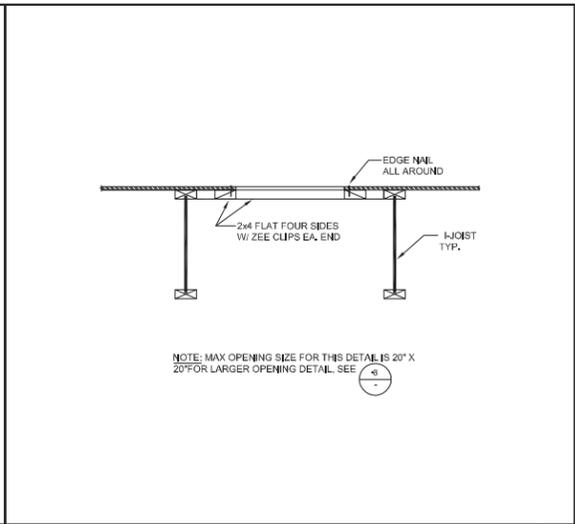
TITLE
TYPICAL DETAILS

PROJECT: -
SCALE:
DRAWN BY:
DATE: 11/10/2023

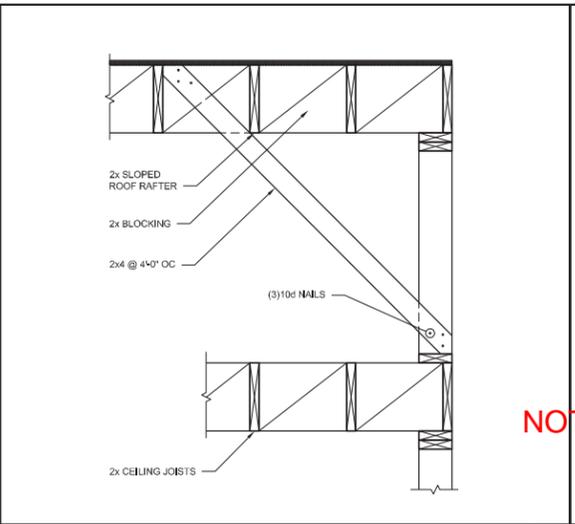
SHEET NUMBER
S1-02



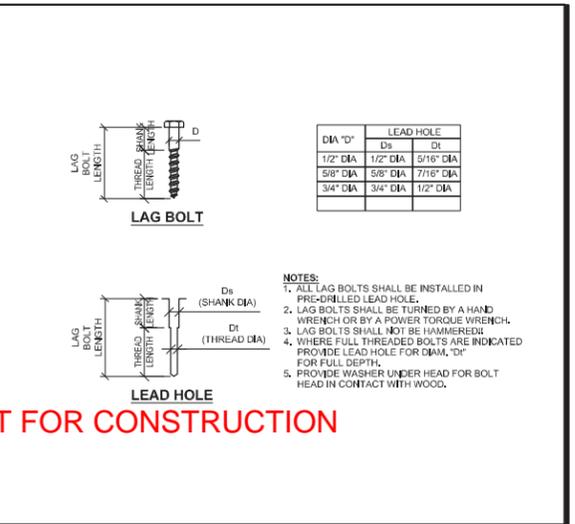
TYP. DBL. I-JOIST DETAIL 10



SMALL OPENING 7



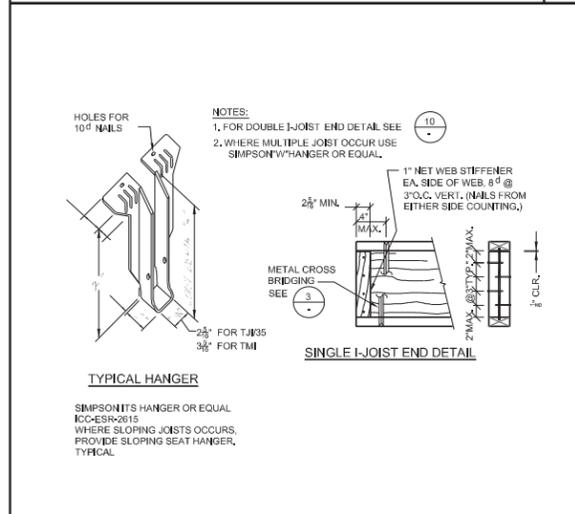
DETAIL 4



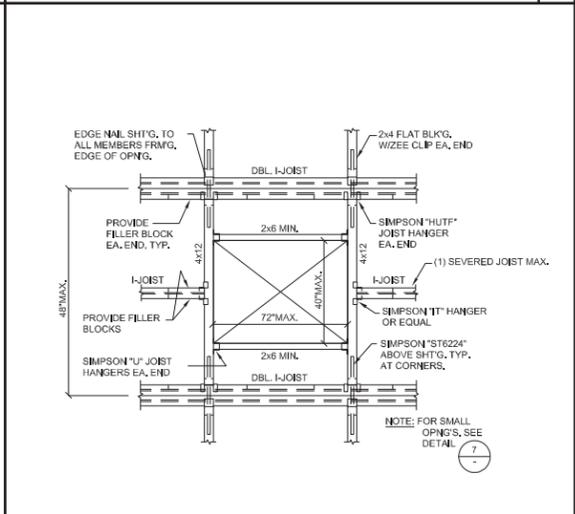
TYPICAL WOOD DETAIL 1

NOT FOR CONSTRUCTION

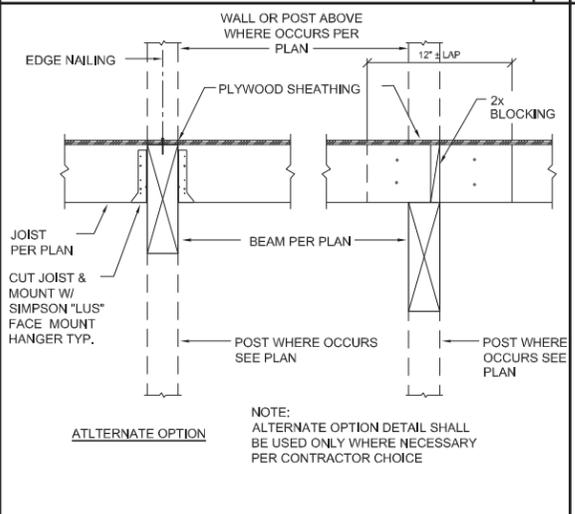
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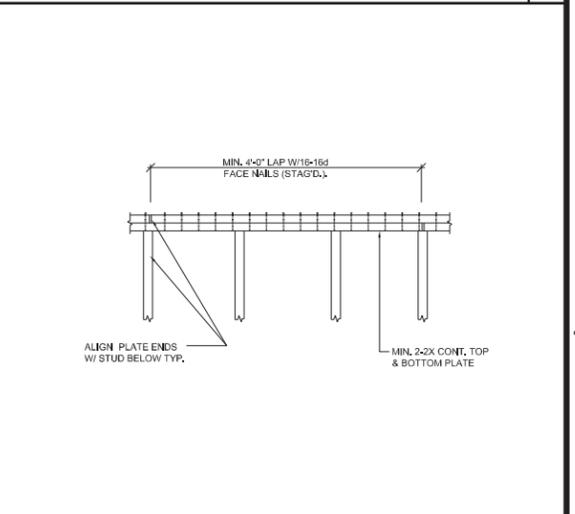
I-JOIST HANGER & STIFFENER 11



FRAMED OPENING 8



DETAIL 5

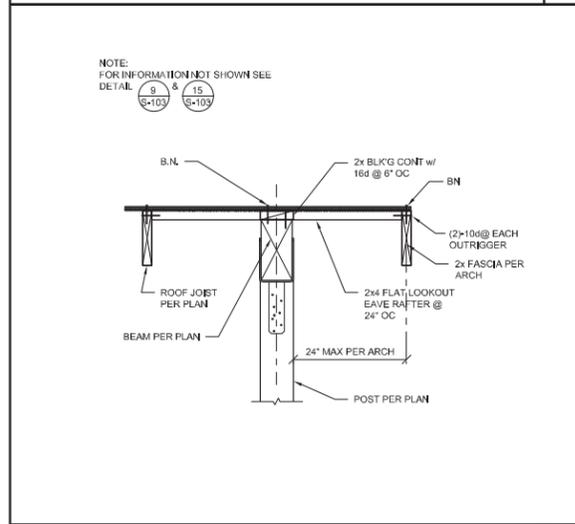


TOP PLATE LAP SPLICE 2

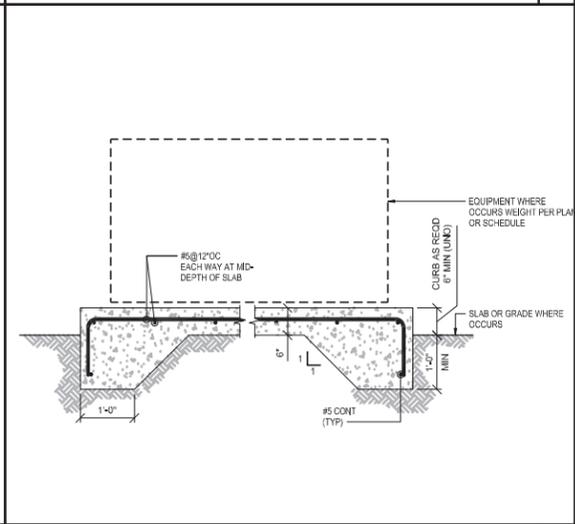
PERMIT SET

El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

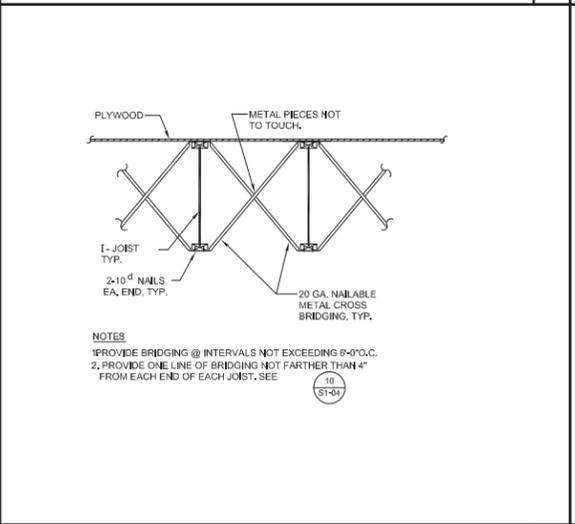
TITLE
 TYPICAL DETAILS



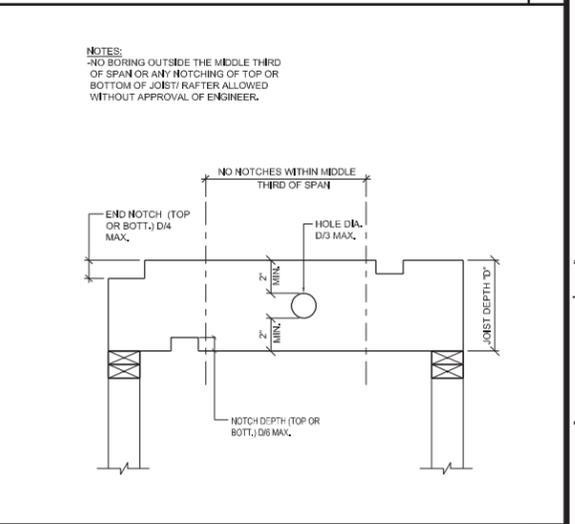
POST CONNECTION DETAIL 12



TYPICAL ISOLATED PAD ON GRADE 9



METAL CROSS BRIDGING 6



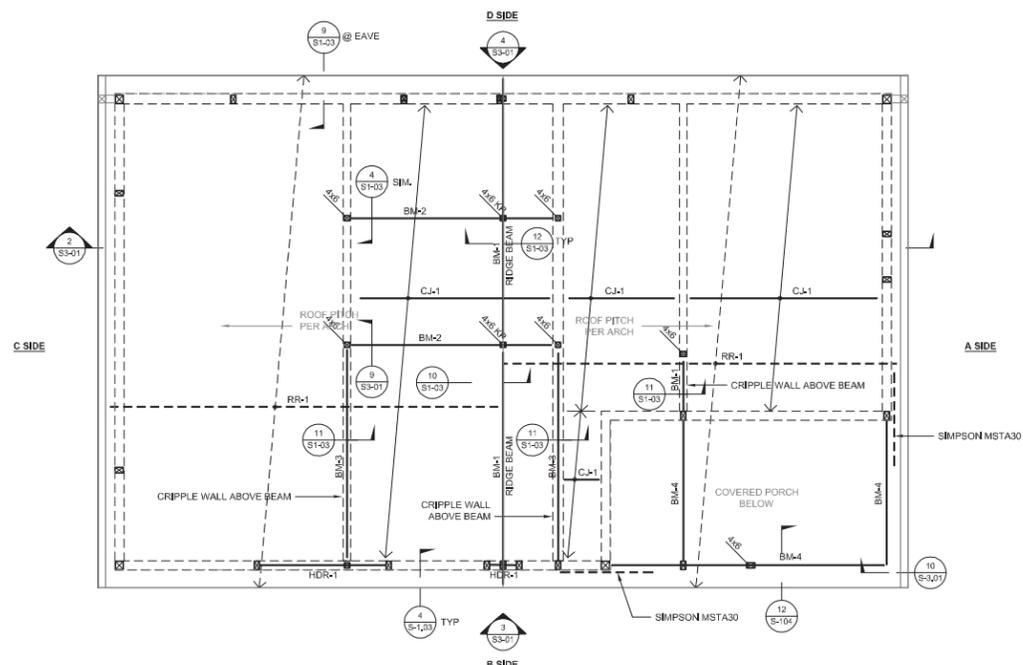
NOTCHING & BORING OF JOISTS & RAFTERS 3

PROJECT
 SCALE
 DRAWN BY
 DATE 11/10/2023

SHEET NUMBER
S1-04



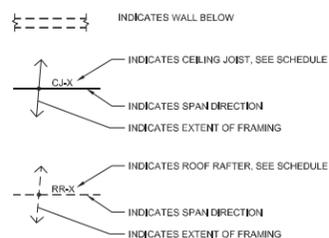
NOT FOR CONSTRUCTION



NOTES:

- SEE S0.01 SHEET SERIES FOR GENERAL NOTES ON WOOD FRAMING, SEE S1.04 SHEETS SERIES FOR TYPICAL DETAILS THAT OCCUR THROUGHOUT DWGS IN SET.
- FOR DIMENSIONS NOT NOTED SEE ARCHITECTURAL FLOOR PLANS.
- FOR EXTERIOR WALL STUDS TO BE 2x6@16" OC, INTERIOR WALL STUDS 2x4@16" OC
- TYPICAL NAILING SCHEDULE PER (7) S1-02
- HEADER, JAMBS AND SILLS SIZES PER (3) S1-03 UNO ON PLANS
- HOLDOWN CONNECTOR BOLTS INTO WOOD FRAMING SHALL USE APPROVED PLATE WASHERS AND SHALL BE RETIGHTENED JUST PRIOR TO COVERING WALL FRAMING.
- ROOF DIAPHRAGM SHALL BE 15/32" STRUCT I PLYWOOD WITH 10d NAILS @ 6" OC B.N. & E.N. & 12" OC F.N. SEE DETAIL (12) S1-02

LEGEND:



JOIST/RAFTER SCHEDULE (SIZE & SPACING)			
MARK	SNOW LOAD (psf) *		
	≤ 99 PSF	≤ 60 PSF	= 20 PSF
CJ-1	2x8@16"OC	2x8@16"OC	2x8@16"OC
RR-1	2x12@16"OC	2x12@16"OC	2x10@16"OC

BEAM SIZE SCHEDULE			
MARK	SNOW LOAD (psf) *		
	≤ 99 PSF	≤ 60 PSF	= 20 PSF
BM-1	4x16	4x14	4x10
BM-2	PSL 5.5x11.25	6x12	6x10
BM-3	PSL 3.5x11.875	PSL 3.5x11.25	4x12
BM-4	4x12	4x10	4x10
HDR-1	6x12	6x10	6x8

- NOTE:
- INSTALL FURRING STRIPS PERPENDICULAR TO BOTTOM OF JOIST/RAFTER AS REQUIRED TO ACHIEVE MINIMUM INSULATION THICKNESS - SEE ARCH DRAWINGS
 - THESE SCHEDULES AND PLANS ARE NOT APPLICABLE TO GROUND SNOW LOADS EXCEEDING 100 PSF

JOIST/RAFTER SCHEDULE (SIZE & SPACING)			
MARK	SNOW LOAD		
	≤ 99 PSF	≤ 60 PSF	= 20 PSF
CJ-1	2x8@16"OC	2x8@16"OC	2x8@16"OC
RR-1	1 1/2" TJ@16"OC	1 1/2" TJ@16"OC	1 1/2" TJ@16"OC

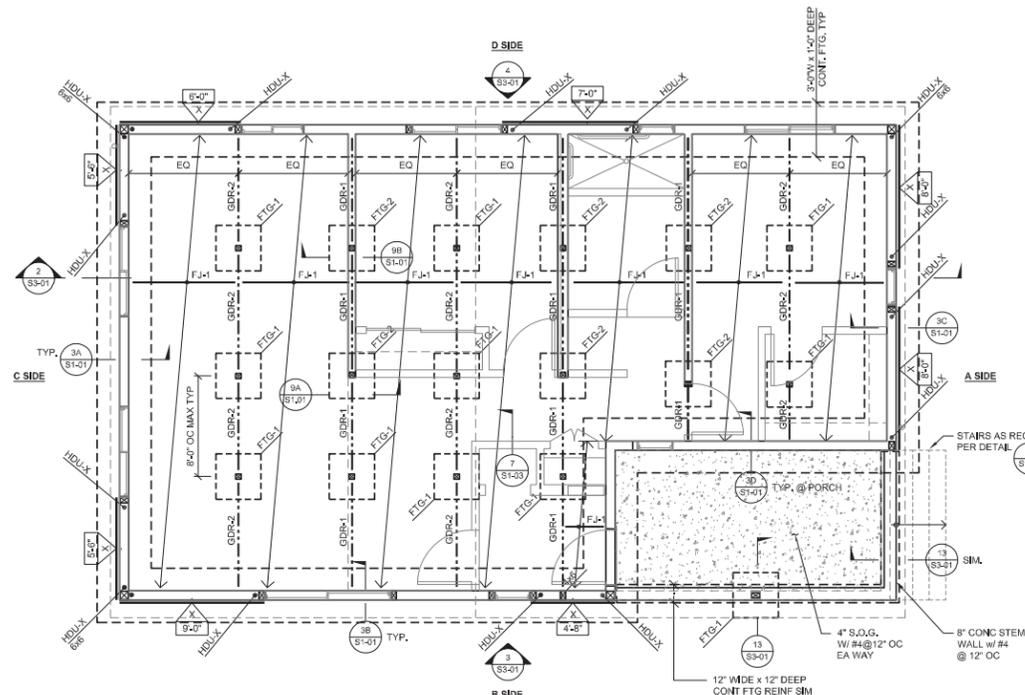
*TJI JOIST SHALL BE WEVERHAUSER TJI-210 OR APPROVED EQUAL ENGINEERED JOISTS

ALL BEAMS TO BE DF NO.1, U.N.O.
 * SEE <https://edapps.edcgov.us/Planning/parceldatainfo.asp> TO DETERMINE SNOW LOAD (psf) DESIGN CRITERIA BASED ON PROPERTY'S APN PRIOR TO SELECTING FRAMING FROM THESE SCHEDULES

ANY REVISIONS TO THE CONSTRUCTION DETAILS ON THESE SET OF APPROVED PLANS ARE SUBJECT TO ENGINEERING AND COUNTY APPROVAL

ROOF PLAN

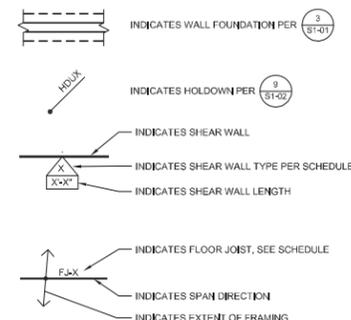
SCALE: 1/4"=1'-0" 2



NOTES:

- SEE S0.01 SHEET SERIES FOR GENERAL NOTES ON WOOD FRAMING, SEE S1.04 SHEETS SERIES FOR TYPICAL DETAILS THAT OCCUR THROUGHOUT DWGS IN SET.
- FOR DIMENSIONS NOT NOTED SEE ARCHITECTURAL FLOOR PLANS.
- FOR EXTERIOR WALL STUDS TO BE 2x6@16" OC, INTERIOR WALL STUDS 2x4@12" OC
- TYPICAL NAILING SCHEDULE PER (7) S1-02
- HEADER SIZES PER (3) S1-03 UNO ON PLANS
- HOLDOWN CONNECTOR BOLTS INTO WOOD FRAMING SHALL USE APPROVED PLATE WASHERS AND SHALL BE RETIGHTENED JUST PRIOR TO COVERING WALL FRAMING
- FLOOR DIAPHRAGM SHALL BE 15/32" STRUCT I PLYWOOD WITH 10d NAILS @ 6" OC B.N. & E.N. & 12" OC F.N. SEE DETAIL (12) S1-02
- FOR WALL FOOTING INTERSECTION AND CORNER REINFORCEMENT SEE (10) S1-01
- PROVIDE CONCRETE PAD AT GRADE SUPPORTED HVAC CONDENSOR UNIT PER ARCH AND MECHANICAL DRAWINGS, SEE (9) S1-01

LEGEND:



FLOOR JOIST SCHEDULE		
MARK	SIZE AND SPACING	
FJ-1	2x8 @ 16" OC	

PAD FOOTING SCHEDULE			
MARK	SNOW LOAD (psf) *		
	≤ 99 PSF	≤ 60 PSF	= 20 PSF
FTG-1	2'-0" x 2'-0" x 12" W/ (3) #4 EW	2'-0" x 2'-0" x 12" W/ (3) #4 EW	1'-8" x 1'-8" x 12" W/ (3) #4 EW
FTG-2	3'-0" x 3'-6" x 12" W/ (5) #4 EW	3'-0" x 3'-0" x 12" W/ (4) #4 EW	2'-6" x 2'-6" x 12" W/ (4) #4 EW

HOLDOWN AND SHEARWALL TYP SCHEDULE		
MARK	SNOW LOAD (psf) *	
	≤ 99 PSF	= 20 PSF
HDU-X	HDU-4	HDU-2
SW-X	SW-1	SW-2

BEAM SIZE SCHEDULE			
MARK	SNOW LOAD (psf)		
	≤ 99 PSF	≤ 60 PSF	= 20 PSF
GDR-1	6x10	6x8	6x8
GDR-2	4x8	4x8	4x8

FOR SHEARWALL DESIGN SEE SCHEDULE (1) S1-02

* SEE <https://edapps.edcgov.us/Planning/parceldatainfo.asp> TO DETERMINE SNOW LOAD (psf) DESIGN CRITERIA BASED ON PROPERTY'S APN PRIOR TO SELECTING FRAMING FROM THESE SCHEDULES

ANY REVISIONS TO THE CONSTRUCTION DETAILS ON THESE SET OF APPROVED PLANS ARE SUBJECT TO ENGINEERING AND COUNTY APPROVAL

FOUNDATION PLAN

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

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PERMIT SET

El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

TITLE
 FLOOR PLANS

PROJECT: SHEET NUMBER
 SCALE: S2-01
 DRAWN BY: DATE: 11/10/2023

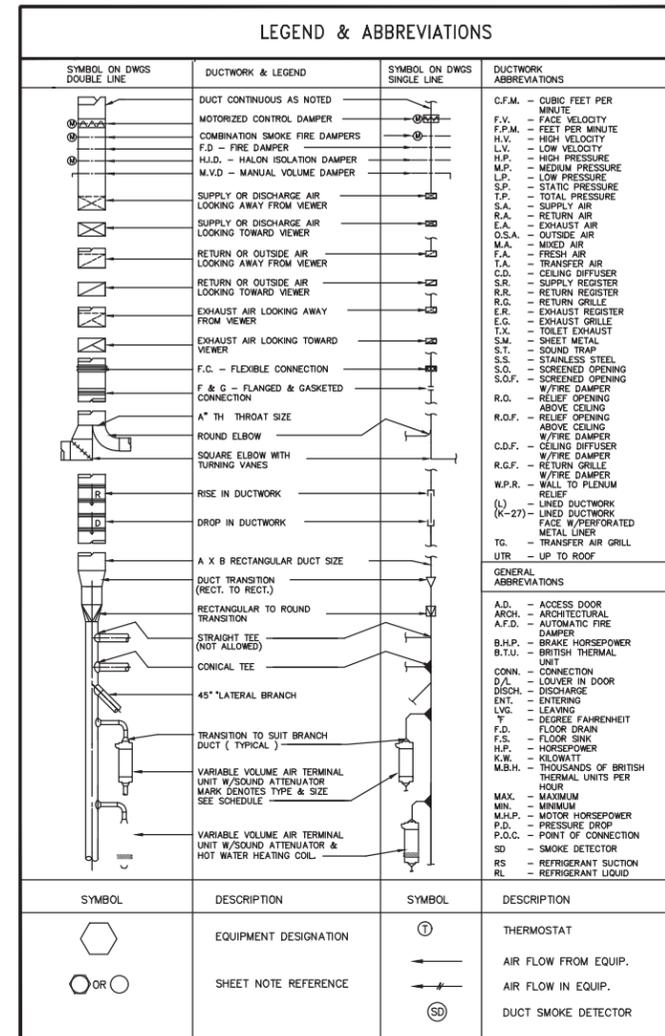


AIR SUPPLY OUTLET SCHEDULE							
MARK OR SYMBOL	DESCRIP.	NECK SIZE	FACE DIMENSION	CFM RANGE	MAX NC	ROUND DUCT CONN. SIZE OR EQUIV. RECT. DUCT	REMARKS
ONE WAY BLOW	PERFORATED FACE DIFFUSERS IN BRANCH DUCTS (ALUS PANEL) WITH 24" X 24" FLUSH MOUNTED VOLUME DAMPERS IN BRANCH DUCT	6 X 6	24 X 24	UP TO 100	35	7" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. ALL AIR DISTRIBUTION CORES TO PROVIDE EQUAL AIR FLOW IN EACH DIRECTION
		8 X 8		101 - 150		8" DIA.	
		10 X 10		151 - 200		9" DIA.	
		12 X 12		201 - 300		11" DIA.	
		14 X 14		301 - 400		12" DIA.	
TWO WAY BLOW	PERFORATED FACE DIFFUSERS IN BRANCH DUCTS (ALUS PANEL) WITH 24" X 24" FLUSH MOUNTED VOLUME DAMPERS IN BRANCH DUCT	6 X 6	24 X 24	UP TO 100	35	7" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. ALL AIR DISTRIBUTION CORES TO PROVIDE EQUAL AIR FLOW IN EACH DIRECTION
		8 X 8		101 - 150		8" DIA.	
		10 X 10		151 - 200		9" DIA.	
		12 X 12		201 - 300		11" DIA.	
		14 X 14		301 - 400		12" DIA.	
CORNER BLOW	PERFORATED FACE DIFFUSERS IN BRANCH DUCTS (ALUS PANEL) WITH 24" X 24" FLUSH MOUNTED VOLUME DAMPERS IN BRANCH DUCT	6 X 6	24 X 24	UP TO 100	35	7" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. ALL AIR DISTRIBUTION CORES TO PROVIDE EQUAL AIR FLOW IN EACH DIRECTION
		8 X 8		101 - 150		8" DIA.	
		10 X 10		151 - 200		9" DIA.	
		12 X 12		201 - 300		11" DIA.	
		14 X 14		301 - 400		12" DIA.	
THREE WAY BLOW	PERFORATED FACE DIFFUSERS IN BRANCH DUCTS (ALUS PANEL) WITH 24" X 24" FLUSH MOUNTED VOLUME DAMPERS IN BRANCH DUCT	6 X 6	24 X 24	UP TO 100	35	7" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. ALL AIR DISTRIBUTION CORES TO PROVIDE EQUAL AIR FLOW IN EACH DIRECTION
		8 X 8		101 - 150		8" DIA.	
		10 X 10		151 - 200		9" DIA.	
		12 X 12		201 - 300		11" DIA.	
		14 X 14		301 - 400		12" DIA.	
FOUR WAY BLOW	PERFORATED FACE DIFFUSERS IN BRANCH DUCTS (ALUS PANEL) WITH 24" X 24" FLUSH MOUNTED VOLUME DAMPERS IN BRANCH DUCT	6 X 6	24 X 24	UP TO 100	35	7" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. ALL AIR DISTRIBUTION CORES TO PROVIDE EQUAL AIR FLOW IN EACH DIRECTION
		8 X 8		101 - 150		8" DIA.	
		10 X 10		151 - 200		9" DIA.	
		12 X 12		201 - 300		11" DIA.	
		14 X 14		301 - 400		12" DIA.	

RETURN & EXHAUST OUTLET SCHEDULE							
MARK OR SYMBOL	DESCRIP.	NECK SIZE	FACE DIMENSION	CFM RANGE	MAX NC	ROUND DUCT CONN. SIZE OR EQUIV. RECT. DUCT	REMARKS
RETURN	PERFORATED FACE EXHAUST OR RETURN GRILLE W/ VOLUME DAMPER IN BRANCH DUCT	6 X 6	24 X 24	UP TO 70	35	6" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. FOR TYPES
		8 X 8		71 - 150		8" DIA.	
		10 X 10		151 - 300		11" DIA.	
		12 X 12		301 - 450		14" DIA.	
		14 X 14		451 - 650		16" DIA.	
EXHAUST	PERFORATED FACE EXHAUST OR RETURN GRILLE W/ VOLUME DAMPER IN BRANCH DUCT	6 X 6	24 X 24	UP TO 70	35	6" DIA.	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. FOR TYPES
		8 X 8		71 - 150		8" DIA.	
		10 X 10		151 - 300		11" DIA.	
		12 X 12		301 - 450		14" DIA.	
		14 X 14		451 - 650		16" DIA.	
RELIEF	PERFORATED FACE RELIEF GRILLE W/ VOLUME DAMPER	6 X 6	24 X 24	UP TO 150		NON-DUCTED PLENUM RETURN	UNLESS OTHERWISE NOTED ON DRAWINGS: 1. TO SUIT CEILING GRID SYSTEMS REFER TO ARCH. DWGS. 2. FOR TYPES
		8 X 8		151 - 250			
		10 X 10		251 - 350			
		12 X 12		351 - 450			
		14 X 14		451 - 550			

SIDE WALL REGISTERS								
SYMBOL	DESCRIPTION	NECK SIZE	FACE DIMENSION	SUPPLY REGISTERS		RETURN GRILLES		DUCT CONNECTION SIZE
				CFM RANGE	NC	CFM RANGE	NC	
STANDARD LOWER FACE REGISTERS & GRILLES TITUS AEROLABE SERIES, MODEL 272-RL OR EQUAL = NECK SIZE + 1-3/4"	SUPPLY	8 X 6	24 X 24	UP TO 100	10	UP TO 100	20	8 X 6
		10 X 6		101 - 150	11	101 - 150	25	10 X 6
		12 X 6		151 - 200	12	151 - 200	28	12 X 6
		14 X 6		201 - 250	14	201 - 250	28	14 X 6
		18 X 6		251 - 300	15	251 - 300	29	18 X 6
		12 X 8		301 - 400	11	301 - 400	29	12 X 8
		18 X 10		401 - 550	12	401 - 500	30	18 X 10
		36 X 6		501 - 650	13	501 - 600	30	36 X 6
		18 X 12		551 - 750	14	501 - 650	30	18 X 12
		24 X 10		751 - 800	14	601 - 700	30	24 X 10
STANDARD LOWER FACE REGISTERS & GRILLES TITUS AEROLABE SERIES, MODEL 25-RL OR EQUAL = NECK SIZE + 1-3/4"	RETURN	24 X 12	24 X 24	801 - 900	15	701 - 800	30	24 X 12
		18 X 16		901 - 1000	15	801 - 900	31	18 X 16
		30 X 12		901 - 1300	24	901 - 1000	30	30 X 12
		18 X 18		901 - 1300	24	901 - 1000	30	18 X 18
		20 X 20		901 - 1300	24	901 - 1000	30	20 X 20
		36 X 12		901 - 1400	16	901 - 1100	30	36 X 12

NOTES:
 1. ALL SUPPLY AIR REGISTERS SHALL BE DOUBLE DEFLECTION WITH OUTER BLADES PARALLEL TO THE LONG DIMENSION.
 2. ALL VOLUME DAMPERS ARE TO BE MOUNTED IN SUPPLY DUCTS, MINIMUM 6" AWAY FOR DIFFUSERS.



DUCT SIZE SCHEDULE

LOW VELOCITY DUCT SYSTEMS SUPPLY AND EXHAUST			
CFM RANGE	ROUND DUCT DIAMETER OR EQUIVALENT RECTANGULAR DUCT	CFM RANGE	ROUND DUCT DIAMETER OR EQUIVALENT RECTANGULAR DUCT
UP TO 80	6" DIA.	900 - 1100	15" DIA.
80 - 120	7" DIA.	1100 - 1400	16" DIA.
120 - 180	8" DIA.	1400 - 1900	18" DIA.
180 - 270	9" DIA.	1900 - 2500	20" DIA.
270 - 350	10" DIA.	2500 - 3300	22" DIA.
350 - 450	11" DIA.	3300 - 4100	24" DIA.
450 - 600	12" DIA.	4100 - 5000	26" DIA.
600 - 750	13" DIA.	5000 - 6200	28" DIA.
750 - 900	14" DIA.	6200 - 7500	30" DIA.

GENERAL NOTES:

BUILDER & BID

- SUBMIT ALL MECHANICAL EQUIPMENT AND ACCESSORIES, AIR HANDLING FIXTURES, DUCTWORK, PIPING, FITTINGS, ETC. FOR APPROVAL PRIOR TO PURCHASE, FABRICATION OR INSTALLATION.
- BUILDER SHALL SUBMIT SHOP DRAWINGS ON ALL DUCTWORK AND PIPING SYSTEMS PRIOR TO FABRICATION AND INSTALLATION. SHOP DRAWINGS SHALL BE COMPLETELY COORDINATED BY GENERAL & MECHANICAL BUILDERS WITH ALL TRADES INDICATING ALL LIGHT FIXTURES, SPRINKLER HEADS, SPRINKLER MAINS, CABLE TRAYS, BASE BUILDING DUCTS, BEAMS, SPEAKERS, ETC. (EXISTING OR NEW).
- BUILDER SHALL REVIEW EXISTING INSTALLED BUILDING CONDITIONS, BASE BUILDING DUCTS, PIPES, SPRINKLER MAINS, CONDUITS, STRUCTURAL BEAMS, ETC. FOR COORDINATION, PRIOR TO BIDDING AND DEVELOPING SHOP DRAWINGS.
- BUILDER SHALL BE RESPONSIBLE FOR PROVIDING ALL NECESSARY PERMITS.
- SHOP DRAWINGS SHALL INDICATE CFM QUANTITIES AT ALL DIFFUSERS AND ROOF TOP UNIT SCHEDULES.
- BUILDER SHALL PROVIDE REPRODUCIBLE AS-BUILT DRAWINGS AND AUTO CADD FILES ON CD ROM DISK FOR ENGINEERS & LANDLORDS FILES.
- BUILDER SHALL PROVIDE AND INDICATE ON SHOP DRAWINGS ALL VOLUME CONTROL DAMPERS, FIRE DAMPERS, COMBINATION SMOKE/FIRE DAMPERS AND ACCESS DOORS (IN DUCTS AND CEILINGS).
- MECHANICAL BUILDER SHALL PROVIDE 3RD PARTY INDEPENDENT AIR BALANCE REPORTS.

DUCTWORK & DIFFUSERS

- ALL DUCTWORK SHALL BE GALVANIZED STEEL SHEET METAL (U.N.O.) ALUMINUM OR ALUMINUM FLEX IS NOT PERMITTED (U.N.O.)
- PROVIDE ALL LOW PRESSURE DUCTWORK SIZE EQUAL TO OR LESS THAN 0.08" W.G./100' (TYP.) UNLESS SCHEDULED OTHERWISE. INDICATE ALL DUCT SIZES ON SHOP DRAWINGS.
- SIZE HIGH (MEDIUM) VELOCITY DUCTWORK AT 3" W.G./100' OR 2500 FPM, WHICHEVER PROVIDES THE LARGER DUCT.
- PROVIDE MINIMUM DUCT RADIUS ON ELBOWS AT 1-1/2 TIMES DUCT SIZE, TYPICAL FOR ALL ELBOWS.
- PROVIDE 4"-6" MAX. FLEX DUCT CONNECTION TO ALL DIFFUSERS, TYPICAL FLEXIBLE DUCT SHALL BE CASCO SF-181 OR GLAS-GLAS ACOUSTICAL FLEX WITH MID AT REMOTE END AWAY FROM DIFFUSERS.
- PROVIDE DUCT SEALANT TYPE DP-1010 BY DESIGN POLYMERS, OR EQUAL TO ALL DUCT JOINTS, WHETHER HARD METAL OR FLEXIBLE DUCTS.
- ALL HIGH (MEDIUM) PRESSURE DUCTS SHALL BE FREE FROM CONTACT WITH ALL PIPES, WALLS, ELECTRICAL CONDUITS, CEILING SUSPENSION SYSTEMS, ETC.
- ALL SUPPLY DUCTWORK SHALL BE INSULATED WITH 3 PCF DENSITY INORGANIC GLASS FIBER NON-FLEXIBLE WITH PRE-SIZED CANVAS VAPOR BARRIER JACKETING. INSULATION SHALL HAVE A "K" FACTOR OF 0.24 MAXIMUM AT 75°F NEAR TEMPERATURE (SEE SPECIFICATIONS)
- CEILING DIFFUSER CORES AND BACK-PANS SHALL HAVE A FLAT BLACK ENAMEL FINISH. FACE TO BE OFF-WHITE BAKED ENAMEL ON PERFORATED PLATE AND MARGIN UNLESS SPECIFIED OTHERWISE BY ARCHITECT AND APPROVED BY MECHANICAL ENGINEER. NECK VELOCITIES NOT TO EXCEED 500 FPM MAXIMUM.
- TENANT DUCT FITTINGS ARE NOT SHOWN FOR CLARITY. CONTRACTOR SHALL PROVIDE ALL NECESSARY DROPS, RISES, OFFSETS AND TRANSITIONS TO PROVIDE TENANT DUCT DISTRIBUTION AS SHOWN.
- PROVIDE FIVE (5) PIECE MITERED ELBOWS ON DUCT SYSTEMS ABOVE 1500 FPM (FEET PER MINUTE) DUCT VELOCITY.
- PROVIDE ALL DUCTWORK AND ASSOCIATED FITTING PER: "SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION, INC." (SMACNA)
- PROVIDE BRACING AND ANCHORAGE SUPPORTS ON ALL DUCTS, PER LOCAL CODES.

MISCELLANEOUS

- IN NON-ACCESSIBLE PLASTER (GYP. BOARD) CEILINGS, ROUTE DISTRIBUTION TO PROVIDE VOLUME DAMPERS AND OTHER CONTROL DEVICES ABOVE ACCESSIBLE CEILINGS (TYPICAL).
- ALL PIPING AND DUCTWORK SHALL FREELY PASS THROUGH ALL WALLS AND FLOORS WITHOUT ROID CONNECTIONS. PENETRATION POINTS SHALL BE SLEAVED TO ALLOW PASSAGE OF DUCTWORK AND MAINTAIN 3/4" TO 1-1/4" CLEARANCE AROUND THE OUTSIDE SURFACES. THIS CLEARANCE SHALL BE TIGHTLY PACKED WITH ONE POUND DENSITY GLASS FIBER, AND CALKED AIRTIGHT WITH NON-HARDENING SEALANT AFTER INSTALLATION OF DUCTWORK.
- INSTALL ALL AIR DISTRIBUTION DEVICES, SUPPLY DIFFUSERS, RETURN GRILLES, ETC., IN ACCORDANCE WITH LOCATIONS GIVEN ON CONTRACT DOCUMENTS.

CITY & CODE REQUIREMENTS

- PROVIDE LOCAL CITY APPROVED DUCT WRAP INSULATION WITH WRAPPING AND VERIFY CALIFORNIA ENERGY COMMISSION APPROVAL.
- FABRICATE, INSTALL, SEAL AND INSULATE ALL DUCTWORK IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF THE 2022 MECHANICAL CODE.
- ALL EQUIPMENT, MATERIALS AND WORK SHALL CONFORM TO THE 2022 EDITIONS OF THE CALIFORNIA BUILDING CODE, MECHANICAL CODE, PLUMBING CODE AND THE 2022 CALIFORNIA ELECTRICAL CODE, STATE TITLE 24 REGULATIONS, AND EL DORADO COUNTY LAWS AND ORDINANCES, AND STATE AND EL DORADO COUNTY FIRE MARSHALL'S PERTAINING TO THIS PROJECT.

SHEET INDEX

SHT. NO.	DESCRIPTION
M0.01	MECHANICAL COVERSHEET
M3.01	MECHANICAL FLOOR PLAN
M6.01	MECHANICAL SCHEDULES AND DETAILS
M8.01	MECHANICAL DETAILS
M8.02	MECHANICAL DETAILS

NOT FOR CONSTRUCTION

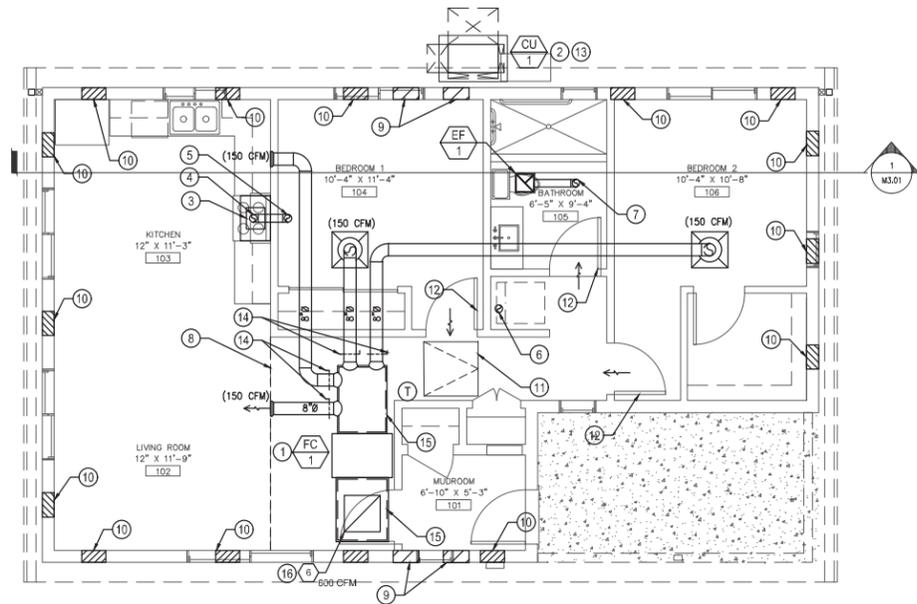
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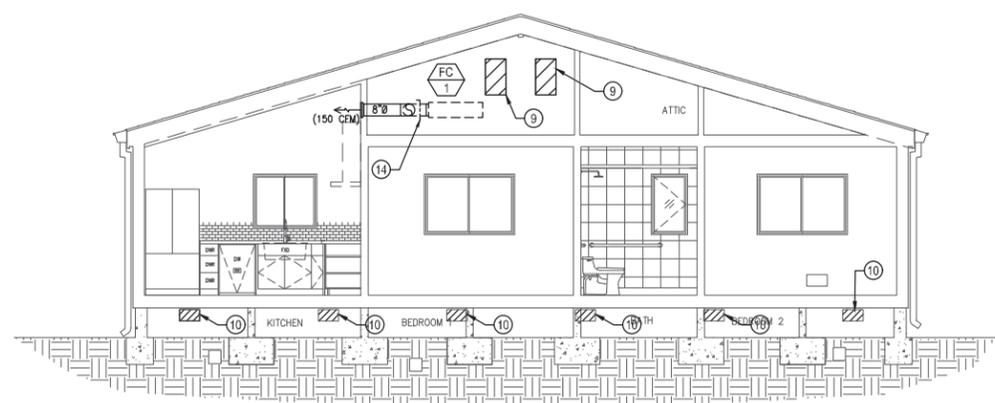
El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

TITLE
MECHANICAL COVER SHEET

PROJECT
 SCALE
 DRAWN BY
 DATE
 SHEET NUMBER
M0.01
 11/10/2023



MECHANICAL FLOOR PLAN
SCALE: 1/4" = 1'-0" 02



SECTION VIEW
SCALE: 1/4" = 1'-0" 01

- ### KEY NOTES
1. FAN COIL UNIT LOCATED IN THE ATTIC SPACE.
 2. CONDENSING UNIT ON GRADE. INSTALL AND MAINTAIN CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS. CU LOCATION TO BE DETERMINED BY SITE AND MUST BE COMPLY WITH TITLE 130 CHAPTER 130.30.050.C.3.a.
 - 2.1. CONDENSING UNIT MAY ENCRUCH INTO ANY SETBACK BY UP TO 50% BUT NOT LESS THAN 3 FEET FROM THE LOT LINE.
 - 2.2. WHEN LOCATED LESS 10FT FROM THE PROPERTY LINE, CONDENSING UNIT SHALL BE ENCLOSED WITH AN APPROPRIATE NOISE BARRIER.
 3. UNIVERSAL T-SHAPED HOOD BY OTHERS.
 4. EXHAUST DUCT FROM THE HOOD BELOW. SIZE AND INSTALL PER MANUFACTURER'S INSTRUCTION.
 5. TERMINATE EXHAUST DUCT WITH GOOSENECK TO AVOID EMBER ACCUMULATION IN THE DUCT.
 6. TERMINATE DRYER EXHAUST DUCT WITH GOOSENECK TO AVOID EMBER ACCUMULATION IN THE DUCT. SIZE DRYER EXHAUST PER MANUFACTURER'S INSTRUCTION.
 7. TERMINATE 6"Ø TOILET EXHAUST DUCT WITH GOOSENECK TO AVOID EMBER ACCUMULATION IN THE DUCT.
 8. SOFFIT ABOVE.
 9. INSTALL LOUVER IN THE ATTIC SPACE SHALL BE COORDINATED WITH ARCHITECT DRAWING ON EITHER SIDE OF THE BUILDING FOR CROSS VENTILATION. TYP.(2). REFER TO ARCHITECTURAL DRAWING A4-10
 10. INSTALL LOUVER IN THE CRAWL SPACE SHALL BE COORDINATED WITH ARCHITECT DRAWING AT FIVE CORNERS OF THE BUILDING. TYP.(5). THE OPENING SHALL BE WITHIN 3 FEET OF EACH CORNER OF THE BUILDING. REFER TO ARCHITECTURAL DRAWING A4-10.
 11. 36"x36" ATTIC ACCESS DOOR ABOVE. REFER TO ARCHITECTURAL DRAWING. REFER TO ARCHITECTURAL DRAWING A2-10
 12. 1" UNDERCUT ON DOOR. REFER TO ARCHITECTURAL DRAWING A2-10
 13. OUTDOOR UNIT. INSTALL ON 4" CONCRETE PAD. CONCRETE PAD SHALL BE 6" LARGER THAN THE DIMENSION OF THE UNIT. REFER TO STRUCTURAL DRAWING.
 14. VOLUME DAMPER FOR BRANCH DUCTWORK.
 15. 1" DUCT LINER INSIDE PLENUM.
 16. PROVIDE 1" LINED DUCT FOR 12" DIA. RETURN DUCT CONNECTION FROM RETURN AIR REGISTER TO PLENUM

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El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

TITLE
MECHANICAL
PLANS

PROJECT	SHEET NUMBER
SCALE 1/4" = 1'-0"	M3.01
DRAWN BY REX	
DATE 11/10/2023	



DX SPLIT SYSTEM HEAT-PUMP OR EQUIVALENT																																	
EVAPORATOR SECTION													CONDENSER SECTION																				
SYMBOL	MAKE	MODEL/TYPE	TONS	ELECTRICAL			FAN DATA		COIL DATA				FILTERS Φ	WEIGHTS (LBS)	DIMENSIONS	REMARKS	SYMBOL	MAKE	MODEL/TYPE	TONS	NOM. COOLING CAPACITY (BTU/HR)		MAXIMUM HEATING @ 47°F (BTU/HR)	COP @ 47°F	HSPF	ELECTRICAL			SEER/EER	WEIGHTS (LBS)	DIMENSIONS	REMARKS	
				POWER	FLA	MCA/MOCP	CFM	ESP	EAT (°F) DB	LAT (°F) WB	FDB	FWR									MAXIMUM	MINIMUM				POWER	FLA	MCA/MOCP					
FC 1	MITSUBISHI	PEAD-A18A47	1.5	POWERED BY OUTDOOR UNIT			600	0.6	80	67	55	50	MERV-13	62	HEIGHT 10" DEPTH 28" WIDTH 35"	SEE NOTES BELOW	CU 1	MITSUBISHI	SUZ-KA18NR1	1.5	18000	7500	24700	3.20	11.5	208/230V 60 HZ-1PH	-	14	15	18.8/12.5	119	HEIGHT 18" DEPTH 18.5" WIDTH 33"	SEE NOTES BELOW

NOTES:

- PLUMBING BUILDER TO CONNECT CONDENSATE DRAIN TO NEAREST SINK TAIL PIECE OR APPROVED RECEPTOR.
- ELECTRICAL BUILDER TO PROVIDE LOCAL DISCONNECT SWITCHES FOR INDOOR FAN COILS AND OUTDOOR CONDENSERS.
- PROVIDE AND INSTALL IN A MANNER ACCEPTABLE TO ALL APPROVING AUTHORITIES WITH CODE AND MANUFACTURER'S REQUIRED CLEARANCES. FOR ALL ACCESS POINTS AND SERVICE AREAS.
- ALL REFRIGERANT AND CONDENSATE PIPING SHALL BE SEAMLESS COPPER TUBING, TYPE L, COLD DRAWN, HARD TEMPER, ASTM B88.
- ALL REFRIGERANT PIPE FITTINGS SHALL BE WROUGHT COPPER SWEAT TYPE ANSI B16.22.
- REFRIGERANT PIPING SIZES SHALL BE PER MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE PROGRAMMABLE SETBACK ROOM THERMOSTAT WITH 4 HOUR OVERRIDE.
- PROVIDE EXTERNAL VIBRATION ISOLATION SPRINGS W/ SPACE SAVING BRACKETS.
- PROVIDE SPRING ISOLATORS FOR ALL CONDENSERS LOCATED ON ROOF.
- MECHANICAL BUILDER SHALL FURNISH AND INSTALL ALL LOW VOLTAGE CONTROL WIRING. CONDUIT SHALL BE PROVIDED AND INSTALLED BY ELECTRICAL BUILDER.
- INSULATE REFRIGERANT SUCTION LINES AND INSTALL ALUMINUM JACKETS ON EXPOSED SUCTION LINES.
- MECHANICAL BUILDER SHALL PROVIDE LITTLE GIANT CONDENSATE PUMPS, 120V/1PH/60HZ, 1.5 FLA AND CONNECT TO FAN COIL UNITS.
- MECHANICAL BUILDER SHALL PROVIDE AND INSTALL ALL FAN CONTACTORS (STARTERS) FOR ALL UNITS.
- PROVIDE 2" MERV-13 FILTERS AND FILTER BOX "FBM" SERIES.
- INDOOR UNIT POWERED BY OUTDOOR UNIT.

RETURN & EXHAUST AIR REGISTER SCHEDULE						
SYMBOL	MFR.	MODEL		GRILLE SIZE	CFM RANGE	REMARKS
		SURFACE MOUNTED	LAY-ON T-BAR			
1 CFM	ANEMOSTAT	GC5	GC5L	6" X 6"	0 - 130	
2 CFM	ANEMOSTAT	GC5	GC5L	8" X 8"	131 - 180	
3 CFM	ANEMOSTAT	GC5	GC5L	10" X 10"	181 - 300	
4 CFM	ANEMOSTAT	GC5	GC5L	12" X 12"	301 - 440	
5 CFM	ANEMOSTAT	GC5	GC5L	14" X 14"	441 - 610	
6 CFM	ANEMOSTAT	GC5	GC5L	16" X 16"	611 - 810	
7 CFM	ANEMOSTAT	GC5	GC5L	18" X 18"	811 - 1290	
8 CFM	ANEMOSTAT	GC5	GC5L	20" X 20"	1291 - 1570	
9 CFM	ANEMOSTAT	GC5	GC5L	22" X 22"	1571 - 1800	

EXHAUST FAN SCHEDULE OR EQUIVALENT													
SYMBOL	MAKE	MODEL/TYPE	SERVING	PERFORMANCE DATA			MOTOR DATA			OPER. WEIGHT LBS.	REMARKS		
				CFM	S.P. in. w.c.	RPM	DRIVE	WATT	VOLTAGE				
EF 1	GREENHECK	SP-880	BATHROOM	50	0.25	900	DIRECT	14	115	1	60	9	1, 2, 3, 4, 5, 6
GENERAL NOTES:													
1. PROVIDE AND INSTALL WITH REQUIRED SERVICE ACCESS.													
2. PROVIDE FLEXIBLE CONNECTION ON FAN INLET WITH SHEET METAL WEATHER COVER AND STAINLESS STEEL BIRD SCREEN ON OUTLET.													
3. MOUNT ALL UNITS WITH SEISMIC RESTRAINTS.													
4. PROVIDE BACK DRAFT DAMPER.													
5. EXHAUST FAN SHALL BE CONTROLLED BY LIGHT SWITCH.													
6. TERMINATE WITH GOOSENECK.													

NOT FOR CONSTRUCTION

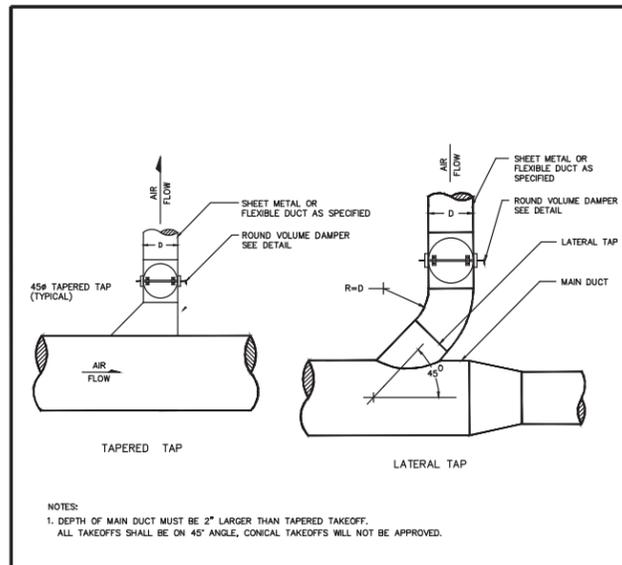
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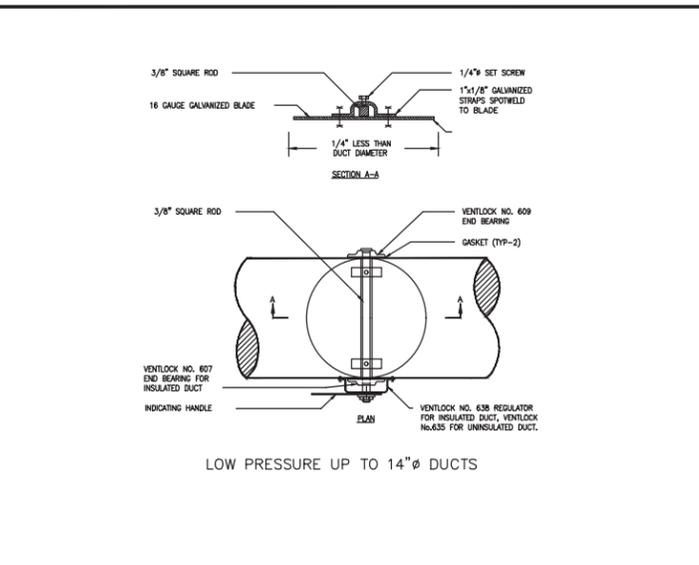
El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
MECHANICAL
SCHEDULES

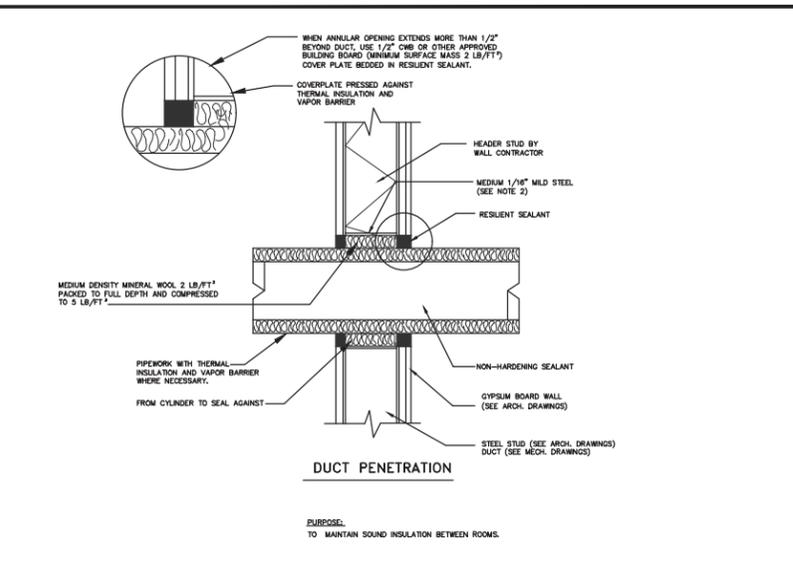
PROJECT	SHEET NUMBER
SCALE	M6.01
NTS	
DATE	
DRAWN BY	REX
DATE	11/10/2023



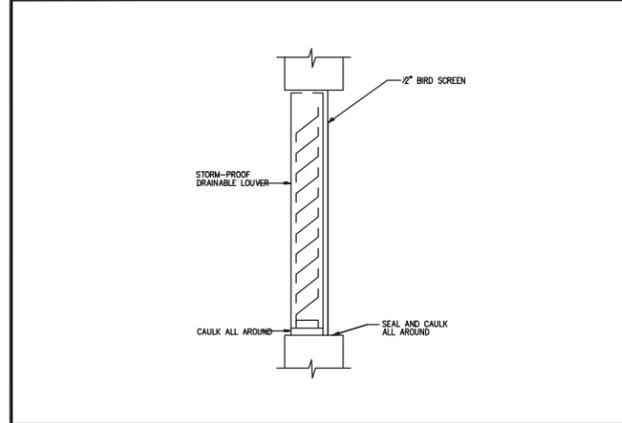
TYPICAL DUCT TAKEOFFS NOT TO SCALE 1



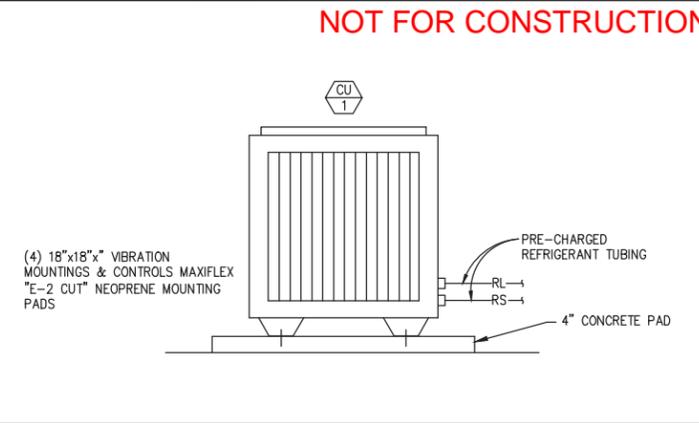
ROUND VOLUME DAMPER DETAIL NOT TO SCALE 2



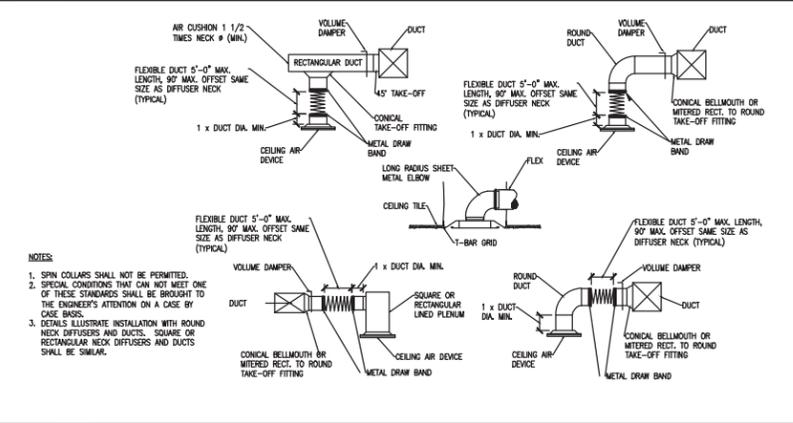
DUCT PENETRATION THRU NON-RATED WALL NOT TO SCALE 3



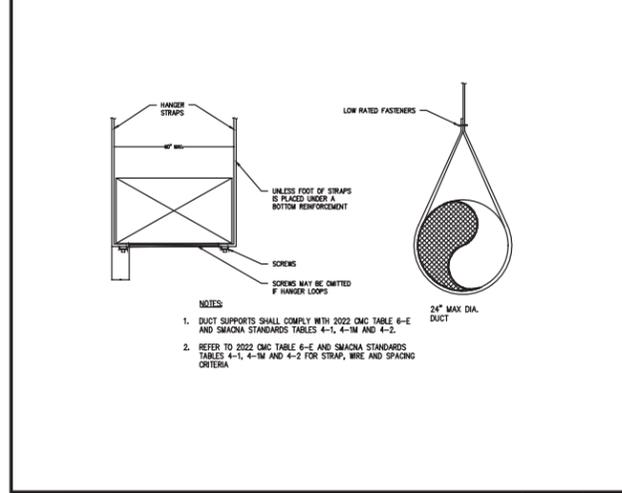
EXTERIOR LOUVER DETAIL NOT TO SCALE 4



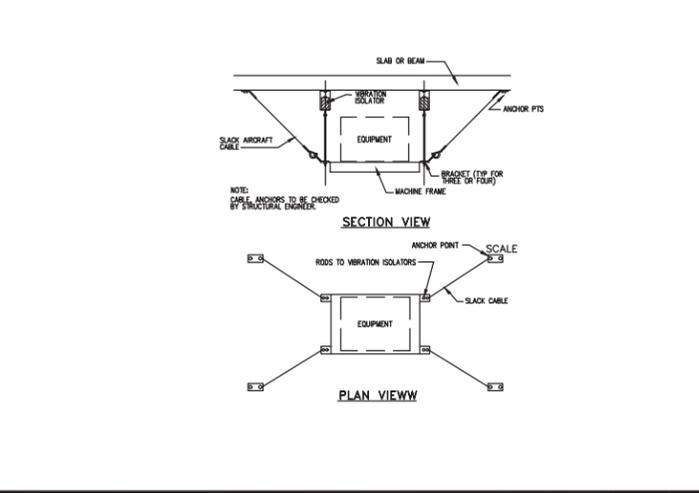
GROUND MOUNTED CONDENSING UNIT DETAIL NOT TO SCALE 5



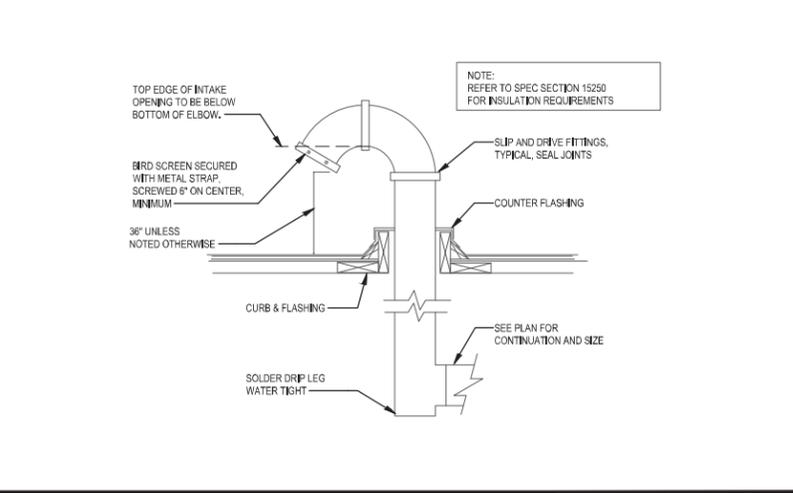
TYPICAL AIR DEVICE (INLET/OUTLET) INSTALLATION DETAIL NOT TO SCALE 6



DUCT HANGER DETAIL NOT TO SCALE 7



SUSPENDED EQUIPMENT DETAIL NOT TO SCALE 8



GOOSENECK DETAILS NOT TO SCALE 9

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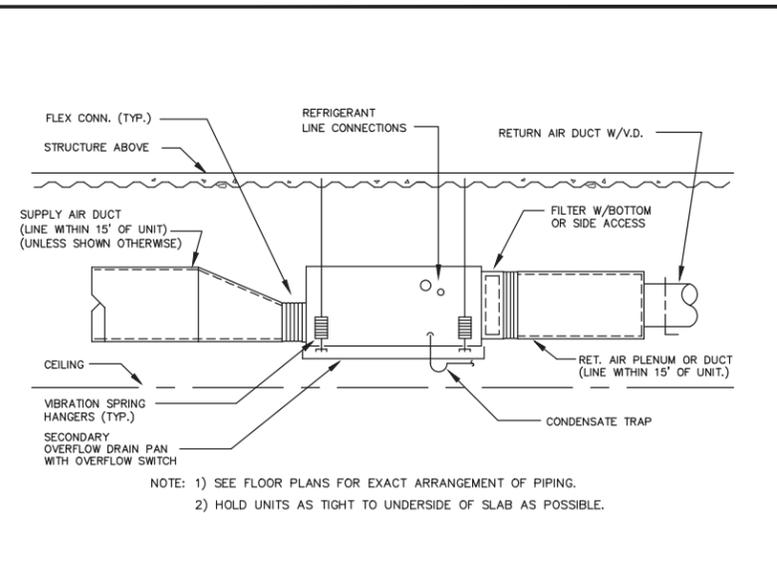
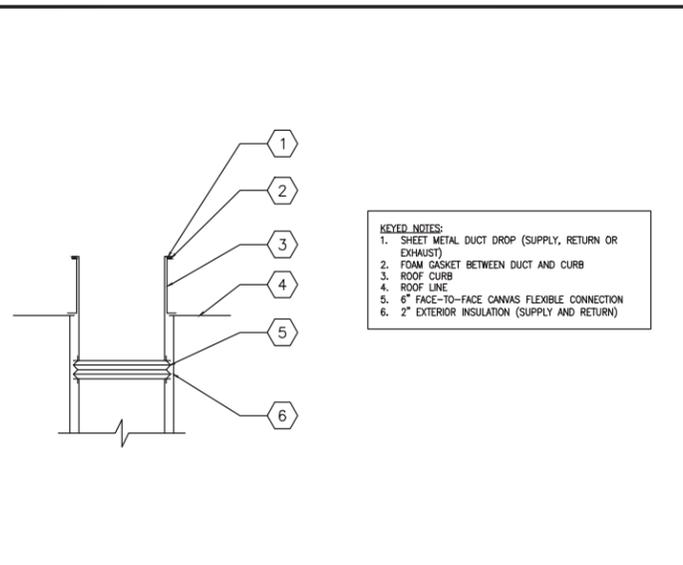
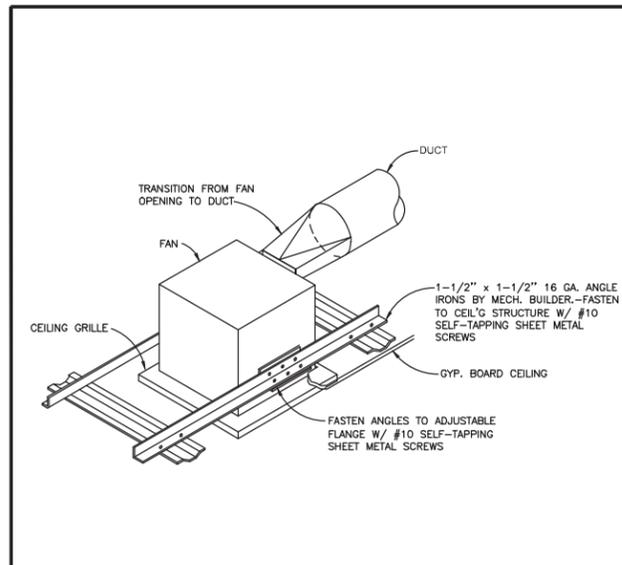
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El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

TITLE
 MECHANICAL
 DETAILS

PROJECT: NTS
 SCALE: REX
 DRAWN BY: REX
 DATE: 11/10/2023

SHEET NUMBER
 M8.01



CEILING EXHAUST FAN DETAIL NOT TO SCALE 1

DUCT PENETRATION TO ROOF DETAIL NOT TO SCALE 2

TYPICAL FAN COIL DETAIL NOT TO SCALE 3

NOT USED NOT TO SCALE 4

NOT USED NOT TO SCALE 5

NOT FOR CONSTRUCTION

NOT USED NOT TO SCALE 7

NOT USED NOT TO SCALE 8

NOT USED NOT TO SCALE 9

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El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
MECHANICAL
DETAILS

PROJECT
SCALE
DRAWN BY
DATE
REX
11/10/2023

SHEET NUMBER
M8.02

GENERAL NOTES

- A. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE CALIFORNIA CODE OF REGULATIONS, CALIFORNIA ELECTRICAL CODE 2022 EDITION AND ALL APPLICABLE LOCAL CODES AND REGULATIONS.
- B. DRAWINGS ARE DIAGRAMMATIC AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED. FOLLOW DRAWINGS IN LAYING OUT WORK AND CHECK DRAWINGS OF OTHER TRADES RELATING TO WORK TO VERIFY SPACES IN WHICH WORK WILL BE INSTALLED. MAINTAIN HEADROOM AND MINIMUM CODE REQUIRED WORKING CLEARANCES AT ALL TIMES.
- C. DURING BID, THE BUILDER MUST EXAMINE THE COMPLETE SET OF DRAWINGS AND CONTRACT DOCUMENTS FOR ALL TRADES. COORDINATE AND VERIFY DIMENSIONS SPACE REQUIREMENTS AND POINTS OF CONNECTION TO ALL EQUIPMENT. MAKE ANY ADJUSTMENTS NECESSARY TO AVOID CONFLICTS WITH THE STRUCTURAL AND THE WORK OF OTHER TRADES.
- D. THE BUILDER IS ADVISED AND REMINDED THAT THEIR BEST EFFORTS AND THAT OF THE BUILDER'S ORGANIZATION AND PERSONNEL ARE TO BE PROVIDED AS PART OF THE COORDINATED EFFORT INTENDED TO PROVIDE THE PROJECT OWNER AND THE ULTIMATE USERS AND OCCUPANTS WITH FINISHED PROJECT WHICH WILL SERVE ITS INTENDED PURPOSE.
- E. BUILDER SHALL VERIFY THE EXACT LOCATION OF ALL ELECTRICAL, MECHANICAL, PLUMBING AND ALL OTHER EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS PRIOR TO ANY WORK.
- F. DEDICATED ELECTRICAL SPACE NEC 110.26(F): THE SPACE EQUAL TO THE WIDTH AND DEPTH OF THE EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER IS LOWER, SHALL BE DEDICATED TO THE ELECTRICAL INSTALLATION. NO PIPING, DUCTS, LEAK PROTECTION APPARATUS, OR OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION SHALL BE LOCATED IN THIS ZONE.
- G. SEE MECHANICAL AND PLUMBING DRAWINGS AND SPECIFICATION FOR ADDITIONAL CONNECTION REQUIREMENTS TO CONTROL PANELS AND TRANSFORMERS 120V FOR CONTROL SYSTEM, SWITCHES, TIME CLOCK, VALVES, STATS, RELAYS, DUCT SMOKE DETECTOR LOCATION, VAV BOXES, SMOKE FIRE DAMPERS, AND ETC. BUILDER SHALL VERIFY FINAL CONTROL WIRING REQUIREMENTS WITH DIVISION 22 & 23 PRIOR TO ANY WORK AND PROVIDE ALL NECESSARY WIRING, DEVICES AND CONNECTIONS AS REQUIRED.
- H. BUILDER SHALL EXTEND WIRING FROM ALL JUNCTION BOXES, SWITCHES, ETC. AND MAKE FINAL CONNECTIONS AS REQUIRED TO ALL OTHER EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS PRIOR TO ANY WORK.
- I. THE BUILDER SHALL VERIFY THE ACTUAL MOTOR AND APPLIANCE RATING AND LOADS IN ORDER TO PROVIDE CORRECT SIZED MOTOR RELATED ELECTRICAL COMPONENTS. THE BUILDER SHALL SUBMIT TO ARCHITECT WITH REVISED DATA BEFORE INSTALLATION. ALL CHANGES SHALL BE SHOWN ON RECORD DRAWINGS.
- J. ALL PANELS, SWITCHES, ETC. SHALL HAVE SUFFICIENT GUTTER SPACE AND LUGS IN COMPLIANCE WITH U.L. REQUIREMENTS TO ACCOMMODATE CONDUCTORS SHOWN.
- K. WHERE WIRE SIZES ARE INDICATED ON PLANS, FOR INDIVIDUAL CIRCUITS, THE WIRE SIZE INDICATED SHALL APPLY TO THE COMPLETE CIRCUIT, UNLESS OTHERWISE NOTED.
- L. LOCATION OF LOCAL WALL SWITCHES ARE SUBJECT TO MODIFICATIONS. AT OR NEAR DOORS, INSTALL SWITCHES ON SIDE OPPOSITE TO DOOR HINGES. VERIFY FINAL HINGE LOCATION IN FIELD PRIOR TO ANY WORK.
- M. BUILDER SHALL COORDINATE THE LOCATION OF ALL WALL OUTLET BOXES FOR SWITCHES, STROBES/HORNS, STROBES, FIRE ALARM PULL STATIONS, RECEPTACLES, ETC. WITH TACK BOARDS, CABINETS, FURNITURE, EQUIPMENT ETC. TO AVOID CONFLICT.
- N. WHERE ELECTRIC MOTORS OR EQUIPMENT ARE INSTALLED IN HUNG CEILING, PROVIDE DISCONNECT SWITCH IN HUNG CEILING WITHIN REACH FROM ACCESS POINT.
- O. PROVIDE APPROVED EXPANSION FITTINGS WHERE RACEWAY CROSSES BUILDING EXPANSION JOINTS.
- P. PROVIDE PULL WIRE IN EACH RACEWAY RUN OVER 10 FEET IN LENGTH, IN WHICH PERMANENT WIRING IS NOT INSTALLED.
- Q. NOT MORE THAN THREE LIGHTING OR CONVENIENCE OUTLET CIRCUITS ARE PERMITTED IN ONE CONDUIT, UNLESS OTHERWISE INDICATED PROVIDE SEPARATE CONDUIT FOR EACH HOME RUN INDICATED ON THE DRAWING.
- R. ALL EXTERIOR ELECTRICAL DEVICES AND EQUIPMENT EXPOSED TO OUTSIDE ENVIRONMENT SHALL BE WEATHERPROOF TYPE, NEMA 3R.
- S. LIGHTING, POWER, TELEPHONE AND COMMUNICATIONS OUTLETS SHALL NOT BE PLACED BACK TO BACK. OUTLETS SHALL BE HORIZONTALLY SEPARATED MIN. OF 2" FOR RATED WALL AND MIN. OF 1" FOR NON-RATED WALL.
- T. PROVIDE PULL BOXES WHEREVER NECESSARY TO FACILITATE PULLING OF CONDUCTORS. COORDINATE LOCATIONS OF BOXES WITH OTHER TRADES TO AVOID CONFLICT. PULL BOXES SHALL BE ACCESSIBLE. THE SIZE OF PULLBOX SHALL COMPLY WITH CEC REQUIREMENTS.
- U. OUTLET BOXES FOR FIXTURES RECESSED IN HUNG CEILING SHALL BE ACCESSIBLE THROUGH OPENING OPERATED BY REMOVAL OF FIXTURES.
- V. WHERE MORE THAN ONE LIGHT SWITCH OCCURS AT SAME LOCATION, SWITCHES SHALL BE MOUNTED IN A MULTIPLE GANG BOX UNDER A SINGLE COVER PLATE. PLATES WITH MORE THAN (3) LIGHT SWITCHES SHALL BE LABELED TO INDICATE THE LIGHT FIXTURES CONTROLLED. SWITCH(ES) CONTROLLING LIGHTS ON EMERGENCY CIRCUIT SHALL BE IN A SEPARATE BOX UNDER THE SAME COVER PLATE AS THE OTHER SWITCHES.
- W. PROVIDE GREEN GROUNDING CONDUCTOR IN EACH RACEWAY INCLUDING CONDUITS, PLUG STRIPS, ETC. SIZE OF GROUNDING CONDUCTOR SHALL BE IN ACCORDANCE WITH CALIFORNIA ELECTRIC CODE ARTICLE 250.122.
- X. PROVIDE #10 CONDUCTORS FOR ALL 20 AMPS CIRCUITS LONGER THAN 100' AND #8 CONDUCTORS FOR CIRCUITS LONGER THAN 225'. CONTRACTOR SHALL ADJUST THE SIZE OF CONDUITS ACCORDINGLY.
- Y. FEEDER LENGTH SHOWN ON DRAWINGS ARE FOR VOLTAGE DROP CALCULATION AND NOT TO BE USED FOR COST ESTIMATING.
- Z. WHERE CONDITIONS ARE SHOWN AS EXISTING, THEY ARE BASED ON THE BEST INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE DRAWINGS/DOCUMENTS. NO WARRANTY IS IMPLIED AS TO THE ACCURACY. CONTRACTOR IS TO FIELD VERIFY ALL CONDITIONS. SHOULD FIELD CONDITIONS DIFFER FROM THOSE SHOWN, THEY SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO BID. THE ENGINEER WILL THEN PROVIDE ADDITIONAL INFORMATION NEEDED TO ACCOMPLISH THE DESIRED RESULT.
- AA. CONTRACTOR SHALL PERMANENTLY LABEL CIRCUIT AND PANEL NAME ON ALL OUTLETS.
- AB. FUSES SHALL BE PROVIDED WITH REJECTION TYPE FUSE HOLDERS.
- AC. CONTRACTOR SHALL LABEL ALL SWITCHED RECEPTACLES PER TITLE 24 REQUIREMENTS. FOR EACH FULL SWITCHED RECEPTACLE PROVIDE TWO LABELS, ONE ON EACH CORNER (TOP RIGHT AND BOTTOM RIGHT). FOR EACH HALF SWITCHED RECEPTACLE PROVIDE ONE LABEL ON TOP RIGHT CORNER. REFER TO LIGHTING CONTROL DIAGRAMS FOR VISUAL REPRESENTATION.
- AD. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED BY U.L. OR CITY OF LOS ANGELES APPROVED THIRD PARTY TESTING FACILITY.
- AE. MC CABLE IS NOT PERMITTED FOR THIS PROJECT. ALL CIRCUITS CONNECTED VIA HARD CONDUIT AND CONDUCTORS.

ELECTRICAL LEGEND

GENERAL	RECEPTACLES (+18" AFF, U.O.N.)	SINGLE LINE DIAGRAM	ABBREVIATIONS CONTINUED
<p>JUNCTION BOX</p> <ul style="list-style-type: none"> ○ JUNCTION BOX CEILING MOUNTED □ JUNCTION BOX WALL MOUNTED +18" AFF, U.O.N. ○ JUNCTION BOX FLUSH IN FLOOR <p>ENCLOSED CIRCUIT BREAKER</p> <ul style="list-style-type: none"> ⊞ MOTION DETECTOR ⊞ RELAY ⊞ RECEPTACLE CONTROL RELAY ⊞ ROOM CONTROLLER ⊞ EMERGENCY RELAY ⊞ TIME CLOCK ⊞ PUSH BUTTON ⊞ DOOR CONTACT ⊞ CONTACTOR ⊞ BUZZER ⊞ START/STOP SWITCH ⊞ MOTOR ⊞ DISCONNECT SWITCH ⊞ FUSED DISCONNECT SWITCH ⊞ MOTOR CONTROLLER OR STARTER ⊞ COMBINATION CONTROLLER/DISCONNECT SWITCH <p>WIRES AND RACEWAYS</p> <ul style="list-style-type: none"> — CONCEALED CONDUIT IN WALL OR CEILING — CONCEALED CONDUIT BELOW FINISHED FLOOR/GRADE — CONDUIT OR RACEWAY TURNED UP — CONDUIT OR RACEWAY TURNED DOWN — CONDUIT STUB OUT, CAP-OFF — CONDUIT CONTINUATION — HOMERUN CONDUIT — LONG STROKES INDICATE NEUTRAL CONDUCTOR, SHORT STROKES INDICATE PHASE OR SWITCHED CONDUCTOR, LONG STROKES WITH DOT INDICATES GROUNDING CONDUCTOR, 3/4" CONDUIT MIN. (U.O.N.), #12 AWG CONDUCTOR MIN. (U.O.N.) — 3 SETS OF ONE INCH CONDUIT, EACH WITH THREE NUMBER EIGHT WIRE AND ONE NUMBER EIGHT GROUND. <p>COMMUNICATIONS (+18" AFF, U.O.N.)</p> <ul style="list-style-type: none"> ▽ TELEPHONE OUTLET WITH 1" CONDUIT UP TO ACCESSIBLE CEILING, U.O.N. ▽ DATA OUTLET WITH 1" CONDUIT UP TO ACCESSIBLE CEILING, U.O.N. ▽ COMBINATION TELEPHONE/DATA OUTLET WITH 1" CONDUIT UP TO ACCESSIBLE CEILING, U.O.N. ▽ FLOOR MOUNTED COMBO TELEPHONE/DATA OUTLET WITH 1" CONDUIT UP TO ACCESSIBLE CEILING, U.O.N. <p>WIRELESS ACCESS POINT</p> <ul style="list-style-type: none"> ⊞ CARD READER ⊞ TELEVISION OUTLET ⊞ CAMERA (CCTV) ⊞ SPEAKER ⊞ TELEPHONE TERMINAL BACKBOARD <p>SWITCHES (+48" AFF, U.O.N.)</p> <ul style="list-style-type: none"> ⊞ SINGLE POLE SWITCH ⊞ THREE-WAY SWITCH ⊞ FOUR-WAY SWITCH ⊞ SWITCH & PILOT LIGHT ⊞ KEY OPERATED SWITCH ⊞ DIMMER SWITCH ⊞ THERMAL OVERLOAD SWITCH ⊞ TIMER SWITCH ⊞ LOWER CASE LETTER INDICATES SWITCHING ⊞ LOW VOLTAGE DIMMER SWITCH (SAME ABBREVIATIONS APPLY AS ABOVE) <p>PANELS AND RELATED ITEMS</p> <ul style="list-style-type: none"> ⊞ PANELBOARD - SURFACE ⊞ PANELBOARD - RECESSED ⊞ TRANSFORMER ⊞ SWITCHBOARD OR DISTRIBUTION BOARD QUANTITY OF SECTIONS REQUIRED SHOWN <p>DEVICE MOUNTING HEIGHTS</p> <p>REFER TO ELECTRICAL SPECIFICATIONS FOR MORE INFORMATION. DIMENSIONAL NUMBERS SHOWN ADJACENT TO SYMBOLS INDICATE THE CENTERLINE OF DEVICE MOUNTING HEIGHTS.</p> <p>NOTE: NOT ALL SYMBOLS ARE USED ON THIS PROJECT.</p>	<p>SIMPLEX RECEPTACLE</p> <ul style="list-style-type: none"> ⊞ DUPLEX RECEPTACLE ⊞ HALF-SWITCHED DUPLEX RECEPTACLE ⊞ CEILING MOUNTED DUPLEX RECEPTACLE ⊞ DOUBLE DUPLEX RECEPTACLE ⊞ HALF-SWITCHED DOUBLE DUPLEX RECEPTACLE ⊞ SPECIAL PURPOSE OUTLET (TYPE AS NOTED) ⊞ FLOOR MOUNTED DUPLEX RECEPTACLE ⊞ FLOOR MOUNTED DOUBLE DUPLEX RECEPTACLE ⊞ MULTIOUTLET ASSEMBLY ⊞ POWER COMMUNICATIONS POLE WITH BARRIER ⊞ FLOOR MOUNTED COMBINATION RECEPTACLE & TELE/DATA <p>NOTE: ALL RECEPTACLES SHALL BE 20AMP, 120V, U.O.N.</p> <p>FIRE ALARM SYSTEM</p> <ul style="list-style-type: none"> ⊞ FIRE ALARM CONTROL PANEL ⊞ FIRE ALARM ANNUNCIATOR ⊞ FIRE ALARM POWER SUPPLY ⊞ FIRE ALARM TERMINAL CABINET ⊞ MANUAL FIRE ALARM PULL STATION ⊞ FIRE ALARM HORN ⊞ FIRE ALARM HORN AND STROBE ⊞ FIRE ALARM STROBE ⊞ BELL ⊞ DOOR HOLDER ⊞ FLOW SWITCH ⊞ TAMPER SWITCH ⊞ HEAT DETECTOR ⊞ SMOKE DETECTOR ⊞ SMOKE/CARBON DETECTOR ⊞ SMOKE DUCT DETECTOR ⊞ SELF CONTAINED 120 VOLT SMOKE DETECTOR ⊞ SMOKE FIRE DAMPER ⊞ CONTROL MODULE ⊞ MONITOR MODULE ⊞ POST INDICATOR VALVE ⊞ BEAM DETECTOR TRANSMITTER ⊞ BEAM DETECTOR RECEIVER <p>LIGHTING FIXTURES</p> <ul style="list-style-type: none"> ○ DOWNLIGHT/PENDANT LIGHT FIXTURE ⊞ LINEAR WALL MOUNTED LIGHT FIXTURE ○ WALL SCONCE ⊞ 2"x4" LIGHT FIXTURE ⊞ STRIP LIGHT FIXTURE ⊞ POLE AND POLE MOUNTED LIGHT FIXTURES NUMBER OF HEADS AS SHOWN ⊞ BOLLARD/INGRADE LIGHT ⊞ TRACK LIGHT ⊞ FLOOD LIGHT ⊞ WALL WASHER, ARROW INDICATES AIM ⊞ EXIT SIGN, SHADING INDICATES FACE, ARROWS AS INDICATED ⊞ BATTERY PACK, NUMBER OF HEADS AS SHOWN ⊞ EMERGENCY 2"x4" LIGHT FIXTURE ⊞ EMERGENCY DOWNLIGHT/PENDANT LIGHT FIXTURE ⊞ EMERGENCY STRIP LIGHT FIXTURE ⊞ NL = NIGHT LIGHT (CONNECT TO UNSWITCHED LEG OF CIRCUIT) ⊞ WALL MOUNTED OCCUPANCY SENSOR +48" AFF, U.O.N. (SINGLE MANUAL ON/OFF DIMMER SWITCH) ⊞ WALL MOUNTED OCCUPANCY SENSOR +48" AFF, U.O.N. (DOUBLE MANUAL ON/OFF DIMMER SWITCH) ⊞ CEILING MOUNTED OCCUPANCY SENSOR ⊞ CEILING MOUNTED DAYLIGHT SENSOR <p>ANNOTATION TAGS AND NOMENCLATURE</p> <ul style="list-style-type: none"> ⊞ SHEET NOTE SYMBOL ⊞ REVISION DELTA ⊞ DETAIL CALLOUT TAG, # DESIGNATES DETAIL NUMBER, ## DESIGNATES SHEET ON WHICH DETAIL IS LOCATED ⊞ MECHANICAL EQUIPMENT CALLOUT TAG, ## DESIGNATES UNIT TYPE, # DESIGNATES UNIT NUMBER. 	<p>CIRCUIT BREAKER</p> <ul style="list-style-type: none"> ⊞ BREAKER WITH DRAWOUT FEATURE ⊞ CONTACT (NORMALLY OPEN) ⊞ CONTACT (NORMALLY CLOSED) ⊞ OPERATING COIL ⊞ FUSE ⊞ FUSED SWITCH ⊞ SWITCH ⊞ POWER TRANSFORMER ⊞ CURRENT TRANSFORMER ⊞ POWER UTILITY METER ⊞ POWER NON UTILITY SUB METER ⊞ GENERATOR ⊞ GROUND ⊞ GROUND FAULT SENSOR ⊞ NEUTRAL BUS ⊞ GROUND BUS ⊞ AUTOMATIC TRANSFER SWITCH ⊞ FEEDER TAG <p>ABBREVIATIONS</p> <ul style="list-style-type: none"> A AMP AMPERE(S) AC ALTERNATING CURRENT AFF ABOVE FINISH FLOOR AFG ABOVE FINISHED GRADE AL ALUMINUM ALT ALTERNATE ATS AUTOMATIC TRANSFER SWITCH AWG AMERICAN WIRE GAUGE BC BARE COPPER BLDG BUILDING C CONDUIT CB CIRCUIT BREAKER CCTV CLOSED CIRCUIT TELEVISION CKT CIRCUIT CLG CEILING CT CURRENT TRANSFORMER CTR COUNTER CU COPPER CW COLD WATER (D) DEMO, EXISTING TO BE REMOVED DEF DUAL ELEMENT FUSE DISC DISCONNECT DN DOWN DP DOUBLE POLE DT DOUBLE THROW DWG DRAWING (E) EXISTING TO REMAIN EC ELECTRICAL CONTRACTOR EACH EACH EC EMPTY CONDUIT EIA ELECTRONIC INDUSTRIES ASSOCIATION ELEC ELECTRICAL OR ELECTRIC ELEV ELEVATOR EM EMERGENCY EMT ELECTRICAL METALLIC TUBING EOL END OF LINE RESISTOR EWG ELECTRICAL WATER COOLER F FUSE FAA FIRE ALARM REMOTE ANNUNCIATOR PANEL FACP FIRE ALARM CONTROL PANEL FBO FURNISHED BY OTHERS FC FOOT CANDLE FLR FLOOR FT FOOT OR FEET GC GENERAL CONTRACTOR GEN GENERATOR GFI GROUND FAULT INTERRUPTER GND, G GROUND HID HIGH INTENSITY DISCHARGE HP HORSEPOWER Hz HERTZ FREQUENCY CYCLES PER SECOND IC INTERCOM IG ISOLATED GROUND CONDUCTOR IMC INTERMEDIATE METALLIC CONDUIT IN INCH J-BOX JUNCTION BOX KM KIRK KEY INTERLOCKED KV THOUSAND CIRCULAR MIL(S) KV KILOVOLT KVA KILOWATT AMPERE(S) KVAR KILOWATT(VAR) KW KILOWATT(S) KWHR KILOWATT HOUR LCL LONG CONTINUOUS LOAD LTG LIGHTING MAX MAXIMUM MCC MOTOR CONTROL CENTER MH MANHOLE MIN MINIMUM MTO MOUNTED MTR MOTOR MTS MANUAL TRANSFER SWITCH 	<p>ABBREVIATIONS CONTINUED</p> <ul style="list-style-type: none"> N.C. NORMALLY CLOSED N.O. NORMALLY OPEN NF NON FUSED NEC NATIONAL ELECTRICAL CODE NEGL. NEGLIGIBLE # NUMBER NTS NOT TO SCALE NL NIGHT LIGHT NIC NOT IN CONTRACT OC ON CENTER OL OVERLOAD ELEMENT PB PULL BOX PF POWER FACTOR PH, Ø PHASE PNL PANEL PT POTENTIAL TRANSFORMER PV POLE PVC POLYVINYL CHLORIDE (R) EXISTING TO BE RELOCATED RMS ROOT MEAN SQUARE SHT SHEET SMR SURFACE METAL RACEWAY SP SINGLE POLE SPEC SPECIFICATIONS ST SINGLE THROW SW SWITCH SWBD SWITCHBOARD TC TIME CLOCK TEL TELEPHONE TEMP TEMPORARY TIA TELECOMMUNICATIONS INDUSTRY ASSOCIATION TSTAT THERMOSTAT TTB TELEPHONE TERMINAL BOARD TTT TELEPHONE TERMINAL CABINET TV TELEVISION TYP TYPICAL UG UNDERGROUND UH UNIT HEATER UON UNLESS NOTED OTHERWISE UPS UNINTERRUPTED POWER SUPPLY V VOLT(S) VA VOLT AMP(S) VAR REACTIVE VOLT AMPERES VP VAPOR PROOF W/ WITH W/O WITHOUT W WATT(S) WP WEATHERPROOF XFMR TRANSFORMER XP EXPLOSION PROOF

ELECTRICAL SHEET INDEX

E0-01	GENERAL NOTES, LEGEND, AND SHEET INDEX
E0-02	ELECTRICAL SPECIFICATIONS
E2-01	LIGHTING PLAN
E3-01	POWER PLAN

NOT FOR CONSTRUCTION

DEFERRED APPROVAL FOR FIRE ALARM SYSTEM: (DESIGN-BUILD BY BUILDER)

FIRE ALARM DESIGN SHALL BE SUBMITTED BY BUILDER. OBTAIN APPROVAL FROM AUTHORITY HAVING JURISDICTION AND LOCAL FIRE DEPARTMENT PRIOR TO INSTALLATION.

DEFERRED EMERGENCY ILLUMINATION LEVEL NOTES:

1. THE MEANS OF EGRESS ILLUMINATION LEVEL SHALL NOT BE LESS THAN 1 FOOT-CANDLE AT THE WALKING SURFACE LEVEL.
2. EMERGENCY LIGHTS SHALL BE PROVIDED IN ALL MEANS OF EGRESS.
3. THE EMERGENCY LUMINAIRES SHALL PROVIDE AN INITIAL AVERAGE ILLUMINATION LEVEL OF AT LEAST 1 FOOT-CANDLE BUT AT ANY POINT IT SHALL NOT BE LESS THAN 0.1 FOOT-CANDLE ALONG THE PATH OF EGRESS AT FLOOR LEVEL.
4. AT THE END OF THE REQUIRED EMERGENCY SOURCE TIME DURATION, THE EMERGENCY LUMINAIRE SHALL BE PROVIDE AN AVERAGE ILLUMINATION LEVEL OF AT LEAST 0.6 FOOT-CANDLE BUT AT ANY POINT IT SHALL NOT BE LESS THAN 0.06 FOOT-CANDLE ALONG THE PATH OF EGRESS AT FLOOR LEVEL.
5. THE EMERGENCY ILLUMINATION LEVEL SHALL HAVE A MINIMUM-TO-MAXIMUM EMERGENCY ILLUMINATION UNIFORMITY RATIO THAT DOES NOT EXCEED 40 TO 1.
6. CONTRACTOR SHALL SUBMIT EMERGENCY ILLUMINATION LEVEL STUDY AND DRAWINGS SIGNED AND STAMP BY A REGISTERED ELECTRICAL ENGINEER. OBTAIN APPROVAL BY AUTHORITY HAVING JURISDICTION PRIOR TO ROUGH-IN WORK.



Waiver of Liability: The County of El Dorado requires participating end user property owners to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

**El Dorado County
Permit-Ready
Accessory Dwelling Unit**

TITLE
**ELECTRICAL
COVER SHEET**

PROJECT
2102
SCALE
N/A
DRAWN BY
REX
DATE
11/10/2023
© 2023 RADAR

SHEET NUMBER
E0-01



ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

A. SCOPE

- 1. Furnish and install a completely wired and operational electrical system as shown on the drawings and specified herein, including but not limited to, the following items:
a. Lighting fixtures as indicated and specified on the plans.
b. Electrical panels, controls, service, disconnects, conduit wiring, etc., for all outlets and equipment.
c. Telephone outlets and conduit as indicated.
d. Conduit and outlets for alarm, computer, and security systems as indicated.
e. Control wiring for electrical systems.

B. CODES, REGULATIONS AND STANDARDS

- 1. The installation shall comply with applicable local and state codes and ordinances, with the regulations of the latest adopted edition of the following codes and with the requirements of the power and telephone companies furnishing services to this installation.
2. The following industry standards, specifications and codes are minimum requirements:
a. NEMA-National Electrical Manufacturer's Association Standards
b. NEC-National Electrical Code
c. UL-Underwriter Laboratories Incorporated Standards
d. ANSI-American National Standards Institute
e. IEEE-Institute of Electrical and Electronics Engineers
f. NFPA-National Fire Protection Association
g. Title 24-California Energy Commission

C. INSPECTION OF SITE

- 1. Prior to submitting a bid for electrical work, the Electrical Contractor shall visit the site of the proposed construction and shall thoroughly acquaint himself with existing utilities and working conditions to be encountered, etc. Allowance will not be made for non-compliance with this condition after bidding.

D. GENERAL WORKMANSHIP

- 1. All work shall be executed and finished in a practical manner and shall present a neat and workmanlike appearance when completed.
2. All work must be acceptable to the Owner. Where a detailed method of installing the work is not specified or indicated, install work as directed by the Owner.

E. RELATED WORK BY OTHERS

- 1. Electrical drawings identify utility service requirements for power, telephone, and cable TV within and up to five feet outside the building. Utility electrical service transformer(s), where shown on the site plan, are for information only and indicate the preferred point of service. Utility conduit systems, pullboxes, and other structures, where shown on the site plan, are also for information only and indicate the preferred routing. The Electrical Contractor shall refer to utility service drawings for actual utility service requirements for this project. Utility systems shall be constructed in accordance with the approved utility service drawings. It shall be the Electrical Contractor's responsibility to contact and follow-up with all utility companies to obtain both preliminary and final design drawings for this project.
a. The Electrical Contractor shall coordinate the installation of the electrical service entrance, meet all power company requirements and shall pay all utility company charges.
b. The local telephone company will furnish and install all telephone wiring and equipment and will make all final telephone connections. The Electrical Contractor shall coordinate the installation of the telephone service entrance, meet all telephone requirements and shall pay all utility company charges.
c. The Electrical Contractor shall coordinate the installation of the cable service entrance, meet all cable company requirements and shall pay all utility company charges.

F. COOPERATION WITH OTHER CONTRACTORS

- 1. Cooperate with the other trades so that the installation of the electrical outlets and equipment will be properly coordinated. Conduit, fixtures, and other equipment locations shall be checked with the other trades to avoid conflict with the piping, ductwork, steel, beams, or other obstructions.
2. Carefully check the locations of the outlet boxes and determine that they have not been disturbed during the installation of materials of other trades.
3. Coordinate the location of trenches and conduits for utility services and other disciplines with the General Contractor.

G. MECHANICAL AND ELECTRICAL COORDINATION

- 1. Any device which carries the full load current of the electrically driven machinery, as opposed to the control of instrumentation current in the holding coil, is a power circuit and is the responsibility of the Electrical Contractor. Control or instrumentation circuits connecting holding coils to the control system as specified by the Mechanical Engineer are the responsibility of the Mechanical Contractor.
2. The power circuit is defined as all devices necessary to operate, and as required by code to service the unit, including branch circuit protective devices, disconnects, magnetic motor starters with running overload and single phasing protection, magnetic contactors, etc.
3. The control or instrumentation circuit is defined as all devices necessary to interface the electrical power circuit with the control system as specified by the Mechanical Engineer including conduit, boxes, conduit fittings, conductors, electric-pneumatic switches, pneumatic-electric switches, electrical and pneumatic relays, pneumatic tubing, etc.
4. The Electrical Contractor shall be responsible to provide 120V duplex receptacles within 25 feet of all roof mounted equipment, per CEC 210.63.

H. DRAWINGS

- 1. The drawings indicate the general arrangement and locations of the electrical work. Information presented on these drawings are as accurate as planning can determine, but field verification of all dimensions, locations, levels, etc., to suit field conditions is required. Review all architectural, structural and mechanical drawings and adjust all work to meet the requirements of conditions shown. The architectural drawings shall take precedence over all other drawings. Discrepancies between different plans, or between drawings and specifications, or regulations and codes governing the installation shall be brought to the attention of the engineer in writing before the date of bid opening. Where discrepancies or conflicts occur, the bid shall reflect the most stringent requirements. Electrical Contractor shall be responsible to field measure and confirm mounting heights and location of electrical equipment with respect to counters, etc. Do not scale distances off the electrical drawings. Use actual building dimensions.
2. Upon completion of the work under these drawings and specifications, the Electrical Contractor shall provide the Owner with a complete set of marked-up electrical drawings showing the "as-built" condition of the work. Bond prints of the drawings required will be furnished by the Owner, for this purpose.
3. All operating instructions, parts lists and spare parts for material and equipment furnished and/or installed by the Electrical Contractor shall be turned over to the Owner (three copies).

- 1. Submittals shall consist of detailed shop drawings, specifications, block wiring diagrams, "catalog cuts" and data sheets containing physical and dimensional information, performance data, electrical characteristics, materials used in fabrication, and material finish. Clearly indicate by arrow or brackets precisely what is being submitted on and those optional accessories which are included and those which are excluded.
2. Each submittal shall bear a stamp stating that the submittal has been thoroughly reviewed by the Contractor and is in full compliance with the requirements of Contract Documents. Cover letters shall list in full the items and data submitted. Failure to comply with these requirements shall constitute grounds for rejection of data.
3. The Contractor shall submit detailed drawings of all electrical equipment and generator rooms, yards, and utility areas. Minimum scale: 1/4"=1'-0".
4. As part of the equipment submittals, the manufacturer shall provide clearance calculations for roof and wall mounted electrical equipment. Structural Calculations shall be prepared and signed by Registered Structural Engineer in California.
5. All submittals shall include a cover letter that lists the action taken and revisions made to every drawing and equipment data sheet in response to Submittal Review Comments. Failure to include this cover letter will constitute rejection of the resubmittal package.
6. Contractor shall submit short circuit and coordination studies signed by a registered electrical engineer. Studies shall be performed in accordance with IEEE guidelines. Contractor shall submit an architect-engineer review prior to ordering and installing any equipment. Contractor shall ensure that the actual tested results match studies (review studies if necessary). Service equipment markings as required per CEC 110.24 shall be based on contractor submitted studies.
7. Submit conduits, fittings, outlet pull and junction boxes; wires; wiring devices; lighting fixtures; lamps; ballasts; switchgear; fuses; transformers; panelboards; switchboards; circuit breakers; lighting control system/devices; and fire alarm systems.

I. SHOP DRAWINGS AND APPROVALS

- 1. All requests for substitutions shall conform to the general requirements and procedure outlined in Division 1.
2. Where items are noted as "or equal", a product of equal design, performance and price shall be considered.
3. Substitutions shall be equal, in the opinion of the Owner's Representative, to the specified product.
4. The burden of proof of equality of a proposed substitution for a specified item shall be upon the Electrical Contractor. Electrical Contractor shall support its request with sufficient test data, photometric analysis, detailed breakdown defining cost savings, and other means to permit the Architect and/or Engineer to make a fair and equitable decision on the merits of the proposed substitution. Any item by a manufacturer other than those specified, or of brand name or model number will be considered a substitution. The Architect and/or Engineer will be the sole judge of whether or not the substitution is equal in quality, utility, and economy to that specified.
5. Approval of a substitution shall not relieve Electrical Contractor from responsibility for compliance with all requirements of the Contract documents. Electrical Contractor shall bear the expense for any changes in other parts of this work or other work caused by the proposed substitution.
6. If Architect and/or Engineer rejects Electrical Contractor's substitute item on the first submittal, Electrical Contractor may make only one additional request for substitution in the same category.

J. SUBSTITUTIONS

- 1. Guarantee all material furnished and all workmanship performed for a period of one year from the date of final acceptance of the work. Any defects developing within this period, including those not furnished as part of this Section or workmanship performed hereunder, shall be corrected as necessary at no cost to the Owner.
2. System shall be tested for proper operation. If tests show that work is defective, Electrical Contractor shall make corrections as necessary at no cost to the Owner.

K. GUARANTEE & TESTING

- 1. Provide engraved name plates on switchboards, panel boards, disconnect switches, motor control centers, transformers, etc., indicating equipment designated (or designation of equipment served) and voltage.
2. Provide 4 inch high concrete equipment pads for all floor-mounted protective devices, disconnects, magnetic motor starters with running overload and single phasing protection, magnetic contactors, etc.
3. Each switch, light, receptacle or other outlet shall be provided with a code gauge, galvanized steel outlet box. Junction and pullboxes shall be code gauge, galvanized steel. Outlet boxes shall be of the one piece knockout type, in general 4-inch square, 2 1/8-inch with plaster ring. Plaster rings shall be set to provide not more than 1/8" from wall surface to ring. In no case shall plaster ring project beyond surface of wall. Single gang rings similar to Steel City 52050 shall be used for 4" boxes in unfinished brick. Number 180 boxes may be used for unfinished masonry flush wall outlets. Center all outlet boxes in block course.
3. Boxes installed in poured cement floors shall be flush type cast iron with watertight gasketed covers, gny metallic finish. Where boxes are installed in floors with tile or carpet floor covering, covers shall be of the recessed type to accommodate the floor covering.
4. Boxes installed for the alarm, computer and security system shall be provided with appropriate coverplates.
5. Pull boxes shall be the types, size and design as approved by the CEC for the class of installation required.
6. Pull boxes and outlet boxes shall be sized by the Electrical Contractor as required by the CEC based on number of conductors, yokes, straps, etc. used in the installation.

L. LABELING

- 1. Provide engraved name plates on switchboards, panel boards, disconnect switches, motor control centers, transformers, etc., indicating equipment designated (or designation of equipment served) and voltage.
2. Provide 4 inch high concrete equipment pads for all floor-mounted protective devices, disconnects, magnetic motor starters with running overload and single phasing protection, magnetic contactors, etc.
3. Each switch, light, receptacle or other outlet shall be provided with a code gauge, galvanized steel outlet box. Junction and pullboxes shall be code gauge, galvanized steel. Outlet boxes shall be of the one piece knockout type, in general 4-inch square, 2 1/8-inch with plaster ring. Plaster rings shall be set to provide not more than 1/8" from wall surface to ring. In no case shall plaster ring project beyond surface of wall. Single gang rings similar to Steel City 52050 shall be used for 4" boxes in unfinished brick. Number 180 boxes may be used for unfinished masonry flush wall outlets. Center all outlet boxes in block course.
3. Boxes installed in poured cement floors shall be flush type cast iron with watertight gasketed covers, gny metallic finish. Where boxes are installed in floors with tile or carpet floor covering, covers shall be of the recessed type to accommodate the floor covering.
4. Boxes installed for the alarm, computer and security system shall be provided with appropriate coverplates.
5. Pull boxes shall be the types, size and design as approved by the CEC for the class of installation required.
6. Pull boxes and outlet boxes shall be sized by the Electrical Contractor as required by the CEC based on number of conductors, yokes, straps, etc. used in the installation.

M. HOUSEKEEPING PADS

- 1. Provide 4 inch high concrete equipment pads for all floor-mounted protective devices, disconnects, magnetic motor starters with running overload and single phasing protection, magnetic contactors, etc.
2. Each switch, light, receptacle or other outlet shall be provided with a code gauge, galvanized steel outlet box. Junction and pullboxes shall be code gauge, galvanized steel. Outlet boxes shall be of the one piece knockout type, in general 4-inch square, 2 1/8-inch with plaster ring. Plaster rings shall be set to provide not more than 1/8" from wall surface to ring. In no case shall plaster ring project beyond surface of wall. Single gang rings similar to Steel City 52050 shall be used for 4" boxes in unfinished brick. Number 180 boxes may be used for unfinished masonry flush wall outlets. Center all outlet boxes in block course.
3. Boxes installed in poured cement floors shall be flush type cast iron with watertight gasketed covers, gny metallic finish. Where boxes are installed in floors with tile or carpet floor covering, covers shall be of the recessed type to accommodate the floor covering.
4. Boxes installed for the alarm, computer and security system shall be provided with appropriate coverplates.
5. Pull boxes shall be the types, size and design as approved by the CEC for the class of installation required.
6. Pull boxes and outlet boxes shall be sized by the Electrical Contractor as required by the CEC based on number of conductors, yokes, straps, etc. used in the installation.

N. MATERIALS

- 1. All materials shall be new and of quality as specified on the plans or specifications and must carry the Underwriter's Laboratories approval covering the purpose for which they are used, in addition to meeting all requirements of the current applicable codes and regulations.
2. Electrical Contractor shall be responsible for replacing equipment which is damaged due to incorrect field wiring provided under this section or factory wiring in equipment provided under this section.

O. STORAGE AND HANDLING OF MATERIAL

- 1. Deliver materials and equipment to the project in the manufacturer's original, unopened, labeled containers. Protect against moisture, tampering, or damage from improper handling or storage. Electrical Contractor shall protect and be responsible for any damage to work or materials until final acceptance by the Owner, and shall make good the without cost to the Owner, any damage or loss that may occur during this period.

P. CLEAN-UP

- 1. Keep the premises free from accumulation of waste materials, or rubbish caused by employees or work under this division of the specifications. At the completion of the work, remove all surplus materials, tools, etc., and leave the premises "broom-clean".

Q. EXCAVATION, CUTTING AND FITTING

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

R. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

S. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

T. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

U. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

V. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

W. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

X. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

Y. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

Z. EXCAVATION AND BACKFILL

- 1. Perform all excavation and backfilling required for work performed under this division of the specifications. Trench bottoms shall be graded true and free from stones or soft spots. Use excavated materials for backfill unless off site materials are deemed necessary by the Architect. Trenching and backfilling for electrical and telephone utility services to building shall be provided by the Electrical Contractor in accordance with utility company requirements.
2. Verify location of existing underground utilities prior to trenching.

D. WIRE

- 1. Match building standards if applicable in an existing building condition, unless otherwise false the specifications below.
2. Conductor sizes shown on the drawings are based on copper wire. Unless otherwise specified, all wire shall be 75 degree C-type THHN or XHHW. All branch circuit and feeder wiring shall be copper.
3. Where raceway and cables exposed to direct sunlight on or above rooftops, provide type XHHW-2 insulated conductors.
4. Wires shall be marked with color to simplify circuit identification. Unless otherwise required by local ordinances, identification shall be as follows:
a. 120/208V and 120/240V
Phase A: Black, Phase B: Red, Phase C: Blue
Neutral: Gray, Ground: Green
b. 277/480V
Phase A: Brown, Phase B: Orange, Phase C: Yellow
Neutral: Gray, Ground: Green
5. The wire shall be #12 AWG unless otherwise indicated.
6. No wire shall be installed in the conduit system until the conduit system is complete. Use ULL approved lubricant to facilitate the installation of the conductors in the conduit system.
7. Conductors No. 10 AWG and smaller shall be solid. Conductors larger than No. 10 AWG shall be stranded.
8. MC cable may be utilized for #10 and #12 branch circuit wiring with the following limitations:
a. The installation is in accordance with CEC Article 330.
b. MC cable use is limited to wiring within partitions and walls and to connections to and between switches and wiring devices.
c. MC cable is not to be used for home run cabling. Home run cabling shall be individual conductors installed in EMT conduit.

E. WIRING DEVICES

- 1. Switches: Wall switches shall be specification Grade AC silent type switches 20A, 120 - 277 volt. Hubbell 1221 (SP), 1222 (DP), 1223 (3-wy) and 1224 (4-wy). Dimmers shall be specification grade with present site control. Color shall be as approved by the Architect/Owner. Match building standard (if existing).
2. Receptacles: Duplex type outlets shall be heavy duty, specification grade NEMA 5-20R, 20A, 120V grounded type equal to Hubbell 5362. Isolated ground outlets shall be equal to Hubbell 63362. Special application receptacles shall be as indicated on plans and verified with equipment supplier. Color shall be as approved by the Architect/Owner. Match building standard (if existing).
3. Weatherproof Receptacles: Covers shall be Hubbell NWF26 with 5362 duplex outlet or equal.
4. GFCI Receptacles: Shall be Hubbell GF362. GFCI receptacles shall be used in all outdoor applications as well as those placed within 6' of water source and in all other GFCI required locations.
5. Mounting Heights (unless otherwise noted on plans): Switches - 48 inches. Receptacles - 18 inches. Communication Devices - 18 inches. Fire Alarm Devices - As required by ADA, WPA 72 or Authority Having Jurisdiction. All mounting heights are to centerline of device.
6. Device plates shall be equal to Sierra smooth-line plastic wall plates. Color shall be as approved by the Architect/Owner. Match building standard (if existing).
7. In all cases, switches controlling lighting are to be located on the strike side of doors. Locations indicated for switches and outlets are approximate. Owner may make minor relocations at no additional charge.

F. LIGHTING FIXTURES

- 1. Coordinate the final location of fixtures shown diagrammatically on the drawings with other trades in order to avoid interferences. Relocate fixtures as required as part of the work under this Division if new location is within a five foot radius of location shown.
2. Provide all lighting fixtures, wired and connected. The drawings indicate the locations for each location. Electrical Contractor shall verify fixture locations, mounting requirements and ULL labeling of all fixtures prior to ordering. Include all accessories needed for a complete installation including mounting clips, plaster frames, hangers and hardware in base bid. Provide lamps for all fixtures. Verify ceiling construction before ordered units.
3. Adjustable fixtures shall be located and properly aimed as directed by the Architect or the Lighting Designer.
4. Support recessed fixtures from ceiling structural support per adopted building codes.
5. All fixtures to bear the UL label. All outdoor fixtures shall be ULL labeled for wet or damp location as defined by CEC Article 100.

G. LAMPS

- 1. Lamps shall be by the same manufacturer. Lamps shall be manufactured by GE, Philips, Ushio, NICHIA, Sansung LED or CREE.
2. Incandescent - Extended lamp life, inside frosted.
3. Fluorescent - Minimum 75 CRI, 3500K, 20,000 rated lamp hours.
4. Compact Fluorescent (CFL) - Minimum 80 CRI, 3500K, 10,000 rated lamp hours.
5. Metal Halide - Minimum 85 CRI, 15,000 rated lamp hours.
6. High Pressure Sodium (HPS) - Minimum 22 CRI, 24,000 rated lamp hours.
7. Light Emitting Diode (LED) - Minimum 80 CRI indoors and 70 CRI outdoors, 3500K (LUNA), 50,000 rated lamp hours. LEDs must be from the same manufacturer and batch.

H. BALLASTS / DRIVERS

- 1. Fluorescent
a. Electronic, rapid start, high power factor, normal (0.88) ballast factor, less than 20-percent total Harmonic distortion and 7A sound rating.
b. Compact fluorescent: electronic, fully encapsulated, 90-percent minimum power factor, 20 kHz or higher operation frequency, less than 5-percent flicker, lamp current crest factor of 1.7 or less. Transient protection shall comply with IEEE (62.41) for category A1 locations. Interference shall comply with 47 CFR, Chapter 1, Part 18, subpart C for limitations on electromagnetic and radio frequency interference for nonconsumer equipment.
c. Outdoor fixtures shall have electronic ballasts rated for 0 degrees F starting temperature.
2. High-intensity Discharge (HID)
a. Ballasts shall comply with ANSI C82.4, shall be constant voltage autotransformer high power factor type. Open circuit operation will not reduce average life of ballast.
b. The ballast shall be designed for an ambient operating temperature of 104 degrees F and shall start at minus 22 degrees F.
c. Auxiliary Instant-on Quartz System - Automatically switches quartz lamp on when fixture is initially energized and when momentary power outage occurs. Automatically turns quartz lamp off when high-intensity-discharge lamp reaches approximately 50 percent light output.
3. Light Emitting Diode (LED)
a. Drivers shall be easily accessible without the use of special tools. Luminaires shall be capable of being operated by standard motion/vacancy sensors, daylight sensors, and dimmers. Dimming for 0-10 Volt DC control circuits minimum. Drivers shall be specifically compatible with lighting control system being provided.
b. Temperature rating -20 degrees Celsius minimum starting temperature. Luminaires accessories shall be able to withstand temperatures in excess of 110 Fahrenheit degrees.
c. 90-percent minimum power factor, 50-60 Hz frequency, total harmonic distortion less than 20-percent, LED and driver life expectancy of 50,000 minimum projected hours at 6,000 hours testing for both LEDs and drivers; luminaires in contact with insulation materials shall be IC rated; rated for dry and damp locations.
d. Approved driver manufacturers include Ceram, Philips, Kenell, EddLED, General Electric, and others only if approved.

N. SYSTEM GROUNDING

- 1. Grounding shall comply with requirements of Article 250. All exposed noncurrent-carrying metallic parts of electrical equipment, metallic raceway systems, metallic cable armor, grounding conductor of nonmetallic sheathed cables, grounding conductor in nonmetallic raceways, and grounded conductors of the wiring system shall be grounded.
2. The grounded conductor (neutral) of the wiring system shall be connected to the system grounding conductor at a single place in each system by removable bonding jumpers, sized according to the applicable provisions of the NEC. The grounded conductor (neutral) to the grounding conductor connection shall be located in the enclosure for the system's overcurrent protection or where otherwise indicated on the plans or specifications.
3. Ground bus separate from the neutral bus shall be provided in all switchboards and panelboards. Ground bus shall be retorque (checked) prior to energizing equipment per manufacturer's recommendations.
4. Ground buses and neutral buses in all distribution panels, switchboards, panelboards and those provided in any equipment shall be isolated except where required to be connected as specified above for the service entrance and in transformer terminal compartments.
5. When indicated on the drawings, equipment grounding conductors shall be extended from the ground bus in the distribution equipment to the receptacle, fixture or device legs where they are provided. When not provided, they shall be connected to equipment enclosures. The connections shall be arranged such that removal of the receptacle, the equipment ground conductors, or the ground jumpers from ground busing shall not affect the ground system.
6. Raceways may not be used as a grounding conductor for power and lighting circuits. Every conduit supplying power and lighting circuits shall have a separate code sized green ground wire installed in the conduit to ensure a continuous grounding path.
7. In accessible locations make connections by exothermic weld process.
8. In accessible locations, connections shall be made with approved bonded bronze grounding devices.

O. EQUIPMENT CONNECTIONS

- 1. All motors shall be wired to conform with manufacturer's recommendations and with applicable codes. Furnish necessary materials, such as wire, conduit, fittings, etc. required to connect motor. However, motors, controls, etc. shall be furnished by the supplier of the driven equipment. Verify equipment location and sizes with the trade supplying the motor before installing the conduit or outlets.
2. Final connection to all HVAC or motor loads from load side of disconnect shall be made using copper wire only, aluminum wire not acceptable.

P. COMMUNICATION SYSTEMS

- 1. For all communication outlets provide double gang back box with single gang plaster ring. Provide 1" conduit to 6" above accessible ceiling with 90 bend and conduit bushing unless otherwise noted on drawings. For non-accessible ceilings, route conduit to nearest accessible ceiling space or to nearest communication closet. Provide back cover plates for all unused boxes.
2. Provide 3/4" fire rated plywood for telephone terminal backboard and paint to match wall surface. Refer to drawings for dimensions of backboard.
3. Provide #6 AWG UO ground wire from equipment backboard to building service ground.

Q. LIGHTING CONTROL

- 1. Furnish and install lighting control panels, override switches, time switches, photoeyes and controllers required for lighting control as indicated on the drawings. Lighting control panel and all associated components shall conform to adopted energy codes.
2. Fire alarm is not shown on these drawings. Fire alarm is required as a part of the Contractor's scope of work. Contractor shall engage the services of a state licensed fire alarm contractor for the design and installation of a complete and operable fire alarm system that complies with all NFPA, CEC and local ordinances and requirements approved by Authority Having Jurisdiction. System design and installation shall be compatible with existing shell building and approved by Landlord prior to bid. Manufacturer of fire alarm system shall be the same manufacturer as the shell building unless otherwise approved by Landlord and Authority Having Jurisdiction. Include all costs in base bid.

R. FIRE ALARM SYSTEM

- 1. Fire alarm is not shown on these drawings. Fire alarm is required as a part of the Contractor's scope of work. Contractor shall engage the services of a state licensed fire alarm contractor for the design and installation of a complete and operable fire alarm system that complies with all NFPA, CEC and local ordinances and requirements approved by Authority Having Jurisdiction. System design and installation shall be compatible with existing shell building and approved by Landlord prior to bid. Manufacturer of fire alarm system shall be the same manufacturer as the shell building unless otherwise approved by Landlord and Authority Having Jurisdiction. Include all costs in base bid.

L. TRANSFORMERS

- 1. Transformers shall be dry type with copper windings, 115 temperature rise, and DOE10 CFR Part 431 Appendix A of Subpart K 2019. Energy efficiency under DOE 2019 requirements is to be Energy Verified by UL.
2. All transformers shall be provided with class 220 degree Celsius insulation system and shall be completely enclosed except for ventilation openings.
3. Transformers shall be 115 degree temperature rise above 40 degree Celsius ambient temperature.
4. Transformers shall be equipped with four 2-1/2X (2 above and 2 below normal voltage) primary taps.

M. PANELBOARDS

- 1. Circuit breaker type as indicated on drawings. All panels shall have panelboard type construction with bolt-on circuit breakers. Panels indicated as loadcenters shall have plug-in circuit breakers.
2. Busing shall be copper unless otherwise noted or permitted.
3. Manufacturers shall be General Electric, Square D, Cutler-Hammer, Siemens with voltage, sizes and ratings as indicated on drawings. All panelboards in the facility shall be by the same manufacturer.
4. The circuit breakers shall be operable in any position and be removable from the front of the panelboard without disturbing the adjacent units. Branch breakers shall be of such design that combination of single-pole, double-pole and three-pole breakers can be assembled on the same panel. Each branch circuit shall be clearly numbered. Branch and main terminals shall be of the ballastless type. Handle ties to form multiple breakers are not acceptable.
5. Wire termination for panelboards, loadcenters and circuit breakers shall be listed as specified by the CEC.
6. Provide a typewritten circuit index behind clear plastic cover on inside of door. Information shall include room and type of load served. All circuit breakers shall be identified, including spares. Index card frame shall be metal, secured to door.
7. Where panelboards are installed flush with the walls, extend entry conduits from the panelboard to an accessible space above or below. Provide 3/4" (minimum size) conduit for every three single spare circuit breakers or space or equivalent multi-pole arrangement, or fraction thereof, but not less than two conduits for each panelboard.

NOT FOR CONSTRUCTION

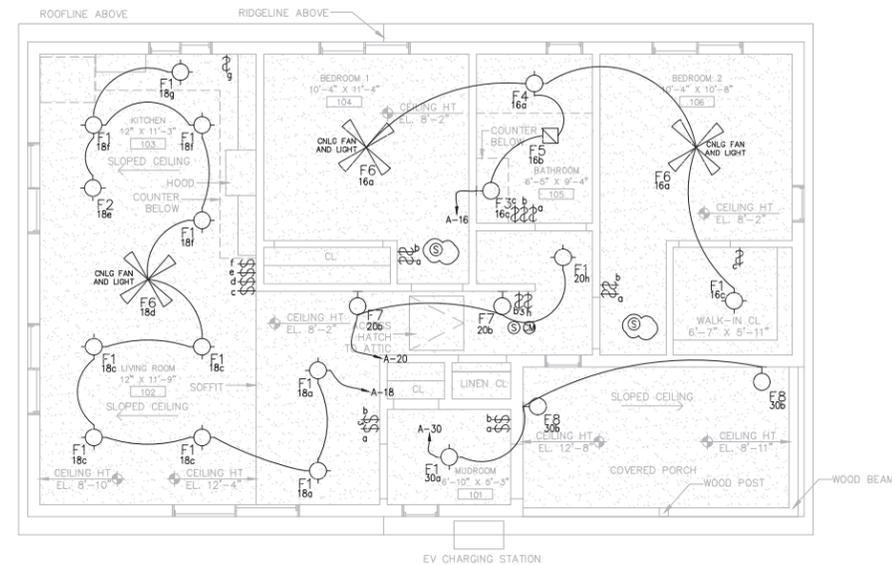
PERMIT SET

El Dorado County Permit-Ready Accessory Dwelling Unit

ELECTRICAL SPECIFICATIONS

PROJECT 2102 SCALE N/A DRAWN BY REX DATE 11/10/2023 © 2023 RADAR

SHEET NUMBER E0-02



SYMBOL LEGEND:

- ⊙ SMOKE DETECTOR
- ⊕ CARBON-MONOXIDE DETECTOR
- ⊠ EXHAUST FAN
- CEILING MTD. LIGHT FIXTURE
- WALL MTD. LIGHT FIXTURE

1ST FLOOR LIGHTING PLAN 02
 SCALE: 1/4" = 1'-0"
NOT FOR CONSTRUCTION

Waiver of Liability:
 The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

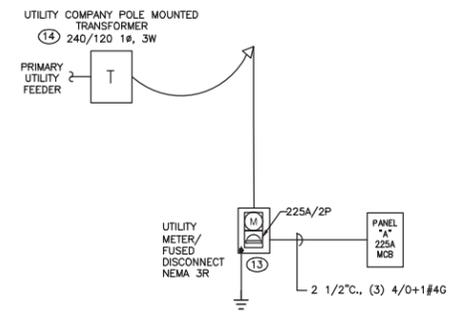
SUGGESTED LIGHTING FIXTURE SCHEDULE									
FIXTURE DESIGNATION	DESCRIPTION	LAMP			MANUFACTURER	CATALOG #	DIMMING TYPE	DRIVER	REMARKS
		WATTS	TYPE	VOLTA					
F1	DOWNLIGHT	8.9	LED	120	LITHONIA	4JBK RD 30K 90CRI BN M6	0-10V	INTEGRAL	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F2	KITCHEN PENDANT	60	LED	120	SCHOOLHOUSE	SHELBY MOD PENDANT	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F3	BATHROOM WALL SCONCE	60	LED	120	SCHOOLHOUSE	ALLEGHENY SCONCE	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F4	BATHROOM/SHOWER DOWNLIGHT	8.9	LED	120	LITHONIA	4JBK RD 30K 90CRI BN M6	0-10V	INTEGRAL	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F5	BATHROOM EXHAUST FAN LIGHT	10	LED	120	PANASONIC	FV-0511VHL1	CHIP PANEL	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F6	BEDROOMS FAN/LIGHT	18	LED	120	SCHOOLHOUSE	HUGH 52" LED CEILING FAN	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F7	HALLWAY WALL SCONCE	60	LED	120	SCHOOLHOUSE	ALLEGHENY SCONCE	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.
F8	PORCH WALL SCONCE	60	LED	120	SCHOOLHOUSE	ALLEGHENY SCONCE	N/A	N/A	VERIFY REFLECTOR, FINISH OPTIONS, AND FLANGE OPTIONS PRIOR TO PURCHASE.

NOTES:
 1. FIXTURE SCHEDULE INDICATES A GENERAL DISCRIPTION OF LIGHTING FIXTURES AND MANUFACTURER'S CATALOG NUMBERS. IT SHALL BE THE BUILDER'S RESPONSIBILITY TO DETERMINE THE CORRECT CEILING CONFIGURATION AND
 2. IT SHALL BE THE BUILDER'S RESPONSIBILITY TO VERIFY THE EXACT LOCATION OF ALL LIGHTING FIXTURES AND TYPES OF CEILINGS WITH ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ANY WORK.
 3. VERIFY LAMP AND DRIVER VOLTAGE REQUIREMENTS WITH CIRCUITING INDICATED ON DRAWINGS.
 4. VERIFY LAMP COLOR TEMPERATURE RATINGS WITH ARCHITECT AND/OR LIGHTING DESIGNER PRIOR TO ORDERING.
 5. EXTERIOR LIGHTS TO BE CONTROLLED WITH AN OVERRIDE OFF PHOTO SENSOR.
 6. ALL LIGHTS SHALL BE HIGH EFFICACY.
 7. EXTERIOR LIGHTS SHOULD BE CUTOFF FIXTURES TO PREVENT DIRECT LIGHT TRESPASS INTO NEIGHBORING PROPERTIES.

FIXTURE SCHEDULE 01
 SCALE: NO SCALE

TITLE
 1ST FLOOR LIGHTING PLAN AND FIXTURE SCHEDULE

PROJECT: 2102
 SCALE: 1/4" = 1'-0"
 DRAWN BY: REX
 DATE: 11/10/2023
 SHEET NUMBER: E2-01



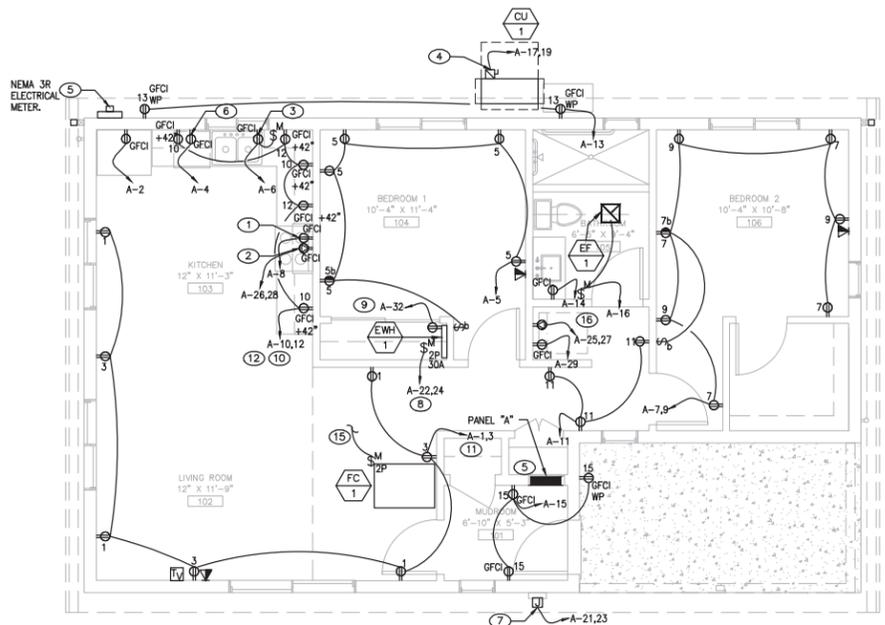
PRELIMINARY SINGLE LINE DIAGRAM
 SCALE: NO SCALE (03)

PANEL A		1 PHASE, 3 WIRE		CB OPT: AF - ARC FAULT CIRCUIT INTERRUPTER GF - GROUND FAULT CIRCUIT INTERRUPTER		5 KVC RATING	
VOLTAGE: 120/240 VOLTS		BUS RATING: 225 AMPS		MAIN: 225A MCB		LOCATION: SEE PLAN	
LOAD TYPE	LOAD (VA)	C/N	LOAD SERVED	CB	PHASE	C/N	LOAD SERVED
RECEPTACLE	720	1	LIVING RM KITCHEN RECEPT	201	AF	A	REFRIGERATOR
RECEPTACLE	540	3	LIVING RM RECEPT	201	AF	B	DISHWASHER
RECEPTACLE	900	5	BEDROOM 1	201	AF	A	GARBAGE DISPOSAL
RECEPTACLE	720	7	BEDROOM 2	201	AF	B	MICROWAVE
RECEPTACLE	540	9	BEDROOM 2	201	AF	A	SMALL APPLIANCES
RECEPTACLE	540	11	HALLWAY	201	AF	B	SMALL APPLIANCES
RECEPTACLE	360	13	EXTERIOR RECEPT	201	AF	A	BATHROOM RECEPT
RECEPTACLE	540	15	MUDROOM & PORCH	201	AF	B	CEILING FAN AND EF-1
MOTOR	1248	17	CU-1	192	A	AF	CEILING FAN AND LIGHTING
MOTOR	1248	19	-	-	B	AF	HALLWAY LIGHTING
MISC	2880	21	EV CHARGER	352	A	-	EW-1
MISC	2880	23	-	-	B	-	-
RECEPTACLE	2880	25	UNITIZED WASHER/DRYER	352	AF	A	RANGE
RECEPTACLE	2880	27	-	-	B	-	-
RECEPTACLE	180	29	LAUNDRY CONVENIENCE	201	AF	A	EXTERIOR LIGHTING
RECEPTACLE	31	31	SPACE	-	B	AF	MAINTENANCE RECEPT
RECEPTACLE	35	33	SPACE	-	A	-	SPACE
RECEPTACLE	37	35	SPACE	-	B	-	SPACE
RECEPTACLE	39	37	SPACE	-	A	-	SPACE
RECEPTACLE	41	39	SPACE	-	B	-	SPACE
RECEPTACLE	42	41	SPACE	-	A	-	SPACE

EXISTING METERE	PHASE A	PHASE B	FEED THROUGH PANEL	LOAD (KVA)
LOAD X 125%				
PANEL CALCULATIONS:				
LOAD TYPE	LOAD (VA)	DEMAND FACTOR	DEMAND LOAD	
RECEPTACLE	11160	PER NEC ARTICLE 220.14	10560	VA
LIGHTING	553	125%	691	VA
MOTOR	2496	100%	2496	VA
7 KITCHEN	13660	65%	8879	VA
0 ELEVATORS	0	100%	0	VA
HEAT	0	100%	0	VA
MISC	10260	100%	10260	VA
HOTEL/RES UNIT	0	PER NEC ARTICLE 220.42	0	VA
0 UNIT PANELS	0	100%	0	VA
25% OF LARGEST MOTOR	966	RESIDENTIAL SOFT	524	VA

LOAD SUMMARY	VA	AMPS
CONNECTED LOAD		
PHASE A	19014	158.5
PHASE B	19115	159.3
TOTAL CONNECTED LOAD	38.1	KVA
TOTAL DEMAND LOAD	33.5	KVA
LINE TO LINE VOLTAGE	240	VOLTS
PANEL AMPS	139.7	AMPS

PANEL SCHEDULE
 SCALE: NO SCALE (02)



1ST FLOOR POWER PLAN
 SCALE: 1/4" = 1'-0" (01)

NOT FOR CONSTRUCTION

KEYED NOTES

- PROVIDE RECEPTACLE FOR MICROWAVE. PRIOR TO INSTALLATION, VERIFY LOCATION WITH RANGE CONFIGURATION. MICROWAVE TO BE MOUNTED ABOVE RANGE WITH RECEPTACLE LOCATED WITHIN 30" OF TOP OF STOVE. MAINTAIN 6" OF CLEARANCE BETWEEN ANY WALLS.
- PROVIDE 1" C - 2#8 + 1#10 GND AND 240V 40A RECEPTACLE FOR RANGE. RECEPTACLE SHALL BE A MINIMUM OF 12" FROM FINISHED FLOOR TO CENTER OF OUTLET. PRIOR TO INSTALLATION, VERIFY WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
- PROVIDE GFCI RECEPTACLE IN UNDER SINK CABINET FOR GARBAGE DISPOSAL. RECEPTACLE SHALL BE INSTALLED IN COMPLIANCE WITH CALIFORNIA ELECTRICAL CODE, CEC 422.16(B).
- PROVIDE 3/4" C - 2#12 + 1#12 GND AND WEATHER PROOF 30AS, 15AF 208V 1Ø DISCONNECT SWITCH.
- WITHSTAND RATING PANEL SHALL BE SIZED PER AVAILABLE FAULT CURRENT FROM UTILITY COMPANY.
- PROVIDE GFCI RECEPTACLE FOR DISH WASHER. RECEPTACLE SHALL BE INSTALLED IN COMPLIANCE WITH CALIFORNIA ELECTRICAL CODE, CEC 422.16(B).
- PROVIDE WALL-MOUNTED EV CHARGING STATION, 3/4" C - 2#10 + 1#10 GND TO ACCOMMODATE DEDICATED BRANCH CIRCUIT. PRIOR TO INSTALLATION, VERIFY LOCATION WITH DRIVEWAY CONFIGURATION.
- PROVIDE 3/4" C - 2#10 + 1#10 GND FOR ELECTRIC WATER HEATER, LOCATED IN ATTIC SPACE ABOVE BEDROOM-1.
- PROVIDE MAINTENANCE RECEPTACLE FOR PLUMBING AND MECHANICAL EQUIPMENT SPACE, LOCATED IN ATTIC SPACE ABOVE BEDROOM-1.
- EQUIPE DEDICATED NEUTRAL FOR EACH CIRCUIT. (TYP.)
- ALL NON-LOCKING TYPE 125V, 15A AND 20A RECEPTACLES AS REQUIRED IN NEC 210.52 IN DWELLING UNITS SHALL BE TAMPER RESISTANT TYPE UNLESS EXEMPTED IN NEC 408.12. (TYP.)
- PROVIDE AFCI BREAKER COMPLY WITH NEC 210.12 (A) (B), AND (C) FOR KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, BEDROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS. (TYP.)
- VERIFY METER AND DISCONNECT LOCATION PER LOCAL UTILITY COMPANY REQUIREMENTS. PROVIDE BREAKER KVC RATING SIZED PER AVAILABLE FAULT CURRENT FROM UTILITY COMPANY.
- PRIMARY SERVICE CONNECTION, PER REQUIREMENT AND COORDINATION WITH UTILITY COMPANY, AVAILABLE FAULT CURRENT TO BE PROVIDED BY THE UTILITY COMPANY.
- CONNECT TO THE OUTDOOR UNIT. PROVIDE WIRING COMPLY WITH THE INSTALLATION MANUAL.
- PROVIDE 3/4" C - 2#10 + 1#10 GND AND 240V 30A RECEPTACLE FOR WASHER/DRYER.
- PROVIDE A 100-120KA SURGE PROTECTION DEVICE IN THE PANELBOARD.

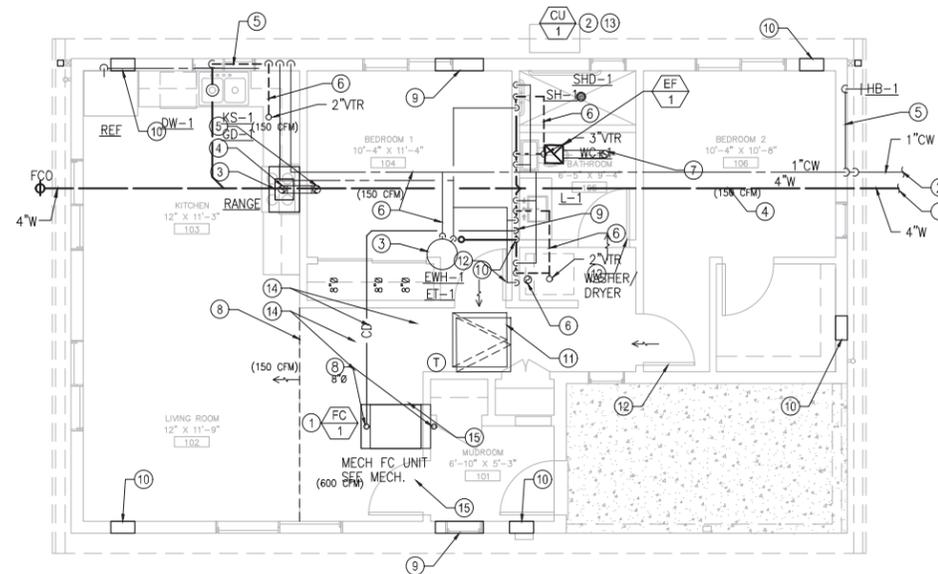
Waiver of Liability:
 The County of El Dorado requires participating end user property owners to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

PERMIT SET

El Dorado County
 Permit-Ready
 Accessory Dwelling Unit

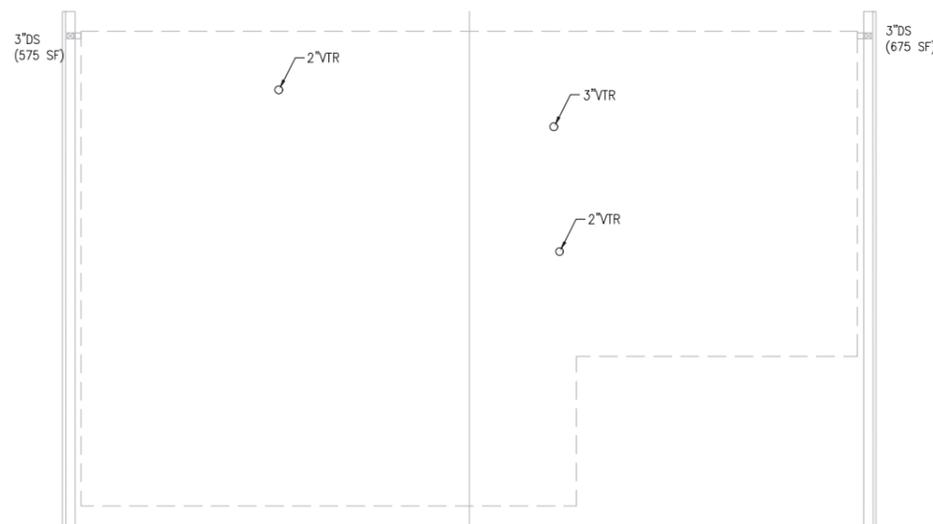
TITLE
 1ST FLOOR
 POWER PLAN
 AND ROOF
 POWER PLAN

PROJECT
 2102
 SCALE
 1/4" = 1'-0"
 DRAWN BY
 REX
 DATE
 11/10/2023
 SHEET NUMBER
 E3-01



1ST FLOOR PLUMBING PLAN 02
SCALE: 1/4" = 1'-0"

NOT FOR CONSTRUCTION



ROOF PLUMBING PLAN 01
SCALE: 1/4" = 1'-0"

- PLUMBING NOTES:**
- ① 4"W. P.O.C. TO CITY MAIN/SEPTIC TANK OR OTHER MEANS OF FUTURE CONNECTION SHALL BE VERIFIED PRIOR TO CONSTRUCTION/BID.
 - ② 1"CW. P.O.C. TO CITY MAIN/WELL OR OTHER MEANS OF FUTURE CONNECTION SHALL BE VERIFIED PRIOR TO CONSTRUCTION/BID.
 - ③ ELECTRIC WATER HEATER MOUNT AND SUPPORTED AT ATTIC SPACE. MINIMUM 24"x30" OPENING AND PASSAGEWAY.
 - ④ 4"W RUN BELOW GROUND.
 - ⑤ 3/4"CW RUN PIPE BELOW WINDOW TO HOSE BIBB.
 - ⑥ RUN PIPING AT ATTIC SPACE/SOFFIT.
 - ⑦ PROVIDE VENT PIPE WITH PROTECTION FROM FIRE EMBER AND SMOKE SEAL DUE TO HIGH-FIRE ZONE AREA.
 - ⑧ 3/4"CD FROM FC UNIT IN ATTIC SPACE WITH CONDENSATE DRAIN TRAP RUN BY GRAVITY. SEE CONDENSATE DRAIN DETAILS ON SHEET P0.00.
 - ⑨ 3/4"SD DOWN IN WALL AND CONNECT TO TAILPIECE OF THE LAVATORY TRAP. SEE CONDENSATE DRAIN DETAIL ON SHEET P0.00.
 - ⑩ 2"W FROM FUNNEL FOR WATER HEATER CONDENSATE DRAIN IN ATTIC SPACE DOWN IN WALL BELOW.

Waiver of Liability:
The County of El Dorado requires participating end user property owner(s) to release, hold harmless, and indemnify Consultant, subcontractors, and the County and its employees from any and all claims, liabilities or damages arising out of the use of these ADU construction documents.

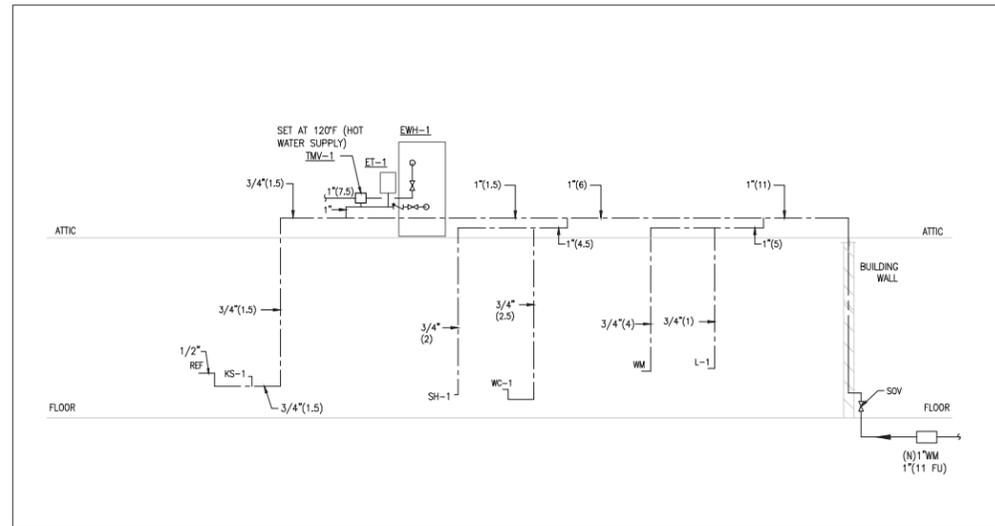
PERMIT SET

El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
1ST FLOOR AND
ROOF PLUMBING
PLANS

PROJECT
2102
SCALE
1/4" = 1'-0"
DRAWN BY
REX
DATE
11/10/2023
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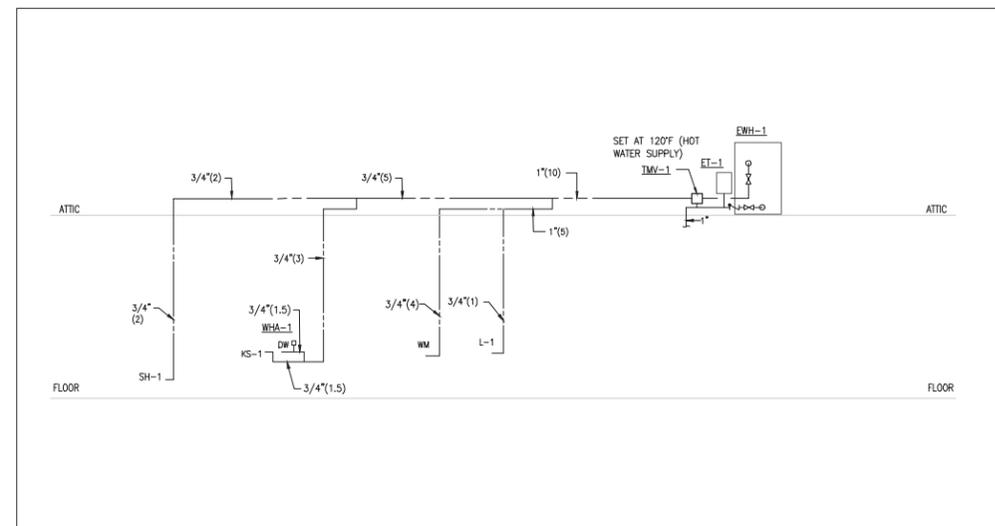
SHEET NUMBER
P2-01



COLD WATER RISER DIAGRAM

COLD WATER RISER DIAGRAM 01
SCALE: NTS

NOT FOR CONSTRUCTION



HOT WATER RISER DIAGRAM 02
SCALE: NTS

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El Dorado County
Permit-Ready
Accessory Dwelling Unit

TITLE
PLUMBING RISER
DIAGRAMS

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