

ABV	ABOVE	LAD	LADDER
AC	AIR CONDITIONING	LAM	LAMINATE
ACOUST	ACOUSTICAL	LAV	LAVATORY
ACT	ACOUSTICAL TILE	LKR	LOCKER
A.D.	AREA GRAIN	LT.	LIGHT
ADA	AMERICANS WITH DISABILITIES ACT	LTC	LIGHTING
ADL	ADJUSTABLE	MATL.	MATERIAL
A.F.F.	ABOVE FINISHED FLOOR	MAX.	MAXIMUM
AI	AMERICAN INSTITUTE OF ARCHITECTS	M.B.	MACHINE BOLT
ALUM	ALUMINUM	M.C.	MEDICINE CABINET
ALT.	ALTERNATE	MECH.	MECHANICAL
ANOD	ANODIZED	MEMB.	MEMBRANE
APPROX	APPROXIMATE	MFR.	MANUFACTURER
ARCH	ARCHITECTURAL	MIN.	MINIMUM
ASSM	ASSEMBLY	MIS.	MIRROR & SHELF
BD	BOARD	MIS.	MISCELLANEOUS
BT	BETWEEN	MTR.	MOUNTED
BEV.	BEVEL	MTR.	METAL
BLDG	BUILDING	MUL.	MULLION
BLK	BLOCK		
BLKG	BLOCKING		
BM		(N)	NORTH
BOT	BOTTOM	N.I.C.	NOT IN CONTRACT
BRKT	BRACKET	NO. #	NUMBER
B.U.R.	BUILT-UP ROOF	NOM.	NOMINAL
B.W.	BOTTOM OF WALL	NTS	NOT TO SCALE
CAB	CABINET	Q.	OVER / ON
CB	CIRCUIT BREAKER	Q.C.	ON CENTER
C.B.	CATCH BASIN	Q.D.	OUTSIDE DIAMETER (DIMENSION)
CBC	CALIFORNIA BUILDING CODE	Q.L.F.	OCCUPANT LOAD FACTOR
CEM	CEMENT	OPN.	OPENING
CER	CERAMIC	OPP.	OPPOSITE
C.I.	CASE IRON	OVHD.	OVERHEAD
C.J.	CONTROL JOINT	P.	OVERHEAD
C.L.	CENTERLINE	P.LAM.	PLASTIC LAMINATE
CLG	CEILING	PAR.	PARALLEL
CLKG	CAULKING	PERF.	PERFORATED
CLO	CLOSET	PERF.	PERFORATED
CLR	CLEAR	P.H.	PAINT GRADE
COL	COLUMN	PL.	PLATE
COMB	COMBINATION	PLUMB.	PLUMBING
CONC	CONCRETE	PLYWD.	PLYWOOD
CONSTR	CONSTRUCTION	PNTD.	PAINTED
CONT	CONTINUOUS	PR.	PAIR
CONTR	CONTRACTOR	PREFAB.	PREFABRICATED
CORR	CORRIDOR	PSI	POUNDS PER SQUARE INCH
CS	COUNTERSINK	PT.	POUNDS
CT	CERAMIC TILE	P.T.D.	PAPER TOWEL DISPENSER
CTSK	COUNTERBUCK	PTN.	PARTITION
CA	COLD WATER	PTR.	PAPER TOWEL RECEPTACLE
D	DRAIN	PVC.	POLYVINYL CHLORIDE
DBL	DOUBLE	PVMT.	PAVEMENT
DEMO	DEMOLISH	QTY.	QUANTITY
DEPT	DEPARTMENT	R.	RISER
DET.	DETAILS	RAD.	RETURN AIR
D.F.	Douglas Fir	RB.	RESILIENT BASE
DIA	DIA	R.C.	ROUGH CONCRETE
DIM	DIAMETER	RCF.	REFLECTED CEILING PLATE
DISP	DISPENSER	REBAR	REINFORCING BAR
DN	DOWN	REC.	RECESSED
D.O.	DOOR OPENING	REC.	RECESSED
DR	DR	REF.	REFRIGERANCE
DS	DOORSPOUT	REFINF.	REINFORCED
DWG	DRAWING	REFD.	REQUIRED
DWR	DRAWER	REV.	REVISION
(E)	EXISTING	RGTG.	REGISTER
E.	EAST	RM.	ROOM
EA	EACH	RND.	ROUND
E.B.	EXPANSION BOLT	R.O.	ROUGH OPENING
E.J.	EXPANSION JOINT	R.O.W.	RIGHT OF WAY
EL.	ELEVATION	R.W.L.	RAIN WATER LEADER
ELEC	ELECTRICAL	S.	SOUTH
EMER	EMERGENCY	SAN.	SANITARY
ENCL	ENCLOSURE	SASM.	SELF-ADHERING SHEET MEMB.
E.P.	ELECTRICAL PANELBOARD	S.C.	SOLID CORE
EQ	EQUAL	SCHED.	SCHEDULE
EQUIP.	EQUIPMENT	SECT.	SECTION
EXH.	EXHAUST	SEL.	SELECT
EXPO.	EXPOSED	S.F.	SQUARE FOOT
EXT.	EXISTING	S.G.	STAIN GRADE
EXT.	EXTERIOR	SHT.	SHEET
F.A.	FIRE ALARM	SHTHG.	SHETHING
FAB	FABRIC	SIM.	SIMULATING
PAR	FLORAL AREA RATIO	SL.	SEALANT
F.B.	FLAT BAR	SLNT.	SEALANT
F.D.	FLOOR DRAIN	S.M.S.	Sheet Metal Screw
FDN	FOUNDATION	SPEC.	SPECIFICATIONS
F.E.	FIRE EXTINGUISHER	SS.	STRUCTURAL DRAWINGS
F.E.C.	FIRE EXTINGUISHER CABINET	SST.	STAINLESS STEEL
F.F.	FIXED GLAZING	S.T.K.	SERVICE SINK
F.G.	FIRE HOSE CABINET	STA.	STATION
F.H.C.	FIRE HOSE CABINET	STC.	STANDARD
FIN	FINISH	STD.	STANDARD
FIN.GR.	FINISH GRADE	STL.	STILE
FIXT.	FIXTURE	STOR.	STORAGE
FL	FLOOR(ING)	STR.	STRUCTURAL
FLASH.	FLASHING	SUSP.	SUSPENDED, SUSPEND
F.O.C.	FACE OF CONCRETE	T&B.	TOP AND BOTTOM
F.O.F.	FACE OF FINISH	T&G.	TONGUE & GROOVE
F.O.T.	FACE OF TREADS	T.B.	TOE BAR
FT	FOOT, FEET	T.C.	TOP OF CURB
FTG.	FOOTING	T.D.	TIE DOWN
FURR.	FURRING	TEL.	TELEPHONE
FUT.	FUTURE	TEMP.	TEMPERARY, TEMPERED
G	GAS	THICK.	THICKNESS
GA	GAUGE	THRES.	THRESHOLD
GALV.	GALVANIZED	T.O.P.	TOP OF PLATE
GB	GRAB BAR	T.O.S.	TOP OF SLAB
GC	GENERAL CONTRACTOR	T.O.W.	TOP OF WALL
GD	GUTTER DRAIN	TOP.	TOPPER
G.I.	GALVANIZED IRON (STEEL)	TRNSF.	TOILET PAPER DISPENSER
GL	GLASS	TRD.	TRANSFORMER
GLB	GLUE-LAM BEAM	TRD.	TREAD
GND	GROUND	TRYP.	TYPIICAL
GR	GRATE	U.B.C.	UNIFORM BUILDING CODE
GSM	GALVANIZED SHEET METAL	UNDERWRITERS LABORATORIES	UNDERWRITERS LABORATORIES
GYP	GYPSUM	U.O.N.	UNLESS OTHERWISE NOTED
GWB	GYPSUM WALL BOARD	UTIL.	UTILITY
H	HOSE, HIGH	V.C.T.	VINYL COMPOSITION TILE
H.B.	HOSE BIB	VENT.	VENTILATION
H.C.	HOLLOW CORE	VERT.	VERTICAL
HD	HEADER	V.F.	VERIFY IN THE FIELD
HDR.	HEADER		
HDWD.	HARDWOOD	WEST.	WEST, WIDE
HDWE.	HARDWARE	W.H.	WIDE
H.M.	HOLLOW METAL	WIC.	WITHOUT
HDRL.	HALF	W.C.	WATER CLOSET
HORZ.	HORIZONTAL	WD.	WOOD
HP	HOUR	WDW.	WINDOW
HT	HEIGHT	W.H.	WATER HEATER
HVAC	HEATING, VENTILATING & A/C	W.M.	WATER METER
HV	HOT WATER	WP.	WATERPROOF
LD.	INSIDE DIAMETER (DIMENSION)	W.PT.	WORKING POINT
IF.	INSIDE FACE	W.R.B.	WATER RESISTANT BARRIER
IN	INCH	W.SCT.	WAINTSCOT
INFO	INFORMATION	WT.	WEIGHT
INSUL.	INSULATION	WTR.	WATER
INT.	INTERIOR		
J	JOIST	AND	
JH	JOIST HANGER	ANGLE	
JT	JOINT	AT	
KIT.	KITCHEN	AT.	
K.O.	KNOCKOUT	POUND OR NUMBER	
KPL	KICKPLATE	PENNY	

THESE STANDARD PLANS WERE PREPARED BY OPENSCOPE STUDIO INC. FOR THE CITY OF BEAUMONT AS PART OF AN INITIATIVE TO INCREASE THE AVAILABILITY OF AFFORDABLE, SUSTAINABLE HOUSING TO THE RESIDENTS OF THE CITY OF BEAUMONT. BY USING THESE STANDARD PLANS, THE USER AGREES TO THE CITY OF BEAUMONT, OPENSCOPE STUDIO INC., OPENSCOPE STUDIO'S CONSULTANTS, AND ANY MUNICIPALITY OR JURISDICTION TO WHOM THE USER APPLIES FOR A BUILDING PERMIT, AS WELL AS EACH ENTITY'S OFFICERS, OFFICIALS AND EMPLOYEES FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS, AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE, OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS. THE USE OF THESE PLANS DOES NOT ELIMINATE OR REDUCE THE USER'S RESPONSIBILITY TO VERIFY ANY AND ALL INFORMATION.

1. ALL WORK SHALL BE PERFORMED BY LICENSED & INSURED CONTRACTOR.

2. THE CONTRACTOR IS RESPONSIBLE FOR MEANS, METHODS, AND TECHNIQUES FOR CONSTRUCTION.

3. ALL OSHA REGULATIONS SHALL BE FOLLOWED. THE GENERAL CONTRACTOR & EACH SUB-CONTRACTOR IS RESPONSIBLE FOR JOB-SITE SAFETY.

4. UNLESS NOTED OTHERWISE, ALL MATERIALS AND EQUIPMENT ARE TO BE INSTALLED PER THE APPLICABLE PROVISIONS OF THESE DOCUMENTS AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

5. IN USING THESE PLANS FOR BIDDING OR CONSTRUCTION PURPOSES, ALL CONTRACTORS ARE REQUIRED TO REVIEW AND TREAT THEM AS A WHOLE IN ORDER TO IDENTIFY ALL REQUIREMENTS THAT DIRECTLY OR INDIRECTLY AFFECT THEIR PORTION OF THE WORK; EVEN REQUIREMENTS LOCATED IN SECTIONS DESIGNATED AS APPLICABLE TO OTHER TRADES. IN CASE OF CONFLICTS, THE AFFECTED CONTRACTOR IS REQUIRED TO EITHER OBTAIN DIRECTION FROM AN APPROPRIATE REPRESENTATIVE OF THE OWNER, OR OTHERWISE APPLY THE MORE STRINGENT REQUIREMENTS.

6. THESE PLANS ARE INTENDED TO SET THE REQUIREMENTS FOR CONSTRUCTION IN ONLY AN INDIVIDUAL BUILDING. FOR QUALITY AND SAFETY, THEY ARE INTENDED TO BE SUPPLEMENTED BY APPROPRIATE REQUESTS FOR CLARIFICATION AND INFORMATION. CONTRACTORS ARE REQUIRED TO REVIEW THESE PLANS FOR ERRORS AND OMISSIONS, AND BRING THESE TO THE ATTENTION OF AN APPROPRIATE OWNER REPRESENTATIVE IN A TIMELY MANNER, AND ANY CONTRACTOR WHO FAILS TO DO SO BEFORE BIDDING OR OTHERWISE PROCEEDING ASSUMES THE RISK OF ANY CONSEQUENCES.

7. CONTRACTORS PROCEED AT THEIR OWN RISK IF THEY FAIL TO VERIFY FIELD MEASURE DIMENSIONS BEFORE PROCEEDING WITH ANY AFFECTED PROCUREMENT, FABRICATION, OR CONSTRUCTION. SCHEMATIC PLANS ARE INTENDED ONLY TO DEMONSTRATE THE RELATIONSHIP AMONG COMPONENT PARTS, AND NOT TO DEPICT SPECIFIC LOCATIONS.

8. THE GENERAL CONTRACTOR SHALL VERIFY AND ASSUME RESPONSIBILITY FOR ALL DIMENSIONS AND SITE CONDITIONS. THE GENERAL CONTRACTOR SHALL INSPECT THE EXISTING PREMISES AND TAKE NOTE OF EXISTING CONDITIONS RELATED TO SUB-TIMING, PLATES, CLAUSES ALLOWED FOR SPECIFICITIES ENCODED IN THE CODES, AND REASONABLY BEEN INFERRED FROM THE DRAWINGS.

9. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION BETWEEN ARCHITECTURAL, STRUCTURAL, MECHANICAL, PLUMBING, & ELECTRICAL SYSTEMS. THIS INCLUDES REVIEWING REQUIREMENTS OF INDIVIDUAL SYSTEMS BEFORE ORDERING AND INSTALLATION OF ANY WORK. VERIFY ALL ARCHITECTURAL DETAILS AND ALL FINISH CONDITIONS (WHETHER DEPICTED IN DRAWINGS OR NOT) WITH SAME DISCIPLINES.

10. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS GOVERN. ALL CLEAR DIMENSIONS ARE NOT TO BE ADJUSTED WITHOUT APPROVAL OF THE ARCHITECT. WHEN SHOWN IN PLAN, ALL DIMENSIONS ARE TO FACE OF STUD, CONCRETE, CENTERLINE OF COLUMNS, OR CENTERLINE OF WALL ASSEMBLIES, UNLESS OTHERWISE NOTED. WHEN SHOWN IN SECTION OR ELEVATION, ALL DIMENSIONS ARE TO TOP OF PLATE, TOP OF CONCRETE, OR TOP OF CEMENT-BASED UNDERLAYMENT UNLESS OTHERWISE NOTED.

11. DETAILS SHOWN ARE TYPICAL; SIMILAR DETAILS APPLY IN SIMILAR CONDITIONS.

12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING AND OBTAINING ALL REQUIRED INSPECTIONS TO CONFORM WITH LOCAL BUILDING AND FIRE CODES.

13. PROVIDE AND INSTALL 2x4 FLAT WOOD BLOCKING OR 16 GA METAL STRAPPING FOR ALL BATH, APPLIANCES, CABINETS, TOWEL BARS, WALL MOUNTED FIXTURES AND ANY OTHER ITEMS ATTACHED TO WALLS.

14. ALL CHANGES IN FLOOR MATERIALS OCCUR AT CENTERLINE OF DOOR OR FRAMED OPENINGS UNLESS OTHERWISE INDICATED ON THE DRAWINGS.

15. INSTALL ALL FIXTURES, EQUIPMENT, AND MATERIALS PER MANUFACTURER'S RECOMMENDATIONS AND THE REQUIREMENTS OF THE CODES. ALL APPLIANCES, FIXTURES, AND EQUIPMENT ASSOCIATED WITH PLUMBING, ELECTRICAL, AND MECHANICAL SYSTEMS SHALL BE LISTED BY A NATIONALLY RECOGNIZED AND APPROVED AGENCY.

16. VERIFY CLEARANCES FOR FLUES, VENTS, CHASES, SOFFITS, FIXTURES, FIREPLACES, ETC., BEFORE ANY CONSTRUCTION, ORDERING, OR INSTALLATION OF ANY ITEM OF WORK.

17. PROVIDE FIRE-BLOCKING & DRAFTSTOPPING AT ALL CONCEALED DRAFT OPENINGS (VERTICAL & HORIZONTAL) AS REQUIRED PER APPLICABLE CODES.

18. MECHANICAL, PLUMBING, ELECTRICAL, AND OTHER PENETRATIONS OF FLOORS, WALLS, AND CEILINGS SHALL BE SEALED AIRTIGHT WITH ACOUSTICAL SEALANT AND FIRESAFING AS REQUIRED.

19. ALL EXTERIOR DOORS AND WINDOWS ARE TO BE WEATHERSTRIPPED PER 24 REQUIREMENTS.

20. ALL FLOOR, FLOOR, AND STAIR CONSTRUCTION ARE TO BE AT LEAST MINIMUM ONE-HOUR U.O.N.

21. DISCREPANCY, OR WHERE A CONFLICT IN REQUIREMENTS OCCURS BETWEEN THE SPECIFICATIONS AND DRAWINGS, OR ON THE DRAWINGS, AND A RESOLUTION IS NOT OBTAINED FROM THE ARCHITECT BEFORE THE BIDDING DATE, THE MORE STRINGENT ALTERNATE WILL BECOME THE CONTRACTUAL REQUIREMENTS.

22. CONTRACTOR SHALL INSURE THAT GUIDELINES SET FORTH ON THE ACCESSIBILITY SHEET ARE MAINTAINED DURING CONSTRUCTION, INSTALLATION, AND FINISHING OF ALL ASPECTS OF THIS PROJECT.

GENERAL NOTES

APPLICABLE CODES:

2022 CALIFORNIA RESIDENTIAL CODE
2022 CALIFORNIA MECHANICAL CODE
2022 CALIFORNIA ELECTRICAL CODE
2022 CALIFORNIA PLUMBING CODE
2022 CALIFORNIA ENERGY CODE
2022 CALIFORNIA FIRE CODE

2022 CALIFORNIA BUILDING CODE

CHAPTER 5 - GENERAL BUILDING HEIGHT & AREA

CONSTRUCTION TYPE: V-B
OCCUPANCY TYPE: R-3 ACCESSORY

CHAPTER 6 - TYPES OF CONSTRUCTION

TABLE 601 - FIRE-RESISTANCE REQ. FOR BUILDING ELEMENTS:

PRIMARY STRUCTURAL FRAME = 0 HR
BEARING WALL - EXTERIOR = 0 HR
NON-BEARING WALLS - EXTERIOR = PER TABLE 602

NON-BEARING WALLS - EXTERIOR = 0 HR
FLOOR CONSTRUCTION = 0 HR
ROOF CONSTRUCTION = 0 HR

TABLE 602 - FIRE-RESISTANCE REQ. FOR EXT. WALL PER FIRE SEPARATION DIST.:

FIRE SEPARATION DIST. (X < 4) = 1 HR
FIRE SEPARATION DIST. (6' < X < 10) = 1 HR
FIRE SEPARATION DIST. (10' < X < 30) = 0 HR
FIRE SEPARATION DIST. (X > 30) = 0 HR

1. EXTERIOR WALLS WITHIN 3 FEET OF PROPERTY LINE (SPRINKLERS) OR 5 FEET OF PROPERTY LINE (WITHOUT SPRINKLERS) REQUIRE 1-HOUR FIRE RATING FOR EXPOSURE TO BOTH SIDES

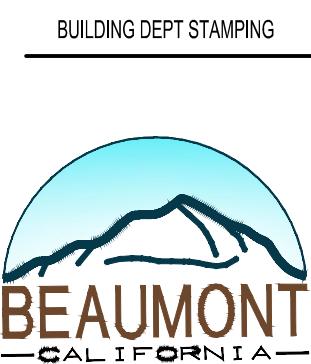
2. PROJECTIONS:
A. PROHIBITED WITHIN 2 FEET OF PROPERTY LINE
B. 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 3FT OF PROPERTY LINE (WITH SPRINKLERS)
C. 1-HOUR FIRE RATING ON THE UNDERSIDE WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)

3. OPENINGS:
A. PROHIBITED WITHIN 3FT OF PROPERTY LINE

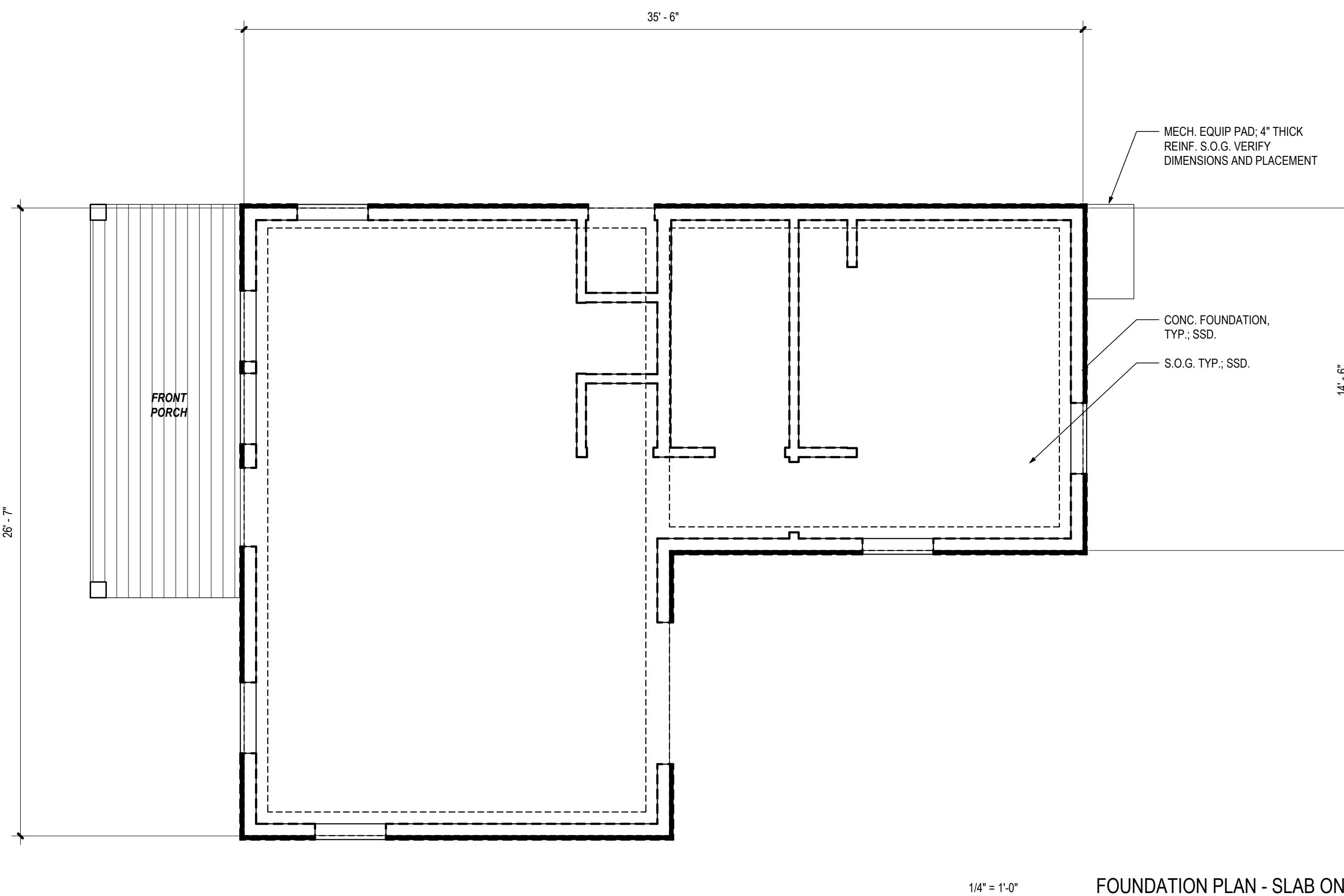
B. MAXIMUM 25% OF WALL AREA WITHIN 5FT OF PROPERTY LINE (WITHOUT SPRINKLERS)

4. PENETRATIONS:
A.

C



BUILDING DEPT STAMPING



FOUNDATION PLAN - SLAB ON GRADE 2

BY USING THIS STANDARD PLAN, THE USER AGREES TO RELEASE BEAUMONT PLANS & STUDIO, THE CITY OF BEAUMONT, AND THE BEAUMONT PLANS & STUDIO STAFF FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE, OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DAMAGE TO ECONOMIC CLASSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS. THE USE OF THESE PLANS DOES NOT EXEMPT OR REDUCE THE USERS RESPONSIBILITY TO VERIFY ANY AND ALL INFORMATION.

PROJECT
2123
**BEAUMONT
ADUS**

PROJECT ADDRESS

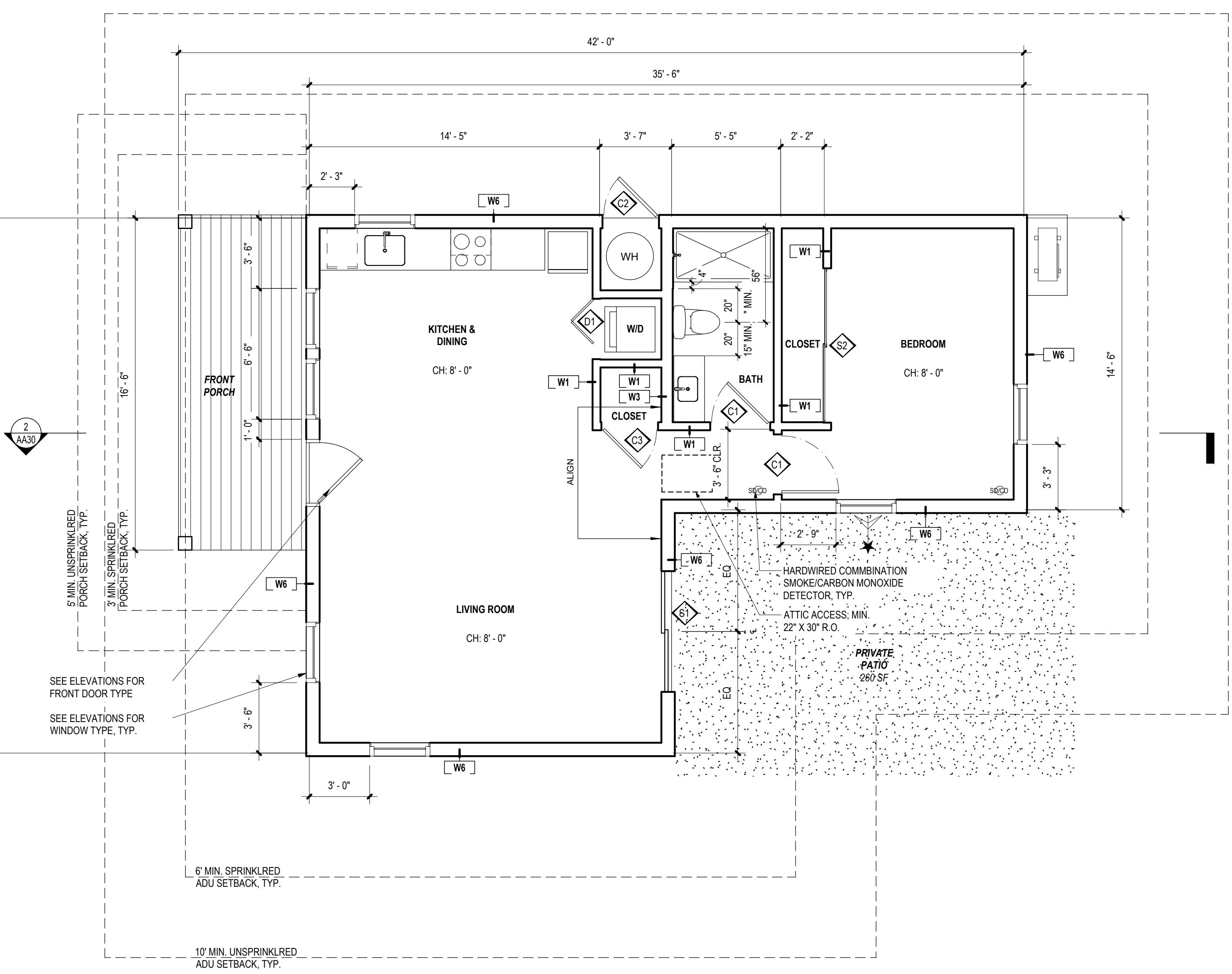
ISSUE DATE
2022-10-04

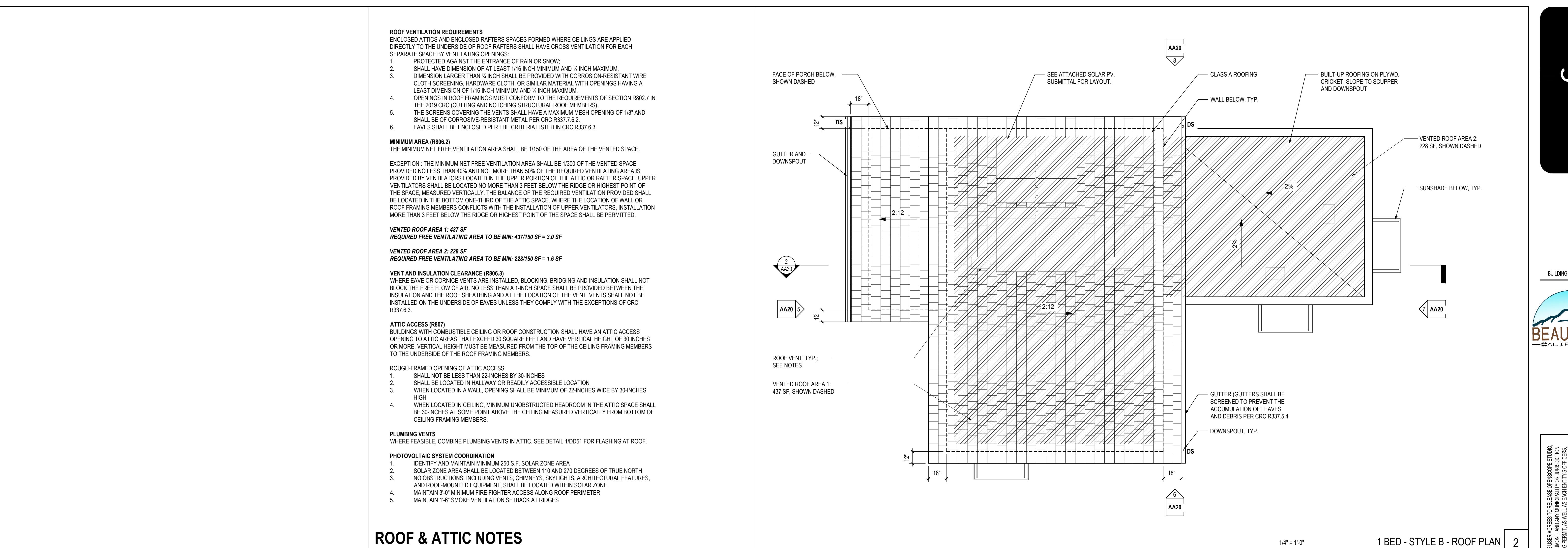
REVISIONS

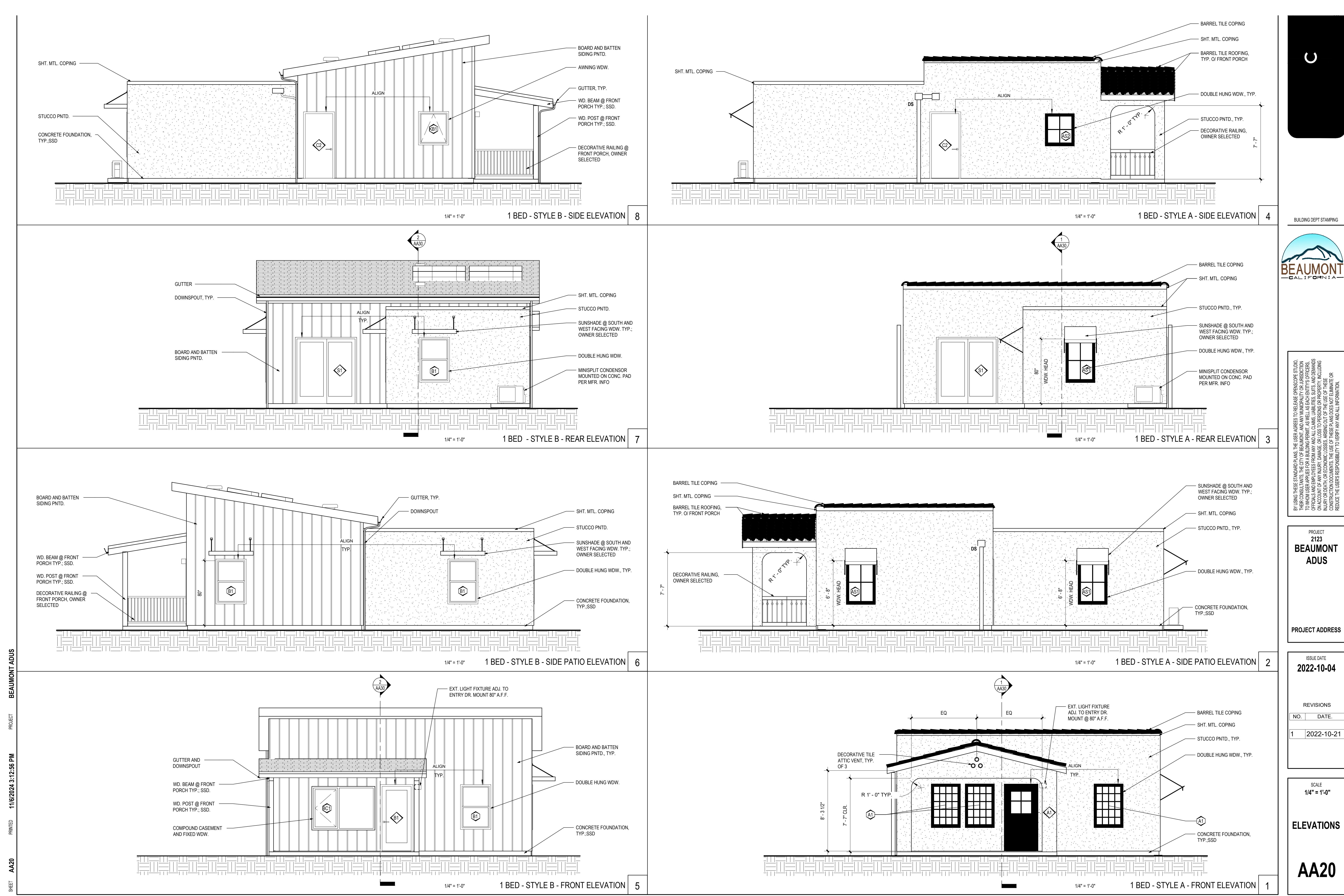
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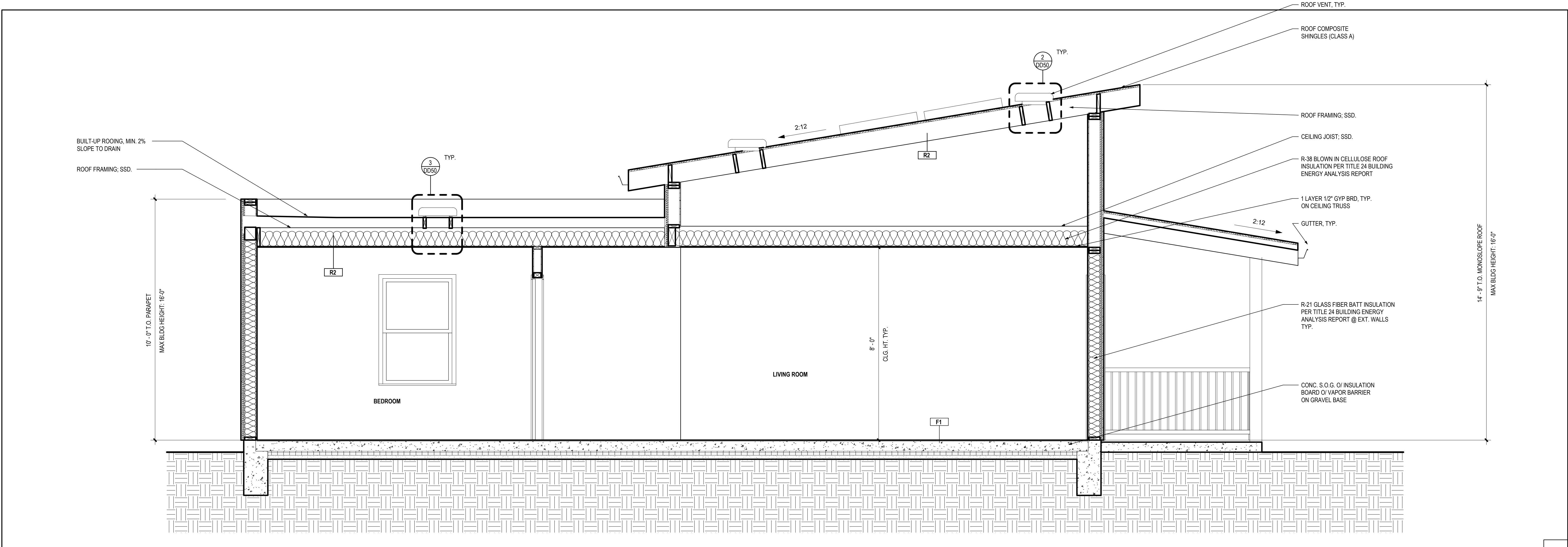
SCALE
As indicated
**FLOOR &
FOUNDATION
PLANS**

AA10









BY USING THESE STANDARD PLANS, THE USER AGREES TO RELEASE SPECSCO STUDIO, THE ARCHITECT, THE ENGINEER, THE CONTRACTOR, THE BUILDING INSPECTOR, THE BUILDING OFFICIAL, AND THE BUILDING DEPARTMENT FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS, AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE, OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DAMAGE TO ECONOMIC CLASSSES, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS. THE USE OF THESE PLANS DOES NOT IMPLY OR REDUCE THE USER'S RESPONSIBILITY TO FEE ANY AND ALL INFORMATION OR

PROJECT
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BEAUMONT
ADUS

PROJECT ADDRESS

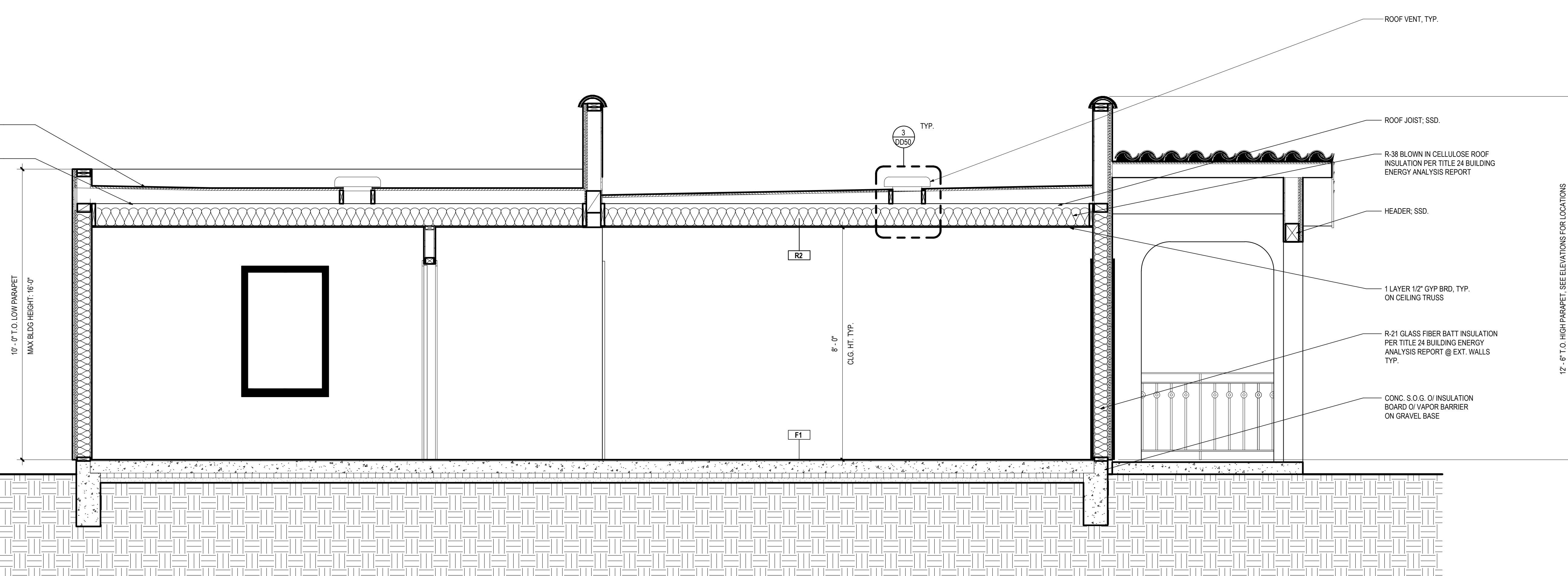
ISSUE DATE
2022-10-04

REVISIONS	NO.	DATE
1	2022-10-21	
2	2023-04-28	

SCALE
1/2" = 1'-0"

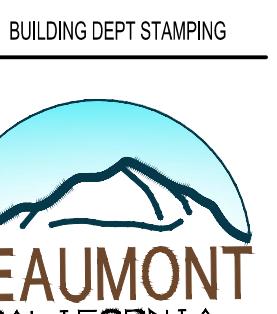
SECTIONS

AA30



<p>PROJECT BEAUMONT ADUS</p> <p>11/6/2024 3:13:03 PM</p> <p>PRINTED</p> <p>AA42</p>	<p>1 GENERAL MECHANICAL NOTES</p> <p>1.1 THESE NOTES CONVEY MINIMUM CONSTRUCTION REQUIREMENTS AND ARE TO BE USED WHERE THE APPLICABLE CONDITIONS OCCUR. MORE STRINGENT REQUIREMENTS STIPULATED ELSEWHERE WITHIN THESE DOCUMENTS OR WITHIN RELEVANT MANUFACTURER'S INSTALLATION INSTRUCTIONS WILL SUPERSEDE.</p> <p>1.2 UNLESS OTHERWISE NOTED, ALL MATERIALS AND EQUIPMENT TO BE INSTALLED PER THE APPLICABLE PROVISIONS OF THESE DOCUMENTS AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.</p> <p>2 BATHROOM FAN</p> <p>2.1 BATHROOMS TO CONTAIN VENTILATION FAN IN COMPLIANCE WITH THE TITLE-24 REPORT AND DRAWINGS AND CALCULATIONS SHOWN ON THE MECHANICAL PLAN.</p> <p>2.2 BACKDRAFT DAMPER REQUIRED.</p> <p>2.3 EXHAUST DUCT MUST VENT TO EXTERIOR.</p> <p>2.4 DISTANCE BETWEEN DUCT TERMINATION AND OPERABLE BUILDING OPENINGS OR PROPERTY LINE TO BE $\geq 3\text{-ft}$.</p> <p>3 CLOTHES DRYER</p> <p>3.1 GAS SHUTOFF VALVE, REQUIRED IMMEDIATELY BEFORE APPLIANCE CONNECTOR, TO BE WITHIN 3-FT OF DRYER (AT GAS DRYERS, WHERE OCCURS).</p> <p>3.2 6 FT MAXIMUM LENGTH FOR APPLIANCE CONNECTOR (AT GAS DRYERS, WHERE OCCURS).</p> <p>3.3 EXHAUST DUCT TO BE METAL WITH SMOOTH INTERIOR. SCREWS NOT TO OBSTRUCT FLOW.</p> <p>3.4 APPROVED FLEXIBLE DUCT, WITH MAXIMUM LENGTH OF 6-FT, OKAY FOR DOMESTIC DRYERS. FLEXIBLE DUCT NOT TO BE CONCEALED WITHIN CONSTRUCTION.</p> <p>3.5 4" MINIMUM DUCT DIAMETER FOR GAS DRYER OR PER INSTALLATION INSTRUCTIONS FOR ELECTRIC DRYER.</p> <p>3.6 MAXIMUM DUCT RUN OF 14-FT WITH (2) 90 DEGREE BENDS, UNLESS OTHERWISE SPECIFIED IN INSTALLATION INSTRUCTIONS. REDUCE DUCT LENGTH 2-FT FOR EVERY ADDITIONAL 90 DEGREE BEND.</p> <p>3.7 DUCT TO TERMINATE AT EXTERIOR OF BUILDING. SCREEN-LESS BACKDRAFT DAMPER REQUIRED AT DUCT TERMINATION.</p> <p>3.8 DISTANCE BETWEEN DUCT TERMINATION AND OPERABLE BUILDING OPENINGS OR PROPERTY LINE TO BE $\geq 3\text{-ft}$.</p> <p>4 GAS APPLIANCE VENTING (TYPE B, WHERE OCCURS)</p> <p>4.1 CONFIRM THAT TYPE B VENT IS APPROPRIATE PER THE APPLIANCE INSTALLATION INSTRUCTIONS.</p> <p>4.2 REFER TO THE TYPE B VENT SYSTEM INSTALLATION INSTRUCTIONS FOR PARTICULAR REQUIREMENTS. AMERIVENT BY INNOVATIVE VENTING SYSTEMS IS AN EXAMPLE.</p> <p>4.3 THE FOLLOWING NOTES ARE MINIMUMS. MORE STRINGENT REQUIREMENTS SPECIFIED IN APPLIANCE OR VENT SYSTEM INSTALLATION INSTRUCTIONS SUPERSEDE.</p> <p>4.4 OBSERVE MINIMUM CLEARANCE OF 1" TO COMBUSTIBLE MATERIALS.</p> <p>4.5 VENT SHALL HAVE A CONTINUOUS RISE OF NOT LESS THAN A 2% SLOPE.</p> <p>4.6 VENTS TO EXTEND VERTICALLY, ≤ 45 DEGREES FROM VERTICAL EXCEPT: ONE 60 DEGREE OFFSET OKAY, BUT LENGTH OF HORIZONTAL RUN PLUS HORIZONTAL CONNECTORS SHALL NOT EXCEED 75% OF THE VERTICAL HEIGHT OF THE VENT.</p> <p>4.7 VENTING SYSTEM SHALL TERMINATE NOT LESS THAN 5-FT ABOVE THE HIGHEST VENT COLLAR IT SERVES.</p> <p>4.8 VENTS, WITH DIAMETER ≤ 12, SHALL EXTEND A MINIMUM OF 12" ABOVE THE ROOF FINISH MATERIALS FOR ROOF PITCHES UP TO 6:12, ASSUMING THAT THERE ARE NO VERTICAL WALLS CLOSER THAN 8-FT HORIZONTALLY. REFER TO BUILDING CODE FOR GREATER ROOF PITCHES OR PIPE DIAMETERS.</p> <p>4.9 VENTS SHALL EXTEND AT LEAST 2-FT ABOVE ANY PORTION OF THE BUILDING WITHIN 10-FT HORIZONTALLY FOR INSTALLATION WHERE A VERTICAL WALL OR SIMILAR OBSTRUCTION IS CLOSER THAN 8-FT HORIZONTALLY.</p> <p>5 RANGE (GAS, WHERE OCCURS)</p> <p>5.1 GAS SHUTOFF VALVE, REQUIRED IMMEDIATELY BEFORE APPLIANCE CONNECTOR, TO BE WITHIN 3-FT OF RANGE.</p> <p>5.2 6 FT MAXIMUM LENGTH FOR APPLIANCE CONNECTOR.</p> <p>5.3 3" MINIMUM VERTICAL CLEARANCE TO COMBUSTIBLE MATERIALS.</p> <p>5.4 24" MINIMUM VERTICAL CLEARANCE TO RANGE HOOD OR PER INSTALLATION INSTRUCTIONS.</p> <p>5.5 MINIMUM HORIZONTAL CLEARANCES PER INSTALLATION INSTRUCTIONS.</p> <p>6 RANGE HOOD</p> <p>6.1 EXHAUST DUCT TO BE METAL WITH SMOOTH INTERIOR. SCREWS NOT TO OBSTRUCT FLOW.</p> <p>6.2 SCHEDULE 40 PVC DUCT FOR DOWNDRAFT OKAY FOR INSTALLATION BEHIND CONCRETE SLAB. JOINTS TO BE SOLVENT CEMENTED. BACKFILL TRENCH WITH SAND OR GRAVEL. NO MORE THAN 1" OF E" DIAMETER PVC FITTING MAY PROTRUDE ABOVE THE SLAB.</p> <p>6.3 BACKDRAFT DAMPER REQUIRED AT DUCT TERMINATION.</p> <p>6.4 DISTANCE BETWEEN DUCT TERMINATION AND OPERABLE BUILDING OPENINGS OR PROPERTY LINE TO BE $\geq 3\text{-ft}$.</p> <p>9 REGISTERS, GRILLES, & DIFFUSERS</p> <p>9.1 APPROVED GRILLES NOT TO BE DIRECTED TOWARD OCCUPIED ZONE.</p> <p>9.2 AS MUCH AS IS PRACTICABLE, FLOOR OR LOW SIDEWALL SUPPLIES TO BE LOCATED AT EXTERIOR WALLS AND DISCHARGE AIR STRAIGHT UP THE WALLS. VELOCITY OF DISCHARGE AIR SHOULD BE SUFFICIENT TO REACH CEILING.</p> <p>9.3 AS MUCH AS IS PRACTICABLE, HIGH INTERIOR SIDEWALL SUPPLIES TO DISCHARGE AIR PARALLEL TO THE CEILING AND TOWARDS EXTERIOR WALLS.</p> <p>9.4 AS MUCH AS IS PRACTICABLE, CEILING SUPPLIES SHOULD DISCHARGE AIR PARALLEL TO THE CEILING AND TOWARDS EXTERIOR WALLS. SUPPLIES SHOULD BE CLOSE ENOUGH FOR AIR TO REACH EXTERIOR WALL.</p> <p>9.5 UNLESS NOTED OTHERWISE, HART & COOLEY 300 SERIES OR COMPARABLE PRODUCT TO BE USED.</p> <p>10 FLEX DUCTS</p> <p>10.1 UNLESS NOTED OTHERWISE, FLEX DUCTS SHALL BE HART & COOLEY F118 SERIES DUCT OR EQUAL.</p> <p>1 GENERAL PLUMBING NOTES</p> <p>1.1 THESE NOTES CONVEY MINIMUM CONSTRUCTION REQUIREMENTS AND ARE TO BE USED WHERE THE APPLICABLE CONDITIONS OCCUR. MORE STRINGENT REQUIREMENTS STIPULATED ELSEWHERE WITHIN THESE DOCUMENTS OR WITHIN RELEVANT MANUFACTURER'S INSTALLATION INSTRUCTIONS WILL SUPERSEDE.</p> <p>1.2 UNLESS OTHERWISE NOTED, ALL MATERIALS AND EQUIPMENT TO BE INSTALLED PER THE APPLICABLE PROVISIONS OF THESE DOCUMENTS AND THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.</p> <p>2 BACKWATER VALVE</p> <p>2.1 FIXTURES WITH FLOOD PIMS BELOW THE NEXT UPSTREAM MANHOLE COVER SHALL BE PROTECTED BY APPROVED BACKWATER VALVE. INSPECTOR SHALL MAKE FINAL DETERMINATION.</p> <p>2.2 NO OTHER FIXTURES SHALL DISCHARGE THROUGH BACKWATER VALVE.</p> <p>2.3 BACKWATER VALVES SHALL BE ACCESSIBLE FOR SERVICE.</p> <p>3 CLEANOUTS</p> <p>3.1 PROVIDE CLEANOUT AT UPPER END OF HORIZONTAL DRAIN LINES AND AT INCREMENTS NOT TO EXCEED 100-FT. PROVIDE ADDITIONAL CLEANOUTS WHEN HORIZONTAL CHANGE IN DIRECTION EXCEEDS 135 DEGREES.</p> <p>3.2 BUILDING SEWER CLEANOUT REQUIRED WITHIN 2-FT OF BUILDING GRAIN. USE OF TWO-WAY CLEANOUT AT THIS LOCATION ELIMINATES THE NEED FOR A CLEANOUT AT THE UPPER TERMINAL OF THE BUILDING DRAIN.</p> <p>3.3 CLEANOUTS NOT REQUIRED ABOVE FIRST FLOOR.</p> <p>3.4 UNDER FLOOR CLEANOUTS SHALL BE NO MORE THAN 20-FT FROM ACCESS.</p> <p>3.5 CLEANOUTS UP TO 2" DIAMETER REQUIRE A MINIMUM OF 12" CLEARANCE IN FRONT OF CLEANOUT. 18" MINIMUM REQUIRED FOR DIAMETERS ≥ 2.</p> <p>3.6 CLEANOUT NOT REQUIRED FOR PIPE LENGTHS LESS THAN 60' UNLESS SERVING SINK OR URINAL.</p> <p>4 DISHWASHER</p> <p>4.1 AIR GAP OR INTEGRAL BACKFLOW DEVICE REQUIRED FOR DISHWASHER DRAIN LINES.</p> <p>5 LAUNDRY</p> <p>5.1 TRAP TO BE BETWEEN 6" AND 18" ABOVE THE FLOOR.</p> <p>5.2 STANDPIPE RECEPTOR TO BE ≥ 18" AND ≤ 42" IN HEIGHT.</p> <p>5.3 CLOTHES WASHERS MAY DRAIN TO LAUNDRY TUB.</p> <p>6 PIPE AT FOUNDATION</p> <p>6.1 SEE STRUCTURAL DETAILS FOR CONC-PIPES & TRENCHES @ FNDN</p> <p>8 PIPE AT FRAMING</p> <p>8.1 SEE STRUCTURAL DETAILS FOR FRMING-CUTTING & NOTCHING</p> <p>8.2 REFER TO SPECIFIC MANUFACTURING REQUIREMENTS FOR DRILLING, NOTCHING, AND CUTTING OF I-JOISTS AND OTHER ENGINEERED LUMBER.</p> <p>9 PIPE SUPPORTS</p> <p>9.1 CAST IRON NO HUB: HORIZONTAL SUPPORT TO BE WITHIN 18" OF EVERY OTHER JOINT AND NOT TO EXCEED 4-FT O.C. BETWEEN SUPPORTS. VERTICAL SUPPORT AT BASE AND EACH FLOOR WITH A MAXIMUM VERTICAL SPACING BETWEEN SUPPORTS OF 15-FT.</p> <p>9.2 COPPER: HORIZONTAL SUPPORT FOR PIPE $\leq 1\frac{1}{2}$" DIAMETER NOT TO EXCEED 6-FT O.C. FOR PIPE DIAMETER ≥ 2", SUPPORTS NOT TO EXCEED 10-FT O.C. VERTICAL SUPPORT AT EACH FLOOR AND SHALL NOT EXCEED 10-FT BETWEEN SUPPORTS.</p> <p>9.3 PEK: HORIZONTAL SUPPORTS AT 32" O.C. EACH FLOOR WITH MID-STORY GUIDES.</p> <p>9.4 ABS DWV: HORIZONTAL SUPPORTS NOT TO EXCEED 4-FT O.C. ALLOW FOR EXPANSION EVERY 30-FT. SUPPORT AT EACH HORIZONTAL BRANCH CONNECTION. VERTICAL SUPPORT AT EACH FLOOR WITH MID-STORY GUIDES.</p> <p>10 PLUMBING FIXTURES</p> <p>10.1 TOILETS SHALL NOT USE MORE THAN 1.28 GALLONS PER FLUSH.</p> <p>10.2 LATRORY FAUCET, KITCHEN FAUCET, & SHOWER HEAD FLOW RATES SHALL NOT EXCEED 2.0 GALLONS PER MINUTE.</p> <p>10.3 CONTROL VALVE FOR SHOWER OR TUB-SHOWER SHALL BE OF PRESSURE BALANCE OR THERMOSTATIC MIXING VALVE TYPE.</p> <p>10.4 TOILET SHALL COMPLY WITH MIN 30" X 24" AREA IN FRONT OF FIXTURE. CENTER OF FIXTURE SHALL BE ≥ 15" TO ADJACENT WALL OR 30" CTC TO ADJACENT FIXTURE CENTER.</p> <p>11.5 NO URINAL SHALL BE SET CLOSER THAN 12" FROM ITS CENTER TO ANY SIDE WALL OR OBSTRUCTION NOR CLOSER THAN 24" ON CENTER TO OTHER URINALS.</p> <p>10.6 PROVIDE 12X12 ACCESS PANEL OR UTILITY SPACE AT BATHTUB OR FIXTURE WITH CONCEALED SLIP JOINTS.</p> <p>11 SHOWERS</p> <p>11.1 MINIMUM SHOWER AREA TO BE 900 SQUARE INCHES WITH A MINIMUM DIAMETER OF 30", MEASURED FROM FINISH WALL TO CENTER OF TRESHOLD. MINIMUM SHOWER AREA TO BE MAINTAINED TO 70" ABOVE DRAIN. SHOWERHEADS, VALVES, GRAB BARS, AND SOAP DISHES ALLOWED TO PROTRUDE INTO REQUIRED AREA.</p> <p>11.2 FINISHED THRESHOLD HEIGHT TO BE 2" TO 6" ABOVE TOP OF DRAIN.</p> <p>11.3 SHOWERHEAD NOT TO DISCHARGE DIRECTLY TOWARDS DOOR.</p> <p>11.4 DOOR TO HAVE A MINIMUM WIDTH OF 22" AND NOT TO OPEN INTO THE SHOWER.</p> <p>12 TAILPIECE</p> <p>12.1 MAXIMUM LENGTH OF 24"</p> <p>13 TRAP ARMS</p> <p>13.1 LENGTH LIMITATIONS: 1-1/4" (3'), 1-1/2" (4'), 2" (6'), 3" (7'), 4" & (12'), TOILET TRAP (72")</p> <p>13.2 90 DEGREES OF CHANGE ALLOWED WITHOUT CLEANOUT. 135 DEGREES OKAY FOR DIAMETERS 3" AND LARGER PIPE.</p> <p>13.3 DIAMETER REQUIREMENTS FOR FIXTURES: 1-1/2" (BATHTUB, SINK, RESIDENTIAL DISHWASHER, BIDET, AND LAUNDRY TUB), 2" (CLOTHES WASHER, FLOOR DRAIN, AND SHOWER), 3" (TOILET)</p> <p>14 VENT PIPES</p> <p>14.1 SLOPE VENTS TOWARDS WASTE OR SOIL PIPE.</p> <p>14.2 VENT PIPES MUST BE AT LEAST 2 PIPE DIAMETERS FROM TRAP.</p> <p>14.3 VENT PIPES SHALL EXTEND THROUGH FLASHING AT LEAST 6" ABOVE THE ROOF AND SHALL NOT BE WITHIN 12" OF ANY VERTICAL SURFACE.</p> <p>14.4 VENT PIPES TERMINATING $< 10\text{-ft}$ HORIZONTALLY FROM OPERABLE DOOR OR WINDOW SHALL BE AT LEAST 3-FT ABOVE OR 4-FT BELOW OPENING.</p> <p>14.5 VENT PIPES TERMINATING $< 10\text{-ft}$ HORIZONTALLY FROM DECK SHALL BE AT LEAST 7-FT ABOVE DECK.</p> <p>15 WATER HEATER</p> <p>15.1 INSTALL 1-1/2" WIDE, 16 GA STRAP AT 1/3 FROM THE TOP & 1/3 FROM THE BOTTOM OF THE WATER HEATER. STRAPS NOT REQUIRED IF 'FLASH' WATER USED AND APPROPRIATE MANUFACTURER'S MOUNTING HARDWARE IS USED.</p> <p>15.2 INSTALL BALL VALVE AT OR NEAR COLD WATER SUPPLY INLET.</p> <p>15.3 INSTALL UNIONS WITHIN 12" OF WATER HEATER TO ALLOW FOR SERVICEABILITY.</p> <p>15.4 IF INSTALLED IN GARAGE, WATER HEATER PLATFORM TO BE MIN. 18" ABOVE SLAB.</p> <p>15.5 INSULATE FIRST 5 FEET OF PIPING. INSULATION NOT NEEDED IF 'FLASH' WATER HEATER USED.</p> <p>15.6 FOR WATER HEATERS WITH 50 GALLON CAPACITY OR LESS, PROVIDE R-12 BLANKET IF ENERGY FACTOR < 0.58.</p> <p>15.7 IF IN GARAGE, INSTALL PARKING CURB TO PROTECT WATER HEATER FROM POSSIBLE IMPACT.</p> <p>15.8 THE T&P DRAIN PIPE SHALL BE OF THE SAME DIAMETER AS THE RELIEF VALVE OUTLET AND SHALL EXTEND TO THE OUTSIDE OF THE BUILDING WITH THE END OF THE PIPE NOT MORE THAN 6" ABOVE THE GROUND.</p> <p>15.9 WHERE THE WATER HEATER IS INSTALLED IN A LOCATION WHERE LEAKAGE WILL CAUSE DAMAGE, SUCH AS IN SUSPENDED CEILING SPACES, FURRED SPACES, OR ATTICS, THE WATER HEATER SHALL BE INSTALLED IN A GALVANIZED STEEL PAN HAVING A MINIMUM THICKNESS OF 0.0276 INCH. THE PAN SHALL BE NO LESS THAN 1/2 INCH IN DIAMETER AND SHALL BE LARGE ENOUGH TO RECEIVE ALL DРИPPING OR LEAKAGE FROM THE WATER HEATER. THE PAN SHALL BE BURIED IN THE GROUND TO A MINIMUM DEPTH EQUAL TO THE DIAMETER OF THE PAN OR THE OUTLET DIAMETER OF THE REQUIRED RELIEF VALVE. WHICHEVER IS LARGER, THE PAN DRAIN SHALL EXTEND FULL SIZE AND TERMINATE OVER A SUITABLY LOCATED INDIRECT WASTE RECEPTOR ON FLOOR DRAIN OR EXTEND TO THE EXTERIOR OF THE BUILDING AND TERMINATE NO LESS THAN 6 INCHES OR MORE THAN 24 INCHES ABOVE THE ADJACENT GROUND.</p> <p>15.10 WATER HEATERS INSTALLED IN CONFINED SPACES (.60 CUBIC FEET PER 1,000 BTUH INPUT) SHALL BE VENTED TO UNCONFINED SPACES BY PROVIDING TWO OPENINGS IN THE ENCLOSURE. EACH OPENING SHALL HAVE A MINIMUM VENTILATING AREA OF 1 SQUARE IN PER 1,000 BTUH AND SHALL BE NO LESS THAN 100 SQUARE INCHES. OPENINGS SHALL BE IN THE UPPER AND LOWER THIRDS OF THE ENCLOSURE AND SHALL BE PROTECTED BY SCREENS MEASURING NO SMALLER THAN $1\frac{1}{2}$" X $1\frac{1}{2}$".</p> <p>16 WATER SUPPLY</p> <p>16.1 BALL TYPE SHUT-OFF VALVE TO BE INSTALLED BETWEEN SERVICE WATER METER AND WATER PRESSURE REDUCING VALVE.</p> <p>16.2 WATER PRESSURE REDUCING VALVE WITH INTEGRAL BY-PASS CHECK VALVE AND STRAINER TO BE INSTALLED AT BUILDING WATER SUPPLY INLET. VALVE SHALL BE ACCESSIBLE FOR CLEANING AND ADJUSTMENT WITHOUT REMOVAL OF PIPE OR VALVE. BUILDING'S POTABLE WATER SUPPLY SYSTEM STATIC PRESSURE NOT TO EXCEED 80 PSI.</p> <p>16.3 COPPER TUBE USED IN WATER SUPPLY SYSTEM TO HAVE A MINIMUM WEIGHT OF TYPE L OR K. COPPER TUBING TO BE INSTALLED WITHOUT JOINTS WHERE POSSIBLE. JOINTS SHALL BE BRAZED AND FITTINGS ARE TO BE WROUGHT COPPER. PIPE TO BE A MINIMUM OF 12" BELOW GRADE.</p> <p>16.4 APPROVED PEX PLUMBING SYSTEMS IS TO BE INSTALLED BY WORKERS FAMILIAR WITH THE REQUIREMENTS FOR THE PARTICULAR SYSTEM SELECTED.</p> <p>16.5 PIPE THAT IS WITHIN 1" OF JOIST OR STUD EDGE SHALL BE PROTECTED WITH NAIL PLATE.</p> <p>17 PEX</p> <p>17.1 INSTALL PEX (ZURN) HOT & COLD WATER MANIFOLDS</p> <p>17.2 INSTALL HOT WATER MANIFOLD AS CLOSE AS POSSIBLE TO HOT WATER HEATER, BUT NO CLOSER THAN 18"</p> <p>17.3 RUN DEDICATED 1/2" LINES TO EACH BATHTUB</p> <p>17.4 RUN DEDICATED 1/2" LINES TO WASHER</p> <p>17.5 RUN DEDICATED 3/8" LINE TO EACH FIXTURE</p> <p>GENERAL NOTES - MECHANICAL</p> <p>GENERAL NOTES - PLUMBING</p>	<p>BUILDING DEPT STAMPING</p> <p>BEAUMONT CALIFORNIA</p> <p>BY USING THIS STANDARD PLANS, THE USER AGREES TO RELEASE BEAUMONT STUDIO, THE CITY OF BEAUMONT, AND THE BEAUMONT BUILDING DEPARTMENT FROM ANY LIABILITY FOR ANY DAMAGES, WHETHER IN CONTRACT, TORT, OR OTHERWISE, ARISING OUT OF THE USE OF THESE PLANS. THE USER AGREES TO INDEMNIFY BEAUMONT STUDIO, THE CITY OF BEAUMONT, AND THE BEAUMONT BUILDING DEPARTMENT FROM ANY CLAIMS, LIABILITIES, SETS ASIDE, AND DEMANDS OF ANY PERSONS OR PROPERTY, OR LOSSES FROM ANY INJURY, DAMAGE, OR LOSS OF PROPERTY, ARISING OUT OF THE USE OF THESE PLANS. THE USE OF THESE PLANS DOES NOT LIMIT OR EXEMPT THE USER FROM COMPLYING WITH THE REQUIREMENTS OF THE BEAUMONT BUILDING CODE, OR ANY OTHER APPLICABLE CODES, ORDINANCES, AND REGULATIONS. THE USER AGREES TO INDEMNIFY BEAUMONT STUDIO, THE CITY OF BEAUMONT, AND THE BEAUMONT BUILDING DEPARTMENT FROM ANY CLAIMS, LIABILITIES, SETS ASIDE, AND DEMANDS OF ANY PERSONS OR PROPERTY, OR LOSSES FROM ANY INJURY, DAMAGE, OR LOSS OF PROPERTY, ARISING OUT OF THE USE OF THESE PLANS. THE USE OF THESE PLANS DOES NOT LIMIT OR EXEMPT THE USER FROM COMPLYING WITH THE REQUIREMENTS OF THE BEAUMONT BUILDING CODE, OR ANY OTHER APPLICABLE CODES, ORDINANCES, AND REGULATIONS.</p> <p>PROJECT 2123 BEAUMONT ADUS</p> <p>PROJECT ADDRESS</p> <p>ISSUE DATE 2022-10-04</p> <p>REVISIONS</p> <p>NO. DATE</p> <p>SCALE As indicated</p> <p>MECHANICAL & PLUMBING</p> <p>AA42</p>			
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			<p>1/4" = 1'-0"</p>		
			<p>1 BED - MECHANICAL AND PLUMBING</p>		
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BEAUMONT
CALIFORNIA

BY USING THESE STANDARD PLANS, THE USER AGREES TO RELEASE BEAUMONT STUDIO, THE CITY OF BEAUMONT, AND THE COUNTY OF RIVERSIDE FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS, AND DEMANDS, ON ACCOUNT OF ANY INJURY, DAMAGE, OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DAMAGE TO PROPERTY, ARISING OUT OF THE USE OF THESE DOCUMENTS. THE USE OF THESE PLANS DOES NOT IMPLY OR REDUCE THE CONSTRUCTORS RESPONSIBILITY TO VERIFY ANY AND ALL INFORMATION.

PROJECT
2123
BEAUMONT
ADUS

PROJECT ADDRESS

ISSUE DATE
2022-10-04

REVISIONS
NO. DATE
1 2022-10-21

SCALE
As indicated
WINDOW &
DOOR
SCHED.
AA60

AA60

WINDOW SCHEDULE

TYPE	DESCRIPTION	WIDTH	HEIGHT	FIRE RATING	FRAME	GLAZING	COMMENTS
STYLE A							
A1	DOUBLE HUNG WINDOW	3'-0"	4'-6"	NONE		LOW E, I.G.U.	
A2	DOUBLE HUNG WINDOW	3'-0"	3'-4"	NONE		LOW E, I.G.U.	AT STUDIO KITCHEN SINK
A3	DOUBLE HUNG WINDOW	2'-0"	4'-6"	NONE		LOW E, I.G.U.	
A51	DOUBLE HUNG WINDOW	3'-0"	4'-6"	NONE		LOW E, I.G.U.	
A52	DOUBLE HUNG WINDOW	3'-0"	3'-4"	NONE		LOW E, I.G.U.	AT 1 BED KITCHEN SINK
STYLE B							
B1	DOUBLE HUNG WINDOW	3'-0"	4'-6"	NONE		LOW E, I.G.U.	
B2	DOUBLE HUNG WINDOW	2'-0"	4'-6"	NONE		LOW E, I.G.U.	
BC1	COMPOUND FIXED AND CASEMENT WINDOW	6'-6"	4'-6"	NONE		LOW E, I.G.U.	
KB1	AWNING WINDOW	3'-0"	3'-4"	NONE		LOW E, I.G.U.	AT KITCHEN SINK

WINDOW NOTES:

1. REFER TO EXTERIOR ELEVATIONS FOR WINDOW HEAD HEIGHT ELEVATIONS. REFER TO FLOOR PLANS FOR WINDOW TYPES AND LOCATIONS.

2. WHERE DOOR & WINDOW SYSTEMS ARE ADJACENT, CONTRACTOR SHALL INSURE ALIGNMENT OF HORIZONTAL AND VERTICAL MEMBERS.

3. ALL WINDOWS ARE DOUBLE-GLAZED, UNLESS OTHERWISE NOTED. FOR DOUBLE GLAZED WINDOWS, PROVIDE U-VALUE PER SPECIFICATION (MIN. 0.75 PER TITLE 24).

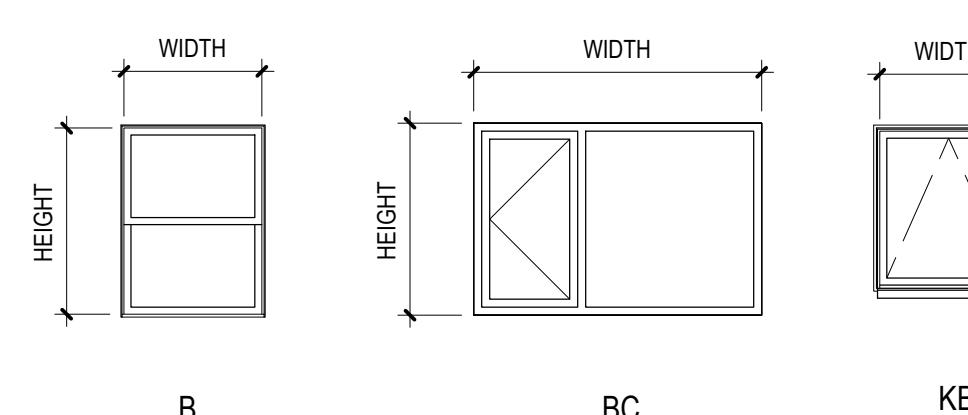
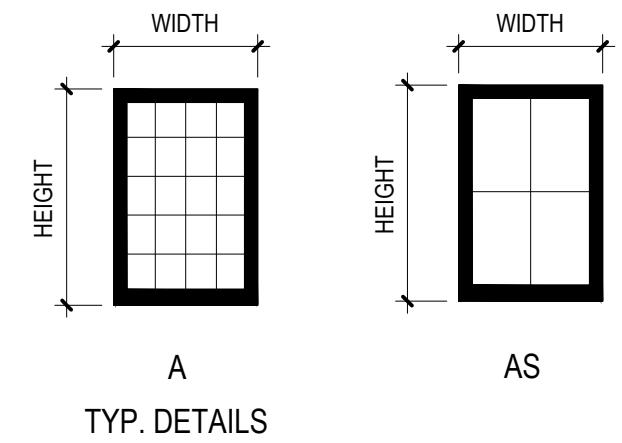
4. ALL SAFETY GLAZING SHALL BE IDENTIFIED AS SUCH PER CBC SECTION 2406.2. PROVIDE SAFETY GLAZING AT LOCATIONS REQUIRED PER CBC SECTION 2406.3, INCLUDING, BUT NOT LIMITED:

- A. ALL GLAZING IN SWINGING DOOR PANELS
- B. ALL GLAZING IN FIXED AND SLIDING PANELS OF SLIDING DOOR ASSEMBLIES
- C. GLAZING IN FIXED OR OPERABLE PANELS ADJACENT TO A DOOR WHERE THE NEAREST EXPOSED EDGE OF THE GLAZING IS WITHIN A 2'-0" ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 5'-0" ABOVE FINISH FLOOR.
- D. GLAZING IN WALLS ENCLOSING STAIRWAY LANDINGS OR WITHIN 5'-0" OF THE BOTTOM OR TOP OF A STAIRWAY WHERE THE BOTTOM OF THE GLASS IS LESS THAN 5'-0" ABOVE FINISH FLOOR.
- E. ALL GLAZING IN FIXED OR OPERABLE PANELS WITH AN EXPOSED EDGE LESS THAN 1'-6" ABOVE THE FINISHED FLOOR.

5. SEE WINDOW DETAIL SHEET FOR INSTALLATION AND FLASHING SEQUENCE (WHERE APPLIES).

6. EMERGENCY EGRESS WINDOWS TO COMPLY WITH CBC, SECTION 1030: MINIMUM NET CLEAR HEIGHT OF 24", MINIMUM NET CLEAR WIDTH OF 20", MAXIMUM FINISHED SILL HEIGHT OF 44", AND MINIMUM CLEAR AREA OF 5.7 SQ. FT. CONTRACTOR SHALL VERIFY PRIOR TO START OF ROUGH FRAMING THAT EMERGENCY EGRESS WINDOWS COMPLY WITH SECTION 1030.

7. ALL GLAZING LESS THAN 60" ABOVE A SHOWER OR TUB FLOOR AND WITHIN 60" HORIZONTALLY FROM FIXTURE'S WATER EDGE SHALL BE SAFETY GLAZING. [CRC R308.4, ITEM 5]

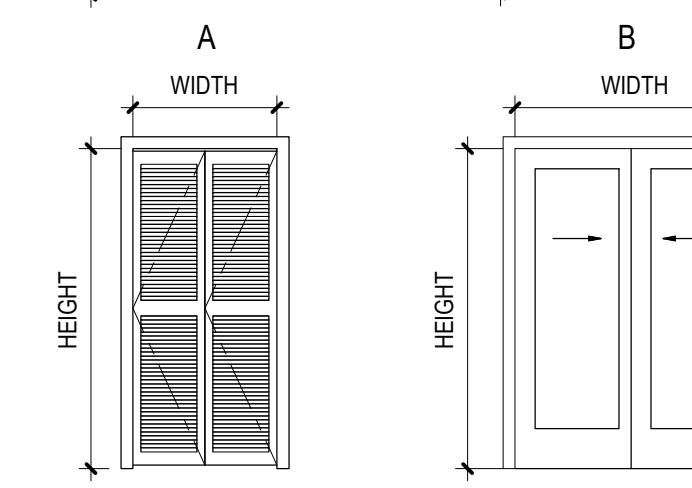
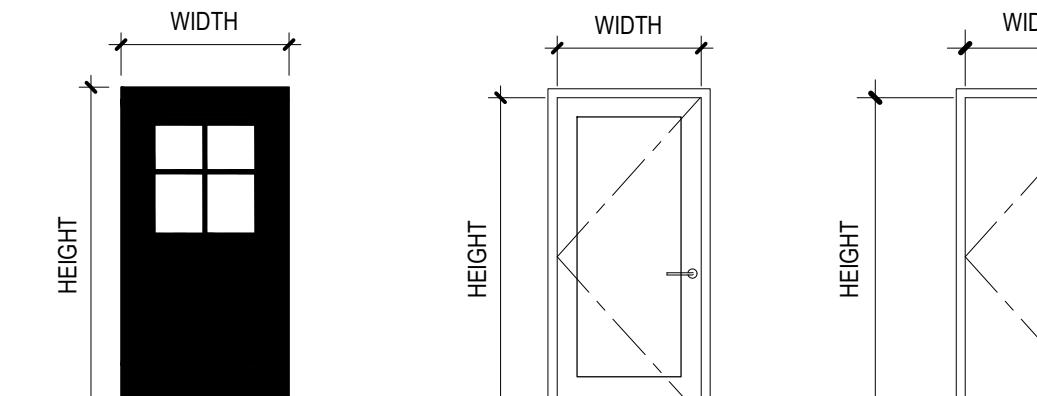


WINDOW LEGEND

WINDOW NOTES

DOOR SCHEDULE - 1 BED

TYPE	DESCRIPTION	WIDTH	HEIGHT	PANEL THICKNESS	FIRE RATING	FRAME	PANEL	FINISH	COMMENTS
STYLE A									
A1	EXT. SINGLE SWING	3'-0"	6'-8"	0'-1 3/4"	NONE	WD	SC/WD		STYLE A - FRONT DOOR
STYLE B									
B1	EXT. SINGLE SWING	3'-0"	6'-8"	0'-1 3/8"	NONE	WD	SC/WD		STYLE B - FRONT DOOR
TYPICAL									
C1	INT. SINGLE SWING	2'-10"	6'-8"	0'-1 3/8"	NONE	WD	SC/WD		
C2	EXT. SINGLE SWING	2'-8"	6'-8"	0'-1 3/4"	NONE	WD	SC/WD		
C3	INT. SINGLE SWING	2'-8"	6'-8"	0'-1 3/8"	NONE	WD	SC/WD		
D1	INT. BIFOLD	3'-0"	6'-8"	0'-1"	NONE	WD	LOUVERED		AT W/D CLOSET
S1	EXT. DOUBLE SLIDING	6'-0"	6'-8"	0'-1 3/4"	NONE	ALUM	TEMPERED GLAZED		AT PATIO
S2	INT. DOUBLE SLIDING	7'-8"	6'-8"	0'-1"	NONE	WD	SC/WD		



DOOR LEGEND

1. PROVIDE SAFETY GLAZING PER CBC SEC. 2406.

2. ALL EXIT DOORS ARE TO BE OPERABLE FROM THE INSIDE WITHOUT USE OF A KEY, OR SPECIAL KNOWLEDGE OR EFFORT.

3. THE MAXIMUM EFFORT TO OPERATE EXTERIOR & INTERIOR DOORS IS 5 POUNDS. DOORS REQUIRING MORE THAN 5 POUNDS OF PRESSURE TO OPERATE SHALL BE EQUIPPED WITH POWER-ASSISTED OPENERS. FIRE-RATED DOORS ARE TO OPERATE WITH THE MINIMUM PRESSURE TO CLOSE AND LATCH, NOT TO EXCEED 15 POUNDS.

4. PROVIDE WEATHER STRIPPING PER TITLE 24 FOR ALL EXTERIOR DOORS. PERIMETER SEAL SHALL PROVIDE CONTINUOUS BARRIER, WITH NO VISIBLE GAPS BETWEEN THE DOOR AND THE FRAME OR THRESHOLD.

5. DO NOT USE TIMELY FRAMES.

6. ALL FIRE-RATED DOORS SHALL HAVE A TIGHT-FITTING SMOKE-SEAL ASSEMBLY PER CBC SECTION 715.4.

DOOR NOTES

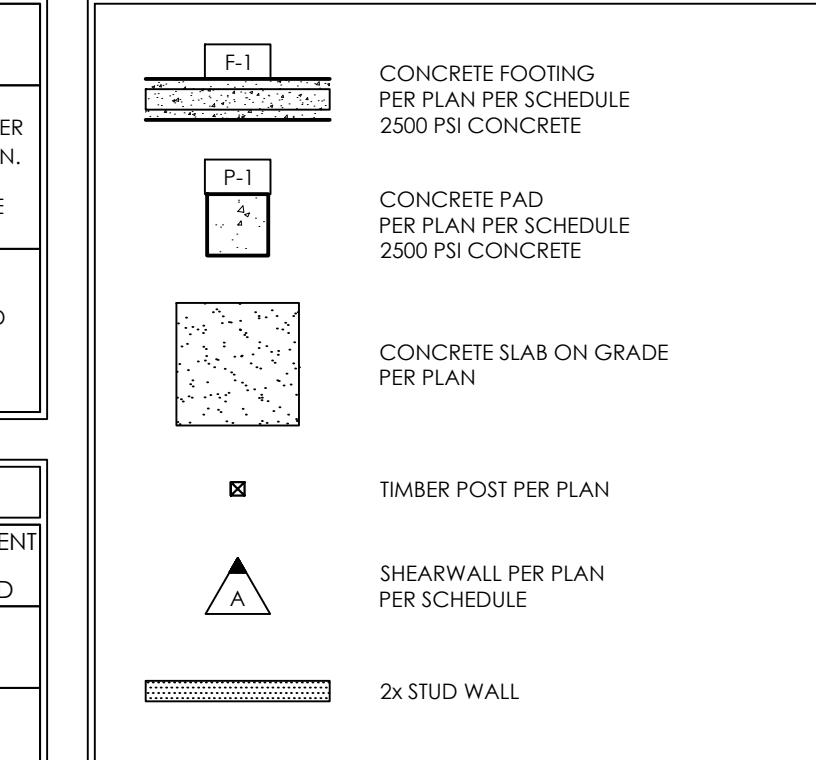
FOUNDATION PLAN NOTES

1. REQUIRED SHEAR AND HOLDOWN HARDWARE SHALL BE IN PLACE AND SECURED PRIOR TO FOUNDATION INSPECTION.
2. BOLT FOUNDATION PLATES AND SILLS TO THE FOUNDATIONS WITH 5/8" ANCHOR BOLTS SPACED NOT MORE THAN 4'-0" APART AND WITHIN 12" OF EACH END OF EACH PLATE. EMBED BOLTS AT LEAST 7" INTO CONCRETE OR 10" INTO REINFORCED MASONRY.
3. 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.
4. HOLDOWN CONNECTORS SHALL BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.
5. HOLDOWN CONNECTOR BOLT HOLES SHALL NOT BE MORE THAN 1/16" OVERSIZED AT THE CONNECTOR OF THE HOLDOWN TO THE POST.

SLAB SCHEDULE

SLAB #	THICKNESS	REBAR	CONCRETE STRENGTH	BASE
S-1	4"	#4 @ 16" O.C.	2500 PSI	O/ 10' VAPOR BA O/ 4" OF CLEA AGGRE BASE
S-2	4"	#4 @ 16" O.C.	2500 PSI	UNDISTUR SOIL

FOUNDATION PLAN LEGEND

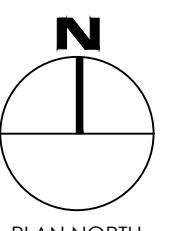
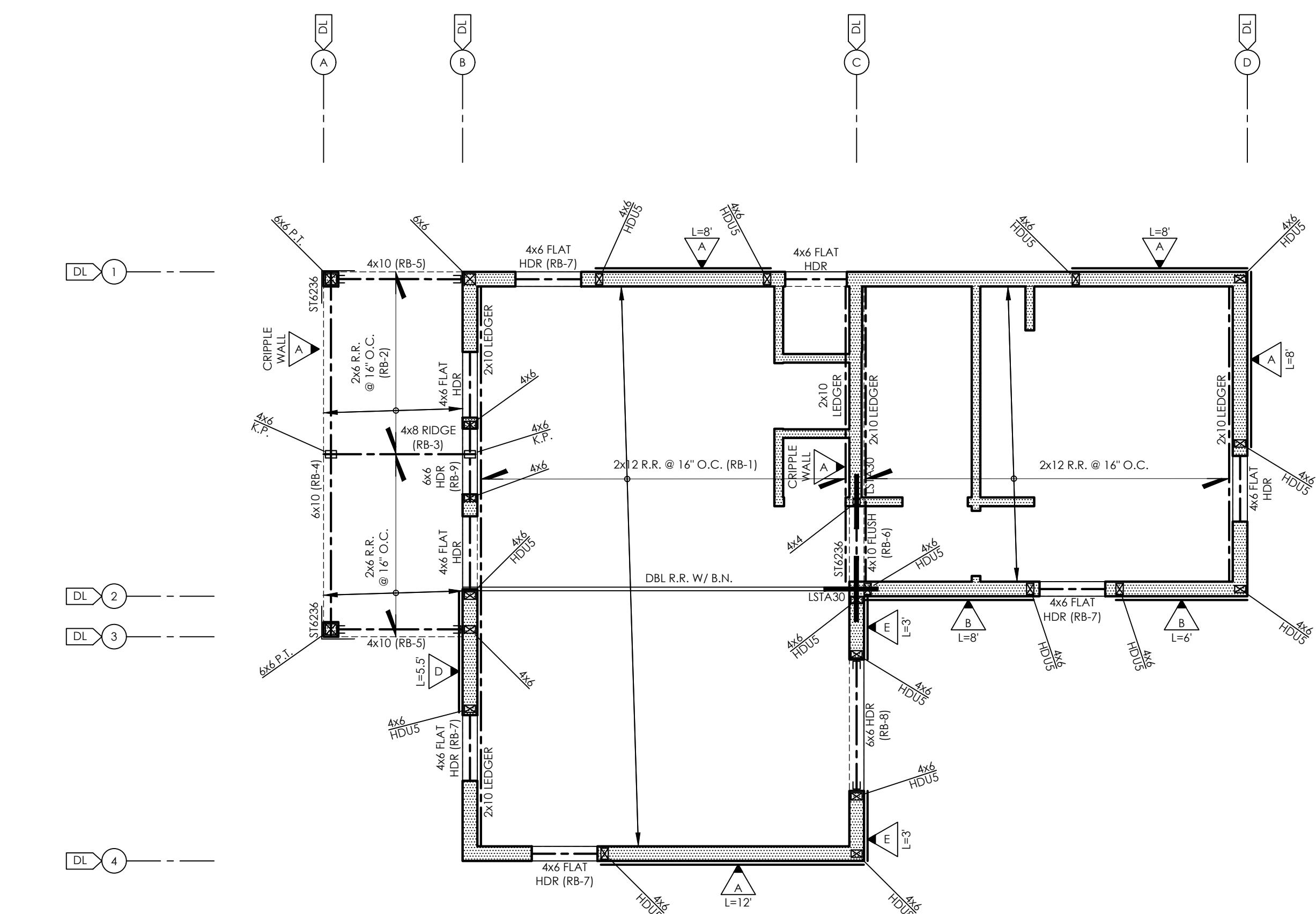
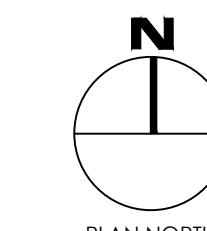
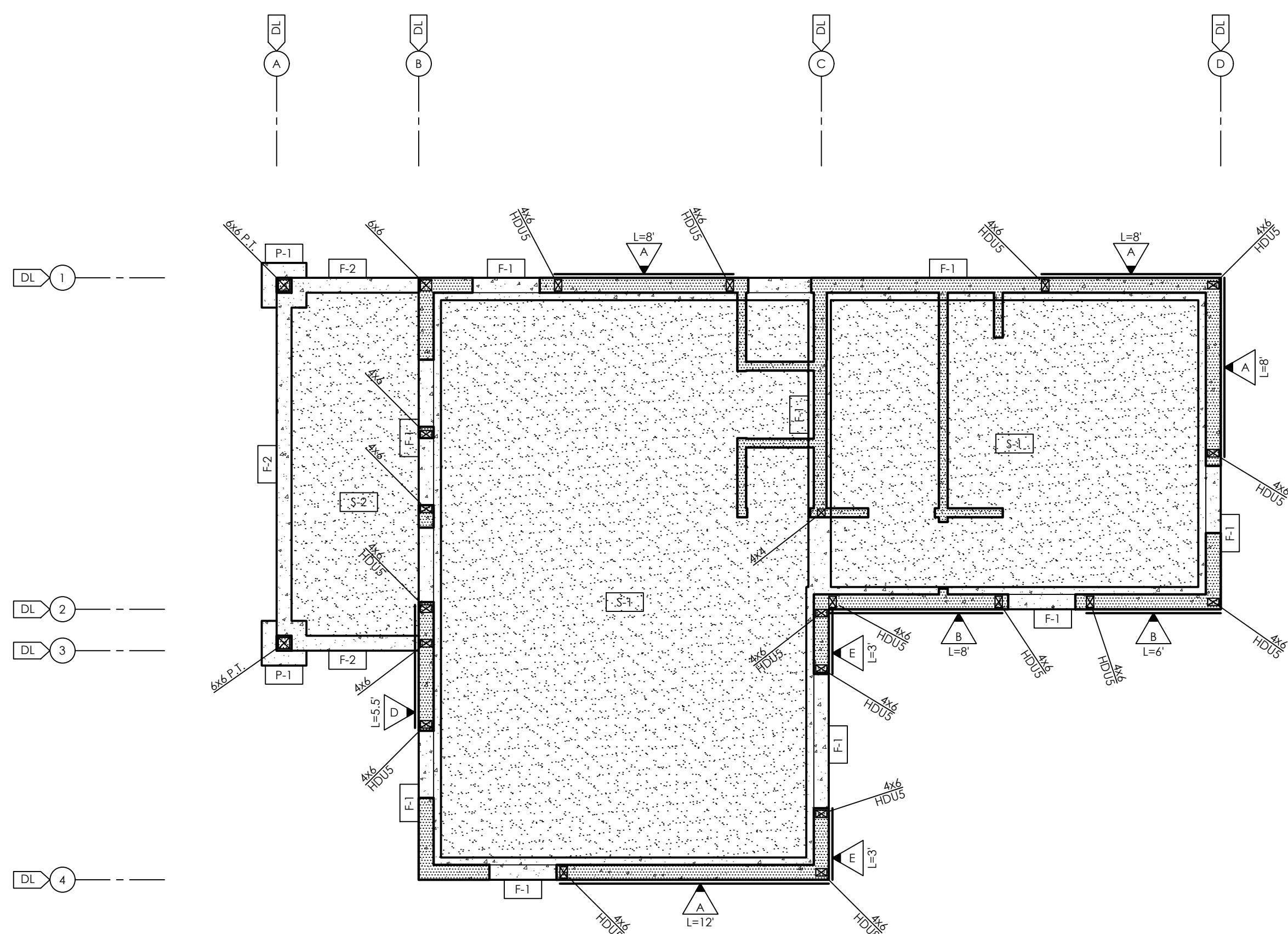
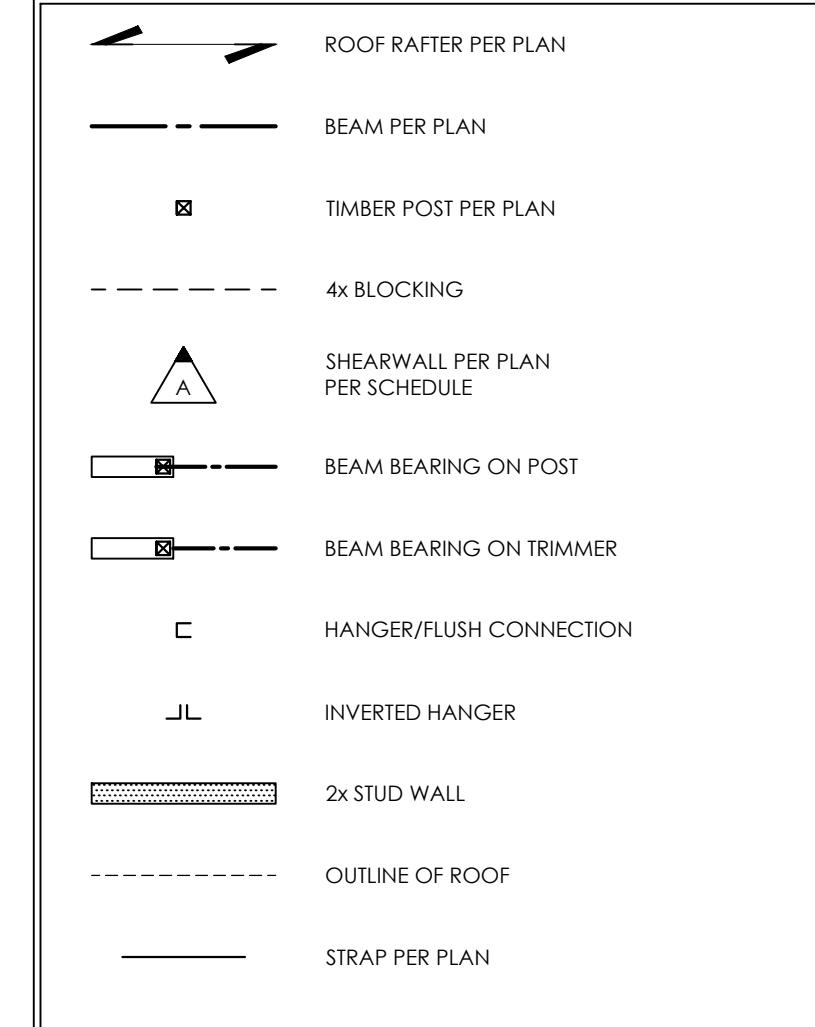


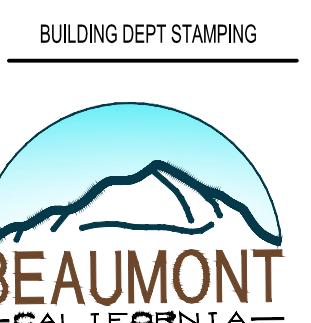
2018 CBC SHEARWALL SCHEDULE

ROOF FRAMING PLAN NOTES

1. ALL DIAPHRAGM AND SHEARWALL NAILING SHALL UTILIZE COMMON NAILS OR GALVANIZED BOX ONLY.
2. TIMBER GRADE MINIMUM REQUIREMENTS U.N.O.
2x MEMBERS: DFL#2
4x MEMBERS: DFL #1 (4x4 DFL#2 OK)
GLULAM (GLB): 24F/V4 DF/DF
PARALLAM (PSL): 2900 PSI 2.0E
3. ROOF SHEATHING:
15/32" APA RATED SHEATHING,
EXPOSURE I, 24/0 SPAN RATING
W/ 8d NAILS @ 6" O.C. EDGE, 6" O.C. BOUNDARY,
AND 12" O.C. FIELD.
EDGE BLOCKING NOT REQUIRED
4. PROVIDE RAFTER BLOCKING @ 8'-0" O.C.
5. TOP PLATE REQUIREMENTS:
SPLICES: (16) 16d NAILS OR ST6236 STRAP
BREAKS WITH BUTTED ENDS: ST6236 STRAP
BREAKS WITH GAP: HARDY FRAME SADDLE
6. ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING. FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES. PLYWOOD SPANS SHALL CONFORM WITH TABLE 2304.7

ROOF FRAMING PLAN LEGEND





BY USING THESE STANDARD PLANS, THE USER AGREES TO RELEASE OENSCOPE STUDIO, THEIR CONSULTANTS, THE CITY OF BEAUMONT, AND ANY UNINCORPORATED AREA OF JURISDICTION, TO WHOM USER APPLIES FOR A BUILDING PERMIT, AS WELL AS EACH CITY'S OFFICES, OFFICIAL AND EMPLOYEES FROM ANY AND ALL CLAIMS, LIABILITIES, SUITS AND DEMANDS ON ACCOUNT OF ANY INJURY, DAMAGE, OR LOSS TO PERSONS OR PROPERTY, INCLUDING INJURY OR DEATH, OR ECONOMIC LOSS, ARISING OUT OF THE USE OF THESE CONSTRUCTION DOCUMENTS. THE USE OF THESE PLANS DOES NOT EXEMPT OR REDUCE THE USER'S RESPONSIBILITY TO OBTAIN ANY AND ALL INFORMATION.

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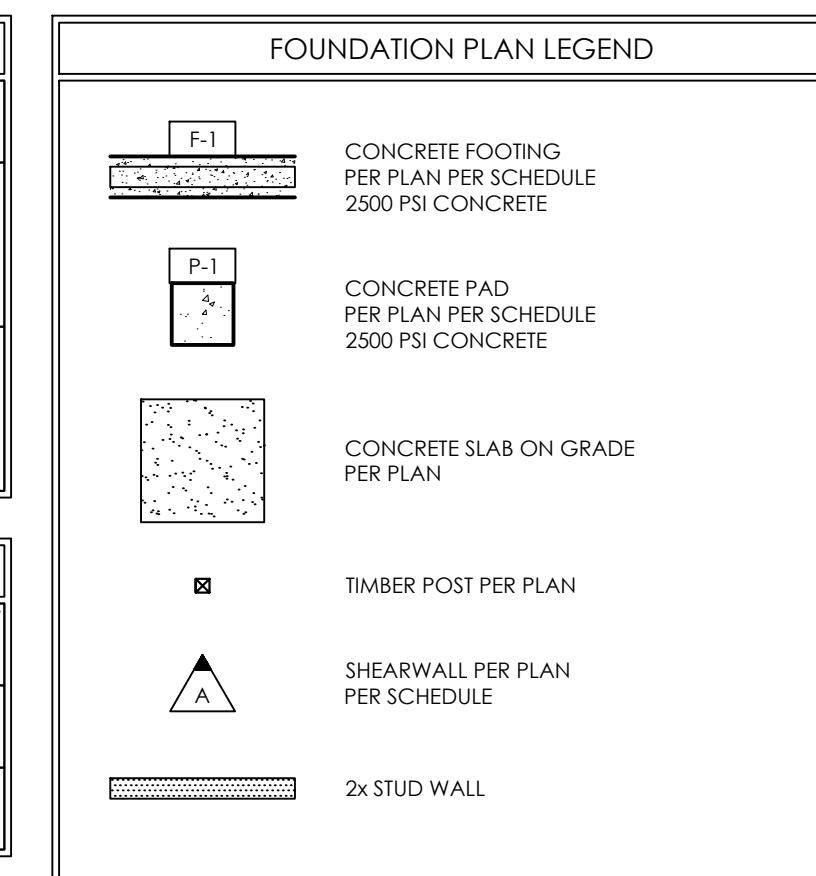
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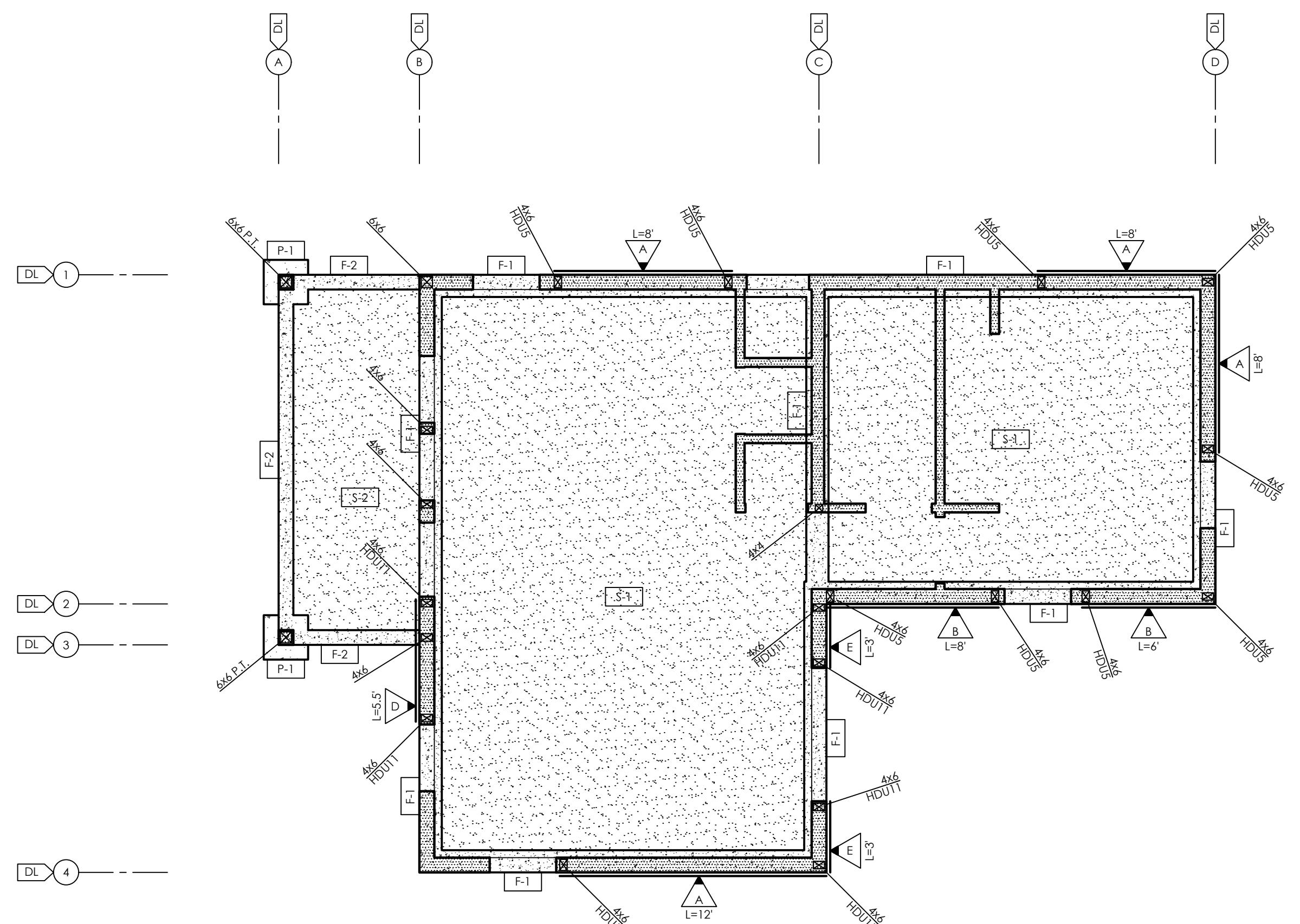
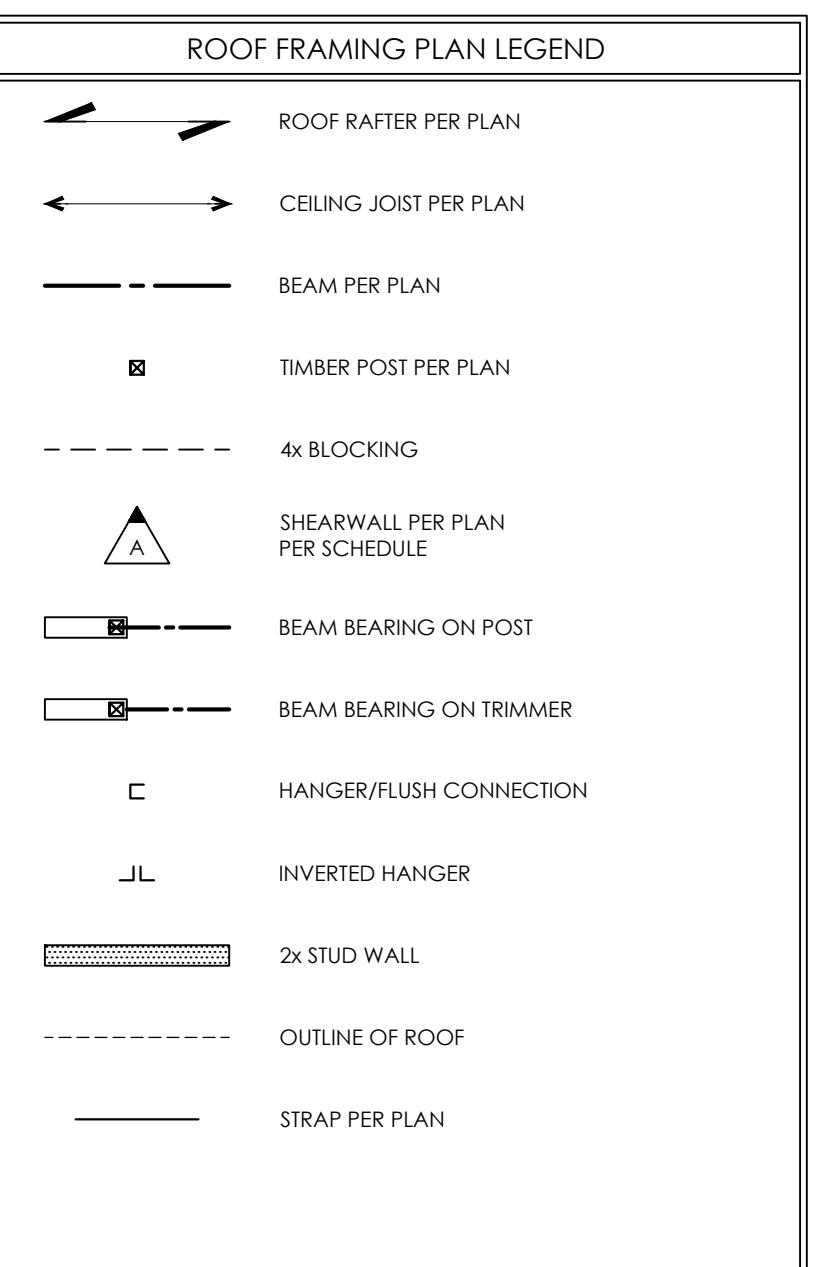
FOUNDATION PLAN NOTES				
1. REQUIRED SHEAR AND HOLDOWN HARDWARE SHALL BE IN PLACE AND SECURED PRIOR TO FOUNDATION INSPECTION.				
2. BOLT FOUNDATION PLATES AND SILLS TO THE FOUNDATIONS WITH 5/8" ANCHOR BOLTS SPACED NOT MORE THAN 4' 0" APART AND WITHIN 12" OF EACH END OF EACH PLATE. EMBED BOLTS AT LEAST 7" INTO CONCRETE OR 10" INTO REINFORCED MASONRY.				
3. ALL CONNECTORS AND METAL HARDWARE IN CONTACT WITH PRESTRESSED TREATED TIMBER SHALL HAVE CORROSION RESISTANT COATINGS OR PROTECTION, SUCH AS ZMAX®, HOT DIPPED GALVANIZED, OR BE STAINLESS STEEL.				
4. HOLDOWN CONNECTORS SHALL BE RE-TIGHTENED JUST PRIOR TO COVERING THE WALL FRAMING.				
5. HOLDOWN CONNECTOR BOLT HOLES SHALL NOT BE MORE THAN 1/16" OVERSIZED AT THE CONNECTOR OF THE HOLDOWN TO THE POST.				

SLAB SCHEDULE				
SLAB #	THICKNESS	REBAR	CONCRETE STRENGTH	BASE
S-1	4"	#4 @ 16" O.C.	2500 PSI	1/8" 10 MIL VAPOR BARRIER O/ 4" OF 1/2" MIN. CLEAN AGGREGATE BASE
S-2	4"	#4 @ 16" O.C.	2500 PSI	UNDISTURBED SOIL

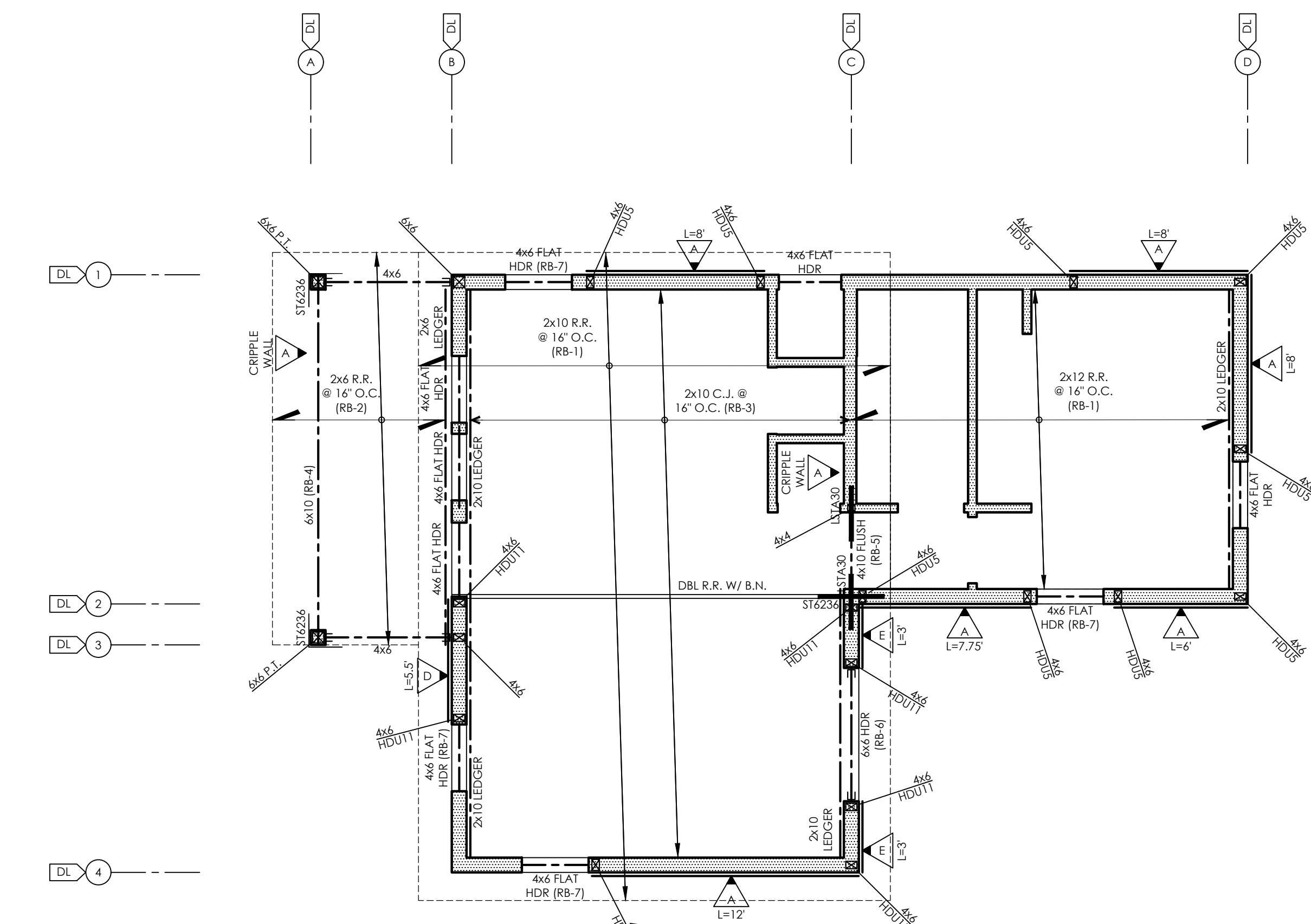


2019 CBC SHEARWALL SCHEDULE						
SHEDWALL DESIGNATION	SHIELDING	NAILING DIAPHRAGM NAILING (IF N/A) & BOUNDARY NAILING (IF N/A) (FIELD NAILING: 16D 1 1/2" O.C.)	NAILING DIAPHRAGM CLEATS & BOUNDARY CLEATS O.C. SPACING	SOLE PLATE FASTENERS 1/4" X 2" ANCHOR BOLT O.C. SPACING	FOUNDATION SILL PLATE AND ADJACENT PANE EDDGES	ALLOWABLE SHEARLOADING SPECIAL INSPECTION REQUIREMENT
ALL OTHER EXTERIOR WALL	24"	(2) 16d @ 16"	48"	2x	NO	
15/32" STR. 1	8d @ 6" O.C.	16"	12" OR 16d @ 5"	48"	2x	280 NO
15/32" STR. 1	8d @ 4" O.C.	14"	9"	42"	3x	430 YES
15/32" STR. 1	8d @ 3" O.C.	10"	7"	32"	3x	550 YES
15/32" STR. 1	8d @ 2" O.C.	8"	5"	24"	3x	730 YES
15/32" STR. 1	10d @ 2" O.C.	7"	4"	20"	3x	870 YES

2019 CBC SHEARWALL SCHEDULE						
1. ALL DIAPHRAGM AND SHEARWALL NAILING SHALL UTILIZE COMMON NAILS OR GALVANIZED BOX ONLY.						
2. TIMBER GRADE MINIMUM REQUIREMENTS U.N.O. 2x MEMBERS: DFL#2 4x MEMBERS: DFL #1 (4x4 DFL #2 OK) GLULAM (GLB): 24F/4 DFL/DF PARALLAM (PSL): 2900 PSI 2.0E						
3. ROOF SHEATHING: 15/32" APA RATED SHEATHING, EXPOSURE L 24/0 SPAN RATING W/ 8d NAILS @ 6" O.C. EDGE, 4" O.C. BOUNDARY, AND 12" O.C. FIELD EDGE BLOCKING NOT REQUIRED						
4. PROVIDE RAFTER BLOCKING @ 8'-0" O.C.						
5. TOP PLATE REQUIREMENTS: SPLICES: (14) 16d NAILS OR ST6236 STRAP BREAKS WITH BUTTED ENDS: ST6236 STRAP BREAKS WITH GAP: HARDY FRAME SADDLE						
6. ROOF DIAPHRAGM NAILING TO BE INSPECTED BEFORE COVERING. FACE GRAIN OF PLYWOOD SHALL BE PERPENDICULAR TO SUPPORTS. FLOOR SHALL HAVE TONGUE AND GROOVE OR BLOCKED PANEL EDGES. PLYWOOD SPANS SHALL CONFORM WITH TABLE 2304.7						
3. ALL SILL PLATE NAILING TO BE STAGGERED 1/2" MINIMUM (TYP.)						
4. WHEN A SHEAR WALL IS SPECIFIED ON BOTH SIDES OF THE WALL, THE SHEAR WALL SCHEDULE SPACING SHALL BE REDUCED BY HALF.						



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PLAN NORTH

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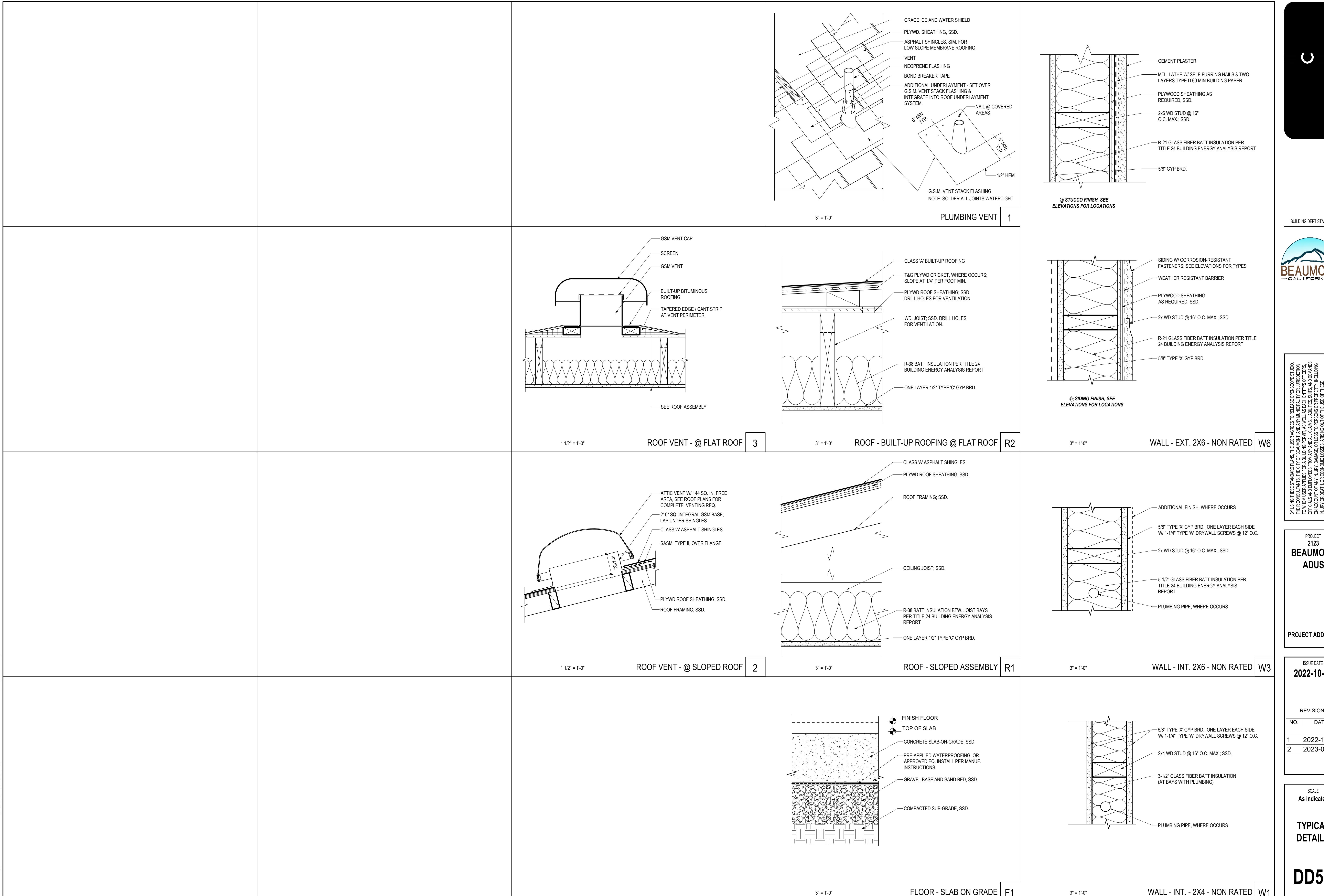
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SYMBOLS	GENERAL NOTES:
GENERAL SYMBOLS:	<p>1. THE FOLLOWING GENERAL NOTES APPLY TO ELECTRICAL DRAWINGS.</p> <p>2. INSTALLATION OF ELECTRICAL MATERIAL SHALL CONFORM WITH LOCAL REGULATIONS AND THE 2019 CALIFORNIA ELECTRICAL CODE (CEC) AND OTHER GOVERNING CODES AND ORDINANCES.</p> <p>3. ELECTRICAL EQUIPMENT SHALL BE NRTL LABELED.</p> <p>4. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHER TRADES AT THE SITE.</p> <p>5. CONDUIT SIZES ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN-2 INSULATION UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE COPPER. CONDUCTOR INSULATION SHALL BE THHN/THWN-2 UNLESS OTHERWISE NOTED.</p> <p>6. MINIMUM CONDUIT SIZE SHALL BE 1/2", UNLESS OTHERWISE NOTED.</p> <p>7. ALTERNATIVE WIRING METHODS PERMITTED BY CEC CHAPTER 3 ARE PERMISSIBLE.</p> <p>8. CONDUIT RUNS SHOWN ARE DIAGRAMMATIC ONLY. INSTALL CONDUITS TO SUIT FIELD CONDITIONS.</p> <p>9. PROVIDE PROPERLY SIZED LUGS AT CIRCUIT BREAKER PANELS, FOR THE CONDUCTORS SHOWN TO CONNECT TO THESE LUGS.</p> <p>10. INSTALL EXTERIOR MOUNTED ELECTRICAL EQUIPMENT IN WEATHERPROOF, NEMA 3R ENCLOSURES.</p> <p>11. SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR, SIZED PER NEC TABLE 250.122, SHALL BE PROVIDED, INSTALLED IN THE SAME CONDUIT AS THE CIRCUIT CONDUCTORS, FOR FEEDER AND BRANCH CIRCUITS.</p> <p>12. THE CONTRACTOR SHALL SUPPLY POWER TO AND MAKE CONNECTION TO MOTORS AND EQUIPMENT REQUIRING ELECTRICAL, INCLUDING FRACTIONAL HORSEPOWER MOTORS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW THE MECHANICAL AND PLUMBING DRAWINGS FOR DUCTS, LINES AND EQUIPMENT.</p> <p>13. COMPLY WITH NFPA 70E.</p> <p>14. LIGHTING SHALL COMPLY WITH CALIFORNIA CODE OF REGULATIONS TITLE 24.</p>
OUTLETS AND RECEPTACLES	
6-30R	SPECIAL RECEPTACLE OUTLET WITH NEMA CONFIGURATION NUMBER AS NOTED, AT +16" AFF UON.
6-20R	SIMPLEX RECEPTACLE 20A, 125V. WALL MOUNTED DEVICE AT 18" AFF UON.
LIGHTING	
DISCONNECT AND OVERCURRENT DEVICES	
ABBREVIATIONS:	

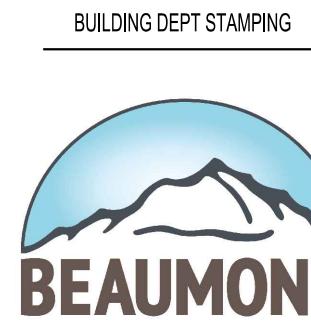
PA [3]									
ROOM		VOLTS 240/120V 2P 3W		AIC 10,000					
MOUNTING FLUSH		BUS AMPS 150		MAIN BKR 125					
FED FROM UTILITY		NEUTRAL 100%		LUGS STANDARD					
NOTE	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA	CKT #	CKT BKR	CIRCUIT DESCRIPTION	LOAD KVA	
	A	B		A	B			A	B
4	1	20/1	EF, LIGHTING, RECEPT - BATHROOM	0.225	2	20/1	RECEPT	0.36	0.9
	3	20/1	RECEPT	0.9	4	20/1	RECEPT, RECEPT - REFRIGERATOR	0.9	1.2
	5	20/1	RECEPT	0.72	6	20/1	RECEPT - DISHWASHER	1.8	1.8
	7	20/1	RECEPT - PATIO	0.36	8	20/1	RECEPTACLE - WASHER	2.2	2.2
	9	20/1	RH	0.12	10	20/2	DRYER RECEPTACLE	4.28	4.28
	11	20/1	LIGHTING	0.161	12	1		0	0
	13	25/2	HP	1.8	14	40/2	OVEN RECEPTACLE, RANGE	0	0
	15	1			16	1			
2	17	30/2	WH	2.25	18	20/1	SPACE	0	0
	19	1			20	20/1	SPACE	0	0
1	21	20/2	PV INVERTER	0	22	20/1	SPACE	0	0
	23	1			24	20/1	SPACE	0	0
								TOTAL CONNECTED KVA BY PHASE	13.2 14.6
								CONN KVA	CALC KVA
								ELECTRIC DRYER	4.4
								LARGEST MOTOR	2.88
								MOTORS	3.74
								RECEPTACLES	3.74
								CONTINUOUS	2.7
								TOTAL LOAD	26.8
								BALANCED LOAD	112 A
								CONN KVA	CALC KVA
								(100%)	(100%)
								(25%)	(25%)
								(50%)	(50%)
								(125%)	(125%)

PANEL SCHEDULE

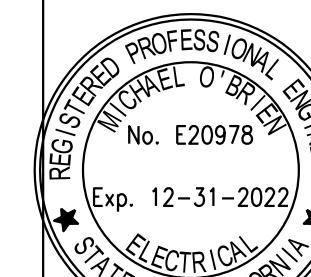
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A1 KEY NOTES

- 1 PROVIDE GFCI CIRCUIT BREAKER.
- 2 PROVIDE HACR CIRCUIT BREAKER.
- 3 120V BRANCH CIRCUITS MUST HAVE ARC-FAULT PROTECTION PER 210.12(A) UNLESS OTHERWISE NOTED.
- 4 CIRCUIT DOES NOT REQUIRE ARC-FAULT PROTECTION.
- 5 COORDINATE MOPC AND MCA WITH MANUFACTURER.
- 6 CONFIRM OVERCURRENT PROTECTION SIZE WITH INVERTER MANUFACTURER. IF INVERTER REQUIRES LARGER CIRCUIT BREAKER, INCREASE CIRCUIT CONDUCTORS ACCORDINGLY PER CEC. PROVIDE LABEL IN PANEL INDICATING PV POWER SOURCE.



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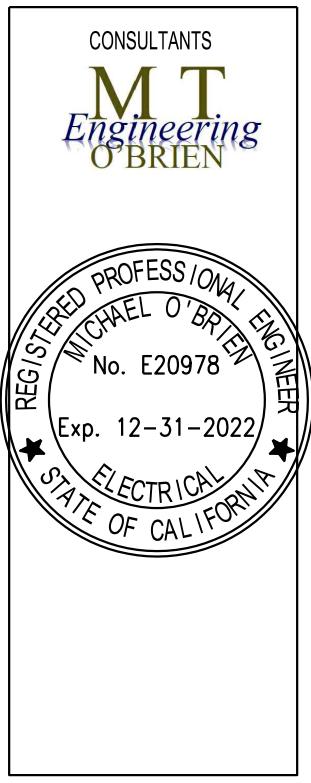
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SCALE
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SYMBOLS,
ABBREVIATIONS

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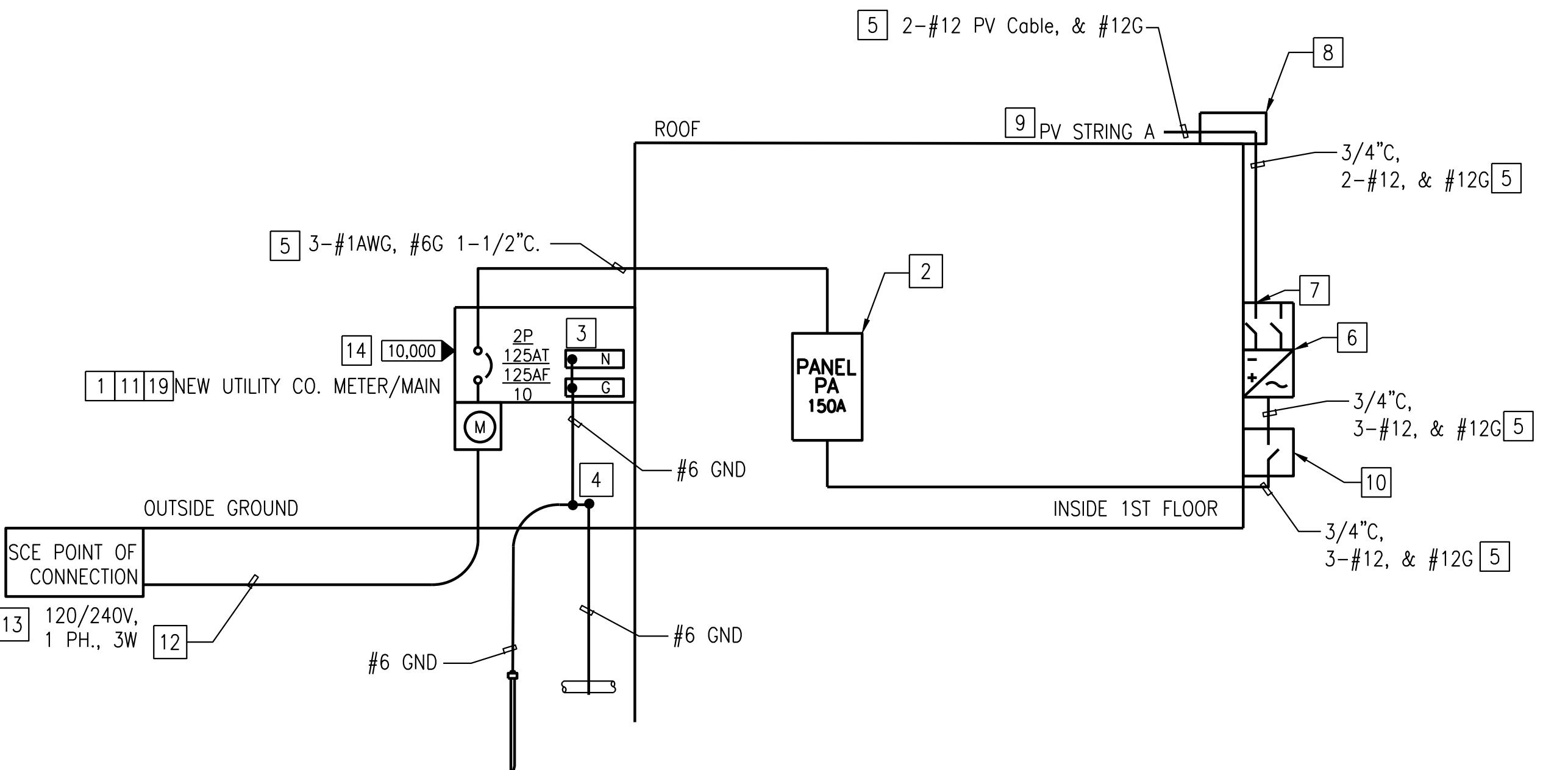
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GENERAL SHEET NOTES

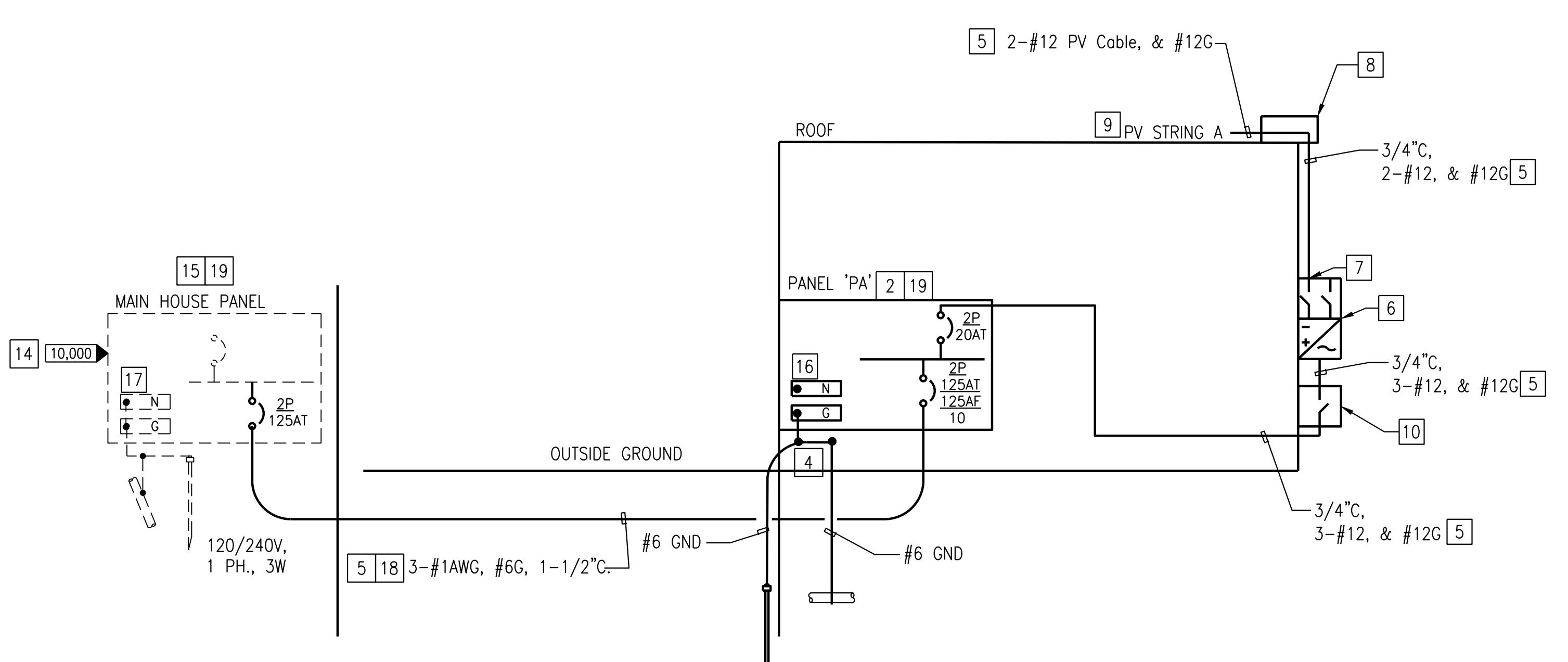
- POWER TO ADU MAY EITHER BE PROVIDED BY A NEW SCE SERVICE OR BY PROVIDING POWER FROM THE PROPERTY'S MAIN HOUSE PANEL IF CAPACITY EXISTS ON THAT PANEL FOR THE NEW ADU.
- IN ORDER TO PROVIDE POWER TO THE ADU FROM AN EXISTING PANEL, ELECTRICAL LOAD CALCULATIONS MUST BE PROVIDED BY A PROFESSIONAL ENGINEER. FOR POWER PROVIDED FROM AN EXISTING PANEL, PROVIDE INSTALLATIONS PER SINGLE LINE A2 ON THIS SHEET.
- COORDINATION IS REQUIRED WITH SCE IF A NEW SCE SERVICE IS PROVIDED FOR THE ADU. FOR POWER PROVIDED WITH A NEW SCE SERVICE, PROVIDE INSTALLATIONS PER SINGLE LINE A1 ON THIS SHEET.

KEY NOTES

- EQUIPMENT MUST BE SERVICE ENTRANCE RATED. LABEL AS "SERVICE DISCONNECTING MEANS."
- PROVIDE PANEL AS SHOWN. NOT ALL CIRCUIT BREAKERS ARE SHOWN ON SINGLE-LINE FOR SIMPLICITY, REFER TO PANEL SCHEDULE ON EB00 FOR CIRCUIT BREAKERS. REFER TO EB10 FOR PANEL LOCATION.
- PROVIDE #6 AWG CU OR LARGER MAIN BONDING TO COMPLY WITH CEC 250.28.
- CONFIRM CONNECTION TO ALL PRESENT GROUNDING ELECTRODES DESCRIBED IN CEC 250.52. CONNECTION TO GROUND ROD MAY BE #6 AWG CU PER CEC 250.66(A).
- PROVIDE CONDUIT AND CONDUCTORS AS INDICATED.
- PROVIDE INVERTER WITH RAPID SHUTDOWN PER CEC 690.12. ENSURE DC DISCONNECTS ARE CONTAINED AS SHOWN; OTHERWISE PROVIDE DC DISCONNECTS FOR ARRAY CIRCUITS.
- CONNECT ARRAYS ON A SEPARATE MPPT IF REQUIRED BY OUTPUT. CONSULT WITH INVERTER MANUFACTURER TO DETERMINE MAX OUTPUT PER ARRAY.
- PROVIDE NEMA 3R JUNCTION BOX ON ROOF.
- PROVIDE PV ARRAY(S) WHICH IS CAPABLE OF PRODUCING A MINIMUM OF 1.9 kW_p. PROVIDE PV SYSTEM WITH RAPID SHUTDOWN COMPLIANT WITH CEC 690.12.
- PROVIDE 240V, 2 POLE, 30A AC DISCONNECT SWITCH FOR INVERTER.
- PROVIDE METER ENCLOSURE PER SCE ELECTRICAL SERVICE REQUIREMENTS (ESR), IN PARTICULARLY ESR 3. COORDINATE NEW SERVICES AND METER INSTALLATIONS WITH SCE.
- COORDINATE UNDERGROUND ROUTING WITH SCE. PROVIDE A MINIMUM OF 30' OF COVER. REFER TO SCE ESR-3. AS ALTERNATE CONNECTION IF PERMITTED BY SCE, A 2" RMC SERVICE RISER WITH 3-#1AWG TO A WEATHERHEAD MAY BE INSTALLED IN COMPLIANCE WITH CEC 230 PART 2, CEC 230 PART 4, AND SCE ESR-2.
- COORDINATE UNDERGROUND POINT OF CONNECTION WITH SCE. ALTERNATIVE, IF OVERHEAD SERVICE DROP IS DESIRED, COORDINATE OVERHEAD SERVICE DROP CONNECTION WITH SCE. COMPLY WITH SCE ESR-2.
- PER SCE ESR 13, THE MAXIMUM UTILITY SHORT CIRCUIT CONTRIBUTION WILL BE NO GREATER THAN 10,000A FOR SELF-CONTAINED METERS RATED 100A-400A FOR SINGLE-FAMILY RESIDENCES AND DUPLEXES. FOR OTHER SERVICES CONSULT SCE FOR MAXIMUM FAULT VALUES AND ENSURE EQUIPMENT IS ADEQUATELY RATED.
- CONFIRM PANEL IS 120/240V SINGLE PHASE, 3 WIRE PRIOR TO COMMENCING WORK. PROVIDE CALCULATIONS BY PROFESSIONAL ENGINEER TO ENSURE THAT MAIN PANEL CAN SUPPORT THE ADDITIONAL LOAD PRIOR TO INSTALLATION. ONCE CALCULATIONS SUPPORT ADDITIONAL LOAD FOR ADU. PROVIDE 125A, 2P CIRCUIT BREAKER IN PANEL.
- ENSURE GROUNDED CONDUCTOR (NEUTRAL) IS NOT BONDED TO GROUND (EQUIPMENT GROUNDED CONDUCTOR OR GROUNDED ELECTRODE CONDUCTOR) AT ADU.
- ENSURE GROUNDED CONDUCTOR (NEUTRAL) IS BONDED TO GROUND AT MAIN PANEL.
- PROVIDE SCHEDULE 80 PVC FOR UNDERGROUND CONDUIT. PROVIDE A MINIMUM OF 30" OF COVER.
- PROVIDE PERMANENT PLAQUE OR DIRECTORY INDICATING SOURCES OF ENERGY AND STATING "CAUTION: MULTIPLE SOURCES OF POWER" PER CEC 705.10.



A1



A2

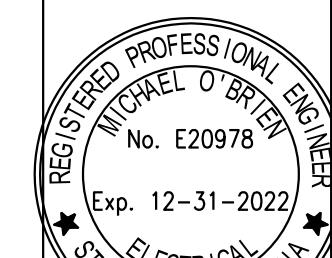
GENERAL SHEET NOTES

1. ABOVE COUNTERTOP RECEPTACLES SHALL BE LOCATED ABOVE COUNTERTOP BUT NOT MORE THAN 20 INCHES ABOVE COUNTERTOP PER CEC 210.52(C)(5).
2. 15A AND 20A NON-LOCKING RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES PER CEC 406.12.
3. PROVIDE ARC-FAULT CIRCUIT-INTERRUPTION PROTECTION FOR 120V OUTLETS EXCEPT IN BATHROOMS AND OUTSIDE, UNLESS OTHERWISE NOTED. ENSURE COMPLIANCE WITH CEC ARTICLE 210.12(A).
4. PROVIDE 2#12AWG & #12G IN 1/2" C OR OTHER APPROVED CABLE UNLESS OTHERWISE NOTED.
5. CONFIRM MECHANICAL AND PLUMBING EQUIPMENT POWER REQUIREMENTS MATCH LOADS SHOWN ON MECHANICAL AND PLUMBING DRAWINGS.
6. PROVIDE FINAL CONNECTIONS TO MOTORS WITH FLEXIBLE CONDUIT.
7. REFER TO MECHANICAL DRAWINGS FOR LOCATION OF MECHANICAL EQUIPMENT.

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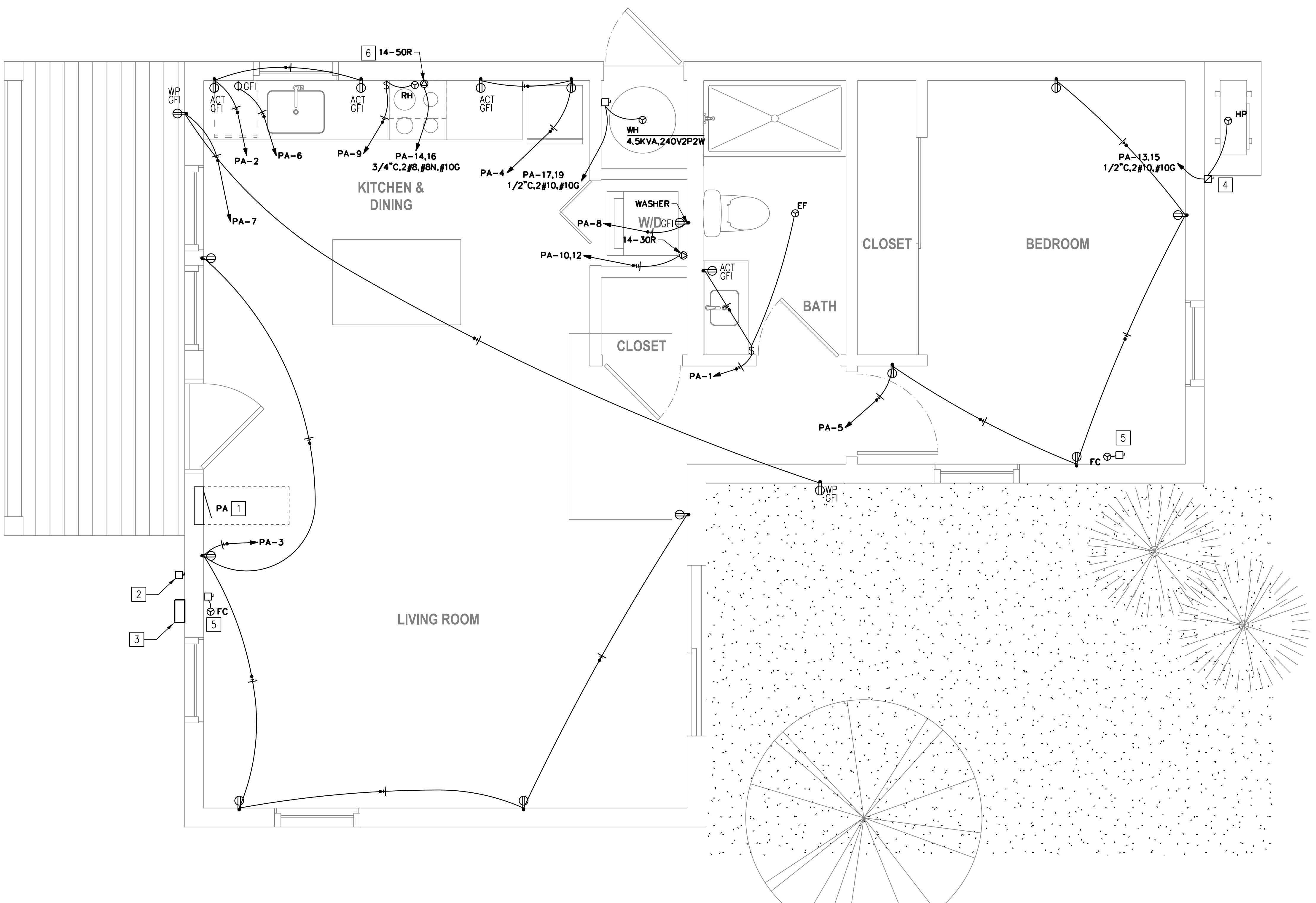
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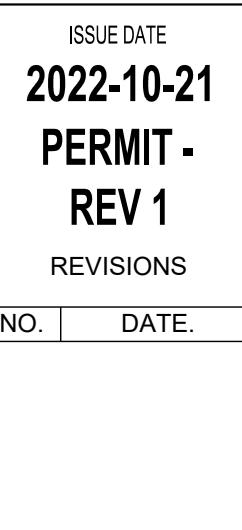
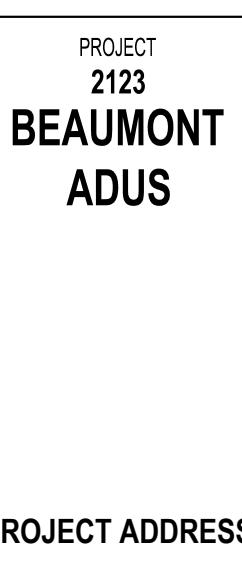
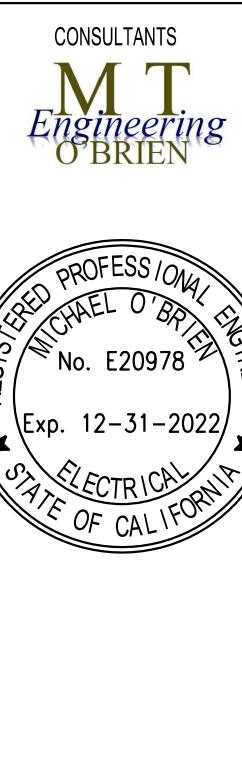
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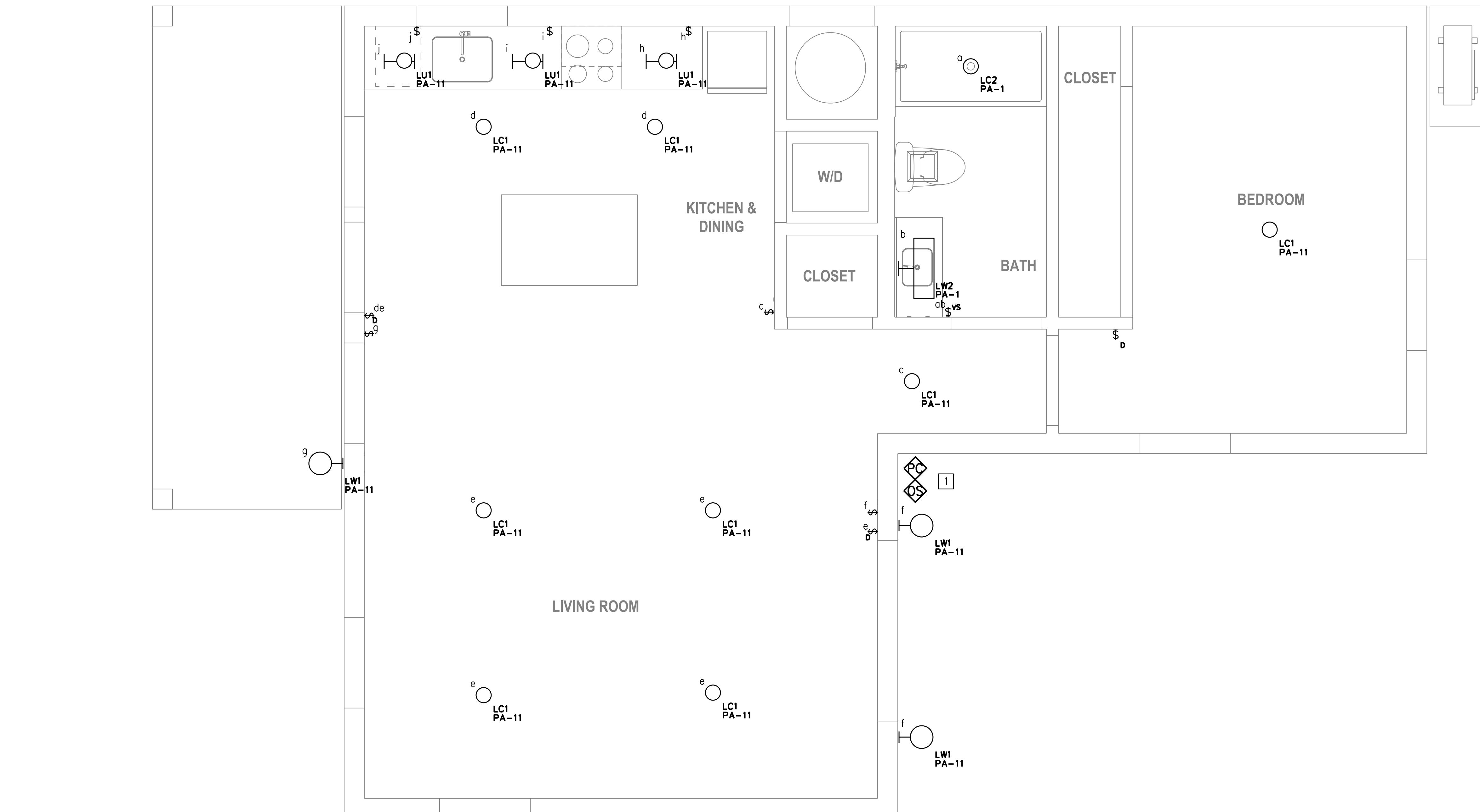




GENERAL SHEET NOTES

1. PROVIDE ARC-FAULT CIRCUIT-INTERRUPTION PROTECTION FOR 120V OUTLETS EXCEPT IN BATHROOMS AND OUTSIDE, UNLESS OTHERWISE NOTED. ENSURE COMPLIANCE WITH CEC ARTICLE 210.12(A).
2. PROVIDE #12AWG & #12G IN 1/2" C OR OTHER APPROVED CABLE UNLESS OTHERWISE NOTED.
3. REFER TO LIGHTING FIXTURE SCHEDULE ON THIS SHEET FOR FIXTURE SELECTION. IF FIXTURE DIFFERS WITH ARCHITECTURAL DRAWINGS, COORDINATE FIXTURE WITH ARCHITECT. ENSURE OUTDOOR FIXTURES ARE DAMP OR WET RATED.
4. ENSURE LIGHT FIXTURES COMPLY WITH 150.0(K), INCLUDING COMPLIANCE WITH TABLE 150.0-A
5. HIGH EFFICIENCY LIGHT FIXTURES SHALL BE PIN BASED.

LUMINAIRE SCHEDULE			
CALLOUT	SYMBOL	DESCRIPTION	INPUT WATTS
LC1	○	INTERIOR LED ROUND FIXTURE	13
LC2	○	INTERIOR LED ROUND FIXTURE, WET OR DAMP RATED	13
LU1	HO	UNDERCABINET, SWITCHABLE LED	7
LW1	HO	EXTERIOR WALL MOUNTED LED FIXTURE WITH PHOTOCELL, DAMP OR WET RATED	12
LW2	-	WALL MOUNTED VANITY LED FIXTURE	17



POWER PLAN

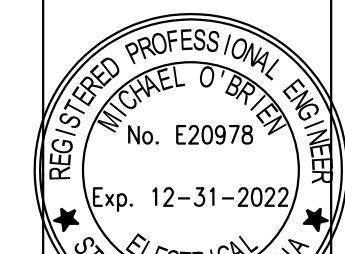
SCALE: 1/2" = 1'

1

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

KEY NOTES

1. PROVIDE PHOTOCELL AND OCCUPANCY SENSOR TO AUTOMATICALLY TURN OFF EXTERIOR LIGHTING WHEN DAYLIGHT IS PRESENT AND TO AUTOMATICALLY TURN OFF LIGHTING DURING VACANCY.



SPECIFICATIONS		SPECIFICATIONS (CONTINUED)		SPECIFICATIONS (CONTINUED)	
SECTION 260519 - LOW-VOLTAGE ELECTRICAL POWER CONDUCTORS AND CABLES					
PART 1 - GENERAL					
1.1 SUMMARY					
A. Section Includes:					
1. Copper building wire.					
2. Metal-clad cable, Type MC.					
3. Photovoltaic cable, Type PV.					
4. Connectors and splices.					
PART 2 - PRODUCTS					
2.1 COPPER BUILDING WIRE					
A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V or less.					
B. Standards:					
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.					
2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."					
C. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.					
D. Conductor Insulation:					
1. Type NM: Comply with UL 83 and UL 719.					
2. Type USE-2: Comply with UL 854.					
3. Type THHN and Type THWN-2: Comply with UL 83.					
4. Type XHHW-2: Comply with UL 44.					
2.2 METAL-CLAD CABLE, TYPE MC					
A. Description: A factory assembly of one or more current-carrying insulated conductors in an overall metallic sheath.					
B. Standards:					
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.					
2. Comply with UL 1569.					
3. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."					
C. Circuits:					
1. Single circuit.					
2. Power-Limited Fire-Alarm Circuits: Comply with UL 1424.					
D. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.					
E. Ground Conductor: Insulated.					
F. Conductor Insulation:					
1. Type TFN/THHN/THWN-2: Comply with UL 83.					
2. Type XHHW-2: Comply with UL 44.					
G. Armor: Steel or Aluminum, interlocked.					
H. Jacket: PVC applied over armor.					
2.3 PHOTOVOLTAIC CABLE, TYPE PV					
A. Description: Flexible, insulated and uninsulated, drawn copper current-carrying conductor with an overall insulation layer or jacket, or both, rated 600 V.					
B. Standards:					
1. Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.					
2. Conductor and Cable Marking: Comply with wire and cable marking according to UL's "Wire and Cable Marking and Application Guide."					
C. Conductors: Copper, complying with ASTM B3 for bare annealed copper and with ASTM B8 for stranded conductors.					
D. Conductor Insulation: Comply with UL 44 and UL 4703.					
2.4 CONNECTORS AND SPLICES					
A. Description: Factory-fabricated connectors, splices, and lugs of size, ampacity rating, material, type, and class for application and service indicated; listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and use.					
B. Jacketed Cable Connectors: For steel and aluminum jacketed cables, zinc die-cast with set screws, designed to connect conductors specified in this Section.					
C. Lugs: One piece, seamless, designed to terminate conductors specified in this Section.					
1. Material: Copper.					
2. Type: One or Two hole with barrels.					
3. Termination: Compression or Crimp.					
PART 3 - EXECUTION					
3.1 CONDUCTOR MATERIAL APPLICATIONS					
A. Feeders:					
1. Conductors must be solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.					
B. Branch Circuits:					
1. Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.					
C. PV Circuits: Copper. Solid for No. 10 AWG and smaller; stranded for No. 8 AWG and larger.					
3.2 CONDUCTOR INSULATION AND MULTICONDUCTOR CABLE APPLICATIONS AND WIRING METHODS					
A. Service Entrance: Type THHN/THWN-2, single conductors in raceway or Type XHHW-2, single conductors in raceway or Type USE, single conductor in raceway.					
SECTION 260526 - GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS					
PART 1 - GENERAL					
1.1 SUMMARY					
A. Section includes grounding and bonding systems and equipment.					
PART 2 - PRODUCTS					
2.1 SYSTEM DESCRIPTION					
A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.					
B. Comply with UL 467 for grounding and bonding materials and equipment.					
2.2 CONDUCTORS					
A. Insulated Conductors: Copper wire or cable insulated for 600 V unless otherwise required by applicable Code or authorities having jurisdiction.					
B. Bare Copper Conductors:					
1. Solid Conductors: ASTM B3.					
2. Stranded Conductors: ASTM B8.					
3. Bonding Cable: 28 kcmil, 14 strands of No. 17 AWG conductor, 1/4 inch (6 mm) in diameter.					
4. Bonding Conductor: No. 4 or No. 6 AWG, stranded conductor.					
5. Bonding Jumper: Copper tape, braided conductors terminated with copper ferrules; 1-5/8 inches (41 mm) wide and 1/16 inch (1.6 mm) thick.					
2.3 CONNECTORS					
A. Listed and labeled by an NRTL acceptable to authorities having jurisdiction for applications in which used and for specific types, sizes, and combinations of conductors and other items connected.					
B. Welded Connectors: Exothermic-welding kits of types recommended by kit manufacturer for materials being joined and installation conditions.					
C. Cable-to-Cable Connectors: Compression type, copper or copper alloy.					
D. Conduit Hubs: Mechanical type, terminal with threaded hub.					
E. Ground Rod Clamps: Mechanical type, copper or copper alloy, terminal with hex head bolt or socket set screw.					
F. U-Bolt Clamps: Mechanical type, copper or copper alloy, terminal listed for direct burial.					
G. Water Pipe Clamps:					
1. Mechanical type, two pieces with stainless-steel bolts.					
a. Material: Die-cast zinc alloy.					
b. Listed for direct burial.					
2. U-bolt type with malleable-iron clamp and copper ground connector rated for direct burial.					
SECTION 260533 - RACEWAYS AND BOXES FOR ELECTRICAL SYSTEMS					
PART 1 - GENERAL					
1.1 SUMMARY					
A. Section Includes:					
1. Metal conduits and fittings.					
2. Nonmetallic conduits and fittings.					
3. Metal wireways and auxiliary gutters.					
4. Nonmetal wireways and auxiliary gutters.					
5. Surface raceways.					
6. Boxes, enclosures, and cabinets.					
1.2 DEFINITIONS					
A. GRC: Galvanized rigid steel conduit.					
PART 2 - PRODUCTS					
2.1 METAL CONDUITS AND FITTINGS					

A. Metal Conduit:

1. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. GRC: Comply with ANSI C80.1 and UL 6.
3. EMT: Comply with ANSI C80.3 and UL 797.
4. FMC: Comply with UL 1; zinc-coated steel or aluminum.
5. LFMC: Flexible steel conduit with PVC jacket and complying with UL 360.

B. Metal Fittings:

1. Comply with NEMA FB 1 and UL 514B.
2. Listing and Labeling: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
3. Fittings, General: Listed and labeled for type of conduit, location, and use.
4. Fittings for EMT:
 - Material: Steel or die cast.
 - Type: Setscrew or compression.
5. Expansion Fittings: PVC or steel to match conduit type, complying with UL 651, rated for environmental conditions where installed, and including flexible external bonding jumper.

C. Joint Compound for GRC: Approved, as defined in NFPA 70, by authorities having jurisdiction for use in conduit assemblies, and compounded for use to lubricate and protect threaded conduit joints from corrosion and to enhance their conductivity.

2.2 NONMETALLIC CONDUITS AND FITTINGS

A. Nonmetallic Conduit:

1. Listing and Labeling: Nonmetallic conduit shall be listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
2. Fiberglass:
 - Comply with NEMA TC 14.
 - Comply with UL 2420 for belowground raceways.
3. ENT: Comply with NEMA TC 13 and UL 1653.
4. RNC: Type EPC-40-PVC, complying with NEMA TC 2 and UL 651 unless otherwise indicated.

B. Nonmetallic Fittings:

1. Fittings, General: Listed and labeled for type of conduit, location, and use.
2. Fittings for ENT and RNC: Comply with NEMA TC 3; match to conduit or tubing type and material.
 - Fittings for LFNC: Comply with UL 514B.
3. Solvents and Adhesives: As recommended by conduit manufacturer.

2.3 BOXES, ENCLOSURES, AND CABINETS

A. General Requirements for Boxes, Enclosures, and Cabinets: Boxes, enclosures, and cabinets installed in wet locations shall be listed for use in wet locations.

B. Sheet Metal Outlet and Device Boxes: Comply with NEMA OS 1 and UL 514A.

C. Cast-Metal Outlet and Device Boxes: Comply with NEMA FB 1, ferrous alloy, Type FD, with gasketed cover.

D. Nonmetallic Outlet and Device Boxes: Comply with NEMA OS 2 and UL 514C.

E. Luminaire Outlet Boxes: Nonadjustable, designed for attachment of luminaire weighing 50 lb (23 kg). Outlet boxes designed for attachment of luminaires weighing more than 50 lb (23 kg) shall be listed and marked for the maximum allowable weight.

F. Small Sheet Metal Pull and Junction Boxes: NEMA OS 1.

G. Cast-Metal Access, Pull, and Junction Boxes: Comply with NEMA FB 1 and UL 1773, cast aluminum or galvanized, cast iron with gasketed cover.

H. Device Box Dimensions: 4 inches square by 2-1/8 inches deep (100 mm square by 60 mm deep) or 4 inches by 2-1/8 inches by 2-1/8 inches deep (100 mm by 60 mm by 60 mm deep).

PART 3 - EXECUTION

3.1 RACEWAY APPLICATION

A. Outdoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed Conduit: GRC.
2. Concealed Conduit, Aboveground: GRC or EMT.
3. Underground Conduit: Type EPC-40-PVC direct buried unless otherwise noted.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
5. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R.

B. Indoors: Apply raceway products as specified below unless otherwise indicated:

1. Exposed, Not Subject to Physical Damage: EMT.
2. Exposed and Subject to Severe Physical Damage: GRC.
3. Concealed in Ceilings and Interior Walls and Partitions: EMT or ENT.
4. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
5. Damp or Wet Locations: GRC.
6. Boxes and Enclosures, Aboveground: NEMA 250, Type 1, except use NEMA 250, Type 4 stainless steel in damp or wet locations.

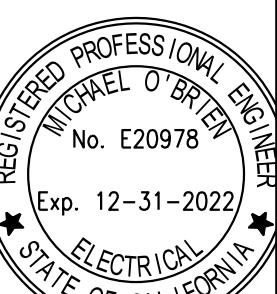
C. Minimum Raceway Size: 1/2-inch (16-mm) trade size.

D. Raceway Fittings: Compatible with raceways and suitable for use and location.

1. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings unless otherwise indicated. Comply with NEMA FB 2.10.
2. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with this type of conduit. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer and apply in thickness and number of coats recommended by manufacturer.
3. EMT: Use setscrew or compression, steel or cast-metal fittings. Comply with NEMA FB 2.10.
4. Flexible Conduit: Use only fittings listed for use with flexible conduit. Comply with NEMA FB 2.20.



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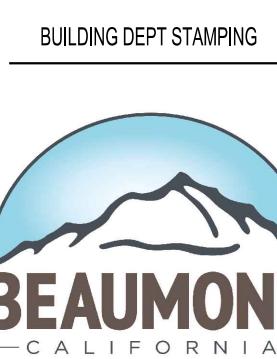
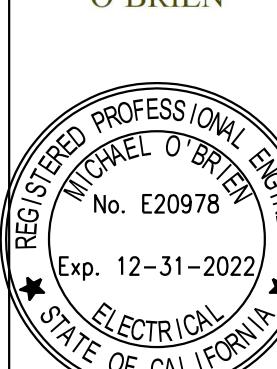
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SPECIFICATIONS		SPECIFICATIONS (CONTINUED)		SPECIFICATIONS (CONTINUED)		SPECIFICATIONS (CONTINUED)	
<p>E. Do not install aluminum conduits, boxes, or fittings in contact with concrete or earth.</p> <p>F. Do not install nonmetallic conduit where ambient temperature exceeds 120 deg F (49 deg C).</p> <p>3.2 INSTALLATION</p> <p>A. Comply with NECA 1 and NECA 101 for installation requirements except where requirements on Drawings or in this article are stricter. Comply with NECA 102 for aluminum conduits. Comply with NFPA 70 limitations for types of raceways allowed in specific occupancies and number of floors.</p> <p>B. Do not fasten conduits onto the bottom side of a metal deck roof.</p> <p>C. Keep raceways at least 6 inches (150 mm) away from parallel runs of flues and steam or hot-water pipes. Install horizontal raceway runs above water and steam piping.</p> <p>D. Complete raceway installation before starting conductor installation.</p> <p>E. Arrange stub-ups so curved portions of bends are not visible above finished slab.</p> <p>F. Install no more than the equivalent of three 90-degree bends in any conduit run except for control wiring conduits, for which fewer bends are allowed. Support within 12 inches (300 mm) of changes in direction.</p> <p>G. Make bends in raceway using large-radius preformed ells. Field bending shall be according to NFPA 70 minimum radii requirements. Use only equipment specifically designed for material and size involved.</p> <p>H. Conceal conduit within finished walls, ceilings, and floors unless otherwise indicated. Install conduits parallel or perpendicular to building lines.</p> <p>I. Support conduit within 12 inches (300 mm) of enclosures to which attached.</p> <p>J. Threaded Conduit Joints, Exposed to Wet, Damp, Corrosive, or Outdoor Conditions: Apply listed compound to threads of raceway and fittings before making up joints. Follow compound manufacturer's written instructions.</p> <p>K. Raceway Terminations at Locations Subject to Moisture or Vibration: Use insulating bushings to protect conductors including conductors smaller than No. 4 AWG.</p> <p>L. Terminate threaded conduits into threaded hubs or with locknuts on inside and outside of boxes or cabinets. Install bushings on conduits up to 1-1/4-inch (35mm) trade size and insulated throat metal bushings on 1-1/2-inch (41-mm) trade size and larger conduits terminated with locknuts. Install insulated throat metal grounding bushings on service conduits.</p> <p>M. Install raceways square to the enclosure and terminate at enclosures with locknuts. Install locknuts hand tight plus 1/4 turn more.</p> <p>N. Do not rely on locknuts to penetrate nonconductive coatings on enclosures. Remove coatings in the locknut area prior to assembling conduit to enclosure to assure a continuous ground path.</p> <p>O. Cut conduit perpendicular to the length. For conduits 2-inch (53-mm) trade size and larger, use roll cutter or a guide to make cut straight and perpendicular to the length.</p> <p>P. Install pull wires in empty raceways. Use polypropylene or monofilament plastic line with not less than 200-lb (90-kg) tensile strength. Leave at least 12 inches (300 mm) of slack at each end of pull wire. Cap underground raceways designated as spare above grade alongside raceways in use.</p> <p>Q. Install raceway sealing fittings at accessible locations according to NFPA 70 and fill them with listed sealing compound. For concealed raceways, install each fitting in a flush steel box with a blank cover plate having a finish similar to that of adjacent plates or surfaces. Install raceway sealing fittings according to NFPA 70.</p> <p>R. Install devices to seal raceway interiors at accessible locations. Locate seals so no fittings or boxes are between the seal and the following changes of environments. Seal the interior of all raceways at the following points:</p> <ol style="list-style-type: none"> Where conduits pass from warm to cold locations, such as boundaries of refrigerated spaces. Where an underground service raceway enters a building or structure. Conduit extending from interior to exterior of building. Where otherwise required by NFPA 70. <p>S. Expansion-Joint Fittings:</p> <ol style="list-style-type: none"> Install type and quantity of fittings that accommodate temperature change listed for each of the following locations: <ol style="list-style-type: none"> Outdoor Locations Not Exposed to Direct Sunlight: 125 deg F (70 deg C) temperature change. Indoor Spaces Connected with Outdoors without Physical Separation: 125 deg F (70 deg C) temperature change. Attics: 135 deg F (75 deg C) temperature change. Install expansion fittings at all locations where conduits cross building or structure expansion joints. Install each expansion-joint fitting with position, mounting, and piston setting selected according to manufacturer's written instructions for conditions at specific location at time of installation. Install conduit supports to allow for expansion movement. <p>T. Flexible Conduit Connections: Comply with NEMA RV 3. Use a maximum of 36 inches (915 mm) of flexible conduit for equipment subject to vibration, noise transmission, or movement; and for transformers and motors.</p> <ol style="list-style-type: none"> Use LFMC in damp or wet locations subject to severe physical damage. Use LFMC or LFNC in damp or wet locations not subject to severe physical damage. <p>U. Mount boxes at heights indicated on Drawings. If mounting heights of boxes are not individually indicated, give priority to ADA requirements. Install boxes with height measured to center of box unless otherwise indicated.</p> <p>V. Horizontally separate boxes mounted on opposite sides of walls so they are not in the same vertical channel.</p> <p>W. Fasten junction and pull boxes to or support from building structure. Do not support boxes by conduits.</p> <p>3.3 SLEEVE AND SLEEVE-SEAL INSTALLATION FOR ELECTRICAL PENETRATIONS</p> <p>A. Install sleeves and sleeve seals at penetrations of exterior floor and wall assemblies.</p> <p>3.4 FIRESTOPPING</p> <p>A. Install firestopping at penetrations of fire-rated floor and wall assemblies.</p> <p>3.5 PROTECTION</p> <p>A. Protect coatings, finishes, and cabinets from damage and deterioration.</p> <ol style="list-style-type: none"> Repair damage to galvanized finishes with zinc-rich paint recommended by manufacturer. <p>END OF SECTION 260533</p> <p>SECTION 260533 - IDENTIFICATION FOR ELECTRICAL SYSTEMS</p> <p>PART 1 - GENERAL</p> <p>1.1 RELATED DOCUMENTS</p> <p>1.2 SUMMARY</p> <p>A. Section Includes:</p>	<p>1. Labels.</p> <p>2. Signs.</p> <p>PART 2 - PRODUCTS</p> <p>2.1 PERFORMANCE REQUIREMENTS</p> <p>A. Comply with NFPA 70.</p> <p>B. Comply with 29 CFR 1910.144 and 29 CFR 1910.145.</p> <p>C. Comply with ANSI Z535.4 for safety signs and labels.</p> <p>D. Comply with NFPA 70E.</p> <p>E. Adhesive-attached labeling materials, including label stocks, laminating adhesives, and inks used by label printers, shall comply with UL 969.</p> <p>F. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.</p> <ol style="list-style-type: none"> Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces. <p>2.2 COLOR AND LEGEND REQUIREMENTS</p> <p>A. Color-Coding for Phase-Identification, 600 V or Less: Use colors listed below for ungrounded service, feeder, and branch-circuit conductors.</p> <ol style="list-style-type: none"> Color shall be factory applied or field applied for sizes larger than No. 8 AWG if authorities having jurisdiction permit. Colors for 240-V Circuits: <ol style="list-style-type: none"> Phase A: Black. Phase B: Red. Color for Neutral: White. Color for Equipment Grounds: Green. <p>B. Equipment Identification Labels:</p> <ol style="list-style-type: none"> Black letters on a white field. <p>2.3 SIGNS</p> <p>A. Baked-Enamel Signs:</p> <ol style="list-style-type: none"> Preprinted aluminum signs, [high-intensity reflective], punched or drilled for fasteners, with colors, legend, and size specified for application. 1/4-inch (6.4-mm) grommets in corners for mounting. Nominal Size: 7 by 10 inches (180 by 250 mm). <p>B. Laminated Acrylic or Melamine Plastic Signs:</p> <ol style="list-style-type: none"> Engraved legend. Thickness: <ol style="list-style-type: none"> For signs up to 20 sq. in. (129 sq. cm), minimum 1/16 inch (1.6 mm) thick. For signs larger than 20 sq. in. (129 sq. cm), 1/8 inch (3.2 mm) thick. Framed with mitered acrylic molding and arranged for attachment at applicable equipment. <p>PART 3 - EXECUTION</p> <p>3.1 PREPARATION</p> <p>A. Self-Adhesive Identification Products: Before applying electrical identification products, clean substrates of substances that could impair bond, using materials and methods recommended by manufacturer of identification product.</p> <p>3.2 INSTALLATION</p> <p>A. Verify and coordinate identification names, abbreviations, colors, and other features with requirements in other Sections requiring identification applications, Drawings, Shop Drawings, manufacturer's wiring diagrams, and operation and maintenance manual. Use consistent designations throughout Project.</p> <p>B. Install identifying devices before installing acoustical ceilings and similar concealment.</p> <p>C. Verify identity of each item before installing identification products.</p> <p>D. Coordinate identification with Project Drawings, manufacturer's wiring diagrams, and operation and maintenance manual.</p> <p>E. Apply identification devices to surfaces that require finish after completing finish work.</p> <p>F. Install signs with approved legend to facilitate proper identification, operation, and maintenance of electrical systems and connected items.</p> <p>G. Self-Adhesive Labels:</p> <ol style="list-style-type: none"> On each item, install unique designation label that is consistent with wiring diagrams, schedules, and operation and maintenance manual. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on 1-1/2-inch- (38-mm-) high label; where two lines of text are required, use labels 2 inches (50 mm) high. <p>H. Baked-Enamel Signs:</p> <ol style="list-style-type: none"> Attach signs that are not self-adhesive type with mechanical fasteners appropriate to the location and substrate. Unless otherwise indicated, provide a single line of text with 1/2-inch- (13-mm-) high letters on minimum 1-1/2-inch- (38-mm-) high sign; where two lines of text are required, use signs minimum 2 inches (50 mm) high. <p>I. IDENTIFICATION SCHEDULE</p> <p>A. Identify conductors, cables, and terminals in enclosures and at junctions, terminals, pull points, and locations of high visibility. Identify by system and circuit designation.</p> <p>B. Instructional Signs: Self-adhesive labels, including the color code for grounded and ungrounded conductors.</p> <p>C. Warning Labels for Indoor Cabinets, Boxes, and Enclosures for Power and Lighting: Self-adhesive labels or Baked-enamel warning signs.</p> <ol style="list-style-type: none"> Apply to exterior of door, cover, or other access. Arc Flash Warning Labeling: Self-adhesive labels. <p>END OF SECTION 260533</p> <p>SECTION 262416 - PANELBOARDS</p>	<p>PART 1 - GENERAL</p> <p>1.1 DEFINITIONS</p> <p>A. GFCI: Ground-fault circuit interrupter.</p> <p>B. MCCB: Molded-case circuit breaker.</p> <p>1.2 INFORMATIONAL SUBMITTALS</p> <p>A. Panelboard Schedules: For installation in panelboards.</p> <p>1.3 CLOSEOUT SUBMITTALS</p> <p>A. Operation and Maintenance Data: For panelboards and components to include in emergency, operation, and maintenance manuals. Include the following: <ol style="list-style-type: none"> Manufacturer's written instructions for testing and adjusting overcurrent protective devices. Time-current curves, including selectable ranges for each type of overcurrent protective device that allows adjustments. </p> <p>1.4 MAINTENANCE MATERIAL SUBMITTALS</p> <p>A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents. <ol style="list-style-type: none"> Keys: Two spares for each type of panelboard cabinet lock. </p> <p>1.5 QUALITY ASSURANCE</p> <p>A. Manufacturer Qualifications: ISO 9001 or ISO 9002 certified.</p> <p>1.6 FIELD CONDITIONS</p> <p>A. Environmental Limitations: <ol style="list-style-type: none"> Do not deliver or install panelboards until spaces are enclosed and weather-tight, wet work in spaces is complete and dry, work above panelboards is complete, and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period. Rate equipment for continuous operation under the following conditions unless otherwise indicated: <ol style="list-style-type: none"> Ambient Temperature: Not exceeding 23 deg F (minus 5 deg C) to plus 104 deg F (plus 40 deg C). Altitude: Not exceeding 6600 feet (2000 m). </p> <p>B. Service Conditions: NEMA PB 1, usual service conditions, as follows: <ol style="list-style-type: none"> Ambient temperatures within limits specified. Altitude not exceeding 6600 feet (2000 m). </p> <p>PART 2 - PRODUCTS</p> <p>2.1 PANELBOARDS AND LOAD CENTERS COMMON REQUIREMENTS</p> <p>A. Fabricate and test panelboards according to IEEE 344 to withstand seismic forces.</p> <p>B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.</p> <p>C. Comply with NEMA PB 1.</p> <p>D. Comply with NFPA 70.</p> <p>E. Enclosures: dead-front cabinets. <ol style="list-style-type: none"> Rated for environmental conditions at installed location. <ol style="list-style-type: none"> Indoor Dry and Clean Locations: NEMA 250, Type I. Outdoor Locations: NEMA 250, Type 3R. Height: 84 inches (2.13 m) maximum. Front: Secured to box with concealed trim clamps. For surface-mounted fronts, match box dimensions; for flush-mounted fronts, overlap box. Trims shall cover all live parts and shall have no exposed hardware. Finishes: <ol style="list-style-type: none"> Panels and Trim: Steel, factory finished immediately after cleaning and pretreating with manufacturer's standard two-coat, baked-on finish consisting of prime coat and thermosetting topcoat. Back Boxes: Same finish as panels and trim. </p> <p>F. Incoming Mains: <ol style="list-style-type: none"> Main Breaker: Main lug interiors up to 400 amperes shall be field convertible to main breaker. </p> <p>G. Phase, Neutral, and Ground Buses: <ol style="list-style-type: none"> Material: Tin-plated aluminum or Hard-drawn copper, 98 percent conductivity. <ol style="list-style-type: none"> Plating shall run entire length of bus. Bus shall be fully rated the entire length. Interiors shall be factory assembled into a unit. Replacing switching and protective devices shall not disturb adjacent units or require removing the main bus connectors. Equipment Ground Bus: Adequate for feeder and branch-circuit equipment grounding conductors; bonded to box. Full-Sized Neutral: Equipped with full-capacity bonding strap for service entrance applications. Mount electrically isolated from enclosure. Do not mount neutral bus in include instructions in "Conductor Connectors" Paragraph below if special sizing or oversizing of lugs is required, if allowing optional use of aluminum for circuits sized for copper conductors, or when upsizing conductors for voltage drop. </p> <p>H. Conductor Connectors: Suitable for use with conductor material and sizes. <ol style="list-style-type: none"> Material: Tin-plated aluminum or Hard-drawn copper, 98 percent conductivity. Terminations shall allow use of 75 deg C rated conductors without derating. Size: Lugs suitable for indicated conductor sizes, with additional gutter space, if required, for larger conductors. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard. Ground Lugs and Bus-Configured Terminators: Mechanical type, with a lug on the bar for each pole in the panelboard. </p> <p>I. NRTL Label: Panelboards or load centers shall be labeled by an NRTL acceptable to authority having jurisdiction for use as service equipment with one or more main service disconnecting and overcurrent protective devices. Panelboards or load centers shall have meter enclosures, wiring, connections, and other provisions for utility metering. Coordinate with utility company for exact requirements.</p> <p>J. Panelboard Short-Circuit Current Rating: Rated for series-connected system with integral or remote upstream overcurrent protective devices and labeled by an NRTL. Include label or manual with size and type of allowable upstream and branch devices listed and labeled by an NRTL for series-connected short-circuit rating.</p> <p>1. Panelboards rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.</p> <p>2. Panelboards rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.</p> <p>2.2 PERFORMANCE REQUIREMENTS</p> <p>A. Seismic Performance: Panelboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7. <ol style="list-style-type: none"> The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified." </p> <p>2.3 LOAD CENTERS</p> <p>A. Load Centers: Comply with UL 67.</p> <p>B. Mains: Circuit breaker.</p> <p>C. Branch Overcurrent Protective Devices: Plug-in circuit breakers, replaceable without disturbing adjacent units.</p> <p>D. Doors: Concealed hinges secured with flush latch with tumbler lock; keyed alike.</p> <p>E. Conductor Connectors: Mechanical type for main, neutral, and ground lugs and buses.</p> <p>2.4 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES</p> <p>A. MCCB: Comply with UL 489, with series-connected rating or interrupting capacity to meet available fault currents. <ol style="list-style-type: none"> Thermal-Magnetic Circuit Breakers: <ol style="list-style-type: none"> Inverse time-current element for low-level overloads. Instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting. GFCI Circuit Breakers: Single- and double-pole configurations with Class ground-fault protection (6-mA trip). Arc-Fault Circuit Interrupter Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration. </p> <p>B. MCCB Features and Accessories: <ol style="list-style-type: none"> Standard frame sizes, trip ratings, and number of poles. UL listed for reverse connection without restrictive line or load ratings. Lugs: Compression or Mechanical style, suitable for number, size, trip ratings, and conductor materials. </p> <p>2.5 IDENTIFICATION</p> <p>A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.</p> <p>B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.</p> <p>C. Circuit Directory: Directory card inside panelboard door, mounted in transparent card holder. <ol style="list-style-type: none"> Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits. </p> <p>PART 3 - EXECUTION</p> <p>3.1 EXAMINATION</p> <p>A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.</p> <p>B. Receive, inspect, handle, and store panelboards according to NECA 407.</p> <p>C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.</p> <p>D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.</p> <p>E. Proceed with installation only after unsatisfactory conditions have been corrected.</p> <p>3.2 INSTALLATION</p> <p>A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.</p> <p>B. Comply with NECA 1.</p> <p>C. Install panelboards and accessories according to NECA 407.</p> <p>D. Equipment Mounting: <ol style="list-style-type: none"> Attach panelboard to the vertical finished or structural surface behind the panelboard. Mount top of trim 90 inches (2286 mm) above finished floor unless otherwise indicated. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box. Mount surface-mounted panelboards to steel slotted supports 5/8 inch (16 mm) in depth. Orient steel slotted supports vertically. </p> <p>E. Install overcurrent protective devices and controllers not already factory installed. <ol style="list-style-type: none"> Set field-adjustable, circuit-breaker trip ranges. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's written instructions. </p> <p>F. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.</p> <p>G. Install filler plates in unused spaces.</p> <p>3.3 IDENTIFICATION</p> <p>A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."</p> <p>B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.</p> <p>C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."</p> <p>D. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of</p>	<p>protective devices and labeled by an NRTL. Include label or manual with size and type of allowable upstream and branch devices listed and labeled by an NRTL for series-connected short-circuit rating.</p> <p>1. Panelboards rated 240 V or less shall have short-circuit ratings as shown on Drawings, but not less than 10,000 A rms symmetrical.</p> <p>2. Panelboards rated above 240 V and less than 600 V shall have short-circuit ratings as shown on Drawings, but not less than 14,000 A rms symmetrical.</p> <p>2.2 PERFORMANCE REQUIREMENTS</p> <p>A. Seismic Performance: Panelboards shall withstand the effects of earthquake motions determined according to ASCE/SEI 7. <ol style="list-style-type: none"> The term "withstand" means "the unit will remain in place without separation of any parts from the device when subjected to the seismic forces specified." </p> <p>2.3 LOAD CENTERS</p> <p>A. Load Centers: Comply with UL 67.</p> <p>B. Mains: Circuit breaker.</p> <p>C. Branch Overcurrent Protective Devices: Plug-in circuit breakers, replaceable without disturbing adjacent units.</p> <p>D. Doors: Concealed hinges secured with flush latch with tumbler lock; keyed alike.</p> <p>E. Conductor Connectors: Mechanical type for main, neutral, and ground lugs and buses.</p> <p>2.4 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES</p> <p>A. MCCB: Comply with UL 489, with series-connected rating or interrupting capacity to meet available fault currents. <ol style="list-style-type: none"> Thermal-Magnetic Circuit Breakers: <ol style="list-style-type: none"> Inverse time-current element for low-level overloads. Instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting. GFCI Circuit Breakers: Single- and double-pole configurations with Class ground-fault protection (6-mA trip). Arc-Fault Circuit Interrupter Circuit Breakers: Comply with UL 1699; 120/240-V, single-pole configuration. </p> <p>B. MCCB Features and Accessories: <ol style="list-style-type: none"> Standard frame sizes, trip ratings, and number of poles. UL listed for reverse connection without restrictive line or load ratings. Lugs: Compression or Mechanical style, suitable for number, size, trip ratings, and conductor materials. </p> <p>2.5 IDENTIFICATION</p> <p>A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.</p> <p>B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.</p> <p>C. Circuit Directory: Directory card inside panelboard door, mounted in transparent card holder. <ol style="list-style-type: none"> Circuit directory shall identify specific purpose with detail sufficient to distinguish it from all other circuits. </p> <p>PART 3 - EXECUTION</p> <p>3.1 EXAMINATION</p> <p>A. Verify actual conditions with field measurements prior to ordering panelboards to verify that equipment fits in allocated space in, and comply with, minimum required clearances specified in NFPA 70.</p> <p>B. Receive, inspect, handle, and store panelboards according to NECA 407.</p> <p>C. Examine panelboards before installation. Reject panelboards that are damaged, rusted, or have been subjected to water saturation.</p> <p>D. Examine elements and surfaces to receive panelboards for compliance with installation tolerances and other conditions affecting performance of the Work.</p> <p>E. Proceed with installation only after unsatisfactory conditions have been corrected.</p> <p>3.2 INSTALLATION</p> <p>A. Coordinate layout and installation of panelboards and components with other construction that penetrates walls or is supported by them, including electrical and other types of equipment, raceways, piping, encumbrances to workspace clearance requirements, and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.</p> <p>B. Comply with NECA 1.</p> <p>C. Install panelboards and accessories according to NECA 407.</p> <p>D. Equipment Mounting: <ol style="list-style-type: none"> Attach panelboard to the vertical finished or structural surface behind the panelboard. Mount top of trim 90 inches (2286 mm) above finished floor unless otherwise indicated. Mount panelboard cabinet plumb and rigid without distortion of box. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box. Mount surface-mounted panelboards to steel slotted supports 5/8 inch (16 mm) in depth. Orient steel slotted supports vertically. </p> <p>E. Install overcurrent protective devices and controllers not already factory installed. <ol style="list-style-type: none"> Set field-adjustable, circuit-breaker trip ranges. Tighten bolted connections and circuit breaker connections using calibrated torque wrench or torque screwdriver per manufacturer's written instructions. </p> <p>F. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.</p> <p>G. Install filler plates in unused spaces.</p> <p>3.3 IDENTIFICATION</p> <p>A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."</p> <p>B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.</p> <p>C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for</p>				

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<p>remote circuit.</p> <p>3.4 FIELD QUALITY CONTROL</p> <p>A. Perform tests and inspections.</p> <p>B. Acceptance Testing Preparation:</p> <ol style="list-style-type: none"> Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit. <p>C. Panelboards will be considered defective if they do not pass tests and inspections.</p> <p>3.5 ADJUSTING</p> <p>A. Adjust moving parts and operable components to function smoothly, and lubricate as recommended by manufacturer.</p> <p>END OF SECTION 262416</p> <p>SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS</p> <p>PART 1 - GENERAL</p> <p>1.1 SUMMARY</p> <p>A. Section Includes:</p> <ol style="list-style-type: none"> Fusible switches. Nonfusible switches. <p>PART 2 - PRODUCTS</p> <p>2.1 PERFORMANCE REQUIREMENTS</p> <p>A. Seismic Performance: Enclosed switches and circuit breakers shall withstand the effects of earthquake motions determined according to ASCE/SEI 7.</p> <p>2.2 GENERAL REQUIREMENTS</p> <p>A. Source Limitations: Obtain enclosed switches and circuit breakers, overcurrent protective devices, components, and accessories, within same product category, from single manufacturer.</p> <p>B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by an NRTL, and marked for intended location and application.</p> <p>C. Comply with NFPA 70.</p> <p>2.3 FUSIBLE SWITCHES</p> <p>A. Type HD, Heavy Duty:</p> <ol style="list-style-type: none"> Single throw. Two or Three pole. 240-V ac. 200 A and smaller. UL 98 and NEMA KS 1, horsepower rated, with clips or bolt pads to accommodate indicated fuses. Lockable handle with capability to accept three padlocks, and interlocked with cover in closed position. <p>B. Accessories:</p> <ol style="list-style-type: none"> Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors. <p>2.4 NONFUSIBLE SWITCHES</p> <p>A. Type GD, General Duty, Two or Three Pole, Single Throw, 240-V ac, 600 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept two padlocks, and interlocked with cover in closed position.</p> <p>B. Type HD, Heavy Duty, Two or Three Pole, Single Throw, 240-V ac, 1200 A and Smaller: UL 98 and NEMA KS 1, horsepower rated, lockable handle with capability to accept three padlocks, and interlocked with cover in closed position.</p> <p>C. Accessories:</p> <ol style="list-style-type: none"> Equipment Ground Kit: Internally mounted and labeled for copper and aluminum ground conductors. <p>PART 3 - EXECUTION</p> <p>3.1 EXAMINATION</p> <p>A. Examine elements and surfaces to receive enclosed switches and circuit breakers for compliance with installation tolerances and other conditions affecting performance of the Work.</p> <p>B. Proceed with installation only after unsatisfactory conditions have been corrected.</p> <ol style="list-style-type: none"> Commencement of work shall indicate Installer's acceptance of the areas and conditions as satisfactory. <p>3.2 ENCLOSURE ENVIRONMENTAL RATING APPLICATIONS</p> <p>A. Enclosed Switches: Provide enclosures at installed locations with the following environmental ratings.</p> <ol style="list-style-type: none"> Outdoor Locations: NEMA 250, Type 3R. Other Wet or Damp, Indoor Locations: NEMA 250, Type 4 <Insert type>. <p>3.3 INSTALLATION</p> <p>A. Coordinate layout and installation of switches, circuit breakers, and components with equipment served and adjacent surfaces. Maintain required workspace clearances and required clearances for equipment access doors and panels.</p> <p>B. Install fuses in fusible devices.</p> <p>C. Comply with NFPA 70 and NECA 1.</p> <p>3.4 IDENTIFICATION</p> <p>A. Comply with requirements in Section 26053 "Identification for Electrical Systems."</p> <ol style="list-style-type: none"> Identify field-installed conductors, interconnecting wiring, and components; provide warning signs. Label each enclosure with engraved metal or laminated-plastic nameplate. <p>END OF SECTION 262816</p>	<p>SECTION 263100 - PHOTOVOLTAIC COLLECTORS</p> <p>PART 1 - GENERAL</p> <p>1.1 SUMMARY</p> <p>A. Section Includes:</p> <ol style="list-style-type: none"> PV system description. Manufactured PV units. PV module framing. PV array construction. Inverters. System overcurrent protection. Mounting structures. <p>1.2 DEFINITIONS</p> <p>A. CEC: California Energy Commission.</p> <p>B. IP Code: Required ingress protection to comply with IEC 60529.</p> <p>C. MPPT: Maximum power point tracking.</p> <p>D. PTC: PVUSA Test Condition. Commonly regarded as a "real-world" measure of PV output. See below for definition of "PVUSA."</p> <p>E. PV: Photovoltaic.</p> <p>F. PVUSA: Photovoltaics for Utility Systems Applications.</p> <p>G. STC: Standard Test Conditions defined in IEC 61215.</p> <p>1.3 ACTION SUBMITTALS</p> <p>A. Product Data: For each type of product.</p> <ol style="list-style-type: none"> Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for PV panels. Include rated capacities, operating characteristics, electrical characteristics, and furnished specialties and accessories. <p>B. Shop Drawings: For PV modules.</p> <ol style="list-style-type: none"> Include plans, elevations, sections, and mounting details. Include details of equipment assemblies. Indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection. Detail fabrication and assembly. Include diagrams for power, signal, and control wiring. <p>1.4 INFORMATIONAL SUBMITTALS</p> <p>A. Field quality-control reports.</p> <p>B. Sample Warranty: For manufacturer's special materials and workmanship warranty and minimum power output warranty.</p> <p>1.5 CLOSEOUT SUBMITTALS</p> <p>A. Operation and Maintenance Data: For PV modules to include in operation and maintenance manuals.</p> <p>1.6 WARRANTY</p> <p>A. Manufacturer's Special Warranty: Manufacturer agrees to repair or replace components of PV modules that fail in materials or workmanship within specified warranty period.</p> <ol style="list-style-type: none"> Manufacturer's materials and workmanship warranties include, but are not limited to, the following: <ol style="list-style-type: none"> Faulty operation of PV modules. Warranty Period: Five years from date of Substantial Completion. <p>PART 2 - PRODUCTS</p> <p>2.1 PERFORMANCE REQUIREMENTS</p> <p>A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.</p> <p>B. Seismic Qualification Certificates: For modules, accessories, and components, from manufacturer.</p> <ol style="list-style-type: none"> Basis for Certification: Indicate whether withstand certification is based on actual test of assembled components or on calculation. Dimensioned Outline Drawings of Equipment Unit: Identify center of gravity and locate and describe mounting and anchorage provisions. Detailed description of equipment anchorage devices on which the certification is based and their installation requirements. <p>2.2 PV SYSTEMS DESCRIPTION</p> <p>A. Interactive PV System: Collectors connected in parallel to the electrical utility; and capable of providing power for Project and supplying power to a distributed network.</p> <ol style="list-style-type: none"> System Components: <ol style="list-style-type: none"> PV modules. Array frame. Utility-interactive inverter. Overcurrent protection, disconnect, and rapid shutdown devices. Mounting structure. Utility meter. <p>2.3 MANUFACTURED PV UNITS</p> <p>A. Encapsulant: Ethyl vinyl acetate.</p> <p>B. Bypass Diode Protection: Internal.</p> <p>C. Junction Box:</p>	<p>1. Size: 1.56 by 3.96 by 0.52 inch (39.6 by 100.6 by 13.2 mm).</p> <p>2. Fully potted, vandal resistant.</p> <p>3. Flammability Test: UL 1703.</p> <p>D. Output Cabling:</p> <ol style="list-style-type: none"> Quick, multicore, polarized connectors. Two-Conductor Harness: No traditional return wire is needed from the end of a row back to the source combiner. <p>2.4 PV MODULE FRAMING</p> <p>A. PV laminates mounted in anodized extruded-aluminum frames.</p> <ol style="list-style-type: none"> Entire assembly UL listed for electrical and fire safety, Class A or Class C depending on install, according to UL 1703, and complying with IEC 61215. Frame strength exceeding requirements of certifying agencies in subparagraph above. <p>2.5 PV ARRAY CONSTRUCTION</p> <p>A. Framing:</p> <ol style="list-style-type: none"> Material: Extruded aluminum or Galvanized steel or Coated steel. Maximum System Weight: Less than 4 lb/sq. ft. (19.53 kg/sq. m). <p>B. Flat-Roof Mounting:</p> <ol style="list-style-type: none"> No roof penetrations. Self-ballasting. Wind-tunnel tested to 110-mph (160-km/h) wind. Service Life: 25 years. Freestanding system. <p>2.6 INVERTER</p> <p>A. Control Type: Maximum power point tracker control.</p> <p>B. Inverter Electrical Characteristics:</p> <p>C. Operating Conditions:</p> <ol style="list-style-type: none"> Operating Ambient Temperatures: Minus 4 to plus 122 deg F (20 to plus 50 deg C). Storage Temperature: Minus 40 to plus 122 deg F (minus 40 to plus 50 deg C). Relative Humidity: Zero to 95 percent, noncondensing. <p>D. Enclosure:</p> <ol style="list-style-type: none"> NEMA 250, Type 3R. Protective Functions: <ol style="list-style-type: none"> AC over/undervoltage. AC over/underfrequency. Ground overcurrent. Overtemperature. AC and dc overcurrent. DC overvoltage. Regulatory Approvals: <ol style="list-style-type: none"> IEEE 1547.1. IEEE 1547.3. UL 1741. <p>2.7 MOUNTING STRUCTURES</p> <p>A. Roof Mount: Extruded aluminum, two or four rails, tilt legs, and roof standoffs.</p> <p>PART 3 - EXECUTION</p> <p>3.1 EXAMINATION</p> <p>A. Examine substrate areas and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.</p> <p>B. Do not begin installation until mounting surfaces have been properly prepared.</p> <p>C. If preparation of mounting surfaces is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.</p> <p>D. Examine modules and array frame before installation. Reject modules and arrays that are wet, moisture damaged, or mold damaged.</p> <p>E. Examine roofs, supports, and supporting structures for suitable conditions where PV system will be installed.</p> <p>F. Proceed with installation only after unsatisfactory conditions have been corrected.</p> <p>3.2 INSTALLATION</p> <p>A. Comply with NECA 1.</p> <p>B. Coordinate layout and installation of PV panels with roof assembly and other construction.</p> <p>C. Support PV panel assemblies independent of supports for other elements such as roof and support assemblies, enclosures, vents, pipes, and conduits. Support assembly to prevent twisting from eccentric loading.</p> <p>D. Install PV inverters, rapid shutdown, and system control in locations indicated on Drawings.</p> <p>E. Install weatherseal fittings and flanges where PV panel assemblies penetrate exterior elements such as walls or roofs. Seal around openings to make weathertight.</p> <p>F. Wiring Method: Install cables in raceways.</p> <p>G. Wiring within Enclosures: Bundle, lace, and train conductors to terminal points with no excess and without exceeding manufacturer's limitations on bending radii. Install lacing bars and distribution spools.</p> <p>3.3 CONNECTIONS</p> <p>A. Coordinate PV panel cabling to equipment enclosures to ensure proper connections.</p> <p>B. Coordinate installation of utility-interactive meter with utility.</p>	<p>C. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A-486B.</p> <p>D. Make splices, terminations, and taps that are compatible with conductor material.</p> <p>END OF SECTION 263100</p>