

CITY STANDARD ACCESSORY DWELLING UNIT
ADU: 1,199 L-SHAPE REVERSE

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

Release Date: 03/22/2024

Release #: A

DEVELOPMENT STANDARDS

EXISTING LOT COVERAGE: _____

*PROPOSED LOT COVERAGE: _____

MAX. LOT COVERAGE: _____

EXISTING FLOOR AREA RATIO: _____

*PROPOSED FLOOR AREA RATIO: _____

MAX. FLOOR AREA RATIO: _____

PROPOSED BUILDING HEIGHT: _____

NO. OF STORIES: _____

DETACHED MAX SIZE: 1,200 SF

HEIGHT LIMIT: 16'-0"

*ADU SETBACKS: 4'

*ADU TO PDU MIN. DISTANCE: 10'

ADDITIONAL PARKING REQUIREMENT ☐ YES ☐ NO

PER CVMC 19.58.022(C)(7):

THE DISTANCE OF THE PROPOSED DETACHED ADU FROM THE TOP AND BOTTOM OF THE SLOPE SHALL MEET CRC SECTION R403.1.7 (SEE SITE PLAN NOTES ON SHEET G101).

1 SEE CALCULATIONS ON SHEET A011.

ADU'S LOCATED BETWEEN 3 FEET AND 5 FEET OF THE PROPERTY LINES SHALL REQUIRE FIRE RATED EAVES AND WALLS PER DETAILS LOCATED IN THIS SET.

3 EXISTING PRIMARY DWELLING UNIT (PDU).

UTILITY DATA

EXISTING MAIN SERVICE PANEL BREAKER SIZE: _____

EXISTING MAIN SERVICE PANEL BUS RATING: _____

PROPOSED SUB PANEL ON ADU BREAKER SIZE: 150A

PROPOSED SUB PANEL ON ADU BUS RATING: 150A BUS RATING

CIRCUIT BREAKER ON MAIN SERVICE PANEL FEEDING THE ADU: 150A

EXISTING WATER METER SIZE: _____

EXISTING WATER METER LATERAL SIZE: _____

WATER METER UPGRADE REQUIRED: _____

* CONTACT LOCAL UTILITY COMPANIES REGARDING GAS AND ELECTRIC SERVICES TO THIS DETACHED ADU.

** SEE ELECTRICAL SERVICE SELECTION REQUIREMENTS ON SHEET G102R.

ZONING SETBACKS

ZONING: _____

FRONT YARD: _____

SIDE YARDS: _____

SIDE STREET YARDS: _____

REAR YARD: _____

BETWEEN BUILDINGS: _____

DESIGN TEAM

OWNER

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

DESIGNER

SnapADU
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STRUCTURAL ENGINEER

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TITLE 24 CONSULTANT

SOCAL TITLE-24
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EMAIL: KEN@SOCALTITLE24.COM

LEGAL

EXISTING ADDRESS: _____

ADU ADDRESS: _____

ASSESSOR'S PARCEL NUMBER: _____

JURISDICTION: _____ CITY OF CHULA VISTA

LEGAL DESCRIPTION: _____

LOT AREA (ACRES): _____

LOT AREA (SQ. FT.): _____

BUILDING DATA

BUILDING OCCUPANCY GROUP: _____ R-3

CONSTRUCTION TYPE: _____ TYPE V-B

FIRE ZONING (CHECK ONE): _____ (N/A) _____ (VHFSZ)

EXISTING BUILDING USE: _____ SINGLE FAMILY DWELLING

EXISTING BUILDING AREA: _____ SQ. FT.

EXISTING GARAGE AREA: _____ SQ. FT.

EXISTING BUILDING YEAR BUILT: _____

EXISTING BUILDING SPRINKLERED (YES/NO): _____

PROPOSED BUILDING USE: _____ DETACHED ADU

PROPOSED BUILDING AREA: 1,199 SF

PROPOSED BUILDING HEIGHT: 12'-4 1/2"

PROPOSED BUILDING SPRINKLERED (YES/NO): _____

NUMBER OF STORIES: 1

VICINITY MAP

SHEET INDEX

ARCHITECTURE

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A	G102R	CHECKLIST
A	G200	CODE COMPLIANCE NOTES
A	G201	CODE COMPLIANCE NOTES
A	G300	CAL-GREEN REQUIREMENTS
A	G301	CAL-GREEN REQUIREMENTS
A	G400R	TITLE 24 - REVERSE 3-BEDROOM SOG - CZ10
A	G401R	TITLE 24 - REVERSE 3-BEDROOM SOG - CZ10
A	G402R	TITLE 24 - REVERSE 3-BEDROOM SOG - CZ7
A	G403R	TITLE 24 - REVERSE 3-BEDROOM SOG - CZ7
A	G410R	TITLE 24 - REVERSE 3-BEDROOM RF - CZ10
A	G411R	TITLE 24 - REVERSE 3-BEDROOM RF - CZ10
A	G412R	TITLE 24 - REVERSE 3-BEDROOM RF - CZ7
A	G413R	TITLE 24 - REVERSE 3-BEDROOM RF - CZ7
A	G420R	TITLE 24 - REVERSE 2-BEDROOM SOG - CZ10
A	G421R	TITLE 24 - REVERSE 2-BEDROOM SOG - CZ10
A	G422R	TITLE 24 - REVERSE 2-BEDROOM SOG - CZ7
A	G423R	TITLE 24 - REVERSE 2-BEDROOM SOG - CZ7
A	G430R	TITLE 24 - REVERSE 2-BEDROOM RF - CZ10
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A	A211R	REVERSE ELEVATIONS B - LAP SIDING
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A	A221R	REVERSE ELEVATIONS C - BOARD & BATTEN
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A	A500	GENERIC ROOF & MISC. DETAILS
A	A501	GENERIC DOOR, WINDOW & MISC. DETAILS
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A	E102R	REVERSE ELECTRICAL PLAN - OPTIONS
A	E103	ELECTRIC PANEL SCHEDULE

STRUCTURAL

REV.	SHEET #	DRAWING TITLE
A	S1R	REVERSE STRUCTURAL PLANS - 2-BEDROOM
A	S2R	REVERSE STRUCTURAL PLANS - 3-BEDROOM
A	SD1	STRUCTURAL DETAILS
A	SD2	STRUCTURAL DETAILS
A	SN1	STRUCTURAL NOTES

PLUMBING FIXTURE SCHEDULE

FIXTURES	EXISTING QTY	NEW QTY	TOTAL FIXTURES	MAX WATER CONSUMPTION (CPC TABLE M102.1)	UNIT WSFU (CPC 610.3)	WSFU
BATH/TUB OR COMBINATION BATH/SHOWER	0	0	0	5.5	4.0	0
CLOTHES WASHER	0	1	1	3.5	4.0	4
DISHWASHER, DOMESTIC	0	1	1	1.3	1.5	1.5
HOSE BIB (USE HIGHEST GPM OF INDOOR WATER FIXTURE)	0	1	1	3.5	2.5	2.5
HOSE BIB, EACH ADDITIONAL	0	0	0		1.0	0
LAVATORY 1.2 GPM (CPC 407.2.2)	0	2	2	1.5	1.0	2
SHOWER, PER HEAD 1.8 GPM (CPC 408.2.1)	0	2	2	1.8	2.0	4
SINKS (KITCHEN) 1.8 GPM (CPC 420.2.1)	0	1	1	2.2	1.5	1.5
WATER CLOSET, 1.28 GPF (CPC 411.2.1)	0	2	2	3	2.5	5
TOTAL WSFU						20.5



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CITY OF CHULA VISTA

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276 FOURTH AVENUE
CHULA VISTA, CA 91910

DESIGNER:

LUIS CALDERON
napADU


SIGNATURE

[illegible]

TITLE SHEET

G100R

22040

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

1. THE PLACEMENT OF BUILDINGS AND STRUCTURES ON OR ADJACENT TO SLOPES STEEPER THAN 1 UNIT VERTICAL IN 3 UNITS HORIZONTAL (33.3-PERCENT SLOPE) SHALL CONFORM TO SECTIONS R403.1.7.1 THROUGH R403.1.7.4.



1. DURING CONSTRUCTION, AT LEAST ONE EXTINGUISHER SHALL BE PROVIDED ON EACH FLOOR LEVEL AT EACH STAIRWAY, IN ALL STORAGE CONSTRUCTION SHEDS IN LOCATIONS WHERE FLAMMABLE OR COMBUSTIBLE LIQUIDS ARE STORED OR USED, AND OTHER SPECIAL HAZARDS ARE PRESENT PER CFC 3315.1
2. DUMPSTERS AND TRASH CONTAINERS EXCEEDING 1.5 CUBIC YARDS SHALL NOT BE STORED IN BUILDINGS OR PLACED WITHIN 5 FEET OF COMBUSTIBLE WALLS, OPENINGS OR COMBUSTIBLE ROOF EAVE LINES UNLESS PROTECTED BY AN APPROVED SPRINKLER SYSTEM. LOCATIONS IN TYPE I OR IIIA STRUCTURE SEPARATED BY 10 FEET FROM OTHER STRUCTURES.
3. CONTAINERS LARGER THAN 1 CUBIC YARD SHALL BE OF NON-OR LIMITED-COMBUSTIBLE MATERIALS OR SIMILARLY PROTECTED OR SEPARATED.
4. OPEN FLAMES, FIRE, AND BURNING ON ALL PREMISES IS PROHIBITED EXCEPT AS SPECIFICALLY PERMITTED BY THE ADOPTED CODE.
5. NEWLY CONSTRUCTED DWELLING UNITS INCLUDING DETACHED ADUs ARE REQUIRED TO COMPLY WITH AGING-IN-PLACE REQUIREMENTS IN ACCORDANCE WITH CRC R327.1 ADDRESS THE FOLLOWING:
 - A. AT LEAST ONE BATHROOM ON THE ENTRY LEVEL SHALL BE PROVIDED WITH REINFORCEMENT INSTALLED IN ACCORDANCE WITH THIS SECTION.
 1. SPECIFY THE REINFORCEMENT TO BE SOLID LUMBER AND NOT LESS THAN 2X8.
 2. DIMENSION THE REINFORCEMENT SHALL BE LOCATED BETWEEN 32 - 39 1/4 INCHES ABOVE THE FINISHED FLOOR.
 3. SPECIFY THE WATER CLOSET REINFORCEMENT TO BE INSTALLED ON BOTH SIDE WALLS OF THE TOILET ROOM WALL AND THE BACK WALL (IT WHERE THE WATER CLOSET IS NOT LOCATED ADJACENT TO THE SIDE WALL, GRAB BAR REINFORCEMENT FOR A GROUND-MOUNTED INSTALLATION IS ACCEPTABLE.
 4. SPECIFY THE SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED.
 5. BATHTUB AND COMBINATION BATHTUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHTUB AND THE BACK WALL. ADDITIONALLY, BACK WALL REINFORCEMENT FOR A LOWER GRAB BAR SHALL BE PROVIDED WITH THE BOTTOM EDGE LOCATED NO MORE THAN 6 INCHES ABOVE THE BATHTUB RIM.
 - B. ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISHED FLOOR.
 - C. SPECIFY DOORBELL CONTROLS TO BE NOT EXCEED 48 INCHES ABOVE EXTERIOR FLOOR, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY.

ALL NEW RESIDENTIAL UNITS ARE REQUIRED TO BE ENERGY STORAGE SYSTEM (ESS) READY. PROVIDE THE FOLLOWING ON THE PLANS PER NEC 150.0(S):

1. AT LEAST ONE OF THE FOLLOWING SHALL BE PROVIDED:
 - A. ESS READY INTERCONNECTION EQUIPMENT WITH A MINIMUM BACKUPPED CAPACITY OF 60 AMPS AND A MINIMUM OF FOUR ESS-SUPPLIED BRANCH CIRCUITS.
2. A DEDICATED RACEWAY FROM THE MAIN SERVICE TO A PANELBOARD (SUBPANEL) THAT SUPPLIES THE BRANCH CIRCUITS IN SECTION 150.0(S)(2). ALL BRANCH CIRCUITS ARE PERMITTED TO BE SUPPLIED BY THE MAIN SERVICE PANEL PRIOR TO THE INSTALLATION OF AN ESS. THE TRADE SIZE OF THE RACEWAY SHALL BE 1/2" MINIMUM. THE PANELBOARD THAT SUPPLIES THE BRANCH CIRCUITS (SUBPANEL) MUST BE LABELED "SUBPANEL SHALL INCLUDE ALL BACKUPPED LOAD CIRCUITS."
3. A MINIMUM OF FOUR BRANCH CIRCUITS SHALL BE IDENTIFIED AND HAVE THEIR SOURCE OF SUPPLY IDENTIFIED ON THE MAIN PANELBOARD SUITABLE TO BE SUPPLIED BY THE ESS. AT LEAST ONE CIRCUIT SHALL SUPPLY THE REFRIGERATOR. ONE LIGHTING CIRCUIT SHALL BE LOCATED NEAR THE PRIMARY EGRESS AND AT LEAST ONE CIRCUIT SHALL SUPPLY A SLEEPING ROOM RECEPTACLE OUTLET.
4. THE MAIN PANELBOARD SHALL HAVE A MINIMUM BUSBAR RATING OF 225 AMPS.
5. SYSTEM SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A FUTURE ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN SERVICE RACEWAY. THIS SPACE SHALL BE IDENTIFIED ON THE PANELBOARD AND THE SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH LOCATION TO ALLOW THE CONNECTION OF BACKUP POWER SOURCE.

1. A PLUMBING FIXTURE CERTIFICATION MUST BE COMPLETED AND SIGNED BY EITHER A LICENSED GENERAL CONTRACTOR, A PLUMBING CONTRACTOR, OR THE BUILDING OWNER CERTIFYING THE FLOW RATE OF THE FIXTURES INTO THE CITY. A COPY OF THE CERTIFICATION CAN BE OBTAINED FROM THE DEVELOPMENT SERVICES DEPARTMENT.
2. ALL PLUMBING FIXTURES AND FITTINGS WILL BE WATER CONSERVING.
3. PERMANENT VACUUM BREAKERS SHALL BE INCLUDED WITH ALL NEW HOSE BIBS.
4. PER CPC 402.5, 30" CLEAR WIDTH REQUIRED FOR THE WATER CLOSET COMPARTMENT AND MINIMUM 24" CLEARANCE REQUIRED IN FRONT OF THE WATER CLOSET.
5. PLUMBING FIXTURES (WATER CLOSURES AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL BE INSTALLED IN ACCORDANCE WITH THE PLUMBING CODE.
6. ALL NEW RESIDENTIAL BUILDINGS (SINGLE FAMILY, DUPLEXES, OR TOWNHOMES) SHALL BE CONSTRUCTED TO INCLUDE WASTE PIPING TO DISCHARGE GRAY WATER FROM CLOTHES WASHERS TO A PLACE WHERE IT MAY BE USED FOR OUTDOOR IRRIGATION, IN COMPLIANCE WITH SECTION 1602 OF THE CALIFORNIA PLUMBING CODE.
7. OUTDOOR SHOWER DRAINS AND SINKS ARE NOT PERMITTED TO CONNECT TO THE PUBLIC SEWER SYSTEM UNLESS EQUIPPED WITH AN APPROVED COVER, HOT AND COLD WATER CONNECTIONS ALLOWED.
8. THE CONTROL VALVES IN SHOWERS, TUB/SHOWERS, BATHTUBS, AND BIDETS MUST BE PRESSURE BALANCED OR THERMOSTATIC MIXING VALVES. CPC 408, 409, 410.
9. MECHANICAL EXHAUST FANS WHICH EXHAUST DIRECTLY FROM BATHROOMS SHALL COMPLY WITH THE FOLLOWING:
 - A. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE OF THE BUILDING.
 - B. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDISTAT WHICH SHALL BE READILY ACCESSIBLE. HUMIDISTAT CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE OF 50 TO 80 PERCENT.
10. FOR WATER HEATER, ADDRESS THE FOLLOWING:
 - A. PROVIDE T & P RELIEF VALVE AND SHOW TERMINATION POINT.
 - B. PROVIDE PLATFORM FOR THE WATER HEATER.
 - C. PROVIDE SEISMIC STRAPPING FOR THE WATER HEATER PER CPC 507.2.
 - a. STRAPPING SHALL BE PROVIDED WITHIN THE UPPER ONE THIRD AND LOWER ONE-THIRD OF THE WATER HEATER.
 - b. AT THE LOWER POINT, A MINIMUM DISTANCE OF FOUR INCHES SHALL BE MAINTAINED ABOVE THE CONTROLS WITH THE STRAPPING.
11. HEAT PUMP WATER HEATER SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
12. HEAT PUMP WATER HEATER AND WATER LINES SHALL BE PROTECTED FROM FREEZING TEMPERATURES AND NOT INSTALLED IN OUTDOOR UNPROTECTED AREAS.
13. VERIFY WATER HEATER IS RATED FOR EXTERIOR INSTALLATION.
14. GAS WATER HEATER USING GAS OR PROPANE WATER HEATER TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING PER CENERGYC 50 (N)(1):
 - A. A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE WATER HEATER AND ACCESSIBLE TO THE WATER WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V READY." ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE.
 - B. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE ELECTRIC WATER HEATER INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."
15. 150.0(V) ELECTRIC COOKTOP RATED, SYSTEMS USING GAS OR PROPANE COOKTOP TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING:
 - A. A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE COOKTOP AND ACCESSIBLE TO THE COOKTOP WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 50 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V READY."
 - B. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE ELECTRIC COOKTOP INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."
16. 150.0(V) ELECTRIC CLOTHES DRYER RATED, CLOTHES DRYER LOCATIONS WITHIN INDIVIDUAL DWELLING UNITS SERVING TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING:
 - A. A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE CLOTHES DRYER LOCATION AND ACCESSIBLE TO THE CLOTHES DRYER LOCATION WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V READY."
 - B. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE ELECTRIC CLOTHES DRYER INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."
17. 150.0(T) SYSTEMS USING GAS OR PROPANE FURNACE TO SERVE INDIVIDUAL DWELLING UNITS SHALL INCLUDE THE FOLLOWING:
 - A. A DEDICATED 240 VOLT BRANCH CIRCUIT WIRING SHALL BE INSTALLED WITHIN 3 FEET FROM THE FURNACE AND ACCESSIBLE TO THE FURNACE WITH NO OBSTRUCTIONS. THE BRANCH CIRCUIT CONDUCTORS SHALL BE RATED AT 30 AMPS MINIMUM. THE BLANK COVER SHALL BE IDENTIFIED AS "240V READY." ALL ELECTRICAL COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA ELECTRICAL CODE.
 - B. THE MAIN ELECTRICAL SERVICE PANEL SHALL HAVE A RESERVED SPACE TO ALLOW FOR THE INSTALLATION OF A DOUBLE POLE CIRCUIT BREAKER FOR A FUTURE HEAT PUMP WATER HEATER INSTALLATION. THE RESERVED SPACE SHALL BE PERMANENTLY MARKED AS "FOR FUTURE 240V USE."

AC	AIR CONDITIONING	LAV	LAVATORY
AFF	AIR CURTAIN	L	LOUVER
AFB	ABOVE FINISHED FLOOR		
ALUM	ALUMINUM	MAX	MAXIMUM
ARCH	ARCHITECTURAL	MECH	MECHANICAL
		MTL	METAL
B	BOLLARD	MFR	MANUFACTURER
BLDG	BUILDING	MIN	MINIMUM
BLKS	BLOCKING	MWO	MICROWAVE OVEN
BTW	BETWEEN		
		N/A	NOT APPLICABLE
CAB	CABINET	(N)	NEW
CA	COMPRESSED AIR	N	NOT IN CONTRACT
C	CENTER LINE	NCS	NOT TO SCALE
CLG	CEILING		
CLO.	CLOSET	OC	ON CENTER
CLR	CLEAR	O	OVER
CMU	CONCRETE MASONRY UNIT		
CO	CLEAN OUT (PLUMBING)	P.LAM	PLASTIC LAMINATE
CONC	CONCRETE	PLYWD	PLYWOOD
CONST.	CONSTRUCTION	PTW	PRESSURE TREATED WOOD
CONT.	CONTINUOUS	Ꞥ	PROPERTY LINE
CONTR	CONTRACTOR		
CORR	CORRIDOR	REFR.	REFRIGERATOR
		REQ'D	REQUIRED
D	DRYER	RD	ROOF DRAIN
DS	DOWNSPOUT	RDO	ROOF DRAIN OVERFLOW
DSN	DOWNSPOUT NOZZLE	RE	REFER TO
DV	DRYER VENT	RO	ROUGH OPENING
DW	DISHWASHER		
		S/A	SUPPLY AIR
(E)	EXISTING	SIM	SIMILAR
EP	ELECTRICAL PANEL DRAWINGS	SLD	SLOT DRAIN
EQ	EQUAL	SOD	SCUPPER OVERFLOW DRAIN
EQUIP	EQUIPMENT	SRD	SCUPPER ROOF DRAIN
		SUSP	SUSPENDED
FIN	FINISHED	STL	STEEL
FO	FINISHED OPENING		
FOC	FACE OF CONCRETE	T	THERMOSTAT
FOF	FACE OF FINISH	TD	TRENCH DRAIN
FOM	FACE OF MASONRY	TEL	TELEPHONE
FOS	FACE OF STUD	TY	TYPICAL
FURR	FURRED, FURRING	T.O.	TOP OF...
		T.O.D	TOP OF DRAIN
GA	GAUGE		
GB	GRAB BAR	UNO	UNLESS NOTED OTHERWISE
GWB	GYPSUM WALL BOARD		
GYP.BD.	GYPSUM BOARD	VIF	VERIFY IN FIELD
GALV.	GALVANIZED		
		W	WASHER
HB	HOSE BIB	W/	WITH
HDWR	HARDWARE	W/O	WITHOUT
HM	HOLLOW METAL	WD	WOOD
HPW	HOT WATER - SEE PLUMBING	WH	WATER HEATER
DWGS			
HVAC	HEATING, VENTILATING, & AIR CONDITIONING		

SEE DISCIPLINE SHEETS FOR DISCIPLINE SPECIFIC SYMBOLS.

A100
SHEET NUMBER
Sheet No. Sequence
Sheet Type
Discipline

NORTH ARROW
PLAN NORTH
TRUE NORTH

ROOM TAG
NAME
SF
Room Name
Area

DOOR TAG
D1
Door number

WINDOW TAG
W1
Window type

ADDITIONAL NOTES
R000

FLOW ARROW

EXTERIOR ELEVATION
1
A201
Elevation No.
Sheet No.

BUILDING SECTION
1
A101
Section No.
Sheet No.

DETAIL - CALLOUT
1
A1001
Detail No.
Sheet No.

DETAIL - SECTION
1
A1001
Detail No.
Sheet No.

SPOT ELEVATION MARKER
1
A1001
Detail No.
Sheet No.


FLOOR LEVEL MARKER
LEVEL
ELEVATION
1
Level Name
Floor Elevation

REVISION TAG
1
Revision Number
Revision Cloud

STAIR TAG w/ number of Risers & Riser Height
20 R @ 7 1/2"



DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

[illegible]

G101
22040

WASTE WATER:

✓SELECTION

☐

SEWER

☐SEPTIC*

SEPTIC OPTION NOTES:

1. PROVIDE PLAN SHEETS ADDRESSING SEPTIC OPTION INFORMATION.

2. IN ADDITION TO APPROVAL FROM BUILDING & SAFETY, APPROVAL IS REQUIRED FROM THE SAN DEIGO COUNTY HEALTH DEPARTMENT. PROVIDE DOCUMENTATION SHOWING SEPTIC SYSTEM WAS REVIEWED AND APPROVED BY THE COUNTY HEALTH DEPARTMENT.

3. DESIGN AND LOCATION OF PROPOSED SEPTIC SYSTEM SHALL BE PROVIDED ON SITE PLAN IN ACCORDANCE WITH CPC APPENDIX H. ALL ELEMENTS INCLUDING DISPOSAL FIELD SIZING BASED ON PERCOLATION RATE SHALL BE SHOWN.

1. ON THE SITE PLAN, DIMENSION THE SEPTIC TANK AND DISPOSAL FIELD/SEEPAGE PIT FROM THE BUILDINGS, LOT LINES, TREES, ETC. ENSURE THE LOCATION OF THE SEWAGE DISPOSAL SYSTEM IS IN COMPLIANCE WITH CPC TABLE H 101.8.

2. PROVIDE THE CAPACITY OF THE SEPTIC TANK PER CPC H 201.0.

3. PROVIDE THE DESIGN FOR THE DISPOSAL FIELD AND SEEPAGE PITS PER CPC H 301.0.

METHANE AREA:

✓SELECTION

PROPOSED ACCESSORY DWELLING UNIT IN METHANE AREA

☐YES

☐NO

PHOTOVOLTAIC (PV) SOLAR SYSTEM SIZE REQUIREMENT:

✓SELECTION (PER T24 CALCULATIONS PG. 2)

NUMBER OF BEDROOMS:	FOUNDATION TYPE:	CLIMATE ZONE 7	CLIMATE ZONE 10
3	SLAB-ON-GRADE	<input type="checkbox"/> 2.35 kWDC	<input type="checkbox"/> 2.36 kWDC
3	RAISED FLOOR	<input type="checkbox"/> 2.47 kWDC	<input type="checkbox"/> 2.50 kWDC
2	SLAB-ON-GRADE	<input type="checkbox"/> 2.05 kWDC	<input type="checkbox"/> 2.11 kWDC
2	RAISED FLOOR	<input type="checkbox"/> 2.17 kWDC	<input type="checkbox"/> 2.25 kWDC

SOILS REQUIREMENT:

✓SELECTION

☐ SOILS REPORT IS PROVIDED.

☐ SOIL REPORT WAIVER IS REQUESTED; IF CHECKED THEN A LETTER FROM A LICENSESD PROFESSIONAL ENGINEER MUST BE PROVIDED TO CERTIFY THAT THERE IS NO FILL. SUCH LETTER TO BE IMPRINTED ON THE PLANS.

WILDLAND-URBAN INTERFACE (WUI):

✓SELECTION

☐ YES

☐ NO

1. EAVES SHALL BE ENCLOSED PER THE CRITERIA LISTED IN CRC R337.7.5. SHOW ON APPLICABLE DETAILS.

2. EXTERIOR WALLS SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE. PROVIDE DETAILS AND INFORMATION FOR THE SIDING TO DEMONSTRATE COMPLIANCE. CRC R337.7.3

3. THE SCREENS COVERING VENTS SHALL HAVE A MAXIMUM MESH OF 1/8" AND SHALL BE OF CORROSION-RESISTANT METAL. CRC R337.6.2

4. VENTS SHALL NOT BE INSTALLED ON THE UNDERSIDE OF EAVES. CRC R337.6.3

5. PROVIDE ONE LAYER OF ROOF UNDERLAYMENT OF MINIMUM 72-POUND MINERAL-SURFACED NON-PERFORATED CAP SHEET COMPLYING WITH ASTM D 3909. CRC 337.5.2

6. ROOF GUTTERS SHALL BE SCREENED TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS. CRC R337.5.4.

DEFENSIBLE SPACE ZONES

ZONE 0 - EMBER-RESISTANT ZONE

EXTENDS 5 FEET FROM BUILDINGS, STRUCTURES, DECKS, ETC.

THE EMBER-RESISTANT ZONE IS CURRENTLY NOT REQUIRED BY LAW, BUT SCIENCE HAS PROVEN IT TO BE THE MOST IMPORTANT OF ALL THE DEFENSIBLE SPACE ZONES. THIS ZONE INCLUDES THE AREA UNDER AND AROUND ALL ATTACHED DECKS, AND REQUIRES THE MOST STRINGENT WILDFIRE FUEL REDUCTION. THE EMBER-RESISTANT ZONE IN DESIGNED TO KEEP FIRE OR EMBERS FROM IGNITING MATERIALS THAT CAN SPREAD THE FIRE TO YOUR HOME. THE FOLLOWING PROVIDES GUIDANCE FOR THIS ZONE, WICH MAY CHANGE BASED ON THE REGULATION DEVELOPED BY THE BOARD OF FORESTRY AND FIRE PROTECTION.

• USE HARDSCAPE LIKE GRAVEL, PAVERS, CONCRETE AND OTHER NONCOMBUSTIBLE MULCH MATERIALS. NO COMBUSTIBLE BARK OR MULCH.

• REMOVE ALL DEAD AND DYING WEEDS, GRASS, PLANTS SHRUBS, TREES, BRANCHES AND VEGETATIVE DEBRIS (LEAVES, NEEDLES, CONES, BARK, ETC.); CHECK YOUR ROOFS, GUTTERS, DECKS, PORCHES, STAIRWAYS, ETC.

• REMOVE ALL BRANCHES WITHIN 10 FEET OF ANY CHIMNEY OR STOVEPIPE OUTLET.

• LIMIT PLANTS IN THIS AREA TO LOW GROWING, NONWOODY, PROPERLY WATERED AND MAINTAINED PLANTS.

• LIMIT COMBUSTIBLE ITEMS (OUTDOOR FURNITURE, PLANTERS, ETC.) ON TOP OF DECKS.

• RELOCATE FIREWOOD AND LUMBER TO ZONE 2.

• REPLACE COMBUSTIBLE FENCING, GATES, AND ARBORS ATTACH TO THE HOME WITH NONCOMBUSTIBLE ALTERNATIVES.

• CONSIDER RELOCATING GARBAGE AND RECYCLING CONTAINERS OUTSIDE THIS ZONE.

• CONSIDER RELOCATING BOATS, RV'S, VEHICLES AND OTHER COMBUSTIBLE ITEMS OUTSIDE THIS ZONE.

ZONE 1 - LEAN, CLEAN AND GREEN ZONE

EXTENDS 30 FEET FROM BUILDINGS, STRUCTURES, DECKS, ETC. OR TO YOUR PROPERTY LINE, WHICHEVER IS CLOSER.

• REMOVE ALL DEAD PLANTS, GRASS AND WEEDS (VEGETATION).

• REMOVE DEAD OR DRY LEAVES AND PINE NEEDLES FROM YOUR YARD, ROOF AND RAIN GUTTERS.

• REMOVE BRANCHES THAT HANG OVER YOUR ROOF AND KEEP DEAD BRANCHES 10 FEET AWAY FROM YOUR CHIMNEY.

• TRIM TREES REGULARLY TO KEEP BRANCHES A MINIMUM OF 10 FEET FROM OTHER TREES.

• RELOCATE WOOD PILES TO ZONE 2.

• REMOVE OR PRUNE FLAMMABLE PLANTS AND SHRUBS NEAR WINDOWS.

• REMOVE VEGETATION AND ITEMS THAT COULD CATCH FIRE FROM AROUND AND UNDER DECKS, BALCONIES AND STAIRS.

• CREATE A SEPARATION BETWEEN TREES, SHRUBS AND ITEMS THAT COULD CATCH FIRE, SUCH AS PATIO FURNITURE, WOOD PILES, SWING SETS, ETC.

ZONE 2 - REDUCE FUEL ZONE

EXTENDS FROM 30 FEET TO 100 FEET OUT FROM BUILDINGS, STRUCTURES, DECKS, ETC. OR TO YOUR PROPERTY LINE, WHICHEVER IS CLOSER.

• CUT OR MOW ANNUAL GRASS DOWN TO A MAXIMUM HEIGHT OF 4 INCHES.

• CREATE HORIZONTAL SPACE BETWEEN SHRUBS AND TREES. (SEE DIAGRAM)

• CREATE VERTICAL SPACE BETWEEN GRASS, SHRUBS AND TREES. (SEE DIAGRAM)

• REMOVE FALLEN LEAVES, NEEDLES, TWIGS, BARK, CONES, AND SMALL BRANCHES. HOWEVER, THEY MAY BE PERMITTED TO A DEPTH OF 3 INCHES.

• ALL EXPOSED WOOD PILES MUST HAVE A MINIMUM OF 10 FEET OF CLEARANCE, DOWN TO BARE MINERAL SOIL, IN ALL DIRECTIONS.

FIRE SPRINKLERS:

✓SELECTION

EXISTING PRIMARY DWELLING UNIT

☐ YES

☐ NO

REQUIRED AT PROPOSED ACCESSORY DWELLING UNIT

☐ YES

☐ NO

VERY HIGH FIRE SEVERITY ZONE:

✓SELECTION

☐ *YES

☐ NO

1. ALL EXTERIOR GLAZED DOOR ASSEMBLIES SHALL BE MULTI-PANE WITH A MINIMUM OF ONE TEMPERED PANE AND COMPLY WITH SECTION CRC R337.8.2.1

2. ALL EXTERIOR DOORS SHALL BE 20-MINUTES FIRE RATED AND COMPLY WITH SECTION CRC R337.8.3

3. ALL EXTERIOR WINDOW ASSEMBLIES SHALL COMPLY WITH SECTION CRC R337.8.2.1

4. ROOF GUTTERS SHALL BE PROVIDED WITH THE MEANS TO PREVENT THE ACCUMULATION OF LEAVES AND DEBRIS IN THE GUTTER. ALL ROOF GUTTERS AND DOWNSPOUTS SHALL BE CONSTRUCTED OF NON-COMBUSTIBLE MATERIALS PER CRC R337.5.4; SDMC 149.0327(E) (1).

5. DRIP EDGE FLASHING USED AT THE FREE EDGES OF ROOFING MATERIALS SHALL BE NON-COMBUSTIBLE PER SDMC 149.0327(E) (2).

6. VALLEY FLASHINGS SHALL BE NOT LESS THAN 0.019-INCH (NO. 26 GALVANIZED SHEET GAGE) CORROSION-RESISTANT METAL INSTALLED OVER A MINIMUM 36-INCH-WIDE UNDERLAYMENT CONSISTING OF ONE LAYER OF NO. 72 ASTM CAP SHEET RUNNING THE FULL LENGTH OF THE VALLEY PER CRC R337.5.3.

7. CHIMNEYS, FLUES OR STOVEPIPES ATTACHED TO ANY FIREPLACE, STOVE, BARBEQUE OR OTHER SOLID OR LIQUID FUEL BURNING EQUIPMENT OR DEVICE SHALL BE EQUIPPED WITH AN APPROVES SPARK ARRESTOR PER SDMC 149.0327(H).

8. TURBINE ATTIC VENTS SHALL BE EQUIPPED TO ALLOW ONE-WAY DIRECTION ROTATION ONLY AND SHALL NOT FREE SPIN IN BOTH DIRECTIONS PER SDMC 145.0706(D).

9. ATTIC VENTS SHOULD BE PROTECTED BY NONCOMBUSTIBLE, CORROSION RESISTANT MESH AND MEETS ALL THE FOLLOWING REQUIREMENTS (PER CRC R337.6.2; SDMC 149.0327(F).1):

A. INDIVIDUAL VENT OPENINGS SHALL NOT EXCEED 144 SQUARE INCHES.

B. THE DIMENSIONS OF THE OPENINGS SHALL BE A MINIMUM OF 1/16-INCH AND SHALL NOT EXCEED 1/8-INCH.

*SEE DETAILS:

1/A500, 2/A500, 3/A500;

1/A510, 2/A510, 3/A510,

4/A510, 5/A510, 6/A510, 12/A510.

1/A520, 2/A520, 3/A520, 4/A520, 5/A520, 6/A520, 12/A520.

1/A530, 2/A530, 3/A530, 4/A530, 5/A530, 6/A530, 12/A530.

ELECTRICAL SERVICE:

✓SELECTION

☐ UPGRADE SERVICE

☐ EXISTING SERVICE TO REMAIN

☐ NEW SERVICE

*IF THE EXISTING MSP IS NOT 200A WITH 225A BUS RATING, A NEW SERVICE PANEL FOR THE EXISTING SFR OR THE PROPOSED ADU SHALL BE PROVIDED TO COMPLY WITH ESS READY REQUIREMENT.

CLIMATE ZONE:

✓SELECTION

☐ CLIMATE ZONE 7 (ZIP CODES: 91910, 91911, 91913, 91915)

☐ CLIMATE ZONE 10 (ZIP CODE: 91914)

ADU FLOOR PLAN:

✓SELECTION

☐ REVERSE STANDARD 3-BEDROOM PLAN

☐ REVERSE 2-BEDROOM OPTION

MISC. AVAILABLE OPTIONS:

✓SELECTION(S)

☐ 8' PENINSULA (SEE 1/A102R)

OR

☐ L-KITCHEN WITH 5' ISLAND (SEE 2/A102R)

☐ 6'-0" x 6'-8" SLIDING GLASS DOOR (SEE 4/A102R)

☐ ENLARGED BEDROOM & BATH DOOR WITH 2 BEDROOM (SEE 6/A102R)

☐ SIDE BY SIDE LAUNDRY (SEE 3/A102R)

☐ ENLARGED BEDROOM & BATH DOOR WITH 3 BEDROOMS(SEE 5/A102R)

☐ SKYLIGHTS (SEE 1/A122R)

FOUNDATION TYPE:

✓SELECTION

☐ STANDARD SOIL, SLAB ON GRADE (SEE S1R / S2R)

☐ STANDARD SOIL, RAISED FLOOR FOUNDATION* (SEE S1R / S2R)

* PROVIDE 18" X 24" MIN. UNDERFLOOR ACCESS, CLEARANCE, AND VENTILATION. UNDER-FLOOR VENTILATION SHALL BE NOT LESS THAN 1/150 OF UNDER FLOOR AREA. (*1209.1, R408.2, R408.4). REFER TO DETAIL 9 AND 10/ SHEET A500.

EXTERIOR WALL MATERIAL:

✓SELECTION

☐ ELEVATION A - STUCCO

☐ ELEVATION B - LAP SIDING

☐ ELEVATION C - BOARD & BATTEN SIDING

ROOF MATERIAL:


✓SELECTION

<



ADU: 1, 199 L-SHAPE REVERSE

DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

[illegible]

CHECKLIST
G102R
22040

CODE COMPLIANCE NOTES

EXCERPTS FROM THE 2022 CALIFORNIA RESIDENTIAL CODE

CHAPTER 3 - BUILDING PLANNING

R302 FIRE-RESISTANT CONSTRUCTION

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

R302.2 DWELLING-GARAGE OPENING AND PENETRATION PROTECTION

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

R302.6 DWELLING/GARAGE AND/OR CARPORT FIRE SEPARATION

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

R302.7 UNDER-STAIR PROTECTION

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

R302.11 FIREBLOCKING

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

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

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

R303 LIGHT, VENTILATION AND HEATING

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

R303.2 ADJOINING ROOMS

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

R307 BATHTUB AND SHOWER SPACES

BATHTUB AND SHOWER FLOORS AND WALLS ABOVE BATHTUBS WITH INSTALLED SHOWER HEADS AND IN SHOWER COMPARTMENTS SHALL BE FINISHED WITH A NONABSORBENT SURFACE. SUCH WALL SURFACES SHALL EXTEND TO A HEIGHT OF NOT LESS THAN 6 FEET (1829 MM) ABOVE THE FLOOR.

R308 GLAZING

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

R308.4 HAZARDOUS LOCATIONS

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

R310 EMERGENCY ESCAPE AND RESCUE OPENINGS

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

R310.2.2 MINIMUM DIMENSIONS

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

R310.2.3 WINDOW SILL HEIGHT

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

R310.4 AREA WALLS

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

R311 MEANS OF EGRESS

R311.3 FLOORS AND LANDINGS AT EXTERIOR DOORS

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

R311.3.1 FLOOR ELEVATIONS AT THE REQUIRED EGRESS DOORS

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

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

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

CHAPTER 3 - BUILDING PLANNING (CONT')

R314 SMOKE ALARMS

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

R316 CARBON MONOXIDE ALARMS

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

R318 FOAM PLASTIC

R318.4 THERMAL BARRIER
UNLESS OTHERWISE ALLOWED IN SECTION R318.5, FOAM PLASTIC SHALL BE SEPARATED FROM THE INTERIOR OF A BUILDING BY AN APPROVED THERMAL BARRIER OF NOT LESS THAN 1/2-INCH (12.7 MM) GYPSUM WALLBOARD, 23/32-INCH (18.2 MM) WOOD STRUCTURAL PLY, OR A MATERIAL THAT IS TESTED IN ACCORDANCE WITH AND MEETS THE ACCEPTANCE CRITERIA OF BOTH THE TEMPERATURE TRANSMISSION FIRE TEST AND THE INTEGRITY FIRE TEST OF NFPA 275.

R318 PROTECTION AGAINST SUBTERRANEAN TERMITES

R318.4 FOAM PLASTIC PROTECTION
IN AREAS WHERE THE PROBABILITY OF TERMITE INFESTATION IS "VERY HEAVY" AS INDICATED IN FIGURE D318.4, EXTRUDED AND EXPANDED POLYSTYRENE, POLYISOCYANURATE AND OTHER FOAM PLASTICS SHALL NOT BE INSTALLED ON THE EXTERIOR FACE OR UNDER INTERIOR OR EXTERIOR FOUNDATION WALLS OR SLAB FOUNDATIONS LOCATED BELOW GRADE. THE CLEARANCE BETWEEN FOAM PLASTICS INSTALLED ABOVE GRADE AND EXPOSED EARTH SHALL BE NOT LESS THAN 6 INCHES (152 MM).
EXCEPTIONS: BUILDINGS WHERE THE STRUCTURAL MEMBERS OF WALLS, FLOORS, CEILINGS AND ROOFS ARE ENTIRELY OF NONCOMBUSTIBLE MATERIALS OR PRESSURE-PRESERVATIVE-TREATED WOOD.
WHERE IN ADDITION TO THE REQUIREMENTS OF SECTION R318.1, AN APPROVED METHOD OF PROTECTING THE FOAM PLASTIC AND STRUCTURE FROM SUBTERRANEAN TERMITE DAMAGE IS USED.
ON THE INTERIOR SIDE OF BASEMENT WALLS.

CHAPTER 4 - FOUNDATIONS

R401 GENERAL

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

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

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

CHAPTER 7 - WALL COVERING

R702 INTERIOR COVERING

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

R702.4.2 BACKER BOARDS

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

R703 EXTERIOR COVERING

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

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

R704 R703.7.2 1 WEEP SCREEDS

A MINIMUM 0.019-INCH (0.5 MM), NO. 26 GALVANIZED SHEET GAGE), CORROSION-RESISTANT WEEP SCREED OR PLASTIC WEEP SCREED, WITH A MINIMUM VERTICAL ATTACHMENT FLANGE OF 3/12 INCHES (89 MM), SHALL BE PROVIDED AT OR BELOW THE FOUNDATION PLATE LINE ON EXTERIOR STUD WALLS IN ACCORDANCE WITH ASTM C626. THE WEEP SCREED SHALL BE PLACED NOT LESS THAN 4 INCHES (102 MM) ABOVE THE EARTH OR 2 INCHES (51 MM) ABOVE PAVED AREAS AND SHALL BE OF A TYPE THAT WILL ALLOW TRAPPED WATER TO DRAIN TO THE EXTERIOR OF THE BUILDING. THE WEATHER RESISTANT BARRIER SHALL LAP THE ATTACHMENT FLANGE. THE EXTERIOR LATH SHALL COVER AND TERMINATE ON THE ATTACHMENT FLANGE OF THE WEEP SCREED.

CHAPTER 7 - WALL COVERING (CONT')

R703.10.1 PANEL SIDING

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

R703.10.2 LAP SIDING

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

CHAPTER 8 - ROOF-CEILING CONSTRUCTION

R806 ROOF VENTILATION

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

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

- IN CLIMATE ZONES 6, 7 AND 8, A CLASS I OR I VAPOR RETARDER IS INSTALLED ON THE WARM-IN-WINTER SIDE OF THE CEILING.
- NOT LESS THAN 40 PERCENT AND NOT MORE THAN 50 PERCENT OF THE REQUIRED VENTILATING AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE ATTIC OR RAFTER SPACE. UPPER VENTILATORS SHALL BE LOCATED NOT MORE THAN 3 FEET (914 MM) BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE, MEASURED VERTICALLY. THE BALANCE OF THE REQUIRED VENTILATION PROVIDED SHALL BE LOCATED IN THE BOTTOM ONE-THIRD OF THE ATTIC SPACE WHERE THE LOCATION OF WALL OR ROOF FRAMING MEMBERS CONFLICTS WITH THE INSTALLATION OF UPPER VENTILATORS. INSTALLATION MORE THAN 3 FEET (914 MM) BELOW THE RIDGE OR HIGHEST POINT OF THE SPACE SHALL BE PERMITTED.

R807.1 ATTIC ACCESS

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

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

EXCERPTS FROM THE 2022 CALIFORNIA MECHANICAL CODE

CHAPTER 3 - GENERAL REGULATIONS

M304.4 ACCESSIBILITY FOR SERVICE

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

M304.4.1 LENGTH OF PASSAGEWAY

WHERE THE HEIGHT OF THE PASSAGEWAY IS LESS THAN 6 FEET (1829 MM), THE DISTANCE FROM THE PASSAGEWAY ACCESS TO THE APPLIANCE SHALL NOT EXCEED 20 FEET (6096 MM) MEASURED ALONG THE CENTERLINE OF THE PASSAGEWAY. (NFPA 54 9.5.1.2)

M304.4.2 WIDTH OF PASSAGEWAY

THE PASSAGEWAY SHALL BE UNOBSTRUCTED AND SHALL HAVE SOLID FLOORING NOT LESS THAN 24 INCHES (610 MM) WIDE FROM THE ENTRANCE OPENING TO THE APPLIANCE. (NFPA 54 9.5.1.2)

M304.4.3 WORK PLATFORM

A LEVEL WORKING PLATFORM NOT LESS THAN 30 INCHES BY 30 INCHES (762 MM BY 762 MM) SHALL BE PROVIDED IN FRONT OF THE SERVICE SIDE OF THE APPLIANCE. (NFPA 54 9.5.2)

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

M304.4.1 LIGHTING AND CONVENIENCE OUTLET

A PERMANENT 120V RECEPTACLE OUTLET AND A LIGHTING FIXTURE SHALL BE INSTALLED NEAR THE APPLIANCE. THE SWITCH CONTROLLING THE LIGHTING FIXTURE SHALL BE LOCATED AT THE ENTRANCE TO THE PASSAGEWAY. (NFPA 54 9.5.3)

CHAPTER 5 - EXHAUST SYSTEMS

M501.0 ENVIRONMENTAL AIR DUCTS

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

M504.4.1 PROVISIONS FOR MAKEUP AIR

- MAKEUP AIR SHALL BE PROVIDED IN ACCORDANCE WITH THE FOLLOWING:
- MAKEUP AIR SHALL BE PROVIDED FOR TYPE 1 CLOTHES DRYERS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. (NFPA 54 10.4.3.1) WHERE A CLOSET IS DESIGNED FOR THE INSTALLATION OF A CLOTHES DRYER, AN OPENING OF NOT LESS THAN 100 SQUARE INCHES (0.085 M2) FOR MAKEUP AIR SHALL BE PROVIDED IN THE DOOR OR BY OTHER APPROVED MEANS.
 - PROVISION FOR MAKEUP AIR SHALL BE PROVIDED FOR TYPE 2 CLOTHES DRYERS, WITH A FREE AREA OF NOT LESS THAN 1 SQUARE INCH (0.0006 M2) FOR EACH 1000 BRITISH THERMAL UNITS PER HOUR (BTUH) (0.293 KW) TOTAL INPUT RATING OF THE DRYER(S) INSTALLED. (NFPA 54 10.4.3.2)

M504.4.2 DOMESTIC CLOTHES DRYERS

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

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

CHAPTER 5 - EXHAUST SYSTEMS (CONT')

M504.4.2.1 LENGTH LIMITATION

UNLESS OTHERWISE PERMITTED OR REQUIRED BY THE DRYER MANUFACTURER'S INSTRUCTIONS AND APPROVED BY THE AUTHORITY HAVING JURISDICTION, DOMESTIC DRYER MOISTURE EXHAUST DUCTS SHALL NOT EXCEED A TOTAL COMBINED HORIZONTAL AND VERTICAL LENGTH OF 14 FEET (4267 MM), INCLUDING TWO 90 DEGREE (1.57 RAD) ELBOWS. A LENGTH OF 2 FEET (610 MM) SHALL BE DEDUCTED FOR EACH 90 DEGREE (1.57 RAD) ELBOW IN EXCESS OF TWO.

EXCEPTION: WHERE AN EXHAUST DUCT POWER VENTILATOR, IN ACCORDANCE WITH SECTION 504.4.2.3, IS USED, THE MAXIMUM LENGTH OF THE DRYER EXHAUST DUCT SHALL BE PERMITTED TO EXCEED THE MAXIMUM LENGTH OF THE DRYER DUCT POWER VENTILATOR MANUFACTURER'S INSTALLATION INSTRUCTIONS.

CHAPTER 11 - REFRIGERATION

M1105.0 GENERAL REQUIREMENTS

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

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

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

M1105.11 REFRIGERANT PORT PROTECTION

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

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

EXCERPTS FROM THE 2022 CALIFORNIA PLUMBING CODE

CHAPTER 4 - PLUMBING FIXTURES AND FIXTURE FITTINGS

P401.2 RESIDENTIAL LAVATORY FAUCETS

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

P408.0 SHOWERS

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

P408.2.1 SINGLE SHOWERHEAD

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

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

SHOWER AND TUB-SHOWER COMBINATION VALVES SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE-BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE-BALANCE/THERMOSTATIC MIXING VALVE TYPE THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION FOR THE RATED FLOW RATE OF THE INSTALLED SHOWERHEAD. THESE VALVES SHALL BE INSTALLED AT THE POINT OF USE AND COMPLY WITH ASSE 1016/ASSE A112 1016/CSA B125.16 OR ASME A112.16.1/CSA B125.1.

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

P408.6 SHOWER COMPARTMENTS

SHOWER COMPARTMENTS, REGARDLESS OF SHAPE, SHALL HAVE A MINIMUM FINISHED INTERIOR OF 1024 SQUARE INCHES (66.04 M2) AND SHALL ALSO BE CAPABLE OF ENCOMPASSING A 30 INCH (762 MM) CIRCLE. THE MINIMUM REQUIRED AREA AND DIMENSIONS SHALL BE MEASURED AT A HEIGHT EQUAL TO THE TOP OF THE THRESHOLD AND A POINT TANGENT TO ITS CENTERLINE. THE AREA AND DIMENSIONS SHALL BE MAINTAINED TO A POINT OF NOT LESS THAN 70 INCHES (1778 MM) ABOVE THE SHOWER DRAIN OR TUB SHOWER DRAIN OUTLET WITH NO PROTRUSIONS OTHER THAN A MIXING VALVE OR VALVES, SHOWERHEADS, SOAP DISHES, SHELVES, AND SAFETY GRAB BARS, OR RAILS. FOLD-DOWN SEATS IN ACCESSIBLE SHOWER STALLS SHALL BE PERMITTED TO PROTRUDE INTO THE 30 INCH (762 MM) CIRCLE.

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

CODE COMPLIANCE NOTES

EXCERPTS FROM THE 2022 CALIFORNIA RESIDENTIAL CODE																																		
TABLE R302.1(1) EXTERIOR WALLS, DWELLINGS AND ACCESSORY BUILDINGS WITHOUT AUTO RESIDENTIAL FIRE SPRINKLER PROTECTION				EXCERPTS FROM THE 2022 CALIFORNIA PLUMBING CODE																TABLE 703.2 MAXIMUM UNIT LOADING AND MAXIMUM LENGTH OF DRAINAGE AND VENT PIPING														
EXTERIOR WALL ELEMENT		MINIMUM FIRE-RESISTANCE RATING	MINIMUM FIRE SEPARATION DISTANCE	METER AND STREET SERVICE (inches)	BUILDING SUPPLY AND BRANCHES (inches)	TABLE 610.4 FIXTURE UNIT TABLE FOR DETERMINING WATER PIPE AND METER SIZES														SIZE OF PIPE (inches)	1 ¹ / ₄	1 ¹ / ₂	2	3	4	5	6	8	10	12				
WALLS	FIRE-RESISTANCE RATED	1 HOUR-TESTED IN ACCORDANCE WITH ASTM E119, UL 263 OR SECTION 703.3 OF THE CALIFORNIA BUILDING CODE WITH EXPOSURE FROM BOTH SIDES	0 FEET			MAXIMUM ALLOWABLE LENGTH (feet)														Maximum Units	1	2 ²	16 ³	48 ⁴	256	600	1380	3600	5600	8400				
	NOT FIRE-RESISTANCE RATED	0 HOURS	≥ 5 FEET	PRESSURE RANGE - 30 to 45 psi ¹																Drainage Piping ¹														
																				Vertical	1	1	8 ³	35 ⁴	216 ⁵	428 ⁵	720 ⁵	2640 ⁵	4680 ⁵	8200 ⁵				
PROJECTIONS	NOT ALLOWED	NA	< 2 FEET	3/4	1/2 ²	6	5	4	3	2	1	1	1	0	0	0	0	0	0	Maximum Length														
	FIRE-RESISTANCE RATED	1 HOUR ON THE UNDERSIDE, OR HEAVY TIMBER, OR FIRE-RETARDANT-TREATED WOOD ^{A,B}	≥ 2 FEET < 5 FEET	3/4	3/4	16	16	14	12	9	6	5	5	4	4	3	2	2	2	1	Drainage Piping													
	NOT FIRE-RESISTANCE RATED	0 HOURS	≥ 5 FEET	3/4	1	29	25	23	21	17	15	13	12	10	8	6	6	6	6	Vertical, (feet)	45	65	85	212	300	390	510	750	—	—				
OPENINGS IN WALLS	NOT ALLOWED	NA	< 3 FEET	1	1	36	31	27	25	20	17	15	13	12	10	8	6	6	6	Vent Piping														
	25% MAXIMUM OF WALL AREA	0 HOURS	3 FEET	3/4	1 ¹ / ₄	36	33	31	28	24	23	21	19	17	16	13	12	12	11	Horizontal and Vertical ⁶														
	UNLIMITED	0 HOURS	5 FEET	1	1 ¹ / ₄	54	47	42	38	32	28	25	23	19	17	14	12	12	11	Maximum Units	1	8 ³	24	84	256	600	1380	3600	—	—				
PENETRATIONS	ALL	COMPLY WITH SECTION R302.4	< 3 FEET	1 ¹ / ₂	1 ¹ / ₄	78	68	57	48	38	32	28	25	21	18	15	12	12	11	Maximum Lengths, (feet)	45	60	120	212	300	390	510	750						
		NONE REQUIRED	3 FEET	1	1 ¹ / ₂	85	84	79	65	56	48	43	38	32	28	26	22	21	20															
FOR SI: 1 FOOT = 304.8 MM. NA = NOT APPLICABLE. A. THE FIRE-RESISTANCE RATING SHALL BE PERMITTED TO BE REDUCED TO 0 HOURS ON THE UNDERSIDE OF THE EAVE OVERHANG IF FIREBLOCKING IS PROVIDED FROM THE WALL TOP PLATE TO THE UNDERSIDE OF THE ROOF SHEATHING. B. THE FIRE-RESISTANCE RATING SHALL BE PERMITTED TO BE REDUCED TO 0 HOURS ON THE UNDERSIDE OF THE RAKE OVERHANG WHERE GABLE VENT OPENINGS ARE NOT INSTALLED.				1 ¹ / ₂	1 ¹ / ₂	150	124	105	91	70	57	49	45	36	31	26	23	21	20															
				2	1 ¹ / ₂	151	129	129	110	80	64	53	46	38	32	27	23	21	20	20														
				1	2	85	85	85	85	85	85	82	80	66	61	57	52	49	46	43														
				1 ¹ / ₂	2	220	205	190	176	155	138	127	120	104	85	70	61	57	54	51														
				2	2	370	327	292	265	217	185	164	147	124	96	70	61	57	54	51														
				2	2 ¹ / ₂	445	418	390	370	330	300	280	265	240	220	198	175	158	143	133														
				PRESSURE RANGE - 46 to 60 psi ¹																														
				3/4	1/2 ²	7	7	6	5	4	3	2	2	1	1	1	0	0	0	0														
				3/4	3/4	20	20	19	17	14	11	9	8	6	5	4	4	3	3	3														
				3/4	1	39	39	36	33	28	23	21	19	17	14	12	10	9	8	8														
				1	1	39	39	39	36	30	25	23	20	18	15	12	10	9	8	8														
				3/4	1 ¹ / ₄	39	39	39	39	39	39	34	32	27	25	22	19	19	17	16														
				1	1 ¹ / ₄	78	78	76	67	52	44	39	36	30	27	24	20	19	17	16														
				1 ¹ / ₂	1 ¹ / ₄	78	78	78	78	66	52	44	39	33	29	24	20	19	17	16														
				1	1 ¹ / ₂	85	85	85	85	85	85	80	67	55	49	41	37	34	32	30														
				1 ¹ / ₂	1 ¹ / ₂	151	151	151	151	128	105	90	78	62	52	42	38	35	32	30														
				2	1 ¹ / ₂	151	151	151	151	150	117	98	84	67	55	42	38	35	32	30														
				1	2	85	85	85	85	85	85	85	85	85	85	85	85	85	83	80														
				1 ¹ / ₂	2	370	370	340	318	272	240	220	198	170	150	135	123	110	102	94														
				2	2	370	370	370	370	368	318	280	250	205	165	142	123	110	102	94														
				2	2 ¹ / ₂	654	640	610	580	535	500	470	440	400	365	335	315	285	267	250														
				PRESSURE RANGE - Over 60 psi ¹																														
				3/4	1/2 ²	7	7	7	6	5	4	3	3	2	1	1	1	1	1	0														
				3/4	3/4	20	20	20	20	17	13	11	10	8	7	6	6	5	4	4														
				3/4	1	39	39	39	39	35	30	27	24	21	17	14	13	12	12	11														
				1	1	39	39	39	39	38	32	29	26	22	18	14	13	12	12	11														
				3/4	1 ¹ / ₄	39	39	39	39	39	39	39	39	34	28	26	25	23	22	21														
				1	1 ¹ / ₄	78	78	78	78	74	62	53	47	39	31	26	25	23	22	21														
				1 ¹ / ₂	1 ¹ / ₄	78	78	78	78	78•	74	65	54	43	34	26	25	23	22	21														
				1	1 ¹ / ₂	85	85	85	85	85	85	85	85	81	64	51	48	46	43	40														
				1 ¹ / ₂	1 ¹ / ₂	151	151	151	151	151	151	130	113	88	73</																			



California

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE

RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

Y N/A RESPON. PARTY
* YES
* NOT APPLICABLE
RESPONSIBLE PARTY (i.e. ARCHITECT, ENGINEER, OWNER, CONTRACTOR, INSPECTOR ETC.)

CHAPTER 3 GREEN BUILDING SECTION 301 GENERAL

301.1 SCOPE. Buildings shall be designed to include the green building measures specified as mandatory in the application checklists contained in this code. Voluntary green building measures are also included in the application checklists and may be included in the design and construction of structures covered by this code, but are not required unless adopted by a city, county, or city and county as specified in Section 101.7.

301.1.1 Additions and alterations. [HCD] The mandatory provisions of Chapter 4 shall be applied to additions or alterations of existing residential buildings where the addition or alteration increases the building's conditioned area, volume, or size. The requirements shall apply only to and/or within the specific area of the addition or alteration.

The mandatory provision of Section 4.106.4.2 may apply to additions or alterations of existing parking facilities or the addition of new parking facilities serving existing multifamily buildings. See Section 4.106.4.3 for application.

Note: Repairs including, but not limited to, resurfacing, restriping and repairing or maintaining existing lighting fixtures are not considered alterations for the purpose of this section.

Note: On and after January 1, 2014, residential buildings undergoing permitted alterations, additions, or improvements shall replace noncompliant plumbing fixtures with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] The provisions of individual sections of CALGreen may apply to either low-rise residential buildings (high-rise residential buildings, or both. Individual sections will be designated by banners to indicate where the section applies specifically to low-rise only (LR) or high-rise only (HR). When the section applies to both low-rise and high-rise buildings, no banner will be used.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. In mixed occupancy buildings, each portion of a building shall comply with the specific green building measures applicable to each specific occupancy.

- Exceptions:
- [HCD] Accessory structures and accessory occupancies serving residential buildings shall comply with Chapter 4 and Appendix A4, as applicable.
 - [HCD] For purposes of CALGreen, live/work units, complying with Section 419 of the *California Building Code*, shall not be considered mixed occupancies. Live/Work units shall comply with Chapter 4 and Appendix A4, as applicable.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS:

HCD Department of Housing and Community Development
BSC California Building Standards Commission
DSA-SS Division of the State Architect, Structural Safety
OSHPD Office of Statewide Health Planning and Development
LR Low Rise
HR High Rise
AA Additions and Alterations
N New

CHAPTER 4 RESIDENTIAL MANDATORY MEASURES

SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS
The following terms are defined in Chapter 2 (*and are included here for reference*)

FRENCH DRAIN. A trench, hole or other depressed area loosely filled with rock, gravel, fragments of brick or similar pervious material used to collect or channel drainage or runoff water.

WATTLES. Wattles are used to reduce sediment in runoff. Wattles are often constructed of natural plant materials such as hay, straw or similar material shaped in the form of tubes and placed on a downflow slope. Wattles are also used for perimeter and inlet controls.

4.106 SITE DEVELOPMENT

4.106.1 GENERAL. Preservation and use of available natural resources shall be accomplished through evaluation and careful planning to minimize negative effects on the site and adjacent areas. Preservation of slopes, management of storm water drainage and erosion controls shall comply with this section.

4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. Projects which disturb less than one acre of soil and are not part of a larger common plan of development which in total disturbs one acre or more, shall manage storm water drainage during construction. In order to manage storm water drainage during construction, one or more of the following measures shall be implemented to prevent flooding of adjacent property, prevent erosion and retain soil runoff on the site.

- Retention basins of sufficient size shall be utilized to retain storm water on the site.
- Where storm water is conveyed to a public drainage system, collection point, gutter or similar disposal method, water shall be filtered by use of a barrier system, wattle or other method approved by the enforcing agency.
- Compliance with a lawfully enacted storm water management ordinance.

Note: Refer to the State Water Resources Control Board for projects which disturb one acre or more of soil, or are part of a larger common plan of development which in total disturbs one acre or more of soil.

(Website: https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html)

4.106.3 GRADING AND PAVING. Construction plans shall indicate how the site grading or drainage system will manage all surface water flows to keep water from entering buildings. Examples of methods to manage surface water include, but are not limited to, the following:

- Swales
- Water collection and disposal systems
- French drains
- Water retention gardens
- Other water measures which keep surface water away from buildings and aid in groundwater recharge.

Exception: Additions and alterations not altering the drainage path.

4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Sections 4.106.4.1 and 4.106.4.2 to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625.

Exceptions:

- On a case-by-case basis, where the local enforcing agency has determined EV charging and infrastructure are not feasible based upon one or more of the following conditions:
 - Where there is no local utility power supply or the local utility is unable to supply adequate power.
 - Where there is evidence suitable to the local enforcing agency substantiating that additional local utility infrastructure design requirements, directly related to the implementation of Section 4.106.4, may adversely impact the construction cost of the project.
- Accessory Dwelling Units (ADU) and Junior Accessory Dwelling Units (JADU) without additional parking facilities.

4.106.4.1 New one- and two-family dwellings and townhouses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the proposed location of an EV charger at the time of original construction in accordance with the *California Electrical Code*.

4.106.4.1.1 Identification. The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging as "EV CAPABLE". The raceway termination location shall be permanently and visibly marked as "EV CAPABLE".

4.106.4.2 New multifamily dwellings, hotels and motels and new residential parking facilities. When parking is provided, parking spaces for new multifamily dwellings, hotels and motels shall meet the requirements of Sections 4.106.4.2.1 and 4.106.4.2.2. Calculations for spaces shall be rounded up to the nearest whole number. A parking space served by electric vehicle supply equipment or designed as a future EV charging space shall count as at least one standard automobile parking space only for the purpose of complying with any applicable minimum parking space requirements established by a local jurisdiction. See Vehicle Code Section 22511.2 for further details.

4.106.4.2.1 Multifamily development projects with less than 20 dwelling units; and hotels and motels with less than 20 sleeping facilities or guest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1. EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the *California Electrical Code*.

Exceptions:

- When EV chargers (Level 2 EVSE) are installed in a number equal to or greater than the required number of EV capable spaces.
- When EV chargers (Level 2 EVSE) are installed in a number less than the required number of EV capable spaces, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed.

Notes:

a. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2. EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

4.106.4.2.2 Multifamily development projects with 20 or more dwelling units, hotels and motels with 20 or more sleeping units or guest rooms. The number of dwelling units, sleeping units or guest rooms shall be based on all buildings on a project site subject to this section.

1. EV Capable. Ten (10) percent of the total number of parking spaces on a building site, provided for all types of parking facilities, shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE. Electrical load calculations shall demonstrate that the electrical panel service capacity and electrical system, including any on-site distribution transformer(s), have sufficient capacity to simultaneously charge all EVs at all required EV spaces at a minimum of 40 amperes.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the *California Electrical Code*.

Exception: When EV chargers (Level 2 EVSE) are installed in a number greater than five (5) percent of parking spaces required by Section 4.106.4.2.2, Item 3, the number of EV capable spaces required may be reduced by a number equal to the number of EV chargers installed over the five (5) percent required.

Notes:

a. Construction documents shall show locations of future EV spaces.

b. There is no requirement for EV spaces to be constructed or available until receptacles for EV charging or EV chargers are installed for use.

2. EV Ready. Twenty-five (25) percent of the total number of parking spaces shall be equipped with low power Level 2 EV charging receptacles. For multifamily parking facilities, no more than one receptacle is required per dwelling unit when more than one parking space is provided for use by a single dwelling unit.

Exception: Areas of parking facilities served by parking lifts.

3. EV Chargers. Five (5) percent of the total number of parking spaces shall be equipped with Level 2 EVSE. Where common use parking is provided, at least one EV charger shall be located in the common use parking area and shall be available for use by all residents or guests.

When low power Level 2 EV charging receptacles or Level 2 EVSE are installed beyond the minimum required, an automatic load management system (ALMS) may be used to reduce the maximum required electrical capacity to each space served by the ALMS. The electrical system and any on-site distribution transformers shall have sufficient capacity to deliver at least 3.3 kW simultaneously to each EV charging station (EVCS) served by the ALMS. The branch circuit shall have a minimum capacity of 40 amperes, and installed EVSE shall have a capacity of not less than 30 amperes. ALMS shall not be used to reduce the minimum required electrical capacity to the required EV capable spaces.

4.106.4.2.2.1 Electric vehicle charging stations (EVCS). Electric vehicle charging stations required by Section 4.106.4.2.2, Item 3, shall comply with Section 4.106.4.2.2.1.

Exception: Electric vehicle charging stations serving public accommodations, public housing, motels and hotels shall not be required to comply with this section. See California Building Code, Chapter 11B, for applicable requirements.

4.106.4.2.2.1.1 Location.

EVCS shall comply with at least one of the following options:

- The charging space shall be located adjacent to an accessible parking space meeting the requirements of the California Building Code, Chapter 11A, to allow use of the EV charger from the accessible parking space, Chapter 2, to the building.
- The charging space shall be located on an accessible route, as defined in the California Building Code, Chapter 2, to the building.

Exception: Electric vehicle charging stations designed and constructed in compliance with the California Building Code, Chapter 11B, are not required to comply with Section 4.106.4.2.2.1.1 and Section 4.106.4.2.2.1.2, Item 3.

4.106.4.2.2.1.2 Electric vehicle charging stations (EVCS) dimensions.

The charging spaces shall be designed to comply with the following:

- The minimum length of each EV space shall be 18 feet (5486 mm).
- The minimum width of each EV space shall be 9 feet (2743 mm).
- One in every 25 charging spaces, but not less than one, shall also have an 8-foot (2438 mm) wide minimum aisle. A 5-foot (1524 mm) wide minimum aisle shall be permitted provided the minimum width of the EV space is 12 feet (3658 mm).

a. Surface slope for this EV space and the aisle shall not exceed 1 unit vertical in 48 units horizontal (2.083 percent slope) in any direction.

4.106.4.2.2.1.3 Accessible EV spaces.

In addition to the requirements in Sections 4.106.4.2.2.1.1 and 4.106.4.2.2.1.2, all EVSE, when installed, shall comply with the accessibility provisions for EV chargers in the California Building Code, Chapter 11B. EV ready spaces and EVCS in multifamily developments shall comply with California Building Code, Chapter 11A, Section 1109A.

4.106.4.2.3 EV space requirements.

1. Single EV space required. Install a listed raceway capable of accommodating a 208/240-volt dedicated branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or enclosure in close proximity to the location of the proposed location of the EV space. Construction documents shall identify the raceway termination point, receptacle or charger location, as applicable. The service panel and/or subpanel shall have a 40-ampere minimum dedicated branch circuit, including branch circuit overcurrent protective device installed, or space(s) reserved to permit installation of a branch circuit overcurrent protective device.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space, at the time of original construction in accordance with the *California Electrical Code*.

2. Multiple EV spaces required. Construction documents shall indicate the raceway termination point and the location of installed or future EV spaces, receptacles or EV chargers. Construction documents shall also provide information on ampacity of installed or future receptacles or EVSE, raceway methods, wiring schematics and electrical load calculations. Plan design shall be based upon a 40-ampere minimum branch circuit. Required raceways and related components that are planned to be installed underground, enclosed, inaccessible or in concealed areas and spaces shall be installed at the time of original construction.

Exception: A raceway is not required if a minimum 40-ampere 208/240-volt dedicated EV branch circuit is installed in close proximity to the location or the proposed location of the EV space at the time of original construction in accordance with the *California Electrical Code*.

4.106.4.2.4 Identification.

The service panel or subpanel circuit directory shall identify the overcurrent protective device space(s) reserved for future EV charging purposes as "EV CAPABLE" in accordance with the *California Electrical Code*.

4.106.4.2.5 Electric Vehicle Ready Space Signage.

Electric vehicle ready spaces shall be identified by signage or pavement markings, in compliance with Caltrans Traffic Operations Policy Directive 13-01 (Zero Emission Vehicle Signs and Pavement Markings) or its successor(s).

4.106.4.3 Electric vehicle charging for additions and alterations of parking facilities serving existing multifamily buildings. When new parking facilities are added, or electrical systems or lighting of existing parking facilities are added or altered and the work requires a building permit, ten (10) percent of the total number of parking spaces added or altered shall be electric vehicle charging spaces (EV spaces) capable of supporting future Level 2 EVSE.

Notes:

1. Construction documents are intended to demonstrate the project's capability and capacity for facilitating future EV charging.

2. There is no requirement for EV spaces to be constructed or available until EV chargers are installed for use.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. For the purposes of mandatory energy efficiency standards in this code, the California Energy Commission will continue to adopt mandatory standards.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.

Note: All noncompliant plumbing fixtures in any residential real property shall be replaced with water-conserving plumbing fixtures. Plumbing fixture replacement is required prior to issuance of a certificate of final completion, certificate of occupancy, or final permit approval by the local building department. See Civil Code Section 1101.1, et seq., for the definition of a noncompliant plumbing fixture, types of residential buildings affected and other important enactment dates.

4.303.1.1 Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush. Tank-type water closets shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Tank-type Toilets.

Note: The effective flush volume of dual flush toilets is defined as the composite, average flush volume of two reduced flushes and one full flush.

4.303.1.2 Urinals. The effective flush volume of wall mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of all other urinals shall not exceed 0.5 gallons per flush.

4.303.1.3 Showerheads.

4.303.1.3.1 Single Showerhead. Showerheads shall have a maximum flow rate of not more than 1.8 gallons per minute at 80 psi. Showerheads shall be certified to the performance criteria of the U.S. EPA WaterSense Specification for Showerheads.

4.303.1.3.2 Multiple showerheads serving one shower. When a shower is served by more than one showerhead, the combined flow rate of all the showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi, or the shower shall be designed to only allow one shower outlet to be in operation at a time.

Note: A hand-held shower shall be considered a showerhead.

4.303.1.4 Faucets.

4.303.1.4.1 Residential Lavatory Faucets. The maximum flow rate of residential lavatory faucets shall not exceed 1.2 gallons per minute at 60 psi. The minimum flow rate of residential lavatory faucets shall not be less than 0.8 gallons per minute at 20 psi.

4.303.1.4.2 Lavatory Faucets in Common and Public Use Areas. The maximum flow rate of lavatory faucets installed in common and public use areas (outside of dwellings or sleeping units) in residential buildings shall not exceed 0.5 gallons per minute at 60 psi.

4.303.1.4.3 Metering Faucets. Metering faucets when installed in residential buildings shall not deliver more than 0.2 gallons per cycle.

4.303.1.4.4 Kitchen Faucets. The maximum flow rate of kitchen faucets shall not exceed 1.8 gallons per minute at 60 psi. Kitchen faucets may temporarily increase the flow above the maximum rate, but not to exceed 2.2 gallons per minute at 60 psi, and must default to a maximum flow rate of 1.8 gallons per minute at 60 psi.

Note: Where complying faucets are unavailable, aerators or other means may be used to achieve reduction.

4.303.1.4.5 Pre-rinse spray valves.

When installed, shall meet the requirements in the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations), Sections 1605.1 (h)(4) Table H-2, Section 1605.3 (h)(4)(A), and Section 1607 (d)(7) and shall be equipped with an integral automatic shutoff.

FOR REFERENCE ONLY: The following table and code section have been reprinted from the *California Code of Regulations*, Title 20 (Appliance Efficiency Regulations), Section 1605.1 (h)(4) and Section 1605.3 (h)(4)(A).

TABLE H-2

STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALUES MANUFACTURED ON OR AFTER JANUARY 28, 2019

PRODUCT CLASS [spray force in ounce force (ozf)]	MAXIMUM FLOW RATE (gpm)
Product Class 1 (≤ 5.0 ozf)	1.00
Product Class 2 (> 5.0 ozf and ≤ 8.0 ozf)	1.20
Product Class 3 (> 8.0 ozf)	1.28

Title 20 Section 1605.3 (h)(4)(A): Commercial pre-rinse spray valves manufactured on or after January 1, 2006, shall have a minimum spray force of not less than 4.0 ounces-force (ozf)[113 grams-force(gf)]

4.303.2 Submeters for multifamily buildings and dwelling units in mixed-used residential/commercial buildings. Submeters shall be installed to measure water usage of individual residential dwelling units in accordance with the *California Plumbing Code*.

4.303.3 Standards for plumbing fixtures and fittings. Plumbing fixtures and fittings shall be installed in accordance with the *California Plumbing Code*, and shall meet the applicable standards referenced in Table T701.1 of the *California Plumbing Code*.

NOTE: THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE	
FIXTURE TYPE	FLOW RATE
SHOWER HEADS (RESIDENTIAL)	1.8 GMP @ 80 PSI
LAVATORY FAUCETS (RESIDENTIAL)	MAX. 1.2 GPM @ 60 PSI MIN. 0.8 GPM @ 20 PSI
LAVATORY FAUCETS IN COMMON & PUBLIC USE AREAS	0.5 GPM @ 60 PSI
KITCHEN FAUCETS	1.8 GPM @ 60 PSI
METERING FAUCETS	0.2 GAL/CYCLE
WATER CLOSET	1.28 GAL/FLUSH
URINALS	0.125 GAL/FLUSH

4.304 OUTDOOR WATER USE

4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.

NOTES:

- The Model Water Efficient Landscape Ordinance (MWELO) is located in the *California Code Regulations*, Title 23, Chapter 2.7, Division 2. MWEL0 and supporting documents, including water budget calculator, are available at: <https://www.water.ca.gov/>

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

4.406.1 RODENT PROOFING. Annular spaces around pipes, electric cables, conduits or other openings in sole/bottom plates at exterior walls shall be protected against the passage of rodents by closing such openings with cement mortar, concrete masonry or a similar method acceptable to the enforcing agency.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

4.408.1 CONSTRUCTION WASTE MANAGEMENT. Recycle and/or salvage for reuse a minimum of 65 percent of the non-hazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.

Exceptions:

- Excavated soil and land-clearing debris.
- Alternate waste reduction methods developed by working with local agencies if diversion or recycle facilities capable of compliance with this item do not exist or are not located reasonably close to the jobsite.
- The enforcing agency may make exceptions to the requirements of this section when isolated jobsites are located in areas beyond the haul boundaries of the diversion facility.

4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.

- Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.
- Specify if construction and demolition waste materials will be sorted on-site (source separated) or bulk mixed (single stream).
- Identify diversion facilities where the construction and demolition waste material collected will be taken.
- Identify construction methods employed to reduce the amount of construction and demolition waste generated.
- Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.

4.408.3 WASTE MANAGEMENT COMPANY. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.

Note: The owner or contractor may make the determination if the construction and demolition waste materials will be diverted by a waste management company.

4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 3.4 lbs./sq.ft. of the building area shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills, which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65% construction waste reduction requirement in Section 4.408.1.

4.408.5 DOCUMENTATION. Documentation shall be provided to the enforcing agency which demonstrates compliance with Section 4.408.2, Items 1 through 5, Section 4.408.3 or Section 4.408.4.

NOTES:

- Sample forms found in "A Guide to the California Green Building Standards Code (Residential)" located at www.hcd.ca.gov/CALGreen.html may be used to assist in documenting compliance with this section.
- Mixed construction and demolition debris (C & D) processors can be located at the California Department of Resources Recycling and Recovery (CalRecycle).

4.410 BUILDING MAINTENANCE AND OPERATION

4.410.1 OPERATION AND MAINTENANCE MANUAL. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:

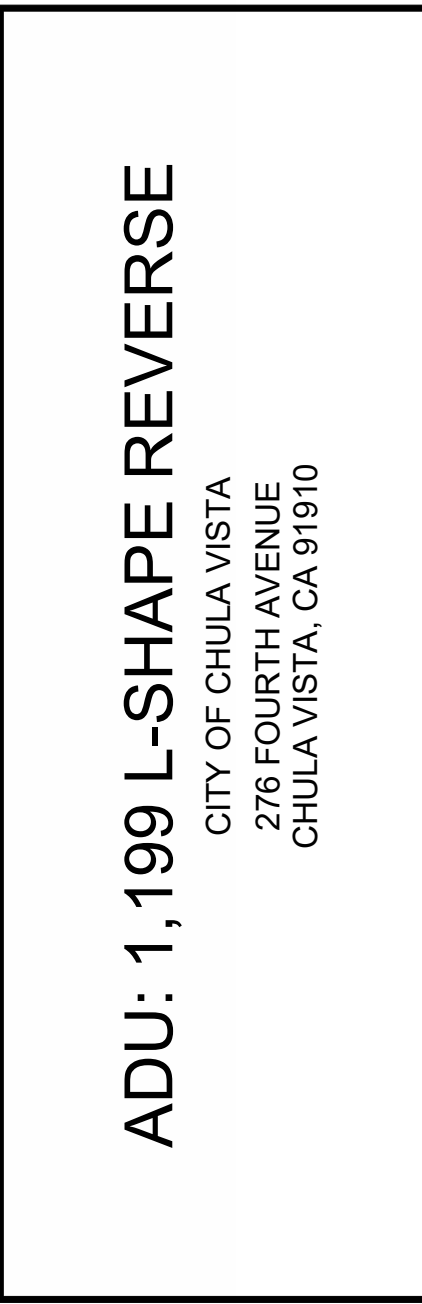
- Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
- Operation and maintenance instructions for the following:
 - Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
 - Roof and yard drainage, including gutters and downspouts.
 - Space conditioning systems, including condensers and air filters.
 - Landscape irrigation systems.
 - Water reuse systems.
- Information from local utility, water and waste recovery providers on methods to further reduce resource consumption, including recycle programs and locations.
- Public transportation and/or carpool options available in the area.
- Educational material on the positive impacts of an interior relative humidity between 30-60 percent and what methods an occupant may use to maintain the relative humidity level in that range.
- Information about water-conserving landscape and irrigation design and controllers which conserve water.
- Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
- Information on required routine maintenance measures, including, but not limited to, caulking, painting, grading around the building, etc.
- Information about state solar energy and incentive programs available.
- A copy of all special inspections verifications required by the enforcing agency or this code.
- Information from the Department of Forestry and Fire Protection on maintenance of defensible space around residential structures.
- Information and/or drawings identifying the location of grab bar reinforcements.

4.410.2 RECYCLING BY OCCUPANTS. Where 5 or more multifamily dwelling units are constructed on a building site, provide




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

DISCLAIMER: THIS DOCUMENT IS PROVIDED AND INTENDED TO BE USED AS A MEANS TO INDICATE AREAS OF COMPLIANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS (CALGREEN) CODE. DUE TO THE VARIABLES BETWEEN BUILDING DEPARTMENT JURISDICTIONS, THIS CHECKLIST IS TO BE USED ON AN INDIVIDUAL PROJECT BASIS AND MAY BE MODIFIED BY THE END USER TO MEET THOSE INDIVIDUAL NEEDS. THE END USER ASSUMES ALL RESPONSIBILITY ASSOCIATED WITH THE USE OF THIS DOCUMENT, INCLUDING VERIFICATION WITH THE FULL CODE.



DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

[illegible]

CAL-GREEN REQUIREMENTS
G301
22040

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG

Calculation Date/Time: 2023-06-25T12:26:05-07:00

Calculation Description: Title 24 Analysis

Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG.rbd22x

(Page 1 of 11)

GENERAL INFORMATION

01	Project Name		2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG	
02	Run Title		Title 24 Analysis	
03	Project Location		276 4th Avenue	
04	City		Chula Vista	
06	Zip code		05	Standards Version
08	Climate Zone		10	2022
10	Building Type		09	Software Version
12	Project Scope		11	EnergyPro 9.1
14	Addition Cond. Floor Area (ft ²)		12	Front Orientation (deg/ Cardinal)
16	Existing Cond. Floor Area (ft ²)		13	All orientations
18	Total Cond. Floor Area (ft ²)		14	Number of Dwelling Units
20	ADU Bedroom Count		15	1
			16	Number of Bedrooms
			17	3
			18	Number of Stories
			19	1
			20	Fenestration Average U-factor
				0.3
				Glazing Percentage (%)
				8.38%

COMPLIANCE RESULTS

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

Registration Number: 423-P01011181A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 06/27/2023 16:28
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-06-25 12:26:51

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD													
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG													
Calculation Description: Title 24 Analysis													
CF1R-PRF-01E													
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG.rbd22x													
Calculation Date/Time: 2023-06-25T12:26:05-07:00													
(Page 4 of 11)													
ENERGY USE SUMMARY													
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² - yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² - yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² - yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² - yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)							
Space Heating	0.89	3.98	1.09	7.91	-0.2	-3.93							
Space Cooling	1.14	23.56	0.84	19.76	0.3	3.8							
IAQ Ventilation	0.42	4.43	0.42	4.43	0	0							
Water Heating	2	20.35	1.34	14.68	0.66	5.67							
Self Utilization/Flexibility Credit				0		0							
South Facing Efficiency Compliance Total	4.45	52.32	3.69	46.78	0.76	5.54							
Space Heating	0.89	3.98	1.25	9.1	-0.36	-5.12							
Space Cooling	1.14	23.56	1	23.59	0.14	-0.03							
IAQ Ventilation	0.42	4.43	0.42	4.43	0	0							
Water Heating	2	20.35	1.34	14.66	0.66	5.69							
Self Utilization/Flexibility Credit				0		0							
West Facing Efficiency Compliance Total	4.45	52.32	4.01	51.78	0.44	0.54							

Registration Number: 423-P01011181A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 06/27/2023 16:28
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-06-25 12:26:51

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG

Calculation Description: Title 24 Analysis

CF1R-PRF-01E

(Page 7 of 11)

Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG.rbd22x

Calculation Date/Time: 2023-06-25T12:26:05-07:00

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
New Front Wall	New ADU	R-21 w/R-5 Wall	0	Front	397	83	90
New Left Wall	New ADU	R-21 w/R-5 Wall	90	Left	248	0	90
New Back Wall	New ADU	R-21 w/R-5 Wall	180	Back	394	34.5	90
New Right Wall	New ADU	R-21 w/R-5 Wall	270	Right	259	3	90
New Roof Attic	New ADU	R-38 w/R-19 B.R.D.	n/a	n/a	1199	n/a	n/a

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	No	No

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen
Window W7	Window	New Right Wall	Right	270			1	3	0.3	NFRC	0.23	NFRC	Bug Screen

Registration Number: 423-P01011181A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 06/27/2023 16:28
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-06-25 12:26:51

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD						
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG						
Calculation Description: Title 24 Analysis						
CF1R-PRF-01E						
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG.rbd22x						
Calculation Date/Time: 2023-06-25T12:26:05-07:00						
(Page 2 of 11)						
ENERGY DESIGN RATINGS						
Standard Design	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency¹ EDR (EDR2efficiency)	Total² EDR (EDR2total)	Source Energy (EDR1)	Efficiency¹ EDR (EDR2efficiency)	Total² EDR (EDR2total)
	37.2	39.2	29.5			
Proposed Design						
North Facing	35.4	35.7	27.7	1.8	3.5	1.8
East Facing	35.9	38.2	28.9	1.3	1	0.6
South Facing	34.9	35.1	27.4	2.3	4.1	2.1
West Facing	35.9	38.8	29.3	1.3	0.4	0.2
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: 2.36 kWdc • Proposed PV Capacity Scaling: North (2.36 kWdc) East (2.36 kWdc) South (2.36 kWdc) West (2.36 kWdc)						

Registration Number: 423-P01011181A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 202

GENERAL INFORMATION											
01	Project Name		2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR SOG								
02	Run Title		Title 24 Analysis								
03	Project Location		276 4th Avenue								
04	City	Chula Vista		05	Standards Version		2022				
06		Zip code		91910		Software Version		EnergyPro 9.2			
08	Climate Zone		7		09	Front Orientation (deg/ Cardinal)		All orientations			
10	Building Type		Single family		11	Number of Dwelling Units		1			
12	Project Scope		Newly Constructed		13	Number of Bedrooms		3			
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)		1199		19	Glazing Percentage (%)		8.38%			
20	ADU Bedroom Count		n/a		21	ADU Conditioned Floor Area		n/a			
22	Fuel Type		Natural gas		23	No Dwelling Unit:		No			

COMPLIANCE RESULTS	
01	This 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

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.17	0.8	0.38	2.79	-0.21	-1.99
Space Cooling	0.55	11.29	0.11	3.38	0.44	7.91
IAQ Ventilation	0.42	4.52	0.42	4.52	0	0
Water Heating	1.77	19.82	1.38	16	0.39	3.82
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	2.91	36.43	2.29	26.69	0.62	9.74
Space Heating	0.17	0.8	0.49	3.66	-0.32	-2.86
Space Cooling	0.55	11.29	0.23	5.55	0.32	5.74
IAQ Ventilation	0.42	4.52	0.42	4.52	0	0
Water Heating	1.77	19.82	1.37	15.96	0.4	3.86
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	2.91	36.43	2.51	29.69	0.4	6.74

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
New Front Wall	New ADU	R-21 Wall	0	Front	397	83	90
New Left Wall	New ADU	R-21 Wall	90	Left	248	0	90
New Back Wall	New ADU	R-21 Wall	180	Back	394	34.5	90
New Right Wall	New ADU	R-21 Wall	270	Right	259	3	90
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	1199	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 New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	Yes	No

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen
Window W7	Window	New Right Wall	Right	270			1	3	0.3	NFRC	0.23	NFRC	Bug Screen

ENERGY DESIGN RATINGS	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency¹ EDR (EDR2efficiency)	Total² EDR (EDR2total)	Source Energy (EDR1)	Efficiency¹ EDR (EDR2efficiency)	Total² EDR (EDR2total)
	Standard Design	38.3	49.2	34.5		
Proposed Design						
North Facing	36.3	36.7	29.9	2	12.5	4.6
East Facing	36.7	39.7	31	1.6	9.5	3.5
South Facing	36	36.1	29.7	2.3	13.1	4.8
West Facing	36.8	40.1	31.2	1.5	9.1	3.3
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: 2.35 kWdc						
• Proposed PV Capacity Scaling: North (2.35 kWdc) East (2.35 kWdc) South (2.35 kWdc) West (2.35 kWdc)						

ENERGY USE INTENSITY				
	Standard Design (kBtu/ft² · yr)	Proposed Design (kBtu/ft² · yr)	Compliance Margin (kBtu/ft² · yr)	Margin Percentage
North Facing				
Gross EU1	16.84	15.88	0.96	5.7
Net EU2	6.3	5.34	0.96	15.24
East Facing				
Gross EU1	16.84	16.04	0.8	4.75
Net EU2	6.3	5.5	0.8	12.7
South Facing				
Gross EU1	16.84	15.81	1.03	6.12
Net EU2	6.3	5.27	1.03	16.35
West Facing				
Gross EU1	16.84	16.06	0.78	4.63
Net EU2	6.3	5.52	0.78	12.38
Notes				
1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area.				
2. Net EU1 is Energy Use Total (including PV) / Total Building Area.				

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

01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
New Slab-on-Grade	New ADU	1199	0.1	none	0	80%	No

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.069	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: 3 Coat Stucco
Attic RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.17	0.8	0.48	3.64	-0.31	-2.84
Space Cooling	0.55	11.29	0.09	2.92	0.46	8.37
IAQ Ventilation	0.42	4.52	0.42	4.52	0	0
Water Heating	1.77	19.82	1.38	16.04	0.39	3.78
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	2.91	36.43	2.37	27.12	0.54	9.31
Space Heating	0.17	0.8	0.5	3.72	-0.33	-2.92
Space Cooling	0.55	11.29	0.2	5.14	0.35	6.15
IAQ Ventilation	0.42	4.52	0.42	4.52	0	0
Water Heating	1.77	19.82	1.38	15.98	0.39	3.84
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	2.91	36.43	2.5	29.36	0.41	7.07

REQUIRED PV SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF

Calculation Description: Title 24 Analysis

Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x

CF1R-PRF-01E

(Page 1 of 11)

Calculation Date/Time: 2023-06-27T11:11:36-07:00

GENERAL INFORMATION

01	Project Name		2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF						
02	Run Title		Title 24 Analysis						
03	Project Location		276 4th Avenue						
04	City	Chula Vista	05	Standards Version		2022			
06	Zip code	91910	07	Software Version		EnergyPro 9.1			
08	Climate Zone	10	09	Front Orientation (deg/ Cardinal)		All orientations			
10	Building Type	Single family	11	Number of Dwelling Units		1			
12	Project Scope	Newly Constructed	13	Number of Bedrooms		3			
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)	1199	19	Glazing Percentage (%)		8.38%			
20	ADU Bedroom Count		n/a						

COMPLIANCE RESULTS

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

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 06/27/2023 16:29
Report Version: 2022.0.000
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Report Generated: 2023-06-27 11:12:25

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD							CF1R-PRF-01E
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF				Calculation Date/Time: 2023-06-27T11:11:36-07:00		(Page 4 of 11)	
Calculation Description: Title 24 Analysis				Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR			
ENERGY USE SUMMARY				RF.rbd22x			
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)	
Space Heating	1.04	4.65	1.06	7.7	-0.02	-3.05	
Space Cooling	1.54	30.07	1.22	25.75	0.32	4.32	
IAQ Ventilation	0.42	4.43	0.42	4.43	0	0	
Water Heating	2	20.28	1.34	14.57	0.66	5.71	
Self Utilization/Flexibility Credit				0		0	
South Facing Efficiency Compliance Total	5	59.43	4.04	52.45	0.96	6.98	
Space Heating	1.04	4.65	1.2	8.82	-0.16	-4.17	
Space Cooling	1.54	30.07	1.39	29.81	0.15	0.26	
IAQ Ventilation	0.42	4.43	0.42	4.43	0	0	
Water Heating	2	20.28	1.34	14.57	0.66	5.71	
Self Utilization/Flexibility Credit				0		0	
West Facing Efficiency Compliance Total	5	59.43	4.35	57.63	0.65	1.8	

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD									
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF					CF1R-PRF-01E				
Calculation Description: Title 24 Analysis					(Page 7 of 11)				
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x					Calculation Date/Time: 2023-06-27T11:11:36-07:00				
OPAQUE SURFACES									
01	02	03	04	05	06	07	08		
Name	Zone	Construction	Asimuth	Orientation	Gross Area (ft ²)	Window and Door Area (ft2)	Tilt (deg)		
New Front Wall	New ADU	R-21 w/R-5 Wall	0	Front	397	83	90		
New Left Wall	New ADU	R-21 w/R-5 Wall	90	Left	248	0	90		
New Back Wall	New ADU	R-21 w/R-5 Wall	180	Back	394	34.5	90		
New Right Wall	New ADU	R-21 w/R-5 Wall	270	Right	259	3	90		
New Roof Attic	New ADU	R-38 w/R-19 B.R.D.	n/a	n/a	1199	n/a	n/a		
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	1199	n/a	n/a		
ATTIC									
01	02	03	04	05	06	07	08		
Name	Construction	Type	Roof Rise [x in 12]	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof		
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	No	No		
FENESTRATION / GLAZING									
01	02	03	04	05	06	07	08	09	10
Name	Type	Surface	Orientation	Asimuth	Width (ft)	Height (ft)	Mult.	U-factor	Area (ft ²)
Window W1	Window	New Front Wall	Front	0	1	24	0.3	NFRC	0.23
Window W2	Window	New Front Wall	Front	0	1	12	0.3	NFRC	0.23
Window W3	Window	New Front Wall	Front	0	1	3	0.3	NFRC	0.23
Window W4	Window	New Front Wall	Front	0	1	24	0.3	NFRC	0.23
Window W5	Window	New Back Wall	Back	180	1	24	0.3	NFRC	0.23
Window W6	Window	New Back Wall	Back	180	1	10.5	0.3	NFRC	0.23
Window W7	Window	New Right Wall	Right	270	1	3	0.3	NFRC	0.23

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD												
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF					CF1R-PRF-01E							
Calculation Description: Title 24 Analysis					(Page 5 of 11)							
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x					Calculation Date/Time: 2023-06-27T11:11:36-07:00							
ENERGY DESIGN RATINGS												
Standard Design	Energy Design Ratings			Compliance Margins								
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)						
	37.9	41.3	29.6									
Proposed Design												
North Facing	35.4	37	27.3	2.5	4.3	2.3						
East Facing	35.9	39.4	28.5	2	1.9	1.1						
South Facing	35	36.5	27.1	2.9	4.8	2.5						
West Facing	35.9	40.1	28.9	2	1.2	0.7						
RESULT ³ : PASS												
¹ Efficiency EDR includes improvements like a better building envelope and more efficient equipment. ² Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries ³ Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded												
• Standard Design PV Capacity: 2.50 kWdc • Proposed PV Capacity Scaling: North (2.50 kWdc) East (2.50 kWdc) South (2.50 kWdc) West (2.50 kWdc)												

Registration Number: 423-P01011182A-000-000-0000000-0000
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HERS Provider: CHEERS
Report Generated: 2023-06-27 11:12:25

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF

Calculation Description: Title 24 Analysis

Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x

CF1R-PRF-01E

(Page 5 of 11)

Calculation Date/Time: 2023-06-27T11:11:36-07:00

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 EU1 ¹	19.53	18.09	1.44	7.37
Net EU1 ²	7.4	5.96	1.44	19.46
East Facing				
Gross EU1 ¹	19.53	18.56	0.97	4.97
Net EU1 ²	7.4	6.42	0.98	13.24
South Facing				
Gross EU1 ¹	19.53	18.04	1.49	7.63
Net EU1 ²	7.4	5.91	1.49	20.14
West Facing				
Gross EU1 ¹	19.53	18.55	0.98	5.02
Net EU1 ²	7.4	6.42	0.98	13.24

Notes

1. Gross EU1 is Energy Use Total (not including PV) / Total Building Area.

2. Net EU1 is Energy Use Total (including PV) / Total Building Area.

Registration Number: 423-P01011182A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 06/27/2023 16:29
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-06-27 11:12:25

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD									
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF					CF1R-PRF-01E				
Calculation Description:									

Autodesk Docs://22040_City of Chula Vista22040_City of Chula Vista_1199 L-Shape_V2_CD_RVT22.rvt 3/23/2024 12:35:45 PM

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-11-01T16:47:34-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x

GENERAL INFORMATION

01	Project Name	2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF			
02	Run Title	Title 24 Analysis			
03	Project Location	276 4th Avenue			
04	City	Chula Vista	05	Standards Version	2022
06	Zip code	91910	07	Software Version	EnergyPro 9.2
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	3
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)	1199	19	Glazing Percentage (%)	8.38%
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area	n/a
22	Fuel Type	Natural gas	23	No Dwelling Unit:	No

COMPLIANCE RESULTS

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

Registration Number: 423-P010199032A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CHEERS
Report Generated: 2023-11-01 16:48:16

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD							CF1R-PRF-01E
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF				Calculation Date/Time: 2023-11-01T16:47:34-07:00			(Page 4 of 11)
Calculation Description: Title 24 Analysis				Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x			
ENERGY USE SUMMARY							
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)	
Space Heating	0.2	0.95	0.32	2.37	-0.12	-1.42	
Space Cooling	0.9	16.84	0.4	9.07	0.5	7.77	
IAQ Ventilation	0.42	4.52	0.42	4.52	0	0	
Water Heating	1.77	19.8	1.37	15.85	0.4	3.95	
Self Utilization/Flexibility Credit				0			(Page 4 of 11)
South Facing Efficiency Compliance Total	3.29	42.11	2.51	31.81	0.78	10.3	
Space Heating	0.2	0.95	0.41	3.1	-0.21	-2.15	
Space Cooling	0.9	16.84	0.54	10.93	0.36	5.91	
IAQ Ventilation	0.42	4.52	0.42	4.52	0	0	
Water Heating	1.77	19.8	1.37	15.84	0.4	3.96	
Self Utilization/Flexibility Credit				0			0
West Facing Efficiency Compliance Total	3.29	42.11	2.74	34.39	0.55	7.72	

Registration Number: 423-P010199032A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance
Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CHEERS
Report Generated: 2023-11-01 16:48:16

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD								CF1R-PRF-01E					
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF				Calculation Date/Time: 2023-11-01T16:47:34-07:00				(Page 7 of 11)					
Calculation Description: Title 24 Analysis				Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x									
OPAQUE SURFACES													
01	02	03	04	05	06	07	08						
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)						
New Front Wall	New ADU	R-21 Wall	0	Front	397	83	90						
New Left Wall	New ADU	R-21 Wall	90	Left	248	0	90						
New Back Wall	New ADU	R-21 Wall	180	Back	394	34.5	90						
New Right Wall	New ADU	R-21 Wall	270	Right	259	3	90						
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	1199	n/a	n/a						
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	1199	n/a	n/a						
ATTIC													
01	02	03	04	05	06	07	08						
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof						
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	Yes	No						
FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W2	Window	New Front Wall	Front	0			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen
Window W7	Window	New Right Wall	Right	270			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Registration Number: 423-P010199032A-000-000-0000000-0000													
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CA Building Energy Efficiency Standards - 2022 Residential Compliance													
Registration Date/Time: 11/01/2023 17:01													
HERS Provider: CHEERS													
Schema Version: rev 20220901													
Report Version: 2022.0.000													
Report Generated: 2023-11-01 16:48:16													

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD										CF1R-PRF-01E
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF					Calculation Date/Time: 2023-11-01T16:47:34-07:00					(Page 2 of 11)
Calculation Description: Title 24 Analysis					Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x					
ENERGY DESIGN RATINGS										
				Energy Design Ratings			Compliance Margins			
				Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	
Standard Design				38.8	51.8	34.7				
Proposed Design										
North Facing				36.2	39.5	30	2.6	12.3	4.7	
East Facing				36.7	41.9	30.9	2.1	9.9	3.8	
South Facing				36	39.1	29.8	2.8	12.7	4.9	
West Facing				36.7	42.3	31	2.1	9.5	3.7	
RESULT ³ : PASS										
¹ Efficiency EDR includes improvements like a better building envelope and more efficient equipment ² Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries ³ Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded										
• Standard Design PV Capacity: 2.47 kWdc • Proposed PV Capacity Scaling: North (2.47 kWdc) East (2.47 kWdc) South (2.47 kWdc) West (2.47 kWdc)										

Registration Number: 423-P010199032A-000-000-0000000-0000
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Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901
HERS Provider: CHEERS
Report Generated: 2023-11-01 16:48:16

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD										CF1R-PRF-01E
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF					Calculation Date/Time: 2023-11-01T16:47:34-07:00					(Page 5 of 11)
Calculation Description: Title 24 Analysis					Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 3BR RF.rbd22x					
ENERGY USE INTENSITY										
		Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage					
North Facing										
Gross EU1 ¹		17.45	16.21	1.24	7.11					
Net EU1 ²		6.35	5.11	1.24	19.53					
East Facing										
Gross EU1 ¹		17.45	16.45	1	5.73					
Net EU1 ²		6.35	5.35	1	15.75					
South Facing										
Gross EU1 ¹		17.45	16.18	1.27	7.28					
Net EU1 ²		6.35	5.08	1.27	20					
West Facing										
Gross EU1 ¹		17.45	16.46	0.99	5.67					

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD				CFIR-PRF-01E	
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG				Calculation Date/Time: 2023-06-25T12:38:13-0700	
Calculation Description: Title 24 Analysis				Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x	
GENERAL INFORMATION					
01	Project Name	2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG			
02	Run Title	Title 24 Analysis			
03	Project Location	276 4th Avenue			
04	City	Chula Vista	05	Standards Version	2022
06	Zip code	91910	07	Software Version	EnergyPro 9.1
08	Climate Zone	10	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	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)	1199	19	Glazing Percentage (%)	11.38%
20	ADU Bedroom Count	n/a			

Registration Number: 423-P01011184A-000-000-0000000-0000	Registration Date/Time: 06/27/2023 16:29	HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance	Report Version: 2022.0.000	Report Generated: 2023-06-25 12:39:03
	Schema Version: rev 2020901	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD					CFR-PRF-01E	
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG					Calculation Date/Time: 2023-06-25T12:38:13-07:00	
Calculation Description: Title 24 Analysis					(Page 4 of 12)	
ENERGY USE SUMMARY					Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd2x2x	
Energy Use	Standard Design Source Energy (EDR1) (kBtu/Ht ² -yr)	Standard Design TDV Energy (EDR2) (kTDO/Ht ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/Ht ² -yr)	Proposed Design TDV Energy (EDR2) (kTDO/Ht ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.99	4.39	1.1	7.87	-0.11	-3.48
Space Cooling	1.09	23.45	0.78	19.22	0.31	4.23
IAQ Ventilation	0.37	3.92	0.37	3.92	0	0
Water Heating	1.81	18.39	1.18	13.25	0.63	5.14
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	4.26	50.15	3.43	44.26	0.83	5.89
Space Heating	0.99	4.39	1.23	8.83	-0.24	-4.44
Space Cooling	1.09	23.45	0.95	23.36	0.14	0.09
IAQ Ventilation	0.37	3.92	0.37	3.92	0	0
Water Heating	1.81	18.39	1.18	13.23	0.63	5.16
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	4.26	50.15	3.73	49.34	0.53	0.81

Registration Number: 423-P01011184A-000-000-0000000-0000	Registration Date/Time: 06/27/2023 16:29	HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance	Report Version: 2022.0.000	Report Generated: 2023-06-25 12:39:03
	Schema Version: rev 20220901	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE MATHS										CFIR-PRF-010			
Project Name: 2306-27-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG										Calculation Date/Time: 2023-06-25T12:38:13-07:00 (Page 7 of 12)			
Calculation Description: Title 24 Analysis										Input File Name: 2306-27-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x			
OPAQUE SURFACES													
01	02	03	04	05	06	07	08						
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft²)	Tilt (deg)						
New Front Wall	New ADU	R-21 w/R-5 Wall	0	Front	397	95	90						
New Left Wall	New ADU	R-21 w/R-5 Wall	90	Left	248	0	90						
New Back Wall	New ADU	R-21 w/R-5 Wall	180	Back	394	37.5	90						
New Right Wall	New ADU	R-21 w/R-5 Wall	270	Right	261	24	90						
New Roof Attic	New ADU	R-38 w/R-19 B.R.D.	n/a	n/a	1199	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 New ADU	Attic Roof/New ADU	Ventilated	4.5	0.1	0.85	No	No						
FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W9	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W7	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen

Registration Number: 423-P01011184A-000-00000000-0000 Registration Date/Time: 06/27/2023 16:29 HERS Provider: CHEERHS

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CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: rev.20220901 Report Generated: 2023-06-25 12:39:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD				CFIR-PRF-012		
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG				Calculation Date/Time: 2023-06-25T12:38:13-07:00		
Calculation Description: Title 24 Analysis				Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.ribd22x		
ENERGY DESIGN RATINGS						
	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR _S)	Efficiency ¹ EDR (EDR ₂ /efficiency)	Total ² EDR (EDR _T total)	Source Energy (EDR _S)	Efficiency ¹ EDR (EDR ₂ /efficiency)	Total ² EDR (EDR _T total)
Standard Design	35.7	38.2	28			
Proposed Design						
North Facing	33.7	34.9	26.4	2	3.3	1.6
East Facing	34.2	37	27.4	1.5	1.2	0.6
South Facing	33	33.7	25.7	2.7	4.5	2.3
West Facing	34	37.6	27.7	1.7	0.6	0.3
RESULT ³ : PASS						

Registration Number: 423-P01011184A-000-000-0000000-0000	Registration Date/Time: 08/27/2023 16:29	HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance	Report Version: 2022.0.000	Report Generated: 2023-06-25 12:39:03
	Schema Version: rev 20220901	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG Calculation Description: Title 24 Analysis				Calculation Date/Time: 2023-06-25T12:38:13-07:00 Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.ridd22x	CF1R-PRF-012 (Page 5 of 12)
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 EU1 ¹	17	15.81	1.19	7	
Net EU1 ²	6.75	5.57	1.18	17.48	
East Facing					
Gross EU1 ¹	17	16.19	0.81	4.76	
Net EU1 ²	6.75	5.94	0.81	12	
South Facing					
Gross EU1 ¹	17	15.71	1.29	7.59	
Net EU1 ²	6.75	5.47	1.28	18.96	
West Facing					
Gross EU1 ¹	17	16.13	0.87	5.12	
Net EU1 ²	6.75	5.89	0.86	12.74	

Registration Number: 423-P01011184A-000-000-0000000-0000	Registration Date/Time: 06/27/2023 16:29	HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance	Report Version: 2022.0.000	Report Generated: 2023-06-25 12:39:03
	Schema Version: rev 20220901	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD
Project Name: 2306-22-0336 Chula-Vista ADU ~ 1199 L-Shape ~ Reverse 2BR SOG
Calculation Description: Title 24 Analysis

CFIR-PRF-01e
(Page 8 of 12)

Input File Name: 2306-22-0336 Chula-Vista ADU ~ 1199 L-Shape ~ Reverse 2BR SOG.nbd22x
Calculation Date/Time: 2023-06-25T12:38:13-07:00

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft ²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W2	Window	New Right Wall	Right	270			1	12	0.3	NFRC	0.23	NFRC	Bug Screen
Window W8	Window	New Right Wall	Right	270			1	12	0.3	NFRC	0.23	NFRC	Bug Screen

OPAQUE DOORS

01	02	03	04
Name	Side of Building	Area (ft ²)	U-factor
Front Door D1	New Front Wall	20	0.2

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft ²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
New Slab-on-Grade	New ADU	1199	0.1	none	0	80%	

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 w/R-5 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / 5	0.048	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Sheathing / Insulation: R-5 Sheathing Exterior Finish: 3 Coat Stucco

Registration Number: 423-P010111844-000-000-00000000-0000 Registration Date/Time: 06/27/2023 16:29 HERS Provider: CHEERS
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 CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-25 12:39:03
 Schema Version: rev 2020901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD					CFIR-PRF-012	
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG					Calculation Date/Time: 2023-06-25T12:38:13-07:00	
Calculation Description: Title 24 Analysis					(Page 3 of 12)	
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rid22x						
ENERGY USE SUMMARY						
Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft ² -yr)	Standard Design TDV Energy (EDR2) (kTVD/ft ² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft ² -yr)	Proposed Design TDV Energy (EDR2) (kTVD/ft ² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.99	4.39	1.31	9.56	-0.32	-5.17
Space Cooling	1.09	23.45	0.77	19.03	0.32	4.42
IAQ Ventilation	0.37	3.92	0.37	3.92	0	0
Water Heating	1.81	18.39	1.19	13.29	0.62	5.1
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	4.26	50.15	3.64	45.8	0.62	4.35
Space Heating	0.99	4.39	1.36	9.73	-0.37	-5.34
Space Cooling	1.09	23.45	0.89	21.73	0.2	1.72
IAQ Ventilation	0.37	3.92	0.37	3.92	0	0
Water Heating	1.81	18.39	1.19	13.26	0.62	5.13
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	4.26	50.15	3.81	48.64	0.45	1.51

Registration Number: 423-P01011184A-000-000-0000000-0000	Registration Date/Time: 06/27/2023 16:29	HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance	Report Version: 2022.0.000	Report Generated: 2023-06-25 12:39:03
	Schema Version: rev 20220901	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG

CFIR-PRF-0138
Page 6 of 12

Calculation Description: Title 24 Analysis

Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x

REQUIRED PV SYSTEMS											
01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: [x in 12]	Inverter Eff. (%)	Annual Solar Access (%)
2.11	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7.12	96	98

REQUIRED SPECIAL FEATURES

The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.

- 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 CF2Rs and CF3Rs are required to be completed in the HERS Registry

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Verified heat pump rated heating capacity

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
2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG	1199	1	2	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System	Zone Floor Area (ft ²)	Avg. Ceiling Height	Water Heating System 1	Status
New ADU	Conditioned	New HVAC1	1199	8	DHW Sys 1	New

Registration Number: 423-P01011184A-000-000-00000000-0000

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 06/27/2023 16:29

Report Version: 2022.0.000

Schema Version: 20220901

HERS Provider: CHEERS

Report Generated: 2023-06-25 12:39:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD Project Name: 2306-22-0336 Chula-Vista ADU ~ 1199 L-Shape ~ Reverse 2BR SOG Calculation Description: Title 24 Analysis					Calculation Date/Time: 2023-06-25T12:38:17-0700 Input File Name: 2306-22-0336 Chula-Vista ADU ~ 1199 L-Shape ~ Reverse 2BR SOG.rbd22x					CFIR-PRF-012 (Page 9 of 12)	
OCAQUE 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				
Attic RoofNew ADU	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-19	None / 0	0.059	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-13.0 / 2x4 Around Roof Joists: R-6.0 Insul.				
R-38 w/R-19 B.R.D.	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-38	None / None	0.025	Over Ceilings Joist: R-28.0 Insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board				
BUILDING ENVELOPE - HERS VERIFICATION											
01	02	03	04	05							
Quality Insulation Installation (QII)	High R-value Spray Foam Insulation	Building Envelope Air Leakage	CFM50	CFM50							
Required	Not Required	N/A	n/a	n/a							
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	HERS Verification	Water Heater Name (#)			
DHW Sys 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	50	AOSmith	AOSmithHPTU50	Outside	New ADU	New ADU				

Registration Number: 423-P01011184-000-0000000-0000 Registration Date/Time: 06/27/2023 16:29 HERS Provider: CHEERHS


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CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Generated: 2023-06-25 12:39:03



ADU: 1,199 L-SHAPE REVERSE

DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

[illegible]

TITLE 24 - REVERSE 2-BEDROOM SOG - GZ10
G420R
22040

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG

Calculation Description: Title 24 Analysis

CF1R-PRF-01E

(Page 1 of 12)

Calculation Date/Time: 2023-11-01T16:50:15-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x

GENERAL INFORMATION												
01	Project Name					2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG						
02	Run Title					Title 24 Analysis						
03	Project Location					276 4th Avenue						
04	City					Chula Vista		05	Standards Version		2022	
06	Zip code					91910		07	Software Version		EnergyPro 9.2	
08	Climate Zone					7		09	Front Orientation (deg/ Cardinal)		All orientations	
10	Building Type					Single family		11	Number of Dwelling Units		1	
12	Project Scope					Newly Constructed		13	Number of Bedrooms		2	
14	Addition Cond. Floor Area (ft²)					0		15	Number of Stories		1	
16	Existing Cond. Floor Area (ft²)					n/a		17	Fenestration Average U-factor		0.3	
18	Total Cond. Floor Area (ft²)					1199		19	Glazing Percentage (%)		11.38%	
20	ADU Bedroom Count					n/a		21	ADU Conditioned Floor Area		n/a	
22	Fuel Type					Natural gas		23	No Dwelling Unit:		No	

COMPLIANCE RESULTS

01Building Complies with Computer Performance

02This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.

03This building incorporates one or more Special Features shown below

Registration Number: 423-P010199033A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-11-01 16:51:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG

Calculation Date/Time: 2023-11-01T16:50:15-07:00

CF1R-PRF-01E

Calculation Description: Title 24 Analysis

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x

(Page 4 of 12)

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.21	0.96	0.37	2.69	-0.16	-1.73
Space Cooling	0.41	9.3	0.08	2.91	0.33	6.39
IAQ Ventilation	0.37	4	0.37	4	0	0
Water Heating	1.59	17.89	1.23	14.24	0.36	3.65
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	2.58	32.15	2.05	23.84	0.53	8.31
Space Heating	0.21	0.96	0.46	3.39	-0.25	-2.43
Space Cooling	0.41	9.3	0.19	4.8	0.22	4.5
IAQ Ventilation	0.37	4	0.37	4	0	0
Water Heating	1.59	17.89	1.23	14.21	0.36	3.68
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	2.58	32.15	2.25	26.4	0.33	5.75

Registration Number: 423-P010199033A-000-000-0000000-0000
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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-11-01 16:51:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD								CF1R-PRF-01E					
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG								Calculation Date/Time: 2023-11-01T16:50:15-07:00 (Page 7 of 12)					
Calculation Description: Title 24 Analysis								Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x					
OPAQUE SURFACES													
01	02	03	04	05	06	07	08						
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)						
New Front Wall	New ADU	R-21 Wall	0	Front	397	95	90						
New Left Wall	New ADU	R-21 Wall	90	Left	248	0	90						
New Back Wall	New ADU	R-21 Wall	180	Back	394	37.5	90						
New Right Wall	New ADU	R-21 Wall	270	Right	261	24	90						
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	1199	n/a	n/a						
ATTIC													
01	02	03	04	05	06	07	08						
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof						
Attic New ADU	Attic Roof/New ADU	Ventilated	4.5	0.1	0.85	Yes	No						
FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W9	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W7	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen

Registration Number: 423-0010199033A-000-000-0000000-0000

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 11/01/2023 17:01

Schema Version: 2022.0.000

Report Generated: 2023-11-01 16:51:03

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CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-11-01 16:51:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD																
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG						CF1R-PRF-01E										
Calculation Description: Title 24 Analysis						(Page 2 of 12)										
Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x																
ENERGY DESIGN RATINGS																
Standard Design	Energy Design Ratings			Compliance Margins												
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)										
	36.3	46.2	32.4													
Proposed Design																
North Facing	34.7	35.4	28.4	1.6	10.8	4										
East Facing	35.2	37.8	29.3	1.1	8.4	3.1										
South Facing	34.2	34.3	28.1	2.1	11.9	4.3										
West Facing	35	38	29.4	1.3	8.2	3										
RESULT ¹ : PASS																
¹ Efficiency EDR includes improvements like a better building envelope and more efficient equipment ² Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries ³ Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded																
• Standard Design PV Capacity: 2.05 kWdc • Proposed PV Capacity Scaling: North (2.05 kWdc) East (2.05 kWdc) South (2.05 kWdc) West (2.05 kWdc)																

Registration Number: 423-P010199033A-000-000-0000000-0000
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Registration Date/Time: 11/01/2023 17:01
Report Version: 2022.0.000
Schema Version: rev 20220901

HERS Provider: CHEERS
Report Generated: 2023-11-01 16:51:03

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG

Calculation Description: Title 24 Analysis

Calculation Date/Time: 2023-11-01T16:50:15-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR SOG.rbd22x

CF1R-PRF-01E

(Page 5 of 12)

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	14.96	14.16	0.8	5.35
Net EUI ²	5.78	4.97	0.81	14.01
East Facing				
Gross EUI ¹	14.96	14.28	0.68	4.55
Net EUI ²	5.78	5.1	0.68	11.76
South Facing				
Gross EUI ¹	14.96	14.05	0.91	6.08
Net EUI ²	5.78	4.86	0.92	15.92
West Facing				
Gross EUI ¹	14.96	14.26	0.7	4.68
Net EUI ²	5.78	5.08	0.7	12.11

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.

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD											
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF											
Calculation Description: Title 24 Analysis											
CF1R-PRF-01E											
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x											
Calculation Date/Time: 2023-06-25T12:40:59-07:00											
(Page 1 of 12)											
GENERAL INFORMATION											
01	Project Name 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF										
02	Run Title Title 24 Analysis										
03	Project Location 276 4th Avenue										
04	City Chula Vista										
05	Standards Version 2022										
06	Zip code 91910										
07	Software Version EnergyPro 9.1										
08	Climate Zone 10										
09	Front Orientation (deg/ Cardinal) All orientations										
10	Building Type Single family										
11	Number of Dwelling Units 1										
12	Project Scope Newly Constructed										
13	Number of Bedrooms 2										
14	Addition Cond. Floor Area (ft²) 0										
15	Number of Stories 1										
16	Existing Cond. Floor Area (ft²) n/a										
17	Penetration Average U-factor 0.3										
18	Total Cond. Floor Area (ft²) 1199										
19	Glazing Percentage (%) 11.38%										
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: 423-P01011185A-000-000-0000000-0000 Registration Date/Time: 06/27/2023 16:30 HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-25 12:41:48
Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD											
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF											
Calculation Description: Title 24 Analysis											
CF1R-PRF-01E											
Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x											
Calculation Date/Time: 2023-06-25T12:40:59-07:00											
(Page 4 of 12)											
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	1.13	5.05	1.07	7.7	0.06	-2.65					
Space Cooling	1.47	29.89	1.14	25.26	0.33	4.63					
IAQ Ventilation	0.37	3.92	0.37	3.92	0	0					
Water Heating	1.81	18.37	1.18	13.11	0.63	5.26					
Self Utilization/Flexibility Credit				0		0					
South Facing Efficiency Compliance Total	4.78	57.23	3.76	49.99	1.02	7.24					
Space Heating	1.13	5.05	1.19	8.6	-0.06	-3.55					
Space Cooling	1.47	29.89	1.32	29.63	0.15	0.26					
IAQ Ventilation	0.37	3.92	0.37	3.92	0	0					
Water Heating	1.81	18.37	1.18	13.15	0.63	5.22					
Self Utilization/Flexibility Credit				0		0					
West Facing Efficiency Compliance Total	4.78	57.23	4.06	55.3	0.72	1.93					

Registration Number: 423-P01011185A-000-000-0000000-0000 Registration Date/Time: 06/27/2023 16:30 HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-25 12:41:48
Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD														CF1R-PRF-01E	
Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF														Calculation Date/Time: 2023-06-25T12:40:59-07:00	
Calculation Description: Title 24 Analysis														Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x	
OPAQUE SURFACES															
01	02	03	04	05	06	07	08								
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)								
New Front Wall	New ADU	R-21 w/R-5 Wall	0	Front	397	95	90								
New Left Wall	New ADU	R-21 w/R-5 Wall	90	Left	248	0	90								
New Back Wall	New ADU	R-21 w/R-5 Wall	180	Back	394	37.5	90								
New Right Wall	New ADU	R-21 w/R-5 Wall	270	Right	261	24	90								
New Roof Attic	New ADU	R-38 w/R-19 B.R.D.	n/a	n/a	1199	n/a	n/a								
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	1199	n/a	n/a								
ATTIC															
01	02	03	04	05	06	07	08								
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof								
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	No	No								
FENESTRATION / GLAZING															
01	02	03	04	05	06	07	08	09	10	11	12	13	14		
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading		
Window W9	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen		
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen		
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen		
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen		
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen		
Window W7	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen		
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen		
Registration Number: 423-P01011185A-000-000-0000000-0000														Registration Date/Time: 06/27/2023 16:30	
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CA Building Energy Efficiency Standards - 2022 Residential Compliance														Report Version: 2022.0.000	
														Schema Version: 202209091	
														Report Generated: 2023-06-25 12:41:48	

Registration Number: 423-P01011185A-000-000-0000000-0000 Registration Date/Time: 06/27/2023 16:30 HERS Provider: CHEERS
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CA Building Energy Efficiency Standards - 2022 Residential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-25 12:41:48
Schema Version: rev 20220901

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF

Calculation Description: Title 24 Analysis

CF1R-PRF-01E

Input File Name: 2306-22-0336 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x

Calculation Date/Time: 2023-06-25T12:40:59-07:00

(Page 2 of 12)

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)
Standard Design	36.2	40.3	28.2			
Proposed Design						
North Facing	33.7	36.3	26.1	2.5	4	2.1
East Facing	34.2	38.3	27.1	2	2	1.1
South Facing	33.1	35.2	25.5	3.1	5.1	2.7
West Facing	34	38.9	27.5	2.2	1.4	0.7

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: 2.25 kWdc

Proposed PV Capacity Scaling: North (2.25 kWdc) East (2.25 kWdc) South (2.25 kWdc) West (2.25 kWdc)

Autodesk Docs://22040_City of Chula Vista22040_City of Chula Vista_ 1199 L-Shape_V2_CD_RVT22.rvt 3/23/2024 12:36:04 PM

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD										CF1R-PRF-01E
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF					Calculation Date/Time: 2023-11-01T16:52:57-07:00					(Page 1 of 11)
Calculation Description: Title 24 Analysis					Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x					
GENERAL INFORMATION										
01	Project Name		2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF							
02	Run Title		Title 24 Analysis							
03	Project Location		276 4th Avenue							
04	City	Chula Vista	05	Standards Version		2022				
06	Zip code	91910	07	Software Version		EnergyPro 9.2				
08	Climate Zone	7	09	Front Orientation (deg/ Cardinal)		All orientations				
10	Building Type	Single family	11	Number of Dwelling Units		1				
12	Project Scope	Newly Constructed	13	Number of Bedrooms		2				
14	Addition Cond. Floor Area (ft²)	0	15	Number of Stories		1				
16	Existing Cond. Floor Area (ft²)	n/a	17	Fenestration Average U-factor		0.3				
18	Total Cond. Floor Area (ft²)	1199	19	Glazing Percentage (%)		11.38%				
20	ADU Bedroom Count	n/a	21	ADU Conditioned Floor Area		n/a				
22	Fuel Type	Natural gas	23	No Dwelling Unit:		No				
COMPLIANCE RESULTS										
01	Building Complies with Computer Performance									
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.									
03	This building incorporates one or more Special Features shown below									

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF

Calculation Date/Time: 2023-11-01T16:52:57-07:00

Calculation Description: Title 24 Analysis

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x

(Page 4 of 11)

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² · yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² · yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² · yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² · yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	0.24	1.1	0.31	2.27	-0.07	-1.17
Space Cooling	0.75	14.99	0.34	8.26	0.41	6.73
IAQ Ventilation	0.37	4	0.37	4	0	0
Water Heating	1.59	17.73	1.22	14.11	0.37	3.62
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	2.95	37.82	2.24	28.64	0.71	9.18
Space Heating	0.24	1.1	0.38	2.85	-0.14	-1.75
Space Cooling	0.75	14.99	0.47	10	0.28	4.99
IAQ Ventilation	0.37	4	0.37	4	0	0
Water Heating	1.59	17.73	1.22	14.09	0.37	3.64
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	2.95	37.82	2.44	30.94	0.51	6.88

Registration Number: 423-P010199034A-000-000-0000000-0000 Registration Date/Time: 11/01/2023 17:01 HERS Provider: CHEERS
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Certificate of Compliance - Residential Performance Compliance Method								CF1R-PRF-01E					
Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF				Calculation Date/Time: 2023-11-01T16:52:57-07:00				(Page 7 of 11)					
Calculation Description: Title 24 Analysis				Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x									
OPAQUE SURFACES													
01	02	03	04	05	06	07	08						
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)						
New Front Wall	New ADU	R-21 Wall	0	Front	397	95	90						
New Left Wall	New ADU	R-21 Wall	90	Left	248	0	90						
New Back Wall	New ADU	R-21 Wall	180	Back	394	37.5	90						
New Right Wall	New ADU	R-21 Wall	270	Right	261	24	90						
New Roof Attic	New ADU	R-30 Roof Attic	n/a	n/a	1199	n/a	n/a						
New Raised Floor	New ADU	R-19 Floor Crawlspace	n/a	n/a	1199	n/a	n/a						
ATTIC													
01	02	03	04	05	06	07	08						
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof						
Attic New ADU	Attic RoofNew ADU	Ventilated	4.5	0.1	0.85	Yes	No						
FENESTRATION / GLAZING													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window W9	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W1	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W3	Window	New Front Wall	Front	0			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W4	Window	New Front Wall	Front	0			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W5	Window	New Back Wall	Back	180			1	24	0.3	NFRC	0.23	NFRC	Bug Screen
Window W7	Window	New Back Wall	Back	180			1	3	0.3	NFRC	0.23	NFRC	Bug Screen
Window W6	Window	New Back Wall	Back	180			1	10.5	0.3	NFRC	0.23	NFRC	Bug Screen
Registration Number: 423-P010199034A-000-000-0000000-0000 Registration Date/Time: 11/01/2023 17:01 HERS Provider: CHEERS													
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CA Building Energy Efficiency Standards - 2022 Residential Compliance				Report Version: 2022.0.000				Report Generated: 2023-11-01 16:53:46					
Schema Version: rev 20220901													

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF

Calculation Description: Title 24 Analysis

CF1R-PRF-01E

(Page 2 of 11)

Calculation Date/Time: 2023-11-01T16:52:57-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency ¹ EDR (EDR2efficiency)	Total ² EDR (EDR2total)	Source Energy (EDR1)	Efficiency ³ EDR (EDR2efficiency)	Total ² EDR (EDR2total)
Standard Design	36.9	49.2	32.6			
Proposed Design						
North Facing	34.6	37.9	28.4	2.3	11.3	4.2
East Facing	35	40.1	29.2	1.9	9.1	3.4
South Facing	34.2	37.3	28.2	2.7	11.9	4.4
West Facing	34.9	40.3	29.3	2	8.9	3.3
RESULT ¹ : PASS						
<div> <div>¹Efficiency EDR includes improvements like a better building envelope and more efficient equipment</div> <div>²Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries</div> <div>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</div> </div> <div> <div>Standard Design PV Capacity: 2.17 kWdc</div> <div>Proposed PV Capacity Scaling: North (2.17 kWdc) East (2.17 kWdc) South (2.17 kWdc) West (2.17 kWdc)</div> </div>						

Registration Number: 423-P010199034A-000-000-0000000-0000 Registration Date/Time: 11/01/2023 17:01 HERS Provider: CHEERS
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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

CF1R-PRF-01E

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF

Calculation Date/Time: 2023-11-01T16:52:57-07:00

(Page 5 of 11)

Calculation Description: Title 24 Analysis

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF.rbd22x

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	15.55	14.44	1.11	7.14
Net EUI ²	5.83	4.71	1.12	19.21
East Facing				
Gross EUI ¹	15.55	14.64	0.91	5.85
Net EUI ²	5.83	4.92	0.91	15.61
South Facing				
Gross EUI ¹	15.55	14.39	1.16	7.46
Net EUI ²	5.83	4.67	1.16	19.9
West Facing				
Gross EUI ¹	15.55	14.63	0.92	5.92
Net EUI ²	5.83	4.9	0.93	15.95

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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Project Name: 2310-22-0616 Chula-Vista ADU – 1199 L-Shape – Reverse 2BR RF

Calculation Description: Title 24 Analysis

CFIR-PRF-011
(Page 10 of 11)

Calculation Date/Time: 2023-11-01T16:52:57-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU – 1199 L-Shape – Reverse 2BR
RF.rtb22x

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

HVAC - HEAT PUMPS												
01	02	03	04	05	06	07	08	09	10	11	12	13
Name	System Type	Number of Units	Heating			Cooling			Zonally Controlled	Compressor Type	HERS Verification	
			Heating Efficiency Type	HPF2/HS PF2/CDP	Cap 47	Cooling Efficiency Type	SEER/SE ER2/EEER 2/EEER					
Heat Pump System 1	Ductless MiniSplit HP	1	HSPF2	7.5	36000	24000	EEER2SEER2	14.3	11.7	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION									
01	02	03	04	05	06	07	08	09	10
Name	Verified Airflow	Airflow Target	Verified EER/EEER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17	09
Heat Pump System 1-hers-htpump	Not Required	0	Not Required	Not Required	No	No	Yes	Yes	

INDOOR AIR QUALITY (IAQ) FANS								
01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE/ASRE	Includes Fault Indicator Display?	HERS Verification	Status
SfAm IAQVrtRpt	58	0.35	Exhaust	No	n/a / n/a	No	Yes	

Registration Number: 423-P010199034A-000-000-0000000-0000

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Registration Date/Time: 11/01/2023 17:01

Schema Version: rev 20220000

Report Generated: 2023-11-01 16:53:46

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Project Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR RF

Calculation Description: Title 24 Analysis

CF1R-PRF-01E

(Page 11 of 11)

Registration Number: 423-0101990344-000-000-0000000-0000

CA Building Energy Efficiency Standards - 2022 Residential Compliance

Registration Date/Time: 11/01/2023 17:01

Schema Version: rev 20220901

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Report Generated: 2023-11-01 16:53:46

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Calculation Date/Time: 2023-11-01T16:52:57-07:00

Input File Name: 2310-22-0616 Chula-Vista ADU -- 1199 L-Shape -- Reverse 2BR

RF.rtd24x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

<p>Documentation Author Name:</p> <p>Kenneth Ponce</p> <p>Company:</p> <p>So Cal Title 24</p> <p>Address:</p> <p>8659 Red Oak Street, Suite I</p> <p>City/State/Zip:</p> <p>Rancho Cucamonga, CA 91730</p>	<p>Documentation Author Signature:</p> <p><i>Kenneth Ponce</i></p> <p>Signature Date:</p> <p>11/01/2023</p> <p>CEA/ HERS Certification Identification (if applicable):</p> <p></p> <p>Phone:</p> <p>909-257-7547</p>
---	--

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.


<p>Responsible Designer Name:</p> <p>Mike Moore</p> <p>Company:</p> <p>Snap ADU</p> <p>Address:</p> <p>PO Box 2685</p> <p>City/State/Zip:</p> <p>Carlsbad, CA 92018</p>	<p>Responsible Designer Signature:</p> <p><i>Mike Moore</i></p> <p>Date Signed:</p> <p>11/01/2023</p> <p>License:</p> <p></p> <p>Phone:</p> <p>(760) 259-1985</p>
--	---



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DESIGN / HOUSE

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

ADU: 1, 199 L-SHAPE REVERSE

[illegible]

TITLE 24 - REVERSE 2-BEDROOM RF - GZ7
G433R
22040


[illegible]

ADU: 1,199 L-SHAPE REVERSE







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	2022 Single-Family Residential Mandatory Requirements Summary
NOTE: Single-family residential buildings subject to the Energy Code must comply with all applicable mandatory measures, regardless of the compliance approach. Please review the respective section for more information.	
(Building Envelope)	
§ 110.6(a)(1)	Air Leakage. Manufactured residential doors, ceilings, and exterior port doors must limit air leakage to 0.3 CFM per square foot or less when tested per NFRC-400, ASTM E283, or AAMA/MAA/AMA/CA 1011.5.2/4440-2011. *
§ 110.6(a)(5)	Labeling. Fenestration products and exterior doors must have a label meeting the requirements of § 110.11(a)(4).
§ 110.6(b)(1)	Fair face paint for exterior doors and fenestration products must have a minimum reflectance of 0.15 and a minimum reflectance coefficient (SIRCQ) values of minimum 110.6(A), 110.6(B), or J4.5 for exterior doors. They must be caulked and/or weather-stripped.
§ 110.6(b)(2)	Weatherstripping for exterior doors and fenestration products must be caulked and/or weatherstripped.
§ 110.6(b)(3)	Insulation Certification by Manufacturers. Insulation must be certified by the Department of Consumer Affairs, Bureau of Household Goods and Services (BHGS).
§ 110.6(b)(4)	Insulation Requirements for Heated Slab Enclosures. Heated slab floors must be insulated per the requirements of § 110.11(g).
§ 110.6(b)(5)	Reducing Thermal Solar Radiation and Thermal Emittance. The thermal emittance and aged solar reflectance values of the roofing material must meet the requirements of § 110.6(b) and be labeled per § 110-113 when the installation of a cool roof is specified on the CFR.
§ 110.6(b)(6)	Roofant Barrier. When required, roofant barriers must not be installed at a maximum of 0.05 or less as tested by the Department of Consumer Affairs.
§ 110.6(b)(7)	Roof Deck, Ceiling and Rafter Insulation. Roof decks in newly constructed attic in climate zones 4 and 5, 6 and area-weighted U-factor not exceeding 0.24, Ceiling and other rafter mid-span R-2 insulation, ceiling and other rafter framing, ceiling, or area-weighted U-factor must not exceed 0.043. Rafter roof alterations minimum R-19 in area-weighted average U-factor of 0.054 or less. Attic access doors must have permanently attached insulation using adhesive or mechanical fasteners. The attic access must be gasketed to prevent air leakage. Insulation must be installed in direct contact with the roof or ceiling which is shown to limit infiltration and exfiltration as specified in § 110-107, including but not limited to placing insulation either above or below the roof deck or on top of drywall of ceiling.
§ 110.6(b)(8)	Loose-fill Insulation. Loose fill insulation must meet the manufacturer's required density for the R-value.
§ 110.6(b)(9)	Wall Insulation. Minimum R-19 insulation in 2x4 inch wood framing wall and have a U-factor of 0.102 or less, or R-20 in 2x6 inch wood framing wall and have a U-factor of 0.092 or less. Insulation in raised wood framed walls have an overall assembly U-factor not exceeding 0.102. Masonry walls must meet Tables 15-A.1 or B.
§ 110.6(b)(10)	Raised-Floor Insulation. Minimum R-19 insulation in raised wood framed floor or 0.037 maximum U-factor. *
§ 110.6(b)(11)	Slab Edge Insulation. Slab edge insulation must meet all of the following: have a water absorption rate, for the insulation material alone without facings, no greater than 0.3 percent; have a water vapor permeance no greater than 20 perm per inch; be protected from physical damage and UV light; and have a minimum R-value of 10.
§ 110.6(b)(12)	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 § 110-102.
§ 110.6(b)(13)	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 all insulation in all exterior walls, vented attics, and unvented attics with air-permeable insulation.
§ 110.6(b)(14)	Fenestration Products. Fenestration products installed in unconditioned space or outdoors must have a minimum U-factor of 0.45, or area-weighted average U-factor of all fenestration must not exceed 0.45.
Fixtures, Decorative Gas Appliances, and Gas Appliance	
§ 110.5(f)	Pilot-Light. Continuously burning pilot lights are not allowed for indoor and outdoor fireplace.
§ 110.5(g)(1)	Cleable Doors. Masonry or masonry-bolt fireplaces must have a cleable metal or glass door covering the entire opening of the firebox.
§ 110.5(g)(2)	Combustion Air. Masonry or masonry-bolt fireplaces must have a combustion air intake, which is at least six square inches in area and is equipped with a readily accessible, operable, and light-tighting damper or combustion-air control device.
§ 110.5(g)(3)	Flue Damper. Masonry or masonry-bolt fireplaces must have a flue damper with a readily accessible control. *
Space Conditioning, Heating, and Plumbing System:	
§ 110.4(a) 110.3.	Water Filtration. Heating, ventilation, and air conditioning (HVAC) equipment, water heaters, showers, faucets, and all other installed appliances must be certified by the manufacturer to the California Green Building Code.
§ 110.4(a) 110.3.	HVAC Efficiency. Equipment must meet the applicable efficiency requirements in Table 110.4-2 through Table 110.4-24. *
§ 110.4(b)(1)	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, in which the coil-on temperature for compressing heating is higher than the coil-on temperature for supplementary heating, and the coil-off temperature for compressing heating is higher than the coil-off temperature for supplementary heating.
§ 110.4(b)(2)	Thermostat. All heating or cooling systems not controlled by a central energy management control system (EMCS) must have a setback thermostat.
§ 110.4(b)(3)	Insulation. Unfired service water heater storage tanks and solar water-heating backup tanks must have adequate insulation, or tank surface heat loss rating.
§ 110.4(b)(4)	Insulation Fixtures. Instantaneous water heaters with an input rating greater than 8.8 Btu per hour (2 kW) must have insulation valves with hose bibbs or hot fittings on both cold and hot water lines in order for flushing the water heater when the valves are closed.

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	<p>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 reserved space from the main service to a subpanel that supplies the branch circuits in 150 (a)(4); at least four double pole breakers must be identified and have a main breaker subpanel located at the main service entrance; the subpanel must be installed in a readily accessible location, not in a bathroom, kitchen, or near the primary entry; and one circuit supplying a sleeping room enclosure must; 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.</p>	<p>\$150 (a)</p>
	<p>Heat Pump Space Heating Ready: All single-family residences must meet all of the following: At least 150 (a)(4) units include: A dedicated unobstructed 240V branch circuit wiring installed within 3' of the furnace 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 ready."</p>	<p>\$150 (b)</p>
	<p>Electric Cooktop Ready: Systems using gas or propane cooktop 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 ready."</p>	<p>\$150 (c)</p>
	<p>Electric Clothes Dryer Ready: Clothes dryer installations 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 ready."</p>	<p>\$150 (d)</p>

*Exceptions may apply

 2022 Single-Family Residential Mandatory Requirements Summary	
\$ 110.0.f	Pilot Lights. Continuously burning pilot lights are prohibited for natural gas; fan-type central furnaces; household cooking appliances (except appliances without an electrical supply voltage connection for pilot lights that consume less than 150 Btu per hour); and pool and spa heaters.
\$ 150.0(h)(1)	Bathing Cooling and Heating Loads. Heating and/or cooling loads are calculated in accordance with the ASHRAE Handbook, Equipment Volume, Applications Volume, and Fundamentals Volume; the SMACNA Residential Comfort System Installation Standards Manual; or the ACCA Manual J using design conditions specified in § 150.0(h)(2).
\$ 150.0(h)(3A)	Clearance. Air conditioner and heat pump outdoor condensing units must be equipped with all clearances of at least five feet from the outside of any dryer.
\$ 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.
\$ 150.0(h)(4)	Water Piping, Solar-water-heating System Piping, and Space Conditioning System Line Insulation. All domestic hot water piping must be insulated as specified in § 69.01 of the Florida Plumbing Code.
\$ 150.0(i)(2)	Insulation Protection. Insulation must be protected from damage by anything that could damage the insulation, including, but not limited to, maintenance, and wires as required by §120.0(3). Insulation exposed to weather must be under sunlight and protected from UV light (no adhesive tapes); insulation covering chilled piping and refrigerant supply piping located outside the conditioned space must be, or be protected by, a Class I or Class II vapor retarder. Piping insulation below grade must be installed in a waterproof and non-crushable casing or sleeve.
\$ 150.0(j)	Gas or Propane Water Heating Systems. Systems using gas or propane water heaters to serve individual dwelling units must maintain a space of at least 17 cubic feet per cubic foot of water heater and, in addition, maintain a clear space around plumbing requirements, based on the distance between this designated space and the water heater location; a condensate drain no more than 7' higher than the base of the water heater.
\$ 150.0(k)(3)	Water-Heating System Piping. Water-heating system piping and collectors must be certified and labeled 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 as tested to approval by the executive director.
Ducts and Fans:	
\$ 110.0(d)(3)	Ducts. Insulation installed on an existing space-conditioning duct must comply with § 60.0 of the Florida Building Code (FBC). If a contractor installs the insulation, the contractor must certify to the county, in writing, that the insulation meets this requirement.
\$ 150.0(m)(1)	CMC Compliance. All air-distribution system ducts and plenums must meet CMC §§ 601.4-605.0 and ANSI/SMACNA-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. Ducts or plenums that are not insulated to R-6 or higher must be sealed to meet the requirements of this section. Ducts or plenums that 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 sealed with mastic or UL 723 or other approved materials and other methods or openings greater than 1/4". If mastic or tape is used, Building codes, air handler support platforms, and plenums designed or constructed with materials other than sheet metal, duct board, or other duct material must be sealed with mastic or other approved materials. Building codes and support platforms may contain ducts, ducts installed in these spaces must not be compressed.
\$ 150.0(m)(3)	Factory-Fabricated Duct Systems. Factory-fabricated duct systems must comply with applicable requirements for duct construction, connections, and closures, joints and seams of duct systems and their components must not be sealed with black rubber adhesive.
\$ 150.0(m)(3)	Field-Fabricated Duct Systems. Field-fabricated duct systems must comply with applicable requirements for: pressure-sensitive tapes, mastics, sealants, and other requirements specified for duct construction.
\$ 150.0(m)(7)	Attic Exhaust Damper. Fan systems that exchange air between the conditioned space and outdoors must have backdraft or automatic dampers.
\$ 150.0(m)(8)	Gravity Ventilation Dampers. Gravity ventilation systems serving conditioned space must have either automatic or readily accessible, manually operated, dampers to be outside the main 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.
\$ 150.0(m)(10)	Insulation exposed to weather must be suitable for outdoor service (e.g., protected by aluminum, sheet metal, painted canvas, or plastic sheeting). Coarse foam insulation must be protected from damage by anything that could damage the insulation, including, but not limited to, maintenance, and wires as required by §120.0(3).
\$ 150.0(m)(10)	Porous Inner Core Flex Duct. Porous inner cores of flex ducts must have a non-porous layer of air barrier between the inner core and outer vapor barrier.
\$ 150.0(n)(1)	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 RAS 3.1.
\$ 150.0(n)(2)	Air Filtration. Space conditioning systems with ducts exceeding 10 feet and the supply air side of the filter system must have MERV 13 equivalent filters. Filtered return air ducts must have a two inch or forty percent or one inch of velocity rated system MERV 15A. Clean-filter 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, sealants, or other means to close gaps around the inserted filters to prevent air from bypassing the filters.

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2022 Single-Family Residential Mandatory Requirements Summary

<div>\$ 150.00(K)13</div>	<p>Space Conditioning System Airflow Rate and Fan Efficiency. Space conditioning systems that use ducts to supply conditioned air must have a minimum airflow rate of a static pressure drop, or a permanently installed static pressure drop in the supply plenum. Airflow must be ≥ 1.27 CFM per ft² of nominal cooling capacity, and an air-handling unit fan efficiency ≥ 0.45 watts per CFM for gas furnace air handlers and ≥ 0.58 watts per CFM for all others. Small duct high velocity systems must provide an airflow ≥ 250 CFM per ft of nominal duct capacity, and an air-handling unit fan efficiency ≥ 0.62 watts per CFM. Field verification testing is required in accordance with Reference Residential Appendix RA3.7.3.</p>
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2022 Single-Family Residential Mandatory Requirements Summary







§ 150.001(G)	Screw based luminaires. Screw based luminaires must contain lamps that comply with Reference Joint Appendix AB, " "
§ 150.001(H)	Light Sources in Enclosed or Recessed Luminaires. Lamps and other separable light sources that are not compliant with the JAB elevated temperatures requirements, including marking requirements, must not be installed in enclosed or recessed luminaires.
§ 150.001(I)	Light Sources in Drawers, Cabinets, and Linen Closets. Light sources internal to drawers, cabinets or linen closets are not required to comply with Table 550-B.6 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.
§ 150.002(A)	Interior Switches and Controls. All forward phase dimmers used with LED light sources must comply with NEMA SS7, and 70.0.
§ 150.002(B)	Interior Switches and Controls. Exhaust fans must be controlled separately from lighting systems.
§ 150.002(C)	Accessible Controls. Lighting must have readily accessible wall-mounted controls that allow the lighting to be manually turned on and off.
§ 150.002(D)	Multiple Controls. Controls must not typify a dimmer, occupant sensor, or vacancy sensor function if the dimmer or sensor is installed to comply with § 150.004.
§ 150.002(E)	Mandatory Requirements. Lighting controls must comply with the applicable requirements of § 110.9.
§ 150.002(F)	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 § 150.002(A).
§ 150.002(G)	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.
§ 150.002(H)	Lighting in Hallways. Lighting in hallways, living rooms, dining rooms and bedrooms must have readily accessible wall-mounted dimming controls that allow the lighting to be manually adjusted up and down. Forward phase dimmers controlling LED light sources in hallways must comply with NEMA SS7, and 70.0.
§ 150.002(I)	Independent controls. Integrated lighting of exhaust fans shall be controlled independently from the fans. Lighting under cabinets or shelves, lighting in display cabinets, and switched outlets must be controlled separately from ceiling-installed lighting or other buildings on the same premises that have a manual or automatic time clock, a photocell sensor, or an automatic time clock 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.
§ 150.003(A)	Uninterrupted address signals. Internally illuminated address signals must comply with § 140.8 or consume no more than 5 watts of power.
§ 150.004(A)	Residential Garages for Eight or More Vehicles. Lighting in residential parking garages for eight or more vehicles must comply with the applicable requirements for commercial parking garages in §§ 110.9, 110.10, 120.1, 300.2, 300.4, 400.6, and 401.0.
§ 150.005	Single-Family Residences. Single-family residences located in subdivisions with 10 or more single-family residences and where the subdivision is for a tentative subdivision map for the residences has been deemed to be approved by the enforcement agency, which do not have a photovoltaic system installed, must comply with the requirements of § 110.10(b)-(c).
§ 110.10(a)	Minimum Solar Zone Area. The solar zone must have a minimum total area as described below. The solar zone must comply with the following pathway, unless the solar zone has been determined to be exempt from the pathway by the enforcement agency. The requirements adopted by a local jurisdiction. The solar zone total area must be comprised of areas that have no dimensions less than 5 feet and are less than 80 square feet for buildings with roof areas less than or equal to 10,000 square feet or no more than 160 square feet 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)	Azimuth. All sections of the solar zone located on steep-sloped roofs must have an azimuth between -30.00° of that north.
§ 110.10(b)(3)	Shading. The solar zone must not contain any other obstructions, including but not limited to: vines, chimneys, architectural features, and roof mounted equipment.
§ 110.10(b)(3A)	Shading. Any obstruction located on the roof or any other part of the building that projects above the solar zone must be located at least twice the height of the obstruction from 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)(3B)	Structural Design Loads and Construction Documents. For areas of the roof designated as 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)	Interconnection Pathways. The construction documents must indicate a location reserved for inverters and metering equipment and a pathway reserved for routing cables from the solar zone to the metering equipment and inverters. The pathway must be sized for single-phase residential and central water-heating systems, a pathway reserved for routing plumbing from the solar zone to the water-heating system. Documentation. A copy of the construction documents or a comparable document indicating the information from § 110.10(b)-(c) must be submitted to the enforcement agency.
§ 110.10(d)	Main Electrical Service Panel. The main electrical service panel must have a minimum busbar rating of 200 amperes.
§ 110.10(e)	Main Electrical Service Panel. The main electrical service panel must have a reserved space available 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 Service Ready:

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BMP SITE LEGEND

SOURCE CONTROL BMPs		Chapter 4 and Appendix E BMP Design Manual	
	(E) CONCRETE, IMPERVIOUS SURFACE	4.2.1	PREVENTION OF ILLICIT DISCHARGES INTO THE MS4
	(E) PAVERS, IMPERVIOUS SURFACE	4.2.2	STORM DRAIN STENCILING OR SIGNAGE
	(E) LANDSCAPE, PERVIOUS SURFACE	4.2.3	PROTECT OUTDOOR MATERIALS STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL
	EXISTING DWELLING, IMPERVIOUS SURFACE	4.2.4	PROTECT MATERIALS STORED IN OUTDOOR WORK AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL
	LIMIT OF WORK	4.2.5	PROTECT TRASH STORAGE AREAS FROM RAINFALL, RUN-ON, RUNOFF, AND WIND DISPERSAL
	PROPERTY LINE	4.2.6	ADDITIONAL BMPs BASED ON POTENTIAL SOURCES OF RUNOFF POLLUTANTS (MUST ANSWER FOR EACH SOURCE LISTED BELOW)
	APPROXIMATE DIRECTION OF LOT DRAINAGE	SC-A	ON-SITE STORM DRAIN INLETS
	(N) DOWNSPOUT	SC-D1	NEED FOR FUTURE INDOOR & STRUCTURAL PEST CONTROL
	APPROXIMATE DRAINAGE FROM STRUCTURES	SC-D2	LANDSCAPE / OUTDOOR PESTICIDE USE
	(E) 6'-0" PERIMETER FENCING	SC-E	POOLS, SPAS, PONDS, DECORATIVE FOUNTAINS, AND OTHER WATER FEATURES
	CONTOUR LINE	SC-G	REFUSE AREAS
		SC-N	FIRE SPRINKLER TEST WATER
		SC-O	MISCELLANEOUS DRAIN OR WASH WATER
		SC-P	PLAZAS, SIDEWALKS, AND PARKING LOTS

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

CONSTRUCTION BMP GENERAL NOTES

PRIOR TO ANY SOIL DISTURBANCE, TEMPORARY SEDIMENT CONTROLS SHALL BE INSTALLED BY THE CONTRACTOR OR QUALIFIED PERSON(S) AS INDICATED BELOW:

1. ALL REQUIREMENTS OF THE CITY STORM WATER STANDARDS MUST BE INCORPORATED INTO THE DESIGN AND CONSTRUCTION OF THE PROPOSED GRADING/IMPROVEMENTS CONSISTENT WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND/or WATER QUALITY MANAGEMENT PLAN (WQMP) FOR THE PROJECT. SWPPPs AND, IF APPLICABLE, THE STORM WATER QUALITY MANAGEMENT PLAN (SWQMP) FOR POST-CONSTRUCTION BMPs.
2. THE CONTRACTOR SHALL INSTALL AND MAINTAIN ALL STORM DRAIN INLET PROTECTION. INLET PROTECTION IN THE PUBLIC RIGHT-OF-WAY MUST BE TEMPORARILY REMOVED PRIOR TO A RAIN EVENT TO ENSURE NO FLOODING OCCURS AND REINSTALLED AFTER RAIN IS OVER.
3. ALL CONSTRUCTION BMPs SHALL BE INSTALLED AND PROPERLY MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION.
4. THE CONTRACTOR SHALL ONLY GRADE, INCLUDING CLEARING AND GRUBBING, AREAS FOR WHICH THE CONTRACTOR OR QUALIFIED CONTACT PERSON CAN PROVIDE EROSION AND SEDIMENT CONTROL MEASURES.
5. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL SUB-CONTRACTORS AND SUBSIDIARIES ARE AWARE OF ALL STORM WATER POLLUTION PREVENTION AND CONTROL MEASURES AND WHICH MEASURES ARE REQUIRED. VIOLATIONS OF SWPPP/WQMP WILL RESULT IN THE ISSUANCE OF CORRECTION NOTICES, CITATIONS, CIVIL PENALTIES, AND/OR TOP WORK NOTICES.
6. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL BE RESPONSIBLE FOR CLEANUP OF ALL SILT, DEBRIS, AND MUD ON AFFECTED AND ADJACENT STREETS(S) AND WITHIN STORM DRAIN SYSTEM DUE TO CONSTRUCTION VEHICLES/EQUIPMENT AND CONSTRUCTION ACTIVITY AT THE END OF EACH WORK DAY.
7. THE CONTRACTOR SHALL PROTECT NEW AND EXISTING STORM WATER CONVEYANCE SYSTEMS FROM SEDIMENTATION, CONCRETE RINSE, OR OTHER CONSTRUCTION-RELATED DEBRIS AND DISCHARGES WITH THE APPROPRIATE BMPs THAT ARE ACCEPTABLE TO THE CITY RESIDENT ENGINEER AND AS INDICATED IN THE WPPPP/WQMP.
8. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CLEAR DEBRIS, SILT, AND MUD FROM ALL DITCHES AND SWALES PRIOR TO AND WITHIN 3 BUSINESS DAYS AFTER EACH RAIN EVENT OR PRIOR TO THE NEXT RAIN EVENT, WHICHEVER IS SOONER.
9. IF A NON-STORM WATER DISCHARGE LEAVES THE SITE, THE CONTRACTOR SHALL IMMEDIATELY STOP THE ACTIVITY AND REPAIR THE DAMAGES. THE CONTRACTOR SHALL NOTIFY THE CITY RESIDENT ENGINEER OF THE DISCHARGE, PRIOR TO RESUMING CONSTRUCTION ACTIVITY. ANY AND ALL WASTE MATERIAL, SEDIMENT, AND DEBRIS FROM EACH NON-STORM WATER DISCHARGE SHALL BE REMOVED FROM THE STORM DRAIN CONVEYANCE SYSTEM AND PROPERLY DISPOSED OF BY THE CONTRACTOR.
10. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ONSITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID DEPLOYMENT OF CONSTRUCTION BMPs WHEN THE NEED IS IMMINENT.
11. THE CONTRACTOR SHALL RESTORE AND MAINTAIN ALL EROSION AND SEDIMENT CONTROL BMPs TO WORKING ORDER YEAR ROUND.
12. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES DUE TO UNFORESEEN CIRCUMSTANCES TO PREVENT NON-STORM WATER AND SEDIMENT-LOADED DISCHARGES.
13. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL BE RESPONSIBLE FOR ANY NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
14. ALL EROSION AND SEDIMENT CONTROL MEASURES PROVIDED PER THE APPROVED SWPPP/WQMP SHALL BE INSTALLED AND MAINTAINED. ALL EROSION AND SEDIMENT CONTROLS FOR INTERIM CONDITIONS SHALL BE PROPERLY DOCUMENTED AND INSTALLED TO THE SATISFACTION OF THE CITY RESIDENT ENGINEER.
15. THE CITY RESIDENT ENGINEER SHALL SCHEDULE MEETINGS FOR THE PROJECT TEAM (GENERAL CONTRACTOR, QUALIFIED CONTACT PERSON, EROSION CONTROL SUBCONTRACTOR IF ANY, ENGINEER OF WORK, OWNER/DEVELOPER, AND THE CITY RESIDENT ENGINEER) TO EVALUATE THE ADEQUACY OF THE EROSION AND SEDIMENT CONTROL MEASURES AND OTHER BMPs RELATIVE TO ANTICIPATED CONSTRUCTION ACTIVITIES.
16. THE CONTRACTOR OR QUALIFIED CONTACT PERSON SHALL CONDUCT VISUAL INSPECTIONS TO MAINTAIN ALL BMPs DAILY AND AS NEEDED. VISUAL INSPECTIONS AND MAINTENANCE OF ALL BMPs SHALL BE CONDUCTED BEFORE, DURING, AND AFTER EACH RAIN EVENT AND EVERY 24 HOURS DURING ANY PROLONGED RAIN EVENT. THE CONTRACTOR SHALL MAINTAIN AND REPAIR ALL BMPs AS SOON AS POSSIBLE AS SAFETY ALLOWS.
17. CONSTRUCTION ENTRANCE AND EXIT AREA. TEMPORARY CONSTRUCTION ENTRANCE AND EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF CALIFORNIA EROSION CONTROL SHEET TO-01 TO PREVENT TRACKING OF SEDIMENT AND OTHER POTENTIAL POLLUTANTS ONTO PAVED SURFACES AND TRAVELED WAYS. WIDTH SHALL BE 10' OR THE MINIMUM NECESSARY TO ACCOMMODATE VEHICLES AND EQUIPMENT WITHOUT BYPASSING THE ENTRANCE. (a) NON-STORM WATER DISCHARGES SHALL BE EFFECTIVELY MANAGED PER THE SAN DIEGO MUNICIPAL CODE CHAPTER 4, ARTICLE 3, DIVISION 3 STORM WATER MANAGEMENT AND DISCHARGE CONTROL.
18. SURFACE WATER WILL DRAIN AWAY FROM BUILDING AND SHOW DRAINAGE PATTERN. THE GRADE SHALL FALL A MINIMUM OF 6" WITHIN THE FIRST 10 FEET. SECTION R401.3
A. EXCEPTION: WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6 INCHES OF FALL WITHIN 10 FEET DRAINS OR SWALES SHALL BE CONSTRUCTED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE. IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED NOT LESS THAN 2 PERCENT AWAY FROM THE BUILDING.
19. ALL NEW ROOF DOWNSPOUTS SHALL BE DISCONNECTED AND DIRECTED TO PERVIOUS AREAS.



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WWW.SNAPADU.COM

ADU: 1,199 L-SHAPE REVERSE

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

DESIGNER:

LUIS CALDERON
SnapADU


SIGNATURE

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BMP SITE PLAN




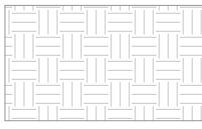


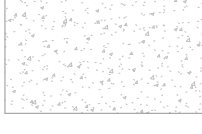









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KEYNOTES:

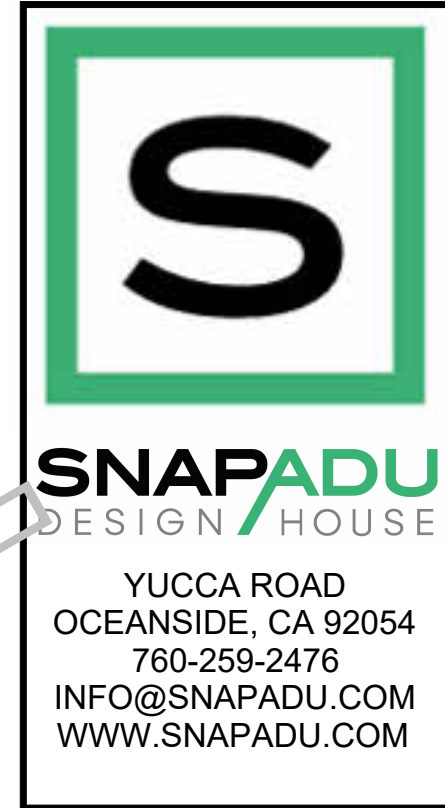
KEYNOTE	DESCRIPTION

EXISTING SITE PLAN LEGEND

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


GENERAL NOTES

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



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EXISTING SITE PLAN

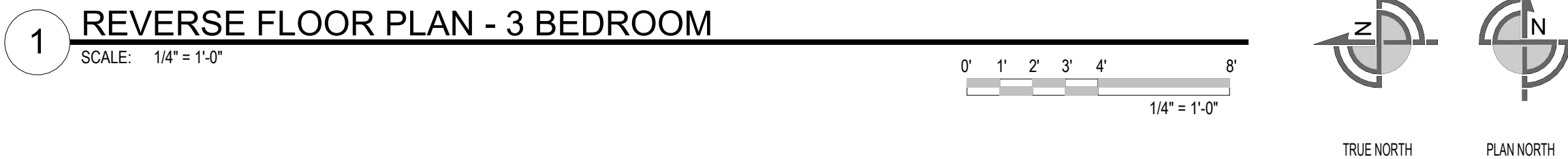
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MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	COMMENTS
D1	3' - 0"	6' - 8"	38"	82 1/2"	EXTERIOR DOOR	
D2	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D3	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D4	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D5	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D6	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D7	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D8	4' - 0"	6' - 8"	50 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	
D9	4' - 0"	6' - 8"	50 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	100 SQ.IN. MIN. AIR TRANSFER GRILLE ABOVE DOOR
D10	4' - 0"	6' - 8"			INTERIOR BYPASS SLIDING DOOR	
D11	4' - 0"	6' - 8"			INTERIOR BYPASS SLIDING DOOR	
D12	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D13	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D14	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	

MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	HEADER HEIGHT	TYPE	COMMENTS
W1	6' - 0"	4' - 0"	6' - 0 1/2"	4' - 0 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	
W2	3' - 0"	5' - 0"	3' - 0 1/2"	5' - 0 1/2"	2' - 0"	7' - 0"	SINGLE HUNG	
W3	3' - 0"	1' - 0"	3' - 0 1/2"	1' - 0 1/2"	6' - 9"	7' - 9"	SLIDING WINDOW	
W4	6' - 0"	4' - 0"	6' - 0 1/2"	4' - 0 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	
W5	6' - 0"	4' - 0"	6' - 0 1/2"	4' - 0 1/2"	3' - 0"	7' - 0"	SLIDING WINDOW	
W6	3' - 0"	3' - 6"	3' - 0 1/2"	3' - 6 1/2"	3' - 6"	7' - 0"	SLIDING WINDOW	
W7	3' - 0"	1' - 0"	3' - 0 1/2"	1' - 0 1/2"	6' - 9"	7' - 9"	SLIDING WINDOW	

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING.
2. DOOR SWING DIRECTION PER PLAN.
3. DIMENSIONS DO NOT INCLUDE DOOR FRAME, U.N.O.
4. PROVIDE SUITABLE ISOLATOR BETWEEN DIS-SIMILAR METALS (I.E. ALUMINUM & STEEL).
5. ALL GLAZING IN DOORS SHALL BE TEMPERED.
6. ALL WINDOWS (U.N.O.) SHALL BE GLAZED PER TITLE 24 REQUIREMENTS.
7. ALL EXISTING WINDOWS SHALL BE LABELED WITH A LABEL ATTACHED CERTIFIED BY THE NATIONAL PENETRATION RATING COUNCIL (NPRC) AND SHOWING COMPLIANCE WITH THE TITLE 24 ENERGY REPORT.
8. ALL WINDOWS SHOULD HAVE A MAX U-FACTOR OF .30, A MAXIMUM SHGC OF .23.
9. PROVIDE TEMPERED GLASS ("TEMP") AT WINDOWS WITHIN A 24-INCH ARCH OF A DOOR (C.R.C 308.2), AND AT THE GLAZING OF THE SHOWER OR TUB SHOWER BATHTUB, IN SAUNAS OR STEAM ROOMS WHERE THE SILL IS WITHIN 60 INCHES MEASURED VERTICALLY FROM THE WET STANDING SURFACE.
10. TEMPERED GLASS AT THE FOLLOWING LOCATIONS REQUIRING SAFETY GLAZING:
 - A. GLAZING IN SWINGING, SLIDING, AND BI-FOLD DOORS (C.R.C 308.4.1).
 - B. GLAZING IN DOORS 60 INCHES OR GREATER IN HEIGHT - OF SHOWERS, BATHTUBS, HOT TUBS, SWIMMING POOLS, AND SAUNAS (C.R.C 308.4.5).
11. PER CBC SECTION 708.2, EXTERIOR WINDOWS, EXTERIOR GLAZED SHALL COMPLY WITH THE FOLLOWING:
 - A. GLAZING SHALL BE WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 1011.5/2440.
12. PER CBC SECTION 708.3, EXTERIOR DOORS SHALL BE CONSTRUCTED WITH A NON-COMBUSTIBLE GLASSING MATERIAL OR BE CONSTRUCTED WITH A SOLID CORE, STILES/RAILS NO LESS THAN 1-3/8" THICK, AND PANELS NO LESS THAN 1-1/4" THICK, EXCEPT FOR THE EXTERIOR PERIMETER OF THE PANEL THAT SHALL BE PERMITTED TO BE 1/2" TO 1" TONGUE NO LESS THAN 3/8" THICK.
13. PER CBC SECTION 708.4, GLAZING SHALL BE CONSTRUCTED WITH MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE CONFORMING TO SECTION 2406

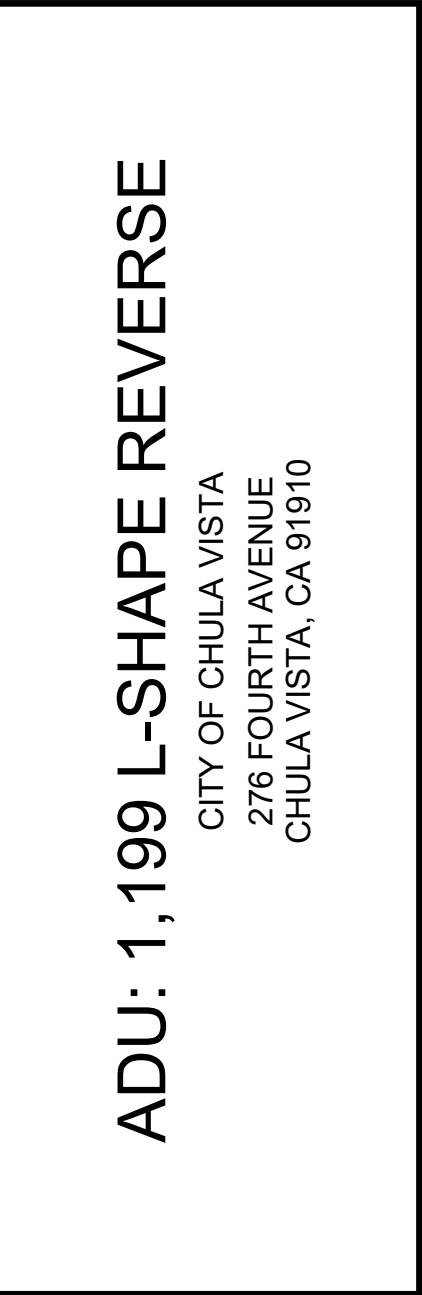


KEYNOTE	DESCRIPTION
6110.F30	WOOD STOOD EXTERIOR DOOR LANDING
6110.G17	2X8 MIN. SOLID REINFORCEMENT LOCATED BETWEEN 32" AND 39 1/4" AFF. SEE SHEETS G.01E AND A501 FOR MORE INFORMATION ABOUT AGING-IN-PLACE DESIGN
6220.C1	PHILLIPS HEAD SCREW FOR REFERENCE ONLY, SEE SHOP DRAWINGS
0800.A7	PROVIDE 1/4" X 25 1/4" R.O. FRAMING FOR MEDICINE CABINET, NO ELECTRICAL WIRING WITHIN FRAMING FOR MEDICINE CABINET PERMITTED
0800.D1	PROVIDE FRAMING FOR 16"x12" NICHE. BOTTOM OF NICHE TO BE 60" ABOVE SLAB AND CENTERED ALONG WALL
5510.A3	APPLICANT/OWNER TO PROVIDE CUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS
5730.A5	APPLYER VENT USE SHEET 5730.A5 CODE EXCERPTS CHAPTER 5: EXHAUST SYSTEMS FOR MORE INFORMATION
5730.A6	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 110 CFM OR 50% CE MIN. (GAS RANGE 250 CFM OR 80% CE MIN.) 2022 BEES TABLE 150-0.9


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

	WALL AREA (SF)	DOOR OPENING AREA (SF)	WINDOW OPENING AREA (SF)	TOTAL OPENING AREA (SF)	% OPENING AREA
NORTH	250.58	-	-	-	0%
SOUTH	250.58	-	3.00	3.00	1.20%
EAST	388.00	-	34.50	13.50	6.95%
WEST	388.00	20.00	66.00	86.00	22.16%

***NOTE: BUILDING ORIENTATION PER PROJECT NORTH**



DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

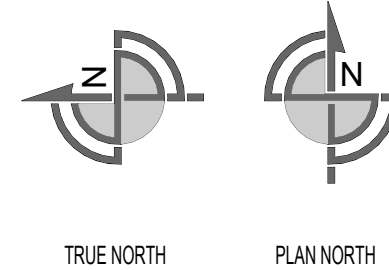
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MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	COMMENTS
D1	3' - 0"	6' - 8"	38"	82 1/2"	EXTERIOR DOOR	
D2	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D3	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D4	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D5	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D6	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D7	2' - 6"	6' - 8"	32"	82"	INTERIOR SINGLE PANEL DOOR	
D8	4' - 0"	6' - 8"	50 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	
D9	4' - 0"	6' - 8"	50 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	100 SQ.IN. MIN. AIR TRANSFER GRILLE ABOVE DOOR
D10	4' - 0"	6' - 8"			INTERIOR BYPASS SLIDING DOOR	

MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	HEADER HEIGHT	TYPE	COMMENTS
W1	6'-0"	4'-0"	6'-0 1/2"	4'-0 1/2"	3'-0"	7'-0"	SLIDING WINDOW	
W2	3'-0"	4'-0"	3'-0 1/2"	4'-0 1/2"	3'-0"	7'-0"	SINGLE HUNG	
W3	3'-0"	1'-0"	3'-0 1/2"	1'-0 1/2"	6'-9"	7'-9"	SLIDING WINDOW	
W4	6'-0"	4'-0"	6'-0 1/2"	4'-0 1/2"	3'-0"	7'-0"	SLIDING WINDOW	
W5	6'-0"	4'-0"	6'-0 1/2"	4'-0 1/2"	3'-0"	7'-0"	SLIDING WINDOW	
W6	3'-0"	3'-6"	3'-0 1/2"	3'-6 1/2"	3'-6"	7'-0"	SLIDING WINDOW	
W7	3'-0"	1'-0"	3'-0 1/2"	1'-0 1/2"	6'-9"	7'-9"	SLIDING WINDOW	
W8	3'-0"	4'-0"	3'-0 1/2"	4'-0 1/2"	3'-0"	7'-0"	SINGLE HUNG	
W9	6'-0"	4'-0"	6'-0 1/2"	4'-0 1/2"	3'-0"	7'-0"	SLIDING WINDOW	

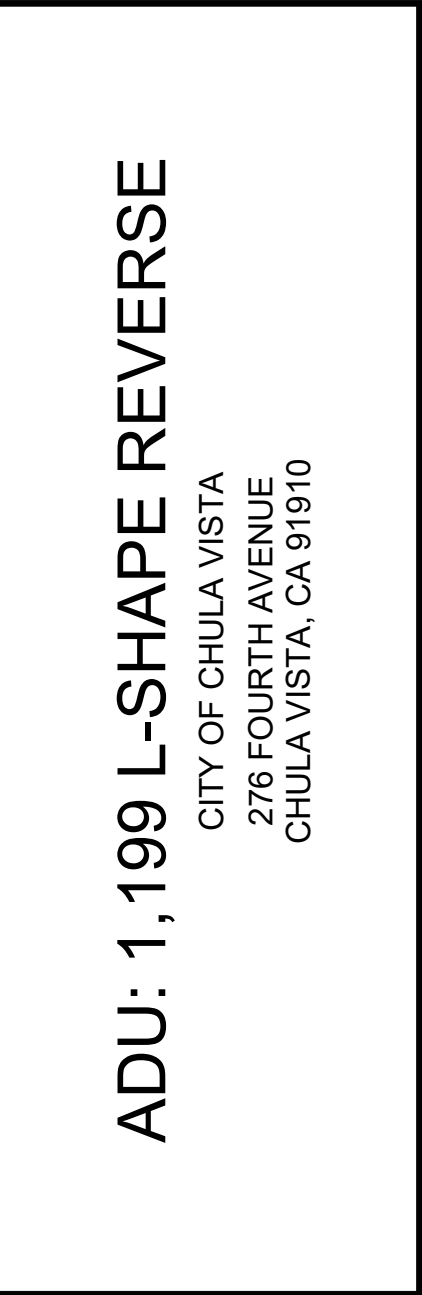
1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING.
2. DOOR SWING DIRECTION PER PLAN.
3. DIMENSIONS DO NOT INCLUDE DOOR FRAME, U.N.O.
4. PROVIDE SUITABLE ISOLATOR BETWEEN DIS-SIMILAR METALS (I.E. ALUMINUM & STEEL).
5. ALL GLAZING IN DOORS SHALL BE TEMPERED.
6. ALL WINDOWS (U.N.O.) SHALL BE TEMPERED PER TITLE 24 REQUIREMENTS.
7. ALL GLAZING IN TEMPERED WINDOWS SHALL BE IDENTIFIED BY A LABEL ATTACHED CERTIFIED BY THE NATIONAL PENETRATION RATING COUNCIL (NPRC) AND SHOWING COMPLIANCE WITH THE TITLE 24 ENERGY RATING.
8. ALL WINDOWS SHOULD HAVE A MAX U-FACTOR OF .30, A MAXIMUM SHGC OF .23.
9. PROVIDE TEMPERED GLASS (TEMP) AT WINDOWS WITH A 24-INCH ARCH OF 24 INCHES (TEMP) AT DOORS, AND AT ALL BALCONY, HALL, AND SHOWER OR BATHTUB, IN SAUNAS OR STEAM ROOMS WHERE THE SILL IS LESS THAN 60 INCHES MEASURED VERTICALLY FROM THE WET STANDING SURFACE.
10. TEMPERED GLASS AT THE FOLLOWING LOCATIONS REQUIRING SAFETY GLAZING: A. GLAZING IN SWINGING, SLIDING, AND BI-FOLD DOORS (CRC R308.4.1).
11. PER CBC SECTION 708.2, AND AT ALL BALCONY, HALL, AND SHOWER OR BATHTUBS, HOT TUBS, SWIMMING POOLS, AND SAUNAS (CRC R308.4.5).
12. PER CBC SECTION 2406.2, EXTERIOR WINDOWS, EXTERIOR GLAZED SHALL COMPLY WITH THE FOLLOWING:
 - A. ALL GLAZING SHALL BE WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 1011/S.2/4440.
12. PER CBC SECTION 708.3, EXTERIOR DOORS SHALL BE CONSTRUCTED WITH A NON-COMBUSTIBLE GLASSING MATERIAL OR BE CONSTRUCTED WITH A SOLID CORE, STILES/RAILS NO LESS THAN 1-3/8" THICK, AND PANELS NO LESS THAN 1-1/4" THICK, EXCEPT FOR THE EXTERIOR PERIMETER OF THE PANEL THAT SHALL BE PERMITTED TO BE GLAZED TO THE TONGUE NO LESS THAN 3/8" THICK.
13. PER CBC SECTION 2406.2, EXTERIOR GLAZING SHALL BE CONSTRUCTED WITH MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE CONFORMING TO SECTION 2406.




KEYNOTE	DESCRIPTION
06110.F30	WOOD STOOP EXTERIOR DOOR LANDING
06110.G17	2X8 MIN. SOLID REINFORCEMENT LOCATED BETWEEN 32" AND 39 1/4" AFF. SEE SHEETS G101 AND A501 FOR MORE INFORMATION ABOUT AGING-IN-PLACE DESIGN
06220.C1	MILLWORK SHOWN FOR REFERENCE ONLY. SEE SHOP DRAWINGS
07710.B3	DOWNSTOOP
10800.A7	PROVIDE 14 1/4" x 25 1/4" R.O. FRAMING FOR MEDICINE CABINET. NO ELECTRICAL WIRING WITHIN FRAMING FOR MEDICINE CABINET PERMITTED
10800.D1	PROVIDE FRAMING FOR 16"x12" NICHE. BOTTOM OF NICHE TO BE 60" ABOVE S8 AND CENTERED ON S8
15510.A3	APPLICANT/OWNER TO PROVIDE CUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS
15730.A5	4" DRYER VENT. SEE SHEET G200 CODE EXCERPTS CHAPTER 5: EXHAUST SYSTEMS FOR MORE INFORMATION
15730.A6	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 110 CFM OR 50% CM MIN. (GAS RANGE 250 CFM OR 80% CM MIN.). 2022 BEES TABLE 150.0-G

 EXTERIOR 2X6 WOOD STUDS @ 16" O.C.
 INTERIOR 2X6 WOOD STUDS @ 16" O.C.
 INTERIOR 2X4 WOOD STUDS @ 16" O.C.

	WALL AREA (SF)	DOOR OPENING AREA (SF)	WINDOW OPENING AREA (SF)	TOTAL OPENING AREA (SF)	% OPENING AREA
NORTH	250.58	-	-	-	0%
SOUTH	250.58	-	24.00	24.00	9.58%
EAST	388.00	-	37.50	37.50	9.66%
WEST	388.00	20.00	75.00	95.00	24.48%



DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

[illegible]

REVERSE FLOOR
PLAN -
2-BEDROOM

A101R

22040

FLOOR PLAN OPTIONS - DOOR SCHEDULE						
MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	TYPE	COMMENTS
D15	5' - 6"	6' - 8"	68 1/2"	82"	INTERIOR DOUBLE PANEL DOOR	100 SQ.IN. MIN. AIR TRANSFER GRILLE ABOVE DOOR
D16	6' - 0"	6' - 8"	74"	82"	EXTERIOR SLIDING GLASS DOOR	TEMPERED
D17	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D18	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D19	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	
D20	3' - 0"	6' - 8"	38"	82"	INTERIOR SINGLE PANEL DOOR	

FLOOR PLAN OPTIONS - WINDOW SCHEDULE							
MARK	WIDTH	HEIGHT	R.O. WIDTH	R.O. HEIGHT	SILL HEIGHT	HEADER HEIGHT	TYPE

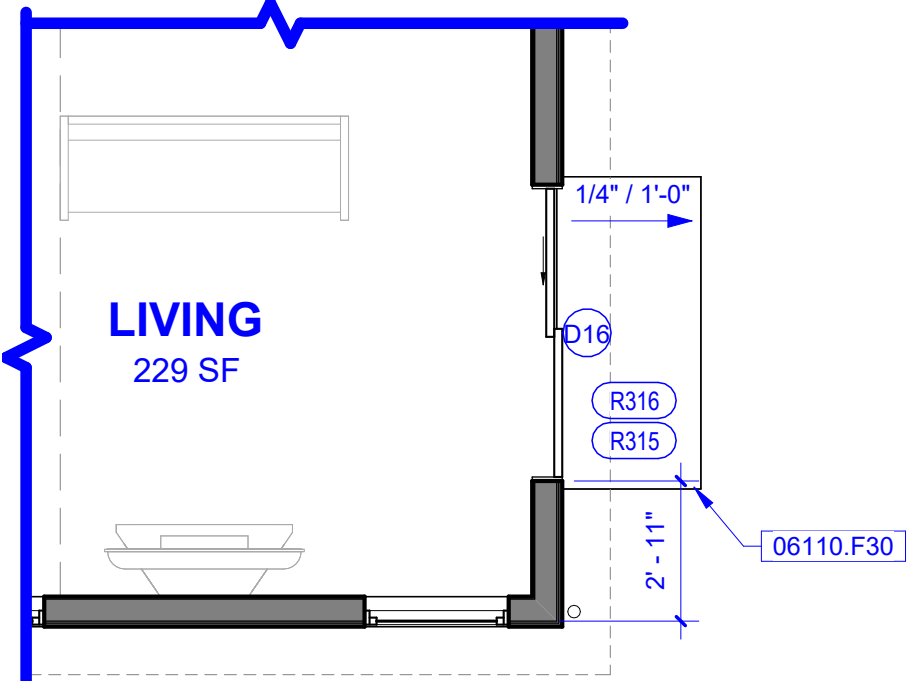
DOOR & WINDOW NOTES

1. FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING.
2. DOOR SWING DIRECTION PER PLAN.
3. DIMENSIONS DO NOT INCLUDE DOOR FRAME, U.N.O.
4. PROVIDE SUITABLE ISOLATOR BETWEEN DIS-SIMILAR METALS (I.E. ALUMINUM & STEEL).
5. ALL GLAZING IN DOORS SHALL BE TEMPERED.
6. ALL WINDOWS (U.N.O.) SHALL BE GLAZED PER TITLE 24 REQUIREMENTS.
7. ALL MANUFACTURED WINDOWS SHALL HAVE A LABEL ATTACHED CERTIFIED BY THE NATIONAL PENESTRATION RATING COUNCIL (NFR)C) AND SHOWING COMPLIANCE WITH THE TITLE 24 ENERGY REPORT.
8. ALL WINDOWS SHOULD HAVE A MAX U-FACTOR OF .30, A MAXIMUM SHGC OF .23.
9. PROVIDE TEMPERED GLASS ("TEMP") AT WINDOWS WITHIN A 24-INCH ARCH OF A DOOR JAMB (CRC 308.4.2), AND AT GLAZING UNITS ABOVE THE SHOWER OR BATHTUB, IN SAUNAS OR STEAM ROOMS WHERE THE SILL IS WITHIN 60 INCHES MEASURED VERTICALLY FROM THE WET STANDING SURFACE.
10. TEMPERED GLASS AT THE FOLLOWING LOCATIONS REQUIRING SAFETY GLAZING:

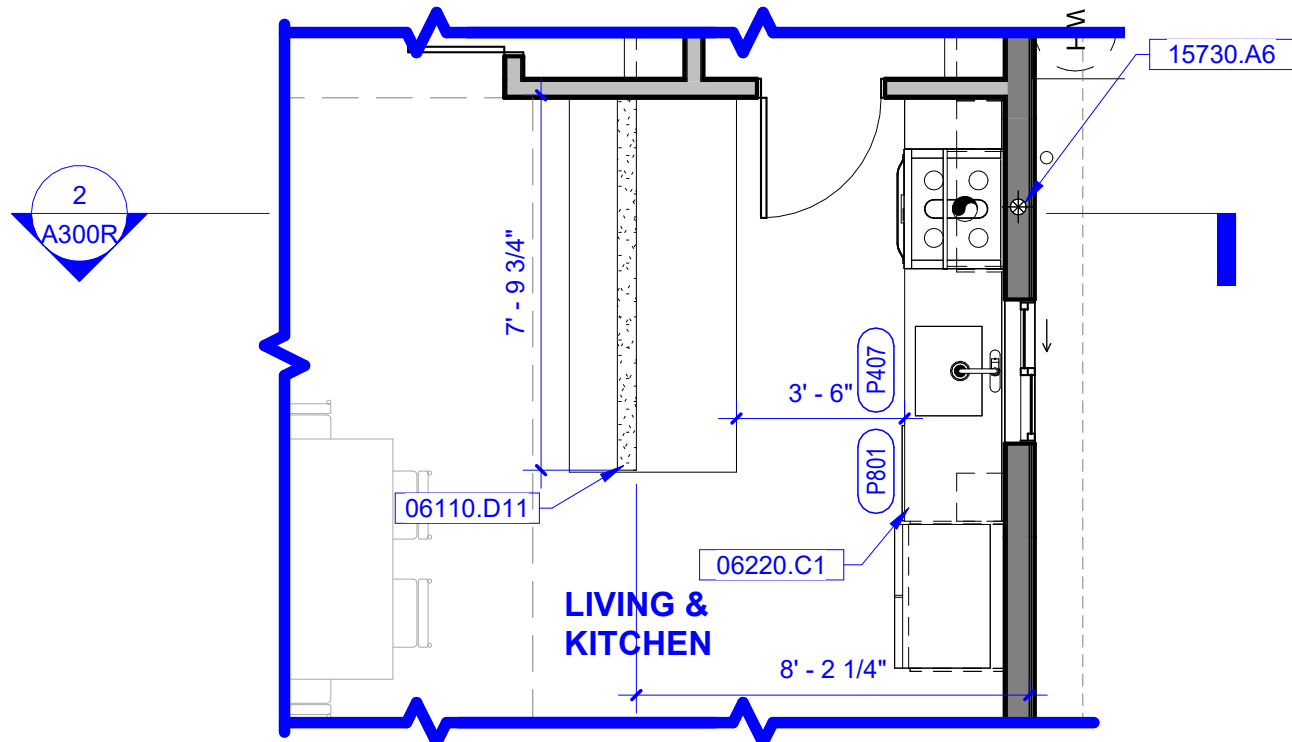
A. GLAZING IN SWINGING, SLIDING, AND BI-FOLD DOORS (CRC R308.4.1).

B. GLAZING WITHIN 60 INCHES - VERTICALLY AND HORIZONTALLY - OF SHOWERS, BATHTUBS, HOT TUBS, SWIMMING POOLS, AND SAUNAS (CRC R308.4.5).
11. PER CBC SECTION 708A.2, EXTERIOR WINDOWS, EXTERIOR GLAZED SHALL COMPLY WITH THE FOLLOWING:

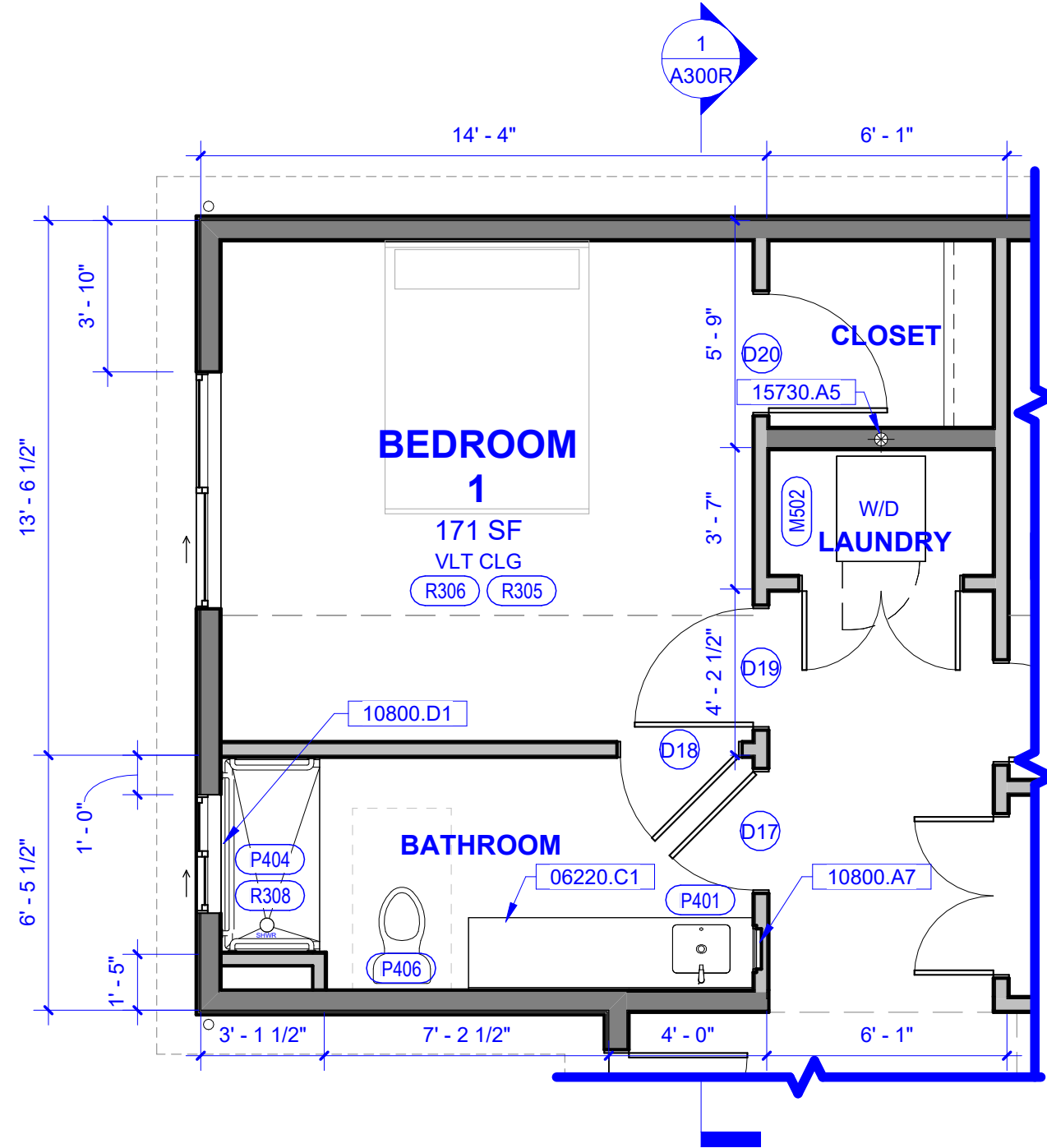
A. MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE MEETING THE REQUIREMENTS OF SECTION 2406 SAFETY GLAZING, AND WHERE ANY GLAZING FRAMES MADE OF VINYL MATERIALS SHALL HAVE WELDED CORNERS, METAL REINFORCEMENT IN INTERLOCK AREA, AND BE CERTIFIED TO AAMA/WDMA/CSA 10111.S.2/4440.
12. PER CBC SECTION 708A.3, EXTERIOR DOORS SHALL BE CONSTRUCTED WITH A NON-COMBUSTIBLE CLADDING MATERIAL OR BE CONSTRUCTED WITH A SOLID CORE, STILES/RAILS NO LESS THAN 1-3/8" THICK, AND PANELS NO LESS THAN 1-1/4" THICK, EXCEPT FOR THE XTERIOR PERIMETER OF THE PANEL THAT SHALL BE PERMITTED TO TAPER TO THE TONGUE NO LESS THAT 3/8" THICK.
13. PER CBC SECTION 708A.2, GLAZED DOORS TO BE CONSTRUCTED WITH MULTIPANE GLAZING WITH A MINIMUM OF ONE TEMPERED PANE CONFORMING TO SECTION 2406.



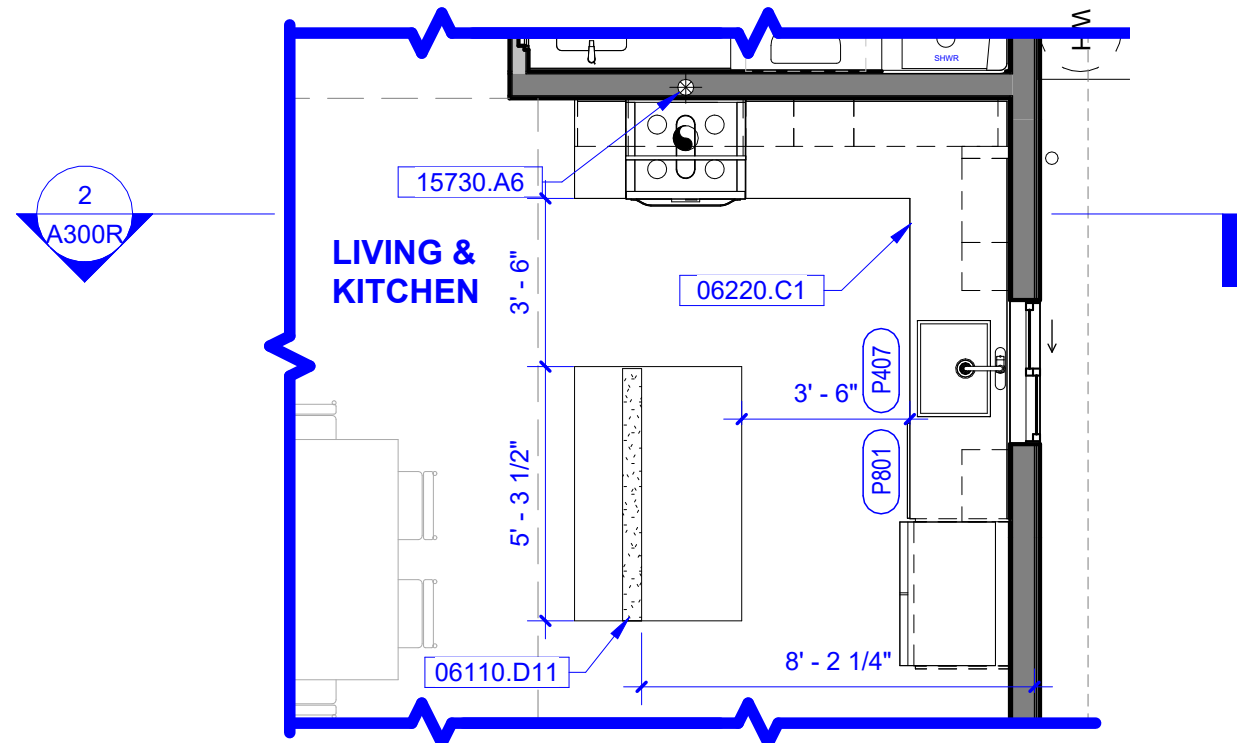
4 REVERSE 6'-0" x 6'-8" SLIDING GLASS DOOR OPTION AT 2-BEDROOM PLAN
SCALE: 1/4" = 1'-0"



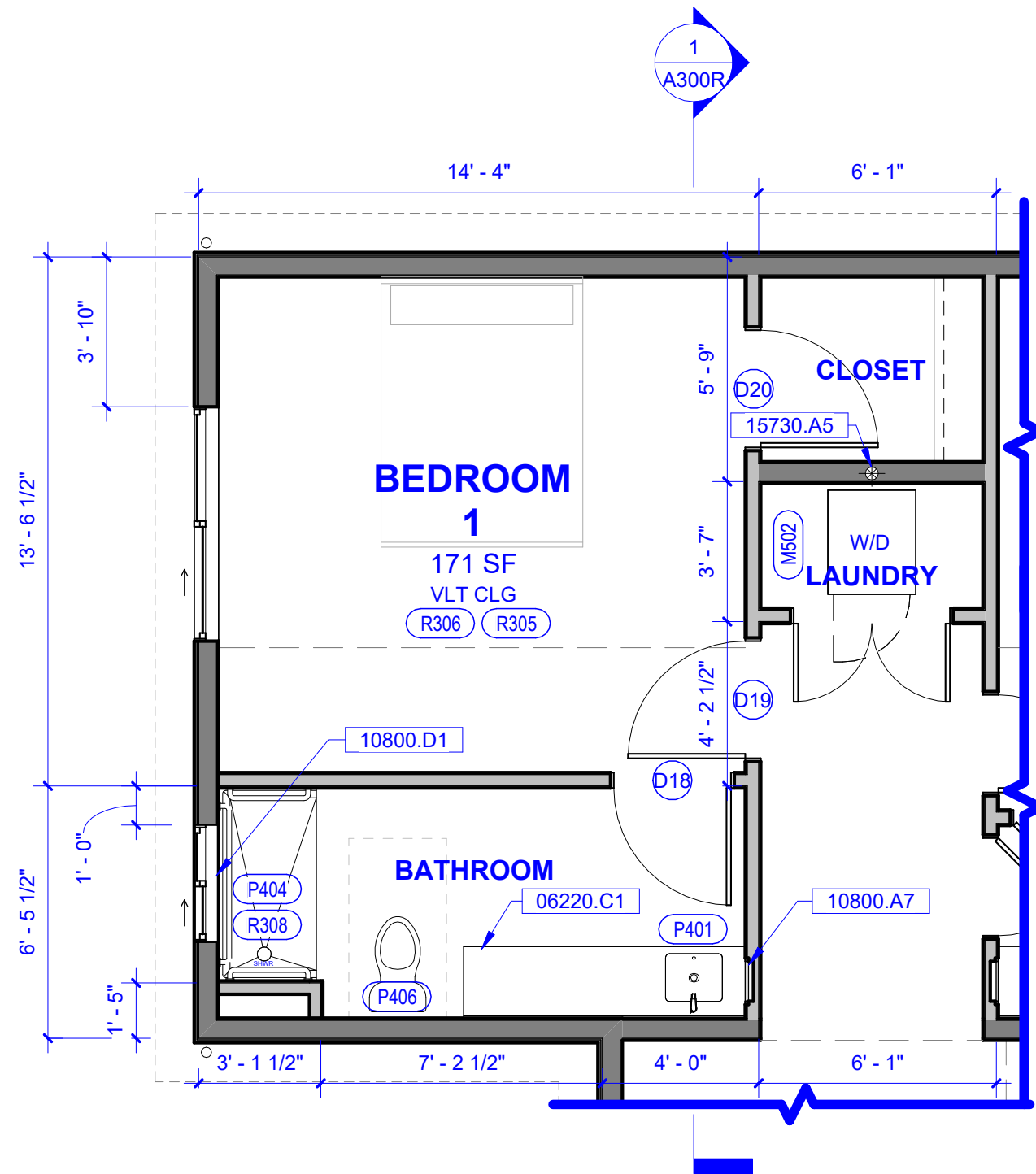
1 REVERSE 8' PENINSULA OPTION
SCALE: 1/4" = 1'-0"



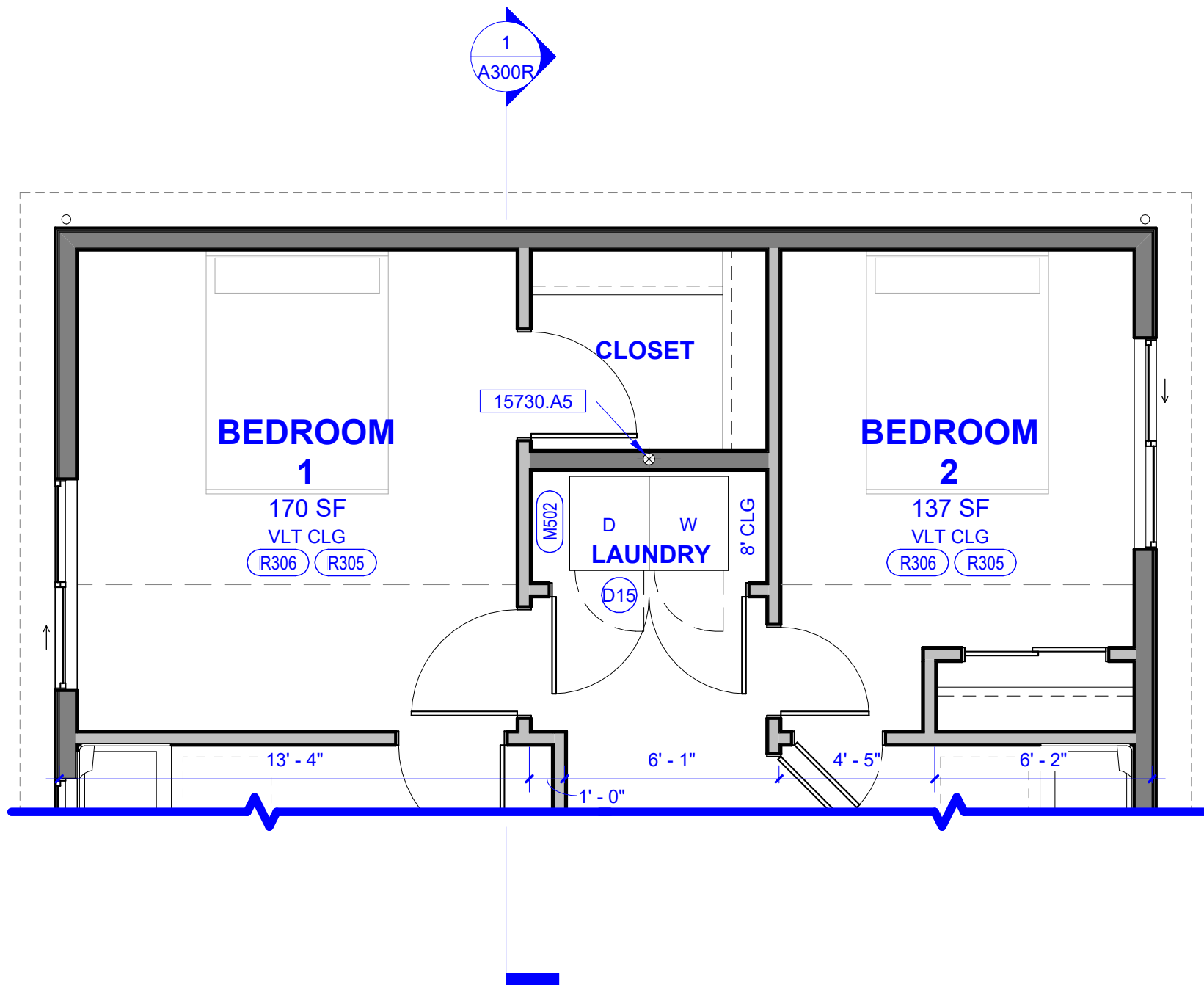
5 REVERSED ENLARGED BEDROOM & BATH DOOR PLAN AT 3-BEDROOM OPTION PLAN
SCALE: 1/4" = 1'-0"



2 REVERSE L-KITCHEN W/ 5' ISLAND AT 2-BEDROOM OPTION PLAN
SCALE: 1/4" = 1'-0"



6 REVERSED ENLARGED BEDROOM & BATH DOOR PLAN AT 2-BEDROOM OPTION PLAN
SCALE: 1/4" = 1'-0"



3 REVERSE SIDE BY SIDE LAUNDRY OPTION
SCALE: 1/4" = 1'-0"

KEYNOTES:

KEYNOTE	DESCRIPTION
06110.D11	34" TALL 2X4 PONY WALL
06110.F30	WOOD STOOP EXTERIOR DOOR LANDING
06220.C1	MILLWORK SHOWN FOR REFERENCE ONLY. SEE SHOP DRAWINGS
10800.A7	PROVIDE 14 1/4" x 25 1/4" R.O. FRAMING FOR MEDICINE CABINET. NO ELECTRICAL WIRING WITHIN FRAMING FOR MEDICINE CABINET PERMITTED
10800.D1	PROVIDE FRAMING FOR 16"x12" NICHE. BOTTOM OF NICHE TO BE 60" ABOVE SLAB AND CENTERED ALONG WALL
15730.A5	4" DRYER VENT. SEE SHEET G200 CODE EXCERPTS CHAPTER 5. EXHAUST SYSTEMS FOR MORE INFORMATION
15730.A6	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 110 CFM OR 50% CE MIN. (GAS RANGE 250 CFM OR 80% CE MIN.); 2022 BEES TABLE 150.0-G

FLOOR PLAN LEGEND:

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

 8" FLAT CEILING
- VLT CLG

 VAULTED CEILING

WALL OPENING SCHEDULE:

	WALL AREA (SF)	DOOR OPENING AREA (SF)	WINDOW OPENING AREA (SF)	TOTAL OPENING AREA (SF)	% OPENING AREA
NORTH	250.58	-	-	-	0%
SOUTH	250.58	-	24.00	24.00	9.58%
EAST	388.00	40.00	37.50	77.50	19.97%
WEST	388.00	20.00	75.00	95.00	24.48%

*OPENING AREA PER 6' - 0" X 6' - 8" SLIDING GLASS DOOR OPTION

S

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ADU: 1,199 L-SHAPE REVERSE
CITY OF CHULA VISTA
276 FOURTH AVENUE
CHULA VISTA, CA 91910

DESIGNER:
LUIS CALDERON
SnapADU

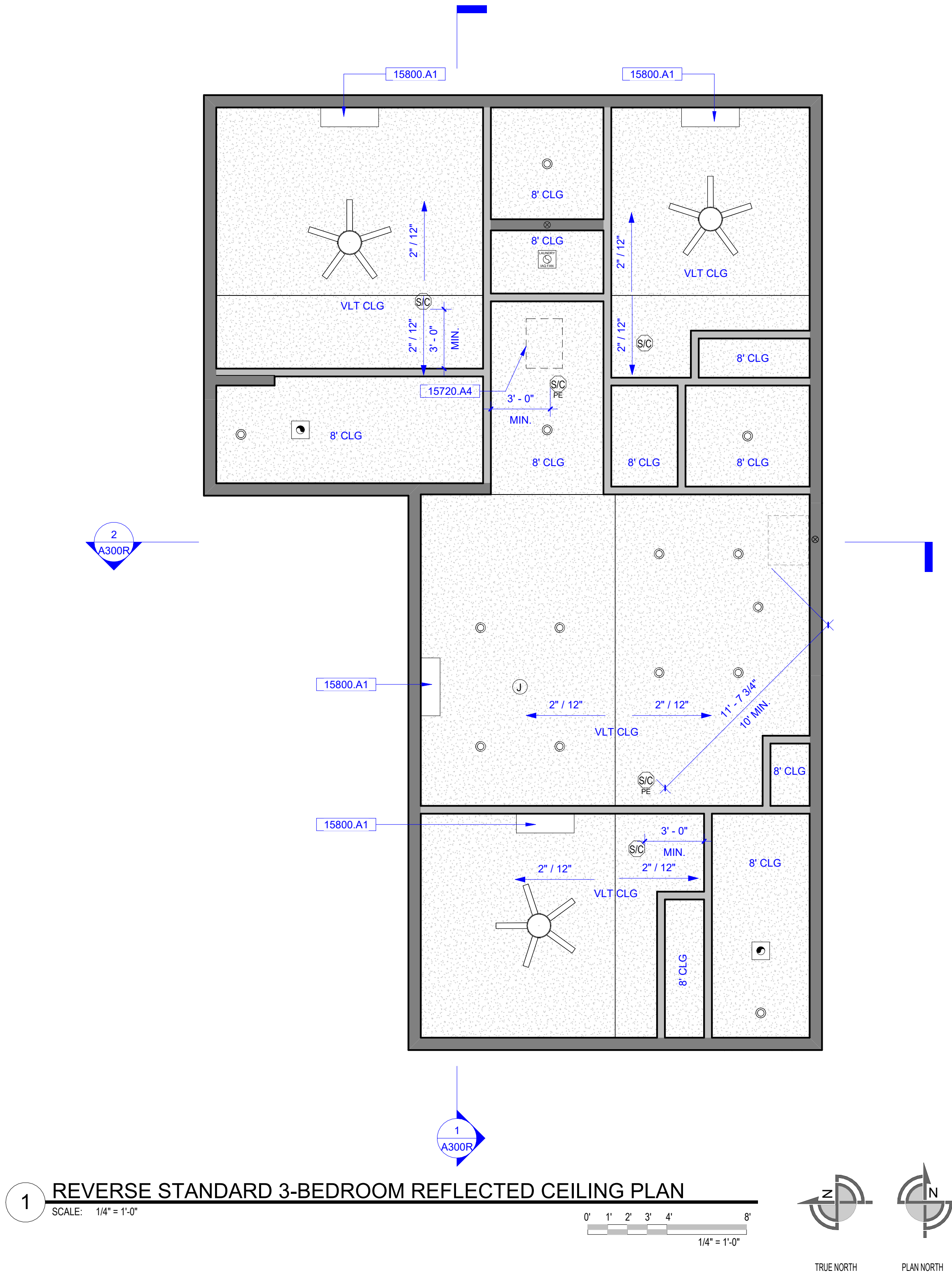
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REVERSE FLOOR PLAN - OPTIONS

A102R

22040



1 REVERSE STANDARD 3-BEDROOM REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"

KEYNOTES:

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

REFLECTED CEILING PLAN LEGEND

	DRYWALL CEILING
	JUNCTION BOX
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	RECESSED LIGHT
	MICROWAVE-HOOD EXHAUST FAN COMBO 110 CFM MIN (IF GAS RANGE 250 CFM MIN. TO BE PROVIDED)
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	LAUNDRY EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	CEILING FAN WITH LIGHT
	DIRECTION OF CEILING SLOPE
	8' FLAT CEILING
	VAULTED CEILING

REFLECTED CEILING NOTES:

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



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SIGNATURE

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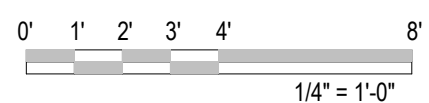
REVERSE
REFLECTED
CEILING PLAN -
3-BEDROOM

A110R

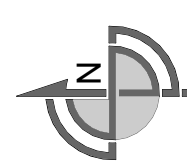
22040

2 REVERSE 2-BEDROOM REFLECTED CEILING PLAN

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



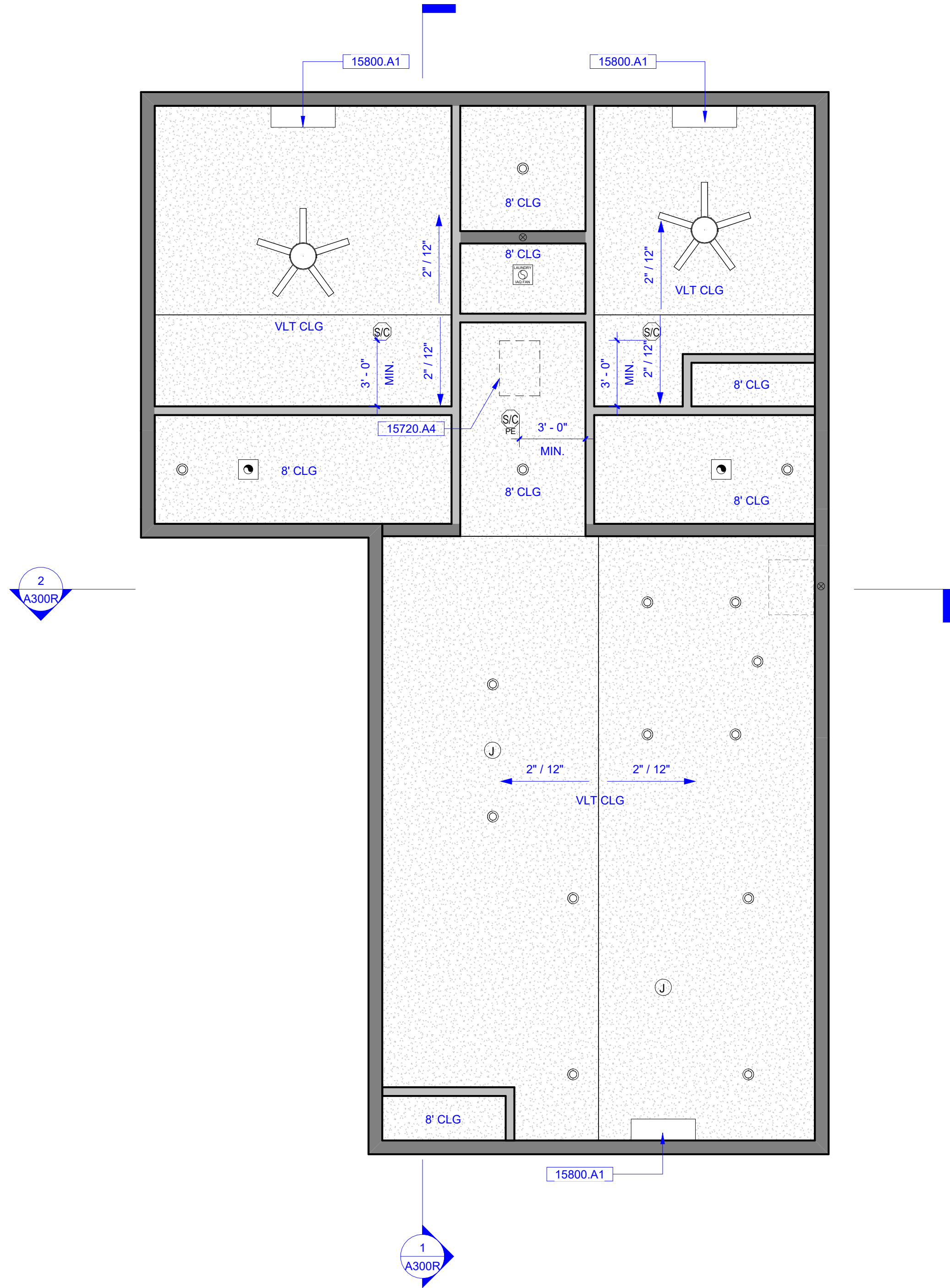
1/4" = 1'-0"



TRUE NORTH



PLAN NORTH



KEYNOTES:

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

REFLECTED CEILING PLAN LEGEND

	DRYWALL CEILING
	JUNCTION BOX
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	RECESSED LIGHT
	MICROWAVE-HOOD EXHAUST FAN COMBO 110 CFM MIN (IF GAS RANGE 250 CFM MIN. TO BE PROVIDED)
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	LAUNDRY EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	CEILING FAN WITH LIGHT
	DIRECTION OF CEILING SLOPE
	8' FLAT CEILING
	VAULTED CEILING

REFLECTED CEILING NOTES:

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



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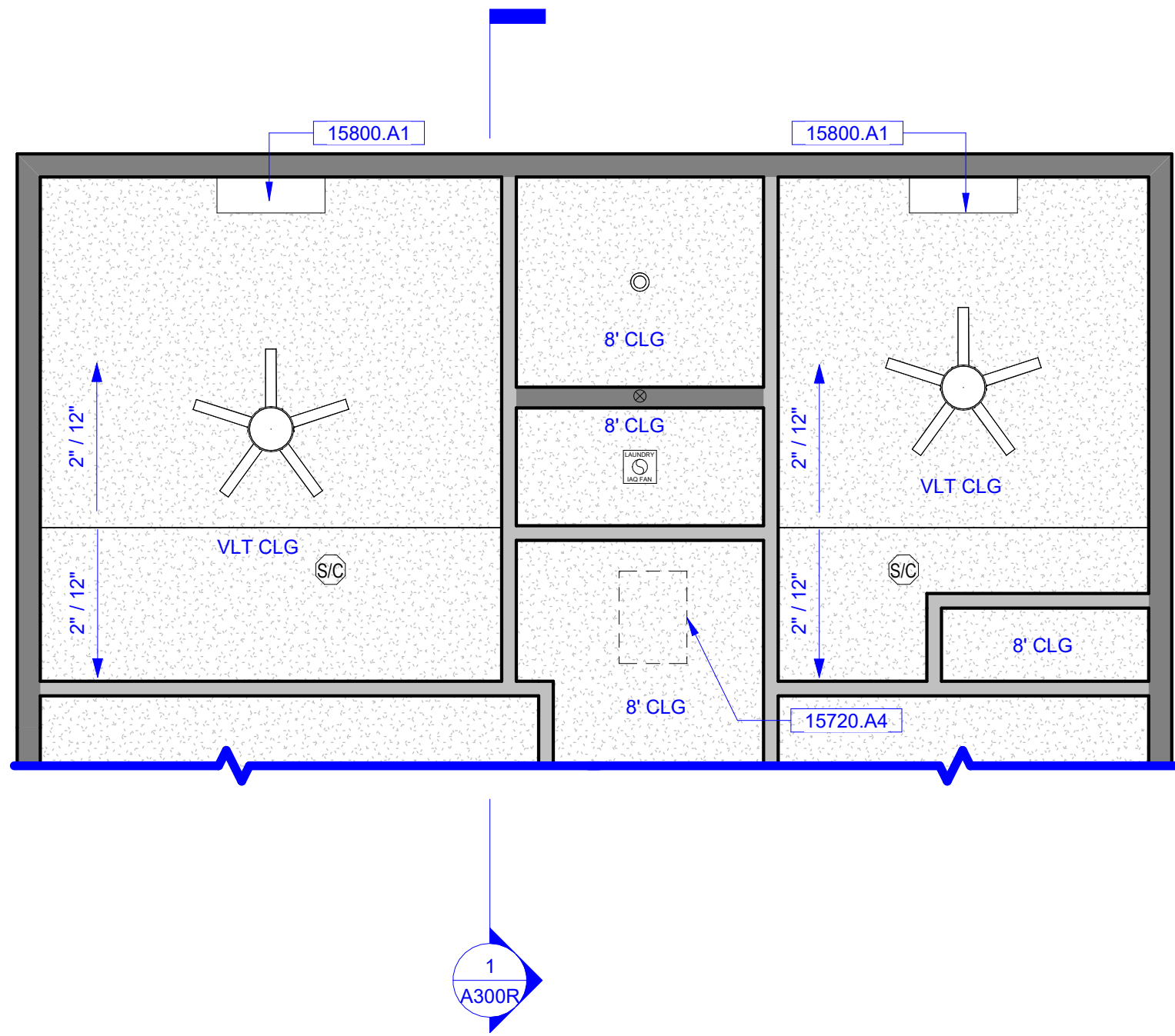
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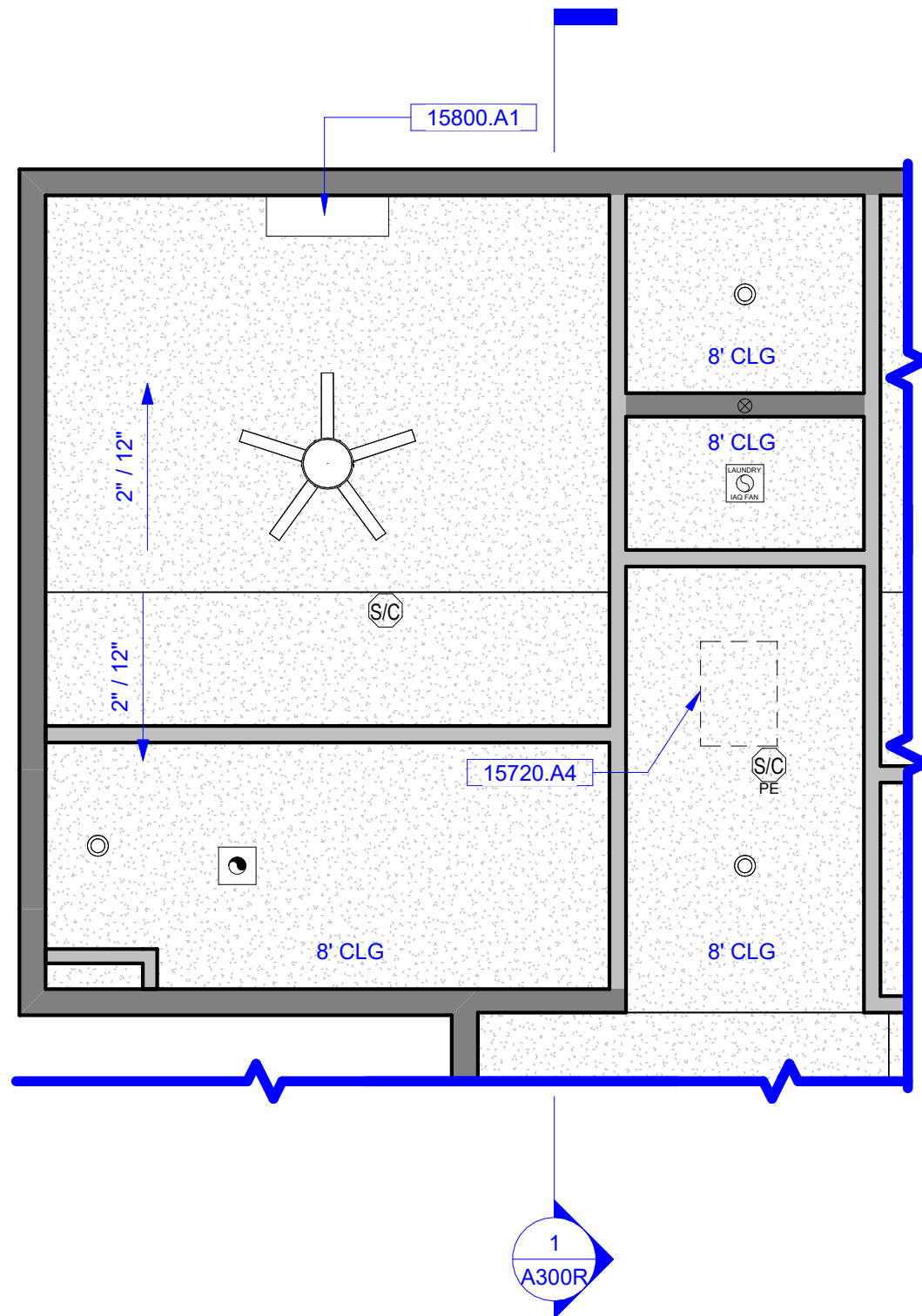
REVERSE
REFLECTED
CEILING PLAN -
2 BEDROOM

A111R

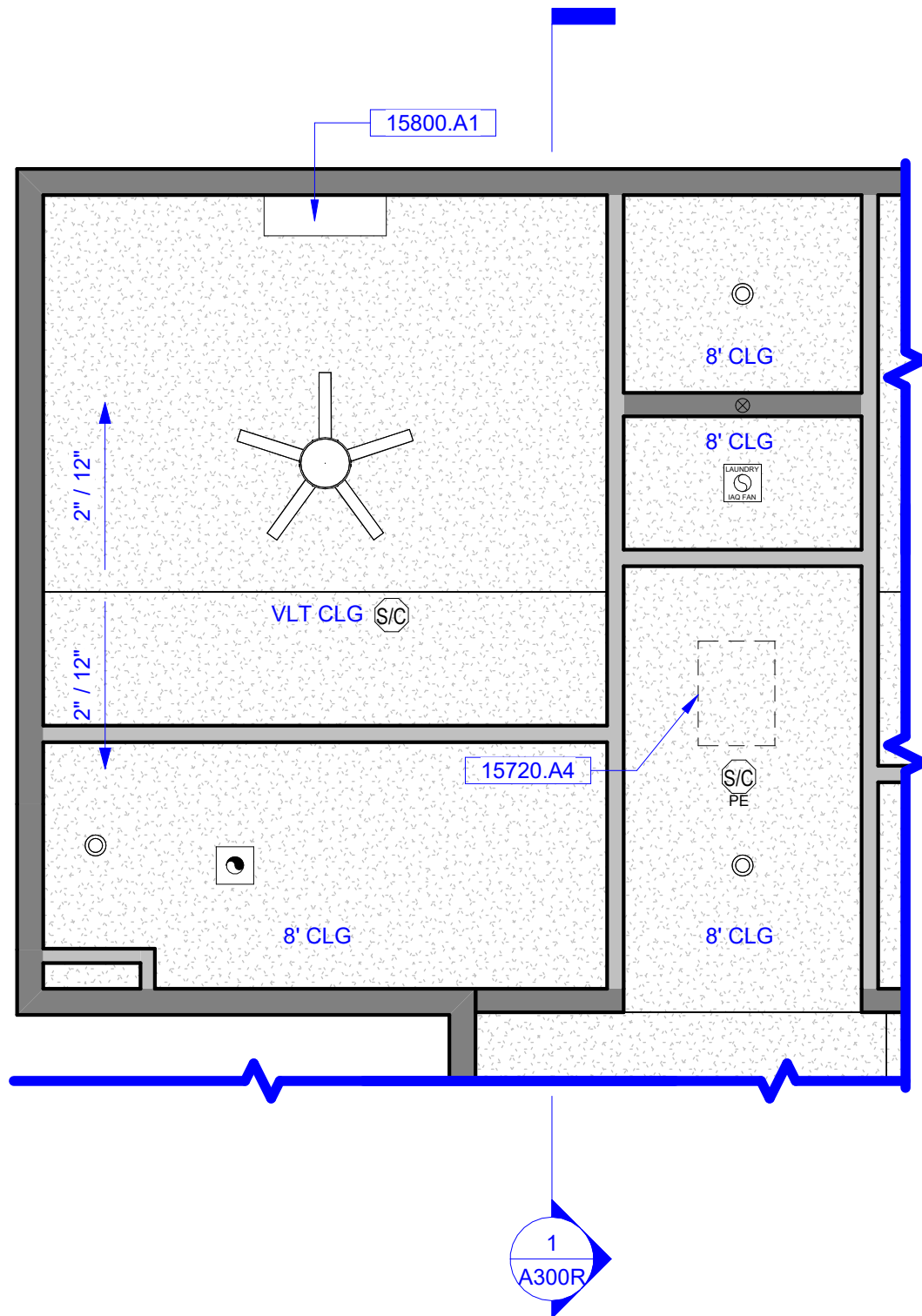
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1 REVERSE SIDE BY SIDE LAUNDRY OPTION
REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



2 REVERSE ENLARGED BEDROOM & BATH DOOR
OPTION AT STANDARD 3-BEDROOM REFLECTED
CEILING PLAN
SCALE: 1/4" = 1'-0"



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

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

REFLECTED CEILING PLAN LEGEND

	DRYWALL CEILING
	JUNCTION BOX
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	RECESSED LIGHT
	MICROWAVE-HOOD EXHAUST FAN COMBO 110 CFM MIN (IF GAS RANGE 250 CFM MIN. TO BE PROVIDED)
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	LAUNDRY EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	CEILING FAN WITH LIGHT
	SLOPE DIRECTION OF CEILING SLOPE
	8" CLG 8" FLAT CEILING
	VLT CLG VAULTED CEILING

REFLECTED CEILING NOTES:

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

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DESIGNER:

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SnapADU

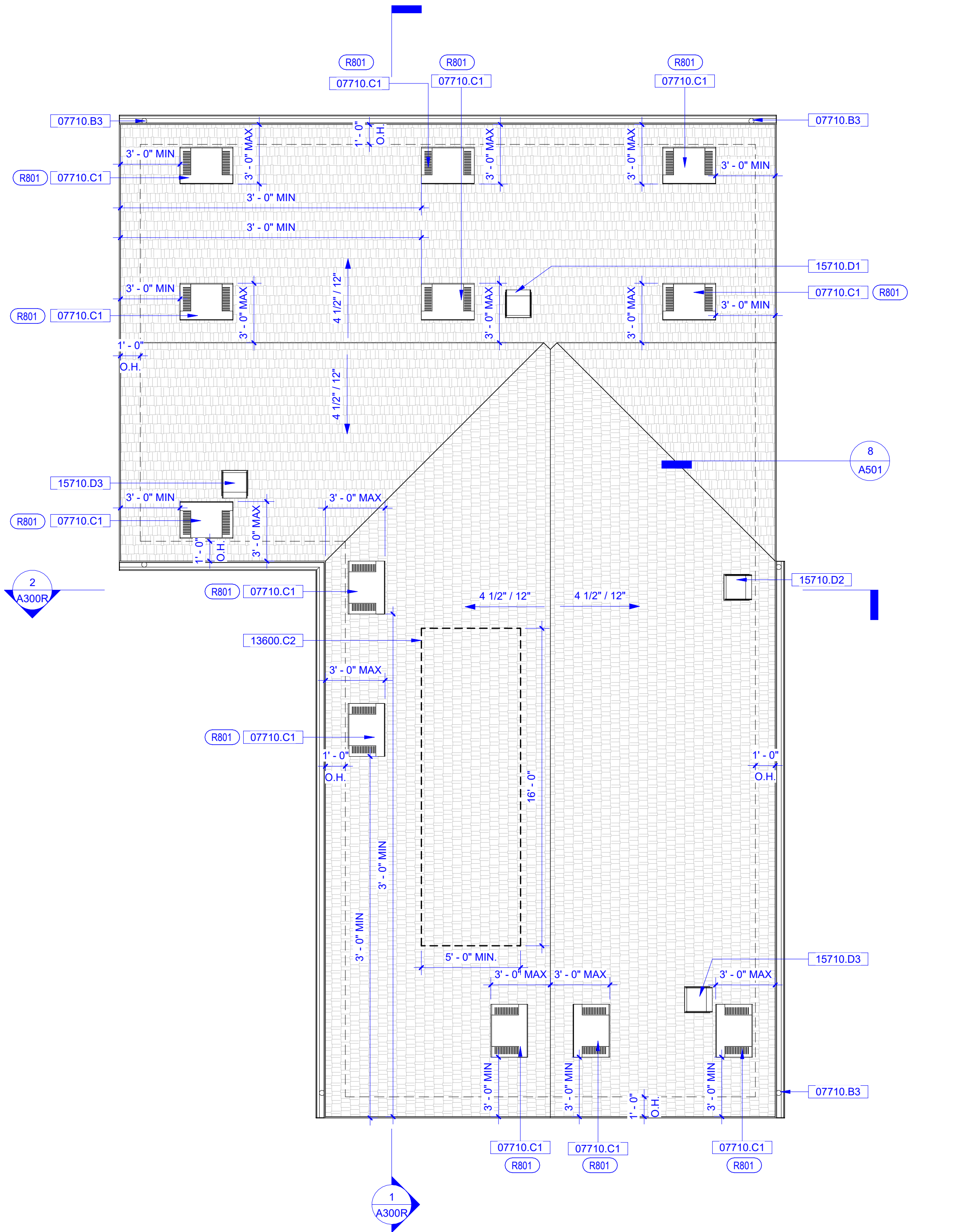
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REVERSE
REFLECTED
CEILING PLAN -
OPTIONS

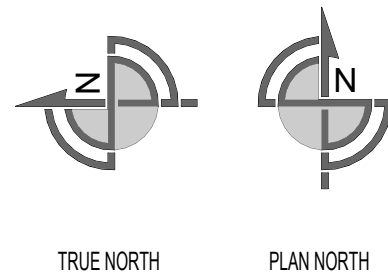
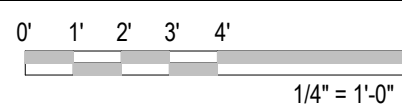
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1 REVERSE STANDARD 3-BEDROOM ROOF PLAN

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



KEYNOTES:

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

ROOF PLAN LEGEND

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

ROOF NOTES:

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

ROOF VENT CALCULATION

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

CALCULATIONS:

DESCRIPTION	AREA	REQ. ROOF VENT
ATTIC AREA	1199 SF	8.00 SF

TOTAL NET FREE VENTILATION AREA (NFVA) PROVIDE:

O'HAGIN CONC.TILE LOW PROF.VENT NFVA = 98.75 SQ.IN.=0.68 SF./V.
8.00 SF. / 0.68 SF./VENT = 11.76 12 VENTS WILL BE PROVIDED AS FOLLOWS:

5 EXHAUST VENTS WITHIN 3 FT. BELOW THE RIDGE HIGHEST POINT
& 7 INTAKE VENTS AT THE BOTTOM THIRD OF THE ATTIC SPACE

TOTAL VENT AREA = 12 VENTS X 0.68 SF./VENT = 8.16 SF.
TOTAL PROVIDE = 8.16 SF > 8.00 SF REQ. ROOF VENT.



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CHULA VISTA, CA 91910

DESIGNER:

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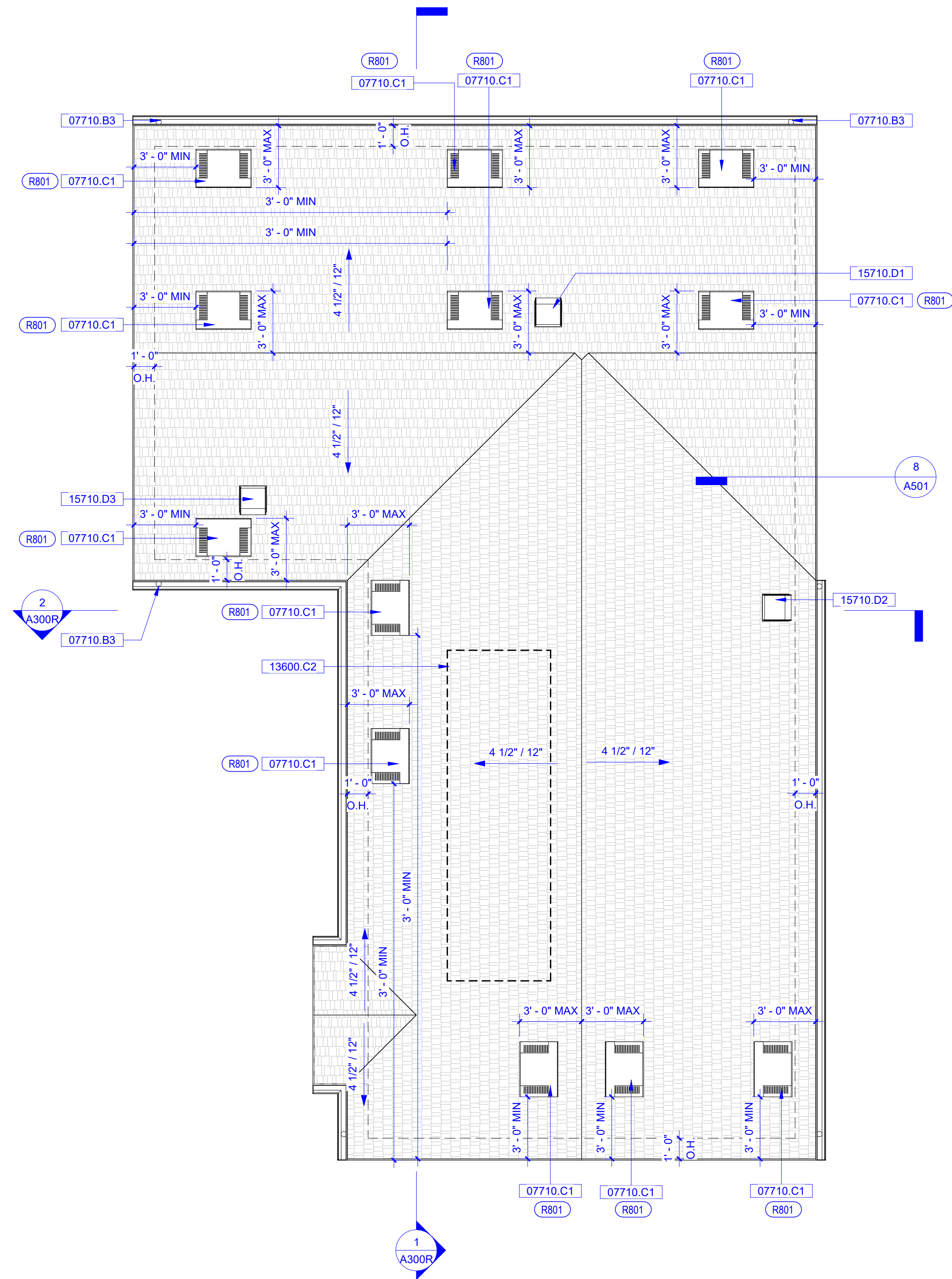
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REVERSE ROOF
PLAN -
3-BEDROOM

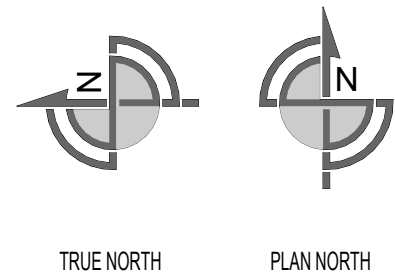
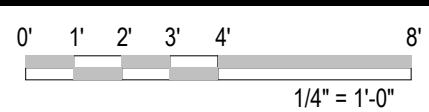
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1 REVERSE 2-BEDROOM OPTION ROOF PLAN

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



TRUE NORTH

PLAN NORTH

KEYNOTES:

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

ROOF PLAN LEGEND

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

ROOF NOTES:

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

ROOF VENT CALCULATION

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

CALCULATIONS:

DESCRIPTION	AREA	REQ. ROOF VENT
ATTIC AREA	1199 SF	8.00 SF

TOTAL NET FREE VENTILATION AREA (NFVA) PROVIDE:

O'HAGIN CONC.TILE LOW PROF. VENT NFVA = 98.75 SQ.IN.=0.68 SF./V.
8.00 SF. / 0.68 SF./VENT = 11.76 12 VENTS WILL BE PROVIDED AS FOLLOWS:

5 EXHAUST VENTS WITHIN 3 FT. BELOW THE RIDGE HIGHEST POINT
& 7 INTAKE VENTS AT THE BOTTOM THIRD OF THE ATTIC SPACE

TOTAL VENT AREA = 12 VENTS X 0.68 SF./VENT = 8.16 SF.
TOTAL PROVIDE = 8.16 SF > 8.00 SF REQ. ROOF VENT.



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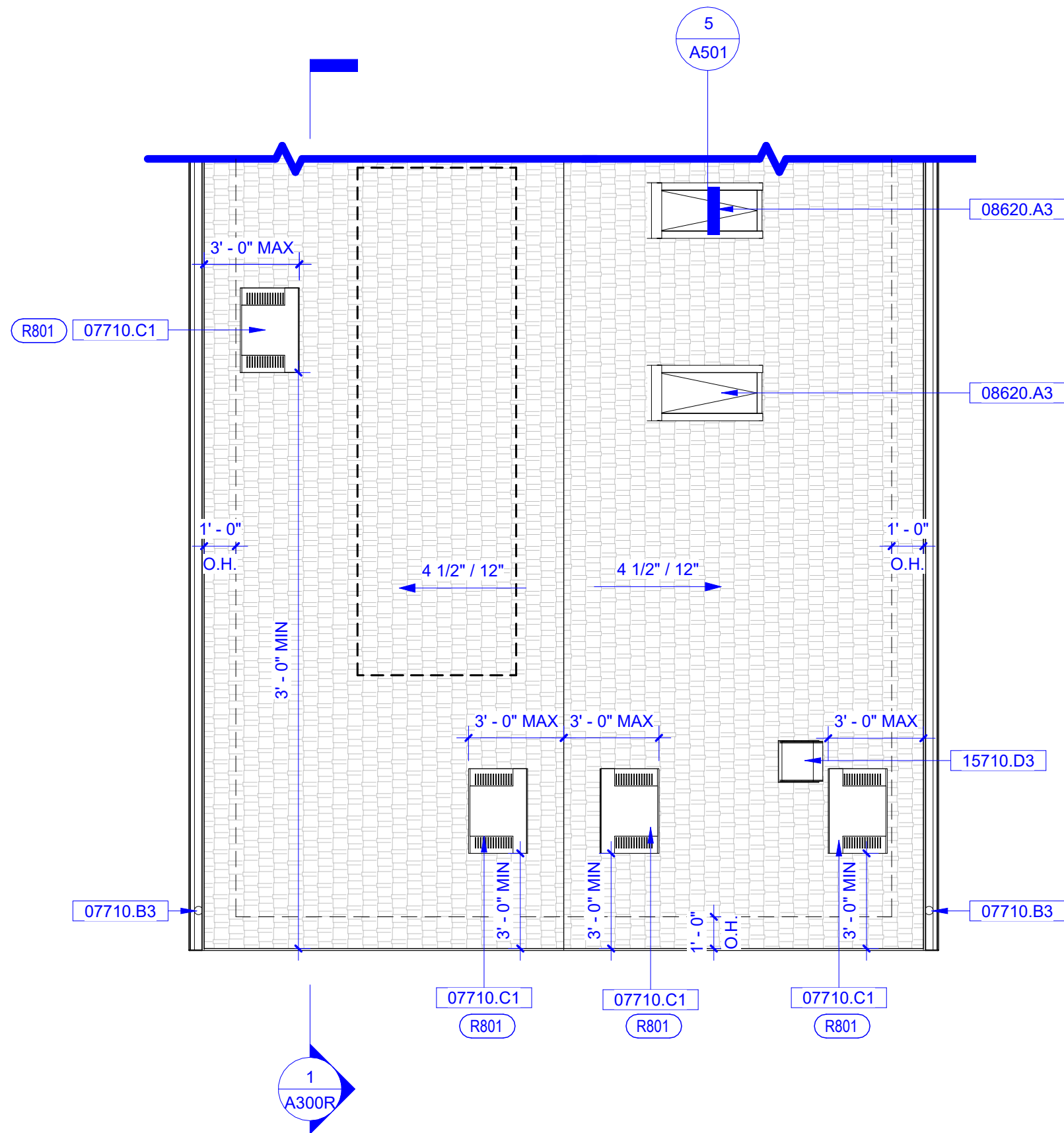
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REVERSE ROOF
PLAN -
2-BEDROOM

A121R

22040



1 REVERSE SKYLIGHTS OPTION ROOF PLAN
SCALE: 1/4" = 1'-0"

KEYNOTES:

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

ROOF PLAN LEGEND

	ROOFING PER CHECKLIST SELECTION ON SHEET G102R
	SOLAR ZONE OUTLINE. CEC 110.10(B)1
	WALL LINE BELOW
	DIRECTION OF DRAINAGE
	ROOF VENT
	EXHAUST ROOF JACK VENT
	SOLAR PV PANEL
	ROOF SKYLIGHT: MANUFACTURER: _____ MODEL: _____ ICC ESR: _____

ROOF NOTES:

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

ROOF VENT CALCULATION

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

DESCRIPTION	AREA	REQ. ROOF VENT
ATTIC AREA	1199 SF	8.00 SF

TOTAL NET FREE VENTILATION AREA (NFVA) PROVIDE:

O'HAGIN CONC.TILE LOW PROF.VENT NFVA = 98.75 SQ.IN.=0.68 SF./V.
8.00 SF. / 0.68 SF./VENT = 11.76 12 VENTS WILL BE PROVIDED AS FOLLOWS:

5 EXHAUST VENTS WITHIN 3 FT. BELOW THE RIDGE HIGHEST POINT
& 7 INTAKE VENTS AT THE BOTTOM THIRD OF THE ATTIC SPACE

TOTAL VENT AREA = 12 VENTS X 0.68 SF./VENT = 8.16 SF.
TOTAL PROVIDE = 8.16 SF > 8.00 SF REQ. ROOF VENT.

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ADU: 1,199 L-SHAPE REVERSE

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

DESIGNER:
LUIS CALDERON
SnapADU

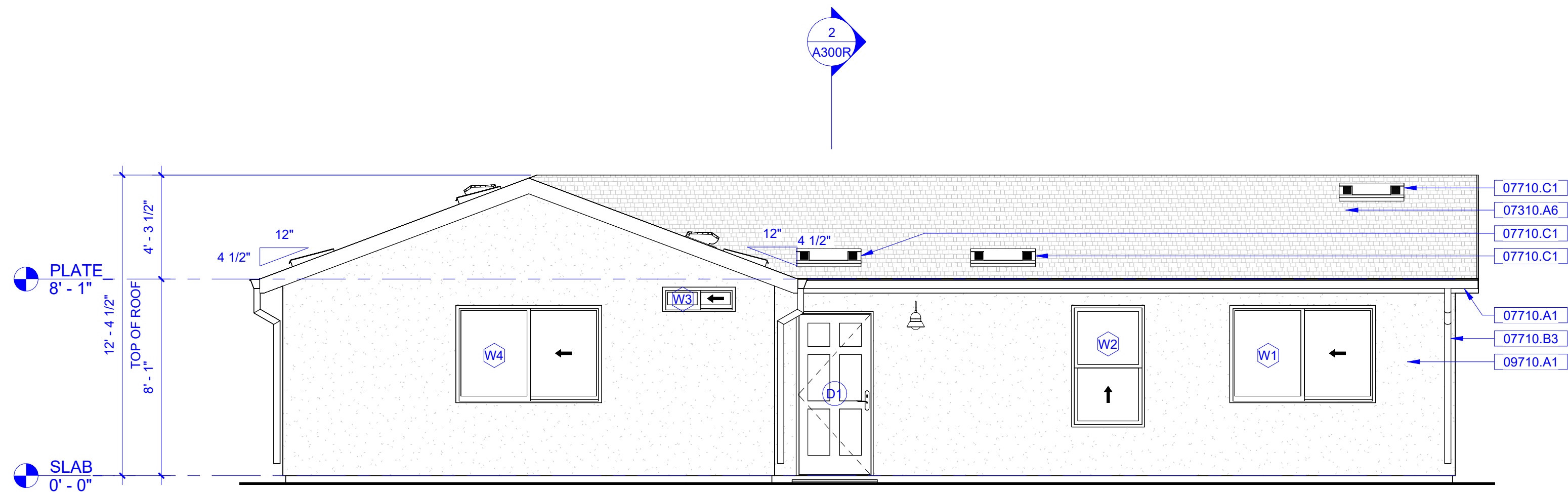
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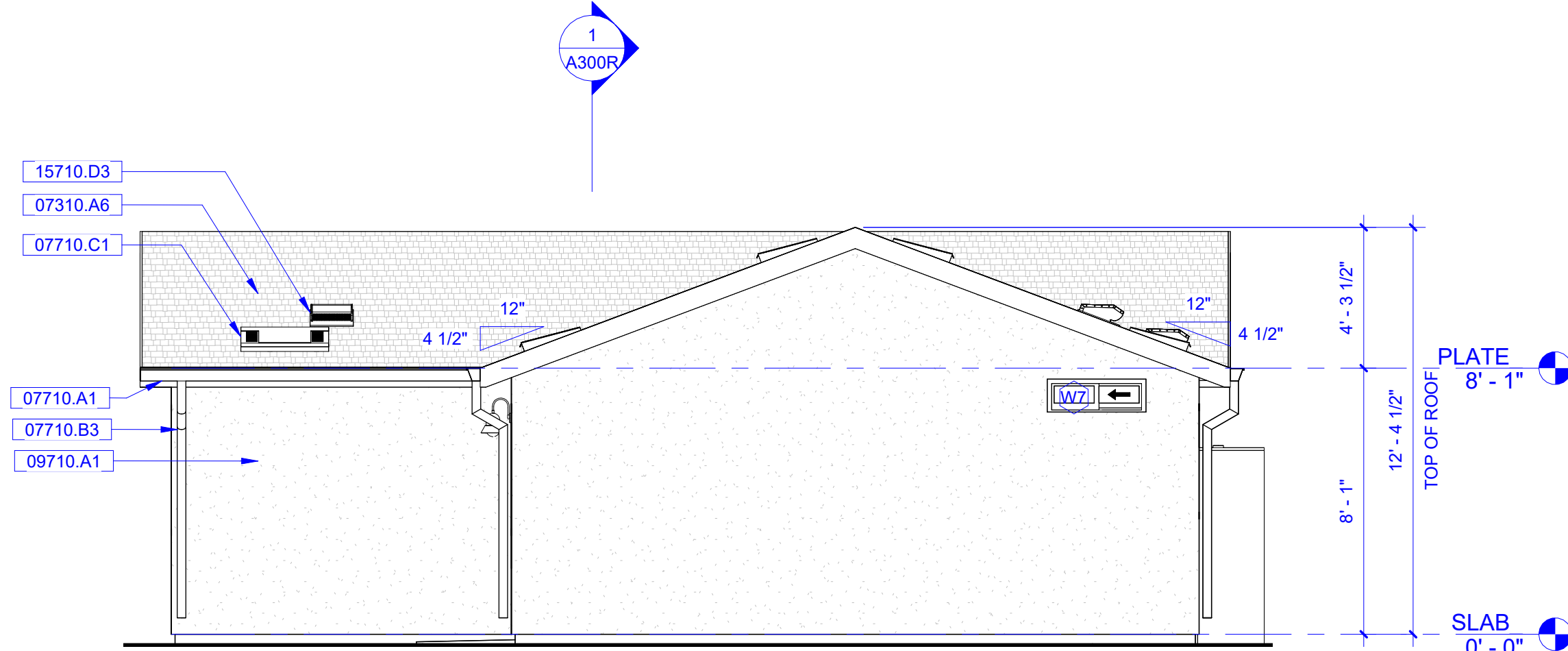
REVERSE ROOF
PLAN - OPTIONS

A122R

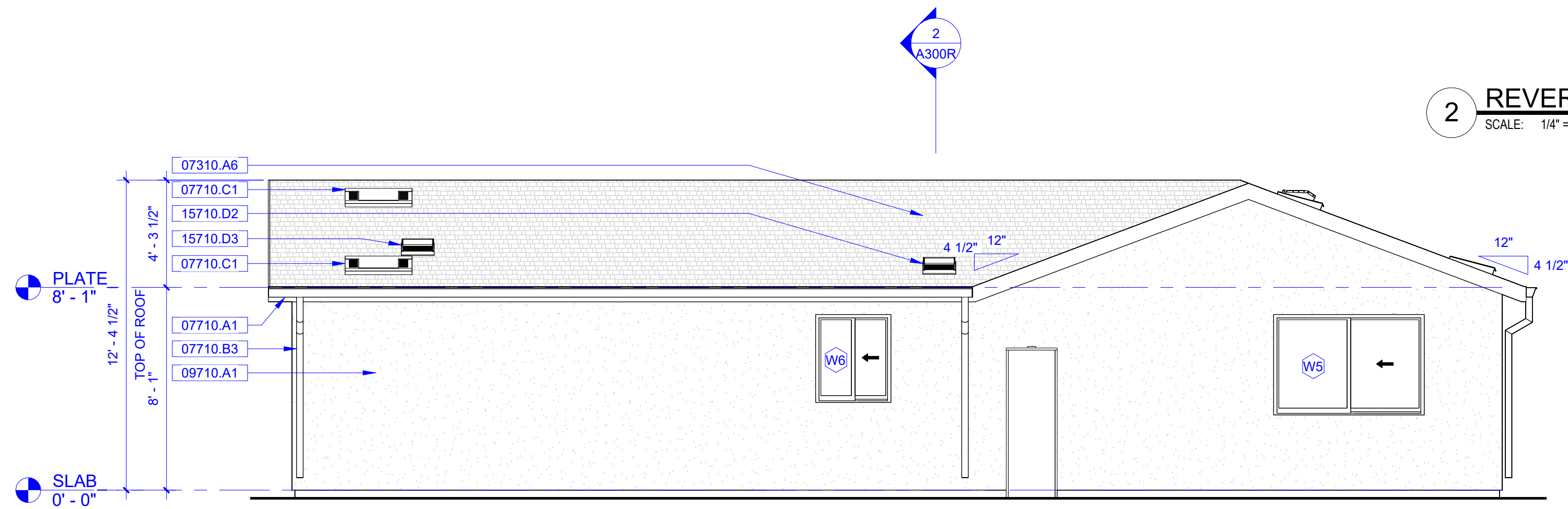
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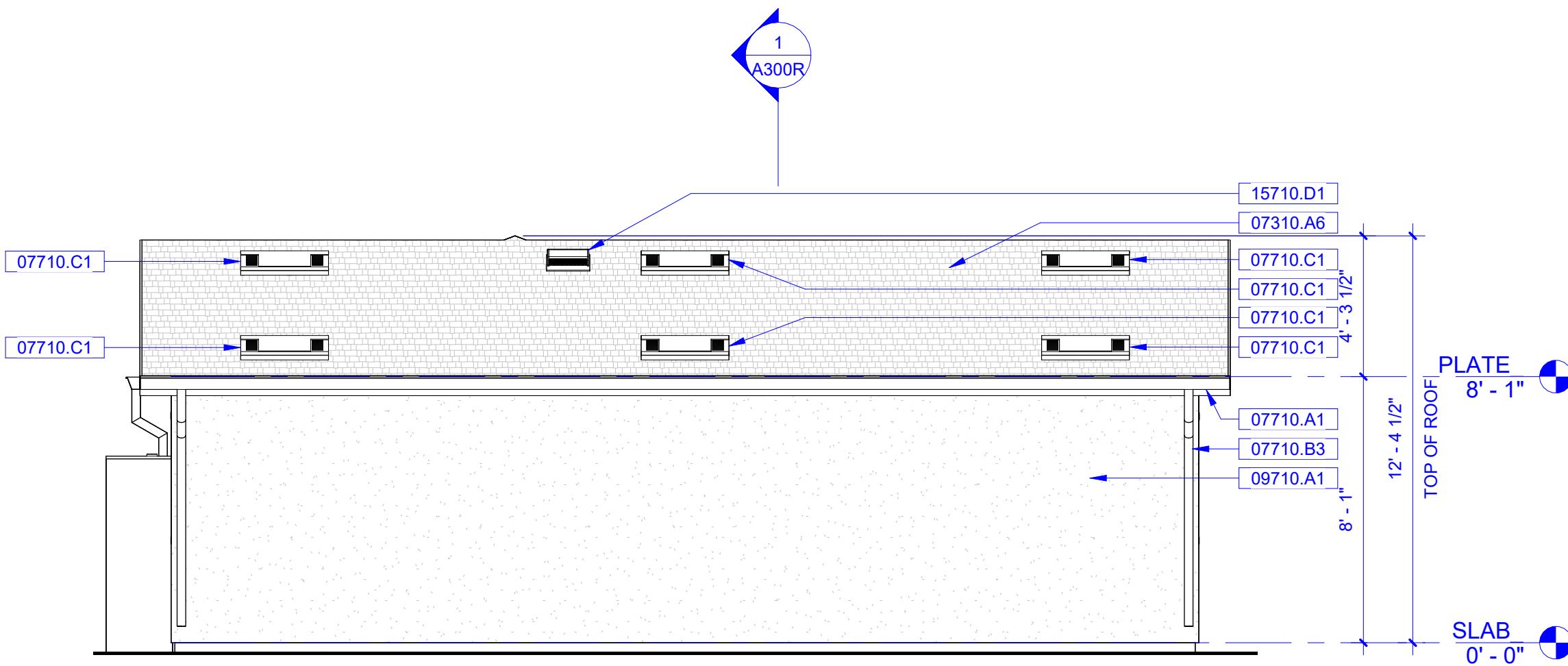
1 REVERSE NORTH ELEVATION - STUCCO
SCALE: 1/4" = 1'-0"



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



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



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

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




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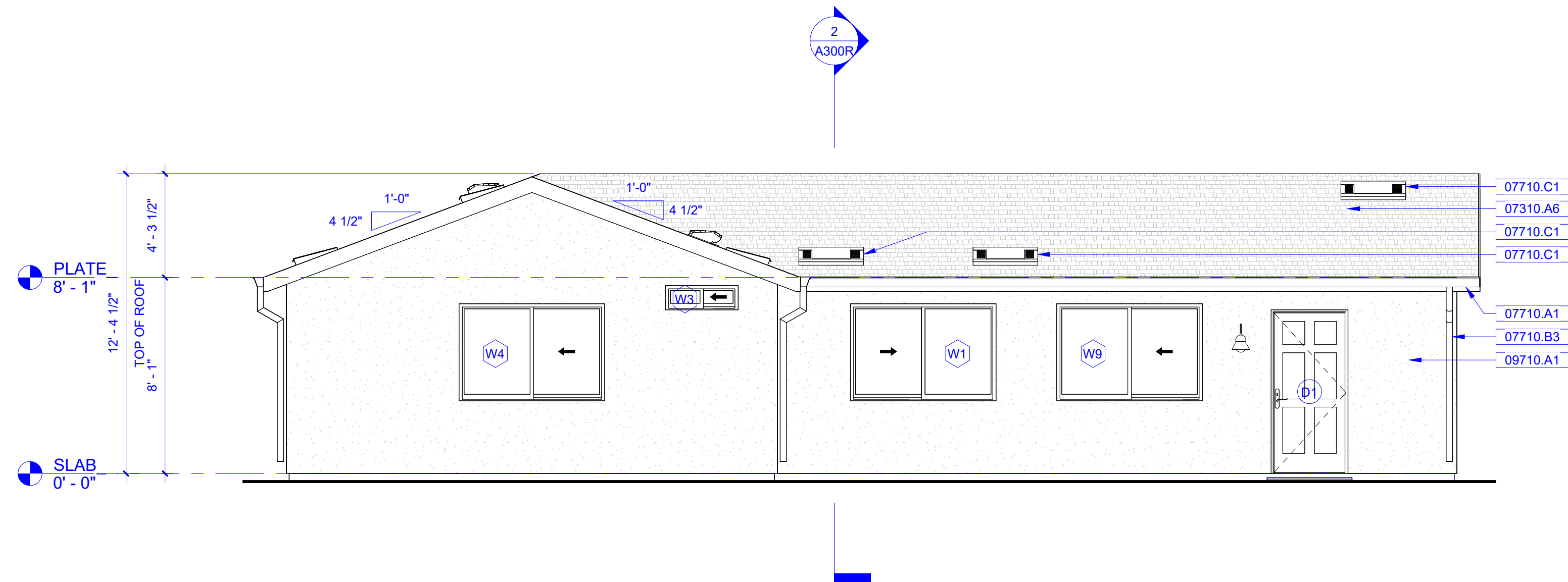
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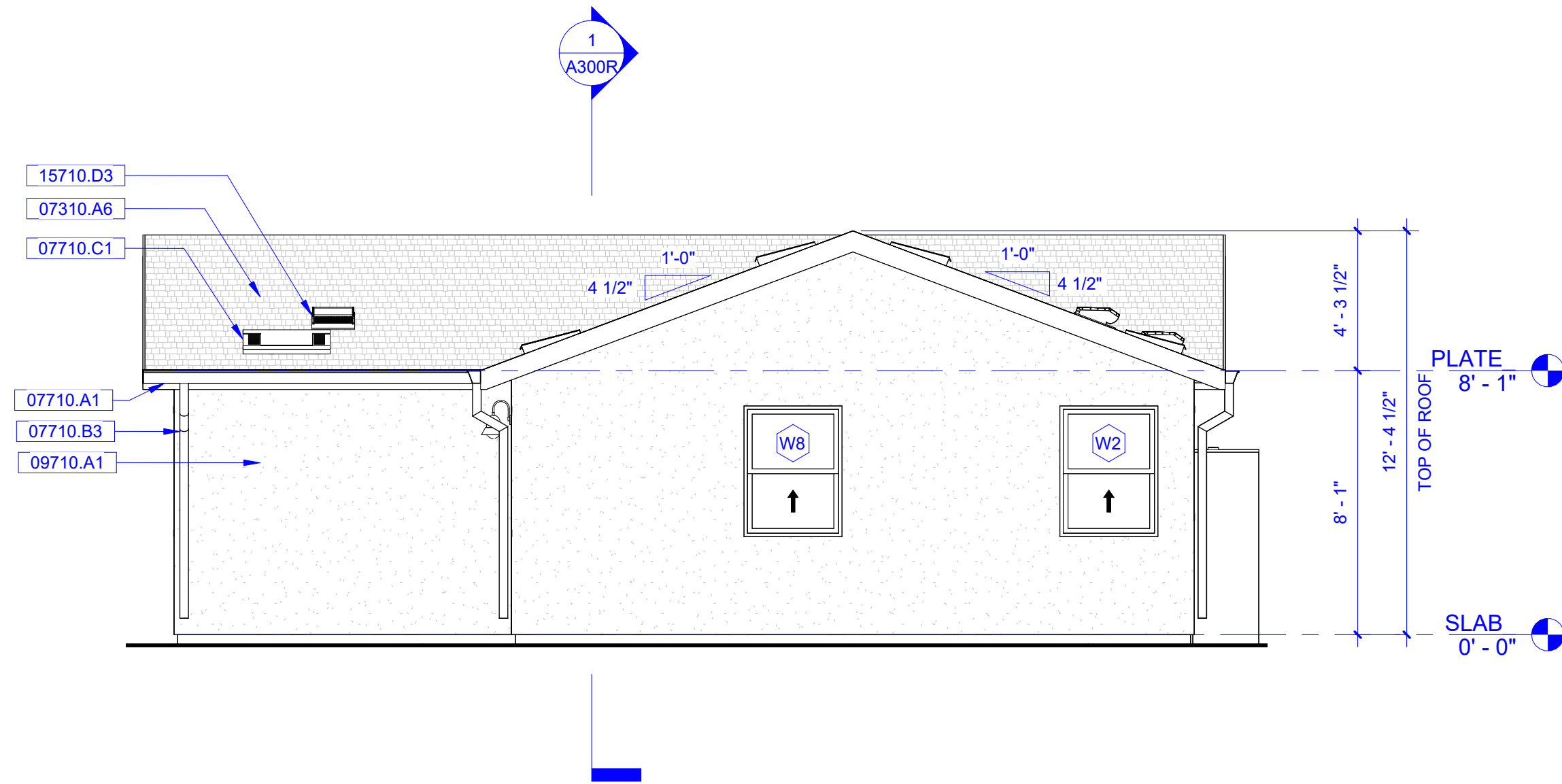
REVERSE
ELEVATIONS A -
STUCCO

A201R

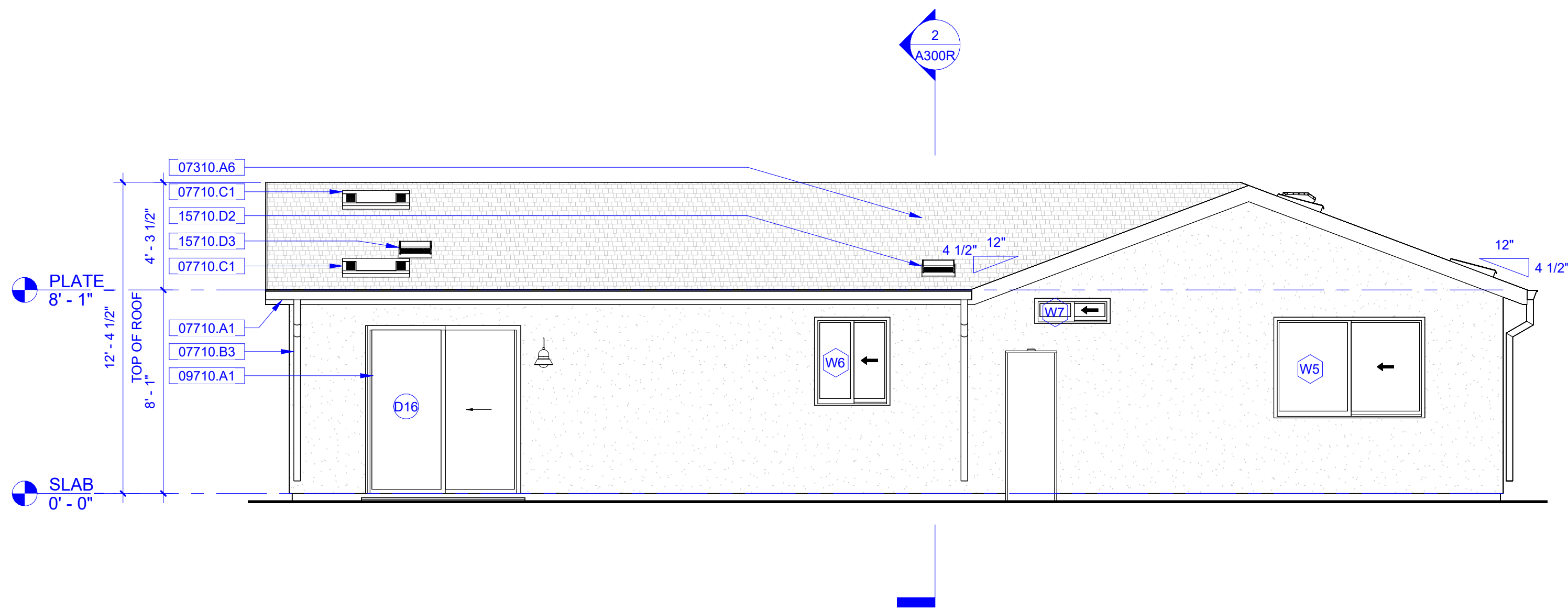
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1 REVERSE NORTH ELEVATION - STUCCO - 2-BEDROOM
SCALE: 1/4" = 1'-0"



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



3 REVERSE SOUTH ELEVATION - STUCCO - 6068 SLIDING GLASS DOOR
SCALE: 1/4" = 1'-0"

KEYNOTES:

KEYNOTE	DESCRIPTION
07310.A6	ROOFING MATERIAL PER CHECKLIST ON SHEET G102R
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REV. ELEVATIONS
A - STUCCO -
OPTIONS

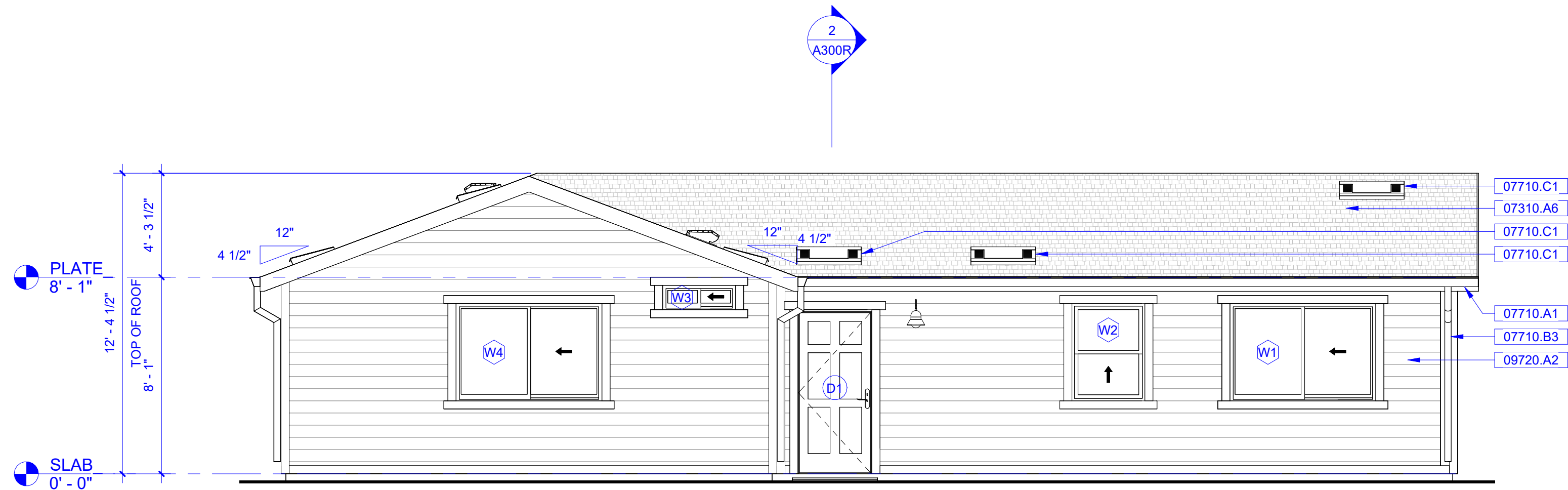
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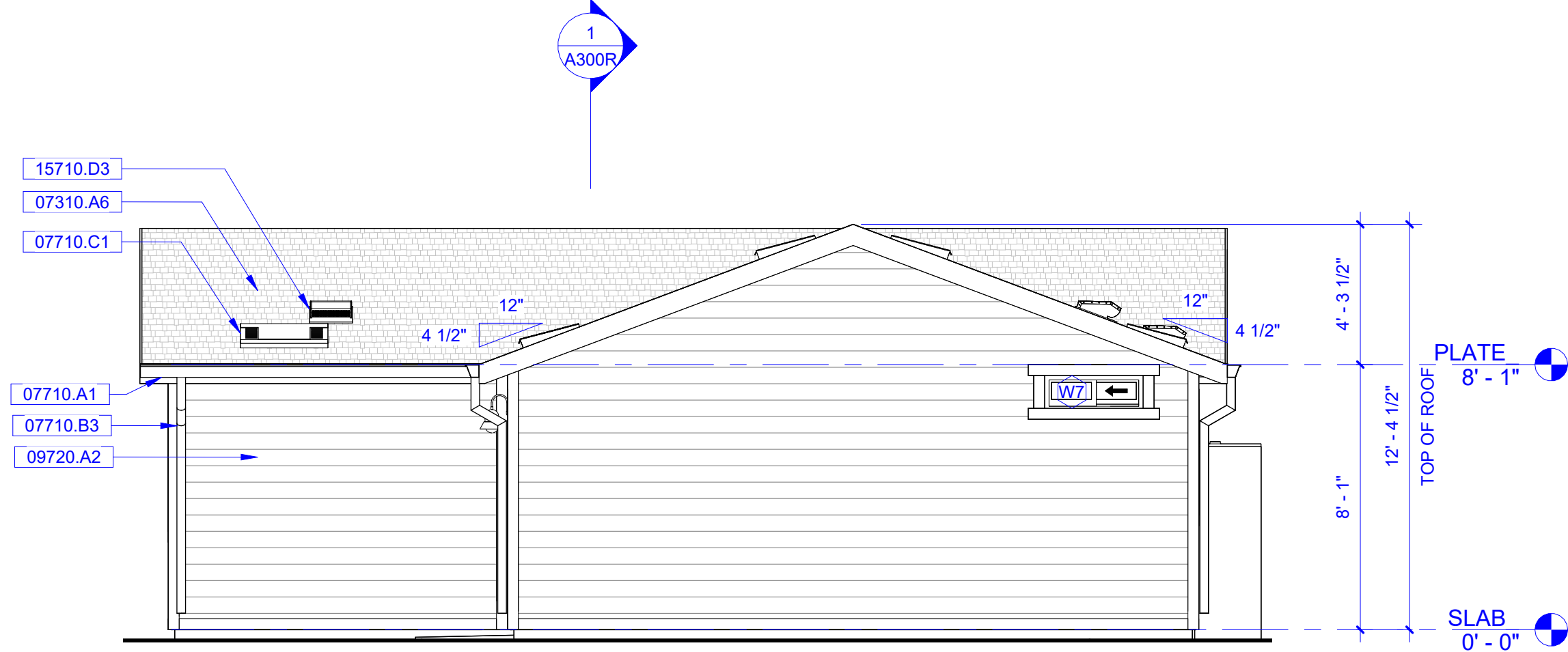
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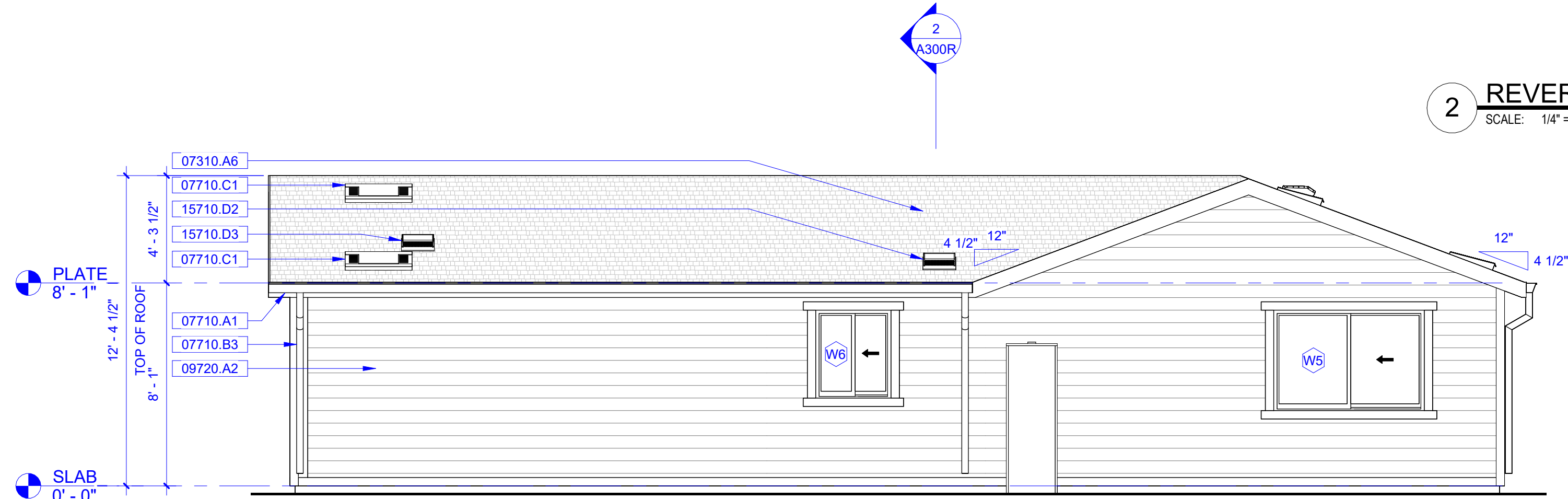
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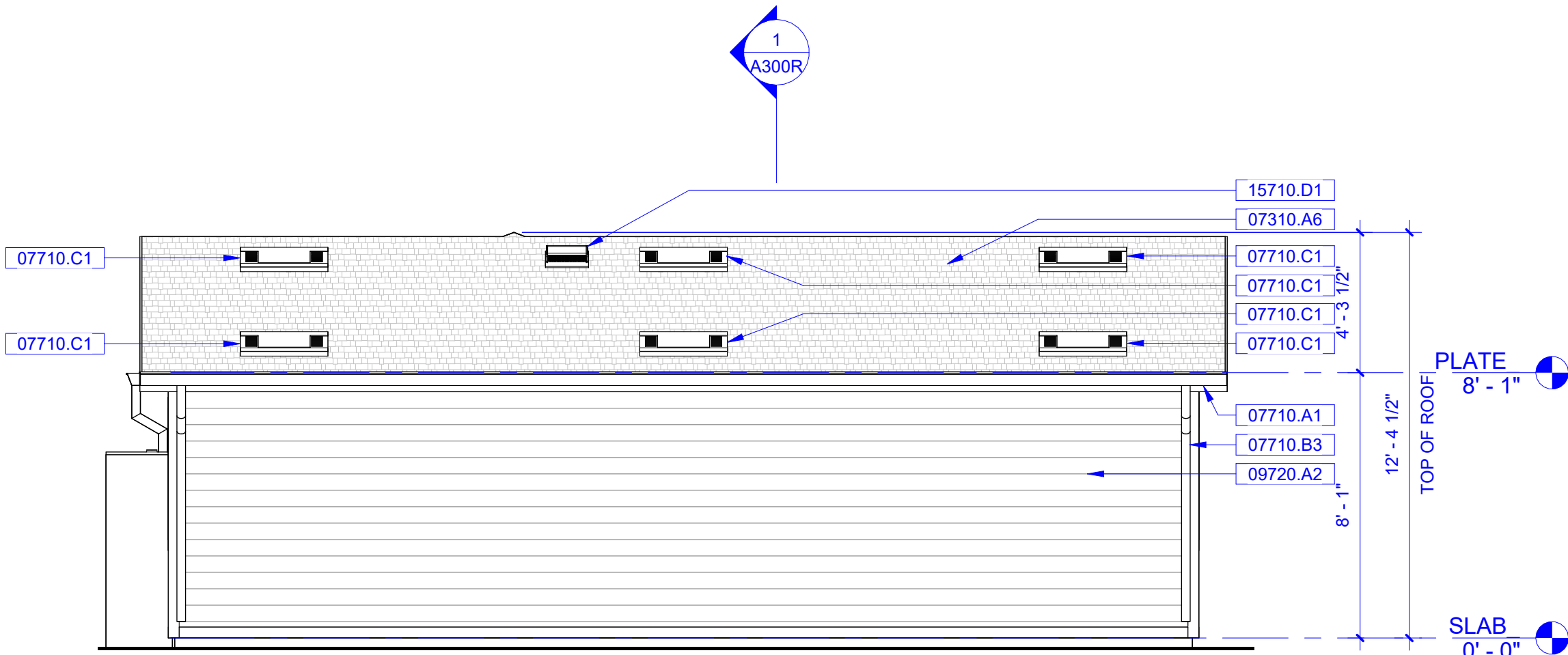
1 REVERSE NORTH ELEVATION - LAP SIDING
SCALE: 1/4" = 1'-0"



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



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



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

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07710.C1	O'HAGIN STANDARD LOW PROFILE ATTIC VENTS, 0.68 SF NFVA
09720.A2	FIBER CEMENT WALL LAP SIDING 'HARDIEPLANK' ESR-2290 OR SIMILAR, COLOR TBD TO MATCH MAIN RESIDENCE
15710.D1	DRYER EXHAUST ROOF EXHAUST VENT
15710.D2	RANGE HOOD ROOF EXHAUST VENT
15710.D3	BATH EXHAUST FAN ROOF VENT




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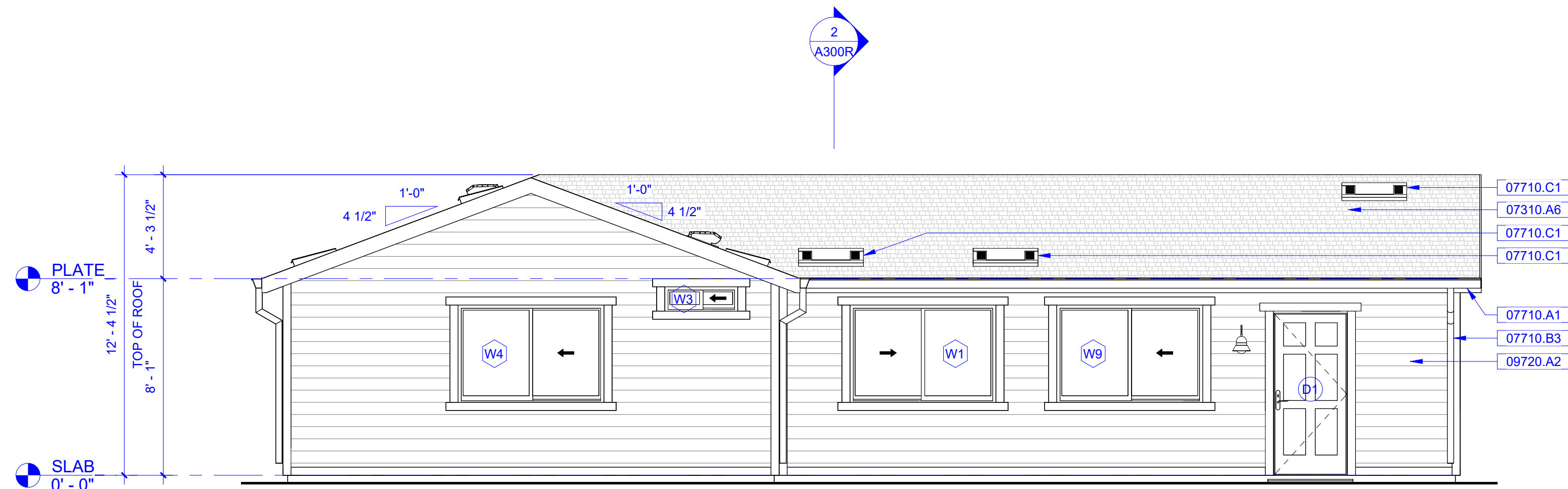
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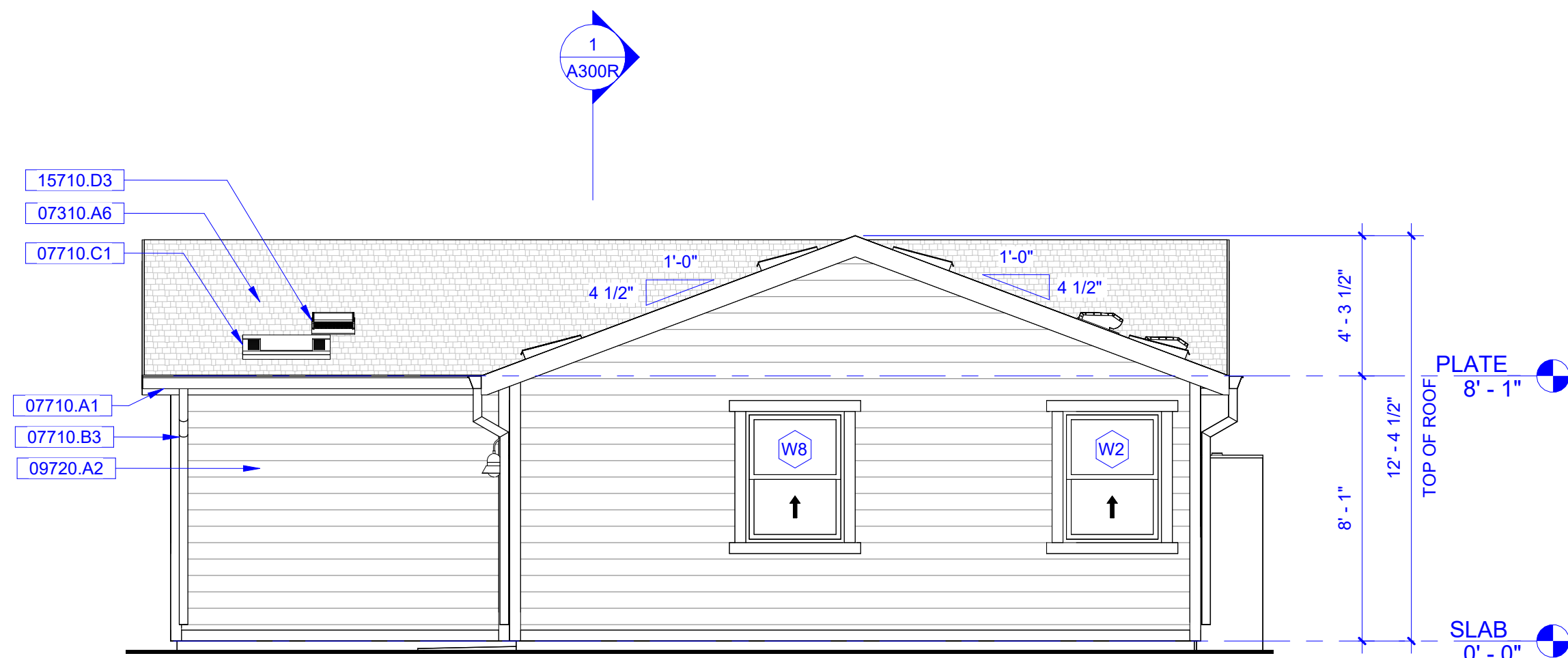
REVERSE
ELEVATIONS B -
LAP SIDING

A211R

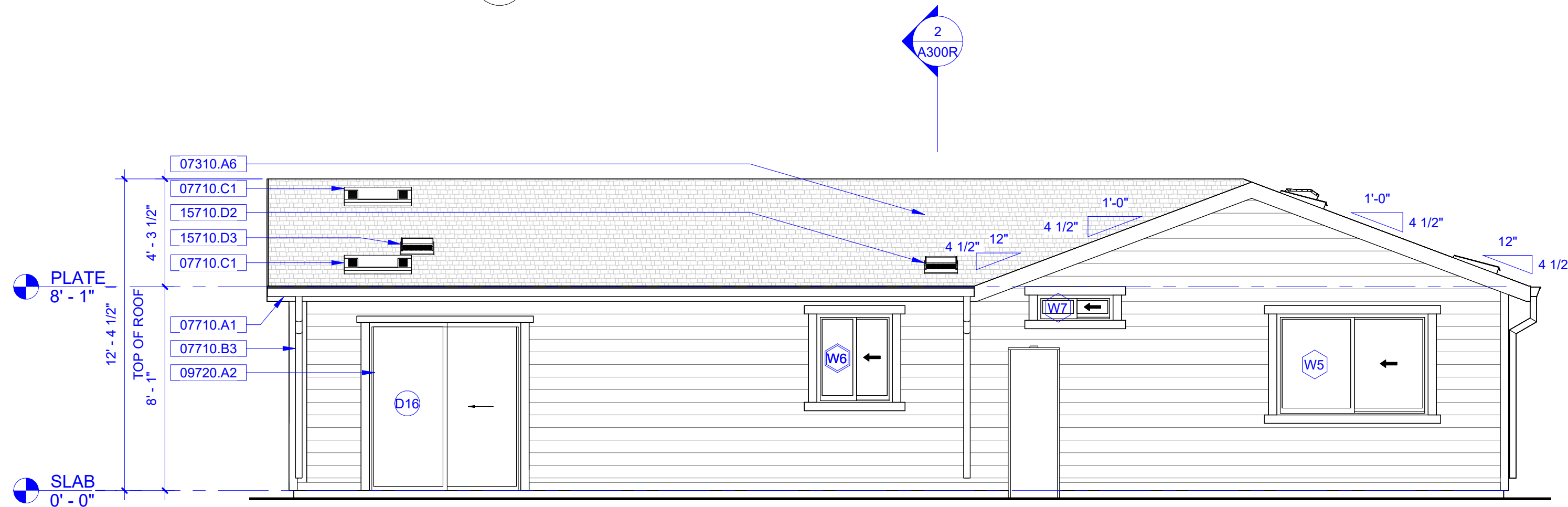
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1 REVERSE NORTH ELEVATION - LAP SIDING - 2-BEDROOM
SCALE: 1/4" = 1'-0"



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



3 REVERSE SOUTH ELEVATION - LAP SIDING - 6068 SLIDING GLASS DOOR
SCALE: 1/4" = 1'-0"

KEYNOTES:

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

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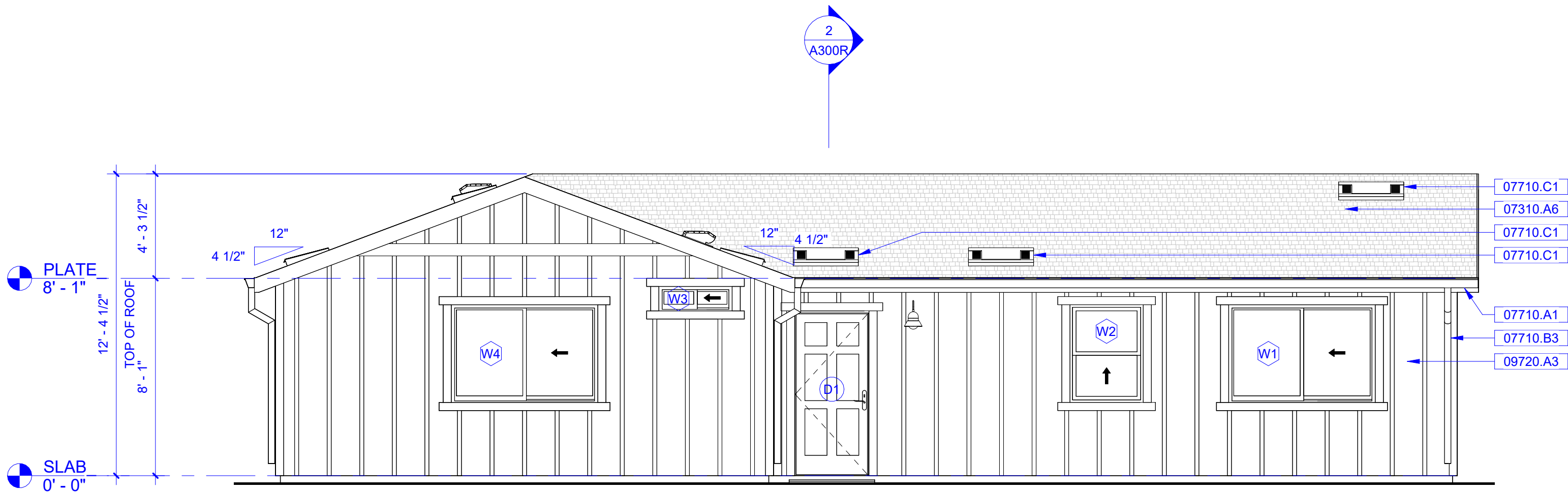
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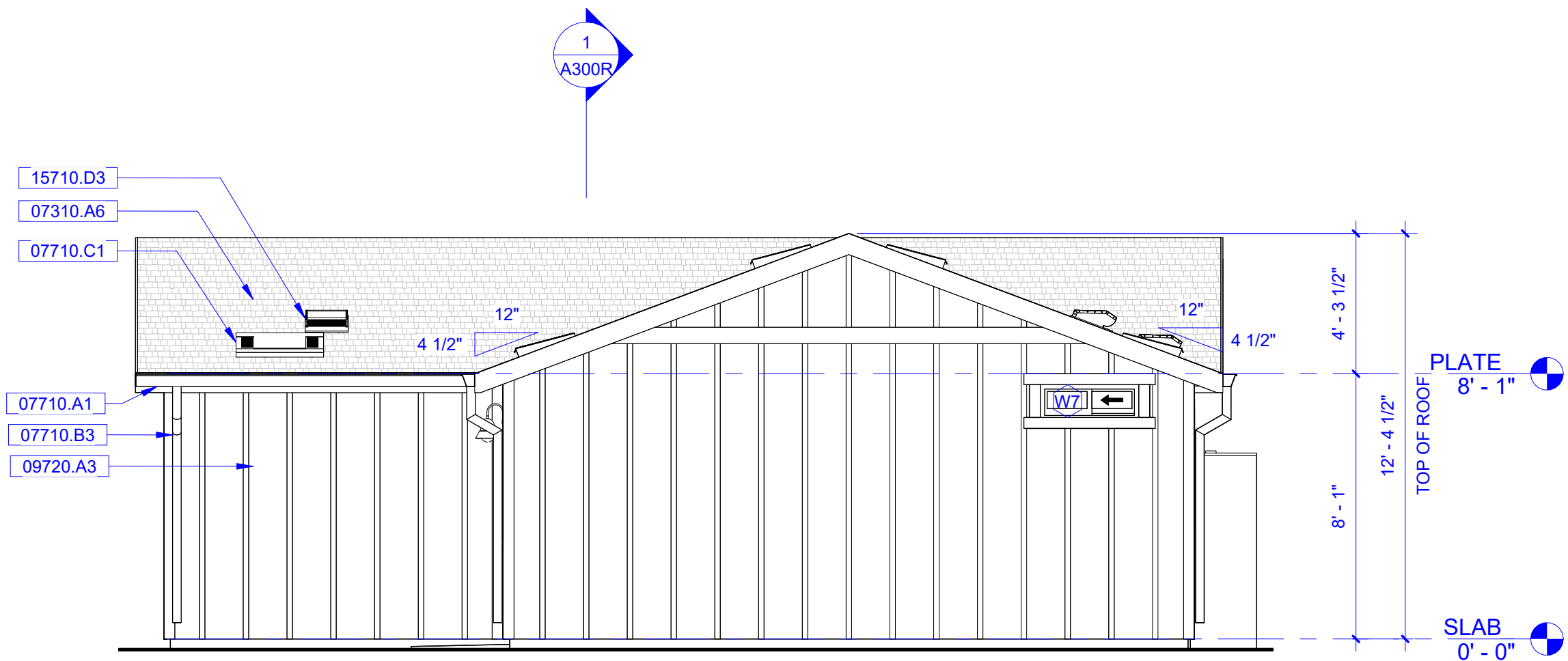
REV. ELEVATIONS
B - LAP SIDING -
OPTIONS

A212R

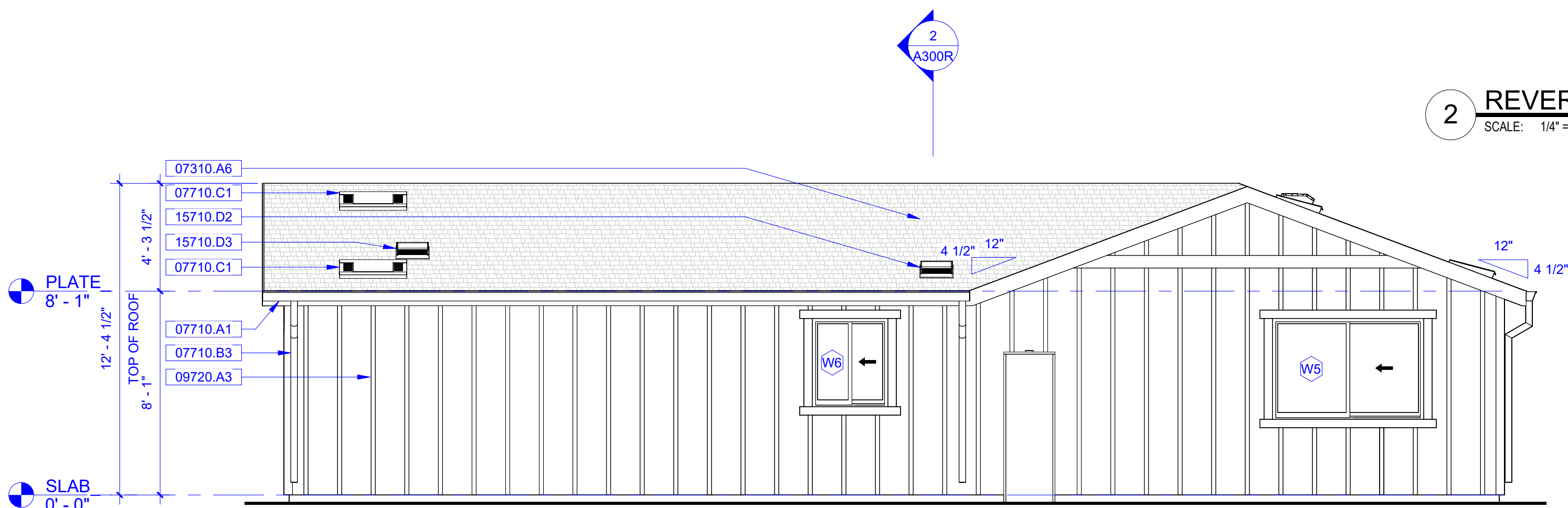
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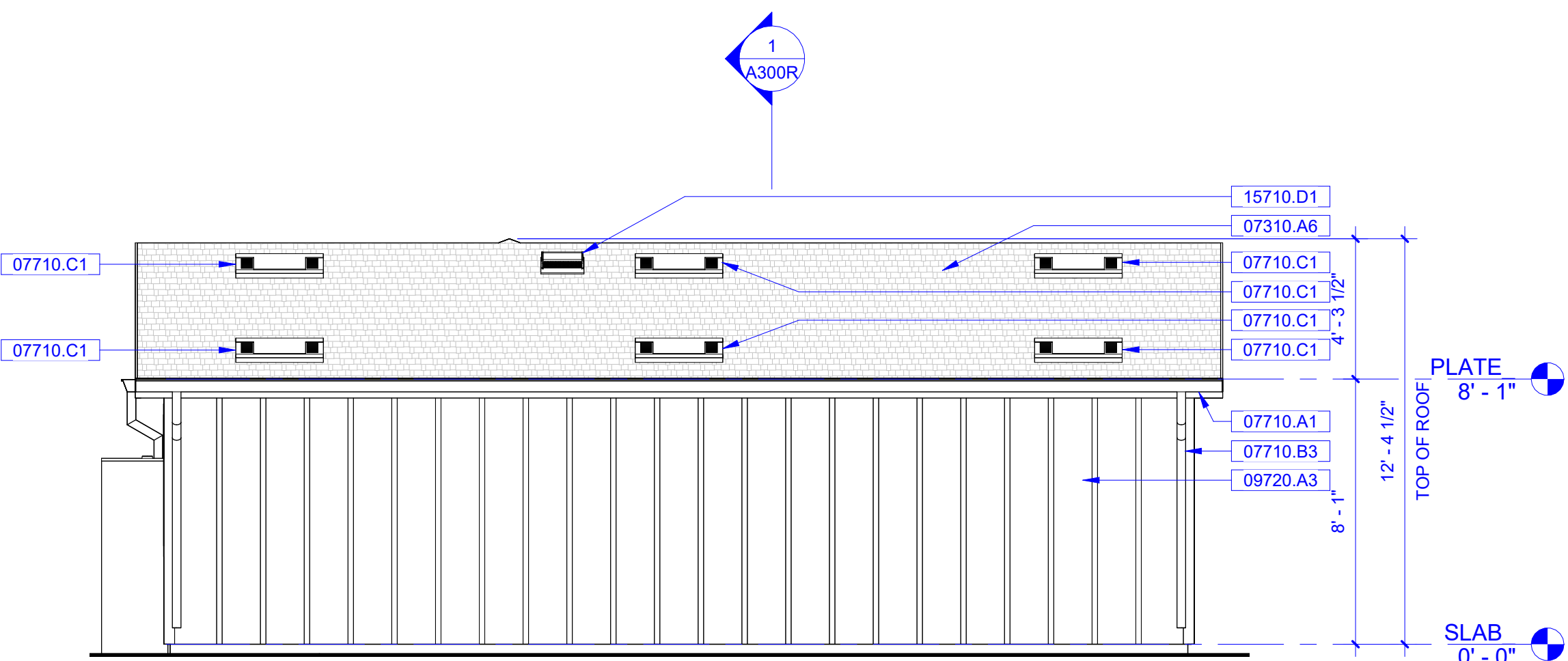
1 REVERSE NORTH ELEVATION - BOARD AND BATTEN
SCALE: 1/4" = 1'-0"



2 REVERSE WEST ELEVATION - BOARD AND BATTEN
SCALE: 1/4" = 1'-0"



3 REVERSE SOUTH ELEVATION - BOARD AND BATTEN
SCALE: 1/4" = 1'-0"



4 REVERSE EAST ELEVATION - BOARD AND BATTEN
SCALE: 1/4" = 1'-0"

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07710.C1	O'HAGIN STANDARD LOW PROFILE ATTIC VENTS, 0.68 SF NFVA
09720.A3	FIBER CEMENT WALL VERTICAL B&B SIDING 'HARDIEPANEL' ESR-1844 OR SIMILAR, COLOR TBD TO MATCH MAIN RESIDENCE
15710.D1	DRYER EXHAUST ROOF EXHAUST VENT
15710.D2	RANGE HOOD ROOF EXHAUST VENT
15710.D3	BATH EXHAUST FAN ROOF VENT



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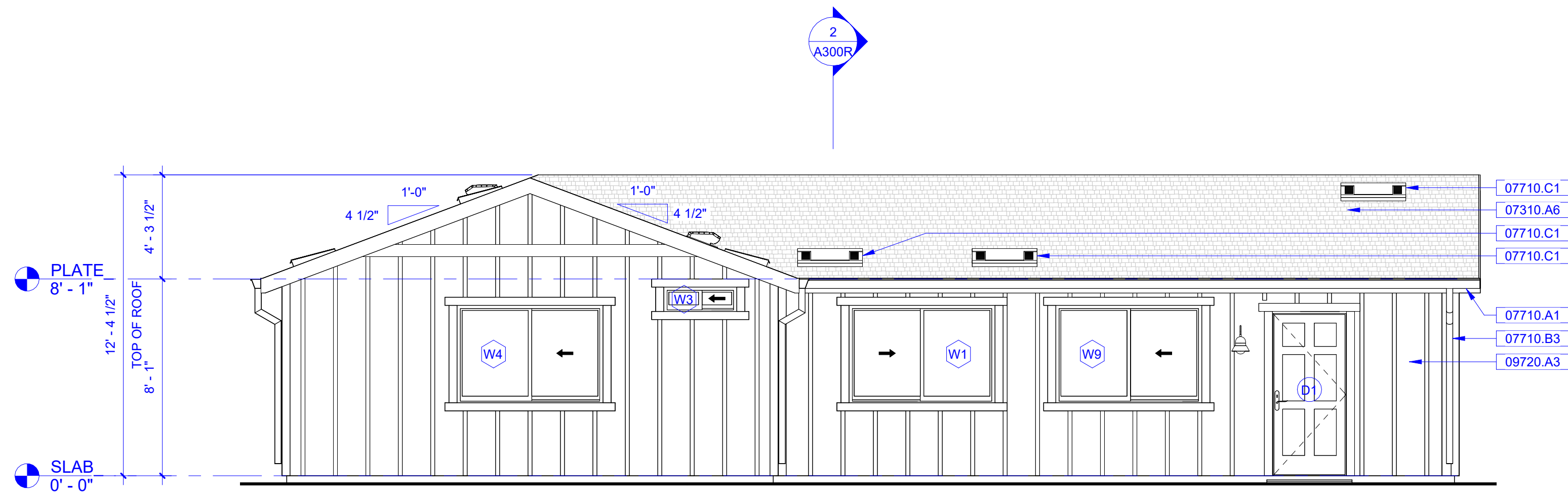
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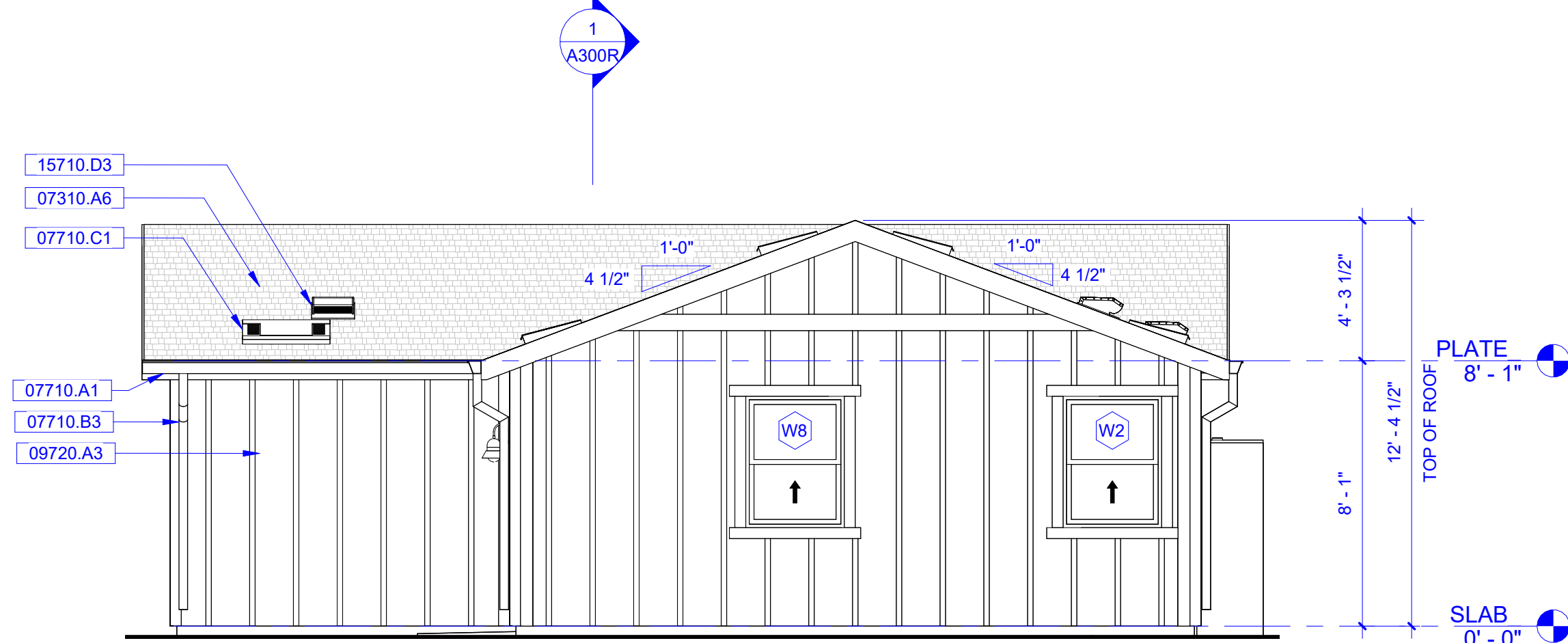
REVERSE
ELEVATIONS C -
BOARD & BATTEN

A221R

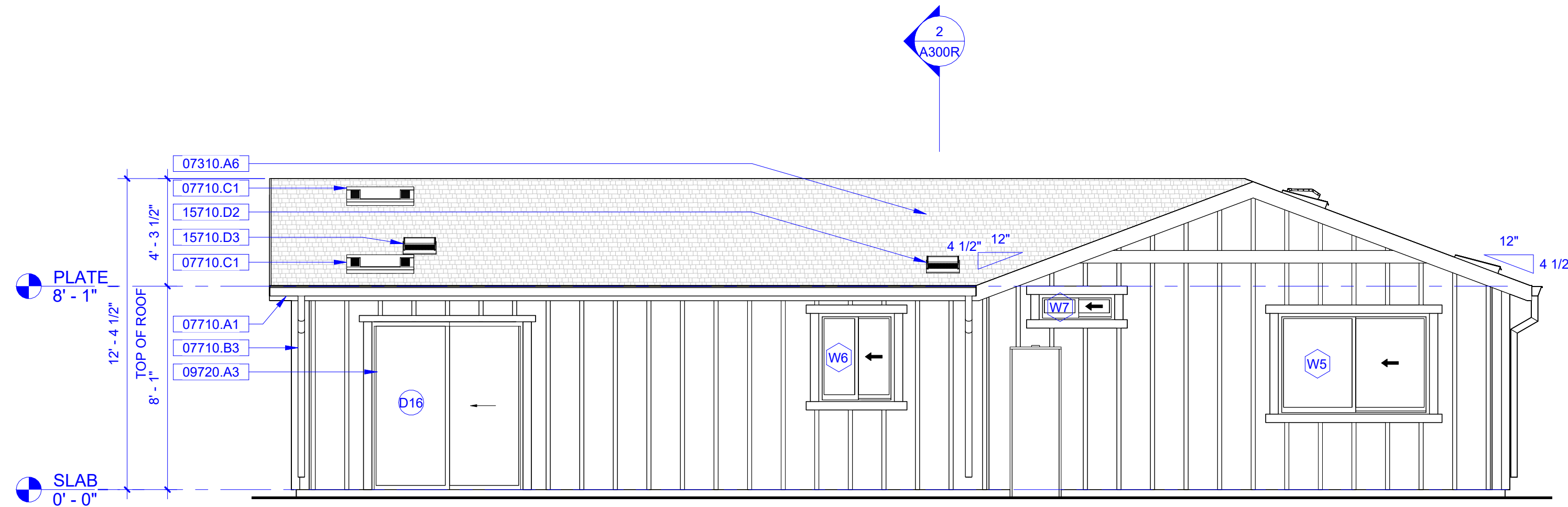
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1 REVERSE NORTH ELEVATION - BOARD AND BATTEN -
2-BEDROOM
SCALE: 1/4" = 1'-0"



2 REVERSE WEST ELEVATION - BOARD AND BATTEN -
2-BEDROOM
SCALE: 1/4" = 1'-0"



3 REVERSE SOUTH ELEVATION - BOARD AND BATTEN -
6068 SLIDING GLASS DOOR
SCALE: 1/4" = 1'-0"

KEYNOTES:

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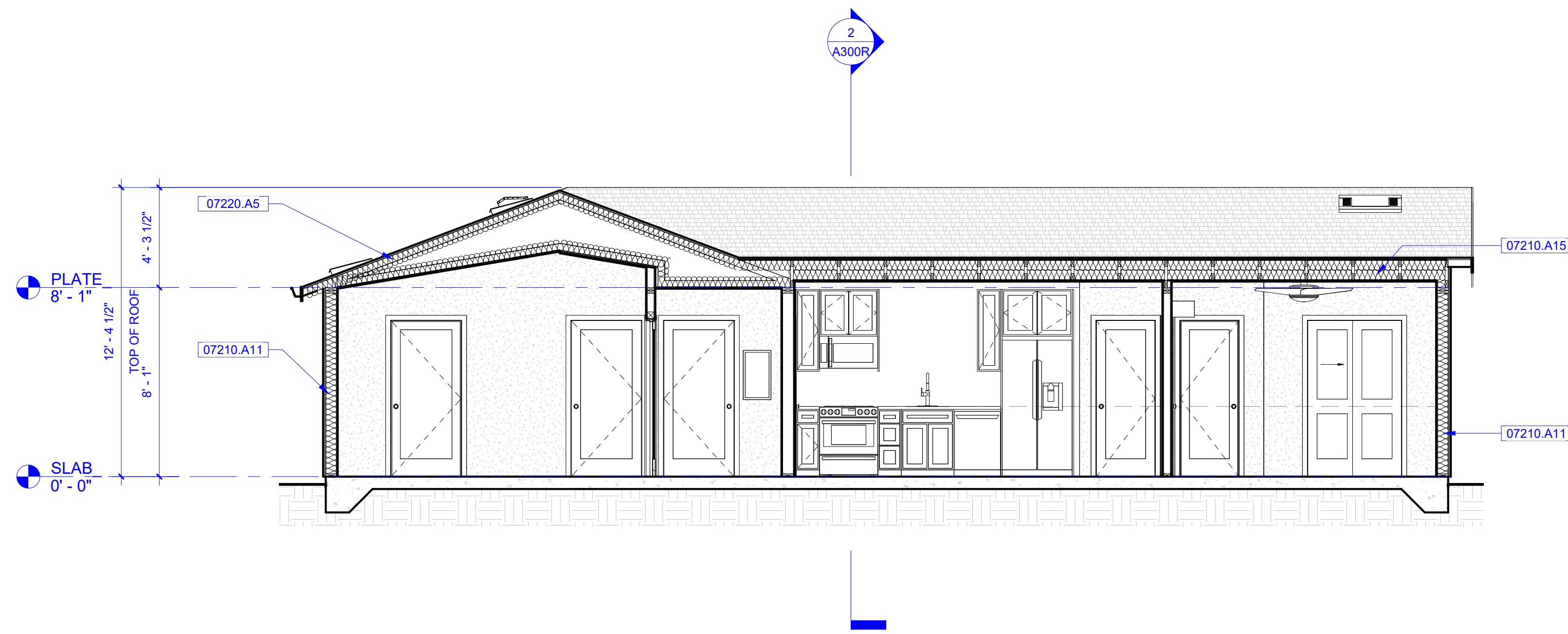
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REV. ELEVATIONS
C - BOARD &
BATTEN - OPTIONS

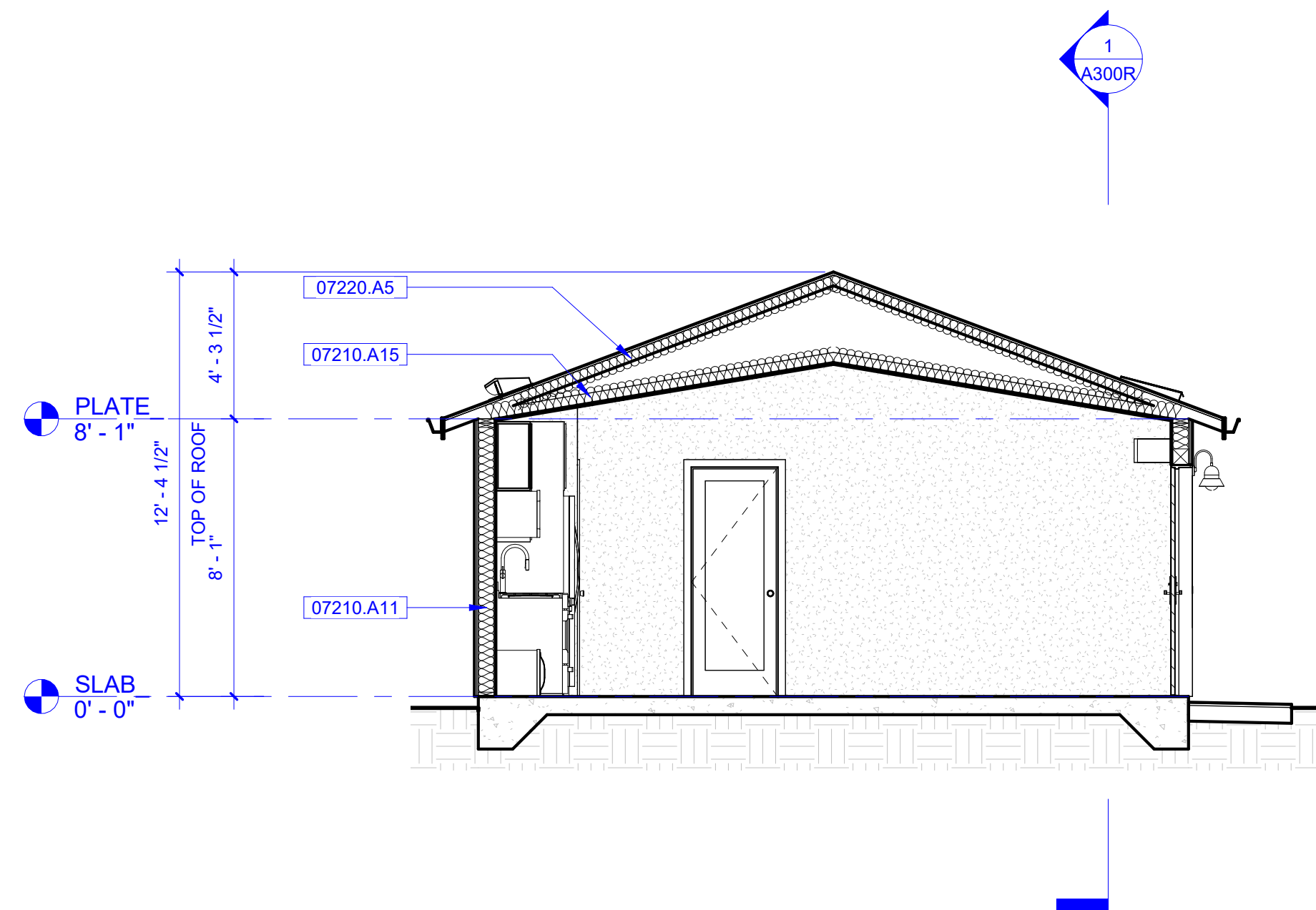
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1 SECTION 1

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



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

KEYNOTES:

KEYNOTE	DESCRIPTION
07210.A11	WALL BATT INSULATION PER TITLE 24 CALCULATIONS
07210.A15	CEILING BATT INSULATION PER TITLE 24 CALCULATIONS
07220.A5	BATT INSULATION BELOW ROOF DECK PER TITLE 24 CALCULATIONS



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[illegible]

REVERSE BUILDING SECTIONS

A300R

22040

9 RAISED FLOOR FOUNDATION
SCALE: 3" = 1'-0"

6 ROOF RIDGE W/ KING POST - S-TILE
SCALE: 1 1/2" = 1'-0"

4 ROOF RIDGE W/ KING POST - SHINGLE
SCALE: 1 1/2" = 1'-0"

1- 1-HR CLASS 'A' ROOF DETAIL - SHINGLE
SCALE: 1 1/2" = 1'-0"

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

FOUNDATION VENT CALCULATIONS:			
NET FREE VENTED AREA CALC.	CRAWL SPACE AREA	REQUIRED NFVA	
CRAWL SPACE AREA / 150 SF	1,199 SF	7.99 SF	
CRAWL SPACE VENT NFVA	REQUIRED NFVA / CRAWLSPACE VENT NFVA	REQUIRED VENTS	NFVA TO BE PROVIDED
VULCAN FOUNDATION VENT MODEL VFS814S OR EQUAL. (NFVA = 62 SQ.IN. = 0.43 SF)	18.58 SF	19	8.17 SF

7 ROOF VENTILATION DETAIL
SCALE: N.T.S.

5 ROOF RIDGE W/ KING POST - CEMENT
SCALE: 1 1/2" = 1'-0"

2 2 - 1-HR CLASS 'A' ROOF DETAIL - CEMENT
SCALE: 1 1/2" = 1'-0"

8 ATTIC PASSAGEWAY
SCALE: N.T.S.

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

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

3 - 1-HR CLASS 'A' ROOF DETAIL - S-TILE
SCALE: 1 1/2" = 1'-0"



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ADU: 1,199 L-SHAPE REVERSE

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

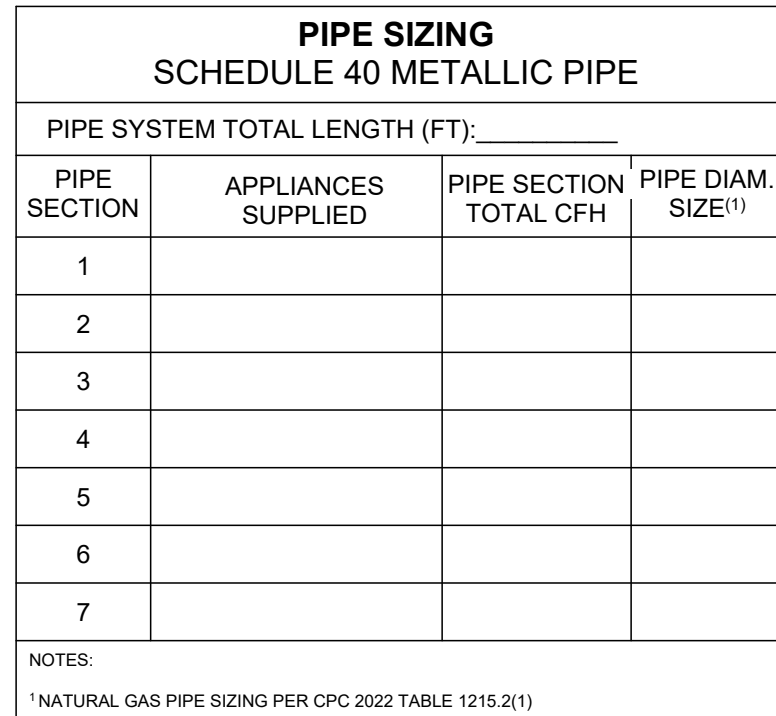
DESIGNER:
LUIS CALDERON
napADU

SIGNATURE[illegible]

GENERIC ROOF & MISC. DETAILS

A500

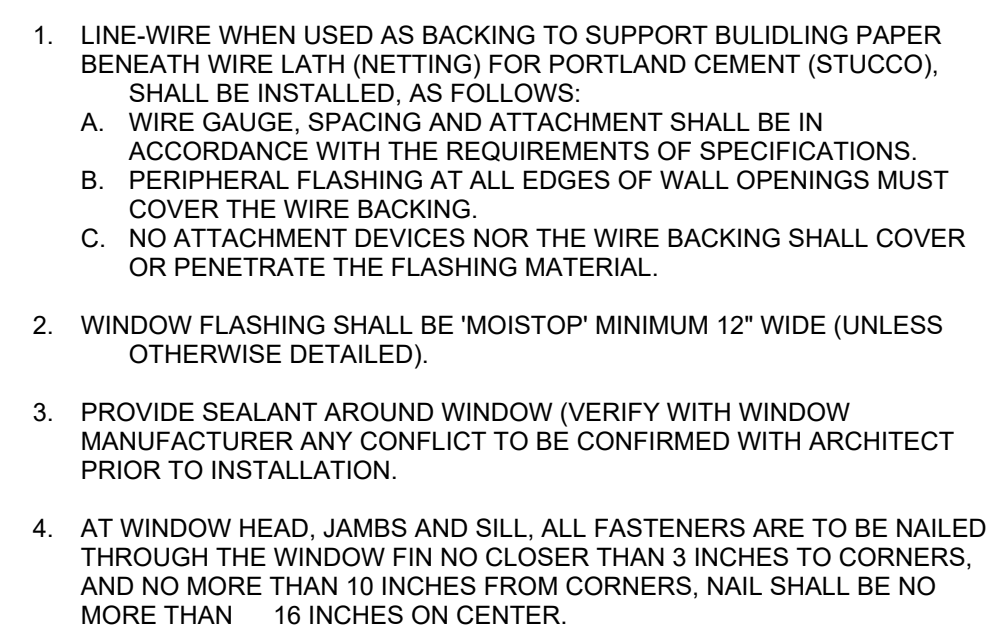
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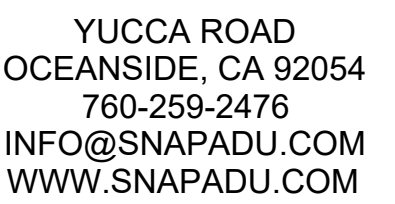
6 GAS ISO



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



4 WINDOW - TYPICAL FLASHING



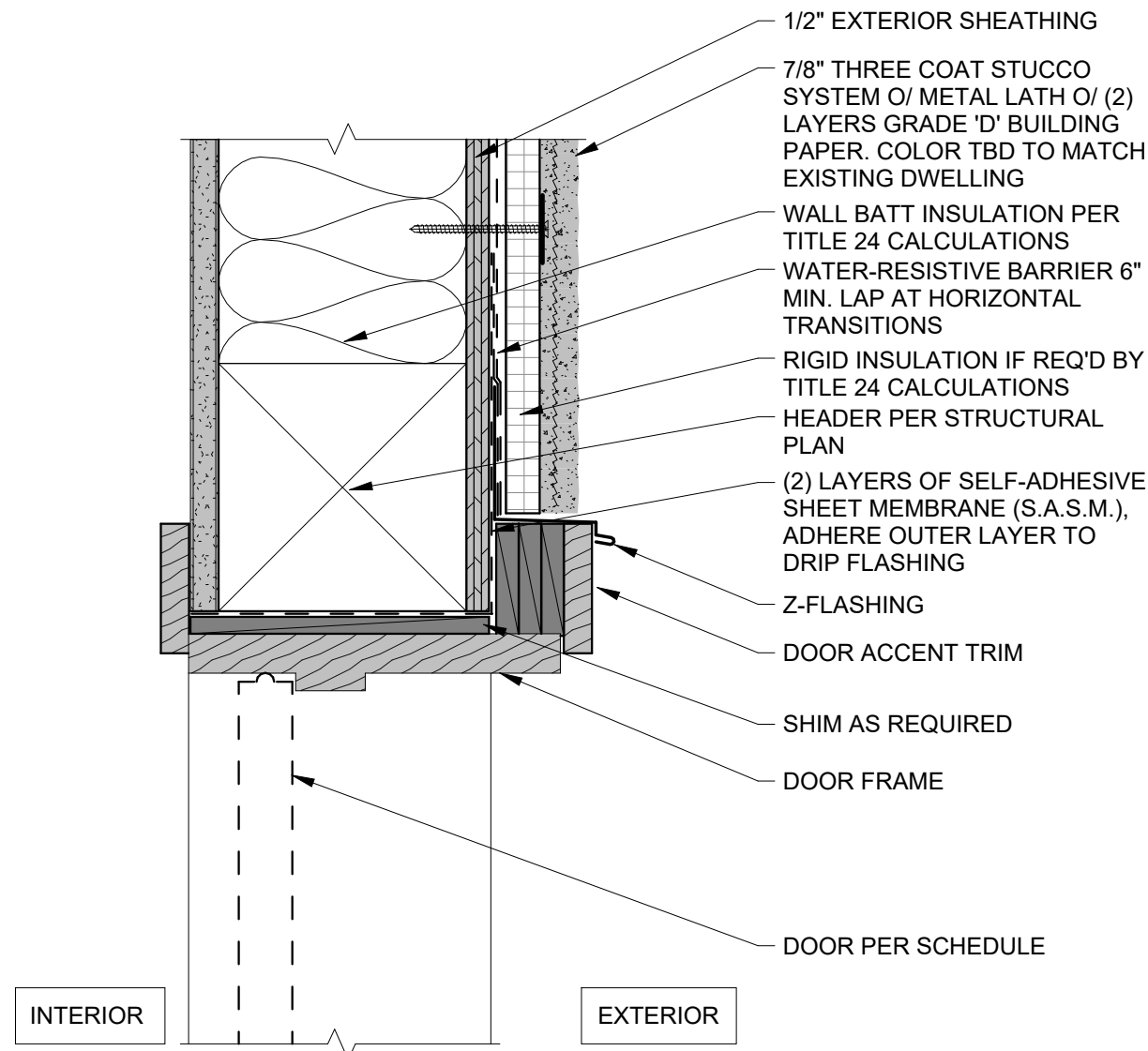
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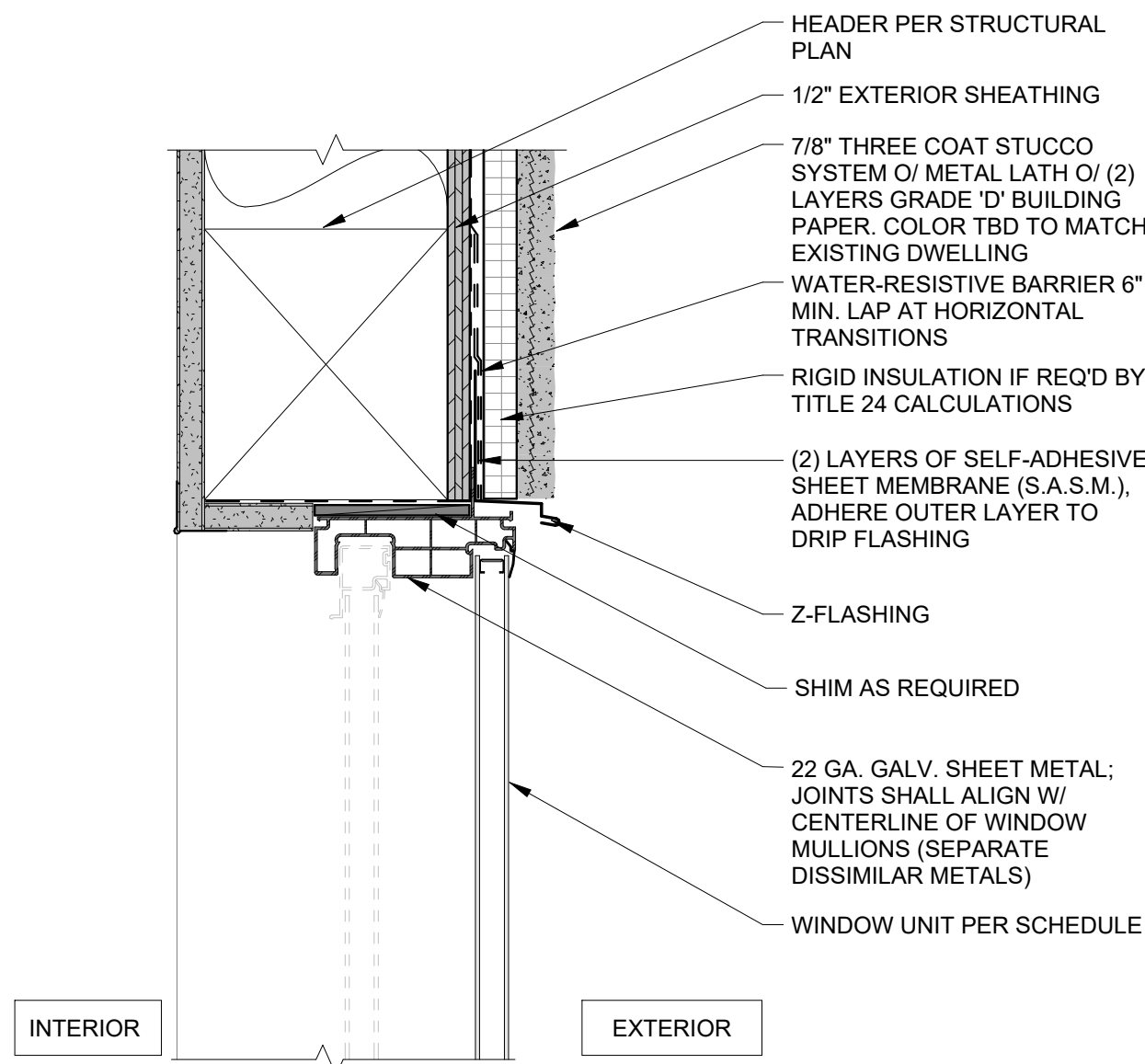
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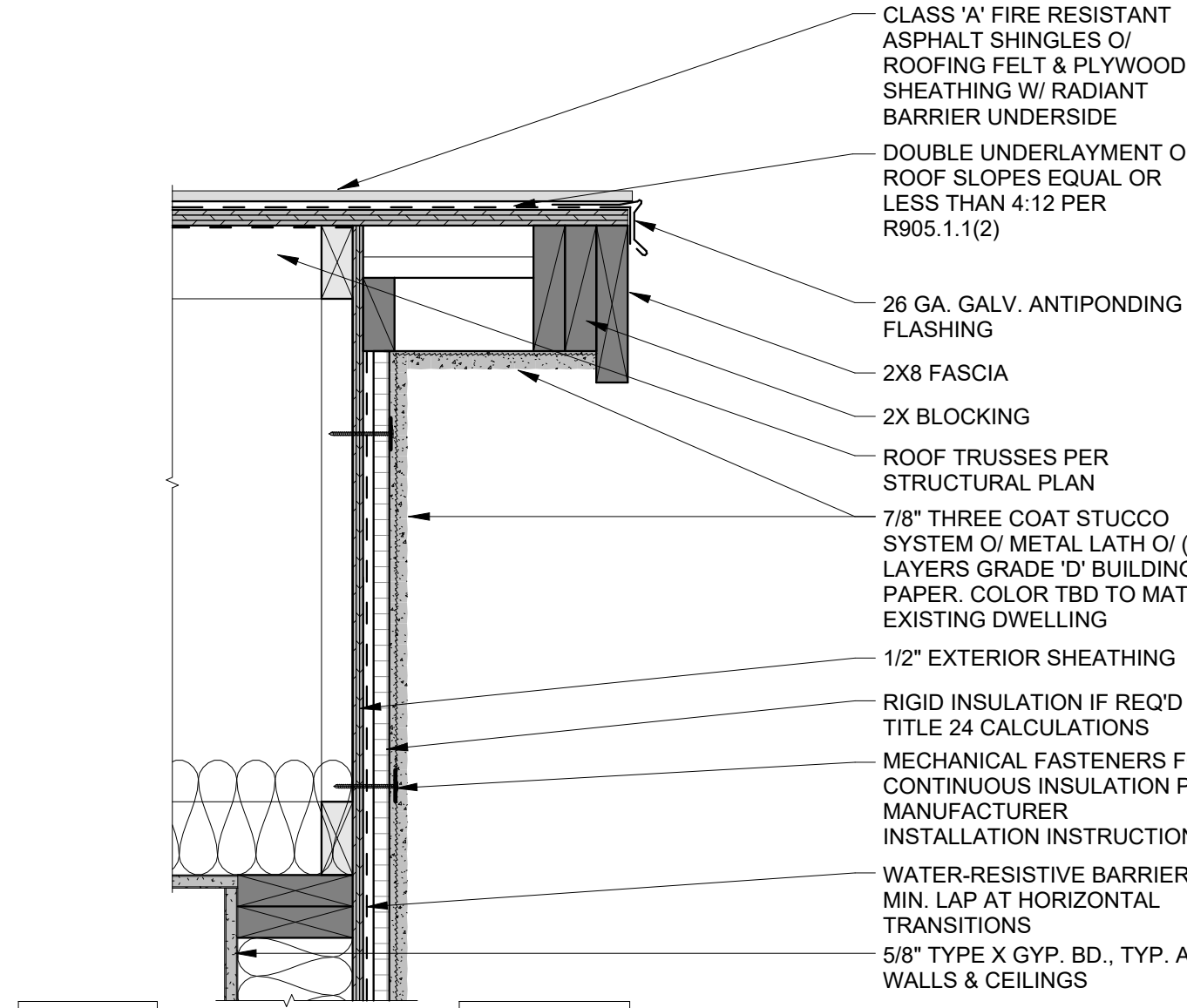
10 DOOR - EXTERIOR HEAD @ STUCCO
W/ CONT. INSULATION (JAMB SIM.)

SCALE: 3" = 1'-0"



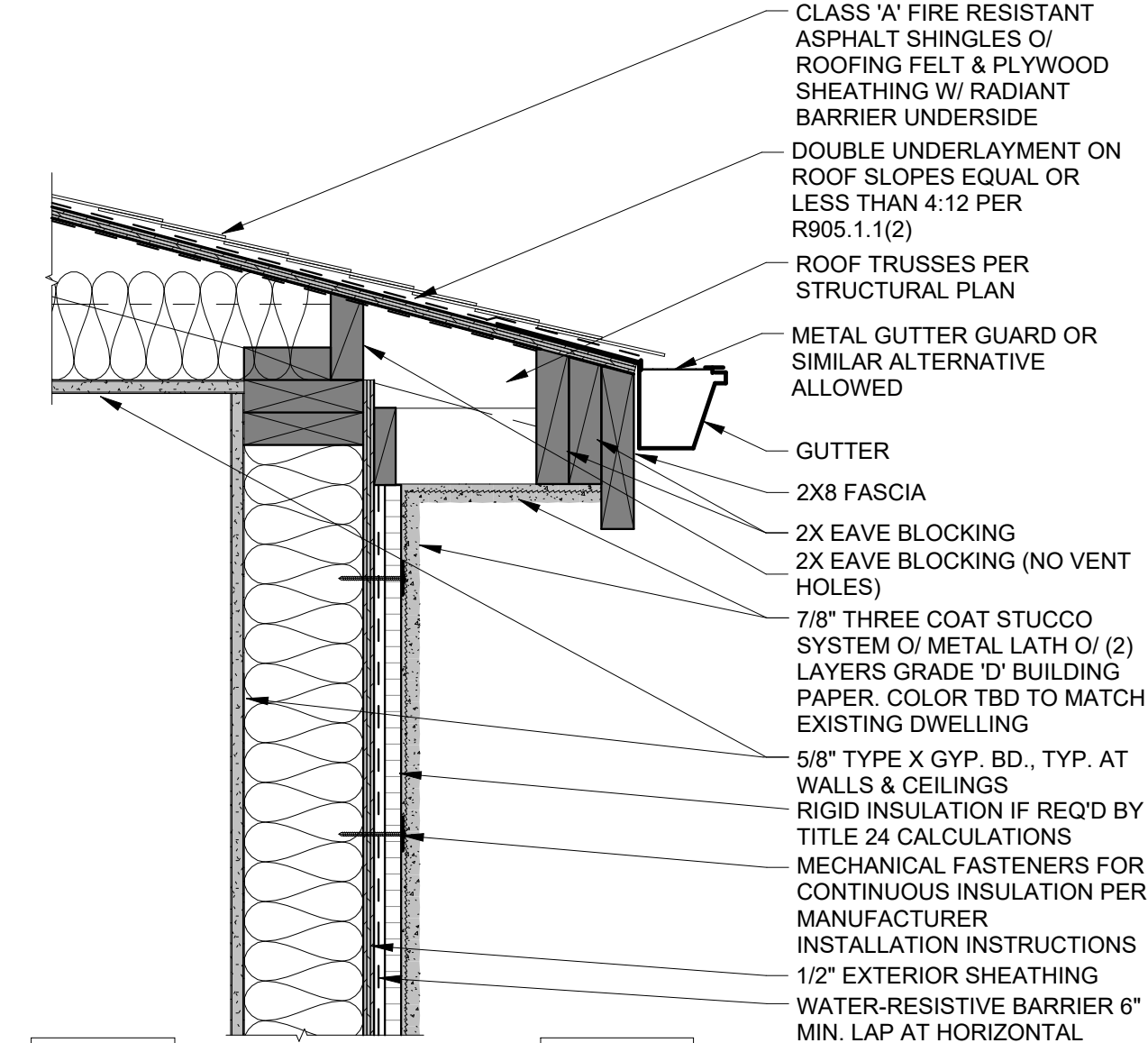
7 WINDOW - EXTERIOR HEAD @ STUCCO
W/ CONT. INSULATION (JAMB SIM.)

SCALE: 3" = 1'-0"



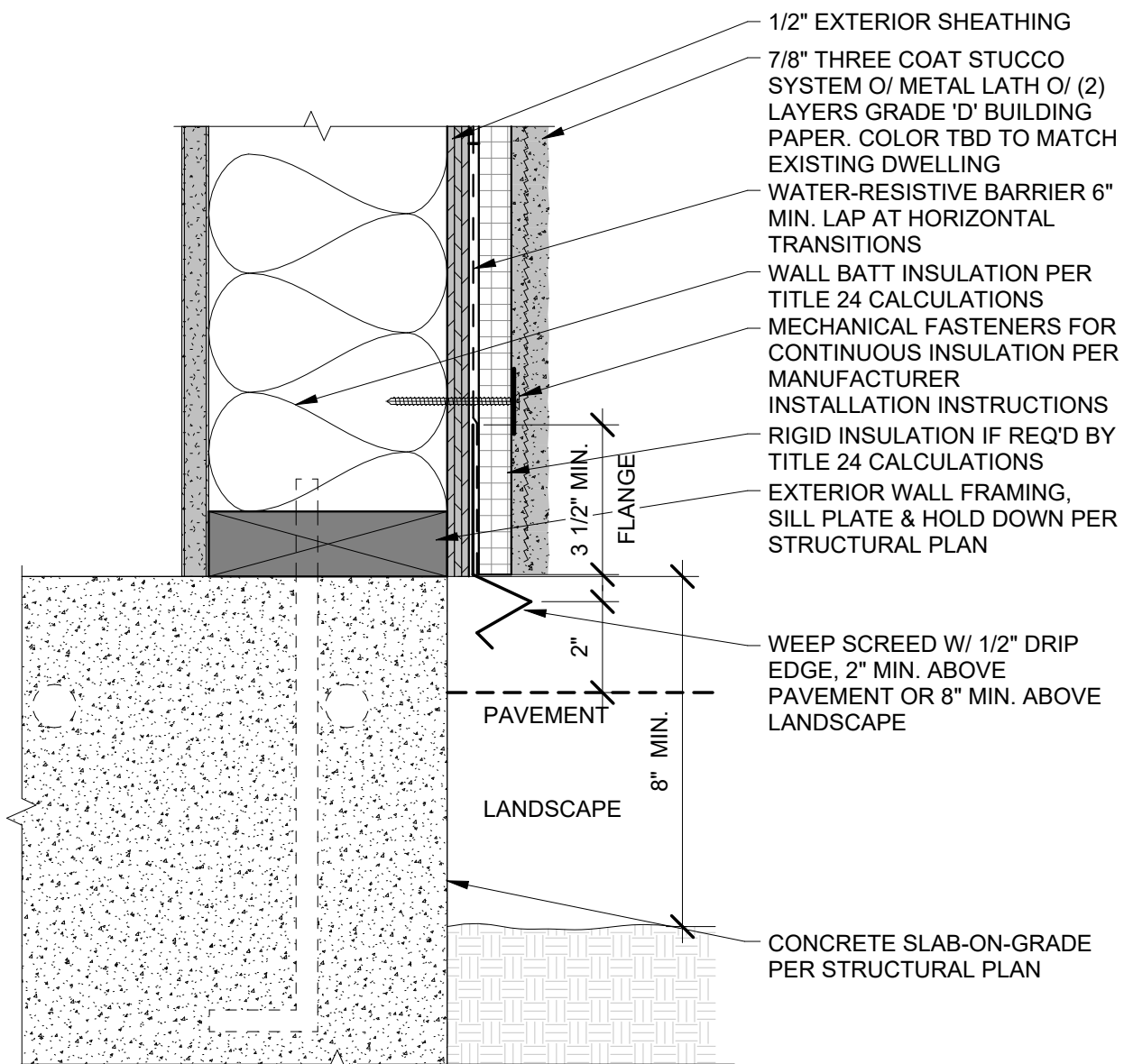
4 A1 - ROOF RAKE - SHINGLE PROTECTED
W/ CONT. INSULATION AND STUCCO

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



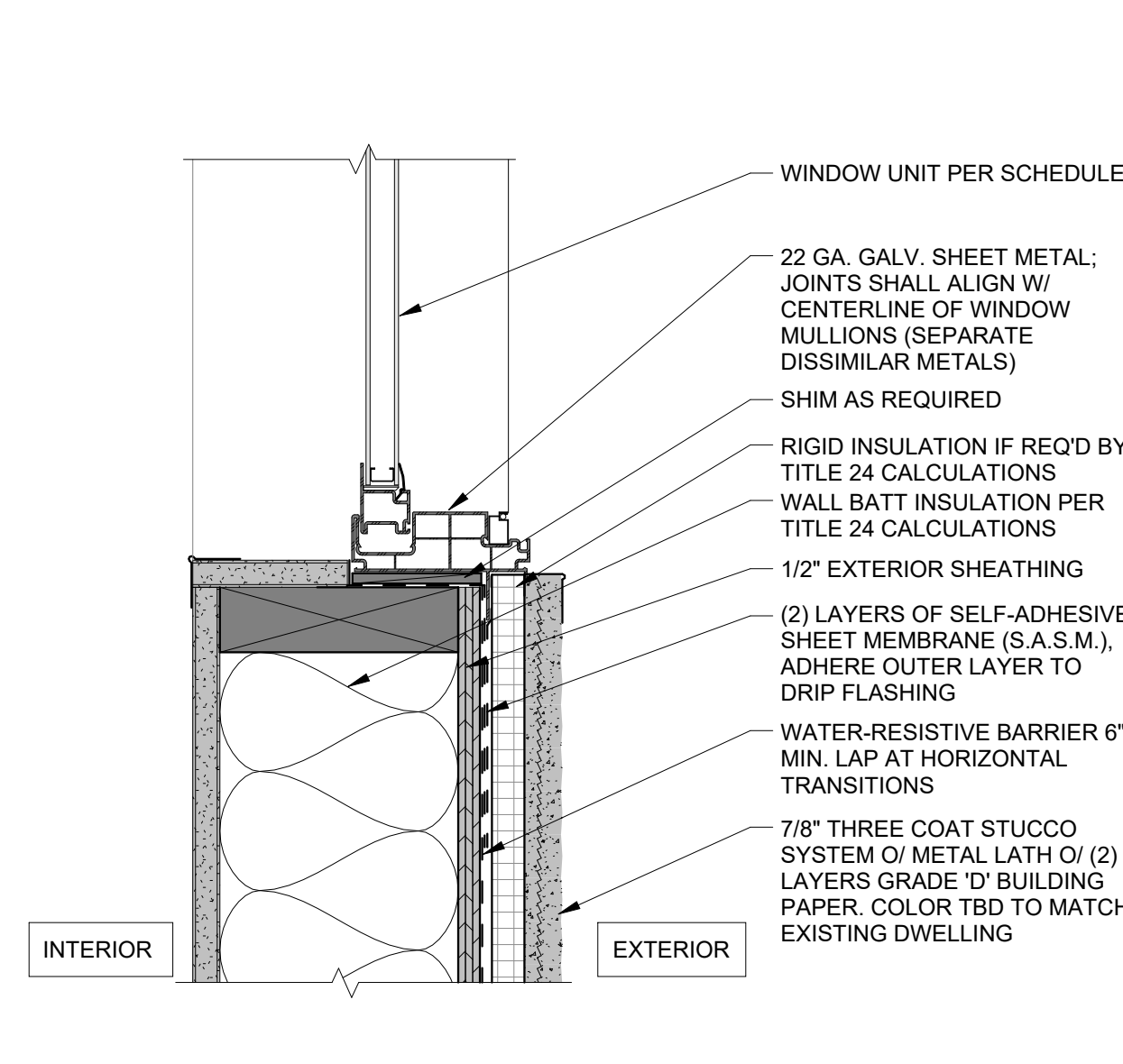
1 A1 - ROOF EAVE - SHINGLE PROTECTED
W/ CONT. INSULATION AND STUCCO

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



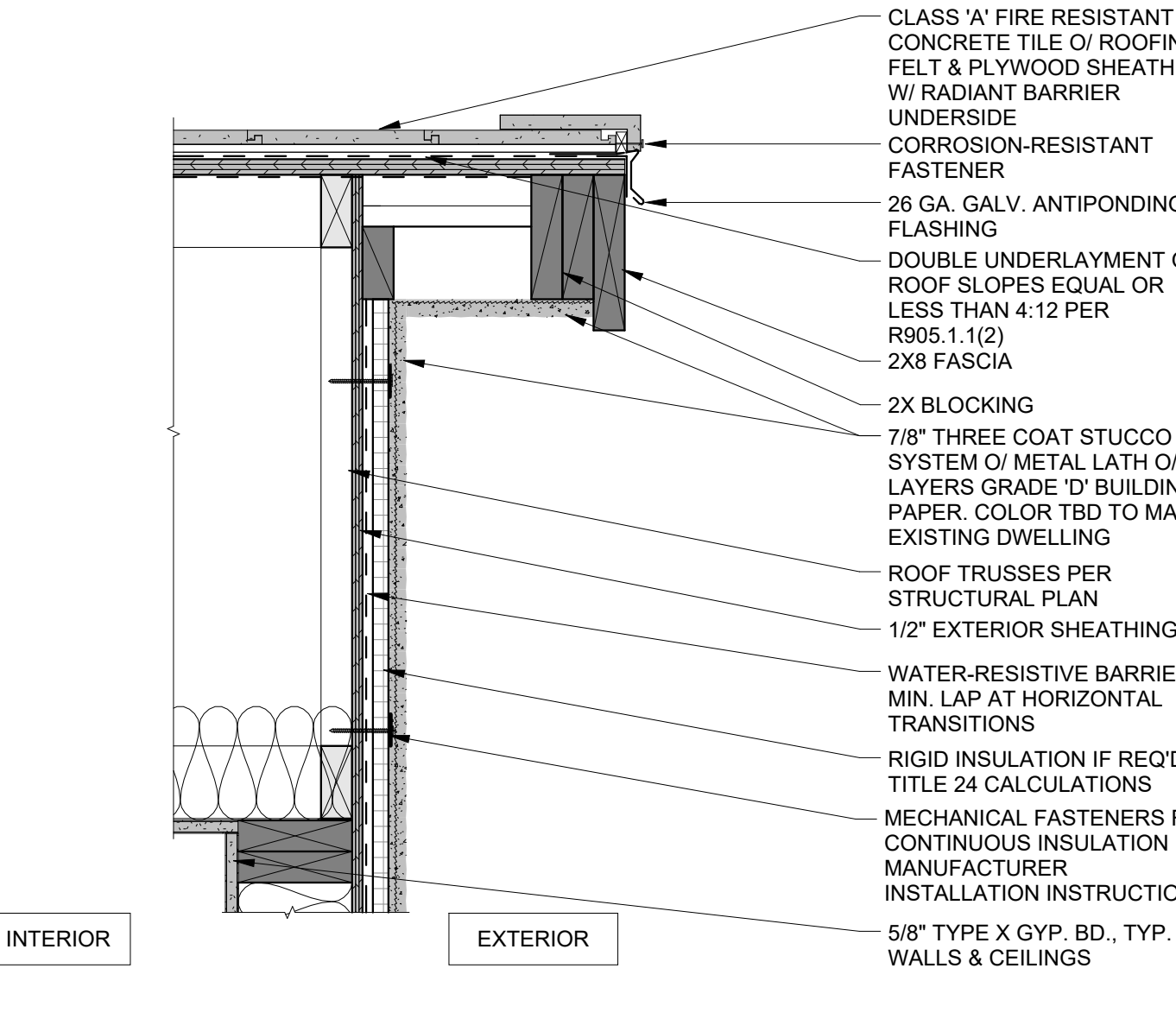
11 WALL - EXTERIOR STUCCO SCREED
W/ CONT. INSULATION

SCALE: 3" = 1'-0"



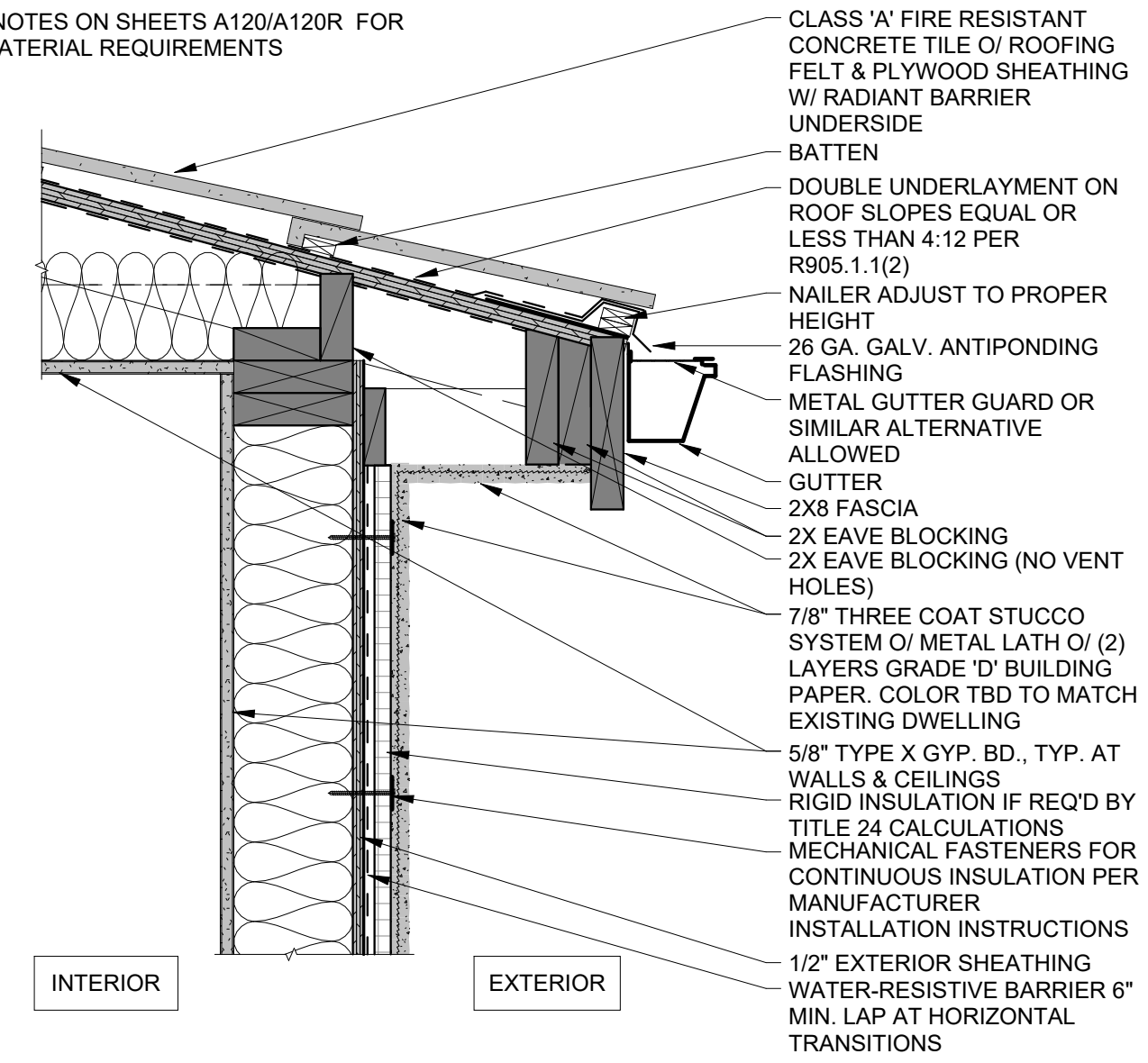
8 WINDOW - EXTERIOR SILL @ STUCCO
W/ CONT. INSULATION

SCALE: 3" = 1'-0"



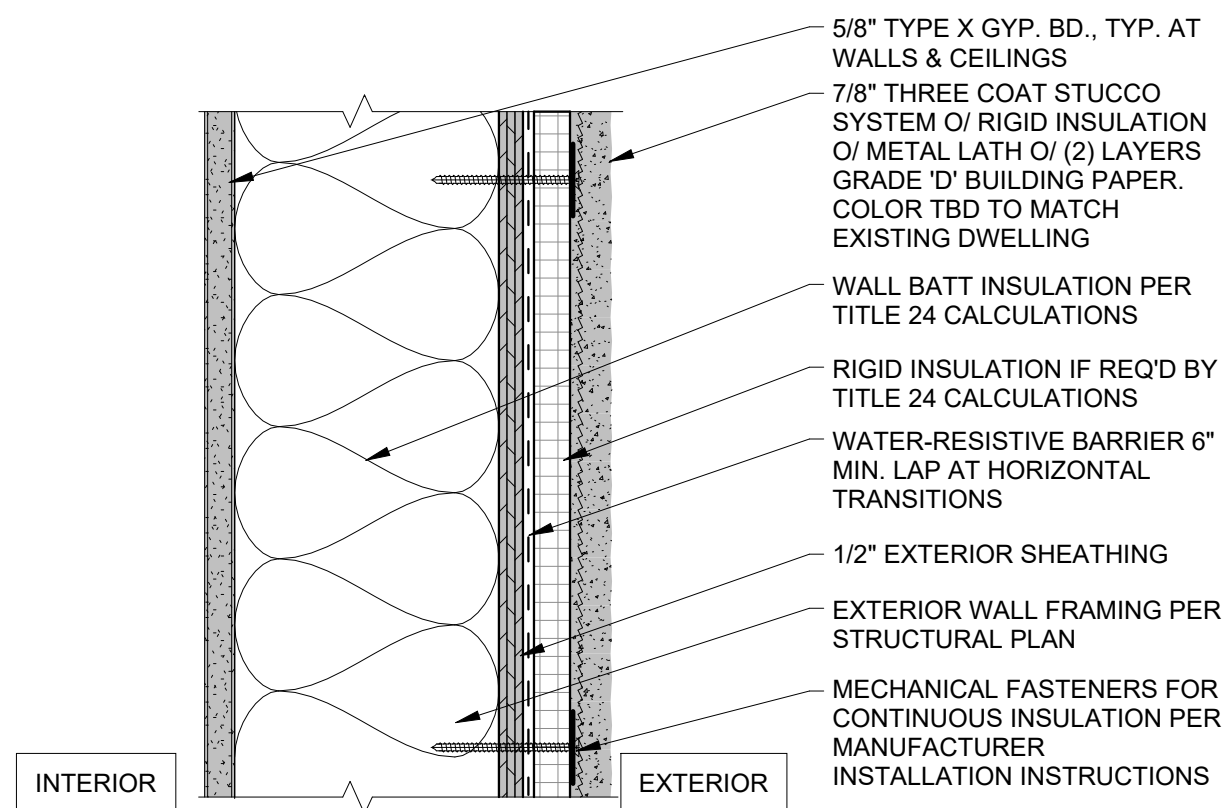
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W/ CONT. INSULATION AND STUCCO

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



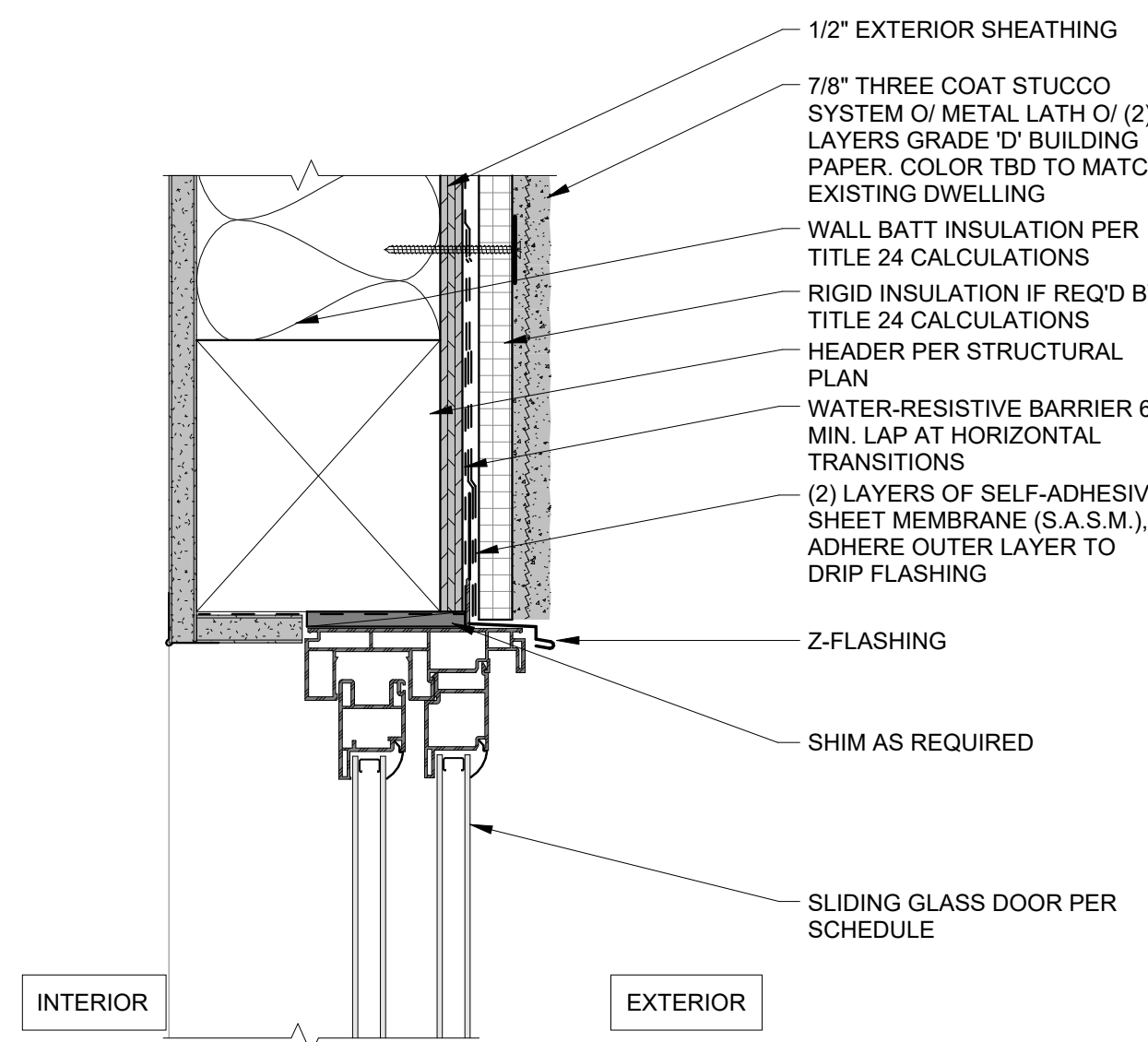
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W/ CONT. INSULATION AND STUCCO

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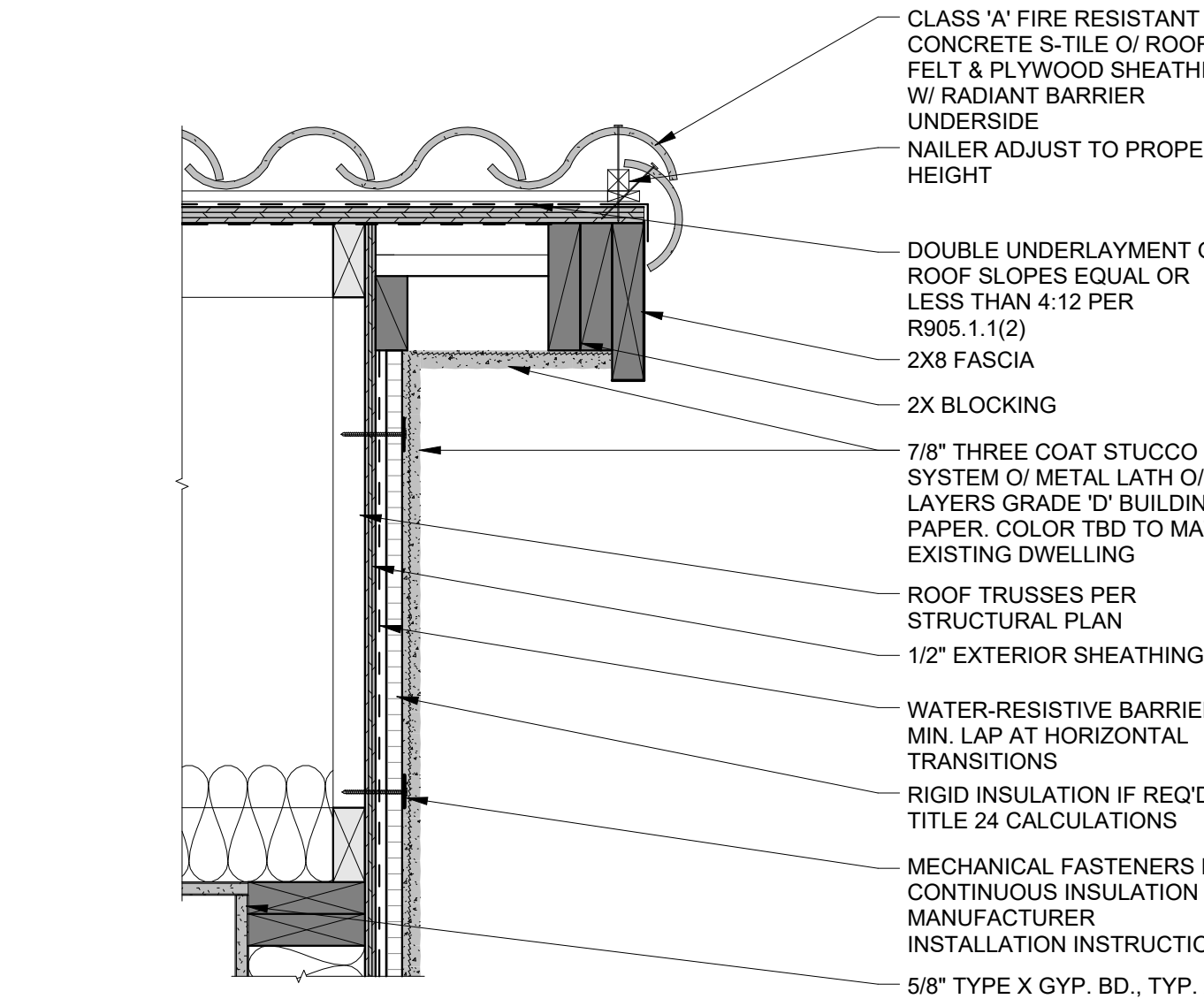
12 A - WALL - EXTERIOR 1-HOUR RATED - STUCCO
W/ CONT. INSULATION

SCALE: 3" = 1'-0"



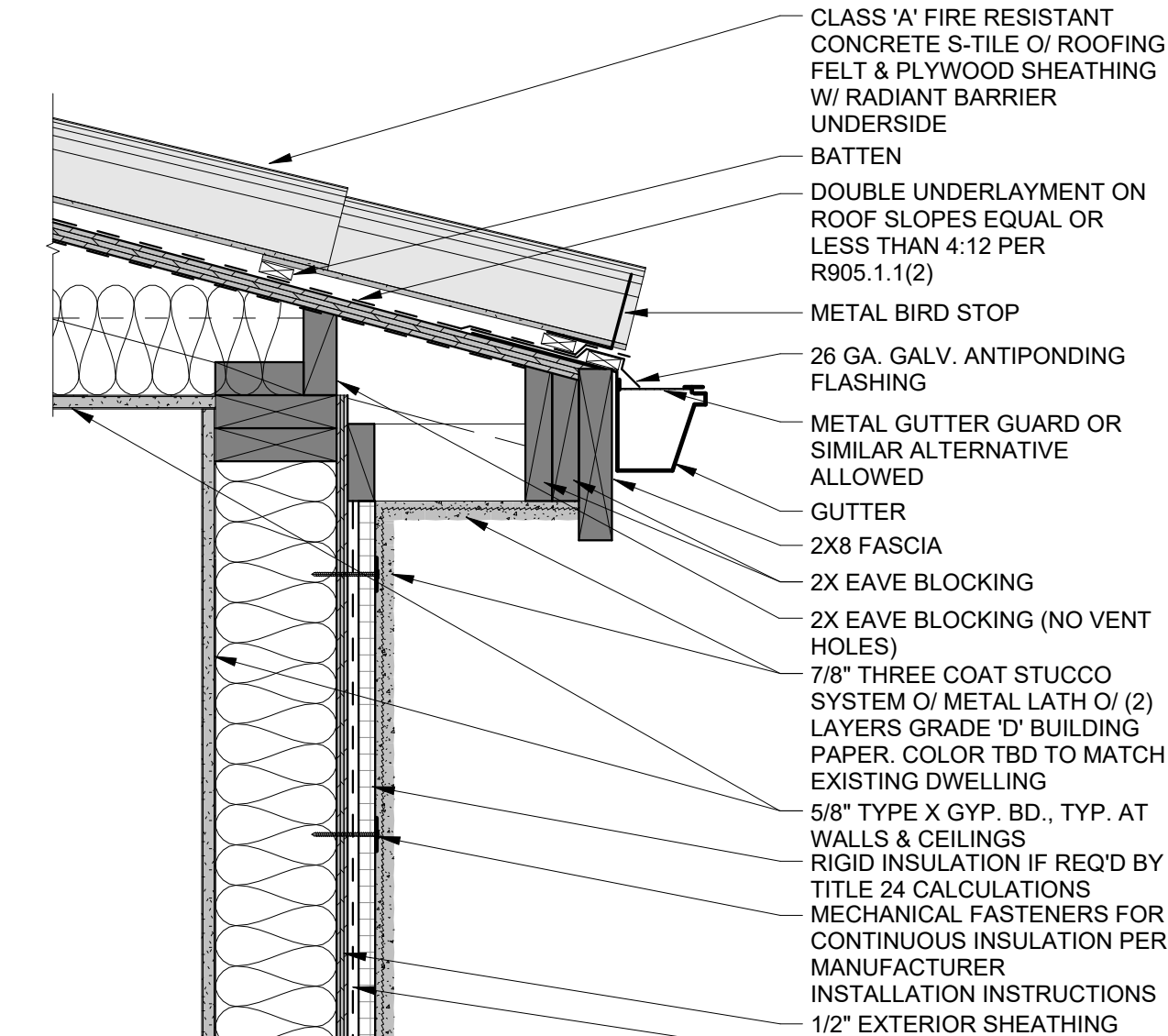
9 DOOR - SLIDING GLASS DOOR HEAD @ STUCCO
W/ CONT. INSULATION (JAMB SIM.)

SCALE: 3" = 1'-0"



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

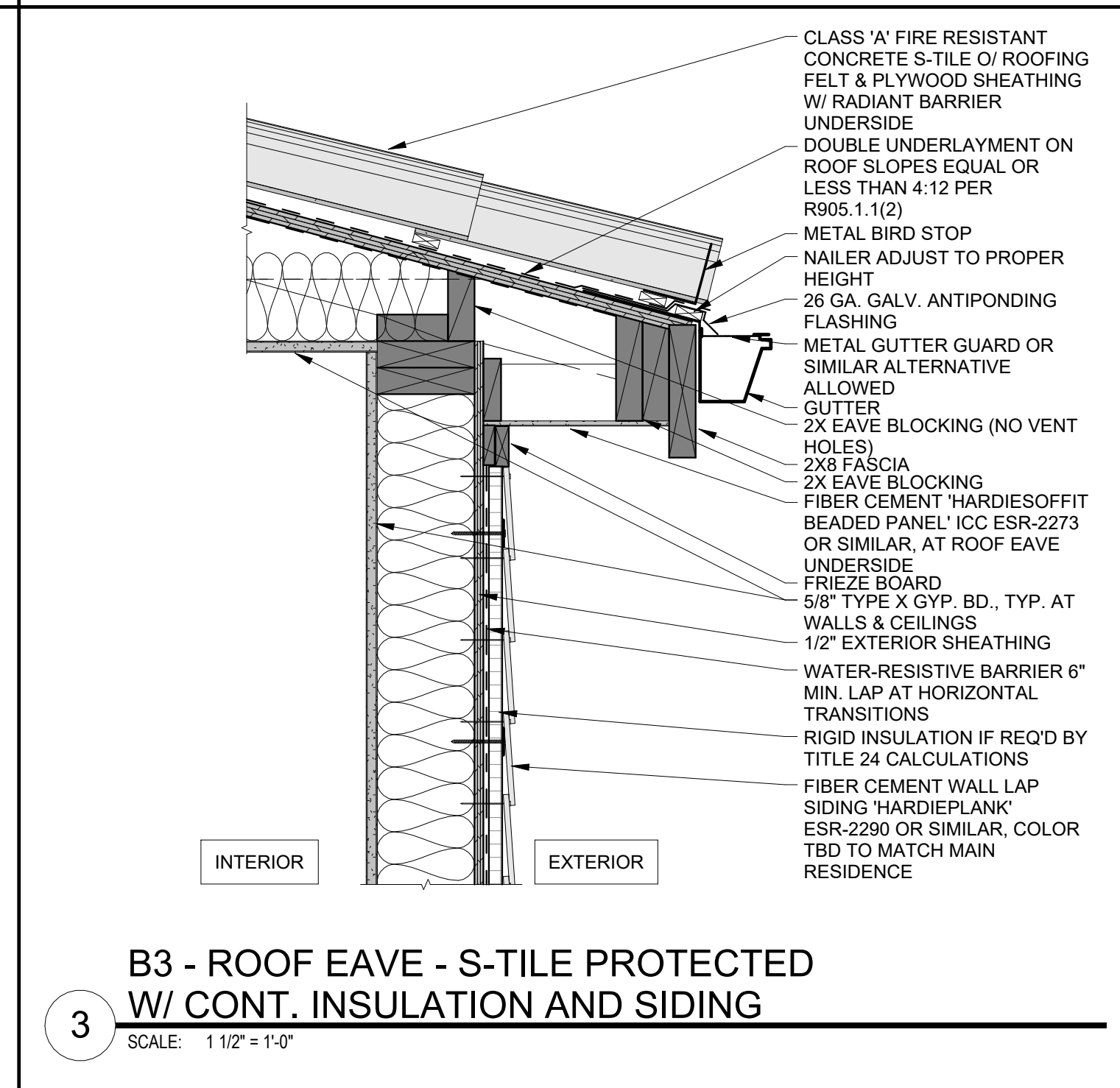
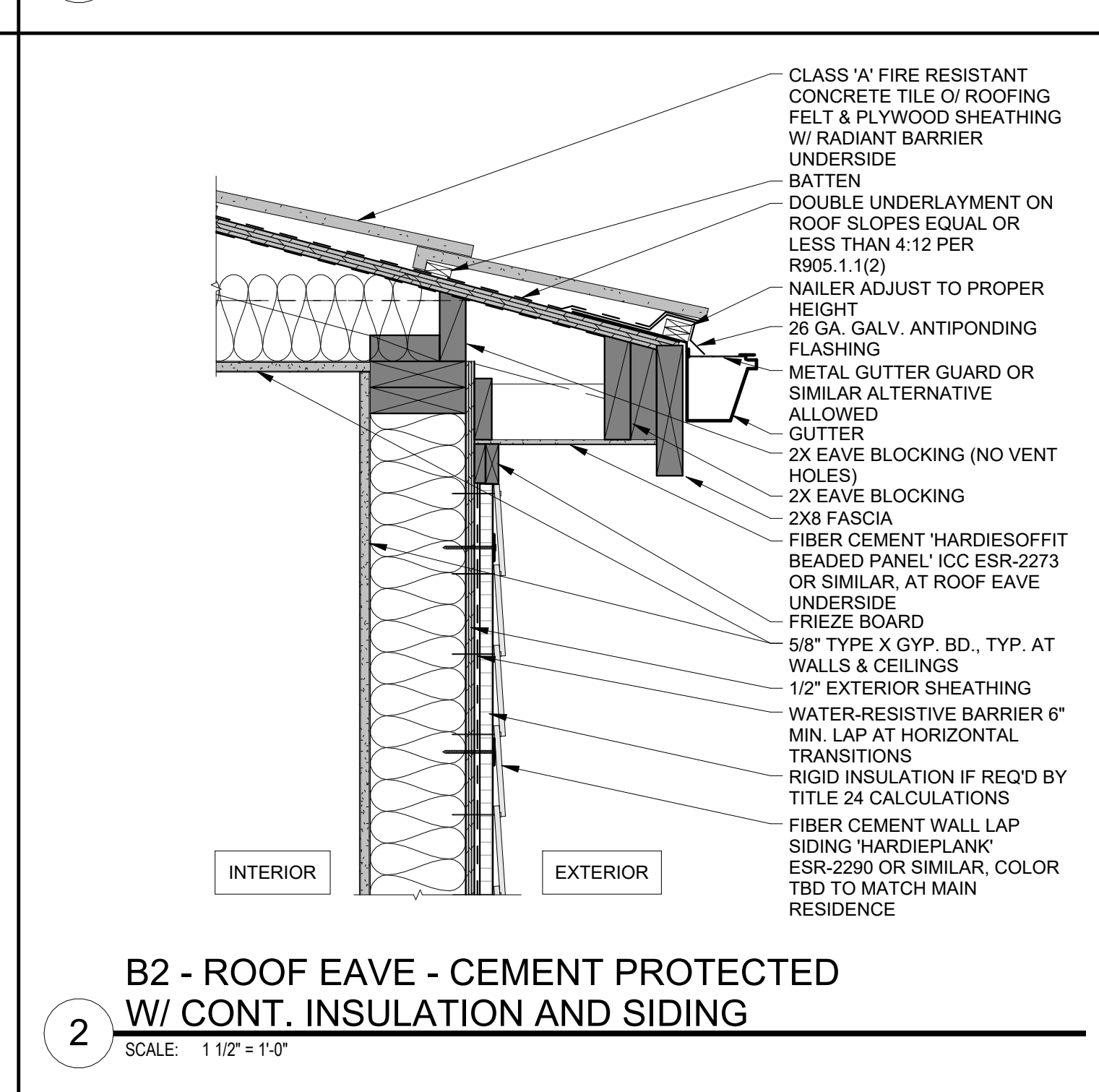
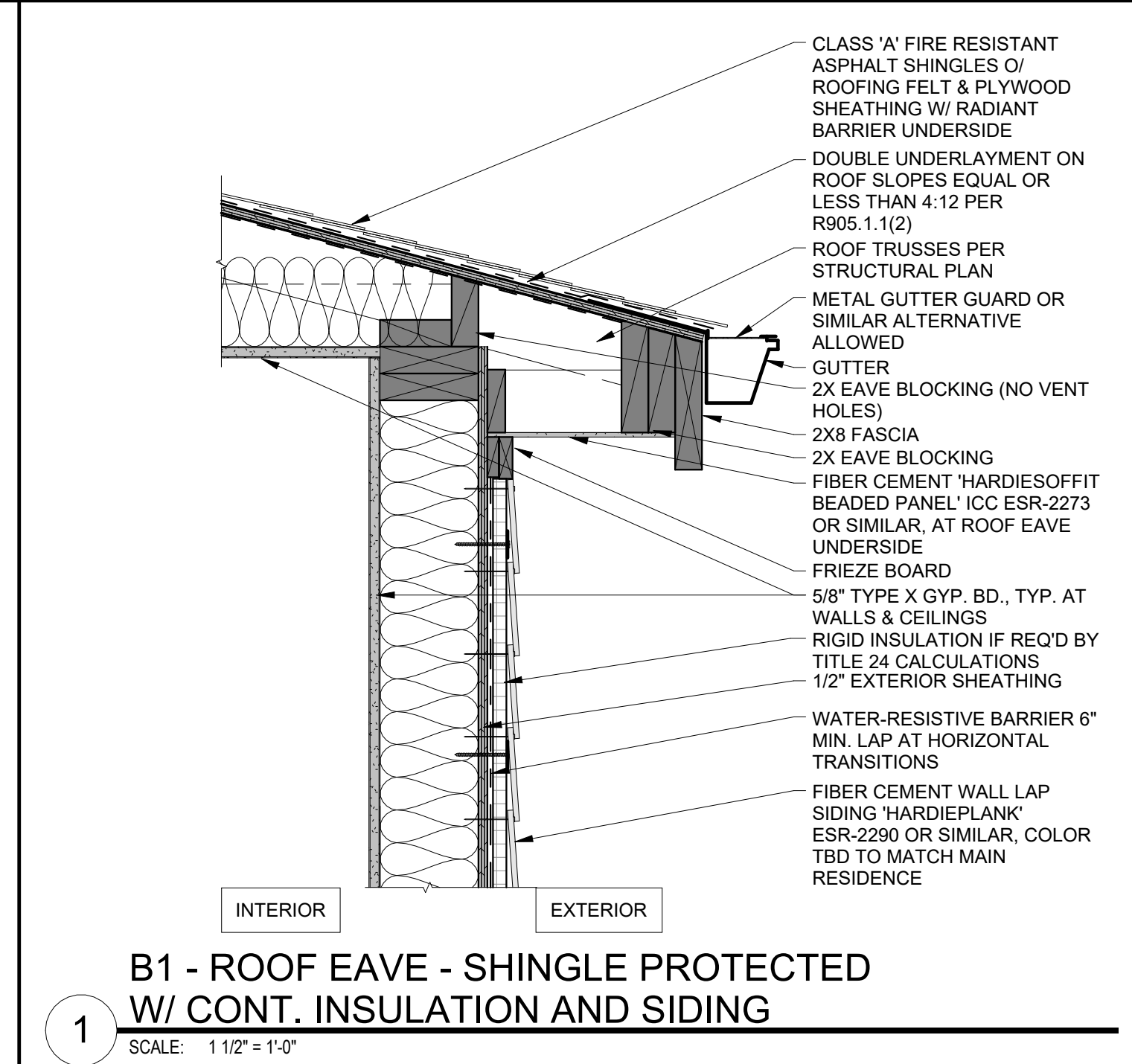
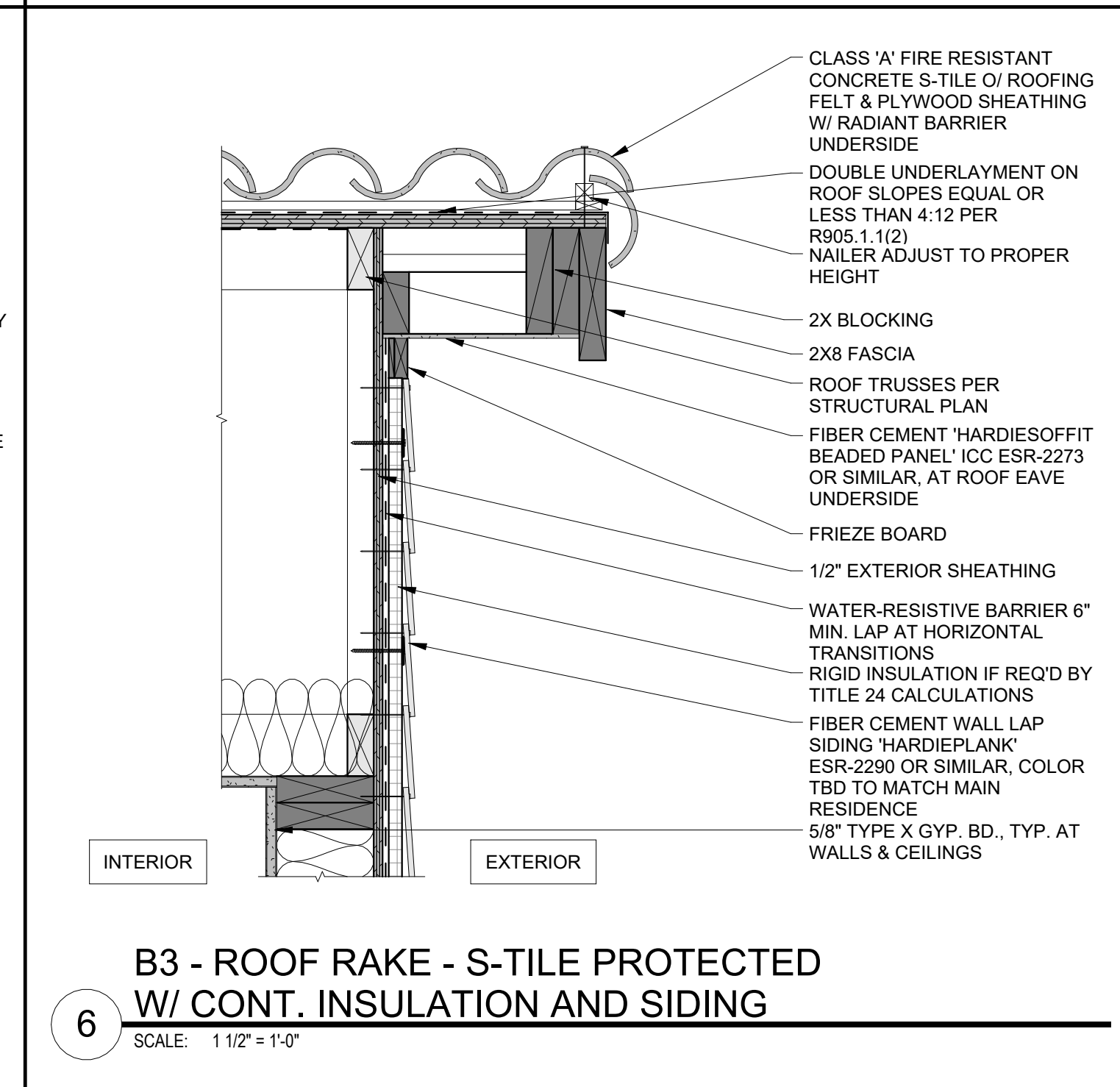
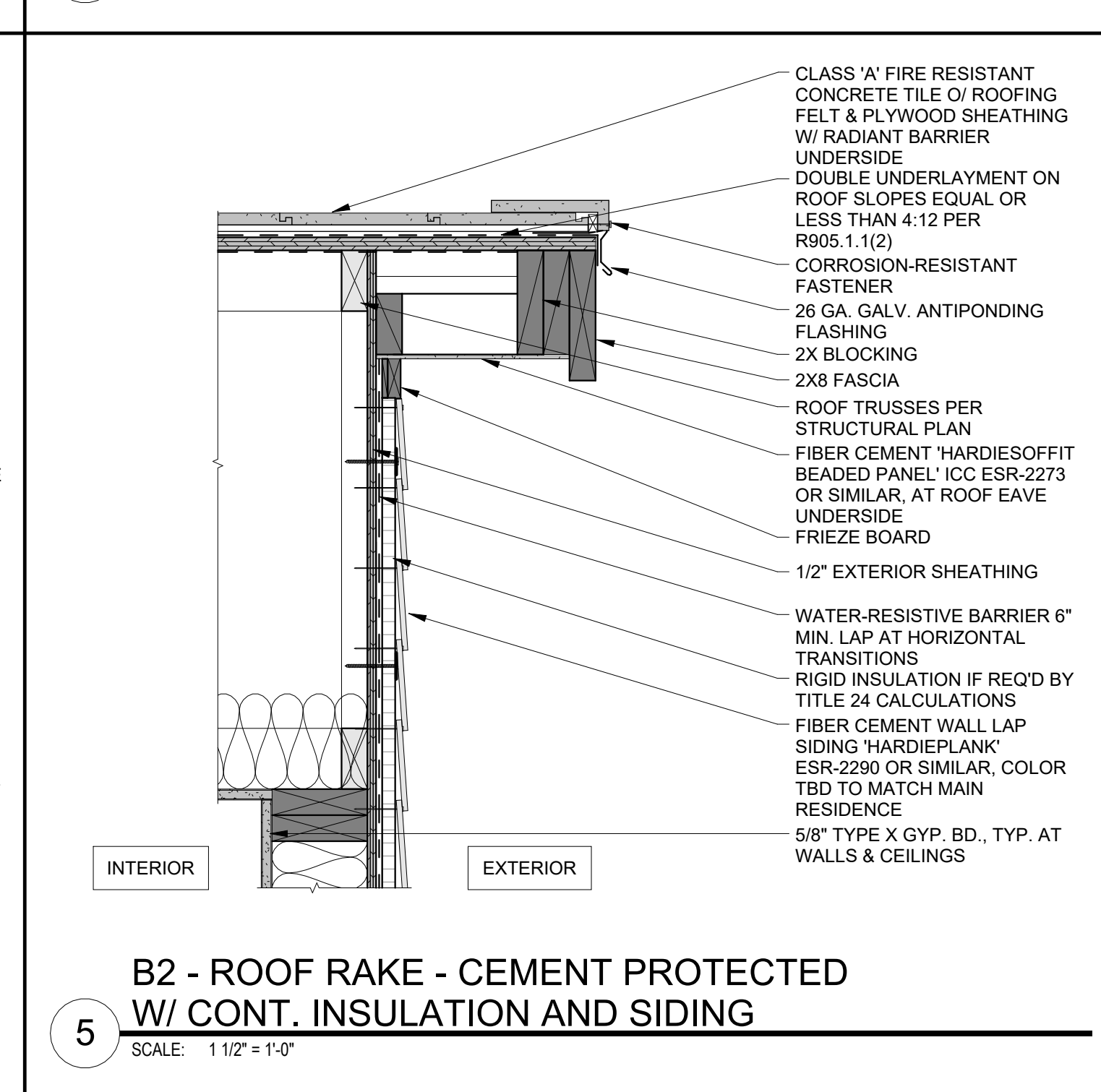
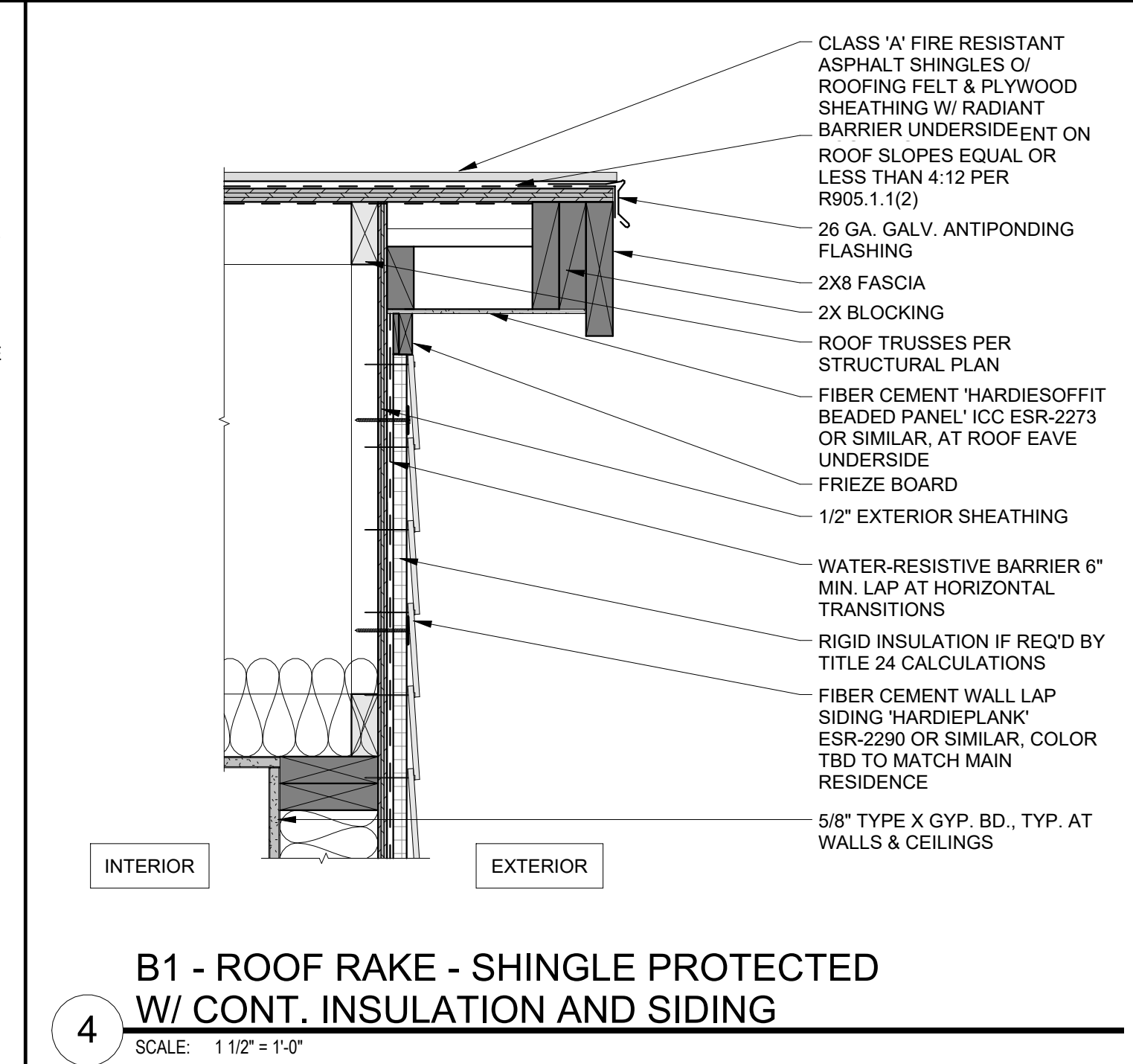
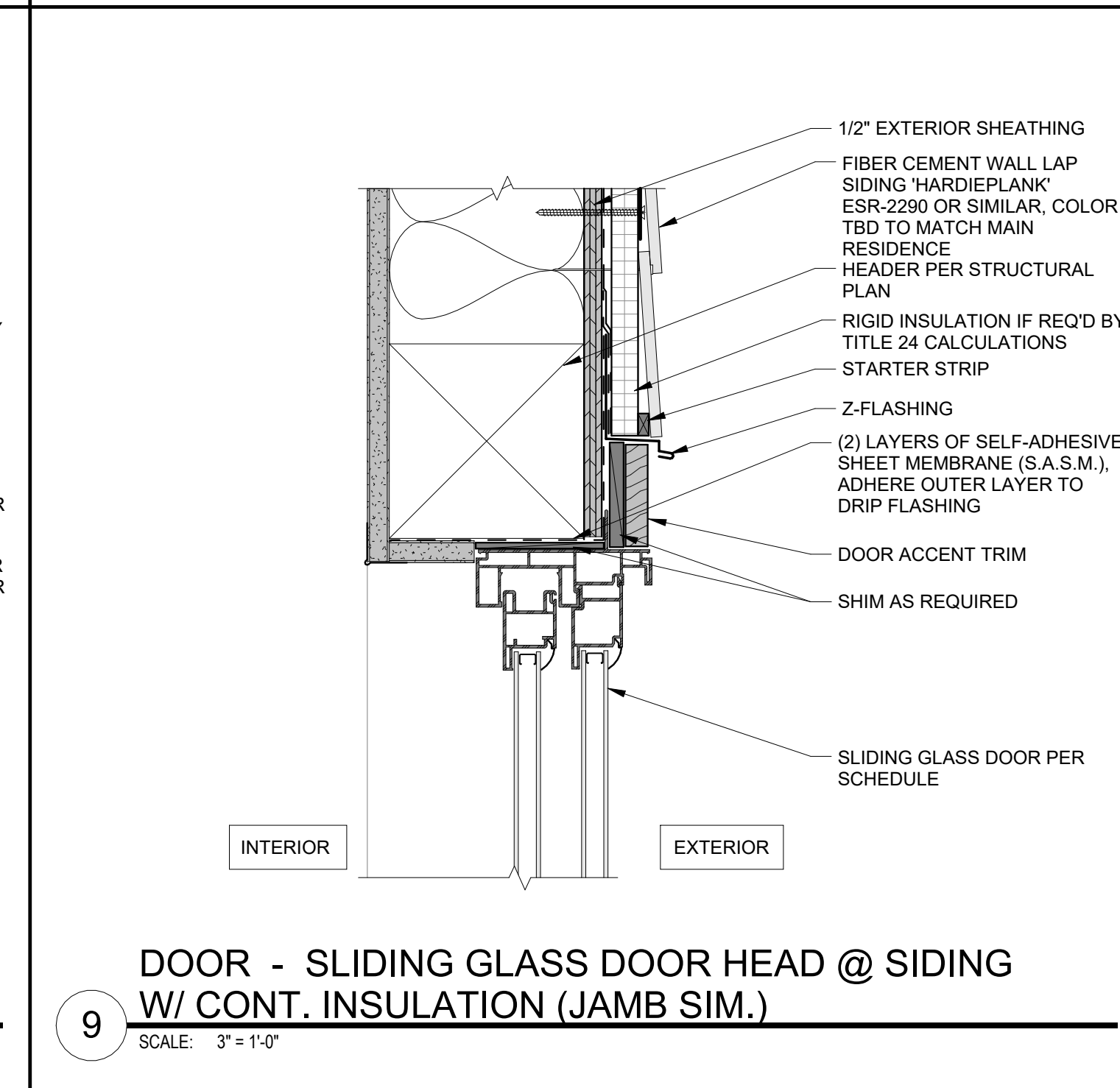
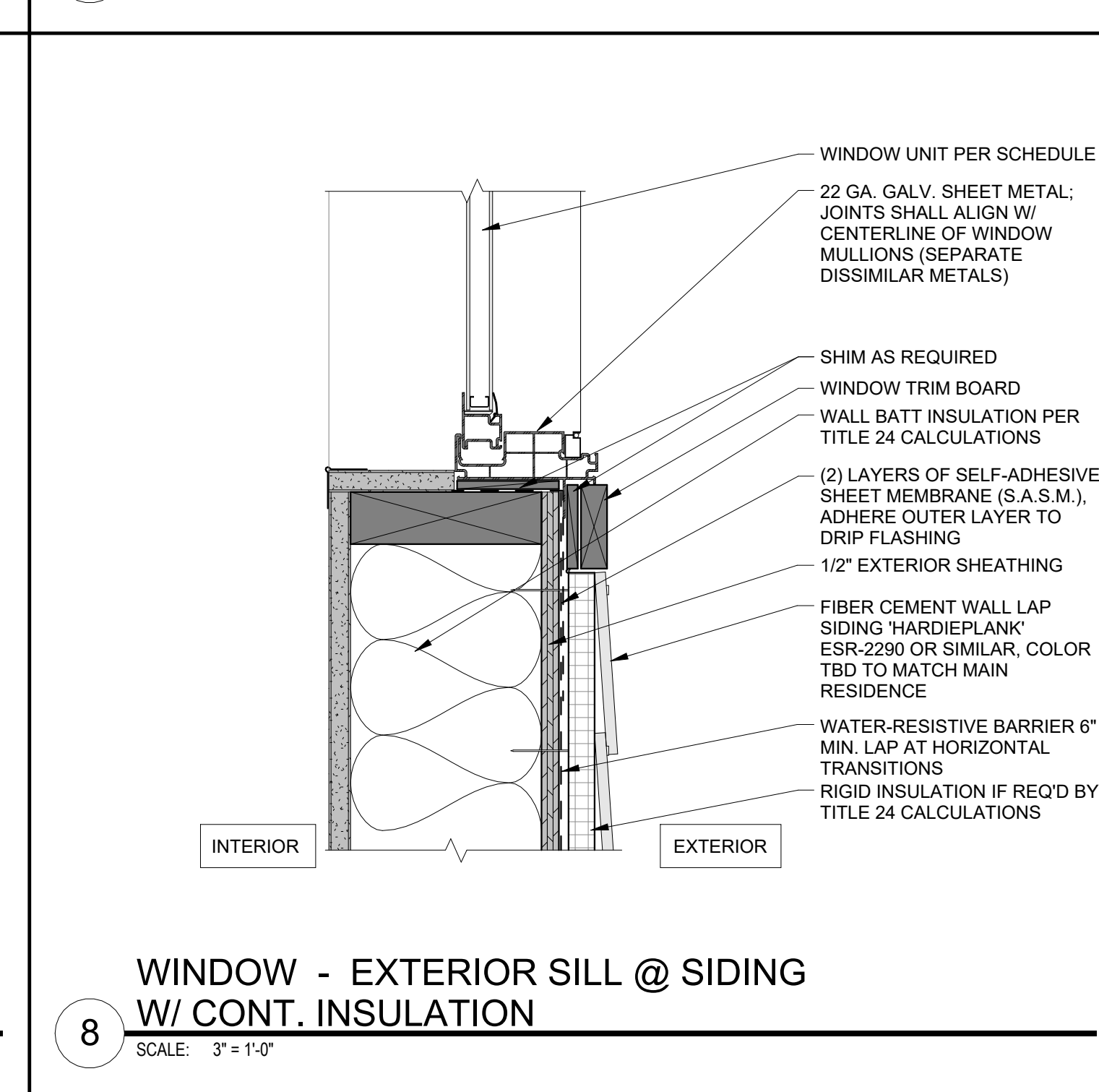
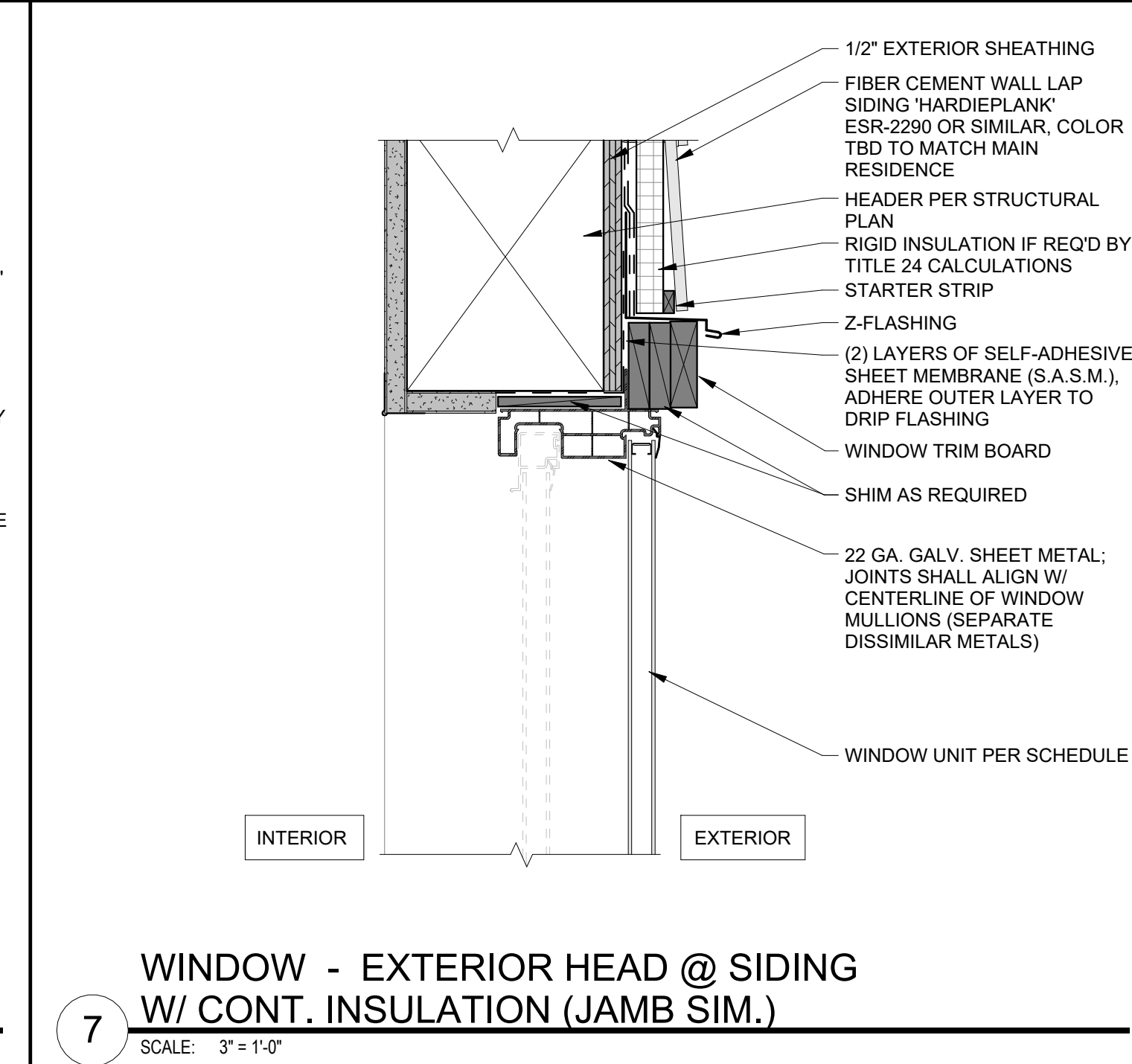
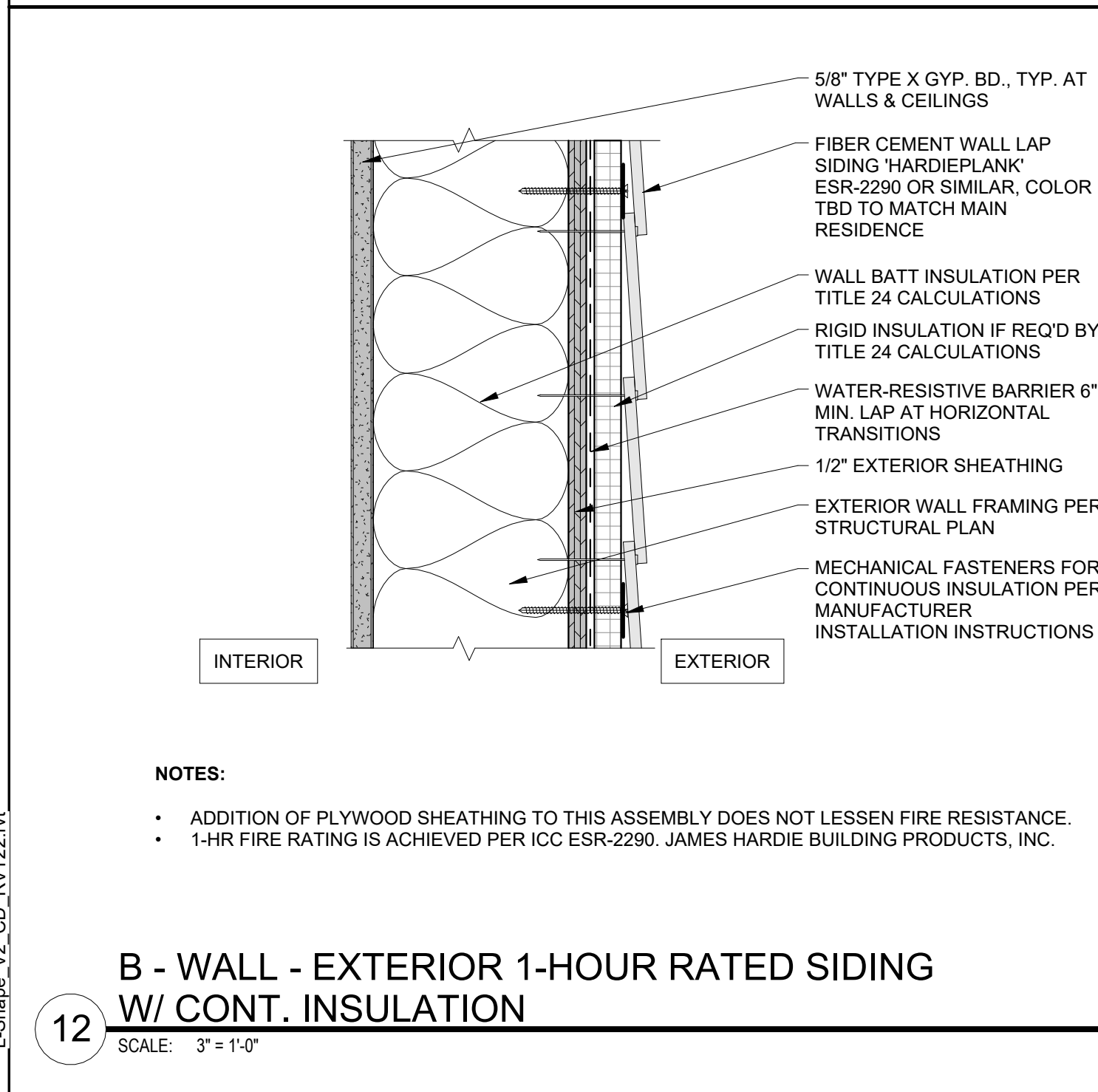
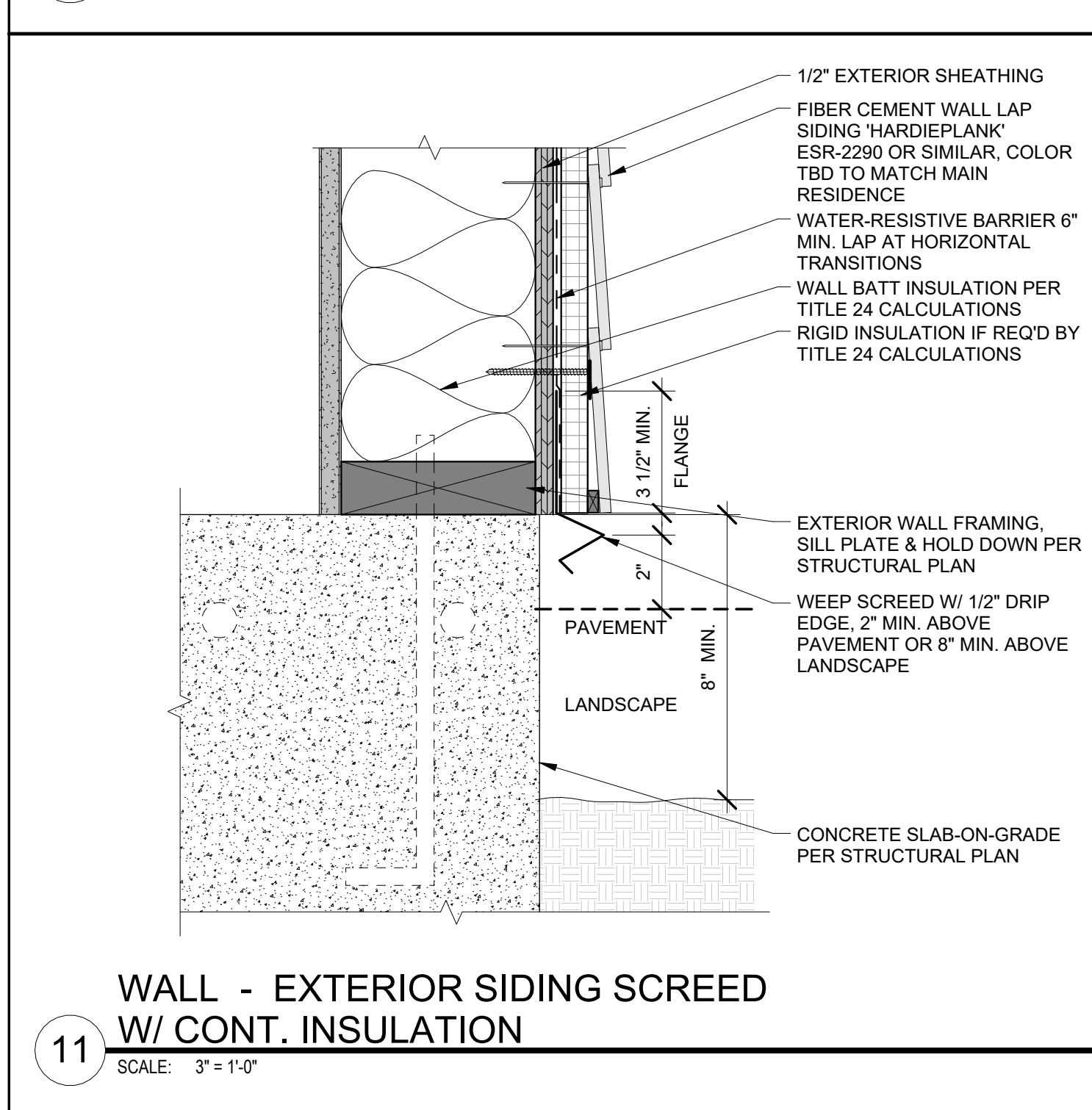
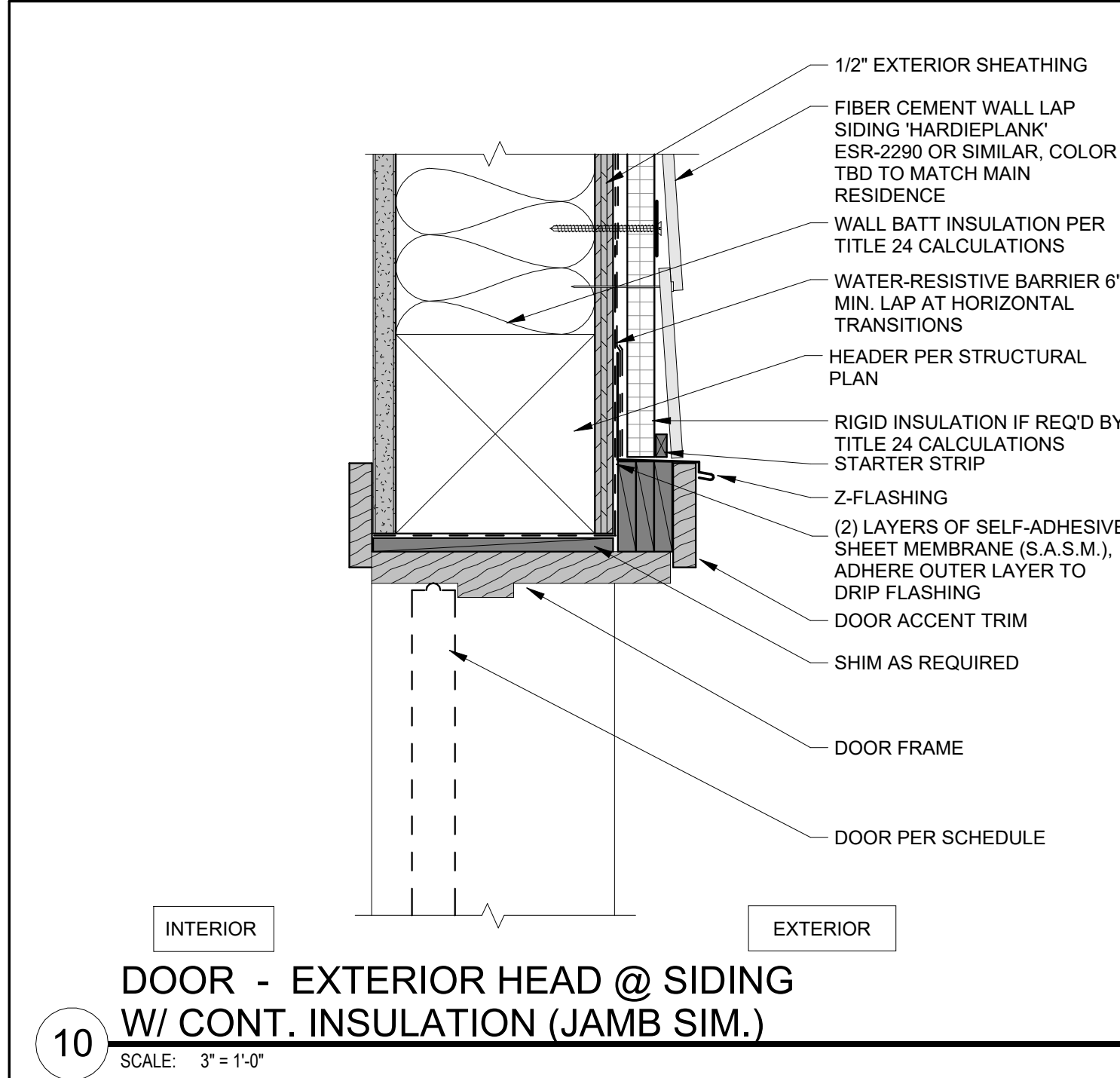
SCALE: 1 1/2" = 1'-0"



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

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

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

DESIGNER:
LUIS CALDERON
SnapADU


SIGNATURE

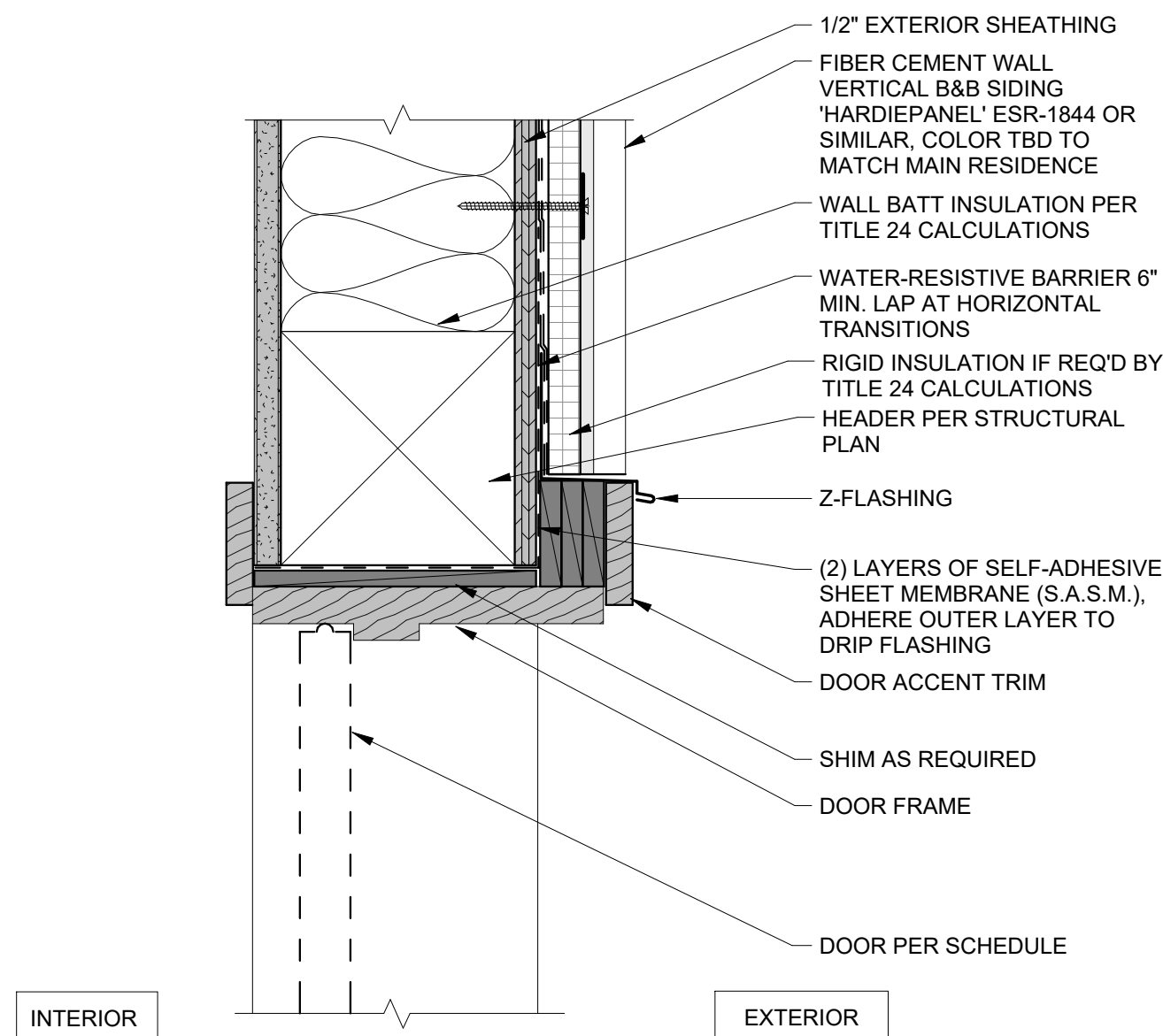
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LAP SIDING
DETAILS

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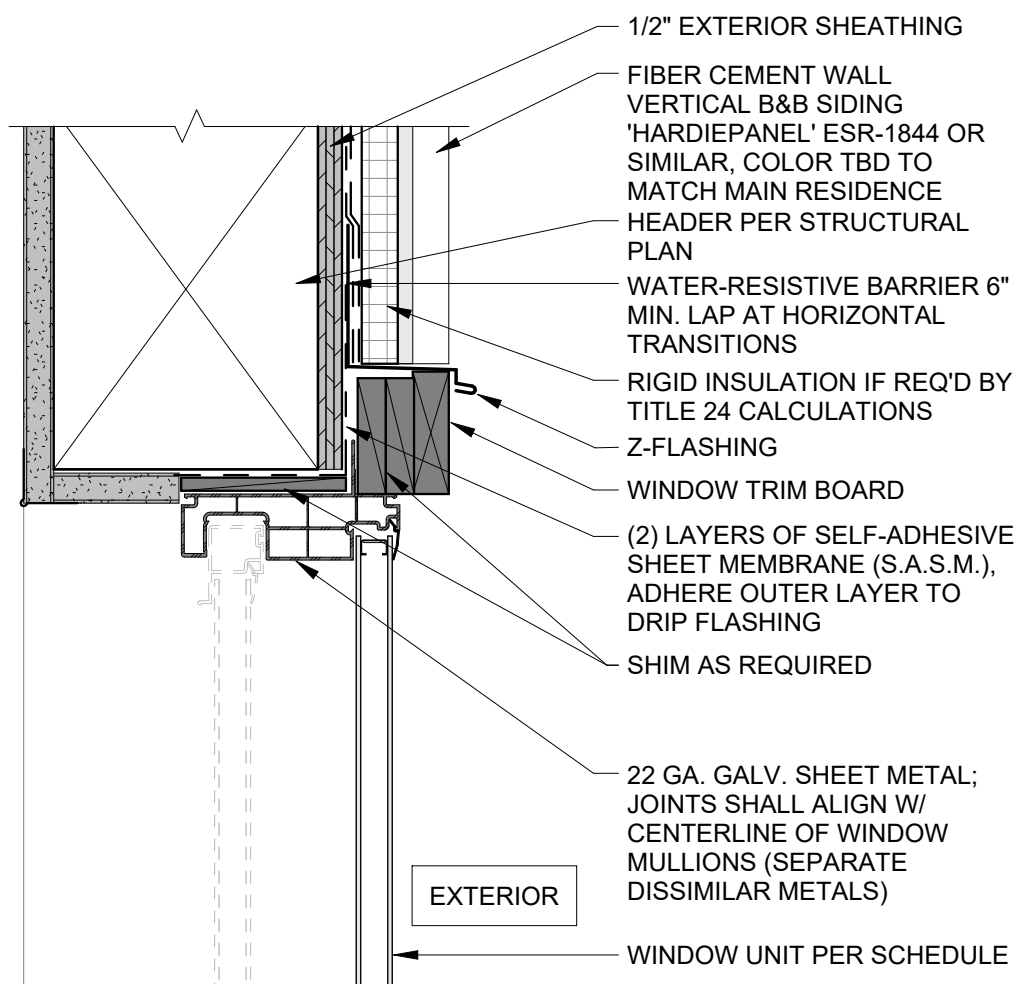
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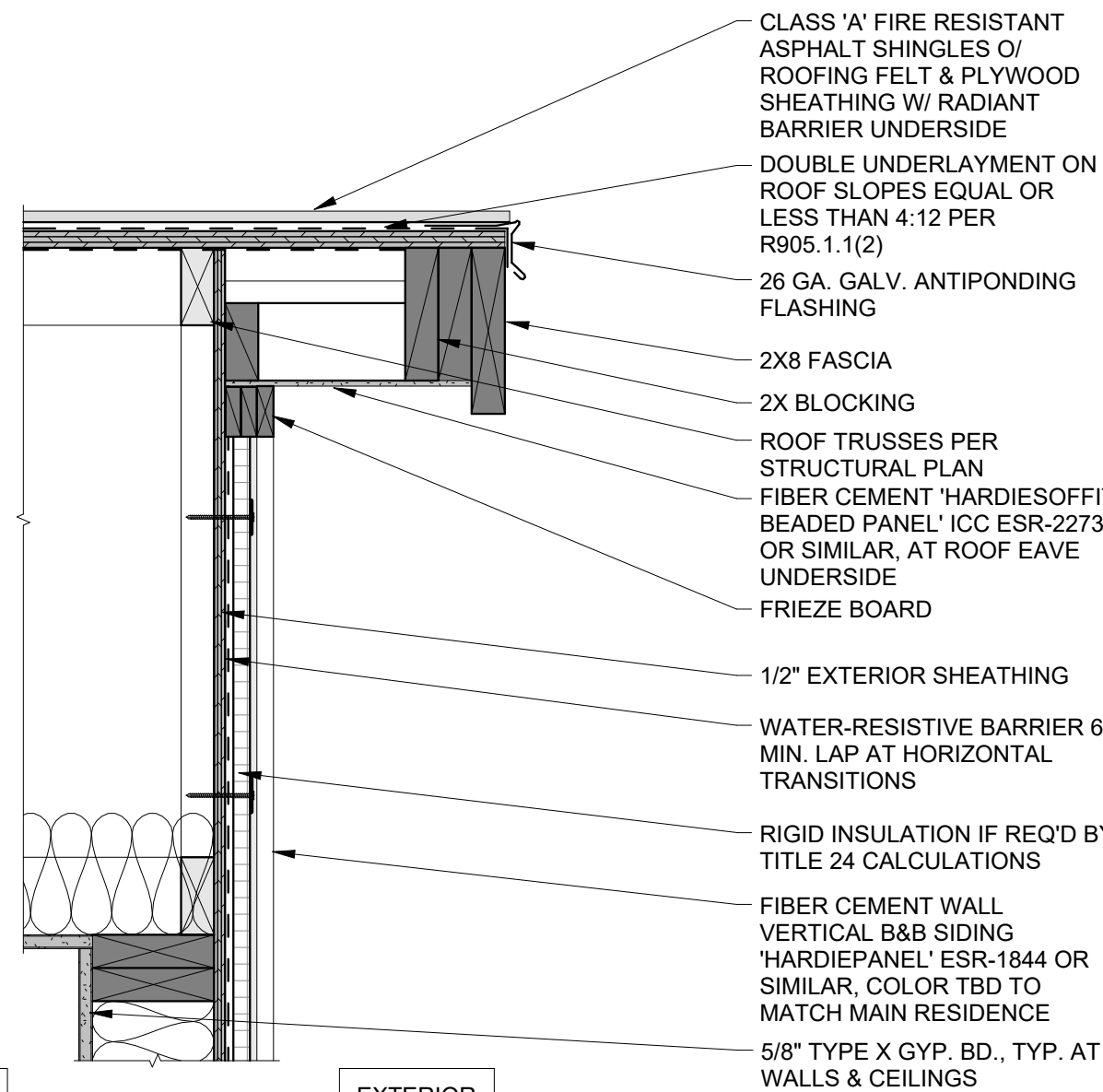
**DOOR - EXTERIOR HEAD @ B&B
W/ CONT. INSULATION (JAMB SIM.)**

SCALE: 3" = 1'-0"



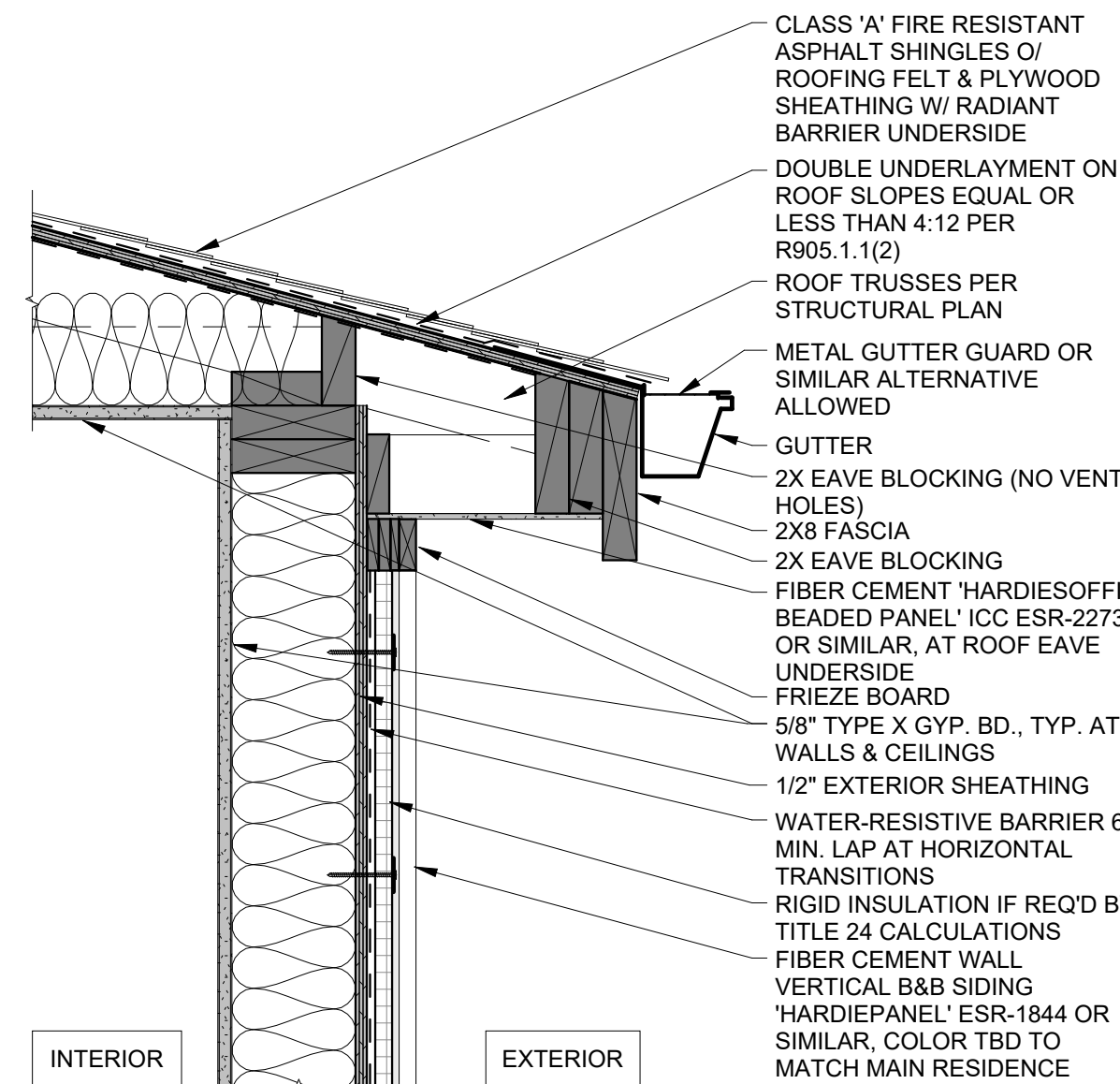
**WINDOW - EXTERIOR HEAD @ B&B
W/ CONT. INSULATION (JAMB SIM.)**

SCALE: 3" = 1'-0"



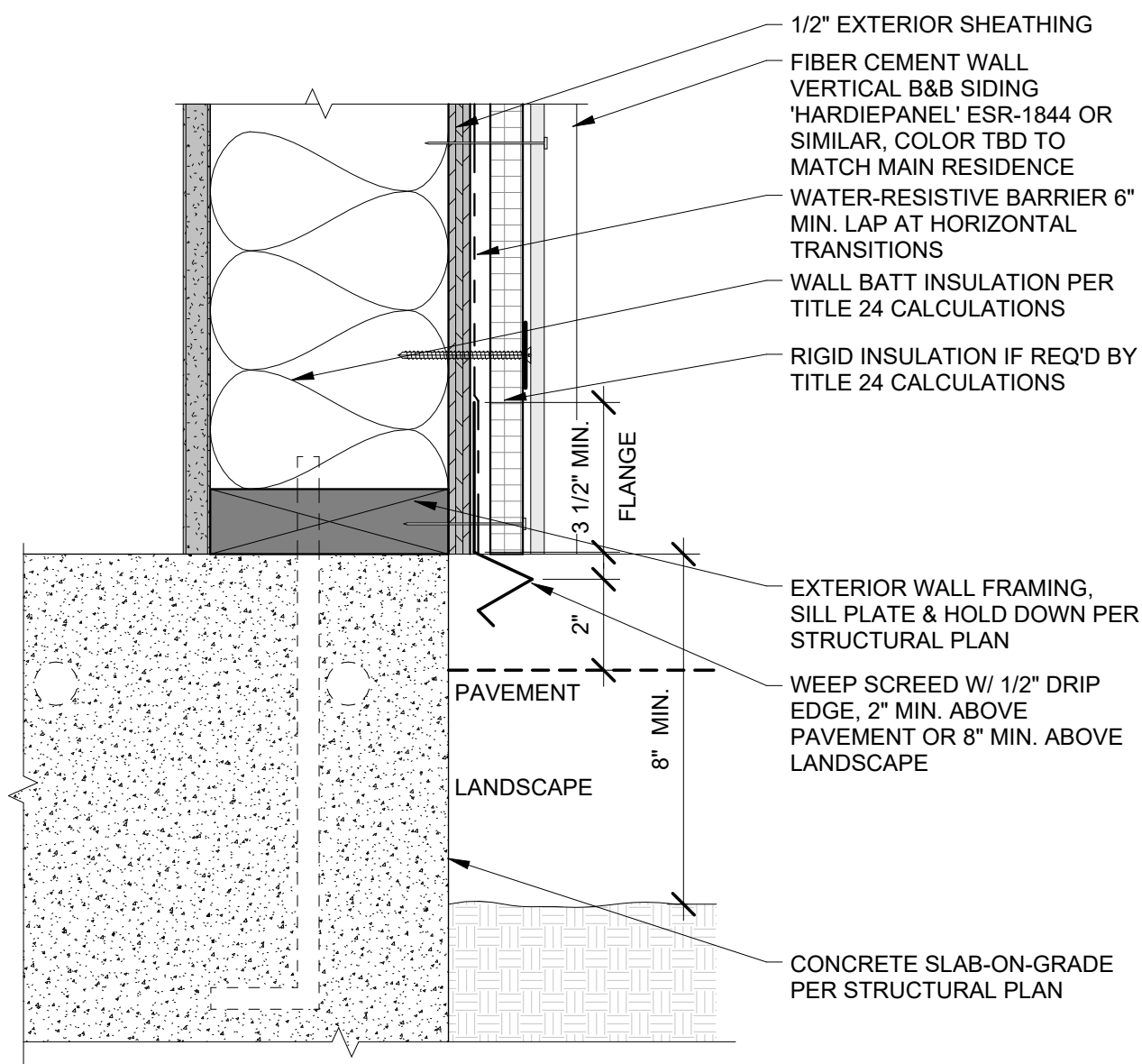
**C1 - ROOF RAKE - SHINGLE PROTECTED
W/ CONT. INSULATION AND B&B**

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



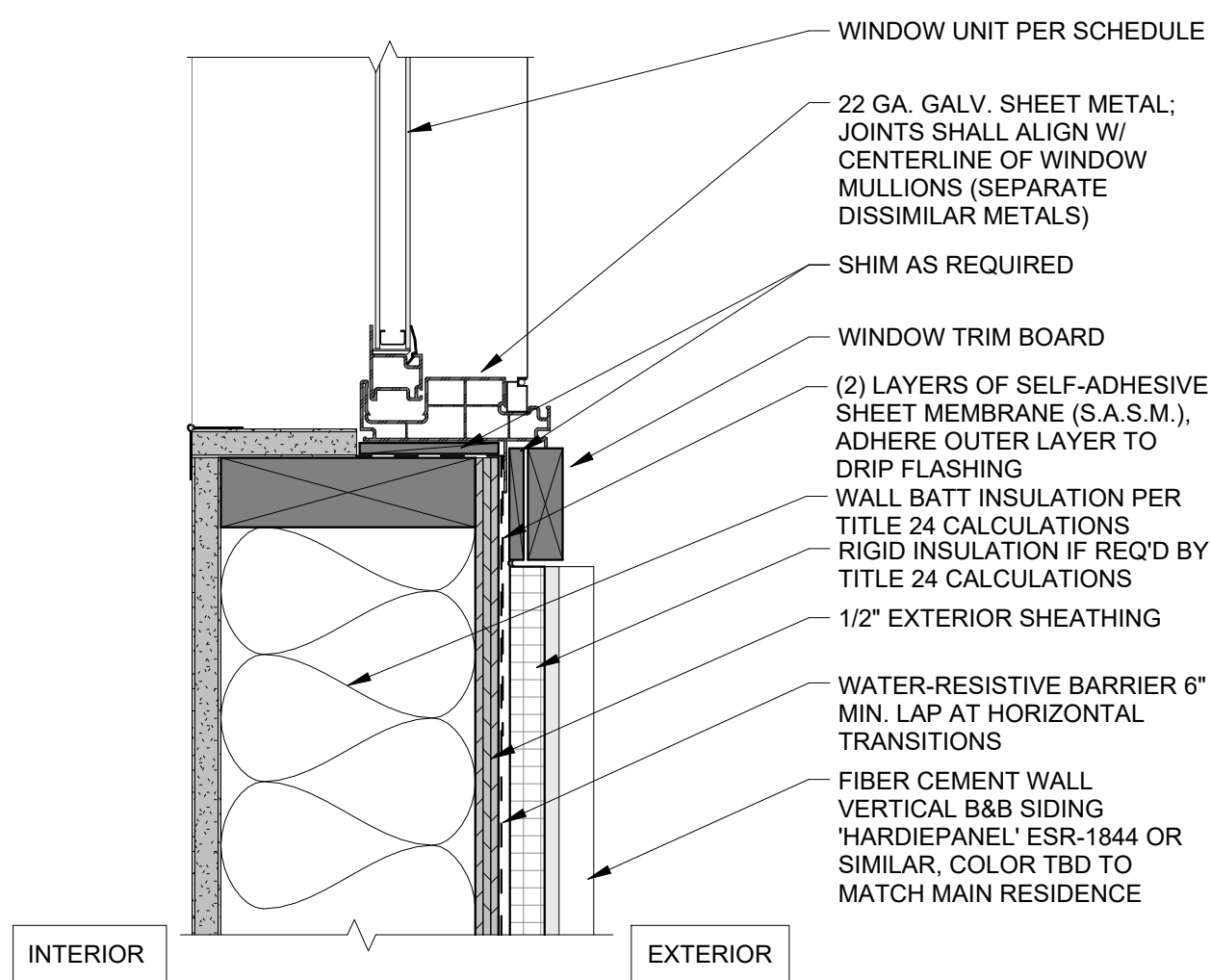
**C1 - ROOF EAVE - SHINGLE PROTECTED
W/ CONT. INSULATION AND B&B**

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



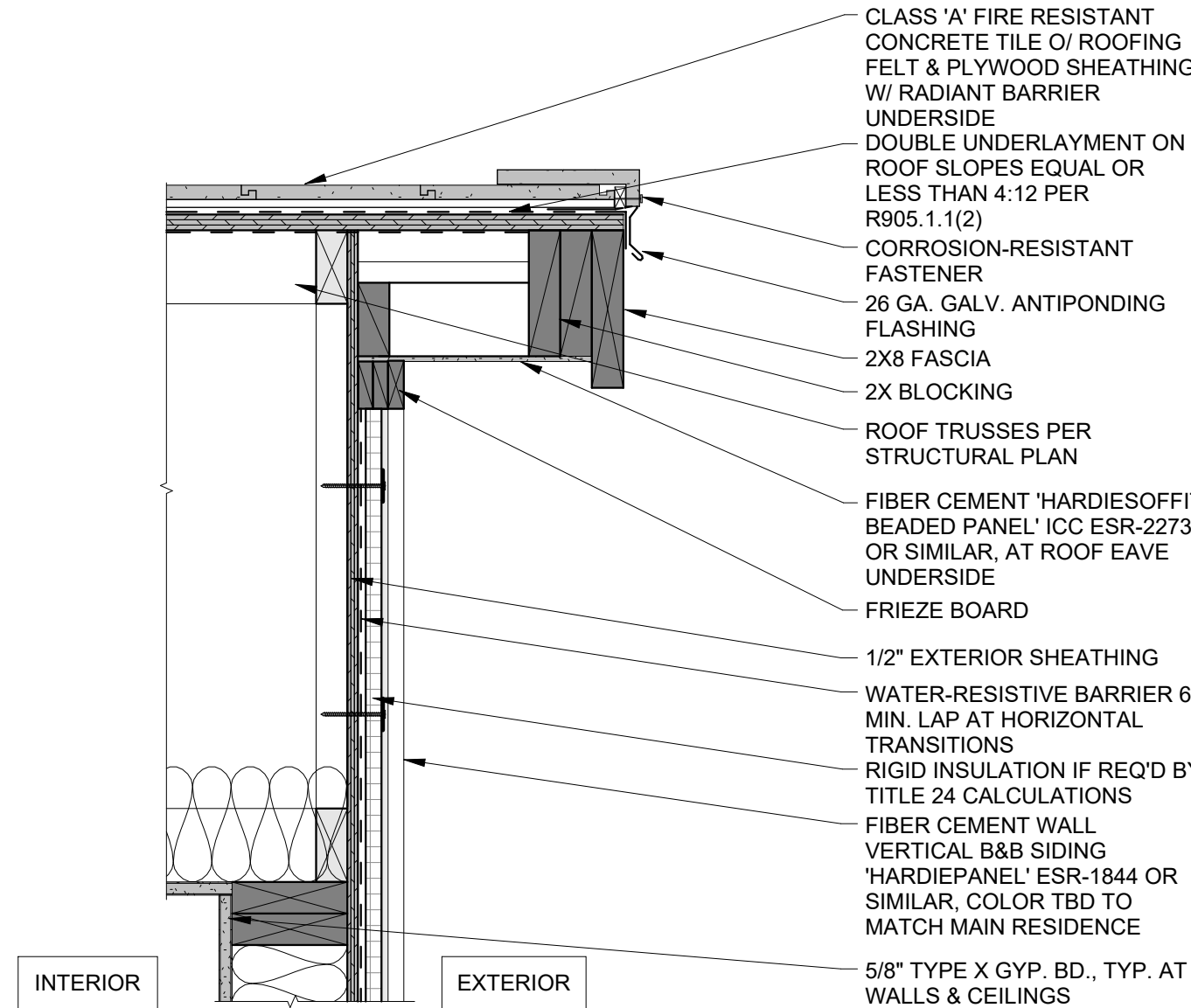
**WALL - EXTERIOR B&B SCREED
W/ CONT. INSULATION**

SCALE: 3" = 1'-0"



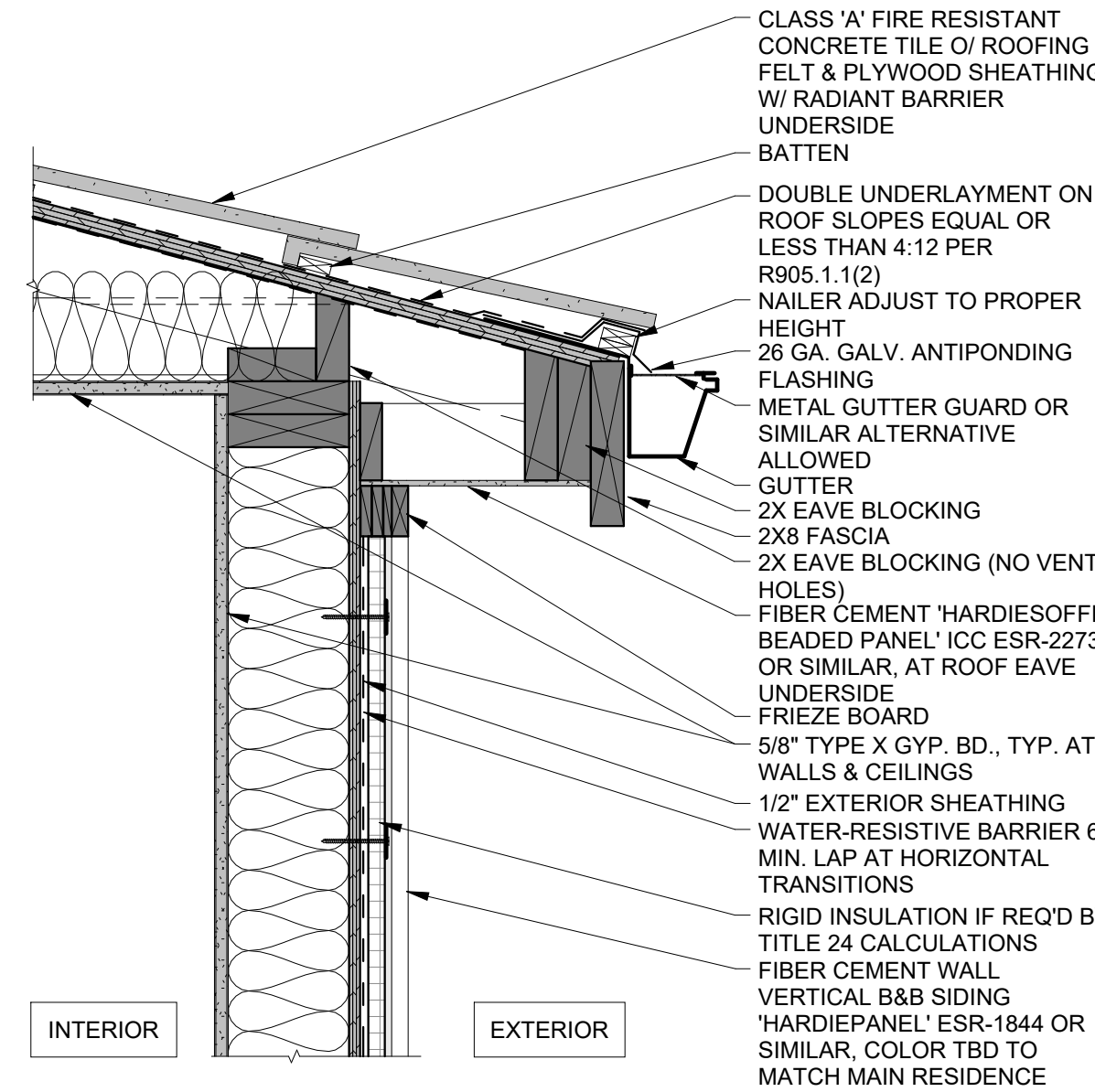
**WINDOW - EXTERIOR SILL @ B&B
W/ CONT. INSULATION**

SCALE: 3" = 1'-0"



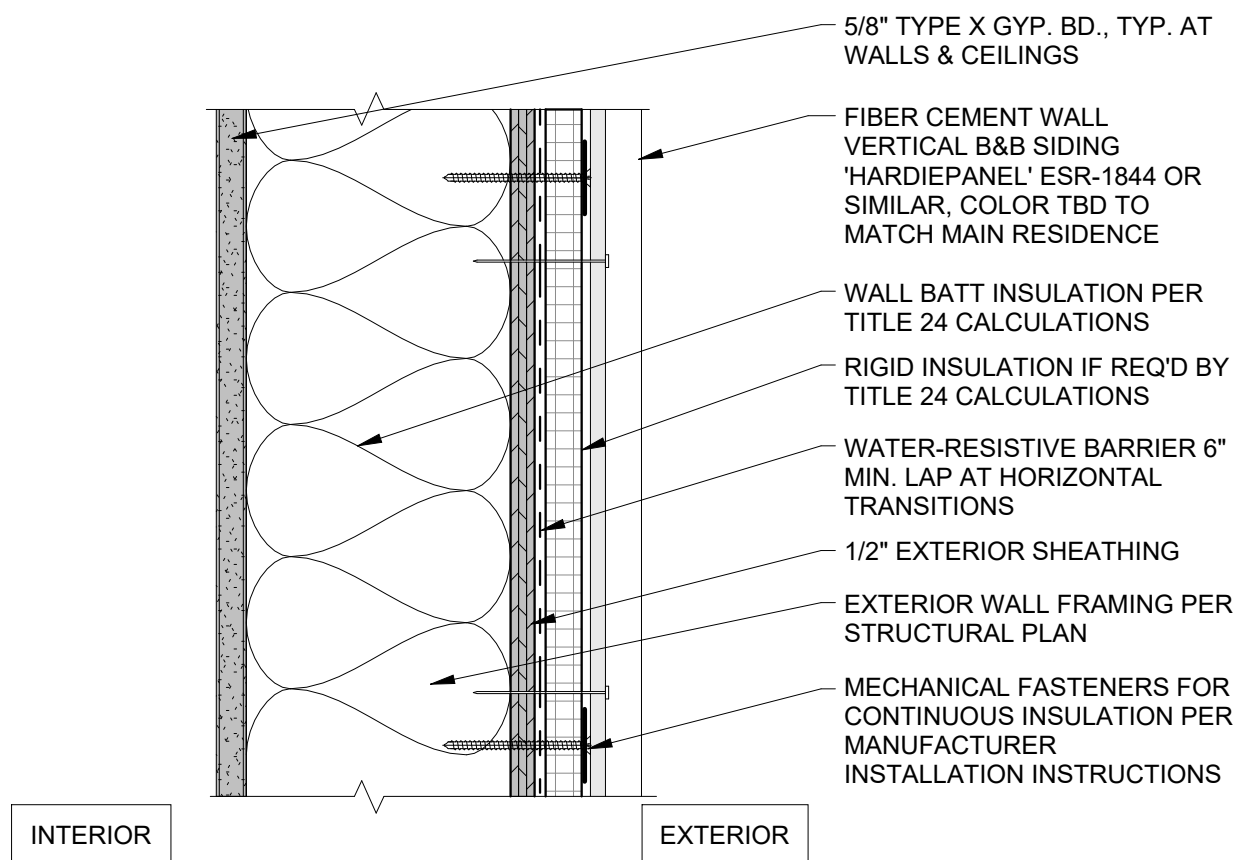
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W/ CONT. INSULATION AND B&B**

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



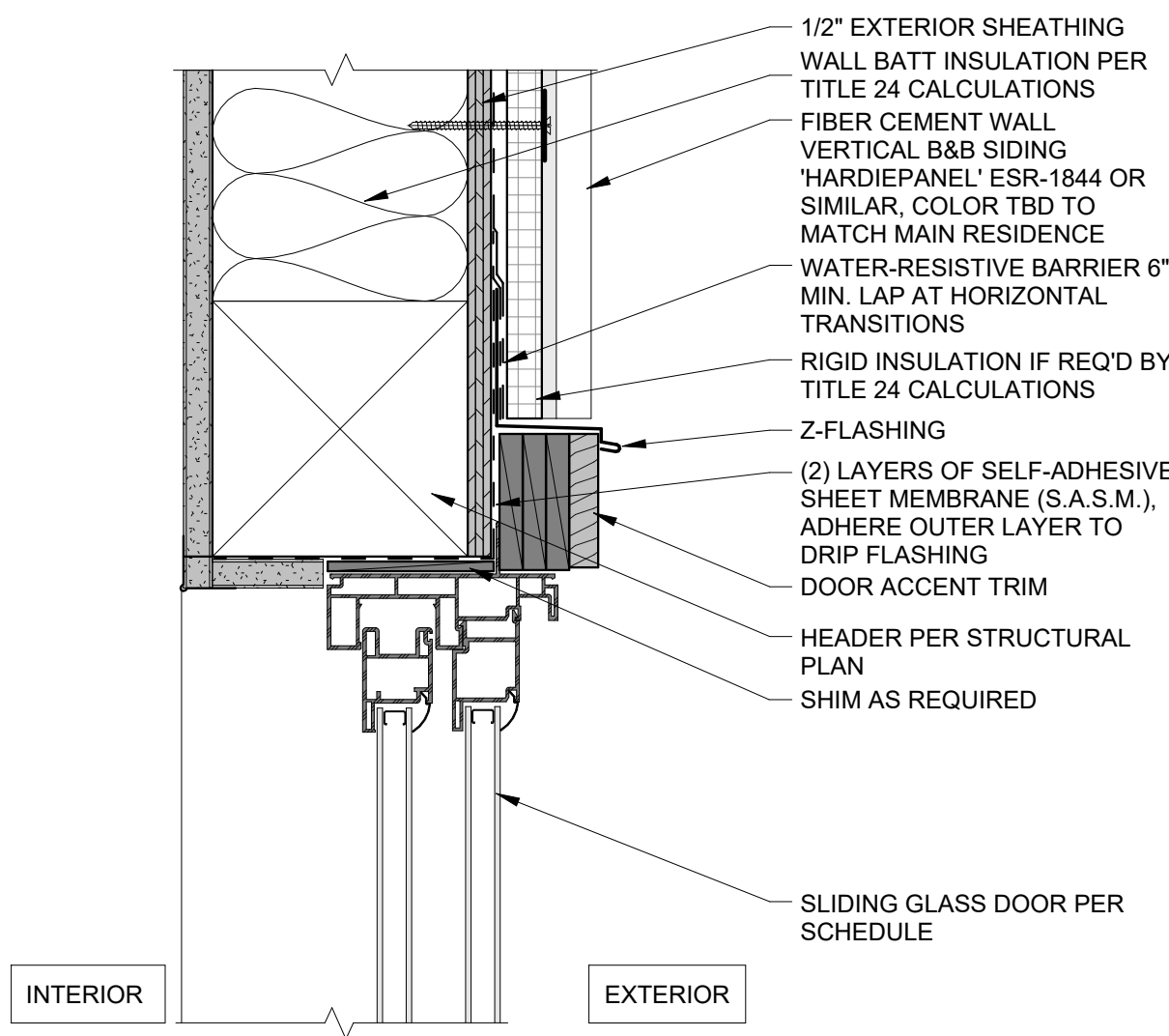
**C2 - ROOF EAVE - CEMENT PROTECTED
W/ CONT. INSULATION AND B&B**

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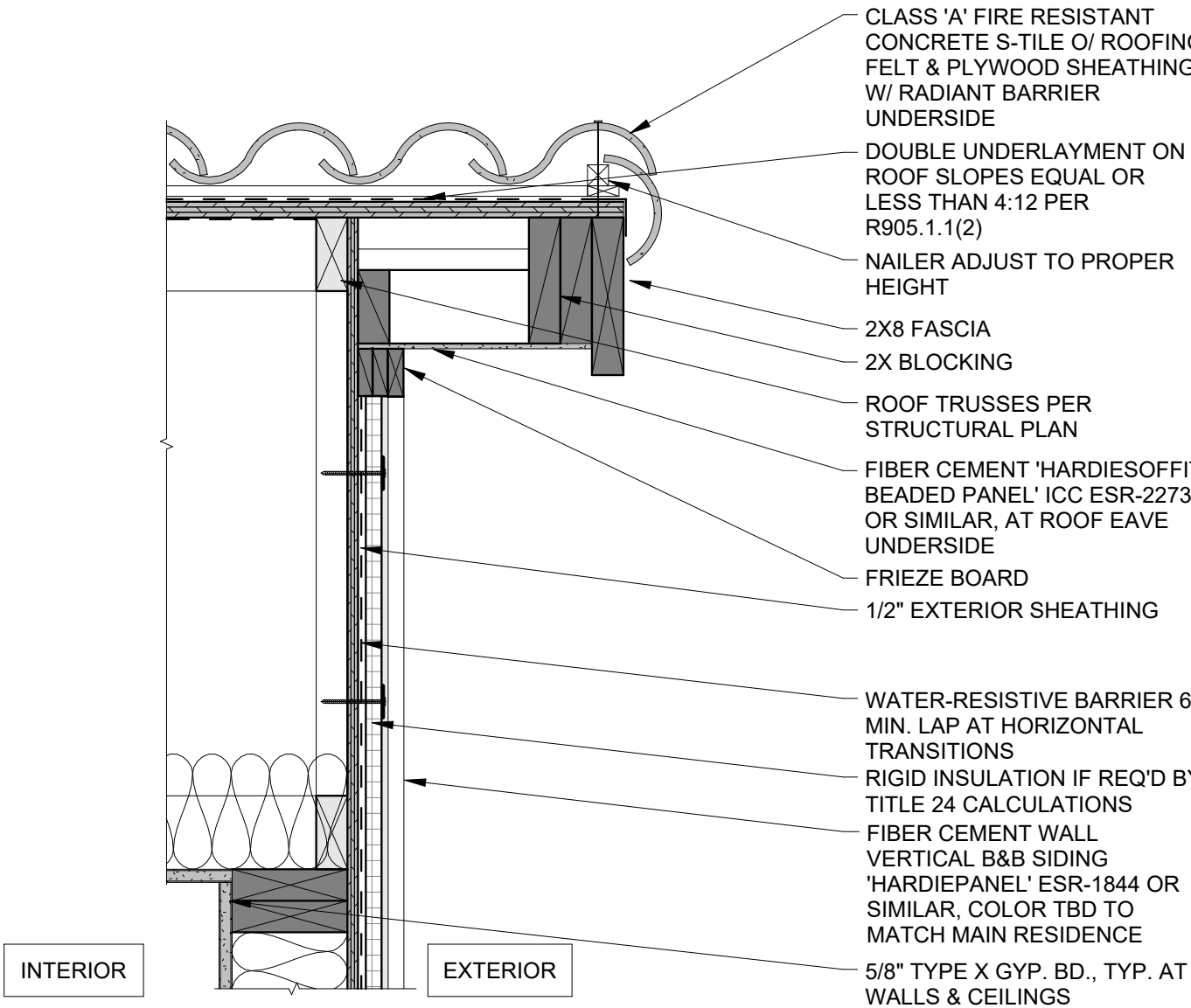
**C - WALL - EXTERIOR 1-HOUR RATED B&B
W/ CONT. INSULATION**

SCALE: 3" = 1'-0"



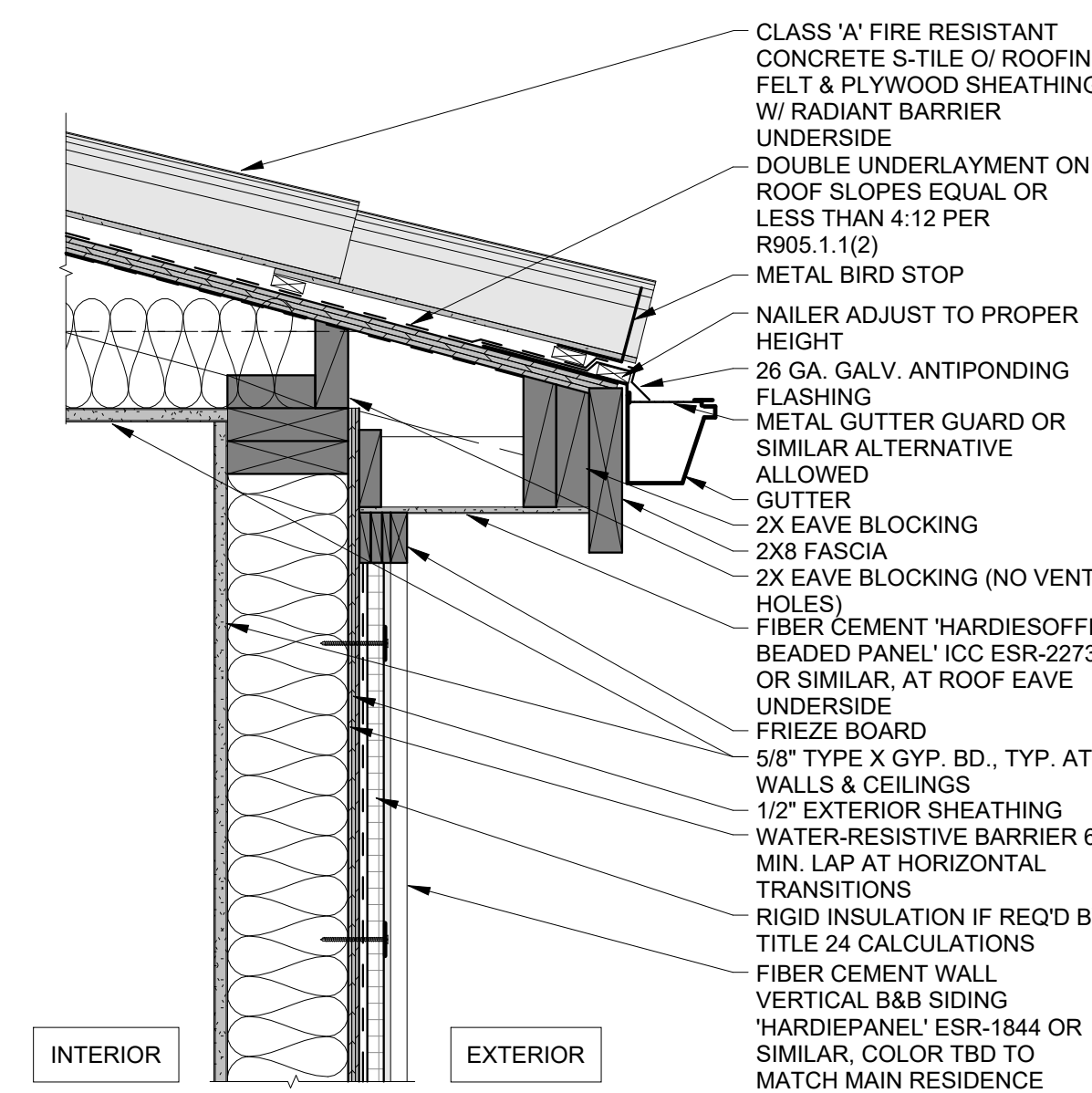
**DOOR - SLIDING GLASS DOOR HEAD @ B&B
W/ CONT. INSULATION (JAMB SIM.)**

SCALE: 3" = 1'-0"



**C3 - ROOF RAKE - S-TILE PROTECTED
W/ CONT. INSULATION AND B&B**

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



**C3 - ROOF EAVE - S-TILE PROTECTED
W/ CONT. INSULATION AND B&B**

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



ADU: 1,199 L-SHAPE REVERSE
CITY OF CHULA VISTA
276 FOURTH AVENUE
CHULA VISTA, CA 91910

DESIGNER:
LUIS CALDERON
SnapADU

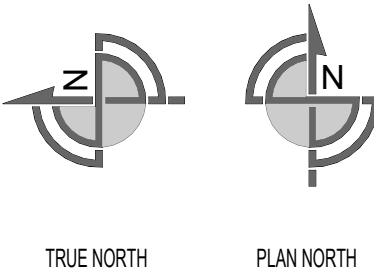
Luis Calderon
SIGNATURE

RELEASE	DATE	BY	APP.	LAG	FOR...
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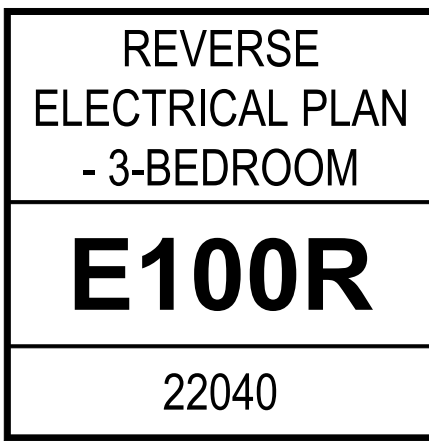
**BOARD & BATTEN
DETAILS**

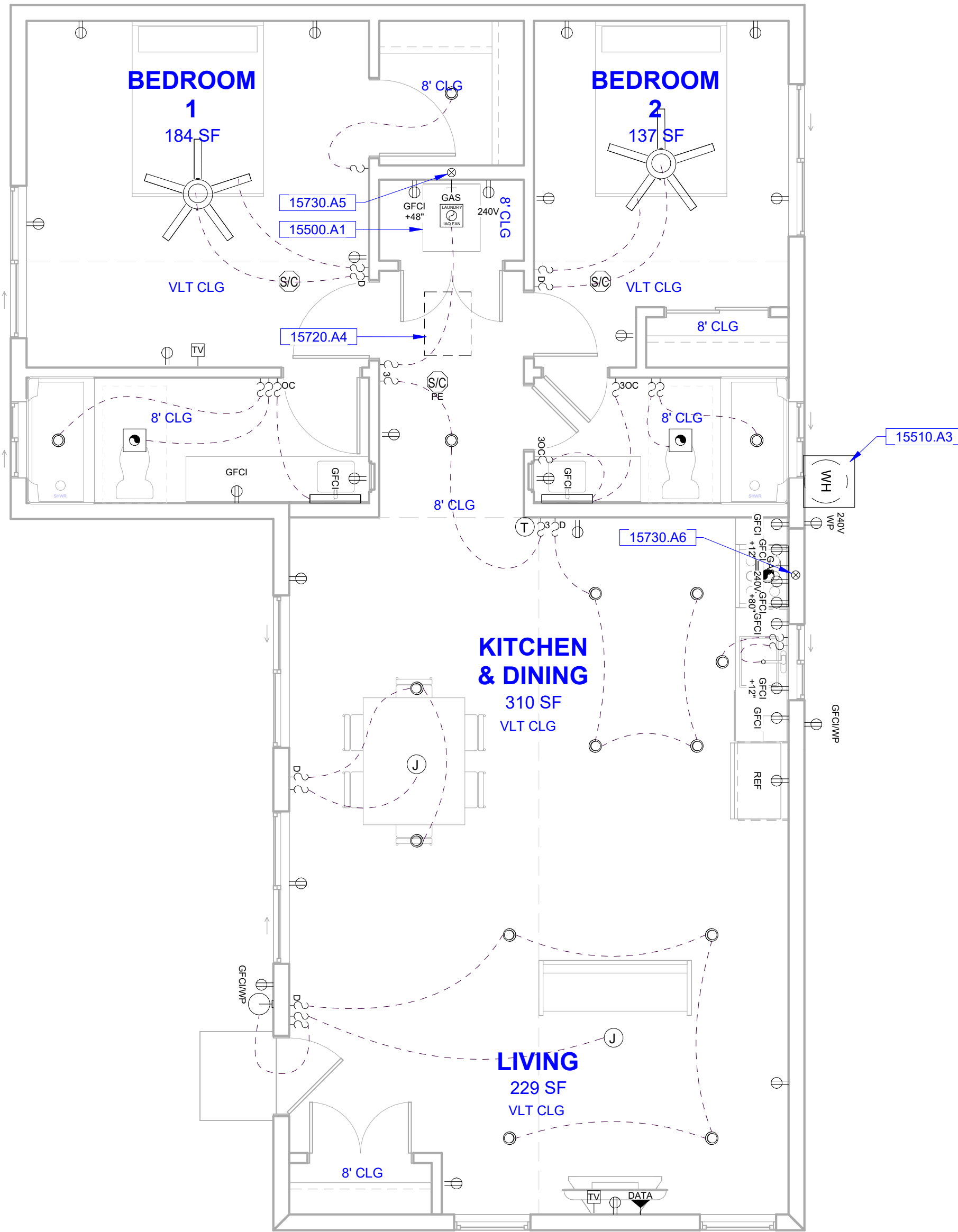
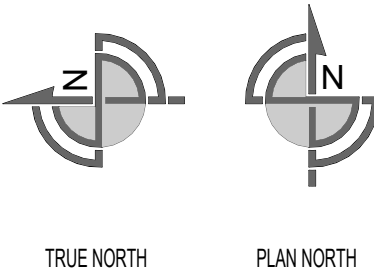
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1. SMOKE ALARMS SHALL BE INTERCONNECTED PER CRC R314.4.
2. SMOKE ALARMS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6 IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS (CRC R314.3):
 - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
 - B. ON EACH STORY OF DWELLING
 - C. IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
3. CARBON MONOXIDE DETECTOR SHALL BE INTERCONNECTED PER CRC R315.1.7 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5. IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS IN DWELLING UNITS WITH FUEL-BURNING APPLIANCES, FIREPLACE, OR AN ATTACHED GARAGE COMMUNICATING WITH THE DWELLING UNIT PER CRC R315.6:
 - A. OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
 - B. ON EACH STORY OF DWELLING
 - C. IN ANY ROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
4. COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL-217 AND UL-2034. CRC R314.1.8 & R315.1.1.
5. SMOKE ALARMS SHALL BE LOCATED AT LEAST 3 FT FROM THE ENTRY DOOR TO ANY BATHROOM CONTAINING A BATHTUB/SHOWER. CRC R314.3.3.
6. ALL SMOKE ALARMS SHALL BE LOCATED AT LEAST 20 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. CRC R314.3.3.
 - A. SMOKE ALARMS ARE ALLOWED TO BE 10 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE IF THE SMOKE ALARM IS AN IONIZATION SMOKE ALARM WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3. (4) EXCEPTION.





KEYNOTES

KEYNOTE	DESCRIPTION
15500.A1	ELECTRIC CLOTHES DRYER (GAS DRYER ALTERN SHALL COMPLY WITH CMC 701.4)
15510.A3	APPLICANT/OWNER TO PROVIDE CUT SHEET FOR WATER HEATER TO MEET MINIMUM REQUIREMENTS OF TITLE 24 CALCULATIONS
15720.A4	22"x30" ATTIC ACCESS
15730.A5	4" DRYER VENT, SEE SHEET G200 CODE EXCERPTS CHAPTER 5: EXHAUST SYSTEMS FOR MORE INFORMATION
15730.A6	HOOD EXHAUST FAN ABOVE ELECTRIC RANGE 110 CFM OR 50% CE MIN. (GAS RANGE 250 CFM OR 80% CE MIN.); 2022 BEES TABLE 150.0-G

ELECTRICAL FLOOR PLAN LEGEND

	SINGLE POLE SWITCH
	THREE-WAY SWITCH
	OCCUPANCY SENSOR SWITCH
	DIMMER SWITCH
	DUPLEX RECEPTACLE OUTLET
	INDICATES OUTLET HEIGHT ABOVE FINISH FLOOR
	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX OUTLET
	INDICATES 240V
	INDICATES WEATHER PROOF
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	JUNCTION BOX
	THERMOSTAT
	(1) OUTLET AND BRUSH PLATE BOX @ +12" AND @ +60"
	COAX CABLE
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	MICROWAVE-HOOD EXHAUST FAN COMBO 110 CFM MIN (IF GAS RANGE 250 CFM MIN. TO BE PROVIDED)
	GAS POINT OF CONNECTION W/ SHUT OFF VALVE
	WATER CONNECTION
	HOSE BIB
	RECESSED CAN LIGHT
	EXTERIOR WALL MOUNTED LIGHT
	VANITY SCONCE LIGHT
	ELECTRIC HEAT PUMP WATER HEATER
	POWER AND DISCONNECT FOR A/C CONDENSER
	A/C CONDENSER
	EVAPORATOR
	CEILING FAN WITH LIGHT

INDOOR AIR QUALITY NOTES:

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

INDOOR AIR QUALITY NOTES:

ASHRAE STANDARD 62.2 EQUATION 4.1(a)
THE WHOLE-BUILDING EXHAUST FAN SHALL PROVIDE A MINIMUM VENTILATION RATE ACCORDING TO EQUATION 4.1(A) BELOW:
$Q_{fan} = 0.03A_{floor} + 7.5 (N_{br} + 1)$
WHERE:
Q_{fan} = FAN FLOW RATE (CFM)
A_{floor} = CONDITIONED FLOOR AREA (S.F.)
N_{br} = NUMBER OF BEDROOM, NOT LESS THAN ONE
CALCULATIONS:
$Q_{fan} = 0.03(1,199) + 7.5 (3 + 1)$
$Q_{fan} = 35.97 + 30$
$= 65.97 \text{ CFM (50 CFM MIN.)}$
IAQ FAN SHALL PROVIDE 65.97 CFM PER T-24 REPORT
LISTED WHOLE-HOUSE FAN NOT REQUIRED
EXHAUST FAN MODEL: S&P PCD110-PREMIUM CHOICE WITH DC MOTOR; 4" DUCT SONE RATING RANGE: 0.7 - 1.2; 6" DUCT SONE RATING RANGE: 0.3 - 1.1

ELECTRICAL NOTES:

POWER NOTES

- ALL ELECTRICAL WORK SHALL BE DESIGN PER 2022 CALIFORNIA ELECTRICAL CODE, 2022 NATIONAL ELECTRICAL CODE, AND 2022 BUILDING ENERGY EFFICIENCY STANDARDS.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
- THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
- ALL THE CONDUCTORS SPECIFIED IN THE PANEL SCHEDULES ARE GROUNDED SEPARATELY.
- PURCHASE RTU WITH FACTORY INSTALLED DISCONNECT. COORDINATE PROPER RATING OF DISCONNECT WITH MANUFACTURER.
- INSTALL WEATHERPROOF (WP), GFI PROTECTED, WEATHER RESISTANT RECEPTACLE OUTLETS ON THE ROOFTOP AND WITHIN 25 FT OF HEATING/AIR CONDITIONING AND IDENTIFIED AND LISTED AS "EXTRA DUTY" PER ARTICLE 408.9 (B)(1) & 408.4(D)(6)
- ALL WORK PERFORMED SHALL COMPLY WITH ALL STATE AND LOCAL ALL ELECTRICAL CODES.
- ALL BRANCH CIRCUIT BREAKERS SHALL BE 10,000 AIC RATING, UNLESS NOTED OTHERWISE.
- ALL THE HVAC UNITS ARE EQUIPPED WITH FACTORY INSTALLED DISCONNECT SWITCH UNLESS NOTIFIED OTHERWISE. COORDINATE WITH MANUFACTURE BEFORE INSTALLATION AND IN THE ABSENCE OF DISCONNECT SWITCH PROVIDE REQUIRED DISCONNECT AS PER NEC 430.104 AND 430.110.
- THE BATHROOM CIRCUITING SHALL BE EITHER A 20-AMP, CIRCUIT DEDICATED TO EACH BATHROOM, OR AT LEAST ONE 20 AMP, CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS PER CEC 210.11(C)(3).
- ALL ELECTRICAL DEVICES INSTALLED IN DWELLINGS SHALL BE PROVIDED WITH ARC-FAULT PROTECTION OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A): KITCHENS, LAUNDRY AREAS, FAMILY, LIVING, BEDROOMS, DINING, HALLS, ETC. CEC ARTICLE 210 & 406.
- ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, SUNROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, AND SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREA SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN 210.12(A)(1) THROUGH (6).
- INSTALL A MINIMUM OF 2 SMALL APPLIANCE BRANCH CIRCUITS WITHIN THE KITCHEN AND DINING AREAS PER CEC 210.11(C)(1) & 210.52(B).
- ALL OUTLETS IN KITCHEN AND BATHROOMS SHALL BE GFCI PER CEC 210.8.
- ALL RECEPTACLES INSTALLED IN THE DWELLING SHOULD BE TAMPER RESISTANT PER ARTICLE 210.52 & 550.13.
- PER CEC 210.11(C)(3), BATHROOM CIRCUITING SHALL BE EITHER:
 - A 20 AMP CIRCUIT DEDICATED TO EACH BATHROOM, OR
 - AT LEAST ONE 20 AMP CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS.
- ELECTRIC POWERED APPLIANCES SHALL BE PROVIDED WITH A 30A CIRCUIT. CEC 220.54.
- ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR. R327.1.2.
- DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED, SHALL NOT EXCEED 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY, WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES (1219.2 MM) MEASURED FROM THE EXTERIOR FLOOR OR LANDING, A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES (1219.2 MM) ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL. R327.1.4.
- SURGE PROTECTION REQUIREMENTS:
 - ALL SERVICES SUPPLYING DWELLING UNITS SHALL BE PROVIDED WITH A SURGE-PROTECTIVE DEVICE (SPD).
 - LOCATION - BE AN INTEGRAL PART OF THE SERVICE EQUIP-MENT OR SHALL BE LOCATED IMMEDIATELY ADJACENT THERETO.
 - EXCEPTION: THE SPD SHALL NOT BE REQUIRED TO BE IN THE SERVICE EQUIPMENT AS REQUIRED IN.
 - IF LOCATED AT EACH NEXT LEVEL DISTRIBUTION EQUIPMENT DOWN-STREAM TOWARD THE LOAD.
 - TYPE - THE SPD SHALL BE A TYPE 1 OR TYPE 2 SPD.

LIGHTING NOTES

- PROVIDE LIGHTING CONTROL WITH CONTINUOUS DIMMING IN ALL AREAS. PROVIDE REQUIRED DRIVERS AND DIMMER SWITCHES FOR CONTINUOUS DIMMING USING 0-10 VOLT DIMMING.
- LIGHTING SHALL PROVIDE NOT LESS THAN 215 LUX (20 FOOTCANDLES) AS MEASURED 30" ABOVE FLOOR.
- IF APPLICABLE, SPECIFY THAT THE EXHAUST FANS TO BE ON A SEPARATE SWITCH FROM LIGHTS PER CENC 150.0(K)2B.
- ALL INSTALLED LUMINAIRES SHALL BE HIGH-EFFICACY IN ACCORDANCE WITH ES TABLE 150.0-A.
 - LUMINAIRES MUST HAVE A LABEL CERTIFIED FOR AIRTIGHT CONSTRUCTION.
 - LIGHT SOURCES THAT ARE NOT MARKED "JAB-2019-E" SHALL NOT BE INSTALLED IN ENCLOSED LUMINAIRES.
- BATHROOMS, GARAGE, LAUNDRY ROOMS, AND UTILITY ROOM LIGHTING TO HAVE ONE LUMINAIRE CONTROLLED BY A VACANCY OR OCCUPANCY SENSOR PROVIDING AUTOMATIC-OFF FUNCTIONALITY PER CENC SECTION 150.0(K)2I. IF AN OCCUPANT SENSOR IS INSTALLED, IT SHALL BE INITIALLY CONFIGURED TO MANUAL-ON OPERATION USING THE MANUAL CONTROL REQUIRED UNDER SECTION 150.0(K)2C.
- ALL OTHER LUMINAIRES THAT CONTAIN LIGHT SOURCES THAT MEET REFERENCE JOINT APPENDIX JAB REQUIREMENTS ARE TO BE CONTROLLED BY A VACANCY/OCCUPANCY SENSOR OR DIMMER PER CENC SECTION 150.0(K)2J. NOTE THAT CLOSETS WITH AN AREA LESS THAN 70 FT² AND HALLWAY LIGHTING ARE EXEMPT FROM THIS REQUIREMENT.
- RECESSED CAN LIGHT FIXTURES SHALL BE IC LISTED, AIR-TIGHT LABELED, AND NOT BE EQUIPPED WITH A STANDARDS-MEDIUM BASE SCONCE/SHELL LAMP HOLDER. ES 150.0(K)
- SD OUTDOOR LIGHTING FIXTURES THAT ARE ATTACHED TO A BUILDING ARE REQUIRED TO BE HIGH EFFICACY, BE MANUALLY ON/OFF SWITCH CONTROLLED, AND HAVE BOTH MOTION SENSOR AND PHOTOCELL CONTROL. SEE ES 150.0(K) 3 FOR ADDITIONAL CONTROL OPTIONS.

SDGE NOTES:

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

MECHANICAL NOTES:

EXHAUST FAN NOTES

- KITCHENS REQUIRE EXHAUST FANS WITH A MINIMUM 110 CFM (250 CFM IF GAS RANGE) DUCTED TO THE EXTERIOR. DETAIL COMPLIANCE BY INCLUDING A COMPLYING EXHAUST FAN OR A DUCTED RANGE HOOD TO THE EXTERIOR.
- BATHROOMS REQUIRE EXHAUST FANS (MINIMUM 50 CFM) TO BE DUCTED TO THE EXTERIOR. A BATHROOM IS DEFINED "AS A ROOM WITH A BATHTUB, SHOWER, OR SPA OR SOME SIMILAR SOURCE OF MOISTURE."
- RESIDENTIAL BATHROOM EXHAUST FANS SHALL BE ENERGY STAR RATED AND SHALL BE CONTROL BY A HUMIDISTAT CAPABLE OF AN ADJUSTMENT BETWEEN 50 AND 80% HUMIDITY. CALGREEN 4.508.1. EXCEPTION: CONTROL BY A HUMIDISTAT IS NOT REQUIRED IF THE BATHROOM EXHAUST FAN IS ALSO THE DWELLING WHOLE HOUSE VENTILATION.

SMOKE & CARBON MONOXIDE NOTES:

SMOKE & CARBON MONOXIDE ALARM NOTES

- SMOKE ALARMS SHALL BE INTERCONNECTED PER CRC R314.4.
- SMOKE ALARMS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6 IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS (CRC R314.3):
 - OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
 - ON EACH STORY OF DWELLING
 - IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
- CARBON MONOXIDE DETECTOR SHALL BE INTERCONNECTED PER CRC R315.1.7 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5 - IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS IN DWELLING UNITS WITH FUEL-BURNING APPLIANCES, FIREPLACE, OR AN ATTACHED GARAGE COMMUNICATING WITH THE DWELLING UNIT (CRC R315):
 - OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
 - ON EACH STORY OF DWELLING
 - IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
- COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL-217 AND UL-2034. CRC R314.1.1 & R315.1.1.
- SMOKE ALARMS SHALL BE LOCATED AT LEAST 3 FT FROM THE ENTRY DOOR TO ANY BATHROOM CONTAINING A BATHTUB/SHOWER. CRC R314.3.3.
- ALL SMOKE ALARMS SHALL BE LOCATED AT LEAST 20 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. CRC R314.3.3.
 - SMOKE ALARMS ARE ALLOWED TO BE 10 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE IF THE SMOKE ALARM IS AN IONIZATION SMOKE ALARM WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3. (4) EXCEPTION.



ADU: 1,199 L-SHAPE REVERSE
CITY OF CHULA VISTA
276 FOURTH AVENUE
CHULA VISTA, CA 91910

DESIGNER:
LUIS CALDERON
SnapADU

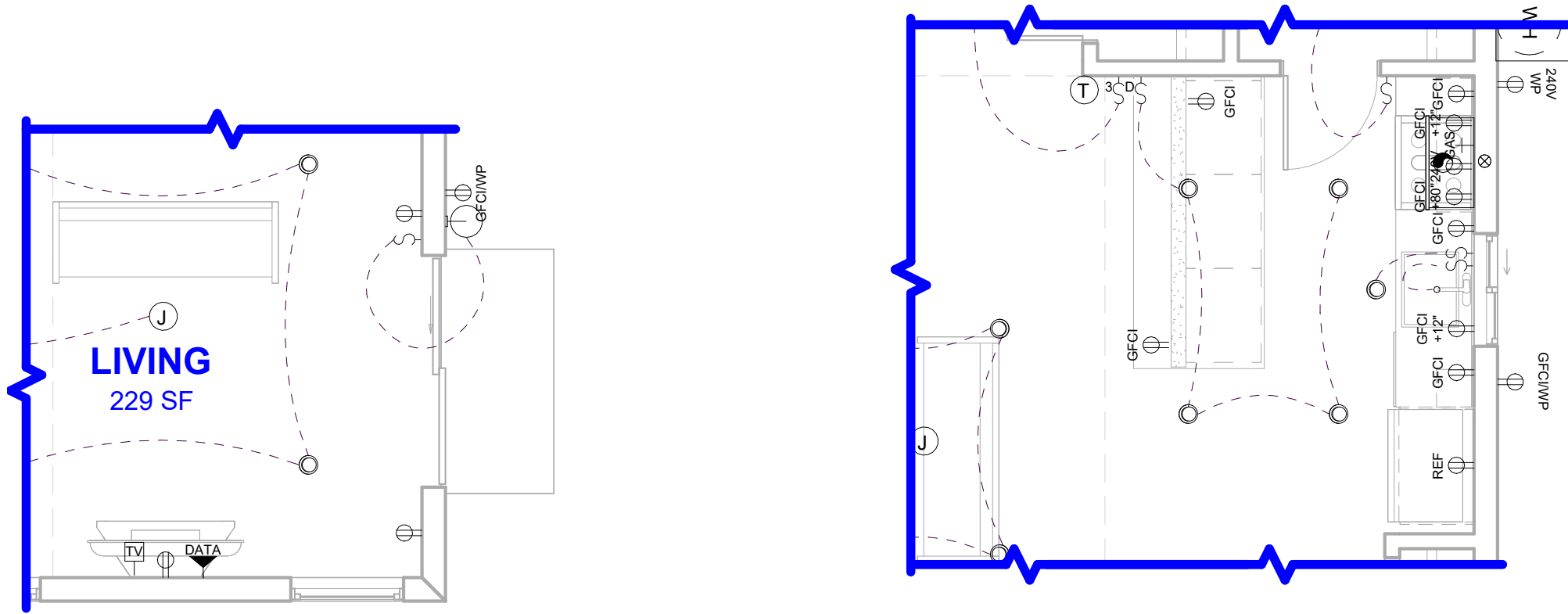
SIGNATURE

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

REVERSE
ELECTRICAL PLAN
- 2-BEDROOM

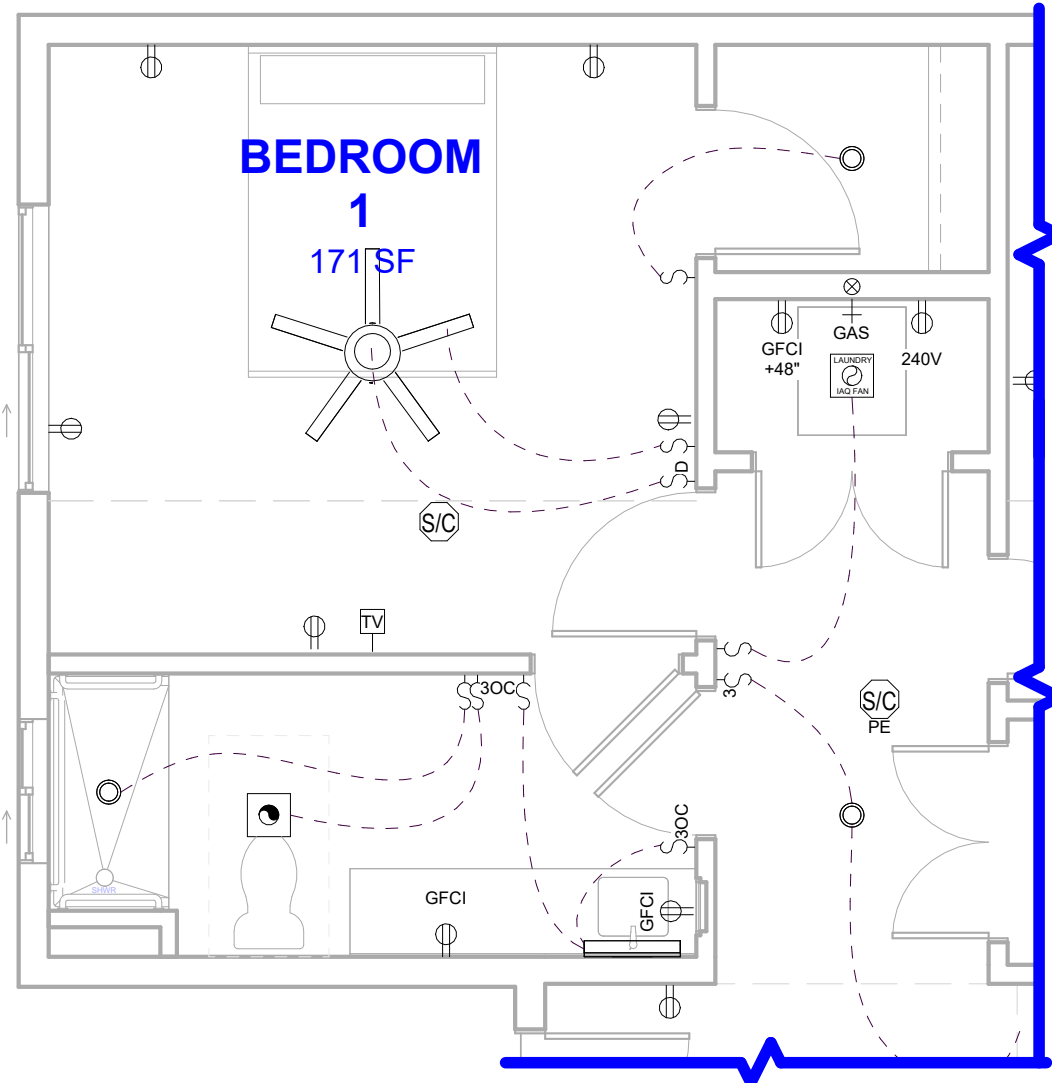
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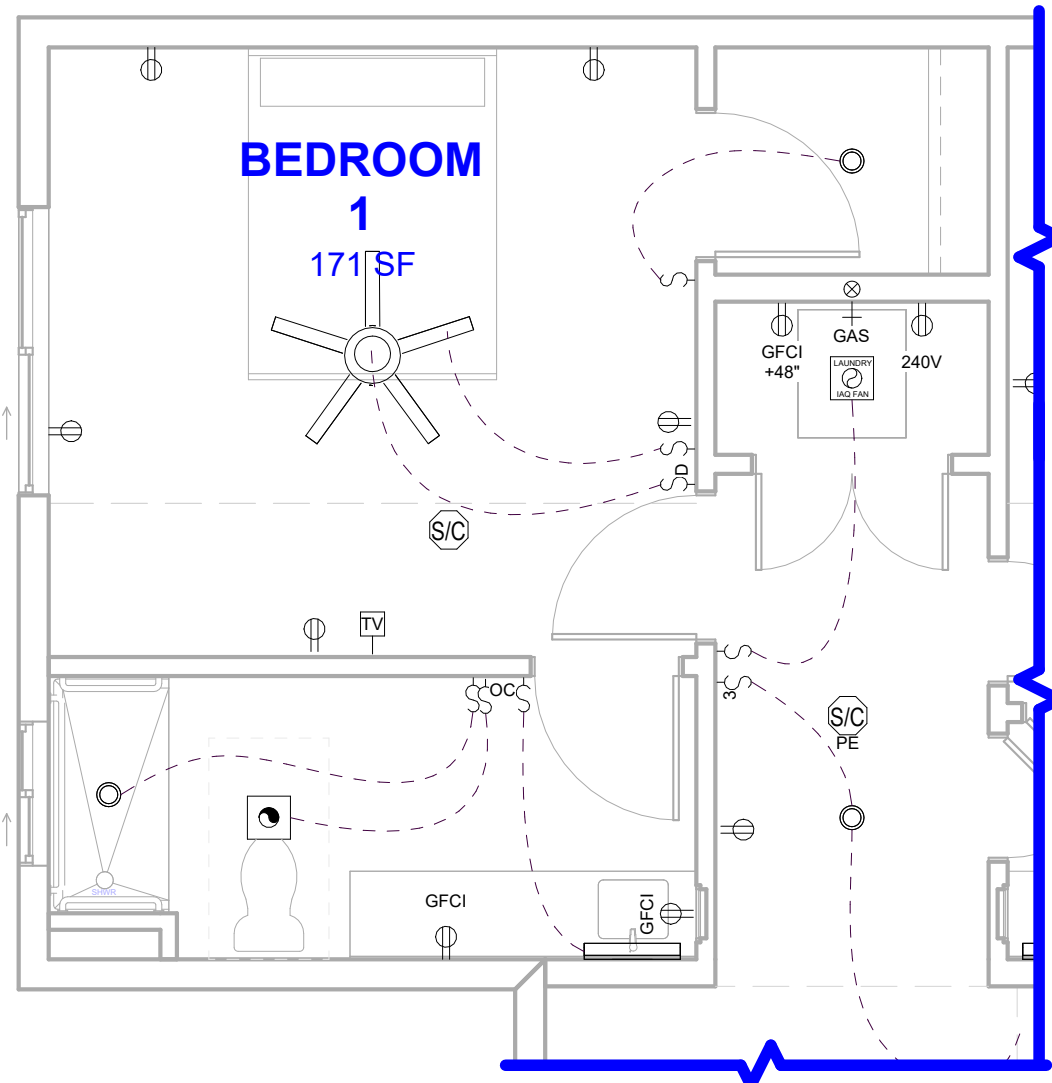
4 REVERSE 6'-0" x 6'-8" SLIDING GLASS DOOR OPTION
AT 2-BEDROOM OPTION ELECTRICAL PLAN

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



5 REVERSE ENLARGED BEDROOM & BATH DOOR AT
STANDARD 3-BEDROOM ELECTRICAL PLAN

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

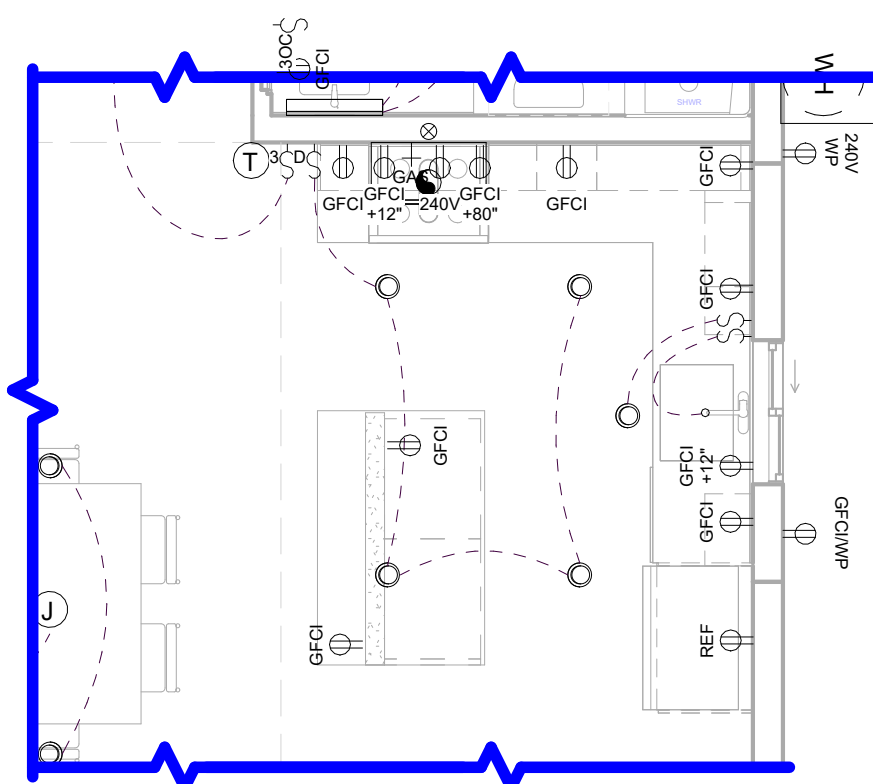


6 REVERSE ENLARGED BEDROOM & BATH DOOR AT
2-BEDROOM OPTION ELECTRICAL PLAN

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

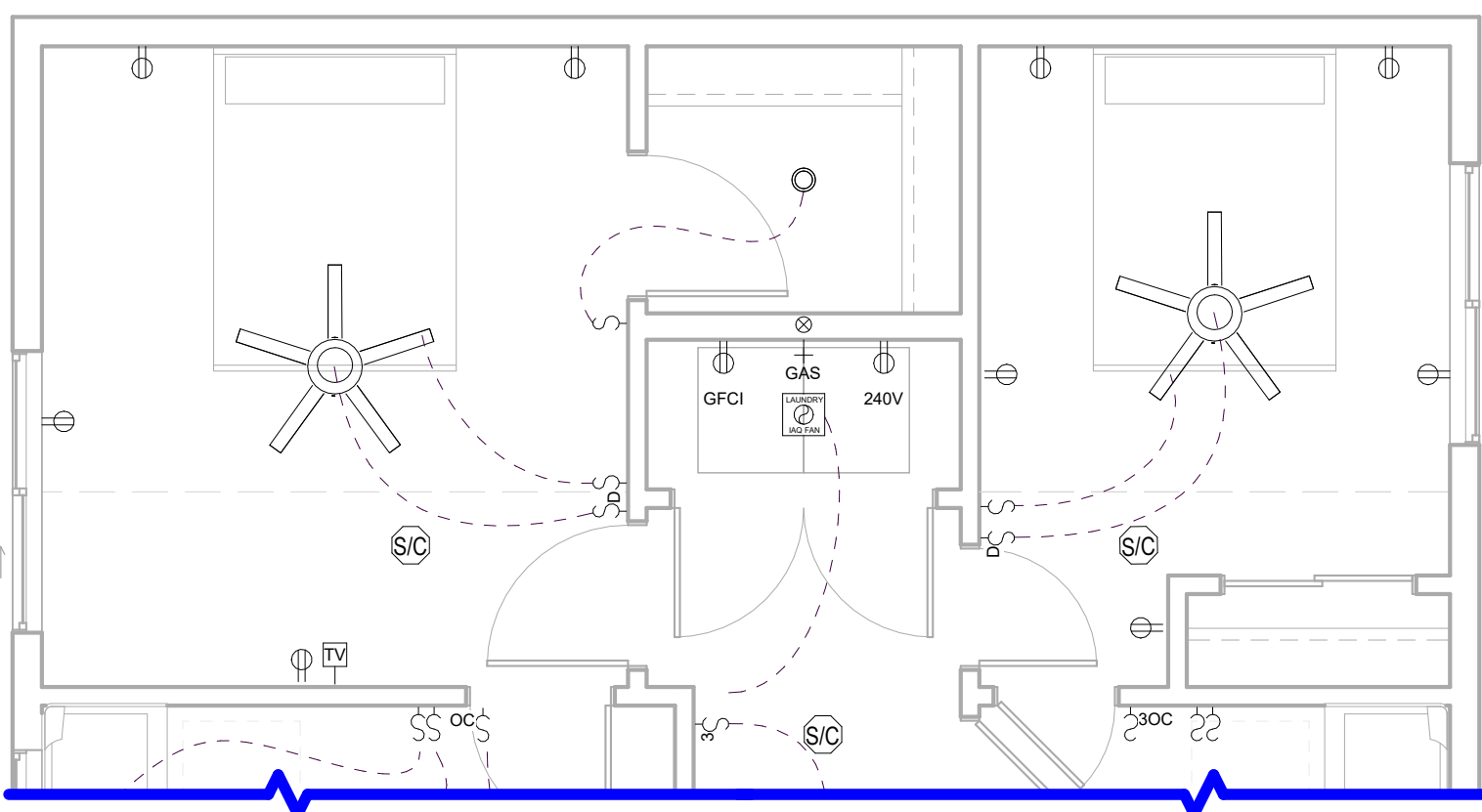
1 REVERSE 8' PENINSULA OPTION
ELECTRICAL PLAN

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



2 REVERSE L-KITCHEN W/ 5' ISLAND AT
2-BEDROOM OPTION ELECTRICAL PLAN

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



3 REVERSE SIDE BY SIDE LAUNDRY OPTION
ELECTRICAL PLAN

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

KEYNOTES

KEYNOTE	DESCRIPTION
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ELECTRICAL FLOOR PLAN LEGEND

	SINGLE POLE SWITCH
	THREE-WAY SWITCH
	OCCUPANCY SENSOR SWITCH
	DIMMER SWITCH
	DUPLEX RECEPTACLE OUTLET
	INDICATES OUTLET HEIGHT ABOVE FINISH FLOOR
	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX OUTLET
	INDICATES 240V
	INDICATES WEATHER PROOF
	SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	PHOTOELECTRIC SMOKE / CARBON MONOXIDE DETECTOR HARDWIRED W/ BATTERY BACKUP
	JUNCTION BOX
	THERMOSTAT
	(1) OUTLET AND BRUSH PLATE BOX @ +12" AND @ +60"
	COAX CABLE
	EXHAUST VENT FAN - INTERMITTENT 50 CFM MIN / CONTINUOUS 20 CFM MIN
	EXHAUST VENT FAN SHALL BE USED TO MEET THE REQUIREMENTS FOR INDOOR AIR QUALITY (IAQ) PER T24 REPORT
	MICROWAVE-HOOD EXHAUST FAN COMBO 110 CFM MIN (IF GAS RANGE 250 CFM MIN. TO BE PROVIDED)
	GAS POINT OF CONNECTION W/ SHUT OFF VALVE
	WATER CONNECTION
	HOSE BIB
	RECESSED CAN LIGHT
	EXTERIOR WALL MOUNTED LIGHT
	VANITY SCONCE LIGHT
	ELECTRIC HEAT PUMP WATER HEATER
	POWER AND DISCONNECT FOR A/C CONDENSER
	A/C CONDENSER
	EVAPORATOR
	CEILING FAN WITH LIGHT

INDOOR AIR QUALITY NOTES:

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

INDOOR AIR QUALITY NOTES:

ASHRAE STANDARD 62.2 EQUATION 4.1(a) THE WHOLE-BUILDING EXHAUST FAN SHALL PROVIDE A MINIMUM VENTILATION RATE ACCORDING TO EQUATION 4.1(A) BELOW: $Q_{fan} = 0.03A_{floor} + 7.5(N_{br} + 1)$ WHERE: Q_{fan} = FAN FLOW RATE (CFM) A_{floor} = CONDITIONED FLOOR AREA (S.F.) N_{br} = NUMBER OF BEDROOM, NOT LESS THAN ONE CALCULATIONS: $Q_{fan} = 0.03(1,199) + 7.5(3 + 1)$ $Q_{fan} = 35.97 + 30$ $= 65.97 \text{ CFM (50 CFM MIN.)}$ IAQ FAN SHALL PROVIDE 65.97 CFM PER T-24 REPORT LISTED WHOLE-HOUSE FAN NOT REQUIRED EXHAUST FAN MODEL: S&P PCD110-PREMIUM CHOICE WITH DC MOTOR; 4" DUCT SONE RATING RANGE: 0.7 - 1.2; 6" DUCT SONE RATING RANGE: 0.3 - 1.1

ELECTRICAL NOTES:

POWER NOTES

- ALL ELECTRICAL WORK SHALL BE DESIGN PER 2022 CALIFORNIA ELECTRICAL CODE, 2022 NATIONAL ELECTRICAL CODE, AND 2022 BUILDING ENERGY EFFICIENCY STANDARDS.
- ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
- THE MAXIMUM COMBINED VOLTAGE DROP ON BOTH INSTALLED FEEDER CONDUCTORS AND BRANCH CIRCUIT CONDUCTORS TO THE FARTHEST CONNECTED LOAD OR OUTLET SHALL NOT EXCEED 5 PERCENT.
- ALL THE CONDUCTORS SPECIFIED IN THE PANEL SCHEDULES ARE GROUNDED SEPARATELY.
- PURCHASE RTU WITH FACTORY INSTALLED DISCONNECT. COORDINATE PROPER RATING OF DISCONNECT WITH MANUFACTURER.
- INSTALL WEATHERPROOF (WP), GFI PROTECTED, WEATHER RESISTANT RECEPTACLE OUTLETS ON THE ROOFTOP AND WITHIN 25 FT OF HEATING/AIR CONDITIONING AND IDENTIFIED AND LISTED AS "EXTRA DUTY" PER ARTICLE 408.9 (B)(1) & 408.4(D)(6)
- ALL WORK PERFORMED SHALL COMPLY WITH ALL STATE AND LOCAL ALL ELECTRICAL CODES.
- ALL BRANCH CIRCUIT BREAKERS SHALL BE 10,000 AIC RATING, UNLESS NOTED OTHERWISE.
- ALL THE HVAC UNITS ARE EQUIPPED WITH FACTORY INSTALLED DISCONNECT SWITCH UNLESS NOTIFIED OTHERWISE. COORDINATE WITH MANUFACTURE BEFORE INSTALLATION AND IN THE ABSENCE OF DISCONNECT SWITCH PROVIDE REQUIRED DISCONNECT AS PER NEC 430.104 AND 430.110.
- THE BATHROOM CIRCUITING SHALL BE EITHER A 20-AMP. CIRCUIT DEDICATED TO EACH BATHROOM, OR AT LEAST ONE 20 AMP. CIRCUIT SUPPLYING ONLY BATHROOM RECEPTACLE OUTLETS PER CEC 210.11(C)(3).
- ALL ELECTRICAL DEVICES INSTALLED IN DWELLINGS SHALL BE PROVIDED WITH ARC-FAULT PROTECTION OUTLETS (NOT JUST RECEPTACLES) LOCATED IN ROOMS DESCRIBED IN NEC 210.12(A): KITCHENS, LAUNDRY AREAS, FAMILY, LIVING, BEDROOMS, DINING, HALLS, ETC. CEC ARTICLE 210 & 406.
- ALL 120-VOLT, SINGLE-PHASE, 15- AND 20-AMPERE BRANCH CIRCUITS SUPPLYING OUTLETS OR DEVICES INSTALLED IN DWELLING UNIT KITCHENS, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, AND SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS, OR SIMILAR ROOMS OR AREA SHALL BE PROTECTED BY ANY OF THE MEANS DESCRIBED IN 210.12(A)(1) THROUGH (6).
- INSTALL A MINIMUM OF 2 SMALL APPLIANCE BRANCH CIRCUITS WITHIN THE KITCHEN AND DINING AREAS PER CEC 210.11(C)(1) & 210.52(B).
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- ELECTRIC POWERED APPLIANCES SHALL BE PROVIDED WITH A 30A CIRCUIT. CEC 220.54.
- ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR. R327.1.2.
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- ALL OTHER LUMINAIRES THAT CONTAIN LIGHT SOURCES THAT MEET REFERENCE JOINT APPENDIX JAB REQUIREMENTS ARE TO BE CONTROLLED BY A VACANCY/OCCUPANCY SENSOR OR DIMMER PER CENC SECTION 150.0(K)2J. NOTE THAT CLOSETS WITH AN AREA LESS THAN 70 FT² AND HALLWAY LIGHTING ARE EXEMPT FROM THIS REQUIREMENT.
- RECESSED CAN LIGHT FIXTURES SHALL BE IC LISTED, AIR-TIGHT LABELED, AND NOT BE EQUIPPED WITH A STANDARDS MEDIUM BASE SCREW SHELL LAMP HOLDER. ES 150.0(K)
- 8'FD OUTDOOR LIGHTING FIXTURES THAT ARE ATTACHED TO A BUILDING ARE REQUIRED TO BE HIGH EFFICACY, BE MANUALLY ON/OFF SWITCH CONTROLLED, AND HAVE BOTH MOTION SENSOR AND PHOTOCCELL CONTROL. SEE ES 150.0(K) 3 FOR ADDITIONAL CONTROL OPTIONS.

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EXHAUST FAN NOTES

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- SMOKE ALARMS SHALL BE HARD-WIRED WITH BATTERY BACK-UP PER CRC R314.6 IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS (CRC R314.3):
 - OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
 - ON EACH STORY OF DWELLING
 - IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
- CARBON MONOXIDE DETECTOR SHALL BE INTERCONNECTED PER CRC R315.1.7 AND HARD-WIRED WITH BATTERY BACK-UP PER CRC R315.5 - IN THE FOLLOWING LOCATIONS ON FLOOR PLANS OR UTILITY PLANS IN DWELLING UNITS WITH FUEL-BURNING APPLIANCES, FIREPLACE, OR AN ATTACHED GARAGE COMMUNICATING WITH THE DWELLING UNIT (CRC R315):
 - OUTSIDE EACH SEPARATE SLEEPING AREA IN IMMEDIATE VICINITY OF BEDROOMS
 - ON EACH STORY OF DWELLING
 - IN ANY BEDROOM WITH A FUEL-BURNING APPLIANCE LOCATED WITHIN THAT BEDROOM OR ITS ATTACHED BATHROOM
- COMBINATION SMOKE AND CARBON MONOXIDE ALARMS SHALL BE LISTED IN ACCORDANCE WITH UL-217 AND UL-2034. CRC R314.1.1 & R315.1.1.
- SMOKE ALARMS SHALL BE LOCATED AT LEAST 3 FT FROM THE ENTRY DOOR TO ANY BATHROOM CONTAINING A BATHTUB/SHOWER. CRC R314.3.3.
- ALL SMOKE ALARMS SHALL BE LOCATED AT LEAST 20 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. CRC R314.3.3.
 - SMOKE ALARMS ARE ALLOWED TO BE 10 FT FROM A PERMANENTLY INSTALLED COOKING APPLIANCE IF THE SMOKE ALARM IS AN IONIZATION SMOKE ALARM WITH ALARM SILENCING SWITCH, OR PHOTOELECTRIC SMOKE ALARM IN ACCORDANCE CRC R314.3.3. (4) EXCEPTION.

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

ADU: 1,199 L-SHAPE REVERSE

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

DESIGNER:

LUIS CALDERON
SnapADU

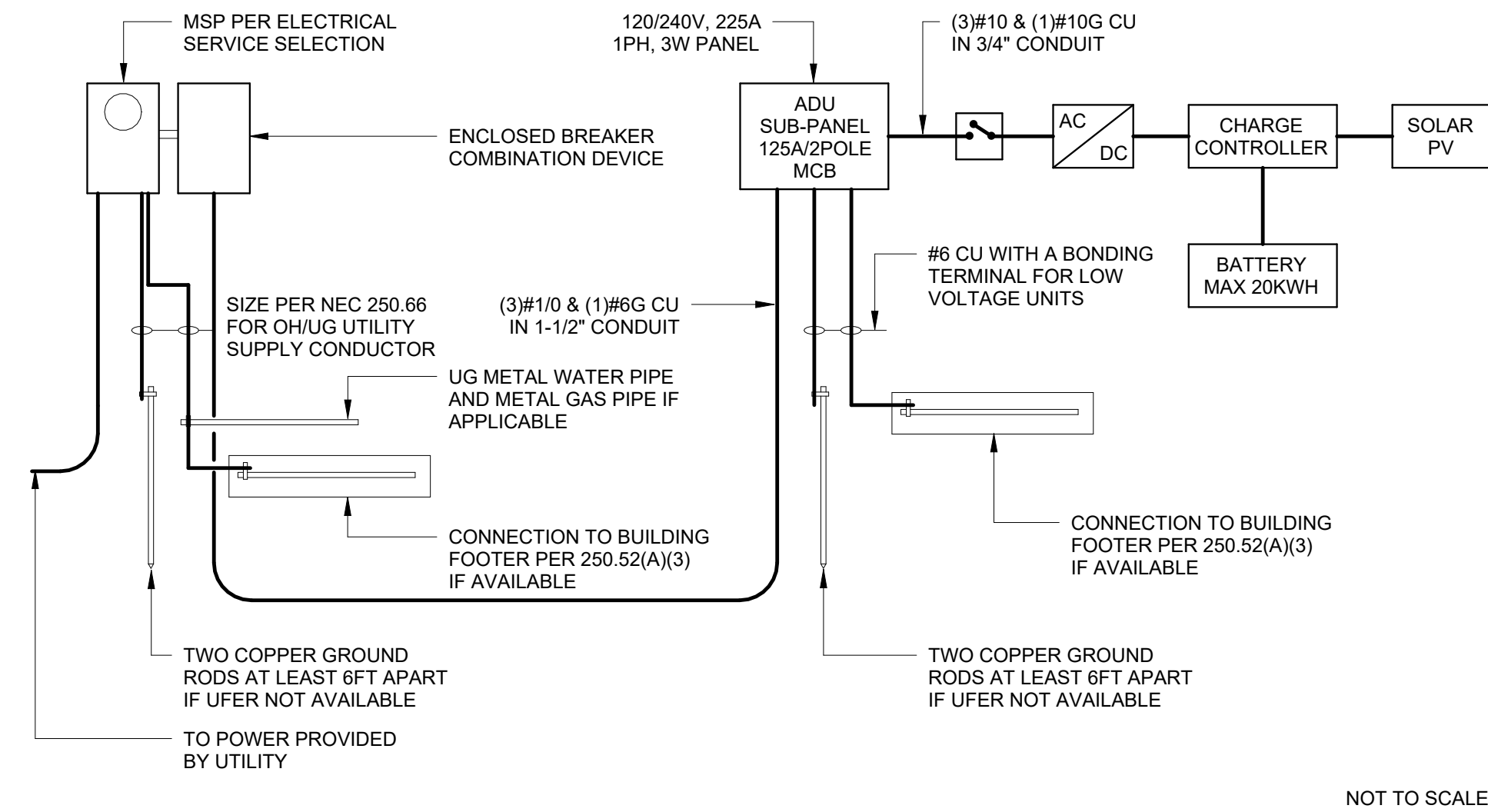
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RELEASE	DATE	BY	APP.	RELEASED FOR...
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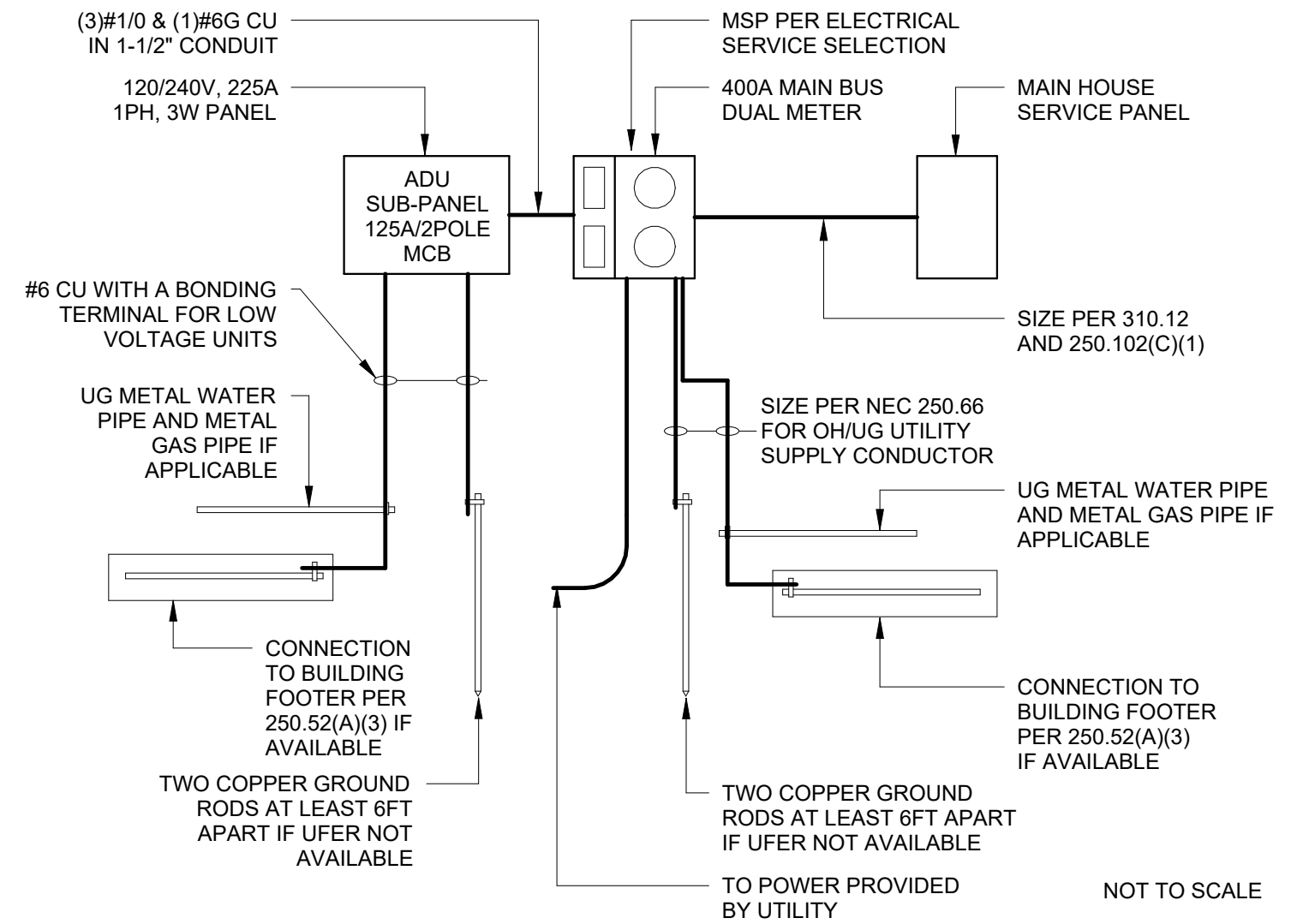
REVERSE
ELECTRICAL PLAN
- OPTIONS

E102R

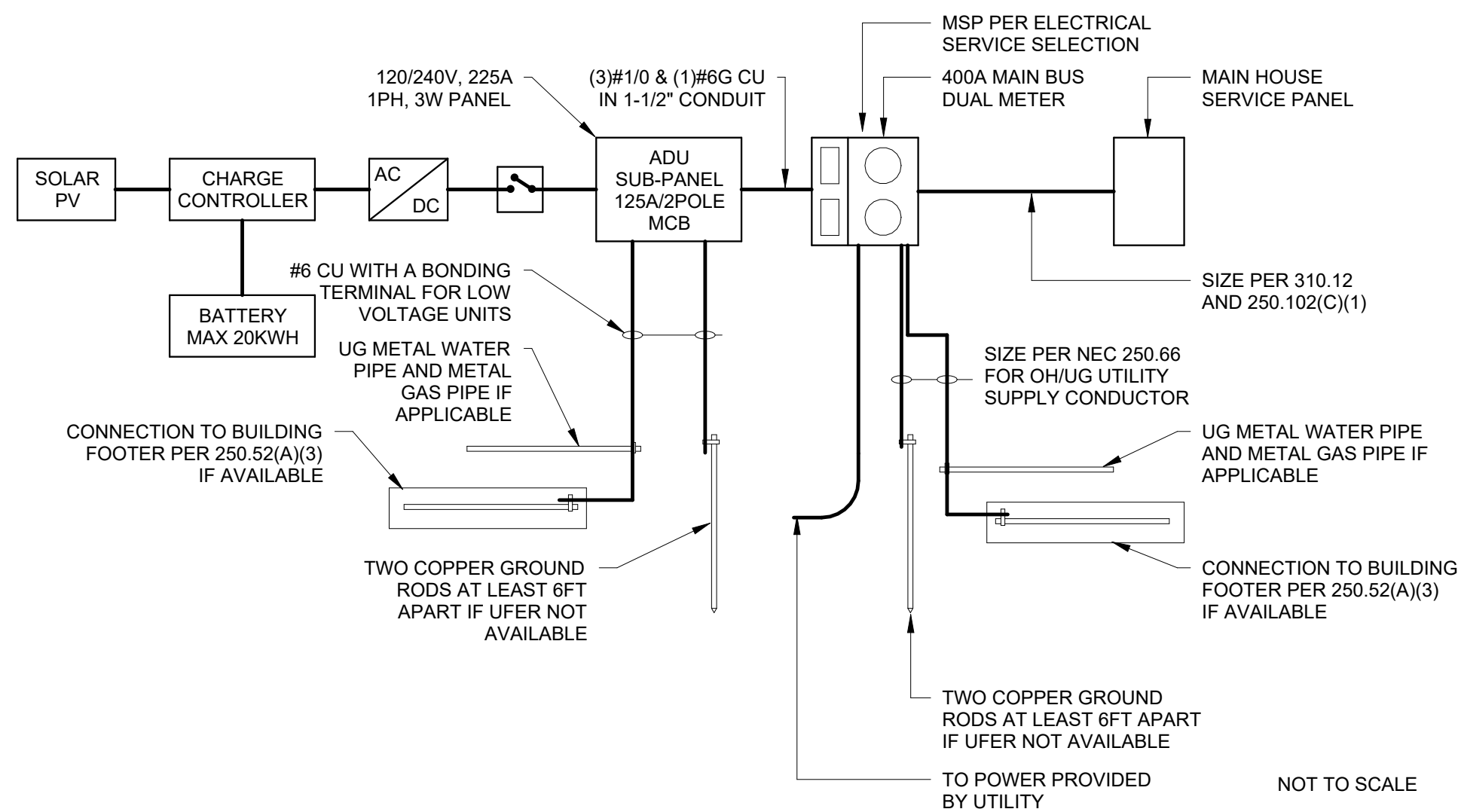
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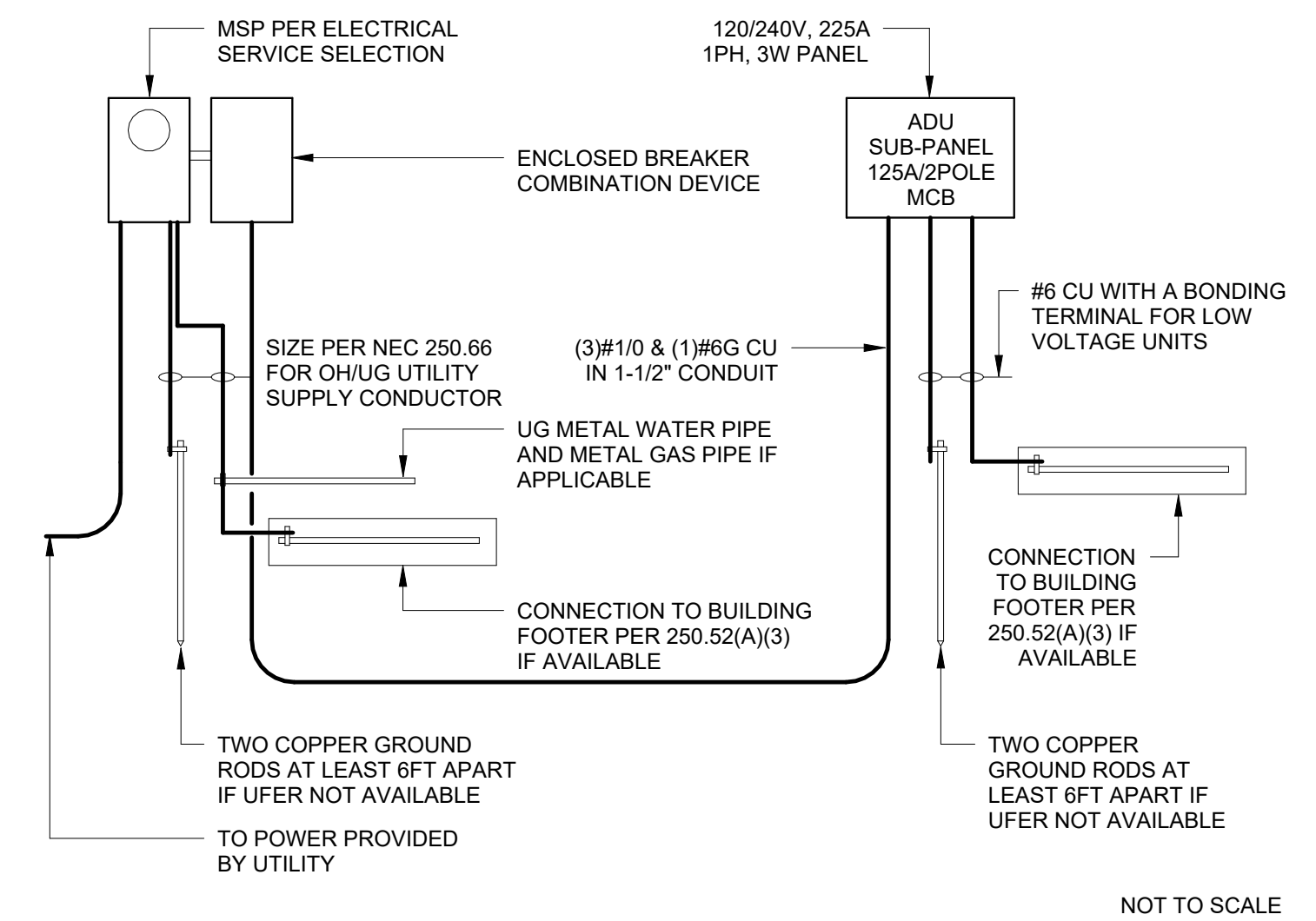
NOT TO SCALE



NOT TO SCALE



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NOT TO SCALE

ESS PANEL SCHEDULE

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

ELECTRICAL PANEL SCHEDULE

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



SNAPADU
DESIGN HOUSE

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

ADU: 1,199 L-SHAPE REVERSE

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

DESIGNER:

LUIS CALDERON
napADU

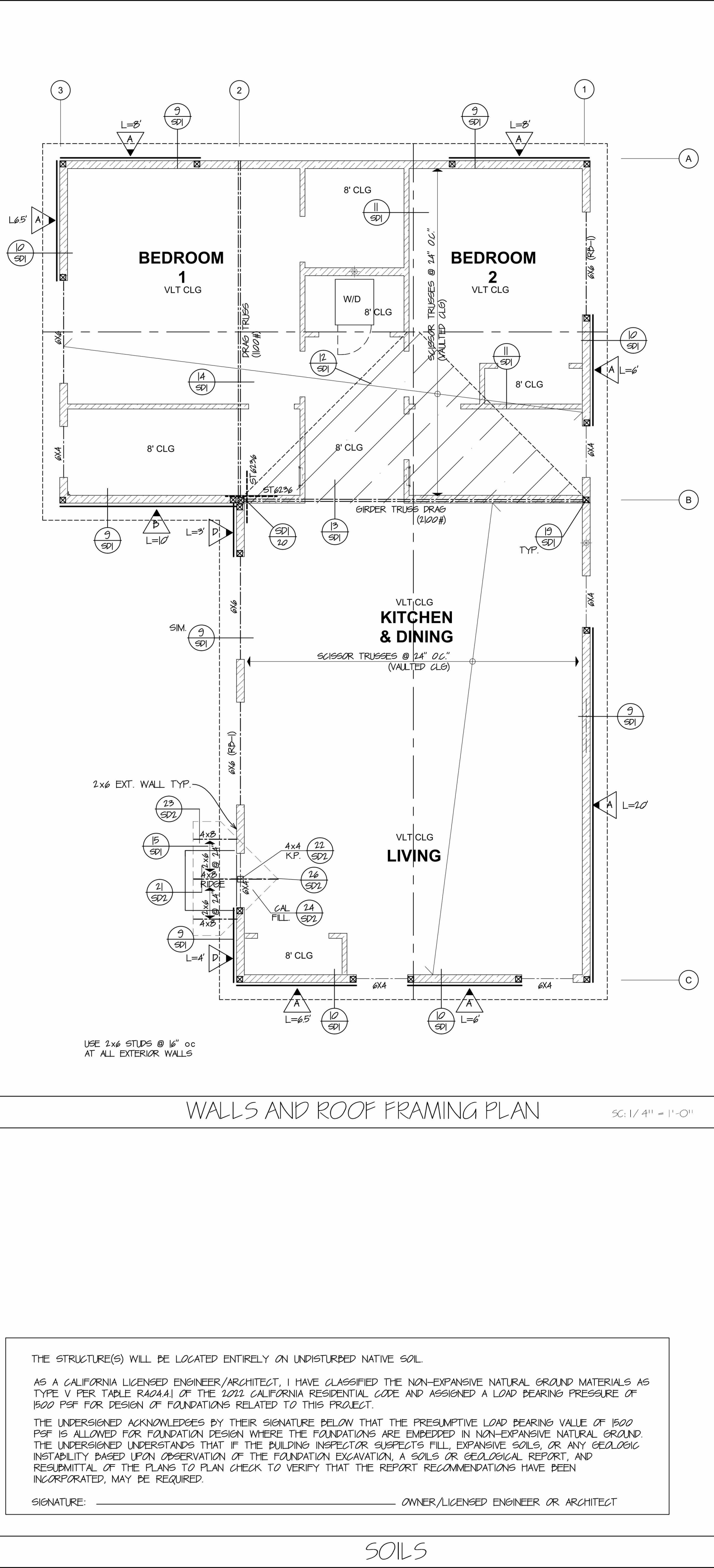
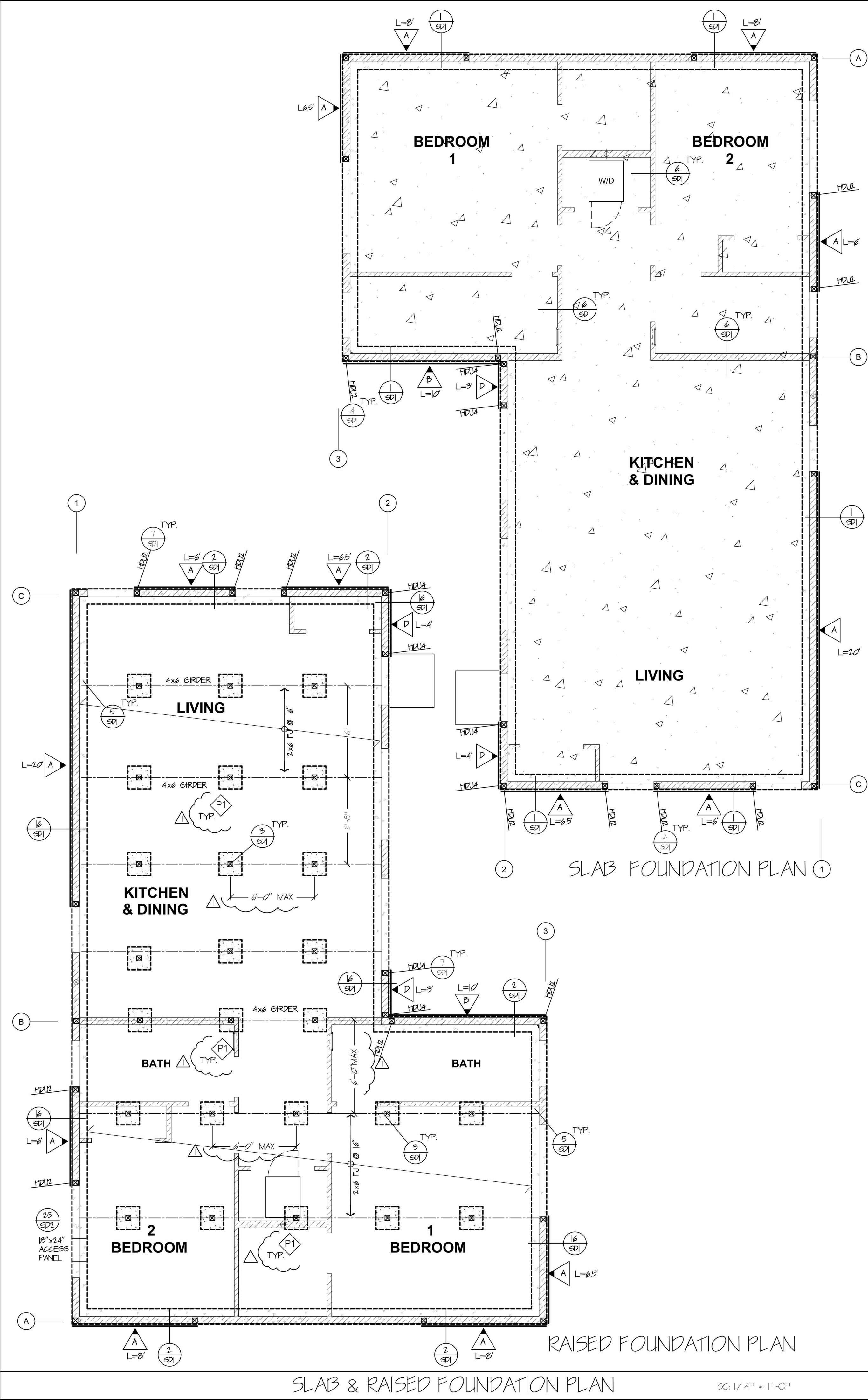

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ELECTRIC PANEL SCHEDULE

E103

22040



FRAMING NOTES

ROOF DIAPHRAGM

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

FLOOR DIAPHRAGM

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

FRAMING

1) ALL (2) 2x ROOF & FLOOR FRAMING TO HAVE MIN. 1/4d AT 12" O.C. T&D, STAGGERED

2) ALL (2) 2x FRAMING TO HAVE MIN. 1/2" DIAMETER BOLTS AT 18" O.C. T&D, STAGGERED

3) 2x SOLID BLOCKING REQUIRED AT POINTS OF SUPPORT FOR ALL HORIZONTAL FRAMING MEMBERS. IN ADDITION, ALL 2x12 AND LARGER MEMBERS SHALL HAVE SOLID FULL DEPTH BLOCKING OR BRIDGING AT MAX. 8'-0" o.c.

4) ALL WOOD POSTS AT UPPER FLOORS TO CONTINUE TO BEAM OR FOUNDATION

5) UNLESS DETAILED OTHERWISE, ALL RIDGE / HIP / VALLEY CONNECTIONS TO HAVE A SIMPSON A95 CONNECTOR AT EACH CORNER WITH A 2x KICKER TO BEARING WALL

6) AT ROOF-TO-WALL FRAMING, PROVIDE A95 FRAMING ANCHORS PER SHEARWALL SCHEDULE OR AT MAX. 48" O.C. FROM PLATES TO RAFTERS AND RAFTER BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR)

7) AT FIRST FLOOR AND SUBTERRANEAN LEVEL, PROVIDE A95S PER SHEARWALL SCHEDULE OR AT 32" O.C. MAX. FROM PLATES TO FLOOR JOISTS AND BLOCKING AROUND PERIMETER OF BUILDING AND AT DRAG LINES AS INDICATED ON PLANS (SEE PLANS WHERE OTHER REQUIREMENTS MAY OCCUR)

8) PROVIDE DOUBLE JOISTS UNDER ALL PARALLEL WALLS, UNO.

9) WHEN SHEAR WALLS ARE SUPPORTED BY WOOD JOISTS THAT ARE PERPENDICULAR TO THE SHEAR WALL, ATTACH SOLID 4x BLOCKING UNDER SHEAR WALLS BETWEEN JOISTS. PROVIDE 2x SOLID BLOCKING UNDER NON-SHEAR WALLS PERPENDICULAR TO FLOOR JOISTS. SEE PLANS AND DETAILS FOR ANY ADDITIONAL REQUIREMENTS.

10) ATTACH MIN. 2x SOLID BLOCKING AND EDGE NAIL THE PERIMETER OF ALL OPENINGS OVER 12" IN WIDTH OR LENGTH IN ALL SHEAR PANELS AND DIAPHRAGMS. SEE DETAILS WHERE OTHER REQUIREMENTS MAY OCCUR.

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

FOUNDATION NOTES

1) CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS FOR FORMED-IN-PLACE CONTINUOUS AND SPREAD FOOTINGS, AND 3000 PSI (SPECIAL INSP. REQ'D) AT 28 DAYS FOR GRADE BEAMS.

2) PORTLAND CEMENT SHALL BE TYPE I PER ASTM C 150. AGGREGATES SHALL BE PER ASTM C 39 WITH MAXIMUM SIZE OF 1 1/2" FOR FOOTINGS AND 1" FOR ALL OTHER WORK.

3) REINFORCING STEEL SHALL BE ASTM A615, GRADE 60, CLEAN AND RUST FREE. LAPS AT SPLICES AND JOINT LINES TO BE 42 BAR DIAMETERS (2'-0" MINIMUM) UNLESS NOTED OTHERWISE ON PLANS.

4) ALL NEW SILL PLATE ANCHOR BOLTS TO BE INSTALLED IN FRESH CONCRETE SHALL BE 5/8" DIAMETER A307 "L" BOLTS SPACED PER PLAN AND SHEARWALL SCHEDULE WITH MINIMUM 7" EMBEDMENT. MAXIMUM ANCHOR BOLT SPACING SHALL BE 4'-0" o.c. ANCHOR BOLTS AT ENDS OF WALL PANELS SHALL BE LOCATED WITHIN 12" AND GREATER THAN 7 BAR DIAMETERS FROM THE END OF SILL PLATE. THERE SHALL BE A MINIMUM OF TWO ANCHOR BOLTS PER WALL PANEL (ANCHOR BOLTS TO EXISTING FOOTINGS PER NOTE #8 BELOW). PLATE WASHERS A MINIMUM 3"x3"x22g" THICK SHALL BE USED ON EACH BOLT. ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESSURE TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS "ZMAX", HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.

5) IF NO SOILS REPORT IS PROVIDED, ASSUMED ALLOWABLE SOIL BEARING PRESSURE (ASBP) SHALL BE 1500 PSF (PER SOL SITE CLASS D) & EMBED FOOTINGS A MINIMUM OF 12" INTO COMPETENT SOIL.

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

7) CONSTRUCTION JOINTS SHALL BE PREPARED BY WIRE BRUSHING, CLEANING AND BRUSHING IN A PASTE OF NEAT CEMENT MORTAR IMMEDIATELY PRIOR TO POURING. LOCATION OF CONSTRUCTION JOINT SHALL BE APPROVED BY THE PROJECT STRUCTURAL ENGINEER.

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

9) PRIOR TO POURING INTERIOR CONCRETE FLOOR SLABS, ALL SOIL BELOW FLOOR SHALL BE COMPACTED TO REQUIRED 90% DENSITY AND MOISTENED TO A DEPTH NOT LESS THAN 18" OR PER SOILS REPORT.

10) DEEPEN NEW FOOTINGS AS NECESSARY TO OBTAIN REQUIRED EMBEDMENT FOR ALL NEW HAD DOWN BOLTS. ALL HAD DOWN BOLTS TO HAVE A MINIMUM OF 3" OF CONCRETE COVER TO SOIL @ BOTTOM. ALL HAD DOWN BOLTS MUST BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.

11) ALL HAD DOWNS MUST BE TIED IN PLACE PRIOR TO FOUNDATION INSPECTION.

12) MINIMUM HORIZONTAL DISTANCE FROM BOTTOM LEADING EDGE OF FOOTING TO DAYLIGHT SHALL BE 7'-0"

FOUNDATION LEGEND

(N) 12" WIDE x 24" DEEP FOOTING W/ 2-#4 T. & D.

(N) CONC. PAD PER PLAN

4x BM WIDTH POST UNO.

POST ABOVE

SHEARWALL PER PLAN

CONCRETE SLAB

USE 4" THK. CONC. SLAB W/ #3 @ 16" O.C. EW. @ MID-HEIGHT, 0/ 2" SAND, 0/ 10 ML VAPOR BARRIER (ASTM E936 & E1145), 0/ 2" SAND BASE.

CONCRETE PAD SCHEDULE

PAD	SIZE
P1	18" SQ x 14" THK. CONC. PAD W/ 2-#4 EW.

LEGEND

RF TRUSSES @ 24" o.c. UNO.

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

4x BM WIDTH POST UNO.

POST ABOVE

PLYWOOD SHEARWALL PER PLAN

ST6036 SIMPSON STRAP, UNO.

DRAG LINE PER PLAN SEE SHEARWALL NOTES ON SHEET S11

STUD SIZE

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

REVISIONS

NO.	DESCRIPTION	BY
1	9-25-23	PC

PROJECT: New Detached ADU

DRAWING: Accessory Dwelling Unit

JOB #: 23-263

FILE: CV-199-L-ADU.dwg

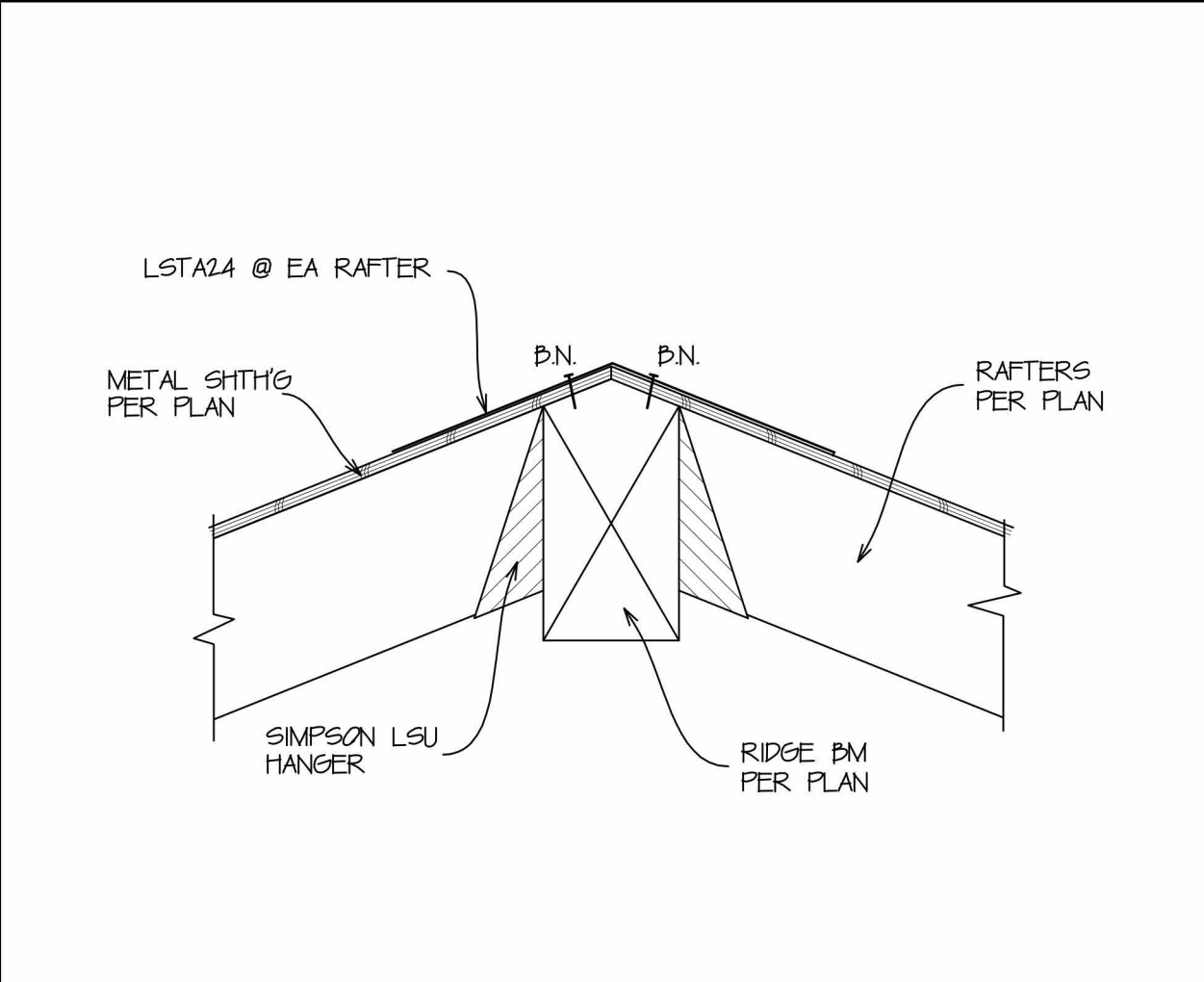
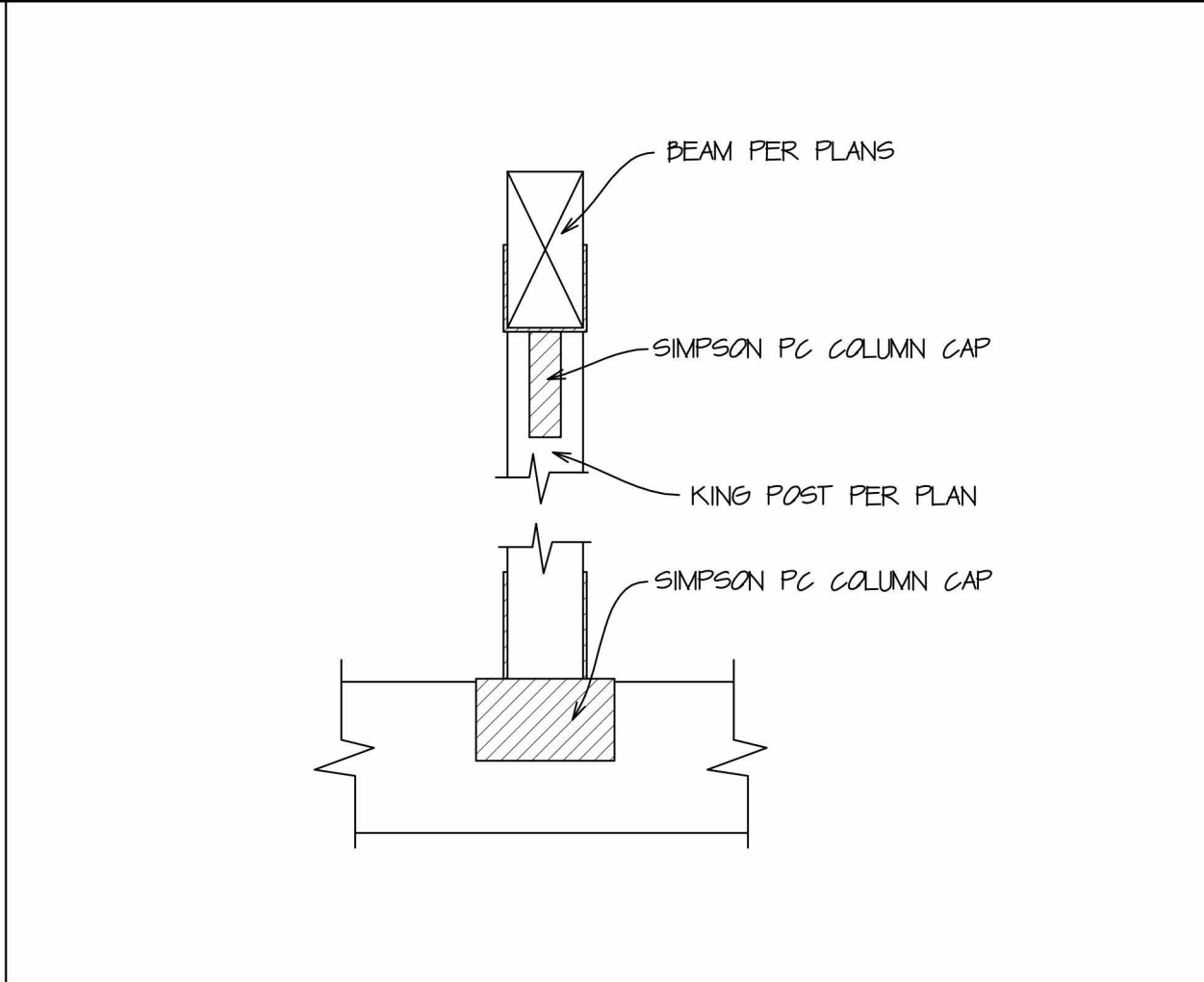
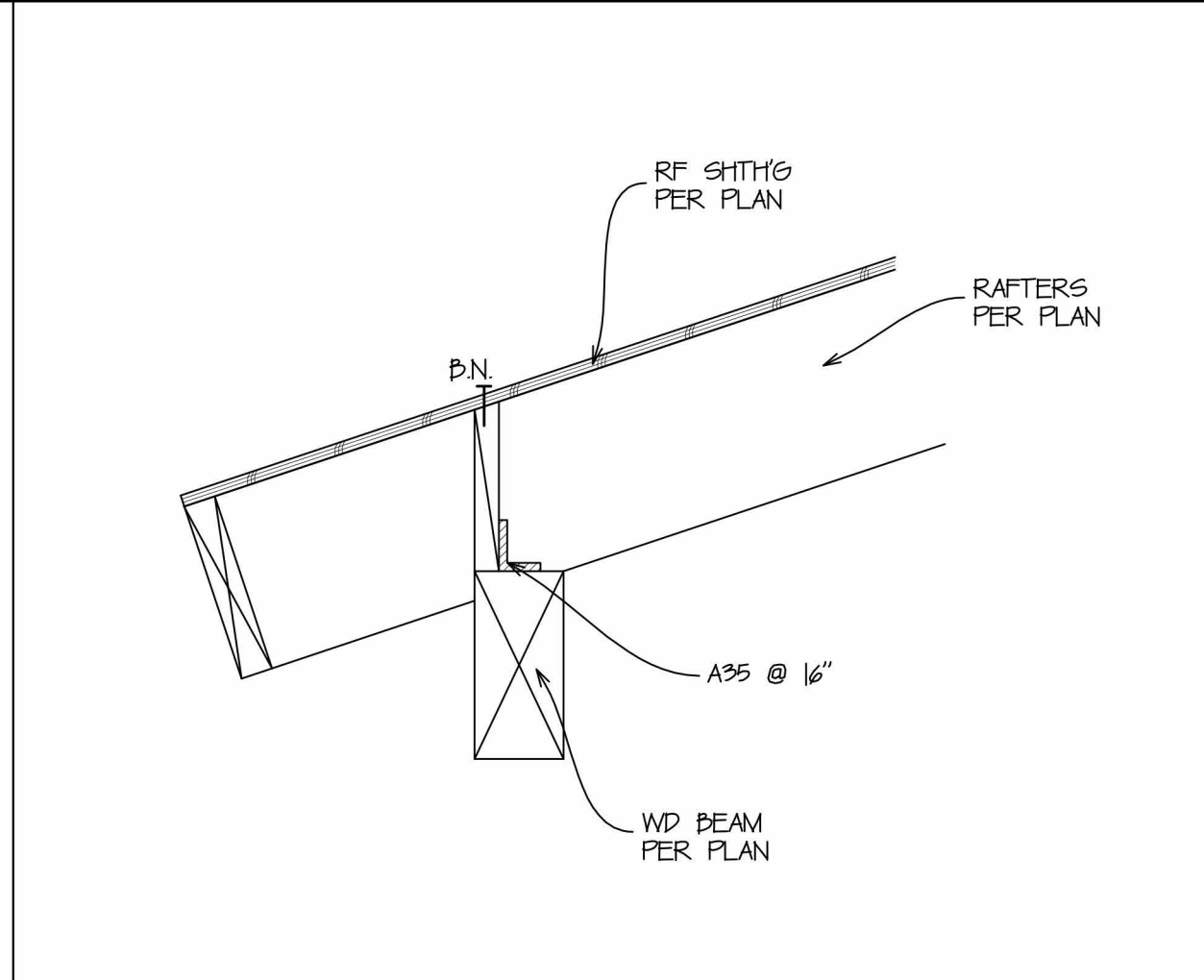
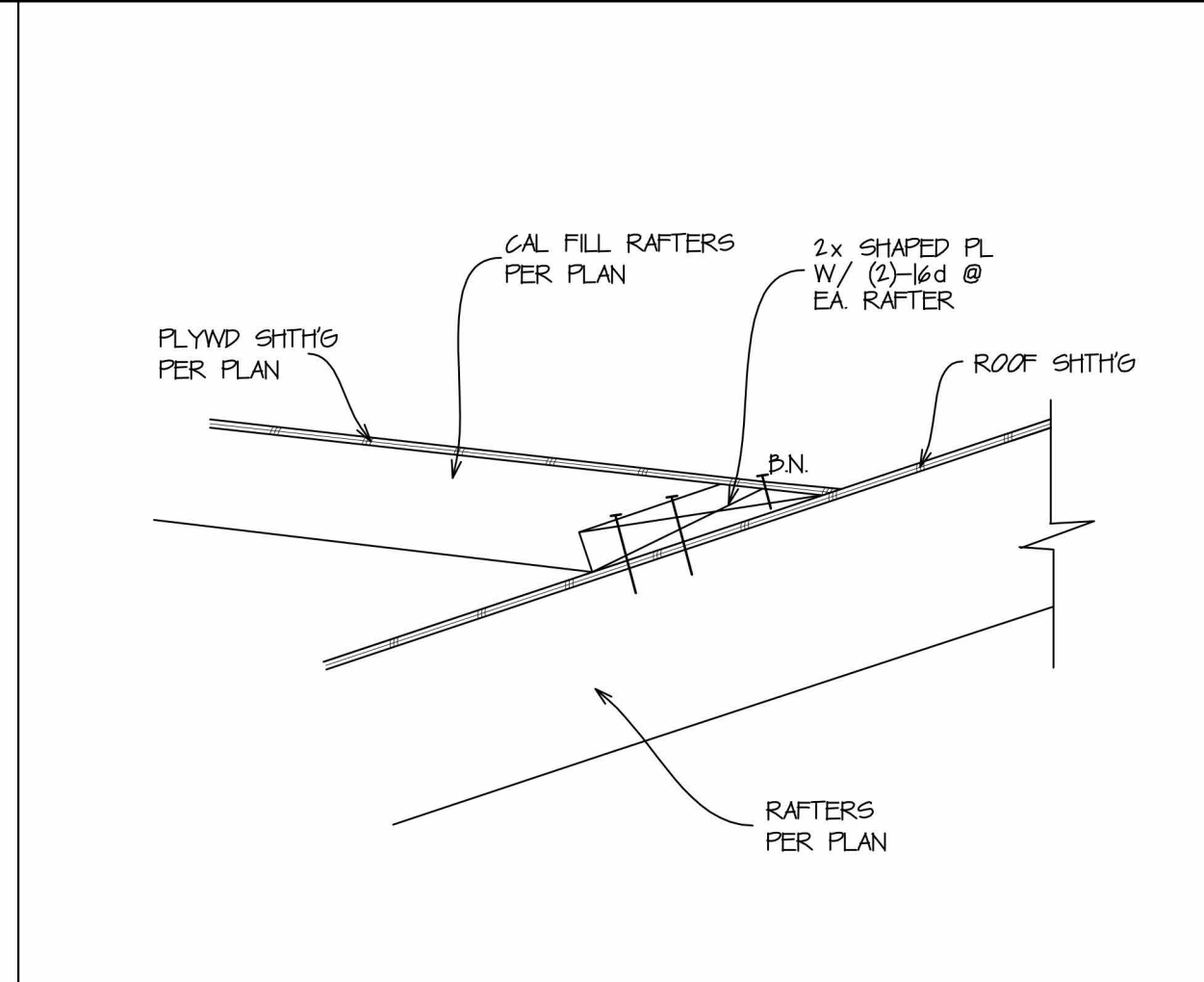
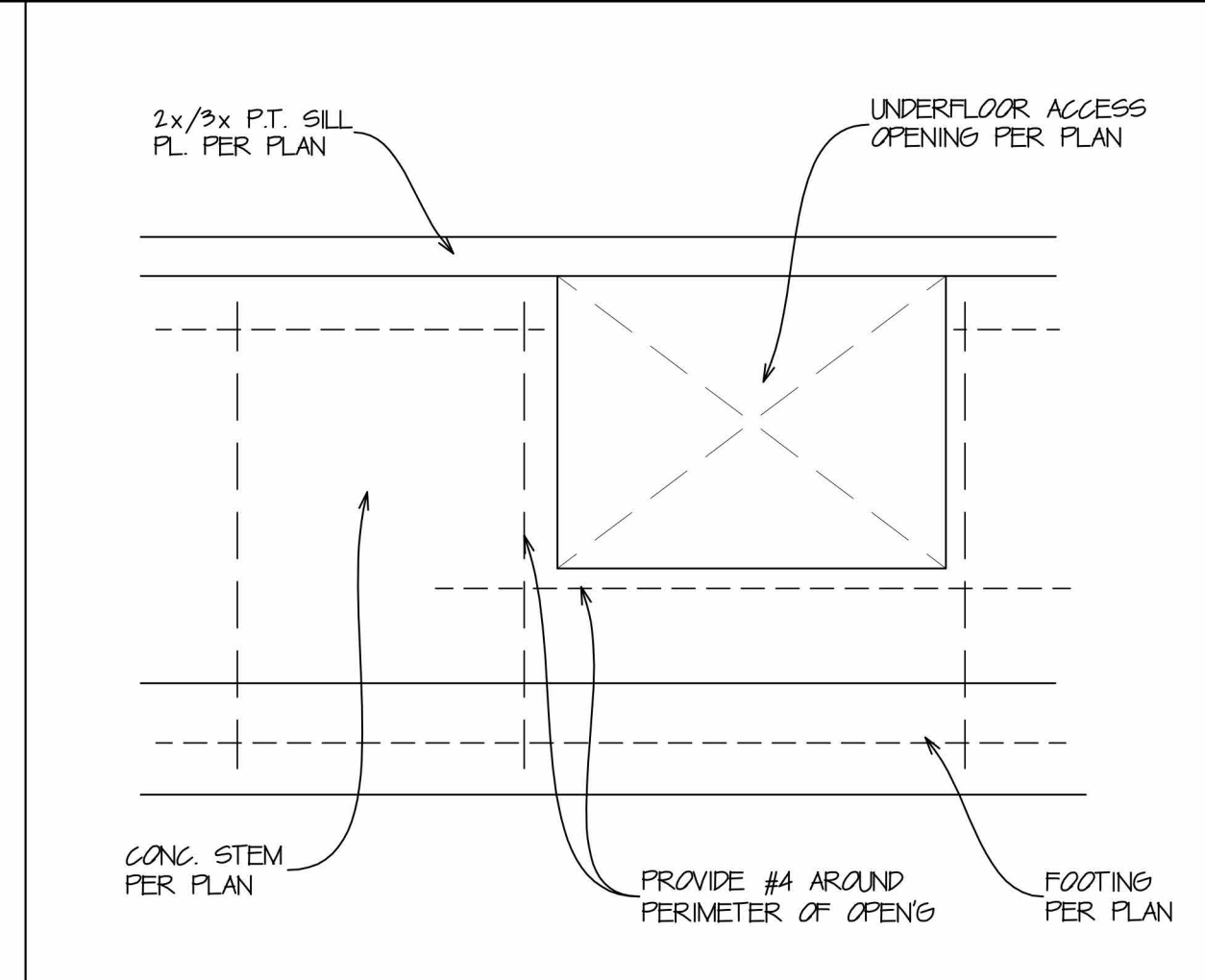
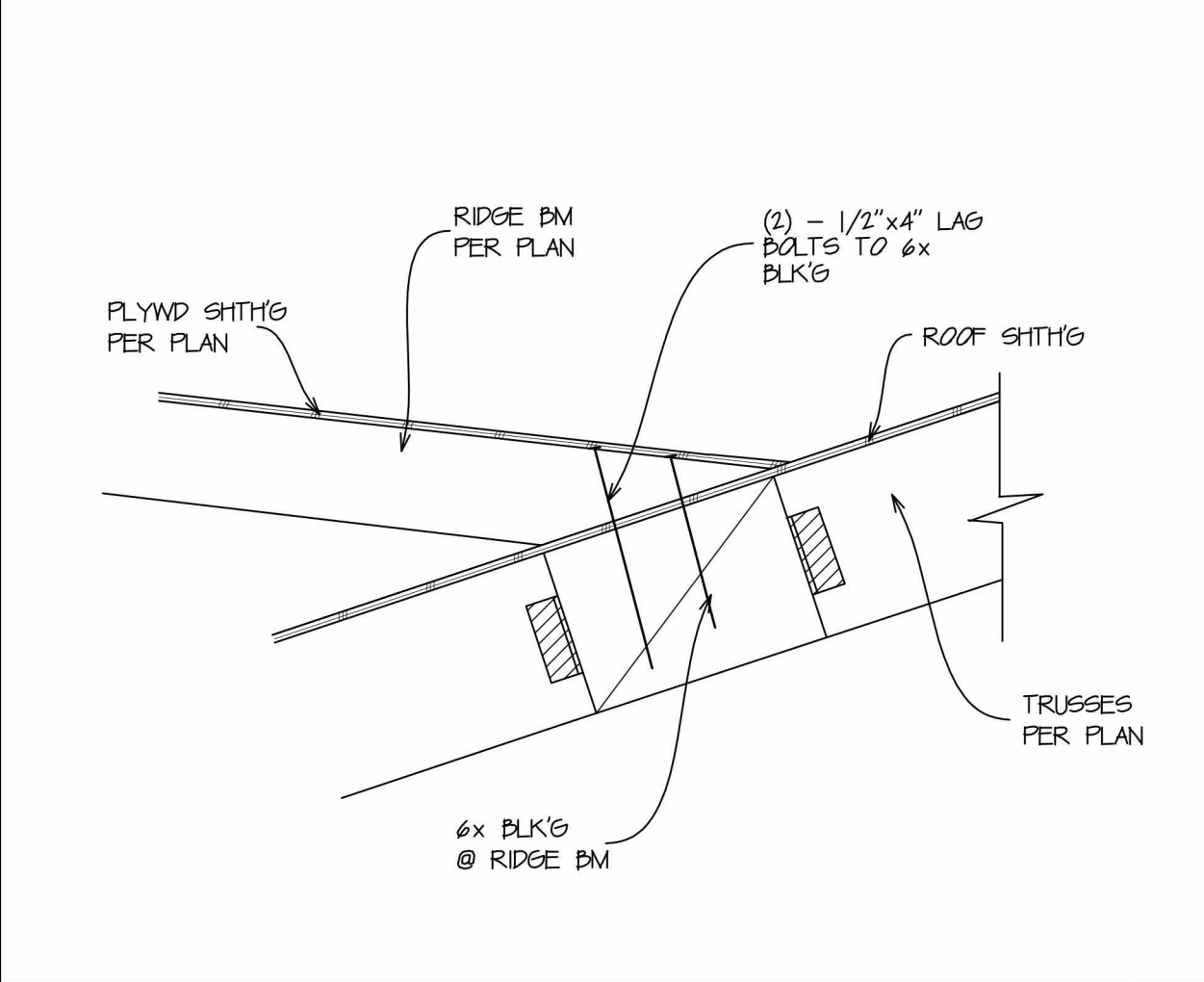
DRAWN: PC

ENGINEER: PC

DATE: 6-26-23

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

SHEET 51

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


REVISIONS

1-16-23

PCD

BY

PCD



PCD
Engineering
Full Commercial Service
PH 760.207.1885
paul.pcd@gmail.com

PROJECT:

New Detached ADU

DRAWING:

Details

JOB #:

23-169

FILE:

CV-1193-L-ADU.dwg

DRAWN:

PC

ENGINEER:

PC

DATE:

6-16-23

SCALE:

1/4" = 1'-0"

ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
NOT DIMENSIONED AND TOLERANCES PER THE ASSOCIATION OF PROFESSIONAL ENGINEERS.

STAMP

REGISTERED PROFESSIONAL ENGINEER

PAUL B. CODY

057182

EXP. 12-31-21

CIVIL

STATE OF CALIFORNIA

SHEET

SD2

SHEET - OF -

GENERAL

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

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

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

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

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

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

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

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

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

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

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

INTENT OF THE DOCUMENTS

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

DESCRIPTION OF WORK

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

LIABILITY AND COMPENSATION INSURANCE

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

PERMITS

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

SUBCONTRACTOR'S STATUS

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

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

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

WORKMAN SAFETY-EXCAVATIONS

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

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

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

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

TIMBER

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

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

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

4) UNLESS NOTED OTHERWISE ON FRAMING PLANS:

ROOF SHEATHING SHALL BE 15/32" APA-RATED SHEATHING, EXPOSURE 1, MIN. SPAN RATING 24/0, NAILED WITH 8d COMMON @ 6" O.C. EDGES & BOUNDARIES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

FLOOR SHEATHING SHALL BE 23/32" APA-RATED STURD-FLOOR, T&G, EXPOSURE 1, MIN. SPAN RATING 20" O.C., NAILED WITH 1d COMMON @ 6" O.C. AT EDGES & BOUNDARIES AND 12" O.C. AT INTERMEDIATE FRAMING MEMBERS.

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

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

TRASH REMOVAL

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

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

FOUNDATION

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

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

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

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

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

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

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

A) FURRED AGAINST EARTH - 3"

B) FORMED SURFACE - 2"

8) REMOVAL OF FORMS:

A) SUPPORTING VERTICAL SURFACES - 2 DAYS MINIMUM

B) SUPPORTING BEAMS & GIRDERS - 15 DAYS MINIMUM

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

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

INTENT OF THE DOCUMENTS

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

DESCRIPTION OF WORK

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

LIABILITY AND COMPENSATION INSURANCE

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

PERMITS

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

SUBCONTRACTOR'S STATUS

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

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

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

WORKMAN SAFETY-EXCAVATIONS

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

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

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

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

FRAMING

ROOF DIAPHRAGM

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

FLOOR DIAPHRAGM

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

FRAMING

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

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

REINFORCING STEEL

ALL PRIMARY REINFORCEMENT SHALL CONFORM TO ASTM A - 615, GRADE 60 KSI STEEL.

ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-615, GRADE 40 KSI STEEL.

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

TIMBER

5) HORIZONTAL WOOD STRUCTURAL PANELS SHALL BE LAP WITH THE LONG DIMENSION AND FACE GRAIN PERPENDICULAR TO THE RAFTERS OR JOISTS, AND THE SHEETS SHALL BE STAGGERED AS SHOWN IN 2022 CBC TABLE 23061.2 (CASES 1 AND 9). EACH SHEET SHALL CONTAIN A MINIMUM OF 8 SQUARE FEET AND EXTEND TO 3 SUPPORTS. 1/8" SPACING BETWEEN PANEL ENDS AND EDGES IS REQUIRED. ALL WOOD STRUCTURAL PANEL DIAPHRAGMS SHALL BE REVIEWED BY CONTRACTOR FOR COMPLIANCE WITH NAILING AND PANEL REQUIREMENTS BEFORE FINISH IS APPLIED.

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

7) ALL PS1 AND LVL ENGINEERED FRAMING MEMBERS SHOWN ON PLANS TO BE 23E PARALLAM (E=2200 ksi) AND 10E MICROLAM BEAMS (E=1000 ksi), RESPECTIVELY, AS DESCRIBED IN CC-ES-ESR-109 & CC-ES-ESR-180. ALL WOOD I-JOIST MEMBERS SHOWN ON PLANS TO BE AS DESCRIBED IN ESR-109.

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

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

10) NOTCHING OR DRILLING HOLES IN BEAMS OR JOISTS SHALL BE ONLY AS DETAILED PER ENGINEER AND SHALL COMPLY WITH 2022 CBC SECTION 2302B.31 & 2302B.33.

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

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

13) TOP PLATES SHALL LAP LOWER PLATES AT CORNERS, AND BREAKS AT PLATE SHALL BE LAPPED A MINIMUM OF 4'-0", WITH 20-48d NAILS ON EACH SIDE.

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

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

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

17) CUTTING, NOTCHING, OR BORING HOLES IN STUDS SHALL COMPLY WITH 2022 CBC SECTION 2302B.310 & 2302B.311.

18) FRAMING AND NAILING NOT SPECIFICALLY DETAILED ON THE PLANS ARE TO CONFORM TO 2022 CBC TABLE 23061.2. COMMON NAILS ARE REQUIRED FOR ALL SHEARWALL, FLOOR AND ROOF DIAPHRAGMS. USE DOUBLE JOISTS UNDER PARALLEL PARTITIONS, UNJO. DOUBLED HORIZONTAL MEMBERS SHALL BE STITCH-WALLED TOGETHER WITH TWO ROWS OF 1/4d NAILS @ 12" O.C. STAGGERED, UNLESS OTHERWISE DETAILED. TRIPLED HORIZONTAL MEMBERS SHALL HAVE MIN. 1/2" DIAMETER BOLTS AT 18" O.C. T&G, STAGGERED.

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

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

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

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

21) MINIMUM NAILING SHALL BE PER TABLE 2304A.1 OF THE 2022 CBC.

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

STRUCTURAL STEEL

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

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

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

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

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

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

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

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

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

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

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

CONCRETE

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

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

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

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

5) ALL PRIMARY REINFORCEMENT SHALL BE PER ASTM A-615, GRADE 60 KSI STEEL. ALL TIES AND STIRRUPS SHALL CONFORM TO ASTM A-615, GRADE 40 KSI STEEL.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

21) CONCRETE SHALL BE THOROUGHLY CONSOLIDATED IN A MANNER THAT WILL ELIMINATE THE REINFORCEMENT AND