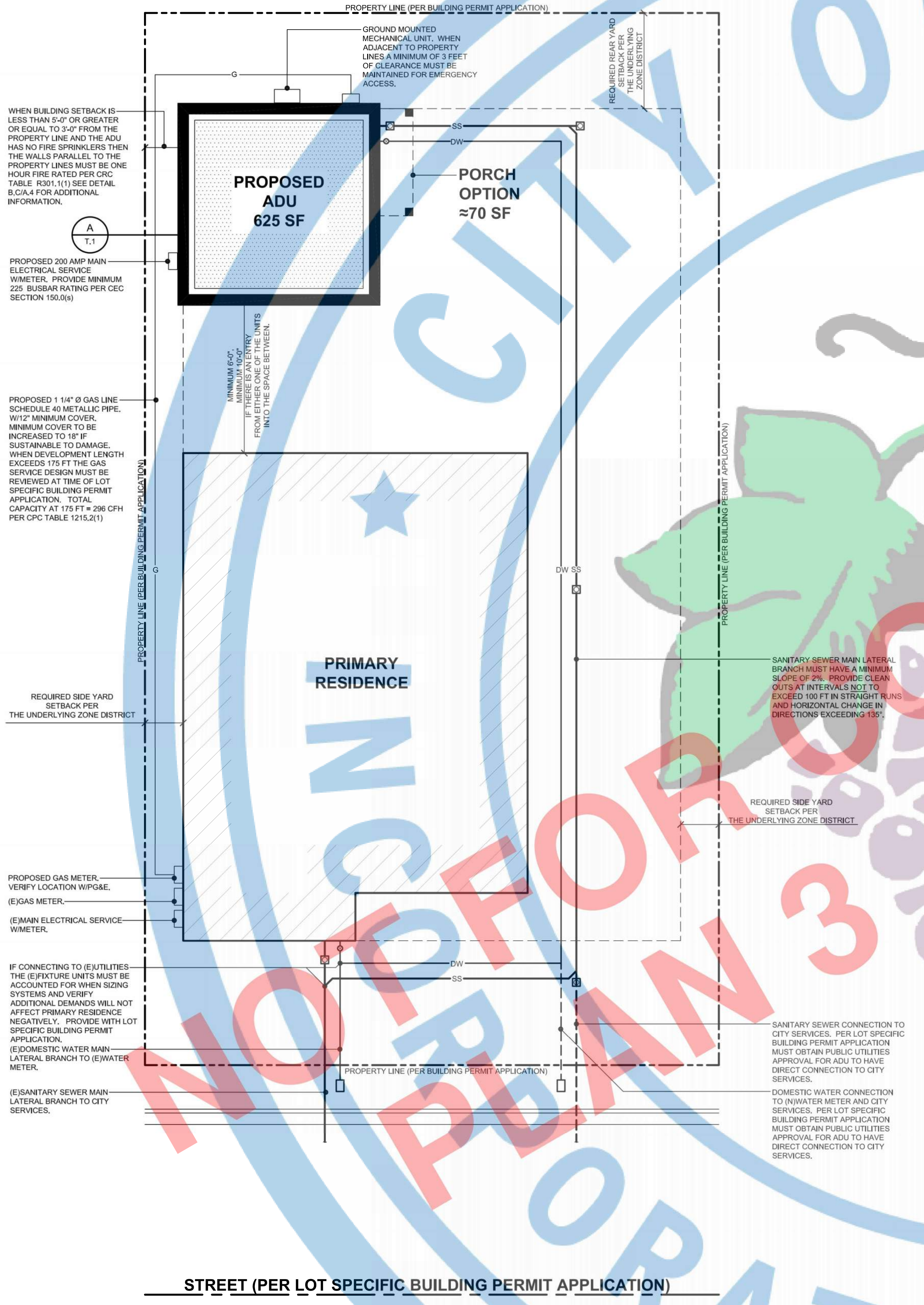

PROPERTY LINE (PER BUILDING PERMIT APPLICATION)
GROUND MOUNTED MECHANICAL UNIT. WHEN ADJACENT TO PROPERTY LINES A MINIMUM OF 3 FEET OF CLEARANCE MUST BE MAINTAINED FOR EMERGENCY ACCESS.
REQUIRED REAR YARD SETBACK PER THE UNDERLYING ZONE DISTRICT
WHEN BUILDING SETBACK IS LESS THAN 5'-0" OR GREATER OR EQUAL TO 3'-0" FROM THE PROPERTY LINE AND THE ADU HAS NO FIRE SPRINKLERS THEN THE WALLS PARALLEL TO THE PROPERTY LINES MUST BE ONE HOUR FIRE RATED PER CRC TABLE R301.1(1) SEE DETAIL B,C/A.4 FOR ADDITIONAL INFORMATION.
G
SS
DW
PROPOSED ADU 625 SF
PORCH OPTION ≈70 SF
A
T.1
PROPOSED 200 AMP MAIN ELECTRICAL SERVICE W/METER. PROVIDE MINIMUM 225 BUSBAR RATING PER CEC SECTION 150.0(s)
MINIMUM 6'-0", MINIMUM 10'-0" IF THERE IS AN ENTRY FROM EITHER ONE OF THE UNITS INTO THE SPACE BETWEEN.
PROPOSED 1 1/4" Ø GAS LINE SCHEDULE 40 METALLIC PIPE. W/12" MINIMUM COVER. MINIMUM COVER TO BE INCREASED TO 18" IF SUSTAINABLE TO DAMAGE. WHEN DEVELOPMENT LENGTH EXCEEDS 175 FT THE GAS SERVICE DESIGN MUST BE REVIEWED AT TIME OF LOT SPECIFIC BUILDING PERMIT APPLICATION. TOTAL CAPACITY AT 175 FT = 296 CFH PER CPC TABLE 1215.2(1)
PROPERTY LINE (PER BUILDING PERMIT APPLICATION)
DW SS
PRIMARY RESIDENCE
REQUIRED SIDE YARD SETBACK PER THE UNDERLYING ZONE DISTRICT
SANITARY SEWER MAIN LATERAL BRANCH MUST HAVE A MINIMUM SLOPE OF 2%. PROVIDE CLEAN OUTS AT INTERVALS NOT TO EXCEED 100 FT IN STRAIGHT RUNS AND HORIZONTAL CHANGE IN DIRECTIONS EXCEEDING 135°.
REQUIRED SIDE YARD SETBACK PER THE UNDERLYING ZONE DISTRICT
PROPOSED GAS METER. VERIFY LOCATION W/PG&E.
(E)GAS METER.
(E)MAIN ELECTRICAL SERVICE W/METER.
IF CONNECTING TO (E)UTILITIES THE (E)FIXTURE UNITS MUST BE ACCOUNTED FOR WHEN SIZING SYSTEMS AND VERIFY ADDITIONAL DEMANDS WILL NOT AFFECT PRIMARY RESIDENCE NEGATIVELY. PROVIDE WITH LOT SPECIFIC BUILDING PERMIT APPLICATION.
(E)DOMESTIC WATER MAIN LATERAL BRANCH TO (E)WATER METER.
(E)SANITARY SEWER MAIN LATERAL BRANCH TO CITY SERVICES.
DW
SS
PROPERTY LINE (PER BUILDING PERMIT APPLICATION)
SANITARY SEWER CONNECTION TO CITY SERVICES. PER LOT SPECIFIC BUILDING PERMIT APPLICATION MUST OBTAIN PUBLIC UTILITIES APPROVAL FOR ADU TO HAVE DIRECT CONNECTION TO CITY SERVICES.
DOMESTIC WATER CONNECTION TO (N)WATER METER AND CITY SERVICES. PER LOT SPECIFIC BUILDING PERMIT APPLICATION MUST OBTAIN PUBLIC UTILITIES APPROVAL FOR ADU TO HAVE DIRECT CONNECTION TO CITY SERVICES.
STREET (PER LOT SPECIFIC BUILDING PERMIT APPLICATION)

SITE PLAN

SCALE:1"=10'-0"

LEGEND:

A
S.5
SECTION
A
A.6
DETAIL

ABBREVIATIONS:

Ø	DIAMETER	I.E.	INVERT ELEVATION
#	NUMBER	IMC.	INTERMEDIATE METAL CONDUIT
℄	CENTER LINE	IN.	INCH/INCHES
A.B.	ANCHOR BOLT	IPS	IRON PIPE SIZE
A.B.C.	ABOVE CEILING	MAX.	MAXIMUM
ACT.	ACTUAL	MIN.	MINIMUM
A.F.F.	ABOVE FINISH FLOOR	(N)	NEW
A.F.G.	ABOVE FINISH GRADE	NIPC	NOT IN PLUMBING CONTRACT
AL.	ALUMINUM	NO.	NUMBER
BTU	BRITISH THERMAL UNITS	O/	OVER
BTU/HR.	BRITISH THERMAL UNITS PER HOUR	O.C.	ON CENTER
CFH	CUBIC FEET PER HOUR	OH.	OVERHEAD
CONT.	CONTINUOUS	(P)	PROPOSED
COTG	CLEAN OUT TO GRADE	PSI	POUNDS PER SQUARE INCH
D.F.	DOUGLAS FIR	P.T.	PRESSURE TREATED
(E)	EXISTING	SF	SQUARE FEET
ESS	ENERGY STORAGE SYSTEM	SIM.	SIMILAR
E.W.	EACH WAY	SOV	SHUT-OFF VALVE
F.F.	FINISH FLOOR	SPD	SURGE PROTECTION DEVICE
F.G.	FINISH GRADE	T.P.	TOP PLATE
F.U.	FIXTURE UNITS	T&B	TOP AND BOTTOM
GA.	GAGE	U.F.	UNDER FLOOR
GAL.	GALLON	UG	UNDERGROUND
GPF	GALLONS PER FLUSH	U.N.O.	UNLESS NOTED OTHERWISE
GPH	GALLONS PER HOUR	VTR	VENT THROUGH ROOF
GPM	GALLONS PER MINUTE	VTW	VENT THROUGH WALL
GRS	GALVANIZED RIGID STEEL	W/	WITH
		W/O	WITHOUT

SITE NOTES:

SITE PREPARATION AND GRADING

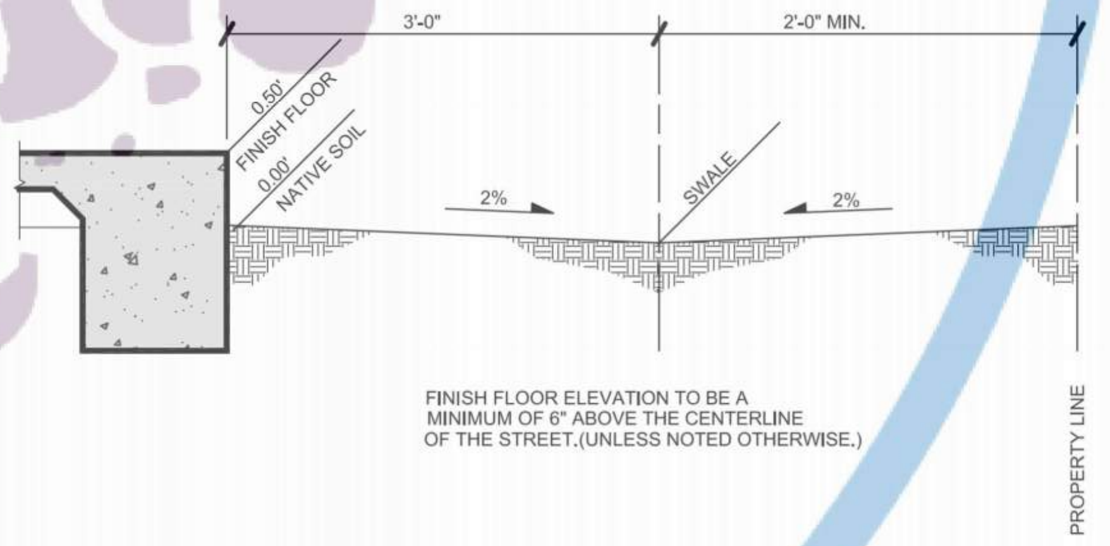
1. FINISH FLOOR ELEVATION TO BE ABOVE THE CROWN OF THE STREET.
2. ANY SURVEY MONUMENTS WITHIN THE AREA OF CONSTRUCTION SHALL BE PRESERVED OR RESET BY PERSON LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF CALIFORNIA.
3. GRADE DIFFERENTIALS GREATER THAN 12" SHALL BE SUPPORTED BY AN APPROVED ENGINEERED RETAINING WALL.
4. STRIP AND REMOVE UPPER SIX INCHES OF ALL ORGANIC TOPSOIL AND VEGETATION FROM AREA'S TO RECEIVE BUILDING FOUNDATIONS, ENGINEERED FILL, SLABS, PAVEMENT, ETC.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE BUILDING LAYOUT AND FOR ESTABLISHING THE LOCATION OF BURIED UTILITY LINES. IN THE EVENT THAT THERE ARE ANY CONFLICTS BETWEEN ACTUAL CONDITIONS AND THE DESIGNED DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE DESIGNER IMMEDIATELY AND SHALL NOT PROCEED WITH THE WORK UNTIL DIRECTED BY THE DESIGNER.
6. THE BUILDING PAD SHALL EXTEND AT LEAST FIVE FEET BEYOND THE PERIMETER FOUNDATION LINES AND BE MOISTURE CONDITIONED AS NECESSARY AND COMPACTED TO ACHIEVE AT LEAST 90 PERCENT DRY DENSITY.
7. FILL SHALL BE FREE FROM DEBRIS, VEGETATION AND OTHER FOREIGN SUBSTANCE. IT SHALL BE PLACED IN LIFTS APPROXIMATELY SIX INCHES THICK, MOISTURE CONDITIONED AS NECESSARY, AND COMPACTED TO ACHIEVE 90 PERCENT DRY DENSITY.
8. EXCAVATE TO DEPTHS NOTED ON DRAWINGS AND AS REQUIRED FOR PROPER COMPLETION OF ALL FOOTINGS AND OTHER SUBGRADE LEVEL WORK. ALL EXCAVATIONS SHALL BE OF SUFFICIENT SIZE TO PROVIDE AMPLE ROOM FOR CONSTRUCTION OF FORMS, SHORING AND BULK HEADING AS REQUIRED.
9. SLOPES FOR PERMANENT FILLS SHALL NOT BE STEEPER THAN 2 HORIZONTAL TO I VERTICAL. CUT SLOPE FOR PERMANENT EXCAVATIONS SHALL NOT BE STEEPER THAN 2 HORIZONTAL TO 1 VERTICAL UNLESS A SOILS REPORT IS SUBMITTED TO AND EXCEPTED BY THE DESIGNER.
10. BUILDING PADS SHALL BE CONSTRUCTED PER SOIL ENGINEER'S SPECIFICATIONS AND SHALL BE WITHIN 0.10 FT. OF THE ELEVATIONS SHOWN ON THE PLANS. ALL PAVING SHALL BE IN ACCORDANCE WITH THE SOILS ENGINEER'S SPECIFICATIONS.
11. ESTABLISHED AT THE SITE SHALL BE CAREFULLY PRESERVED AND INSPECTED BY THE GENERAL CONTRACTOR, AND SHALL BE RESTORED AT THE CONTRACTOR'S EXPENSE IF LOST OR DESTROYED AS A RESULT OF HIS OPERATIONS. MARKERS SHALL BE RESET BY A REGISTERED CIVIL ENGINEER OR A LICENSED LAND SURVEYOR. STRIP AND REMOVE UPPER SIX INCHES OF ALL ORGANIC TOPSOIL AND VEGETATION FROM AREAS TO RECEIVE BUILDING FOUNDATIONS, ENGINEERED FILL, SLABS, PAVEMENT, ETC.
12. THE SANITARY SEWER SERVICES, DOMESTIC WATER, GAS, AND ANY OTHER UNDERGROUND SERVICE CONNECTIONS TO BE COMPLETED IN ALL AREAS TO BE PAVED PRIOR TO PLACEMENT OF ASPHALT CONCRETE ON SITE.

SITE DRAINAGE

13. NO-ON-SITE WATER RETENTION OR DRAINAGE INTO ADJACENT SITES.
14. LOT SHALL BE GRADED TO DRAIN WATER AWAY FROM ALL FOUNDATIONS AT A SLOPE OF 5% WITHIN 10 FEET OF THE BUILDING. (CRC SECTION R401.3)
15. IMPERVIOUS SURFACES WITHIN 10' OF THE BUILDING FOUNDATION SHALL SLOPE A MINIMUM OF 2% AWAY FROM BUILDING.
16. ALL SITE GRADING OUTSIDE OF THE BUILDING ENVELOPE IS REQUIRED TO BE A MINIMUM OF 0.5% DIRECTED TOWARDS THE STREET.

GENERAL REQUIREMENTS

17. ALL FOOTING TRENCHES SHALL BE LEVEL SO THAT BOTH TOP AND BOTTOM OF SUCH FOOTINGS ARE LEVEL.
18. TEMPORARY FENCES TO SECURE PROJECTS UNDER CONSTRUCTION ARE ALLOWED. ANY TEMPORARY FENCE SHALL BE ADEQUATELY SECURED AND CONSTRUCTED TO PREVENT OVERTURNING DUE TO WIND, VANDALISM,AND/OR CASUAL CONTACT BY THE GENERAL PUBLIC. THE CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER AS TO MINIMIZE ANY POTENTIAL SAFETY HAZARD WHICH MAY OCCUR AS A RESULT OF IMPROPER FENCE INSULATION OR DAMAGE TO THE FENCE.


3'-0"
2'-0" MIN.
0.50' FINISH FLOOR
0.00' NATIVE SOIL
2%
SWALE
2%
PROPERTY LINE

FINISH FLOOR ELEVATION TO BE A MINIMUM OF 6" ABOVE THE CENTERLINE OF THE STREET.(UNLESS NOTED OTHERWISE.)

A SWALE AT PROPERTY LINE

PROJECT DATA :

PROJECT DESCRIPTION: ACCESSORY DWELLING UNIT PLAN #3 - 23-TADU-003
GABLE, CONTEMPORARY, AND CRAFTSMAN
W/PORCH OPTION

PROJECT ADDRESS: PRE APPROVED STANDARD PLAN (PER BUILDING PERMIT APPLICATION)
ZONING: PRE APPROVED STANDARD PLAN (PER BUILDING PERMIT APPLICATION)
CONSTRUCTION TYPE: TYPE V-B
BUILDING AREA: (N) FIRST LEVEL = ADU = 625 SF PORCH(OPTION): 70 SF
LOT COVERAGE: PRE APPROVED STANDARD PLAN (PER BUILDING PERMIT APPLICATION)
NUMBER OF STORIES: SINGLE STORY RESIDENTIAL
OCCUPANCY: : R3 OCCUPANCY GROUP
BUILDING HEIGHT: PER PLAN (SEE ELEVATIONS)

DRAWING INDEX:

T.1 TITLE SHEET, PROJECT DATA, AND SITE PLAN
GC.1 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE (RESIDENTIAL MANDATORY MEASURES)

ARCHITECTURAL DRAWINGS:
A.1 FLOOR PLAN (W/PORCH OPTION)
A.2 GABLE BUILDING ELEVATIONS (W/PORCH OPTION)
A.3 CRAFTSMAN BUILDING ELEVATIONS (W/PORCH OPTION)
A.4 CONTEMPORARY BUILDING ELEVATIONS (W/PORCH OPTION)
A.5 ARCHITECTURAL DETAILS

STRUCTURAL DRAWINGS:
S.1 FOUNDATION PLAN AND BRACED WALL FRAMING PLAN (W/PORCH OPTION)
S.2 ROOF FRAMING PLAN AND CEILING JOIST FRAMING PLAN FOR GABLE AND CRAFTSMAN (W/PORCH OPTION)
S.2.1 ROOF FRAMING PLAN AND BUILDING SECTIONS FOR GABLE AND CRAFTSMAN (W/PORCH OPTION)(TRUSS OPTION)
S.3 ROOF FRAMING PLAN AND CEILING JOIST FRAMING PLAN FOR CONTEMPORARY (W/PORCH OPTION)
S.4 BUILDING SECTIONS FOR GABLE, CRAFTSMAN, AND CONTEMPORARY (W/PORCH OPTION)
S.5 STRUCTURAL DETAILS
S.6 TJI JOIST MANUFACTURER INSTALLATION DETAILS

UTILITY DRAWINGS:
P.1 PLUMBING PLAN AND DETAILS
M.1 MECHANICAL PLAN AND DETAILS
M.2 ENERGY DOCUMENTATION (GABLE/CRAFTSMAN)
M.3 ENERGY DOCUMENTATION (CONTEMPORARY)
E.1 ELECTRICAL PLAN AND DETAILS
PV.1 PHOTOVOLTAIC SOLAR PLAN AND SINGLE LINE DIAGRAM
PV.2 PHOTOVOLTAIC SOLAR EQUIPMENT SPECIFICATION
PV.3 PHOTOVOLTAIC SOLAR EQUIPMENT SPECIFICATION

CODE COMPLIANCE & INSPECTION PER CITY OF FRESNO:

CODE REFERENCE:

CALIFORNIA BUILDING CODE 2022	(CBC)
CALIFORNIA RESIDENTIAL CODE 2022	(R) OR (CRC)
CALIFORNIA GREEN BUILDING STANDARD CODE 2022	(CGBSC)
CALIFORNIA MECHANICAL CODE 2022	(CMC)
CALIFORNIA ELECTRICAL CODE 2022	(CEC)
CALIFORNIA PLUMBING CODE 2022	(CPC)
CALIFORNIA ENERGY CODE 2022	(CEC)

PER JURISDICTION

1. ALL CONSTRUCTION SHALL CONFORM TO CALIFORNIA BUILDING CODE 2022 PERTAINING TO TYPE VB CONSTRUCTION AND ALL OTHER APPLICABLE CODES.
2. AN APPROVED SET OF DRAWINGS BEARING THE STAMP OF THE CITY OF FRESNO BUILDING AND SAFETY DEPARTMENT SHALL BE AVAILABLE ON THE CONSTRUCTION SITE AT ALL TIMES. ALL APPROPRIATE AND NECESSARY DEPARTMENT OF BUILDING AND SAFETY PERMITS MUST BE POSTED AT ALL TIMES.

GENERAL CONSTRUCTION NOTES:

1. PRIOR TO ORDERING ANY MATERIALS OR DOING ANY WORK, EACH TRADE SHALL VERIFY ALL MEASUREMENTS AT THE BUILDING AND SHALL BE RESPONSIBLE FOR THE CORRECTNESS OF THE SAME. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED ON ACCOUNT OF DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THE MEASUREMENTS INDICATED ON THE DRAWINGS; ANY DISCREPANCIES BETWEEN THE DRAWINGS AND FIELD CONDITIONS WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE ARCHITECT FOR CONSIDERATION AND CLARIFICATION BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEVIATION FROM THE CONTRACT DOCUMENTS.
2. ALL OF THE CITY OF FRESNO BUILDING DEPARTMENT'S DRAWINGS AND CONSTRUCTION NOTES ARE COMPLIMENTARY AND WHAT IS CALLED FOR WILL BE BINDING AS IF CALLED FOR BY ALL; ANY WORK SHOWN OR REFERRED TO ON ANY ONE DRAWING SHALL BE PROVIDED AS THOUGH SHOWN ON ALL DRAWINGS.
3. THE WORK TO BE PERFORMED CONSISTS OF FURNISHING ALL LABOR, EQUIPMENT, TOOLS, TRANSPORTATION, SUPPLIES, FEES, MATERIALS AND SERVICES IN ACCORDANCE WITH THESE NOTES AND DRAWINGS; AND INCLUDES PERFORMING ALL OPERATIONS NECESSARY TO CONSTRUCT AND INSTALL COMPLETE, IN SATISFACTORY CONDITION, THE VARIOUS MATERIALS AND EQUIPMENT AT THE LOCATIONS SHOWN.
4. ALL DIMENSIONS TO FROM STUD TO STUD; OR CENTER OF STUD TO CENTER OF STUD (UNLESS OTHERWISE NOTED).
5. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS FOR CLEARANCES AND NOTIFY CITY OF FRESNO BUILDING DEPARTMENT OF ANY DISCREPANCIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS.
6. FULL SIZE OR LARGE SCALE DETAILS OR DRAWINGS SHALL GOVERN SMALL SCALE DRAWINGS WHICH THEY ARE INTENDED TO AMPLIFY.
7. THE STANDARD SPECIFICATIONS OF THE MANUFACTURER FOR PRODUCTS CALLED FOR IN THE DRAWINGS AND NOTES ARE HEREBY MADE A PART OF THESE NOTES WITH THE SAME FORCE AND EFFECT AS THOUGH HEREIN WRITTEN OUT IN FULL.
8. ALL MATERIALS REQUIRED FOR THE PERFORMANCE OF THIS WORK SHALL BE NEW AND OF THE BEST QUALITY OF THE KINDS SPECIFIED. THE USE OF OLD OR SECOND HAND MATERIALS IS STRICTLY FORBIDDEN, EXCEPT FOR LOCATIONS ON THE DRAWINGS THAT REFER TO REMOVAL AND RELOCATION OF MATERIALS OR EQUIPMENT. MATERIALS SHALL BE USED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT ALL PRODUCT WARRANTIES. THE CONTRACTOR WILL WARRANTY ALL WORK AS PER APPLICABLE REGULATIONS.
9. PLUMBING, ELECTRICAL AND MECHANICAL WORK SHALL BE PERFORMED BY A LICENSED MEMBER OF THE RESPECTIVE TRADE.
10. ALL INSURANCE COSTS AND COSTS ASSOCIATED WITH PERMITS, INSPECTION AND SIGN-OFFS SHALL BE AT THE CONTRACTORS COST.
11. CERTIFICATES OF INSURANCE ARE REQUIRED FROM THE LICENSED ELECTRICIAN, LICENSED PLUMBER, AND THE GENERAL CONTRACTOR FOR THE AMOUNTS SPECIFIED BY THE CONTRACT.
12. ALL CONTRACTORS, SUB-CONTRACTORS AND OTHERS WORKING ON THE PROJECT SHALL SUBMIT WAIVERS OF LIENS SIGNED AT THE COMPLETION OF THEIR WORK.
13. THE PREMISES AND JOB SITE SHALL BE MAINTAINED IN A REASONABLY NEAT AND ORDERLY CONDITION AND KEPT FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH DURING THE ENTIRE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL REMOVE ALL CRATES, CARTONS AND OTHER TRASH FROM THE WORK AREAS EACH DAY, AND SHALL BE RESPONSIBLE FOR ITS PROPER DISPOSAL. THE PREMISES SHALL BE PROTECTED THROUGHOUT CONSTRUCTION AND SHALL BE TURNED OVER IN SPOTLESS AND ORDERLY CONDITION. ALL FIXTURES AND EQUIPMENT WILL BE LEFT IN UNDAMAGED, BRIGHT, CLEAN AND POLISHED CONDITION.
14. CONSTRUCTION WORK WILL BE CONFINED TO THE AREAS DESIGNATED ON THE DRAWINGS AND WILL NOT CREATE DUST, DIRT OR OTHER INCONVENIENCES TO OTHER SPACES.
15. PROVIDE APPROVED JOB SITE TOILET THAT IS AVAILABLE TO ANYONE INVOLVED IN CONSTRUCTION ACTIVITIES.
16. THE CONSTRUCTION SHALL NOT RESTRICT A FIVE-FOOT CLEAR AND UNOBSTRUCTED ACCESS TO ANY WATER OR POWER DISTRIBUTION FACILITIES (POWER POLES, PULL-BOXES, TRANSFORMERS, VAULTS, PUMPS, VALVES, METERS, APPURTENANCES, ETC.) OR TO THE LOCATION OF THE HOOK-UP. THE CONSTRUCTION SHALL NOT BE WITHIN TEN FEET OF ANY POWER LINES-WHETHER OR NOT THE LINES ARE LOCATED ON THE PROPERTY. FAILURE TO COMPLY MAY CAUSE CONSTRUCTION DELAYS AND/OR ADDITIONAL EXPENSES.
17. NOTHING SHALL INTERFERE WITH THE RIGHTS, COMFORTS, OR CONVENIENCES OF ANY NEIGHBORS. NO CONSTRUCTION WORK, REPAIR WORK, OR OTHER INSTALLATION INVOLVING NOISE SHALL BE CONDUCTED EXCEPT ON CITY APPROVED WORK DAYS/HOURS, UNLESS SUCH CONSTRUCTION OR REPAIR WORK IS NECESSITATED BY AN EMERGENCY, OR OTHERWISE AGREED TO BY OWNER.
18. PROVIDE ALL TEMPORARY AND PERMANENT SHORING AS REQUIRED IN STRUCTURAL DRAWINGS.
19. ALL WOOD FLOORS TO BE SECURED AS REQUIRED TO PREVENT CREAKING. ALL HOLES TO BE PATCHED.
20. PROVIDE GUTTERS AND DOWNSPOUTS AS REQUIRED.
21. WEATHER STRIP EXTERIOR DOORS FROM HEATED SPACES.
22. UPON COMPLETION OF PROJECT, PREMISES SHALL BE LEFT BROOM CLEAN, SWEPT FREE OF DIRT AND DUST, ALL GLASS TO BE CLEAN, ALL FIXTURES AND APPLIANCES MADE FULLY OPERATIONAL, ALL SYSTEMS, (ELECTRICAL, PLUMBING, HVAC, ETC.) TO BE MADE FULLY OPERATIONAL AND BALANCED. ALL WARRANTIES AND MANUALS OF SYSTEMS REVIEWED WITH AND GIVEN TO OWNER.
23. ALL WORK SHALL BE SUBJECT TO FINAL INSPECTION BY THE CITY OF FRESNO BUILDING DEPARTMENT.
24. A COPY OF THE EVALUATION REPORT AND/OR CONDITIONS OF LISTING SHALL BE AVAILABLE AT THE JOB SITE.
25. MATERIALS DELIVERED TO THE CONSTRUCTION SITE SHALL BE PROTECTED FROM RAIN OR OTHER SOURCES OF MOISTURE.
26. AN OPERATION AND MAINTENANCE MANUAL FOR ANY NEWLY INSTALLED EQUIPMENT, APPLIANCES, HVAC SYSTEM, PHOTOVOLTAIC SYSTEM, ELECTRIC VEHICLE CHARGERS, WATER HEATING SYSTEM, LANDSCAPE IRRIGATION AND OTHER MAJOR APPLIANCES AND EQUIPMENTS, SHALL BE PROVIDED IN THE BUILDING AT THE TIME OF FINAL INSPECTION.

FIRE PROTECTION NOTES:

1. ALL BUILDING MATERIALS STORED AT THE CONSTRUCTION SITE AND/OR INSIDE THE BUILDING ARE TO BE SECURED IN A LOCKED AREA. ACCESS TO SUCH AREAS TO BE CONTROLLED BY THE OWNER AND/OR THE GENERAL CONTRACTOR.
2. ALL MATERIALS ARE TO BE STORED IN AN ORDERLY MANNER.
3. ALL FLAMMABLE MATERIALS TO BE KEPT TIGHTLY SEALED IN THEIR RESPECTIVE CONTAINERS. SUCH MATERIALS ARE TO BE KEPT AWAY FROM ALL HEAT SOURCES.
4. ALL FLAMMABLE MATERIALS TO BE USED AND STORED IN AN ADEQUATELY VENTILATED SPACE.
5. ALL ELECTRICAL POWER TO BE SHUT OFF WHERE THERE IS EXPOSED CONDUIT.
6. ALL ELECTRICAL POWER IN THE CONSTRUCTION AREA TO BE SHUT OFF AFTER WORKING HOURS.
7. THE CONTRACTOR WILL AT ALL TIMES MAKE SURE THAT THERE IS NO LEAKAGE OF NATURAL GAS IN THE BUILDING, OR ANY FLAMMABLE GAS USED IN CONSTRUCTION.
8. PROVIDE A CLASS A,B OR C FIRE-RETARDANT ROOF COVERING PER SECTION (R 902.1).
9. ON SITE FIRE PROTECTION EQUIPMENT (SUCH AS EXTINGUISHER) WILL BE KEPT READILY AVAILABLE AT ALL TIMES.
10. IF FIRE SPRINKLER SYSTEM IS REQUIRED, FIRE SPRINKLER SYSTEM SHALL BE APPROVED BY CITY OF FRESNO FIRE DEPARTMENT PRIOR TO INSTALLATION.

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
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THIRD FLOOR
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS		
NO.	**DESCRIPTION**	**DATE**
△1	- TRUSS FRAMING OPTION FOR GABLE & CRAFTSMAN	08/22/23
△2	- ONE HOUR RATED FIRE WALL FOR REDUCED SIDE OR REAR YARD SETBACK.	04/18/24

CITY USE ONLY

DRAWING TITLE

TITLE SHEET, PROJECT DATA, AND SITE PLAN

JOB# : TADU-003	**SHEET NO.**	T.1
DATE: 18-Apr-24		
SCALE: AS NOTED		
DRAWN BY: IRG		

NOT FOR CONSTRUCTION
PLAN 3
23-TADU-003

2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
RESIDENTIAL MANDATORY MEASURES, SHEET 1 (January 2023)

Y = YES
N/A = NOT APPLICABLE
RESPON. PARTY = RESPONSIBLE PARTY
(OWNER = O)
(CONTRACTOR = C)
(INSPECTOR = I)

Y | N/A | RESPON. PARTY

CHAPTER 3
GREEN BUILDING
SECTION 301 GENERAL

301.1 SCOPE. BUILDINGS SHALL BE DESIGNED TO INCLUDE THE GREEN BUILDING MEASURES SPECIFIED AS MANDATORY IN THE APPLICATION CHECKLISTS CONTAINED IN THIS CODE. VOLUNTARY GREEN BUILDING MEASURES ARE ALSO INCLUDED IN THE APPLICATION CHECKLISTS AND MAY BE INCLUDED IN THE DESIGN AND CONSTRUCTION OF STRUCTURES COVERED BY THIS CODE, BUT ARE NOT REQUIRED UNLESS ADOPTED BY A CITY, COUNTY, OR CITY AND COUNTY AS SPECIFIED IN SECTION 101.7.

301.1.1 ADDITIONS AND ALTERATIONS. [HCD] THE MANDATORY PROVISIONS OF CHAPTER 4 SHALL BE APPLIED TO ADDITIONS OR ALTERATIONS OF EXISTING RESIDENTIAL BUILDINGS WHERE THE ADDITION OR ALTERATION INCREASES THE BUILDING'S CONDITIONED AREA, VOLUME, OR SIZE. THE REQUIREMENTS SHALL APPLY ONLY TO AND/OR WITHIN THE SPECIFIC AREA OF THE ADDITION OR ALTERATION.

THE MANDATORY PROVISION OF SECTION 4.106.4.2 MAY APPLY TO ADDITIONS OR ALTERATIONS OF EXISTING PARKING FACILITIES OR THE ADDITION OF NEW PARKING FACILITIES SERVING EXISTING MULTIFAMILY BUILDINGS. SEE SECTION 4.106.4.3 FOR APPLICATION.

NOTE: REPAIRS INCLUDING, BUT NOT LIMITED TO, RESURFACING, RESTRIPING AND REPAIRING OR MAINTAINING EXISTING LIGHTING FIXTURES ARE NOT CONSIDERED ALTERATIONS FOR THE PURPOSE OF THIS SECTION.

NOTE: ON AND AFTER JANUARY 1, 2014, RESIDENTIAL BUILDINGS UNDERGOING PERMITTED ALTERATIONS, ADDITIONS, OR IMPROVEMENTS SHALL REPLACE NONCOMPLIANT PLUMBING FIXTURES WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY OR FINAL PERMIT APPROVAL BY THE LOCAL BUILDING DEPARTMENT. SEE CIVIL CODE SECTION 1101.1, ET SEQ., FOR THE DEFINITION OF A NONCOMPLIANT PLUMBING FIXTURE, TYPES OF RESIDENTIAL BUILDINGS AFFECTED AND OTHER IMPORTANT ENACTMENT DATES.

301.2 LOW-RISE AND HIGH-RISE RESIDENTIAL BUILDINGS. [HCD] THE PROVISIONS OF INDIVIDUAL SECTIONS OF CALGREEN MAY APPLY TO EITHER LOW-RISE RESIDENTIAL BUILDINGS HIGH-RISE RESIDENTIAL BUILDINGS, OR BOTH. INDIVIDUAL SECTIONS WILL BE DESIGNATED BY BANNERS TO INDICATE WHERE THE SECTION APPLIES SPECIFICALLY TO LOW-RISE ONLY (LR) OR HIGH-RISE ONLY (HR). WHEN THE SECTION APPLIES TO BOTH LOW-RISE AND HIGH-RISE BUILDINGS, NO BANNER WILL BE USED.

SECTION 302 MIXED OCCUPANCY BUILDINGS

302.1 MIXED OCCUPANCY BUILDINGS. IN MIXED OCCUPANCY BUILDINGS, EACH PORTION OF A BUILDING SHALL COMPLY WITH THE SPECIFIC GREEN BUILDING MEASURES APPLICABLE TO EACH SPECIFIC OCCUPANCY.

EXCEPTIONS:

1. [HCD] ACCESSORY STRUCTURES AND ACCESSORY OCCUPANCIES SERVING RESIDENTIAL BUILDINGS SHALL COMPLY WITH CHAPTER 4 AND APPENDIX A4, AS APPLICABLE.
2. [HCD] FOR PURPOSES OF *CAL*GREEN, LIVE/WORK UNITS, COMPLYING WITH SECTION 419 OF THE *CALIFORNIA BUILDING CODE*, SHALL NOT BE CONSIDERED MIXED OCCUPANCIES. LIVE/WORK UNITS SHALL COMPLY WITH CHAPTER 4 AND APPENDIX A4, AS APPLICABLE.

DIVISION 4.1 PLANNING AND DESIGN

ABBREVIATION DEFINITIONS:

HCD	DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
BSC	CALIFORNIA BUILDING STANDARDS COMMISSION
DSA-SS	DIVISION OF THE STATE ARCHITECT, STRUCTURAL SAFETY
OSHPD	OFFICE OF STATEWIDE HEALTH PLANNING AND DEVELOPMENT
LR	LOW RISE
HR	HIGH RISE
AA	ADDITIONS AND ALTERATIONS
N	NEW

CHAPTER 4
RESIDENTIAL MANDATORY MEASURES
SECTION 4.102 DEFINITIONS

4.102.1 DEFINITIONS
THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 *(AND ARE INCLUDED HERE FOR REFERENCE)*

FRENCH DRAIN. A TRENCH, HOLE OR OTHER DEPRESSED AREA LOOSELY FILLED WITH ROCK, GRAVEL, FRAGMENTS OF BRICK OR SIMILAR PERVIOUS MATERIAL USED TO COLLECT OR CHANNEL DRAINAGE OR RUNOFF WATER.

WATTLES. WATTLES ARE USED TO REDUCE SEDIMENT IN RUNOFF. WATTLES ARE OFTEN CONSTRUCTED OF NATURAL PLANT MATERIALS SUCH AS HAY, STRAW OR SIMILAR MATERIAL SHAPED IN THE FORM OF TUBES AND PLACED ON A DOWNFLOW SLOPE. WATTLES ARE ALSO USED FOR PERIMETER AND INLET CONTROLS.

4.106 SITE DEVELOPMENT

☒ ☐ O OR C
4.106.1 GENERAL. PRESERVATION AND USE OF AVAILABLE NATURAL RESOURCES SHALL BE ACCOMPLISHED THROUGH EVALUATION AND CAREFUL PLANNING TO MINIMIZE NEGATIVE EFFECTS ON THE SITE AND ADJACENT AREAS. PRESERVATION OF SLOPES, MANAGEMENT OF STORM WATER DRAINAGE AND EROSION CONTROLS SHALL COMPLY WITH THIS SECTION.

☒ ☐ O OR C
4.106.2 STORM WATER DRAINAGE AND RETENTION DURING CONSTRUCTION. PROJECTS WHICH DISTURB LESS THAN ONE ACRE OF SOIL AND ARE NOT PART OF A LARGER COMMON PLAN OF DEVELOPMENT WHICH IN TOTAL DISTURBS ONE ACRE OR MORE, SHALL MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION. IN ORDER TO MANAGE STORM WATER DRAINAGE DURING CONSTRUCTION, ONE OR MORE OF THE FOLLOWING MEASURES SHALL BE IMPLEMENTED TO PREVENT FLOODING OF ADJACENT PROPERTY, PREVENT EROSION AND RETAIN SOIL RUNOFF ON THE SITE.

1. RETENTION BASINS OF SUFFICIENT SIZE SHALL BE UTILIZED TO RETAIN STORM WATER ON THE SITE.
2. WHERE STORM WATER IS CONVEYED TO A PUBLIC DRAINAGE SYSTEM, COLLECTION POINT, GUTTER OR SIMILAR DISPOSAL METHOD, WATER SHALL BE FILTERED BY USE OF A BARRIER SYSTEM, WATTLE OR OTHER METHOD APPROVED BY THE ENFORCING AGENCY.
3. COMPLIANCE WITH A LAWFULLY ENACTED STORM WATER MANAGEMENT ORDINANCE.

NOTE: REFER TO THE STATE WATER RESOURCES CONTROL BOARD FOR PROJECTS WHICH DISTURB ONE ACRE OR MORE OF SOIL, OR ARE PART OF A LARGER COMMON PLAN OF DEVELOPMENT WHICH IN TOTAL DISTURBS ONE ACRE OR MORE OF SOIL.
(WEBSITE: HTTPS://WWW.WATERBOARDS.CA.GOV/WATER_ISSUES/PROGRAMS/STORMWATER/CONSTRUCTION.HTML)

☒ ☐ O OR C
4.106.3 GRADING AND PAVING. CONSTRUCTION PLANS SHALL INDICATE HOW THE SITE GRADING OR DRAINAGE SYSTEM WILL MANAGE ALL SURFACE WATER FLOWS TO KEEP WATER FROM ENTERING BUILDINGS. EXAMPLES OF METHODS TO MANAGE SURFACE WATER INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:

1. SWALES
2. WATER COLLECTION AND DISPOSAL SYSTEMS
3. FRENCH DRAINS
4. WATER RETENTION GARDENS
5. OTHER WATER MEASURES WHICH KEEP SURFACE WATER AWAY FROM BUILDINGS AND AID IN GROUNDWATER RECHARGE.

EXCEPTION: ADDITIONS AND ALTERATIONS NOT ALTERING THE DRAINAGE PATH.

DIVISION 4.2 ENERGY EFFICIENCY

4.201 GENERAL

4.201.1 SCOPE. FOR THE PURPOSES OF MANDATORY ENERGY EFFICIENCY STANDARDS IN THIS CODE, THE CALIFORNIA ENERGY COMMISSION WILL CONTINUE TO ADOPT MANDATORY STANDARDS.

DIVISION 4.3 WATER EFFICIENCY AND CONSERVATION

4.303 INDOOR WATER USE

☒ ☐ O OR C
4.303.1 WATER CONSERVING PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES (WATER CLOSETS AND URINALS) AND FITTINGS (FAUCETS AND SHOWERHEADS) SHALL COMPLY WITH THE SECTIONS 4.303.1.1, 4.303.1.2, 4.303.1.3, AND 4.303.4.4.

NOTE: ALL NONCOMPLIANT PLUMBING FIXTURES IN ANY RESIDENTIAL REAL PROPERTY SHALL BE REPLACED WITH WATER-CONSERVING PLUMBING FIXTURES. PLUMBING FIXTURE REPLACEMENT IS REQUIRED PRIOR TO ISSUANCE OF A CERTIFICATE OF FINAL COMPLETION, CERTIFICATE OF OCCUPANCY, OR FINAL PERMIT APPROVAL BY THE LOCAL BUILDING DEPARTMENT. SEE CIVIL CODE SECTION 1101.1, ET SEQ., FOR THE DEFINITION OF A NONCOMPLIANT PLUMBING FIXTURE, TYPES OF RESIDENTIAL BUILDINGS AFFECTED AND OTHER IMPORTANT ENACTMENT DATES.

4.303.1.1 WATER CLOSETS. THE EFFECTIVE FLUSH VOLUME OF ALL WATER CLOSETS SHALL NOT EXCEED 1.28 GALLONS PER FLUSH. TANK-TYPE WATER CLOSETS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR TANK-TYPE TOILETS.

NOTE: THE EFFECTIVE FLUSH VOLUME OF DUAL FLUSH TOILETS IS DEFINED AS THE COMPOSITE, AVERAGE FLUSH VOLUME OF TWO REDUCED FLUSHES AND ONE FULL FLUSH.

4.303.1.2 URINALS. THE EFFECTIVE FLUSH VOLUME OF WALL MOUNTED URINALS SHALL NOT EXCEED 0.125 GALLONS PER FLUSH. THE EFFECTIVE FLUSH VOLUME OF ALL OTHER URINALS SHALL NOT EXCEED 0.5 GALLONS PER FLUSH.

4.303.1.3 SHOWERHEADS.

4.303.1.3.1 SINGLE SHOWERHEAD. SHOWERHEADS SHALL HAVE A MAXIMUM FLOW RATE OF NOT MORE THAN 1.8 GALLONS PER MINUTE AT 80 PSI. SHOWERHEADS SHALL BE CERTIFIED TO THE PERFORMANCE CRITERIA OF THE U.S. EPA WATERSENSE SPECIFICATION FOR SHOWERHEADS.

4.303.1.3.2 MULTIPLE SHOWERHEADS SERVING ONE SHOWER. WHEN A SHOWER IS SERVED BY MORE THAN ONE SHOWERHEAD, THE COMBINED FLOW RATE OF ALL THE SHOWERHEADS AND/OR OTHER SHOWER OUTLETS CONTROLLED BY A SINGLE VALVE SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 80 PSI, OR THE SHOWER SHALL BE DESIGNED TO ONLY ALLOW ONE SHOWER OUTLET TO BE IN OPERATION AT A TIME.

NOTE: A HAND-HELD SHOWER SHALL BE CONSIDERED A SHOWERHEAD.

4.303.1.4 FAUCETS.

4.303.1.4.1 RESIDENTIAL LAVATORY FAUCETS. THE MAXIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT EXCEED 1.2 GALLONS PER MINUTE AT 60 PSI. THE MINIMUM FLOW RATE OF RESIDENTIAL LAVATORY FAUCETS SHALL NOT BE LESS THAN 0.8 GALLONS PER MINUTE AT 20 PSI.

4.303.1.4.2 LAVATORY FAUCETS IN COMMON AND PUBLIC USE AREAS. THE MAXIMUM FLOW RATE OF LAVATORY FAUCETS INSTALLED IN COMMON AND PUBLIC USE AREAS (OUTSIDE OF DWELLINGS OR SLEEPING UNITS) IN RESIDENTIAL BUILDINGS SHALL NOT EXCEED 0.5 GALLONS PER MINUTE AT 60 PSI.

4.303.1.4.3 METERING FAUCETS. METERING FAUCETS WHEN INSTALLED IN RESIDENTIAL BUILDINGS SHALL NOT DELIVER MORE THAN 0.2 GALLONS PER CYCLE.

4.303.1.4.4 KITCHEN FAUCETS. THE MAXIMUM FLOW RATE OF KITCHEN FAUCETS SHALL NOT EXCEED 1.8 GALLONS PER MINUTE AT 60 PSI. KITCHEN FAUCETS MAY TEMPORARILY INCREASE THE FLOW ABOVE THE MAXIMUM RATE, BUT NOT TO EXCEED 2.2 GALLONS PER MINUTE AT 60 PSI, AND MUST DEFAULT TO A MAXIMUM FLOW RATE OF 1.8 GALLONS PER MINUTE AT 60 PSI.

NOTE: WHERE COMPLYING FAUCETS ARE UNAVAILABLE, AERATORS OR OTHER MEANS MAY BE USED TO ACHIEVE REDUCTION.

4.303.1.4.5 PRE-RINSE SPRAY VALVES.
WHEN INSTALLED, SHALL MEET THE REQUIREMENTS IN THE *CALIFORNIA CODE OF REGULATIONS*, TITLE 20 (APPLIANCE EFFICIENCY REGULATIONS), SECTIONS 1605.1 (H)(4) TABLE H-2, SECTION 1605.3 (H)(4)(A), AND SECTION 1607(D)(7) AND SHALL BE EQUIPPED WITH AN INTEGRAL AUTOMATIC SHUTOFF.

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FOR REFERENCE ONLY: THE FOLLOWING TABLE AND CODE SECTION HAVE BEEN REPRINTED FROM THE *CALIFORNIA CODE OF REGULATIONS*, TITLE 20 (APPLIANCE EFFICIENCY REGULATIONS),SECTION 1605.1 (H)(4) AND SECTION 1605.3 (H)(4)(A).

TABLE H-2
STANDARDS FOR COMMERCIAL PRE-RINSE SPRAY VALUES MANUFACTURED ON OR AFTER JANUARY 28, 2019

PRODUCT CLASS [SPRAY FORCE IN OUNCE FORCE (OZF)]	MAXIMUM FLOW RATE (GPM)
PRODUCT CLASS 1 (≤ 5.0 OZF)	1.00
PRODUCT CLASS 2 (> 5.0 OZF AND ≤ 8.0 OZF)	1.20
PRODUCT CLASS 3 (> 8.0 OZF)	1.28

TITLE 20 SECTION 1605.3 (H)(4)(A): COMMERCIAL PRERINSE SPRAY VALUES MANUFACTURED ON OR AFTER JANUARY 1, 2006, SHALL HAVE A MINIMUM SPRAY FORCE OF NOT LESS THAN 4.0 OUNCES-FORCE (OZF)[113 GRAMS-FORCE(GF)]

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4.303.2 SUBMETERS FOR MULTIFAMILY BUILDINGS AND DWELLING UNITS IN MIXED-USED RESIDENTIAL/COMMERCIAL BUILDINGS.
SUBMETERS SHALL BE INSTALLED TO MEASURE WATER USAGE OF INDIVIDUAL RENTAL DWELLING UNITS IN ACCORDANCE WITH THE *CALIFORNIA PLUMBING CODE*.

☒ ☐ O OR C
4.303.3 STANDARDS FOR PLUMBING FIXTURES AND FITTINGS. PLUMBING FIXTURES AND FITTINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE *CALIFORNIA PLUMBING CODE*, AND SHALL MEET THE APPLICABLE STANDARDS REFERENCED IN TABLE 1701.1 OF THE *CALIFORNIA PLUMBING CODE*.
NOTE:
THIS TABLE COMPILES THE DATA IN SECTION 4.303.1, AND IS INCLUDED AS A CONVENIENCE FOR THE USER.

TABLE - MAXIMUM FIXTURE WATER USE

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

4.304 OUTDOOR WATER USE

☒ ☐ O OR C
4.304.1 OUTDOOR POTABLE WATER USE IN LANDSCAPE AREAS. RESIDENTIAL DEVELOPMENTS SHALL COMPLY WITH A LOCAL WATER EFFICIENT LANDSCAPE ORDINANCE OR THE CURRENT CALIFORNIA DEPARTMENT OF WATER RESOURCES' MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO), WHICHEVER IS MORE STRINGENT.

NOTES:

1. THE MODEL WATER EFFICIENT LANDSCAPE ORDINANCE (MWELO) IS LOCATED IN THE *CALIFORNIA CODE REGULATIONS*, TITLE 23, CHAPTER 2.7, DIVISION 2. MWELO AND SUPPORTING DOCUMENTS, INCLUDING WATER BUDGET CALCULATOR, ARE AVAILABLE AT: HTTPS://WWW.WATER.CA.GOV/

DIVISION 4.4 MATERIAL CONSERVATION AND RESOURCE EFFICIENCY

4.406 ENHANCED DURABILITY AND REDUCED MAINTENANCE

☒ ☐ O OR C
4.406.1 RODENT PROOFING. ANNULAR SPACES AROUND PIPES, ELECTRIC CABLES, CONDUITS OR OTHER OPENINGS IN SOLE/BOTTOM PLATES AT EXTERIOR WALLS SHALL BE PROTECTED AGAINST THE PASSAGE OF RODENTS BY CLOSING SUCH OPENINGS WITH CEMENT MORTAR, CONCRETE MASONRY OR A SIMILAR METHOD ACCEPTABLE TO THE ENFORCING AGENCY.

4.408 CONSTRUCTION WASTE REDUCTION, DISPOSAL AND RECYCLING

☒ ☐ O OR C
4.408.1 CONSTRUCTION WASTE MANAGEMENT. RECYCLE AND/OR SALVAGE FOR REUSE A MINIMUM OF 65 PERCENT OF THE NON-HAZARDOUS CONSTRUCTION AND DEMOLITION WASTE IN ACCORDANCE WITH EITHER SECTION 4.408.2, 4.408.3 OR 4.408.4, OR MEET A MORE STRINGENT LOCAL CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT ORDINANCE.

EXCEPTIONS:

1. EXCAVATED SOIL AND LAND-CLEARING DEBRIS.
2. ALTERNATE WASTE REDUCTION METHODS DEVELOPED BY WORKING WITH LOCAL AGENCIES IF DIVERSION OR RECYCLE FACILITIES CAPABLE OF COMPLIANCE WITH THIS ITEM DO NOT EXIST OR ARE NOT LOCATED REASONABLY CLOSE TO THE JOBSITE.
3. THE ENFORCING AGENCY MAY MAKE EXCEPTIONS TO THE REQUIREMENTS OF THIS SECTION WHEN ISOLATED JOBSITES ARE LOCATED IN AREAS BEYOND THE HAUL BOUNDARIES OF THE DIVERSION FACILITY.

☒ ☐ O OR C
4.408.2 CONSTRUCTION WASTE MANAGEMENT PLAN. SUBMIT A CONSTRUCTION WASTE MANAGEMENT PLAN IN CONFORMANCE WITH ITEMS 1 THROUGH 5. THE CONSTRUCTION WASTE MANAGEMENT PLAN SHALL BE UPDATED AS NECESSARY AND SHALL BE AVAILABLE DURING CONSTRUCTION FOR EXAMINATION BY THE ENFORCING AGENCY.

1. IDENTIFY THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS TO BE DIVERTED FROM DISPOSAL BY RECYCLING, REUSE ON THE PROJECT OR SALVAGE FOR FUTURE USE OR SALE.
2. SPECIFY IF CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE SORTED ON-SITE (SOURCE SEPARATED) OR BULK MIXED (SINGLE STREAM).
3. IDENTIFY DIVERSION FACILITIES WHERE THE CONSTRUCTION AND DEMOLITION WASTE MATERIAL COLLECTED WILL BE TAKEN.
4. IDENTIFY CONSTRUCTION METHODS EMPLOYED TO REDUCE THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE GENERATED.
5. SPECIFY THAT THE AMOUNT OF CONSTRUCTION AND DEMOLITION WASTE MATERIALS DIVERTED SHALL BE CALCULATED BY WEIGHT OR VOLUME, BUT NOT BY BOTH.

☒ ☐ O OR C
4.408.3 WASTE MANAGEMENT COMPANY. UTILIZE A WASTE MANAGEMENT COMPANY, APPROVED BY THE ENFORCING AGENCY, WHICH CAN PROVIDE VERIFIABLE DOCUMENTATION THAT THE PERCENTAGE OF CONSTRUCTION AND DEMOLITION WASTE MATERIAL DIVERTED FROM THE LANDFILL COMPLIES WITH SECTION 4.408.1.

NOTE: THE OWNER OR CONTRACTOR MAY MAKE THE DETERMINATION IF THE CONSTRUCTION AND DEMOLITION WASTE MATERIALS WILL BE DIVERTED BY A WASTE MANAGEMENT COMPANY.

☒ ☐ O OR C
4.408.4 WASTE STREAM REDUCTION ALTERNATIVE [LR]. PROJECTS THAT GENERATE A TOTAL COMBINED WEIGHT OF CONSTRUCTION AND DEMOLITION WASTE DISPOSED OF IN LANDFILLS, WHICH DO NOT EXCEED 3.4 LBS./SQ.FT. OF THE BUILDING AREA SHALL MEET THE MINIMUM 65% CONSTRUCTION WASTE REDUCTION REQUIREMENT IN SECTION 4.408.1

4.408.4.1 WASTE STREAM REDUCTION ALTERNATIVE. PROJECTS THAT GENERATE A TOTAL COMBINED WEIGHT OF CONSTRUCTION AND DEMOLITION WASTE DISPOSED OF IN LANDFILLS, WHICH DO NOT EXCEED 2 POUNDS PER SQUARE FOOT OF THE BUILDING AREA, SHALL MEET THE MINIMUM 65% CONSTRUCTION WASTE REDUCTION REQUIREMENT IN SECTION 4.408.1

☒ ☐ O OR C
4.408.5 DOCUMENTATION. DOCUMENTATION SHALL BE PROVIDED TO THE ENFORCING AGENCY WHICH DEMONSTRATES COMPLIANCE WITH SECTION 4.408.2, ITEMS 1 THROUGH 5, SECTION 4.408.3 OR SECTION 4.408.4..

NOTES:

1. SAMPLE FORMS FOUND IN "A GUIDE TO THE CALIFORNIA GREEN BUILDING STANDARDS CODE (RESIDENTIAL)" LOCATED AT WWW.HCD.CA.GOV/CALGREEN.HTML MAY BE USED TO ASSIST IN DOCUMENTING COMPLIANCE WITH THIS SECTION.
2. MIXED CONSTRUCTION AND DEMOLITION DEBRIS (C & D) PROCESSORS CAN BE LOCATED AT THE CALIFORNIA DEPARTMENT OF RESOURCES RECYCLING AND RECOVERY (CALRECYCLE).

4.410 BUILDING MAINTENANCE AND OPERATION

☒ ☐ O OR C
4.410.1 OPERATION AND MAINTENANCE MANUAL. AT THE TIME OF FINAL INSPECTION, A MANUAL, COMPACT DISC, WEB-BASED REFERENCE OR OTHER MEDIA ACCEPTABLE TO THE ENFORCING AGENCY WHICH INCLUDES ALL OF THE FOLLOWING SHALL BE PLACED IN THE BUILDING:

1. DIRECTIONS TO THE OWNER OR OCCUPANT THAT THE MANUAL SHALL REMAIN WITH THE BUILDING THROUGHOUT THE LIFE CYCLE OF THE STRUCTURE.
2. OPERATION AND MAINTENANCE INSTRUCTIONS FOR THE FOLLOWING:
   - A. EQUIPMENT AND APPLIANCES, INCLUDING WATER-SAVING DEVICES AND SYSTEMS, HVAC SYSTEMS, PHOTOVOLTAIC SYSTEMS, ELECTRIC VEHICLE CHARGERS, WATER-HEATING SYSTEMS AND OTHER MAJOR APPLIANCES AND EQUIPMENT.
   - B. ROOF AND YARD DRAINAGE, INCLUDING GUTTERS AND DOWNSPOUTS.
   - C. SPACE CONDITIONING SYSTEMS, INCLUDING CONDENSERS AND AIR FILTERS.
   - D. LANDSCAPE IRRIGATION SYSTEMS.
   - E. WATER REUSE SYSTEMS.
3. INFORMATION FROM LOCAL UTILITY, WATER AND WASTE RECOVERY PROVIDERS ON METHODS TO FURTHER REDUCE RESOURCE CONSUMPTION, INCLUDING RECYCLE PROGRAMS AND LOCATIONS.
4. PUBLIC TRANSPORTATION AND/OR CARPOOL OPTIONS AVAILABLE IN THE AREA.
5. EDUCATIONAL MATERIAL ON THE POSITIVE IMPACTS OF AN INTERIOR RELATIVE HUMIDITY BETWEEN 30-60 PERCENT AND WHAT METHODS AN OCCUPANT MAY USE TO MAINTAIN THE RELATIVE HUMIDITY LEVEL IN THAT RANGE.
6. INFORMATION ABOUT WATER-CONSERVING LANDSCAPE AND IRRIGATION DESIGN AND CONTROLLERS WHICH CONSERVE WATER.
7. INSTRUCTIONS FOR MAINTAINING GUTTERS AND DOWNSPOUTS AND THE IMPORTANCE OF DIVERTING WATER AT LEAST 5 FEET AWAY FROM THE FOUNDATION.
8. INFORMATION ON REQUIRED ROUTINE MAINTENANCE MEASURES, INCLUDING, BUT NOT LIMITED TO, CAULKING, PAINTING, GRADING AROUND THE BUILDING, ETC.
9. INFORMATION ABOUT STATE SOLAR ENERGY AND INCENTIVE PROGRAMS AVAILABLE.
10. A COPY OF ALL SPECIAL INSPECTIONS VERIFICATIONS REQUIRED BY THE ENFORCING AGENCY OR THIS CODE.
11. INFORMATION FROM THE DEPARTMENT OF FORESTRY AND FIRE PROTECTION ON MAINTENANCE OF DEFENSIBLE SPACE AROUND RESIDENTIAL STRUCTURES.
12. INFORMATION AND/OR DRAWINGS IDENTIFYING THE LOCATION OF GRAB BAR REINFORCEMENTS.

☒ ☐ O OR C
4.410.2 RECYCLING BY OCCUPANTS. WHERE 5 OR MORE MULTIFAMILY DWELLING UNITS ARE CONSTRUCTED ON A BUILDING SITE, PROVIDE READILY ACCESSIBLE AREA(S) THAT SERVES ALL BUILDINGS ON THE SITE AND ARE IDENTIFIED FOR THE DEPOSITING, STORAGE AND COLLECTION OF NON-HAZARDOUS MATERIALS FOR RECYCLING, INCLUDING (AT A MINIMUM) PAPER, CORRUGATED CARDBOARD, GLASS, PLASTICS, ORGANIC WASTER, AND METALS, OR MEET A LAWFULLY ENACTED LOCAL RECYCLING ORDINANCE, IF MORE RESTRICTIVE.

EXCEPTION: RURAL JURISDICTIONS THAT MEET AND APPLY FOR THE EXEMPTION IN PUBLIC RESOURCES CODE SECTION 4649.82 (A)(2)(A) ET SEQ. ARE NOTE REQUIRED TO COMPLY WITH THE ORGANIC WASTE PORTION OF THIS SECTION.

Y | N/A | RESPON. PARTY

DIVISION 4.5 ENVIRONMENTAL QUALITY

SECTION 4.501 GENERAL

4.501.1 SCOPE
THE PROVISIONS OF THIS CHAPTER SHALL OUTLINE MEANS OF REDUCING THE QUALITY OF AIR CONTAMINANTS THAT ARE ODOROUS, IRRITATING AND/OR HARMFUL TO THE COMFORT AND WELL BEING OF A BUILDING'S INSTALLERS, OCCUPANTS AND NEIGHBORS.

SECTION 4.502 DEFINITIONS

5.102.1 DEFINITIONS
THE FOLLOWING TERMS ARE DEFINED IN CHAPTER 2 *(AND ARE INCLUDED HERE FOR REFERENCE)*

AGRIFIBER PRODUCTS. AGRIFIBER PRODUCTS INCLUDE WHEATBOARD, STRAWBOARD, PANEL SUBSTRATES AND DOOR CORES, NOT INCLUDING FURNITURE, FIXTURES AND EQUIPMENT (FF&E) NOT CONSIDERED BASE BUILDING ELEMENTS.

COMPOSITE WOOD PRODUCTS. COMPOSITE WOOD PRODUCTS INCLUDE HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD. "COMPOSITE WOOD PRODUCTS" DOES NOT INCLUDE HARDBOARD, STRUCTURAL PLYWOOD, STRUCTURAL PANELS, STRUCTURAL COMPOSITE LUMBER, ORIENTED STRAND BOARD, GLUED LAMINATED TIMBER, PREFABRICATED WOOD I-JOISTS OR FINGER-JOINTED LUMBER, ALL AS SPECIFIED IN CALIFORNIA CODE OF REGULATIONS (CCR), TITLE 17, SECTION 93120.1.

DIRECT-VENT APPLIANCE. A FUEL-BURNING APPLIANCE WITH A SEALED COMBUSTION SYSTEM THAT DRAWS ALL AIR FOR COMBUSTION FROM THE OUTSIDE ATMOSPHERE AND DISCHARGES ALL FLUE GASES TO THE OUTSIDE ATMOSPHERE.

MAXIMUM INCREMENTAL REACTIVITY (MIR). THE MAXIMUM CHANGE IN WEIGHT OF OZONE FORMED BY ADDING A COMPOUND TO THE "BASE REACTIVE ORGANIC GAS (ROG) MIXTURE" PER WEIGHT OF COMPOUND ADDED, EXPRESSED TO HUNDREDTHS OF A GRAM (G O^3/G ROC).
NOTE: MIR VALUES FOR INDIVIDUAL COMPOUNDS AND HYDROCARBON SOLVENTS ARE SPECIFIED IN CCR, TITLE 17, SECTIONS 94700 AND 94701.

MOISTURE CONTENT. THE WEIGHT OF THE WATER IN WOOD EXPRESSED IN PERCENTAGE OF THE WEIGHT OF THE OVEN-DRY WOOD.

PRODUCT-WEIGHTED MIR (PWMIR). THE SUM OF ALL WEIGHTED-MIR FOR ALL INGREDIENTS IN A PRODUCT SUBJECT TO THIS ARTICLE. THE PWMIR IS THE TOTAL PRODUCT REACTIVITY EXPRESSED TO HUNDREDTHS OF A GRAM OF OZONE FORMED PER GRAM OF PRODUCT (EXCLUDING CONTAINER AND PACKAGING).
NOTE: PWMIR IS CALCULATED ACCORDING TO EQUATIONS FOUND IN CCR, TITLE 17, SECTION 94521 (A).

REACTIVE ORGANIC COMPOUND (ROC). ANY COMPOUND THAT HAS THE POTENTIAL, ONCE EMITTED, TO CONTRIBUTE TO OZONE FORMATION IN THE TROPOSPHERE.

VOC. A VOLATILE ORGANIC COMPOUND (VOC) BROADLY DEFINED AS A CHEMICAL COMPOUND BASED ON CARBON CHAINS OR RINGS WITH VAPOR PRESSURES GREATER THAN 0.1 MILLIMETERS OF MERCURY AT ROOM TEMPERATURE. THESE COMPOUNDS TYPICALLY CONTAIN HYDROGEN AND MAY CONTAIN OXYGEN, NITROGEN AND OTHER ELEMENTS. SEE CCR TITLE 17, SECTION 94508(A).

4.503 FIREPLACES

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4.503.1 GENERAL. ANY INSTALLED GAS FIREPLACE SHALL BE A DIRECT-VENT SEALED-COMBUSTION TYPE. ANY INSTALLED WOODSTOVE OR PELLET STOVE SHALL COMPLY WITH U.S. EPA NEW SOURCE PERFORMANCE STANDARDS (NSPS) EMISSION LIMITS AS APPLICABLE, AND SHALL HAVE A PERMANENT LABEL INDICATING THEY ARE CERTIFIED TO MEET THE EMISSION LIMITS. WOODSTOVES, PELLET STOVES AND FIREPLACES SHALL ALSO COMPLY WITH APPLICABLE LOCAL ORDINANCES.

4.504 POLLUTANT CONTROL

☒ ☐ O OR C
4.504.1 COVERING OF DUCT OPENINGS & PROTECTION OF MECHANICAL EQUIPMENT DURING CONSTRUCTION. AT THE TIME OF ROUGH INSTALLATION, DURING STORAGE ON THE CONSTRUCTION SITE AND UNTIL FINAL STARTUP OF THE HEATING, COOLING AND VENTILATING EQUIPMENT, ALL DUCT AND OTHER RELATED AIR DISTRIBUTION COMPONENT OPENINGS SHALL BE COVERED WITH TAPE, PLASTIC, SHEET METAL OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY TO REDUCE THE AMOUNT OF WATER, DUST OR DEBRIS WHICH MAY ENTER THE SYSTEM.

☒ ☐ O OR C
4.504.2 FINISH MATERIAL POLLUTANT CONTROL. FINISH MATERIALS SHALL COMPLY WITH THIS SECTION.

☒ ☐ O OR C
4.504.2.1 ADHESIVES, SEALANTS AND CAULKS. ADHESIVES, SEALANT AND CAULKS USED ON THE PROJECT SHALL MEET THE REQUIREMENTS OF THE FOLLOWING STANDARDS UNLESS MORE STRINGENT LOCAL OR REGIONAL AIR POLLUTION OR AIR QUALITY MANAGEMENT DISTRICT RULES APPLY:

1. ADHESIVES, ADHESIVE BONDING PRIMERS, ADHESIVE PRIMERS, SEALANTS, SEALANT PRIMERS AND CAULKS SHALL COMPLY WITH LOCAL OR REGIONAL AIR POLLUTION CONTROL OR AIR QUALITY MANAGEMENT DISTRICT RULES WHERE APPLICABLE OR SCAQMD RULE 1168 VOC LIMITS, AS SHOWN IN TABLE 4.504.1 OR 4.504.2, AS APPLICABLE. SUCH PRODUCTS ALSO SHALL COMPLY WITH THE RULE 1168 PROHIBITION ON THE USE OF CERTAIN TOXIC COMPOUNDS (CHLOROFORM, ETHYLENE DICHLORIDE, METHYLENE CHLORIDE, PERCHLOROETHYLENE AND TRICLOROETHYLENE), EXCEPT FOR AEROSOL PRODUCTS, AS SPECIFIED IN SUBSECTION 2 BELOW.
2. AEROSOL ADHESIVES, AND SMALLER UNIT SIZES OF ADHESIVES, AND SEALANT OR CAULKING COMPOUNDS (IN UNITS OF PRODUCT, LESS PACKAGING, WHICH DO NOT WEIGH MORE THAN 1 POUND AND DO NOT CONSIST OF MORE THAN 16 FLUID OUNCES) SHALL COMPLY WITH STATEWIDE VOC STANDARDS AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS, OF *CALIFORNIA CODE OF REGULATIONS*, TITLE 17, COMMENCING WITH SECTION 94507.

☒ ☐ O OR C
4.504.2.2 PAINTS AND COATINGS. ARCHITECTURAL PAINTS AND COATINGS SHALL COMPLY WITH VOC LIMITS IN TABLE 1 OF THE ARB ARCHITECTURAL SUGGESTED CONTROL MEASURE, AS SHOWN IN TABLE 4.504.3, UNLESS MORE STRINGENT LOCAL LIMITS APPLY. THE VOC CONTENT LIMIT FOR COATINGS THAT DO NOT MEET THE DEFINITIONS FOR THE SPECIALTY COATINGS CATEGORIES LISTED IN TABLE 4.504.3 SHALL BE DETERMINED BY CLASSIFYING THE COATING AS A FLAT, NONFLAT OR NONFLAT-HIGH GLOSS COATING, BASED ON ITS GLOSS, AS DEFINED IN SUBSECTIONS 4.21, 4.36, AND 4.37 OF THE 2007 CALIFORNIA AIR RESOURCES BOARD, SUGGESTED CONTROL MEASURE, AND THE CORRESPONDING FLAT, NONFLAT OR NONFLAT-HIGH GLOSS VOC LIMIT IN TABLE 4.504.3 SHALL APPLY.

☒ ☐ O OR C
4.504.2.3 AEROSOL PAINTS AND COATINGS. AEROSOL PAINTS AND COATINGS SHALL MEET THE PRODUCT-WEIGHTED MIR LIMITS FOR ROC IN SECTION 94522(A)(2) AND OTHER REQUIREMENTS, INCLUDING PROHIBITIONS ON USE OF CERTAIN TOXIC COMPOUNDS AND OZONE DEPLETING SUBSTANCES, IN SECTIONS 94522(E)(1) AND (F)(1) OF *CALIFORNIA CODE OF REGULATIONS*, TITLE 17, COMMENCING WITH SECTION 94520; AND IN AREAS UNDER THE JURISDICTION OF THE BAY AREA AIR QUALITY MANAGEMENT DISTRICT ADDITIONALLY COMPLY WITH THE PERCENT VOC BY WEIGHT OF PRODUCT LIMITS OF REGULATION 8, RULE 49.

☒ ☐ I
4.504.2.4 VERIFICATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AT THE REQUEST OF THE ENFORCING AGENCY. DOCUMENTATION MAY INCLUDE, BUT IS NOT LIMITED TO, THE FOLLOWING:

1. MANUFACTURER'S PRODUCT SPECIFICATION.
2. FIELD VERIFICATION OF ON-SITE PRODUCT CONTAINERS.

TABLE 4.504.1 - ADHESIVE VOC LIMIT[1,2]
(LESS WATER AND LESS EXEMPT COMPOUNDS IN GRAMS PER LITER)

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

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

TABLE 4.504.2 - SEALANT VOC LIMIT
(LESS WATER AND LESS EXEMPT COMPOUNDS IN GRAMS PER LITER)

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

Y | N/A | RESPON. PARTY

TABLE 4.504.3 - VOC CONTENT LIMITS FOR ARCHITECTURAL COATINGS[2,3]
GRAMS OF VOC PER LITER OF COATING, LESS WATER & LESS EXEMPT COMPOUNDS

COATING CATEGORY	VOC LIMIT
FLAT COATINGS	50
NON-FLAT COATINGS	100
NONFLAT-HIGH GLOSS COATINGS	150
SPECIALTY COATINGS	
ALUMINUM ROOF COATINGS	400
BASEMENT SPECIALTY COATINGS	400
BITUMINOUS ROOF COATINGS	50
BITUMINOUS ROOF PRIMERS	350
BOND BREAKERS	350
CONCRETE CURING COMPOUNDS	350
CONCRETE/MASONRY SEALERS	100
DRIVEWAY SEALERS	50
DRY FOG COATINGS	150
FAUX FINISHING COATINGS	350
FIRE RESISTIVE COATINGS	350
FLOOR COATINGS	100
FORM-RELEASE COMPOUNDS	250
GRAPHIC ARTS COATINGS (SIGN PAINTS)	500
HIGH TEMPERATURE COATINGS	420
INDUSTRIAL MAINTENANCE COATINGS	250
LOW SOLIDS COATINGS[1]	120
MAGNESITE CEMENT COATINGS	450
MASTIC TEXTURE COATINGS	100
METALLIC PIGMENTED COATINGS	500
MULTICOLOR COATINGS	250
PRETREATMENT WASH PRIMERS	420
PRIMERS, SEALERS, & UNDERCOATERS	100
REACTIVE PENETRATING SEALERS	350
RECYCLED COATINGS	250
ROOF COATINGS	50
RUST PREVENTATIVE COATINGS	250
SHELLACS	
CLEAR	730
OPAQUE	550
SPECIALTY PRIMERS, SEALERS & UNDERCOATERS	100
STAINS	250
STONE CONSOLIDANTS	450
SWIMMING POOL COATINGS	340
TRAFFIC MARKING COATINGS	100
TUB & TILE REFINISH COATINGS	420
WATERPROOFING MEMBRANES	250
WOOD COATINGS	275
WOOD PRESERVATIVES	350
ZINC-RICH PRIMERS	340

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

TABLE 4.504.5 - FORMALDEHYDE LIMITS[1]
MAXIMUM FORMALDEHYDE EMISSIONS IN PARTS PER MILLION

PRODUCT	CURRENT LIMIT
HARDWOOD PLYWOOD VENEER CORE	0.05
HARDWOOD PLYWOOD COMPOSITE CORE	0.05
PARTICLE BOARD	0.09
MEDIUM DENSITY FIBERBOARD	0.11
THIN MEDIUM DENSITY FIBERBOARD[2]	0.13

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

☒ ☐ O OR C
4.504.3 CARPET SYSTEMS. ALL CARPET INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350)

SEE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S WEBSITE FOR CERTIFICATION PROGRAMS AND TESTING LABS.
HTTPS://WWW.CDPH.CA.GOV/PROGRAMS/CCDPHP/DEODC/EHLB/IAQ/PAGES/VOC.ASPX.

☒ ☐ O OR C
4.504.3.1 CARPET CUSHION. ALL CARPET CUSHION INSTALLED IN THE BUILDING INTERIOR SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350)

SEE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S WEBSITE FOR CERTIFICATION PROGRAMS AND TESTING LABS.
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☒ ☐ O OR C
4.504.3.2 CARPET ADHESIVE. ALL CARPET ADHESIVE SHALL MEET THE REQUIREMENTS OF TABLE 4.504.1.

☒ ☐ O OR C
4.504.4 RESILIENT FLOORING SYSTEMS. WHERE RESILIENT FLOORING IS INSTALLED , AT LEAST 80% OF FLOOR AREA RECEIVING RESILIENT FLOORING SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH, "STANDARD METHOD FOR THE TESTING AND EVALUATION OF VOLATILE ORGANIC CHEMICAL EMISSIONS FROM INDOOR SOURCES USING ENVIRONMENTAL CHAMBERS," VERSION 1.2, JANUARY 2017 (EMISSION TESTING METHOD FOR CALIFORNIA SPECIFICATION 01350)

SEE CALIFORNIA DEPARTMENT OF PUBLIC HEALTH'S WEBSITE FOR CERTIFICATION PROGRAMS AND TESTING LABS.
HTTPS://WWW.CDPH.CA.GOV/PROGRAMS/CCDPHP/DEODC/EHLB/IAQ/PAGES/VOC.ASPX.

☒ ☐ O OR C
4.504.5 COMPOSITE WOOD PRODUCTS. HARDWOOD PLYWOOD, PARTICLEBOARD AND MEDIUM DENSITY FIBERBOARD COMPOSITE WOOD PRODUCTS USED ON THE INTERIOR OR EXTERIOR OF THE BUILDINGS SHALL MEET THE REQUIREMENTS FOR FORMALDEHYDE AS SPECIFIED IN ARB'S AIR TOXICS CONTROL MEASURE FOR COMPOSITE WOOD (17 CCR 93120 ET SEQ.), BY OR BEFORE THE DATES SPECIFIED IN THOSE SECTIONS, AS SHOWN IN TABLE 4.504.5

☒ ☐ O OR C
4.504.5.1 DOCUMENTATION. VERIFICATION OF COMPLIANCE WITH THIS SECTION SHALL BE PROVIDED AS REQUESTED BY THE ENFORCING AGENCY. DOCUMENTATION SHALL INCLUDE AT LEAST ONE OF THE FOLLOWING:

1. PRODUCT CERTIFICATIONS AND SPECIFICATIONS.
2. CHAIN OF CUSTODY CERTIFICATIONS.
3. PRODUCT LABELED AND INVOICED AS MEETING THE COMPOSITE WOOD PRODUCTS REGULATION (SEE CCR, TITLE 17, SECTION 93120, ET SEQ.).
4. EXTERIOR GRADE PRODUCTS MARKED AS MEETING THE PS-1 OR PS-2 STANDARDS OF THE ENGINEERED WOOD ASSOCIATION, THE AUSTRALIAN AS/NZS 2269, EUROPEAN 636 3S STANDARDS, AND CANADIAN CSA 0121, CSA 0151, CSA 0153 AND CSA 0325 STANDARDS.
5. OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY.

4.505 INTERIOR MOISTURE CONTROL

4.505.1 GENERAL. BUILDINGS SHALL MEET OR EXCEED THE PROVISIONS OF THE *CALIFORNIA BUILDING STANDARDS CODE*.

☒ ☐ O OR C
4.505.2 CONCRETE SLAB FOUNDATIONS. CONCRETE SLAB FOUNDATIONS REQUIRED TO HAVE A VAPOR RETARDER BY CALIFORNIA BUILDING CODE, CHAPTER 19, OR CONCRETE SLAB-ON-GROUND FLOORS REQUIRED TO HAVE A VAPOR RETARDER BY THE CALIFORNIA RESIDENTIAL CODE, CHAPTER 5, SHALL ALSO COMPLY WITH THIS SECTION.

☒ ☐ O OR C
4.505.2.1 CAPILLARY BREAK. A CAPILLARY BREAK SHALL BE INSTALLED IN COMPLIANCE WITH AT LEAST ONE OF THE FOLLOWING:

1. A 4-INCH (101.6 MM) THICK BASE OF 1/2 INCH (12.7MM) OR LARGER CLEAN AGGREGATE SHALL BE PROVIDED WITH A VAPOR BARRIER IN DIRECT CONTACT WITH CONCRETE AND A CONCRETE MIX DESIGN, WHICH WILL ADDRESS BLEEDING, SHRINKAGE, AND CURLING, SHALL BE USED. FOR ADDITIONAL INFORMATION, SEE AMERICAN CONCRETE INSTITUTE, ACI 302.2R-06.
2. OTHER EQUIVALENT METHODS APPROVED BY THE ENFORCING AGENCY.
3. A SLAB DESIGN SPECIFIED BY A LICENSED DESIGN PROFESSIONAL.

☒ ☐ O OR C
4.505.3 MOISTURE CONTENT OF BUILDING MATERIALS. BUILDING MATERIALS WITH VISIBLE SIGNS OF WATER DAMAGE SHALL NOT BE INSTALLED. WALL AND FLOOR FRAMING SHALL NOT BE ENCLOSED WHEN THE FRAMING MEMBERS EXCEED 19 PERCENT MOISTURE CONTENT. MOISTURE CONTENT SHALL BE VERIFIED IN COMPLIANCE WITH THE FOLLOWING:

1. MOISTURE CONTENT SHALL BE DETERMINED WITH EITHER A PROBE-TYPE OR CONTACT-TYPE MOISTURE METER.EQUIVALENT MOISTURE VERIFICATION METHODS MAY BE APPROVED BY THE ENFORCING AGENCY AND SHALL SATISFY REQUIREMENTS FOUND IN SECTION 101.8 OF THIS CODE.
2. MOISTURE READINGS SHALL BE TAKEN AT A POINT 2 FEET (610 MM) TO 4 FEET (1219 MM) FROM THE GRADE STAMPED END OF EACH PIECE VERIFIED.
3. AT LEAST THREE RANDOM MOISTURE READINGS SHALL BE PERFORMED ON WALL AND FLOOR FRAMING WITH DOCUMENTATION ACCEPTABLE TO THE ENFORCING AGENCY PROVIDED AT THE TIME OF APPROVAL TO ENCLOSE THE WALL AND FLOOR FRAMING.

INSULATION PRODUCTS WHICH ARE VISIBLY WET OR HAVE A HIGH MOISTURE CONTENT SHALL BE REPLACED OR ALLOWED TO DRY PRIOR TO ENCLOSURE IN WALL OR FLOOR CAVITIES. WET-APPLIED INSULATION PRODUCTS SHALL FOLLOW THE MANUFACTURERS' DRYING RECOMMENDATIONS PRIOR TO ENCLOSURE.

Y | N/A | RESPON. PARTY

4.506 INDOOR AIR QUALITY AND EXHAUST

☒ ☐ O OR C
4.506.1 BATHROOM EXHAUST FANS. EACH BATHROOM SHALL BE MECHANICALLY VENTILATED AND SHALL COMPLY WITH THE FOLLOWING:

1. FANS SHALL BE ENERGY STAR COMPLIANT AND BE DUCTED TO TERMINATE OUTSIDE THE BUILDING.
2. UNLESS FUNCTIONING AS A COMPONENT OF A WHOLE HOUSE VENTILATION SYSTEM, FANS MUST BE CONTROLLED BY A HUMIDITY CONTROL.
   - A. HUMIDITY CONTROLS SHALL BE CAPABLE OF ADJUSTMENT BETWEEN A RELATIVE HUMIDITY RANGE LESS THAN OR EQUAL TO 50% TO A MAXIMUM OF 80%. A HUMIDITY CONTROL MAY UTILIZE MANUAL OR AUTOMATIC MEANS OF ADJUSTMENT.
   - B. A HUMIDITY CONTROL MAY BE A SEPARATE COMPONENT TO THE EXHAUST FAN AND IS NOT REQUIRED TO BE INTEGRAL (I.E., BUILT-IN)

NOTES:

1. FOR THE PURPOSES OF THIS SECTION, A BATHROOM IS A ROOM WHICH CONTAINS A BATHTUB, SHOWER OR TUB/SHOWER COMBINATION.
2. LIGHTING INTEGRAL TO BATHROOM EXHAUST FANS SHALL COMPLY WITH THE *CALIFORNIA ENERGY CODE*.

4.507 ENVIRONMENTAL COMFORT

☒ ☐ O OR C
4.507.2 HEATING AND AIR-CONDITIONING SYSTEM DESIGN. HEATING AND AIR CONDITIONING SYSTEMS SHALL BE SIZED, DESIGNED AND HAVE THEIR EQUIPMENT SELECTED USING THE FOLLOWING METHODS:

1. THE HEAT LOSS AND HEAT GAIN IS ESTABLISHED ACCORDING TO ANSI/ACCA 2 MANUAL J - 2011 (RESIDENTIAL LOAD CALCULATION), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
2. DUCT SYSTEMS ARE SIZED ACCORDING TO ANSI/ACCA 1 MANUAL D - 2014 (RESIDENTIAL DUCT SYSTEMS), ASHRAE HANDBOOKS OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.
3. SELECT HEATING AND COOLING EQUIPMENT ACCORDING TO ANSI/ACCA 3 MANUAL S - 2014 (RESIDENTIAL EQUIPMENT SELECTION), OR OTHER EQUIVALENT DESIGN SOFTWARE OR METHODS.

EXCEPTION: USE OF ALTERNATE DESIGN TEMPERATURES NECESSARY TO ENSURE THE SYSTEM FUNCTIONS ARE ACCEPTABLE.

CHAPTER 7
INSTALLER & SPECIAL INSPECTOR QUALIFICATIONS
702 QUALIFICATIONS

☒ ☐ O OR C
702.1 INSTALLER TRAINING. HVAC SYSTEM INSTALLERS SHALL BE TRAINED AND CERTIFIED IN THE PROPER INSTALLATION OF HVAC SYSTEMS INCLUDING DUCTS AND EQUIPMENT BY A NATIONALLY OR REGIONALLY RECOGNIZED TRAINING OR CERTIFICATION PROGRAM. UNCERTIFIED PERSONS MAY PERFORM HVAC INSTALLATIONS WHEN UNDER THE DIRECT SUPERVISION AND RESPONSIBILITY OF A PERSON TRAINED AND CERTIFIED TO INSTALL HVAC SYSTEMS OR CONTRACTOR LICENSED TO INSTALL HVAC SYSTEMS. EXAMPLES OF ACCEPTABLE HVAC TRAINING AND CERTIFICATION PROGRAMS INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:

1. STATE CERTIFIED APPRENTICESHIP PROGRAMS.
2. PUBLIC UTILITY TRAINING PROGRAMS.
3. TRAINING PROGRAMS SPONSORED BY TRADE, LABOR OR STATEWIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATIONS.
4. PROGRAMS SPONSORED BY MANUFACTURING ORGANIZATIONS.
5. OTHER PROGRAMS ACCEPTABLE TO THE ENFORCING AGENCY.

☒ ☐ O OR C
702.2 SPECIAL INSPECTION [HCD]. WHEN REQUIRED BY THE ENFORCING AGENCY, THE OWNER OR THE RESPONSIBLE ENTITY ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTION OR OTHER DUTIES NECESSARY TO SUBSTANTIATE COMPLIANCE WITH THIS CODE. SPECIAL INSPECTORS SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE ENFORCING AGENCY FOR THE PARTICULAR TYPE OF INSPECTION OR TASK TO BE PERFORMED. IN ADDITION TO OTHER CERTIFICATIONS OR QUALIFICATIONS ACCEPTABLE TO THE ENFORCING AGENCY, THE FOLLOWING CERTIFICATIONS OR EDUCATION MAY BE CONSIDERED BY THE ENFORCING AGENCY WHEN EVALUATING THE QUALIFICATIONS OF A SPECIAL INSPECTOR:

1. CERTIFICATION BY A NATIONAL OR REGIONAL GREEN BUILDING PROGRAM OR STANDARD PUBLISHER.
2. CERTIFICATION BY A STATEWIDE ENERGY CONSULTING OR VERIFICATION ORGANIZATION, SUCH AS HERS RATERS, BUILDING PERFORMANCE CONTRACTORS, AND HOME ENERGY AUDITORS.
3. SUCCESSFUL COMPLETION OF A THIRD PARTY APPRENTICE TRAINING PROGRAM IN THE APPROPRIATE TRADE.
4. OTHER PROGRAMS ACCEPTABLE TO THE ENFORCING AGENCY.

NOTES:

1. SPECIAL INSPECTORS SHALL BE INDEPENDENT ENTITIES WITH NO FINANCIAL INTEREST IN THE MATERIALS OR THE PROJECT THEY ARE INSPECTING FOR COMPLIANCE WITH THIS CODE.
2. HERS RATERS ARE SPECIAL INSPECTORS CERTIFIED BY THE CALIFORNIA ENERGY COMMISSION (CEC) TO RATE HOMES IN CALIFORNIA ACCORDING TO THE HOME ENERGY RATING SYSTEM (HERS).

[BSC] WHEN REQUIRED BY THE ENFORCING AGENCY, THE OWNER OR THE RESPONSIBLE ENTITY ACTING AS THE OWNER'S AGENT SHALL EMPLOY ONE OR MORE SPECIAL INSPECTORS TO PROVIDE INSPECTION OR OTHER DUTIES NECESSARY TO SUBSTANTIATE COMPLIANCE WITH THIS CODE. SPECIAL INSPECTORS SHALL DEMONSTRATE COMPETENCE TO THE SATISFACTION OF THE ENFORCING AGENCY FOR THE PARTICULAR TYPE OF INSPECTION OR TASK TO BE PERFORMED. IN ADDITION, THE SPECIAL INSPECTOR SHALL HAVE A CERTIFICATION FROM A RECOGNIZED STATE, NATIONAL OR INTERNATIONAL ASSOCIATION, AS DETERMINED BY THE LOCAL AGENCY. THE AREA OF CERTIFICATION SHALL BE CLOSELY RELATED TO THE PRIMARY JOB FUNCTION, AS DETERMINED BY THE LOCAL AGENCY.

NOTE: SPECIAL INSPECTORS SHALL BE INDEPENDENT ENTITIES WITH NO FINANCIAL INTEREST IN THE MATERIALS OR THE PROJECT THEY ARE INSPECTING FOR COMPLIANCE WITH THIS CODE.

703 VERIFICATIONS

☒ ☐ O OR C
703.1 DOCUMENTATION. DOCUMENTATION USED TO SHOW COMPLIANCE WITH THIS CODE SHALL INCLUDE BUT IS NOT LIMITED TO, CONSTRUCTION DOCUMENTS, PLANS, SPECIFICATIONS, BUILDER OR INSTALLER CERTIFICATION, INSPECTION REPORTS, OR OTHER METHODS ACCEPTABLE TO THE ENFORCING AGENCY WHICH DEMONSTRATE SUBSTANTIAL CONFORMANCE. WHEN SPECIFIC DOCUMENTATION OR SPECIAL INSPECTION IS NECESSARY TO VERIFY COMPLIANCE, THAT METHOD OF COMPLIANCE WILL BE SPECIFIED IN THE APPROPRIATE SECTION OR IDENTIFIED APPLICABLE CHECKLIST.

GREEN BUILDING STANDARDS:

1. PROVIDE CERTIFICATION FOR THE FOLLOWING CALGREEN COMPONENTS. DOCUMENTATION SHALL BE REQUIRED PRIOR TO CITY INSPECTIONS AS NOTED BELOW:

A) INDOOR WATER USE (FINAL INSPECTION)
B) MOISTURE CONTENT OF BUILDING MATERIALS BY THIRD PARTY SPECIAL INSPECTOR (INSULATION INSPECTION)
C) ADHESIVE AND SEALANT VOC (FINAL INSPECTION)
D) PAINTS AND COATINGS VOC LIMITS (FINAL INSPECTION)
E) COMPOSITE WOOD PRODUCTS (FRAME INSPECTION)
F) CARPET AND FLOORING CERTIFICATION (FINAL INSPECTION)

PLANNING AND DEVELOPMENT
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PROJECT:

ACCESSORY
DWELLING
UNIT
(TADU-003)
PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

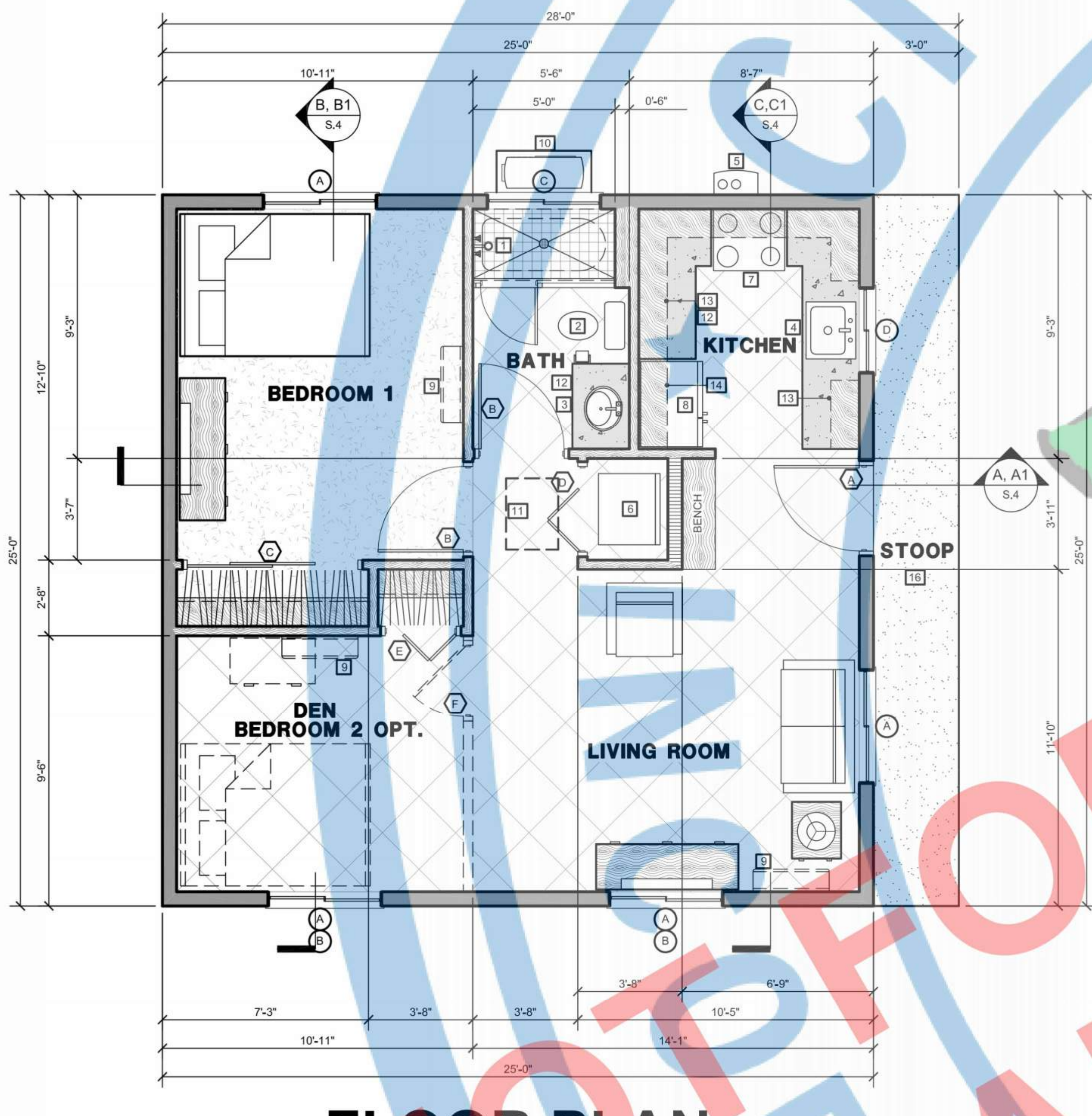
CITY USE ONLY

DRAWING TITLE

2022 CALIFORNIA
GREEN BUILDING
STANDARD CODE

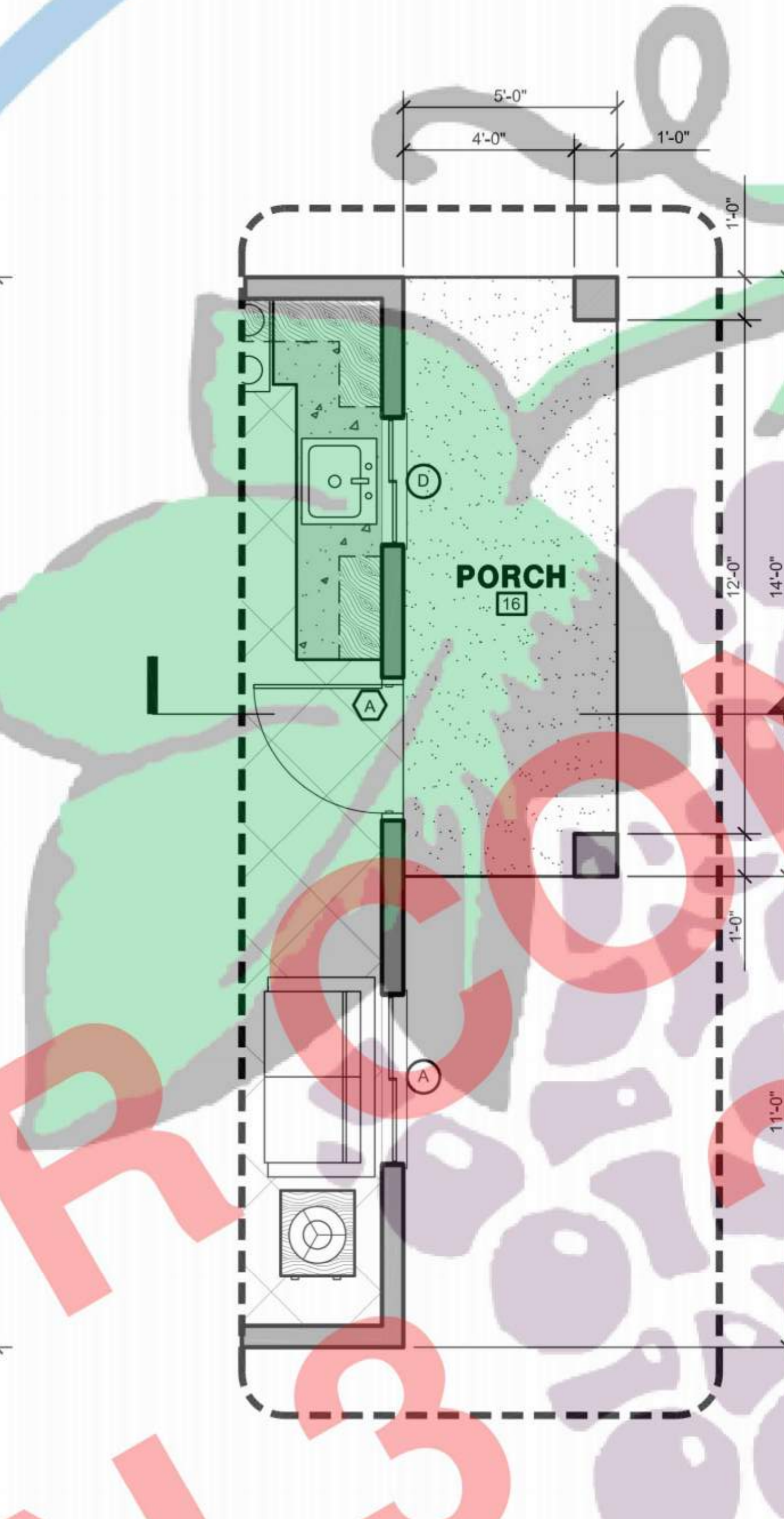
JOB# :	TADU-003
DATE:	13-Apr-23
SCALE:	AS NOTED
DRAWN BY:	IRG

SHEET NO.
GC.1



FLOOR PLAN

SCALE: 1/4"=1'-0" GABLE/CONTEMPORARY/CRAFTSMAN



FLOOR PLAN

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

FINISH SCHEDULE:

ROOM NAME	FLOORING F1	FLOORING F2	BASE B1	BASE B2	WALLS W1	WALLS W2	CEILING C1	CEILING C2	CEILING HEIGHT	DETAIL OR COMMENT
BEDROOM 1		●		●	●		●		8'-0"	1
BATH		●		●	●		●		8'-0"	
KITCHEN		●		●	●		●		8'-0"	
LIVING ROOM		●		●	●		●		8'-0"	1
DEN/BEDROOM 2 OPT.		●		●	●		●		8'-0"	1

ABBREVIATIONS

FLOORING	BASE
F1 = EXPOSED SLAB FINISH F2 = PER OWNER PROVIDE MAKE, MODEL, AND FINISH SAMPLE TO OWNER PRIOR TO INSTALLATION.	B1 = NO BASE BOARD B2 = PER OWNER PROVIDE MAKE, MODEL, AND FINISH SAMPLE TO OWNER PRIOR TO INSTALLATION.

WALLS

W1 = 1/2" GYPSUM BOARD, TAPED AND TEXTURED, READY FOR OWNER TO APPLY PAINT.
W2 = 5/8" TYPE 'X' GYPSUM BOARD, TAPED AND TEXTURED, READY FOR OWNER TO APPLY PAINT.

CEILING

C1 = 1/2" GYPSUM BOARD, TAPED AND TEXTURED, READY FOR OWNER TO APPLY PAINT.
C2 = 5/8" TYPE 'X' GYPSUM BOARD, TAPED AND TEXTURED, READY FOR OWNER TO APPLY PAINT.

DETAIL OR COMMENT

1. VAULTED CEILING AT CONTEMPORARY OPTION.
2.

FINISH NOTES

1. ALL INTERIOR SURFACES TO BE FLAME SPREAD CLASS 50.
2. LINEN CLOSET: CABINET DESIGN AND SAMPLE MATERIALS SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO FABRICATING AND INSTALLATION.
3. CLOSET POLES SHALL BE 1-1/8" DIAMETER SANDED W/POLE SOCKET AT WALLS MOUNTED AT ALL THE FOLLOWING HEIGHTS:
   SINGLE POLE HEIGHTS +68"
   DOUBLE POLE HEIGHTS +40" (LOW) + 80" (HIGH)
   CLOSET SHELVES SHALL BE 3/4" THICK PARTICLE BOARD W/ MEDIUM DENSITY OVERLAY AT ALL EXPOSED EDGES, SHELF AND CLOSET POLE SUPPORT AT MID-SPAN ON ALL SHELVES OVER 4'-0" LONG.
4. PANTRY/SHEVLES: CABINET DESIGN AND SAMPLE MATERIALS SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO FABRICATING AND INSTALLATION.
5. BASE AND UPPER CABINETS: CABINET DESIGN AND SAMPLE MATERIALS/HARDWARE SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO FABRICATING AND INSTALLATION.
   BOTTOM OF CABINET: +48" A.F.F. (WASHER & DRYER)
   +72" A.F.F. (REFRIGERATOR)
   +48" A.F.F. (BASE COUNTER)
6. COUNTER TOPS: VERIFY FINISH WITH OWNER, SAMPLES SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
7. CEILING HEIGHT: HABITABLE ROOMS SHALL HAVE A MINIMUM CEILING HEIGHT OF 7'-6". HALLWAYS, BATHROOMS, KITCHENS. GARAGE AND CARPORTS 7'-0"

AGING-IN-PLACE DESIGN & FALL PREVENTION

REINFORCEMENT FOR GRAB BARS:

1. AT LEAST ONE BATHROOM ON THE ENTRY LEVEL SHALL BE PROVIDED WITH REINFORCEMENT INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF CRC SECTION R327.1.1. WHERE THERE IS NO BATHROOM ON THE ENTRY LEVEL, AT LEAST ONE BATHROOM ON THE SECOND OR THIRD FLOOR OF THE DWELLING SHALL COMPLY WITH THIS SECTION.
   A. REINFORCEMENT SHALL BE SOLID LUMBER OR OTHER CONSTRUCTION MATERIALS APPROVED BY THE CITY OF FRESNO.
   B. REINFORCEMENT SHALL NOT BE LESS THAN 2 BY 8 INCH NOMINAL LUMBER. [11/2 INCH BY 71/4 INCH ACTUAL DIMENSION] OR OTHER CONSTRUCTION MATERIAL PROVIDING EQUAL HEIGHT AND LOAD CAPACITY. REINFORCEMENT SHALL BE LOCATED BETWEEN 32 INCHES AND 39 1/4 INCHES ABOVE THE FINISHED FLOOR FLUSH WITH THE WALL FRAMING.
   C. WATER CLOSET REINFORCEMENT SHALL BE INSTALLED ON BOTH SIDE WALLS OF THE FIXTURE, OR ONE SIDE WALL AND THE BACK WALL.
   D. SHOWER REINFORCEMENT SHALL BE CONTINUOUS WHERE WALL FRAMING IS PROVIDED.
   E. BATHTUB AND COMBINATION BATHTUB/SHOWER REINFORCEMENT SHALL BE CONTINUOUS ON EACH END OF THE BATHTUB AND THE BACK WALL. ADDITIONALLY, BACK WALL REINFORCEMENT FOR A LOWER GRAB BAR SHALL BE PROVIDED WITH THE BOTTOM EDGE LOCATED NO MORE THAN 6 INCHES ABOVE THE BATHTUB RIM.

EXCEPTIONS:

1. WHERE THE WATER CLOSET IS NOT PLACED ADJACENT TO A SIDE WALL CAPABLE OF ACCOMMODATING A GRAB BAR, THE BATHROOM SHALL HAVE PROVISIONS FOR INSTALLATION OF FLOOR-MOUNTED, FOLDAWAY OR SIMILAR ALTERNATE GRAB BAR REINFORCEMENTS APPROVED BY THE CITY OF FRESNO.
2. REINFORCEMENT SHALL NOT BE REQUIRED IN WALL FRAMING FOR PRE-FABRICATED SHOWER ENCLOSURES AND BATHTUB WALL PANELS WITH INTEGRAL FACTORY- INSTALLED GRAB BARS OR WHEN FACTORY-INSTALLED REINFORCEMENT FOR GRAB BARS IS PROVIDED.
3. SHOWER ENCLOSURES THAT DO NOT PERMIT INSTALLATION OF REINFORCEMENT AND/OR GRAB BARS SHALL BE PERMITTED, PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR-MOUNTED GRAB BARS OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY.
4. BATHTUBS WITH NO SURROUNDING WALLS, OR WHERE WALL PANELS DO NOT PERMIT THE INSTALLATION OF REINFORCEMENT SHALL BE PERMITTED, PROVIDED REINFORCEMENT FOR INSTALLATION OF FLOOR-MOUNTED GRAB BARS ADJACENT TO THE BATHTUB OR AN ALTERNATE METHOD IS APPROVED BY THE ENFORCING AGENCY.
5. REINFORCEMENT OF FLOORS SHALL NOT BE REQUIRED FOR BATHTUBS AND WATER CLOSETS INSTALLED ON CONCRETE SLAB FLOORS.

DOCUMENTATION FOR GRAB BAR REINFORCEMENT:

2. INFORMATION AND/OR DRAWINGS IDENTIFYING THE LOCATION OF GRAB BAR REINFORCEMENT SHALL BE PLACED IN THE OPERATION AND MAINTENANCE MANUAL IN ACCORDANCE WITH THE CALIFORNIA GREEN BUILDING STANDARDS CODE, CHAPTER 4, DIVISION 4.4.

WALL LEGEND:

SYMBOL	DESCRIPTION
▬	EXTERIOR WALL: 2X6 D.F.#2 STUDS AT 16" O.C. W/R-21 BATT INSULATION. EXTERIOR FINISH PER EXTERIOR OPTIONS, SEE BUILDING ELEVATIONS. INTERIOR FINISH 1/2" GYPSUM BOARD UNLESS NOTED OTHERWISE.
▥	INTERIOR WALL: 2X6 D.F.#2 STUDS AT 16" O.C. INTERIOR FINISH 1/2" GYPSUM BOARD AT BOTH SIDES OF STUDS UNLESS NOTED OTHERWISE.
▤	INTERIOR WALL: 2X4 D.F.#2 STUDS AT 16" O.C. INTERIOR FINISH 1/2" GYPSUM BOARD AT BOTH SIDES OF STUDS UNLESS NOTED OTHERWISE.
- - -	INTERIOR WALL FOR BEDROOM OPTION: 2X4 D.F.#2 STUDS AT 16" O.C. INTERIOR FINISH 1/2" GYPSUM BOARD AT BOTH SIDES OF STUDS UNLESS NOTED OTHERWISE.

GLAZING SCHEDULE:

SYMBOL ○	WIDTH	HEIGHT	TYPE SL	TYPE SH	TYPE FX	TYPE RT	GLASS CL	GLASS FG	GLAZING DUAL	MATERIAL VINLY	TEMPERED GLASS	U-FACTOR	SHGC	DETAIL OR COMMENT
A	4'-0"	5'-0"	●	●			●		●	●		0.30	0.23	1
B	4'-0"	2'-0"				●	●		●	●		0.30	0.23	2
C	4'-0"	1'-0"	●					●	●	●		0.30	0.23	
D	3'-0"	3'-0"	●	●			●		●	●		0.30	0.23	1
E														

ABBREVIATIONS

TYPE	DETAIL OR COMMENT
SL = DOUBLE SLIDER SH = SINGLE HUNG FX = FIXED RT = RECTANGLE TRANSOM	1. GLAZING TYPE MUST MATCH THE EXISTING PRIMARY RESIDENCE GLAZING TYPE. (I.E. EXISTING PRIMARY RESIDENCE HAS SINGLE HUNG THEN PROPOSED ADU MUST HAVE SINGLE HUNG. 2. AT COMTEMPORARY OPTION ONLY.
GLASS	
CL = CLEAR GLASS FG = FROSTED GLASS	

GLAZING NOTES :

1. ALL GLASS AND GLAZING SHALL COMPLY WITH APPLICABLE CODES AND MUST BE LABELED SAFETY GLAZING AT HAZARDOUS LOCATIONS DEFINED AS: GLAZING AT ALL DOORS, BATH & SHOWER ENCLOSURES, GLAZING WITHIN A 24" ARC OF A DOOR EDGE, PANELS OVER (9) SQUARE FEET WITH THE LOWEST EDGE LESS THAN 18" A.F.F. AND HAVING A TOP EDGE GREATER THAN 36" A.F.F., GLAZING LOCATED WITHIN 5'-0" FROM TOP OR BOTTOM OF STAIRWAY WITH BOTTOM EDGE LESS THAN 60" A.F.F.
2. ALL EXTERIOR GLAZING SHALL BE DUAL-GLAZED UNLESS OTHERWISE NOTED.
3. UNIT SKYLIGHTS SHALL BE TESTED AND APPROVED BY AN APPROVED INDEPENDENT LABORATORY, AND BEAR A LABEL IDENTIFYING MANUFACTURER, PERFORMANCE GRADE RATING AND APPROVED INSPECTION AGENCY TO INDICATE COMPLIANCE WITH THE REQUIREMENTS OF AAMA/WDMA/CSA010/I.S.2/A440. (R 308.6.9)
4. SKYLIGHTS AND SLOPED GLAZING SHALL COMPLY WITH SECTION (R 308.6)
5. EVERY SPACE INTENDED FOR HUMAN OCCUPANCY SHALL BE PROVIDED WITH NATURAL LIGHT BY MEANS OF EXTERIOR GLAZED OPENINGS IN ACCORDANCE WITH SECTION R 303.1 OR SHALL BE PROVIDED WITH ARTIFICIAL LIGHT THAT IS ADEQUATE TO PROVIDE AN AVERAGE ILLUMINATION OF 6 FOOT-CANDLES OVER THE AREA OF THE ROOM AT A HEIGHT OF 30 INCHES ABOVE THE FLOOR LEVEL. (R 303.1)
6. GLAZING IN THE FOLLOWING LOCATIONS SHALL BE SAFETY GLAZING CONFORMING TO THE HUMAN IMPACT LOADS OF SECTION R 308.3 (SEE EXCEPTIONS) (R 308.4).
   A. FIXED AND OPERABLE PANELS OF SWINGING, SLIDING AND BI-FOLD DOOR ASSEMBLIES.
   B. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL ADJACENT TO A DOOR WHERE THE NEAREST VERTICAL EDGE IS WITHIN A 24-INCH ARC OF EITHER VERTICAL EDGE OF THE DOOR IN A CLOSED POSITION AND WHOSE BOTTOM EDGE IS LESS THAN 60 INCHES ABOVE THE FLOOR OR WALKING SURFACE.
   C. GLAZING IN AN INDIVIDUAL FIXED OR OPERABLE PANEL THAT MEETS ALL OF THE FOLLOWING CONDITIONS:
      1.) EXPOSED AREA OF AN INDIVIDUAL PANE GREATER THAN 9 SQUARE FEET.
      2.) BOTTOM EDGE LESS THAN 18 INCHES ABOVE THE FLOOR.
      3.) TOP EDGE GREATER THAN 36 INCHES ABOVE THE FLOOR.
      4.) ONE OR MORE WALKING SURFACES WITHIN 36 INCHES HORIZONTALLY OF THE GLAZING.
   D. GLAZING IN RAILINGS.
   E. GLAZING IN ENCLOSURES FOR OR WALLS FACING HOT TUBS, WHIRLPOOLS, SAUNAS, STEAM ROOMS, BATHTUBS AND SHOWERS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES MEASURED VERTICALLY ABOVE ANY STANDING OR WALKING SURFACE.
   F. GLAZING IN WALLS AND FENCE ADJACENT TO INDOOR AND OUTDOOR SWIMMING POOLS, HOT TUBS AND SPAS WHERE THE BOTTOM EDGE OF THE GLAZING IS LESS THAN 60 INCHES ABOVE A WALKING SURFACE AND WITHIN 60 INCHES, MEASURED HORIZONTALLY AND IN A STRAIGHT LINE, OF THE WATER'S EDGE.
   G. GLAZING WHERE THE BOTTOM EXPOSED EDGE OF THE GLAZING IS LESS THAN 36 INCHES ABOVE THE PLANE OF THE ADJACENT WALKING SURFACE OF STAIRWAYS, LANDINGS BETWEEN FLIGHTS OF STAIRS AND RAMPS.
   H. GLAZING ADJACENT TO THE LANDING AT THE BOTTOM OF A STAIRWAY WHERE THE GLAZING IS LESS THAN 36 INCHES ABOVE THE LANDING AND WITHIN 60 INCHES HORIZONTALLY OF THE BOTTOM TREAD.

DOOR SCHEDULE:

SYMBOL ⬡	WIDTH	HEIGHT	THICK $1\frac{3}{8}$"	THICK $1\frac{5}{8}$"	MATERIAL PL	MATERIAL WD	MATERIAL TG	FINISH PT	TYPE HG	TYPE BF	TYPE BP	TYPE PC	CORE SC	CORE HC	CORE HM	FRAME WD	FRAME PT	DETAIL OR COMMENT
A	3'-0"	6'-8"		●		●	●	●	●				●			●	●	4
B	3'-0"	6'-8"	●		●			●	●					●		●	●	1
C	6'-0"	6'-8"	●		●			●			●			●		●	●	3
D	3'-0"	6'-8"	●		●			●		●				●		●	●	2
E	2'-6"	6'-8"	●		●			●		●				●		●	●	2
F	2'-6"	6'-8"	●		●			●	●					●		●	●	1,5

ABBREVIATIONS

MATERIAL	CORE	DETAIL OR COMMENT
PL = PLASTIC LAMINATE WD = WOOD TG = TEMPERED GLASS	SC = SOLID CORE HC = HOLLOW CORE HM = HOLLOW METAL	1. SEE DETAIL D/A.5 2. SEE DETAIL E/A.5 3. SEE DETAIL F/A.5 4. SEE DETAIL G/A.5 5. FOR BEDROOM OPTION
TYPE	FINISH	
HG = HINGED DOOR BF = BI FOLD DOOR BP = BI PASS DOOR PC = POCKET DOOR	PT = PAINTED	
	FRAME	
	WD = WOOD PT = PAINTED	

EGRESS, EXITS, & STAIRWAY NOTES :

1. THE MEANS OF EGRESS SHALL PROVIDE A CONTINUOUS AND UNOBSTRUCTED PATH OF VERTICAL AND HORIZONTAL EGRESS TRAVEL FROM ALL PORTIONS OF THE DWELLING TO THE EXTERIOR OF THE DWELLING AT THE REQUIRED EGRESS DOOR WITHOUT REQUIRING TRAVEL THROUGH A GARAGE. THE REQUIRED EGRESS DOOR SHALL OPEN DIRECTLY INTO A PUBLIC WAY OR TO A YARD OR COURT THAT OPENS TO A PUBLIC WAY. (R 311.1)
2. AT LEAST ONE DOOR SHALL BE 36" WIDE BY 80" HIGH. (R 311.2)
3. PROVIDE MINIMUM 32" WIDE DOORS TO ALL INTERIOR ACCESSIBLE ROOMS. (R 311.2)
4. THE ENTRY/EXIT DOOR MUST OPEN OVER A LANDING NOT MORE THAN 1.5" BELOW THE THRESHOLD. EXCEPTION: PROVIDING THE DOOR DOES NOT SWING OVER THE LANDING. LANDING SHALL BE NOT MORE THAN 7.75" BELOW THE THRESHOLD. STORM AND SCREEN DOORS ARE PERMITTED TO SWING OVER ALL EXTERIOR STAIRS AND LANDINGS. (R 311.3.1)
5. LANDING AT A DOOR SHALL HAVE A LENGTH MEASURED IN THE DIRECTION OF TRAVEL OF NO LESS THAN 36". (R 311.3)
6. A LANDING SHALL BE PROVIDED AT THE TOP AND BOTTOM OF STAIRWAYS. (R 311.7.6)
7. STAIRWAY DETAILS :
   A. 7.75" MAXIMUM RISE & MINIMUM 10" RUN. (R 311.7.5)
   B. MINIMUM 6'-8" HEADROOM CLEARANCE. (R 311.7.2)
   C. MINIMUM 36" CLEAR WIDTH. (R 311.7.1)
   D. HANDRAILS 34" TO 38" HIGH ABOVE TREAD NOSING (R 311.7.8.1)
   E. HANDGRIP PORTION OF HANDRAIL SHALL NOT BE LESS THAN 1.25" AND NO MORE THAN 2" CROSS- SECTIONAL DIMENSION HAVING A SMOOTH SURFACE WITH NO SHARP CORNERS. (R 311.7.8.5)
   F. MAXIMUM 4" CLEAR SPACING OPENING BETWEEN RAILS. (R 312.1.3)
8. ALL INTERIOR AND EXTERIOR STAIRWAYS SHALL BE ILLUMINATED. (R 303.7)
9. FOR GLASS HANDRAILS AND GUARDS, THE PANELS AND THEIR SUPPORT SYSTEM SHALL BE DESIGNED TO WITHSTAND THE LOADS SPECIFIED IN CHAPTER 16 OF CBC. A SAFETY FACTOR OF FOUR SHALL BE USED. THE MINIMUM NOMINAL THICKNESS OF THE GLASS SHALL BE 1/4 INCH. (CBC 2407)
10. PROVIDE EMERGENCY EGRESS FROM SLEEPING ROOMS AND BASEMENTS. SHOW DETAILS ON PLANS. MINIMUM - 24" CLEAR HEIGHT, 20" CLEAR WIDTH, 5.7 SF MINIMUM AREA (5.0 SF AT GRADE LEVEL) & 44" MAXIMUM TO SILL. (R 310.2.1)
12. ENCLOSED ACCESSIBLE SPACE UNDER STAIR SHALL HAVE WALLS, UNDER-STAIR SURFACE AND ANY SOFFITS PROTECTED ON THE ENCLOSED SIDE WITH 1/2 INCH GYPSUM BOARD. (R302.7)

☐ FLOOR KEY NOTES :

1. SHOWER OR TUB: BRAND AND MODEL NUMBER SHALL BE PROVIDED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. FIXTURE MUST MEET FLOW RATE REQUIREMENTS OF THE CGBSC. SEE PLUMBING PLAN FOR ADDITIONAL INFORMATION.
2. WATER CLOSET: BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. FIXTURE MUST MEET FLOW RATE REQUIREMENTS OF THE CGBSC. SEE PLUMBING PLAN FOR ADDITIONAL INFORMATION.
3. BATH LAVATORY: BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. FIXTURE MUST MEET FLOW RATE REQUIREMENTS OF THE CGBSC. SEE PLUMBING PLAN FOR ADDITIONAL INFORMATION.
4. KITCHEN SINK: BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. FIXTURE MUST MEET FLOW RATE REQUIREMENTS OF THE CGBSC. SEE PLUMBING PLAN FOR ADDITIONAL INFORMATION.
5. WATER HEATER: BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. MODEL SELECTED MUST MEET TITLE 24 REQUIREMENTS. SEE PLUMBING PLANS FOR ADDITIONAL INFORMATION.
6. WASHER STACKED UNIT: BRAND NAME AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. VERIFY MODEL'S DIMENSION PRIOR TO INSTALLATION. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
7. ELECTRIC RANGE: BRAND NAME AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. VERIFY MODEL'S DIMENSION PRIOR TO INSTALLATION AND COORDINATE WITH CABINET CONTRACTOR'S SHOP DRAWINGS. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
8. REFRIGERATOR: BRAND NAME AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. VERIFY MODEL'S DIMENSION PRIOR TO INSTALLATION AND COORDINATE WITH CABINET CONTRACTOR'S SHOP DRAWINGS. SEE PLUMBING PLANS FOR ADDITIONAL INFORMATION.
9. HIGH WALL INDOOR UNIT: BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. MODEL SELECTED MUST MEET TITLE 24 REQUIREMENTS. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
10. GROUND MOUNTED CONDENSING UNIT. BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION. MODEL SELECTED MUST MEET TITLE 24 REQUIREMENTS. SEE MECHANICAL PLANS FOR ADDITIONAL INFORMATION.
11. ATTIC ACCESS: 22"X30" ATTIC ACCESS W/ 30" HEADROOM SHALL BE WEATHER-STRIPPED AND INSULATED EQUIVALENT TO THAT OF THE CEILING AND SHALL BE INSTALLED ON THE ACCESS PANEL. SEE DETAIL X/A.X FOR ADDITIONAL INFORMATION.
12. BASE CABINET: CABINET CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR OWNERS APPROVAL PRIOR TO BUILDING AND INSTALLATION OF CABINET.
13. OVERHEAD CABINET OVER BASE: CABINET CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR OWNERS APPROVAL PRIOR TO BUILDING AND INSTALLATION OF CABINET.
14. OVERHEAD CABINET OVER REFRIGERATOR: CABINET CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR OWNERS APPROVAL PRIOR TO BUILDING AND INSTALLATION OF CABINET.
16. CONCRETE LANDING: 3-1/2" CONCRETE LANDING W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING. SEE FOUNDATION PLAN FOR ADDITIONAL INFORMATION.

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
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THIRD FLOOR
FRESNO, CA. 93721-3600
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

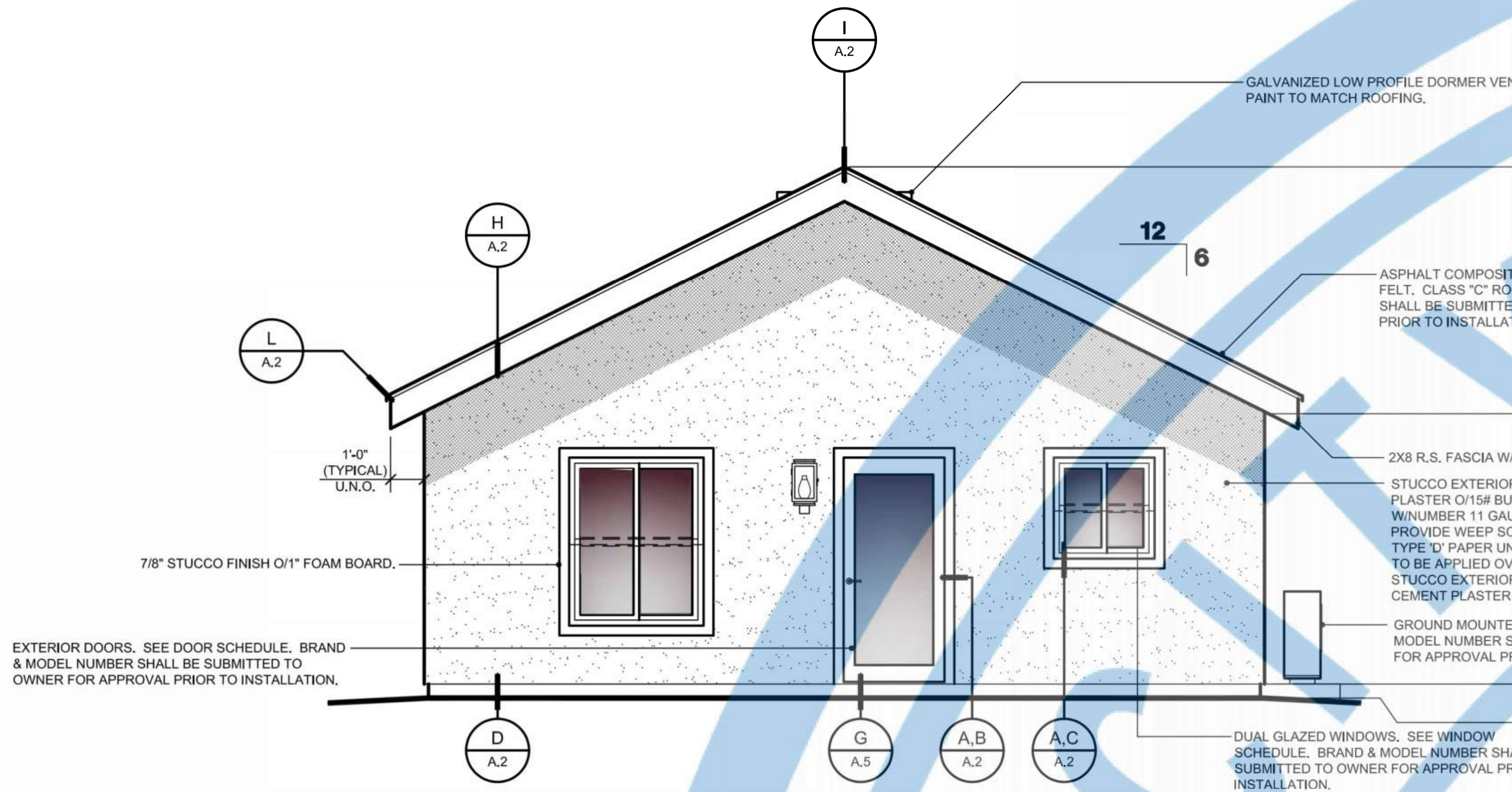
CITY USE ONLY

DRAWING TITLE:

FLOOR PLAN (WITH PORCH OPTION)

JOB# : TADU-003
DATE: 13-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
A.1



GALVANIZED LOW PROFILE DORMER VENTS. PAINT TO MATCH ROOFING.

ASPHALT COMPOSITION SHINGLES O/15# BUILDING FELT. CLASS "C" ROOF. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

2X8 R.S. FASCIA W/1X2 R.S. MOLDING.

STUCCO EXTERIOR(3 COAT): USE 7/8" CEMENT PLASTER O/15# BUILDING FELT W/WIRE LATH W/NUMBER 11 GAUGE STAPLE 7/8" LEGS AT 6" O.C. PROVIDE WEEP SCREEDS. PROVIDE 2 LAYERS OF TYPE 'D' PAPER UNDERLAYMENT WHERE LATH IS TO BE APPLIED OVER WOOD SHEATHING AT THE STUCCO EXTERIOR. RIB LATH HORIZONTAL CEMENT PLASTER CONDITIONS.

GROUND MOUNTED MECHANICAL UNIT. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

7/8" STUCCO FINISH O/1" FOAM BOARD.

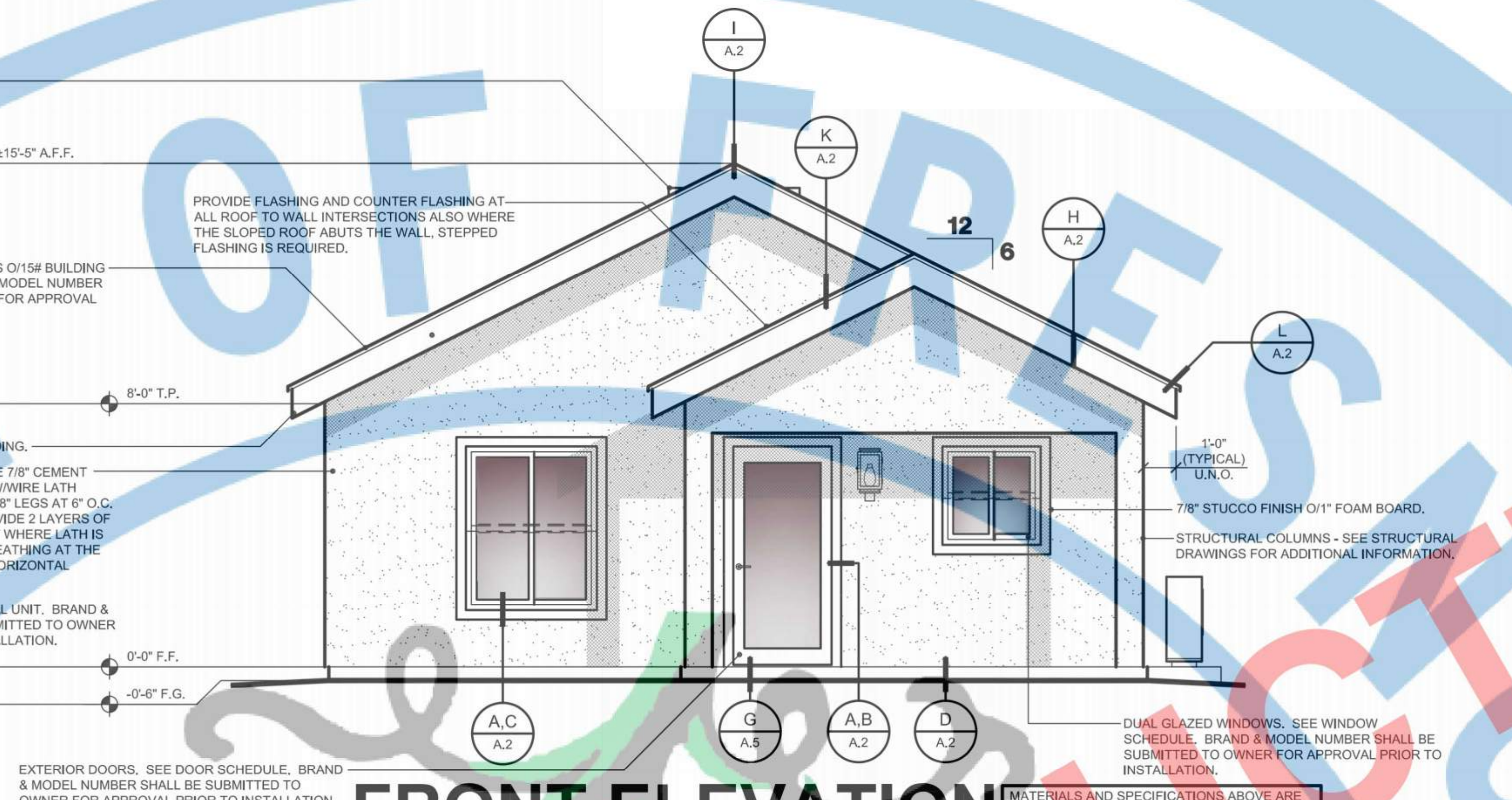
EXTERIOR DOORS. SEE DOOR SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

DUAL GLAZED WINDOWS. SEE WINDOW SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

FRONT ELEVATION

MATERIALS AND SPECIFICATIONS ABOVE ARE APPLICABLE TO ALL SIDES OF THE ACCESSORY DWELLING UNIT.

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



PROVIDE FLASHING AND COUNTER FLASHING AT ALL ROOF TO WALL INTERSECTIONS ALSO WHERE THE SLOPED ROOF ABUTS THE WALL, STEPPED FLASHING IS REQUIRED.

7/8" STUCCO FINISH O/1" FOAM BOARD.

STRUCTURAL COLUMNS - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

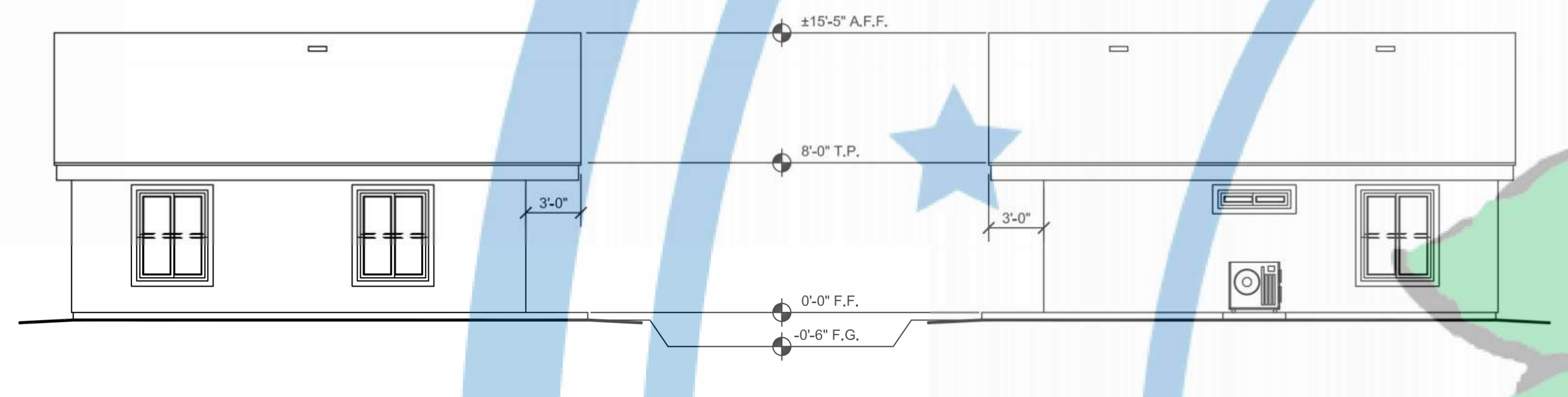
EXTERIOR DOORS. SEE DOOR SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

DUAL GLAZED WINDOWS. SEE WINDOW SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

FRONT ELEVATION

MATERIALS AND SPECIFICATIONS ABOVE ARE APPLICABLE TO ALL SIDES OF THE ACCESSORY DWELLING UNIT.

SCALE:1/4"=1'-0"
GABLE W/PORCH OPTION

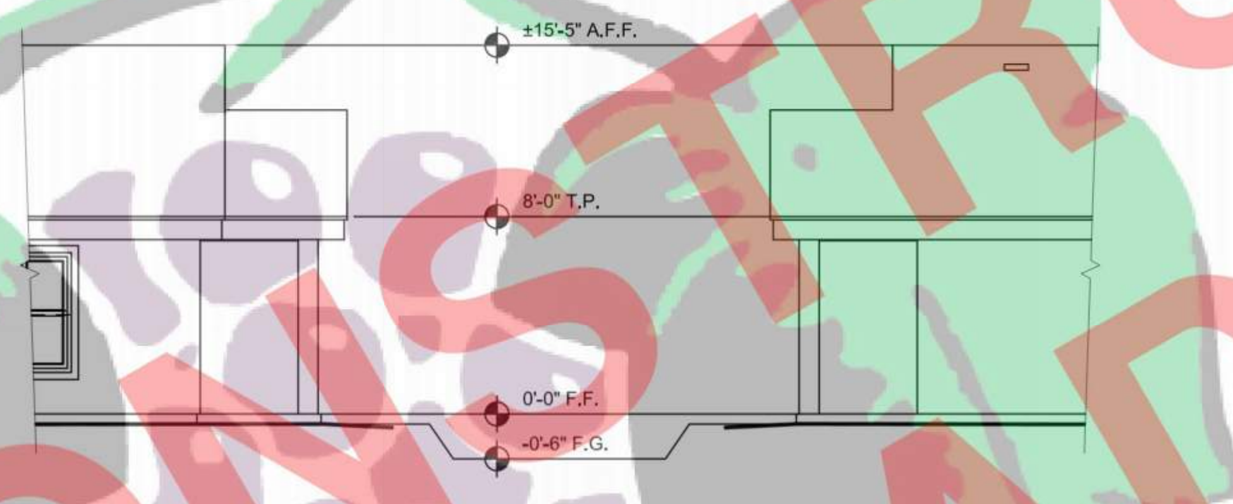


LEFT ELEVATION

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

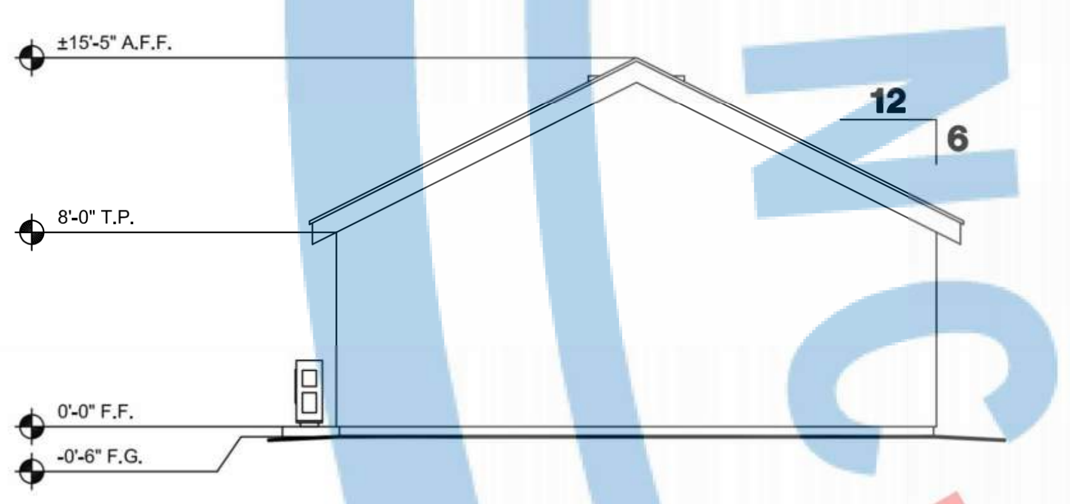
RIGHT ELEVATION

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



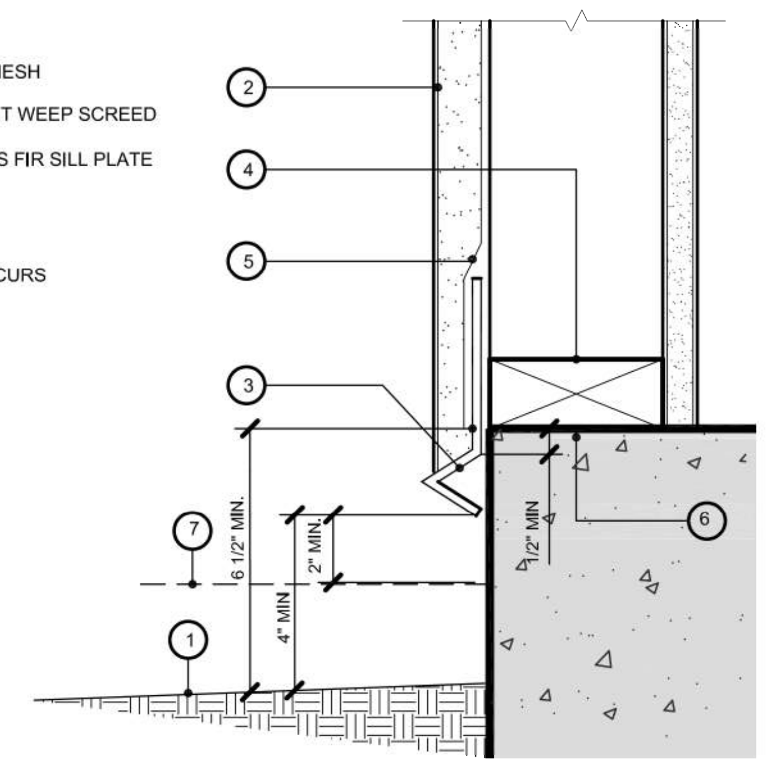
LEFT & RIGHT ELEVATION

SCALE:1/8"=1'-0"
GABLE W/PORCH OPTION



REAR ELEVATION

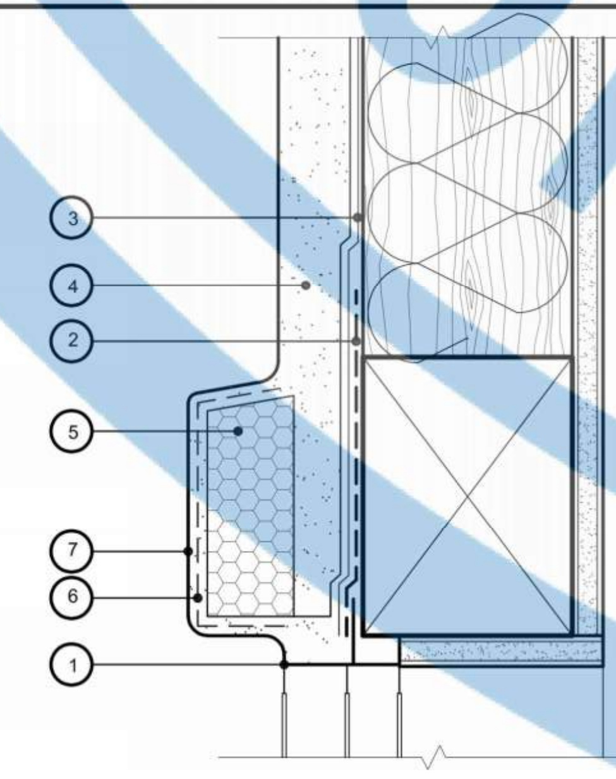
SCALE:1/8"=1'-0"
GABLE



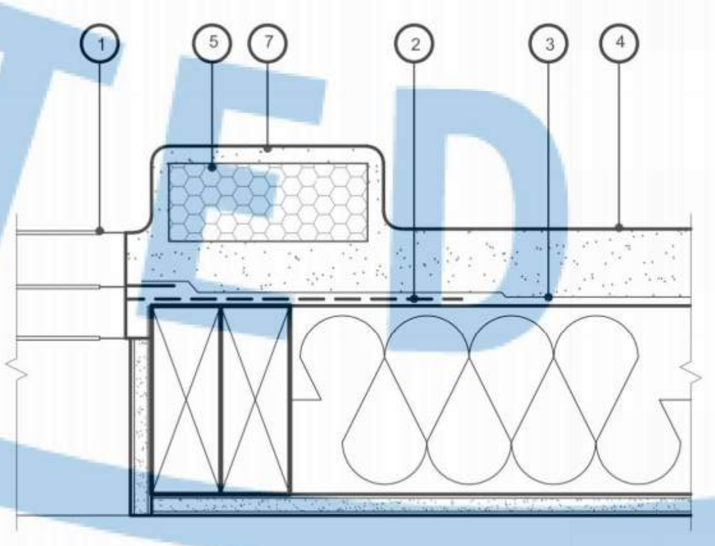
1. FINISH GRADE
2. EXTERIOR PLASTER O/ WIRE MESH
3. 26 GA. CORROSION- RESISTANT WEEP SCREED
4. PRESSURE TREATED DOUGLAS FIR SILL PLATE
5. 60 MINUTE GRADE 'D' PAPER
6. CONT. 'ROPE' CAULKING
7. CONCRETE SLAB, WHERE OCCURS

D WEEP SCREED AT CONCRETE SLAB

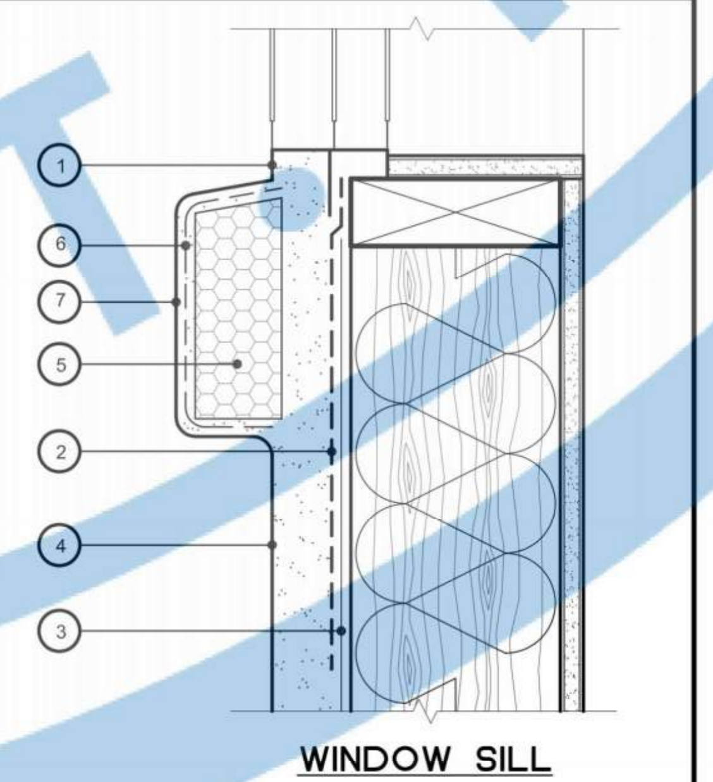
1. WINDOW FRAME W/ CONT. SEALANT BEHIND FLANGE
2. 'MOISTOP' FLASHING PAPER (12" WIDE)
3. 60 MINUTE GRADE 'D' PAPER
4. (3) COAT STUCCO O/WIRE MESH.
5. FOAM TRIM, SLOPE TOP (MIN. 2lb. PCF) O/ BROWN COAT
6. GLASS FIBER MESH O/ PRIMER ADHESIVE
7. COLOR COAT



WINDOW HEAD

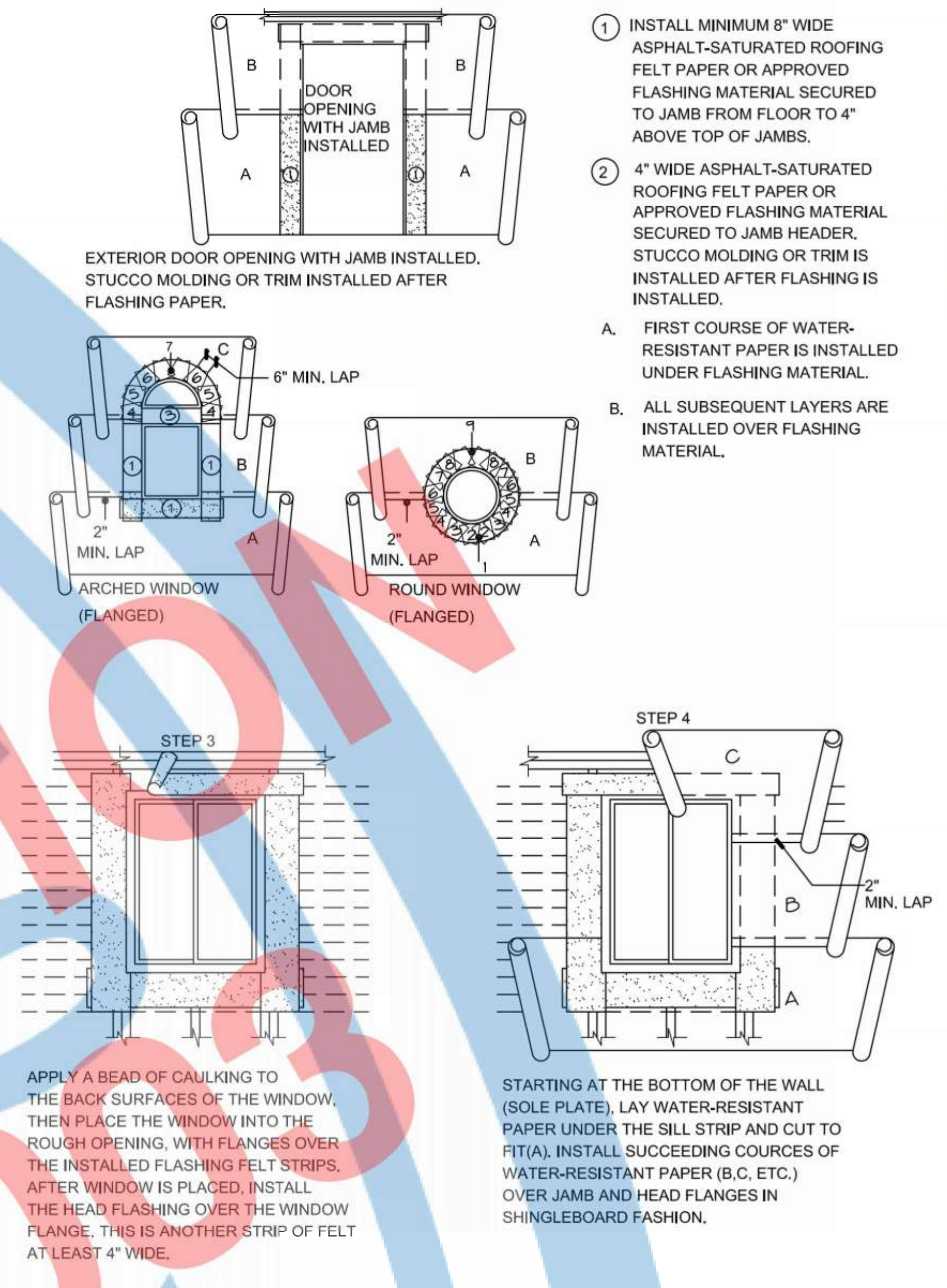


WINDOW JAMB



WINDOW SILL

C WINDOW AT STUCCO WALL



EXTERIOR DOOR OPENING WITH JAMB INSTALLED. STUCCO MOLDING OR TRIM INSTALLED AFTER FLASHING PAPER.

① INSTALL MINIMUM 8" WIDE ASPHALT-SATURATED ROOFING FELT PAPER OR APPROVED FLASHING MATERIAL SECURED TO JAMB FROM FLOOR TO 4" ABOVE TOP OF JAMBS.

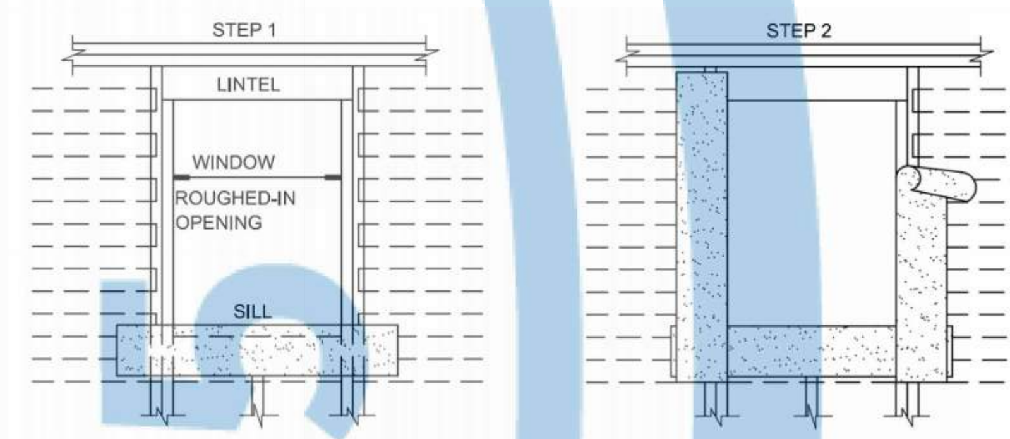
② 4" WIDE ASPHALT-SATURATED ROOFING FELT PAPER OR APPROVED FLASHING MATERIAL SECURED TO JAMB HEADER. STUCCO MOLDING OR TRIM IS INSTALLED AFTER FLASHING IS INSTALLED.

A. FIRST COURSE OF WATER-RESISTANT PAPER IS INSTALLED UNDER FLASHING MATERIAL.

B. ALL SUBSEQUENT LAYERS ARE INSTALLED OVER FLASHING MATERIAL.

APPLY A BEAD OF CAULKING TO THE BACK SURFACES OF THE WINDOW, THEN PLACE THE WINDOW INTO THE ROUGH OPENING, WITH FLANGES OVER THE INSTALLED FLASHING FELT STRIPS. AFTER WINDOW IS PLACED, INSTALL THE HEAD FLASHING OVER THE WINDOW FLANGE. THIS IS ANOTHER STRIP OF FELT AT LEAST 4" WIDE.

STARTING AT THE BOTTOM OF THE WALL (SOLE PLATE), LAY WATER-RESISTANT PAPER UNDER THE SILL STRIP AND CUT TO FIT(A). INSTALL SUCCEEDING COURCES OF WATER-RESISTANT PAPER (B,C, ETC.) OVER JAMB AND HEAD FLANGES IN SHINGLEBOARD FASHION.

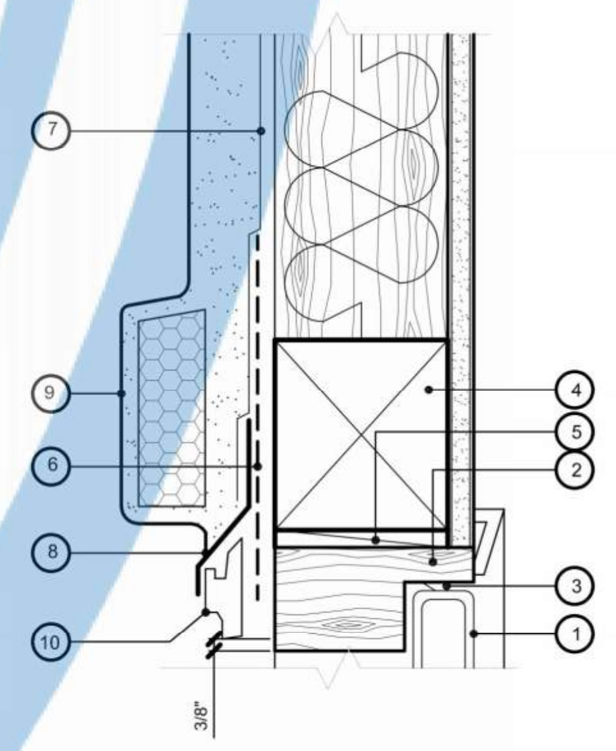


ATTACH A SILL STRIP OF ASPHALT-SATURATED ROOFING FELT PAPER, OR APPROVED FLASHING MATERIAL AT LEAST 8" WIDE WITH THE TOP EDGE EVEN WITH THE TOP EDGE OF THE ROUGH SILL. EXTEND THIS SILL STRIP AT LEAST 8" BEYOND THE EDGE OF THE ROUGH OPENING FOR WINDOW.

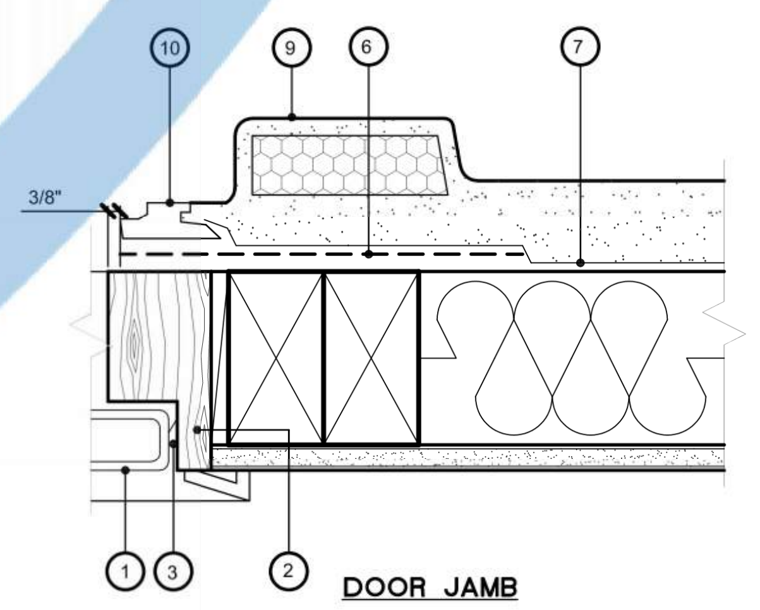
AFTER SILL STRIP IS IN PLACE, ATTACH JAMB STRIPS (SIDE OF OPENING) AT LEAST 8" WIDE WITH INSIDE EDGE OF FELT EVEN WITH EDGE OF WINDOW OPENING. EXTEND JAMB STRIPS 4" ABOVE THE TOP OF WINDOW OPENING.

A STUCCO FLASHING

1. DOOR
2. DOOR FRAME
3. WEATHER STRIPPING
4. HEADER (SEE FRAMING PLAN)
5. SHIM SPACE
6. 'MOISTOP' FLASHING PAPER (12" WIDE)
7. 60 MINUTE GRADE 'D' PAPER (LAP INTO EXTERIOR PLASTER MOULD WHEN FLASHING NOT REQ'D)
8. 26 GA G.I. FLASHING (NOT REQ'D WHEN DOOR IS PROTECTED BY A 36" MIN. OVERHANG OR SOFFIT)
9. (3) COAT STUCCO O/WIRE MESH O/FOAM TRIM.
10. EXTERIOR PLASTER MOULD



DOOR HEAD



DOOR JAMB

B EXTERIOR DOOR

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
559-621-8084
darm.building•fresno.gov

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

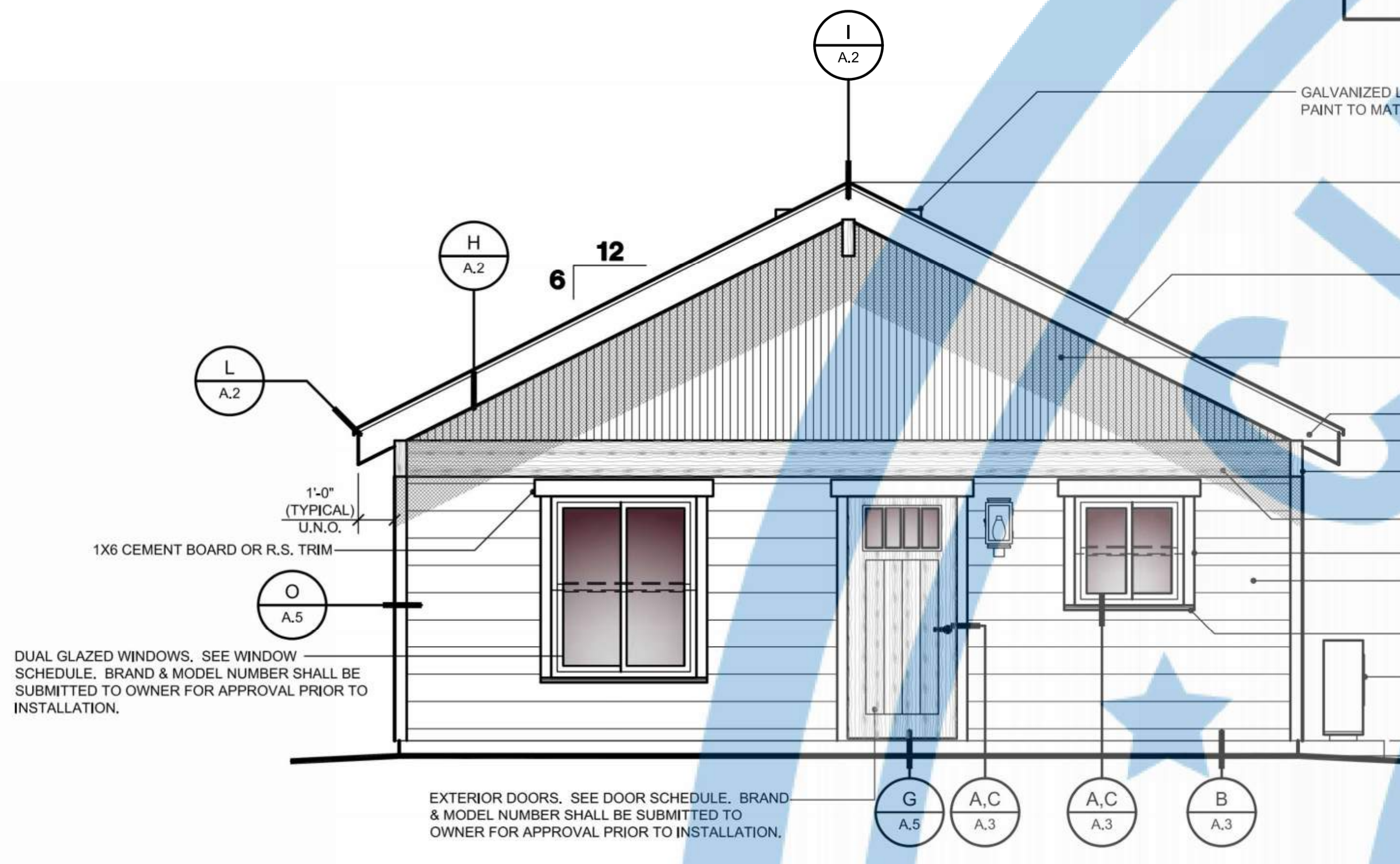
DRAWING TITLE:

GABLE BUILDING ELEVATIONS (WITH PORCH OPTION)

JOB# : TADU-003
DATE: 2-Jun-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
A.2

WHEN BUILDING SETBACK IS LESS THAN 5'-0" OR GREATER OR EQUAL TO 3'-0" FROM THE PROPERTY LINE AND THE ADU HAS NO FIRE SPRINKLERS THE WALLS PARALLEL TO THE PROPERTY LINES MUST BE ONE HOUR FIRE RATED PER CRC TABLE R301.1(1) SEE DETAIL B,C/A.4 FOR ADDITIONAL INFORMATION. WALLS PARALLEL TO PROPERTY LINE MUST BE STUCCO EXTERIOR(3 COAT): USE 7/8" CEMENT PLASTER O/15# BUILDING FELT W/WIRE LATH W/NUMBER 11 GAUGE STAPLE 7/8" LEGS AT 6" O.C. PROVIDE WEEP SCREEDS. PROVIDE 2 LAYERS OF TYPE 'D' PAPER UNDERLAYMENT WHERE LATH IS TO BE APPLIED OVER WOOD SHEATHING AT THE STUCCO EXTERIOR. RIB LATH HORIZONTAL CEMENT PLASTER CONDITIONS.



GALVANIZED LOW PROFILE DORMER VENTS. PAINT TO MATCH ROOFING.

ASPHALT COMPOSITION SHINGLES O/15# BUILDING FELT. CLASS "C" ROOF. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

VERTICAL CEMENT BOARD SIDING O/15# BUILDING PAPER. PROVIDE Z-BAR FLASHING AT ALL HORIZONTAL JOINTS.

2X8 R.S. FASCIA W/1X2 R.S. MOLDING.

OUTRIGGER. SEE STRUCTURAL DRAWINGS.

1X12 CEMENT BOARD OR R.S. TRIM

1X4 CEMENT BOARD OR R.S. TRIM

HORIZONTAL CEMENT BOARD SIDING O/15# BUILDING PAPER. PROVIDE Z-BAR FLASHING AT ALL HORIZONTAL JOINTS.

1X2 W/X1X1 MOULDING CEMENT BOARD OR R.S. TRIM

GROUND MOUNTED MECHANICAL UNIT. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

1'-0" (TYPICAL) U.N.O.

1X6 CEMENT BOARD OR R.S. TRIM

DUAL GLAZED WINDOWS. SEE WINDOW SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

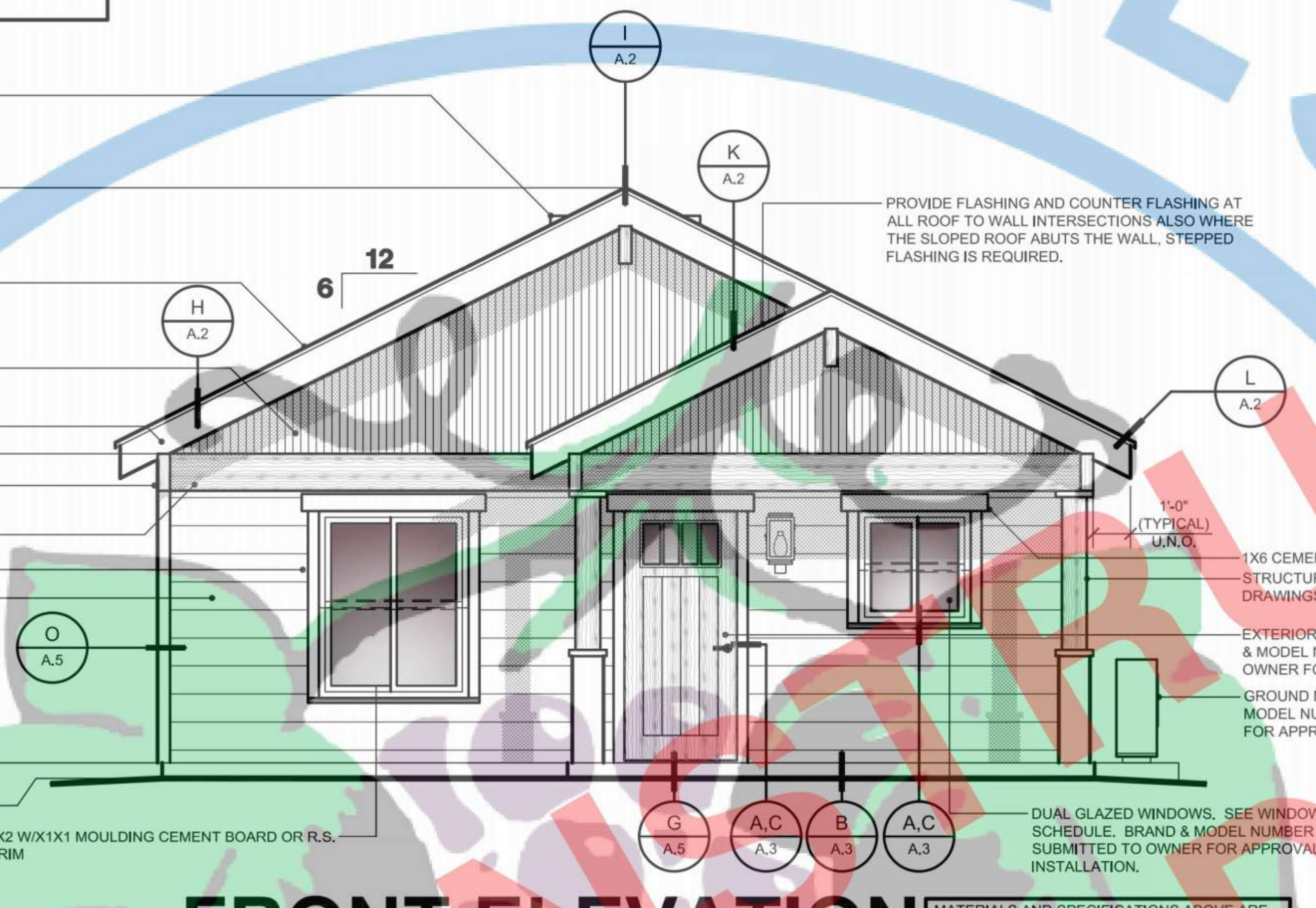
EXTERIOR DOORS. SEE DOOR SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

FRONT ELEVATION

MATERIALS AND SPECIFICATIONS ABOVE ARE APPLICABLE TO ALL SIDES OF THE ACCESSORY DWELLING UNIT.

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

CRAFTSMAN



PROVIDE FLASHING AND COUNTER FLASHING AT ALL ROOF TO WALL INTERSECTIONS ALSO WHERE THE SLOPED ROOF ABUTS THE WALL, STEPPED FLASHING IS REQUIRED.

1'-0" (TYPICAL) U.N.O.

1X6 CEMENT BOARD OR R.S. TRIM

STRUCTURAL COLUMNS - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

EXTERIOR DOORS. SEE DOOR SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

GROUND MOUNTED MECHANICAL UNIT. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

1X2 W/X1X1 MOULDING CEMENT BOARD OR R.S. TRIM

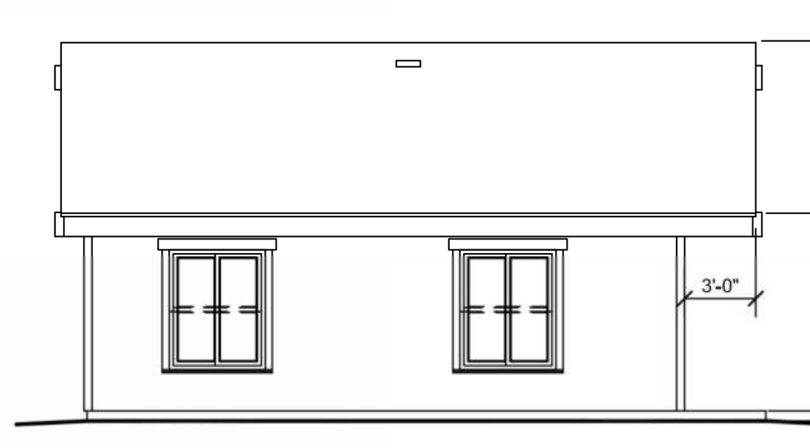
DUAL GLAZED WINDOWS. SEE WINDOW SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

FRONT ELEVATION

MATERIALS AND SPECIFICATIONS ABOVE ARE APPLICABLE TO ALL SIDES OF THE ACCESSORY DWELLING UNIT.

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

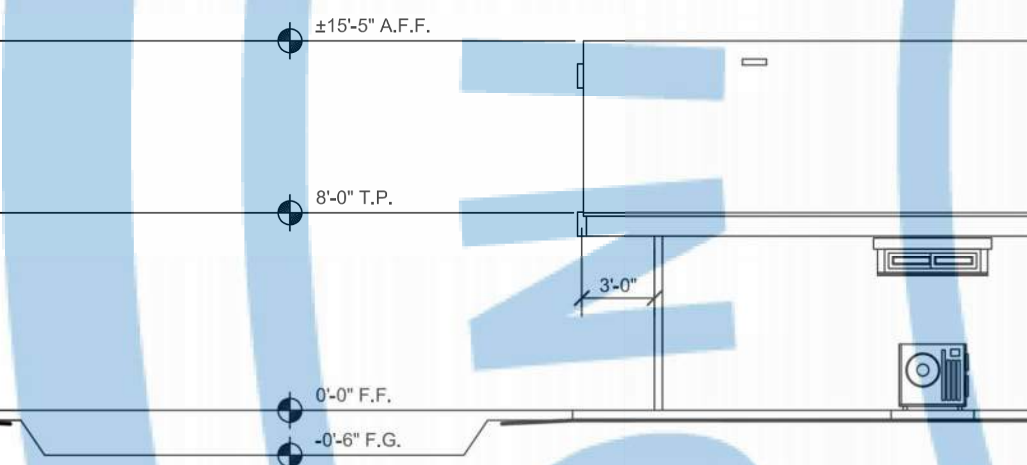
CRAFTSMAN W/PORCH OPTION



LEFT ELEVATION

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

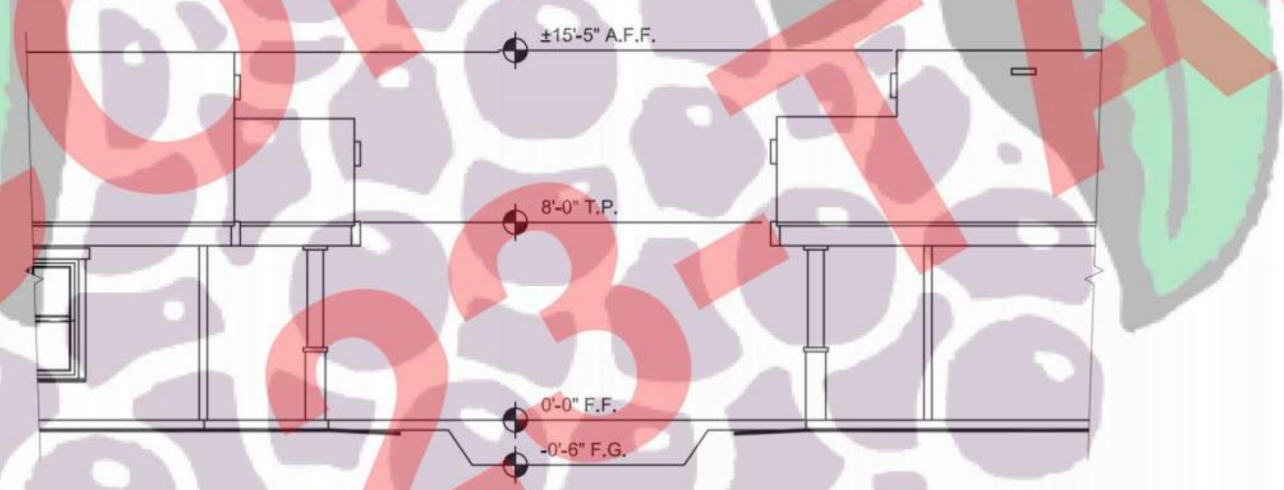
CRAFTSMAN



RIGHT ELEVATION

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

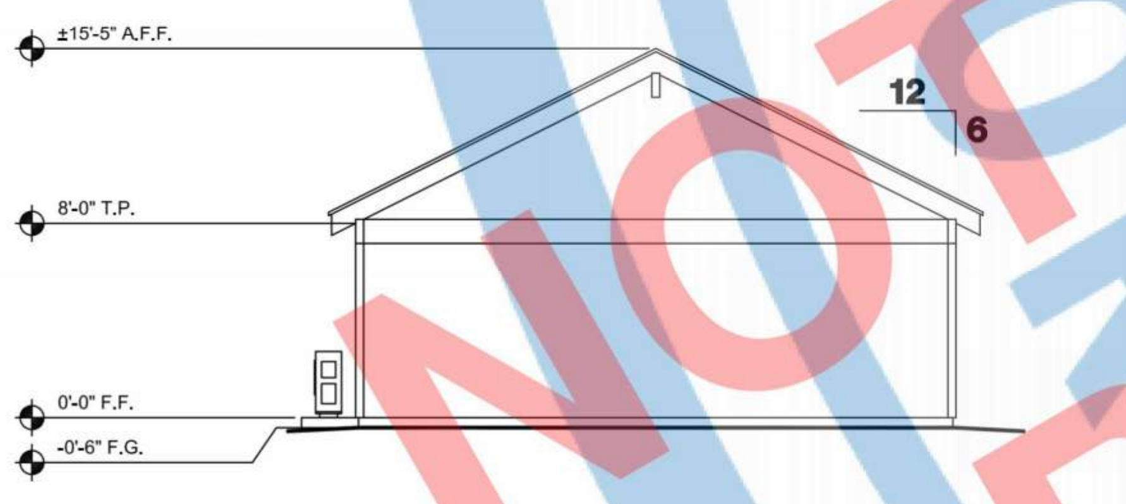
CRAFTSMAN



LEFT & RIGHT ELEVATION

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

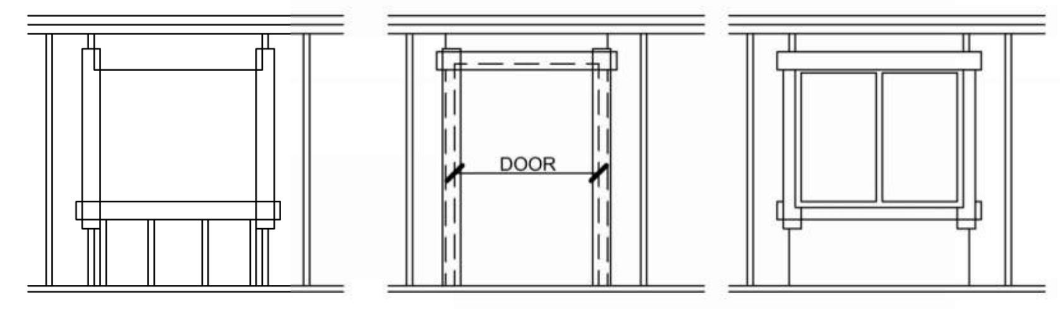
CRAFTSMAN W/PORCH OPTION



REAR ELEVATION

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

CRAFTSMAN



WINDOW FLASHING DETAIL

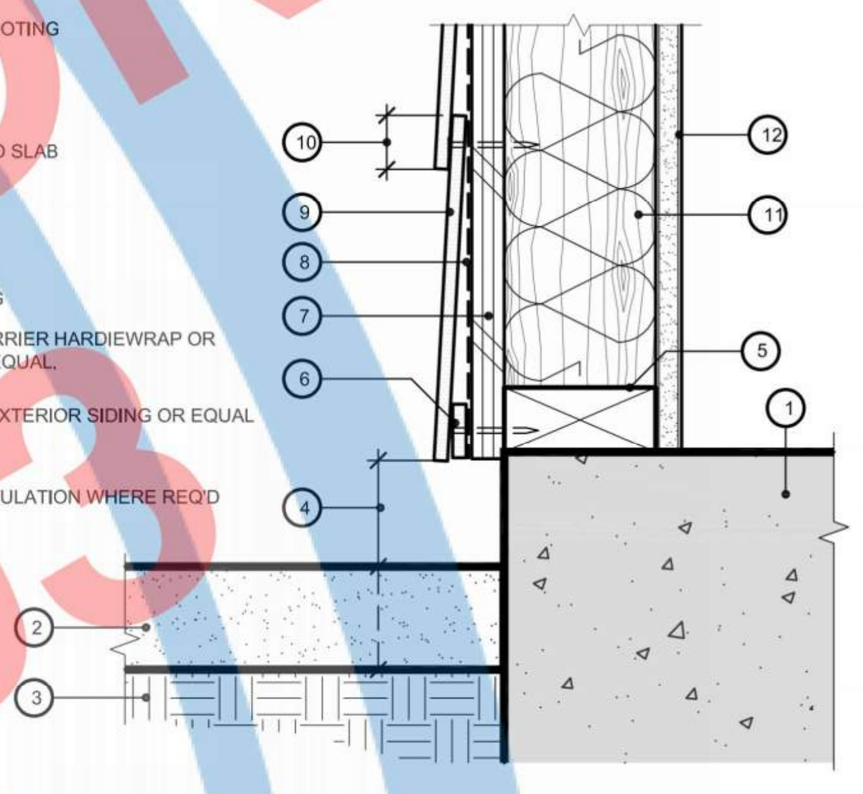
STEP 1- PRIOR TO INSTALLING PLYWOOD, ATTACH 6" WIDE FORTIFIBER FLASHING ALONG THE BOTTOM OF WINDOW OPENING LONG ENOUGH TO EXTEND PAST VERTICAL PLACES OF FLASHING TO BE ON EACH SIDE.
STEP 2- ATTACH 6" WIDE FORTIFIBER FLASHING ALONG EACH SIDE FLUSH WITH OPENING AND LONG ENOUGH TO EXTEND PAST TOP AND BOTTOM FLASHING.
STEP 3- AFTER WINDOW IS IN POSITION WITH FLANGE OVER FLASHING STRIP, ATTACH 2" WIDE SHORTAPE FLASHING STRIP OVER TOP OF TOP WINDOW FLANGE. FLASHING MUST EXTEND BEYOND EACH SIDE OF FORTIFIBER FLASHING STRIP.
STEP 4- INSTALL UNDER BOTTOM OF SHEET OF FLASHING, FROM BOTTOM OF WINDOW TO BOTTOM OF PLATE, A FULL SHEET OF FLASHING WIDE ENOUGH TO COVER EACH OUTER SIDE OF FLASHING STRIPS.

EXTERIOR DOOR FLASHING DETAIL

STEP 1- PRIOR TO INSTALLING PLYWOOD, ATTACH 6" WIDE FORTIFIBER FLASHING 2" INTO OPENING ON EACH SIDE OF DOOR FROM FINISH FLOOR TO A MINIMUM OF 6" ABOVE TOP OF OPENING.
STEP 2- ATTACH FLASHING ON TOP 2" INTO OPENING AND LONG ENOUGH TO EXTEND PAST FLASHING ON EACH SIDE.
STEP 3- INSTALL EXTERIOR DOOR JAMB SO THAT FLASHING IS BETWEEN PLYWOOD AND EXTERIOR TRIM.

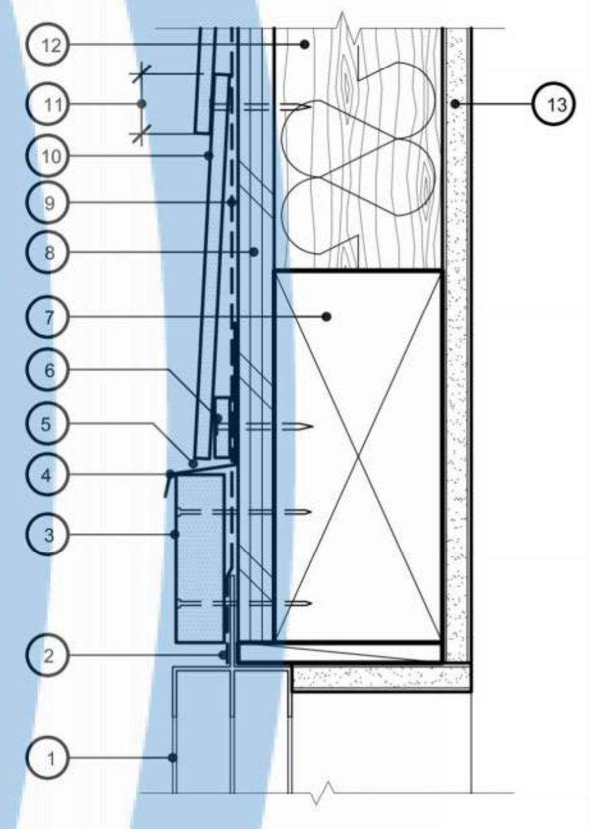
A WOOD FLASHING

① CONCRETE SLAB W/FOOTING
② CONCRETE SLAB
③ NATIVE SOIL/GRADE
④ MIN. 2" CLEARANCE TO SLAB
MIN. 6 1/2" TO GRADE
⑤ 2X P.T. SILL PLATE
⑥ STARTER STRIP
⑦ EXTERIOR SHEATHING
⑧ WATER RESISTIVE BARRIER HARDIEWRAP OR GRADE 'D' PAPER OR EQUAL.
⑨ CEMENT BOARD LAP EXTERIOR SIDING OR EQUAL
⑩ MIN. 1 1/4" OVERLAP
⑪ WOOD FRAMING W/INSULATION WHERE REQ'D
⑫ INTERIOR FINISH

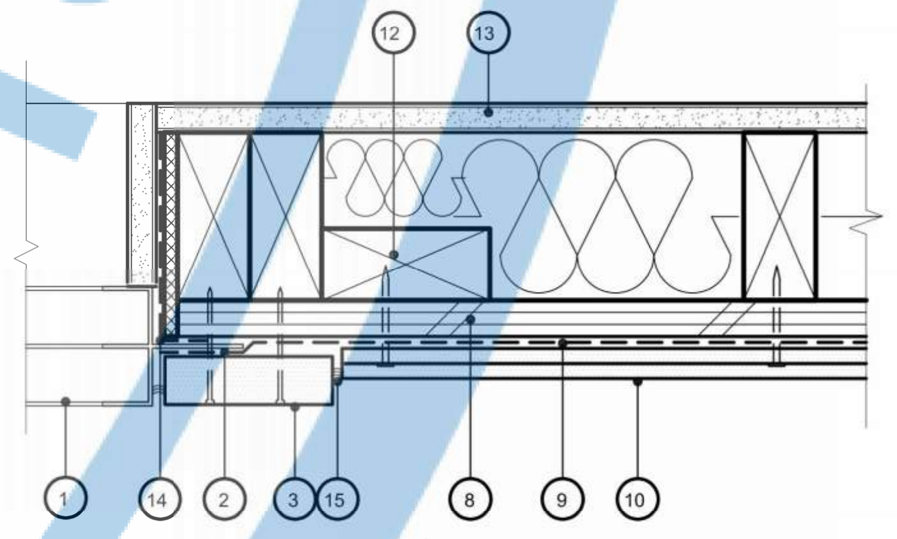


B CLEARANCE AT CONCRETE SLAB

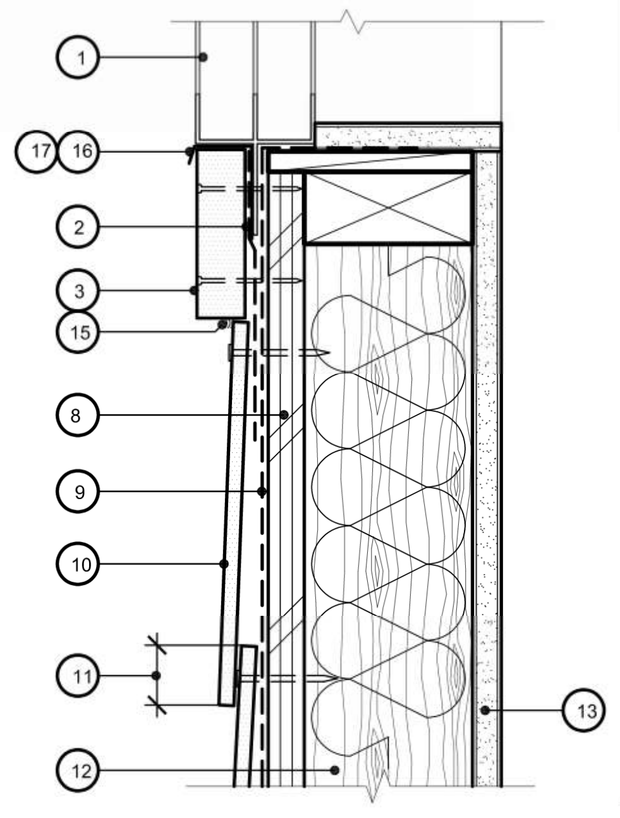
① WINDOW FRAME W/ CONT. SEALANT BEHIND FLANGE OR DOOR FRAME
② 'MOISTOP' FLASHING PAPER (12" WIDE)
③ CEMENT TRIM BOARDS OR EQUAL.
④ Z-FLASHING
⑤ 1/4" GAP, DO NOT CAULK
⑥ STARTER STRIP
⑦ HEADER
(SEE FRAMING PLAN)
⑧ EXTERIOR SHEATHING
⑨ WATER RESISTIVE BARRIER OR GRADE 'D' PAPER OR EQUAL.
⑩ CEMENT BOARD LAP EXTERIOR SIDING OR EQUAL
⑪ MIN. 1 1/4" OVERLAP
⑫ WOOD FRAMING W/INSULATION WHERE REQ'D
⑬ INTERIOR FINISH
⑭ FLASHING TAPE
⑮ LEAVE APPROPRIATE GAP AND CAULK
⑯ IF TRIM IS PROTRUDING BEYOND WILL SILL IT MUST BE FLASHED.
⑰ FLASH WINDOW PER MANUFACTURER RECOMMENDATION



WINDOW/DOOR HEAD



WINDOW/DOOR JAMB



WINDOW SILL

C WINDOW/DOOR AT EXTERIOR SIDING

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
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FRESNO, CA. 93721-3600
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

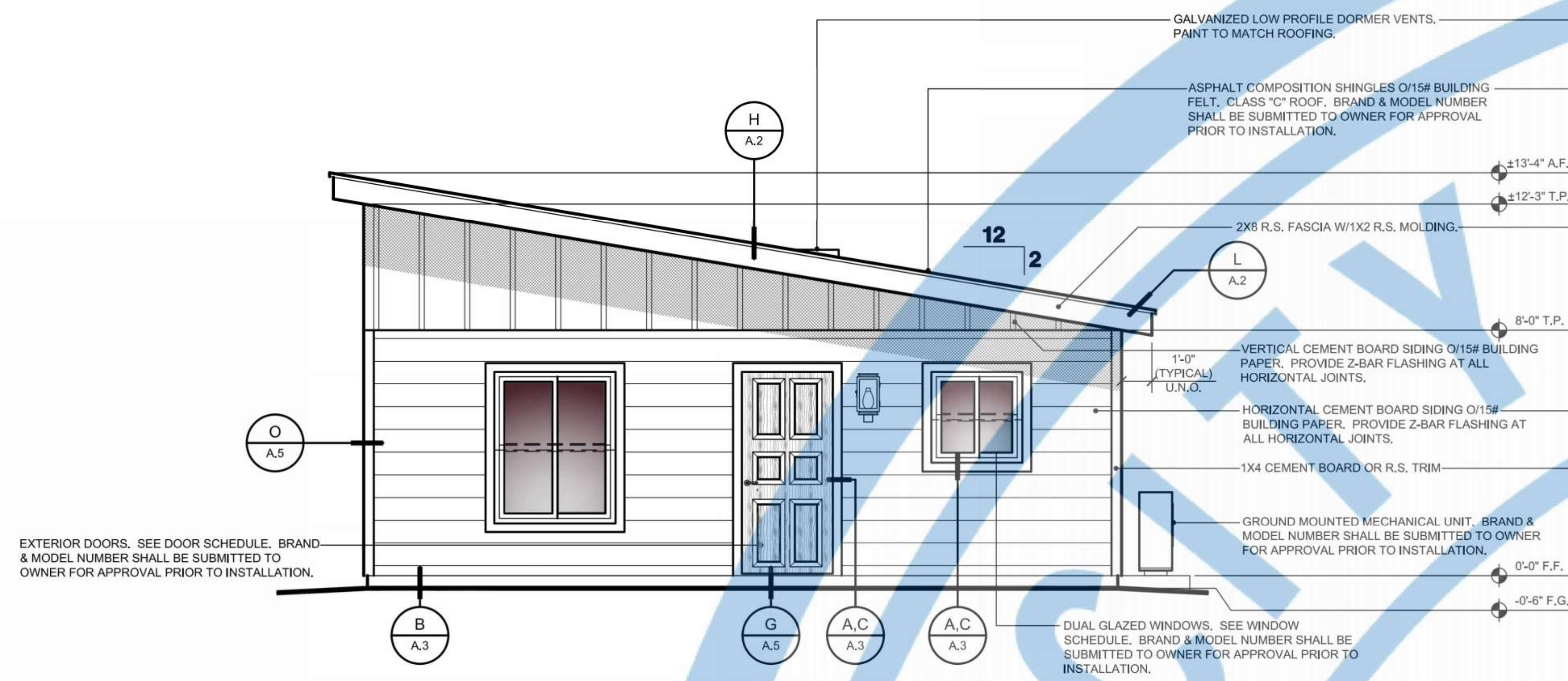
NO.	DESCRIPTION	DATE
△2	- ONE HOUR RATED FIRE WALL FOR REDUCED SIDE OR REAR YARD SETBACK.	04/18/24

CITY USE ONLY

DRAWING TITLE:

CRAFTSMAN
BUILDING
ELEVATIONS (WITH
PORCH OPTION)

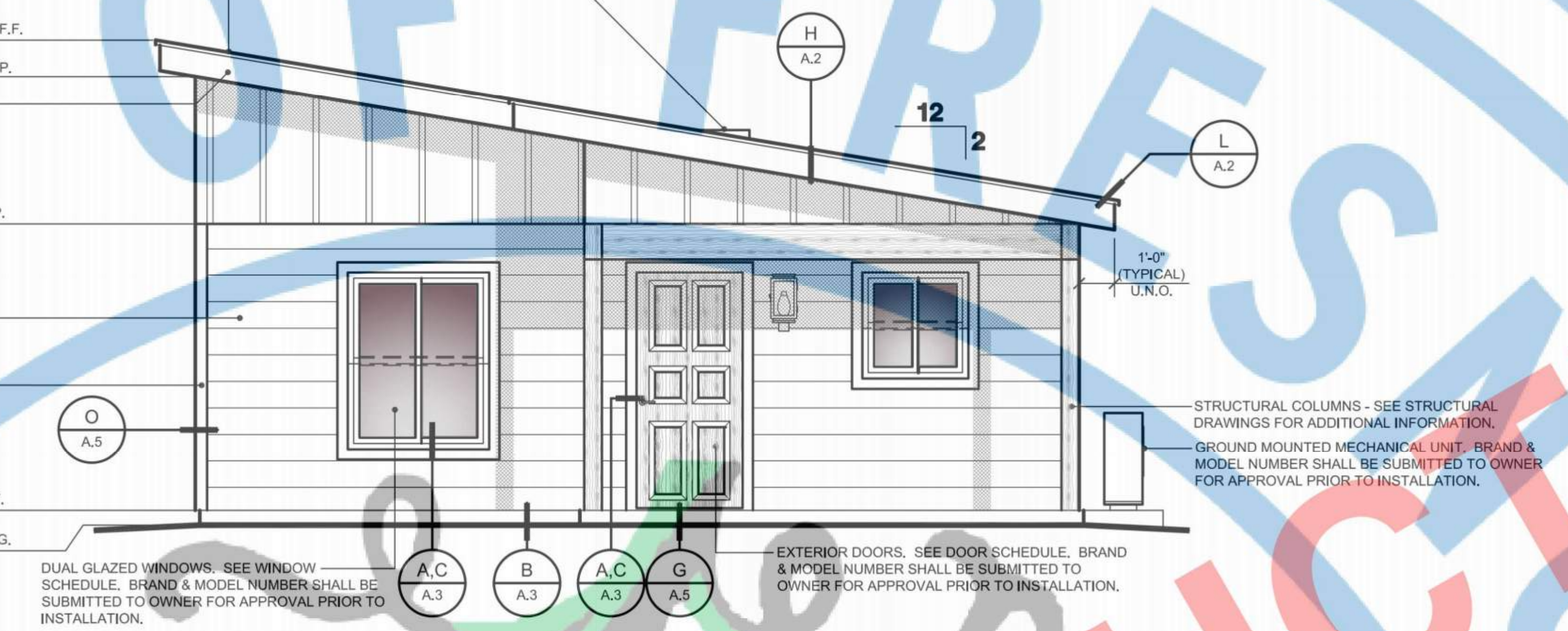
JOB# :	TADU-003	SHEET NO.
DATE:	18-Apr-24	A.3
SCALE:	AS NOTED	
DRAWN BY:	IRG	


GALVANIZED LOW PROFILE DORMER VENTS. PAINT TO MATCH ROOFING.
ASPHALT COMPOSITION SHINGLES O/15# BUILDING FELT. CLASS "C" ROOF. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
±13'-4" A.F.F.
±12'-3" T.P.
2X8 R.S. FASCIA W/1X2 R.S. MOLDING.
12
2
H
A.2
L
A.2
8'-0" T.P.
1'-0" (TYPICAL) U.N.O.
VERTICAL CEMENT BOARD SIDING O/15# BUILDING PAPER. PROVIDE Z-BAR FLASHING AT ALL HORIZONTAL JOINTS.
HORIZONTAL CEMENT BOARD SIDING O/15# BUILDING PAPER. PROVIDE Z-BAR FLASHING AT ALL HORIZONTAL JOINTS.
1X4 CEMENT BOARD OR R.S. TRIM
GROUND MOUNTED MECHANICAL UNIT. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
0'-0" F.F.
-0'-6" F.G.
O
A.5
EXTERIOR DOORS. SEE DOOR SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
B
A.3
G
A.5
A,C
A.3
A,C
A.3
DUAL GLAZED WINDOWS. SEE WINDOW SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

FRONT ELEVATION

MATERIALS AND SPECIFICATIONS ABOVE ARE APPLICABLE TO ALL SIDES OF THE ACCESSORY DWELLING UNIT.

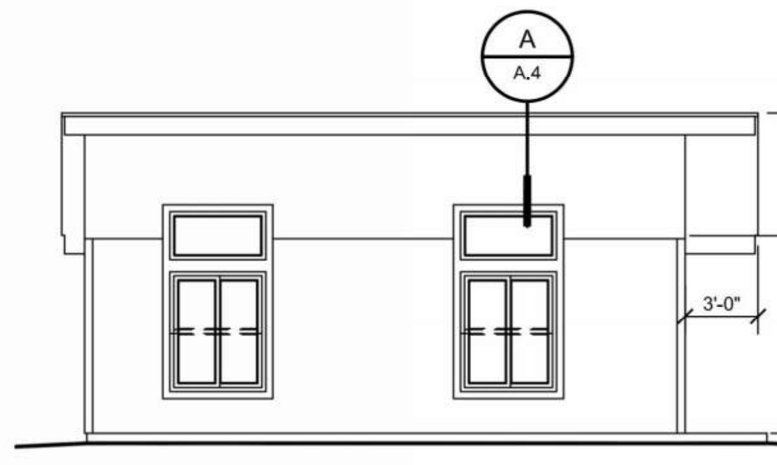
SCALE:1/4"=1'-0" CONTEMPORARY


H
A.2
12
2
L
A.2
1'-0" (TYPICAL) U.N.O.
O
A.5
STRUCTURAL COLUMNS - SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
GROUND MOUNTED MECHANICAL UNIT. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
DUAL GLAZED WINDOWS. SEE WINDOW SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
A,C
A.3
B
A.3
A,C
A.3
G
A.5
EXTERIOR DOORS. SEE DOOR SCHEDULE. BRAND & MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.

FRONT ELEVATION

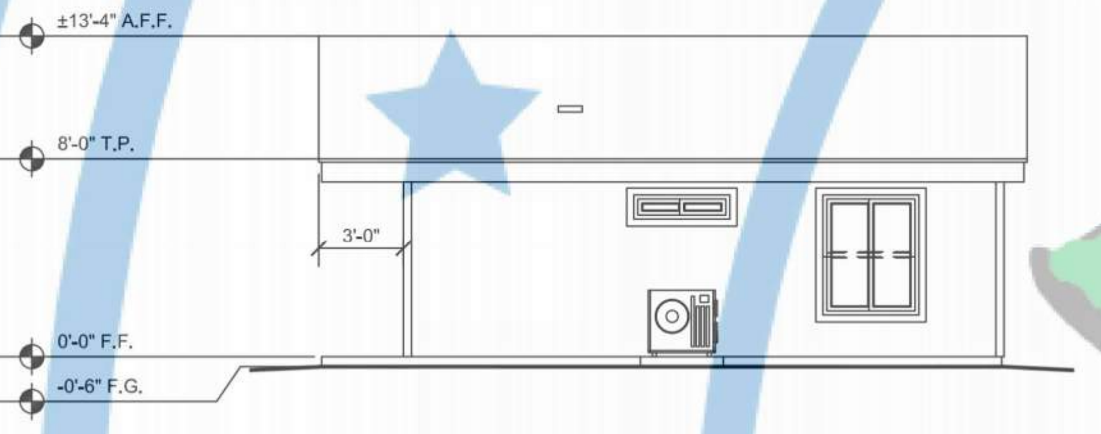
MATERIALS AND SPECIFICATIONS ABOVE ARE APPLICABLE TO ALL SIDES OF THE ACCESSORY DWELLING UNIT.

SCALE:1/4"=1'-0" CONTEMPORARY W/PORCH OPTION



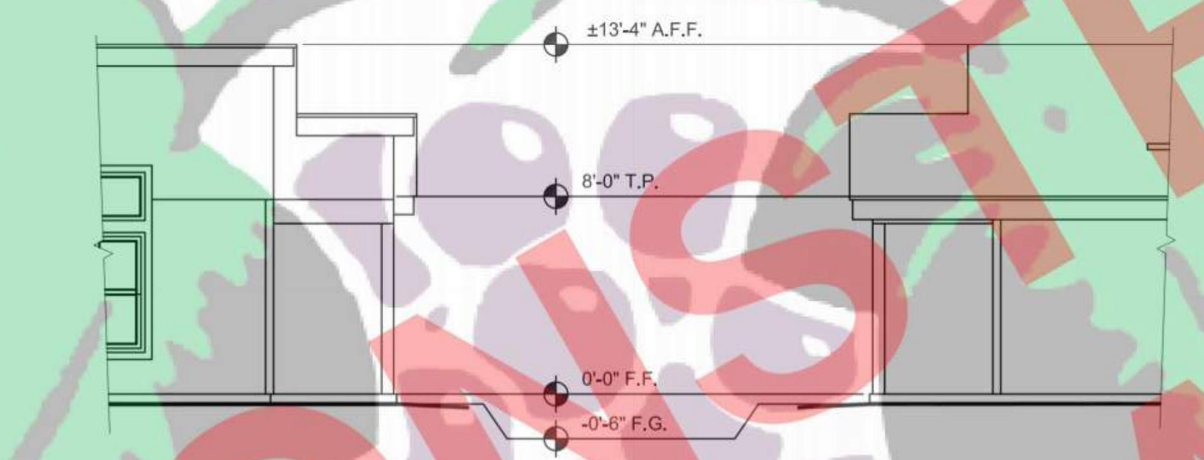
LEFT ELEVATION

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


±13'-4" A.F.F.
8'-0" T.P.
3'-0"
0'-0" F.F.
-0'-6" F.G.

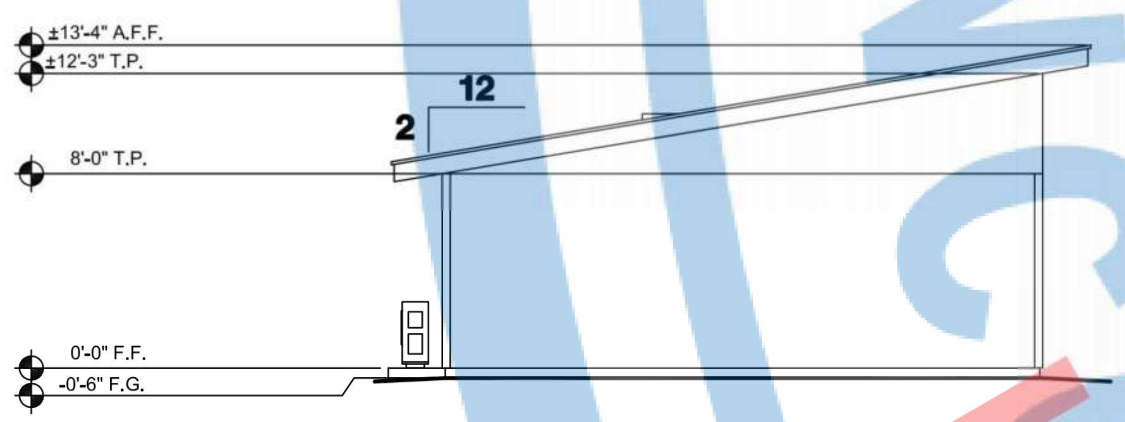
RIGHT ELEVATION

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


±13'-4" A.F.F.
8'-0" T.P.
0'-0" F.F.
-0'-6" F.G.

LEFT & RIGHT ELEVATION

SCALE:1/8"=1'-0" CONTEMPORARY W/PORCH OPTION


±13'-4" A.F.F.
±12'-3" T.P.
12
2
8'-0" T.P.
0'-0" F.F.
-0'-6" F.G.

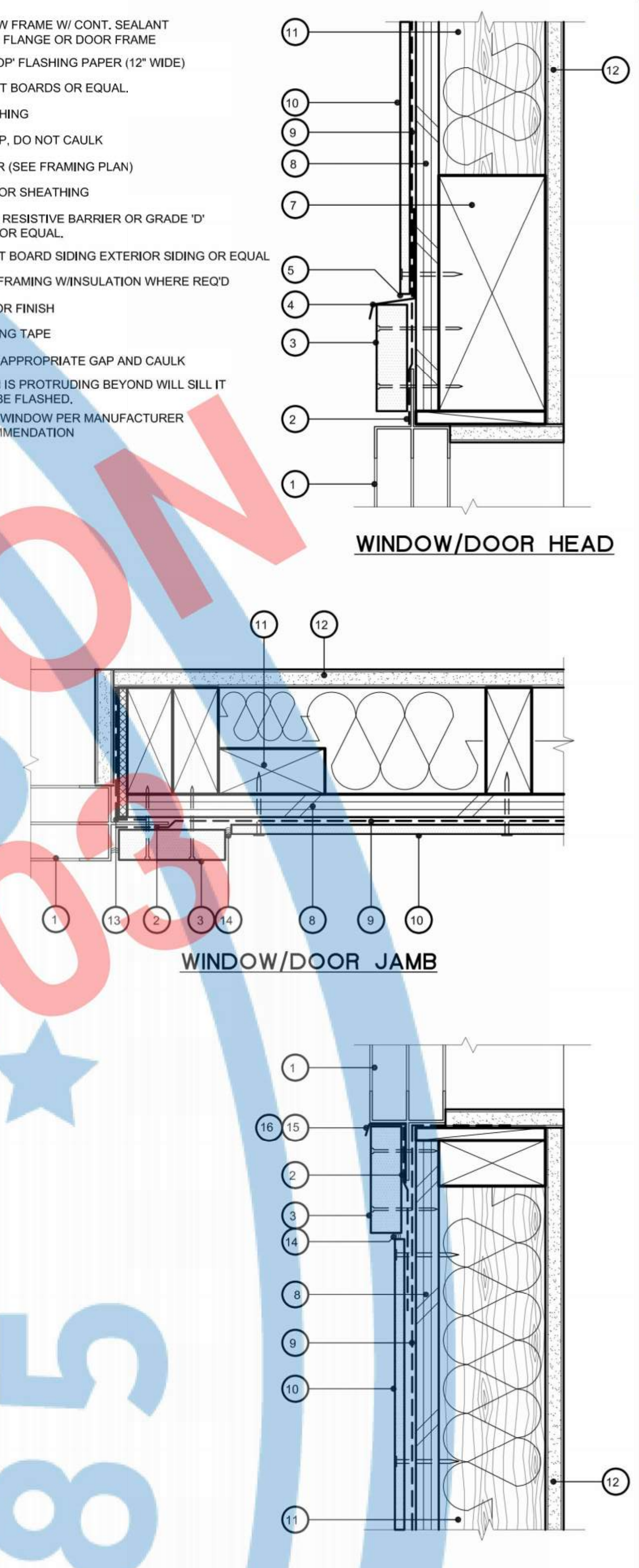
REAR ELEVATION

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

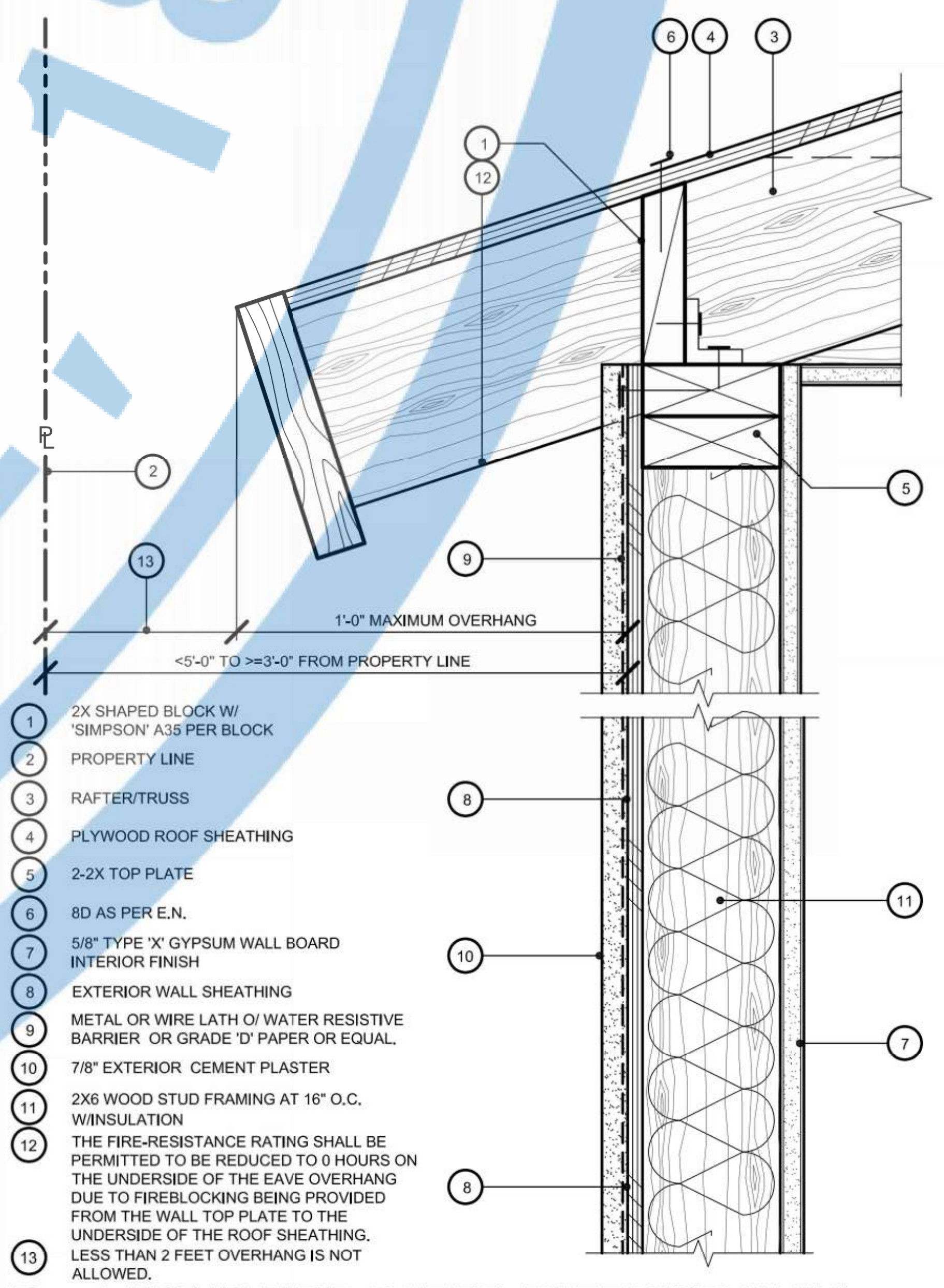
DUE TO RAFTER BAY VENTILATION REQUIREMENTS ONLY REAR RAKE WALL CAN BE PARALLEL TO PROPERTY WITH SETBACKS IS LESS THAN 5'-0" OR GREATER OR EQUAL TO 3'-0" FROM THE PROPERTY LINE.

WHEN BUILDING SETBACK IS LESS THAN 5'-0" OR GREATER OR EQUAL TO 3'-0" FROM THE PROPERTY LINE AND THE ADU HAS NO FIRE SPRINKLERS THE WALLS PARALLEL TO THE PROPERTY LINES MUST BE ONE HOUR FIRE RATED PER CRC TABLE R301.1(1) SEE DETAIL B,C/A.4 FOR ADDITIONAL INFORMATION. WALLS PARALLEL TO PROPERTY LINE MUST BE STUCCO EXTERIOR(3 COAT): USE 7/8" CEMENT PLASTER O/15# BUILDING FELT W/WIRE LATH W/NUMBER 11 GAUGE STAPLE 7/8" LEGS AT 6" O.C. PROVIDE WEEP SCREEDS. PROVIDE 2 LAYERS OF TYPE 'D' PAPER UNDERLAYMENT WHERE LATH IS TO BE APPLIED OVER WOOD SHEATHING AT THE STUCCO EXTERIOR. RIB LATH HORIZONTAL CEMENT PLASTER CONDITIONS.

1. WINDOW FRAME W/ CONT. SEALANT BEHIND FLANGE OR DOOR FRAME
2. 'MOISTOP' FLASHING PAPER (12" WIDE)
3. CEMENT BOARDS OR EQUAL.
4. Z-FLASHING
5. 1/4" GAP, DO NOT CAULK
7. HEADER (SEE FRAMING PLAN)
8. EXTERIOR SHEATHING
9. WATER RESISTIVE BARRIER OR GRADE 'D' PAPER OR EQUAL.
10. CEMENT BOARD SIDING EXTERIOR SIDING OR EQUAL
11. WOOD FRAMING W/INSULATION WHERE REQ'D
12. INTERIOR FINISH
13. FLASHING TAPE
14. LEAVE APPROPRIATE GAP AND CAULK
15. IF TRIM IS PROTRUDING BEYOND WILL SILL IT MUST BE FLASHED.
16. FLASH WINDOW PER MANUFACTURER RECOMMENDATION


11
10
9
8
7
5
4
3
2
1
12
WINDOW/DOOR HEAD
11
12
1
13
2
3
14
8
9
10
WINDOW/DOOR JAMB
1
16
15
2
3
14
8
9
10
12
11
WINDOW SILL

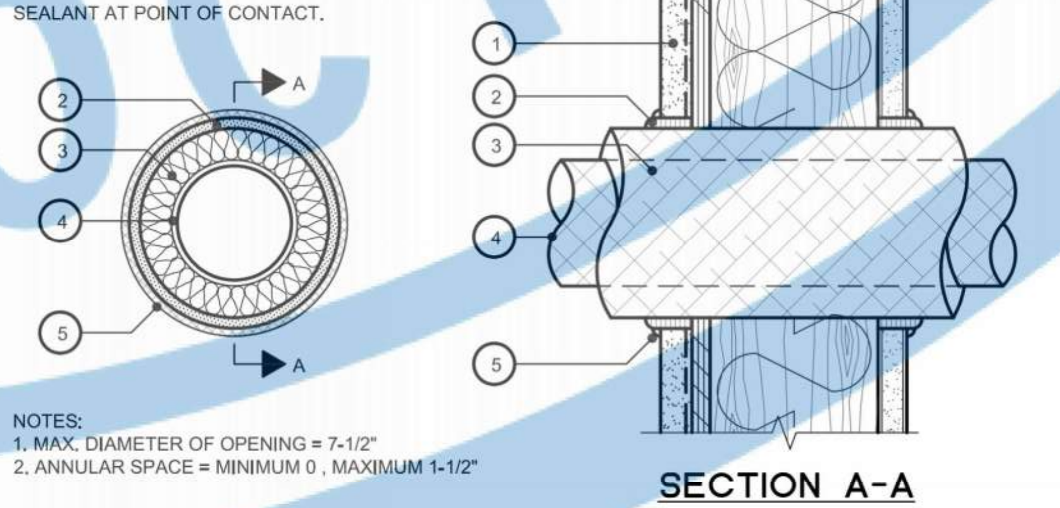
A WINDOW/DOOR AT EXTERIOR SIDING


6
4
3
1
12
2
13
9
5
1'-0" MAXIMUM OVERHANG
<5'-0" TO >=3'-0" FROM PROPERTY LINE
8
11
10
7
8

1. 2X SHAPED BLOCK W/ 'SIMPSON' A35 PER BLOCK
2. PROPERTY LINE
3. RAFTER/TRUSS
4. PLYWOOD ROOF SHEATHING
5. 2-2X TOP PLATE
6. 8D AS PER E.N.
7. 5/8" TYPE 'X' GYPSUM WALL BOARD INTERIOR FINISH
8. EXTERIOR WALL SHEATHING
9. METAL OR WIRE LATH O/ WATER RESISTIVE BARRIER OR GRADE 'D' PAPER OR EQUAL.
10. 7/8" EXTERIOR CEMENT PLASTER
11. 2X6 WOOD STUD FRAMING AT 16" O.C. W/INSULATION
12. THE FIRE-RESISTANCE RATING SHALL BE PERMITTED TO BE REDUCED TO 0 HOURS ON THE UNDERSIDE OF THE EAVE OVERHANG DUE TO FIREBLOCKING BEING PROVIDED FROM THE WALL TOP PLATE TO THE UNDERSIDE OF THE ROOF SHEATHING.
13. LESS THAN 2 FEET OVERHANG IS NOT ALLOWED.

B 1-HOUR FIRE RATED EXTERIOR WALL

1. FIRE-RATED WALL ASSEMBLY, SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
2. MINIMUM 5/8" DEPTH HILTI FS-ONE HIGH PERFORMANCE INTUMESCENT FIRESTOP SEALANT TO FILL ANNULAR SPACE.
3. NOMINAL 3/4" THICK AB/PVC FLEXIBLE FOAM PIPE INSULATION.
4. METALLIC PIPE TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY. THE FOLLOWING SIZES OF METALLIC PIPES ALLOWED:
   STEEL/IRON: 4" Ø OR SMALLER (SCHEDULE 40 OR HEAVIER).
   COPPER TUBING: 2"Ø MAX. TYPE M (MIN)
   COPPER PIPE: 2" Ø MAX. REGULAR (MIN.)
5. MINIMUM 1/2" BEAD HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT AT POINT OF CONTACT.


2
3
4
5
A
A
1
2
3
4
5

NOTES:
1. MAX. DIAMETER OF OPENING = 7-1/2"
2. ANNULAR SPACE = MINIMUM 0 , MAXIMUM 1-1/2"

SECTION A-A

C FIRE RATED WALL PIPE PENETRATION

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

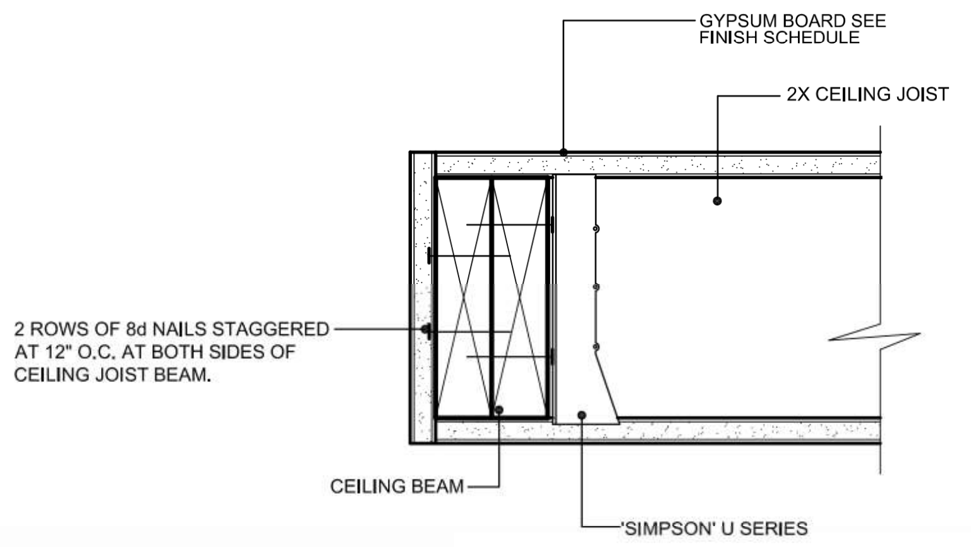
NO.	DESCRIPTION	DATE
2	- ONE HOUR RATED FIRE WALL FOR REDUCED SIDE OR REAR YARD SETBACK.	04/18/24

CITY USE ONLY

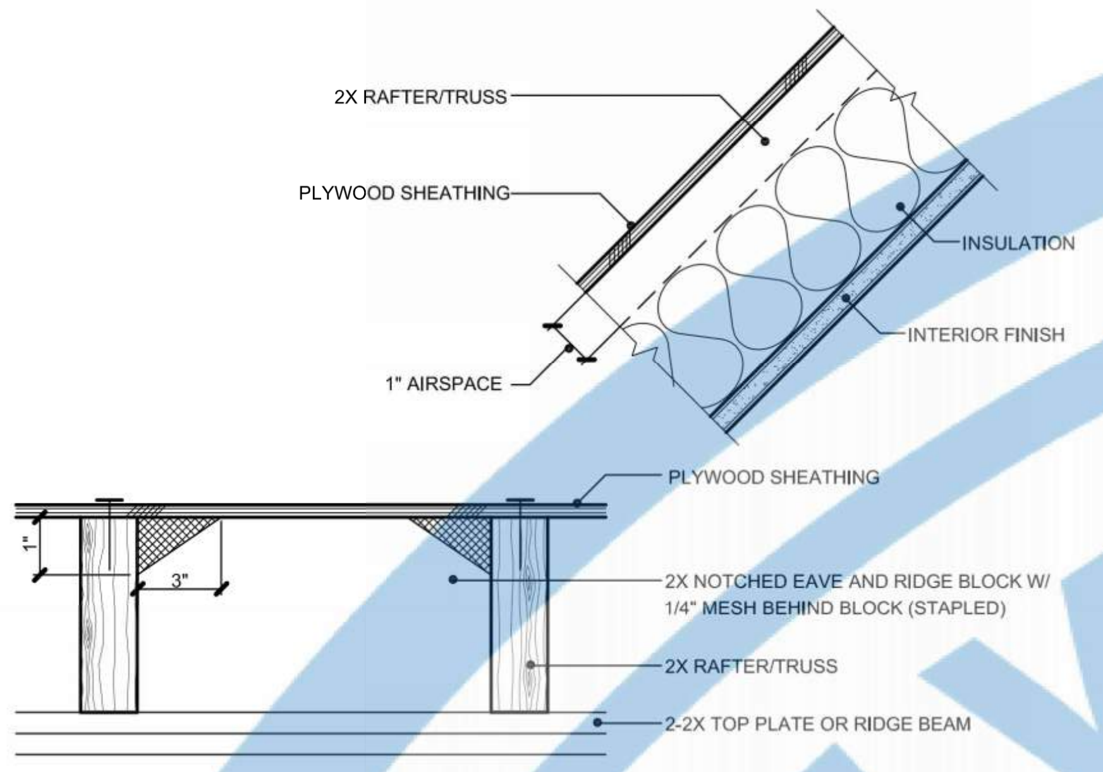
DRAWING TITLE:

CONTEMPORARY BUILDING ELEVATIONS (WITH PORCH OPTION)

JOB# : TADU-003
DATE: 18-Apr-24
SCALE: AS NOTED
DRAWN BY: IRG
SHEET NO. A.4


GYPSUM BOARD SEE FINISH SCHEDULE
2X CEILING JOIST
2 ROWS OF 8d NAILS STAGGERED AT 12" O.C. AT BOTH SIDES OF CEILING JOIST BEAM.
CEILING BEAM
'SIMPSON' U SERIES

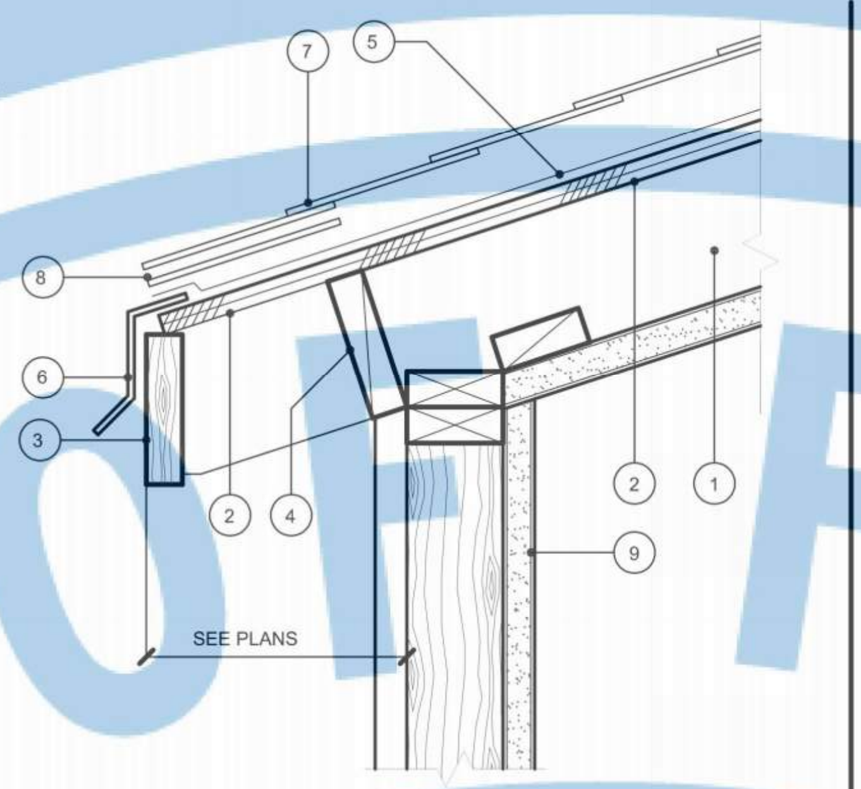
P CEILING JOIST AT DOUBLE JOIST


2X RAFTER/TRUSS
PLYWOOD SHEATHING
INSULATION
INTERIOR FINISH
1" AIRSPACE
PLYWOOD SHEATHING
1"
3"
2X NOTCHED EAVE AND RIDGE BLOCK W/ 1/4" MESH BEHIND BLOCK (STAPLED)
2X RAFTER/TRUSS
2-2X TOP PLATE OR RIDGE BEAM

N VAULTED CEILING VENTILATION

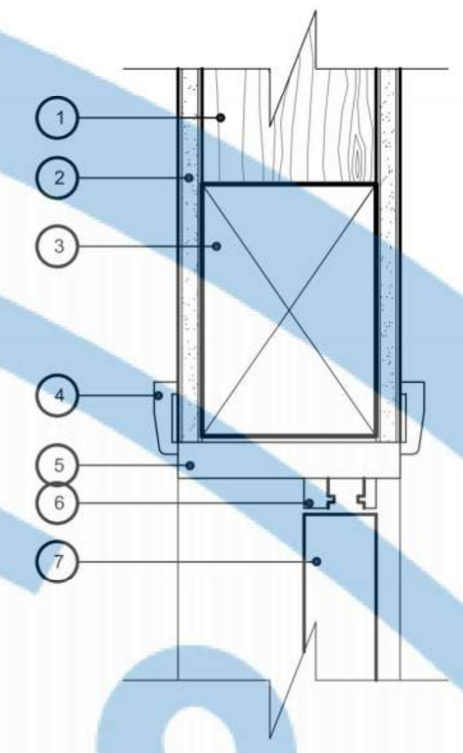
1. 2X RAFTERS (SEE FRAMING PLANS)
2. 1X STARTER BOARDS AT OVERHANG ROOF SHEATHING AT FIELD
3. 2X FASCIA (SEE ELEVATION)
4. 2X BLOCKING
5. NON-PERF. TYPE 15 FELT UNDERLAYMENT APPLIED PER A.R.M.A
6. 26 GA. G.I. DRIP
7. ASPHALT SHINGLES APPLIED PER A.R.M.A.
8. 9" WIDE MINERAL SURFACE STARTER STRIP
9. GYPSUM BOARD SEE WALL LEGEND

REFER TO STRUCTURAL DRAWINGS FOR SHEAR REQUIREMENTS

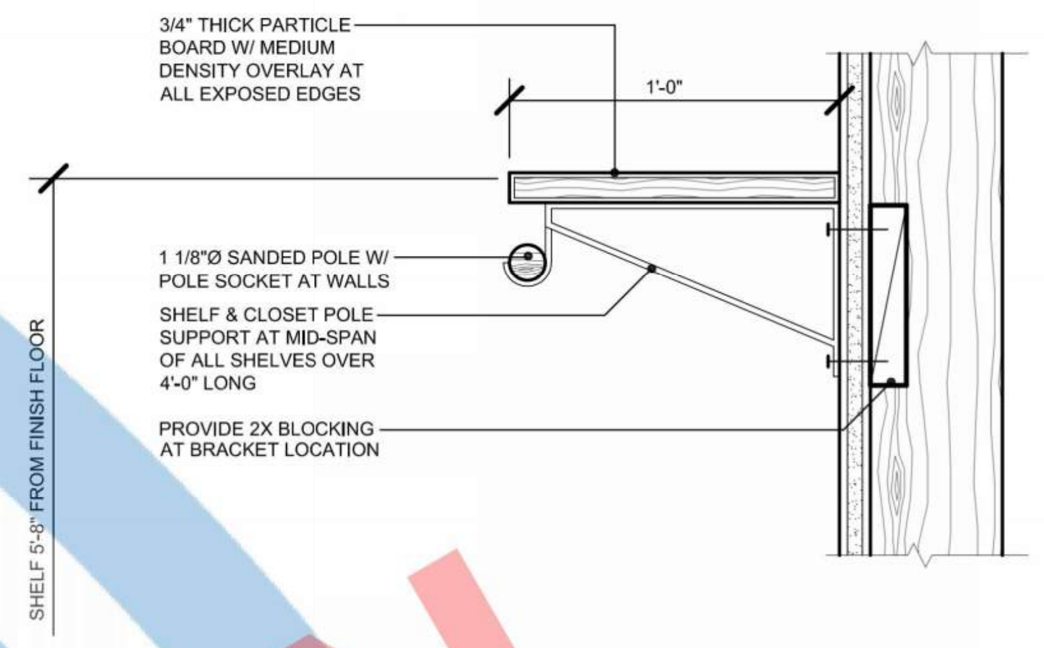


J EAVE AT CONVENTIONAL FRAMING

1. 2X WALL FRAMING
2. GYPSUM BOARD
3. HEADER
4. MOLDING - NEED NOT BE INSTALLED INSIDE CLOSET OR UTILITY SPACES
5. 1X JAMB
6. PIVOT BI-FOLDING HARDWARE
7. DOOR



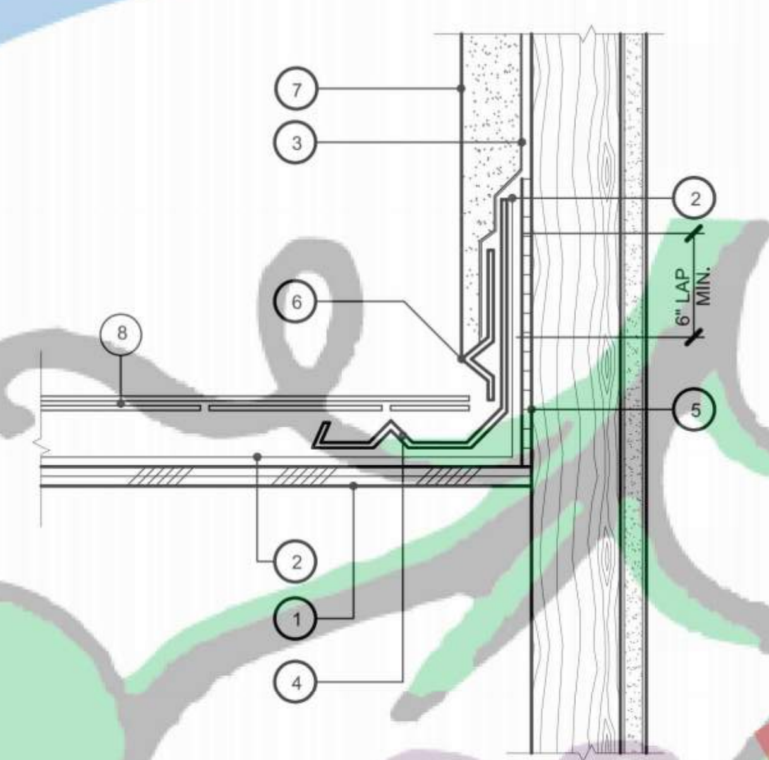
E INTERIOR DOOR HEAD - BI FOLD


3/4" THICK PARTICLE BOARD W/ MEDIUM DENSITY OVERLAY AT ALL EXPOSED EDGES
1'-0"
1 1/8"Ø SANDED POLE W/ POLE SOCKET AT WALLS
SHELF & CLOSET POLE SUPPORT AT MID-SPAN OF ALL SHELVES OVER 4'-0" LONG
PROVIDE 2X BLOCKING AT BRACKET LOCATION
SHELF 5'-8" FROM FINISH FLOOR

A CLOSET SHELF AND POLE

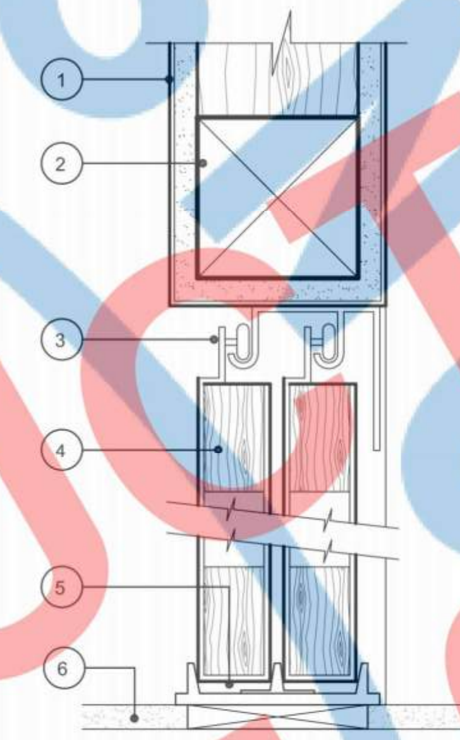
1. ROOF SHEATHING
2. UNDERLAYMENT (30 lb. A.S.T.M. FELT MIN.)
3. 60 MINUTE GRADE 'D' PAPER
4. 26 GA. G.I. PAN FLASHING
5. 10" X 1/4" LUAN BOARD
6. 26 GA. G.I. CORROSION-RESISTANT WEEP SCREED
7. (3) COAT STUCCO O/WIRE MESH O/FOAM TRIM.
8. ASPHALT SHINGLES APPLIED PER A.R.M.A.

PROVIDE NAILING, BATTENS AND WIND CLIPS PER MFR. INSTALLATION RECOMMENDATIONS

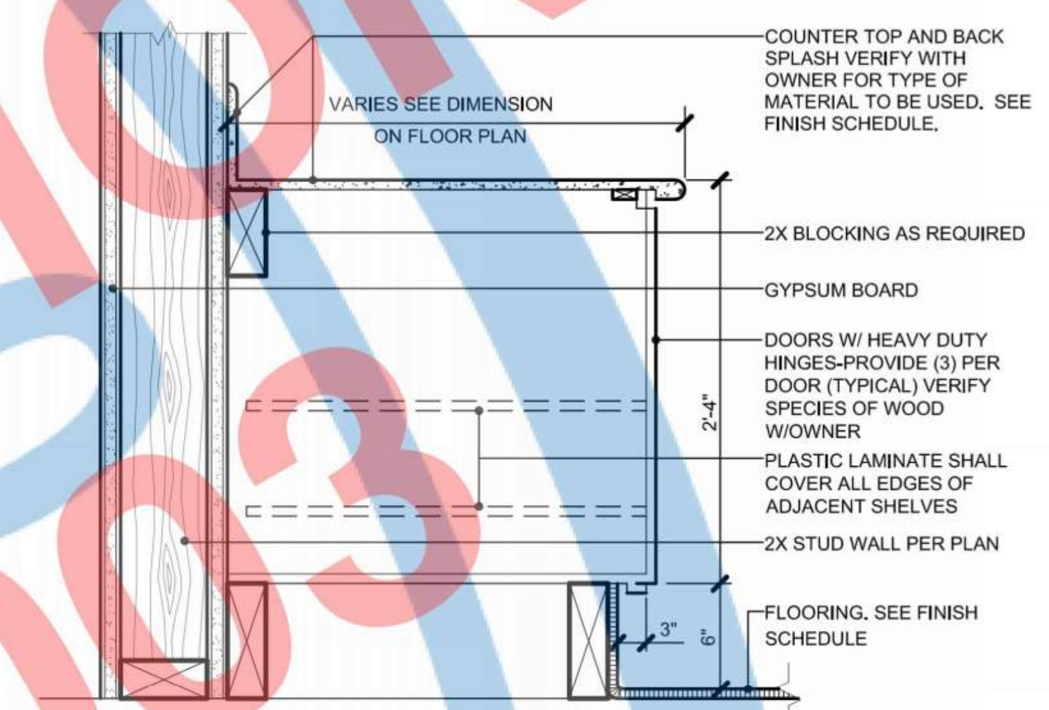


K ROOF TO WALL FLASHING-SHINGLE

1. GYPSUM BOARD
2. HEADER
3. ALUMINUM TRACK AND VALENCE
4. DOORS
5. FLOOR GUIDES OVER 1X4 D.F.P.T SILL
6. CARPET

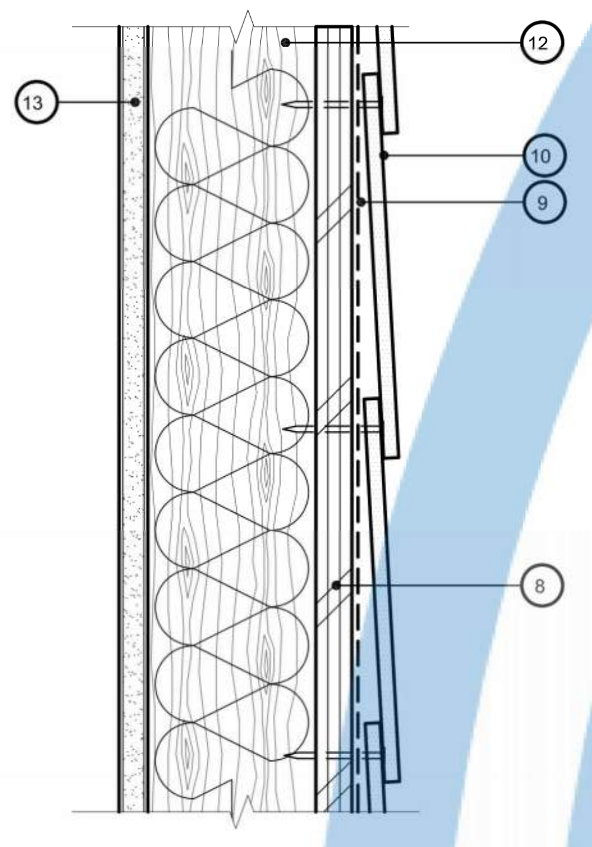


F INTERIOR DOOR HEAD-BI PASS

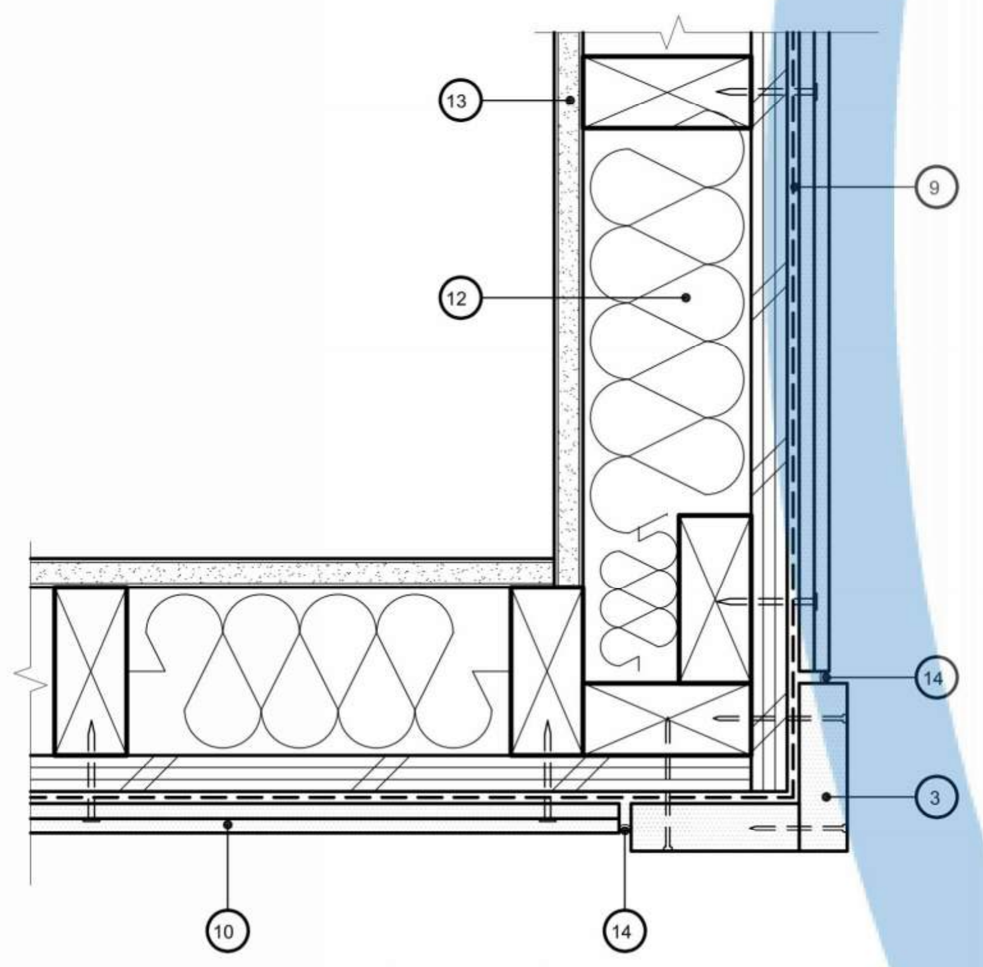

COUNTER TOP AND BACK SPLASH VERIFY WITH OWNER FOR TYPE OF MATERIAL TO BE USED. SEE FINISH SCHEDULE.
VARIES SEE DIMENSION ON FLOOR PLAN
2X BLOCKING AS REQUIRED
GYPSUM BOARD
DOORS W/ HEAVY DUTY HINGES-PROVIDE (3) PER DOOR (TYPICAL) VERIFY SPECIES OF WOOD W/OWNER
PLASTIC LAMINATE SHALL COVER ALL EDGES OF ADJACENT SHELVES
2X STUD WALL PER PLAN
FLOORING, SEE FINISH SCHEDULE
2'-4"
3"
6"

B TYPICAL BASE COUNTER

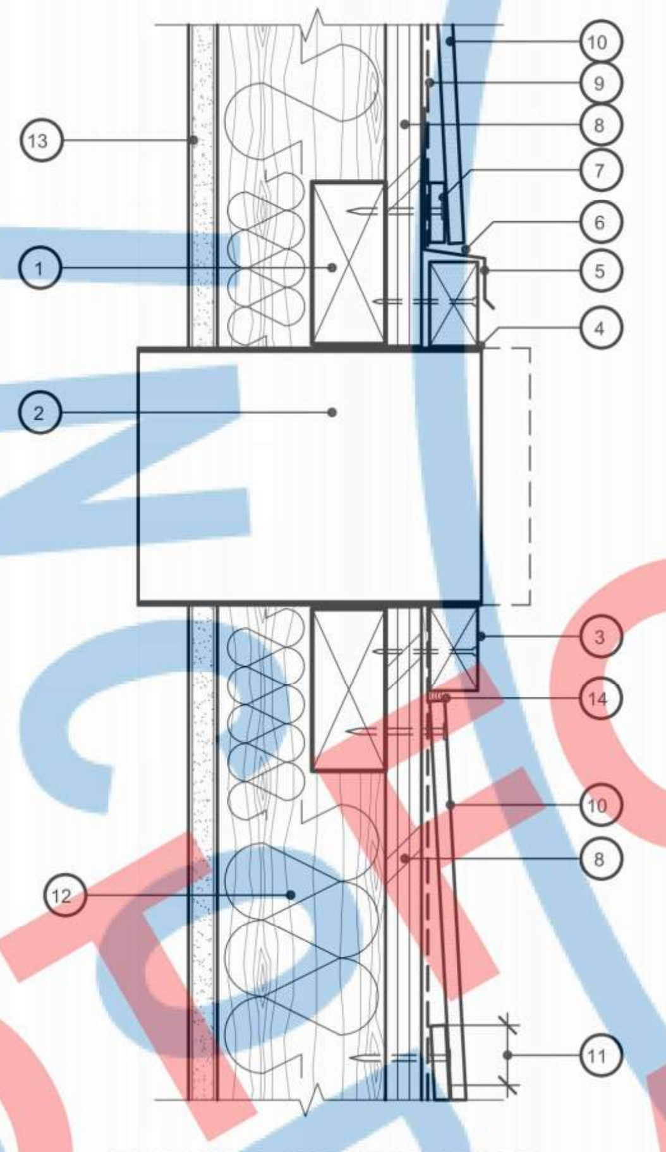
1. BLOCKING AS REQ.
2. FIXTURE PENETRATION
3. CEMENT TRIM BOARDS OR EQUAL.
4. TRIM AROUND OPENING
5. FLASHING
6. 1/4" GAP, DO NOT CAULK
7. STARTER STRIP
8. EXTERIOR SHEATHING
9. WATER RESISTIVE BARRIER OR GRADE 'D' PAPER OR EQUAL.
10. CEMENT BOARD LAP EXTERIOR SIDING OR EQUAL
11. MIN. 1 1/4" OVERLAP
12. WOOD FRAMING W/INSULATION WHERE REQ'D
13. INTERIOR FINISH
14. LEAVE APPROPRIATE GAP AND CAULK
15. CEMENT BOARD EXTERIOR SIDING OR EQUAL



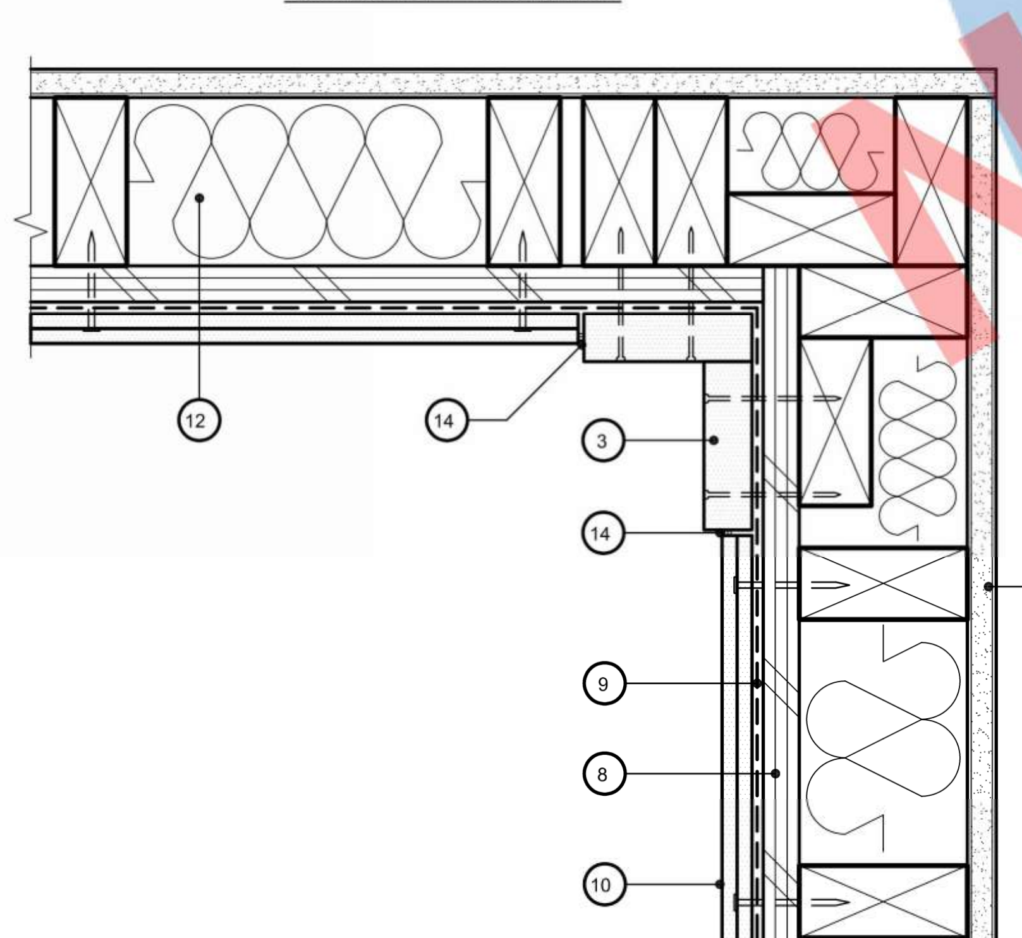
HORIZONTAL LAP VIEW



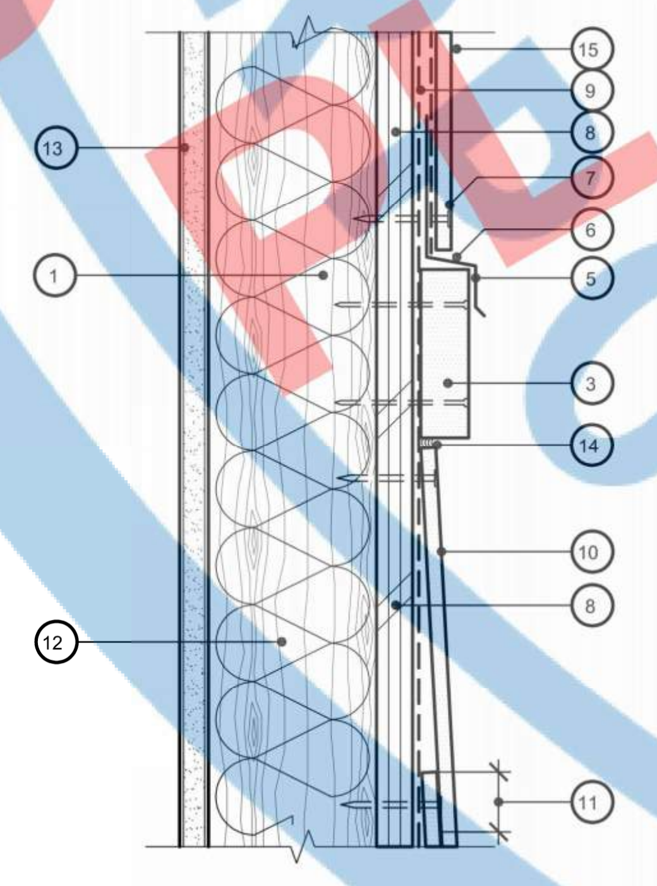
OUTSIDE CORNER



FIXTURE PENETRATION



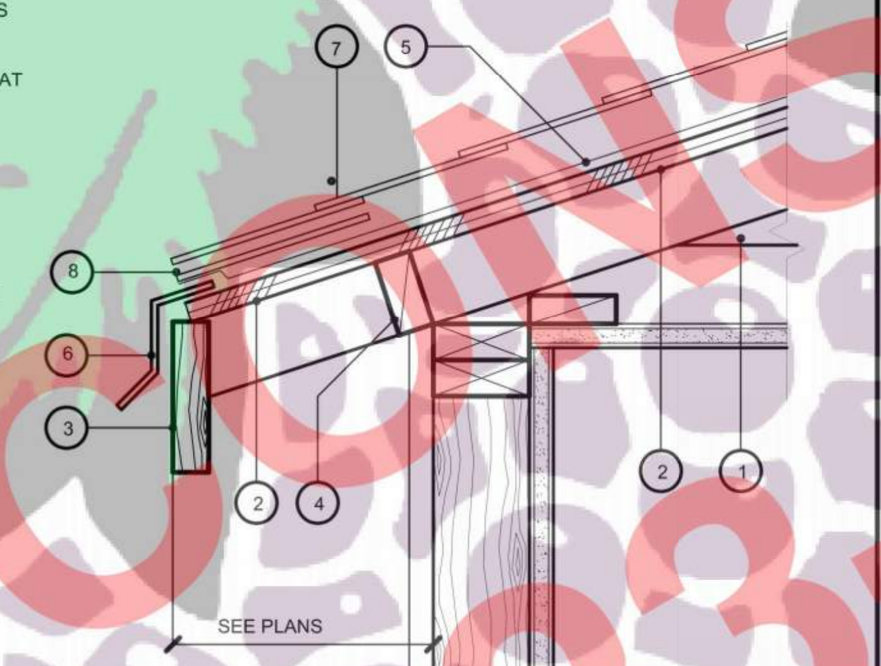
INSIDE CORNER



PLANK TO PANEL TRANSITION

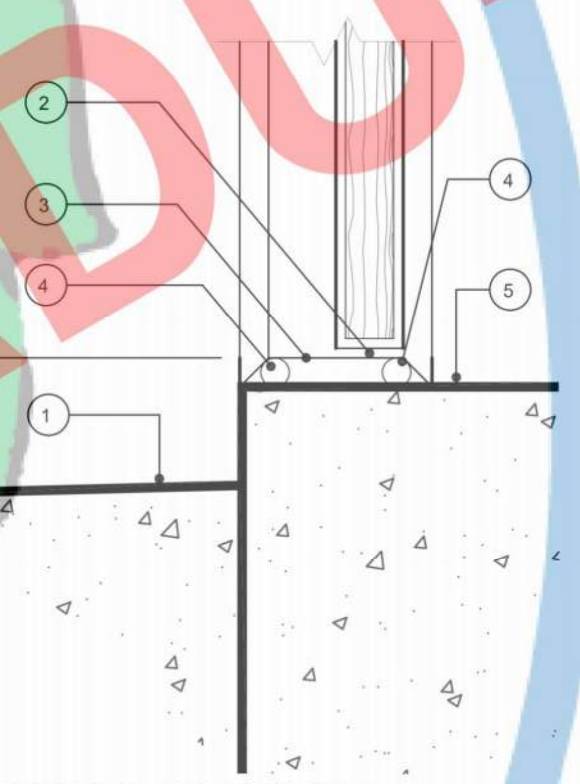
O EXTERIOR SIDING

1. TRUSSES OR RAFTERS (SEE FRAMING PLAN)
2. 1X STARTER BOARDS AT OVERHANG ROOF SHEATHING AT FIELD
3. 2X FASCIA (SEE ELEVATION)
4. 2X BLOCKING
5. NON-PERF. TYPE 15 FELT UNDERLAYMENT APPLIED PER A.R.M.A
6. 26 GA. G.I. DRIP
7. ASPHALT SHINGLES APPLIED PER A.R.M.A.
8. 9" WIDE MINERAL SURFACE STARTER STRIP

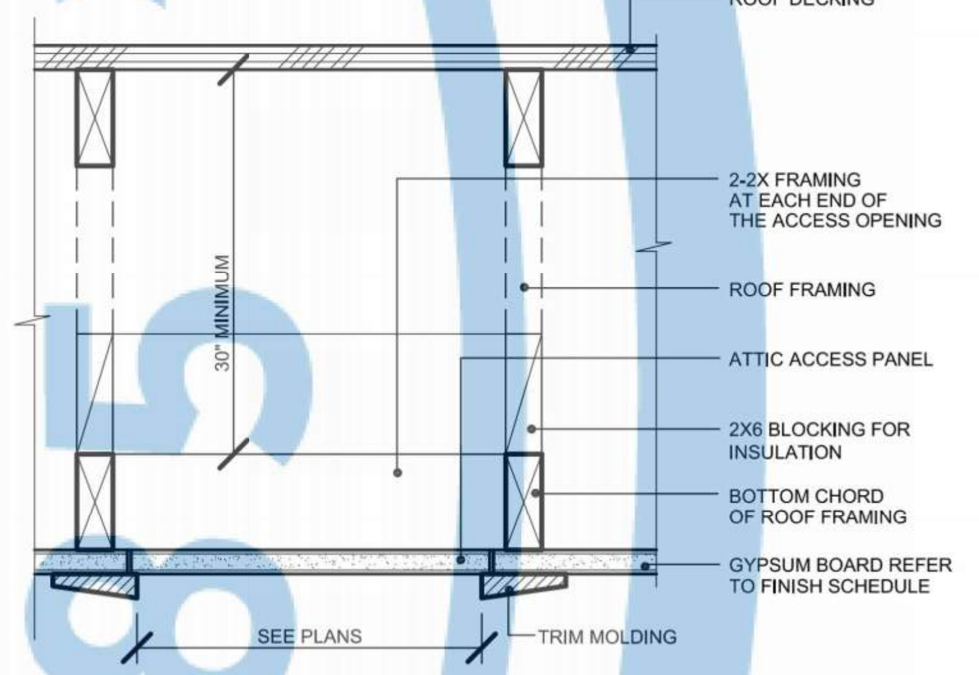


L EAVE - SHINGLE

1. CONCRETE STOOP
2. WEATHER STRIPPING
3. THRESHOLD-PROVIDE BITUMINOUS COATING ON THRESHOLD FOR SEPARATION OF ALUMINUM & CONCRETE OR OTHER APPROVED MEASURE TO ISOLATE/PROTECT
4. NON-HARDENING SEALANT
5. CONCRETE SLAB

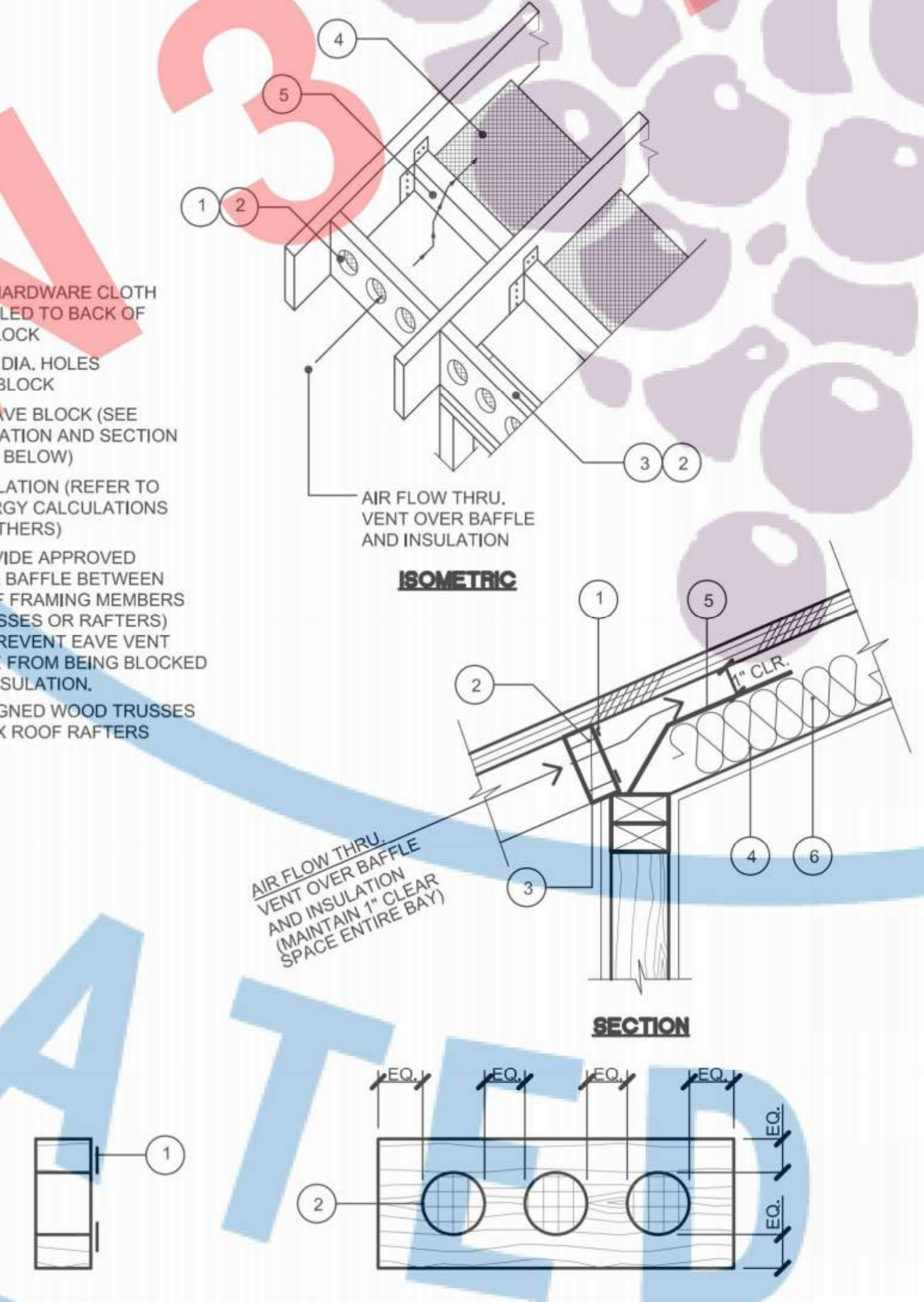


G THRESHOLD AT SWING-IN DOOR


ROOF DECKING
2-2X FRAMING AT EACH END OF THE ACCESS OPENING
ROOF FRAMING
ATTIC ACCESS PANEL
2X6 BLOCKING FOR INSULATION
BOTTOM CHORD OF ROOF FRAMING
GYPSUM BOARD REFER TO FINISH SCHEDULE
30" MINIMUM
SEE PLANS
TRIM MOLDING

C ATTIC ACCESS

1. 1/4" HARDWARE CLOTH STAPLED TO BACK OF 2X BLOCK
2. (3) 3" DIA. HOLES PER BLOCK
3. 2X EAVE BLOCK (SEE ELEVATION AND SECTION VIEW BELOW)
4. INSULATION (REFER TO ENERGY CALCULATIONS BY OTHERS)
5. PROVIDE APPROVED EAVE BAFFLE BETWEEN ROOF FRAMING MEMBERS (TRUSSES OR RAFTERS) TO PREVENT EAVE VENT HOLE FROM BEING BLOCKED BY INSULATION.
6. DESIGNED WOOD TRUSSES OR 2X ROOF RAFTERS


AIR FLOW THRU, VENT OVER BAFFLE AND INSULATION
AIR FLOW THRU, VENT OVER BAFFLE AND INSULATION (MAINTAIN 1" CLEAR SPACE ENTIRE BAY)
1" CLR.
EQ.

ISOMETRIC

SECTION

SECTION

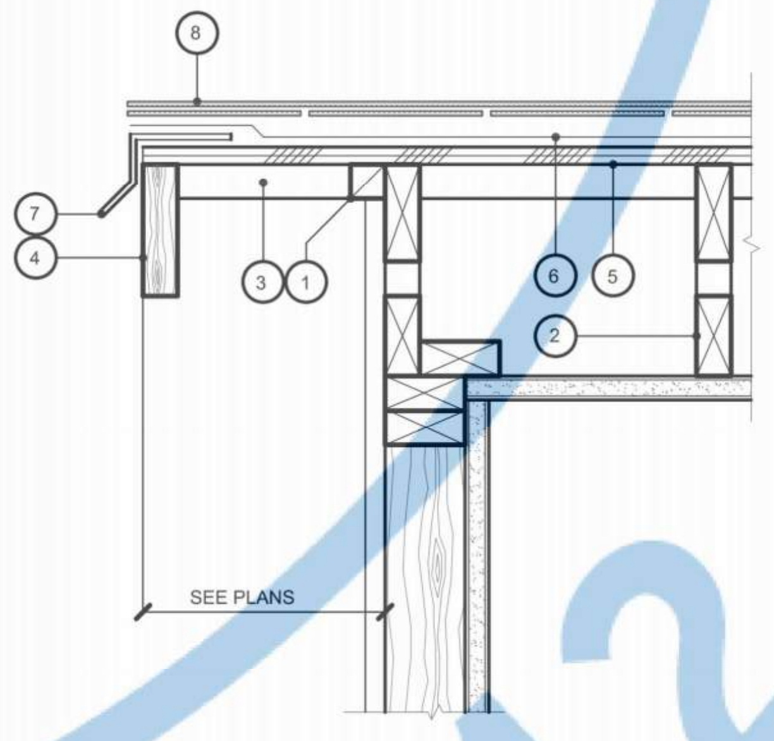
ELEVATION

NOTES:
1. SEE GENERAL NOTES AND PLAN SPECIFICATIONS FOR VENTILATION REQUIREMENTS.
2. EACH BLOCK PROVIDES APPOX. 20 SQ. INCHES OF VENTILATION.
3. MINIMUM BLOCK SIZE 2X6X14 1/2".
4. CONVENTIONALLY FRAMED SLOPED CEILING AREAS- 1 VENT BLOCK AT EACH BAY.

M EAVE VENT BLOCK DETAIL

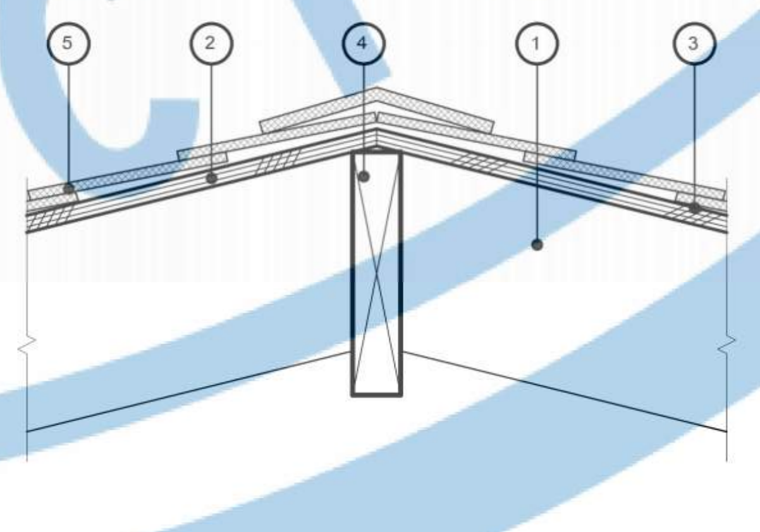
1. 2X2 BLOCK
2. TRUSSES OR RAFTERS (SEE FRAMING PLAN)
3. 2X4 FLAT AT 24" O.C.
4. 2X BARGE (SEE ELEVATION)
6. NON-PERF TYPE 15 FELT UNDERLAYMENT APPLIED PER A.R.M.A.
7. 26 GA. G.I. DRIP
8. ASPHALT SHINGLES APPLIED PER A.R.M.A.

REFER TO STRUCTURAL DRAWINGS FOR SHEAR REQUIREMENTS



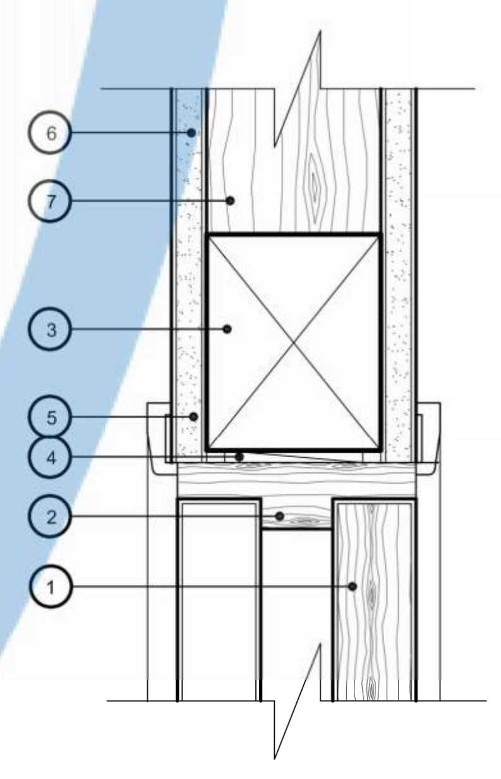
H GABLE END - SHINGLES

1. TRUSSES OR RAFTERS (SEE FRAMING PLAN)
2. ROOF SHEATHING
3. NON-PERF, TYPE 15 FELT UNDERLAYMENT APPLIED PER A.R.M.A.
4. RIDGE/HIP (SEE FRAMING PLAN) (SEE ROOF PLAN)
5. ASPHALT SHINGLES APPLIED PER A.R.M.A.

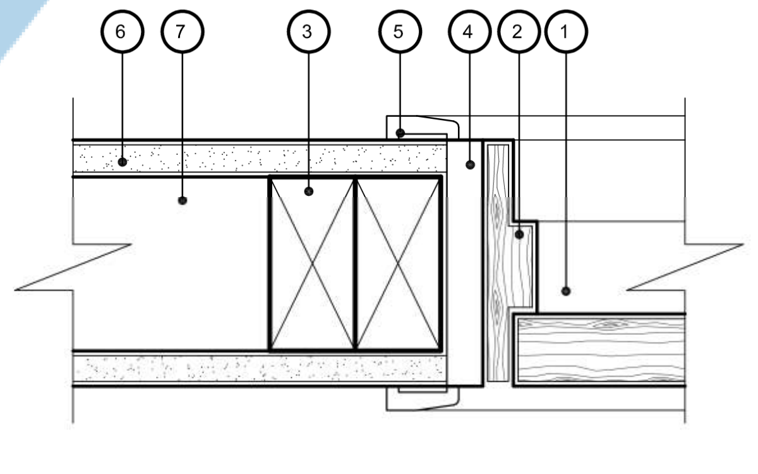


I RIDGE - SHINGLES

1. DOOR
2. DOOR FRAME
3. FRAMING (SEE FRAMING PLAN)
4. SHIM SPACE
5. MOLDING
6. GYPSUM BOARD
7. 2X WALL FRAMING



DOOR HEAD



DOOR JAMB

D INTERIOR DOOR

PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
559-621-8084
darm.building@fresno.gov

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

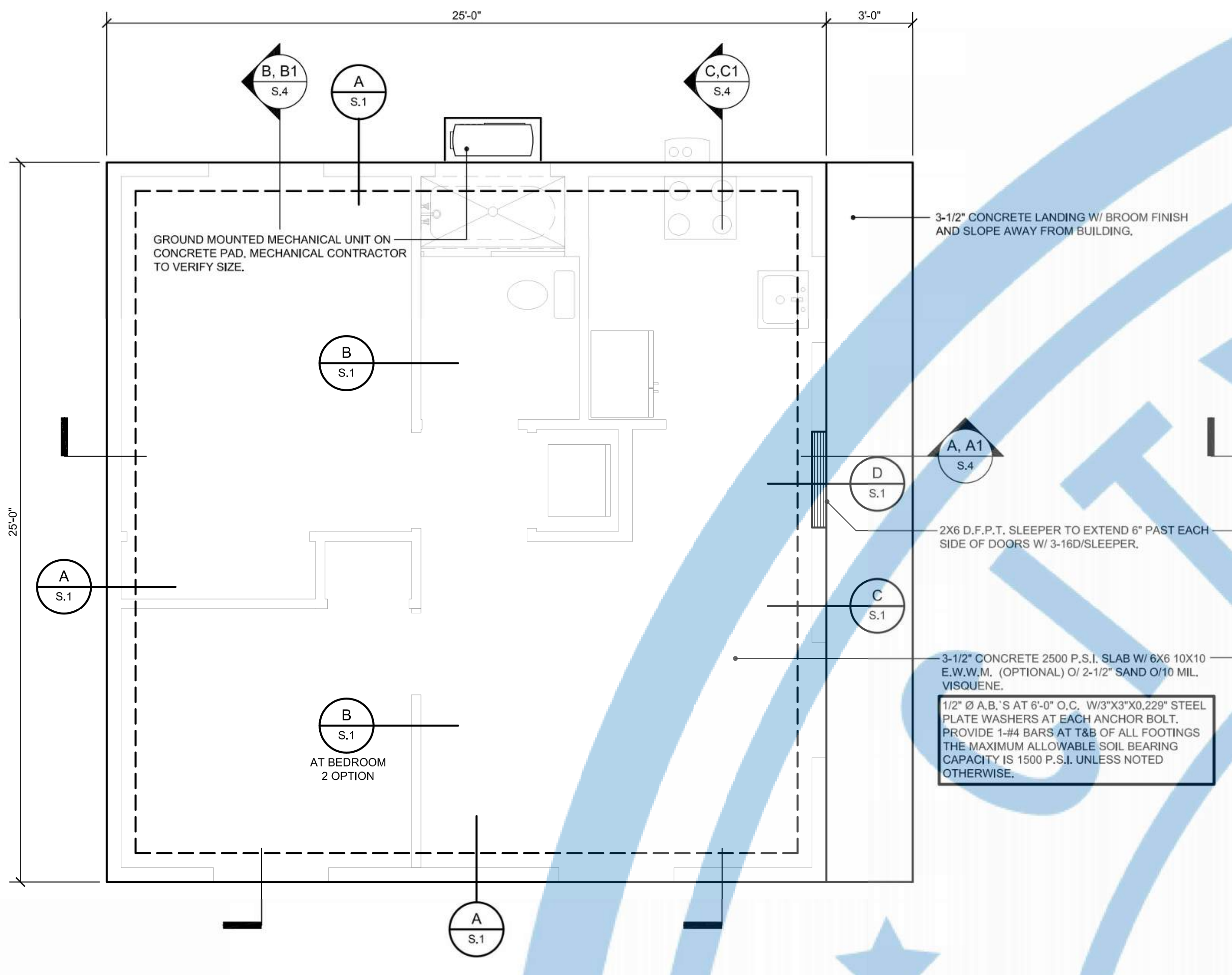
DRAWING TITLE

ARCHITECTURAL DETAILS

JOB# : TADU-003
DATE: 13-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO. A.5

NOT FOR CONSTRUCTION
PLAN 3
23-TADU-003

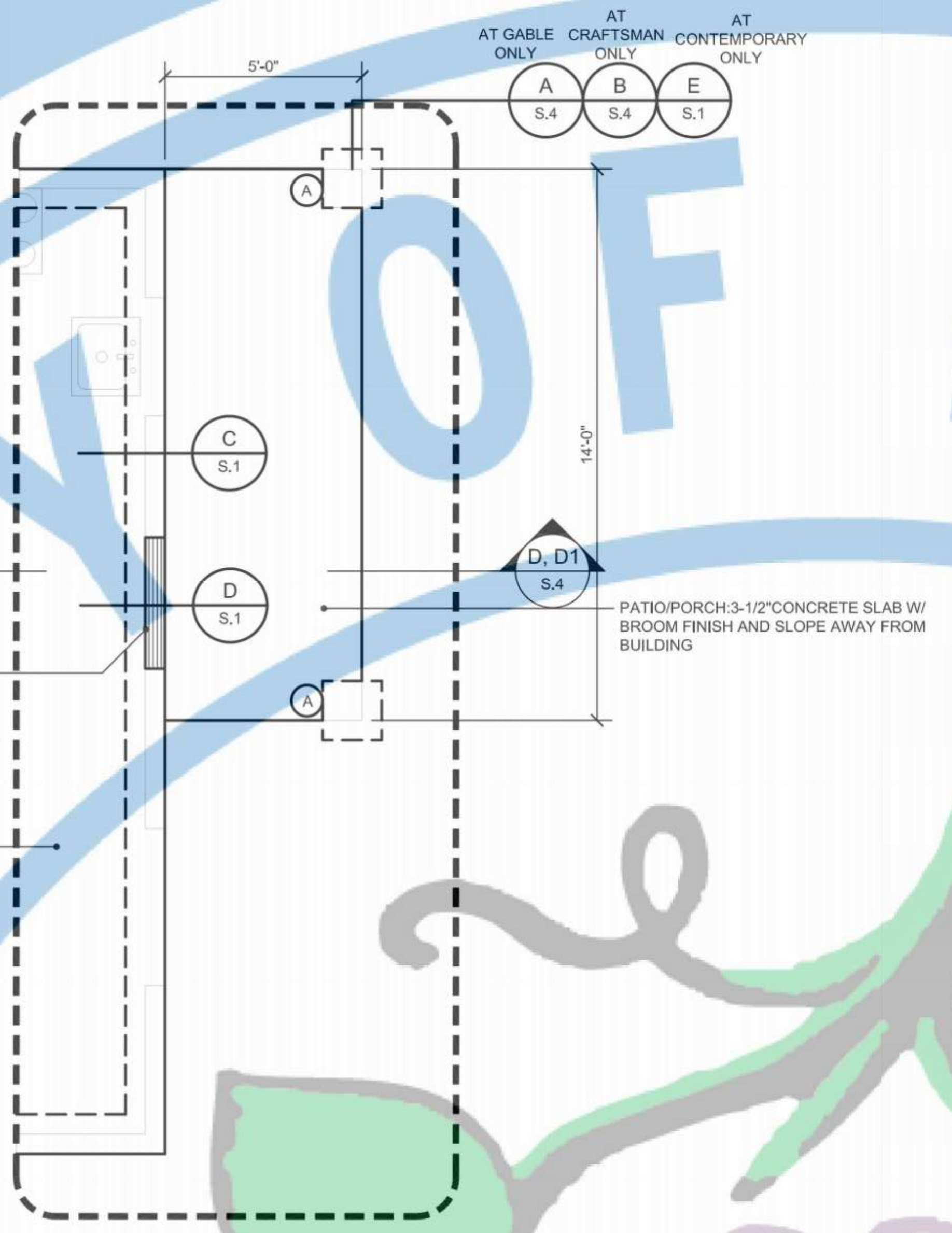

25'-0"
3'-0"
25'-0"
B, B1 S.4
A S.1
C,C1 S.4
GROUND MOUNTED MECHANICAL UNIT ON CONCRETE PAD, MECHANICAL CONTRACTOR TO VERIFY SIZE.
3-1/2" CONCRETE LANDING W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING.
B S.1
A, A1 S.4
D S.1
2X6 D.F.P.T. SLEEPER TO EXTEND 6" PAST EACH SIDE OF DOORS W/ 3-16D/SLEEPER.
A S.1
C S.1
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
B S.1
AT BEDROOM 2 OPTION
A S.1

1/2" Ø A.B.`S AT 6'-0" O.C. W/3"X3"X0.229" STEEL PLATE WASHERS AT EACH ANCHOR BOLT. PROVIDE 1-#4 BARS AT T&B OF ALL FOOTINGS THE MAXIMUM ALLOWABLE SOIL BEARING CAPACITY IS 1500 P.S.I. UNLESS NOTED OTHERWISE.

FOUNDATION PLAN

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

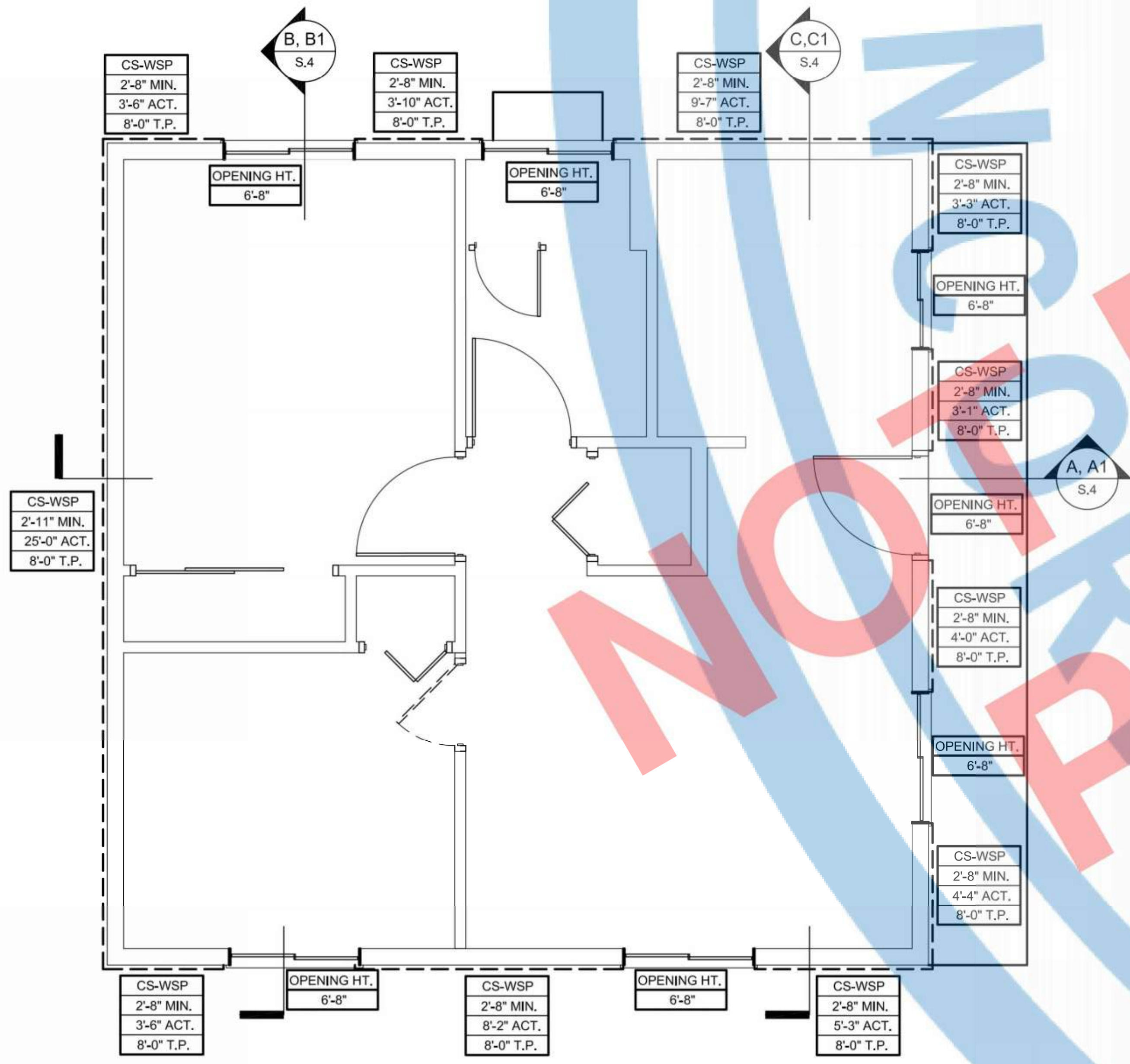
GABLE/CONTEMPORARY/CRAFTSMAN


AT GABLE ONLY
AT CRAFTSMAN ONLY
AT CONTEMPORARY ONLY
A S.4
B S.4
E S.1
5'-0"
14'-0"
A
C S.1
D S.1
D, D1 S.4
A
PATIO/PORCH:3-1/2"CONCRETE SLAB W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING

FOUNDATION PLAN

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

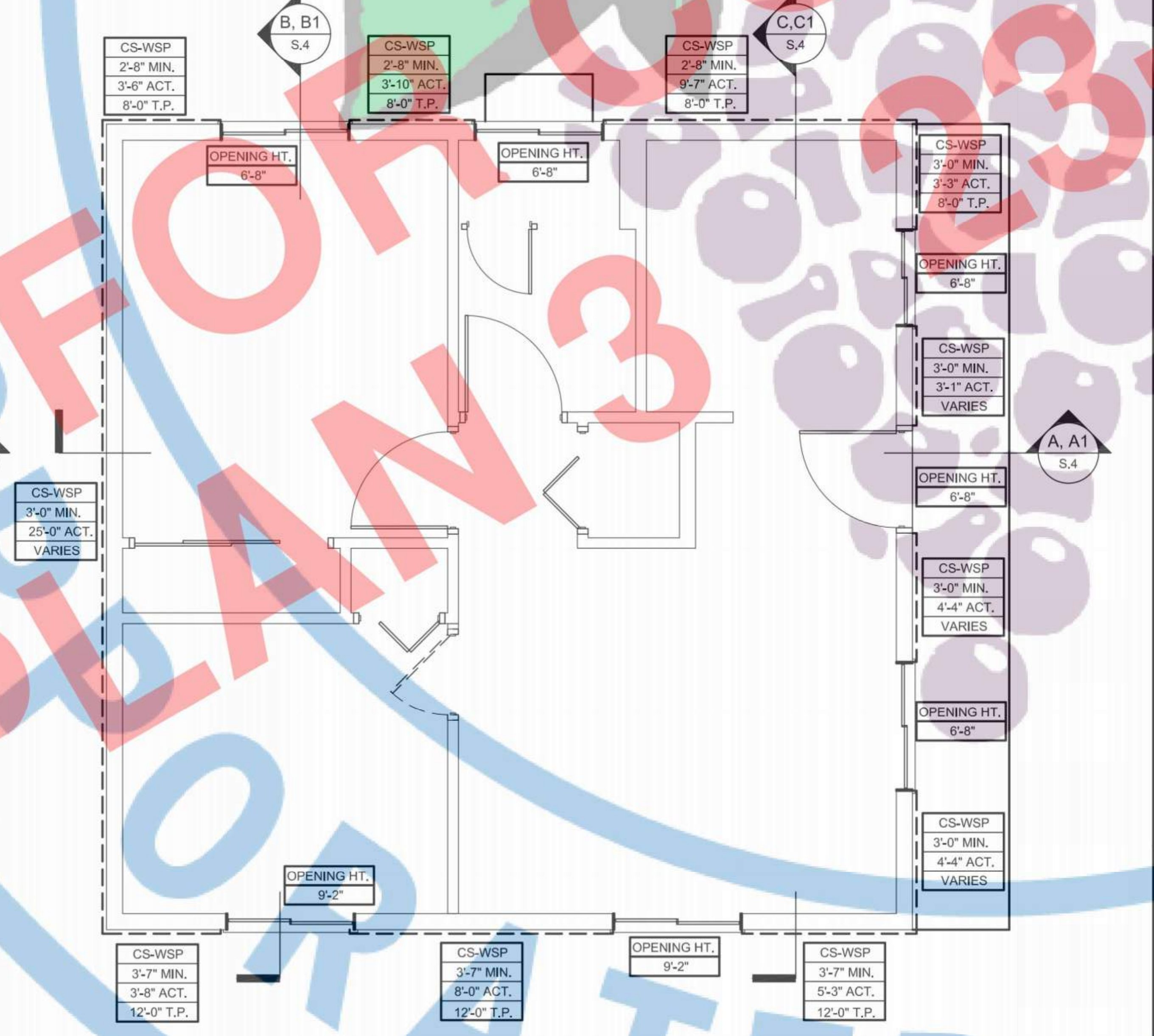
PORCH OPTION


B, B1 S.4
C,C1 S.4
CS-WSP 2'-8" MIN. 3'-6" ACT. 8'-0" T.P.
CS-WSP 2'-8" MIN. 3'-10" ACT. 8'-0" T.P.
CS-WSP 2'-8" MIN. 9'-7" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
OPENING HT. 6'-8"
CS-WSP 2'-8" MIN. 3'-3" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
CS-WSP 2'-8" MIN. 3'-1" ACT. 8'-0" T.P.
A, A1 S.4
CS-WSP 2'-11" MIN. 25'-0" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
CS-WSP 2'-8" MIN. 4'-0" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
CS-WSP 2'-8" MIN. 4'-4" ACT. 8'-0" T.P.
CS-WSP 2'-8" MIN. 3'-6" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
CS-WSP 2'-8" MIN. 8'-2" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
CS-WSP 2'-8" MIN. 5'-3" ACT. 8'-0" T.P.

BRACE WALL PLAN

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

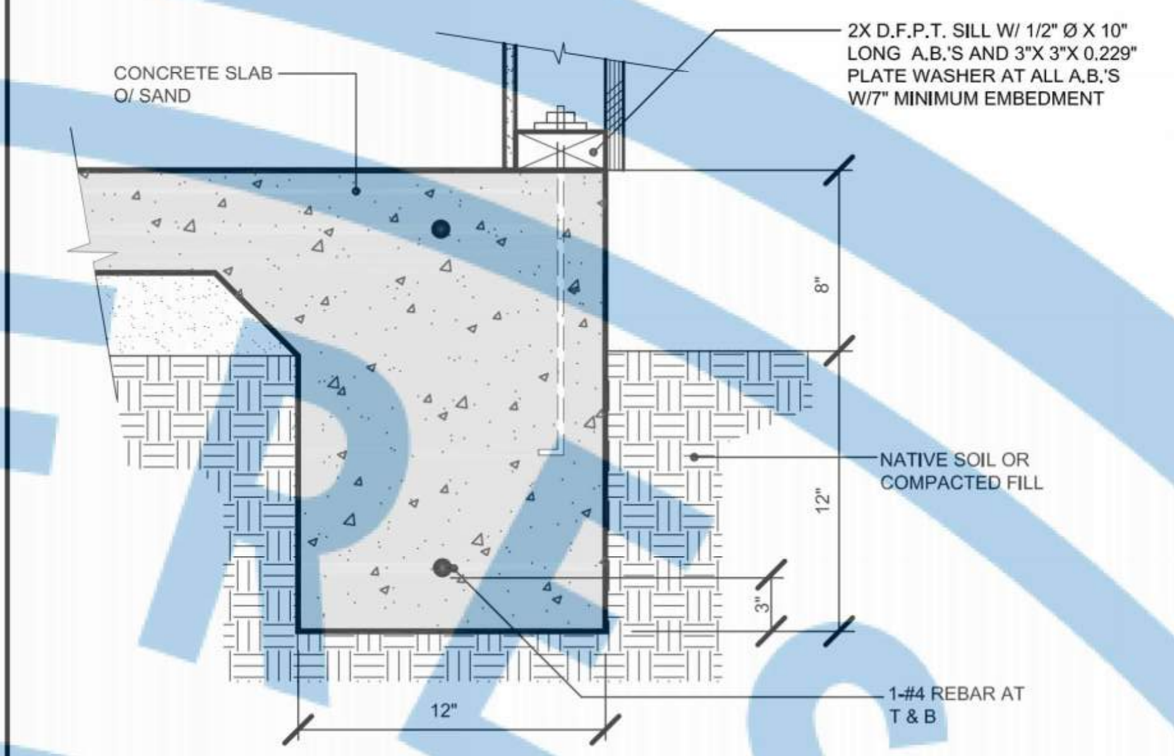
GABLE/CRAFTSMAN
SAME FOR PORCH OPTION


B, B1 S.4
C,C1 S.4
CS-WSP 2'-8" MIN. 3'-6" ACT. 8'-0" T.P.
CS-WSP 2'-8" MIN. 3'-10" ACT. 8'-0" T.P.
CS-WSP 2'-8" MIN. 9'-7" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
OPENING HT. 6'-8"
CS-WSP 3'-0" MIN. 3'-3" ACT. 8'-0" T.P.
OPENING HT. 6'-8"
CS-WSP 3'-0" MIN. 3'-1" ACT. VARIES
A, A1 S.4
A, A1 S.4
CS-WSP 3'-0" MIN. 25'-0" ACT. VARIES
OPENING HT. 6'-8"
CS-WSP 3'-0" MIN. 4'-4" ACT. VARIES
OPENING HT. 6'-8"
CS-WSP 3'-0" MIN. 4'-4" ACT. VARIES
OPENING HT. 9'-2"
CS-WSP 3'-7" MIN. 3'-8" ACT. 12'-0" T.P.
CS-WSP 3'-7" MIN. 8'-0" ACT. 12'-0" T.P.
OPENING HT. 9'-2"
CS-WSP 3'-7" MIN. 5'-3" ACT. 12'-0" T.P.

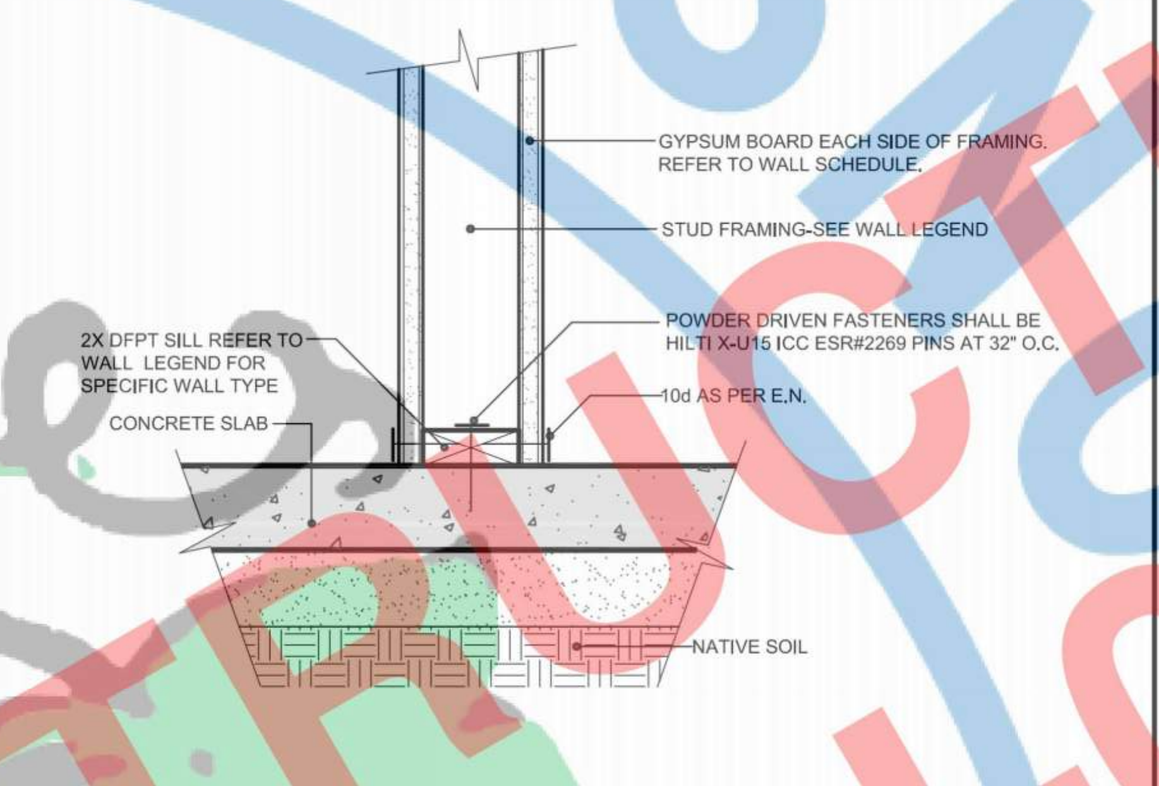
BRACE WALL PLAN

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

CONTEMPORARY
SAME FOR PORCH OPTION

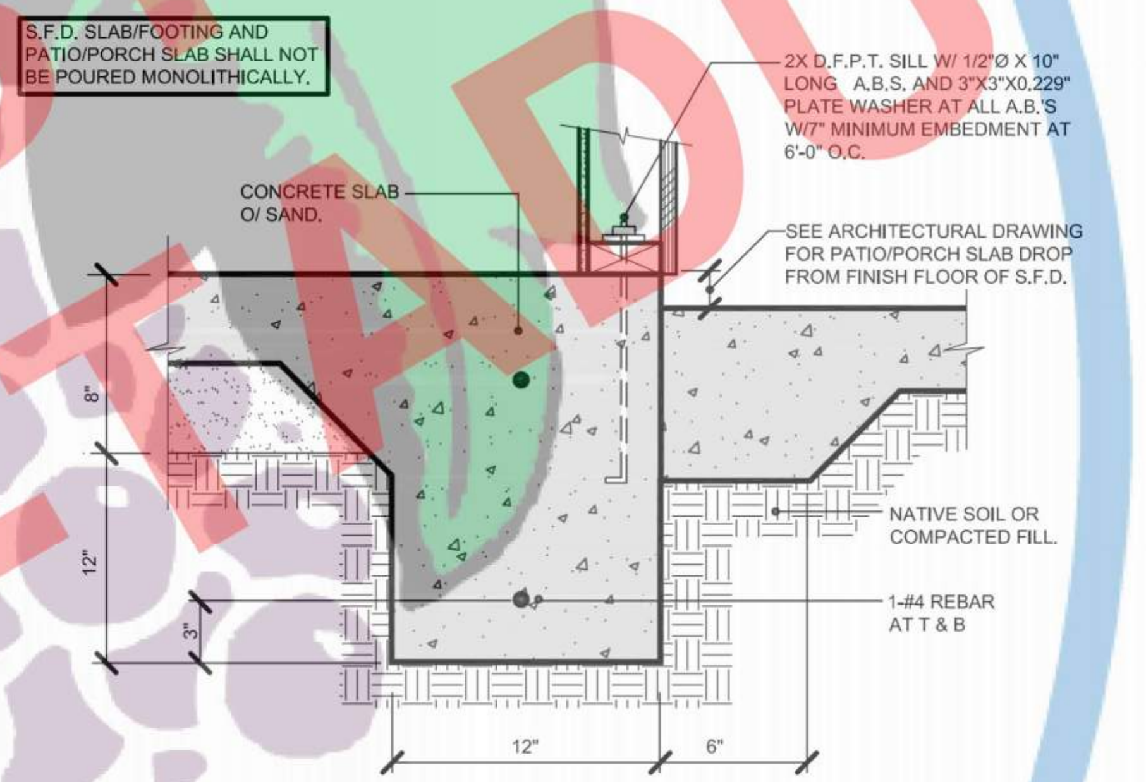

CONCRETE SLAB O/ SAND
2X D.F.P.T. SILL W/ 1/2" Ø X 10" LONG A.B.'S AND 3"X 3"X 0.229" PLATE WASHER AT ALL A.B.'S W/7" MINIMUM EMBEDMENT
8"
NATIVE SOIL OR COMPACTED FILL
12"
3"
12"
1-#4 REBAR AT T & B

A CONCRETE FOOTING

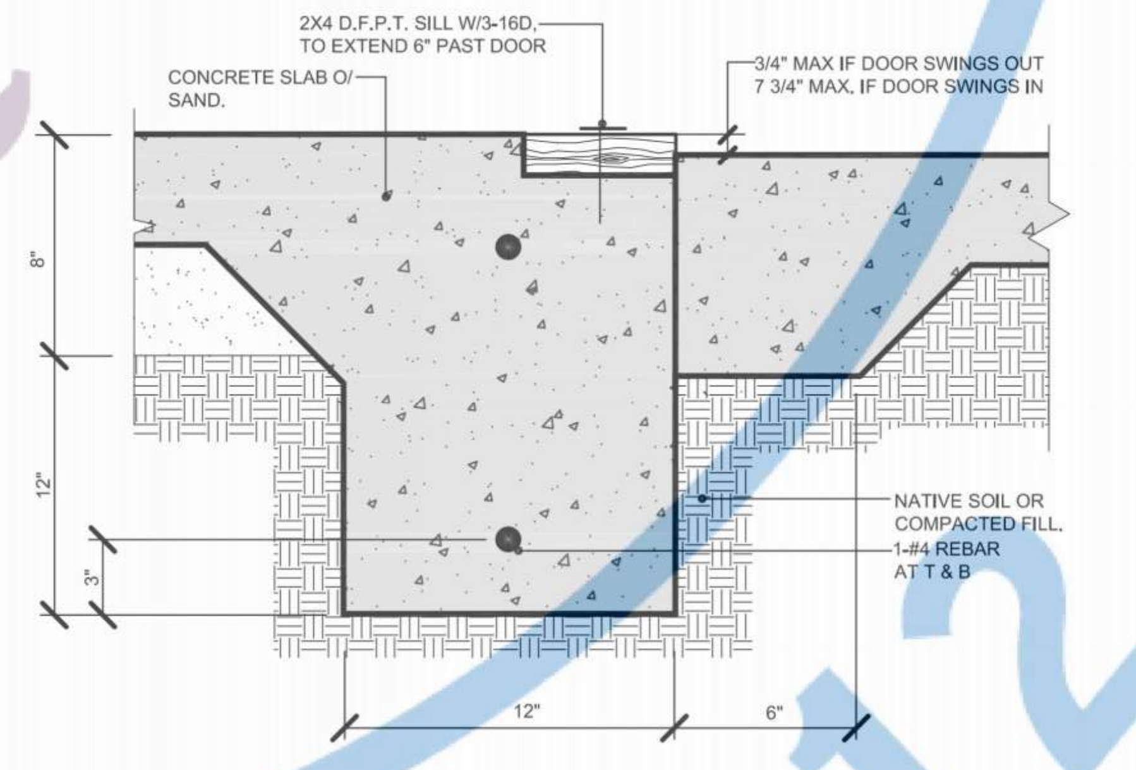

GYPSUM BOARD EACH SIDE OF FRAMING. REFER TO WALL SCHEDULE.
STUD FRAMING-SEE WALL LEGEND
POWDER DRIVEN FASTENERS SHALL BE HILTI X-U15 ICC ESR#2269 PINS AT 32" O.C.
2X DFPT SILL REFER TO WALL LEGEND FOR SPECIFIC WALL TYPE
10d AS PER E.N.
CONCRETE SLAB
NATIVE SOIL

B SILL TO SLAB

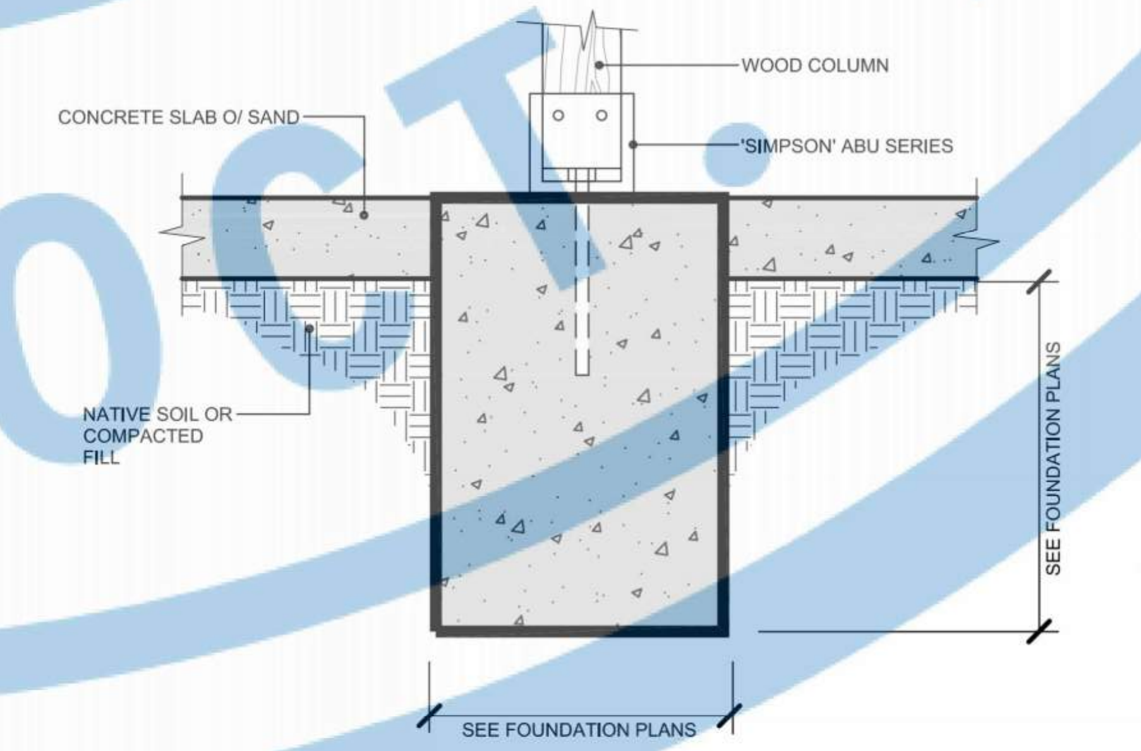
S.F.D. SLAB/FOOTING AND PATIO/PORCH SLAB SHALL NOT BE POURED MONOLITHICALLY.


2X D.F.P.T. SILL W/ 1/2"Ø X 10" LONG A.B.S. AND 3"X3"X0.229" PLATE WASHER AT ALL A.B.'S W/7" MINIMUM EMBEDMENT AT 6'-0" O.C.
CONCRETE SLAB O/ SAND.
SEE ARCHITECTURAL DRAWING FOR PATIO/PORCH SLAB DROP FROM FINISH FLOOR OF S.F.D.
8"
12"
3"
NATIVE SOIL OR COMPACTED FILL.
1-#4 REBAR AT T & B
12"
6"

C CONCRETE FOOTING


2X4 D.F.P.T. SILL W/3-16D, TO EXTEND 6" PAST DOOR
CONCRETE SLAB O/ SAND.
3/4" MAX IF DOOR SWINGS OUT 7 3/4" MAX. IF DOOR SWINGS IN
8"
12"
3"
NATIVE SOIL OR COMPACTED FILL.
1-#4 REBAR AT T & B
12"
6"

D CONCRETE FOOTING


WOOD COLUMN
CONCRETE SLAB O/ SAND
'SIMPSON' ABU SERIES
NATIVE SOIL OR COMPACTED FILL
SEE FOUNDATION PLANS
SEE FOUNDATION PLANS

E CONCRETE PAD FOOTING

FOOTING SCHEDULE:

○	DESCRIPTION	REINFORCEMENT BARS	DETAIL
A	18"X18"X12" DEEP CONCRETE PAD FOOTING	N/A	E/S.1

FOUNDATION NOTES :

1. ALL CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2500 PSI AT 28 DAYS. FOUNDATIONS SHALL BE PLACED IN NATURALLY UNDISTURBED SOIL OR PROPERLY COMPACTED SOIL CAPABLE OF SUPPORTING 1500 PSF OR MORE. NOTIFY ARCHITECT WHEN SOIL CONDITIONS ARE UNSATISFACTORY.
2. CONCRETE MIXES SHALL BE DESIGNED BY A TESTING LABORATORY APPROVED BY THE ENGINEER. MIXES SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS, REGARDLESS OF OTHER MINIMUM REQUIREMENTS SPECIFIED HEREIN OR ON THE DRAWINGS. MIX DESIGNS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE USE. DESIGNS SHALL SHOW PROPORTIONS OF CEMENT, FINE AND COARSE AGGREGATES AND WATER, AND GRADUATION OF COMBINED AGGREGATES.
3. WATER USED IN MIXING CONCRETE SHALL BE CLEAN AND FREE FROM INJURIOUS AMOUNTS OF OILS, ACIDS, ALKALIS, SALTS, ORGANIC MATERIALS OR OTHER SUBSTANCES THAT MAY BE DELETERIOUS TO CONCRETE OR REINFORCEMENT. NONPOTABLE WATER SHALL NOT BE USED IN CONCRETE.
4. PLACE AND VIBRATE ALL CONCRETE AS REQUIRED TO ELIMINATE ALL VOIDS, POCKETS, ETC. AROUND FORMS, REINFORCING OR FASTENING DEVICES, ETC. REMOVE ALL LOOSE CONCRETE AND FILL HONEYCOMBED SURFACES STONE POCKETS AND OTHER IRREGULARITIES WITH CEMENT MORTARS, FLAT WORK SHALL BE FREE OF PUDDLES PROTECT ADJACENT SURFACES. TRUENESS OF ALL SLABS: ALL SLABS SHALL BE TRUE TO 1/4" IN 50 FEET AND SHALL HAVE NO SWALES
5. LOCATE AND EXPOSE ALL PROPERTY CORNERS AND STRING THE SIDE YARD PROPERTY LINES PRIOR TO THE FOUNDATION INSPECTION.
6. TRENCHING OF GRADE BEAMS SHALL BE EXCAVATED IN ORDER TO PROVIDE THE BEAM CROSS SECTION INDICATED. BEAM AND SLAB DEPTHS AND WIDTHS AS INDICATED ARE MINIMUM ACCEPTABLE SIZES. LARGER SIZE BEAMS AND SLABS FORMED BY LESS ACCURATE TRENCHING MAY REQUIRE ADDITIONAL REINFORCING NOT SHOWN WHICH SHALL BE DETERMINED BY THE ENGINEER DURING CONSTRUCTION REVIEW. ALL LOOSE DIRT FROM SIDES AND BOTTOM OF TRENCHES SHALL BE REMOVED. HAUNCHES SHALL BE CUT ON EACH SIDE OF TRENCHES OF ADEQUATE SIZE TO MAINTAIN THE VERTICAL SIDES OF THE TRENCH
7. CONCRETE SHALL BE DEPOSITED AS NEARLY AS PRACTICABLE IN ITS FINAL POSITION TO AVOID SEGREGATION DUE TO RE-HANDLING OR FLOWING. CONCRETE SHALL BE CARRIED ON AT SUCH A RATE THAT CONCRETE IS AT ALL TIMES PLASTIC AND FLOWS READILY INTO SPACES BETWEEN REINFORCEMENT CONCRETE THAT HAS PARTIALLY HARDENED OR BEEN CONTAMINATED BY FOREIGN MATERIAL SHALL NOT BE DEPOSITED IN THE STRUCTURE.
8. ALL REINFORCING STEEL, WIRE MESH, ANCHOR BOLTS, HOLDOWN ANCHORS, AND OTHER INSERTS SHALL BE SECURED IN POSITION AND INSPECTED BY THE BUILDING OFFICIAL PRIOR TO PLACING CONCRETE
9. CHECK WITH OTHER TRADES AND BE SURE ALL UNDER SURFACE WORK IS COMPLETE. PROPERLY LOCATE ALL INSERTS, TIES, ANCHORS, BOLTS, DOWELS, BLOCKING, GROUNDS, VENTS ETC. BEFORE CONCRETE IS POURED. PROPERLY WET DOWN ALL FORMS FORMS AND TAMP FILL. SET SCREED BOARD FOR ACCURATE GRADE, SUPPORT ALL SPECIAL BOLTS, STRAPS, AND HOLDOWNS IN PLACE WITH RIGID SPACER FORMS.
10. CONSTRUCT FORMS FROM 2" NOMINAL DOUGLAS FIR OR PLYWOOD AS REQUIRED TO SLOPE, LINE AND DIMENSIONS SHOWN. FORMS SHALL BE PLUMB, STRAIGHT AND SUFFICIENTLY BRACED TO PREVENT MOVEMENT DURING THE POUR. REMOVE FORMS WITHOUT DAMAGING THE CONCRETE.
11. DO NOT PLACE CONCRETE UNTIL ALL REINFORCEMENT, CONDUIT OUTLET BOXES, ANCHORS, HANGERS, SLEEVES, BOLTS OR OTHER EMBEDDED MATERIALS AND ITEMS ARE SECURELY AND PROPERLY FASTENED IN THIER PROPER PLACES AND POSITION SUBCON- TRACTOR SHALL VERIFY INSTALLATION OF HOLDOWN AND ANCHOR BOLTS, PA STRAPS AND OTHER ANCHORAGE MATERIAL AND ITEMS PRIOR TO PLACEMENT OF CONCRETE.
12. PROVIDE 1-#4 REBAR X 20' UFER GROUND EMBEDDED INTO CONCRETE FOOTING. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
13. PIPE MAY PASS THROUGH STRUCTURAL CONCRETE IN SLEEVES, BUT SHALL NOT BE EMBEDDED THEREIN. SLEEVES SHALL BE WRAPPED WITH EXPANSION JOINT FILLER MATERIAL TO ALLOW CONCRETE TO CURE WITHOUT RESTRAINT. PIPES OR CONDUITS EXCEEDING ONE-THIRD THE WALL OR SLAB OR WALL THICKNESS SHALL NOT BE IN STRUCTURAL CONCRETE UNLESS SPECIFICALLY DETAILED SEE MECHANICAL AND/OR ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC.
14. PLUMBING LINES PASSING PERPENDICULAR THROUGH FOOTINGS SHALL BE SLEEVED WITH A 26 GAUGE G.I. SLEEVE MINIMUM SIZE ALLOWABLE TO RECEIVE PIPES. PLACE SLEEVES AS NEAR CENTER OF FOOTINGS AS POSSIBLE.
15. USE #4 REBAR TOP AND BOTTOM 3'-0" LONG MINIMUM IN FOOTINGS WHICH HAVE PLUMBING LINES PASSING PERPENDICULAR BELOW. BACK FILL PIPES IN MOISTENED LAYERS NOT MORE THAN 6" THICK THOROUGHLY COMPACTED.
16. LOAD BEARING FOOTINGS SHALL BE EXTENDED A MINIMUM OF 12" WIDE AND 12" BELOW UNDISTURBED SOIL OR AS OTHERWISE NOTED.
17. FOUNDATION PLATES OR SILLS SHALL BE BOLTED TO THE FOUNDATION OR FOUNDATION WALL WITH NOT LESS THAN 1/2" NOMINAL DIAMETER STEEL ANCHOR BOLTS EMBEDDED AT LEAST 7" INTO THE CONCRETE OR MASONRY AND SPACED NOT MORE THAN 72" APART. ANCHOR BOLTS SHALL BE LOCATED IN THE MIDDLE THIRD WIDTH OF THE SILL PLATE. THERE SHALL BE A MINIMUM OF TWO BOLTS PER PIECE WITH ONE BOLT LOCATED WITHIN 12" OF EACH END OF EACH PIECE.
18. 3"X3"X0.229" STEEL WASHER TO BE INSTALLED ON EACH ANCHOR BOLT. THE PLATE WASHER MAY BE SLOTTED 3/16" LARGER THAN THE BOLT DIA. AND A SLOT LENGTH NOT MORE THAN 1 3/4". STANDARD CUT WASHER IS REQUIRED TO BE PLACED BETWEEN THE PLATE WASHER AND THE NUT.
19. POWDER DRIVEN FASTENERS AT INTERIOR NON-BEARING WALLS SHALL BE HILTI X-U15 ICC ESR#2269 PINS AT 32" O.C. APPROVED 3/8" DIAMETER SHOT PINS WITH 2" DIAMETER CADMUIM WASHERS AT 32" O.C. MAXIMUM, 6" FROM CORNERS AND SPLICES.
20. POWDER DRIVEN FASTENERS SHALL NOT BE USED IN STEM WALLS LESS THAN 5 1/2" WIDE OR GREATER THAN 5 1/2" HIGH.
21. PRESSURE TREATED SILL PLATE REQUIRES CONNECTORS TO BE HOT DIPPED GALVANIZED OR MECHANICALLY ZINC COATED.
22. PRETREAT UNDER SLAB AREA WITH AN APPROVED SOLUTION FOR PROTECTING AGAINST TERMITES.
23. INSTALL DAMPROOFING MEMBRANE UNDER ALL BUILDING SLABS AS SHOWN ON DRAWINGS. BASE SHALL HAVE BEEN LEVELED PRIOR TO INSTALLING VAPOR BARRIER. VAPOR BARRIER SHALL IN THE WIDEST PRACTICABLE WIDTH. ALL JOINTS SHALL BE LAPPED NOT LESS THAN 6". PATCH ALL HOLES PRIOR TO PLACEMENT OF SAND COVER. TURN PAPER UP FOUNDATION WALLS WHERE SLAB AND FOOTINGS ARE MONOLITHICALLY POURED
24. INTERIOR FLOOR SLABS SHALL BE STEEL TROWELED SMOOTH. EXTERIOR WALKS, SLABS, ETC. SHALL HAVE MEDIUM SALT FINISH.
25. CONCRETE SHALL BE PROTECTED FROM THE INJURIOUS ACTION OF THE SUN, RAIN, WIND, FLOWING WATER FROST AND MECHANICAL INJURY, AND SHALL NOT BE ALLOWED TO DRY OUT PRIOR TO THE MINIMUM CURING PERIODS. TAKE CARE NOT TO STAIN OR DISCOLOR FINISHED CONCRETE SURFACES, FOOTINGS-DAMP CURE 2 DAYS. SLABS- CAMP CURE 5 DAYS. A FINE WATER SPRAY SHALL BE USED TO REDUCED PLASTIC SHRINKAGE CRACKS DURING FINISHING OPERATIONS IMMEDIATELY AFTER THE WET CONCRETE HAS BEEN BROUGHT TO A FLAT SURFACE AND THE SHINY SURFACE HAS DISAPPEARED. FREQUENT LIGHT APPLICATIONS OF MOISTURE SHALL BE PROVIDED AS REQUIRED BY WEATHER CONDITIONS. ALL SURFACES TO RECEIVE CONCRETE SHALL BE WETTED DOWN 24 HOURS IN ADVANCE OF POURING CONCRETE ON THESE SURFACES WATER SHALL BE NOT PERMITTED TO ACCUMULATE IN THE FOOTING EXCAVATIONS. TRENCHES SHALL BE NO MORE THAN MOIST AT THE TIME OF POURING.
26. THE EXTERIOR FLATWORK SHOULD BE POURED SEPARATELY IN ORDER TO ACT INDEPENDENTLY OF THE WALLS AND FOUNTAIN SYSTEM. SEE DESIGNER PLANS FOR EXTERIOR FLATWORK INFORMATION
27. ELEVATE POST BASES AT LOCATIONS SUBJECT TO WATER SPLASH OR WEATHER EXPOSURE.

BRACED WALL LEGEND

SYMBOL	DESCRIPTION
CS-WSP	CONTINUOUSLY SHEATHED WOOD STRUCTURAL PANEL - SHEATHING WITH A THICKNESS NOT LESS THAN 3/8 INCH APA-RATED SHEATHING FOR 24" STUD SPACING WITH 8d COMMON OR GALVANIZED BOX NAILS SPACED 6" ON CENTER AT SHEATHING PANEL EDGES AND 12" ON CENTER IN THE FIELD. BRACED WALL INSPECTIONS REQUIRED PRIOR TO COVERING. EXTERIOR BRACED WALL PANELS SHALL EXTEND TO TOP PLATE OR ROOF FRAMING(GABLE END CONDITIONS).

BRACED WALL SYMBOL	ADJACENT CLEAR OPENING HEIGHT (INCHES)
CS-WSP — BRACED WALL TYPE X'-X" — MINIMUM BRACED WALL LENGTH REQUIRED PER CRC SECTION R602.10 X'-X" — BRACED WALL LENGTH PROVIDED X'-X" — WALL HEIGHT	OPENING HT. 6'-8"

CONTINUOUS SHEATHING WALL BRACING METHOD:

1. CONTINUOUS SHEATHING METHODS REQUIRE STRUCTURAL PANEL SHEATHING TO BE USED ON ALL SHEATHABLE SURFACES ON ONE SIDE OF A BRACED WALL LINE AND GABLE END WALLS.
2. AREA ABOVE AND BELOW OPENINGS SHALL BE FULLY SHEATHED WITH A MINIMUM OF 3/8 INCH APA-RATED SHEATHING STRUCTURAL PANEL SHEATHING.
3. FULL HEIGHT SHEATHED WALL SEGMENTS HAVING A WIDTH EQUAL OR GREATER THAN TABLE BELOW ARE COUNTED TOWARD THE TOTAL BRACING LENGTH. WALL MINIMUM LENGTH IS BASED ON WALL HEIGHT AND HEIGHT OF THE ADJACENT CLEAR OPENING.
5. CONTINUOUS SHEATHING WOOD STRUCTURAL PANEL SHALL HAVE CORNER RETURN LENGTH ON BOTH SIDES OF CORNER (24 INCH MINIMUM).
6. PLYWOOD SHEET USED IN THE CONSTRUCTION OF BRACE WALLS SHALL BE NOT LESS THAN 4'X8' IN SIZE.
   A. MINIMUM SIZE SHEET AT BOUNDARIES AND CHANGES IN FRAMING SHALL BE 24", UNLESS BLOCKED.
   B. NAIL SIZE, SPACING, AND TYPE PER ABOVE UNLESS NOTED OTHERWISE.

WALL LEGEND:

SYMBOL	DESCRIPTION
– — — – –	CONTINUOUS SHEATHING BRACED WALLS: SEE BRACED WALL PLAN FOR ADDITIONAL INFORMATION.

WALL FRAMING NOTES:

1. PROVIDE CONTINUOUS STUDS AT ALL LOCATIONS WHERE THERE IS NO LATERAL SUPPORT AT 8' PLATE HEIGHT.
2. FINGER JOINTED STUDS IN STRUCTURAL WALLS(BEARING OR SHEAR) MUST BE GRADE STAMPED BY AN APPROVED ICC INSPECTION AGENCY AND CLEARLY SPECIFIED ON PLANS, AND ARE NOT ALLOWED AT HOLDOWN LOCATIONS.
3. ALL LUMBER SHALL BE GRADE MARKED, DOUGLAS FIR STANDARD OR BETTER MINIMUM EXCEPT AS NOTED ON PLANS.
4. ALL COLUMNS TO BE DOUGLAS FIR NO.2
5. IN COMBUSTIBLE CONSTRUCTION, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. (R 302.11) PROVIDE FIRE BLOCKING AT THE 10-FOOT INTERVALS AND AT ALL FLOOR AND CEILING LEVELS.
6. USE THE FOLLOWING LUMBER GRADES OR BETTER, UNLESS OTHERWISE NOTED:
   A. SILL PLATES, FOUND. GRD. RWD. OR P.T. DOUG FIR
   B. VERTICAL FRAMING STUDS DOUG. FIR STUD GRADE
   C. POSTS DOUG FIR STUD OR BETTER
   D. TOP PLATES DOUG. FIR STUD OR BETTER
   E. CEILING JOIST DOUG. FIR NO.2 OR BETTER
   F. RAFTERS, RIDGES, HIPS DOUG. FIR NO.2 OR BETTER
   G. HEADERS DOUG. FIR CONSTRUCTION GRD. OR BETTER
   H. EXPOSED BEAMS/OUTRIGGERS ARCH. GRD. D.F. (RSN. IF NOTED)
   I. EXPOSED POSTS ARCH. GRD. D.F. (RSN IF NOTED)
   J. FASCIA WINDOW FRAMES KILN DRIED CLR. HEMLOCK/RSN . FACE
   K. BRACING, BACKING, PURLING DOUG. FIR STANDARD OR BETTER
   L. SPACED ROOF SHEATHING DOUG. FIR STANDARD OR BETTER
   M. SOLID "V" RUSTIC EAVES NO.2 OR BETTER, PINE OR BETTER
   N. 2X6 T&G CEILING NO.1 WHITE FIR RESAWN FACE
   O. REDWOOD SIDING CEDAR RWD. SQUARE OF "V" GROOVED
   P. EXTERIOR TRIM CLEAR RWD. OR APPEARANCE GRD. DOUG. FIR OR HEMLOCK, RESAWN FACE
   Q. DOOR JAMBS, CASINGS, MOULDINGS CLEAR DOUG. FIR OR PINE
   R. SHELVING 3/4" PLYWOOD WITH HARDWOOD EDGE
7. SILLS, SLEEPERS, PLATES, ETC. ON MASONRY OR CONCRETE. THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE FOUNDATION GRADE & REDWOOD OR PRESSURE TREATED DOUGLAS FIR.
8. THE OPENING AROUND GAS VENTS, DUCTS, PIPES, CHIMNEYS, AND FIREPLACES AT THE CEILING LEVEL SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIALS.
9. GREEN VINYL SINKERS DO NOT MEET THE NAILING REQUIREMENTS FOR MOST BOX AND COMMON NAIL CONNECTIONS.

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE:

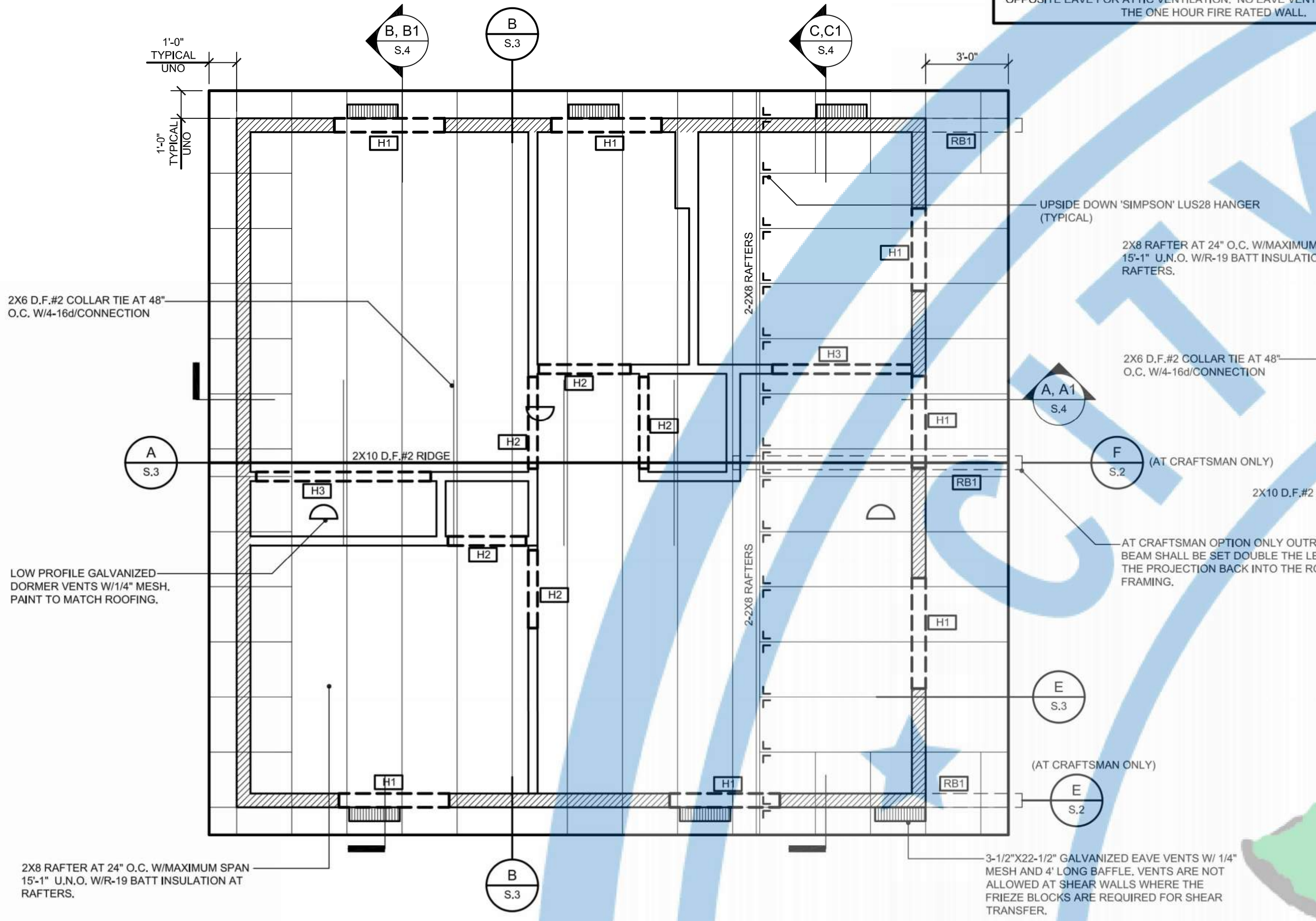
FOUNDATION PLAN & BRACED WALL FRAMING PLAN (WITH PORCH OPTION)

JOB# : TADU-003
DATE: 19-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
S.1

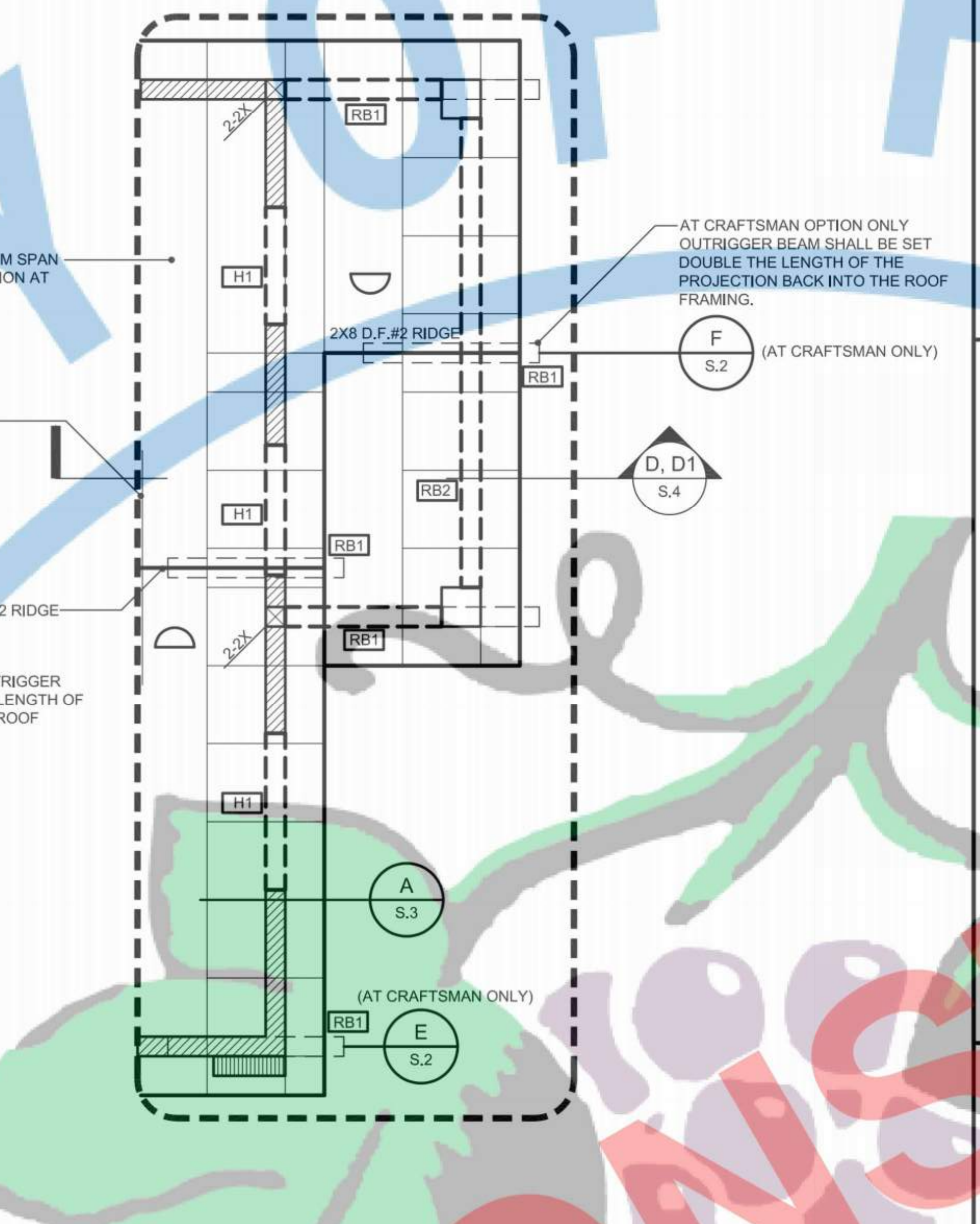
NOT FOR CONSTRUCTION
PLAN 3
2023-TADU-003

WHEN BUILDING SETBACK IS LESS THAN 5'-0" OR GREATER OR EQUAL TO 3'-0" FROM THE PROPERTY LINE AND THE ADU HAS NO FIRE SPRINKLERS THE WALLS PARALLEL TO THE PROPERTY LINES MUST BE ONE HOUR FIRE RATED PER CRC TABLE R301.1(1) SEE DETAIL B,C/A.4 FOR ADDITIONAL INFORMATION. WALLS PARALLEL TO PROPERTY LINE MUST HAVE EAVE VENTS RELOCATED TO OPPOSITE EAVE FOR ATTIC VENTILATION. NO EAVE VENTS ARE ALLOWED AT THE ONE HOUR FIRE RATED WALL.


B, B1
S.4
B
S.3
C,C1
S.4
1'-0" TYPICAL UNO
3'-0"
H1
H2
H3
RB1
2-2X8 RAFTERS
UPSIDE DOWN 'SIMPSON' LUS28 HANGER (TYPICAL)
2X6 D.F.#2 COLLAR TIE AT 48" O.C. W/4-16d/CONNECTION
A
S.3
2X10 D.F.#2 RIDGE
A, A1
S.4
F
S.2
(AT CRAFTSMAN ONLY)
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE ROOF FRAMING.
LOW PROFILE GALVANIZED DORMER VENTS W/1/4" MESH. PAINT TO MATCH ROOFING.
E
S.3
(AT CRAFTSMAN ONLY)
E
S.2
2X8 RAFTER AT 24" O.C. W/MAXIMUM SPAN 15'-1" U.N.O. W/R-19 BATT INSULATION AT RAFTERS.
3-1/2"X22-1/2" GALVANIZED EAVE VENTS W/ 1/4" MESH AND 4' LONG BAFFLE. VENTS ARE NOT ALLOWED AT SHEAR WALLS WHERE THE FRIEZE BLOCKS ARE REQUIRED FOR SHEAR TRANSFER.

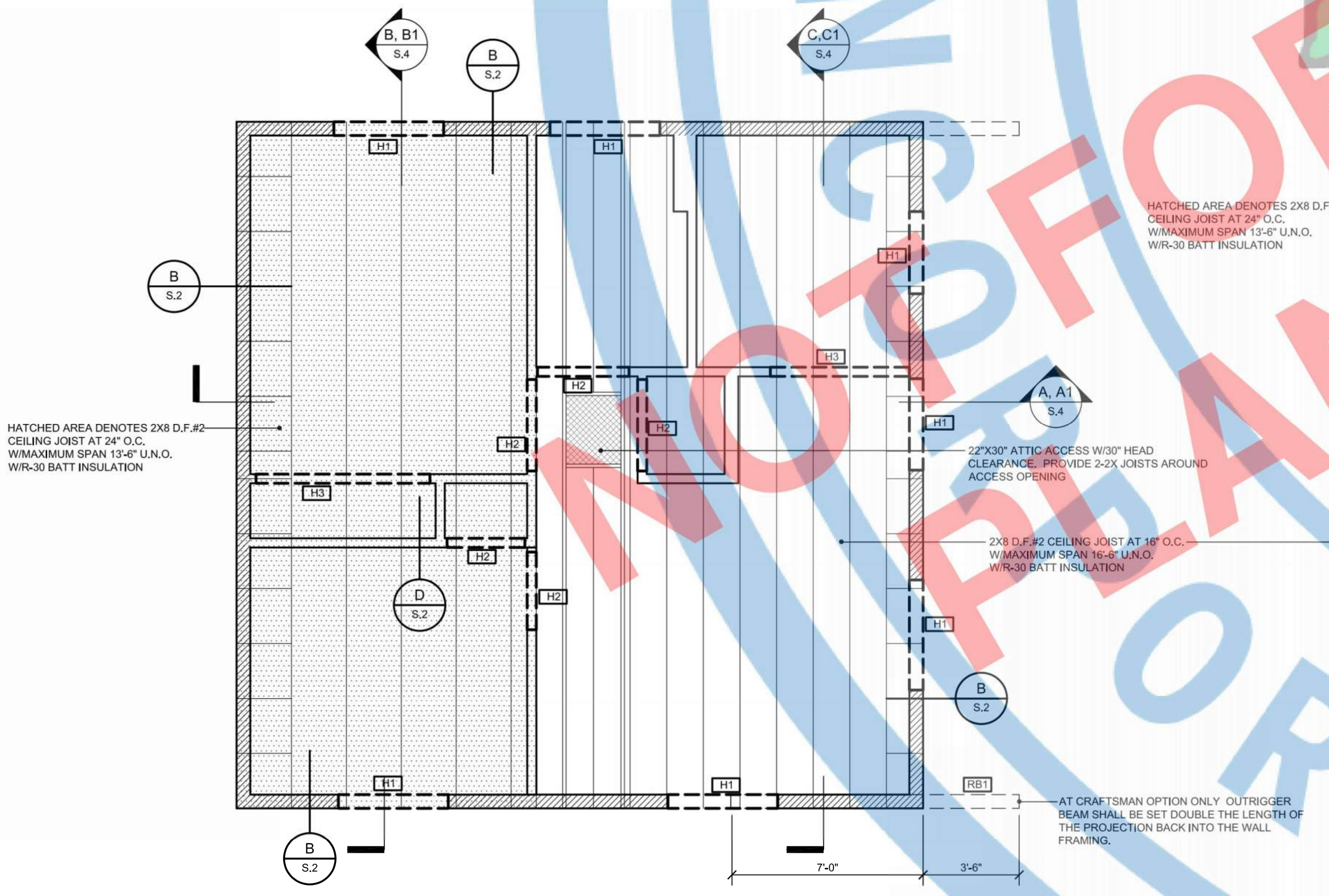
ROOF FRAMING PLAN

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


2X8 RAFTER AT 24" O.C. W/MAXIMUM SPAN 15'-1" U.N.O. W/R-19 BATT INSULATION AT RAFTERS.
2X6 D.F.#2 COLLAR TIE AT 48" O.C. W/4-16d/CONNECTION
2X10 D.F.#2 RIDGE
2X8 D.F.#2 RIDGE
2-2X
RB1
RB2
H1
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE ROOF FRAMING.
F
S.2
(AT CRAFTSMAN ONLY)
D, D1
S.4
A
S.3
(AT CRAFTSMAN ONLY)
E
S.2

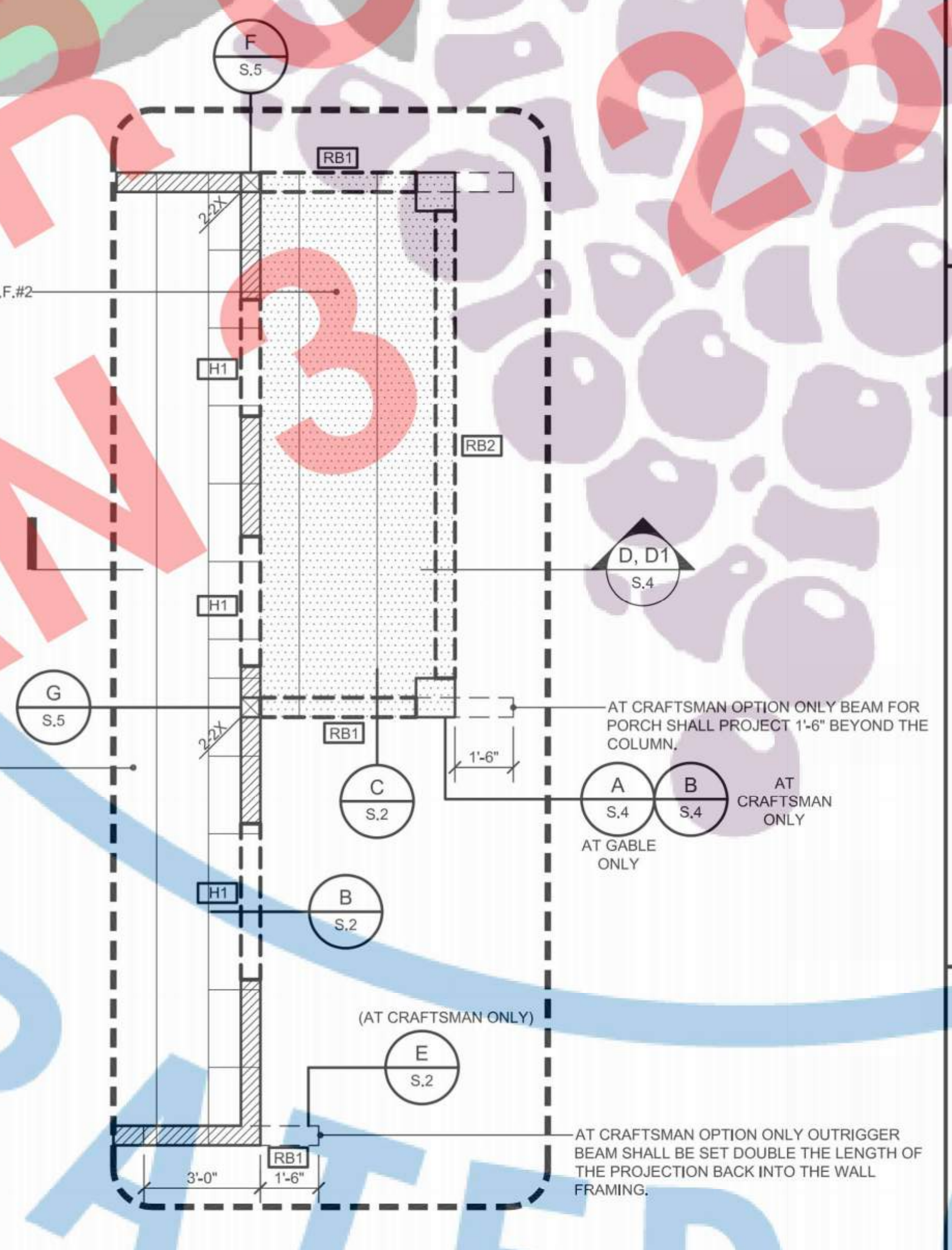
ROOF FRAMING PLAN

SCALE:1/4"=1'-0" GABLE/CRAFTSMAN (PORCH OPTION)


B, B1
S.4
B
S.2
C,C1
S.4
H1
H2
H3
RB1
HATCHED AREA DENOTES 2X8 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 13'-6" U.N.O. W/R-30 BATT INSULATION
A, A1
S.4
22"X30" ATTIC ACCESS W/30" HEAD CLEARANCE. PROVIDE 2-2X JOISTS AROUND ACCESS OPENING
2X8 D.F.#2 CEILING JOIST AT 16" O.C. W/MAXIMUM SPAN 16'-6" U.N.O. W/R-30 BATT INSULATION
D
S.2
B
S.2
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE WALL FRAMING.
7'-0"
3'-6"

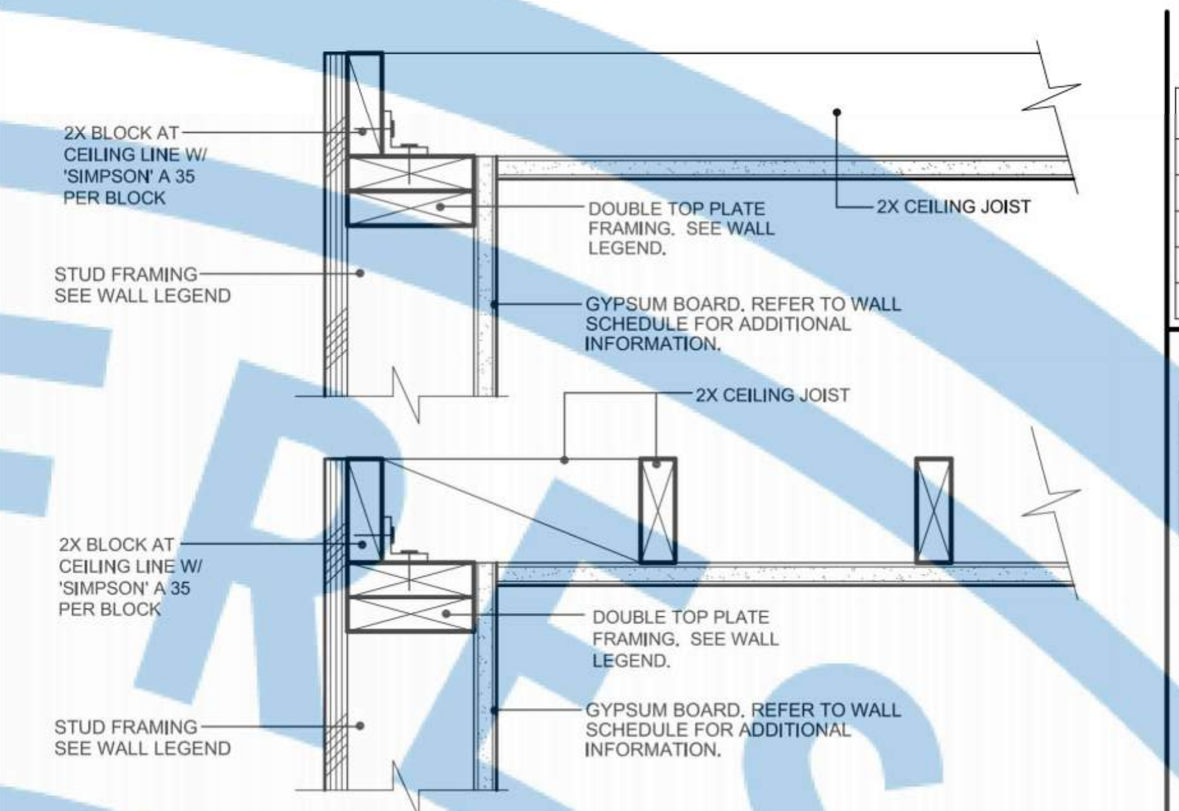
CEILING JOIST FRAMING PLAN

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

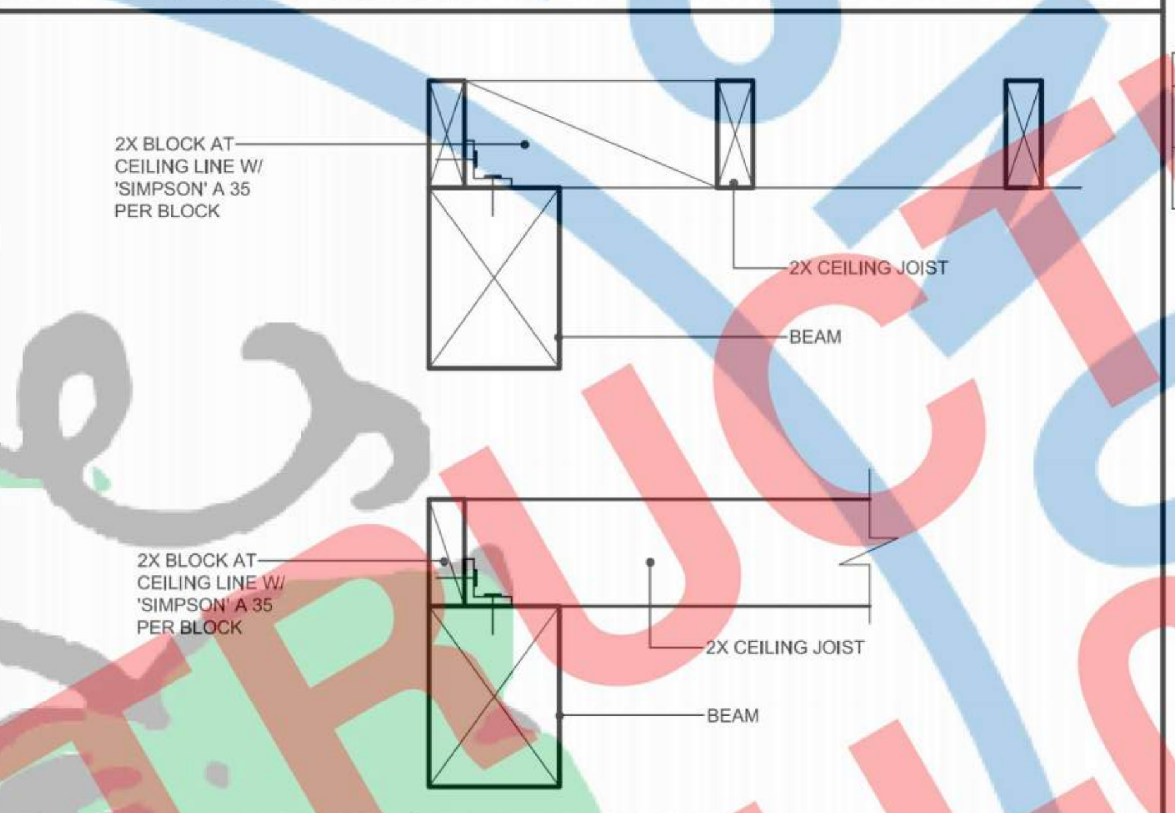

F
S.5
RB1
RB2
H1
2-2X
HATCHED AREA DENOTES 2X8 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 13'-6" U.N.O. W/R-30 BATT INSULATION
D, D1
S.4
G
S.5
AT CRAFTSMAN OPTION ONLY BEAM FOR PORCH SHALL PROJECT 1'-6" BEYOND THE COLUMN.
1'-6"
C
S.2
A
S.4
AT GABLE ONLY
B
S.4
AT CRAFTSMAN ONLY
B
S.2
(AT CRAFTSMAN ONLY)
E
S.2
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE WALL FRAMING.
3'-0"
1'-6"

CEILING JOIST FRAMING PLAN

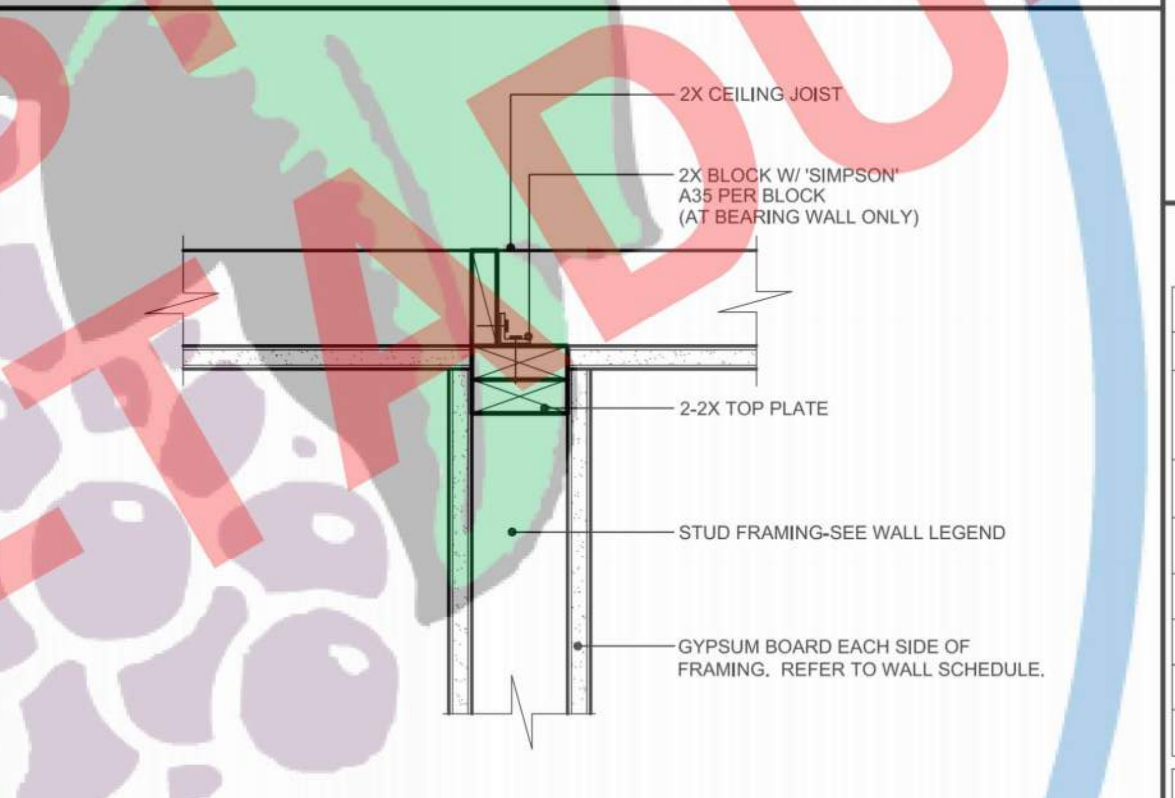
SCALE:1/4"=1'-0" GABLE/CRAFTSMAN (PORCH OPTION)


2X BLOCK AT CEILING LINE W/ 'SIMPSON' A 35 PER BLOCK
STUD FRAMING SEE WALL LEGEND
DOUBLE TOP PLATE FRAMING. SEE WALL LEGEND.
2X CEILING JOIST
GYPSUM BOARD. REFER TO WALL SCHEDULE FOR ADDITIONAL INFORMATION.
2X CEILING JOIST
2X BLOCK AT CEILING LINE W/ 'SIMPSON' A 35 PER BLOCK
DOUBLE TOP PLATE FRAMING. SEE WALL LEGEND.
STUD FRAMING SEE WALL LEGEND
GYPSUM BOARD. REFER TO WALL SCHEDULE FOR ADDITIONAL INFORMATION.

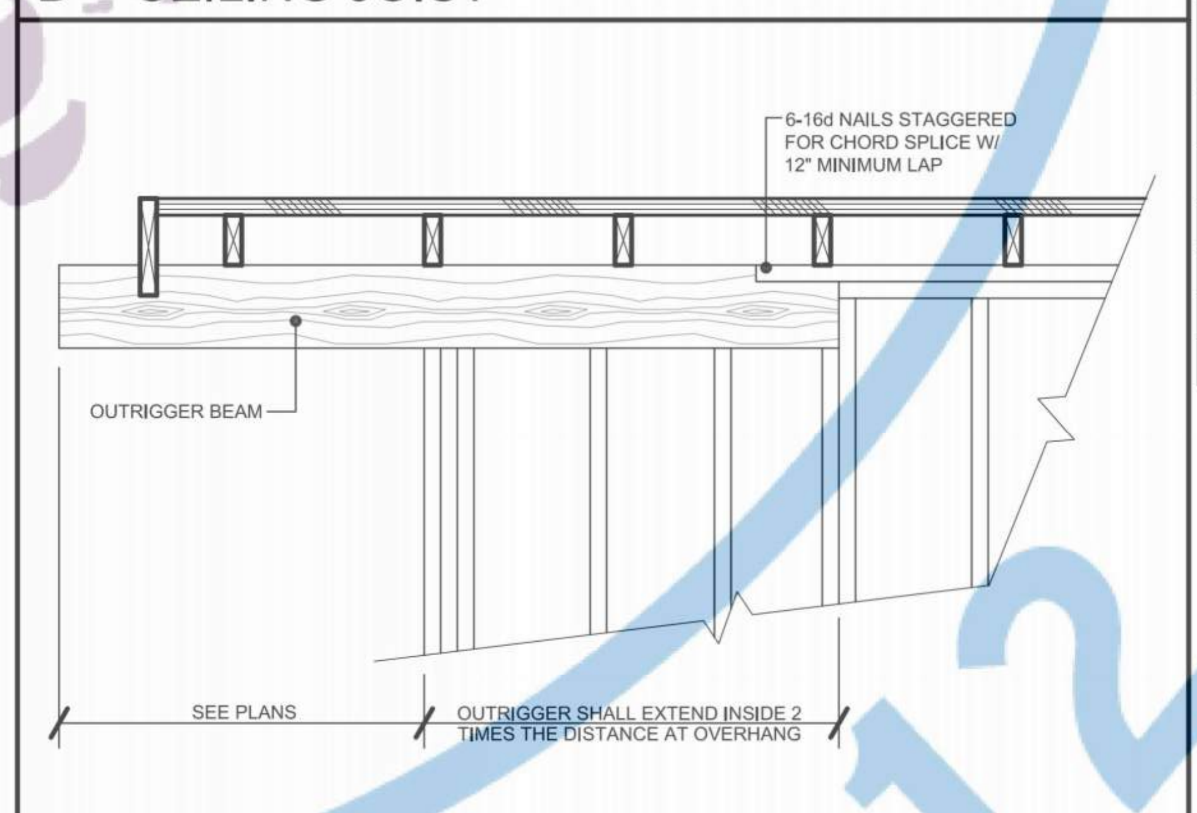
B CEILING JOIST


2X BLOCK AT CEILING LINE W/ 'SIMPSON' A 35 PER BLOCK
2X CEILING JOIST
BEAM
2X BLOCK AT CEILING LINE W/ 'SIMPSON' A 35 PER BLOCK
2X CEILING JOIST
BEAM

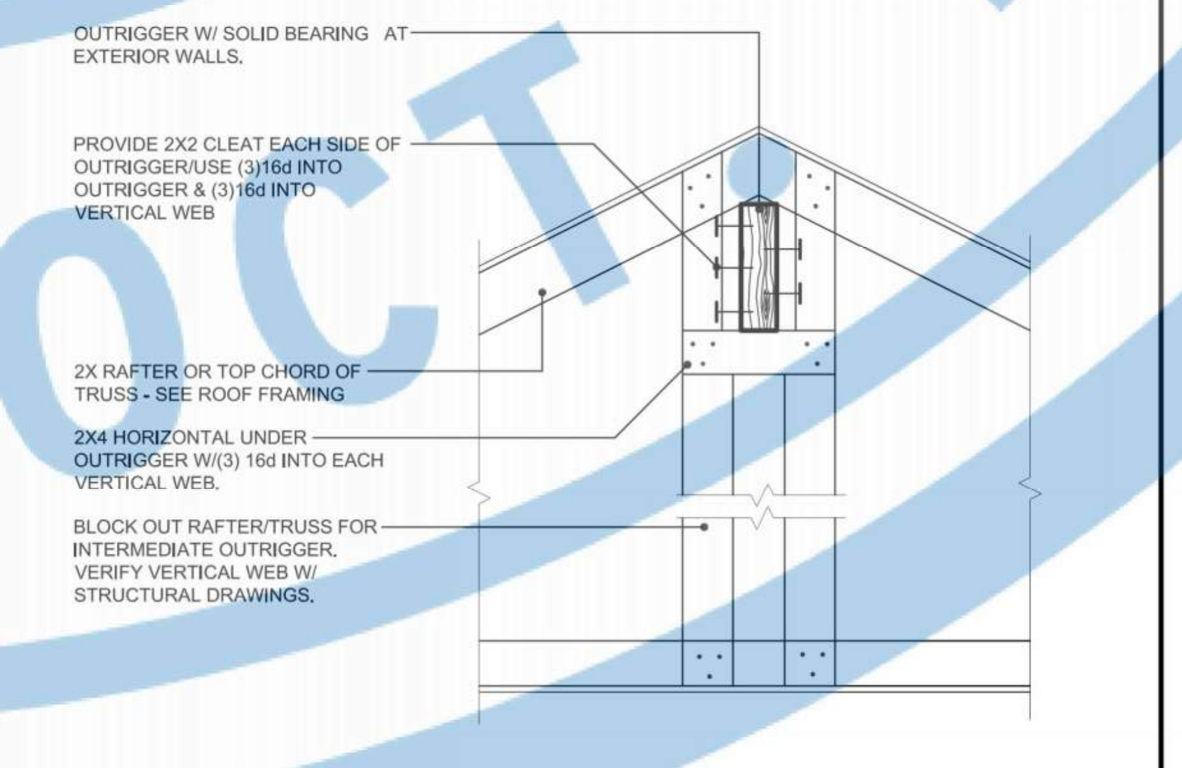
C CEILING JOIST AT BEAM


2X CEILING JOIST
2X BLOCK W/ 'SIMPSON' A35 PER BLOCK (AT BEARING WALL ONLY)
2-2X TOP PLATE
STUD FRAMING-SEE WALL LEGEND
GYPSUM BOARD EACH SIDE OF FRAMING. REFER TO WALL SCHEDULE.

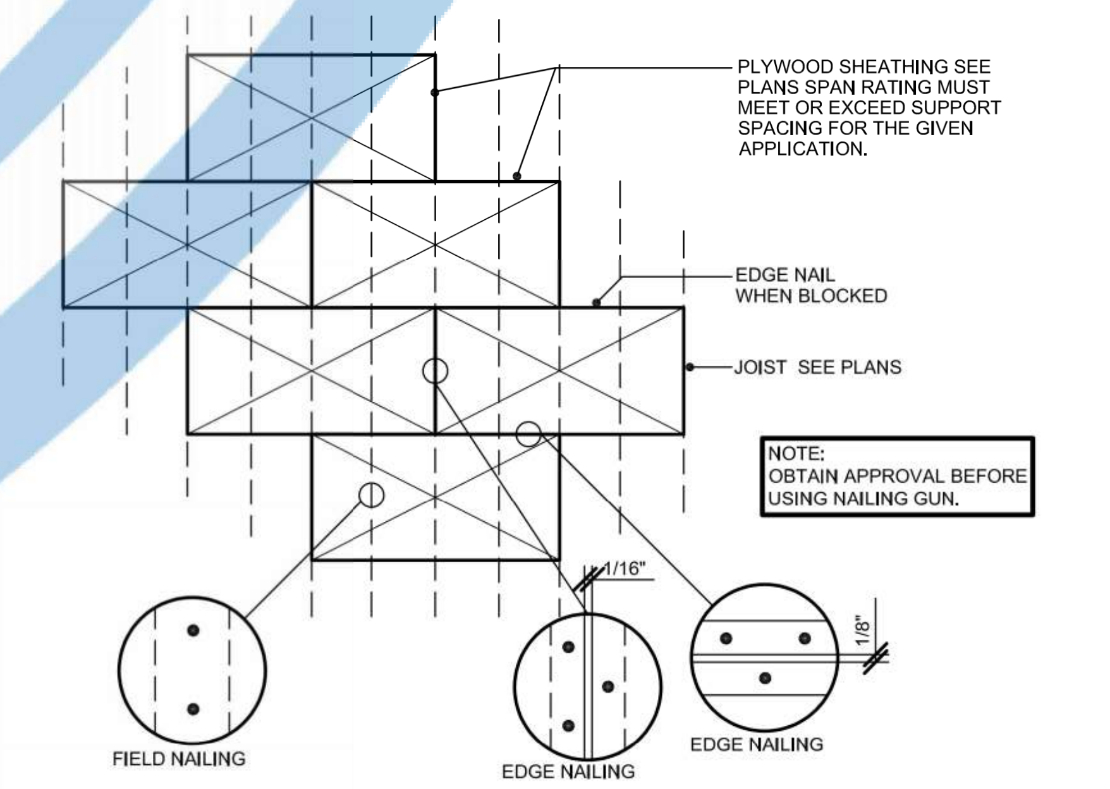
D CEILING JOIST


6-16d NAILS STAGGERED FOR CHORD SPLICE W/ 12" MINIMUM LAP
OUTRIGGER BEAM
SEE PLANS
OUTRIGGER SHALL EXTEND INSIDE 2 TIMES THE DISTANCE AT OVERHANG

E OUTRIGGER AT WALL


OUTRIGGER W/ SOLID BEARING AT EXTERIOR WALLS.
PROVIDE 2X2 CLEAT EACH SIDE OF OUTRIGGER/USE (3)16d INTO OUTRIGGER & (3)16d INTO VERTICAL WEB
2X RAFTER OR TOP CHORD OF TRUSS - SEE ROOF FRAMING
2X4 HORIZONTAL UNDER OUTRIGGER W/(3) 16d INTO EACH VERTICAL WEB.
BLOCK OUT RAFTER/TRUSS FOR INTERMEDIATE OUTRIGGER. VERIFY VERTICAL WEB W/ STRUCTURAL DRAWINGS.

F TYPICAL OUTRIGGER AT GABLE END


PLYWOOD SHEATHING SEE PLANS SPAN RATING MUST MEET OR EXCEED SUPPORT SPACING FOR THE GIVEN APPLICATION.
EDGE NAIL WHEN BLOCKED
JOIST SEE PLANS
1/16"
1/8"
FIELD NAILING
EDGE NAILING
EDGE NAILING

NOTE:
OBTAIN APPROVAL BEFORE USING NAILING GUN.

A ROOF AND FLOOR DIAPHRAGM

HEADER/BEAM SCHEDULE:

SYMBOL	HEADER/BEAM SIZE & GRADE
H1	6X8 D.F.#2
H2	4X6 D.F.#2
H3	4X8 D.F.#2
RB1	6X8 D.F.#2
RB2	6X10 D.F.#2

ROOF SHEATHING:

1/2" CDX PLYWOOD(OR 7/16" 24/16 O.S.B.)PSR. 24/00 NAILING (8D COMMONS OR 10D SINKERS)		SEE DETAIL
BOUNDARY	6 IN O.C.	A S.2
EDGE	6 IN O.C.	
FIELD	12 IN O.C.	

SHEATHING NOTES:

1. MAXIMUM SIZE OF OPENING IN HORIZONTAL DIAPHRAGM NOT TO EXCEED 24" WITHOUT BLOCKING.
2. PLYWOOD ROOF DIAPHRAGM SHALL BE CONTINUOUS BELOW ALL CALIFORNIA FILL FRAMING.
3. ENTIRE PERIMETER SHALL BE BLOCKED.
4. PROVIDE 1/8" GAP AT ALL PANEL EDGES.
5. PLYWOOD SHEET USED IN THE CONSTRUCTION OF DIAPHRAGMS SHALL BE NOT LESS THAN 4'X8' IN SIZE.
   A. MINIMUM SIZE SHEET AT BOUNDARIES AND CHANGES IN FRAMING SHALL BE 24", UNLESS BLOCKED.
   B. NAIL SIZE, SPACING, AND TYPE PER ABOVE UNLESS NOTED OTHERWISE.
6. ALL PLYWOOD SHALL BE GRADE-STAMPED A.P.A. AND FOLLOWING MINIMUM GRADES SHALL APPLY TO WOOD STRUCTURAL PANELS UNLESS SHOWN OTHERWISE ON THE DRAWINGS:
   A. ROOF SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE
   B. EXPOSED SHEATHING SHALL BE EXPOSURE I OR CCX EXTERIOR GRADE AT EXPOSED AREA'S WITH EXTERIOR GLUE WALL SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE.

WALL LEGEND:

SYMBOL	DESCRIPTION
▨	BEARING WALLS: HATCH WALLS DENOTES BEARING WALL. SEE FOUNDATION PLAN FOR ADDITIONAL INFORMATION.
═	NON-BEARING WALLS: NON-BEARING WALLS. SEE FLOOR PLANS WALL LEGEND FOR ADDITIONAL INFORMATION.

WALL FRAMING NOTES:

1. PROVIDE CONTINUOUS STUDS AT ALL LOCATIONS WHERE THERE IS NO LATERAL SUPPORT AT 8' PLATE HEIGHT.
2. FINGER JOINTED STUDS IN STRUCTURAL WALLS(BEARING OR SHEAR) MUST BE GRADE STAMPED BY AN APPROVED ICC INSPECTION AGENCY AND CLEARLY SPECIFIED ON PLANS, AND ARE NOT ALLOWED AT HOLDOWN LOCATIONS.
3. ALL LUMBER SHALL BE GRADE MARKED, DOUGLAS FIR STANDARD OR BETTER MINIMUM EXCEPT AS NOTED ON PLANS.
4. ALL COLUMNS TO BE DOUGLAS FIR NO.2
5. IN COMBUSTIBLE CONSTRUCTION, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. (R 302.11) PROVIDE FIRE BLOCKING AT THE 10-FOOT INTERVALS AND AT ALL FLOOR AND CEILING LEVELS.
6. USE THE FOLLOWING LUMBER GRADES OR BETTER, UNLESS OTHERWISE NOTED:
   A. SILL PLATES, FOUND. GRD. RWD. OR P.T. DOUG FIR
   B. VERTICAL FRAMING STUDS DOUG. FIR STUD GRADE
   C. POSTS DOUG FIR STUD OR BETTER
   D. TOP PLATES DOUG. FIR STUD OR BETTER
   E. CEILING JOIST DOUG. FIR NO.2 OR BETTER
   F. RAFTERS, RIDGES, HIPS DOUG. FIR NO.2 OR BETTER
   G. HEADERS DOUG. FIR CONSTRUCTION GRD. OR BETTER
   H. EXPOSED BEAMS/OUTRIGGERS ARCH. GRD. D.F. (RSN. IF NOTED)
   I. EXPOSED POSTS ARCH. GRD. D.F. (RSN IF NOTED)
   J. FASCIA WINDOW FRAMES KILN DRIED CLR. HEMLOCK/RSN . FACE
   K. BRACING, BACKING, PURLING DOUG. FIR STANDARD OR BETTER
   L. SPACED ROOF SHEATHING DOUG. FIR STANDARD OR BETTER
   M. SOLID "V" RUSTIC EAVES NO.2 OR BETTER, PINE OR BETTER
   N. 2X6 T&G CEILING NO.1 WHITE FIR RESAWN FACE
   O. REDWOOD SIDING CEDAR RWD. SQUARE OF "V" GROOVED
   P. EXTERIOR TRIM CLEAR RWD. OR APPEARANCE GRD. DOUG. FIR OR HEMLOCK, RESAWN FACE
   Q. DOOR JAMBS, CASINGS, MOULDINGS CLEAR DOUG. FIR OR PINE
   R. SHELVING 3/4" PLYWOOD WITH HARDWOOD EDGE
7. SILLS, SLEEPERS, PLATES, ETC. ON MASONRY OR CONCRETE. THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE FOUNDATION GRADE & REDWOOD OR PRESSURE TREATED DOUGLAS FIR.
8. THE OPENING AROUND GAS VENTS, DUCTS, PIPES, CHIMNEYS, AND FIREPLACES AT THE CEILING LEVEL SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIALS.
9. GREEN VINYL SINKERS DO NOT MEET THE NAILING REQUIREMENTS FOR MOST BOX AND COMMON NAIL CONNECTIONS.

ROOF VENTILATION CALCULATIONS :

ROOF AREA OF:	GABLE/CRAFTSMAN		
CALCULATION FACTOR		**ATTIC SPACE AREA**	625
ATTIC SPACE AREA / 300 X 144		**SQUARE INCHES REQUIRED**	300
QUANITY	**SIZE**	**TYPE**	**NET AREA PROVIDED**
3	LOW PROFILE	UPPER VENTILATION GALVANIZED LOW PROFILE DORMER VENT (43 SQ.IN.)	129
		40% UPPER VENTILATION	120
		50% UPPER VENTILATION	150
6	3 1/2"X22 1/2"	LOWER VENTILATION GALVANIZED EAVE VENT (33 SQ.IN.)	198
		TOTAL ATTIC VENTILATION	327

ROOF AREA OF:	GABLE/CRAFTSMAN W/PORCH OPTION		
CALCULATION FACTOR		**ATTIC SPACE AREA**	695
ATTIC SPACE AREA / 300 X 144		**SQUARE INCHES REQUIRED**	336
QUANITY	**SIZE**	**TYPE**	**NET AREA PROVIDED**
4	LOW PROFILE	UPPER VENTILATION GALVANIZED LOW PROFILE DORMER VENT (43 SQ.IN.)	172
		40% UPPER VENTILATION	134
		50% UPPER VENTILATION	168
6	3 1/2"X22 1/2"	LOWER VENTILATION GALVANIZED EAVE VENT (33 SQ.IN.)	198
		TOTAL ATTIC VENTILATION	370

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE
△2	- ONE HOUR RATED FIRE WALL FOR REDUCED SIDE OR REAR YARD SETBACK.	04/18/24

CITY USE ONLY

DRAWING TITLE:

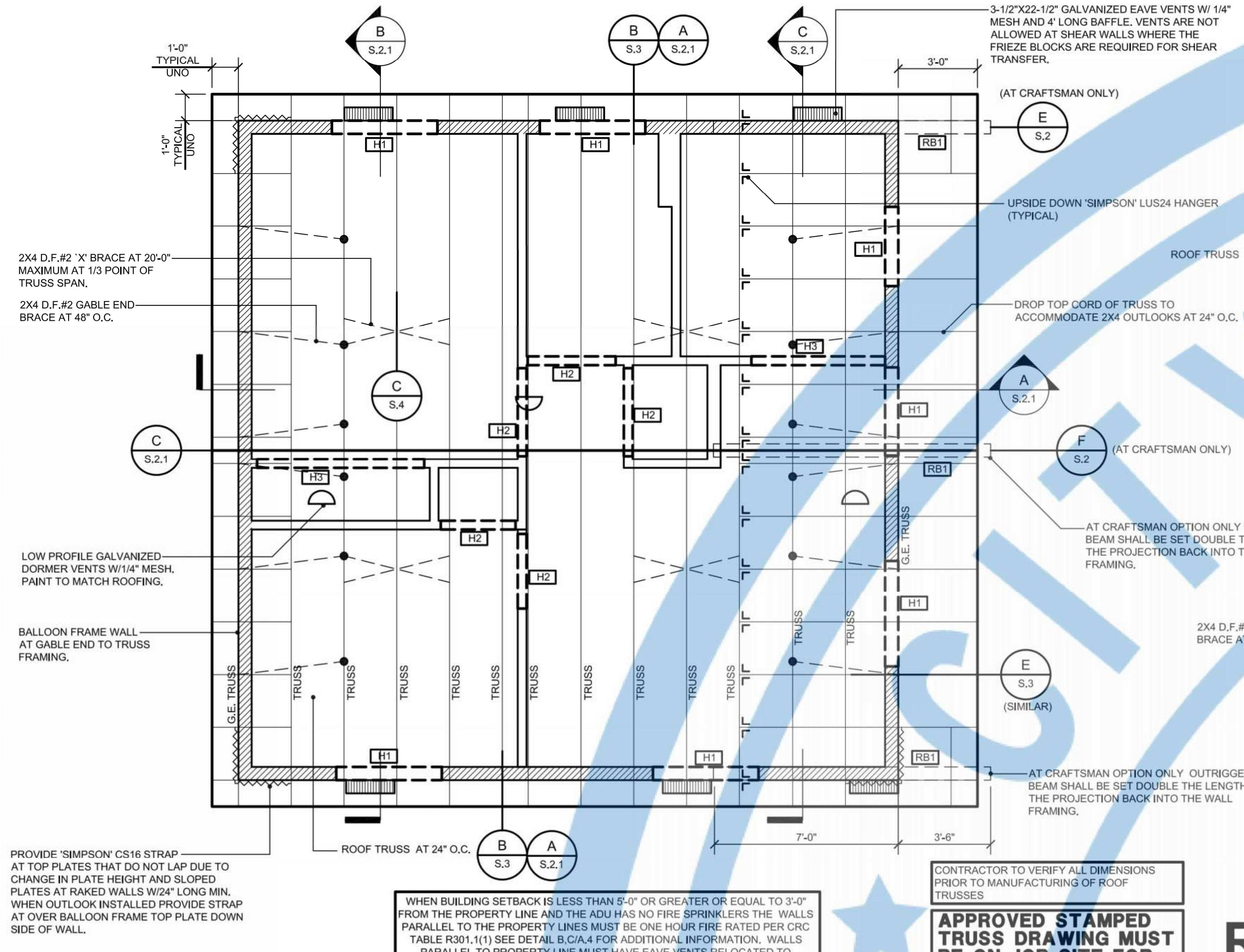
ROOF & CEILING JOIST FRAMING PLAN FOR GABLE & CRAFTSMAN

JOB# : TADU-003
DATE: 18-Apr-24
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
S.2

NOT FOR CONSTRUCTION
PLAN 3
23-TADU-003

NOT FOR CONSTRUCTION PLAN 3 2023-TADU-003



B S.2.1
B S.3
A S.2.1
C S.2.1
1'-0" TYPICAL UNO
3'-0"
3-1/2"X22-1/2" GALVANIZED EAVE VENTS W/ 1/4" MESH AND 4' LONG BAFFLE. VENTS ARE NOT ALLOWED AT SHEAR WALLS WHERE THE FRIEZE BLOCKS ARE REQUIRED FOR SHEAR TRANSFER.
(AT CRAFTSMAN ONLY)
E S.2
UPSIDE DOWN 'SIMPSON' LUS24 HANGER (TYPICAL)
ROOF TRUSS AT 24" O.C.
DROP TOP CORD OF TRUSS TO ACCOMMODATE 2X4 OUTLOOKS AT 24" O.C.
A S.2.1
F S.2
(AT CRAFTSMAN ONLY)
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE ROOF FRAMING.
2X4 D.F.#2 GABLE END BRACE AT 48" O.C.
E S.3
(SIMILAR)
2X4 D.F.#2 `X' BRACE AT 20'-0" MAXIMUM AT 1/3 POINT OF TRUSS SPAN.
2X4 D.F.#2 GABLE END BRACE AT 48" O.C.
C S.4
C S.2.1
LOW PROFILE GALVANIZED DORMER VENTS W/1/4" MESH. PAINT TO MATCH ROOFING.
BALLOON FRAME WALL AT GABLE END TO TRUSS FRAMING.
H1
H2
H3
RB1
G.E. TRUSS
TRUSS
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE WALL FRAMING.
7'-0"
3'-6"
PROVIDE 'SIMPSON' CS16 STRAP AT TOP PLATES THAT DO NOT LAP DUE TO CHANGE IN PLATE HEIGHT AND SLOPED PLATES AT RAKED WALLS W/24" LONG MIN. WHEN OUTLOOK INSTALLED PROVIDE STRAP AT OVER BALLOON FRAME TOP PLATE DOWN SIDE OF WALL.
ROOF TRUSS AT 24" O.C.
B S.3
A S.2.1

WHEN BUILDING SETBACK IS LESS THAN 5'-0" OR GREATER OR EQUAL TO 3'-0" FROM THE PROPERTY LINE AND THE ADU HAS NO FIRE SPRINKLERS THE WALLS PARALLEL TO THE PROPERTY LINES MUST BE ONE HOUR FIRE RATED PER CRC TABLE R301.1(1) SEE DETAIL B,C/A.4 FOR ADDITIONAL INFORMATION. WALLS PARALLEL TO PROPERTY LINE MUST HAVE EAVE VENTS RELOCATED TO OPPOSITE EAVE FOR ATTIC VENTILATION. NO EAVE VENTS ARE ALLOWED AT THE ONE HOUR FIRE RATED WALL.

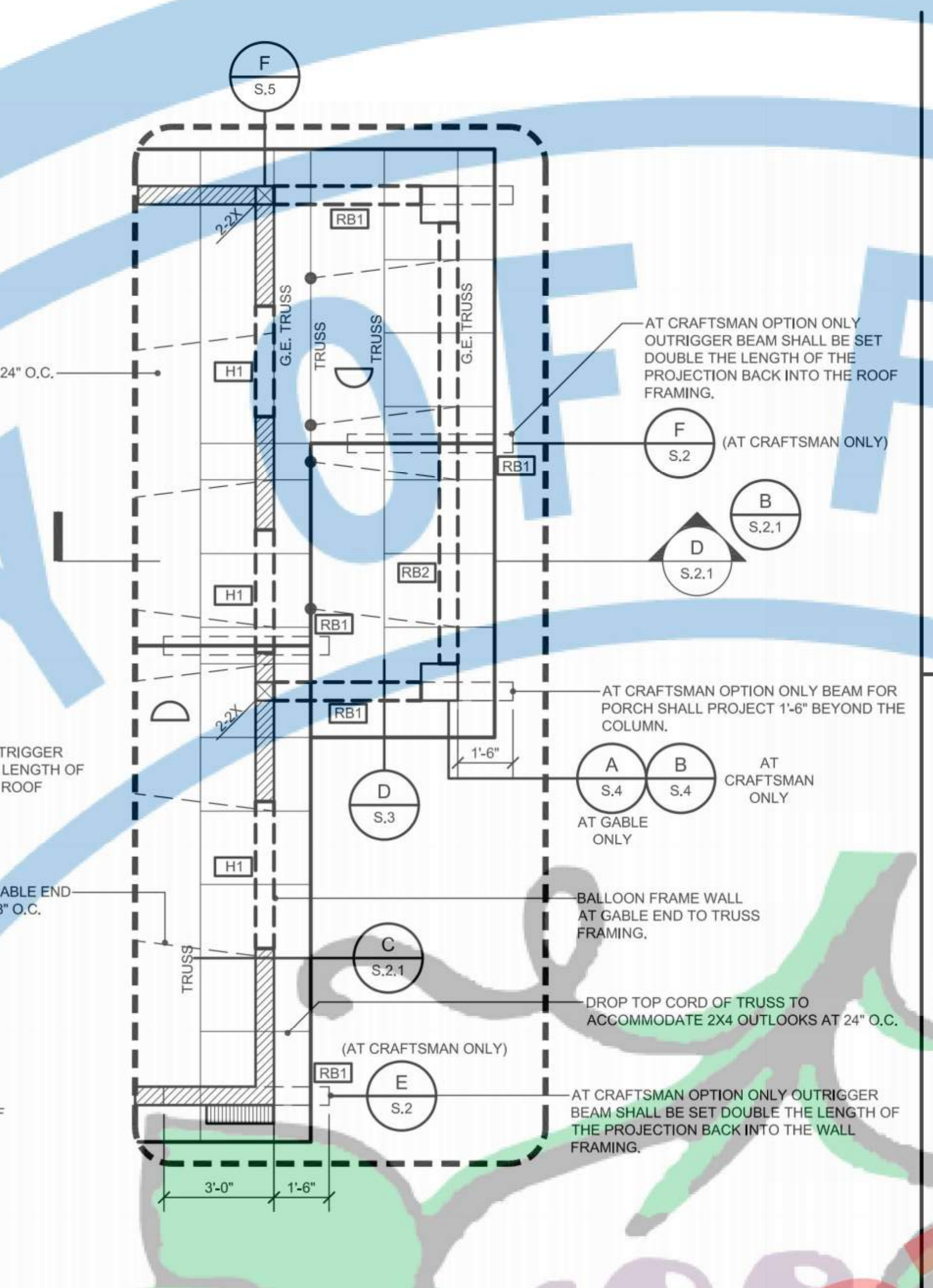
CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO MANUFACTURING OF ROOF TRUSSES

APPROVED STAMPED TRUSS DRAWING MUST BE ON JOB SITE FOR TRUSS LAYOUT AND INSPECTION PURPOSES.

ROOF FRAMING PLAN

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

GABLE/CRAFTSMAN (TRUSS OPTION)

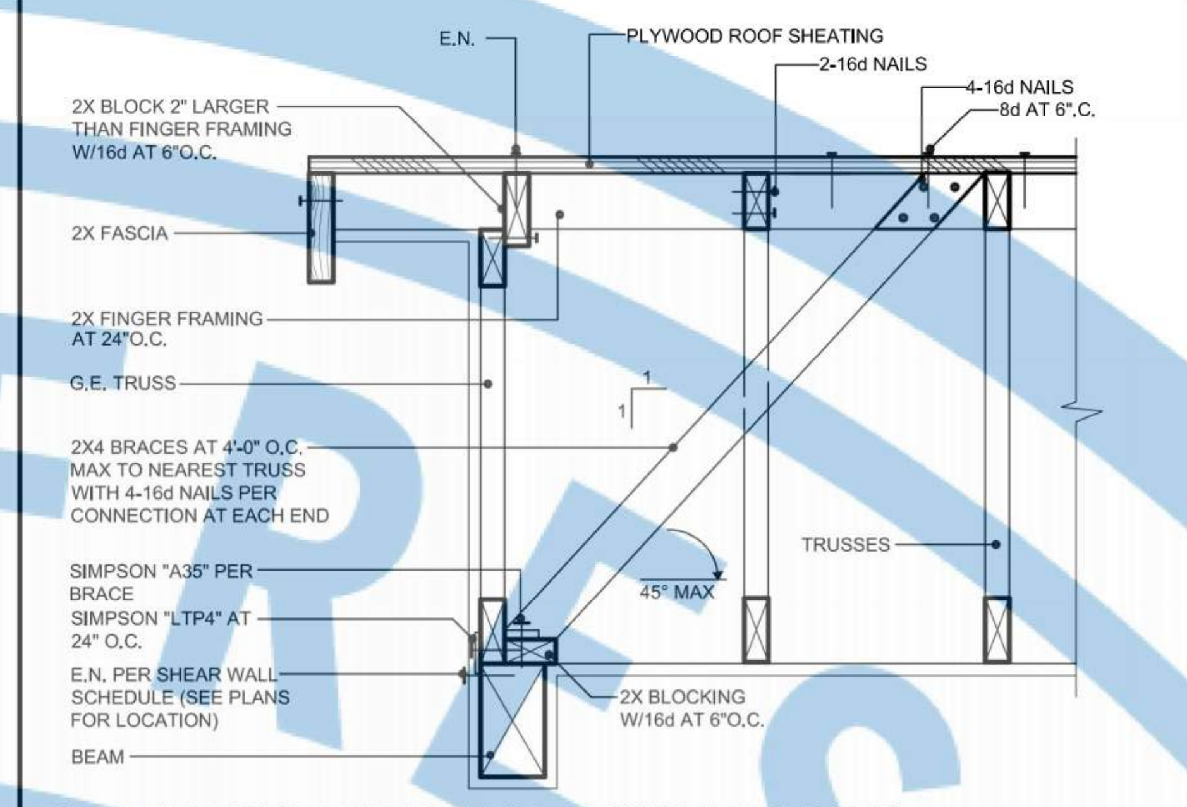


F S.5
RB1
RB2
H1
G.E. TRUSS
TRUSS
2-2X
ROOF TRUSS AT 24" O.C.
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE ROOF FRAMING.
F S.2
(AT CRAFTSMAN ONLY)
B S.2.1
D S.2.1
AT CRAFTSMAN OPTION ONLY BEAM FOR PORCH SHALL PROJECT 1'-6" BEYOND THE COLUMN.
1'-6"
A S.4
B S.4
AT CRAFTSMAN ONLY
AT GABLE ONLY
D S.3
BALLOON FRAME WALL AT GABLE END TO TRUSS FRAMING.
C S.2.1
DROP TOP CORD OF TRUSS TO ACCOMMODATE 2X4 OUTLOOKS AT 24" O.C.
(AT CRAFTSMAN ONLY)
E S.2
AT CRAFTSMAN OPTION ONLY OUTRIGGER BEAM SHALL BE SET DOUBLE THE LENGTH OF THE PROJECTION BACK INTO THE WALL FRAMING.
3'-0"
1'-6"

ROOF FRAMING PLAN

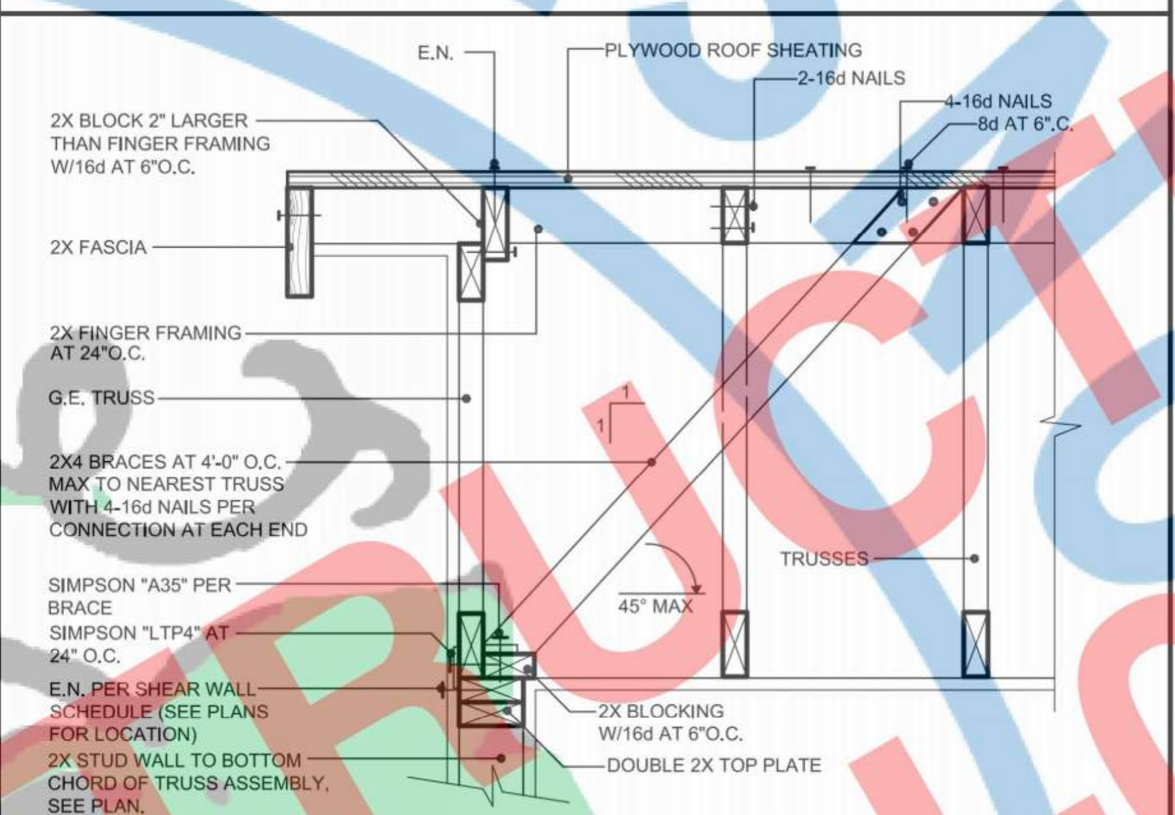
SCALE:1/4"=1'-0"

GABLE/CRAFTSMAN (PORCH OPTION) (TRUSS OPTION)



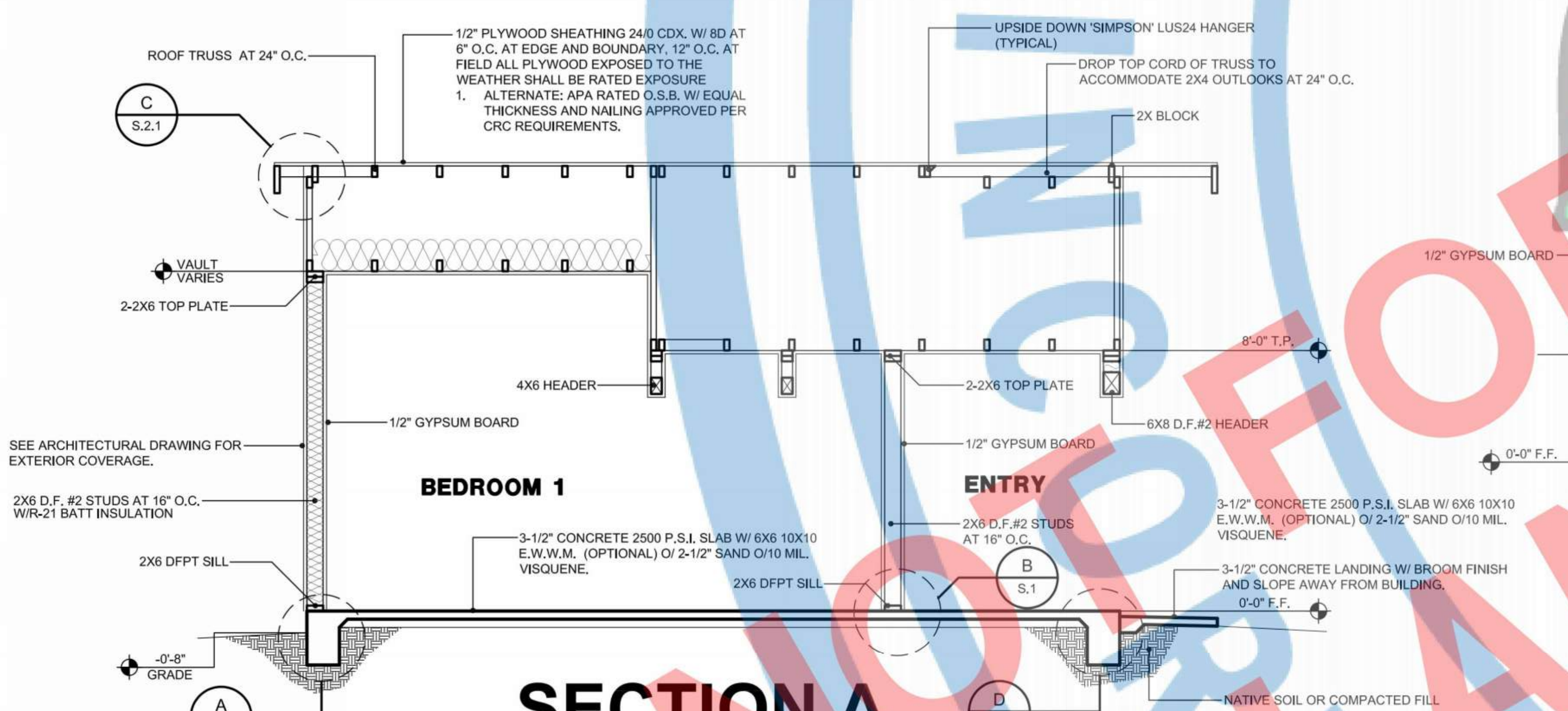
E.N.
PLYWOOD ROOF SHEATING
2-16d NAILS
4-16d NAILS
8d AT 6".C.
2X BLOCK 2" LARGER THAN FINGER FRAMING W/16d AT 6"O.C.
2X FASCIA
2X FINGER FRAMING AT 24"O.C.
G.E. TRUSS
1
1
2X4 BRACES AT 4'-0" O.C. MAX TO NEAREST TRUSS WITH 4-16d NAILS PER CONNECTION AT EACH END
TRUSSES
45° MAX
SIMPSON "A35" PER BRACE
SIMPSON "LTP4" AT 24" O.C.
E.N. PER SHEAR WALL SCHEDULE (SEE PLANS FOR LOCATION)
2X BLOCKING W/16d AT 6"O.C.
BEAM

B TRUSS TO BEAM CONNECTION



E.N.
PLYWOOD ROOF SHEATING
2-16d NAILS
4-16d NAILS
8d AT 6".C.
2X BLOCK 2" LARGER THAN FINGER FRAMING W/16d AT 6"O.C.
2X FASCIA
2X FINGER FRAMING AT 24"O.C.
G.E. TRUSS
1
1
2X4 BRACES AT 4'-0" O.C. MAX TO NEAREST TRUSS WITH 4-16d NAILS PER CONNECTION AT EACH END
TRUSSES
45° MAX
SIMPSON "A35" PER BRACE
SIMPSON "LTP4" AT 24" O.C.
E.N. PER SHEAR WALL SCHEDULE (SEE PLANS FOR LOCATION)
2X BLOCKING W/16d AT 6"O.C.
2X STUD WALL TO BOTTOM CHORD OF TRUSS ASSEMBLY, SEE PLAN.
DOUBLE 2X TOP PLATE

C TRUSS TO WALL CONNECTION

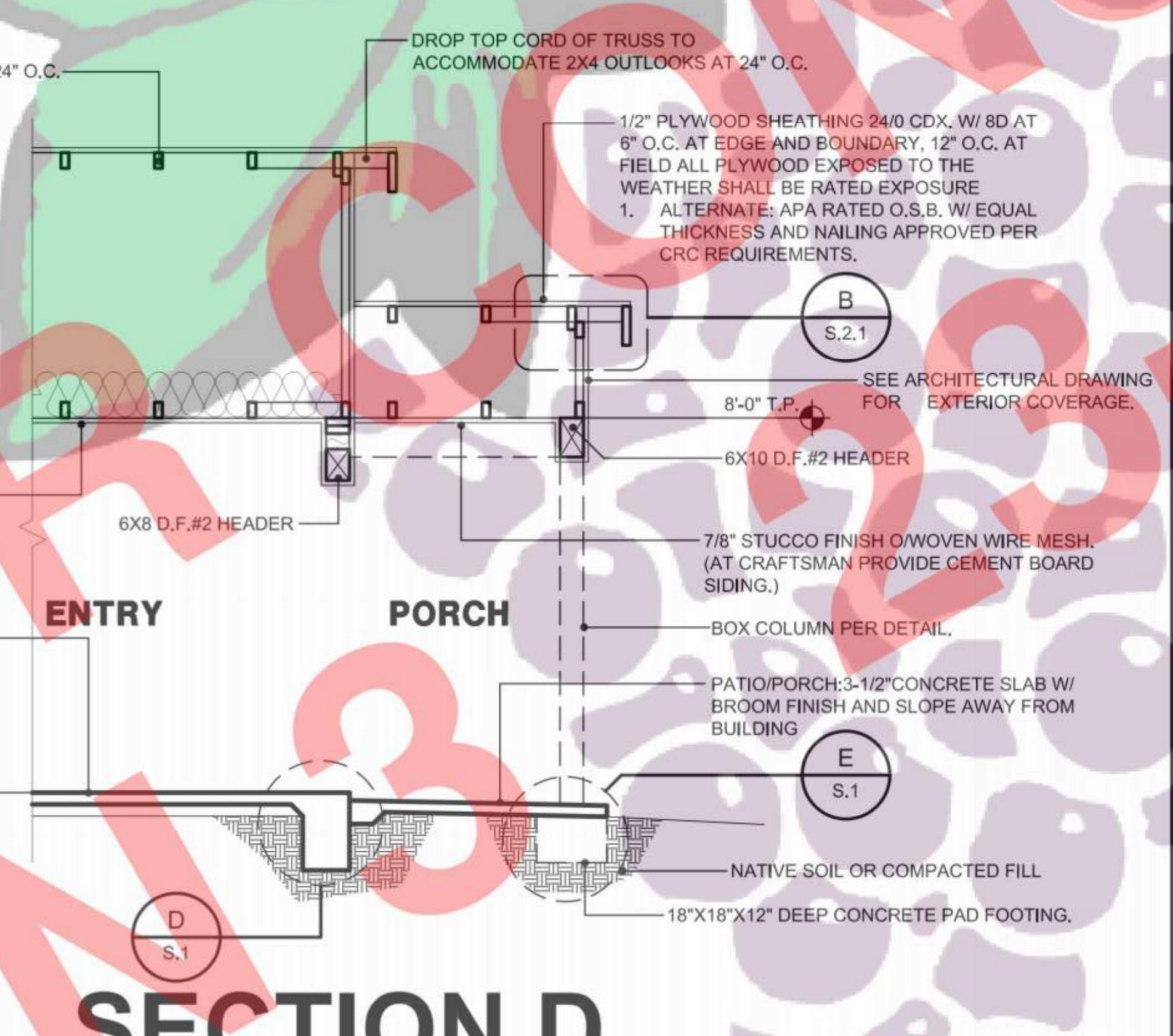


ROOF TRUSS AT 24" O.C.
1/2" PLYWOOD SHEATHING 24/0 CDX. W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B. W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
UPSIDE DOWN 'SIMPSON' LUS24 HANGER (TYPICAL)
DROP TOP CORD OF TRUSS TO ACCOMMODATE 2X4 OUTLOOKS AT 24" O.C.
2X BLOCK
C S.2.1
VAULT VARIES
2-2X6 TOP PLATE
8'-0" T.P.
4X6 HEADER
2-2X6 TOP PLATE
6X8 D.F.#2 HEADER
1/2" GYPSUM BOARD
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
BEDROOM 1
ENTRY
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
2X6 D.F.#2 STUDS AT 16" O.C.
1/2" GYPSUM BOARD
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
2X6 DFPT SILL
B S.1
0'-0" F.F.
3-1/2" CONCRETE LANDING W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING.
-0'-8" GRADE
A S.1
D S.1
NATIVE SOIL OR COMPACTED FILL

SECTION A

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

GABLE/CRAFTSMAN

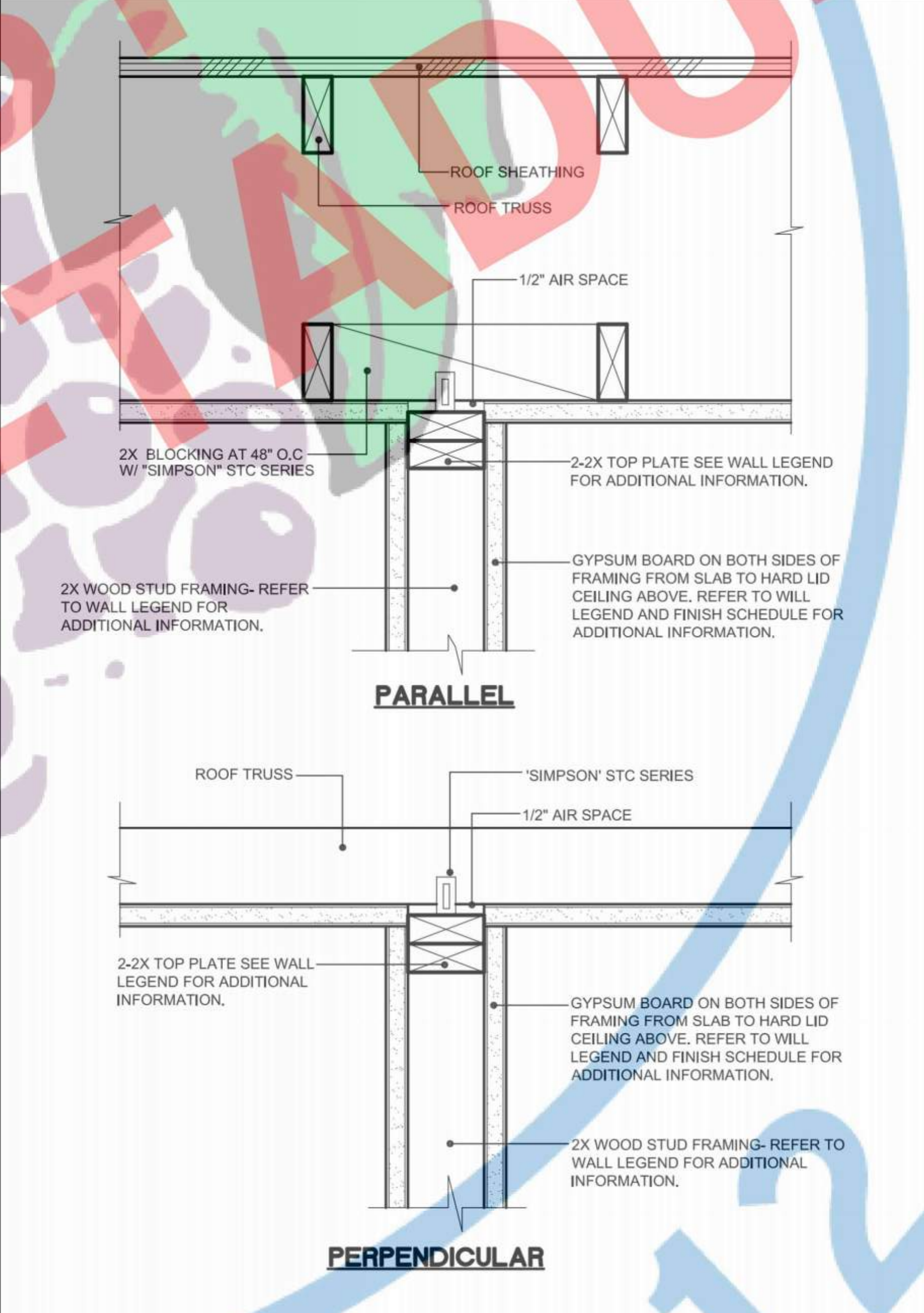


ROOF TRUSS AT 24" O.C.
DROP TOP CORD OF TRUSS TO ACCOMMODATE 2X4 OUTLOOKS AT 24" O.C.
1/2" PLYWOOD SHEATHING 24/0 CDX. W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B. W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
B S.2.1
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
8'-0" T.P.
6X10 D.F.#2 HEADER
1/2" GYPSUM BOARD
6X8 D.F.#2 HEADER
7/8" STUCCO FINISH O/WOVEN WIRE MESH. (AT CRAFTSMAN PROVIDE CEMENT BOARD SIDING.)
ENTRY
PORCH
BOX COLUMN PER DETAIL.
PATIO/PORCH:3-1/2"CONCRETE SLAB W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING
0'-0" F.F.
E S.1
NATIVE SOIL OR COMPACTED FILL
18"X18"X12" DEEP CONCRETE PAD FOOTING.
D S.1

SECTION D

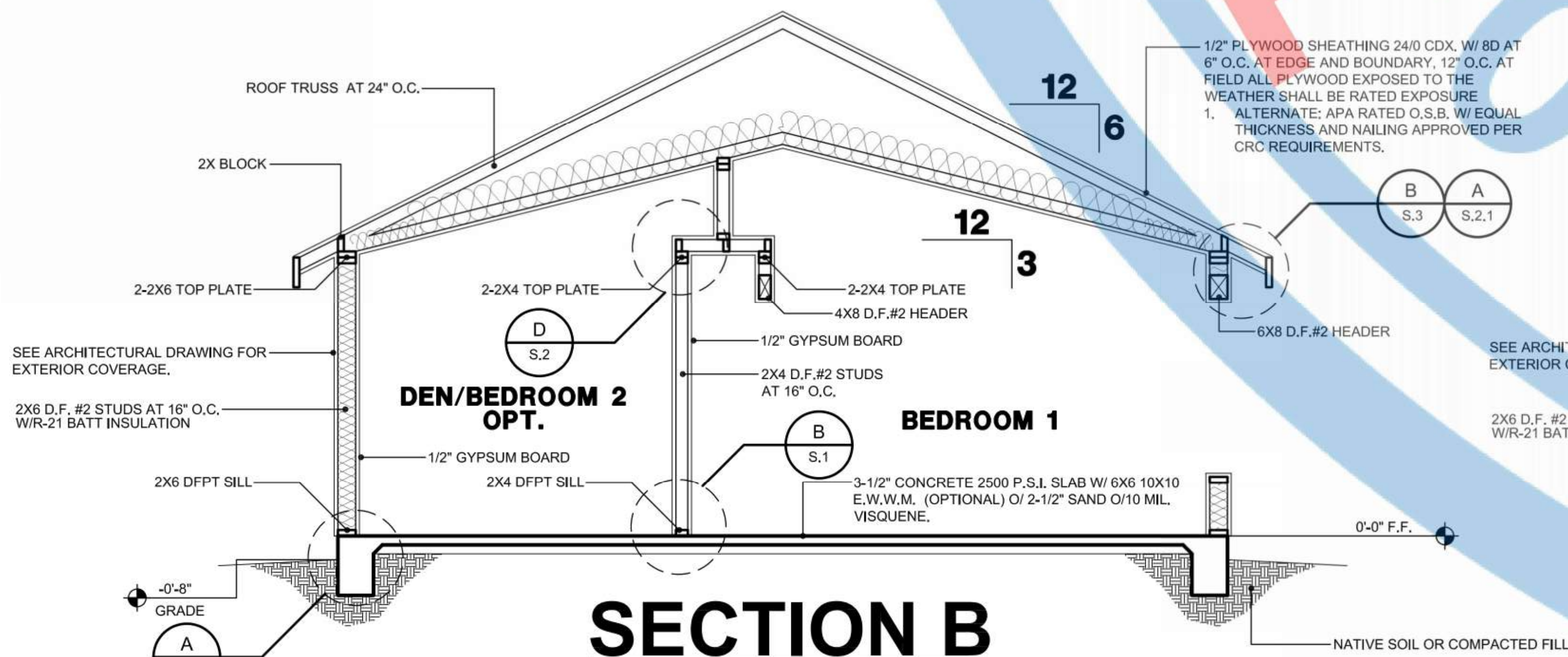
SCALE:1/4"=1'-0"

GABLE/CRAFTSMAN (PORCH OPTION)



ROOF SHEATHING
ROOF TRUSS
1/2" AIR SPACE
2X BLOCKING AT 48" O.C W/ "SIMPSON" STC SERIES
2-2X TOP PLATE SEE WALL LEGEND FOR ADDITIONAL INFORMATION.
GYPSUM BOARD ON BOTH SIDES OF FRAMING FROM SLAB TO HARD LID CEILING ABOVE. REFER TO WILL LEGEND AND FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
2X WOOD STUD FRAMING- REFER TO WALL LEGEND FOR ADDITIONAL INFORMATION.
PARALLEL
ROOF TRUSS
'SIMPSON' STC SERIES
1/2" AIR SPACE
2-2X TOP PLATE SEE WALL LEGEND FOR ADDITIONAL INFORMATION.
GYPSUM BOARD ON BOTH SIDES OF FRAMING FROM SLAB TO HARD LID CEILING ABOVE. REFER TO WILL LEGEND AND FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
2X WOOD STUD FRAMING- REFER TO WALL LEGEND FOR ADDITIONAL INFORMATION.
PERPENDICULAR

D TRUSS TO WALL

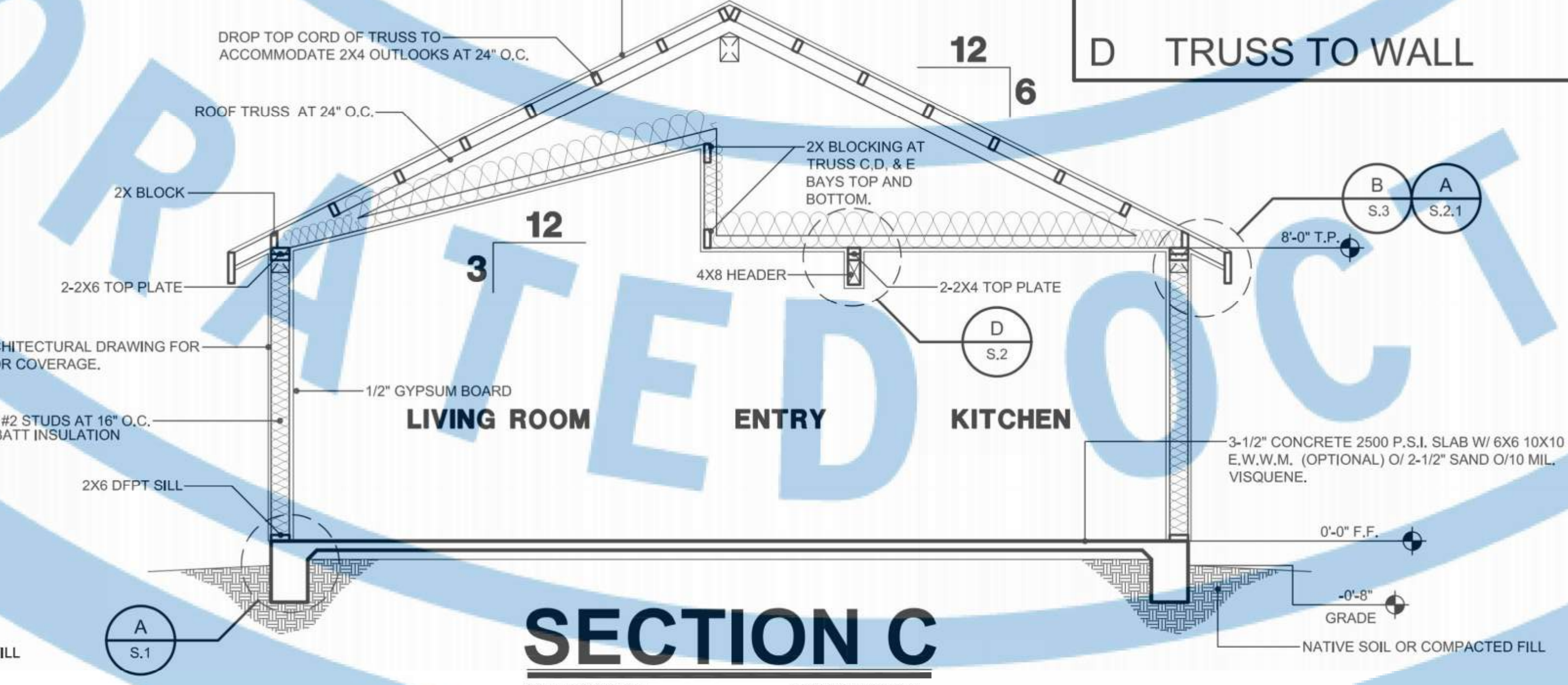


ROOF TRUSS AT 24" O.C.
2X BLOCK
12
6
12
3
1/2" PLYWOOD SHEATHING 24/0 CDX. W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B. W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
B S.3
A S.2.1
2-2X6 TOP PLATE
2-2X4 TOP PLATE
2-2X4 TOP PLATE
4X8 D.F.#2 HEADER
6X8 D.F.#2 HEADER
D S.2
1/2" GYPSUM BOARD
2X4 D.F.#2 STUDS AT 16" O.C.
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
DEN/BEDROOM 2 OPT.
BEDROOM 1
1/2" GYPSUM BOARD
B S.1
2X6 DFPT SILL
2X4 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
0'-0" F.F.
-0'-8" GRADE
A S.1
NATIVE SOIL OR COMPACTED FILL

SECTION B

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

GABLE/CRAFTSMAN



1/2" PLYWOOD SHEATHING 24/0 CDX. W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B. W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
DROP TOP CORD OF TRUSS TO ACCOMMODATE 2X4 OUTLOOKS AT 24" O.C.
ROOF TRUSS AT 24" O.C.
12
6
12
3
2X BLOCK
2X BLOCKING AT TRUSS C,D, & E BAYS TOP AND BOTTOM.
B S.3
A S.2.1
8'-0" T.P.
2-2X6 TOP PLATE
4X8 HEADER
2-2X4 TOP PLATE
D S.2
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
1/2" GYPSUM BOARD
LIVING ROOM
ENTRY
KITCHEN
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
2X6 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
0'-0" F.F.
-0'-8" GRADE
A S.1
NATIVE SOIL OR COMPACTED FILL

SECTION C

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

GABLE/CRAFTSMAN

HEADER/BEAM SCHEDULE:

SYMBOL	HEADER/BEAM SIZE & GRADE
H1	6X8 D.F.#2
H2	4X6 D.F.#2
H3	4X8 D.F.#2
RB1	6X8 D.F.#2
RB2	6X10 D.F.#2

ROOF SHEATHING:

1/2" CDX PLYWOOD(OR 7/16" 24/16 O.S.B.)PSR. 24/00 NAILING (8D COMMONS OR 10D SINKERS)		SEE DETAIL
BOUNDARY	6 IN O.C.	A S.2
EDGE	6 IN O.C.	
FIELD	12 IN O.C.	

SHEATHING NOTES:

1. MAXIMUM SIZE OF OPENING IN HORIZONTAL DIAPHRAGM NOT TO EXCEED 24" WITHOUT BLOCKING.
2. PLYWOOD ROOF DIAPHRAGM SHALL BE CONTINUOUS BELOW ALL CALIFORNIA FILL FRAMING.
3. ENTIRE PERIMETER SHALL BE BLOCKED.
4. PROVIDE 1/8" GAP AT ALL PANEL EDGES.
5. PLYWOOD SHEET USED IN THE CONSTRUCTION OF DIAPHRAGMS SHALL BE NOT LESS THAN 4'X8' IN SIZE.
   A. MINIMUM SIZE SHEET AT BOUNDARIES AND CHANGES IN FRAMING SHALL BE 24", UNLESS BLOCKED.
   B. NAIL SIZE, SPACING, AND TYPE PER ABOVE UNLESS NOTED OTHERWISE.
6. ALL PLYWOOD SHALL BE GRADE-STAMPED A.P.A. AND FOLLOWING MINIMUM GRADES SHALL APPLY TO WOOD STRUCTURAL PANELS UNLESS SHOWN OTHERWISE ON THE DRAWINGS:
   A. ROOF SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE
   B. EXPOSED SHEATHING SHALL BE EXPOSURE I OR CCX EXTERIOR GRADE AT EXPOSED AREA'S WITH EXTERIOR GLUE WALL SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE.

WALL LEGEND:

SYMBOL	DESCRIPTION
▨	BEARING WALLS: HATCH WALLS DENOTES BEARING WALL. SEE FOUNDATION PLAN FOR ADDITIONAL INFORMATION.
═	NON-BEARING WALLS: NON-BEARING WALLS. SEE FLOOR PLANS WALL LEGEND FOR ADDITIONAL INFORMATION.

WALL FRAMING NOTES:

1. PROVIDE CONTINUOUS STUDS AT ALL LOCATIONS WHERE THERE IS NO LATERAL SUPPORT AT 8' PLATE HEIGHT.
2. FINGER JOINTED STUDS IN STRUCTURAL WALLS(BEARING OR SHEAR) MUST BE GRADE STAMPED BY AN APPROVED ICC INSPECTION AGENCY AND CLEARLY SPECIFIED ON PLANS, AND ARE NOT ALLOWED AT HOLDOWN LOCATIONS.
3. ALL LUMBER SHALL BE GRADE MARKED, DOUGLAS FIR STANDARD OR BETTER MINIMUM EXCEPT AS NOTED ON PLANS.
4. ALL COLUMNS TO BE DOUGLAS FIR NO.2
5. IN COMBUSTIBLE CONSTRUCTION, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. (R 302.11) PROVIDE FIRE BLOCKING AT THE 10-FOOT INTERVALS AND AT ALL FLOOR AND CEILING LEVELS.
6. USE THE FOLLOWING LUMBER GRADES OR BETTER, UNLESS OTHERWISE NOTED:
   A. SILL PLATES, FOUND. GRD. RWD. OR P.T. DOUG FIR
   B. VERTICAL FRAMING STUDS DOUG. FIR STUD GRADE
   C. POSTS DOUG FIR STUD OR BETTER
   D. TOP PLATES DOUG. FIR STUD OR BETTER
   E. CEILING JOIST DOUG. FIR NO.2 OR BETTER
   F. RAFTERS, RIDGES, HIPS DOUG. FIR NO.2 OR BETTER
   G. HEADERS DOUG. FIR CONSTRUCTION GRD. OR BETTER
   H. EXPOSED BEAMS/OUTRIGGERS ARCH. GRD. D.F. (RSN. IF NOTED)
   I. EXPOSED POSTS ARCH. GRD. D.F. (RSN IF NOTED)
   J. FASCIA WINDOW FRAMES KILN DRIED CLR. HEMLOCK/RSN . FACE
   K. BRACING, BACKING, PURLING DOUG. FIR STANDARD OR BETTER
   L. SPACED ROOF SHEATHING DOUG. FIR STANDARD OR BETTER
   M. SOLID "V" RUSTIC EAVES NO.2 OR BETTER, PINE OR BETTER
   N. 2X6 T&G CEILING NO.1 WHITE FIR RESAWN FACE
   O. REDWOOD SIDING CEDAR RWD. SQUARE OF "V" GROOVED
   P. EXTERIOR TRIM CLEAR RWD. OR APPEARANCE GRD. DOUG. FIR OR HEMLOCK, RESAWN FACE
   Q. DOOR JAMBS, CASINGS, MOULDINGS CLEAR DOUG. FIR OR PINE
   R. SHELVING 3/4" PLYWOOD WITH HARDWOOD EDGE
7. SILLS, SLEEPERS, PLATES, ETC. ON MASONRY OR CONCRETE. THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE FOUNDATION GRADE & REDWOOD OR PRESSURE TREATED DOUGLAS FIR.
8. THE OPENING AROUND GAS VENTS, DUCTS, PIPES, CHIMNEYS, AND FIREPLACES AT THE CEILING LEVEL SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIALS.
9. GREEN VINYL SINKERS DO NOT MEET THE NAILING REQUIREMENTS FOR MOST BOX AND COMMON NAIL CONNECTIONS.

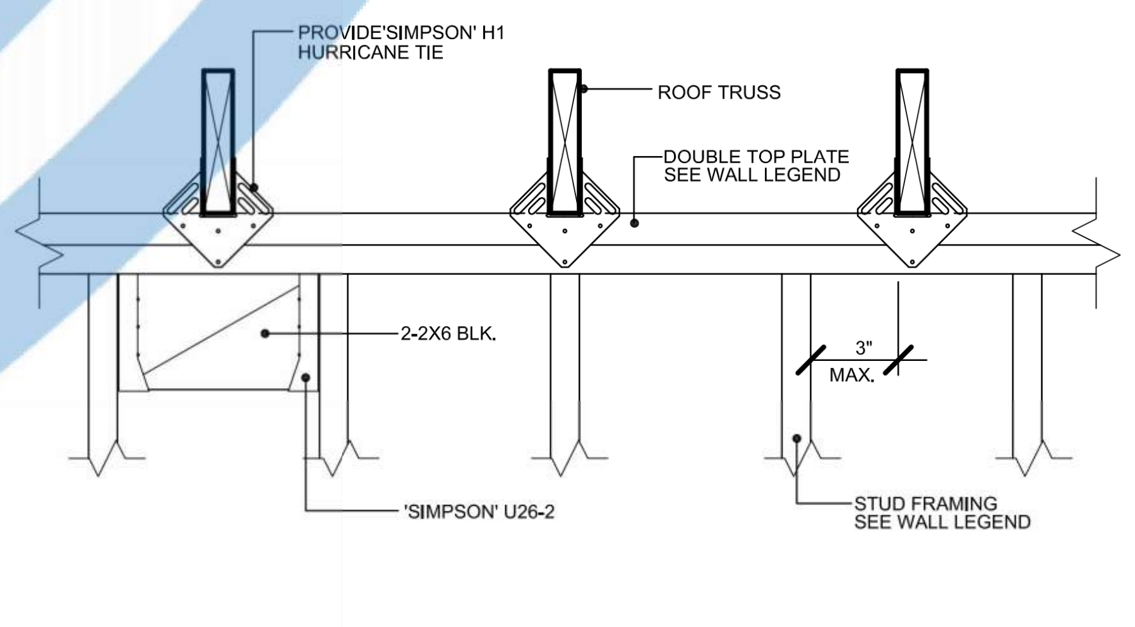
ROOF VENTILATION CALCULATIONS :

ROOF AREA OF:	GABLE/CRAFTSMAN		
CALCULATION FACTOR		ATTIC SPACE AREA	625
$\frac{\text{ATTIC SPACE AREA}}{300} \times 144$		SQUARE INCHES REQUIRED	300
QUANITY	SIZE	TYPE	NET AREA PROVIDED
3	LOW PROFILE	UPPER VENTILATION GALVANIZED LOW PROFILE DORMER VENT (43 SQ.IN.)	129
		40% UPPER VENTILATION	120
		50% UPPER VENTILATION	150
6	3 1/2"X22 1/2"	LOWER VENTILATION GALVANIZED EAVE VENT (33 SQ.IN.)	198
		TOTAL ATTIC VENTILATION	327

ROOF AREA OF:	GABLE/CRAFTSMAN W/PORCH OPTION		
CALCULATION FACTOR		ATTIC SPACE AREA	695
$\frac{\text{ATTIC SPACE AREA}}{300} \times 144$		SQUARE INCHES REQUIRED	336
QUANITY	SIZE	TYPE	NET AREA PROVIDED
4	LOW PROFILE	UPPER VENTILATION GALVANIZED LOW PROFILE DORMER VENT (43 SQ.IN.)	172
		40% UPPER VENTILATION	134
		50% UPPER VENTILATION	168
6	3 1/2"X22 1/2"	LOWER VENTILATION GALVANIZED EAVE VENT (33 SQ.IN.)	198
		TOTAL ATTIC VENTILATION	370

ROOF TRUSS NOTES:

1. PRE MANUFACTURED ROOF TRUSSES AT 24" O.C. PROVIDE 1X4 HORIZONTAL BRACING AT 10'-0" O.C. TO TOP OF BOTTOM CHORD.
2. SEE TRUSS DIAGRAMS ATTACHED FOR ALL HORIZONTAL AND VERTICAL BRACING REQUIREMENTS AS PER MANUFACTURER RECOMMEND ACTIONS.
3. PROVIDE SOLID BLOCKING AT TRUSS BEARING POINTS.
4. APPROVED TRUSS DRAWING MUST BE ON JOB SITE FOR INSPECTION PURPOSES.
5. ALL TRUSS MANUFACTURES SHALL HAVE "IN PLANT" INSPECTION BY AN APPROVED AGENCY.



PROVIDE'SIMPSON' H1 HURRICANE TIE
ROOF TRUSS
DOUBLE TOP PLATE SEE WALL LEGEND
2-2X6 BLK.
3" MAX.
'SIMPSON' U26-2
STUD FRAMING SEE WALL LEGEND

A TOP PLATE BEARING

PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
559-621-8084
darm.building@fresno.gov

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE
1	- TRUSS FRAMING OPTION FOR GABLE & CRAFTSMAN	08/22/23
2	- ONE HOUR RATED FIRE WALL FOR REDUCED SIDE OR REAR YARD SETBACK.	04/18/24

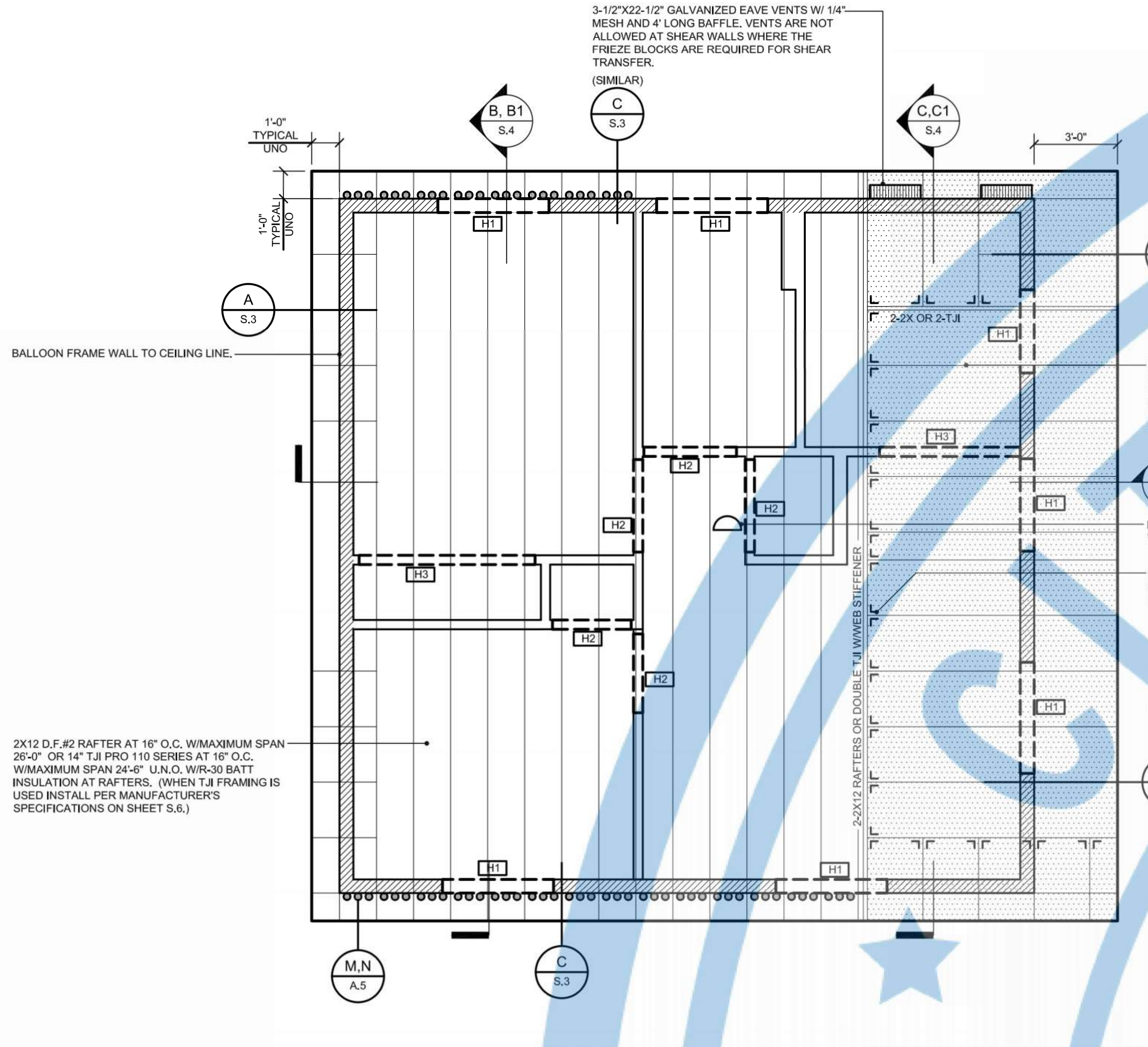
CITY USE ONLY

DRAWING TITLE:

ROOF FRAMING PLAN & BUILDING SECTIONS FOR GABLE & CRAFTSMAN (TRUSS OPTION)

JOB# : TADU-003
DATE: 18-Apr-24
SCALE: AS NOTED
DRAWN BY: IRG

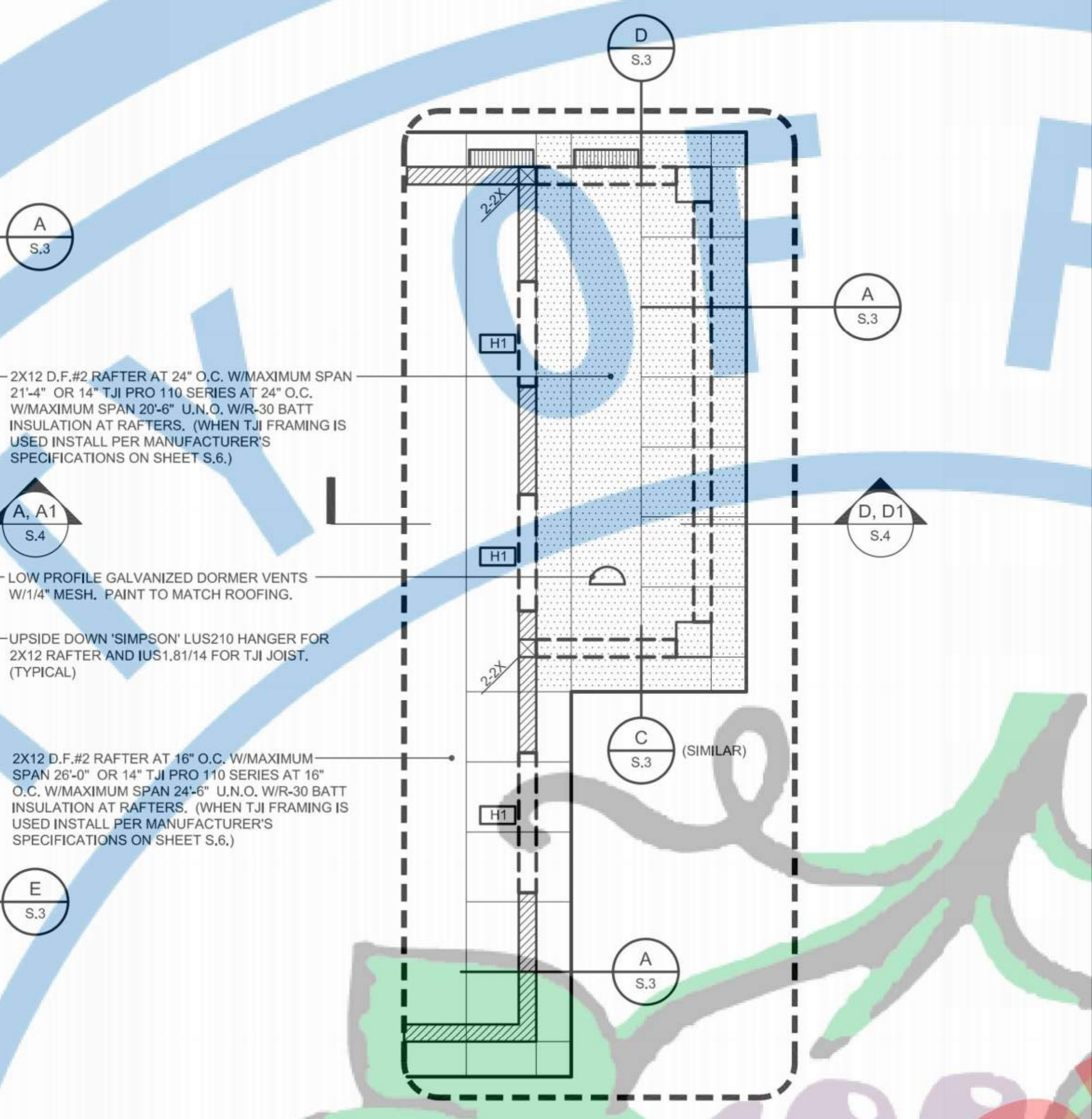
SHEET NO. S.2.1


3-1/2"X22-1/2" GALVANIZED EAVE VENTS W/ 1/4" MESH AND 4' LONG BAFFLE. VENTS ARE NOT ALLOWED AT SHEAR WALLS WHERE THE FRIEZE BLOCKS ARE REQUIRED FOR SHEAR TRANSFER.
(SIMILAR)
1'-0" TYPICAL UNO
3'-0"
B, B1 S.4
C S.3
C,C1 S.4
A S.3
BALLOON FRAME WALL TO CEILING LINE.
2-2X OR 2-TJI
H1
H2
H3
A, A1 S.4
E S.3
2-2X12 RAFTERS OR DOUBLE TJI W/WEB STIFFENER
2X12 D.F.#2 RAFTER AT 16" O.C. W/MAXIMUM SPAN 26'-0" OR 14" TJI PRO 110 SERIES AT 16" O.C. W/MAXIMUM SPAN 24'-6" U.N.O. W/R-30 BATT INSULATION AT RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
M,N A.5
C S.3

ROOF FRAMING PLAN

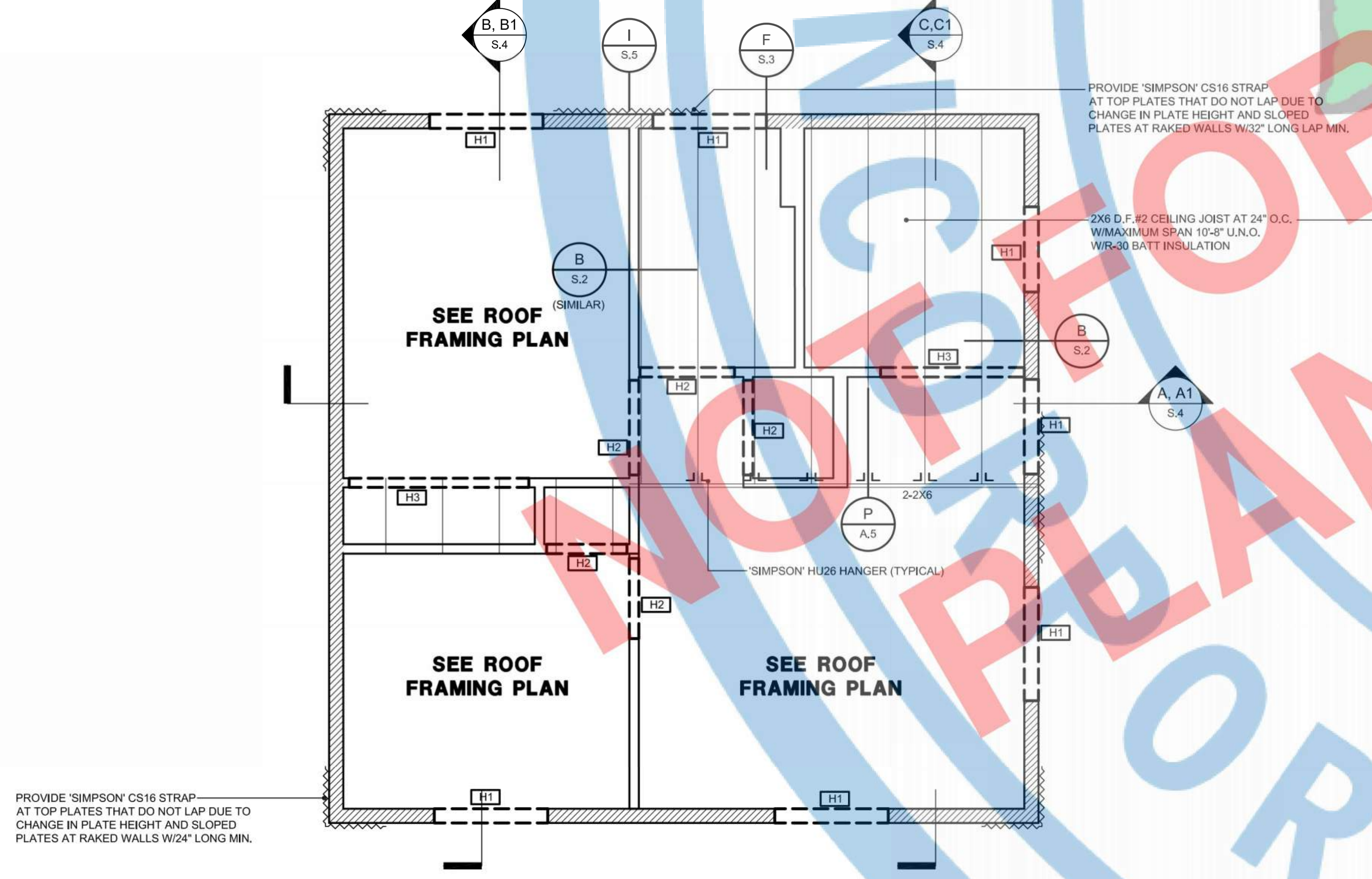
INSULATION DIRECTLY BENEATH THE ROOF SHEATHING IN THE RAFTER BAY MUST HAVE 1" AIR SPACE AND TO BE CLIP BLOCKS AT BEAMS. SEE DETAIL M,N/A.5

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


D S.3
A S.3
2X12 D.F.#2 RAFTER AT 24" O.C. W/MAXIMUM SPAN 21'-4" OR 14" TJI PRO 110 SERIES AT 24" O.C. W/MAXIMUM SPAN 20'-6" U.N.O. W/R-30 BATT INSULATION AT RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
A, A1 S.4
D, D1 S.4
LOW PROFILE GALVANIZED DORMER VENTS W/1/4" MESH. PAINT TO MATCH ROOFING.
UPSIDE DOWN 'SIMPSON' LUS210 HANGER FOR 2X12 RAFTER AND IUS1.81/14 FOR TJI JOIST. (TYPICAL)
2X12 D.F.#2 RAFTER AT 16" O.C. W/MAXIMUM SPAN 26'-0" OR 14" TJI PRO 110 SERIES AT 16" O.C. W/MAXIMUM SPAN 24'-6" U.N.O. W/R-30 BATT INSULATION AT RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
2-2X
H1
C S.3 (SIMILAR)
E S.3

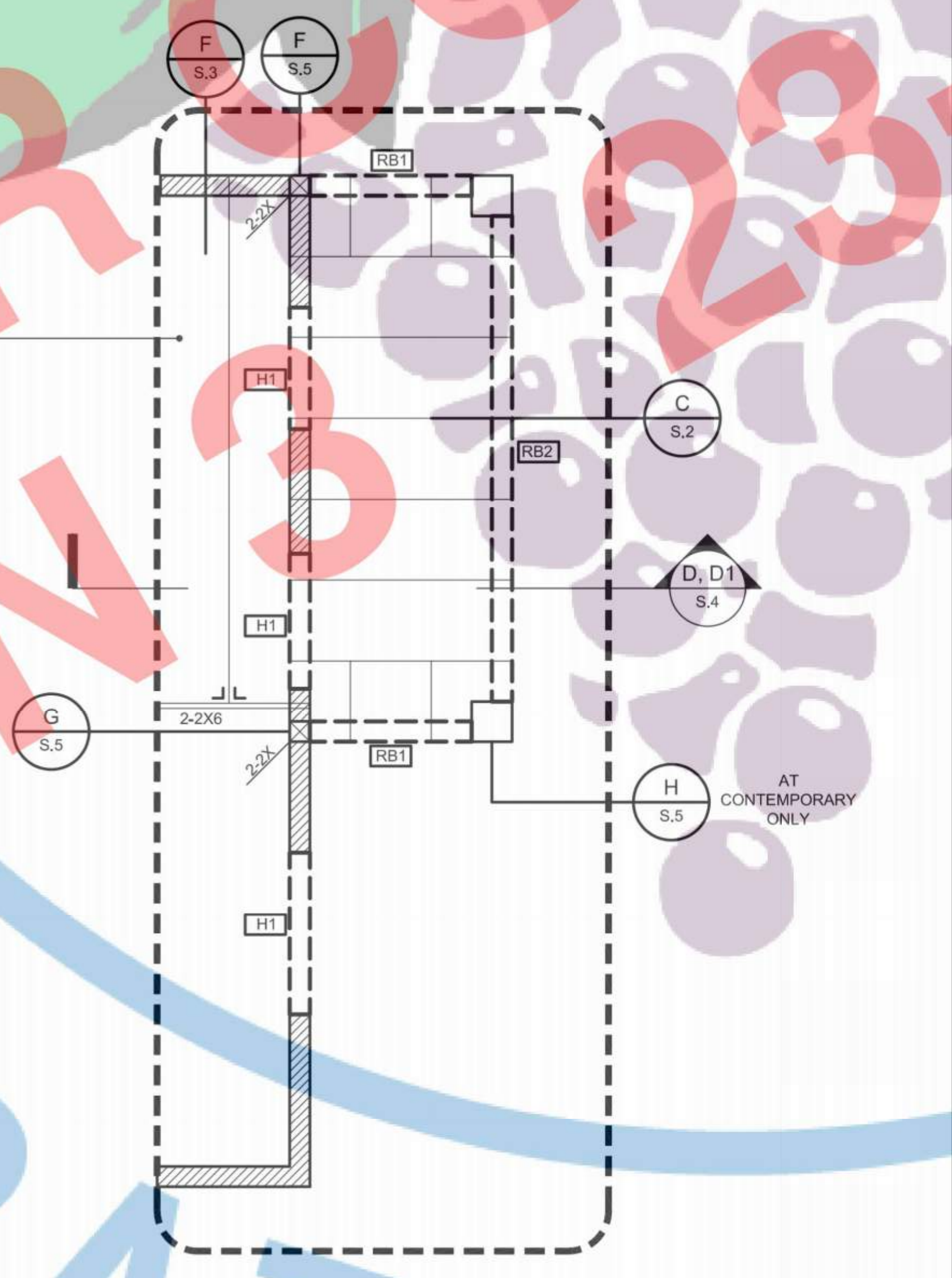
ROOF FRAMING PLAN

SCALE:1/4"=1'-0"
CONTEMPORARY (PORCH OPTION) ATTIC VENTILATION SAME DESIGN AS CONTEMPORARY W/NO PORCH OPTION.


B, B1 S.4
I S.5
F S.3
C,C1 S.4
PROVIDE 'SIMPSON' CS16 STRAP AT TOP PLATES THAT DO NOT LAP DUE TO CHANGE IN PLATE HEIGHT AND SLOPED PLATES AT RAKED WALLS W/32" LONG LAP MIN.
2X6 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 10'-8" U.N.O. W/R-30 BATT INSULATION
B S.2 (SIMILAR)
SEE ROOF FRAMING PLAN
H1
H2
H3
B S.2
A, A1 S.4
2-2X6
P A.5
'SIMPSON' HU26 HANGER (TYPICAL)
SEE ROOF FRAMING PLAN
SEE ROOF FRAMING PLAN
PROVIDE 'SIMPSON' CS16 STRAP AT TOP PLATES THAT DO NOT LAP DUE TO CHANGE IN PLATE HEIGHT AND SLOPED PLATES AT RAKED WALLS W/24" LONG MIN.

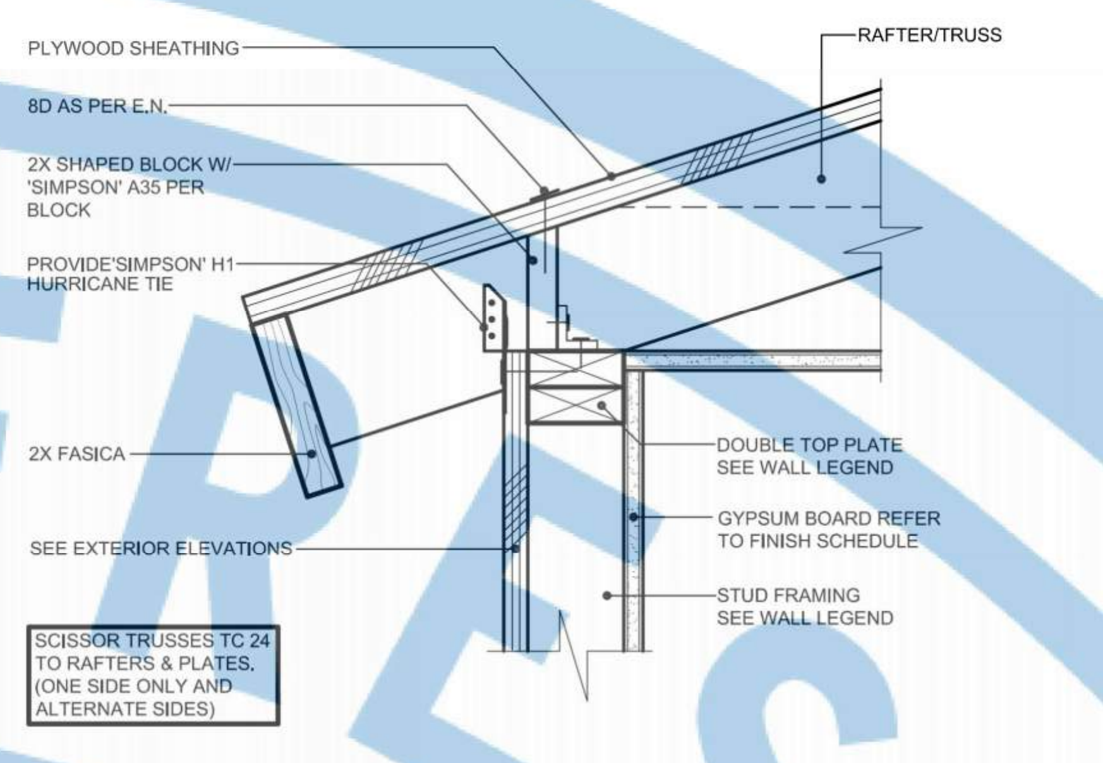
CEILING JOIST FRAMING PLAN

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


F S.3
F S.5
RB1
RB2
H1
C S.2
D, D1 S.4
G S.5
2-2X6
2-2X
H S.5
AT CONTEMPORARY ONLY

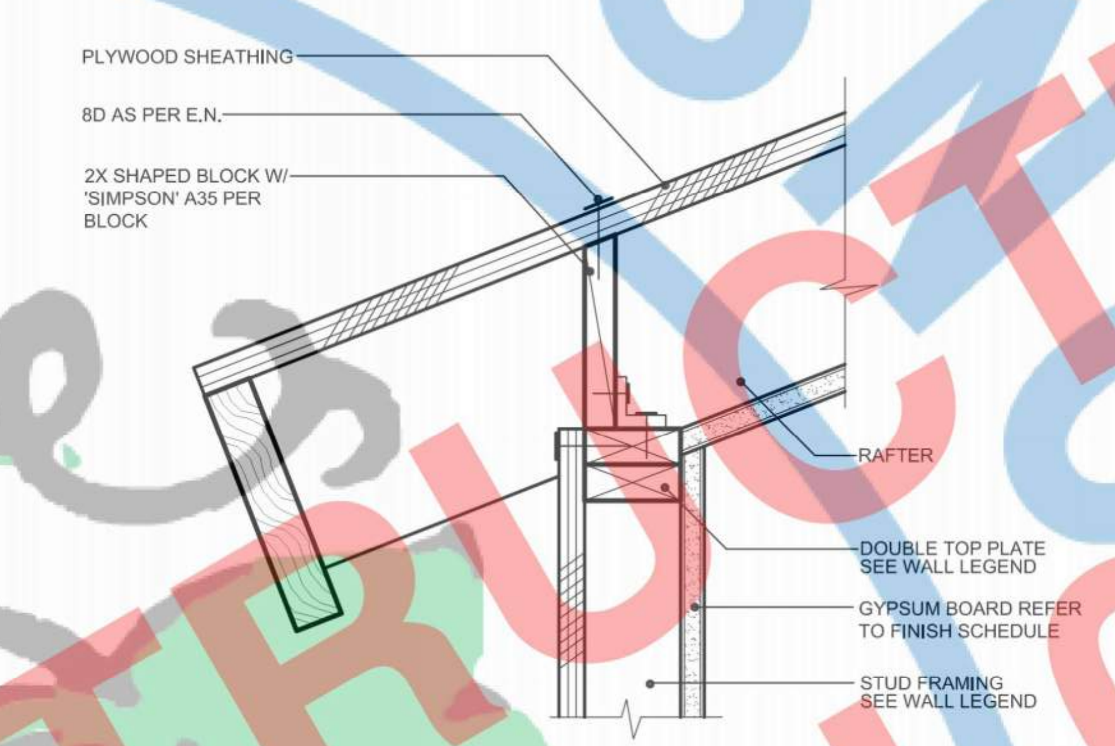
CEILING JOIST FRAMING PLAN

SCALE:1/4"=1'-0"
CONTEMPORARY (PORCH OPTION)

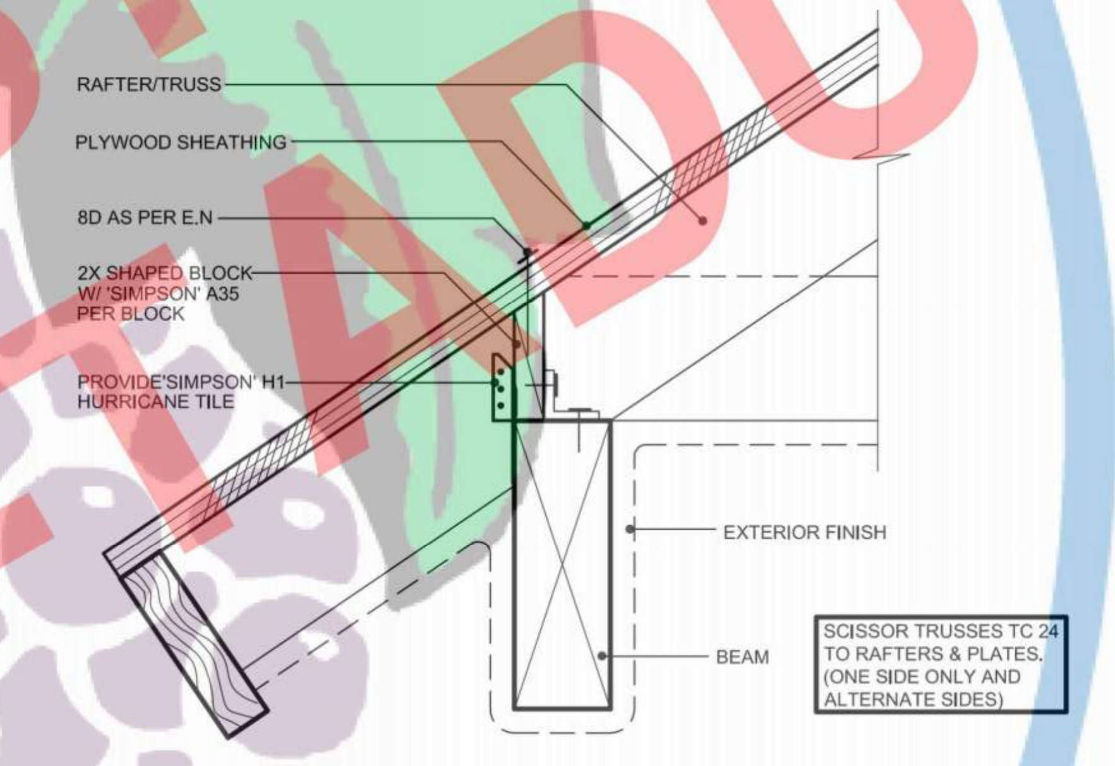

PLYWOOD SHEATHING
8D AS PER E.N.
2X SHAPED BLOCK W/ 'SIMPSON' A35 PER BLOCK
PROVIDE'SIMPSON' H1 HURRICANE TIE
2X FASICA
SEE EXTERIOR ELEVATIONS
RAFTER/TRUSS
DOUBLE TOP PLATE SEE WALL LEGEND
GYPSUM BOARD REFER TO FINISH SCHEDULE
STUD FRAMING SEE WALL LEGEND

SCISSOR TRUSSES TC 24 TO RAFTERS & PLATES. (ONE SIDE ONLY AND ALTERNATE SIDES)

B EAVE

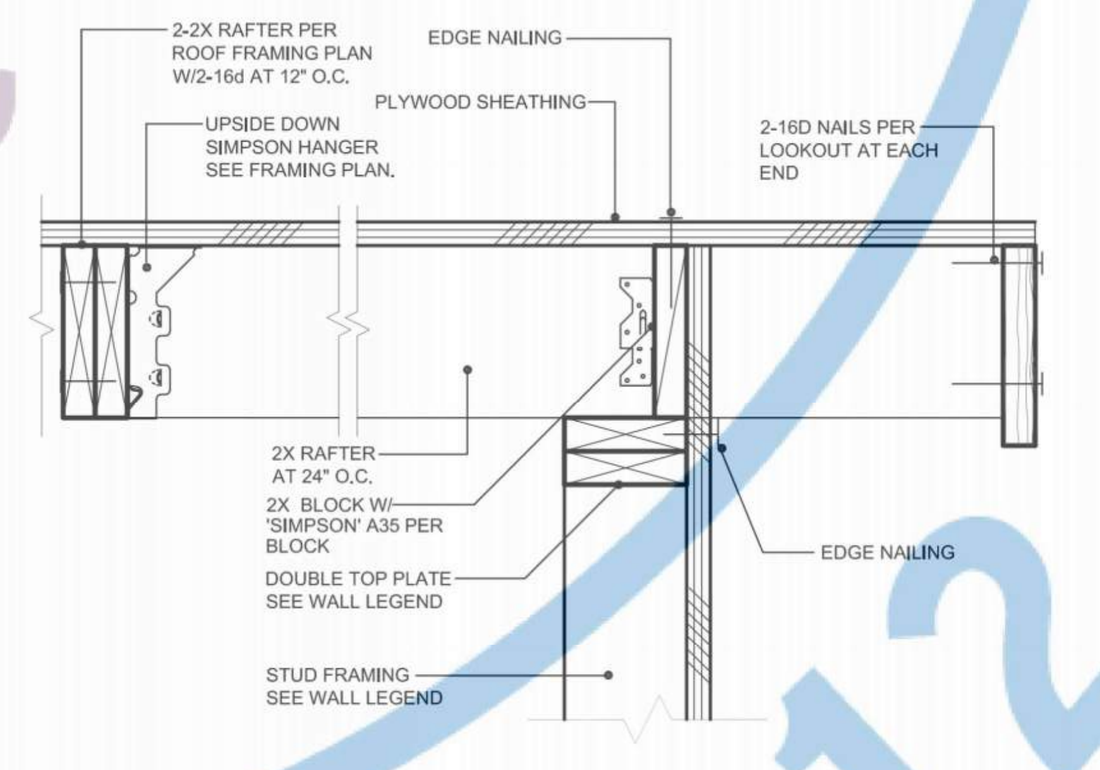

PLYWOOD SHEATHING
8D AS PER E.N.
2X SHAPED BLOCK W/ 'SIMPSON' A35 PER BLOCK
RAFTER
DOUBLE TOP PLATE SEE WALL LEGEND
GYPSUM BOARD REFER TO FINISH SCHEDULE
STUD FRAMING SEE WALL LEGEND

C EAVE

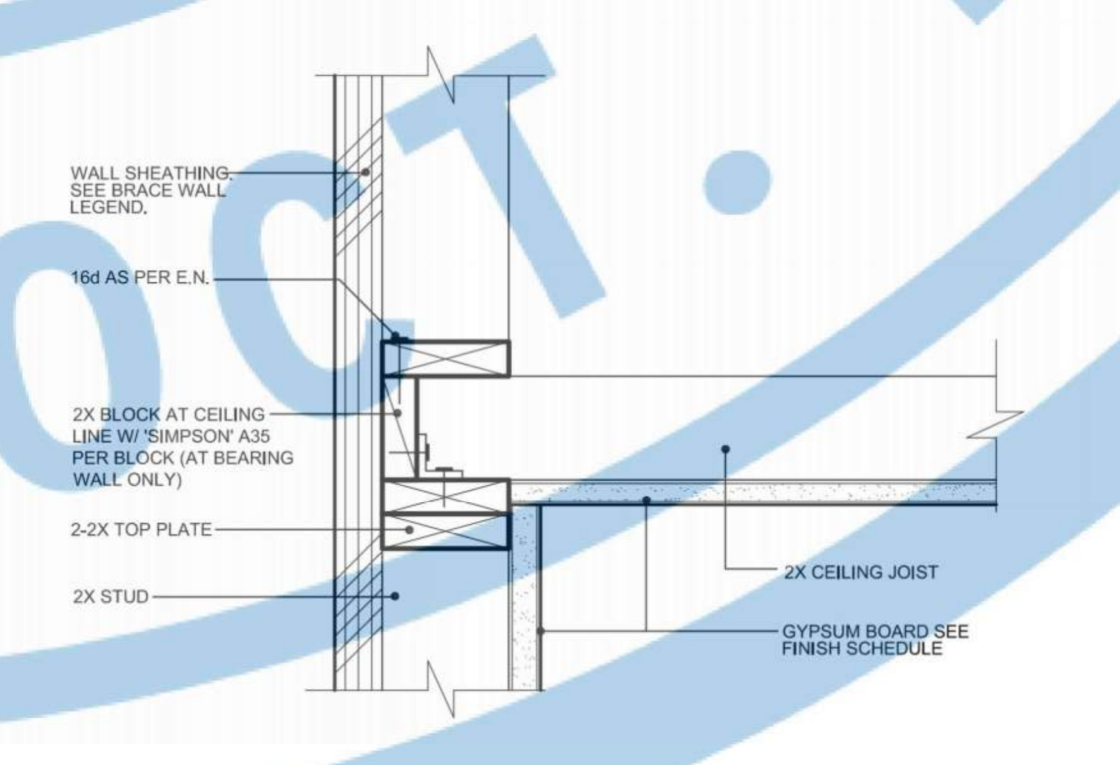

RAFTER/TRUSS
PLYWOOD SHEATHING
8D AS PER E.N
2X SHAPED BLOCK W/ 'SIMPSON' A35 PER BLOCK
PROVIDE'SIMPSON' H1 HURRICANE TILE
EXTERIOR FINISH
BEAM

SCISSOR TRUSSES TC 24 TO RAFTERS & PLATES. (ONE SIDE ONLY AND ALTERNATE SIDES)

D EAVE AT BEAM


2-2X RAFTER PER ROOF FRAMING PLAN W/2-16d AT 12" O.C.
EDGE NAILING
PLYWOOD SHEATHING
UPSIDE DOWN SIMPSON HANGER SEE FRAMING PLAN.
2-16D NAILS PER LOOKOUT AT EACH END
2X RAFTER AT 24" O.C.
2X BLOCK W/ 'SIMPSON' A35 PER BLOCK
DOUBLE TOP PLATE SEE WALL LEGEND
STUD FRAMING SEE WALL LEGEND
EDGE NAILING

E GABLE END


WALL SHEATHING. SEE BRACE WALL LEGEND.
16d AS PER E.N.
2X BLOCK AT CEILING LINE W/ 'SIMPSON' A35 PER BLOCK (AT BEARING WALL ONLY)
2-2X TOP PLATE
2X STUD
2X CEILING JOIST
GYPSUM BOARD SEE FINISH SCHEDULE

F CEILING JOIST

HEADER/BEAM SCHEDULE:

SYMBOL	HEADER/BEAM SIZE & GRADE
H1	6X8 D.F.#2
H2	4X6 D.F.#2
H3	4X8 D.F.#2
RB1	6X8 D.F.#2
RB2	6X10 D.F.#2

ROOF SHEATHING:

1/2" CDX PLYWOOD(OR 7/16" 24/16 O.S.B.)PSR. 24/00 NAILING (8D COMMONS OR 10D SINKERS)		SEE DETAIL
BOUNDARY	6 IN O.C.	A S.2
EDGE	6 IN O.C.	
FIELD	12 IN O.C.	

SHEATHING NOTES:

1. MAXIMUM SIZE OF OPENING IN HORIZONTAL DIAPHRAGM NOT TO EXCEED 24" WITHOUT BLOCKING.
2. PLYWOOD ROOF DIAPHRAGM SHALL BE CONTINUOUS BELOW ALL CALIFORNIA FILL FRAMING.
3. ENTIRE PERIMETER SHALL BE BLOCKED.
4. PROVIDE 1/8" GAP AT ALL PANEL EDGES.
5. PLYWOOD SHEET USED IN THE CONSTRUCTION OF DIAPHRAGMS SHALL BE NOT LESS THAN 4'X8' IN SIZE.
   A. MINIMUM SIZE SHEET AT BOUNDARIES AND CHANGES IN FRAMING SHALL BE 24", UNLESS BLOCKED.
   B. NAIL SIZE, SPACING, AND TYPE PER ABOVE UNLESS NOTED OTHERWISE.
6. ALL PLYWOOD SHALL BE GRADE-STAMPED A.P.A. AND FOLLOWING MINIMUM GRADES SHALL APPLY TO WOOD STRUCTURAL PANELS UNLESS SHOWN OTHERWISE ON THE DRAWINGS:
   A. ROOF SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE
   B. EXPOSED SHEATHING SHALL BE EXPOSURE I OR CCX EXTERIOR GRADE AT EXPOSED AREA'S WITH EXTERIOR GLUE WALL SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE.

WALL LEGEND:

SYMBOL	DESCRIPTION
▨	BEARING WALLS: HATCH WALLS DENOTES BEARING WALL. SEE FOUNDATION PLAN FOR ADDITIONAL INFORMATION.
═	NON-BEARING WALLS: NON-BEARING WALLS. SEE FLOOR PLANS WALL LEGEND FOR ADDITIONAL INFORMATION.

WALL FRAMING NOTES:

1. PROVIDE CONTINUOUS STUDS AT ALL LOCATIONS WHERE THERE IS NO LATERAL SUPPORT AT 8' PLATE HEIGHT.
2. FINGER JOINTED STUDS IN STRUCTURAL WALLS(BEARING OR SHEAR) MUST BE GRADE STAMPED BY AN APPROVED ICC INSPECTION AGENCY AND CLEARLY SPECIFIED ON PLANS, AND ARE NOT ALLOWED AT HOLDOWN LOCATIONS.
3. ALL LUMBER SHALL BE GRADE MARKED, DOUGLAS FIR STANDARD OR BETTER MINIMUM EXCEPT AS NOTED ON PLANS.
4. ALL COLUMNS TO BE DOUGLAS FIR NO.2
5. IN COMBUSTIBLE CONSTRUCTION, FIRE BLOCKING SHALL BE PROVIDED TO CUT OFF ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES, AND BETWEEN A TOP STORY AND THE ROOF SPACE. (R 302.11) PROVIDE FIRE BLOCKING AT THE 10-FOOT INTERVALS AND AT ALL FLOOR AND CEILING LEVELS.
6. USE THE FOLLOWING LUMBER GRADES OR BETTER, UNLESS OTHERWISE NOTED:
   A. SILL PLATES, FOUND. GRD. RWD. OR P.T. DOUG FIR
   B. VERTICAL FRAMING STUDS DOUG. FIR STUD GRADE
   C. POSTS DOUG FIR STUD OR BETTER
   D. TOP PLATES DOUG. FIR STUD OR BETTER
   E. CEILING JOIST DOUG. FIR NO.2 OR BETTER
   F. RAFTERS, RIDGES, HIPS DOUG. FIR NO.2 OR BETTER
   G. HEADERS DOUG. FIR CONSTRUCTION GRD. OR BETTER
   H. EXPOSED BEAMS/OUTRIGGERS ARCH. GRD. D.F. (RSN. IF NOTED)
   I. EXPOSED POSTS ARCH. GRD. D.F. (RSN IF NOTED)
   J. FASCIA WINDOW FRAMES KILN DRIED CLR. HEMLOCK/RSN . FACE
   K. BRACING, BACKING, PURLING DOUG. FIR STANDARD OR BETTER
   L. SPACED ROOF SHEATHING DOUG. FIR STANDARD OR BETTER
   M. SOLID "V" RUSTIC EAVES NO.2 OR BETTER, PINE OR BETTER
   N. 2X6 T&G CEILING NO.1 WHITE FIR RESAWN FACE
   O. REDWOOD SIDING CEDAR RWD. SQUARE OF "V" GROOVED
   P. EXTERIOR TRIM CLEAR RWD. OR APPEARANCE GRD. DOUG. FIR OR HEMLOCK, RESAWN FACE
   Q. DOOR JAMBS, CASINGS, MOULDINGS CLEAR DOUG. FIR OR PINE
   R. SHELVING 3/4" PLYWOOD WITH HARDWOOD EDGE
7. SILLS, SLEEPERS, PLATES, ETC. ON MASONRY OR CONCRETE. THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE FOUNDATION GRADE & REDWOOD OR PRESSURE TREATED DOUGLAS FIR.
8. THE OPENING AROUND GAS VENTS, DUCTS, PIPES, CHIMNEYS, AND FIREPLACES AT THE CEILING LEVEL SHALL BE FIREBLOCKED WITH NONCOMBUSTIBLE MATERIALS.
9. GREEN VINYL SINKERS DO NOT MEET THE NAILING REQUIREMENTS FOR MOST BOX AND COMMON NAIL CONNECTIONS.

ROOF VENTILATION CALCULATIONS :

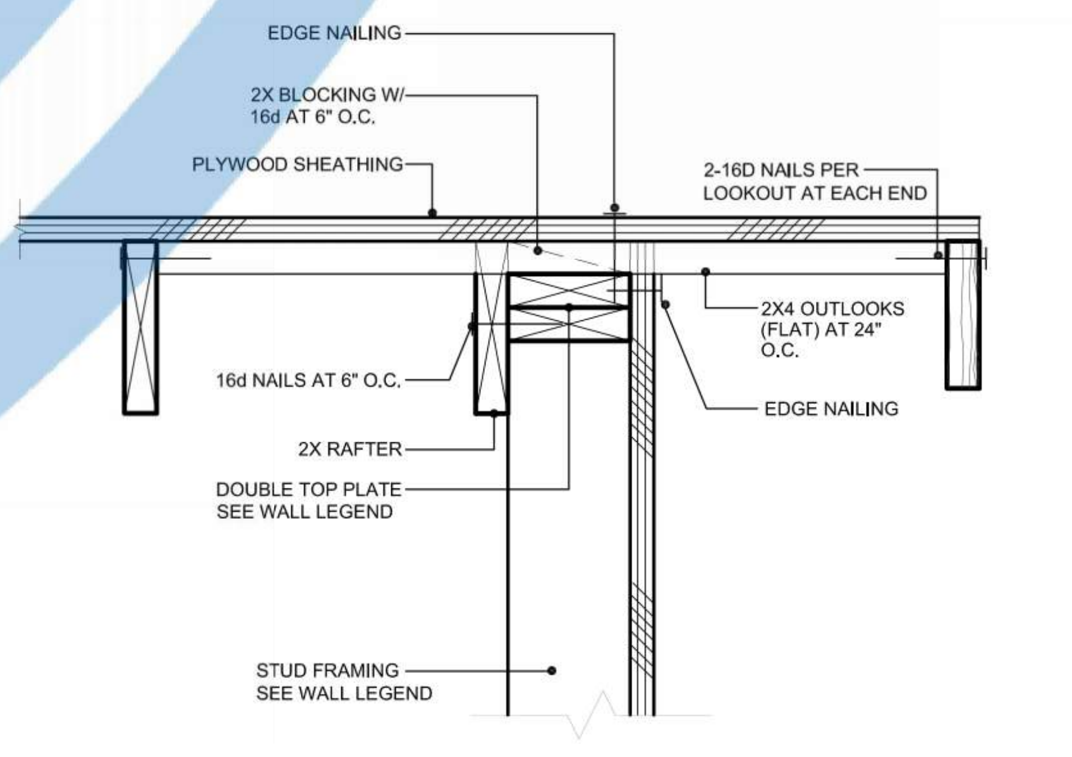
ROOF AREA OF:	CONTEMPORARY AT VAULTED CEILING		
CALCULATION FACTOR		ENCLOSED RAFTER BAY AREA	34
$\frac{\text{ENCLOSED RAFTER BAY AREA}}{150} \times 144$		SQUARE INCHES REQUIRED	32.6 PER RAFTER BAY
QUANITY	TYPE		NET AREA PROVIDED
6 TOTAL (3 PER BAY)	AT RAFTER FRAMING 3" Ø HOLES DRILL INTO BLOCKING AT BOTH ENDS RAFTER BAYS (6.7 SQ. IN. PER HOLE - APPROXIMATE 20 SQUARE INCHES PER BAY)		40.2
2 TOTAL (1 PER BAY)	AT TJI FRAMING 1 SQUARE HOLE AT BLOCKING AT BOTH ENDS RAFTER BAYS (1/3 X 1/3 OF BLOCKING - APPROXIMATE 25 SQUARE INCHES PER BAY)		50.0
		TOTAL VENTILATION PER RAFTER BAY	40.2 (AT RAFTERS) 50.0 (AT TJI)

ROOF AREA OF:	CONTEMPORARY AT ATTIC SPACE		
CALCULATION FACTOR		ATTIC SPACE AREA	190
$\frac{\text{ATTIC SPACE AREA}}{300} \times 144$		SQUARE INCHES REQUIRED	92
QUANITY	SIZE	TYPE	NET AREA PROVIDED
1	LOW PROFILE	UPPER VENTILATION GALVANIZED LOW PROFILE DORMER VENT (43 SQ.IN.)	43
		40% UPPER VENTILATION	37
		50% UPPER VENTILATION	46
2	3 1/2"X22 1/2"	LOWER VENTILATION GALVANIZED EAVE VENT (33 SQ.IN.)	66
		TOTAL ATTIC VENTILATION	109

ROOF AREA OF:	CONTEMPORARY AT ATTIC SPACE W/PORCH OPTION		
CALCULATION FACTOR		ATTIC SPACE AREA	260
$\frac{\text{ATTIC SPACE AREA}}{300} \times 144$		SQUARE INCHES REQUIRED	125
QUANITY	SIZE	TYPE	NET AREA PROVIDED
2	LOW PROFILE	UPPER VENTILATION GALVANIZED LOW PROFILE DORMER VENT (43 SQ.IN.)	86
		40% UPPER VENTILATION	50
		50% UPPER VENTILATION	62
3	3 1/2"X22 1/2"	LOWER VENTILATION GALVANIZED EAVE VENT (33 SQ.IN.)	99
		TOTAL ATTIC VENTILATION	195

ROOF VENTILATION NOTES :

1. MIN. 1" AIR SPACE BETWEEN INSULATION AND ROOF SHEATHING. WHERE EAVE OR CORNICE VENTS ARE INSTALLED, SPECIFY 4' LONG BAFFLES MINIMUM. (CRC SECTION R806.3)


EDGE NAILING
2X BLOCKING W/ 16d AT 6" O.C.
PLYWOOD SHEATHING
2-16D NAILS PER LOOKOUT AT EACH END
2X4 OUTLOOKS (FLAT) AT 24" O.C.
16d NAILS AT 6" O.C.
EDGE NAILING
2X RAFTER
DOUBLE TOP PLATE SEE WALL LEGEND
STUD FRAMING SEE WALL LEGEND

A GABLE END

PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

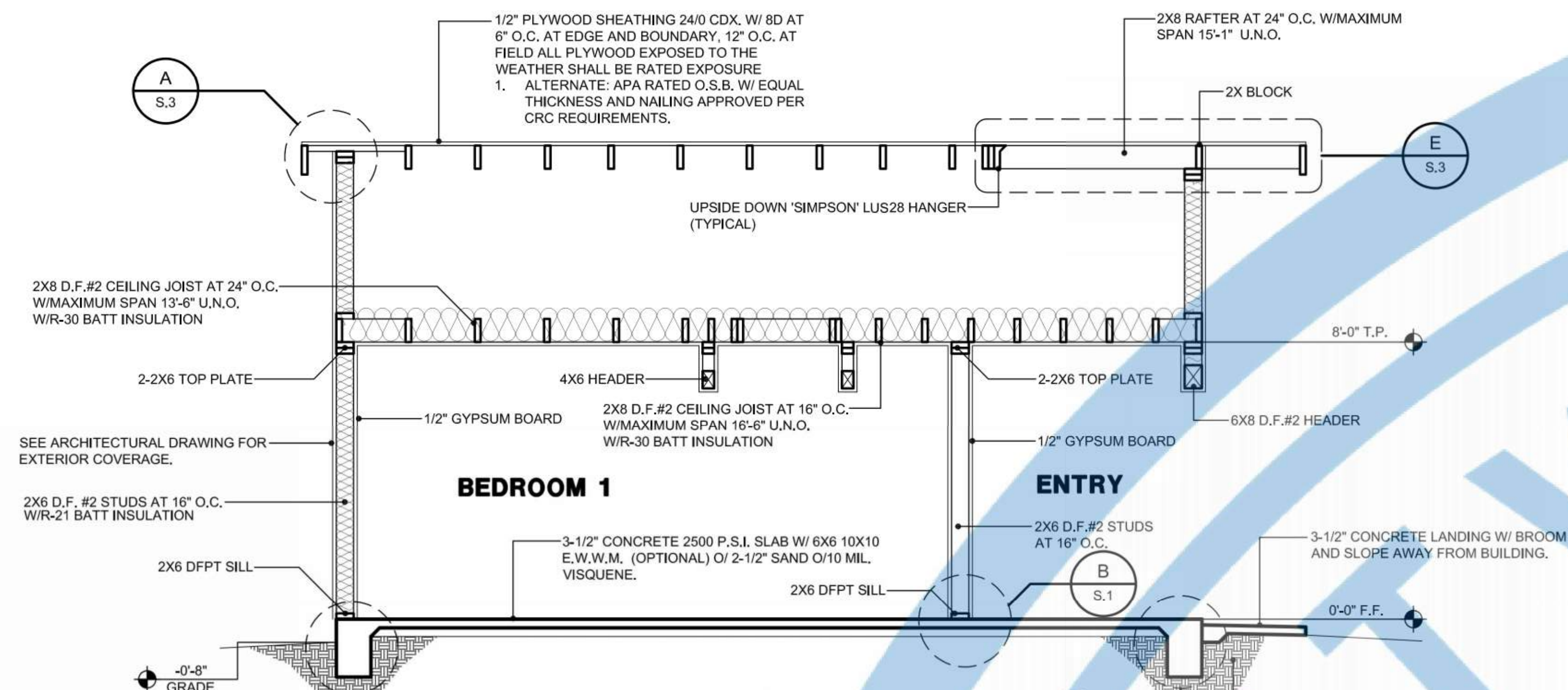
CITY USE ONLY

DRAWING TITLE:

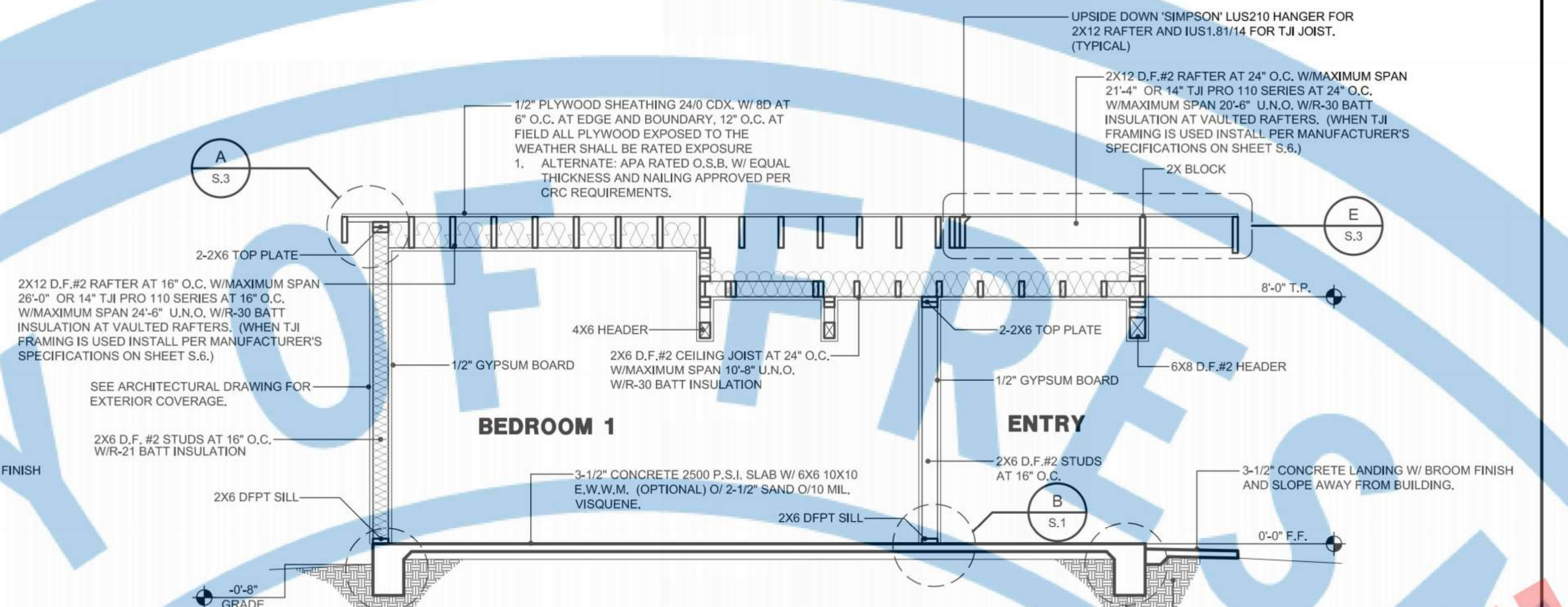
ROOF & CEILING JOIST FRAMING PLAN FOR CONTEMPORARY

JOB# :	TADU-003
DATE:	11-Aug-23
SCALE:	AS NOTED
DRAWN BY:	IRG

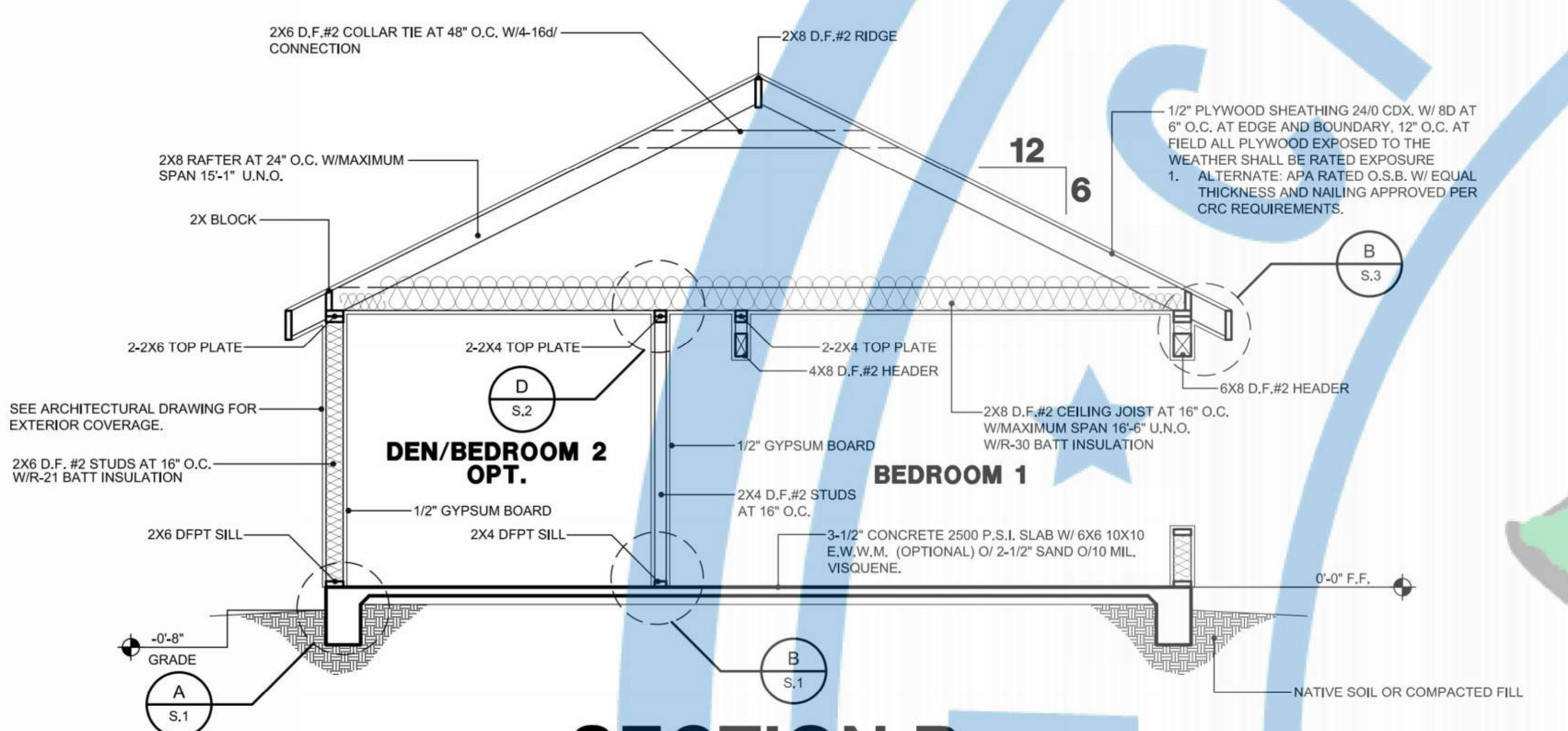
SHEET NO.
S.3


1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2X8 RAFTER AT 24" O.C. W/MAXIMUM SPAN 15'-1" U.N.O.
2X BLOCK
UPSIDE DOWN 'SIMPSON' LUS28 HANGER (TYPICAL)
2X8 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 13'-6" U.N.O. W/R-30 BATT INSULATION
2-2X6 TOP PLATE
4X6 HEADER
1/2" GYPSUM BOARD
2X8 D.F.#2 CEILING JOIST AT 16" O.C. W/MAXIMUM SPAN 16'-6" U.N.O. W/R-30 BATT INSULATION
6X8 D.F.#2 HEADER
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
BEDROOM 1
ENTRY
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
2X6 D.F.#2 STUDS AT 16" O.C.
2X6 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
3-1/2" CONCRETE LANDING W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING.
8'-0" T.P.
0'-0" F.F.
-0'-8" GRADE
NATIVE SOIL OR COMPACTED FILL
A S.3
E S.3
B S.1
A S.1
D S.1

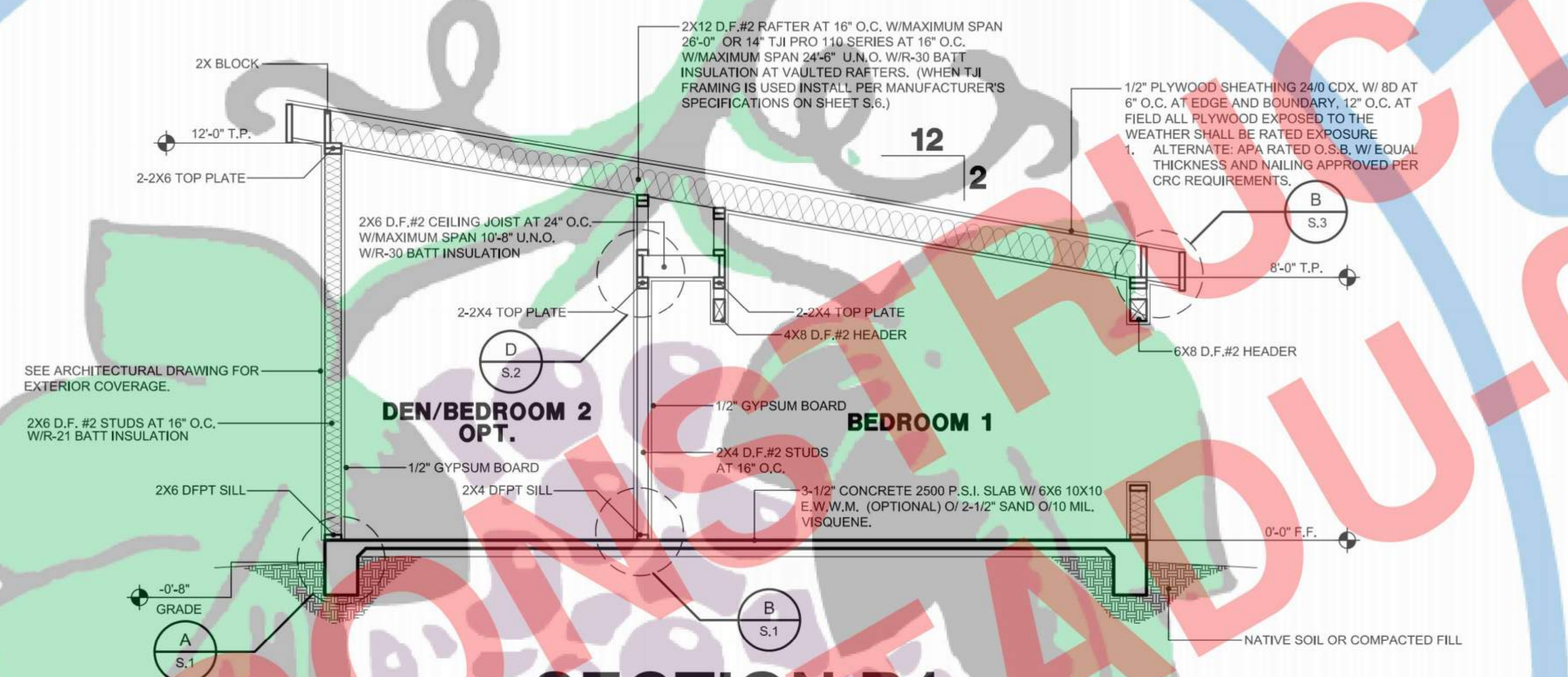
SECTION A
SCALE:1/4"=1'-0" GABLE/CRAFTSMAN


UPSIDE DOWN 'SIMPSON' LUS210 HANGER FOR 2X12 RAFTER AND IUS1.81/14 FOR TJI JOIST. (TYPICAL)
2X12 D.F.#2 RAFTER AT 24" O.C. W/MAXIMUM SPAN 21'-4" OR 14" TJI PRO 110 SERIES AT 24" O.C. W/MAXIMUM SPAN 20'-6" U.N.O. W/R-30 BATT INSULATION AT VAULTED RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
2X BLOCK
1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2-2X6 TOP PLATE
2X12 D.F.#2 RAFTER AT 16" O.C. W/MAXIMUM SPAN 26'-0" OR 14" TJI PRO 110 SERIES AT 16" O.C. W/MAXIMUM SPAN 24'-6" U.N.O. W/R-30 BATT INSULATION AT VAULTED RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
4X6 HEADER
1/2" GYPSUM BOARD
2X6 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 10'-8" U.N.O. W/R-30 BATT INSULATION
6X8 D.F.#2 HEADER
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
BEDROOM 1
ENTRY
2X6 D.F.#2 STUDS AT 16" O.C.
2X6 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
3-1/2" CONCRETE LANDING W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING.
8'-0" T.P.
0'-0" F.F.
-0'-8" GRADE
NATIVE SOIL OR COMPACTED FILL
A S.3
E S.3
B S.1
A S.1
D S.1

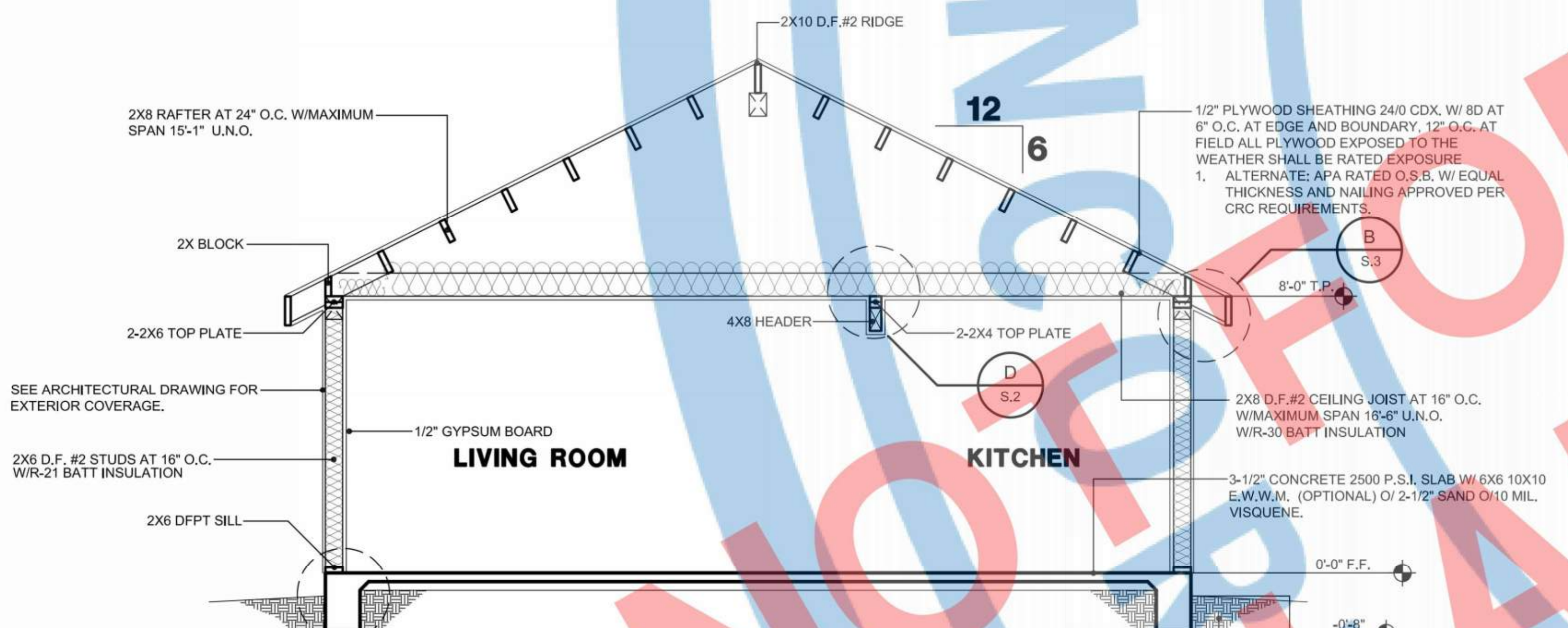
SECTION A1
SCALE:1/4"=1'-0" CONTEMPORARY


2X6 D.F.#2 COLLAR TIE AT 48" O.C. W/4-16d/ CONNECTION
2X8 D.F.#2 RIDGE
2X8 RAFTER AT 24" O.C. W/MAXIMUM SPAN 15'-1" U.N.O.
2X BLOCK
12
6
1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2-2X6 TOP PLATE
2-2X4 TOP PLATE
4X8 D.F.#2 HEADER
6X8 D.F.#2 HEADER
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
2X8 D.F.#2 CEILING JOIST AT 16" O.C. W/MAXIMUM SPAN 16'-6" U.N.O. W/R-30 BATT INSULATION
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
DEN/BEDROOM 2 OPT.
BEDROOM 1
1/2" GYPSUM BOARD
2X4 D.F.#2 STUDS AT 16" O.C.
2X6 DFPT SILL
2X4 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
0'-0" F.F.
-0'-8" GRADE
NATIVE SOIL OR COMPACTED FILL
B S.3
D S.2
B S.1
A S.1

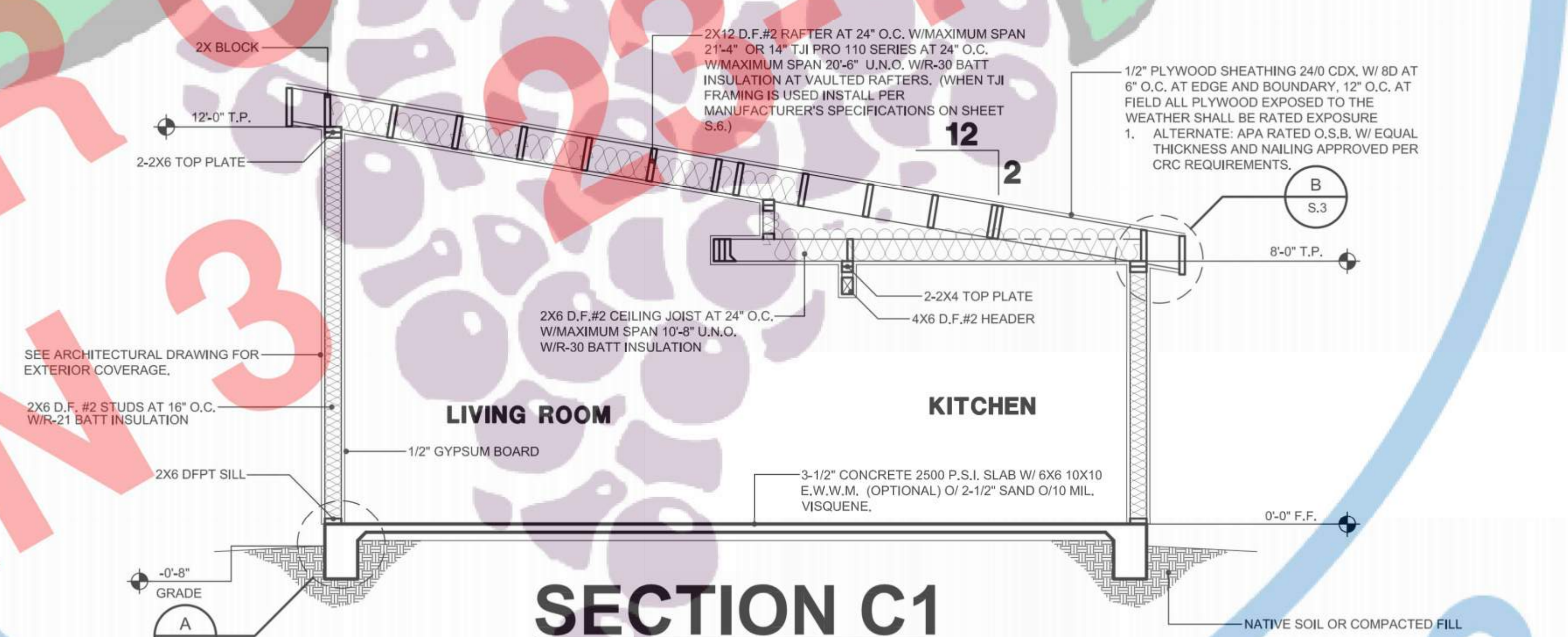
SECTION B
SCALE:1/4"=1'-0" GABLE/CRAFTSMAN


2X12 D.F.#2 RAFTER AT 16" O.C. W/MAXIMUM SPAN 26'-0" OR 14" TJI PRO 110 SERIES AT 16" O.C. W/MAXIMUM SPAN 24'-6" U.N.O. W/R-30 BATT INSULATION AT VAULTED RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
2X BLOCK
12'-0" T.P.
2-2X6 TOP PLATE
12
2
1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2X6 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 10'-8" U.N.O. W/R-30 BATT INSULATION
2-2X4 TOP PLATE
4X8 D.F.#2 HEADER
6X8 D.F.#2 HEADER
8'-0" T.P.
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
DEN/BEDROOM 2 OPT.
BEDROOM 1
1/2" GYPSUM BOARD
2X4 D.F.#2 STUDS AT 16" O.C.
2X6 DFPT SILL
2X4 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
0'-0" F.F.
-0'-8" GRADE
NATIVE SOIL OR COMPACTED FILL
B S.3
D S.2
B S.1
A S.1

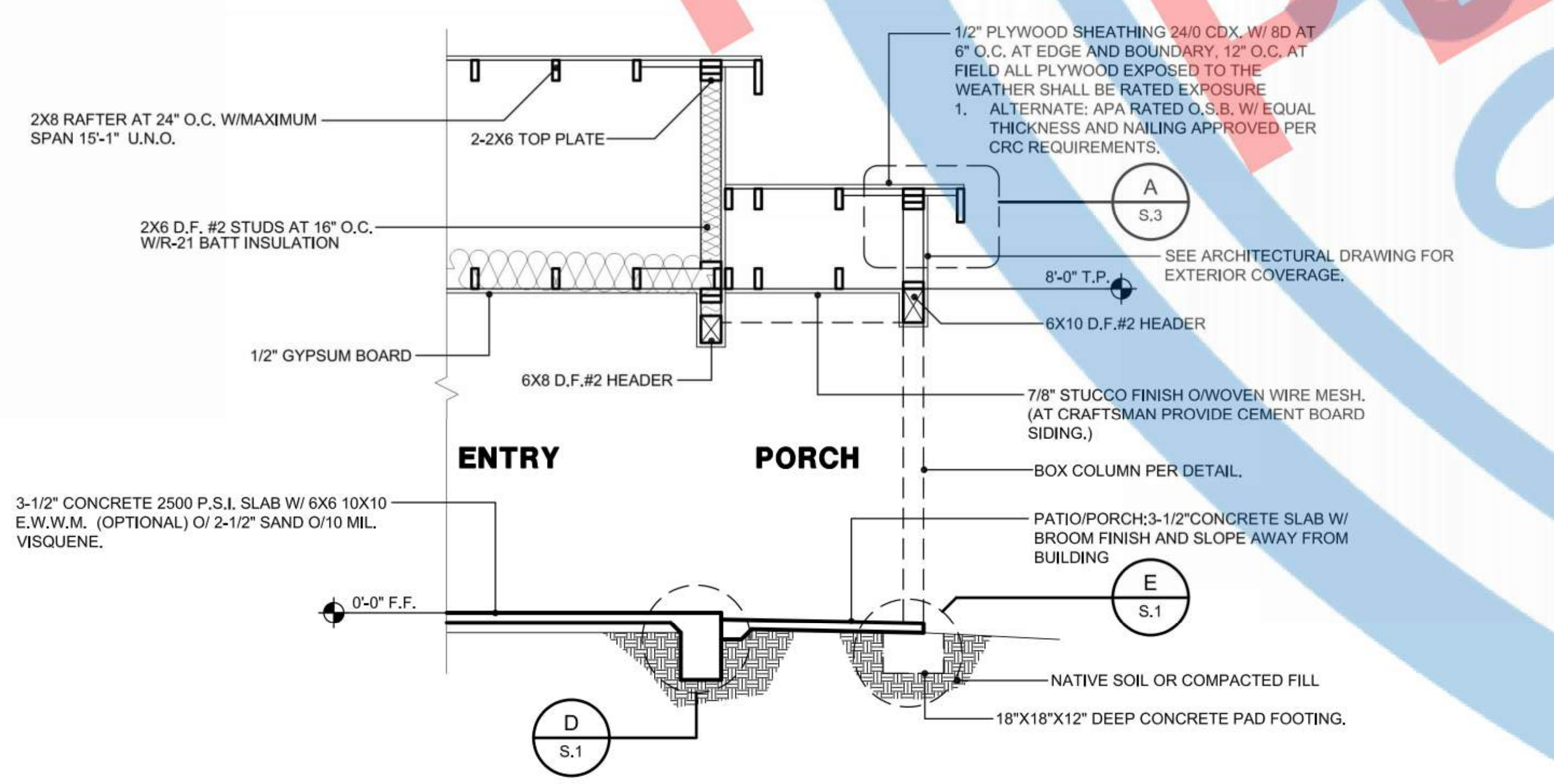
SECTION B1
SCALE:1/4"=1'-0" CONTEMPORARY


2X10 D.F.#2 RIDGE
2X8 RAFTER AT 24" O.C. W/MAXIMUM SPAN 15'-1" U.N.O.
2X BLOCK
12
6
1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2-2X6 TOP PLATE
4X8 HEADER
2-2X4 TOP PLATE
8'-0" T.P.
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
1/2" GYPSUM BOARD
2X8 D.F.#2 CEILING JOIST AT 16" O.C. W/MAXIMUM SPAN 16'-6" U.N.O. W/R-30 BATT INSULATION
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
LIVING ROOM
KITCHEN
2X6 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
0'-0" F.F.
-0'-8" GRADE
NATIVE SOIL OR COMPACTED FILL
B S.3
D S.2
A S.1

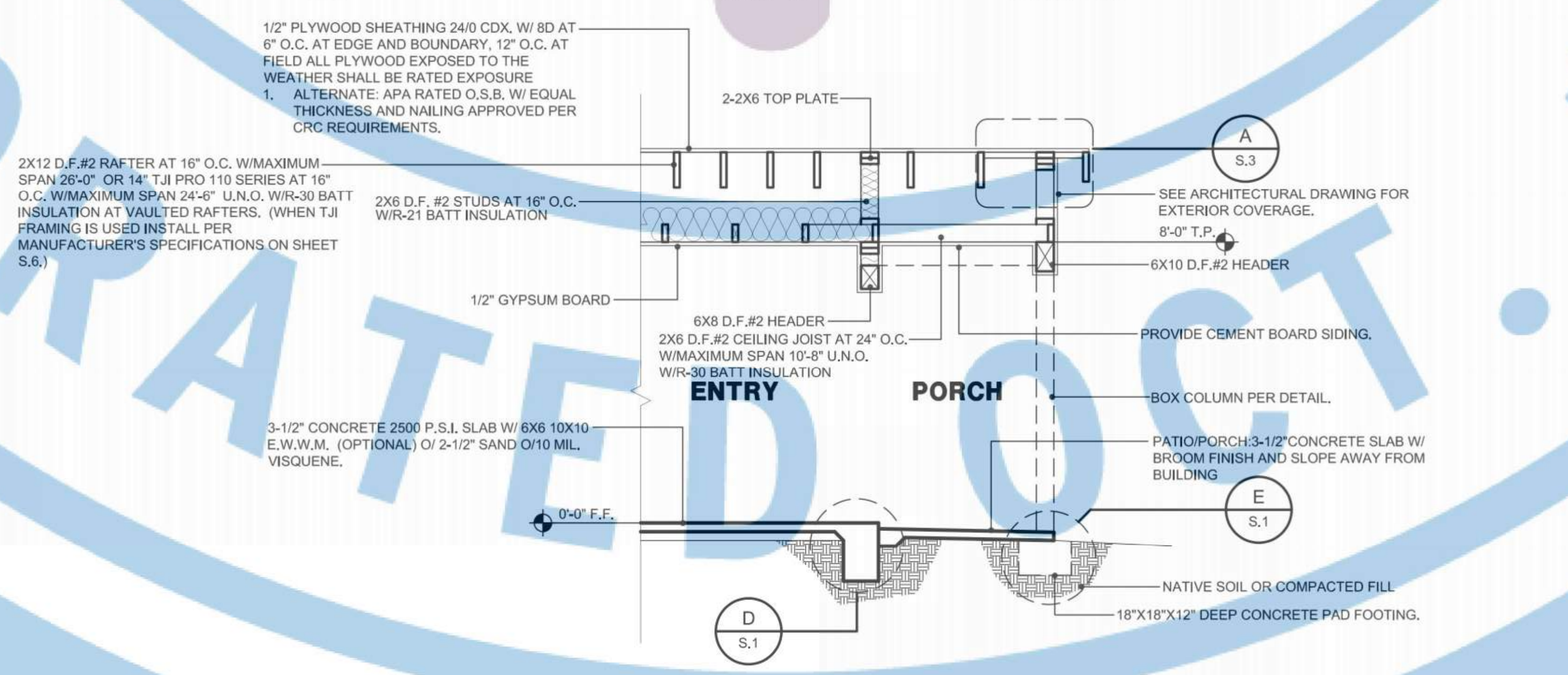
SECTION C
SCALE:1/4"=1'-0" GABLE/CRAFTSMAN


2X BLOCK
2X12 D.F.#2 RAFTER AT 24" O.C. W/MAXIMUM SPAN 21'-4" OR 14" TJI PRO 110 SERIES AT 24" O.C. W/MAXIMUM SPAN 20'-6" U.N.O. W/R-30 BATT INSULATION AT VAULTED RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
12'-0" T.P.
2-2X6 TOP PLATE
12
2
8'-0" T.P.
2-2X4 TOP PLATE
4X8 D.F.#2 HEADER
2X6 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 10'-8" U.N.O. W/R-30 BATT INSULATION
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
LIVING ROOM
KITCHEN
1/2" GYPSUM BOARD
2X6 DFPT SILL
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
0'-0" F.F.
-0'-8" GRADE
NATIVE SOIL OR COMPACTED FILL
B S.3
A S.1

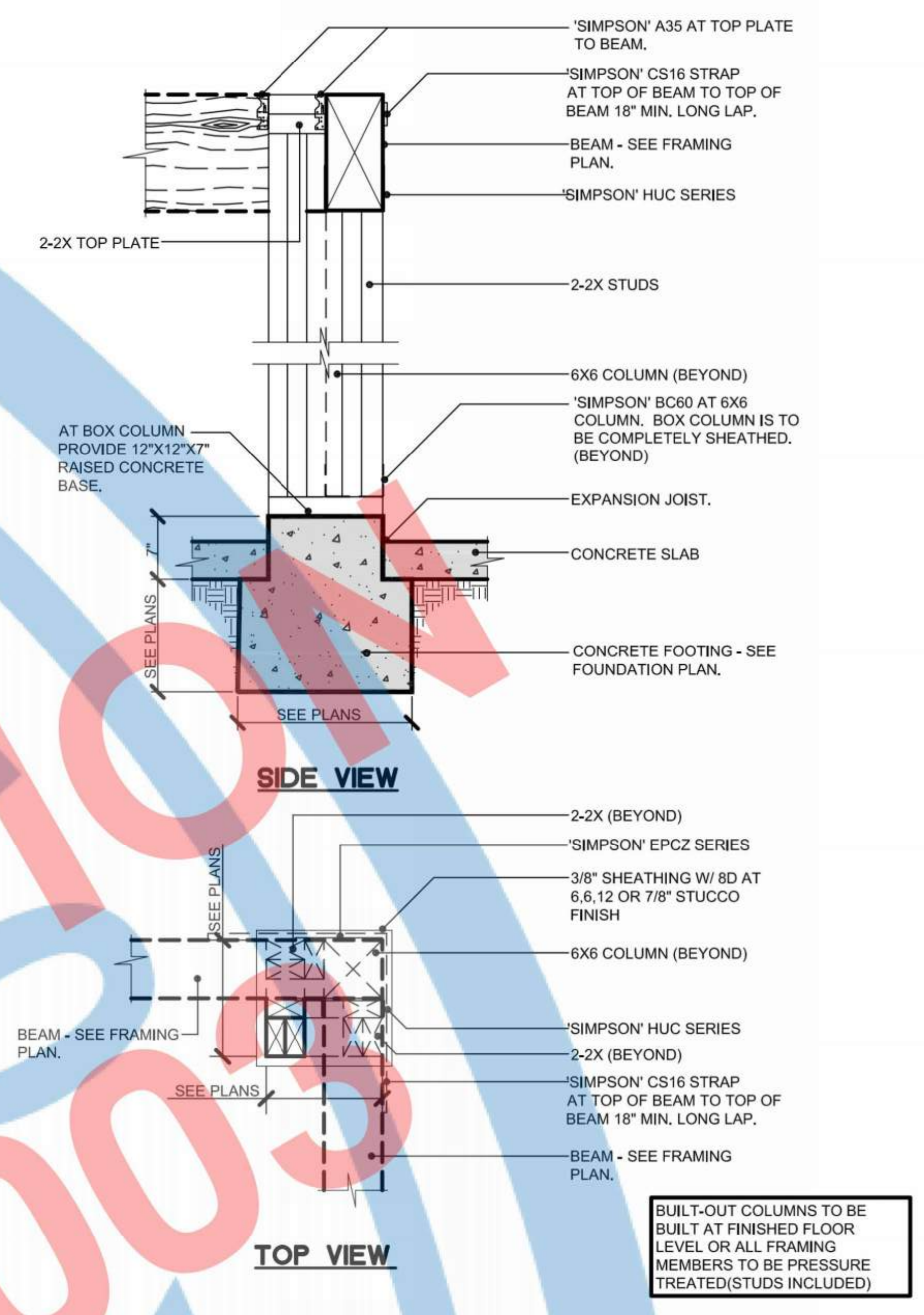
SECTION C1
SCALE:1/4"=1'-0" CONTEMPORARY


1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2X8 RAFTER AT 24" O.C. W/MAXIMUM SPAN 15'-1" U.N.O.
2-2X6 TOP PLATE
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
8'-0" T.P.
6X10 D.F.#2 HEADER
1/2" GYPSUM BOARD
6X8 D.F.#2 HEADER
7/8" STUCCO FINISH O/WOVEN WIRE MESH. (AT CRAFTSMAN PROVIDE CEMENT BOARD SIDING.)
ENTRY
PORCH
BOX COLUMN PER DETAIL.
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
PATIO/PORCH:3-1/2"CONCRETE SLAB W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING
0'-0" F.F.
NATIVE SOIL OR COMPACTED FILL
18"X18"X12" DEEP CONCRETE PAD FOOTING.
A S.3
E S.1
D S.1

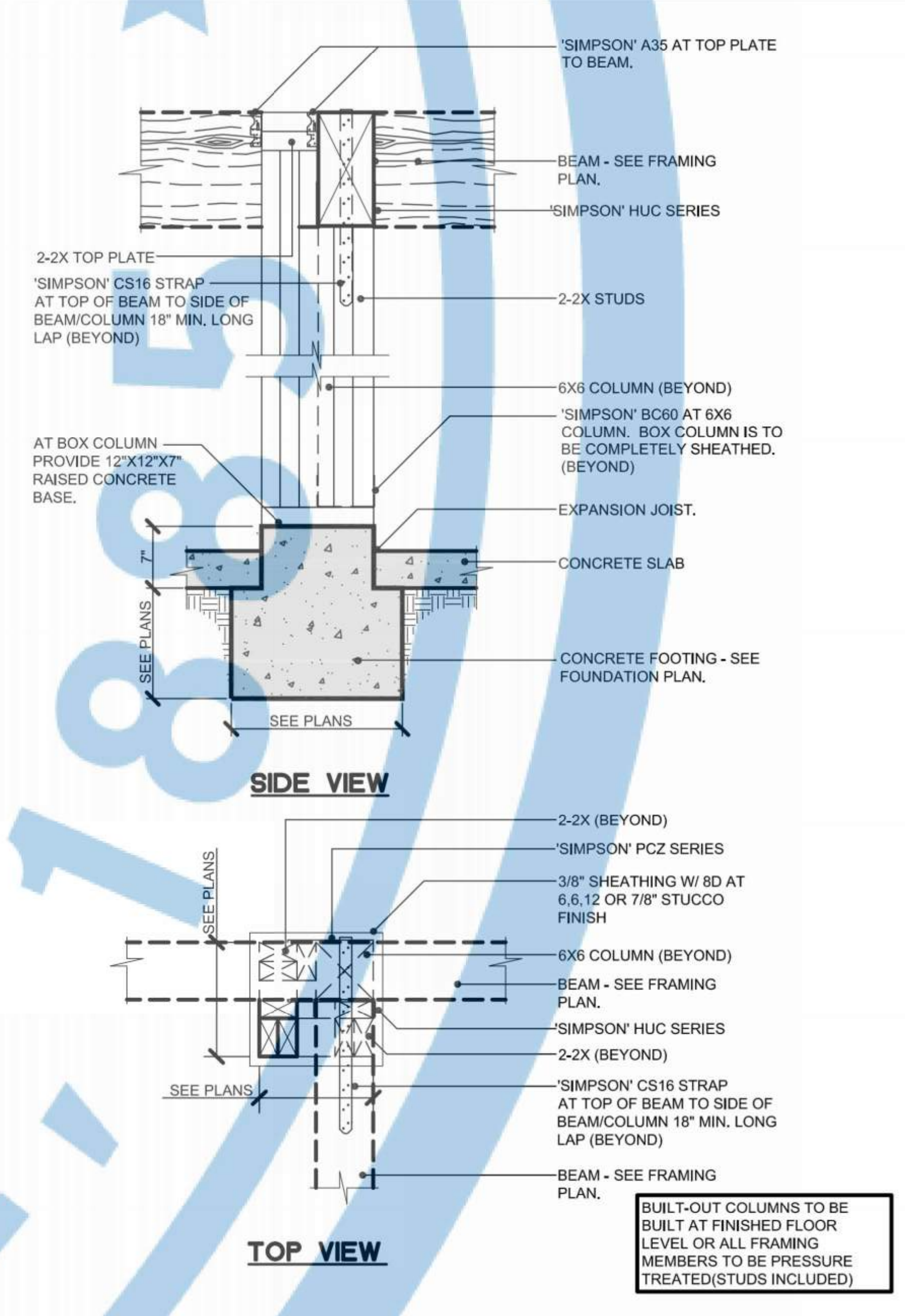
SECTION D
SCALE:1/4"=1'-0" GABLE/CRAFTSMAN (PORCH OPTION)


1/2" PLYWOOD SHEATHING 24/0 CDX, W/ 8D AT 6" O.C. AT EDGE AND BOUNDARY, 12" O.C. AT FIELD ALL PLYWOOD EXPOSED TO THE WEATHER SHALL BE RATED EXPOSURE
1. ALTERNATE: APA RATED O.S.B, W/ EQUAL THICKNESS AND NAILING APPROVED PER CRC REQUIREMENTS.
2-2X6 TOP PLATE
2X12 D.F.#2 RAFTER AT 24" O.C. W/MAXIMUM SPAN 26'-0" OR 14" TJI PRO 110 SERIES AT 16" O.C. W/MAXIMUM SPAN 24'-6" U.N.O. W/R-30 BATT INSULATION AT VAULTED RAFTERS. (WHEN TJI FRAMING IS USED INSTALL PER MANUFACTURER'S SPECIFICATIONS ON SHEET S.6.)
2X6 D.F. #2 STUDS AT 16" O.C. W/R-21 BATT INSULATION
SEE ARCHITECTURAL DRAWING FOR EXTERIOR COVERAGE.
8'-0" T.P.
6X10 D.F.#2 HEADER
1/2" GYPSUM BOARD
6X8 D.F.#2 HEADER
2X6 D.F.#2 CEILING JOIST AT 24" O.C. W/MAXIMUM SPAN 10'-8" U.N.O. W/R-30 BATT INSULATION
PROVIDE CEMENT BOARD SIDING.
ENTRY
PORCH
BOX COLUMN PER DETAIL.
3-1/2" CONCRETE 2500 P.S.I. SLAB W/ 6X6 10X10 E.W.W.M. (OPTIONAL) O/ 2-1/2" SAND O/10 MIL. VISQUENE.
PATIO/PORCH:3-1/2"CONCRETE SLAB W/ BROOM FINISH AND SLOPE AWAY FROM BUILDING.
0'-0" F.F.
NATIVE SOIL OR COMPACTED FILL
18"X18"X12" DEEP CONCRETE PAD FOOTING.
A S.3
E S.1
D S.1

SECTION D1
SCALE:1/4"=1'-0" CONTEMPORARY (PORCH OPTION)


'SIMPSON' A35 AT TOP PLATE TO BEAM.
'SIMPSON' CS16 STRAP AT TOP OF BEAM TO TOP OF BEAM 18" MIN. LONG LAP.
BEAM - SEE FRAMING PLAN.
'SIMPSON' HUC SERIES
2-2X TOP PLATE
2-2X STUDS
6X6 COLUMN (BEYOND)
'SIMPSON' BC60 AT 6X6 COLUMN. BOX COLUMN IS TO BE COMPLETELY SHEATHED. (BEYOND)
AT BOX COLUMN PROVIDE 12"X12"X7" RAISED CONCRETE BASE.
EXPANSION JOIST.
CONCRETE SLAB
CONCRETE FOOTING - SEE FOUNDATION PLAN.
SEE PLANS
SIDE VIEW
2-2X (BEYOND)
'SIMPSON' EPCZ SERIES
3/8" SHEATHING W/ 8D AT 6,6,12 OR 7/8" STUCCO FINISH
6X6 COLUMN (BEYOND)
BEAM - SEE FRAMING PLAN.
'SIMPSON' HUC SERIES
2-2X (BEYOND)
'SIMPSON' CS16 STRAP AT TOP OF BEAM TO TOP OF BEAM 18" MIN. LONG LAP.
BEAM - SEE FRAMING PLAN.
BUILT-OUT COLUMNS TO BE BUILT AT FINISHED FLOOR LEVEL OR ALL FRAMING MEMBERS TO BE PRESSURE TREATED(STUDS INCLUDED)
TOP VIEW

A BOXED COLUMN ASSEMBLY


'SIMPSON' A35 AT TOP PLATE TO BEAM.
BEAM - SEE FRAMING PLAN.
'SIMPSON' HUC SERIES
2-2X TOP PLATE
'SIMPSON' CS16 STRAP AT TOP OF BEAM TO SIDE OF BEAM/COLUMN 18" MIN. LONG LAP (BEYOND)
2-2X STUDS
6X6 COLUMN (BEYOND)
AT BOX COLUMN PROVIDE 12"X12"X7" RAISED CONCRETE BASE.
'SIMPSON' BC60 AT 6X6 COLUMN. BOX COLUMN IS TO BE COMPLETELY SHEATHED. (BEYOND)
EXPANSION JOIST.
CONCRETE SLAB
CONCRETE FOOTING - SEE FOUNDATION PLAN.
SEE PLANS
SIDE VIEW
2-2X (BEYOND)
'SIMPSON' PCZ SERIES
3/8" SHEATHING W/ 8D AT 6,6,12 OR 7/8" STUCCO FINISH
6X6 COLUMN (BEYOND)
BEAM - SEE FRAMING PLAN.
'SIMPSON' HUC SERIES
2-2X (BEYOND)
'SIMPSON' CS16 STRAP AT TOP OF BEAM TO SIDE OF BEAM/COLUMN 18" MIN. LONG LAP (BEYOND)
BEAM - SEE FRAMING PLAN.
BUILT-OUT COLUMNS TO BE BUILT AT FINISHED FLOOR LEVEL OR ALL FRAMING MEMBERS TO BE PRESSURE TREATED(STUDS INCLUDED)
TOP VIEW

B BOXED COLUMN ASSEMBLY

PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
559-621-8084
darm.building@fresno.gov

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

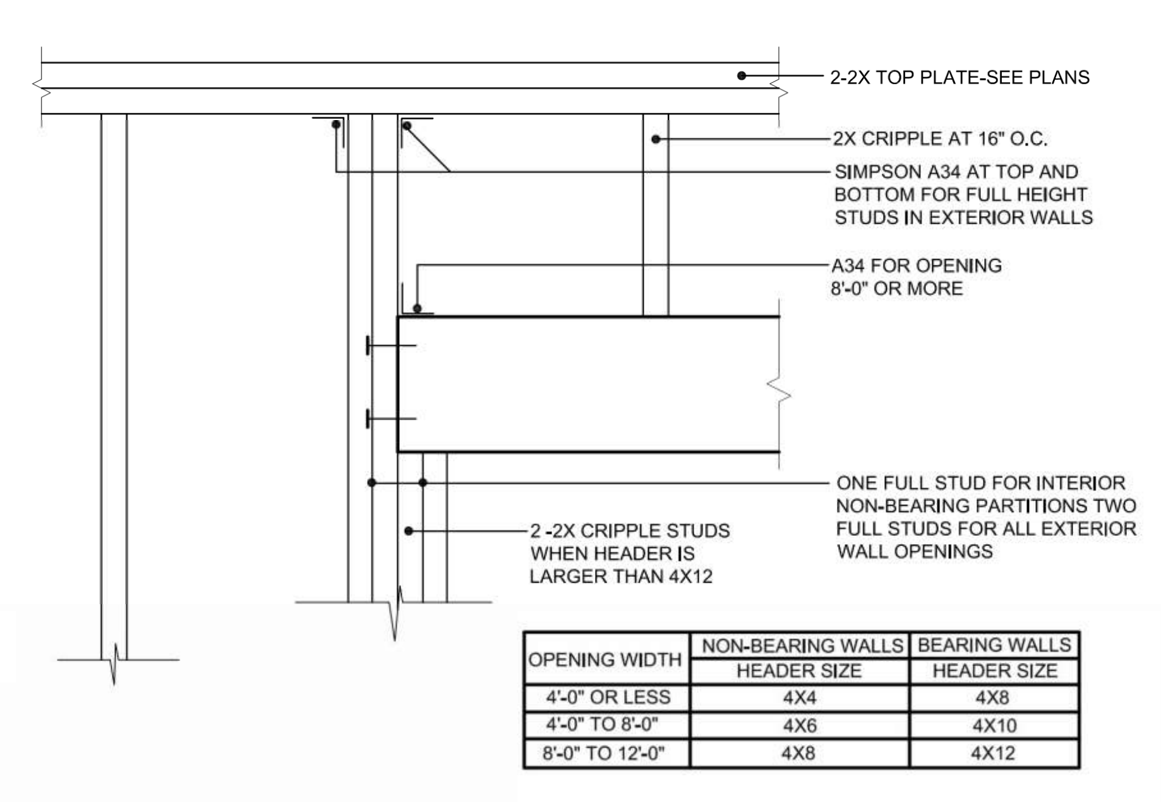
CITY USE ONLY

DRAWING TITLE:

BUILDING SECTIONS FOR GABLE, CRAFTSMAN, & CONTEMPORARY

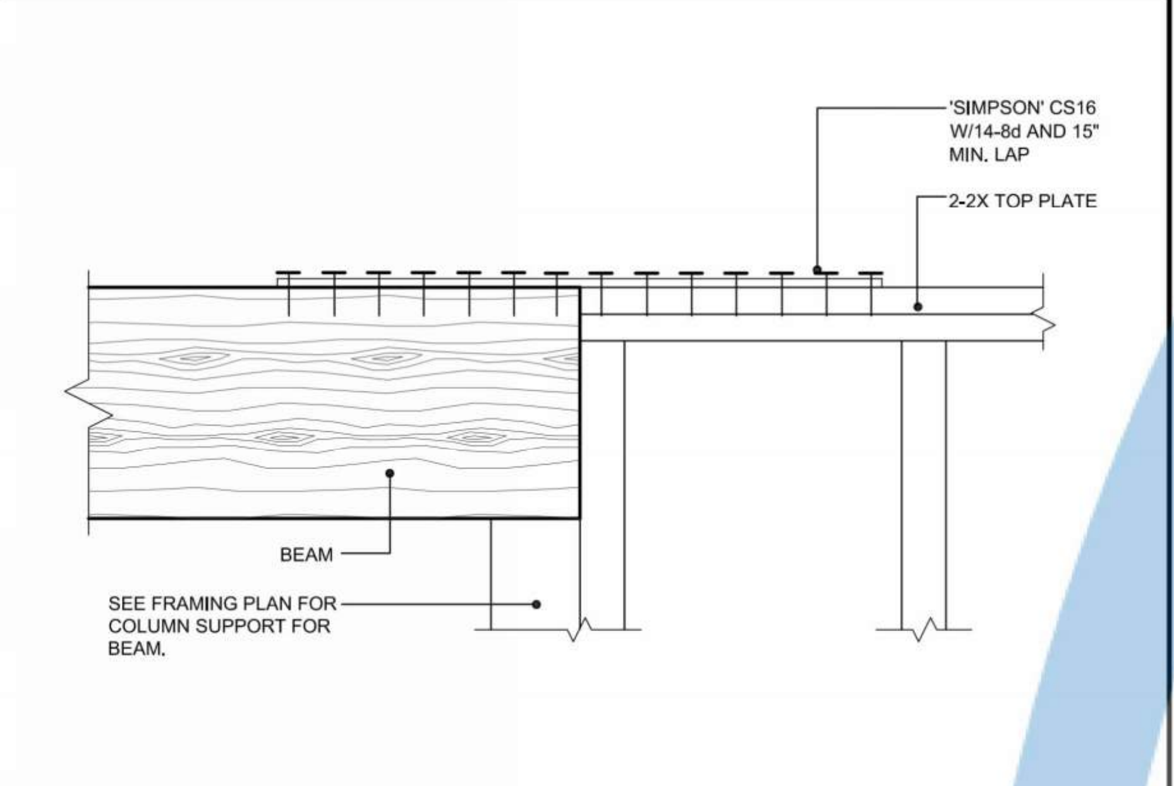
JOB# : TADU-003
DATE: 2-Jun-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
S.4

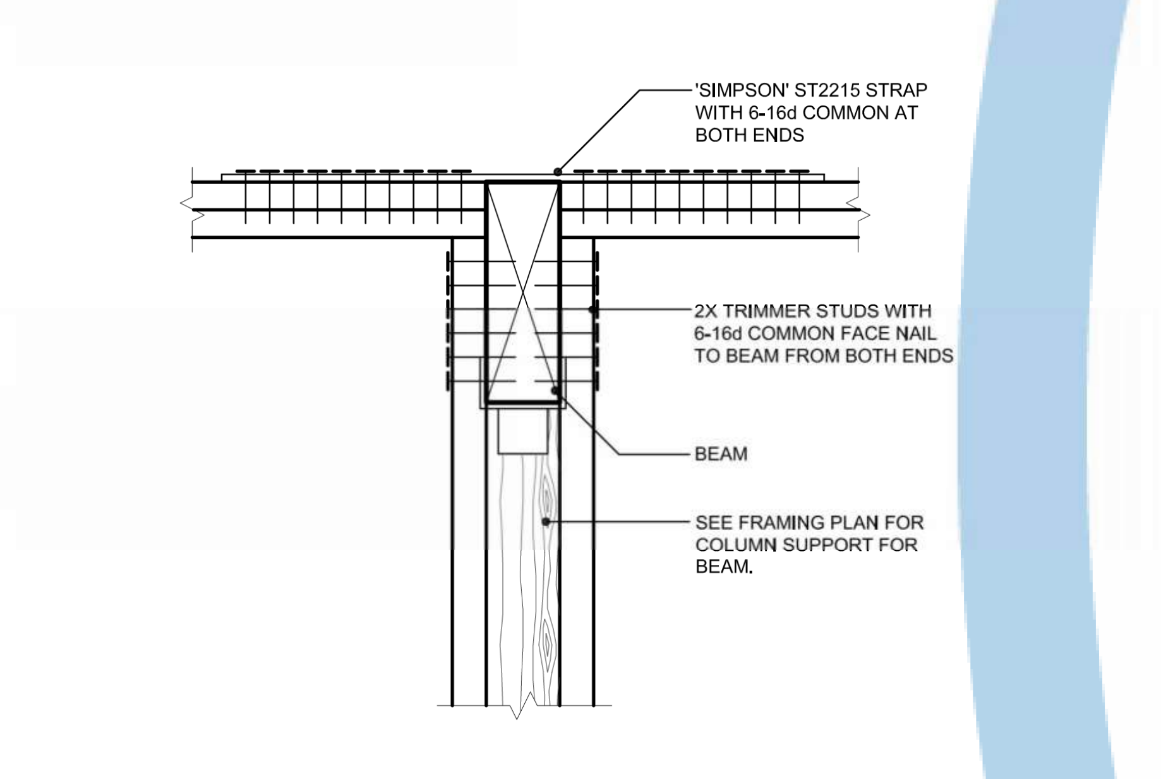

2-2X TOP PLATE-SEE PLANS
2X CRIPPLE AT 16" O.C.
SIMPSON A34 AT TOP AND BOTTOM FOR FULL HEIGHT STUDS IN EXTERIOR WALLS
A34 FOR OPENING 8'-0" OR MORE
ONE FULL STUD FOR INTERIOR NON-BEARING PARTITIONS TWO FULL STUDS FOR ALL EXTERIOR WALL OPENINGS
2-2X CRIPPLE STUDS WHEN HEADER IS LARGER THAN 4X12

OPENING WIDTH	NON-BEARING WALLS HEADER SIZE	BEARING WALLS HEADER SIZE
4'-0" OR LESS	4X4	4X8
4'-0" TO 8'-0"	4X6	4X10
8'-0" TO 12'-0"	4X8	4X12

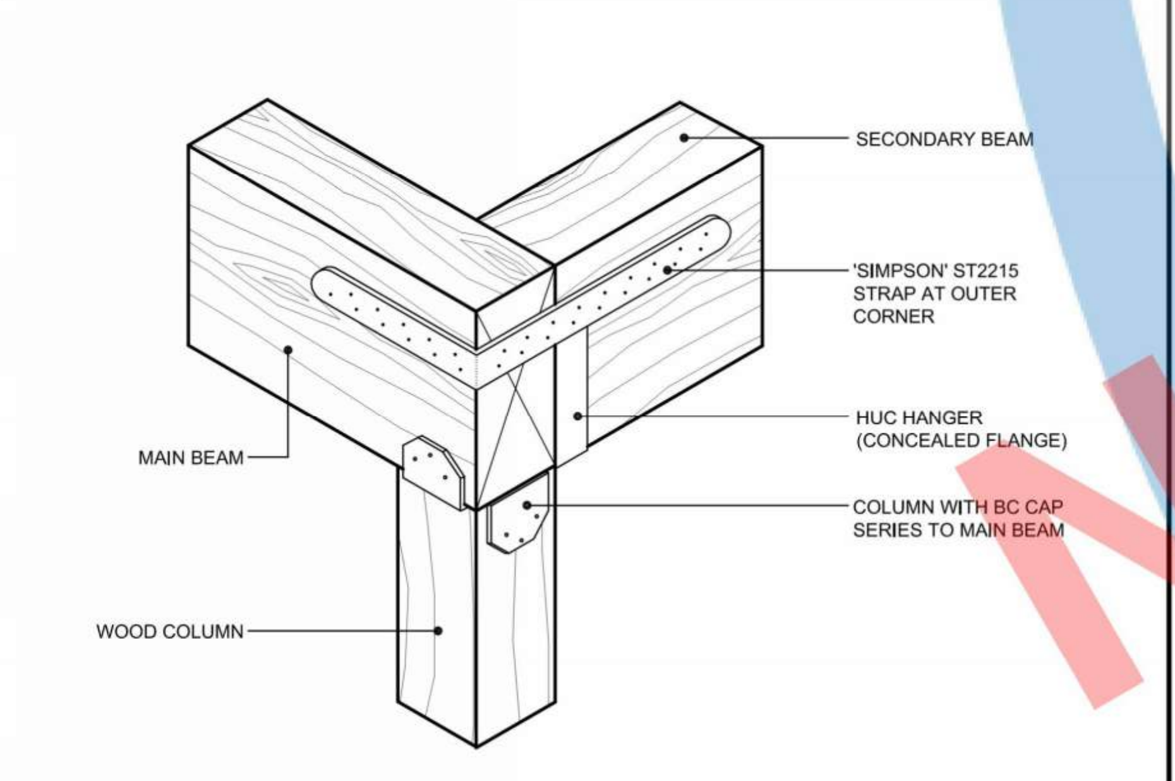
E HEADER SCHEDULE


'SIMPSON' CS16 W/14-8d AND 15" MIN. LAP
2-2X TOP PLATE
BEAM
SEE FRAMING PLAN FOR COLUMN SUPPORT FOR BEAM.

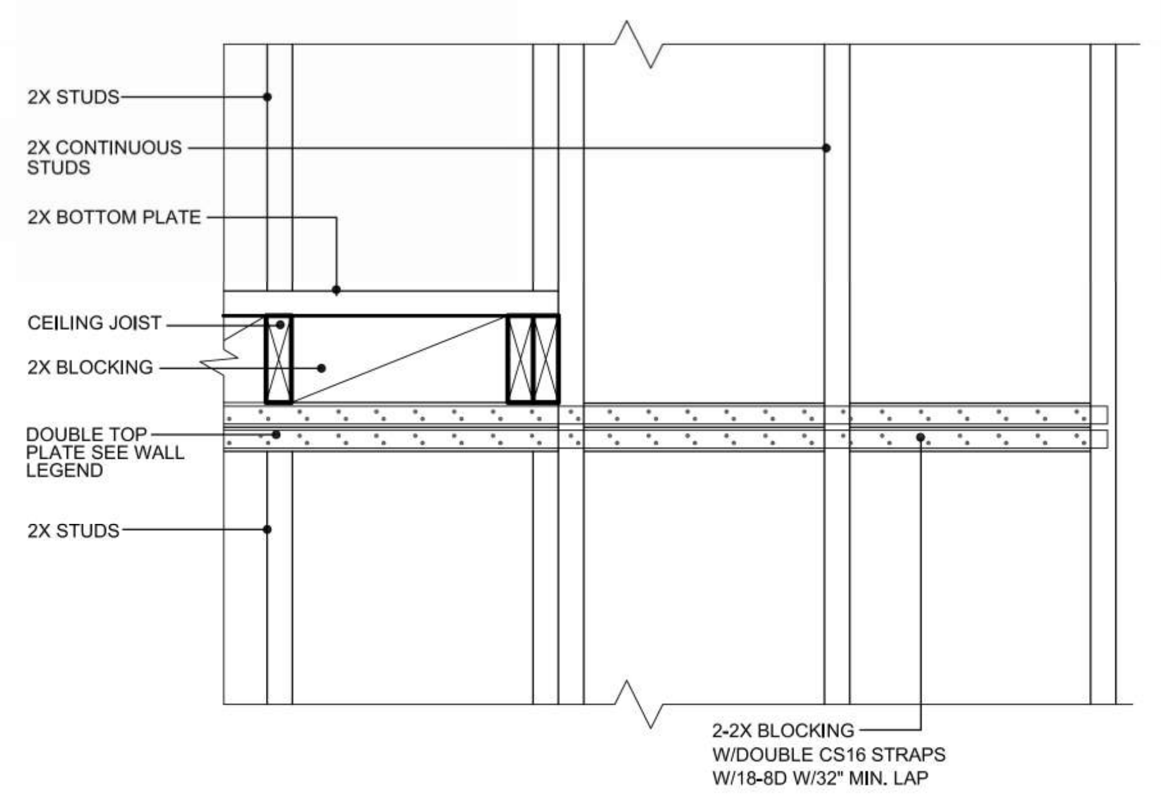
F PLATE TO BEAM


'SIMPSON' ST2215 STRAP WITH 6-16d COMMON AT BOTH ENDS
2X TRIMMER STUDS WITH 6-16d COMMON FACE NAIL TO BEAM FROM BOTH ENDS
BEAM
SEE FRAMING PLAN FOR COLUMN SUPPORT FOR BEAM.

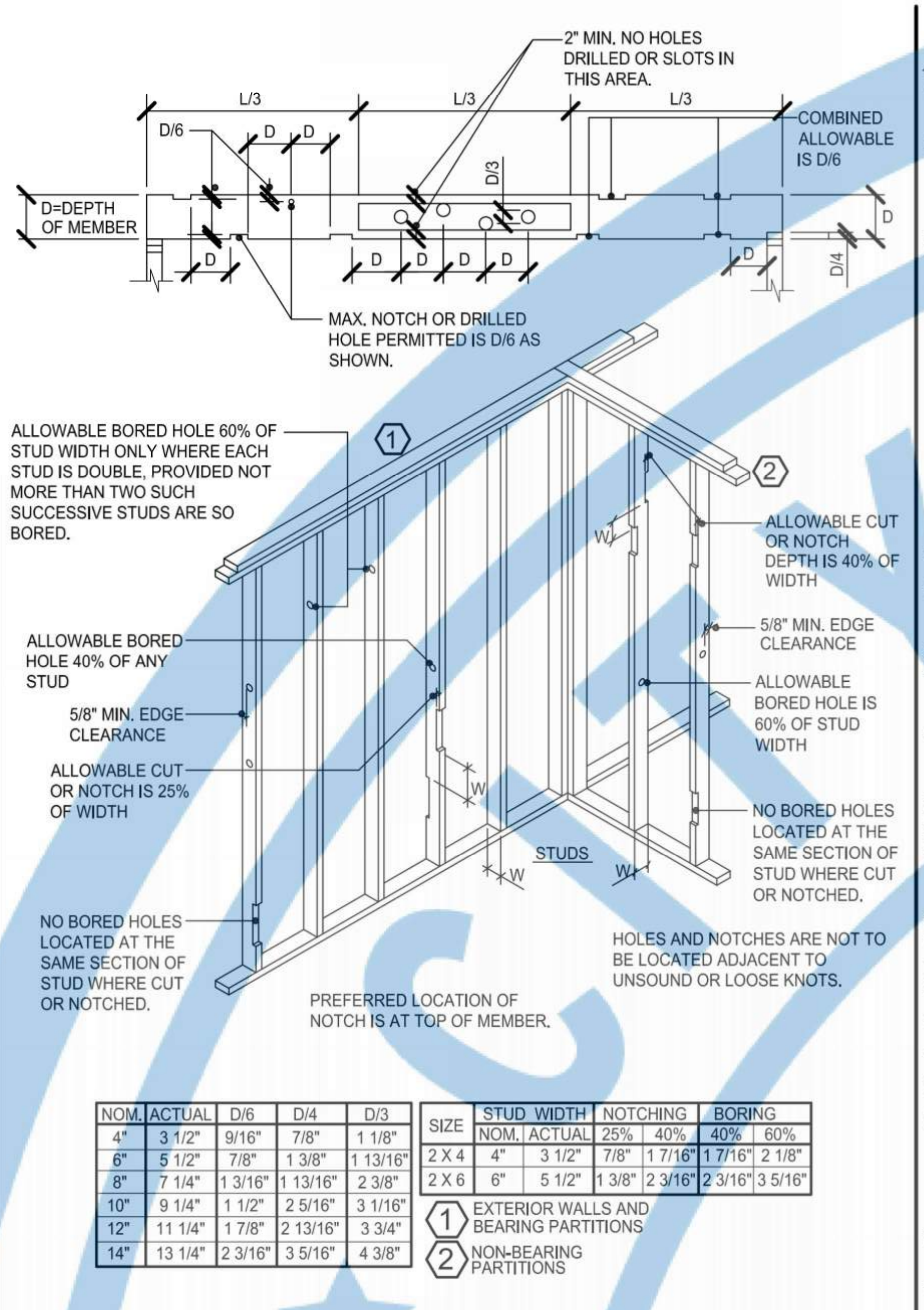
G BEAM POCKET


SECONDARY BEAM
'SIMPSON' ST2215 STRAP AT OUTER CORNER
HUC HANGER (CONCEALED FLANGE)
MAIN BEAM
COLUMN WITH BC CAP SERIES TO MAIN BEAM
WOOD COLUMN

H BEAM TO BEAM AT WOOD COLUMN


2X STUDS
2X CONTINUOUS STUDS
2X BOTTOM PLATE
CEILING JOIST
2X BLOCKING
DOUBLE TOP PLATE SEE WALL LEGEND
2X STUDS
2-2X BLOCKING W/DOUBLE CS16 STRAPS W/18-8D W/32" MIN. LAP

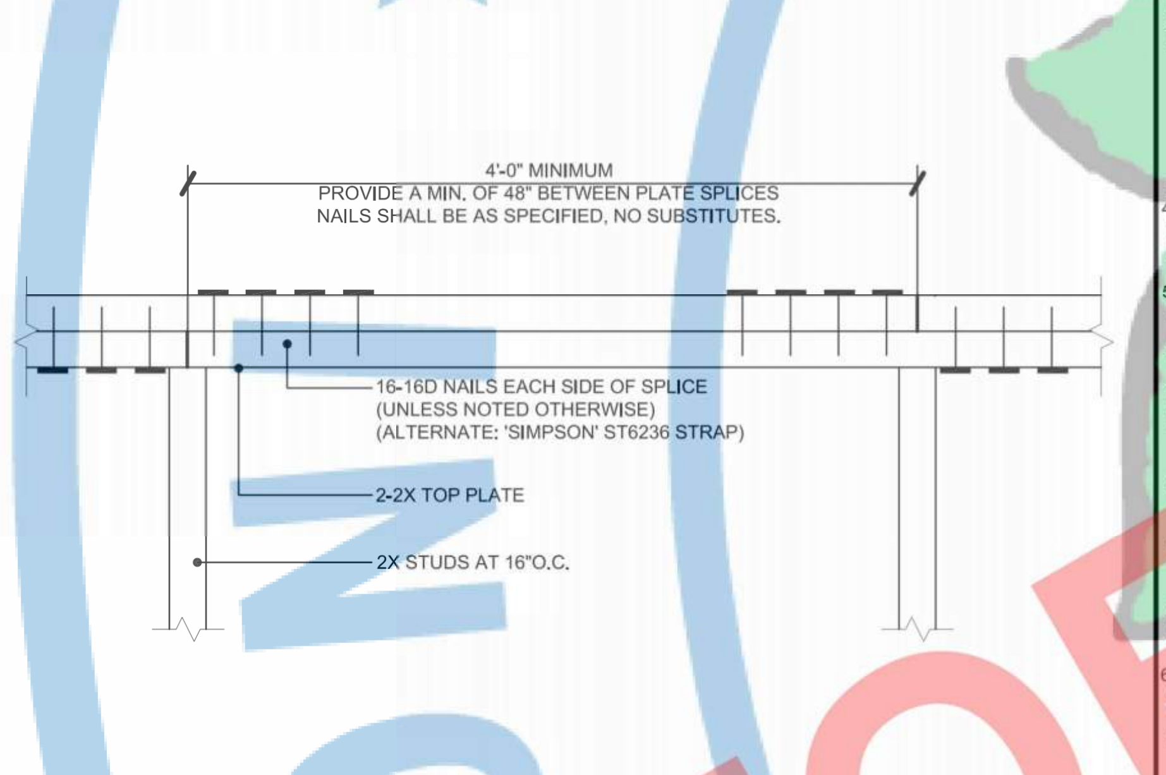
I TOP PLATE TO CONTINUOUS STUDS


2" MIN. NO HOLES DRILLED OR SLOTS IN THIS AREA.
L/3
L/3
L/3
D/6
D
D
D/3
D/4
D=DEPTH OF MEMBER
COMBINED ALLOWABLE IS D/6
MAX. NOTCH OR DRILLED HOLE PERMITTED IS D/6 AS SHOWN.
ALLOWABLE BORED HOLE 60% OF STUD WIDTH ONLY WHERE EACH STUD IS DOUBLE, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE STUDS ARE SO BORED.
①
②
ALLOWABLE CUT OR NOTCH DEPTH IS 40% OF WIDTH
5/8" MIN. EDGE CLEARANCE
ALLOWABLE BORED HOLE 40% OF ANY STUD
5/8" MIN. EDGE CLEARANCE
ALLOWABLE BORED HOLE IS 60% OF STUD WIDTH
ALLOWABLE CUT OR NOTCH IS 25% OF WIDTH
NO BORED HOLES LOCATED AT THE SAME SECTION OF STUD WHERE CUT OR NOTCHED.
NO BORED HOLES LOCATED AT THE SAME SECTION OF STUD WHERE CUT OR NOTCHED.
STUDS
HOLES AND NOTCHES ARE NOT TO BE LOCATED ADJACENT TO UNSOUND OR LOOSE KNOTS.
PREFERRED LOCATION OF NOTCH IS AT TOP OF MEMBER.
① EXTERIOR WALLS AND BEARING PARTITIONS
② NON-BEARING PARTITIONS

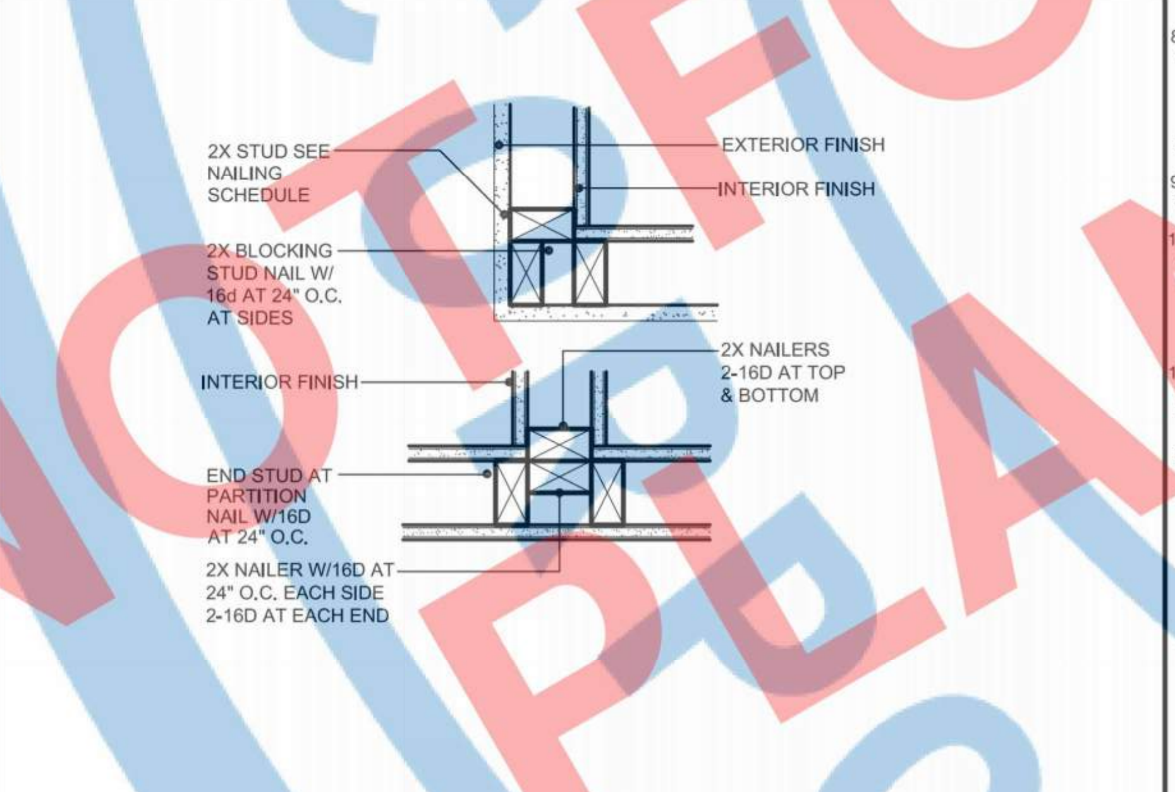
NOM	ACTUAL	D/6	D/4	D/3
4"	3 1/2"	9/16"	7/8"	1 1/8"
6"	5 1/2"	7/8"	1 3/8"	1 13/16"
8"	7 1/4"	1 3/16"	1 13/16"	2 3/8"
10"	9 1/4"	1 1/2"	2 5/16"	3 1/16"
12"	11 1/4"	1 7/8"	2 13/16"	3 3/4"
14"	13 1/4"	2 3/16"	3 5/16"	4 3/8"

SIZE	STUD WIDTH NOM.	ACTUAL	NOTCHING 25%	40%	BORING 40%	60%
2 X 4	4"	3 1/2"	7/8"	1 7/16"	1 7/16"	2 1/8"
2 X 6	6"	5 1/2"	1 3/8"	2 3/16"	2 3/16"	3 5/16"

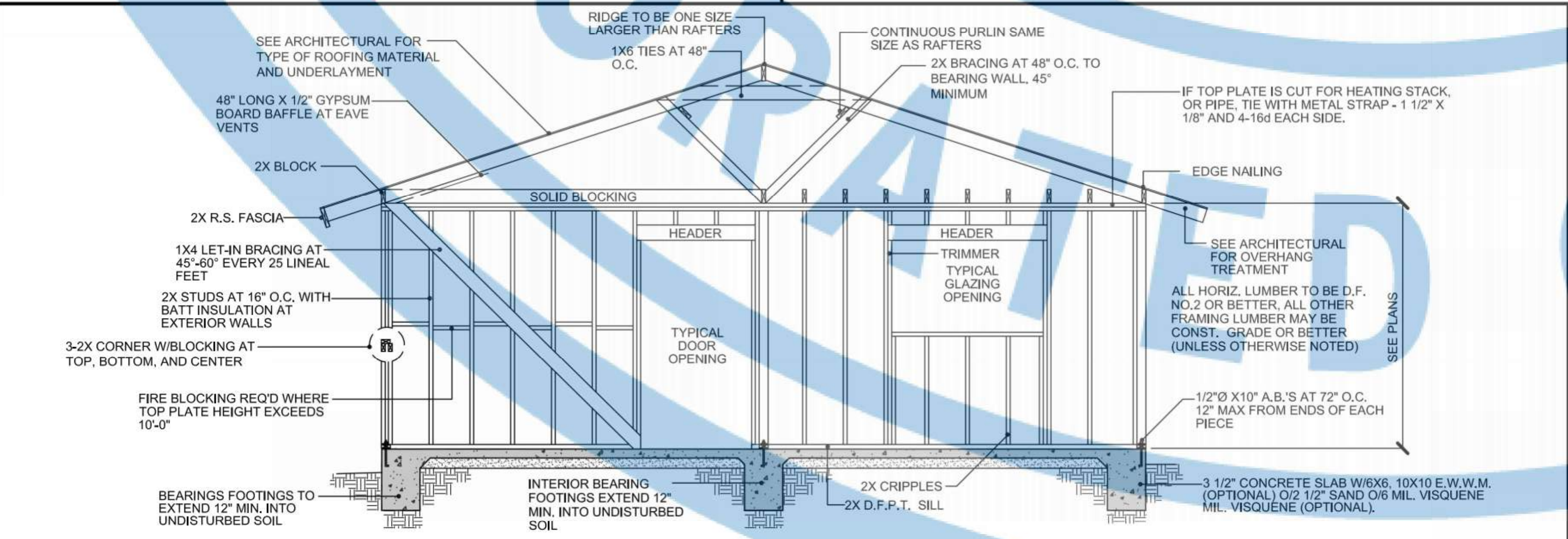
A CUT & NOTCH


4'-0" MINIMUM
PROVIDE A MIN. OF 48" BETWEEN PLATE SPLICES NAILS SHALL BE AS SPECIFIED, NO SUBSTITUTES.
16-16D NAILS EACH SIDE OF SPLICE (UNLESS NOTED OTHERWISE) (ALTERNATE: 'SIMPSON' ST6236 STRAP)
2-2X TOP PLATE
2X STUDS AT 16"O.C.

B TOP PLATE SPLICE


2X STUD SEE NAILING SCHEDULE
EXTERIOR FINISH
INTERIOR FINISH
2X BLOCKING STUD NAIL W/ 16d AT 24" O.C. AT SIDES
INTERIOR FINISH
2X NAILERS 2-16D AT TOP & BOTTOM
END STUD AT PARTITION NAIL W/16D AT 24" O.C.
2X NAILER W/16D AT 24" O.C. EACH SIDE 2-16D AT EACH END

C WALL INTERSECTION


RIDGE TO BE ONE SIZE LARGER THAN RAFTERS
1X6 TIES AT 48" O.C.
CONTINUOUS PURLIN SAME SIZE AS RAFTERS
2X BRACING AT 48" O.C. TO BEARING WALL 45° MINIMUM
SEE ARCHITECTURAL FOR TYPE OF ROOFING MATERIAL AND UNDERLAYMENT
48" LONG X 1/2" GYPSUM BOARD BAFFLE AT EAVE VENTS
2X BLOCK
2X R.S. FASCIA
1X4 LET-IN BRACING AT 45°-60° EVERY 25 LINEAL FEET
2X STUDS AT 16" O.C. WITH BATT INSULATION AT EXTERIOR WALLS
3-2X CORNER W/BLOCKING AT TOP, BOTTOM, AND CENTER
FIRE BLOCKING REQ'D WHERE TOP PLATE HEIGHT EXCEEDS 10'-0"
BEARINGS FOOTINGS TO EXTEND 12" MIN. INTO UNDISTURBED SOIL
INTERIOR BEARING FOOTINGS EXTEND 12" MIN. INTO UNDISTURBED SOIL
2X CRIPPLES
2X D.F.P.T. SILL
SOLID BLOCKING
HEADER
TRIMMER
TYPICAL GLAZING OPENING
TYPICAL DOOR OPENING
IF TOP PLATE IS CUT FOR HEATING STACK, OR PIPE, TIE WITH METAL STRAP - 1 1/2" X 1/8" AND 4-16d EACH SIDE.
EDGE NAILING
SEE ARCHITECTURAL FOR OVERHANG TREATMENT
ALL HORIZ. LUMBER TO BE D.F. (N.S. OR BETTER, ALL OTHER FRAMING LUMBER MAY BE CONST. GRADE OR BETTER (UNLESS OTHERWISE NOTED)
SEE PLANS
1/2"Ø X10" A.B.'S AT 72" O.C. 12" MAX FROM ENDS OF EACH PIECE
3 1/2" CONCRETE SLAB W/6X6, 10X10 E.W.W.M. (OPTIONAL) O/2 1/2" SAND O/6 MIL. VISQUEENE FIL. VISQUEENE (OPTIONAL)

D WALL SECTION - CONCRETE SLAB

ROUGH CARPENTRY NOTES:

1. ROUGH CARPENTRY- MATERIAL
A. ALL LUMBER GRADE MARKS SHALL BE IN ACCORDANCE WITH PROVISIONS OF "WOOD HANDBOOK OF FOREST PRODUCT LABORATORY", U.S. DEPARTMENT OF AGRICULTURE FOR SOFTWOOD DIMENSION AND TIMBERS ALL LUMBER S4S UNLESS SPECIFICALLY SHOWN OTHERWISE. EACH PIECE OF LUMBER TO BE GRADE MARKED BY AN APPROVED AGENCY.
B. DOUGLAS FIR SHALL BE COAST REGION DOUGLAS FIR AND BE MANUFACTURED AND GRADED IN ACCORDANCE WITH STANDARD GRADING AND DRESSING RULES #16 OF WEST COAST INSPECTION BUREAU (WCIB) LUMBER SHALL BE SURFACED OM ALL FOUR SIDES. UNLESS OTHER SURFACING IS INDICATED ON DRAWINGS. LUMBER SHALL HAVE BEEN AIR SEASONED FOR NOT LESS THAN 30 DAYS MOISTURE CONTENT SHALL NOT EXCEED EIGHTEEN PERCENT(18%) WHEN INCORPORATED INTO THE WORK. MATERIAL SHALL BE KILN DRIED WHEN SPECIFICALLY NOTED OR WHEN COMMON PRACTICE OF THE INDUSTRY REQUIRES SUCH PROCEDURE.
C. WOOD STRUCTURAL PANELS SHALL BE GRADED ACCORDINGLY TO THE AMERICAN PLYWOOD ASSOCIATION.
D. USE THE FOLLOWING LUMBER GRADES OR BETTER, UNLESS OTHERWISE NOTED:
  1. SILL PLATES FOUND. GRD. RWD. OR P.T. DOUG FIR.
  2. VERTICAL FRAMING STUDS DOUG. FIR STUD GRADE.
  3. POSTS DOUG FIR STUD OR BETTER.
  4. TOP PLATES DOUG. FIR STUD OR BETTER.
  5. CEILING JOIST DOUG. FIR NO.2 OR BETTER.
  6. RAFTERS, RIDGES, HIPS DOUG. FIR NO.2 OR BETTER.
  7. HEADERS DOUG. FIR CONSTRUCTION GRD. OR BETTER
  8. EXPOSED BEAMS/OUTRIGGERS ARCH. GRD. D.F. (RSN. IF NOTED)
  9. EXPOSED POSTS ARCH. GRD. D.F. (RSN IF NOTED)
  10. FASCIA WINDOW FRAMES KILN DRIED CLR. HEMLOCK/RSN . FACE1
  11. BRACING, BACKING, PURLING DOUG. FIR STANDARD OR BETTER
  12. SPACED ROOF SHEATHING DOUG. FIR STANDARD OR BETTER 13.SOLID "V" RUSTIC EAVES NO.2 OR BETTER, PINE OR BETTER
  14. 2X6 T&G CEILING NO.1 WHITE FIR RESAWN FACE
  15. REDWOOD SIDING CEDAR RWD. SQUARE OF "V" GROOVED
  16. EXTERIOR TRIM CLEAR RWD. OR APPEARANCE GRD. DOUG. FIR OR HEMLOCK, RESAWN FACE
  17. DOOR JAMBS, CASINGS, MOLDINGS CLEAR DOUG. FIR OR PINE R. SHELVING 3/4" PLYWOOD WITH HARDWOOD EDGE
E. SILLS, SLEEPERS, PLATES, ETC. ON MASONRY OR CONCRETE THAT IS IN DIRECT CONTACT WITH EARTH SHALL BE FOUNDATION GRADE & REDWOOD OR PRESSURE TREATED DOUGLAS FIR.
F. THE FOLLOWING MINIMUM GRADES SHALL APPLY TO WOOD STRUCTURAL PANELS UNLESS SHOWN OTHERWISE ON THE DRAWINGS;
ROOF SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE EXPOSED SHEATHING SHALL BE EXPOSURE I WITH EXTERIOR GLUE WALL SHEATHING SHALL BE INTERIOR GRADE WITH EXTERIOR GLUE.

2. ROUGH CARPENTRY- INSTALLATION
A. APPLY ROOF SHEATHING WITH LONG DIMENSION PERPENDICULAR TO FRAMING MEMBER, OR AS SHOWN DRAWINGS. NAILING AND BLOCKING SHALL BE AS DETAILED. ALL SHEATHING SHALL BE LAYED WITH END AND EDGE GAPS AS SHOWN ON PANEL.
  1. PROVIDE 1/8" SPACING AT ALL PLYWOOD PANEL ENDS AND EDGES.
  2. PROVIDE 'Z' FLASHING AT ALL PLYWOOD HORIZONTAL JOINTS.
B. PROVIDE ALL WOOD BACKING, FURRING, STRIPPING OR BLOCKING INDICATED OR REQUIRED FOR PROPER INSTALLATION AND ATTACHMENT OF WORK OF ALL OTHER TRADES. CUT AND FRAME ALL OPENINGS REQUIRED BY OTHER TRADES. STRUCTURAL MEMBERS SHALL NOT BE CUT, NOT OR DRILLED EXCEPT AS SHOWN OR NOTED ON THE DRAWINGS, OR AS APPROVED BY THE DESIGNER.
C. PROVIDE SHORING, BRACING, SCAFFOLDING, ETC. NECESSARY TO CONSTRUCTION WORK PROPERLY AND SAFELY.
D. PROVIDE FIRE BLOCKING AS SHOWN ON DRAWINGS AND AS REQUIRED BY CBC.
E. PROVIDE DOUBLE JOIST AT PARALLEL PARTITIONS.
F. ALL BEARING WALLS SHALL HAVE DOUBLE TOP PLATES LAPPED FOUR FEET MINIMUM AT JOINTS. PROVIDE TWO BOTTOM PLATES AT RAISED FLOORS WITH LIGHTWEIGHT CONCRETE FLOOR FINISH PROVIDE ONE BOTTOM PLATE AT ALL OTHER LOCATIONS. WALLS AND PARTITIONS SHALL BE PLUMB, AND CORNERS AND ANGLES SOLID. BLOCKS SHALL BE CUT IN WHERE NECESSARY FOR NAILING.
G. PROVIDE FULL BEARING UNDER JOISTS AT SUPPORTS. LAP JOIST MINIMUM 12" AT SUPPORTS.
H. PROVIDE DOUBLE TRIMMERS AND HEADER JOIST AT ALL OPENING USE SHEET METAL JOIST HANGERS WHERE JOIST FRAME INTO HEADERS.
I. PROVIDE SHEET METAL STRAPS AT ALL CORNERS AND POINTS WHERE TOP PLATE IS CUT, AS CALLED FOR ON THE DRAWINGS.
J. PROVIDE 2"X3" CROSS BRIDGING OR SOLID BLOCKING BETWEEN RAFTERS MORE THAN 6" DEEP AT 10'-0"O.C. MAXIMUM AND FOR JOIST MORE THAN 4" DEEP AT 8'-0" O.C. OR USE APPROVED METAL CROSS BRIDGING AT SAME SPACING.
K. PLACE 2 SOLID BLOCKING BETWEEN JOIST OR RAFTERS OVER ALL SUPPORTS, EXCEPT WHERE JOIST OR RAFTERS REST ON A LET IN RIBBON. PROVIDE DOUBLE FLOOR JOIST BELOW ALL BEARING WALLS. MAXIMUM OFFSET OF ONE JOIST DEPTH.
L. IN STUD WALLS, STAGGERED BLOCKING 2" THICK AND THE SAME WIDTH AS THE STUDS SHALL BE PROVIDED AT 8'-0" O.C. MAXIMUM. STAGGERED BLOCKING NOT REQUIRED WHERE SPLICE BLOCKING FOR PLYWOOD IS USED.
M. EXTERIOR WALLS WITHOUT CEILINGS AT 8'-0" SHALL HAVE CONTINUOUS COLUMN AND STUDS. FIRE BLOCKING IS NOT REQUIRED UNTIL HEIGHT OF WALL EXCEEDS 10'-0".
N. PLYWOOD SHALL BE INSTALLED SO THAT THE FACE GRAIN PLIES ARE PERPENDICULAR TO THE DIRECTION OF JOIST. STAGGER JOIST IN ADJACENT SHEETS. MINIMUM DIMENSIONS IN ANY DIRECTION SHALL BE 1'-4" WITH 4 SQ.FT. MINIMUM AREA FOR ANY SHEET. PLYWOOD SHEATHING ON WALLS WITH WIDTHS GREATER THAN 4'-0", BUT LESS THAN 8'-0" SHALL HAVE FACE GRAIN PLIES LAID HORIZONTAL. FACE GRAIN PLIES MAY BE VERTICAL ON ANY OTHER WALL. PROVIDE 2"X4" BLOCKING UNDER ALL EDGES OF PLYWOOD THAT DO NOT OCCUR OVER BEARING. PLYWOOD THAT ARE EXPOSED TO THE ELEMENTS SHALL BE APA C-C EXTERIOR GRADE PLYWOOD WITH EXTERIOR GLUE. 1/16 SPACING MUST BE PROVIDED AT ALL PANEL ENDS AND EDGES WHEN USING PLYWOOD PANEL SIDING. PROVIDE 'Z' FLASHING AT ALL HORIZONTAL JOINTS.
O. WOOD SCREWS AND LAG BOLTS SHALL BE TURNED NOT DRIVEN INTO PLACE. FOR SCREW THREADS INTO WOODS, FIRST BORE A HOLE THE SAME DIAMETER AND DEPTH AS SHANK, SECOND, DRILL HOLE FOR THREADED PORTION HE SAME DIAMETER AS ROOT OF THREAD.
P. BOLT HOLES IN WOOD SHALL BE BORED 1/16" LARGER THAN NET SIZE OF BOLT. BOLT HOLES IN STEEL SHALL BE 1/6" LARGER THAN NET DIAMETER OF BOLT. PROVIDE STANDARD MILD STEEL WASHERS UNDER HEAD AND NUT WHEN BEARING AGAINST WOOD. ALL NUTS SHALL BE RE-TIGHTENED AT COMPLETION OF JOB OR JUST PRIOR TO CLOSING IN WITH FINISH CONSTRUCTION.
Q. ALL BOLTS IN WOOD SHALL BE SPACED 4 DIAMETERS MINIMUM EDGE DISTANCE AND 7 DIAMETER MINIMUM END DISTANCE, UNLESS OTHERWISE NOTED.
R. UNLESS OTHERWISE NOTED, ALL STUDS SHALL BE AT 16" O.C.

3. FASTENERS;
A. ROUGH HARDWARE AND FASTENERS SHALL BE AS SHOWN ON THE DRAWINGS OR AS PER THE FOLLOWING MINIMUM REQUIREMENT;
STEEL HARDWARE- ASTM A36, GALVANIZED AT EXTERIOR LOCATIONS.
MACHINE BOLTS- ASTM A307
LAG BOLTS- FS FF-B-561
NAILS- COMMON WIRE, HOT DIPPED, GALVANIZED
CONNECTORS- SIMPSON, OR APPROVED EQUAL
B. POWER ACTUATED FASTENING SHALL BE "HILTI" OR EQUIVALENT AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

4. BUILDING PAPER;
A. MATERIALS SHALL CONFORM TO CBC STANDARDS FOR KRAFT PAPER AND ASPHALT SATURATED RAG FELT.
B. FELT OR PAPER SHALL BE APPLIED SHINGLE FASHION WITH NOT LESS THAN 4 INCH HORIZONTAL LAPS, 6 INCH VERTICAL LAPS, LAP OVER 6 INCH STRIPS AROUND OPENINGS.

5. GLUE LAMINATED LUMBER;
A. GLUE LAMINATED BEAMS SHALL HAVE MINIMUM DESIGNATION OF 2400 PSI BENDING STRENGTH, V4 ADHESIVE FOR SIMPLE SPANS AND V8 ADHESIVE FOR CANTILEVER SPANS.
B. STORE MEMBERS ON SUPPORTS NOT LESS THAN 12 INCHES ABOVE THE GROUND OR 1-1/2 INCHES ABOVE SULFURS, AS APPLICABLE.
C. LAMINATED MEMBERS SHALL BE BUNDLED WRAPPED WITH END SEAL COATING.
D. PROVIDE GLU-LAM BEAM CERTIFICATION INSPECTED BY AN INSPECTION AGENCY TO THE DIVISION OF BUILDING AND SAFETY PRIOR TO FINAL INSPECTION. CALL FOR INSPECTION OF MEMBERS PRIOR TO ERECTION. EACH MEMBER SHALL BE STAMPED WITH AN IDENTIFYING NUMBER. SUPPLY AITC CERTIFICATE FOR CONFORMANCE.
E. ALL FABRICATION AND WORKMANSHIP SHALL CONFORM TO THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR STRUCTURAL GLUED LAMINATED DOUGLAS FIR (COAST REGION) LUMBER BY THE WEST COAST LUMBERMANS ASSOCIATION AND THE CURRENT EDITION OF TIMBER CONSTRUCTION.
F. ALL GLUED LAMINATED MEMBERS SHALL BE DOUGLAS FIR, COMBINATION 24F WITH WATERPROOF RESORCINOL OR PHENOL RESORCINOL GLUE CONFORMING TO SPECIFICATION MIL-A-397-B. CORE LAMINATIONS MAY BE HEM FIR. USE COMBINATIONS 24F-V4 OR 24F-V5 FOR SIMPLY SUPPORTED BEAMS AND COMBINATION 24-F-V8 OR 24F-24F-V10 FOR CANTILEVERED BEAMS.
G. FINISH OF THE MEMBERS SHALL BE INDUSTRIAL APPEARANCE GRADE IN CONFORMANCE WITH THE AITC.
H. A CERTIFICATE OF INSPECTION FOR EACH GLU LAM BEAM FROM AN APPROVED TESTING AGENCY SHALL BE SUBMITTED TO AND APPROVED BY THE LOCAL BUILDING DEPARTMENT AND BY THE ENGINEER PRIOR TO ERECTION.

6. PROTECTION AGAINST DECAY AND TERMITES;
A. WOOD EMBEDDED IN THE GROUND OR IN DIRECT CONTACT WITH THE EARTH AND USED FOR THE SUPPORT OF PERMANENT STRUCTURES SHALL BE TREATED WOOD.
B. WOOD JOISTS OR THE BOTTOM OF WOOD FLOORS CLOSER THAN 18" OR WOOD GIRDERS CLOSER THAN 12" TO THE GROUND UNDER FLOOR AREAS AND THEIR SUPPORTS. SHALL BE TREATED WOOD OR ALL HEART-WOOD OF APPROVED NATURALLY DURABLE SPECIES AS LISTED IN THE CALIFORNIA BUILDING CODE, APPLICABLE EDITION.

7. PLATES, SILLS AND SLEEPERS;
A. ALL FOUNDATION PLATES OR SILLS AND SLEEPERS ON A CONCRETE OR MASONRY SLAB, WHICH IS IN DIRECT CONTACT WITH EARTH, AND SILLS WHICH REST ON CONCRETE OR MASONRY FOUNDATIONS, SHALL BE PRESSURE TREATED WOOD OR FOUNDATION REDWOOD, ALL MARKED OR BRANDED BY AN APPROVED AGENCY.

8. COLUMNS AND POSTS;
A. COLUMNS AND POSTS LOCATED ON CONCRETE OR MASONRY FLOORS OR DECKS EXPOSED TO THE WEATHER OR TO WEATHER SPLASH OR IN BASEMENTS AND WHICH SUPPORT PERMANENT STRUCTURES SHALL BE SUPPORTED BY CONCRETE PIERS OR METAL PEDESTALS PROJECTING ABOVE FLOORS UNLESS APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD IS USED. THE PEDESTALS SHALL PROJECT AT LEAST 6" ABOVE EXPOSED EARTH AND AT LEAST 1" ABOVE SUCH FLOORS.
B. INDIVIDUAL CONCRETE OR MASONRY PIERS SHALL PROJECT AT LEAST 8" ABOVE EXPOSED GROUND UNLESS THE COLUMNS OR POSTS WHICH THEY SUPPORT ARE OF APPROVED WOOD OF NATURAL RESISTANCE TO DECAY OR TREATED WOOD IS USED.

9. WOOD AND EARTH SEPARATION;
A. NO UNTREATED WOOD, EXCEPT FOUNDATION REDWOOD SHALL BE NEARER THAN 8" TO ANY EARTH UNLESS SEPARATED BY CONCRETE AT LEAST 3" IN THICKNESS WITH AN IMPERVIOUS MEMBRANE. INSTALLED BETWEEN THE EARTH AND CONCRETE.

10. FOUNDATION VENTILATION;
A. UNDER FLOOR AREAS SHALL BE VENTILATED BY AN APPROVED MECHANICAL MEANS OR BY OPENINGS INTO THE UNDER FLOOR AREA WALLS. SUCH OPENINGS SHALL HAVE A NET AREA OF NOT LESS THAN 1 SQUARE FOOT FOR EACH 150 SQUARE FEET OF UNDER FLOOR AREA. OPENINGS SHALL BE LOCATED AS CLOSE TO CORNERS AS PRACTICAL AND SHALL PROVIDE CROSS VENTILATION. THE REQUIRED AREA OF SUCH OPENINGS SHALL BE APPROXIMATELY EQUALLY DISTRIBUTED ALONG THE LENGTH OF AT LEAST TWO OPPOSITE SIDES. THEY SHALL BE COVERED WITH CORROSION RESISTANCE WIRE MESH WITH MESH OPENINGS OF 1/4" IN DIMENSION.

11. BEAMS AND GIRDERS;
A. THE ENDS OF BEAMS OR GIRDERS SUPPORTED ON MASONRY OR CONCRETE SHALL HAVE NOT LESS THAN 3" OF BEARING.
B. ALL BEAMS OR GIRDERS SUPPORTED ON WOOD SHALL HAVE FULL BEARING, AND BEARING SHALL BE COMPRISED OF ONE (1) SOLID SUPPORT OR A BUILT UP SUPPORT CONSTRUCTED IN AN APPROVED MANNER UNLESS OTHERWISE SPECIFIED ON PLANS.
C. PROVIDE 2X4 TEMPORARY BRACING TO ALL BEAMS PROJECTING TO ALL BEAMS PROJECTING 3'-0" BEYOND BUILDING LINE TO PREVENT WARPAGE.

12. WALL FRAMING;
A. SIZE: STUDS IN EXTERIOR WALLS AND INTERIOR BEARING WALLS OF BUILDING NOT MORE THAN 2 STORIES IN HEIGHT SHALL BE NOT LESS THAN 2"X4" IN SIZE. FOR THREE STORY BUILDINGS SUCH STUDS SHALL NOT BE LESS THAN 3"X4"OR 2"X6" TO THE BOTTOM OF THE SECOND FLOOR JOISTS AND 2"X4" FOR THE TWO UPPER STORIES. INTERIOR NONBEARING PARTITIONS MAY BE FRAMED WITH 2"X4" STUDS.
B. HEIGHT: UNLESS SUPPORTED LATERALLY BY ADEQUATE FRAMING, THE MAXIMUM ALLOWABLE HEIGHT FOR STUDS SHALL BE 14'-0" FOR 2"X4" AND 3"X4" STUD; AND 20'-0" FOR 2"X6". REFER TO ENGINEERS CALCULATIONS FOR ANY "BALLOON FRAMED" BEARING WALLS MORE THAN 10'-0" IN HT.
C. SPACING: STUDS SUPPORTING FLOORS, CEILING, RAFTERS SHALL BE SPACED NOT MORE THAN 16".
D. CRIPPLE WALLS: SHALL BE FRAMED ON STUDS NOT LESS IN SIZE THAN THE STUDDING ABOVE OR SHALL BE FRAMED OF SOLID BLOCKING. WHEN EXCEEDING 4'-0" IN HEIGHT, SUCH WALLS SHALL BE FRAMED OF STUDS HAVING THE SIZE REQUIRED FOR AN ADDITIONAL STORY.
E. HEADERS: ALL OPENINGS 4'-0"WIDE OR LESS IN BEARING WALLS SHALL BE PROVIDED WITH HEADERS CONSISTING OF EITHER TWO PIECES OF 2" FRAMING LUMBER PLACED ON EDGE AND SECURELY FASTENED TOGETHER OR 4" LUMBER OF EQUIVALENT CROSS SECTION. ALL OPENING MORE THAN 4'-0"WIDE SHALL BE PROVIDED WITH HEADERS OR LINTELS. EACH END OF A LINTEL OR HEADER SHALL HAVE A LENGTH OF BEARING OF NOT LESS THAN 1 1/2" FOR THE FULL WIDTH OF THE LINTEL. (SEE ROOF FRAMING PLAN FOR DETAILS)
F. PIPES IN WALLS: STUD PARTITIONS CONTAINING PLUMBING, HEATING, OR OTHER PIPES SHALL BE SO FRAMED AND THE JOISTS UNDERNEATH SO SPACED AS TO GIVE PROPER CLEARANCE FOR THE PIPING. WHERE A PARTITION CONTAINING SUCH PIPING RUNS PARALLEL TO THE FLOOR JOISTS, THE JOISTS UNDERNEATH SUCH PARTITIONS SHALL BE DOUBLED AND SPACED TO PERMIT THE PASSAGE OF SUCH PIPES AND SHALL BE BRIDGED. WHERE PLUMBING, HEATING OR OTHER PIPES ARE PLACED IN OR PARTLY IN A PARTITION NECESSITATING THE CUTTING OF THE SOLES OR PLATES, A METAL TIE NOT LESS THAN 16 GALVANIZED GAUGE AND 1 1/2" WIDE SHALL BE FASTENED TO EACH PLATE ACROSS AND TO EACH SIDE OF THE OPENING WITH NOT LESS THAN 16d NAILS.
G. BRIDGING: ALL STUD PARTITIONS OR WALLS WITH STUDS HAVING A HEIGHT TO AT LEAST THICKNESS RATIO EXCEEDING 50 SHALL HAVE BRIDGING NOT LESS THAN 2"IN THICKNESS AND OF THE SAME WIDTH AS THE STUDS FITTED SNUGLY AND NAILED THERE TO PROVIDE ADEQUATE LATERAL SUPPORT.
H. CUTTING AND NOTCHING EXTERIOR WALLS AND BEARING PARTITIONS: ANY WOOD STUD MAY BE CUT OR NOTCH TO A DEPTH NOT EXCEEDING 25 PERCENT OF ITS WIDTH. CUTTING OR NOTCHING OF STUDS TO A DEPTH NOT GREATER THAN 40 PERCENT OF THE WIDTH THE STUD IS PERMITTED IN NONBEARING PARTITIONS SUPPORTING NO LOADS OTHER THAN THE WEIGHT OF THE PARTITIONS.
I. JOISTS, BEAMS, AND GIRDERS: USE LONGEST PRACTICABLE LENGTHS, PLACE WITH CROWN SIDE UP. WHERE MEMBERS CANTILEVER, PLACE CROWN SIDE DOWN.
J. BORED HOLES: A HOLE NOT GREATER IN DIAMETER THAN 40 PERCENT OF THE STUD WIDTH MAY BE BORED IN ANY WOOD STUD. BORED HOLES NOT GREATER THAN 60 PERCENT OF THE WIDTH OF THE STUD ARE PERMITTED IN NON BEARING PARTITIONS OR IN ANY WALL WHERE EACH STUD IS DOUBLED, PROVIDED NOT MORE THAN TWO SUCH SUCCESSIVE DOUBLE STUDS ARE SO BORED. IN NO CASE SHALL THE EDGE OF THE BORED HOLE BE NEARER THAN 5/8" TO THE EDGE OF THE STUD. BORED HOLES SHALL NOT BE LOCATED AT THE SAME SECTION OF THE STUD AS A CUT OR NOTCH.
K. TEMPORARY WALL BRACING: FRAMER IS RESPONSIBLE FOR INSTALLING TEMPORARY WALL BRACING TO ADEQUATELY SUPPORT FRAMING DURING CONSTRUCTION. THIS BRACING TO REMAIN IN PLACE UNTIL STRUCTURAL INTEGRITY HAS BEEN ACHIEVED.

13. FIRE BLOCKS AND DRAFT STOPS;
A. IN COMBUSTIBLE CONDUCTION, FIRE BLOCKING AND DRAFTSTOPPING SHALL BE INSTALLED TO CUT OFF ALL CONCEALED DRAFT OPENINGS(BOTH VERTICAL AND HORIZONTAL) AND SHALL FORM AN EFFECTIVE BARRIER BETWEEN FLOORS, BETWEEN A TOP STORY AND ROOF OR ATTIC SPACE, AND SHALL SUBDIVIDE ATTIC SPACES, CONCEALED ROOF SPACES AND FLOOR CEILING ASSEMBLIES. THE INTEGRITY OF ALL FIRE BLOCKS AND DRAFT STOPS SHALL BE MAINTAINED.
B. FIRE BLOCKS SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS:
  1. IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AT THE CEILING AND FLOOR LEVELS AND AT 10'-0" INTERVALS BOTH VERTICAL AND HORIZONTAL.
  EXCEPTION: FIRE BLOCKS MAY BE OMITTED AT FLOOR AND CEILING LEVELS WHEN APPROVED SMOKE ACTUATED FIRE DAMPERS ARE INSTALLED AT THESE LEVELS
  2. AT ALL INTERCONNECTIONS BETWEEN CONCEALED VERTICAL AND HORIZONTAL SPACES SUCH AS OCCUR AT SOFFITS, DROP CEILINGS AND COVE CEILINGS.
  3. IN CONCEALED SPACES BETWEEN STAIR STRINGERS AT THE TOP AND BOTTOM OF THE RUN AND BETWEEN STUDS ALONG AND IN LINE WITH THE RUN OF STAIRS IF THE WALLS UNDER THE STAIRS ARE UNFINISHED.
  4. AN OPENING AROUND VENTS, PIPES, DUCTS, CHIMNEYS, FIREPLACES AND SIMILAR OPENINGS WHICH AFFORD A PASSAGE FOR FIRE AT CEILINGS AND FLOOR LEVELS, WITH NONCOMBUSTIBLE MATERIALS.
  5. AT OPENING BETWEEN ATTIC SPACES AND CHIMNEY CHASES FOR FACTORY BUILT CHIMNEYS

14. FLOOR JOISTS;
A. BEARING: EXCEPT WHERE JOISTS ARE SUPPORTED ON A 1" X 4" RIBBON STRIP AND NAILED TO THE ADJOINING STUD, THE ENDS OF EACH JOIST SHALL HAVE NOT LESS THAN 1 1/2" OF BEARING ON WOOD OR METAL, NOR NO LESS THAN 3" ON MASONRY.
B. BLOCKING: JOISTS SHALL BE SUPPORTED LATERALLY AT THE ENDS AND AT EACH SUPPORT BY SOLID BLOCKING EXCEPT WHERE THE ENDS OF JOISTS ARE NAILED TO A HEADER, BAND OR RIM JOIST OR TO AN ADJOINING STUD OR BY OTHER APPROVED MEANS. SOLID BLOCKING SHALL BE NOT LESS THAN 2" NOMINAL IN THICKNESS AND THE FULL DEPTH OF JOIST.
C. NOTCHES AND HOLES: NOTCHES ON THE ENDS OF JOISTS SHALL NOT EXCEED ONE FOURTH OF THE JOIST DEPTH. HOLES BORED IN JOISTS SHALL NOT BE WITHIN 2 INCHES OF THE TOP OR BOTTOM OF THE JOISTS, AND THE DIAMETER OF ANY SUCH HOLE SHALL NOT EXCEED ONE THIRD THE DEPTH OF THE JOIST. NOTCHES IN THE TOP OR BOTTOM OF JOISTS SHALL NOT EXCEED ONE SIXTH THE DEPTH AND SHALL NOT BE LOCATED IN THE MIDDLE THIRD OF THE SPAN.
D. LAPS: JOIST FRAMING FROM OPPOSITE SIDES OF A BEAM, OR PARTITION SHALL BE LAPPED AT LEAST 5" OR THE OPPOSING JOIST SHALL BE TIED TOGETHER IN AN APPROVED MANNER.
E. FRAMING ANCHORS: JOIST FRAMING INTO THE SIDE OF A WOOD GIRDER OR PARTITION SHALL BE SUPPORTED BY FRAMING ANCHORS OR ON LEDGER STRIPS NOT LESS THAN 2 INCHES BY 2 INCHES.
F. FRAMING AROUND OPENINGS: TRIMMER AND HEADER JOISTS WHEN FRAMED AROUND OPENINGS SHALL BE DOUBLED, OR OF LUMBER OF EQUIVALENT CROSS SECTION, WHEN THE SPAN OF THE HEADER EXCEEDS 4'-0". THE ENDS OF THE HEADER JOISTS MORE THAN 6'-0" LONG SHALL BE SUPPORTED BY FRAMING ANCHORS OR JOIST HANGERS UNLESS BEARING ON A BEAM, PARTITION OR WALL. TAIL JOISTS OVER 12'-0" LONG SHALL BE SUPPORTED AT HEADER BY FRAMING ANCHORS OR ON LEDGER STRIPS NOT LESS THAN 2"X2".
G. SUPPORTING BEARING POSITIONS: BEARING PARTITIONS PERPENDICULAR TO JOIST SHALL NOT BE OFFSET FROM THE SUPPORTING GIRDERS, WALLS OR PARTITIONS MORE THAN THE JOIST DEPTH. JOISTS UNDER THE PARALLEL TO BEARING PARTITIONS SHALL BE DOUBLED.

15. FLOOR SHEATHING;
A. PLYWOOD COMBINATION SUB FLOOR UNDERLAYMENT SHEATHING CONTINUOUS OVER TWO OR MORE SPANS SHALL BE A MINIMUM 5/8" THICK TONGUE AND GROOVE AND HAVE A PANEL IDENTIFICATION INDEX AS REQUIRED FOR THE FLOOR JOIST SPACING (SEE FLOOR FRAMING PLANS) AND SHALL BE UNDERLAYMENT GRADE, C-C (PLUGGED) AND ALL GRADES OF SANDED EXTERIOR TYPE PLYWOOD IN GROUP SPECIES OF 1, 2, OR 3.
B. GLUE FOR FLOOR SHEATHING SHALL CONFORM TO AMERICAN PLYWOOD ASSOCIATION SPEC. AFG-01.
C. EACH SHEET OF PLYWOOD SHALL BE IDENTIFIED BY A REGISTERED STAMP OR BRAND OF THE AMERICAN PLYWOOD ASSOCIATION.

16. ROOF AND CEILING FRAMING;
A. FRAMING RAFTERS: SHALL BE FRAMED DIRECTLY OPPOSITE EACH OTHER AT THE RIDGE. THERE SHALL BE A RIDGE BOARD AT LEAST 2" NOMINAL THICKNESS AT ALL RIDGES AND NOT LESS IN DEPTH THAN THE CUT END OF THE RAFTER. AT ALL VALLEYS AND HIPS THERE SHALL BE A SINGLE VALLEY OR HIP RAFTER NOT LESS THEN 2" NOMINAL THICKNESS AND NOT LESS IN DEPTH THEN THE CUT. END OF THE RAFTERS.
B. RAFTERS: SHALL BE NAILED TO ADJACENT CEILING JOISTS TO FORM A CONTINUOUS TIE BETWEEN EXTERIOR WALLS WHEN SUCH JOISTS ARE PARALLEL TO THE RAFTERS. WHERE NOT PARALLEL RAFTERS SHALL BE TIED TO 1"X4"(NOMINAL) MINIMUM SIZE CROSS TIES. RAFTER TIES SHALL BE SPACED NOT MORE THAN 4'-0" ON CENTER.
C. PURLINS: TO SUPPORT ROOF LOADS MAY BE INSTALLED TO REDUCE THE SPAN OF RAFTERS WITHIN ALLOW- ABLE LIMITS AND SHALL BE SUPPORTED BY STRUTS TO BEARING WALLS. THE MAXIMUM SPAN OF 2"X4" PURLINS SHALL BE 4'-0". THE MAXIMUM SPAN OF THE 2"X6" PURLIN SHALL BE 6'-0" BUT IN NO CASE SHALL THE PURLIN BE SMALLER THAN THE SUPPORTED RAFTER. STRUTS SHALL NOT BE SMALLER THAN 2"X4" MEMBERS. THE UNBRACED LENGTH OF STRUTS SHALL NOT EXCEED 8'-0" AND THE MINIMUM SLOPE OF THE STRUTS SHALL BE NOT LESS THAN 45 DEGREE'S FROM THE HORIZONTAL.
D. BLOCKING: RAFTERS MORE THAN 8" IN DEPTH SHALL BE SUPPORTED LATERALLY AT THE ENDS AND AT EACH SUPPORT BY SOLID BLOCKING NOT LESS THAN 2" IN THICKNESS AND THE FULL DEPTH OF THE RAFTER UNLESS NAILED TO A HEADER, BAND OR RIM JOIST OR TO AN ADJOINING STUD AND AS REQUIRED BY SECTION 2320.12.8

17. PREFABRICATED WOOD TRUSSES;
A. MANUFACTURER SHALL SUPPLY TO THE DESIGNER AND THE BUILDING DEPARTMENT CALCULATIONS AND SHOP DRAWINGS FOR APPROVAL TO DESIGN LOADS, CONFIGURATION (2 OR 3 POINT BEARING), AND SHEAR TRANSFER, PRIOR TO FABRICATION. ALL CALCULATIONS AND SHOP DRAWINGS SHALL BE SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE WHEREIN THE PROJECT IS TO BE BUILT. IT SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER TO OBTAIN BUILDING DEPARTMENT APPROVAL OF CALCULATIONS AND SHOP DRAWINGS PRIOR TO FABRICATIONS.
B. TRUSSES SHALL BE DESIGNED IN ACCORDANCE WITH THE LATEST LOCAL BUILDING CODE FOR ALL LOADS IMPOSED, INCLUDING LATERAL LOADS AND MECHANICAL EQUIPMENT LOADS.
C. ALL CONNECTORS SHALL BE ICC APPROVED AND OF ADEQUATE STRENGTH TO RESIST STRESSES DUE TO LOADING INVOLVED.
D. DEAD LOAD DEFLECTIONS SHALL BE LIMITED TO L/240.
E. CROSS BRIDGING AND/OR BRACING SHALL BE PROVIDED AND DETAILED AS REQUIRED TO ADEQUATELY BRACE ALL TRUSSES (SEE STRUCTURAL CALCULATIONS.)
F. TRUSSES STORED PRIOR TO ERECTION SHALL BE PROTECTED FROM THE WEATHER AND HANDLED WITH CARE TO AVOID DAMAGE. NOTIFY TRUSS MANUFACTURER IMMEDIATELY OF ANY DAMAGED TRUSSES. CONTRACTOR SHALL NOT ATTEMPTED TO REPAIR DAMAGED AND/OR BROKEN TRUSSES.
G. TRUSS MANUFACTURER SHALL VERIFY ALL DIMENSIONS AT THE JOB SITE PRIOR TO FABRICATION OF TRUSSES.
H. THE GENERAL CONTRACTOR SHALL NOT PERMIT CUTTING, DRILLING, OR ANY OTHER DAMAGE TO TRUSSES.
I. FIELD REPAIRS TO DAMAGED TRUSSES BY THE CONTRACTOR SHALL NOT BE MADE WITHOUT PRIOR APPROVAL FROM THE TRUSS MANUFACTURER.
J. THE CONTRACTOR SHALL INSTALL TEMPORARY HORIZONTAL AND CROSS BRACING TO HOLD TRUSSES PLUMB AND IN SAFE CONDITION UNTIL PERMANENT BRACING IS INSTALLED.
K. THE GENERAL CONTRACTOR SHALL EXERCISE CARE TO PREVENT OVER STRESSING OF TRUSSES DUE TO CONCENTRATED CONSTRUCTION LOADING.

18. ROOF SHEATHING;
A. 1"X4" OR 1"X6" SPACED: WITH 1"X6" SHIPLAP STARTER BOARD AT ALL EXPOSED EAVES (RESAWN FACE DOWN) SHALL BE STANDARD, 3 COMMON NO. 2, OR CONSTRUCTION COMMON GRADES AND SHALL BE SPACED NOT TO EXCEED 6" CLEAR NOR MORE THAN THE NOMINAL WIDTH OF THE SHEATHING BOARD.
B. PLYWOOD SHEATHING IS TO BE CONTINUOUS OVER TWO OR MORE SPANS AND IS TO BE A MINIMUM 1/2" THICK AND HAVE PANEL IDENTIFICATION INDEX AS REQUIRED FOR RAFTER SPACING (SEE ROOF PLANS) ALL PLYWOOD SHALL BE STRUCTURAL I AND II STANDARD SHEATHING, AND C-C GRADES ONLY, WITH EDGES BLOCKED OR UNBLOCKED AS REQUIRED FOR SPAN.
C. EACH SHEET OF PLYWOOD SHALL BE IDENTIFIED BY A REGISTERED STAMP OR BRAND OF THE AMERICAN PLYWOOD ASSOCIATION.

19. ATTIC VENTILATION(WHERE DETERMINED NECESSARY BY THE BUILDING OFFICIAL);
A. ENCLOSED ATTICS AND ENCLOSED RAFTER SPACES SHALL HAVE CROSS VENTILATION FOR EACH SEPARATE SPACE BY VENTILATING OPENINGS PROTECTED AGAINST THE ENTRANCE OF RAIN AND SNOW. THE NET FREE VENTILATING AREA SHALL BE NOT LESS THAN 1/150 OF THE AREA OF THE SPACE VENTILATED. EXCEPT THAT THE AREA MAY BE 1/300 PROVIDED 50 PERCENT OF THE REQUIRED VENTILATING. AREA IS PROVIDED BY VENTILATORS LOCATED IN THE UPPER PORTION OF THE SPACE TO BE VENTILATED AT LEAST 3'-0" ABOVE EAVE OR CORNICE VENTS, WITH THE BALANCE OF THE REQUIRED VENTILATION PROVIDED BY EAVE OR CORNICE VENTS. THE OPENING SHALL BE COVERED WITH CORROSION-RESISTANCE METAL MESH WITH MESH OPENINGS OF 1/4" IN DIMENSION. DO NOT BLOCK VENTS WITH INSULATION.

20. FIREBLOCK CONSTRUCTION;
A. EXCEPT AS PROVIDED IN ITEM D ABOVE, FIRE BLOCKING SHALL CONSIST OF 2" NOMINAL LUMBER OR TWO THICKENS OF 1" NOMINAL LUMBER WITH BROKEN LAP JOINTS OR ONE THICKNESS OF 23/32" WOOD STRUCTURAL PANEL, WITH JOINTS BACKED BY 23/32" WOOD STRUCTURAL PANEL, OR ONE THICKNESS OF 3/4" TYPE 2-M PARTICLE BOARD WITH JOINTS BACKED BY 3/4" TYPE 2-M PARTICLE BOARD.
FIREBOX MAY ALSO BE OF GYPSUM BOARD, GLASS FIBER, MINERAL FIBER OR OTHER APPROVED MATERIALS SECURELY FASTENED IN PLACE.
WALLS HAVING PARALLEL OR STAGGERED STUDS FOR SOUND TRANSMISSION CONTROL SHALL HAVE FIRE BLOCKS OF MINERAL FIBER OR GLASS FIBER OTHER APPROVED NON RIGID MATERIAL.
B. PROVIDE FIRE BLOCKING AT ALL CONCEALED DRAFT OPENINGS (BOTH VERTICAL AND HORIZONTAL) AND TO FORM AN EFFECTIVE FIRE BARRIER BETWEEN STORIES AND THE ROOF SPACE.

FASTENING SCHEDULE: PER CRC TABLE R602.3(1):

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER a,b,c	SPACING AND LOCATION
	ROOF		
1	BLOCKING BETWEEN CEILING JOISTS, RAFTERS OR TRUSSES TO TOP PLATE OR OTHER FRAMING BELOW	4-8d BOX (2 1/2" × 0.113"); OR 3-8d COMMON (2 1/2" × 0.131"); OR 3-10d BOX (3" × 0.128"); OR 3-3" × 0.131" NAILS	TOE NAIL
	BLOCKING BETWEEN RAFTERS OR TRUSS NOT AT THE WALL TOP PLATES, TO RAFTER OR TRUSS	2-8d COMMON (2 1/2" × 0.131"); OR 2-3" × 0.131" NAILS	EACH END TOE NAIL
	FLAT BLOCKING TO TRUSS AND WEB FILLER	2-16d COMMON (3 1/2" × 0.162"); OR 3-3" × 0.131" NAILS	END NAIL
2	CEILING JOISTS TO TOP PLATE	4-8d BOX (2 1/2" × 0.113"); OR 3-8d COMMON (2 1/2" × 0.131"); OR 3-10d BOX (3" × 0.128"); OR 3-3" × 0.131" NAILS	PER JOIST, TOE NAIL
3	CEILING JOIST NOT ATTACHED TO PARALLEL RAFTER, LAPS OVER PARTITIONS [SEE SECTION R802.5.2 AND TABLE R802.5.2(1)]	4-10d BOX (3" × 0.128"); OR 3-16d COMMON (3 1/2" × 0.162"); OR 4-3" × 0.131" NAILS	FACE NAIL
4	CEILING JOIST ATTACHED TO PARALLEL RAFTER (HEEL JOINT) [SEE SECTION R802.5.2 AND TABLE R802.5.2(1)]	TABLE R802.5.2(1)	FACE NAIL
5	COLLAR TIE TO RAFTER, FACE NAIL	4-10d BOX (3" × 0.128"); OR 3-10d COMMON (3" × 0.148"); OR 4-3" × 0.131" NAILS	FACE NAIL EACH RAFTER
6	RAFTER OR ROOF TRUSS TO PLATE	3-16d BOX (3 1/2" × 0.135"); OR 3-10d COMMON (3" × 0.148"); OR 4-10d BOX (3" × 0.128"); OR 4-3" × 0.131" NAILS	2 TOE NAILS ON ONE SIDE AND 1 TOE NAIL ON OPPOSITE SIDE OF EACH RAFTER OR TRUSS
7	ROOF RAFTERS TO RIDGE, VALLEY OR HIP RAFTERS OR ROOF RAFTER TO MINIMUM 2" RIDGE BEAM	4-16d BOX (3 1/2" × 0.135"); OR 3-10d COMMON (3" × 0.148"); OR 4-10d BOX (3" × 0.128"); OR 4-3" × 0.131" NAILS	TOE NAIL
		3-16d BOX (3 1/2" × 0.135"); OR 2-16d COMMON (3 1/2" × 0.162"); OR 3-10d BOX (3" × 0.128"); OR 3-3" × 0.131" NAILS	END NAIL
	WALL		
8	STUD TO STUD (NOT AT BRACED WALL PANELS)	16d COMMON (3 1/2"X0.162")	24" O.C. FACE NAIL
		10d BOX (3"X0.128"); OR 3"X0.131 NAILS	16" O.C. FACE NAIL
9	STUD TO STUD AND ABUTTING STUDS AT INTERSECTING WALL CORNERS (AT BRACED WALL PANELS)	16d BOX (3 1/2"X0.135"); OR 3"X0.131 NAILS	12" O.C. FACE NAIL
		16d COMMON (3 1/2"X0.162")	16" O.C. FACE NAIL
10	BUILT-UP HEADER (2" TO 2" HEADER WITH 1/2" SPACER)	16d COMMON (3 1/2"X0.162")	16" O.C. EACH FACE NAIL
		16 BOX (3 1/2"X0.135")	12" O.C. EACH FACE NAIL
11	CONTINUOUS HEADER TO STUD	5-8d BOX (2 1/2" × 0.113"); OR 4-8d COMMON (2 1/2" × 0.131"); OR 4-10d BOX (3" × 0.128")	TOE NAIL
12	ADJACENT FULL-HEIGHT STUD TO END OF HEADER	4-16d BOX (3 1/2"× 0.135"); OR 3-16d COMMON (3 1/2" × 0.162"); OR 4-10d BOX (3" × 0.128"); OR 4-3" × 0.131" NAILS	END NAIL
13	TOP PLATE TO TOP PLATE	16d COMMON (3 1/2" × 0.162")	16" O.C. FACE NAIL
		10d BOX (3" × 0.128"); OR 3" × 0.131" NAILS	12" O.C. FACE NAIL
14	DOUBLE TOP PLATE SPLICE	8-16d COMMON (3 1/2" × 0.162"); OR 12-16d BOX (3 1/2" × 0.135"); OR 12-10d BOX (3" × 0.128"); OR 12-3" × 0.131" NAILS1	FACE NAIL ON EACH SIDE OF END JOINT (MINIMUM 24" LAP SPLICE LENGTH EACH SIDE OF END JOINT)
15	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (NOT AT BRACED WALL PANELS)	16d COMMON (3 1/2"X0.162")	16" O.C. FACE NAIL
		16d BOX (3 1/2" × 0.135"); OR 3" × 0.131" NAILS	12" O.C. FACE NAIL
	ROOF		
16	BOTTOM PLATE TO JOIST, RIM JOIST, BAND JOIST OR BLOCKING (AT BRACED WALL PANEL)	3-16d BOX (3 1/2" × 0.135"); OR 2-16d COMMON (3 1/2" × 0.162"); OR 4-3" × 0.131" NAILS	16" O.C. FACE NAIL
17	TOP OR BOTTOM PLATE TO STUD	4-8d BOX (2 1/2" × 0.113"); OR 3-16d BOX (3 1/2" × 0.135"); OR 4-8d COMMON (2 1/2" × 0.131"); OR 4-10d BOX (3" × 0.128"); OR 4-3" × 0.131" NAILS	TOE NAIL
		3-16d BOX (3 1/2" × 0.135"); OR 2-16d COMMON (3 1/2" × 0.162"); OR 3-10d BOX (3" × 0.128"); OR 3-3" × 0.131" NAILS	END NAIL
18	TOP PLATES, LAPS AT CORNERS AND INTERSECTIONS	3-10d BOX (3" × 0.128"); OR 2-16d COMMON (3 1/2" × 0.162"); OR 3-3" × 0.131" NAILS	FACE NAIL
19	1" BRACE TO EACH STUD AND PLATE	3-8d BOX (2 1/2" × 0.113"); OR 2-8d COMMON (2 1/2" × 0.131"); OR 2-10d BOX (3" × 0.128"); OR 2 STAPLES 1 3/4"	FACE NAIL
20	1"X6" SHEATHING TO EACH BEARING	3-8d BOX (2 1/2" × 0.113"); OR 2-8d COMMON (2 1/2" × 0.131"); OR 2-10d BOX (3" × 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	FACE NAIL
21	1"X8" AND WIDER SHEATHING TO EACH BEARING	3-8d BOX (2 1/2" × 0.113"); OR 3-8d COMMON (2 1/2" × 0.131"); OR 3-10d BOX (3" × 0.128"); OR 3 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	FACE NAIL
		WIDER THAN 1" × 8" 4-8d BOX (2 1/2" × 0.113"); OR 3-8d COMMON (2 1/2" × 0.131"); OR 3-10d BOX (3" × 0.128"); OR 4 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	
	FLOOR		
22	JOIST TO SILL, TOP PLATE OR GIRDER	4-8d BOX (2 1/2" × 0.113"); OR 3-8d COMMON (2 1/2" × 0.131"); OR 3-10d BOX (3" × 0.128"); OR 3-3" × 0.131" NAILS	TOE NAIL
23	RIM JOIST, BAND JOIST OR BLOCKING TO SILL OR TOP PLATE (ROOF APPLICATIONS ALSO)	8d BOX (2 1/2"X0.113")	4" O.C. TOE NAIL
		8d COMMON (2 1/2"X0.131"); OR 10d BOX (3"X0.128"); OR 3"X0.131" NAILS	6" O.C. TOE NAIL
24	1"X6" SUBFLOOR OR LESS TO EACH JOIST	3-8d BOX (2 1/2" × 0.113"); OR 2-8d COMMON (2 1/2" × 0.131"); OR 3-10d BOX (3" × 0.128"); OR 2 STAPLES, 1" CROWN, 16 GA., 1 3/4" LONG	FACE NAIL
25	2" SUBFLOOR TO JOIST OR GIRDER	3-16d BOX (3 1/2" × 0.135"); OR 2-16d COMMON (3 1/2" × 0.162")	BLIND AND FACE NAIL
26	2" PLANKS (PLANK & BEAM - FLOOR & ROOF)	3-16d BOX (3 1/2"X0.135") OR 2-16d COMMON (3 1/2"X0.162")	AT EACH BEARING, FACE NAIL
27	BAND OR RIM JOIST TO JOIST	3-16d COMMON (3 1/2"X0.162"); OR 4-10d BOX (3"X0.128"); OR 4-3"X 0.131" NAILS; OR 4-3"X14 GA. STAPLES, 7/16" CROWN	END NAIL
28	BUILT-UP GIRDERS AND BEAMS, 2-INCH LUMBER LAYERS	20d COMMON (4"X0.192"); OR	NAIL EACH LAYER AS FOLLOWS: 32" O.C. AT TOP AND BOTTOM AND STAGGERED.
		10d BOX (3"X0.128"); OR 3"X0.131" NAILS	24" O.C. FACE NAIL AT TOP AND BOTTOM STAGGERED ON OPPOSITE SIDES
		AND: 2-20d COMMON (4"X0.192"); OR 3-10d BOX (3"X0.128"); OR 3-3"X0.131" NAILS	FACE NAIL AT ENDS AND AT EACH SPLICE
29	LEDGER STRIP SUPPORTING JOISTS OR RAFTERS	4-16d BOX (3 1/2"X0.135"); OR 3-16d COMMON (3 1/2"X0.162"); OR 4-10d BOX (3"x0.128"); OR 4-3"X0.131 NAILS	AT EACH JOIST OR RAFTER, FACE NAIL
30	BRIDGING OR BLOCKING TO JOIST, RAFTER OR TRUSS	2-10d BOX (3" × 0.128"); OR 2-8d COMMON (2 1/2" × 0.131"); OR 2-3" × 0.131" NAILS	EACH END, TOE NAIL

ITEM	DESCRIPTION OF BUILDING ELEMENTS	NUMBER AND TYPE OF FASTENER a,b,c	SPACING AND LOCATION	
			EDGES^{h}(INCHES)	INTERMEDIATE SUPPORTS^{c,e} (INCHES)
	WOOD STRUCTURAL PANELS, SUBFLOOR, ROOF AND INTERIOR WALL SHEATHING TO FRAMING AND PARTICLE BOARD WALL SHEATHING TO FRAMING (SEE TABLE R602.3(3) FOR WOOD STRUCTURAL EXTERIOR WALL SHEATHING TO WALL FRAMING)			
31	3/8"-1/2"	6D COMMON OR DEFORMED (2" × 0.113"× 0.266" HEAD); OR 2 3/8" × 0.113" × 0.266" HEAD NAIL (SUBFLOOR, WALL)^{i}	6	6^{f}
		8D COMMON (2 1/2" × 0.131") NAIL (ROOF); OR RSRS-01 (2 3/8" × 0.113") NAIL (ROOF)^{b}	6	6^{f}
32	19/32"-3/4"	8d COMMON (2-21/2" × 0.131") NAIL (SUBFLOOR, WALL)	6	12
		8D COMMON (2 1/2" × 0.131") NAIL (ROOF); OR RSRS-01 (2 3/8" × 0.113") NAIL (ROOF)^{b}	6	6^{f}
		DEFORMED 2 3/8" × 0.113" × 0.266" HEAD (WALL OR SUBFLOOR)	6	12
33	7/8"- 1 1/4"	10d COMMON (3"X0.148") NAIL; OR (2 1/2"x0.131"x0.281" HEAD)DEFORMED NAIL	6	12
	OTHER WALL SHEATHING ^{g}			
34	1/2" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 1/2" × 0.120" GALVANIZED ROOFING NAIL,7/16" HEAD DIAMETER; OR 1 1/4" LONG 16 GA. STAPLE WITH 7/16" OR 1" CROWN	3	6
35	25/32" STRUCTURAL CELLULOSIC FIBERBOARD SHEATHING	1 3/4" × 0.120" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER; OR 1 1/4" LONG 16 GA. STAPLE WITH 7/16" OR 1" CROWN	3	6
36	1/2" GYPSUM SHEATHING ^{d}	1 1/2" × 0.120" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER, OR 1 1/4"LONG 16 GA.; STAPLE GALVANIZED, 11/2" LONG; 7/16" OR 1" CROWN OR 1 1/4" SCREWS, TYPE W OR S	7	7
37	5/8" GYPSUM SHEATHING ^{d}	1 3/4" × 0.120" GALVANIZED ROOFING NAIL, 7/16" HEAD DIAMETER, OR 1 1/4" LONG 16 GA.; STAPLE GALVANIZED, 1 1/2" LONG; 7/16" OR 1"CROWN OR 1 1/4" SCREWS, TYPE W OR S	7	7
	WOOD STRUCTURAL PANELS, COMBINATION SUBFLOOR UNDERLAYMENT TO FRAMING			
38	3/4" AND LESS	DEFORMED (2"× 0.113") OR DEFORMED (2" × 0.120") NAIL; OR 8d COMMON (2 1/2" × 0.131") NAIL	6	12
39	7/8" - 1"	8d COMMON (2 1/2" × 0.131") NAIL; OR DEFORMED (2" × 0.113"); OR DEFORMED (2 1/2" × 0.120") NAIL	6	12
40	1 1/8" - 1 1/4"	10D COMMON (3" × 0.148") NAIL; OR DEFORMED (2" × 0.113");OR DEFORMED (21/2" × 0.120") NAIL	6	12

FASTENING SCHEDULE: PER CRC TABLE R602.3(1) FOOTNOTES:

FOR SI: 1 INCH = 25.4 MM., 1 FOOT = 304.8 MM, 1 MILE PER HOUR = 0.447 M/S; 1 KSI = 6.895 MPa.

a. NAILS ARE SMOOTH-COMMON, BOX OR DEFORMED SHANKS EXCEPT WHERE OTHERWISE STATED. NAILS USED FOR FRAMING AND SHEATHING CONNECTIONS ARE CARBON STEEL AND SHALL HAVE MINIMUM AVERAGE BENDING YIELD STRENGTHS AS SHOWN: 80 KSI FOR SHANK DIAMETER OF 0.192 INCH (20D COMMON NAIL), 90 KSI FOR SHANK DIAMETERS LARGER THAN 0.142 INCH BUT NOT LARGER THAN 0.177 INCH, AND 100 KSI FOR SHANK DIAMETERS OF 0.142 INCH OR LESS. CONNECTIONS USING NAILS AND STAPLES OF OTHER MATERIALS, SUCH AS STAINLESS STEEL, SHALL BE DESIGNED BY ACCEPTED ENGINEERING PRACTICE OR APPROVED UNDER SECTION R104.11.

b. RSRS-01 IS A ROOF SHEATHING RING SHANK NAIL MEETING THE SPECIFICATIONS IN ASTM F1667.

c. NAILS SHALL BE SPACED AT NOT MORE THAN 6 INCHES ON CENTER AT ALL SUPPORTS WHERE SPANS ARE 48 INCHES OR GREATER.

d. FOUR-FOOT BY 8-FOOT OR 4-FOOT BY 9-FOOT PANELS SHALL BE APPLIED VERTICALLY.

e. SPACING OF FASTENERS NOT INCLUDED IN THIS TABLE SHALL BE BASED ON TABLE R602.3(2).

f. FOR WOOD STRUCTURAL PANEL ROOF SHEATHING ATTACHED TO GABLE END ROOF FRAMING AND TO INTERMEDIATE SUPPORTS WITHIN 48 INCHES OF ROOF EDGES AND RIDGES, NAILS SHALL BE SPACED AT 4 INCHES ON CENTER WHERE THE ULTIMATE DESIGN WIND SPEED IS GREATER THAN 130 MPH IN EXPOSURE B OR GREATER THAN 110 MPH IN EXPOSURE C.

g. GYPSUM SHEATHING SHALL CONFORM TO ASTM C1396 AND SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C1280 OR GA 253. FIBERBOARD SHEATHING SHALL CONFORM TO ASTM C208.

h. SPACING OF FASTENERS ON FLOOR SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQUIRED BLOCKING AND AT FLOOR PERIMETERS ONLY. SPACING OF FASTENERS ON ROOF SHEATHING PANEL EDGES APPLIES TO PANEL EDGES SUPPORTED BY FRAMING MEMBERS AND REQUIRED BLOCKING. BLOCKING OF ROOF OR FLOOR SHEATHING PANEL EDGES PERPENDICULAR TO THE FRAMING MEMBERS NEED NOT BE PROVIDED EXCEPT AS REQUIRED BY OTHER PROVISIONS OF THIS CODE. FLOOR PERIMETER SHALL BE SUPPORTED BY FRAMING MEMBERS OR SOLID BLOCKING.

i. WHERE A RAFTER IS FASTENED TO AN ADJACENT PARALLEL CEILING JOIST IN ACCORDANCE WITH THIS SCHEDULE, PROVIDE TWO TOE NAILS ON ONE SIDE OF THE RAFTER AND TOE NAILS FROM THE CEILING JOIST TO TOP PLATE IN ACCORDANCE WITH THIS SCHEDULE. THE TOE NAIL ON THE OPPOSITE SIDE OF THE RAFTER SHALL NOT BE REQUIRED.

PLANNING AND DEVELOPMENT
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PROJECT:

ACCESSORY
DWELLING
UNIT
(TADU-003)
PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE

STRUCTURAL
DETAILS

JOB# : TADU-003
DATE: 13-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
S.5

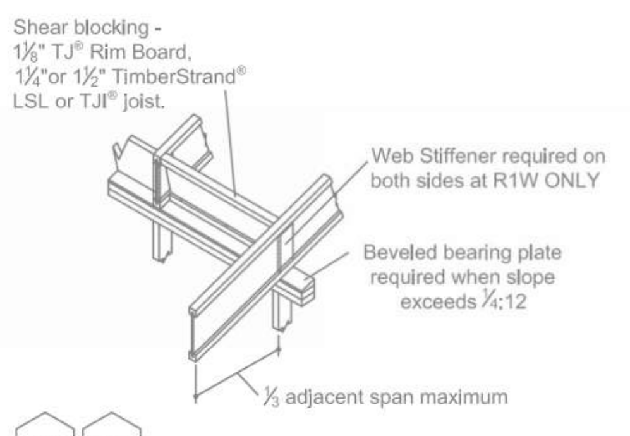
THINK SAFETY, READ INSTALLATION INFORMATION BEFORE PROCEEDING

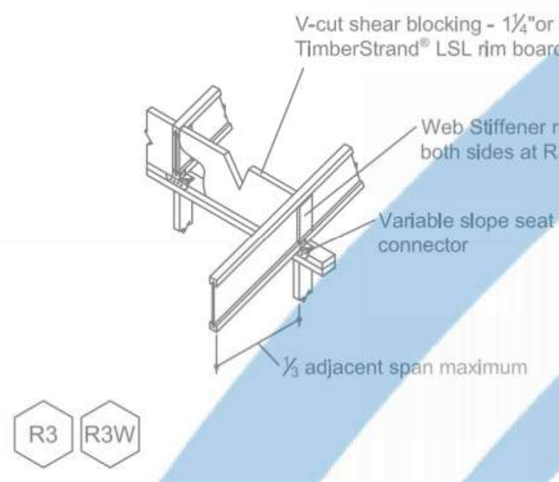
Trus Joist™ Weyerhaeuser

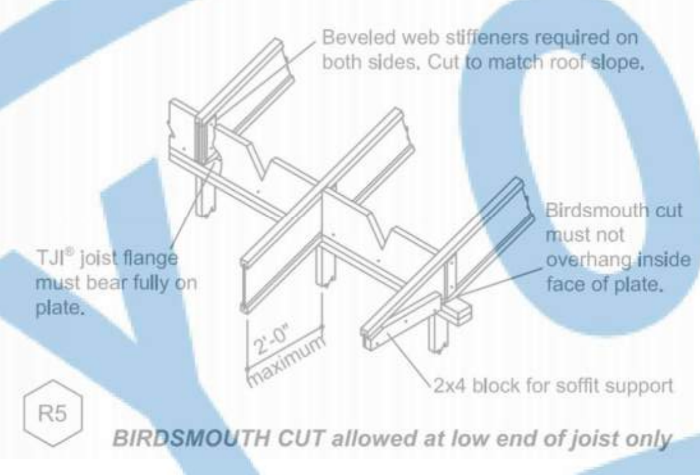
ROOF DETAILS

General Notes
Unless otherwise noted, all details are valid to a maximum slope of 12:12.
Joists >16" have a maximum slope of 3:12.

Web stiffeners are required with all 22" and 24" joists and when the sides of the hanger do not latterally support at least ⅜" of the TJI® joist top flange. Also see framing plan.

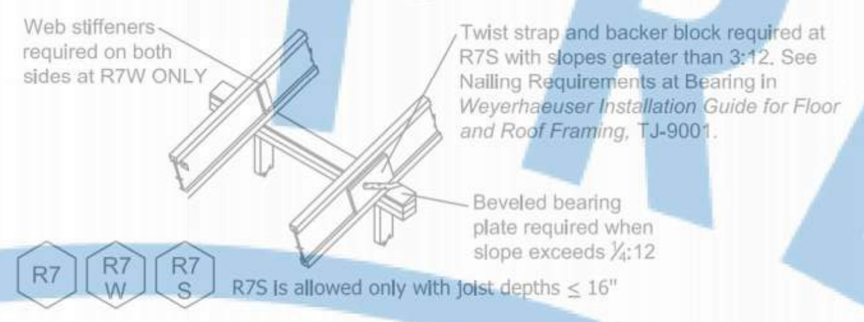

Shear blocking - 1⅛" TJ® Rim Board, 1¼"or 1½" TimberStrand® LSL or TJI® joist.
Web Stiffener required on both sides at R1W ONLY
Beveled bearing plate required when slope exceeds ¼:12
⅓ adjacent span maximum
R1
R1W


V-cut shear blocking - 1¼"or 1½" TimberStrand® LSL rim board
Web Stiffener required on both sides at R3W ONLY
Variable slope seat connector
⅓ adjacent span maximum
R3
R3W

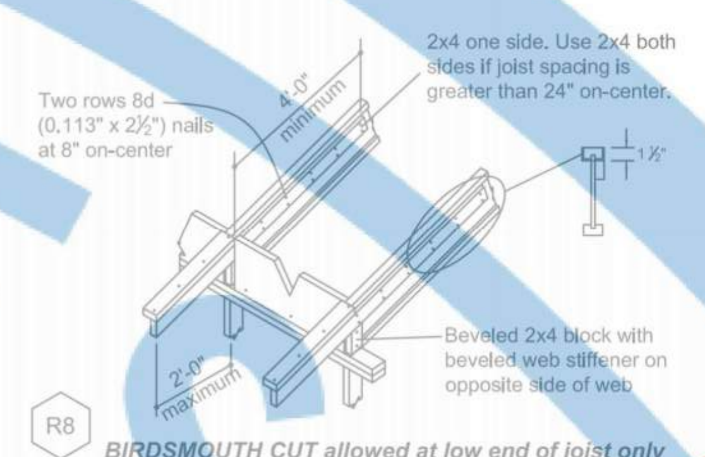

Beveled web stiffeners required on both sides. Cut to match roof slope.
TJI® joist flange must bear fully on plate.
Birdsmouth cut must not overhang inside face of plate.
2'-0" maximum
2x4 block for soffit support
R5

BIRDSMOUTH CUT allowed at low end of joist only

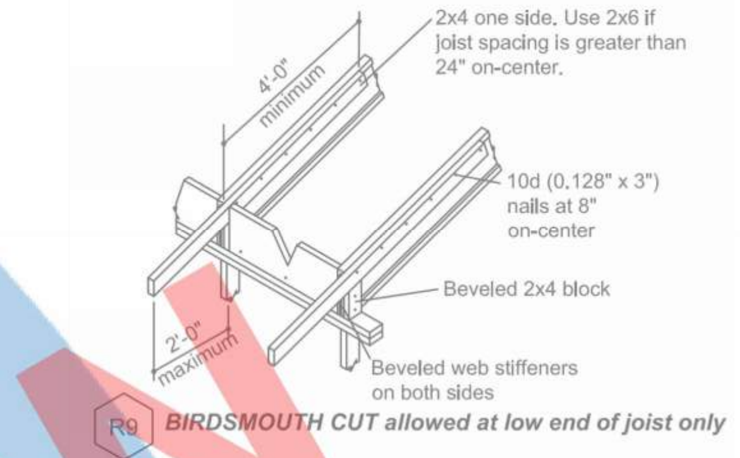
INTERMEDIATE BEARING
Blocking panels or shear blocking may be specified for joist stability at intermediate supports


Web stiffeners required on both sides at R7W ONLY
Twist strap and backer block required at R7S with slopes greater than 3:12. See Nailing Requirements at Bearing in Weyerhaeuser Installation Guide for Floor and Roof Framing, TJ-9001.
Beveled bearing plate required when slope exceeds ¼:12
R7
R7 W
R7 S

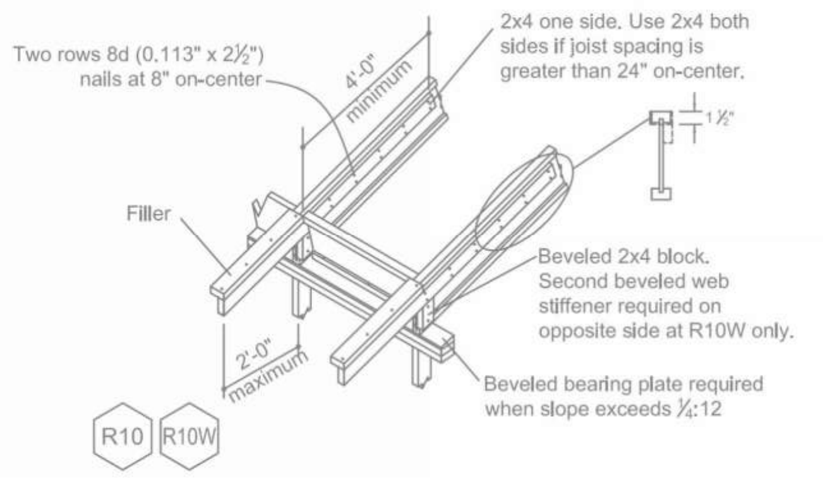
R7S is allowed only with joist depths ≤ 16"

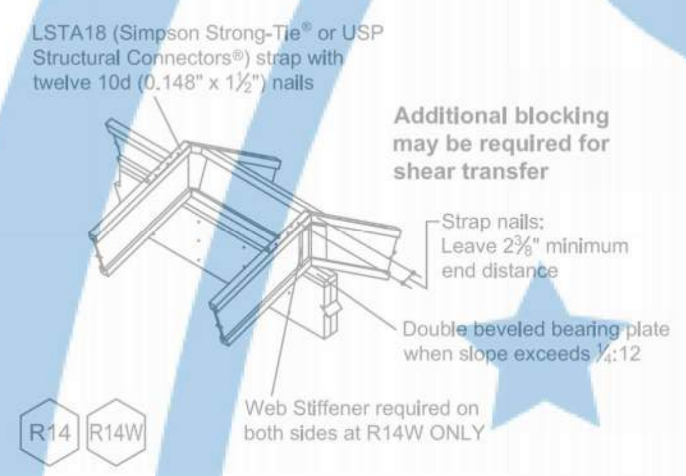

Two rows 8d (0.113" x 2½") nails at 8" on-center
4'-0" minimum
2x4 one side. Use 2x4 both sides if joist spacing is greater than 24" on-center.
1½"
Beveled 2x4 block with beveled web stiffener on opposite side of web
2'-0" maximum
R8

BIRDSMOUTH CUT allowed at low end of joist only

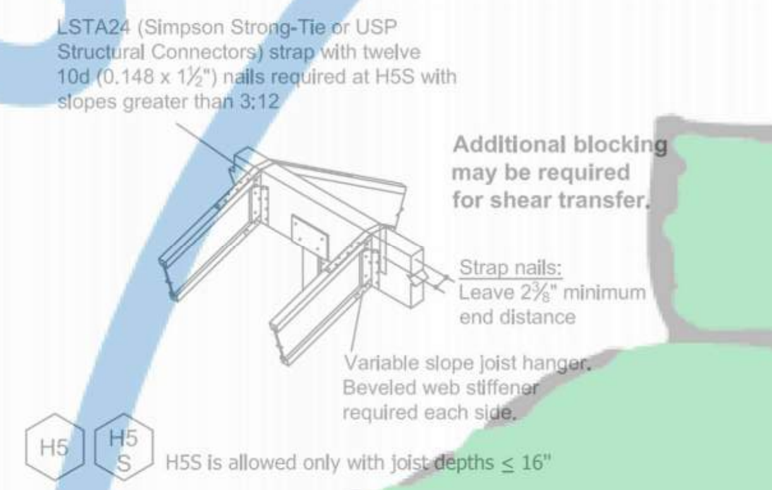

4'-0" minimum
2x4 one side. Use 2x6 if joist spacing is greater than 24" on-center.
10d (0.128" x 3") nails at 8" on-center
Beveled 2x4 block
Beveled web stiffeners on both sides
2'-0" maximum
R9

BIRDSMOUTH CUT allowed at low end of joist only


Two rows 8d (0.113" x 2½") nails at 8" on-center
4'-0" minimum
2x4 one side. Use 2x4 both sides if joist spacing is greater than 24" on-center.
1½"
Filler
Beveled 2x4 block. Second beveled web stiffener required on opposite side at R10W only.
Beveled bearing plate required when slope exceeds ¼:12
2'-0" maximum
R10
R10W

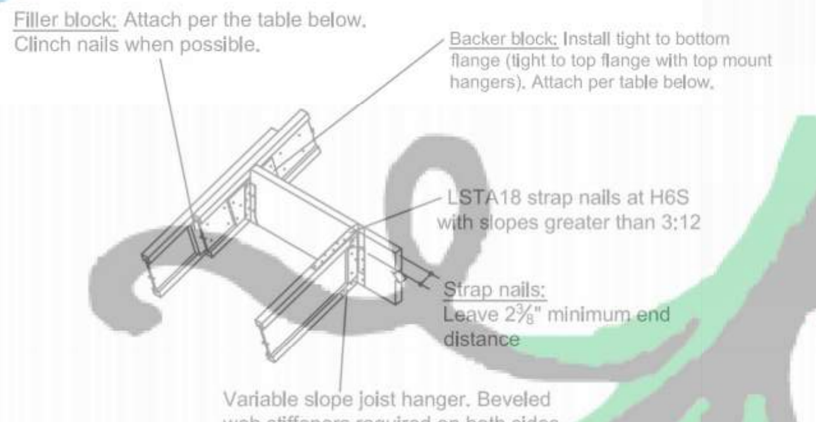

LSTA18 (Simpson Strong-Tie® or USP Structural Connectors®) strap with twelve 10d (0.148" x 1½") nails
Strap nails: Leave 2⅜" minimum end distance
Double beveled bearing plate when slope exceeds ¼:12
Web Stiffener required on both sides at R14W ONLY
R14
R14W

Additional blocking may be required for shear transfer


LSTA24 (Simpson Strong-Tie or USP Structural Connectors) strap with twelve 10d (0.148 x 1½") nails required at H5S with slopes greater than 3:12
Strap nails: Leave 2⅜" minimum end distance
Variable slope joist hanger. Beveled web stiffener required each side.
H5
H5 S

Additional blocking may be required for shear transfer.

H5S is allowed only with joist depths ≤ 16"

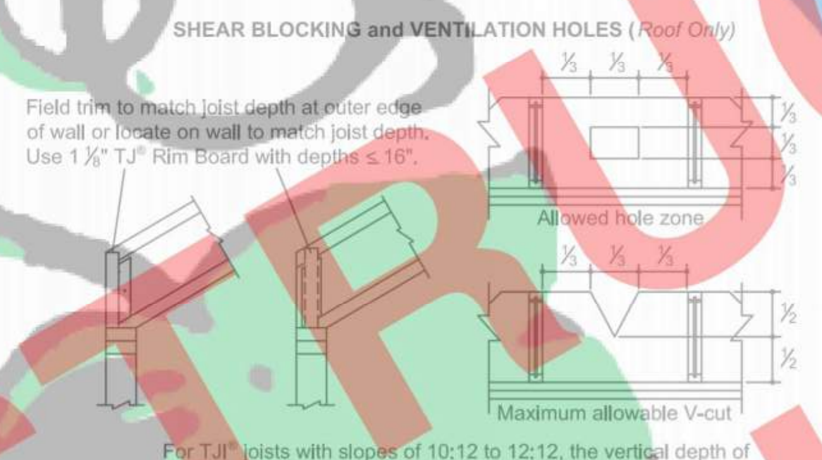

Filler block: Attach per the table below. Clinch nails when possible.
Backer block: Install tight to bottom flange (tight to top flange with top mount hangers). Attach per table below.
LSTA18 strap nails at H6S with slopes greater than 3:12
Strap nails: Leave 2⅜" minimum end distance
Variable slope joist hanger. Beveled web stiffeners required on both sides.

TJI® Depth, D	TJI® Flange Width	Block Type	Nail Size	Nail Quantity
9½" <D≤16"	less than 3½"	Filler	10d(0.128" x 3")	10
		Backer	10d(0.128" x 3")	10
	3½"	Filler	16d(0.135" x 3½")	10 - each side
		Backer	10d(0.128" x 3")	10
16" <D≤ 20"	less than 3½"	Filler	10d(0.128" x 3")	15
		Backer	10d(0.128" x 3")	15
	3½"	Filler	16d(0.135" x 3½")	15 - each side
		Backer	10d(0.128" x 3")	15
20" <D≤ 24"	3½"	Filler	16d(0.135" x 3½")	25 - each side
		Backer	10d(0.128" x 3")	15

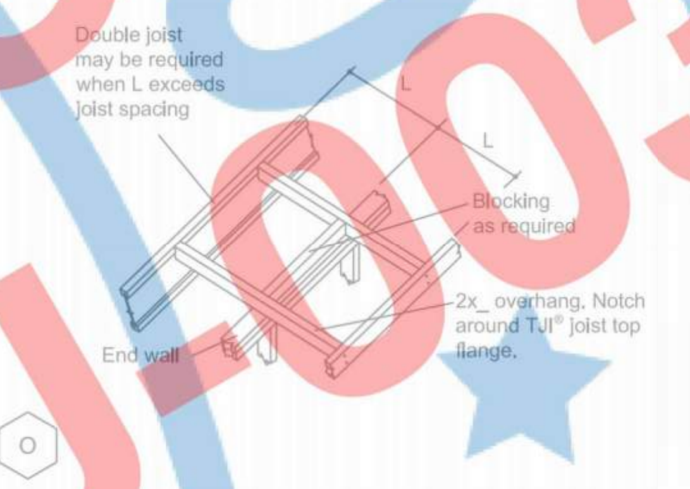
H6
H6 S

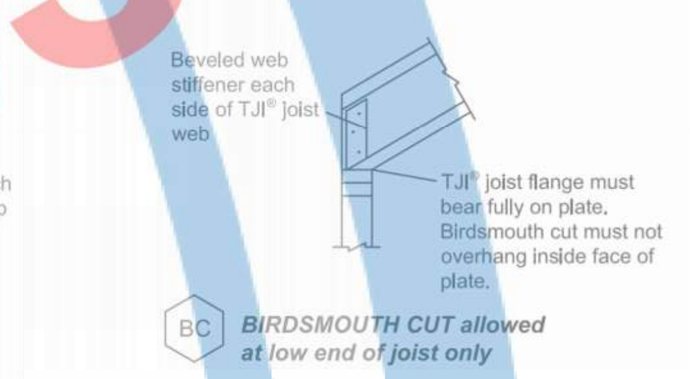
H6S is allowed only with joist depths ≤ 16"
For filler and backer block sizes see *Weyerhaeuser TJI® Joist Specifier's Guide*, TJ-4000

SHEAR BLOCKING and VENTILATION HOLES (*Roof Only*)


Field trim to match joist depth at outer edge of wall or locate on wall to match joist depth. Use 1⅛" TJ® Rim Board with depths ≤ 16".
⅓
⅓
⅓
Allowed hole zone
Maximum allowable V-cut
½
SB

For TJI® joists with slopes of 10:12 to 12:12, the vertical depth of shear blocking at bearing will require 1⅛" TJ® Rim Board or 1¼" or 1½" TimberStrand® LSL that is one size deeper than the TJI® joist. DO NOT use 1⅛" TJ® Rim Board with 18"-24" TJI® joists or in vertilation - hole applications.

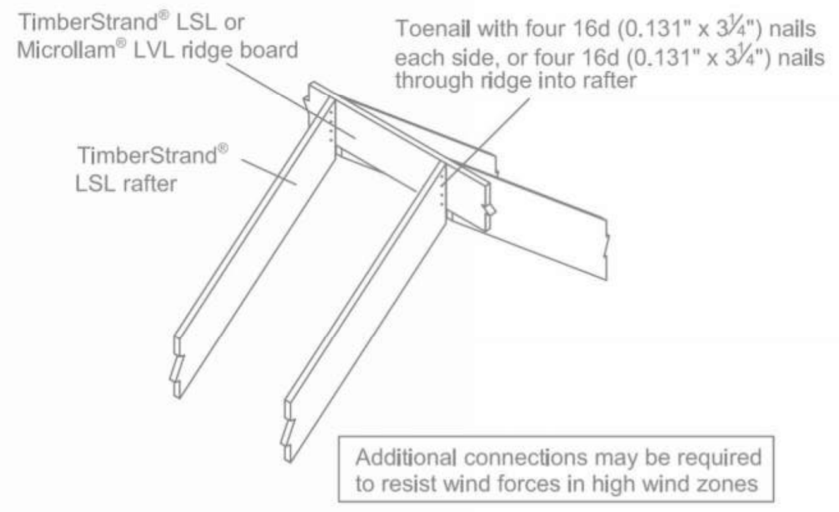

Double joist may be required when L exceeds joist spacing
L
Blocking as required
2x_ overhang. Notch around TJI® joist top flange.
End wall
O


Beveled web stiffener each side of TJI® joist web
TJI® joist flange must bear fully on plate. Birdsmouth cut must not overhang inside face of plate.
BC

BIRDSMOUTH CUT allowed at low end of joist only

ROOF FRAMING DETAILS

Ridge Connection


TimberStrand® LSL or Microllam® LVL ridge board
Toenail with four 16d (0.131" x 3¼") nails each side, or four 16d (0.131" x 3¼") nails through ridge into rafter
TimberStrand® LSL rafter

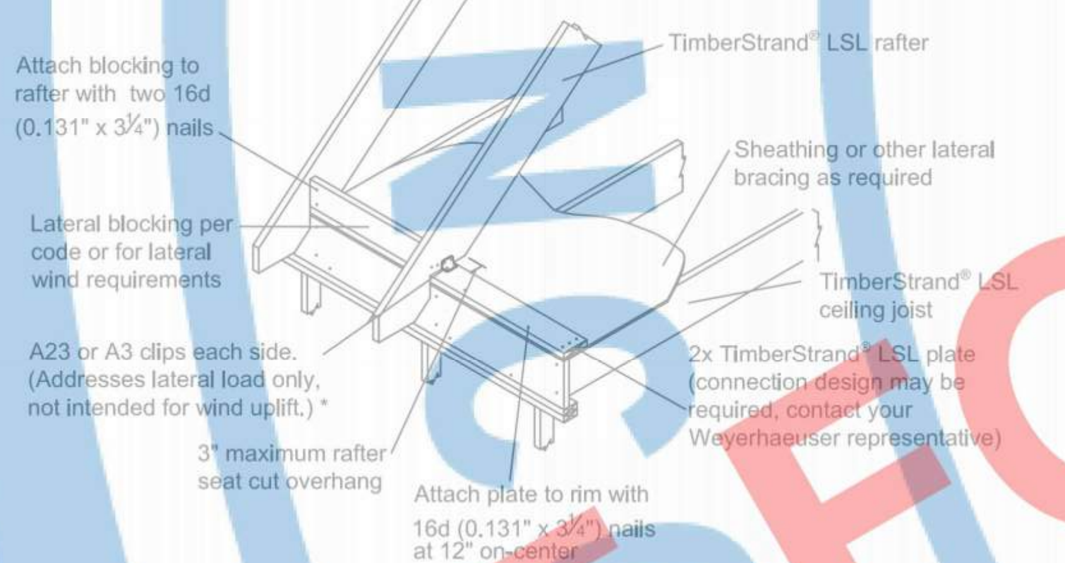
Additional connections may be required to resist wind forces in high wind zones

Minimum Ridge Board Depth

Rafter Size	Rafter Pitch 4:12 to 9:12	Rafter Pitch 10:12 to 11:12	Rafter Pitch 12:12
	Ridge Board Sizes		
2x6	2x8	2x10	2x10
2x8	2x10	2x12	2x12
2x10	14"	14"	14"
2x12	14"	16"	16"

R 20

Heel Connection (Platform)


Attach blocking to rafter with two 16d (0.131" x 3¼") nails
TimberStrand® LSL rafter
Sheathing or other lateral bracing as required
Lateral blocking per code or for lateral wind requirements
TimberStrand® LSL ceiling joist
A23 or A3 clips each side. (Addresses lateral load only, not intended for wind uplift.) *
2x TimberStrand® LSL plate (connection design may be required, contact your Weyerhaeuser representative)
3" maximum rafter seat cut overhang
Attach plate to rim with 16d (0.131" x 3¼") nails at 12" on-center

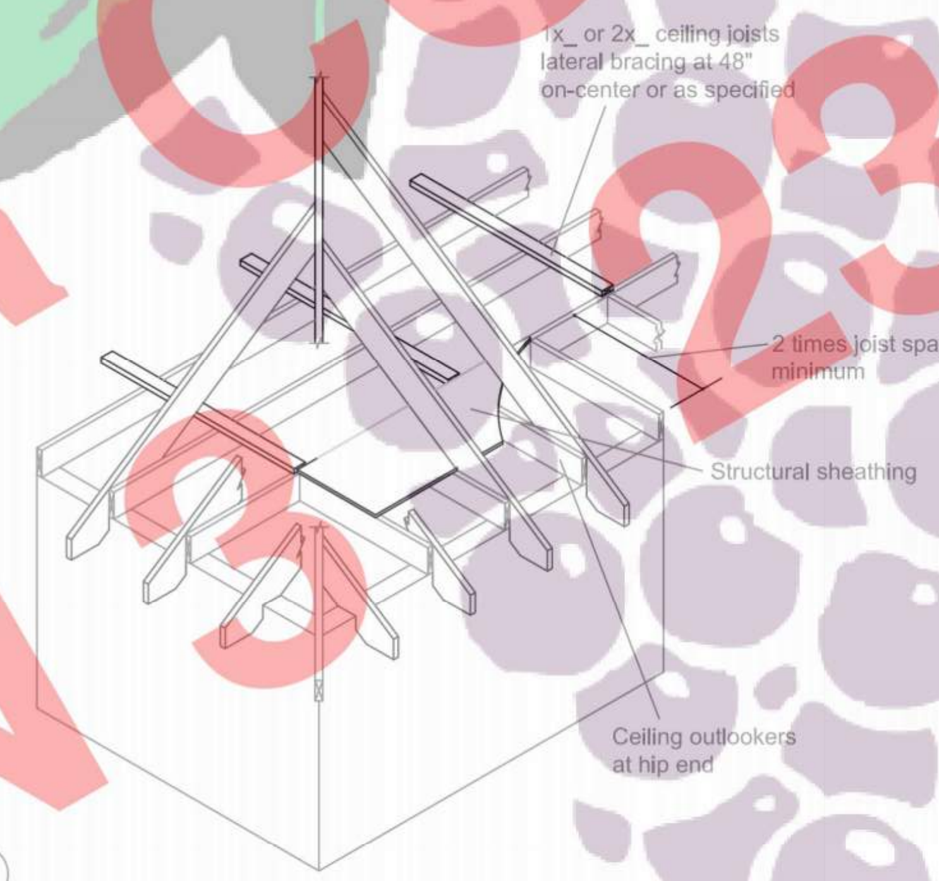
*** Angle Clips**

Hanger Type	Clip	Nailing Top Plate	Nailing Rafter/Ceiling Joist
Simpson Strong Tie®	A23	10d x 1½"	10d x 1½"
USP Structural Connectors®	A3	10d x 1½"	10d x 1½"

R 22

Rafter Connection for Thrust:
- For lap connection nail quantity requirements, see Rafter Span and Heel Connection Tables in *Weyerhaeuser Roof System Design Guide*, TJ-9005.
  - If fewer than 8 nails are required, use only one A23 or A3 clip, each side.
  - If 8-15 nails required, use two A23 or A3 clips, each side.

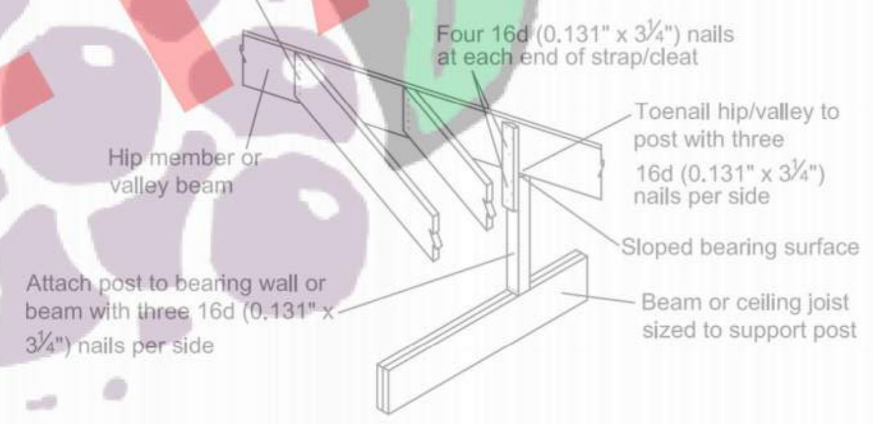
Outlooker Detail


1x_ or 2x_ ceiling joists lateral bracing at 48" on-center or as specified
2 times joist spacing, minimum
Structural sheathing
Ceiling outlookers at hip end

R 24

Hip/Valley Intermediate Support

Connect rafter to hip with five 16d (0.131" x 3¼") nails.
Connect rafter to valley with 16d (0.131" x 3¼") nails per table below.


Four 16d (0.131" x 3¼") nails at each end of strap/cleat
Toenail hip/valley to post with three 16d (0.131" x 3¼") nails per side
Hip member or valley beam
Sloped bearing surface
Attach post to bearing wall or beam with three 16d (0.131" x 3¼") nails per side
Beam or ceiling joist sized to support post

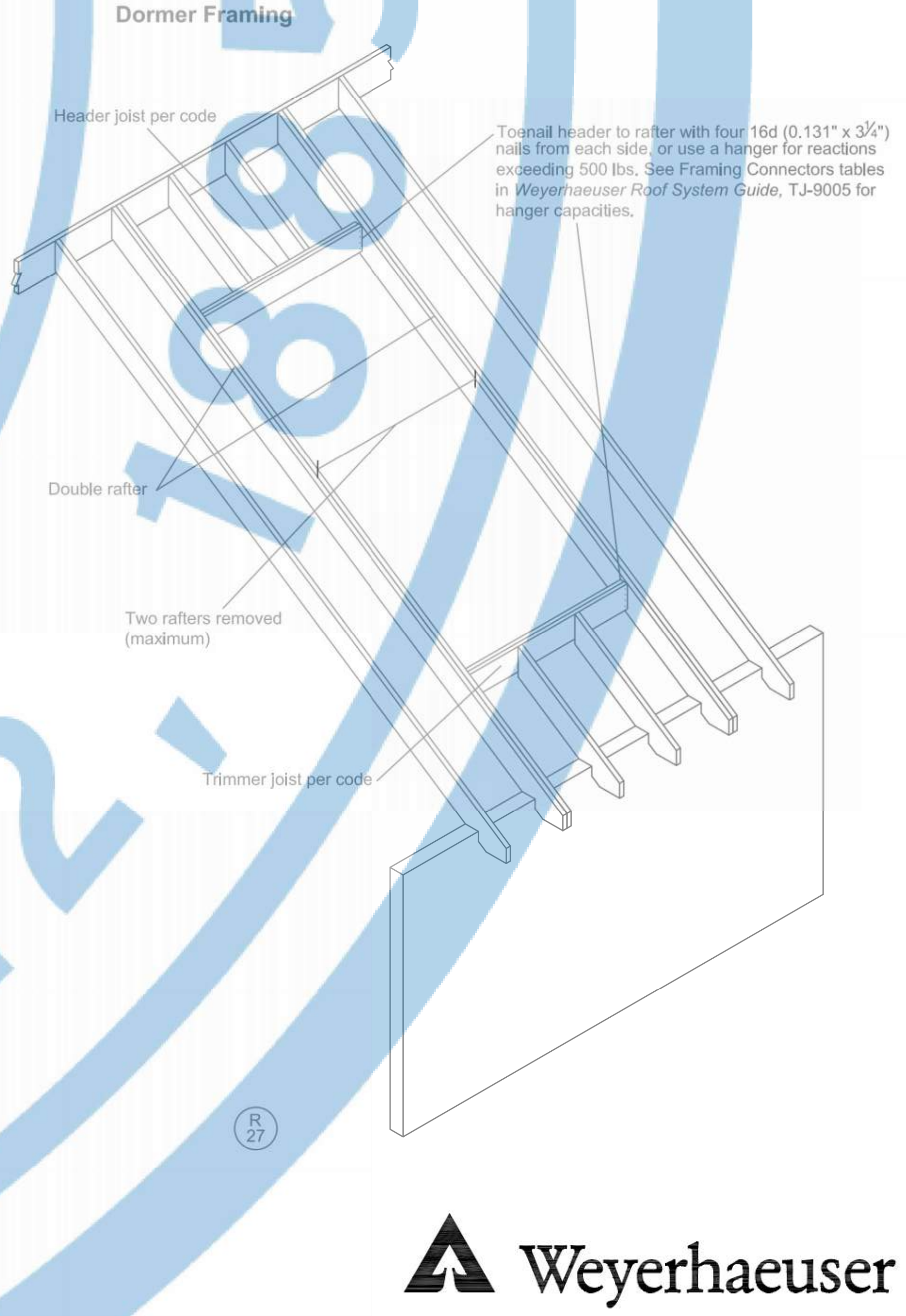
Rafter - to - Valley Connection

Rafter On-Center Spacing	Rafter Span	Roof Snow Load 30 LL + 15 DL	Roof Snow Load 50 LL + 15 DL	Roof Snow Load 80 LL + 15 DL
		Number of 16d (0.131" x 3¼") nails required		
16"	6'	5	5	5
	12'	5	6	8
	18'	6	9	12
	24'	8	12	*
24"	6'	5	5	7
	12'	6	8	11
	18'	9	13	*
	24'	12	*	*

R 26

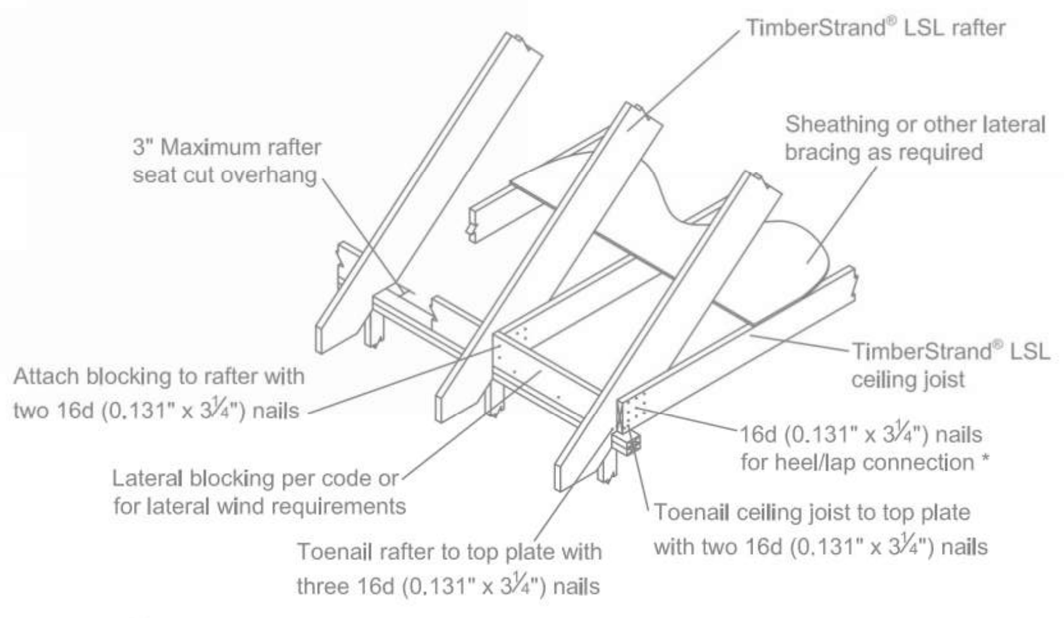
* Contact your Weyerhaeuser representative for additional connection information.

Dormer Framing


Header joist per code
Toenail header to rafter with four 16d (0.131" x 3¼") nails from each side, or use a hanger for reactions exceeding 500 lbs. See Framing Connectors tables in Weyerhaeuser Roof System Guide, TJ-9005 for hanger capacities.
Double rafter
Two rafters removed (maximum)
Trimmer joist per code

R 27

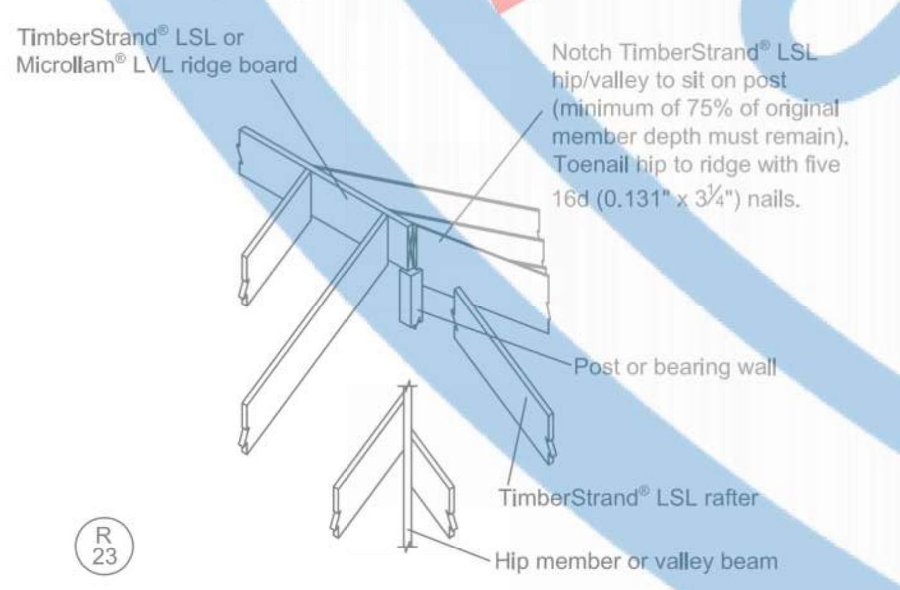
Heel Connection (Lap)


TimberStrand® LSL rafter
3" Maximum rafter seat cut overhang
Sheathing or other lateral bracing as required
TimberStrand® LSL ceiling joist
Attach blocking to rafter with two 16d (0.131" x 3¼") nails
16d (0.131" x 3¼") nails for heel/lap connection *
Lateral blocking per code or for lateral wind requirements
Toenail ceiling joist to top plate with two 16d (0.131" x 3¼") nails
Toenail rafter to top plate with three 16d (0.131" x 3¼") nails

R 21

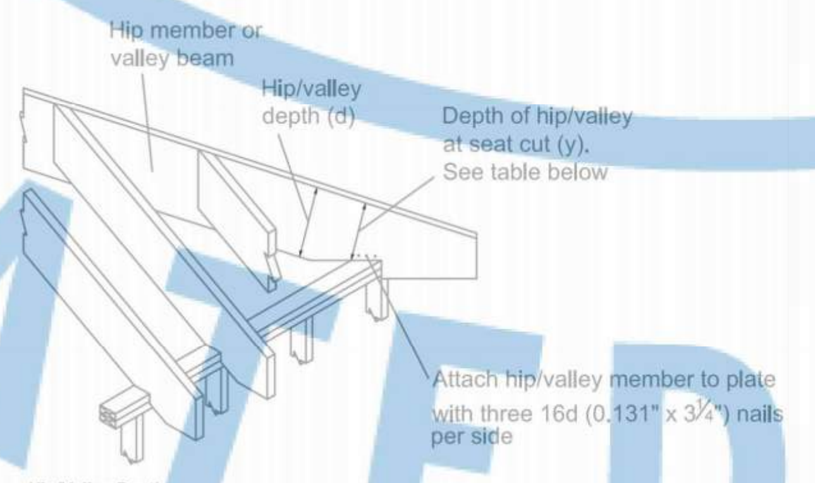
* For heel/lap connection nailing see Rafter Span and Heel Connection Tables in *Weyerhaeuser Roof System Design Guide*, TJ-9005.

Hip/Ridge/Valley/ Post Detail


TimberStrand® LSL or Microllam® LVL ridge board
Notch TimberStrand® LSL hip/valley to sit on post (minimum of 75% of original member depth must remain). Toenail hip to ridge with five 16d (0.131" x 3¼") nails.
Post or bearing wall
TimberStrand® LSL rafter
Hip member or valley beam

R 23

Hip/Valley Low End


Hip member or valley beam
Hip/valley depth (d)
Depth of hip/valley at seat cut (y). See table below
Attach hip/valley member to plate with three 16d (0.131" x 3¼") nails per side

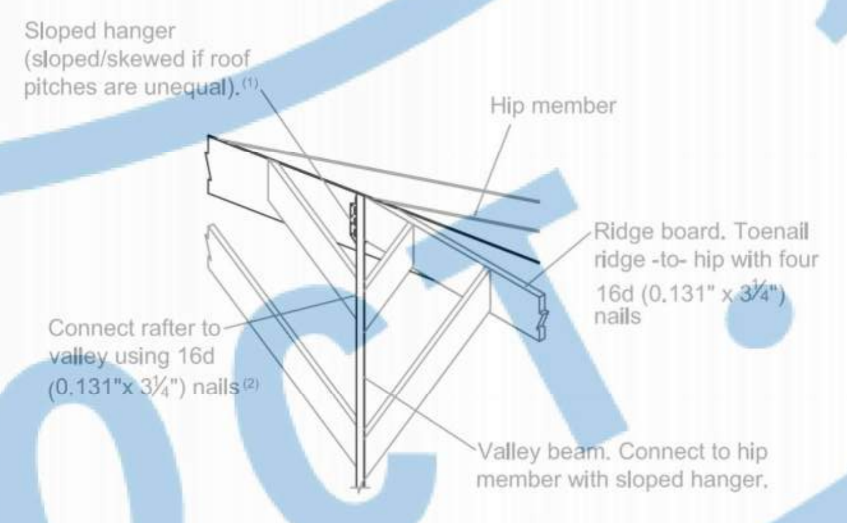
Hip/Valley Depth

Minimum Percentage of Original Hip/Valley Depth Required		
Member Type	TimberStrand® LSL	Microllam® LVL
Hip Member	30%	50%
Valley Beam	60%	90%

Calculate percentage as y/d x 100

R 25

Valley -to- Hip Connection


Sloped hanger (sloped/skewed if roof pitches are unequal).(1)
Hip member
Ridge board. Toenail ridge -to- hip with four 16d (0.131" x 3¼") nails
Connect rafter to valley using 16d (0.131"x 3¼") nails (2)
Valley beam. Connect to hip member with sloped hanger.

Contact your Weyerhaeuser representative for sizing of a hip or valley with a point load.

R 28

(1) See Framing Connectors in *Weyerhaeuser Roof System Guide*, TJ-9005 for hanger capacities.
(2) See Rafter -to- Valley Connection table in Detail R26 above.

Weyerhaeuser

Warning: Drilling, sawing, sanding or machining wood products generates wood dust. The paint and/or coating on this product may contain titanium dioxide. Wood dust and titanium dioxide are substances known to the state of California to cause cancer. For more information on Proposition 65, visit wy.com/inform.

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October 2017 Reorder TJ-4014

This sheet is intended as a supplement to the Weyerhaeuser *Installation Guide for Floor and Roof Framing,* TJ-9001, *Roof System Design Guide,* TJ-9005, and the Deep Depth Trus Joist® TJI® Joist Installation Guide , TJ-9006, which should be referenced for additional information

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PROJECT:

**ACCESSORY
DWELLING
UNIT
(TADU-003)
PLAN 3**

REVISIONS

NO.	DESCRIPTION	DATE

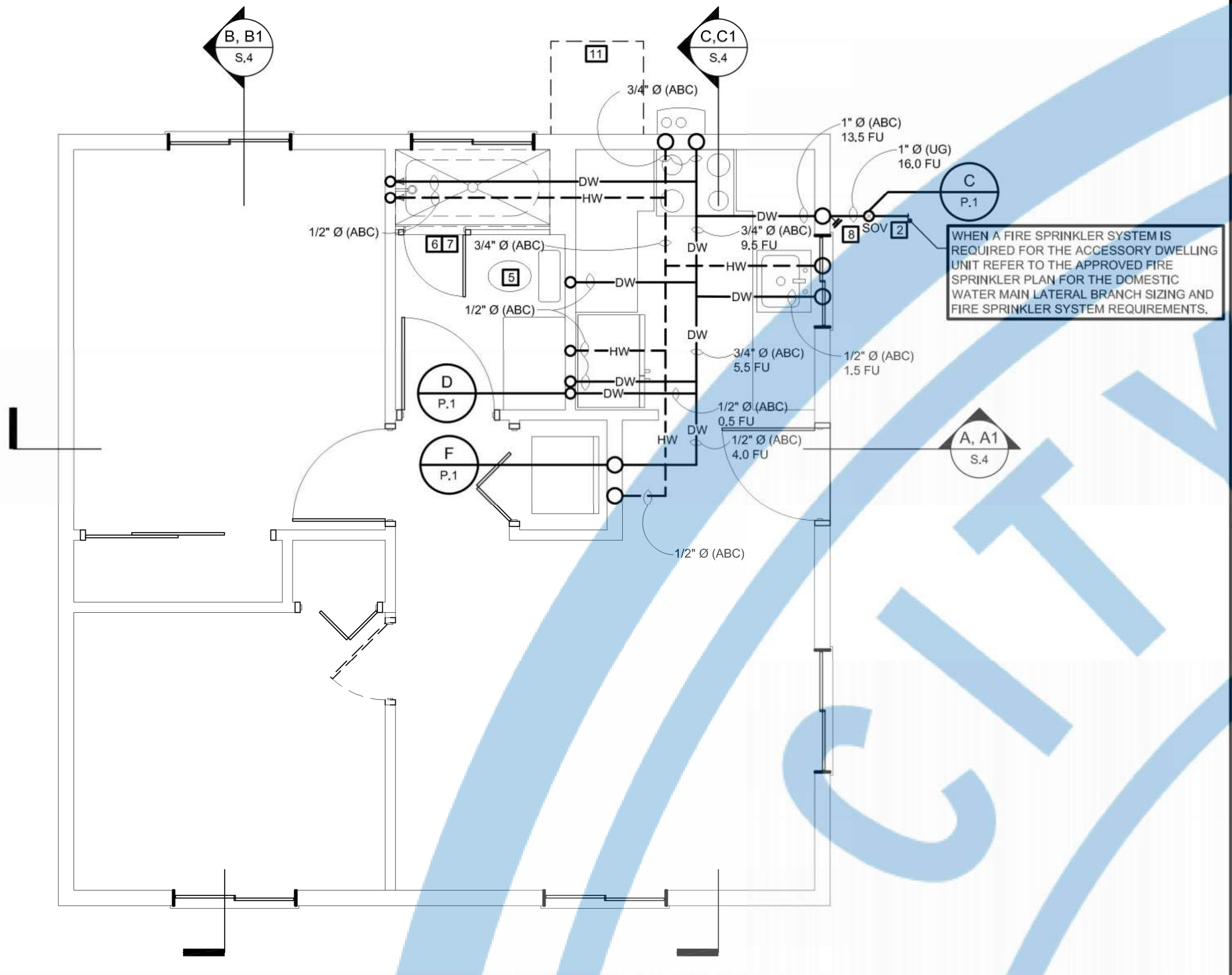
CITY USE ONLY

DRAWING TITLE

**TJI JOIST
MANUFACTURER
INSTALLATION
DETAILS**

JOB# : TADU-003
DATE: 13-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG

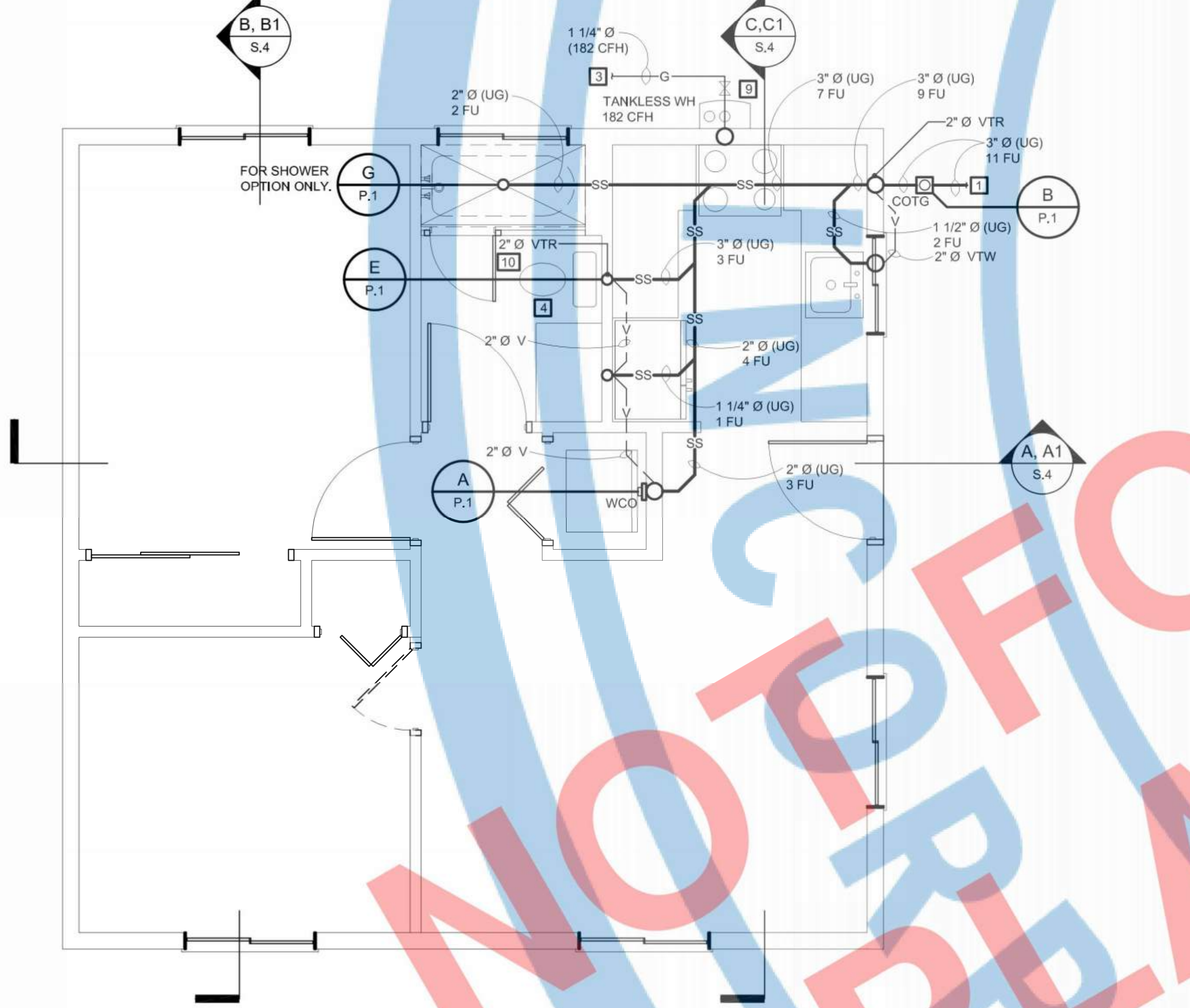
SHEET NO.
S.6



COLD & HOT DOMESTIC WATER PLAN

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

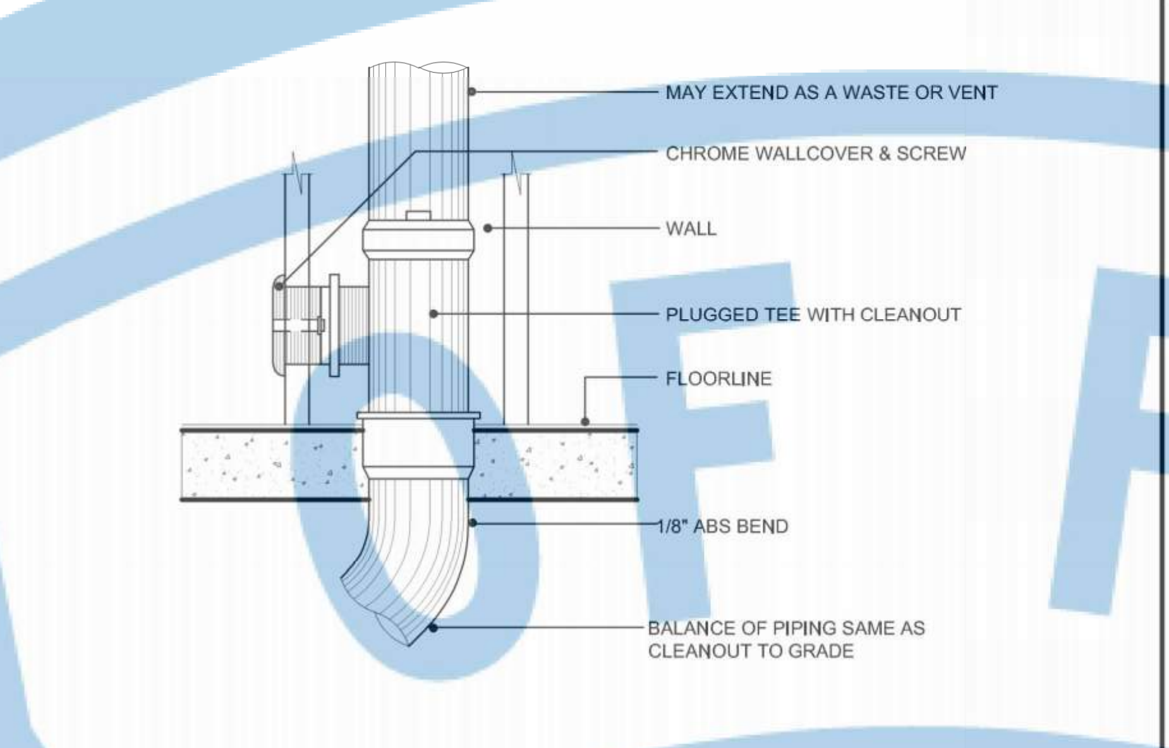
GABLE/CONTEMPORARY/CRAFTSMAN



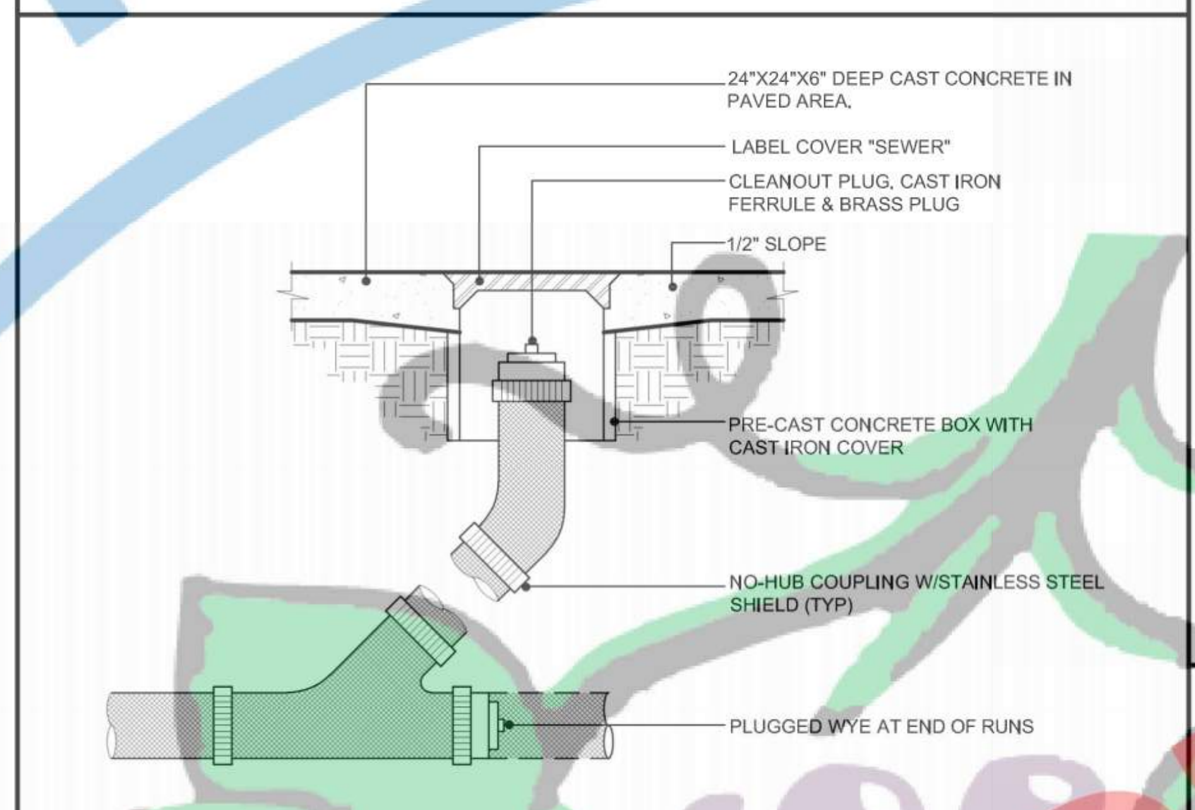
SANITARY SEWER, VENT, & GAS PLAN

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

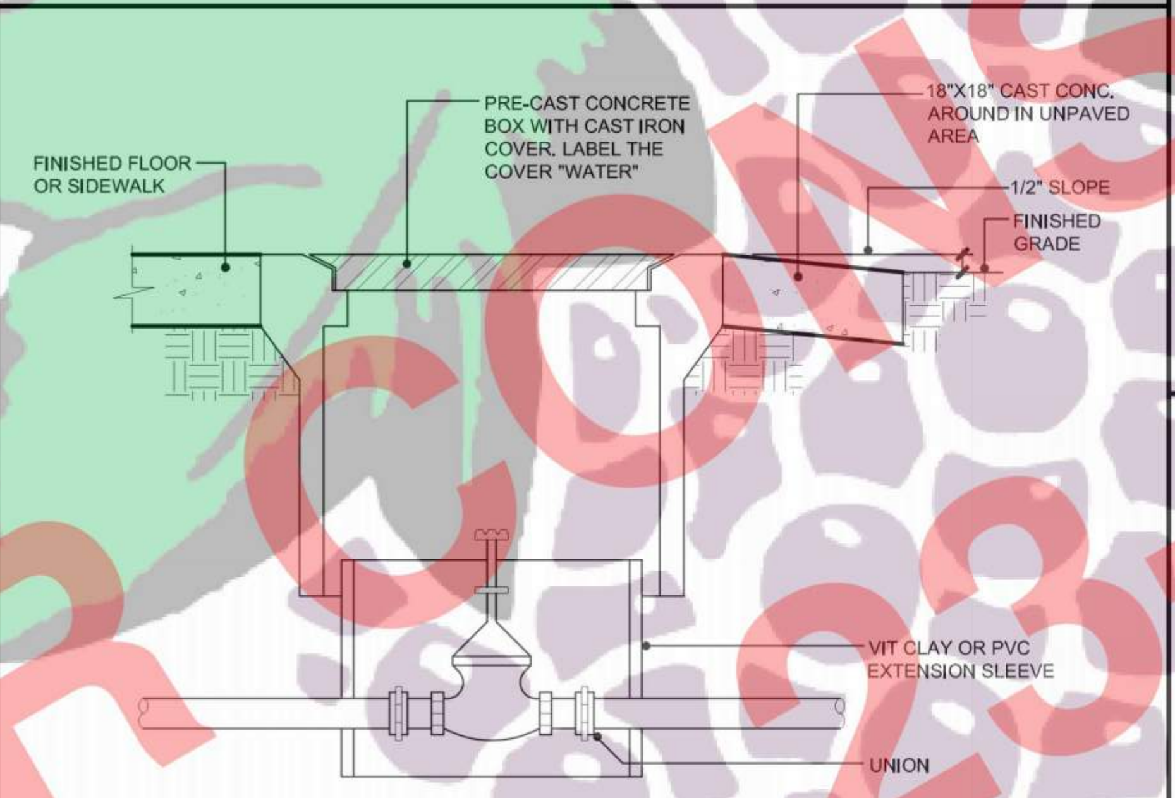
GABLE/CONTEMPORARY/CRAFTSMAN


MAY EXTEND AS A WASTE OR VENT
CHROME WALLCOVER & SCREW
WALL
PLUGGED TEE WITH CLEANOUT
FLOORLINE
1/8" ABS BEND
BALANCE OF PIPING SAME AS CLEANOUT TO GRADE

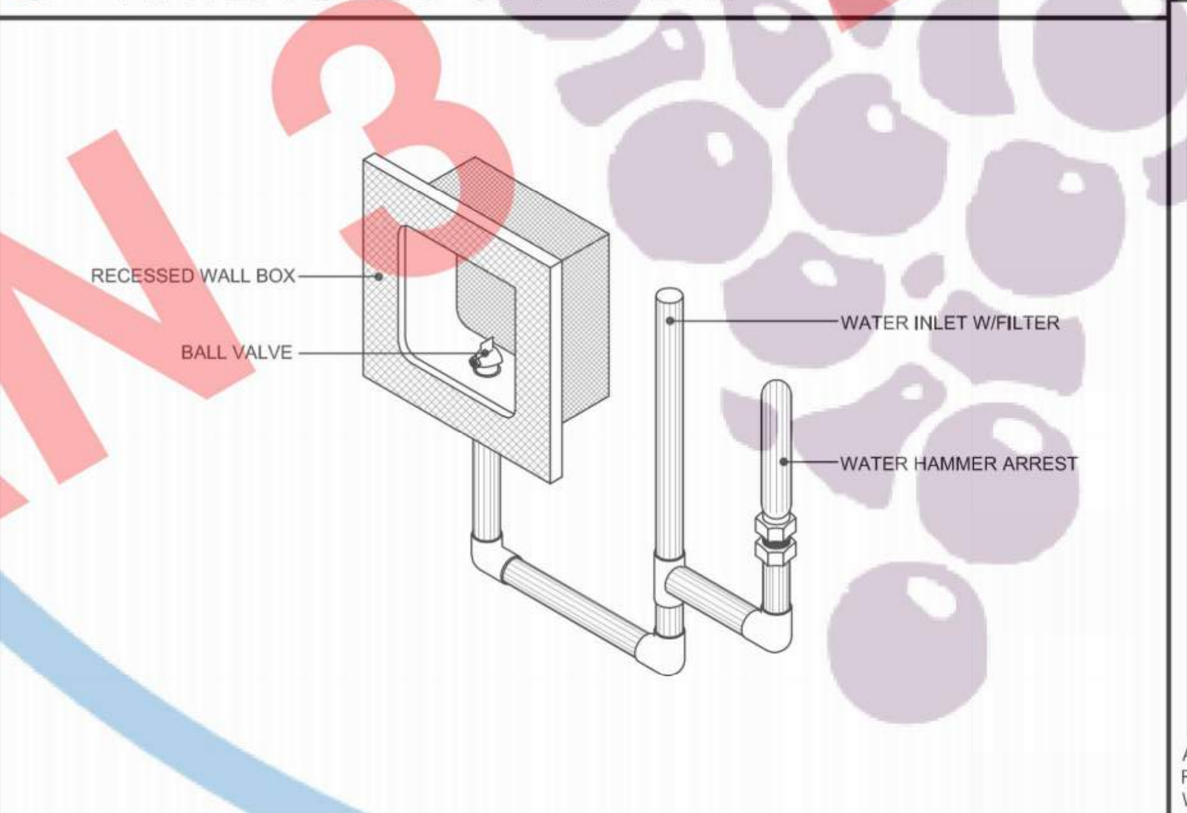
A WALL CLEANOUT


24"X24"X6" DEEP CAST CONCRETE IN PAVED AREA.
LABEL COVER "SEWER"
CLEANOUT PLUG, CAST IRON FERRULE & BRASS PLUG
1/2" SLOPE
PRE-CAST CONCRETE BOX WITH CAST IRON COVER
NO-HUB COUPLING W/STAINLESS STEEL SHIELD (TYP)
PLUGGED WYE AT END OF RUNS

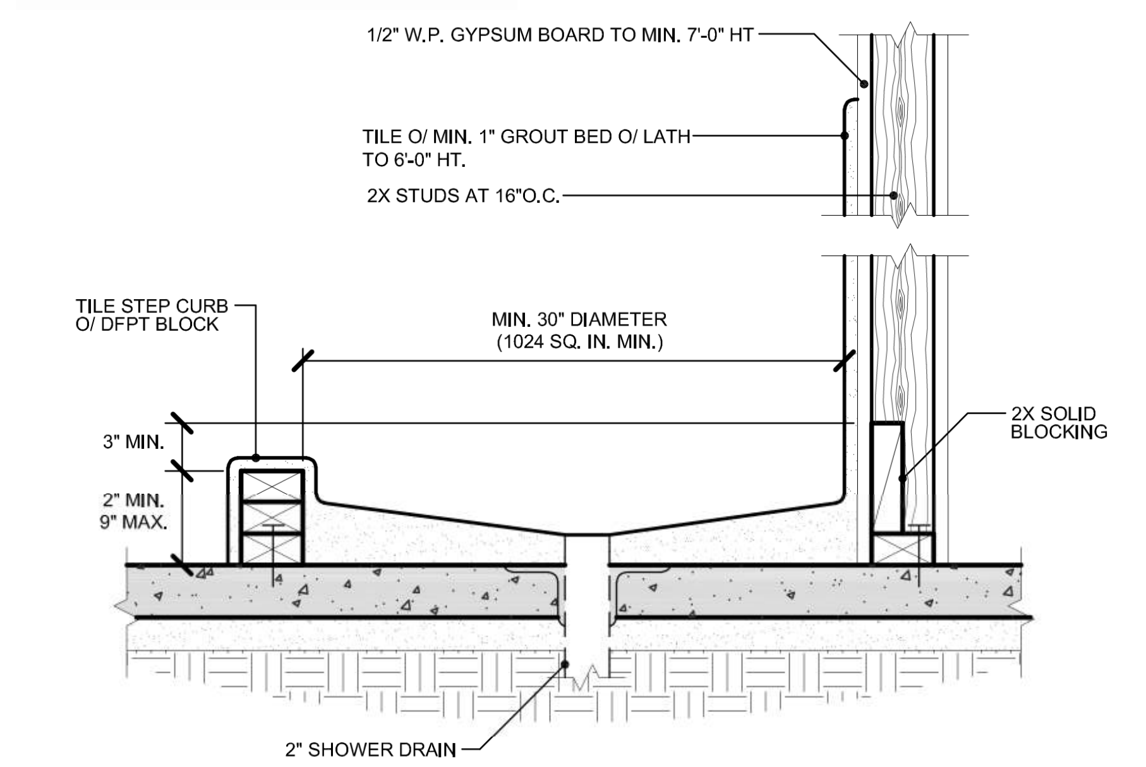
B FLOOR CLEAN-OUT


FINISHED FLOOR OR SIDEWALK
PRE-CAST CONCRETE BOX WITH CAST IRON COVER, LABEL THE COVER "WATER"
18"X18" CAST CONC. AROUND IN UNPAVED AREA
1/2" SLOPE
FINISHED GRADE
VIT CLAY OR PVC EXTENSION SLEEVE
UNION

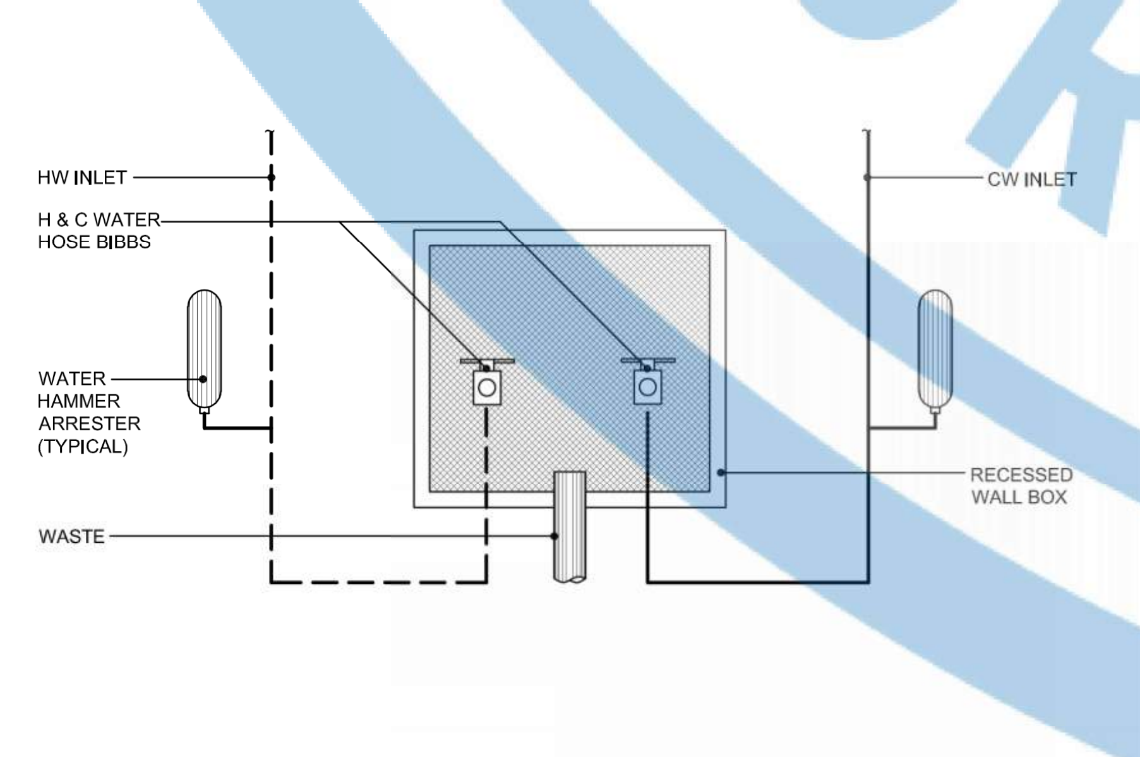
C WATER SHUT-OFF VALVE



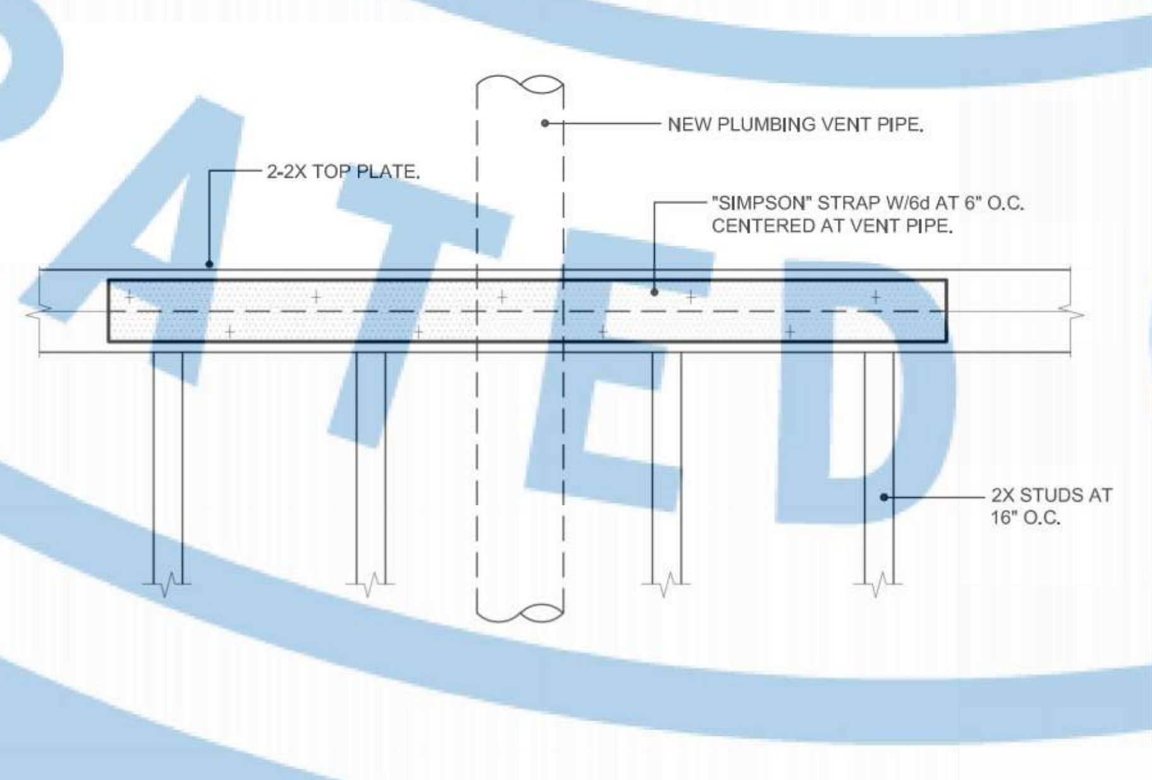
D REFRIGERATOR SUPPLY BOX


1/2" W.P. GYPSUM BOARD TO MIN. 7'-0" HT
TILE O/ MIN. 1" GROUT BED O/ LATH TO 6'-0" HT.
2X STUDS AT 16"O.C.
TILE STEP CURB O/ DFPT BLOCK
MIN. 30" DIAMETER (1024 SQ. IN. MIN.)
2X SOLID BLOCKING
3" MIN.
2" MIN. 9" MAX.
2" SHOWER DRAIN

G TILE SHOWER



F CLOTHES WASHER BOX



E TOP PLATE SPLICE AT PLUMBING VENT

E. WATER PIPING

1. WATER PIPING SHALL BE PEX TYPE B TUBING, COPPER, OR GALVANIZED STEEL. PVC WATER PIPING MAY BE FOR COLD PVC WATER, PIPING MAY BE USED FOR COLD WATER DISTRIBUTION SYSTEMS OUTSIDE A BUILDING CPVC WATER PIPING MAY BE USED FOR HOT AND COLD WATER DISTRIBUTION SYSTEMS WITHIN A BUILDING. TYPE 'M' COPPER PIPING MAY BE USED FOR WATER PIPING ABOVE GROUND IN, OR ON, A BUILDING OR UNDERGROUND OUTSIDE OF STRUCTURE.
2. COPPER TUBE FOR WATER PIPING SHALL HAVE A WEIGHT OF NOT LESS THAN THAT OF COPPER WATER TUBE TYPE L. EXCEPTION:TYPE M COPPER TUBING MAY BE USED FOR WATER PIPING WHEN PIPING IS ABOVE GROUND.
3. POLYETHYLENE PIPING SHALL MEET OR EXCEED SPECIFICATIONS AS A PB 2110 MATERIAL PER ASTM 3309, ANSI A 119.2, CSA B137.7-M-1977, CSA B139.8-M-1977; AND SHALL BE OF PIPING MATERIAL AND INSTALLATION SUITABLE FOR ITS INTENDED USE.
4. NO WATER, SOIL OR WASTE PIPE SHALL BE INSTALLED OR PERMITTED OUTSIDE OF A BUILDING OR IN A EXTERIOR WALL, UNLESS WHERE NECESSARY, ADEQUATE PROVISION IS MADE TO PROTECT SUCH PIPE FROM FREEZING.
5. PIPING SUBJECT TO UNDUE CORROSION, EROSION OR MECHANICAL DAMAGE SHALL BE PROTECTED IN AN APPROVED MANNER.
6. COLD AND HOT WATER PIPING TO FIXTURES SHALL BE THOROUGHLY FLUSHED AND RINSED PRIOR TO PLACING IN SERVICE.
7. HOT AND COLD WATER PIPING SHALL BE INSTALLED A MINIMUM OF 12" APART WHERE PIPING IS PARALLEL.

F. GAS PIPING

1. FERROUS GAS PIPING INSTALLED UNDERGROUND IN EXTERIOR LOCATIONS SHALL BE PROTECTED FROM CORROSION BY APPROVED COATINGS OR WRAPPING MATERIALS. ALL HORIZONTAL METALLIC PIPING SHALL HAVE AT LEAST 12" OF EARTH COVER PLASTIC PIPING SHALL HAVE AT LEAST 18" OF EARTH COVER.
2. GAS PIPING SHALL BE, GALVANIZED OR BLACK STEEL. PE PIPING MAY BE USED IN EXTERIOR BURIED PIPING SYSTEMS. NO GAS PIPING SHALL BE INSTALLED IN OR ON THE GROUND UNDER ANY BUILDING OR STRUCTURE UNLESS INSTALLED IN A GAS TIGHT CONDUIT, AND ALL EXPOSED GAS PIPING SHALL BE KEPT AT LEAST 6" ABOVE GRADE OR STRUCTURE.
3. AN ACCESSIBLE SHUTOFF VALVE SHALL BE INSTALLED IN THE FUEL SUPPLY PIPING OUTSIDE OF EACH APPLIANCE. SHUT OFF VALVES SHALL ME WITHIN 3' OF THE APPLIANCE.
4. ALL PIPE USED FOR INSTALLATION OF ANY GAS PIPING SHALL BE STANDARD WEIGHT WROUGHT IRON OR STEEL (GALVANIZED OR BLACK), YELLOW BRASS (CONTAINING NOT MORE THAN 75% COPPER) OF IRON PIPE SIZE.
5. ALL FITTING USED IN CONNECTION WITH THE ABOVE PIPING SHALL BE OF MALLEABLE IRON OR YELLOW BRASS (CONTAINING NOT MORE THAN 75% COPPER)
6. NO GAS PIPING SHALL BE INSTALLED IN OR ON THE GROUND, UNDER ANY BUILDING OR STRUCTURE. ALL EXPOSED GAS PIPING SHALL SHALL BE KEPT AT LEAST 6" ABOVE GRADE OR STRUCTURE.

G. VENTS

1. VENTS SHALL EXTEND NOT LESS THAN 10" THROUGH THE ROOF. THEY SHALL BE GATHERED WHERE POSSIBLE INTO ONE VENT AS SHOWN.
2. LOCATE ALL VTR'S A MINIMUM OF 10'-0" FROM ALL FRESH AIR INTAKES.
3. COMBUSTION AIR VENTS AND DUCTS SHALL BE PROVIDED WITH MINIMUM UNOBSTRUCTED COMBUSTION AIR OPENINGS AS REQUIRED BY C.M.C.

H. PIPE HANGERS AND SUPPORTS

1. HORIZONTAL SUSPENDING PIPING SHALL BE SUPPORTED BY TURNBUCKLES CAPABLE OF SCREW ADJUSTMENT AFTER INSTALLATION. HANGERS SPACING FOR CAST IRON PIPE SHALL NOT BE GREATER THAN 5', FOR OTHER PIPE, NOT GREATER THAN 10'. HANGERS SHALL BE PROVIDED AT AND CHANGES IN DIRECTION HANGER RODS SHALL BE 3/8" FOR PIPE UNDER 3", 1/2" FOR PIPE ABOVE 3".
2. PIPING SHALL BE INSTALLED WITH ADEQUATE PROVISIONS FOR EXPANSION AND CONTRACTION USING SWING JOINTS, PIPE CLAMPS, ANCHORS AND EXPANSION JOINTS. FITTINGS SHALL BE SPACED SO THAT THEY WILL NOT INTERFERE WITH THE SLIDING OF THE PIPES ON THE SUPPORT.
3. ALL PIPING SHALL BE SUPPORTED AT THE MINIMUM INTERVALS SHOWN BELOW:

SIZE	SUPPORT SPACING
1/2"	6 FEET O.C.
3/4"	8 FEET O.C.
1"	8 FEET O.C.
LARGE SIZE	10 FEET O.C.

I. FLASHING

1. OPENING IN THE ROOF FOR VENT PIPES SHALL BE FLASHED SOLDERED WATER-TIGHT. FLASHING FOR PIPE SHALL NOT BE LIGHTER THAN 4 LBS. PER SQ.FT. SHEET LEAD SHALL BE MADE OF TWO PIECES. THE LOWER PIECE SHALL BE AT LEAST 14" SQUARE. THE TOP PIECE SHALL FIT TIGHTLY AND SHALL EXTEND TO THE TOP OF THE PIPE AND TURN DOWN INSIDE THE PIPE AT LEAST 1".
2. ALL ROOF PENETRATIONS WITH PIPES TO BE INSTALLED WITH "DICTATE" PIPE FLASHING INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS. EACH VENT PIPE OR STACK SHALL EXTEND THROUGH ITS FLASHING AND SHALL TERMINATE VERTICALLY NOT LESS THAN 6" ABOVE THE ROOF NOR LESS THAN 1' FROM ANY VERTICAL SURFACE. VENT PIPES OR STACKS SHALL TERMINATE NOT LESS THAN THAN 10' FROM OR AT LEAST 3' ABOVE ANY WINDOW, DOOR OPENINGS, AIR INTAKE OR VENT SHAFT. NOR LESS THAN 3' IN EVERY DIRECTION FROM ANY LOT LINE, ALLEY OR STREET.

PLUMBING LEGEND :

SYMBOL	ABBREVATION	DESCRIPTION
—CW—	CW	COLD WATER
——▪	CAP	PIPE CAP
— —HW— —	HW	HOT WATER
—SS—	W/S	WASTE/SANITARY SEWER
— —V— —	V	VENT
— —○	VTR	VENT THRU ROOF
—HB—▮	HB	HOSE BIBB
—G—	G	GAS
▣	COTG	CLEANOUT TO GRADE
▯	CO, WCC	CLEANOUT, WALL CLEANOUT
—● —○	(D), (R)	DROP, RISER
⊗	SOV	SHUT-OFF VALVE IN BOX
—⋈—	SOV	SHUT-OFF VALVE

PLUMBING FIXTURE UNITS :

FIXTURE	WATER			FIXTURE	WASTE		
	#	UNITS	TOTAL		#	UNITS	TOTAL
WATER CLOSET 5	1	2.5	2.5	WATER CLOSET	1	3.0	3.0
LAVATORY	1	1.0	1.0	LAVATORY	1	1.0	1.0
SHOWER/TUB	1	4.0	4.0	SHOWER/TUB	1	2.0	2.0
KITCHEN SINK	1	1.5	1.5	KITCHEN SINK	1	2.0	2.0
REFRIGERATOR	1	0.5	0.5	REFRIGERATOR	1	0.0	0.0
CLOTHES WASHER	1	4.0	4.0	CLOTHES WASHER	1	3.0	3.0
HOSE BIBB	1	2.5	2.5	HOSE BIBB	1	0.0	0.0
		TOTAL	16.0			TOTAL	11.0

DOMESTIC WATER SIZING TABLE :

TABLE 610.4
FIXTURE UNIT TABLE FOR DETERMINING WATER PIPE AND METER SIZES

METER & STREET SERVICE, INCHES	BUILDING SUPPLY & BRANCHES, INCHES	MAXIMUM ALLOWABLE LENGTH IN FEET						
		40	60	80	100	150	200	250
PRESSURE RANGE - 30 TO 45 PSI								
3/4"	1/2"	6	5	4	3	2	1	1
3/4"	3/4"	16	16	14	12	9	6	5
3/4"	1"	29	25	23	21	17	15	13
1"	1"	36	31	27	25	20	17	15
3/4"	1 1/4"	36	33	31	28	24	23	21
1"	1 1/4"	54	47	42	38	32	28	25
1 1/2"	1 1/4"	78	68	57	48	38	32	28
1"	1 1/2"	85	84	79	65	56	48	43
1 1/2"	1 1/2"	150	124	105	91	70	57	49
2"	1 1/2"	151	129	129	110	80	64	53
1"	2"	85	85	85	85	85	85	82
1 1/2"	2"	220	205	190	176	155	138	127
2"	2"	370	327	292	265	217	185	164
2"	2 1/2"	445	418	390	370	330	300	280

AT TIME OF LOT SPECIFIC BUILDING PERMIT APPLICATION DEVELOPMENT LENGTH AND WATER METER SIZE WILL BE REVIEWED TO VERIFY DOMESTIC WATER SIZING IS ADEQUATE. THIS PLAN IS DESIGNED WITH ASSUMPTION OF A 1 INCH WATER METER, DEVELOPMENT LENGTH OF 150 FT, AND NO CONNECTION/FIXTURE UNITS FROM THE EXISTING PRIMARY RESIDENCE.

IF CONNECTING TO (E)UTILITIES THE (E)FIXTURE UNITS MUST BE ACCOUNTED FOR WHEN SIZING SYSTEMS AND VERIFY ADDITIONAL DEMANDS WILL NOT AFFECT PRIMARY RESIDENCE NEGATIVELY. PROVIDE WITH LOT SPECIFIC BUILDING PERMIT APPLICATION.

GAS CALCULATIONS:

DESCRIPTION	BTU/HR	CFH
TANKLESS WATER HEATER	199,000	182
TOTAL:	199,000	182

MOST REMOTE FIXTURE = 175 FEET, MAXIMUM CFH = 296

PIPE SIZE(IN.)	CFH
1/2"	37
3/4"	77
1"	144
1 1/4"	296

AT TIME OF LOT SPECIFIC BUILDING PERMIT APPLICATION DEVELOPMENT LENGTH AND GAS CONNECTIONS WILL BE REVIEWED TO VERIFY GAS SIZING IS ADEQUATE. THIS PLAN IS DESIGNED WITH ASSUMPTION OF A 1 1/4 INCH GAS LINE, DEVELOPMENT LENGTH OF 175 FT, AND NO CONNECTION OF GAS APPLIANCES FROM THE EXISTING PRIMARY RESIDENCE.

IF CONNECTING TO (E)UTILITIES THE (E)GAS APPLIANCES MUST BE ACCOUNTED FOR WHEN SIZING SYSTEMS AND VERIFY ADDITIONAL DEMANDS WILL NOT AFFECT PRIMARY RESIDENCE NEGATIVELY. PROVIDE WITH LOT SPECIFIC BUILDING PERMIT APPLICATION.

☐ PLUMBING KEY NOTES :

1. SANITARY SEWER MAIN LATERAL BRANCH MUST HAVE A MINIMUM SLOPE OF 2%. PROVIDE CLEAN OUTS AT INTERVALS NOT TO EXCEED 100 FT IN STRAIGHT RUNS AND HORIZONTAL CHANGE IN DIRECTIONS EXCEEDING 135°. SANITARY SEWER CONNECTION TO CITY SERVICES. PER LOT SPECIFIC BUILDING PERMIT APPLICATION MUST OBTAIN PUBLIC UTILITIES APPROVAL FOR ADU TO HAVE DIRECT CONNECTION TO CITY SERVICES. IF CONNECTING TO (E)UTILITIES THE (E)FIXTURE UNITS MUST BE ACCOUNTED FOR WHEN SIZING SYSTEMS AND VERIFY ADDITIONAL DEMANDS WILL NOT AFFECT PRIMARY RESIDENCE NEGATIVELY. PROVIDE WITH LOT SPECIFIC BUILDING PERMIT APPLICATION.
2. DOMESTIC WATER MAIN LATERAL BRANCH. DOMESTIC WATER CONNECTION TO (N)WATER METER AND CITY SERVICES. PER LOT SPECIFIC BUILDING PERMIT APPLICATION MUST OBTAIN PUBLIC UTILITIES APPROVAL FOR ADU TO HAVE DIRECT CONNECTION TO CITY SERVICES. IF CONNECTING TO (E)UTILITIES THE (E)FIXTURE UNITS MUST BE ACCOUNTED FOR WHEN SIZING SYSTEMS AND VERIFY ADDITIONAL DEMANDS WILL NOT AFFECT PRIMARY RESIDENCE NEGATIVELY. PROVIDE WITH LOT SPECIFIC BUILDING PERMIT APPLICATION.
3. GAS LINE MAIN LATERAL BRANCH TIE INTO GAS METER. SEE SITE PLAN AND VERIFY WITH LOCAL UTILITY COMPANY FOR CONNECTION OF GAS UTILITY SERVICE.
4. WATER CLOSET: WATER CLOSET COMPARTMENT MUST HAVE 30" WIDTH AND 24" CLEAR IN FRONT OF THE WATER CLOSET. LOW-FLOW WATER CLOSETS TO BE INSTALLED (MAXIMUM 1.28 GALLONS PER FLUSH). BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
5. DOMESTIC WATER FOR WATER CLOSETS SHALL BE PROVIDED AND TIED INTO PASSIVE PURGE FIRE SPRINKLER SYSTEM. WHEN FIRE SPRINKLER SYSTEM IS REQUIRED FOR LOT SPECIFIC BUILDING PERMIT APPLICATIONS.
6. SHOWER: TILE SHOWER O/FIBER CEMENT OR GLASS MAT GYPSUM BACKER. PROVIDE 22" MINIMUM TEMPERED GLASS ENCLOSURE (HINGED SHOWER DOORS SHALL OPEN OUTWARD). INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVE TYPE AT THE SHOWERS. THE MINIMUM INSIDE DIMENSION OF THE SHOWER SHALL BE 30" IN ANY ONE DIRECTION WITH A MINIMUM OF 1,024 SQUARE INCHES. ALL TUB-SHOWER OPENINGS SHALL BE RODENT PROOF, WITH 1" CEMENT COVERING IN AN APPROVED MANNER. (SEE DETAIL G/P.1)
7. TUB W/SHOWER OPTION: METAL TUB W/TILE SHOWER O/FIBER CEMENT OR GLASS MAT GYPSUM BACKER PROVIDE 22" MINIMUM TEMPERED GLASS ENCLOSURE (HINGED SHOWER DOORS SHALL OPEN OUTWARD). INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVE TYPE AT THE SHOWERS. ALL TUB-SHOVED OPENINGS SHALL BE RODENT PROOF, WITH 1" CEMENT COVERING IN AN APPROVED MANNER. PROVIDE INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE OR THE THERMOSTATIC MIXING VALVE TYPE AT THE SHOWERS AND TUB-SHOWER COMBINATION. CPC 420. BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
8. HOSE BIBB 3/4" W/NON-REMOVABLE TYPE BACK FLOW PREVENTION DEVICE.
9. TANK LESS WATER HEATER, INSTALL PER MANUFACTURERS SPECIFICATIONS. PROVIDE MANUFACTURERS SPECIFICATIONS ON JOB SITE, SO THAT THE BUILDING INSPECTOR MAY VERIFY TANK LESS WATER HEATER CLEARANCES. SEE TITLE 24 REQUIREMENTS AND MECHANICAL NOTES FOR ADDITION INFORMATION. BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
   - A. INSTANTANEOUS WATER HEATERS WITH AN INPUT RATING OF 6.8KBTU/HR. (2 KW) OR GREATER NEED AN ISOLATION VALVE ON COLD WATER SUPPLY AND HOT WATER LEAVING WATER HEATER.
   - B. EACH VALVE NEEDS A HOSE BIBB OR OTHER FITTING ALLOWING FOR FLUSHING THE WATER HEATER WHEN THE VALVES ARE CLOSED.
   - C. A CONDENSATION DRAIN THAT IS NO MORE THAN 2 INCHES HIGHER THAN THE BASE OF THE INSTALLED WATER HEATER, AND ALLOW NATURAL DRAINING WITHOUT PUMP ASSISTANCE.
10. PLUMBING VENTS SHALL TERMINATE 10' MINIMUM AWAY FROM A.C. UNIT OUTSIDE AIR INTAKES.
11. A MINIMUM 2'-6" X 2'-6" WIDE AND 7'-0" TALL AREA MUST BE MAINTAINED FOR FUTURE INSTALLATION OF HEAT PUMP WATER HEATER. A PLUMBING PERMIT MUST BE OBTAINED AT TIME OF INSTALLATION OF HEAT PUMP WATER HEATER AND MUST BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

RESIDENTIAL PLUMBING NOTES :

1. WATER HAMMER ARRESTORS SHALL BE INSTALLED AT THE FOLLOWING QUICK ACTING SHUT-OFF VALVES (SOLENOID OPERATED)
   - A. AUTOMATIC WASHER, HOT AND COLD WATER
   - B. ICE MAKER
   - C. DISHWASHER
   - D. FRONT AND REAR SPRINKLER OUTLETS
2. SHOWER AND TUB/ SHOWER COMBINATION SHALL BE PROVIDED WITH INDIVIDUAL CONTROL VALVES OF THE PRESSURE BALANCE, THERMOSTATIC, OR COMBINATION PRESSURE BALANCE/THERMOSTATIC MIXING VALVES TYPE THAT PROVIDE SCALD AND THERMAL SHOCK PROTECTION FOR THE RATED FLOW RATE OF THE INSTALLED SHOWERHEAD. THESE VALVES SHALL BE INSTALLED AT THE POINT OF USE AND IN ACCORDING WITH ASSE 1016 OR ASME A112.18.1/CSAB125.1.
3. ALL PLUMBING CONVEYING OR DISPENSING WATER FOR HUMAN CONSUMPTION SHALL COMPLY WITH AB 1953 FOR LEAD CONTENT.
4. GALVANIZED MALLEABLE IRON, GALVANIZED WROUGHT IRON, OR GALVANIZED STEEL ARE PROHIBITED MATERIALS FOR WATER SUPPLY AND BUILDING WATER PIPING BOTH UNDERGROUND AND IN BUILDING.
5. GAS LINE PRESSURE TESTING IS NOW 10 PS I FOR 15 MINUTES AND WELDED PIPING IS 60 PS I FOR 30 MINUTES.
6. PLASTIC AND COPPER PIPING RUN THROUGH FRAMING MEMBERS TO WITHIN ONE INCH OF THE EXPOSED FRAMING SHALL BE PROTECTED BY STEEL NAIL PLATES NOT LESS THAN 18 GAUGE.
7. ALL DOMESTIC HOT WATER PIPING SHALL BE INSULATED AS SPECIFIED IN CPC SECTION 609.11. IN ADDITION, PIPING MUST MEET THE REQUIREMENTS OF CALIFORNIA ENERGY CODE SECTION 150(J)(2)(A) I, II, & III.
   - a) 3/4 INCH TO 1 INCH AND HOT WATER PIPING FROM HEATING SOURCE TO KITCHEN FIXTURES SHALL HAVE A MINIMUM OF 1 INCH THICKNESS INSULATION WALL OR R-VALUE OF 7.7.

FIRE SPRINKLER NOTES :

1. AT TIME OF LOT SPECIFIC BUILDING APPLICATION, IT WILL BE DETERMINED BY THE CITY OF FRESNO FIRE PREVENTION BUREAU IF FIRE SPRINKLER WILL BE REQUIRED FOR THE ACCESSORY DWELLING UNIT. IF REQUIRED, APPROVED FIRE SPRINKLER PLAN SHALL BE INCLUDED IN PLANS PRIOR TO PERMIT ISSUANCE.

PLUMBING NOTES :

A. WORK INCLUDED

1. ALL WORK AND MATERIAL SHALL CONFORM TO LATEST CODES AND ORDINANCES. IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER ALL THINGS REQUIRED TO PROVIDE COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR MATERIAL, TRANSPORTATION, EQUIPMENT, AND MISCELLANEOUS SERVICES ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER SPECIALLY SHOWN OR MENTIONED. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
2. THESE DRAWINGS ARE DIAGRAMMATIC AND HAVE BEEN PREPARED TO SUGGEST POSSIBLE SIZE, ROUTES, LOCATION AND TERMINATION OF PLUMBING PIPING AND EQUIPMENT AS REQUIRED TO CONFORM TO APPLICABLE CODES, IT IS NOT THE INTENTION OF THE PLAN PREPARED TO LIMIT THE METHODOLOGY AND/OR MATERIALS UTILIZED BY THE PLUMBING CONTRACTOR WHEN ALTERNATE METHODOLOGY AND/OR MATERIALS COMPLY WITH ALL CODES AND ORDINANCES GOVERNING THIS JURISDICTION.
3. PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR SIZING AND ROUTING OF ALL WASTE,VENT, WATER, GAS, AND A/C CONDENSATE LINES AND COORDINATE WITH OWNER FOR SERVICES.
4. THE OWNER SHALL COORDINATE ALL SERVICE CONNECTIONS FOR THE WORK WITH APPROPRIATE AGENCIES.
5. OWNER TO PROVIDE WATER, SEWER, AND GAS SERVICE AND HOOK UP TO WITHIN 5 FEET FROM BUILDING.
6. OWNER TO DETERMINE WATER, SEWER, AND GAS SUPPLY LINE SIZES IN CONFORMANCE WITH CALIFORNIA PLUMBING CODE AND COORDINATE WITH PLUMBER AS TO ANY VARIATION AND/OR CONFLICT FROM DRAWING. ALL WORK MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE INSPECTION AUTHORITY. NOTHING IN THESE PLANS IS TO BE TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THIS PROJECT
   - A. CALIFORNIA PLUMBING CODE 2022
   - B. CALIFORNIA MECHANICAL CODE 2022
   - C. CALIFORNIA ENERGY STANDARDS 2022
8. IT IS THE PLUMBING CONTRACTORS RESPONSIBILITY TO VERIFY ALL EXISTING AND PROPOSED SITE CONDITIONS INCLUDING BUT NOT LIMITED TO METER LOCATIONS, LATERAL LOCATIONS/DEPTH AND PROPOSED POINT OF CONNECTIONS.

B. GENERAL NOTES

1. ALL FIXTURES ARE TO BE FURNISHED BY THE PLUMBING CONTRACTOR UNLESS NOTED OTHERWISE ON PLANS. ALL FIXTURES TO BE INSTALLED COMPLETE IN ALL RESPECTS WITH TRIM, SEALS, ETC, AS REQUIRED TO MAKE JOB READY FOR SERVICES AND USE.
2. ALL FIXTURES TO BE WHITE (UNLESS OTHERWISE NOTED) PLUMBING CONTRACTOR SHALL SUBMIT FIXTURES SPECIFICATIONS FOR OWNERS APPROVAL.
3. ALL PIPING AND EQUIPMENT SHALL COMPLY WITH THE LATEST IAPMO STANDARDS AND ALL APPLICABLE BUILDING CODES, LOCAL OR OTHERWISE.
4. ALL FIXTURES SHALL BE SECURELY ATTACHED TO SUPPORTING SURFACES AS SPECIFIED AND SHALL BE PLUMBED AND LEVELED.
5. WALL HUNG FIXTURES SHALL BE SECURELY ATTACHED TO WOOD BLOCKING.
6. AIR CHAMBERS SHALL BE PROVIDED FOR FOR EACH FIXTURE AT HOT AND COLD WATER CONNECTIONS.
7. ALL PIPING SHALL BE PRESSURE TESTED TO THE APPROVAL OF THE ADMINISTRATIVE AUTHORITY AND MINIMUM STANDARDS AS FOLLOWS: SANITARY PIPING: MIN. WATER PRESSURE 5 PSI FOR 15 MINUTES WATER PIPING: MIN. WATER PRESSURE 120 PSI FOR 15 MINUTES.
8. CONNECTIONS BETWEEN COPPER OR BRASS PIPING AND FERROUS MATERIALS SHALL BE MADE WITH APPROVED DIELECTRIC COUPLINGS.
9. PLUMBING CONTRACTOR SHALL REVIEW ALL KITCHEN EQUIPMENT DRAWINGS AND MAKE ALL REQUIRED CONNECTION OF SERVICES TO EACH UNIT.
10. CHECK EXISTING PLUMBING SYSTEM WITH REFERENCE TO NEW WORK TO BE DONE. IF CONNECTING NEW PLUMBING TO (E)PLUMBING MAIN BRANCHES THE (E)FIXTURE UNITS MUST BE ACCOUNTED FOR WHEN SIZING SYSTEMS AND VERIFY ADDITIONAL DEMANDS WILL NOT AFFECT PRIMARY RESIDENCE NEGATIVELY. PROVIDE WITH BUILDING PERMIT APPLICATION.
11. RE-ROUTE AND/OR REPLACE PORTIONS (INCLUDING SERVICE) AS NECESSARY.
12. FURNISH AND INSTALL ALL FIXTURES INDICATED, COMPLETE FOR NORMAL OPERATION. INSTALL ANY FIXTURES PROVIDED BY OWNER.
13. AN APPROVED SEISMIC GAS SHUTOFF VALVE WILL BE INSTALLED ON THE FUEL GAS LINE ON THE DOWN STREAM SIDE OF THE UTILITY METER AND BE RIGIDLY CONNECTED TO THE EXTERIOR OF THE BUILDING OR STRUCTURE CONTAINING THE FUEL GAS PIPING. SEPARATE PLUMBING PERMIT IS REQUIRED.
14. PLUMBING FIXTURES ARE REQUIRED TO BE CONNECTED TO A SANITARY SEWER OR TO AN APPROVED SEWAGE DISPOSAL SYSTEM. (R 306.3)
15. KITCHEN SINKS, LAVATORIES, BATHTUBS, SHOWERS, BIDETS, LAUNDRY TUBS AND WASHING MACHINE OUTLETS SHALL BE PROVIDED WITH HOT AND COLD WATER AND CONNECTED TO AN APPROVED WATER SUPPLY. (R 306.4)

C. EXCAVATING

1. PERFORM NECESSARY EXCAVATIONS AND BACK FILLING FOR INSIDE AND OUTSIDE PLUMBING LINES AND ACCESSORIES. EXCAVATING SHALL BE TRUE TO LINE AND PITCH BACK FILL SHALL BE PLACED LAYERS NOT OVER 8" IN DEPTH, EACH LAYER PROPERLY MOISTENED, SOLIDITY IRON TAMPED, OR OTHERWISE COMPACTED PUDDLING WITH WATER TO ACHIEVE COMPACTION WILL NOT BE PERMITTED.
2. PLUMBING EXCAVATIONS ARE NOT TO BE MADE PARALLEL TO FOOTING BELOW ANGLE OR REPOSE (I.E. BELOW A LINE DRAWN 45° DOWN FROM EACH CORNER OF BOTTOM FOOTING.)
3. NO PLUMBING LINES SHALL BE RUN IN BEARING FOOTING, DRAINAGE PIPE MATERIALS SHALL BE CAST IRON, GALVANIZED STEEL, PVC OR ABS SCHEDULE 40 DW PLASTIC PIPE, EXCEPT THAT NO GALVANIZED STEEL PIPE SHALL BE USED UNDERGROUND AND SHALL BE KEPT AT LEAST 6" ABOVE GROUND CHANGES IN DIRECTION OF DRAINAGE PIPING SHALL BE MADE BY THE APPROPRIATE USE OF APPROVED FITTINGS, AND SHALL BE OF THE ANGLES PRESENTED BY 1/16 BEND,1/8 BEND, OR 1/6 BEND, OR OTHER APPROVED FITTINGS OF EQUIVALENT SWEEP.
4. SANITARY AND POTABLE WATER PIPING SHALL NOT BE INSTALLED WITHIN THE SAME TRENCH EXCEPT WHEN ALLOWABLE BY THE GOVERNING AUTHORITY.

D. SANITARY PIPING

1. DRAINAGE PIPING SHALL BE CAST IRON, SCHEDULE 40 ABS DWV, OR SCHEDULE 40 PVC DWV. CLEAN OUTS ARE REQUIRED ON HORIZONTAL WASTE LINES OVER 5' FROM THE MAIN LINE AND ALL HORIZONTAL SINK AND URINAL WASTES REGARDLESS OF LENGTH, PER CPC
2. WASTE PIPING SHALL BE PITCHED AT A MINIMUM OF 1/4" PER FOOT WHERE POSSIBLE, PIPING GREATER THAN 4 INCHES IN DIAMETER ONLY, MAY BE PITCHED AT A MINIMUM OF, 1/8" PER FOOT, AS REQUIRED, WITH THE APPROVAL OF THE ADMINISTRATIVE AUTHORITY.
3. PROVIDE CLEAN OUTS FOR WASTE LINES EXCEEDING 5'-0" FROM THE MAIN. CLEAN OUTS SHALL BE SIZED PER CPC.
4. ALL FLOOR, WALL OR GROUND CLEANOUTS SHALL BE INSTALLED IN A MANNER THAT PROVIDES SUFFICIENT SPACE FOR SERVICE AND IS COMPLETE COMPLIANCE WITH ALL GOVERNING CODES, INSTALLATION OF SOIL OR DRAIN PIPES IN FOOD HANDLING ESTABLISHMENTS WILL COMPLY WITH SECTION 318.0 CPC.
5. ALL FLOOR MOUNTED SANITARY CLEANOUTS SHALL HAVE SKID RESISTANT COVER PLATES, BUILDING DRAIN AND VENT PIPING MATERIALS SHALL COMPLY WITH SECTIONS 701.0 AND 903.0 OF THE CALIFORNIA PLUMBING CODE.

PLANNING AND DEVELOPMENT
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

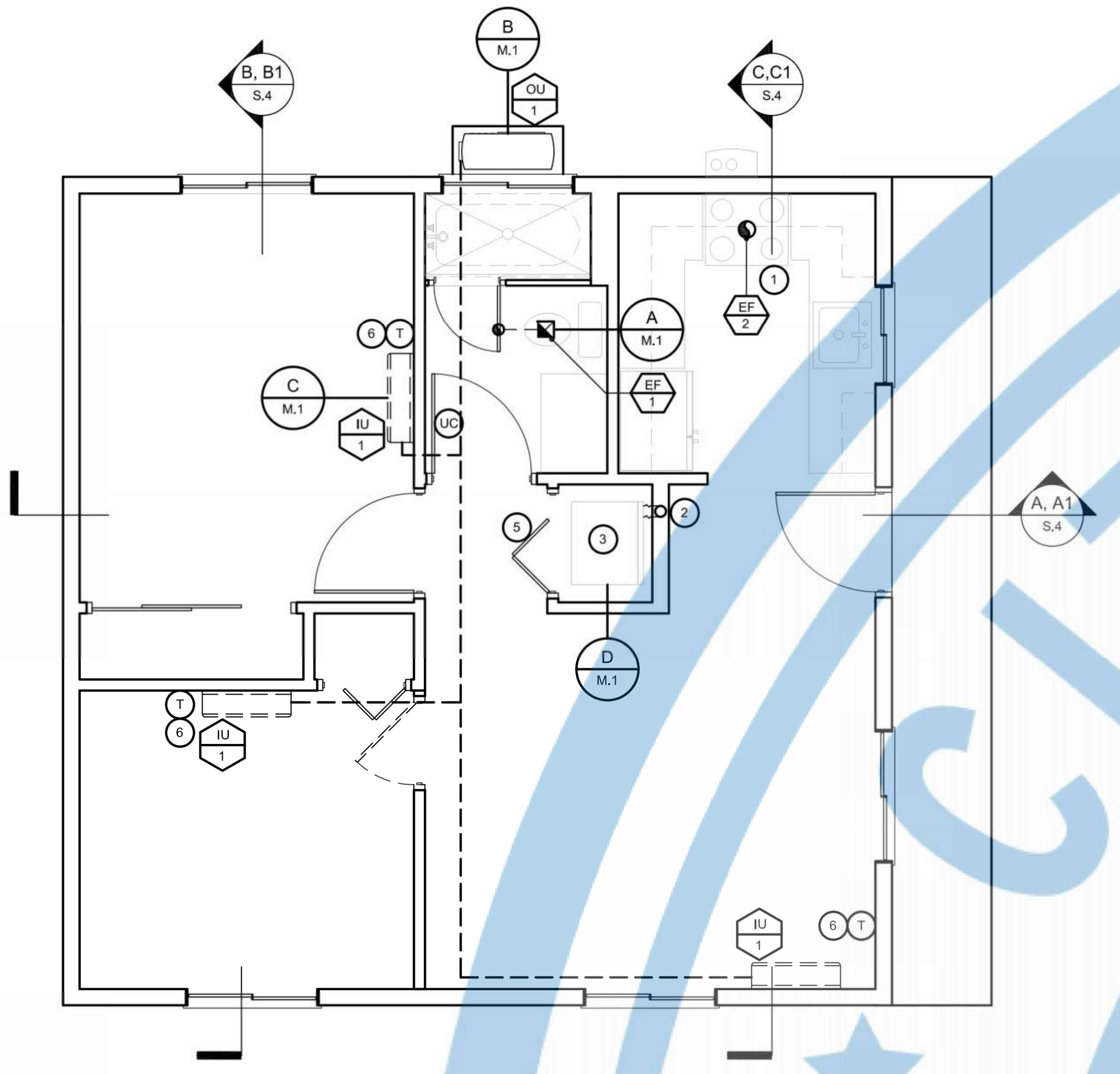
DRAWING TITLE:

PLUMBING PLAN AND DETAILS

JOB# : TADU-003
DATE: 26-Sep-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
P.1

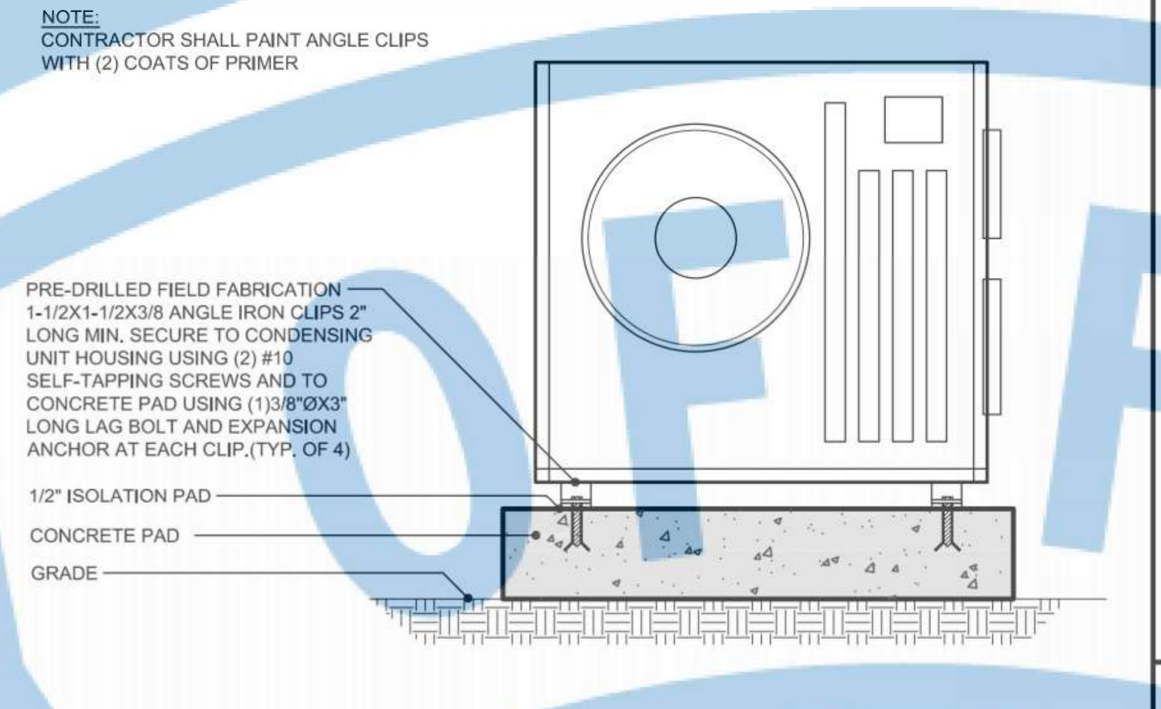
NOT FOR CONSTRUCTION
PLAN 3
TADU-003



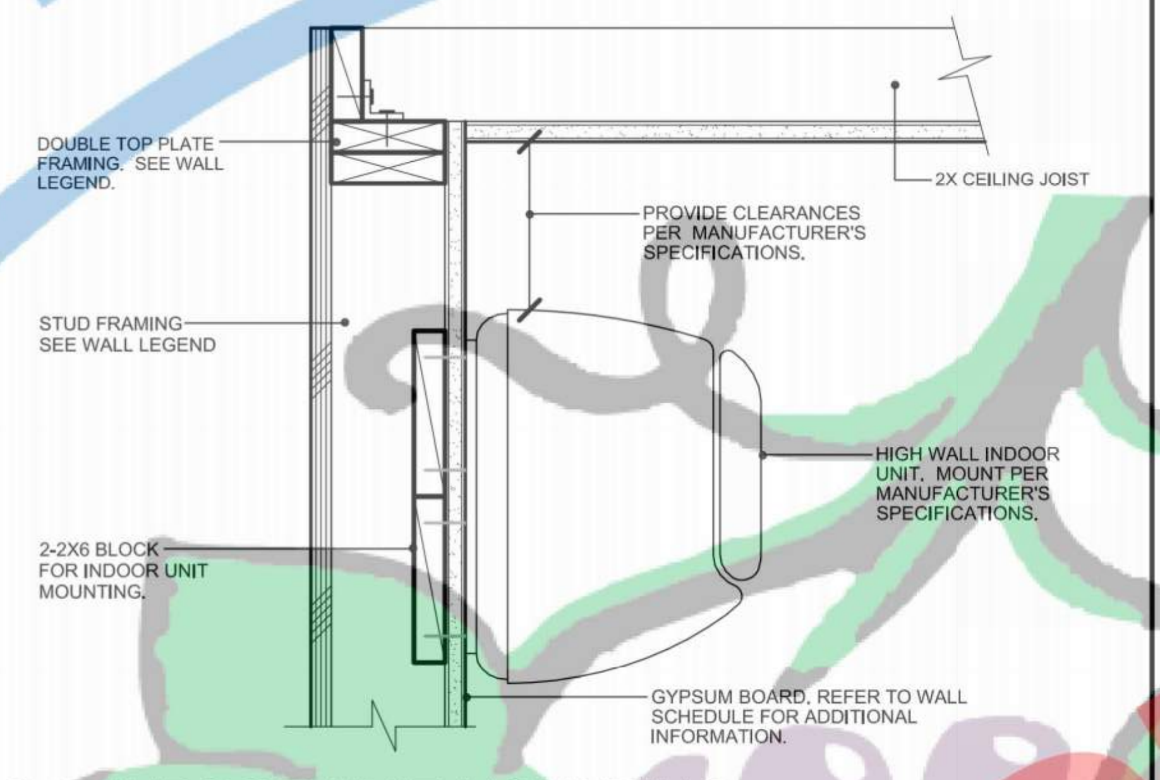
MECHANICAL PLAN

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

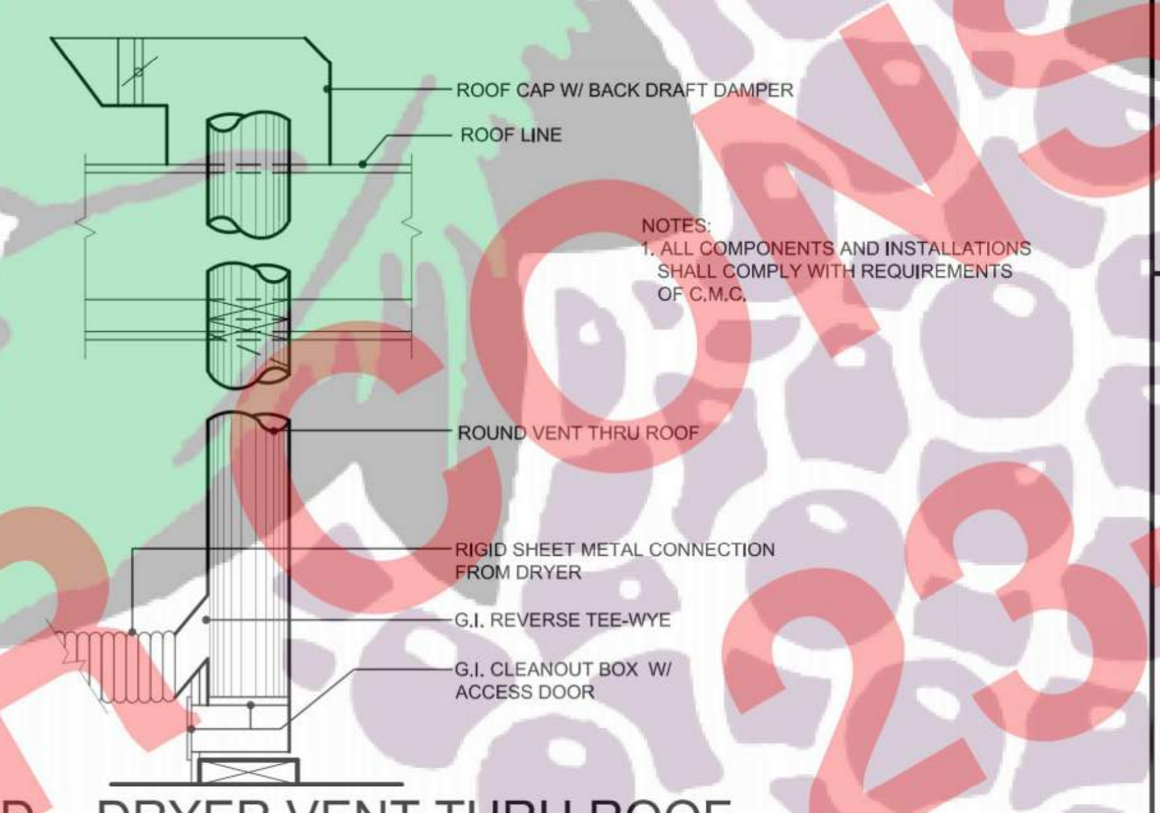
GABLE/CONTEMPORARY/CRAFTSMAN


NOTE:
CONTRACTOR SHALL PAINT ANGLE CLIPS WITH (2) COATS OF PRIMER
PRE-DRILLED FIELD FABRICATION 1-1/2X1-1/2X3/8 ANGLE IRON CLIPS 2" LONG MIN. SECURE TO CONDENSING UNIT HOUSING USING (2) #10 SELF-TAPPING SCREWS AND TO CONCRETE PAD USING (1)3/8"ØX3" LONG LAG BOLT AND EXPANSION ANCHOR AT EACH CLIP.(TYP. OF 4)
1/2" ISOLATION PAD
CONCRETE PAD
GRADE

B CONDENSING UNIT MOUNTING


DOUBLE TOP PLATE FRAMING. SEE WALL LEGEND.
2X CEILING JOIST
PROVIDE CLEARANCES PER MANUFACTURER'S SPECIFICATIONS.
STUD FRAMING SEE WALL LEGEND
HIGH WALL INDOOR UNIT. MOUNT PER MANUFACTURER'S SPECIFICATIONS.
2-2X6 BLOCK FOR INDOOR UNIT MOUNTING.
GYPSUM BOARD, REFER TO WALL SCHEDULE FOR ADDITIONAL INFORMATION.

C INDOOR UNIT MOUNTING


ROOF CAP W/ BACK DRAFT DAMPER
ROOF LINE
ROUND VENT THRU ROOF
RIGID SHEET METAL CONNECTION FROM DRYER
G.I. REVERSE TEE-WYE
G.I. CLEANOUT BOX W/ ACCESS DOOR

NOTES:
1. ALL COMPONENTS AND INSTALLATIONS SHALL COMPLY WITH REQUIREMENTS OF C.M.C.

D DRYER VENT THRU ROOF

MECHANICAL LEGEND :

SYMBOL	ABBREVATION	DESCRIPTION
⊠	EF	EXHAUST AIR FAN
(UC)	UC	1" DOOR UNDER CUT
(T)	T	THERMOSTAT/UNIT REMOTE
– – – – –		REFRIGERANT/DRAINAGE/SIGNAL PIPING
◐		EXHAUST DUCT
DETAIL DESIGNATION DETAIL NUMBER M.2 SHEET NO. WHERE SHOWN		
EQUIPMENT DESIGNATION AC UNIT ABBREVATION 1 NUMBER		
EQUIPMENT DESIGNATION EF UNIT ABBREVATION 1 NUMBER		

EXHAUST FAN SCHEDULE:

DESCRIPTION	EF 1	EF 2			
LOCATION	RESTROOM	KITCHEN			
TYPE	CENTRIFUGAL	CENTRIFUGAL			
MOUNTING	CEILING	CEILING			
AMPS	0.30	3.5			
VOLTS/PHASE	115/1	115/1			
CFM	50 MIN.	160 MIN.			
E.S.P. (IN. WC)	0.10	0.30			
DRIVE	DIRECT	DIRECT			
SONES	1.0 MAX.	3.0 MAX.			
OPER. WT. (LBS)	5	20			
MANUFACTURER	OWNER CHOICE[1]	OWNER CHOICE[1]			
MODEL	OWNER CHOICE[1]	OWNER CHOICE[1]			
KEY NOTES	1,3,4	2,5			
BACKDRAFT DAMPER	YES	YES			
BIRD SCREED	YES	YES			
SWITCH WITH LIGHTS CONTROLS	YES	YES			

1. OWNER CHOICE MUST MEET MINIMUMS AND MAXIMUMS LISTED IN EXHAUST FAN SCHEDULE.

KEY NOTES:

1. PROVIDE 4" Ø EXHAUST DUCT RISER UP THRU ROOF W/FLASHING TO ROOF WEATHER CAP.
2. PROVIDE 7" Ø EXHAUST DUCT RISER UP THRU ROOF W/FLASHING TO ROOF WEATHER CAP.
3. CONTINUOUS BATHROOM EXHAUST FAN IS USED TO MEET INDOOR AIR QUALITY REQUIREMENTS.
4. CONTINUOUS MECHANICAL EXHAUST SYSTEMS SHALL OPERATE WITHOUT OCCUPANT INTERVENTION. A READILY ACCESSIBLE OVERRIDE CONTROL MUST BE PROVIDED. THE OVER RIDE CONTROL FOR THE BUILDING VENTILATION SHALL BE PROPERLY LABELED: "THIS SWITCH CONTROLS THE INDOOR AIR QUALITY VENTILATION FOR THE HOME. LEAVE IT ON UNLESS THE OUTDOOR AIR IS VERY POOR."
5. KITCHEN EXHAUST SHALL MEET MINIMUM CFM OR HAVE A CAPTURE EFFICIENCY RATING OF NO LESS THAN 65%.

VENTILATION FOR INDOOR AIR QUALITY NOTES:

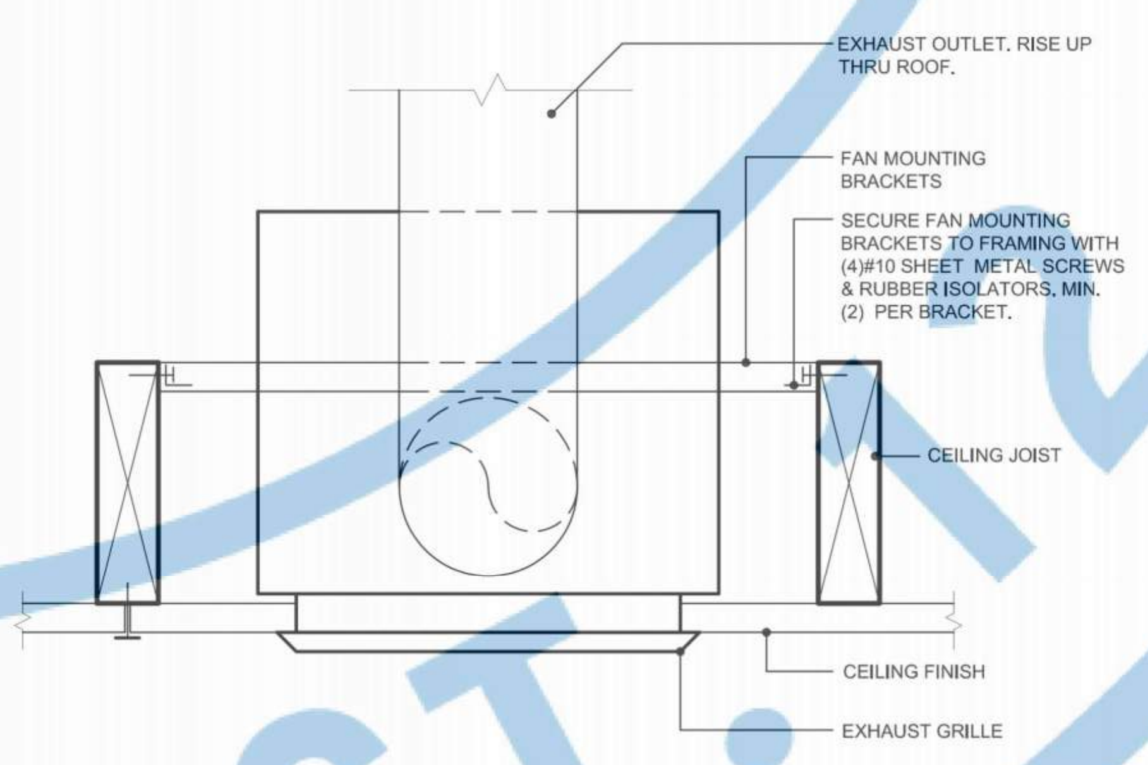
1. ALL KITCHENS AND BATHROOMS SHALL HAVE LOCAL EXHAUST SYSTEMS VENTED TO THE OUTDOORS. EACH LOCAL VENTILATION SYSTEM SHALL EITHER BE AN INTERMITTENT OR CONTINUOUS MECHANICAL EXHAUST SYSTEMS.
2. ALL AIR MOVING EQUIPMENT USED TO MEET LOCAL EXHAUST VENTILATION REQUIREMENTS SHALL BE RATED IN TERMS OF AIRFLOW AND SOUND.
   - A. ALL CONTINUOUSLY OPERATING FANS SHALL BE RATED AT A MINIMUM 1.0 SONE.
   - B. ALL CONTINUOUS LOCAL EXHAUST AIR FLOW RATES SHALL BE A MINIMUM OF 5-AIR CHANGES/ HOUR KITCHEN.
   - C. INTERMITTENTLY OPERATED LOCAL EXHAUST FANS SHALL BE RATED AT A MAXIMUM OF 3.0 SONE.
   - D. INTERMITTENT LOCAL EXHAUST AIR FLOW RATES SHALL MEET EITHER THE CAPTURE EFFICIENCY (CE) OR THE AIRFLOW RATE SPECIFIED IN TABLE 150.0-G OF THE CALIFORNIA ENERGY CODE.
3. INDOOR AIR QUALITY CONTINUOUS EXHAUST VENTILATION SYSTEM REQUIREMENTS (ASHRAE STANDARD) AT LEAST ONE MECHANICAL VENTILATION SYSTEM IN THE BUILDING MUST BE DESIGNATED FOR USE IN COMPLIANCE WITH THE INDOOR AIR QUALITY - BUILDING VENTILATION REQUIREMENT. ALTERNATIVELY, THE SUM OF THE RATED AIRFLOW FROM MULTIPLE FANS CAN BE UTILIZED TO MEET THE REQUIRED INDOOR AIR QUALITY BUILDING VENTILATION AIRFLOW. THE SYSTEM(S) MUST DELIVER CONTINUOUS VENTILATION AIRFLOW AT A RATE GREATER THAN OR EQUAL TO THE RATE SPECIFIED IN THE ENERGY DOCUMENTATION. SEE ENERGY DOCUMENTATION FOR INDOOR AIR QUALITY REQUIRED CFM AIRFLOW.

ENERGY NOTES :

1. AFTER INSTALLING WATER HEATING SYSTEMS, FENESTRATION, AND HVAC EQUIPMENT, THE INSTALLER SHALL SUBMIT THE INSTALLATION CERTIFICATE" (CF-2R FORM), COMPLETED AND SIGNED BY THE INSTALLER, LISTING THE EQUIPMENT INSTALLED, (MANUFACTURER, MODEL, AND EFFICIENCIES, U-VALUES AND SHGC-VALUES, ETC.) AND THAT IT MEETS OR EXCEEDS THE REQUIREMENTS OF THE ENERGY DOCUMENTATION. (CEES SECTION 10-103(A)(3)) (REGISTERED COPIES SHALL BE PROVIDED WHEN HERS VERIFICATION IS REQUIRED.)
2. "REGISTERED" COPIES OF THE CF-2R AND CF-3R FORMS SHALL BE SUBMITTED PRIOR TO PRIOR TO FINAL INSPECTION, SIGNED BY CERTIFIED BY THE INSTALLER(S) FOR THE CF-2R FORM, AND THE HERS RATER, FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING ON THE CF-3R FORM. (CEES 10-103(A)(3) AND 10-103(A)(5))
3. PROVIDE SPECIAL INSPECTION FOR FIELD VERIFICATION AND DIAGNOSTIC TESTING PERFORMED BY A THIRD PARTY CERTIFIED HERS RATER FOR THE FOLLOWING:
   - A) QUALITY INSULATION INSTALLATION (QII)
   - B) INDOOR AIR QUALITY VENTILATION
   - C) KITCHEN RANGE HOOD
   - D) VERIFIED EER
   - E) VERIFIED SEER
   - F) VERIFIED REFRIGERANT CHARGE
   - G) AIRFLOW IN HABITABLE ROOMS (SC3.1.4.1.7)
   - H) VERIFIED HSPF
   - I) VERIFIED HEAT PUMP RATED HEATING CAPACITY
   - J) WALL-MOUNTED THERMOSTAT IN ZONES GREATER THAN 150 SQ. FT.
   - K) DUCTLESS INDOOR UNIT LOCATED ENTIRELY IN CONDITIONED SPACE.

ENERGY EFFICIENCY REQUIREMENTS :

DESCRIPTION	EFFICIENCY REQUIRED PER TITLE 24
STANDARD DESIGN PV CAPACITY	CONTEMPORARY: 2.46 kWdc MIN. - GABLE/CRAFTSMAN: 2.41 kWdc MIN.
ROOFING COOL ROOF	ROOF REFLECTANCE: 0.30 - ROOF EMITTANCE: 0.75
FENESTRATION/GLAZING	U-FACTOR: 0.30 - SHGC: 0.23
INSULATION	WALL: R-21 - ROOF: R-30 - FLOOR:N/A
TANKLESS WATER HEATER	UEF: 0.90
MECHANICAL UNIT	HSPF: 9.5 - SEER: 16.0 - EER: 13.0
INDOOR AIR QUALITY	CFM: 41 MINIMUM


EXHAUST OUTLET. RISE UP THRU ROOF.
FAN MOUNTING BRACKETS
SECURE FAN MOUNTING BRACKETS TO FRAMING WITH (4)#10 SHEET METAL SCREWS & RUBBER ISOLATORS, MIN. (2) PER BRACKET.
CEILING JOIST
CEILING FINISH
EXHAUST GRILLE

A CEILING EXHAUST FAN MOUNTING

○ MECHANICAL KEY NOTES :

1. ELECTRIC RANGE: HOOD W/FAN W/MICROWAVE O/ELECTRIC RANGE W/OVEN. INSTALL PER MANUFACTURER'S SPECIFICATIONS. PROVIDE MANUFACTURER'S SPECIFICATIONS ON JOB SITE, SO THAT THE BUILDING INSPECTOR MAY VERIFY CLEARANCES. KITCHEN EXHAUST OUTLETS SHALL TERMINATE AT LEAST 2' ABOVE THE ROOF AND SHALL EXTEND AT LEAST 10' ABOVE THE ADJOINING GRADE LEVEL. HOOD SHALL BE VENTED TO THE EXTERIOR WITH A BACK DRAFT DAMPER HAVING A MINIMUM CFM RATING OF 100 CFM AND A SONE RATING NOT GREATER THAN 3-SONE. PROVIDE A MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS:
   - VERTICAL CLEARANCE OF 30" UNPROTECTED, OR 24" PROTECTED.
   - HORIZONTAL CLEARANCE 6" FROM EDGE OF BURNERS.
   - THE VERTICAL DISTANCE BETWEEN CANOPY-TYPE HOOD AND COOKING SURFACE SHALL NOT EXCEED 4".

   UPPER CABINETS SHALL BE A MINIMUM OF 18" ABOVE FINISH DECK OR THE HOOD IS TO BE INSTALLED PER MANUFACTURERS REQUIREMENTS WITH A CLEARANCE AS REQUIRED BY THE RANGE/COOKTOP MANUFACTURERS INSTALLATION INSTRUCTIONS, PROVIDE MINIMUM CLEARANCE TO COMBUSTIBLE MATERIALS PER CMC 906.1 AND 508.6. BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
2. DRYER VENT WITH A BACK DRAFT DAMPER THRU ROOF.
3. DRYER: VENT TO OUTSIDE AIR; 4" DIAMETER OR 3 1/2" X 4" RECTANGULAR VENT GOOD FOR A COMBINED HORIZONTAL AND VERTICAL LENGTH NOT TO EXCEED 14'-0" W/ MAXIMUM 2 ELBOWS. OPTION: 5" DIAMETER OR 3 1/2"X6" RECTANGULAR VENT GOOD FOR A COMBINED HORIZONTAL AND VERTICAL LENGTH NOT TO EXCEED 38'-0" W/ MAXIMUM 2 ELBOWS. DEDUCT 6' FOR EACH ADDITIONAL ELBOW. BRAND AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
4. WASHER STACKED UNIT: VENT TO OUTSIDE AIR; 4" DIAMETER OR 3 1/2" X 4" RECTANGULAR VENT GOOD FOR A COMBINED HORIZONTAL AND VERTICAL LENGTH NOT TO EXCEED 14'-0" W/MAXIMUM 2 ELBOWS. OPTION: 5" DIAMETER OR 3 1/2"X6" RECTANGULAR VENT GOOD FOR A COMBINED HORIZONTAL AND VERTICAL LENGTH NOT TO EXCEED 38'-0" W/ MAXIMUM 2 ELBOWS. DEDUCT 6' FOR EACH ADDITIONAL ELBOW. (SEE DETAIL X.X/X.X) BRAND NAME AND MODEL NUMBER SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO INSTALLATION.
5. PROVIDE LOUVERED DOOR WITH A MINIMUM OF TWO 100 SQUARE INCH FREE AREAS. ONE OPENING WITHIN 12 INCHES OF THE TOP OF ENCLOSURE AND THE OTHER WITHIN 12 INCHES OF THE BOTTOM OF THE ENCLOSURE.
6. PROGRAMMABLE NIGHT SET-BACK THERMOSTAT/UNIT REMOTE SHALL NOT BE MOUNT MORE THAN 48" A.F.F. PER CRC SECTION R327.1.2.

MECHANICAL NOTES :

A. GENERAL NOTES:

1. AIR INLETS THAT ARE PART OF THE VENTILATION DESIGN SHALL BE LOCATED A MINIMUM OF 10 FEET FROM KNOWN SOURCES OF CONTAMINATION SUCH AS STACK, VENT, EXHAUST HOOD OR VEHICLE EXHAUST.
2. AIR CONDITIONING EQUIPMENT DESIGNED TO BE IN A FIXED POSITION SHALL BE SECURELY FASTENED, PER 4. MANUFACTURERS INSTALLATION INSTRUCTIONS. INSTALLATION INSTRUCTIONS SHALL BE PROVIDED TO THE FIELD INSPECTOR.

B. WORK INCLUDED

1. ALL WORK AND MATERIAL SHALL CONFORM TO LATEST CODES AND ORDINANCES. IT IS THE INTENTION OF THESE PLANS AND SPECIFICATIONS TO COVER ALL THINGS REQUIRED TO PROVIDE COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR MATERIAL, COMPLETE AND OPERATIVE SYSTEMS. THE CONTRACTOR IS TO FURNISH LABOR MATERIAL, TRANSPORTATION, EQUIPMENT, AND MISCELLANEOUS SERVICES ETC. REQUIRED TO ACCOMPLISH THIS RESULT. ANYTHING WHICH MAY BE REASONABLY CONSTRUED AS A NECESSARY PART OF THE INSTALLATION IS TO BE INCLUDED, WHETHER SPECIALLY SHOWN OR MENTIONED. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.
2. THESE DRAWINGS ARE DIAGRAMMATIC REPRESENTATION OF WORK TO BE ACCOMPLISHED AND AS SUCH ARE NOT INTENDED TO SHOW ALL REQUIRED OFFSETS OF PIPING AND DUCK WORK. THE CONTRACTOR SHALL INSTALL MATERIAL AND EQUIPMENT SO AS TO CONFORM TO THE STRUCTURE, AVOID OBSTRUCTION AND MAINTAIN HEADROOM AND PASSAGEWAYS.
3. THE PLANS AND SPECIFICATIONS ARE INTENDED TO BE USED AS A CONSTRUCTION GUIDELINE ONLY AND NOT THE TOTAL INSTRUMENT OF CONTRACT DOCUMENTS. IT IS NOT THE INTENTION OF ANY CONSTRUCTION PLANS TO DIVIDE WORK AMONG DIFFERENT TRADES. VERIFY SCOPE OF WORK WITH CONTRACTOR WHO IS SUPERVISING THE JOB. THE CITY OF FRESNO WILL PROVIDE INTERPRETATION OF THE CONSTRUCTION DOCUMENTS, BUT THE SUPERVISION IS UNDER THE RESPONSIBILITY OF THE CONTRACTOR.
4. SUBMITTALS: CONTRACTOR SHALL SUBMIT A COPY OF EQUIPMENT BROCHURES FOR EACH ITEM FURNISHED. DATA SHALL INCLUDE MANUFACTURES APPROVED INSTALLATION INSTRUCTIONS. SUBMITTALS SHALL BE COMPLETE AND SHALL BE BOUND, INDEXED, AND TABBED.
5. TEST AND ADJUSTMENTS: CONTRACTOR SHALL TEST ALL EQUIPMENT PER MANUFACTURERS INSTRUCTIONS, SYSTEM SHALL BE FREE OF OBJECTIONABLE NOISE AND VIBRATION. SYSTEM SHALL BE BALANCED FOR EVEN DISTRIBUTION OF HEATING AND COOLING.
6. OPERATING INSTRUCTIONS: CONTRACTORS SHALL PROVIDE OWNER WITH 2 COPIES OF OPERATING AND MAINTENANCE INSTRUCTIONS, MANUFACTURERS EXTEND WARRANTIES, AND CONTRACTORS WRITTEN WARRANTIES, ALL BOUND, INDEXED AND TABBED. MAINTENANCE INSTRUCTIONS SHALL INCLUDE MAINTENANCE WHICH IS REQUIRED TO KEEP EQUIPMENT OPERATING AT MAXIMUM EFFICIENCY.
7. WARRANTY: ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE OR FROM DATE OF OF OWNERS SUBSTANTIAL USAGE OR OCCUPANCY, WHICH EVER IS EARLIER. DAMAGE DUE TO VOLTAGE FLUCTUATION, FIRE, ACTS OF THE ELEMENTS, ACTS OF THE OWNER OR OTHER PARTIES, IMPROPER MAINTENANCE OR NEGLECT ARE SPECIFICALLY EXCLUDED FROM THE GUARANTEE. ALL REPAIRS SHALL BE PERFORMED DURING NORMAL WORKING HOURS AND SHALL BE MADE PROMPTLY AFTER NOTICE OF FAILURE. IF OWNER REQUEST THAT WORK BE PERFORMED ON OVERTIME, OWNER SHALL PAY THE DIFFERENCE BETWEEN REGULAR AND OVERTIME LABOR AT STANDARD BILLING RATES.
8. ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS AMENDED AND ADOPTED BY THE INSPECTION AUTHORITY. NOTHING IN THESE IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES OR OTHERS APPLICABLE TO THIS PROJECT.

A.	CALIFORNIA BUILDING CODE	2022
B.	CALIFORNIA PLUMBING CODE	2022
C.	CALIFORNIA MECHANICAL CODE	2022
D.	CALIFORNIA ELECTRICAL CODE	2022
E.	NONRESIDENTIAL CEC ENERGY STANDARDS	2022

9. MECHANICAL CONTRACTOR SHALL PROVIDE AND INSTALL ALL EQUIPMENT DUCTS, GRILLS, REGISTERS, CONTROLS, THERMOSTATS AND CONDENSATE LINES NECESSARY TO COMPLETE THE JOB, CONTRACTOR SHALL CHALK MARK HIGH AND LOW VOLTAGE ELECTRICAL CONDUIT POINTS OF PENETRATION TO MATCH AIR CONDITIONING UNIT REQUIREMENTS ON THE SHEATHING, WHEN FLASHING IS INSTALLED ON SHEATHING BEFORE ROOFING IS STARTED, CONTRACTOR SHALL ALSO MARK THE GAS AND CONDENSATE PIPING POINTS OF PENETRATION OF THE ROOF SHEATHING.
10. CONTRACTOR SHALL START, TEST AND ADJUST ALL SYSTEMS FOR THE PROPER WORKING OF THE SYSTEMS TO THE SATISFACTION OF THE OWNER AND TENANT, CONTRACTOR SHALL BE RESPONSIBLE FOR THE INITIAL START UP FOR A PERIOD ONE YEAR FROM THE DATE OF ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.

C. EQUIPMENT AND MATERIALS

1. AIR CONDITIONING UNIT MOUNTING AT ALL FRAMES SHALL BE BOLTED OR LAG SCREWED TO STRUCTURAL MEMBERS AT EACH CORNER WITH MINIMUM 3/8"X3" PENETRATION INTO SOLID WOOD. A.C. UNIT SHALL BE BOLTED TO THE SUPPORT FRAME WITH 3/8" MINIMUM BOLTS AT EACH CORNER.
2. ELECTRICAL VOLTAGE: AIR CONDITIONING CONTRACTOR SHALL CONFIRM ALL SYSTEM VOLTAGES BEFORE BIDDING AND ORDERING EQUIPMENT AND ALLOW FOR BUCK AND BOOST TRANSFORMERS ON EACH PHASE IF REQUIRED.
3. BY OTHERS:
   - A. PLUMBING CONTRACTOR: GAS, WATER AND CONDENSATE PIPING INCLUDING FINAL CONNECTIONS WITH SHUT-OFF VALVE.
   - B. ELECTRICAL CONTRACTOR: ALL POWER AND CONTROL. PROVIDE W/P OUTLET WITHIN 25' FROM EQUIPMENT AND QUICK DISCONNECT. NO FIELD SUPPLIED ELECTRICAL DEVICE SHALL BE MOUNTED ON AIR CONDITIONING UNITS AND NO RIDGE ELECTRICAL CONNECTIONS SHALL BE MADE.
4. CONDUIT, WIRING DISCONNECTS AND FINAL CONNECTIONS, UNLESS OTHERWISE NOTED ON MECHANICAL PLAN. NO FIELD SUPPLIED ELECTRICAL DEVICE SHALL BE MOUNTED ON AIR CONDITIONING UNITS AND NO RIDGE ELECTRICAL CONNECTIONS SHALL BE MADE.
5. ALL AIR CONDITIONERS TO BE EQUIPPED WITH AN APPROVED CONDENSATE DRAIN. RUN IN AN APPROVED MANNER TO AN APPROVED LOCATION.
6. ALL EQUIPMENT SHALL COMPLY WITH THE CALIFORNIA ENERGY COMMISSION STANDARD, AND SHALL BE CERTIFIED BY THE MANUFACTURER.
7. THE MECHANICAL CONTRACTOR SHALL PROVIDE THE OWNER COPIES OF OPERATION, MAINTENANCE AND PREVENTIVE MAINTENANCE MANUALS FOR EACH MODEL AND TYPE OF MECHANICAL EQUIPMENT.
8. EQUIPMENT INDICATED ON THESE DRAWINGS ARE SHOWN IN APPROXIMATE LOCATIONS, THE CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND EQUIPMENT LOCATIONS.

D. EXCAVATION, CUTTING, AND FITTING

1. PERFORM THE EXCAVATION, CUTTING, FITTING, REPAIRING, AND FINISHING OF THE WORK NECESSARY FOR THE INSTALLATION OF THE EQUIPMENT, NO CUTTING OF THE WORK OF OTHER TRADES OR OF ANY STRUCTURAL MEMBERS SHALL BE DONE WITHOUT THE CONSENT OF THE OWNER AND EXCEED NOTCHING REQUIREMENTS SPECIFIED IN STRUCTURAL DRAWINGS.

MECHANICAL UNIT SCHEDULE:

DESCRIPTION	OU 1			
LOCATION	OUTDOOR			
EQUIPMENT	HEAT PUMP			
MOUNTING	GROUND			
VOLTS/PHASE/CYCLE	208/230-1-60[2]			
MCA	30[2]			
MOCP	45[2]			
TYPE	ROTARY INVERTER			
MANUFACTURER	OWNER CHOICE[1]			
MODEL	OWNER CHOICE[1]			

1. OWNER CHOICE MUST MEET MINIMUMS AND MAXIMUMS LISTED IN MECHANICAL UNIT SCHEDULE.
2. VERIFY ELECTRICAL LOADS DEMANDS WITH MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION.

DESCRIPTION	IU 1			
LOCATION	INDOOR			
EQUIPMENT	HIGH WALL			
MOUNTING	WALL			
COOLING SYSTEM TONS	0.83 MIN.			
AIRFLOW	333 CFM MIN.			
COOLING RATED CAPACITY	12,000 BTU/HR			
SEER	16.0 MIN.			
EER	13.0 MIN.			
HEATING RATED CAPACITY(47° F)	12,000 BTU/HR			
HEATING RATED CAPACITY(17° F)	7,400 BTU/HR			
HSPF	9.5 MIN.			
VOLTS/PHASE/CYCLE	208/230-1-60[2]			
MCA	0.3125[2]			
MANUFACTURER	OWNER CHOICE[1]			
MODEL	OWNER CHOICE[1]			

1. OWNER CHOICE MUST MEET MINIMUMS AND MAXIMUMS LISTED IN MECHANICAL UNIT SCHEDULE.
2. VERIFY ELECTRICAL LOADS DEMANDS WITH MANUFACTURER'S SPECIFICATIONS PRIOR TO INSTALLATION.

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE:

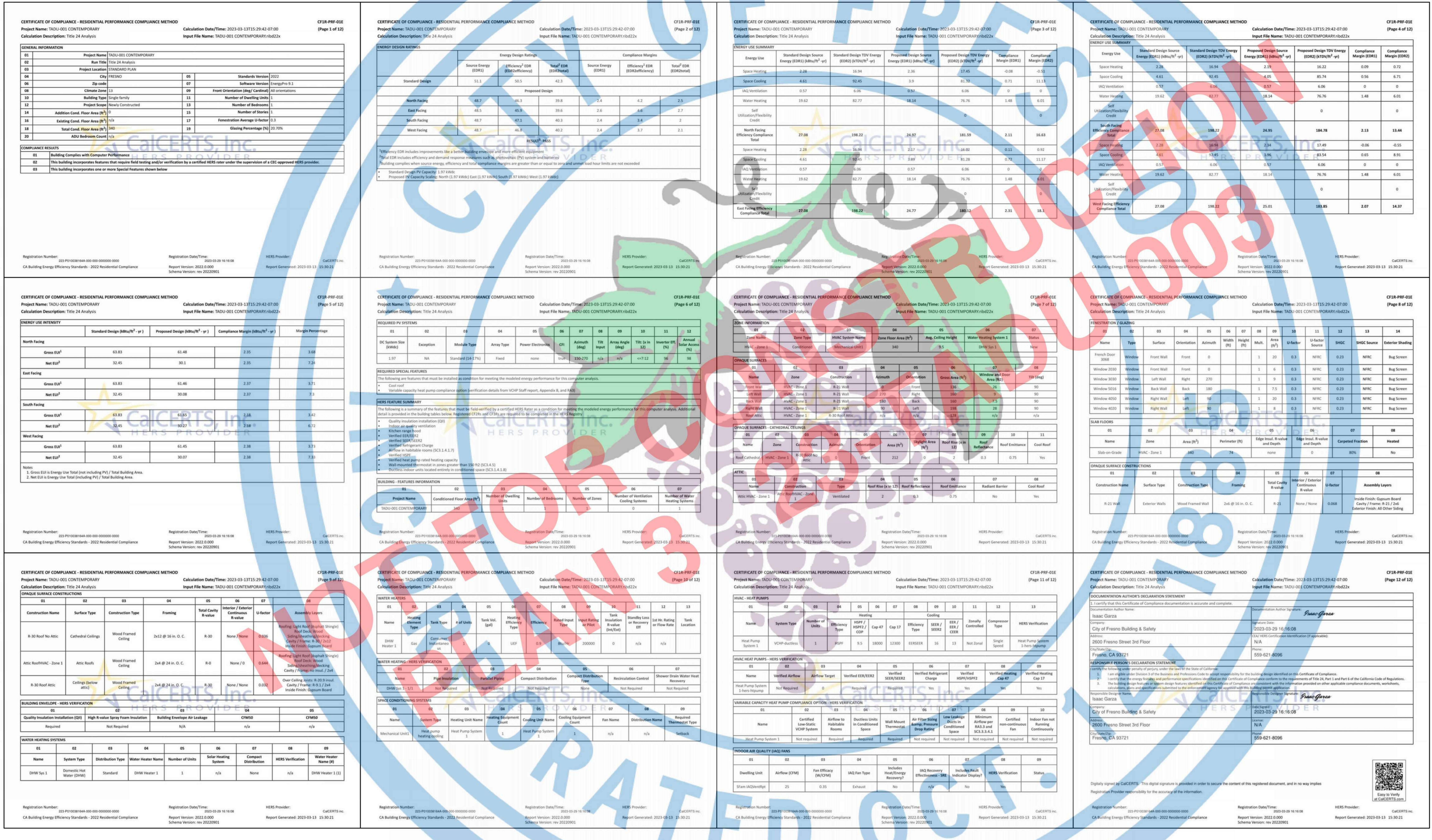
MECHANICAL PLAN AND DETAILS

JOB# :	TADU-003
DATE:	13-Jul-23
SCALE:	AS NOTED
DRAWN BY:	IRG

SHEET NO. M.1

NOT FOR CONSTRUCTION
PLAN 3
23-

NOT FOR CONSTRUCTION
PLAN 3
23-TADU-003



CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 1 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

GENERAL INFORMATION

01	**Project Name**	TADU-001 CONTEMPORARY			
02	**Run Title**	Title 24 Analysis			
03	**Project Location**	STANDARD PLAN			
04	**City**	FRESNO	05	**Standards Version**	2022
06	**Zip code**		07	**Software Version**	EnergyPro 9.1
08	**Climate Zone**	13	09	**Front Orientation (deg/ Cardinal)**	All orientations
10	**Building Type**	Single family	11	**Number of Dwelling Units**	1
12	**Project Scope**	Newly Constructed	13	**Number of Bedrooms**	1
14	**Addition Cond. Floor Area (ft²)**	0	15	**Number of Stories**	1
16	**Existing Cond. Floor Area (ft²)**	n/a	17	**Fenestration Average U-factor**	0.3
18	**Total Cond. Floor Area (ft²)**	340	19	**Glazing Percentage (%)**	20.70%
20	**ADU Bedroom Count**	n/a			

COMPLIANCE RESULTS

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

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 2 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	51.1	50.5	42.3			
Proposed Design						
North Facing	48.7	46.3	39.8	2.4	4.2	2.5
East Facing	48.5	45.9	39.6	2.6	4.6	2.7
South Facing	48.7	47.1	40.3	2.4	3.4	2
West Facing	48.7	46.8	40.2	2.4	3.7	2.1

RESULT[3]: PASS

[1] Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2] Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
[3] Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 1.97 kWdc
- Proposed PV Capacity Scaling: North (1.97 kWdc) East (1.97 kWdc) South (1.97 kWdc) West (1.97 kWdc)

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 3 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.28	16.94	2.36	17.45	-0.08	-0.51
Space Cooling	4.61	92.45	3.9	81.32	0.71	11.13
IAQ Ventilation	0.57	6.06	0.57	6.06	0	0
Water Heating	19.62	82.77	18.14	76.76	1.48	6.01
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	**27.08**	**198.22**	**24.97**	**181.59**	**2.11**	**16.63**
Space Heating	2.28	16.94	2.17	16.02	0.11	0.92
Space Cooling	4.61	92.45	3.89	81.28	0.72	11.17
IAQ Ventilation	0.57	6.06	0.57	6.06	0	0
Water Heating	19.62	82.77	18.14	76.76	1.48	6.01
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	**27.08**	**198.22**	**24.77**	**180.12**	**2.31**	**18.1**

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 4 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft² -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft² -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft² -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft² -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.28	16.94	2.19	16.22	0.09	0.72
Space Cooling	4.61	92.45	4.05	85.74	0.56	6.71
IAQ Ventilation	0.57	6.06	0.57	6.06	0	0
Water Heating	19.62	82.77	18.14	76.76	1.48	6.01
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	**27.08**	**198.22**	**24.95**	**184.78**	**2.13**	**13.44**
Space Heating	2.28	16.94	2.34	17.49	-0.06	-0.55
Space Cooling	4.61	92.45	3.96	83.54	0.65	8.91
IAQ Ventilation	0.57	6.06	0.57	6.06	0	0
Water Heating	19.62	82.77	18.14	76.76	1.48	6.01
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	**27.08**	**198.22**	**25.01**	**183.85**	**2.07**	**14.37**

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 5 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

ENERGY USE INTENSITY

	Standard Design (kBtu/ft² - yr)	Proposed Design (kBtu/ft² - yr)	Compliance Margin (kBtu/ft² - yr)	Margin Percentage
North Facing				
Gross EUI[1]	63.83	61.48	2.35	3.68
Net EUI[2]	32.45	30.1	2.35	7.24
East Facing				
Gross EUI[1]	63.83	61.46	2.37	3.71
Net EUI[2]	32.45	30.08	2.37	7.3
South Facing				
Gross EUI[1]	63.83	61.65	2.18	3.42
Net EUI[2]	32.45	30.27	2.18	6.72
West Facing				
Gross EUI[1]	63.83	61.45	2.38	3.73
Net EUI[2]	32.45	30.07	2.38	7.33

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

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 6 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
1.97	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

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

- Cool roof
- Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)

HERS FEATURE SUMMARY

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

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Verified EER/EER2
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)
- Verified HSPF
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft²)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
TADU-001 CONTEMPORARY	340	1	1	1	0	1

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 7 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft²)	Avg. Ceiling Height	Water Heating System 1	Status
HVAC - Zone 1	Conditioned	Mechanical Unit1	340	9.5	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft²)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	HVAC - Zone 1	R-21 Wall	0	Front	136	26	90
Left Wall	HVAC - Zone 1	R-21 Wall	270	Right	160	9	90
Back Wall	HVAC - Zone 1	R-21 Wall	180	Back	160	7.5	90
Right Wall	HVAC - Zone 1	R-21 Wall	90	Left	198	28	90
Roof Attic	HVAC - Zone 1	R-30 Roof Attic	n/a	n/a	128	n/a	n/a

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft²)	Skylight Area (ft²)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
Roof Cathedral	HVAC - Zone 1	R-30 Roof No Attic	0	Front	212	0	2	0.3	0.75	Yes

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic HVAC - Zone 1	Attic RoofHVAC - Zone 1	Ventilated	2	0.3	0.75	No	Yes

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 8 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft²)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
French Door 3068	Window	Front Wall	Front	0			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
Window 2030	Window	Front Wall	Front	0			1	6	0.3	NFRC	0.23	NFRC	Bug Screen
Window 3030	Window	Left Wall	Right	270			1	9	0.3	NFRC	0.23	NFRC	Bug Screen
Window 5016	Window	Back Wall	Back	180			1	7.5	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4050	Window	Right Wall	Left	90			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4020	Window	Right Wall	Left	90			1	8	0.3	NFRC	0.23	NFRC	Bug Screen

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft²)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab-on-Grade	HVAC - Zone 1	340	74	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.068	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: All Other Siding

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 9 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-30 Roof No Attic	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-30	None / None	0.036	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x12 Inside Finish: Gypsum Board
Attic RoofHVAC - Zone 1	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

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

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 10 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location
DHW Heater 1	Gas	Consumer Instantaneous	1	0	UEF	0.9	Btu/Hr	200000	0	n/a	n/a	

WATER HEATING - HERS VERIFICATION

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

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Mechanical Unit1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	n/a	Setback

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CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 11 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / EER / CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	VCHP-ductless	1	HSPF	9.5	18000	12300	EERSEER	16	13	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Required	Required	Yes	Yes	Yes	Yes

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION

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

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	25	0.35	Exhaust	No	n/a	No	Yes	

CERTIFICATE OF COMPLIANCE - RESIDENTIAL PERFORMANCE COMPLIANCE METHOD **CF1R-PRF-01E**
Project Name: TADU-001 CONTEMPORARY **Calculation Date/Time:** 2023-03-13T15:29:42-07:00 **(Page 12 of 12)**
Calculation Description: Title 24 Analysis **Input File Name:** TADU-001 CONTEMPORARY.ribd22x

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Isaac Garza	Documentation Author Signature: Isaac Garza
Company: City of Fresno Building & Safety	Signature Date: 2023-03-29 16:16:08
Address: 2600 Fresno Street 3rd Floor	CEA/ HERS Certification Identification (If applicable): N/A
City/State/Zip: Fresno, CA 93721	Phone: 559-621-8096

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Designer Name: Isaac Garza	Responsible Designer Signature: Isaac Garza
Company: City of Fresno Building & Safety	Date Signed: 2023-03-29 16:16:08
Address: 2600 Fresno Street 3rd Floor	License: N/A
City/State/Zip: Fresno, CA 93721	Phone: 559-621-8096

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

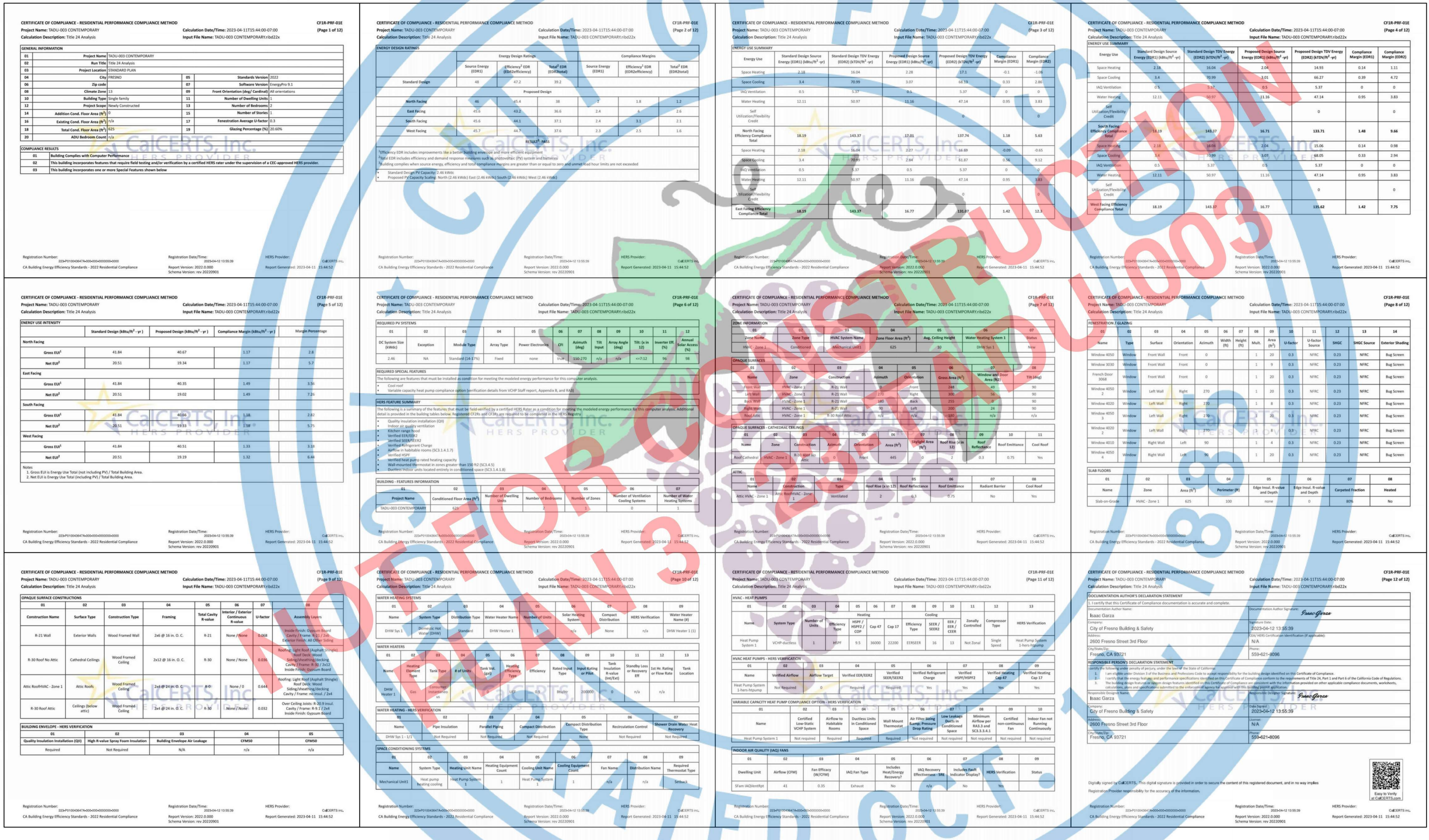
NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE

ENERGY DOCUMENTATION FOR GABLE & CRAFTSMAN

JOB# : TADU-003
DATE: 17-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG
SHEET NO. M.2



NOT FOR CONSTRUCTION
PLAN 3 23-TADU-003
CalCERTS, Inc. HERS PROVIDER

GENERAL INFORMATION

01	Project Name	TADU-003 CONTEMPORARY			
02	Run Title	Title 24 Analysis			
03	Project Location	STANDARD PLAN			
04	City	FRESNO	05	Standards Version	2022
06	Zip code		07	Software Version	EnergyPro 9.1
08	Climate Zone	13	09	Front Orientation (deg/ Cardinal)	All orientations
10	Building Type	Single family	11	Number of Dwelling Units	1
12	Project Scope	Newly Constructed	13	Number of Bedrooms	2
14	Addition Cond. Floor Area (ft^2)	0	15	Number of Stories	1
16	Existing Cond. Floor Area (ft^2)	n/a	17	Fenestration Average U-factor	0.3
18	Total Cond. Floor Area (ft^2)	625	19	Glazing Percentage (%)	20.60%
20	ADU Bedroom Count	n/a			

COMPLIANCE RESULTS

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

ENERGY DESIGN RATINGS

	Energy Design Ratings			Compliance Margins		
	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)	Source Energy (EDR1)	Efficiency[1] EDR (EDR2efficiency)	Total[2] EDR (EDR2total)
Standard Design	48	47.2	39.2			
Proposed Design						
North Facing	46	45.4	38	2	1.8	1.2
East Facing	45.6	43.2	36.6	2.4	4	2.6
South Facing	45.6	44.1	37.1	2.4	3.1	2.1
West Facing	45.7	44.7	37.6	2.3	2.5	1.6
RESULT[3]: PASS						

[1] Efficiency EDR includes improvements like a better building envelope and more efficient equipment
[2] Total EDR includes efficiency and demand response measures such as photovoltaic (PV) system and batteries
[3] Building complies when source energy, efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

- Standard Design PV Capacity: 2.46 kWdc
- Proposed PV Capacity Scaling: North (2.46 kWdc) East (2.46 kWdc) South (2.46 kWdc) West (2.46 kWdc)

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.18	16.04	2.28	17.1	-0.1	-1.06
Space Cooling	3.4	70.99	3.07	68.13	0.33	2.86
IAQ Ventilation	0.5	5.37	0.5	5.37	0	0
Water Heating	12.11	50.97	11.16	47.14	0.95	3.83
Self Utilization/Flexibility Credit				0		0
North Facing Efficiency Compliance Total	**18.19**	**143.37**	**17.01**	**137.74**	**1.18**	**5.63**
Space Heating	2.18	16.04	2.27	16.69	-0.09	-0.65
Space Cooling	3.4	70.99	2.84	61.87	0.56	9.12
IAQ Ventilation	0.5	5.37	0.5	5.37	0	0
Water Heating	12.11	50.97	11.16	47.14	0.95	3.83
Self Utilization/Flexibility Credit				0		0
East Facing Efficiency Compliance Total	**18.19**	**143.37**	**16.77**	**131.07**	**1.42**	**12.3**

ENERGY USE SUMMARY

Energy Use	Standard Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Standard Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Proposed Design Source Energy (EDR1) (kBtu/ft^2 -yr)	Proposed Design TDV Energy (EDR2) (kTDV/ft^2 -yr)	Compliance Margin (EDR1)	Compliance Margin (EDR2)
Space Heating	2.18	16.04	2.04	14.93	0.14	1.11
Space Cooling	3.4	70.99	3.01	66.27	0.39	4.72
IAQ Ventilation	0.5	5.37	0.5	5.37	0	0
Water Heating	12.11	50.97	11.16	47.14	0.95	3.83
Self Utilization/Flexibility Credit				0		0
South Facing Efficiency Compliance Total	**18.19**	**143.37**	**16.71**	**133.71**	**1.48**	**9.66**
Space Heating	2.18	16.04	2.04	15.06	0.14	0.98
Space Cooling	3.4	70.99	3.07	68.05	0.33	2.94
IAQ Ventilation	0.5	5.37	0.5	5.37	0	0
Water Heating	12.11	50.97	11.16	47.14	0.95	3.83
Self Utilization/Flexibility Credit				0		0
West Facing Efficiency Compliance Total	**18.19**	**143.37**	**16.77**	**135.62**	**1.42**	**7.75**

ENERGY USE INTENSITY

	Standard Design (kBtu/ft^2 - yr)	Proposed Design (kBtu/ft^2 - yr)	Compliance Margin (kBtu/ft^2 - yr)	Margin Percentage
North Facing				
Gross EUI[1]	41.84	40.67	1.17	2.8
Net EUI[2]	20.51	19.34	1.17	5.7
East Facing				
Gross EUI[1]	41.84	40.35	1.49	3.56
Net EUI[2]	20.51	19.02	1.49	7.26
South Facing				
Gross EUI[1]	41.84	40.66	1.18	2.82
Net EUI[2]	20.51	19.33	1.18	5.75
West Facing				
Gross EUI[1]	41.84	40.51	1.33	3.18
Net EUI[2]	20.51	19.19	1.32	6.44

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

REQUIRED PV SYSTEMS

01	02	03	04	05	06	07	08	09	10	11	12
DC System Size (kWdc)	Exception	Module Type	Array Type	Power Electronics	CFI	Azimuth (deg)	Tilt Input	Array Angle (deg)	Tilt: (x in 12)	Inverter Eff. (%)	Annual Solar Access (%)
2.46	NA	Standard (14-17%)	Fixed	none	true	150-270	n/a	n/a	<=7:12	96	98

REQUIRED SPECIAL FEATURES

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

- Cool roof
- Variable capacity heat pump compliance option (verification details from VCHP Staff report, Appendix B, and RA3)

HERS FEATURE SUMMARY

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

- Quality insulation installation (QII)
- Indoor air quality ventilation
- Kitchen range hood
- Verified EER/EER2
- Verified SEER/SEER2
- Verified Refrigerant Charge
- Airflow in habitable rooms (SC3.1.4.1.7)
- Verified HSPF
- Verified heat pump rated heating capacity
- Wall-mounted thermostat in zones greater than 150 ft2 (SC3.4.5)
- Ductless indoor units located entirely in conditioned space (SC3.1.4.1.8)

BUILDING - FEATURES INFORMATION

01	02	03	04	05	06	07
Project Name	Conditioned Floor Area (ft^2)	Number of Dwelling Units	Number of Bedrooms	Number of Zones	Number of Ventilation Cooling Systems	Number of Water Heating Systems
TADU-003 CONTEMPORARY	625	1	2	1	0	1

ZONE INFORMATION

01	02	03	04	05	06	07
Zone Name	Zone Type	HVAC System Name	Zone Floor Area (ft^2)	Avg. Ceiling Height	Water Heating System 1	Status
HVAC - Zone 1	Conditioned	Mechanical Unit1	625	10	DHW Sys 1	New

OPAQUE SURFACES

01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft^2)	Window and Door Area (ft2)	Tilt (deg)
Front Wall	HVAC - Zone 1	R-21 Wall	0	Front	248	49	90
Left Wall	HVAC - Zone 1	R-21 Wall	270	Right	300	56	90
Back Wall	HVAC - Zone 1	R-21 Wall	180	Back	255	0	90
Right Wall	HVAC - Zone 1	R-21 Wall	90	Left	200	24	90
Roof Attic	HVAC - Zone 1	R-30 Roof Attic	n/a	n/a	180	n/a	n/a

OPAQUE SURFACES - CATHEDRAL CEILINGS

01	02	03	04	05	06	07	08	09	10	11
Name	Zone	Construction	Azimuth	Orientation	Area (ft^2)	Skylight Area (ft^2)	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Cool Roof
Roof Cathedral	HVAC - Zone 1	R-30 Roof No Attic	0	Front	445	0	2	0.3	0.75	Yes

ATTIC

01	02	03	04	05	06	07	08
Name	Construction	Type	Roof Rise (x in 12)	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic HVAC - Zone 1	Attic RoofHVAC - Zone 1	Ventilated	2	0.3	0.75	No	Yes

FENESTRATION / GLAZING

01	02	03	04	05	06	07	08	09	10	11	12	13	14
Name	Type	Surface	Orientation	Azimuth	Width (ft)	Height (ft)	Mult.	Area (ft^2)	U-factor	U-factor Source	SHGC	SHGC Source	Exterior Shading
Window 4050	Window	Front Wall	Front	0			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
Window 3030	Window	Front Wall	Front	0			1	9	0.3	NFRC	0.23	NFRC	Bug Screen
French Door 3068	Window	Front Wall	Front	0			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4050 2	Window	Left Wall	Right	270			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4020	Window	Left Wall	Right	270			1	8	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4050 3	Window	Left Wall	Right	270			1	20	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4020 2	Window	Left Wall	Right	270			1	8	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4010	Window	Right Wall	Left	90			1	4	0.3	NFRC	0.23	NFRC	Bug Screen
Window 4050 4	Window	Right Wall	Left	90			1	20	0.3	NFRC	0.23	NFRC	Bug Screen

SLAB FLOORS

01	02	03	04	05	06	07	08
Name	Zone	Area (ft^2)	Perimeter (ft)	Edge Insul. R-value and Depth	Edge Insul. R-value and Depth	Carpeted Fraction	Heated
Slab-on-Grade	HVAC - Zone 1	625	100	none	0	80%	No

OPAQUE SURFACE CONSTRUCTIONS

01	02	03	04	05	06	07	08
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Interior / Exterior Continuous R-value	U-factor	Assembly Layers
R-21 Wall	Exterior Walls	Wood Framed Wall	2x6 @ 16 in. O. C.	R-21	None / None	0.068	Inside Finish: Gypsum Board Cavity / Frame: R-21 / 2x6 Exterior Finish: All Other Siding
R-30 Roof No Attic	Cathedral Ceilings	Wood Framed Ceiling	2x12 @ 16 in. O. C.	R-30	None / None	0.036	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: R-30 / 2x12 Inside Finish: Gypsum Board
Attic RoofHVAC - Zone 1	Attic Roofs	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-0	None / 0	0.644	Roofing: Light Roof (Asphalt Shingle) Roof Deck: Wood Siding/sheathing/decking Cavity / Frame: no insul. / 2x4
R-30 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O. C.	R-30	None / None	0.032	Over Ceiling Joists: R-20.9 insul. Cavity / Frame: R-9.1 / 2x4 Inside Finish: Gypsum Board

BUILDING ENVELOPE - HERS VERIFICATION

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

WATER HEATING SYSTEMS

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

WATER HEATERS

01	02	03	04	05	06	07	08	09	10	11	12	13
Name	Heating Element Type	Tank Type	# of Units	Tank Vol. (gal)	Heating Efficiency Type	Efficiency	Rated Input Type	Input Rating or Pilot	Tank Insulation R-value (Int/Ext)	Standby Loss or Recovery Eff	1st Hr. Rating or Flow Rate	Tank Location
DHW Heater 1	Gas	Consumer Instantaneous	1	0	UEF	0.9	Btu/Hr	200000	0	n/a	n/a	

WATER HEATING - HERS VERIFICATION

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

SPACE CONDITIONING SYSTEMS

01	02	03	04	05	06	07	08	09
Name	System Type	Heating Unit Name	Heating Equipment Count	Cooling Unit Name	Cooling Equipment Count	Fan Name	Distribution Name	Required Thermostat Type
Mechanical Unit1	Heat pump heating cooling	Heat Pump System 1	1	Heat Pump System 1	1	n/a	n/a	Setback

HVAC - HEAT PUMPS

01	02	03	04	05	06	07	08	09	10	11	12	13
			Heating				Cooling					
Name	System Type	Number of Units	Efficiency Type	HSPF / HSPF2 / COP	Cap 47	Cap 17	Efficiency Type	SEER / SEER2	EER / EER / CEER	Zonally Controlled	Compressor Type	HERS Verification
Heat Pump System 1	VCHP-ductless	1	HSPF	9.5	36000	22200	EERSEER	16	13	Not Zonal	Single Speed	Heat Pump System 1-hers-htpump

HVAC HEAT PUMPS - HERS VERIFICATION

01	02	03	04	05	06	07	08	09
Name	Verified Airflow	Airflow Target	Verified EER/EER2	Verified SEER/SEER2	Verified Refrigerant Charge	Verified HSPF/HSPF2	Verified Heating Cap 47	Verified Heating Cap 17
Heat Pump System 1-hers-htpump	Not Required	0	Required	Required	Yes	Yes	Yes	Yes

VARIABLE CAPACITY HEAT PUMP COMPLIANCE OPTION - HERS VERIFICATION

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

INDOOR AIR QUALITY (IAQ) FANS

01	02	03	04	05	06	07	08	09
Dwelling Unit	Airflow (CFM)	Fan Efficacy (W/CFM)	IAQ Fan Type	Includes Heat/Energy Recovery?	IAQ Recovery Effectiveness - SRE	Includes Fault Indicator Display?	HERS Verification	Status
SFam IAQVentRpt	41	0.35	Exhaust	No	n/a	No	Yes	

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

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

Documentation Author Name: Isaac Garza	Documentation Author Signature: Isaac Garza
Company: City of Fresno Building & Safety	Signature Date: 2023-04-12 13:55:39
Address: 2600 Fresno Street 3rd Floor	CEA/ HERS Certification Identification (If applicable): N/A
City/State/Zip: Fresno, CA 93721	Phone: 559-621-8096

RESPONSIBLE PERSON'S DECLARATION STATEMENT

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

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

Responsible Designer Name: Isaac Garza	Responsible Designer Signature: Isaac Garza
Company: City of Fresno Building & Safety	Date Signed: 2023-04-12 13:55:39
Address: 2600 Fresno Street 3rd Floor	License: N/A
City/State/Zip: Fresno, CA 93721	Phone: 559-621-8096

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

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

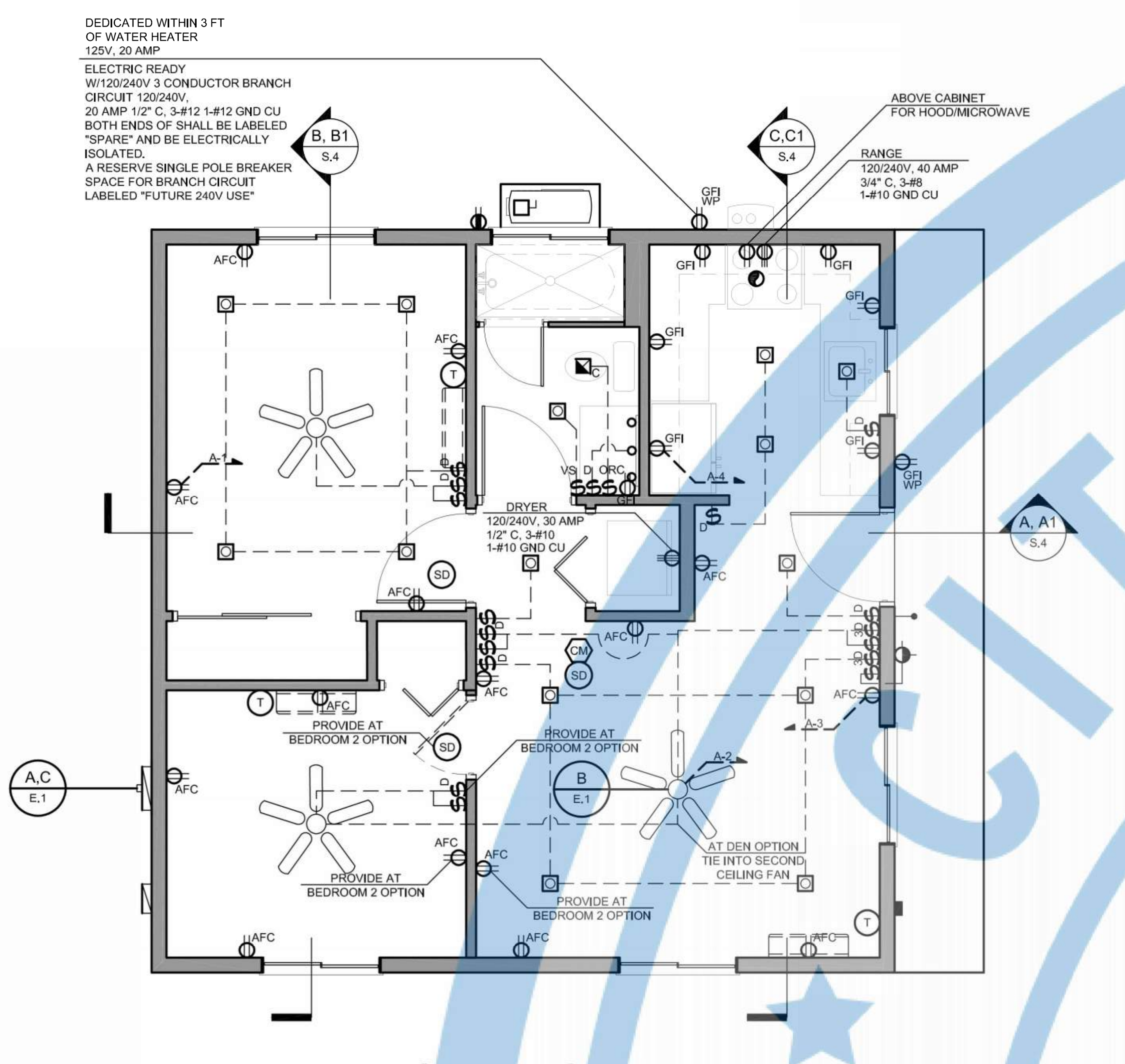
CITY USE ONLY

DRAWING TITLE

ENERGY DOCUMENTATION FOR CONTEMPORARY

JOB# : TADU-003
DATE: 13-Apr-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO. M.3


DEDICATED WITHIN 3 FT OF WATER HEATER 125V, 20 AMP
ELECTRIC READY W/120/240V 3 CONDUCTOR BRANCH CIRCUIT 120/240V, 20 AMP 1/2" C, 3-#12 1-#12 GND CU BOTH ENDS OF SHALL BE LABELED "SPARE" AND BE ELECTRICALLY ISOLATED. A RESERVE SINGLE POLE BREAKER SPACE FOR BRANCH CIRCUIT LABELED "FUTURE 240V USE"
B, B1 S.4
C,C1 S.4
ABOVE CABINET FOR HOOD/MICROWAVE
RANGE 120/240V, 40 AMP 3/4" C, 3-#8 1-#10 GND CU
GFI WP
GFI
AFC
T
VS D ORC
A-1
A-2
A-3
A-4
DRYER 120/240V, 30 AMP 1/2" C, 3-#10 1-#10 GND CU
SD
CM
3D
D
A, A1 S.4
A,C E.1
B E.1
PROVIDE AT BEDROOM 2 OPTION
AT DEN OPTION TIE INTO SECOND CEILING FAN

ELECTRICAL PLAN

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

GABLE/CONTEMPORARY/CRAFTSMAN
(SAME DESIGN FOR PORCH OPTION)

ELECTRICAL LEGEND :

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
$ 3D	3-WAY SWITCH W/ DIMMER	⊖	DUPLEX OUTLET
$ D	SINGLE POLE SWITCH W/ DIMMER	⊖	220 V. OUTLET
$	SINGLE POLE SWITCH	⊖ AFC	DUPLEX OUTLET W/ARC-FAULT CIRCUIT INTERRUPTER
$ ORC	SINGLE POLE SWITCH W/OVER RIDE CONTROL.	⊖ GFI WP	WATERPROOF OUTLET W/GROUND FAULT CIRCUIT INTERRUPTER
$ VS	VACANCY SENSOR SWITCH	⊖ GFI	DUPLEX OUTLET W/GROUND FAULT CIRCUIT INTERRUPTER
	WALL MOUNTED FIXTURE(LED) W/MOTION SENSOR & INTEGRAL PHOTO CONTROL		DOOR BELL BUTTON
			CHIME ASSEMBLY
	WALL MOUNTED LIGHT STRIP FIXTURE (LED)	T	THERMOSTAT
			GARAGE DOOR SENSOR
◙	CEILING MOUNTED FIXTURE RECESSED CAN (LED)		GARAGE DOOR OPENER
	CEILING FAN W/LIGHT (LED) (SEPARATE SWITCH FOR FAN)		STREET ADDRESS NUMERALS AT LEAST 3" HIGH W/A 1/4" STROKE MOUNTED ON A CONTRASTING BACKGROUND CLEARLY VISIBLE FROM THE STREET (ILLUMINATED)
— — —	SWITCH CIRCUIT		ELECTRICAL SERVICE W/ METER. OWNER TO VERIFY W/ LOCAL UTILITY COMPANY. SEE ELECTRICAL LOAD CALCULATION FOR SIZE.
SD	SMOKE ALARM. SEE ELECTRICAL NOTES NUMBER 42 FOR SPECIFICATIONS.		DISCONNECT SWITCH IN BOX
CM	CARBON MONOXIDE ALARM. SEE ELECTRICAL NOTES NUMBER 43 FOR SPECIFICATIONS.	⊖	110 V WATER PROOF OUTLET WITHIN 25'-0" OF UNIT ON THE SAME LEVEL
		C	INDOOR AIR QUALITY BUILDING CONTINUOUS EXHAUST FAN WITH OVERRIDE CONTROL CONTROL 50 CFM.
	AC COMBINER FOR PHOTOVOLTAIC SYSTEM. SEE PHOTOVOLTAIC PLANS.		ELECTRICAL SUB PANEL 100 AMP FOR ENERGY STORAGE SYSTEM READY.

SYMBOL W/DESCRIPTION FOR DEDICATED OUTLET

ABOVE CABINET FOR HOOD/MICROWAVE A-1 DEDICATED BRANCH CIRCUITS FOR ENERGY STORAGE SYSTEM READY REQUIREMENTS.	220 ELECTRICAL APPLIANCE VOLTAGE, AMPERAGE CONDUIT, CONDUCTORS GROUND CONDUCTOR

ELECTRICAL LOAD CALCULATION :

DESCRIPTION OF ELECTRICAL LOAD	SQ.FT.	LOAD PER SQ.FT.	ELECTRICAL LOAD TOTAL FOR GENERAL LIGHTING	MEASUREMENT OF POWER
GENERAL LIGHTING	625	3	1,875	WATTS
DESCRIPTION OF ELECTRICAL LOAD	**QUANTITY**	**LOAD PER APPLIANCE**	**ELECTRICAL LOAD TOTAL PER APPLIANCE**	**MEASUREMENT OF POWER**
SMALL APPLIANCE	1	3,000	3,000	WATTS
CLOTHES WASHER	1	1,200	1,200	WATTS
DOUBLE OVEN	0	8,000	0	WATTS
RANGE/OVEN	1	9,000	9,000	WATTS
WATER HEATER	0	4,500	0	WATTS
DISHWASHER	0	1,800	0	WATTS
DRYER	1	5,000	5,000	WATTS
MISCELLANEOUS	0	0	0	WATTS
SUBTOTAL			20,075	WATTS
FIRST 10,000 WATTS AT 100%			10,000	WATTS
SUBTOTAL-FIRST 10,000 WATTS AT 100%			10,075	WATTS
(SUBTOTAL-FIRST 10,000 WATTS AT 100%)X0.40 = REMAINING WATTS AT 40%			4,030	WATTS
REMAINING WATTS AT 40% + 10,000 WATTS = SUBTOTAL GENERAL LOADS			14,105	
MECHANICAL UNIT AT 125%	1	9,000	9,000	WATTS
EV POWER SUPPLY AT 100%	0	9,600	0	WATTS
TOTAL WATTAGE			23,105	WATTS
TOTAL WATTAGE/240 VOLTS = SERVICE RATING			96	AMPS

PROPOSED 200 AMP MAIN ELECTRICAL SERVICE W/METER. PROVIDE MINIMUM 225 BUSBAR RATING PER CEC SECTION 150.0(s). SINGLE PHASE SERVICE PROVIDE 2- 3/0 CU-THWN AND 1-#6 CU-THWN GROUND CONDUCTORS IN 2" CONDUIT. CONNECTION TO UTILITY COMPANY'S SERVICE WILL BE VERIFIED AT TIME OF LOT SPECIFIC BUILDING IF OVERHEAD OR UNDERGROUND SERVICE FEEDER WILL BE INSTALLED.

ELECTRICAL NOTES :

GENERAL REQUIREMENT:

1. CHECK EXISTING SYSTEM WITH REFERENCE TO NEW WORK TO BE DONE. RE-ROUTE AND /OR REPLACE PORTIONS (INCLUDING SERVICE) AS NECESSARY.
2. FURNISH AND INSTALL ALL OUTLETS, SWITCHES, FIXTURES AND EQUIPMENT INDICATED, INCLUDING LIGHT BULBS, AND INSTALL ANY FIXTURES AND EQUIPMENT FURNISHED BY OWNER.
3. NON-METALLIC SHEATHED CABLE SHALL BE CONCEALED OR PROTECTED.
4. ALL FIXTURES, DEVICES AND EQUIPMENT SHALL COMPLY WITH APPLICABLE REGULATIONS.

SERVICE PANEL:

5. SHORT CIRCUIT CURRENT CALCULATIONS MUST BE PROVIDED FROM UTILITY COMPANY INDICATING THE MAXIMUM SHORT CIRCUIT CURRENT AVAILABLE AT THE TERMINALS OF MAIN SERVICE. THE CALCULATIONS MUST BE PROVIDED TO THIS OFFICE PRIOR TO THE SERVICE BEING ENERGIZED. ALL EQUIPMENT INSTALLED MUST BE RATED AT OR ABOVE THE AVAILABLE INTERRUPTING CURRENT.
6. A GROUNDING ELECTRODE COMPLYING WITH SECTION 250-BO(C) OF THE CEC MUST BE PROVIDED FOR GROUNDING OF THE MAIN SERVICE.[CEC250-24] IF A PERIMETER FOOTING IS TO BE POURED, THE ELECTRODE MUST BE A CONCRETE-ENCASED ELECTRODE COMPLYING WITH CEC SECTION 250-18(C).IF GROUND RODS ARE TO BE USED FOR GROUNDING SERVICES IN EXCESS OF 400 AMPS A MINIMUM OF TWO RODS, SPACED AT LEAST SIX FT. APART, SHALL BE USED.[CEC250-84]
7. THE WORKING CLEARANCE REQUIRED BY SECTION 110-16 OF THE CEC MUST BE PERMANENTLY DELINEATED ON THE FLOOR IN FRONT OF ALL ELECTRICAL PANELS LOCATED IN STORAGE OR PROCESSING AREAS WITH THE WORDING "NO STORAGE IN THIS AREA"
8. PERMANENTLY LABEL EACH DISCONNECT, CLEARLY IDENTIFY THE CIRCUITRY THAT IS CONTROLLED BY THE DISCONNECT.
9. HOOD FAN AND MICROWAVE/HOOD FAN COMBINATION UNITS SHALL HAVE IT'S OWN SEPARATE 20 AMP CIRCUIT.
10. CENTRAL HEATING EQUIPMENT REQUIRES INDIVIDUAL BRANCH CIRCUITS.
11. PROVIDE A DESIGNATED 20 AMP CIRCUITS FOR THE LAUNDRY ROOM.
12. UNDERGROUND GAS PIPES SHALL NOT BE USED AS A GROUNDING ELECTRODE PER CEC 250-52(a).
13. KITCHEN COUNTERS SHALL BE EQUIPPED WITH TWO OR MORE 20-AMP CIRCUITS FOR SMALL APPLIANCES.
14. ELECTRIC READY ITEMS REQUIRE BREAKER SPACE AND LABELING IN PANEL.
15. A TYPE 2 SURGE PROTECTION DEVICE (SPD) SHALL BE INSTALLED IN ACCORDANCE WITH ITEMS A THROUGH D BELOW:
    - A. TYPE 2 SPD SHALL BE CONNECTED ANYWHERE ON THE LOAD SIDE OF A SERVICE DISCONNECT OVER CURRENT DEVICE. THE SERVICE OVERCURRENT DEVICE SHALL BE AN INTEGRAL PART OF THE SERVICE DISCONNECTING MEANS OR SHALL BE LOCATED IMMEDIATELY ADJACENT THERETO. WHERE FUSES ARE USED AS THE SERVICE OVERCURRENT DEVICE, THE DISCONNECTING MEANS SHALL BE LOCATED AHEAD OF THE SUPPLY SIDE OF THE FUSES.
    - B. TYPE 2 SPD SHALL BE CONNECT AT THE BUILDING OR STRUCTURE ANYWHERE ON THE LOAD SIDE OF THE FIRST OVERCURRENT DEVICE AT THE BUILDING OR STRUCTURE.
    - C. THE SPD SHALL BE CONNECTED ON THE LOAD SIDE OF THE FIRST OVERCURRENT DEVICE IN A SEPARATELY DERIVED SYSTEM.
    - D. ANY SPD MUST BE CERTIFIED BY THE UNDERWRITERS LABORATORIES (UL)

RECEPTACLES:

16. ALL 120-VOLT, SINGLE PHASE, 15 AND 20 AMP BRANCH CIRCUITS SUPPLYING RECEPTACLES INSTALLED IN DWELLING UNIT KITCHEN, FAMILY ROOMS, DINING ROOMS, LIVING ROOMS, PARLORS, LIBRARIES, DENS, BEDROOMS, SUNROOMS, RECREATION ROOMS, CLOSETS, HALLWAYS, LAUNDRY AREAS OR SIMILAR ROOMS OR AREAS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER (AFCI), COMBINATION TYPE INSTALLED TO PROVIDE PROTECTION OF THE BRANCH CIRCUIT. THIS INCLUDES LIGHTS, RECEPTACLES, FANS, AND SMOKE DETECTORS. EXCEPTION 1: WHERE RMC, IMC, EMT, OR STEEL ARMORED CABLE, TYPE AC, MEETING THE REQUIREMENTS OF CEC 250.118 USING METAL OUTLET AND JUNCTION BOXES IS INSTALLED FOR THE PORTION OF THE BRANCH CIRCUIT BETWEEN THE BRANCH CIRCUIT OVER CURRENT DEVICE AND THE FIRST RECEPTACLE, IT SHALL BE PERMITTED TO INSTALL A COMBINATION AFCI AT THE FIRST OUTLET TO PROVIDE PROTECTION FOR THE REMAINING PORTION OF THE BRANCH CIRCUIT.
17. ALL REQUIRED 125-VOLT, 15 AND 20 AMPERE RECEPTACLES SHALL BE LISTED TAMPER-RESISTANT RECEPTACLES.
18. PROVIDE GROUND-FAULT-CIRCUIT-INTERRUPTERS (GFI) PROTECTION FOR ALL 125-VOLT, SINGLE PHASE, 15-AND 20- AMP BATHROOM, LAUNDRY, GARAGE AND EXTERIOR RECEPTACLES, COUNTERTOP RECEPTACLES WITHIN 6'-0" OF ALL SINK LOCATIONS, AND ALL KITCHEN RECEPTACLES.
19. AT LEAST ONE LIGHT OUTLET (WALL SWITCH CONTROLLED) SHALL BE INSTALLED ON THE EXTERIOR SIDE OF OUTDOOR ENTRANCES AND EXITS. [NEC 210-70(A)]
20. RECEPTACLE OUTLETS AT COUNTER TOPS SHALL MEET THE FOLLOWING REQUIREMENTS.
    - A. RECEPTACLE OUTLETS SHALL NOT BE INSTALLED IN A FACE UP POSITION IN THE WORK SURFACE.
    - B. RECEPTACLE OUTLETS SHALL BE LOCATED ABOVE, BUT NOT MORE THAN 20 INCHES ABOVE THE COUNTERTOP.
    - C. RECEPTACLE OUTLETS SHALL BE PERMITTED TO BE MOUNTED NOT MORE THAN 12 INCH BELOW THE COUNTERTOP PROVIDED THE COUNTERTOP DOES NOT EXTEND MORE THAN 6 INCH BEYOND ITS SUPPORT BASE.
    - D. ON ISLAND AND PENINSULAR COUNTERTOPS, RECEPTACLES MAY BE MOUNTED A MAXIMUM 12 INCH BELOW COUNTERTOP PROVIDED THERE ARE NO BACKSLASHES ON DIVIDERS AND NO MEANS TO MOUNT WITHIN 18 INCH ABOVE COUNTERTOP, SUCH AS AN OVERHEAD CABINET.
19. ALL 120 VOLT WEATHERPROOF RECEPTACLE SHALL BE G.F.C.I. TYPE, PROVIDE WEATHER- PROOF RECEPTACLE WITHIN 25 FT. OF ALL HVAC UNITS.
20. BATHROOM RECEPTACLES ARE TO BE SUPPLIED BY AT LEAST ONE 20-AMP BRANCH CIRCUIT. THE CIRCUIT SHALL HAVE NO OTHER OUTLETS.
21. A 4-WIRE GROUNDED BRANCH CIRCUIT IS REQUIRED FOR ALL 240 VOLTS CIRCUITS SERVING COOKING EQUIPMENT AND CLOTHES DRYERS.
22. ALL RECEPTACLE OUTLET BOXES IN FIRE RESISTIVE ASSEMBLIES SHALL BE MADE OF STEEL AND A MAXIMUM OF 16 SQ.IN. BE SEPARATED BY A MINIMUM OF 24" HORIZONTALLY. ALL PENETRATIONS SHALL BE FIRE STOPPED WITH AN APPROVED LISTED SYSTEM.

LIGHTING:

23. ALL PERMANENTLY INSTALLED LIGHTING FIXTURES SHALL BE HIGH-EFFICACY LUMINAIRES IN ACCORDANCE WITH TABLE 150.0-A OF THE CEC. A SCHEDULE OF ALL INTERIOR LUMINARIES AND LAMPS INSTALLED MUST BE DELIVERED TO THE HOMEOWNER AFTER FINAL INSPECTION (TITLE 24 CALIFORNIA CODE OF REGULATIONS, PART 1, 10-103(B)3). IN ADDITION TO A COMPLETE LIST OF INSTALLED LIGHTING SYSTEMS, THE LIGHTING SCHEDULE SHOULD INCLUDE ALL NECESSARY SYSTEM INFORMATION FOR REGULAR OPERATIONS AND MAINTENANCE, AND REFERENCES TO SUPPORT FUTURE UPGRADES TO THE LIGHTING SYSTEM.
24. LED LIGHTING USED IN RESIDENTIAL LIGHTING MUST BE CERTIFIED BY THE ENERGY COMMISSION BY THE MANUFACTURER IN ACCORDANCE WITH REFERENCE JOINT APPENDIX JA-8. LED LIGHTING NOT CERTIFIED SHALL BE CLASSIFIED AS "LOW EFFICACY".
25. LIGHTING AND CONTROLS SHALL CONFORM TO 2022 BUILDING ENERGY EFFICIENCY STANDARDS.
26. THE ENERGY STANDARDS REQUIRE VACANCY SENSORS TO CONTROL AT LEAST ONE LUMINAIRE IN THE FOLLOWING ROOM TYPES. BATHROOMS, UTILITY/LAUNDRY ROOMS AND GARAGES.
27. ALL 3 WAY, 4 WAY, AND OTHER LIGHTING CIRCUITS CONTROLLED BY MORE THAN ONE SWITCH. A LIGHTING CIRCUIT CONTROLLED BY MORE THAN ONE SWITCH WHERE A DIMMER OR VACANCY SENSOR HAS BEEN INSTALLED TO COMPLY WITH 150.0(k) SHALL MEET ALL OF THE FOLLOWING CONDITIONS:
    - A. NO CONTROLS SHALL BYPASS THE DIMMER OR VACANCY SENSOR FUNCTION.
    - B. THE DIMMER OR VACANCY SENSOR SHALL BE CERTIFIED TO THE ENERGY COMMISSION THAT IT COMPLIES WITH THE APPLICABLE REQUIREMENTS OF 110.9.
28. ENCLOSED LUMINARIES: MAY ONLY CONTAIN LIGHT SOURCES THAT ARE MARKED "JA8-2019-E" AND MUST MEET HIGH-EFFICACY REQUIREMENTS OF JA8.
29. INTERIOR SWITCHES AND CONTROLS: NO CONTROL MUST BYPASS A DIMMER OR VACANCY SENSOR FUNCTION IF THE CONTROL IS INSTALLED TO COMPLY WITH SECTION 150.0(k).
30. AN ENERGY MANAGEMENT CONTROL SYSTEM (EMCS) MAY BE USED TO COMPLY WITH DIMMER AND VACANCY SENSOR REQUIREMENTS IN ACCORDANCE WITH SECTION 150(K)(2)(G&H)
31. LUMINARIES SHALL BE SWITCHED WITH READILY ACCESSIBLE CONTROLS THAT PERMIT LUMINARIES TO BE SWITCHED ON AND OFF.
32. FIXTURES USED TO MEET HIGH-EFFICACY LIGHTING REQUIREMENTS SHALL NOT CONTAIN MEDIUM-BASE INCANDESCENT LAMP SOCKETS.
33. RECESSED DOWN LIGHT LUMINARIES IN CEILINGS. LUMINARIES RECESSED INTO CEILING MUST NOT CONTAIN SCREW BASE SOCKETS AND MUST MEET THE FOLLOWING REQUIREMENTS.
    - A. BE DEFINED IN SECTION 100.1 FOR ZERO CLEARANCE INSULATION CONTACT.
    - B. HAVE A LABEL THAT CERTIFIED IT IS AIRTIGHT WITH AIR LEAKAGE LESS THAN 2.0 CFM AT 75 PASCALS, BE SEALED WITH A GASKET OR CAULK BETWEEN THE LUMINAIRE HOUSING AND CEILING.
    - C. HAVE ALL AIR LEAKS PATHS BETWEEN CONDITIONED AND UNCONDITIONED SPACES SEALED WITH A GASKET OR CAULK.
    - D. ALLOW BALLAST OR DRIVER MAINTENANCE AND REPLACEMENT TO BE READILY ACCESSIBLE FROM BELOW THE CEILING FOR LUMINARIES WITH HARDWIRED BALLASTS OR DRIVERS.
    - E. CONTAIN LIGHT SOURCES THAT COMPLY WITH JA8 ELECTRONIC BALLAST: BALLASTS FOR FLUORESCENT LAMPS 13 LAMP WATTS AND GREATER SHALL BE ELECTRONIC WITH AN OUTPUT FREQUENCY >20 kHZ.
34. NO PARTS OF CORD CONNECTED FIXTURES, HANGING FIXTURES, LIGHTING TRACK, PENDANTS, OR CEILING SUSPENDED (PADDLE) FANS SHALL BE LOCATED WITHIN A ZONE MEASURED 3 FT. HORIZONTALLY AND 8 FEET VERTICALLY FROM THE TOP OF THE BATHTUB RIM OR SHOWER STALL THRESHOLD. THIS ZONE IS ALL ENCOMPASSING AND INCLUDES THE ZONE DIRECTLY OVER THE TUB OR SHOWER STALL.
35. LIGHTING FIXTURES IN CLOTHES CLOSETS TO COMPLY WITH CEC 410.2 AND 410.16.
36. LIGHT FIXTURES INSTALLED ON THE EXTERIOR OF THE BUILDING OR WITHIN TUB AND/OR SHOWER ENCLOSURES MUST BE LISTED FOR DAMP LOCATIONS.
37. BLANK ELECTRICAL BOXES: THE NUMBER OF ELECTRICAL BOXES THAT ARE MORE THAN 5 FEET ABOVE THE FINISHED FLOOR AND DO NOT CONTAIN A LUMINAIRE OR OTHER DEVICE SHALL BE NO GREATER THAN THE NUMBER OF BEDROOMS - THESE ELECTRICAL BOXES MUST BE SERVED BY A DIMMER, VACANCY SENSOR CONTROL, OR FAN SPEED CONTROL.
38. AT EVERY RECEPTACLES USED EXCLUSIVELY FOR LIGHTING THE BOX SHALL BE DESIGNED OR INSTALLED SO THAT A LUMINARIES OR LAMP HOLDER MAY BE ATTACHED. BOXES SHALL BE REQUIRED TO SUPPORT A LUMINAIRE WEIGHING A MINIMUM OF 50 LBS. A LUMINAIRE THAT WEIGHS MORE THAN 50 LBS. SHALL BE SUPPORTED INDEPENDENTLY OF THE RECEPTACLES BOX, UNLESS THE RECEPTACLES BOX IS LISTED AND MARKED ON THE INTERIOR OF THE BOX TO INDICATE THE MAXIMUM WEIGHT THE BOX SHALL BE PERMITTED TO SUPPORT.
39. ALL OUTDOOR LIGHTING PERMANENTLY ATTACHED TO THE RESIDENCE OR OTHER BUILDING ON THE SAME LOT SHALL BE HIGH-EFFICACY, CONTROLLED BY AN MANUAL ON AND OFF SWITCH THAT DOES NOT OVERRIDE THE ON, AND AN AUTOMATIC CONTROL TYPE SENSOR: (SECTION 150.0(K)(3) OF THE CEC STANDARDS.
40. CEILING SUSPENDED (PADDLE) FANS SHALL BE SUPPORTED INDEPENDENTLY OF AN RECEPTACLE BOX OR BY LISTED RECEPTACLE BOX OR RECEPTACLE BOX SYSTEMS IDENTIFIED FOR THE USE.
41. NIGHT LIGHTS: PERMANENTLY INSTALLED NIGHT LIGHTS AND NIGHT LIGHTS INTEGRAL TO INSTALLED LUMINAIRES OR EXHAUST FANS SHALL BE RATED TO CONSUME NO MORE THAN FIVE WATTS OF POWER LIGHTS SHALL NOT BE REQUIRED TO BE CONTROLLED BY VACANCY SENSORS.

SMOKE ALARMS:

42. SMOKE DETECTION AND NOTIFICATION ALARM:
    - A. POWER SOURCE: IN NEW CONSTRUCTION, REQUIRED SMOKE DETECTORS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHEN SUCH WIRING IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACKUP. THE DETECTOR SHALL EMIT A SIGNAL WHEN THE BATTERIES ARE LOW. WIRING SHALL BE PERMANENT AND WITHOUT A DISCONNECTING SWITCH OTHER THEN THOSE REQUIRED FOR OVER CURRENT PROTECTION.
    - B. LOCATION WITHIN DWELLING UNITS.
        - a. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE LOCATED WHERE AMBIENT CONDITIONS, INCLUDING HUMIDITY AND TEMPERATURE, ARE OUTSIDE THE LIMITS SPECIFIED BY THE MANUFACTURER'S PUBLISHED INSTRUCTIONS.
        - b. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE LOCATED WITHIN UNFINISHED ATTICS OR GARAGE OR OTHER SPACES WHERE TEMPERATURES CAN FALL BELOW 40° F OR EXCEED 100° F.
        - c. WHERE THE MOUNTING SURFACE COULD BECOME CONSIDERABLY WARMER OR COOLER THAN THE ROOM, SUCH AS A POORLY INSULATED CEILING BELOW AN UNFINISHED ATTIC OR AN EXTERIOR WALL, SMOKE ALARMS AND SMOKE DETECTORS SHALL BE MOUNTED ON AN INSIDE WALL.
        - d. SMOKE ALARMS OR SMOKE DETECTORS SHALL BE INSTALLED A MINIMUM OF 20 FEET HORIZONTAL DISTANCE FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. EXCEPTION: LONIZATION SMOKE ALARMS WITH AN ALARM SILENCING SWITCH OR PHOTOELECTRIC SMOKE ALARMS SHALL BE PERMITTED TO BE INSTALLED 10 FEET OR GREATER FROM A PERMANENTLY INSTALLED COOKING APPLIANCE. PHOTOELECTRIC SMOKE ALARMS SHALL BE PERMITTED TO E INSTALLED GREATER THAN 6 FEET FROM A PERMANENTLY INSTALLED COOKING APPLIANCE WHERE THE KITCHEN OR COOKING AREA AND ADJACENT SPACES HAVE NO CLEAR INTERIOR PARTITIONS AND THE 10 FEET DISTANCE WOULD PROHIBIT THE PLACEMENT OF A SMOKE ALARM OR SMOKE DETECTOR REQUIRED BY OTHER SECTIONS OF THE CODE. SMOKE ALARMS LISTED FOR USE IN CLOSE PROXIMITY TO A PERMANENTLY INSTALLED COOKING APPLIANCE.
        - e. INSTALLATION NEAR BATHROOMS. SMOKE ALARMS SHALL BE INSTALLED NOT LESS THAN A 3 FOOT HORIZONTAL DISTANCE FROM THE DOOR OR OPENING OF A BATHROOM THAT CONTAINS A BATHTUB OR SHOWER UNLESS THIS WOULD PREVENT PLACEMENT OF A SMOKE ALARM REQUIRED BY OTHER SECTIONS OF THE CODE.
        - f. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN A 36 INCH HORIZONTAL PATH FROM THE SUPPLY REGISTERS OF A FORCED AIR HEATING OR COOLING SYSTEM AND SHALL BE INSTALLED OUTSIDE OF THE DIRECT AIRFLOW FROM THOSE REGISTERS.
        - g. SMOKE ALARMS AND SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN A 36 INCH HORIZONTAL PATH FROM THE TIP OF THE BLADE OF A CEILING-SUSPENDED (PADDLE) FAN.
        - h. WHERE STAIRS LEAD TO OTHER OCCUPIED LEVELS, A SMOKE ALARM OR SMOKE DETECTOR SHALL BE LOCATED SO THAT SMOKE RISING IN THE STAIRWAY CANNOT BE PREVENTED FROM REACHING THE SMOKE ALARM OR SMOKE DETECTOR BY AN INTERVENING DOOR OBSTRUCTION.
        - i. FOR STAIRWAYS LEADING UP FROM A BASEMENT, SMOKE ALARM OR SMOKE DETECTORS SHALL BE LOCATED ON THE BASEMENT CEILING NEAR THE ENTRY TO THE STAIRS.
        - j. FOR TRAY-SHAPED CEILINGS (COFFERED CEILINGS), SMOKE ALARMS AND SMOKE DETECTORS SHALL BE INSTALLED ON THE HIGHEST PORTION OF THE CEILING OR ON THE SLOPED PORTION OF THE CEILING WITHIN 12 INCH VERTICALLY DOWN FROM THE HIGHEST POINT.
        - k. SMOKE ALARMS AND SMOKE DETECTORS INSTALLED IN ROOMS WITH JOISTS OR BEAMS SHALL COMPLY WITH THE REQUIREMENTS OF 17.7.3.2.4.
        - l. HEAT ALARMS AND DETECTORS INSTALLED IN ROOMS WITH JOIST OR BEAMS SHALL COMPLY WITH THE REQUIREMENTS OF 17.6.3.

CARBON MONOXIDE DETECTOR ALARMS:

43. CARBON MONOXIDE ALARMS:

    FOR NEW CONSTRUCTION, AN APPROVED CARBON MONOXIDE ALARM SHALL BE INSTALLED IN DWELLING UNITS AND IN SLEEPING UNITS WITHIN WHICH FUEL- BURNING APPLIANCES ARE INSTALLED; AND IN DWELLING UNITS THAT HAVE ATTACHED GARAGES.

    - A. POWER SUPPLY:

      FOR NEW CONSTRUCTION, REQUIRED CARBON MONOXIDE ALARMS SHALL RECEIVE THEIR PRIMARY POWER FROM THE BUILDING WIRING WHERE SUCH IS SERVED FROM A COMMERCIAL SOURCE AND SHALL BE EQUIPPED WITH A BATTERY BACK- UP. ALARM WIRING SHALL BE DIRECTLY CONNECTED CONNECTED TO THE PERMANENT BUILDING WIRING WITHOUT A DISCONNECTING SWITCH OTHER THAN AS REQUIRED FOR OVER CURRENT PROTECTION.

      EXCEPTIONS:
        - a. IN DWELLING UNITS WHERE THERE IS NO COMMERCIAL POWER SUPPLY, THE CARBON MONOXIDE ALARM MAY BE SOLELY BATTERY OPERATED.
        - b. IN EXISTING DWELLING UNITS A CARBON MONOXIDE ALARM IS PERMITTED TO BE SOLELY BATTER OPERATED WHERE REPAIRS OR ALTERATIONS DO NOT RESULT IN THE REMOVAL OF WALL AND CEILING FINISHES OR THERE IS NO ACCESS BY MEANS OF ATTIC, BASEMENT OR CRAWL SPACE.
        - c. OTHER POWER SOURCES RECOGNIZED FOR USE BY NFPA 720.
    - B. INTERCONNECTION:

      WHERE MORE THAN ONE CARBON MONOXIDE ALARM IS REQUIRED TO BE INSTALLED WITHIN THE DWELLING UNIT OR WITHIN A SLEEPING UNIT, THE ALARM SHALL BE INTERCONNECTED IN A MANNER THAT ACTIVATION OF ONE ALARM SHALL ACTIVATE ALL OF THE ALARMS IN THE INDIVIDUAL UNIT.

      EXCEPTION:
        - a. INTERCONNECTION IS NOT REQUIRED IN EXISTING DWELLING UNITS OR WITHIN SLEEPING UNITS WHERE REPAIRS DO NOT RESULT IN THE REMOVAL OF ALL AND CEILING FINISHES, THERE IS NO ACCESS BY MEANS OF ATTIC, BASEMENT OR CRAWL SPACE, AND NO PREVIOUS METHOD FOR INTERCONNECTION EXISTED.
    - C. WHERE REQUIRED IN EXISTING DWELLINGS OR SLEEPING UNITS:

      WHERE A PERMIT IS REQUIRED FOR ALTERATIONS, REPAIRS OR ADDITIONS EXCEEDING ONE THOUSAND DOLLARS ($1,000), EXISTING DWELLINGS OR SLEEPING UNITS THAT HAVE ATTACHED GARAGES OR FUEL-BURNING APPLIANCES SHALL BE PROVIDED WITH A CARBON MONOXIDE ALARM IN ACCORDANCE WITH SECTION 420.4.1 CARBON MONOXIDE ALARMS SHALL ONLY BE REQUIRED IN SPECIFIC DWELLING UNIT OR SLEEPING UNIT FOR WHICH THE PERMIT WAS OBTAINED.
    - D. ALARM REQUIREMENTS:

      SINGLE- AND MULTIPLE- STATION MONOXIDE ALARMS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF UL 2034. CARBON MONOXIDE DETECTORS SHALL BE LISTED AS COMPLYING WITH THE REQUIREMENTS OF UL 2075. CARBON MONOXIDE ALARMS AND CARBON MONOXIDE DETECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THIS CODE, THE CURRENT EDITION OF NFPA 720 "STANDARD FOR THE INSTALLATIONS OF CARBON MONOXIDE (CO) DETECTION AND WARNING EQUIPMENT" AND THE MANUFACTURERS INSTALLATION INSTRUCTIONS. OTHER CARBON MONOXIDE ALARM AND DETECTION DEVICES AS RECOGNIZED IN NFPA 720 ARE ALSO ACCEPTABLE.
        - a. CARBON MONOXIDE ALARMS REQUIRED BY SECTIONS 420.4.1 AND 420.4.2 SHALL BE INSTALLED IN THE FOLLOWING LOCATIONS.
            - OUTSIDE OF EACH SEPARATE DWELLING UNIT SLEEPING AREA IN THE IMMEDIATE VICINITY OF THE BEDROOM(S).
            - ON EVERY LEVEL OF A DWELLING UNIT INCLUDING BASEMENTS.
            - WHERE A FUEL-BURNING APPLIANCE IS LOCATED WITHIN A BEDROOM OR IT'S ATTACHED BATHROOM.
            - SPECIFY THE DIRECT WIRED, 110V WITH BATTERY BACKUP, AND INTERCONNECTED. (CRC R315.1.1 AND R315.1.2)
            - MULTIPLE- PURPOSE ALARMS:

              CARBON MONOXIDE ALARMS COMBINED WITH SMOKE ALARMS SHALL COMPLY WITH SECTION R315 AND ALL APPLICABLE STANDARDS, AND REQUIREMENTS FOR LISTING AND APPROVAL BY THE OFFICE OF THE STATE FIRE MARSHAL, FOR SMOKE ALARMS.

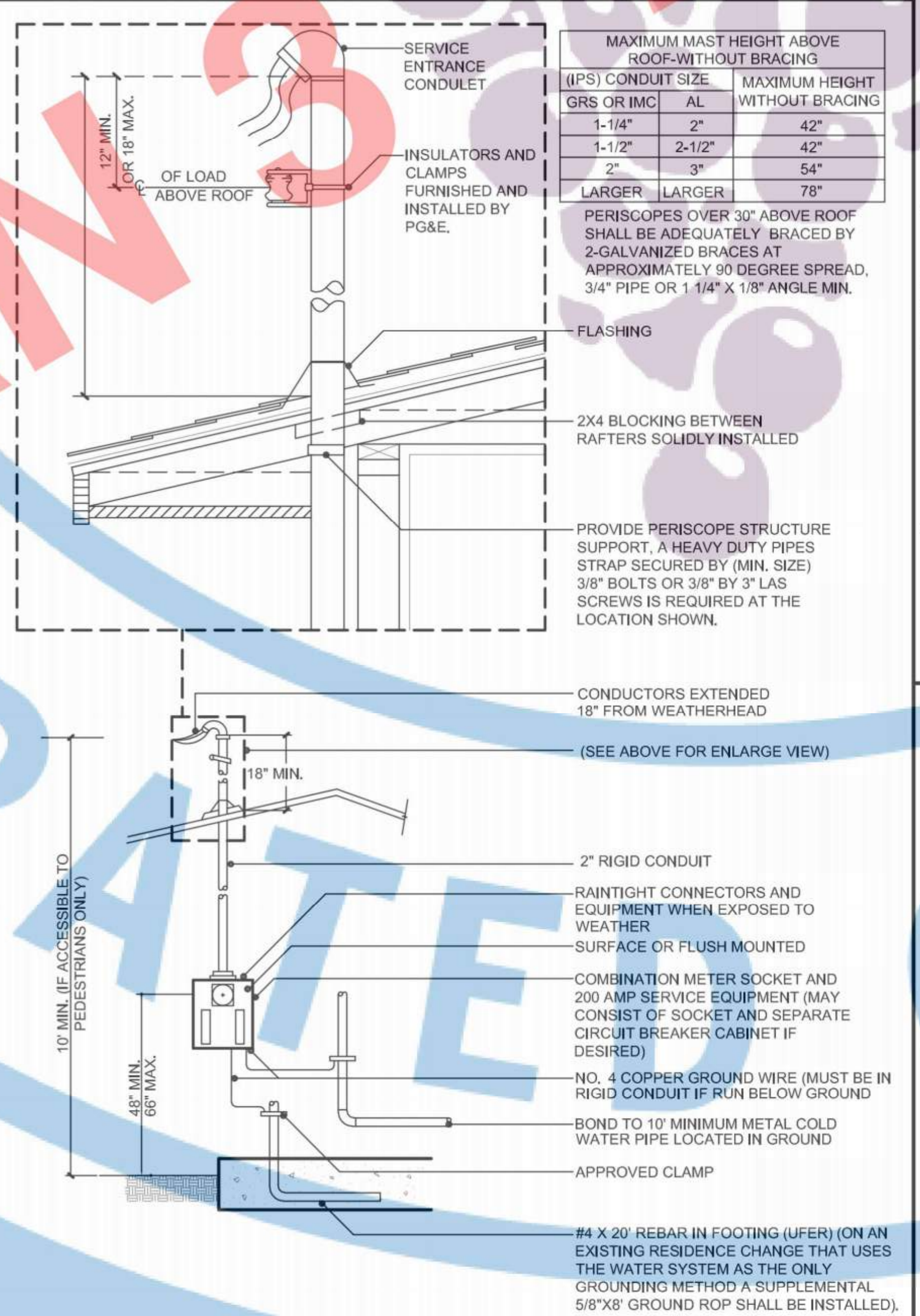
AGING-IN-PLACE DESIGN REQUIREMENTS:

44. ELECTRICAL RECEPTACLE OUTLETS, SWITCHES AND CONTROLS (INCLUDING CONTROLS FOR HEATING, VENTILATION AND AIR CONDITIONING) INTENDED TO BE USED BY OCCUPANTS SHALL BE LOCATED NO MORE THAN 48 INCHES MEASURED FROM THE TOP OF THE OUTLET BOX AND NOT LESS THAN 15 INCHES MEASURED FROM THE BOTTOM OF THE OUTLET BOX ABOVE THE FINISH FLOOR.

    EXCEPTION #2: RECEPTACLE OUTLETS REQUIRED BY THE CALIFORNIA ELECTRICAL CODE ON A WALL SPACE WHERE THE DISTANCE BETWEEN THE FINISHED FLOOR AND A BUILT-IN FEATURE ABOVE THE FINISH FLOOR, SUCH AS A WINDOW, IS LESS THAN 15 INCHES.
45. DOORBELL BUTTONS OR CONTROLS, WHEN INSTALLED, SHALL NOT EXCEED 48 INCHES ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON ASSEMBLY. WHERE DOORBELL BUTTONS INTEGRATED WITH OTHER FEATURES ARE REQUIRED TO BE INSTALLED ABOVE 48 INCHES MEASURED FROM THE EXTERIOR FLOOR OR LANDING, A STANDARD DOORBELL BUTTON OR CONTROL SHALL ALSO BE PROVIDED AT A HEIGHT NOT EXCEEDING 48 INCHES ABOVE EXTERIOR FLOOR OR LANDING, MEASURED FROM THE TOP OF THE DOORBELL BUTTON OR CONTROL.

ENERGY STORAGE SYSTEM READY REQUIREMENTS:

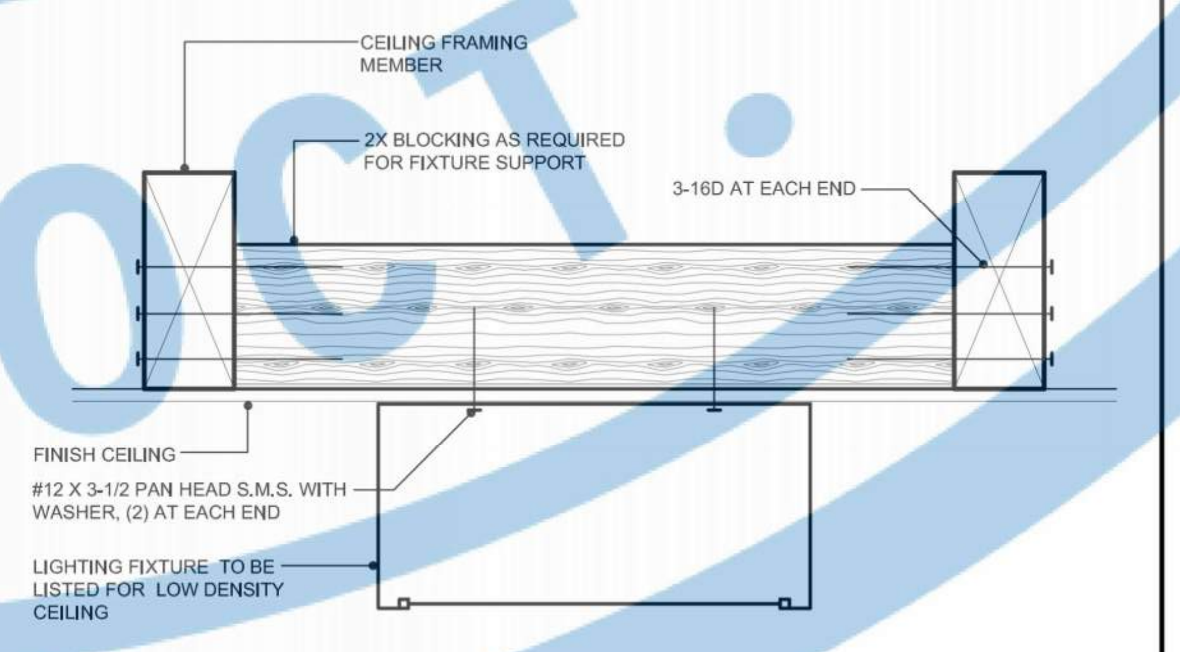
46. A DEDICATED RACEWAY FROM THE MAIN SERVICE TO A PANELBOARD (SUBPANEL) THAT SUPPLIES THE BRANCH CIRCUITS IN SECTION 150.0(S)(2). ALL BRANCH CIRCUITS ARE PERMITTED TO BE SUPPLIED BY THE MAIN SERVICE PANEL PRIOR TO THE INSTALLATION OF AN ESS. THE TRADE SIZE OF THE RACEWAY SHALL BE NOT LESS THAN 1 INCH. THE PANELBOARD THAT SUPPLIES THE BRANCH CIRCUITS (SUBPANEL) MUST BE LABELED "SUBPANEL SHALL INCLUDE ALL BACKED-UP LOAD CIRCUITS."
47. A MINIMUM OF FOUR BRANCH CIRCUITS SHALL BE IDENTIFIED AND HAVE THEIR SOURCE OF SUPPLY COLLOCATED AT A SINGLE PANELBOARD SUITABLE TO BE SUPPLIED BY THE ESS. AT LEAST ONE CIRCUIT SHALL SUPPLY THE REFRIGERATOR, ONE LIGHTING CIRCUIT SHALL BE LOCATED NEAR THE PRIMARY EGRESS AND AT LEAST ONE CIRCUIT SHALL SUPPLY A SLEEPING ROOM RECEPTACLE OUTLET.
48. SUFFICIENT SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN PANELBOARD. RACEWAYS SHALL BE INSTALLED BETWEEN THE PANELBOARD AND THE SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH LOCATION TO ALLOW THE CONNECTION OF BACKUP POWER SOURCE.


SERVICE ENTRANCE CONDULET
12" MIN. OR 18" MAX.
℄ OF LOAD ABOVE ROOF
INSULATORS AND CLAMPS FURNISHED AND INSTALLED BY PG&E.
FLASHING
2X4 BLOCKING BETWEEN RAFTERS SOLIDLY INSTALLED
PROVIDE PERISCOPE STRUCTURE SUPPORT, A HEAVY DUTY PIPES STRAP SECURED BY (MIN. SIZE) 3/8" BOLTS OR 3/8" BY 3" LAS SCREWS IS REQUIRED AT THE LOCATION SHOWN.
CONDUCTORS EXTENDED 18" FROM WEATHERHEAD
(SEE ABOVE FOR ENLARGE VIEW)
18" MIN.
2" RIGID CONDUIT
RAINTIGHT CONNECTORS AND EQUIPMENT WHEN EXPOSED TO WEATHER
SURFACE OR FLUSH MOUNTED
COMBINATION METER SOCKET AND 200 AMP SERVICE EQUIPMENT (MAY CONSIST OF SOCKET AND SEPARATE CIRCUIT BREAKER CABINET IF DESIRED)
NO. 4 COPPER GROUND WIRE (MUST BE IN RIGID CONDUIT IF RUN BELOW GROUND
BOND TO 10' MINIMUM METAL COLD WATER PIPE LOCATED IN GROUND
APPROVED CLAMP
#4 X 20' REBAR IN FOOTING (UFER) (ON AN EXISTING RESIDENCE CHANGE THAT USES THE WATER SYSTEM AS THE ONLY GROUNDING METHOD A SUPPLEMENTAL 5/8"X8' GROUND ROP SHALL BE INSTALLED).
10' MIN. (IF ACCESSIBLE TO PEDESTRIANS ONLY)
48" MIN. 66" MAX.

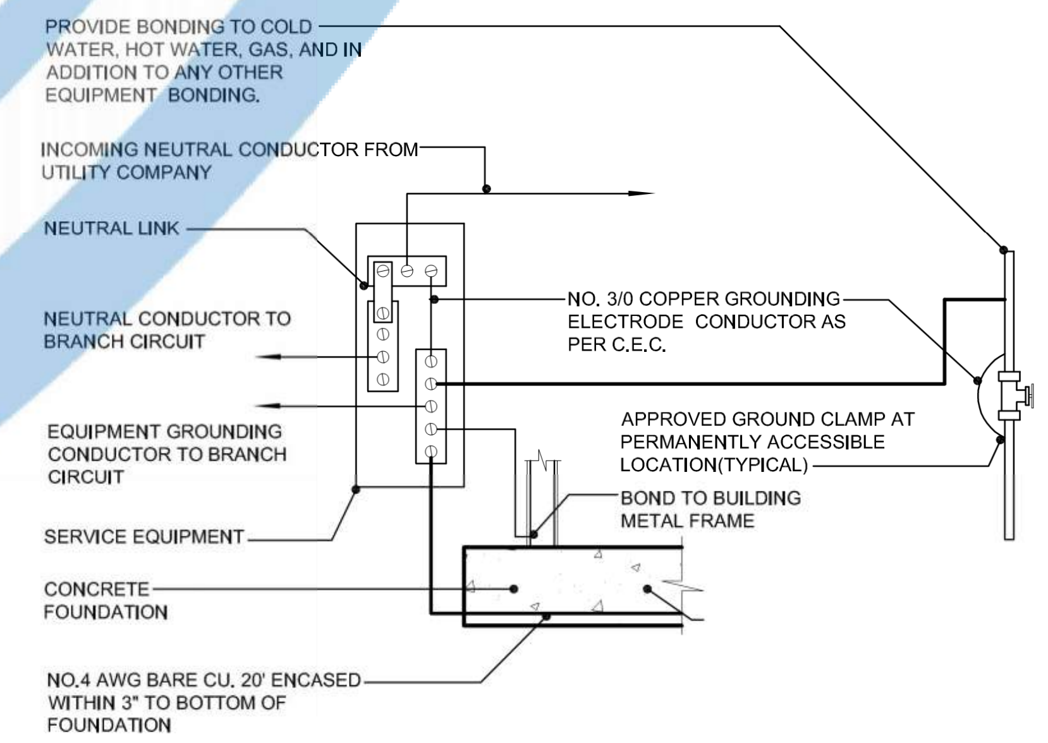
MAXIMUM MAST HEIGHT ABOVE ROOF-WITHOUT BRACING		
(IPS) CONDUIT SIZE		MAXIMUM HEIGHT WITHOUT BRACING
GRS OR IMC	AL	
1-1/4"	2"	42"
1-1/2"	2-1/2"	42"
2"	3"	54"
LARGER	LARGER	78"

PERISCOPES OVER 30" ABOVE ROOF SHALL BE ADEQUATELY BRACED BY 2-GALVANIZED BRACES AT APPROXIMATELY 90 DEGREE SPREAD, 3/4" PIPE OR 1 1/4" X 1/8" ANGLE MIN.

C OVERHEAD SERVICE


CEILING FRAMING MEMBER
2X BLOCKING AS REQUIRED FOR FIXTURE SUPPORT
3-16D AT EACH END
FINISH CEILING
#12 X 3-1/2 PAN HEAD S.M.S. WITH WASHER, (2) AT EACH END
LIGHTING FIXTURE TO BE LISTED FOR LOW DENSITY CEILING

B LIGHT FIXTURE


PROVIDE BONDING TO COLD WATER, HOT WATER, GAS, AND IN ADDITION TO ANY OTHER EQUIPMENT BONDING.
INCOMING NEUTRAL CONDUCTOR FROM UTILITY COMPANY
NEUTRAL LINK
NEUTRAL CONDUCTOR TO BRANCH CIRCUIT
EQUIPMENT GROUNDING CONDUCTOR TO BRANCH CIRCUIT
SERVICE EQUIPMENT
CONCRETE FOUNDATION
NO.4 AWG BARE CU. 20' ENCASED WITHIN 3" TO BOTTOM OF FOUNDATION
NO. 3/0 COPPER GROUNDING ELECTRODE CONDUCTOR AS PER C.E.C.
APPROVED GROUND CLAMP AT PERMANENTLY ACCESSIBLE LOCATION(TYPICAL)
BOND TO BUILDING METAL FRAME

A UFER GROUND

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
559-621-8084
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

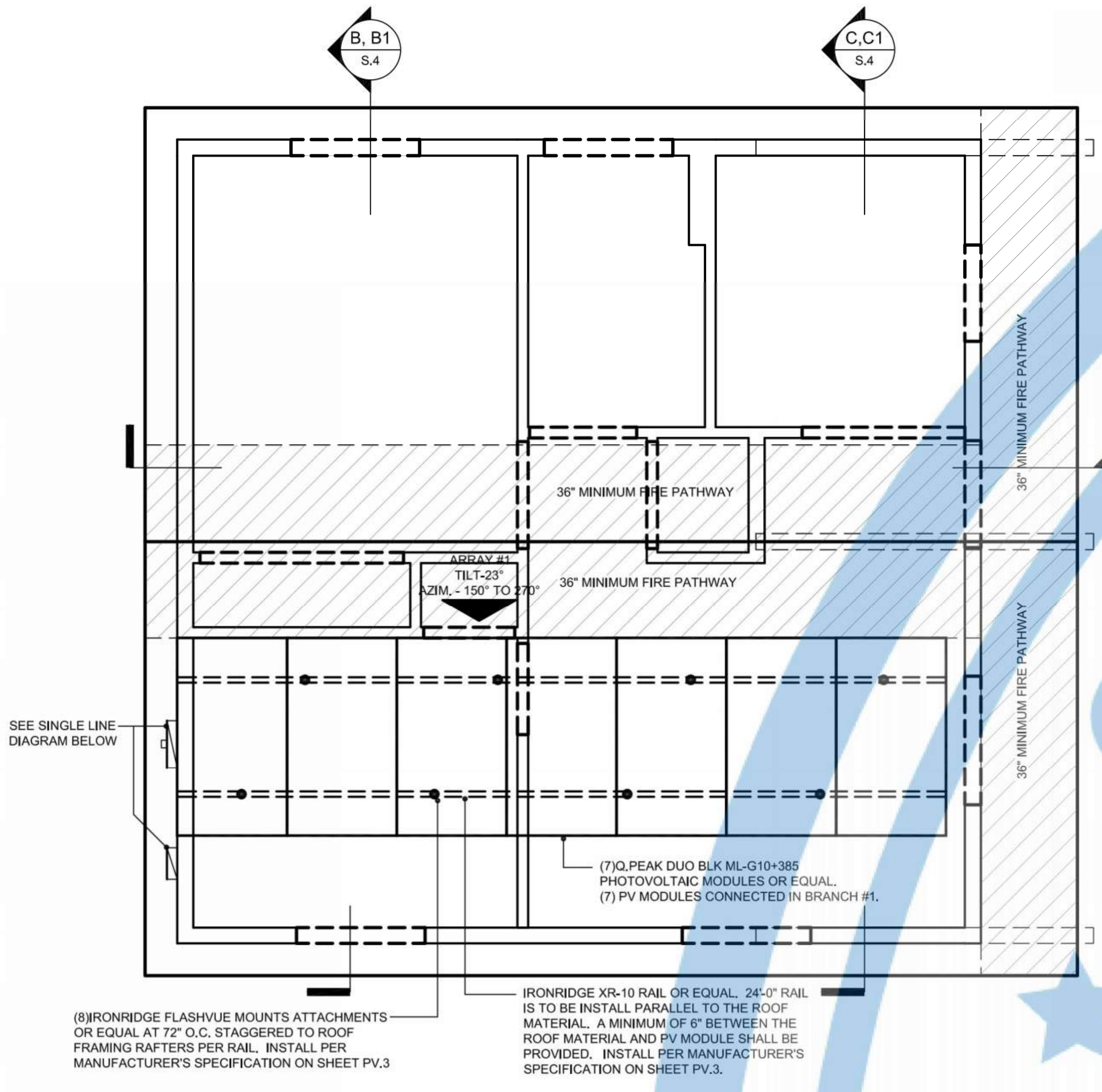
CITY USE ONLY

DRAWING TITLE:

ELECTRICAL PLAN AND DETAILS

JOB# : TADU-003
DATE: 26-Sep-23
SCALE: AS NOTED
DRAWN BY: IRG

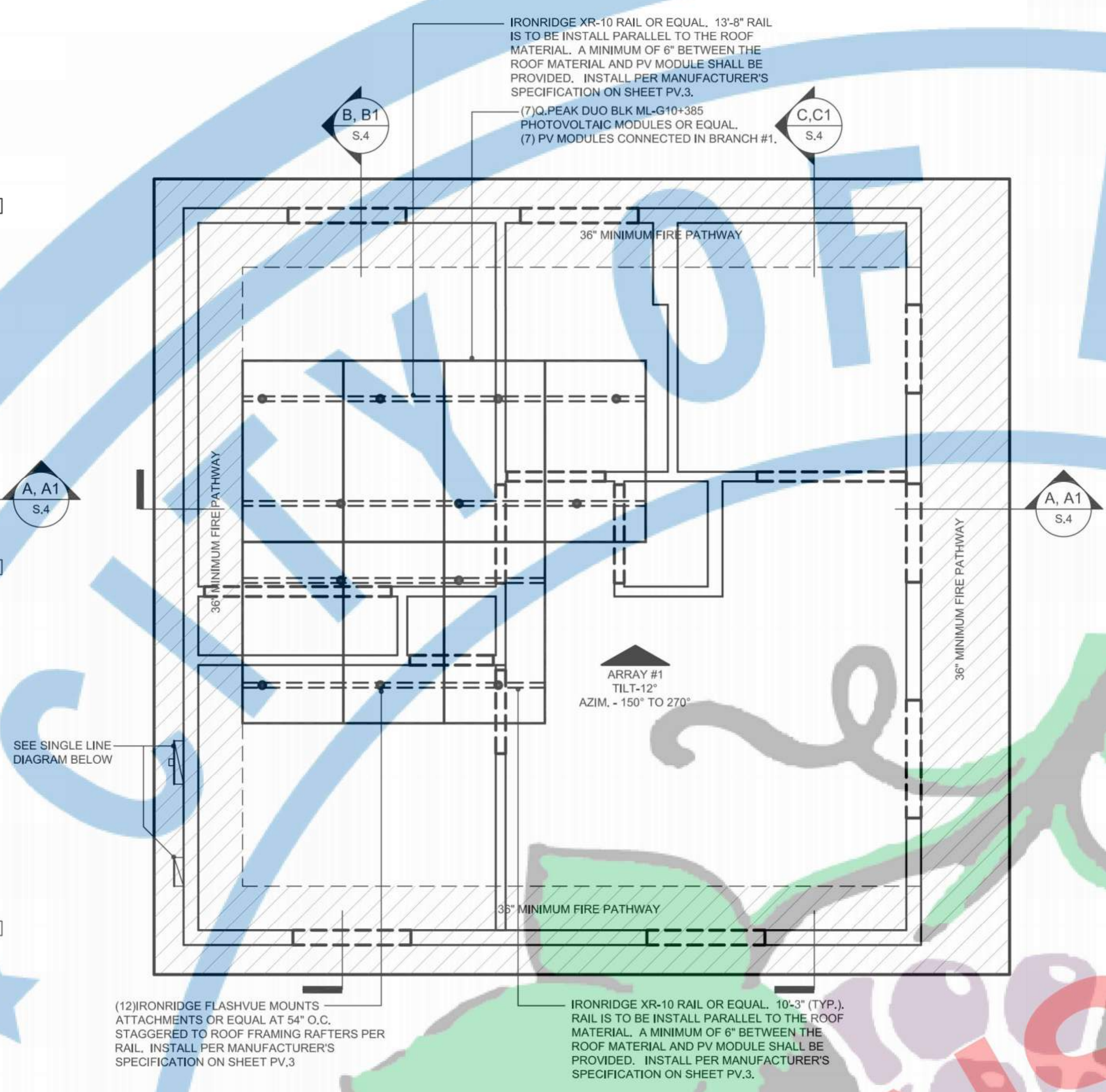
SHEET NO. E.1


B, B1
S.4
C,C1
S.4
A, A1
S.4
36" MINIMUM FIRE PATHWAY
36" MINIMUM FIRE PATHWAY
36" MINIMUM FIRE PATHWAY
36" MINIMUM FIRE PATHWAY
ARRAY #1
TILT-23°
AZIM. - 150° TO 270°
SEE SINGLE LINE DIAGRAM BELOW
(7)Q.PEAK DUO BLK ML-G10+385 PHOTOVOLTAIC MODULES OR EQUAL. (7) PV MODULES CONNECTED IN BRANCH #1.
(8)IRONRIDGE FLASHVUE MOUNTS ATTACHMENTS OR EQUAL AT 72" O.C. STAGGERED TO ROOF FRAMING RAFTERS PER RAIL. INSTALL PER MANUFACTURER'S SPECIFICATION ON SHEET PV.3
IRONRIDGE XR-10 RAIL OR EQUAL. 24'-0" RAIL IS TO BE INSTALL PARALLEL TO THE ROOF MATERIAL. A MINIMUM OF 6" BETWEEN THE ROOF MATERIAL AND PV MODULE SHALL BE PROVIDED. INSTALL PER MANUFACTURER'S SPECIFICATION ON SHEET PV.3.

PHOTOVOLTAIC PLAN

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

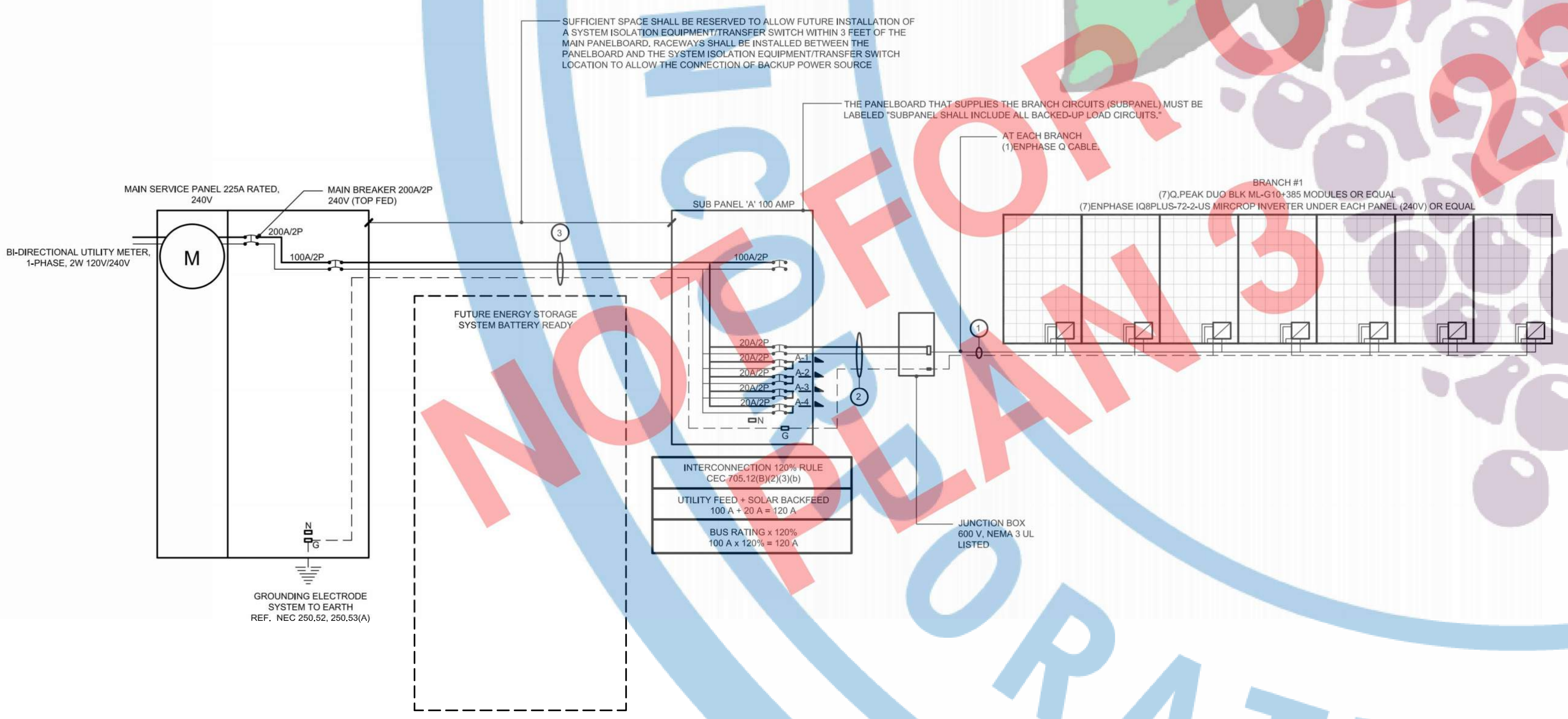
GABLE/CRAFTSMAN
SAME FOR PORCH OPTION


IRONRIDGE XR-10 RAIL OR EQUAL. 13'-8" RAIL IS TO BE INSTALL PARALLEL TO THE ROOF MATERIAL. A MINIMUM OF 6" BETWEEN THE ROOF MATERIAL AND PV MODULE SHALL BE PROVIDED. INSTALL PER MANUFACTURER'S SPECIFICATION ON SHEET PV.3.
(7)Q.PEAK DUO BLK ML-G10+385 PHOTOVOLTAIC MODULES OR EQUAL. (7) PV MODULES CONNECTED IN BRANCH #1.
B, B1
S.4
C,C1
S.4
A, A1
S.4
A, A1
S.4
36" MINIMUM FIRE PATHWAY
36" MINIMUM FIRE PATHWAY
36" MINIMUM FIRE PATHWAY
36" MINIMUM FIRE PATHWAY
ARRAY #1
TILT-12°
AZIM. - 150° TO 270°
SEE SINGLE LINE DIAGRAM BELOW
(12)IRONRIDGE FLASHVUE MOUNTS ATTACHMENTS OR EQUAL AT 54" O.C. STAGGERED TO ROOF FRAMING RAFTERS PER RAIL. INSTALL PER MANUFACTURER'S SPECIFICATION ON SHEET PV.3
IRONRIDGE XR-10 RAIL OR EQUAL. 10'-3" (TYP.). RAIL IS TO BE INSTALL PARALLEL TO THE ROOF MATERIAL. A MINIMUM OF 6" BETWEEN THE ROOF MATERIAL AND PV MODULE SHALL BE PROVIDED. INSTALL PER MANUFACTURER'S SPECIFICATION ON SHEET PV.3.

PHOTOVOLTAIC PLAN

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

CONTEMPORARY
SAME FOR PORCH OPTION


SUFFICIENT SPACE SHALL BE RESERVED TO ALLOW FUTURE INSTALLATION OF A SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH WITHIN 3 FEET OF THE MAIN PANELBOARD. RACEWAYS SHALL BE INSTALLED BETWEEN THE PANELBOARD AND THE SYSTEM ISOLATION EQUIPMENT/TRANSFER SWITCH LOCATION TO ALLOW THE CONNECTION OF BACKUP POWER SOURCE
THE PANELBOARD THAT SUPPLIES THE BRANCH CIRCUITS (SUBPANEL) MUST BE LABELED "SUBPANEL SHALL INCLUDE ALL BACKED-UP LOAD CIRCUITS."
AT EACH BRANCH (1)ENPHASE Q CABLE.
BRANCH #1
(7)Q.PEAK DUO BLK ML-G10+385 MODULES OR EQUAL
(7)ENPHASE IQ8PLUS-72-2-US MIRCROP INVERTER UNDER EACH PANEL (240V) OR EQUAL
MAIN SERVICE PANEL 225A RATED, 240V
MAIN BREAKER 200A/2P 240V (TOP FED)
BI-DIRECTIONAL UTILITY METER, 1-PHASE, 2W 120V/240V
M
200A/2P
100A/2P
SUB PANEL 'A' 100 AMP
100A/2P
20A/2P
20A/2P
20A/2P
20A/2P
20A/2P
A-1
A-2
A-3
A-4
N
G
N
G
1
2
3
FUTURE ENERGY STORAGE SYSTEM BATTERY READY
GROUNDING ELECTRODE SYSTEM TO EARTH REF. NEC 250.52, 250.53(A)
JUNCTION BOX 600 V, NEMA 3 UL LISTED

INTERCONNECTION 120% RULE CEC 705.12(B)(2)(3)(b)
UTILITY FEED + SOLAR BACKFEED 100 A + 20 A = 120 A
BUS RATING x 120% 100 A x 120% = 120 A

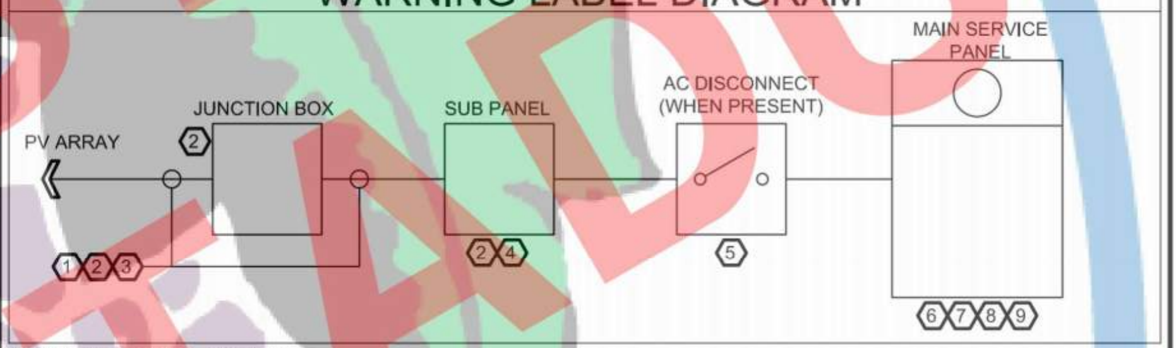
ELECTRICAL LINE DIAGRAM

NTS

WARNING LABLES

SYMBOL	GRAPHIC LABEL	LABEL LOCATION
①	WARNING - Electric Shock Hazard No user serviceable parts inside Contact authorized service provider for assistance	INVERTER, JUNCTION BOXES (ROOF), (PER CODE: CEC690.13.G.3 & CEC 690.13.G.4)
②	WARNING: PHOTOVOLTAIC POWER SOURCE	CONDUIT, COMBINER BOX (PER CODE: CEC690.31(G)(3)(4) & CEC 690.13(G)(4)
③	CAUTION: SOLAR CIRCUIT	MARKINGS PLACED ON ALL INTERIOR AND EXTERIOR DC CONDUIT, RACEWAYS, ENCLOSURES, AND CABLE ASSEMBLIES AT LEAST EVERY 10 FT, AT TURNS AND ABOVE/BELOW PENETRATIONS AND ALL COMBINER/JUCTION BOXES. (PER CODE: CFC 605.11.1.4)
④	CAUTION: SOLAR ELECTRIC SYSTEM CONNECTED	POINT OF INTERCONNECTION (PER CODE: CEC690.15, 690.13(B)) INVERTER 1
⑤	PHOTOVOLTAIC SYSTEM AC DISCONNECT RATED AC OUTPUT CURRENT 12.10 AMPS NOMINAL OPERATING AC VOLTAGE 240 VOLTS	POINT OF INTERCONNECTION, (PER CODE: CEC 690.54)
⑥	⚠ WARNING ELECTRIC SHOCK HAZARD TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION	POINT OF INTERCONNECTION, (PER CODE: CEC 690.17(E))
⑦	⚠ WARNING: DUAL POWER SOURCE SECOND SOURCE IS PHOTOVOLTAIC SYSTEM	POINT OF INTERCONNECTION (PER CODE: CEC 705.12(D)(4)
⑧	WARNING INVERTER OUTPUT CONNECTION DO NOT RELOCATE THIS OVERCURRENT DEVICE	POINT OF INTERCONNECTION (PER CODE: CEC 705.12(D)(7)) [NOT REQUIRED IF PANEL BOARD IS RATED NOT LESS THAN SUM OF AMPERE RATINGS OF ALL OVER CURRENT DEVICES SUPPLYING IT]
⑨	SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY SOLAR ELECTRIC PV PANELS	LABEL PER CEC 690.56(C)- PROVIDE AT NEW SUB PANEL OR SERVICE PANEL FOR RAPID SHUTDOWN COMPLIANT SYSTEM

WARNING LABEL DIAGRAM


PV ARRAY
JUNCTION BOX
SUB PANEL
AC DISCONNECT (WHEN PRESENT)
MAIN SERVICE PANEL
2
1 2 3
2 4
5
6 7 8 9

WARNING LABEL NOTES:

ADHESIVE FASTENED SIGNS:
1. THE LABEL SHALL BE SUITABLE FOR THE ENVIRONMENT WHERE IT IS INSTALLED.
2. WHERE REQUIRED ELSEWHERE IN THIS CODE, ALL FIELD APPLIED LABELS, WARNINGS, AND MARKINGS SHOULD COMPLY WITH ANSI Z535.4 [NEC 110.21(B) FIELD MARKING].
3. ADHESIVE FASTENED SIGNS MAY BE ACCEPTABLE IF PROPERLY ADHERED. VINYL SIGNS SHALL BE WEATHER RESISTANT [CFC 605.11.1.3]

SOLAR PHOTOVOLTAIC NOTES & SCHEDULE:

SOLAR PHOTOVOLTAIC PROJECT DESIGN CRITERIA

DESIGN CRITERIA	DESCRIPTION	ARRAY #	DESCRIPTION
ROOFING MATERIAL	COMPOSITION SHINGLE	ARRAY # 1	ROOF TILT: SEE PV PLAN
BUILDING STORIES:	1		AZIMUTH: 150° TO 270°
GROUND SNOW LOAD:	0		DC STC RATING: 2.70 kW
WIND SPEED:	94 MPH		
PV ARRAY WEIGHT	339.5 LBS		
EXPOSURE CATEGORY:	C		

SCHEDULE OF SOLAR PHOTOVOLTAIC COMPONENTS

SOLAR COMPONENT	MANUFACTURER & MODEL	QUANTITY
PHOTOVOLTAIC MODULES	Q.PEAK DUO BLK ML-G10+385 OR EQUAL	7
MICRO INVERTERS	ENPHASE IQ8PLUS-72-2-US OR EQUAL	7
AC COMBINER	N/A	N/A
RACKING ATTACMENT	IRONRIDGE FLASHVUE OR EQUAL	PER PLAN
RACKING RAIL	IRONRIDGE XR10 OR EQUAL	(4) 14'-0" EACH

GENERAL REQUIREMENT:
1. UTILITY SHALL BE NOTIFIED BEFORE ACTIVATION OF PV SYSTEM.
2. 110.2 APPROVAL: ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
3. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS PRIOR TO INITIATING CONSTRUCTION.
4. CONTRACTOR SHALL REVIEW ALL MANUFACTURER INSTALLATION DOCUMENTS PRIOR TO INITIATING CONSTRUCTION.
5. ALL EQUIPMENT AND ASSOCIATED CONNECTIONS OF INVERTERS, MODULES, PV SOURCE CIRCUITS, BATTER CONNECTIONS, ETC. AND ALL ASSOCIATED WIRING AND INTERCONNECTIONS SHALL BE INSTALLED ONLY BY QUALIFIED PERSONNEL (CEC 690.4(E)).
6. THE CONTRACTOR OR OWNER MUST PROVIDE ROOF ACCESS (LADDER TO ROOF) FOR THE ALL REQUIRED INSPECTIONS. LADDERS MUST BE OSHA APPROVED, MINIMUM TYPE I WITH A 250 LB RATING, IN GOOD CONDITION AND DESIGNED FOR ITS INTENDED USE
7. SMOKE ALARMS AND CARBON MONOXIDE ALARMS ARE REQUIRED TO BE RETROFITTED ONTO THE EXISTING DWELLING AS PER THE 2019 CRC. THESE SMOKE ALARMS ARE REQUIRED TO BE IN ALL BEDROOMS, OUTSIDE EACH BEDROOM, AND AT LEAST ONE ON EACH FLOOR OF THE HOUSE. CARBON MONOXIDE ALARMS ARE REQUIRED TO BE RETROFITTED OUTSIDE EACH BEDROOM AND AT LEAST ONE ON EACH FLOOR OF THE HOUSE. THESE ALARMS MAY BE SOLELY BATTERY OPERATED IF THE PHOTOVOLTAIC PROJECT DOES NOT INVOLVE THE REMOVAL OF INTERIOR WALL AND CEILING FINISHES INSIDE THE HOME; OTHERWISE, THE ALARMS MUST BE HARD WIRED AND INTERCONNECTED. (CRC R314, R315)
8. SMOKE AND CARBON MONOXIDE ALARMS ARE REQUIRED PER CRC SECTIONS R314 AND 315 TO BE VERIFIED AND INSPECTED BY THE INSPECTOR IN THE FIELD.
9. CONTRACTOR SHALL VERIFY THAT THE ROOF STRUCTURE WILL WITHSTAND THE ADDITIONAL LOADS.
10. LAG SCREWS SHALL PENETRATE A MINIMUM 2" INTO SOLID SAWN STRUCTURAL MEMBERS AND SHALL NOT EXCEED MANUFACTURER RECOMMENDATIONS FOR FASTENERS INTO ENGINEERED STRUCTURAL MEMBERS.
11. AN ACCESS POINT SHALL BE PROVIDED THAT DOES NOT PLACE THE GROUND LADDER OVER OPENINGS SUCH AS WINDOWS OR DOORS ARE LOCATED AT STRONG POINTS OF BUILDING CONSTRUCTION AND IN LOCATIONS WHERE THE ACCESS POINT DOES NOT CONFLICT WITH OVERHEAD OBSTRUCTIONS SUCH AS TREE LIMBS, WIRES, OR SIGNS. (CRC R331.4.2)
12. WHERE DC CONDUCTORS ARE RUN INSIDE BUILDING, THEY SHALL BE CONTAINED IN A METAL RACEWAY; THEY SHALL NOT BE INSTALLED WITHIN 10" OF THE ROOF DECKING OR SHEATHING EXCEPT WHERE COVERED BY THE PV MODULES AND EQUIPMENT. (CEC 690.31(E)(1))
13. PLUMBING AND MECHANICAL VENTS THROUGH THE ROOF SHALL NOT BE COVERED BY SOLAR MODULES - NO BUILDING, PLUMBING, OR MECHANICAL VENTS TO BE COVERED, OBSTRUCTED OR ROUTED AROUND SOLAR MODULES.
14. ALL FIELD-INSTALLED JUNCTION, PULL, AND OUTLET BOXES LOCATED BEHIND MODULES SHALL BE ACCESSIBLE DIRECTLY OR BY DISPLACEMENT OF A MODULE SECURED BY REMOVABLE FASTENERS.

SOLAR PHOTOVOLTAIC WIRING SCHEDULE

SYMBOL	GAUGE & TYPE	GROUND GAUGE & TYPE	DESIGN CURRENT(A)	CONDUIT SIZE & TYPE	QUANTITY
①	12 AWG Q-CABLE	6 AWG BARE COPPER	10.0	FREE AIR	2
②	10 AWG THWN	8 AWG THWN	10.0	3/4" EMT	3
③	2 AWG THWN	8 AWG THWN	100.0	1 1/2" EMT	3

ELECTRICAL SOLAR NOTES:
1. WIRING MATERIALS SHALL COMPLY WITH MAXIMUM CONTINUOUS CURRENT OUTPUT AT 25°C AND MAXIMUM VOLTAGE AT 600V; WIRE SHALL BE WET RATED AT 90°C.
2. EXPOSED PHOTOVOLTAIC SYSTEM CONDUCTORS ON THE ROOF WILL BE USE-2 OR PV TYPE WIRE.
3. PHOTOVOLTAIC SYSTEM CONDUCTORS SHALL BE IDENTIFIED AND GROUPED. THE MEANS OF IDENTIFICATION SHALL BE PERMITTED BY SEPARATE COLOR-CODING, MARKING TAPE, TAGGING OR OTHER APPROVED MEANS
4. ALL EXTERIOR CONDUIT, FITTINGS, AND BOXES SHALL BE RAIN-TIGHT AND APPROVED FOR USE IN WET LOCATIONS. (CEC314.15)
5. WHERE CONDUCTORS ARE INSTALLED UNDERGROUND, SECTION 300.5 OF THE CEC MUST BE FOLLOWED TO ENSURE PROPER PROTECTION.
6. ALL METALLIC RACEWAYS AND EQUIPMENT SHALL BE BONDED AND ELECTRICALLY CONTINUOUS. (CEC 250.90, 250.96)
7. WHERE SIZES OF JUNCTION BOXES, RACEWAYS, AND CONDUITS ARE NOT SPECIFIED, CONTRACTOR SHALL SIZE THEM ACCORDING TO APPLICABLE CODES.
8. REMOVAL OF A UTILITY-INTERACTIVE INVERTER OR OTHER EQUIPMENT SHALL NOT DISCONNECT THE BUILDING CONNECTION BETWEEN THE GROUNDING ELECTRODE CONDUCTOR AND THE PV SOURCE AND/OR OUTPUT CIRCUIT GROUNDED CONDUCTOR.
9. FOR GROUNDED SYSTEMS, THE PHOTOVOLTAIC SOURCE AND OUTPUT CIRCUITS SHALL BE PROVIDED WITH A GROUND-FAULT PROTECTION DEVICE OR SYSTEM THAT DETECTS A GROUND FAULT, INDICATES THAT FAULT HAS OCCURED, AND AUTOMATICALLY DISCONNECTS ALL CONDUCTORS OR CAUSES THE INVERTER TO AUTOMATICALLY CEASE SUPPLYING POWER TO OUTPUT CIRCUITS. (CEC 690.35(C))
10. FOR UNGROUNDED SYSTEMS, THE INVERTER IS EQUIPPED WITH GROUND FAULT PROTECTION AND A GFI FUSE PORT FOR GROUND FAULT INDICATION.
11. PV MODULE FRAMES SHALL BE BONDED TO RACKING RAIL OR BONDED PER MANUFACTURER'S SPECIFICATIONS.

PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721-3600
559-621-8084
darm.building@fresno.gov

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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE:

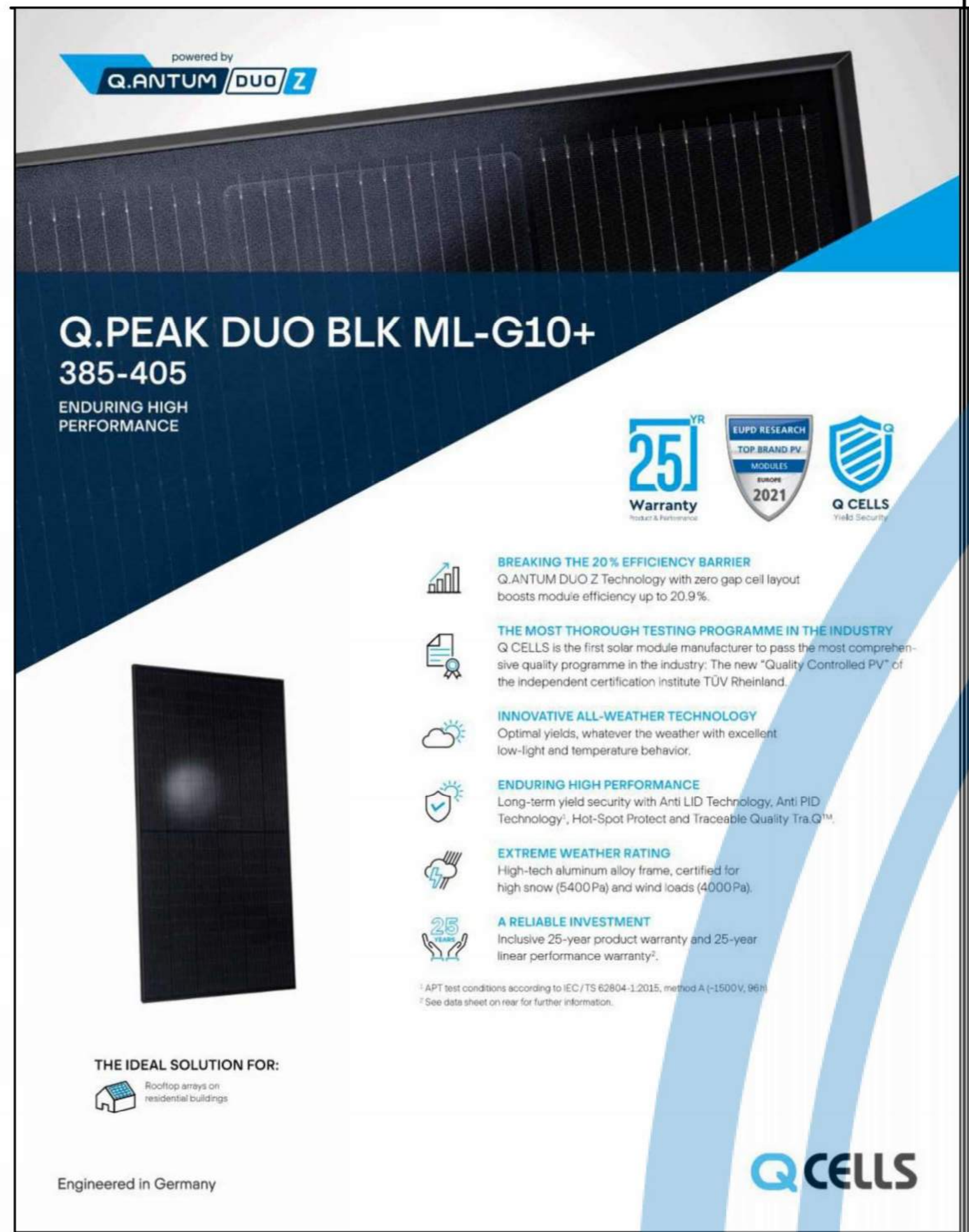
PHOTOVOLTAIC SOLAR PLANS

JOB# :	TADU-003
DATE:	13-Jul-23
SCALE:	AS NOTED
DRAWN BY:	IRG

SHEET NO. PV.1

NOT FOR CONSTRUCTION
PLAN 3
TADU-003

PHOTOVOLTAIC MODULE SPECIFICATION



powered by Q.ANTUM DUO Z

Q.PEAK DUO BLK ML-G10+
385-405
ENDURING HIGH PERFORMANCE

25 YR Warranty Product & Performance · EUPD RESEARCH TOP BRAND PV MODULES EUROPE 2021 · Q CELLS Yield Security

BREAKING THE 20% EFFICIENCY BARRIER
Q.ANTUM DUO Z Technology with zero gap cell layout boosts module efficiency up to 20.9%.

THE MOST THOROUGH TESTING PROGRAMME IN THE INDUSTRY
Q CELLS is the first solar module manufacturer to pass the most comprehensive quality programme in the industry: The new "Quality Controlled PV" of the independent certification institute TÜV Rheinland.

INNOVATIVE ALL-WEATHER TECHNOLOGY
Optimal yields, whatever the weather with excellent low-light and temperature behavior.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID Technology, Anti PID Technology[1], Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

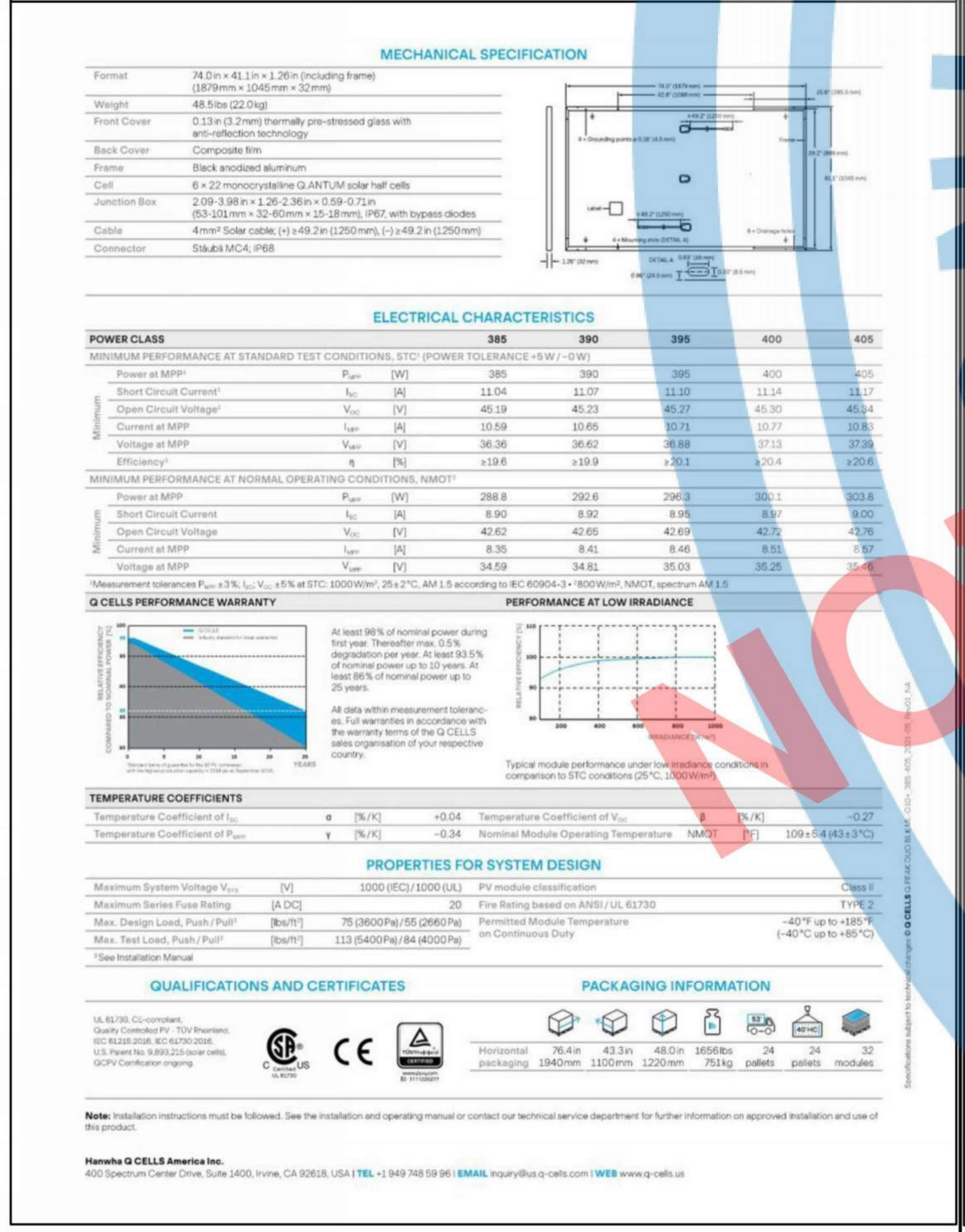
A RELIABLE INVESTMENT
Inclusive 25-year product warranty and 25-year linear performance warranty[2].

[1] APT test conditions according to IEC/TS 62804-1:2015, method A (−1500V, 96h)
[2] See data sheet on rear for further information.

THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany

Q CELLS



MECHANICAL SPECIFICATION

Format	74.0 in × 41.1 in × 1.26 in (including frame) (1879 mm × 1045 mm × 32 mm)
Weight	48.5 lbs (22.0 kg)
Front Cover	0.13 in (3.2 mm) thermally pre-stressed glass with anti-reflection technology
Back Cover	Composite film
Frame	Black anodized aluminum
Cell	6 × 22 monocrystalline Q.ANTUM solar half cells
Junction Box	2.09-3.98 in × 1.26-2.36 in × 0.59-0.71 in (53-101 mm × 32-60 mm × 15-18 mm), IP67, with bypass diodes
Cable	4 mm² Solar cable; (+) ≥49.2 in (1250 mm), (−) ≥49.2 in (1250 mm)
Connector	Stäubli MC4; IP68

ELECTRICAL CHARACTERISTICS

POWER CLASS			385	390	395	400	405
MINIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC[1] (POWER TOLERANCE +5 W / −0 W)							
Power at MPP[1]	P_{MPP}	[W]	385	390	395	400	405
Short Circuit Current[1]	I_{SC}	[A]	11.04	11.07	11.10	11.14	11.17
Open Circuit Voltage[1]	V_{OC}	[V]	45.19	45.23	45.27	45.30	45.34
Current at MPP	I_{MPP}	[A]	10.59	10.65	10.71	10.77	10.83
Voltage at MPP	V_{MPP}	[V]	36.36	36.62	36.88	37.13	37.39
Efficiency[1]	η	[%]	≥19.6	≥19.9	≥20.1	≥20.4	≥20.6
MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT[2]							
Power at MPP	P_{MPP}	[W]	288.8	292.6	296.3	300.1	303.8
Short Circuit Current	I_{SC}	[A]	8.90	8.92	8.95	8.97	9.00
Open Circuit Voltage	V_{OC}	[V]	42.62	42.65	42.69	42.72	42.76
Current at MPP	I_{MPP}	[A]	8.35	8.41	8.46	8.51	8.57
Voltage at MPP	V_{MPP}	[V]	34.59	34.81	35.03	35.25	35.46

[1] Measurement tolerances P_{MPP} ±3%; I_{SC}; V_{OC} ±5% at STC: 1000 W/m², 25±2 °C, AM 1.5 according to IEC 60904-3 • [2] 800 W/m², NMOT, spectrum AM 1.5

Q CELLS PERFORMANCE WARRANTY

At least 98% of nominal power during first year. Thereafter max. 0.5% degradation per year. At least 93.5% of nominal power up to 10 years. At least 86% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

PERFORMANCE AT LOW IRRADIANCE

Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²)

TEMPERATURE COEFFICIENTS

Temperature Coefficient of I_{SC}	α	[%/K]	+0.04	Temperature Coefficient of V_{OC}	β	[%/K]	−0.27
Temperature Coefficient of P_{MPP}	γ	[%/K]	−0.34	Nominal Module Operating Temperature	NMOT	[°F]	109±5.4 (43±3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage V_{SYS}	[V]	1000 (IEC) / 1000 (UL)	PV module classification	Class II
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 2
Max. Design Load, Push / Pull[3]	[lbs/ft²]	75 (3600 Pa) / 55 (2660 Pa)	Permitted Module Temperature on Continuous Duty	−40 °F up to +185 °F (−40 °C up to +85 °C)
Max. Test Load, Push / Pull[3]	[lbs/ft²]	113 (5400 Pa) / 84 (4000 Pa)		

[3] See Installation Manual

QUALIFICATIONS AND CERTIFICATES

UL 61730, CE-compliant, Quality Controlled PV - TÜV Rheinland, IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,215 (solar cells), QCPV Certification ongoing.

PACKAGING INFORMATION

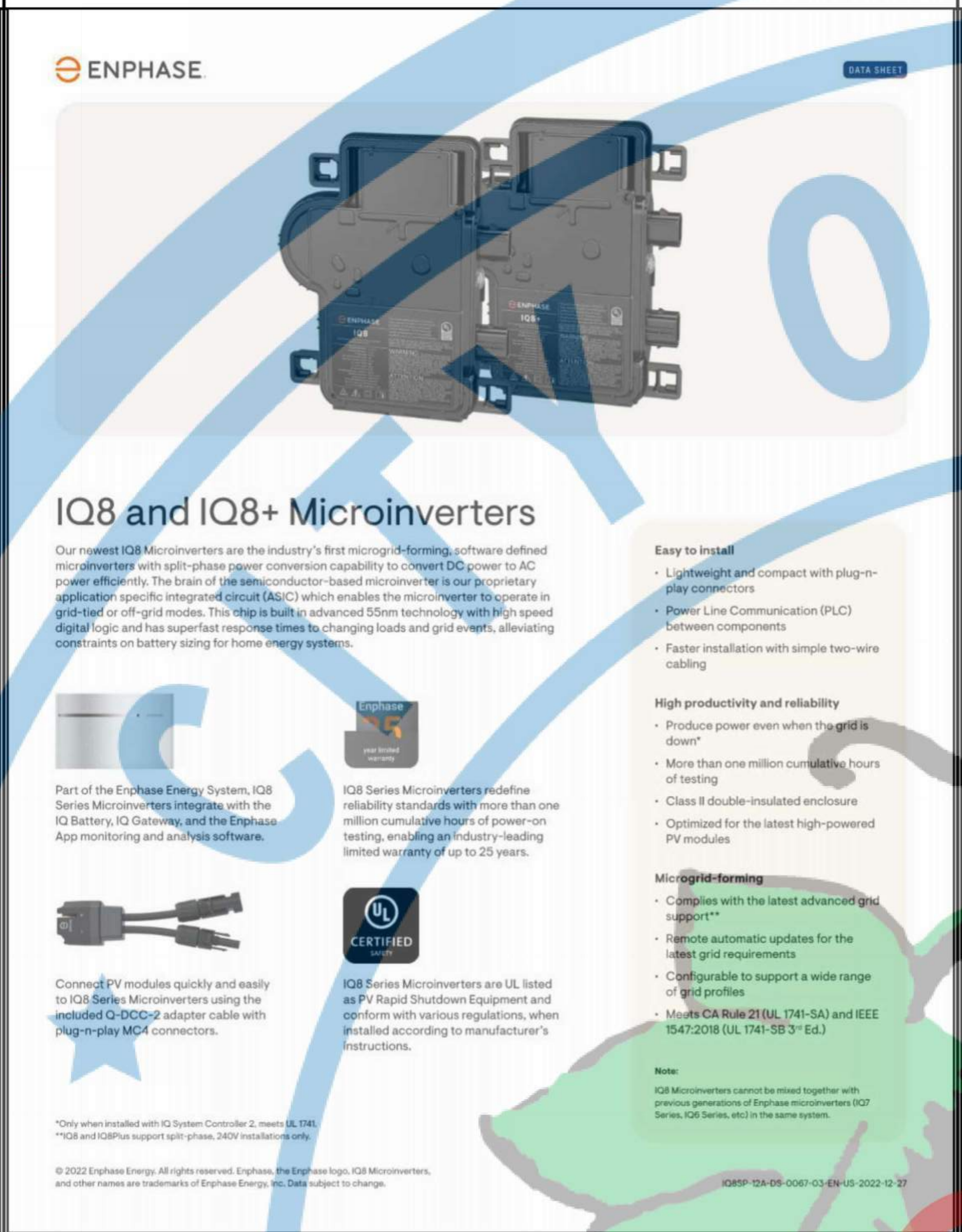
Horizontal packaging	76.4 in 1940 mm	43.3 in 1100 mm	48.0 in 1220 mm	1656 lbs 751 kg	24 pallets	24 pallets	32 modules

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product.

Hanwha Q CELLS America Inc.
400 Spectrum Center Drive, Suite 1400, Irvine, CA 92618, USA | TEL +1 949 748 59 96 | EMAIL inquiry@us.q-cells.com | WEB www.q-cells.us

Specifications subject to technical changes © Q CELLS Q.PEAK DUO BLK ML-G10+_385-405_2021-05_Rev01_NA

MICROINVERTER SPECIFICATION



ENPHASE · DATA SHEET

IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has superfast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the IQ Battery, IQ Gateway, and the Enphase App monitoring and analysis software.

IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.

Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.

IQ8 Series Microinverters are UL listed as PV Rapid Shutdown Equipment and conform with various regulations, when installed according to manufacturer's instructions.

Easy to install
- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability
- Produce power even when the grid is down*
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming
- Complies with the latest advanced grid support**
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) and IEEE 1547:2018 (UL 1741-SB 3rd Ed.)

Note:
IQ8 Microinverters cannot be mixed together with previous generations of Enphase microinverters (IQ7 Series, IQ6 Series, etc) in the same system.

*Only when installed with IQ System Controller 2, meets UL 1741.
**IQ8 and IQ8Plus support split-phase, 240V installations only.

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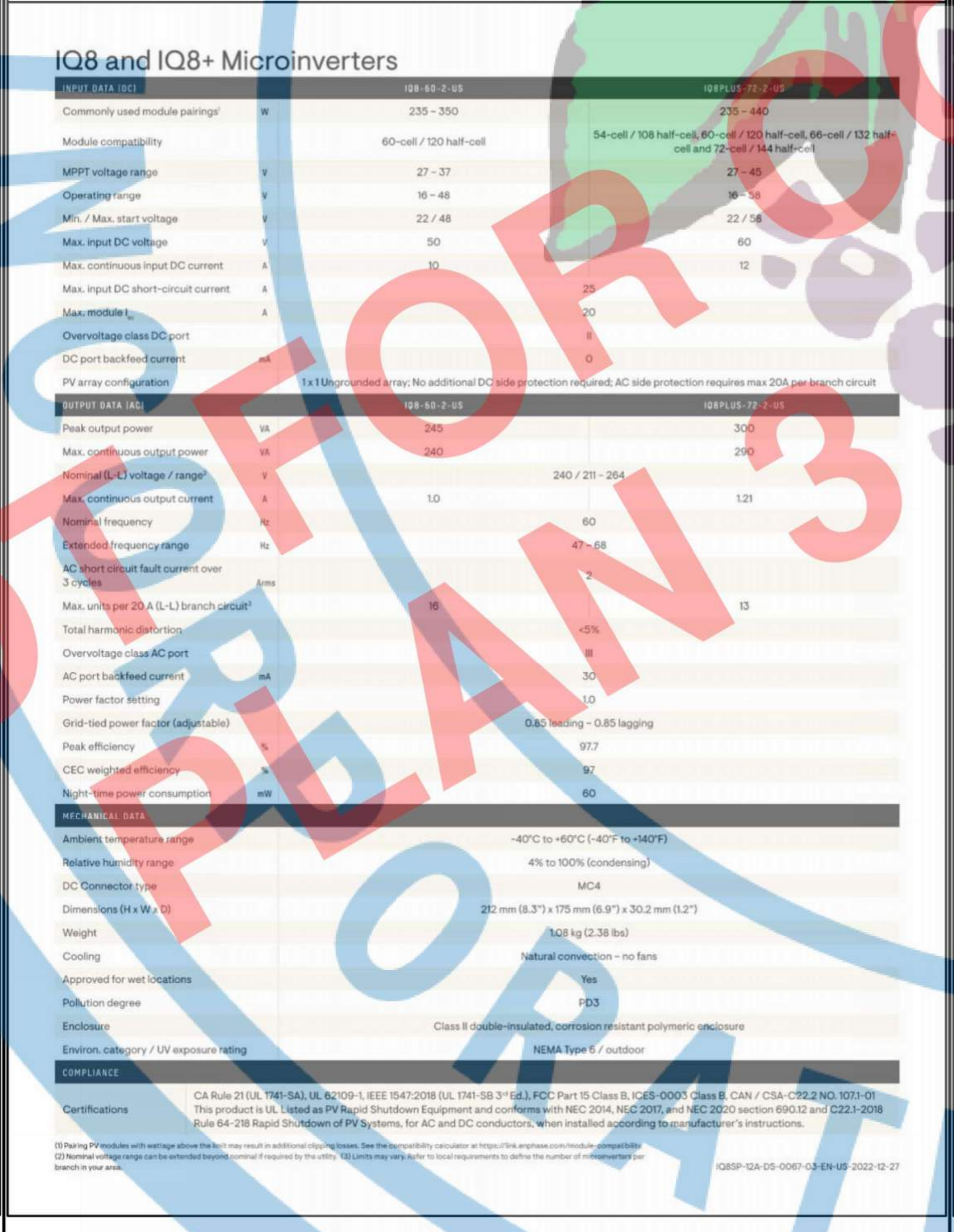
IQ8SP-12A-DS-0067-03-EN-US-2022-12-27



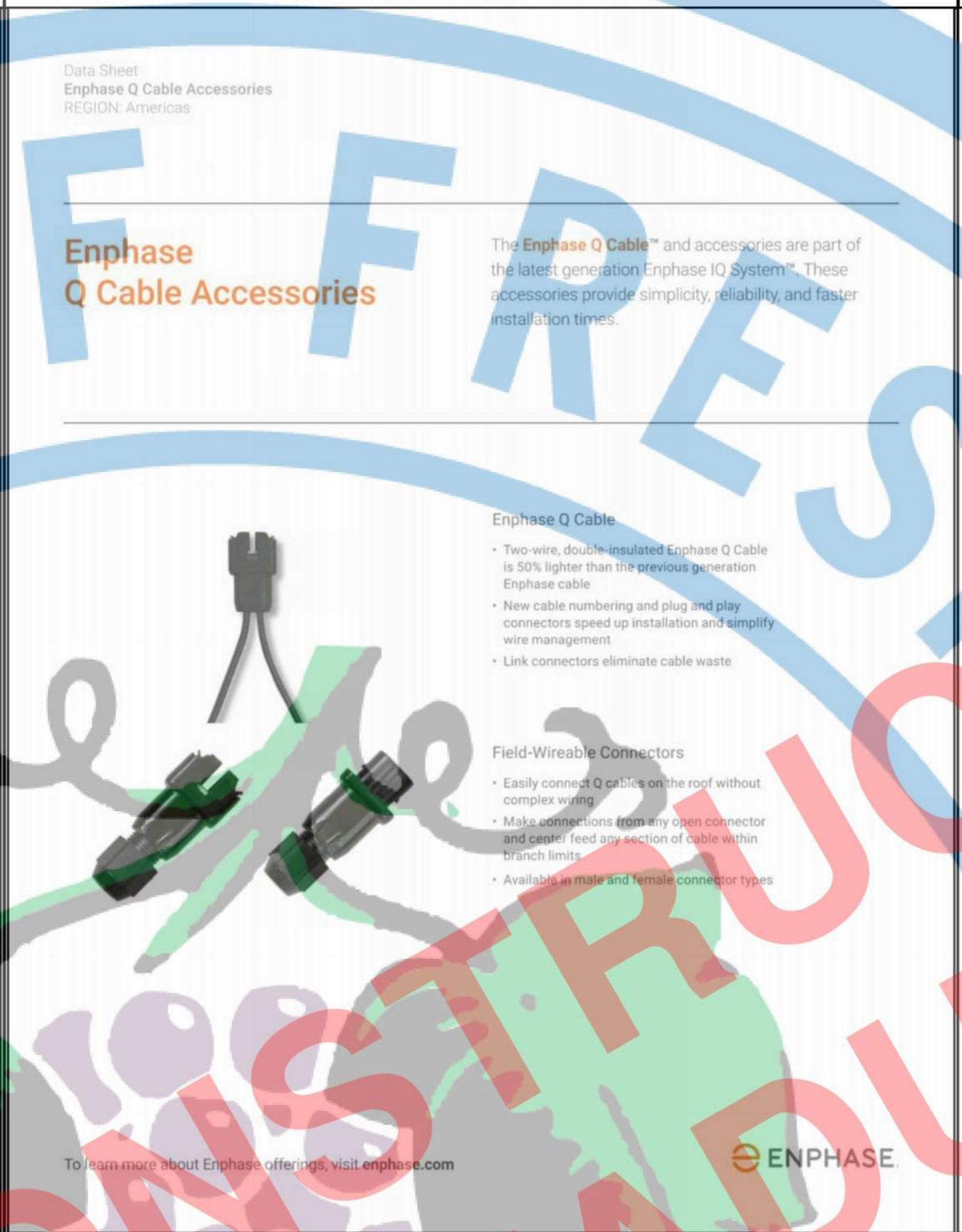
IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings[1]	W	235 – 350	235 – 440
Module compatibility		60-cell / 120 half-cell	54-cell / 108 half-cell, 60-cell / 120 half-cell, 66-cell / 132 half-cell and 72-cell / 144 half-cell
MPPT voltage range	V	27 – 37	27 – 45
Operating range	V	16 – 48	16 – 58
Min. / Max. start voltage	V	22 / 48	22 / 58
Max. input DC voltage	V	50	60
Max. continuous input DC current	A	10	12
Max. input DC short-circuit current	A	25	
Max. module I_{sc}	A	20	
Overvoltage class DC port		II	
DC port backfeed current	mA	0	
PV array configuration		1 x 1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		**IQ8-60-2-US**	**IQ8PLUS-72-2-US**
Peak output power	VA	245	300
Max. continuous output power	VA	240	290
Nominal (L-L) voltage / range[2]	V	240 / 211 – 264	
Max. continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	47 – 68	
AC short circuit fault current over 3 cycles	Arms	2	
Max. units per 20 A (L-L) branch circuit[3]		16	13
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.7	
CEC weighted efficiency	%	97	
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		−40°C to +60°C (−40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (H x W x D)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, IEEE 1547:2018 (UL 1741-SB 3rd Ed.), FCC Part 15 Class B, ICES-0003 Class B, CAN / CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shutdown Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) Pairing PV modules with wattage above the limit may result in additional clipping losses. See the compatibility calculator at https://link.enphase.com/module-compatibility
(2) Nominal voltage range can be extended beyond nominal if required by the utility. (3) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-12A-DS-0067-03-EN-US-2022-12-27

Q CABLE SPECIFICATION



Data Sheet
Enphase Q Cable Accessories
REGION: Americas

Enphase Q Cable Accessories

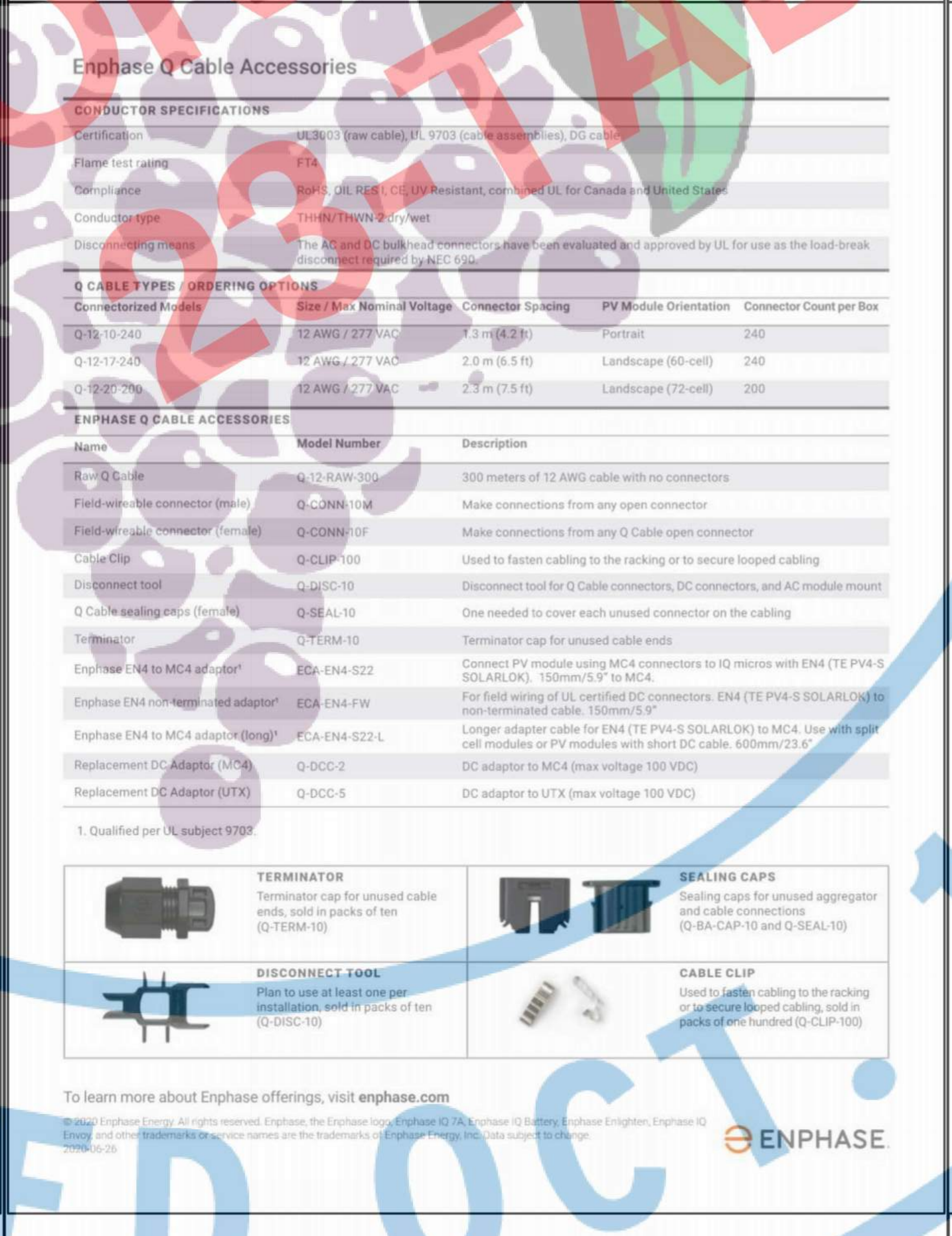
The Enphase Q Cable™ and accessories are part of the latest generation Enphase IQ System™. These accessories provide simplicity, reliability, and faster installation times.

Enphase Q Cable
- Two-wire, double-insulated Enphase Q Cable is 50% lighter than the previous generation Enphase cable
- New cable numbering and plug and play connectors speed up installation and simplify wire management
- Link connectors eliminate cable waste

Field-Wireable Connectors
- Easily connect Q cables on the roof without complex wiring
- Make connections from any open connector and center feed any section of cable within branch limits
- Available in male and female connector types

To learn more about Enphase offerings, visit enphase.com

ENPHASE



Enphase Q Cable Accessories

CONDUCTOR SPECIFICATIONS	
Certification	UL3003 (raw cable), UL 9703 (cable assemblies), DG cable
Flame test rating	FT4
Compliance	RoHS, OIL RES I, CE, UV Resistant, combined UL for Canada and United States
Conductor type	THHN/THWN-2 dry/wet
Disconnecting means	The AC and DC bulkhead connectors have been evaluated and approved by UL for use as the load-break disconnect required by NEC 690.

Q CABLE TYPES / ORDERING OPTIONS

Connectorized Models	Size / Max Nominal Voltage	Connector Spacing	PV Module Orientation	Connector Count per Box
Q-12-10-240	12 AWG / 277 VAC	1.3 m (4.2 ft)	Portrait	240
Q-12-17-240	12 AWG / 277 VAC	2.0 m (6.5 ft)	Landscape (60-cell)	240
Q-12-20-200	12 AWG / 277 VAC	2.3 m (7.5 ft)	Landscape (72-cell)	200

ENPHASE Q CABLE ACCESSORIES

Name	Model Number	Description
Raw Q Cable	Q-12-RAW-300	300 meters of 12 AWG cable with no connectors
Field-wireable connector (male)	Q-CONN-10M	Make connections from any open connector
Field-wireable connector (female)	Q-CONN-10F	Make connections from any Q Cable open connector
Cable Clip	Q-CLIP-100	Used to fasten cabling to the racking or to secure looped cabling
Disconnect tool	Q-DISC-10	Disconnect tool for Q Cable connectors, DC connectors, and AC module mount
Q Cable sealing caps (female)	Q-SEAL-10	One needed to cover each unused connector on the cabling
Terminator	Q-TERM-10	Terminator cap for unused cable ends
Enphase EN4 to MC4 adaptor[1]	ECA-EN4-S22	Connect PV module using MC4 connectors to IQ micros with EN4 (TE PV4-S SOLARLOK). 150mm/5.9" to MC4.
Enphase EN4 non-terminated adaptor[1]	ECA-EN4-FW	For field wiring of UL certified DC connectors. EN4 (TE PV4-S SOLARLOK) to non-terminated cable. 150mm/5.9"
Enphase EN4 to MC4 adaptor (long)[1]	ECA-EN4-S22-L	Longer adapter cable for EN4 (TE PV4-S SOLARLOK) to MC4. Use with split cell modules or PV modules with short DC cable. 600mm/23.6"
Replacement DC Adaptor (MC4)	Q-DCC-2	DC adaptor to MC4 (max voltage 100 VDC)
Replacement DC Adaptor (UTX)	Q-DCC-5	DC adaptor to UTX (max voltage 100 VDC)

1. Qualified per UL subject 9703.

TERMINATOR
Terminator cap for unused cable ends, sold in packs of ten (Q-TERM-10)

SEALING CAPS
Sealing caps for unused aggregator and cable connections (Q-BA-CAP-10 and Q-SEAL-10)

DISCONNECT TOOL
Plan to use at least one per installation, sold in packs of ten (Q-DISC-10)

CABLE CLIP
Used to fasten cabling to the racking or to secure looped cabling, sold in packs of one hundred (Q-CLIP-100)

To learn more about Enphase offerings, visit enphase.com

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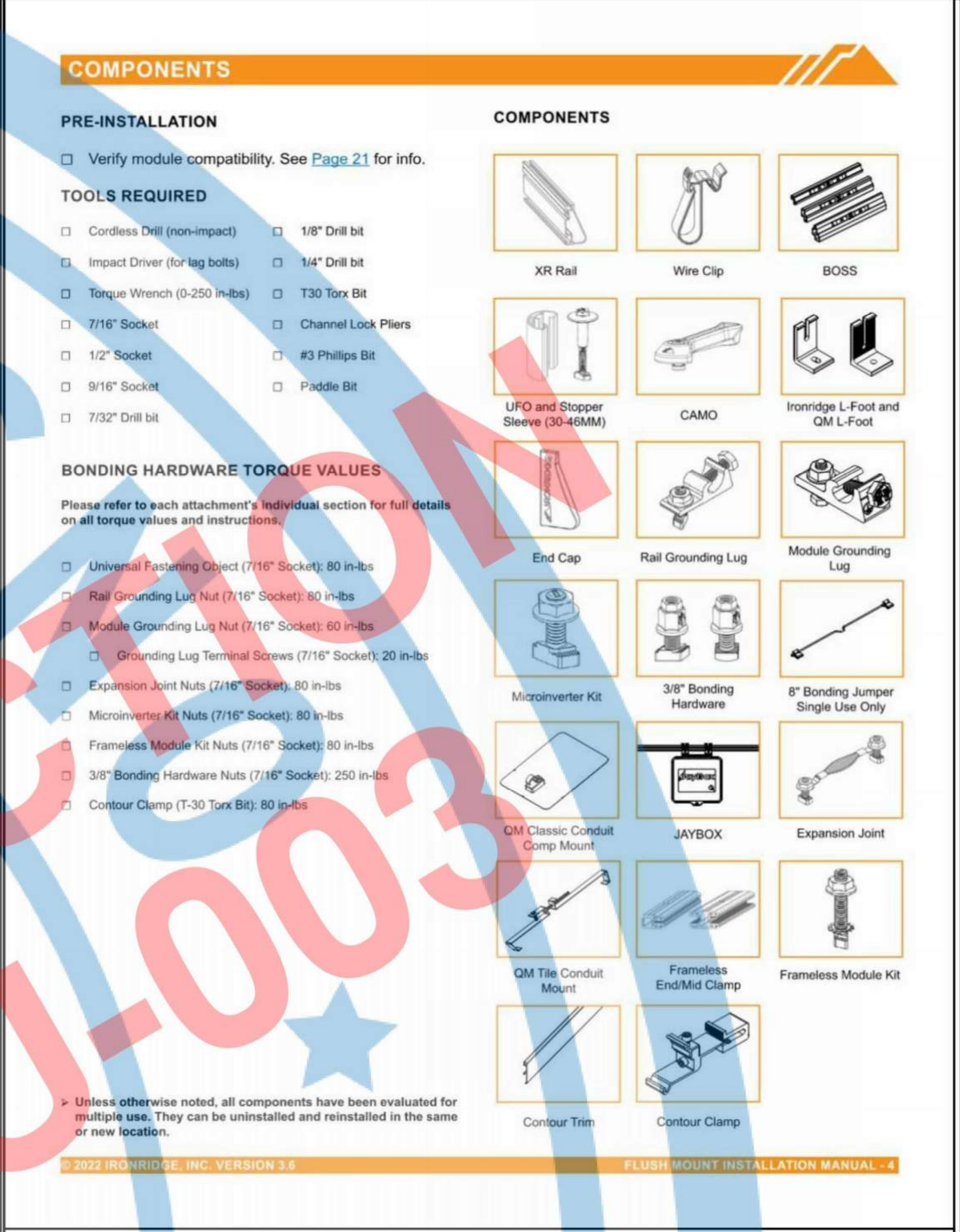
2020-06-26

ENPHASE

RACKING RAIL COMPONENTS



COMPONENTS

PRE-INSTALLATION

☐ Verify module compatibility. See Page 21 for info.

TOOLS REQUIRED

☐ Cordless Drill (non-impact)
☐ Impact Driver (for lag bolts)
☐ Torque Wrench (0-250 in-lbs)
☐ 7/16" Socket
☐ 1/2" Socket
☐ 9/16" Socket
☐ 7/32" Drill bit
☐ 1/8" Drill bit
☐ 1/4" Drill bit
☐ T30 Torx Bit
☐ Channel Lock Pliers
☐ #3 Phillips Bit
☐ Paddle Bit

BONDING HARDWARE TORQUE VALUES

Please refer to each attachment's individual section for full details on all torque values and instructions.

☐ Universal Fastening Object (7/16" Socket): 80 in-lbs
☐ Rail Grounding Lug Nut (7/16" Socket): 80 in-lbs
☐ Module Grounding Lug Nut (7/16" Socket): 60 in-lbs
  ☐ Grounding Lug Terminal Screws (7/16" Socket): 20 in-lbs
☐ Expansion Joint Nuts (7/16" Socket): 80 in-lbs
☐ Microinverter Kit Nuts (7/16" Socket): 80 in-lbs
☐ Frameless Module Kit Nuts (7/16" Socket): 80 in-lbs
☐ 3/8" Bonding Hardware Nuts (7/16" Socket): 250 in-lbs
☐ Contour Clamp (T-30 Torx Bit): 80 in-lbs

➢ **Unless otherwise noted, all components have been evaluated for multiple use. They can be uninstalled and reinstalled in the same or new location.**

COMPONENTS

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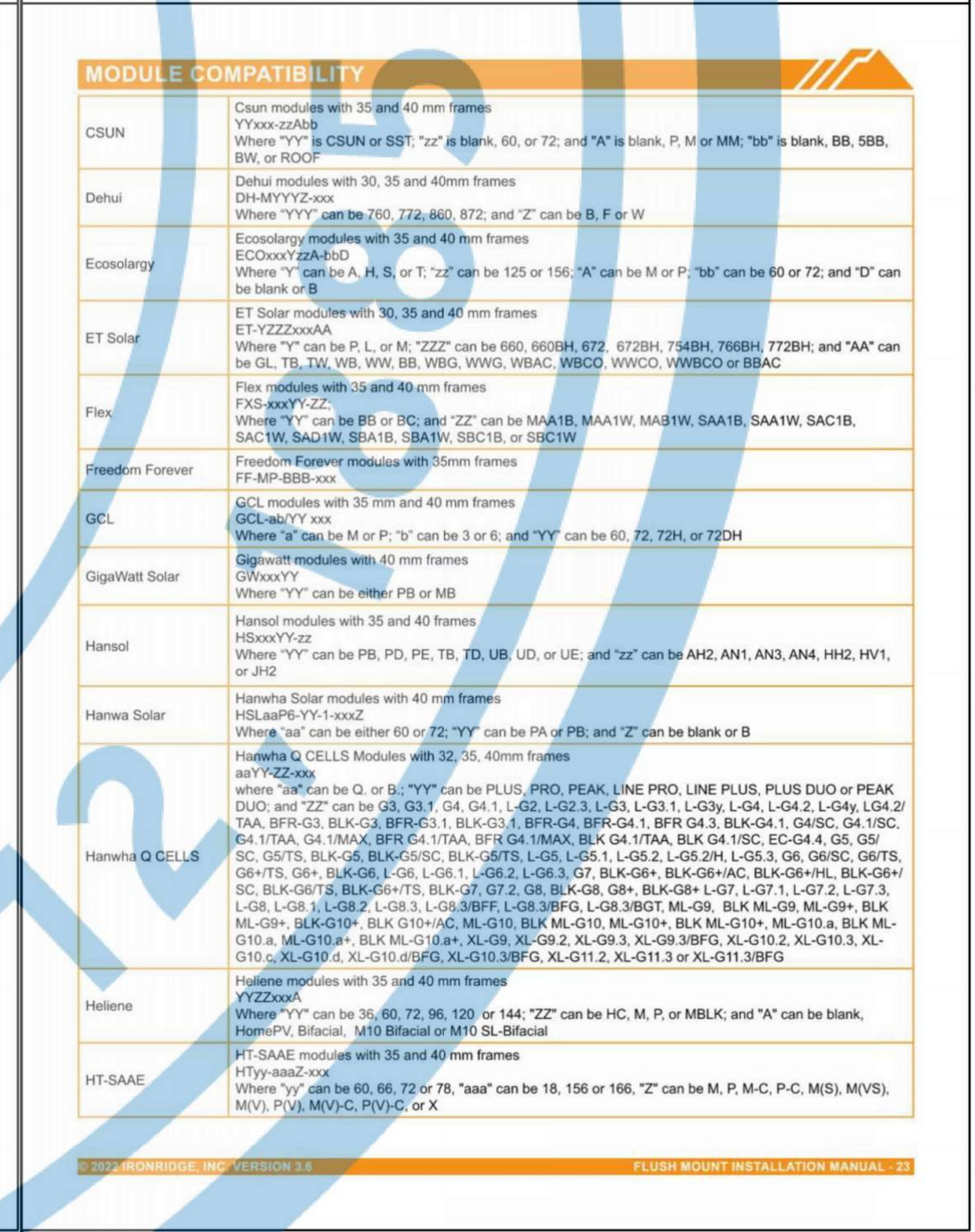

MODULE COMPATIBILITY

CSUN	Csun modules with 35 and 40 mm frames YYxxx-zzAbb Where "YY" is CSUN or SST; "zz" is blank, 60, or 72; and "A" is blank, P, M or MM; "bb" is blank, BB, 5BB, BW, or ROOF
Dehui	Dehui modules with 30, 35 and 40mm frames DH-MYYYZ-xxx Where "YYY" can be 760, 772, 860, 872; and "Z" can be B, F or W
Ecosolargy	Ecosolargy modules with 35 and 40 mm frames ECOxxxYzzA-bbD Where "Y" can be A, H, S, or T; "zz" can be 125 or 156; "A" can be M or P; "bb" can be 60 or 72; and "D" can be blank or B
ET Solar	ET Solar modules with 30, 35 and 40 mm frames ET-YZZZxxxAA Where "Y" can be P, L, or M; "ZZZ" can be 660, 660BH, 672, 672BH, 754BH, 766BH, 772BH; and "AA" can be GL, TB, TW, WB, WW, BB, WBG, WWG, WBAC, WBCO, WWCO, WWBCO or BBAC
Flex	Flex modules with 35 and 40 mm frames FXS-xxxYY-ZZ; Where "YY" can be BB or BC; and "ZZ" can be MAA1B, MAA1W, MAB1W, SAA1B, SAA1W, SAC1B, SAC1W, SAD1W, SBA1B, SBA1W, SBC1B, or SBC1W
Freedom Forever	Freedom Forever modules with 35mm frames FF-MP-BBB-xxx
GCL	GCL modules with 35 mm and 40 mm frames GCL-ab/YY xxx Where "a" can be M or P; "b" can be 3 or 6; and "YY" can be 60, 72, 72H, or 72DH
GigaWatt Solar	Gigawatt modules with 40 mm frames GWxxxYY Where "YY" can be either PB or MB
Hansol	Hansol modules with 35 and 40 frames HSxxxYY-zz Where "YY" can be PB, PD, PE, TB, TD, UB, UD, or UE; and "zz" can be AH2, AN1, AN3, AN4, HH2, HV1, or JH2
Hanwa Solar	Hanwha Solar modules with 40 mm frames HSLaaP6-YY-1-xxxZ Where "aa" can be either 60 or 72; "YY" can be PA or PB; and "Z" can be blank or B
Hanwha Q CELLS	Hanwha Q CELLS Modules with 32, 35, 40mm frames aaYY-ZZ-xxx where "aa" can be Q. or B.; "YY" can be PLUS, PRO, PEAK, LINE PRO, LINE PLUS, PLUS DUO or PEAK DUO; and "ZZ" can be G3, G3.1, G4, G4.1, L-G2, L-G2.3, L-G3, L-G3.1, L-G3y, L-G4, L-G4.2, L-G4y, LG4.2/TAA, BFR-G3, BLK-G3, BFR-G3.1, BLK-G3.1, BFR-G4, BFR-G4.1, BFR G4.3, BLK-G4.1, G4/SC, G4.1/SC, G4.1/TAA, G4.1/MAX, BFR G4.1/TAA, BFR G4.1/MAX, BLK G4.1/TAA, BLK G4.1/SC, EC-G4.4, G5, G5/SC, G5/TS, BLK-G5, BLK-G5/SC, BLK-G5/TS, L-G5, L-G5.1, L-G5.2, L-G5.2/H, L-G5.3, G6, G6/SC, G6/TS, G6+/TS, G6+, BLK-G6, L-G6, L-G6.1, L-G6.2, L-G6.3, G7, BLK-G6+, BLK-G6+/AC, BLK-G6+/HL, BLK-G6+/SC, BLK-G6/TS, BLK-G6+/TS, BLK-G7, G7.2, G8, BLK-G8, G8+, BLK-G8+ L-G7, L-G7.1, L-G7.2, L-G7.3, L-G8, L-G8.1, L-G8.2, L-G8.3, L-G8.3/BFF, L-G8.3/BFG, L-G8.3/BGT, ML-G9, BLK ML-G9, ML-G9+, BLK ML-G9+, BLK-G10+, BLK G10+/AC, ML-G10, BLK ML-G10, ML-G10+, BLK ML-G10+, ML-G10.a, BLK ML-G10.a, ML-G10.a+, BLK ML-G10.a+, XL-G9, XL-G9.2, XL-G9.3, XL-G9.3/BFG, XL-G10.2, XL-G10.3, XL-G10.c, XL-G10.d, XL-G10.d/BFG, XL-G10.3/BFG, XL-G11.2, XL-G11.3 or XL-G11.3/BFG
Heliene	Heliene modules with 35 and 40 mm frames YYZZxxxA Where "YY" can be 36, 60, 72, 96, 120 or 144; "ZZ" can be HC, M, P, or MBLK; and "A" can be blank, HomePV, Bifacial, M10 Bifacial or M10 SL-Bifacial
HT-SAAE	HT-SAAE modules with 35 and 40 mm frames HTyy-aaaZ-xxx Where "yy" can be 60, 66, 72 or 78, "aaa" can be 18, 156 or 166, "Z" can be M, P, M-C, P-C, M(S), M(VS), M(V), P(V), M(V)-C, P(V)-C, or X

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PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
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FRESNO, CA. 93721-3600
559-621-8084
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

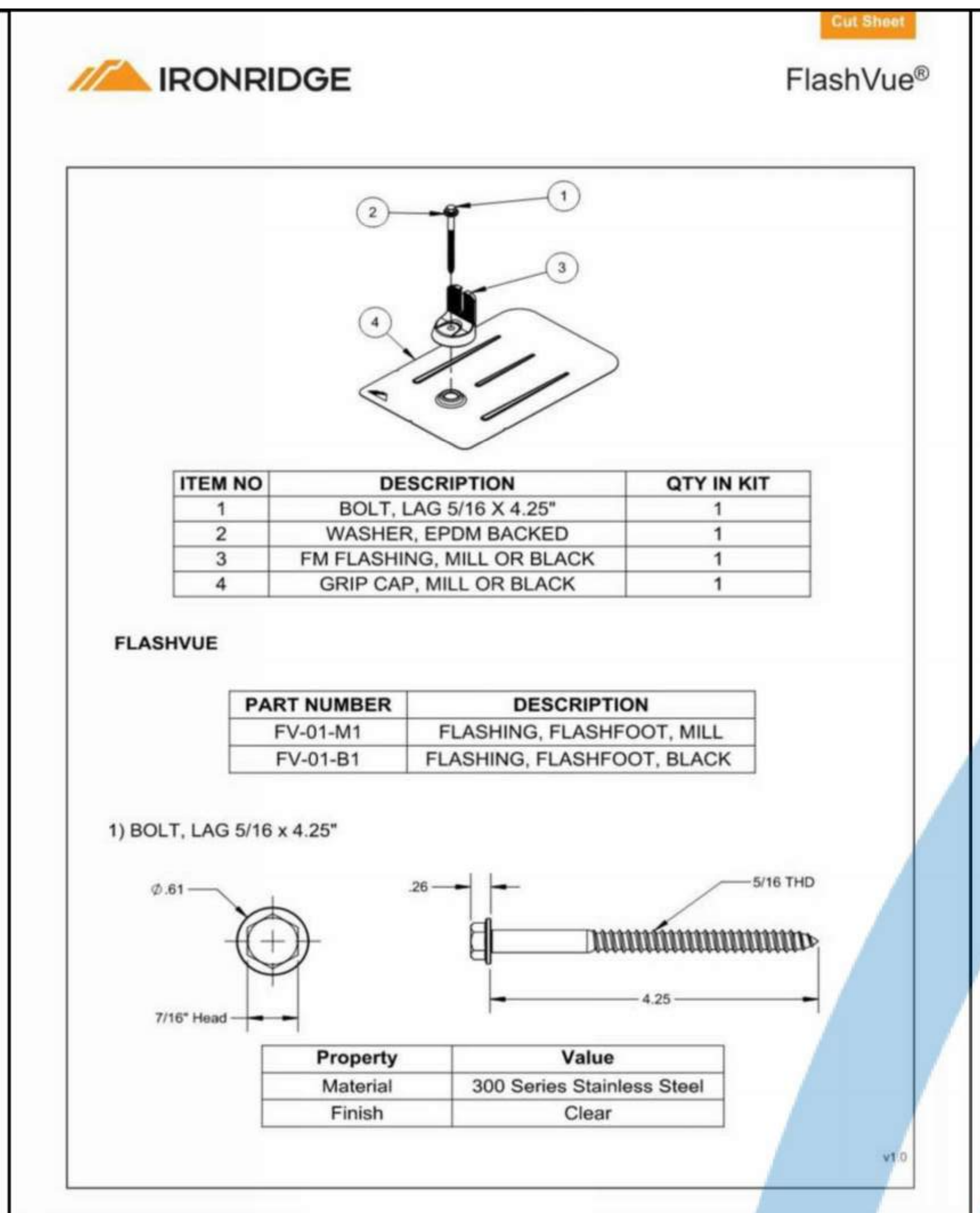
CITY USE ONLY

DRAWING TITLE

PHOTOVOLTAIC SOLAR SPECIFICATIONS

JOB# :	TADU-003	SHEET NO.	PV.2
DATE:	7-Jun-23		
SCALE:	AS NOTED		
DRAWN BY:	IRG		

RACKING RAIL AND ATTACHMENT SPECIFICATION



Cut Sheet

IRONRIDGE FlashVue®

ITEM NO	DESCRIPTION	QTY IN KIT
1	BOLT, LAG 5/16 X 4.25"	1
2	WASHER, EPDM BACKED	1
3	FM FLASHING, MILL OR BLACK	1
4	GRIP CAP, MILL OR BLACK	1

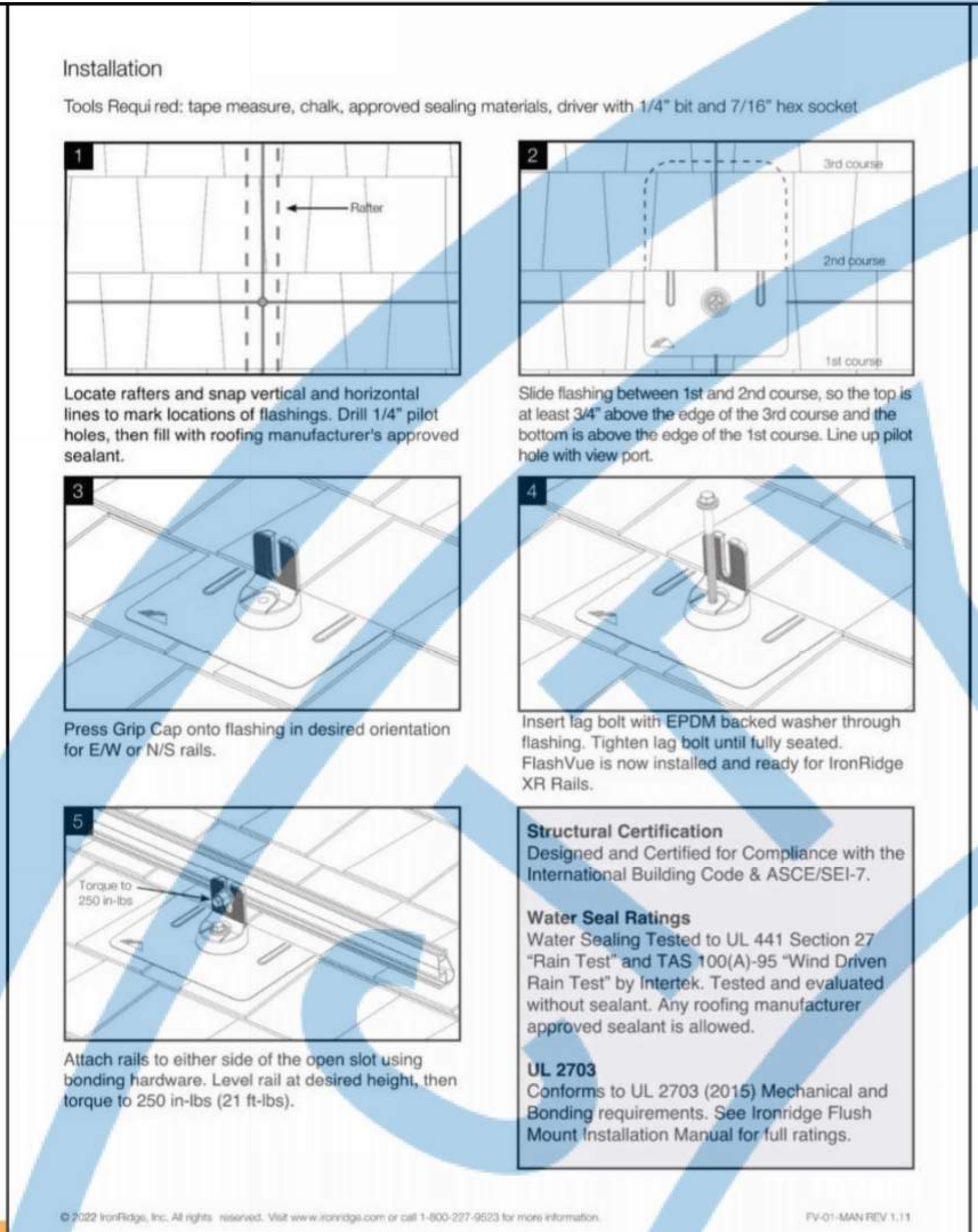
FLASHVUE

PART NUMBER	DESCRIPTION
FV-01-M1	FLASHING, FLASHFOOT, MILL
FV-01-B1	FLASHING, FLASHFOOT, BLACK

1) BOLT, LAG 5/16 x 4.25"

Property	Value
Material	300 Series Stainless Steel
Finish	Clear

v1.0



Installation

Tools Required: tape measure, chalk, approved sealing materials, driver with 1/4" bit and 7/16" hex socket

1. Locate rafters and snap vertical and horizontal lines to mark locations of flashings. Drill 1/4" pilot holes, then fill with roofing manufacturer's approved sealant.
2. Slide flashing between 1st and 2nd course, so the top is at least 3/4" above the edge of the 3rd course and the bottom is above the edge of the 1st course. Line up pilot hole with view port.
3. Press Grip Cap onto flashing in desired orientation for E/W or N/S rails.
4. Insert lag bolt with EPDM backed washer through flashing. Tighten lag bolt until fully seated. FlashVue is now installed and ready for IronRidge XR Rails.
5. Attach rails to either side of the open slot using bonding hardware. Level rail at desired height, then torque to 250 in-lbs (21 ft-lbs).

Structural Certification
Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings
Water Sealing Tested to UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek. Tested and evaluated without sealant. Any roofing manufacturer approved sealant is allowed.

UL 2703
Conforms to UL 2703 (2015) Mechanical and Bonding requirements. See Ironridge Flush Mount Installation Manual for full ratings.

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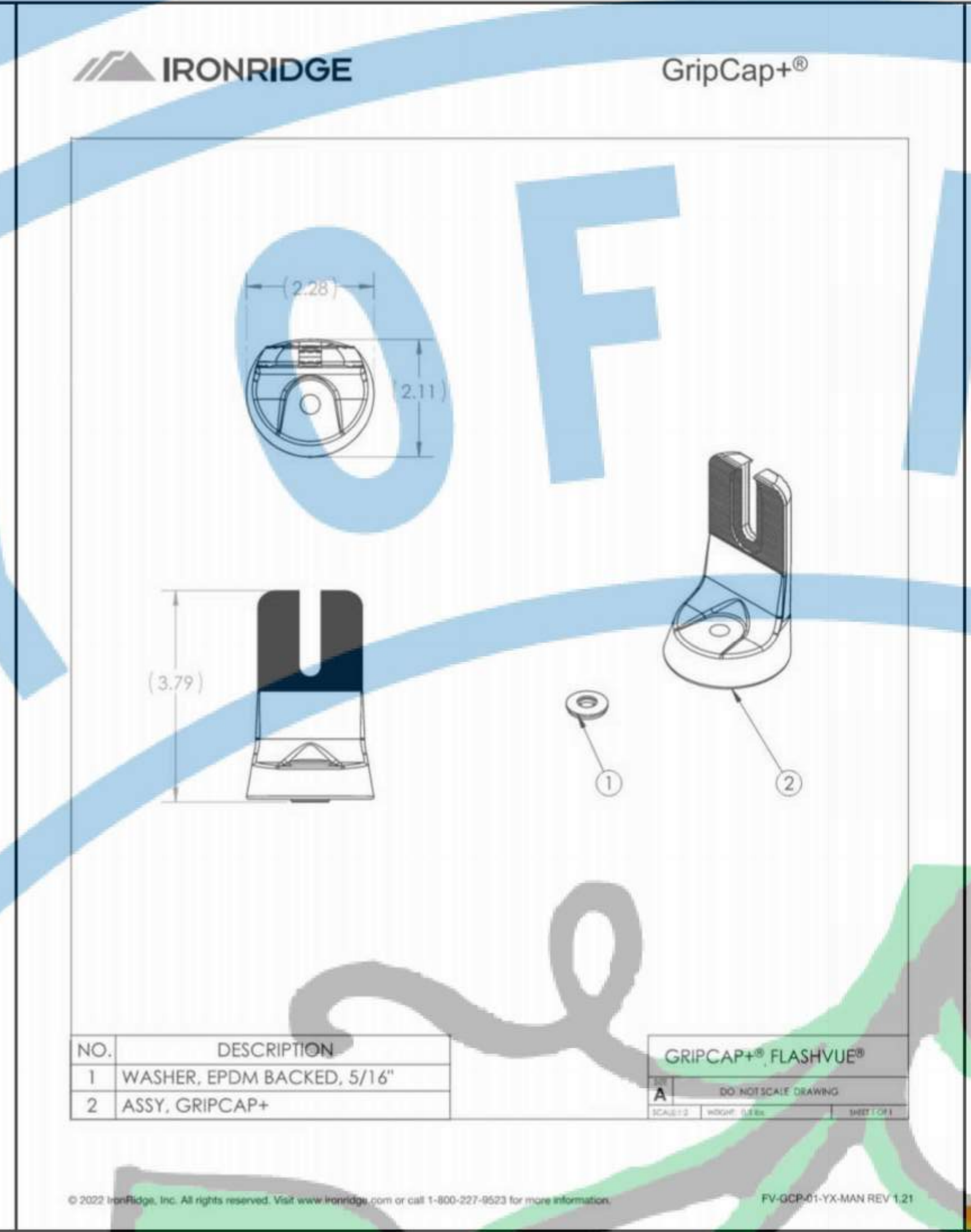

IRONRIDGE GripCap+®

NO.	DESCRIPTION
1	WASHER, EPDM BACKED, 5/16"
2	ASSY, GRIPCAP+

GRIPCAP+® FLASHVUE®
A DO NOT SCALE DRAWING

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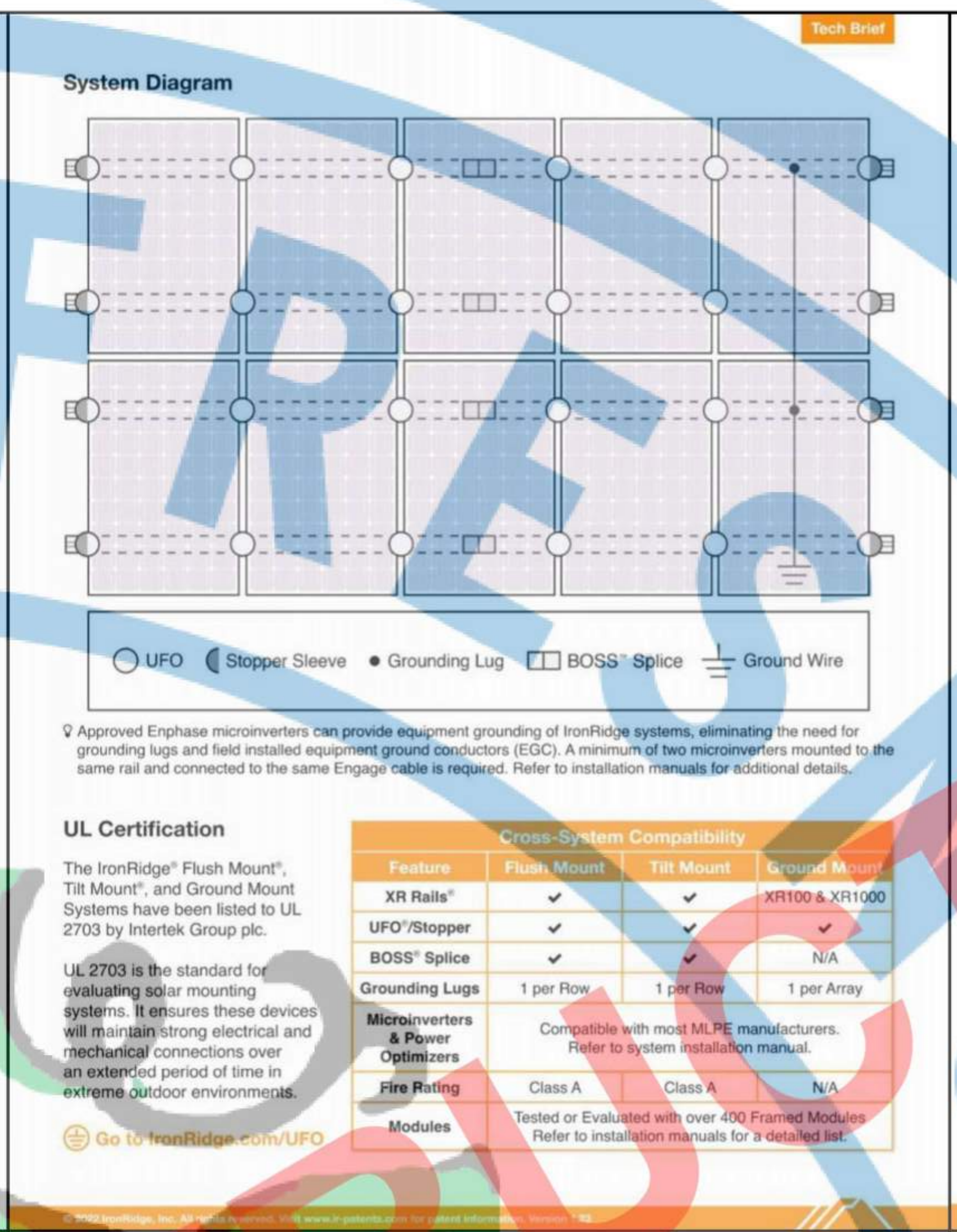


Tech Brief

System Diagram

Approved Enphase microinverters can provide equipment grounding of IronRidge systems, eliminating the need for grounding lugs and field installed equipment ground conductors (EGC). A minimum of two microinverters mounted to the same rail and connected to the same Engage cable is required. Refer to installation manuals for additional details.

UL Certification

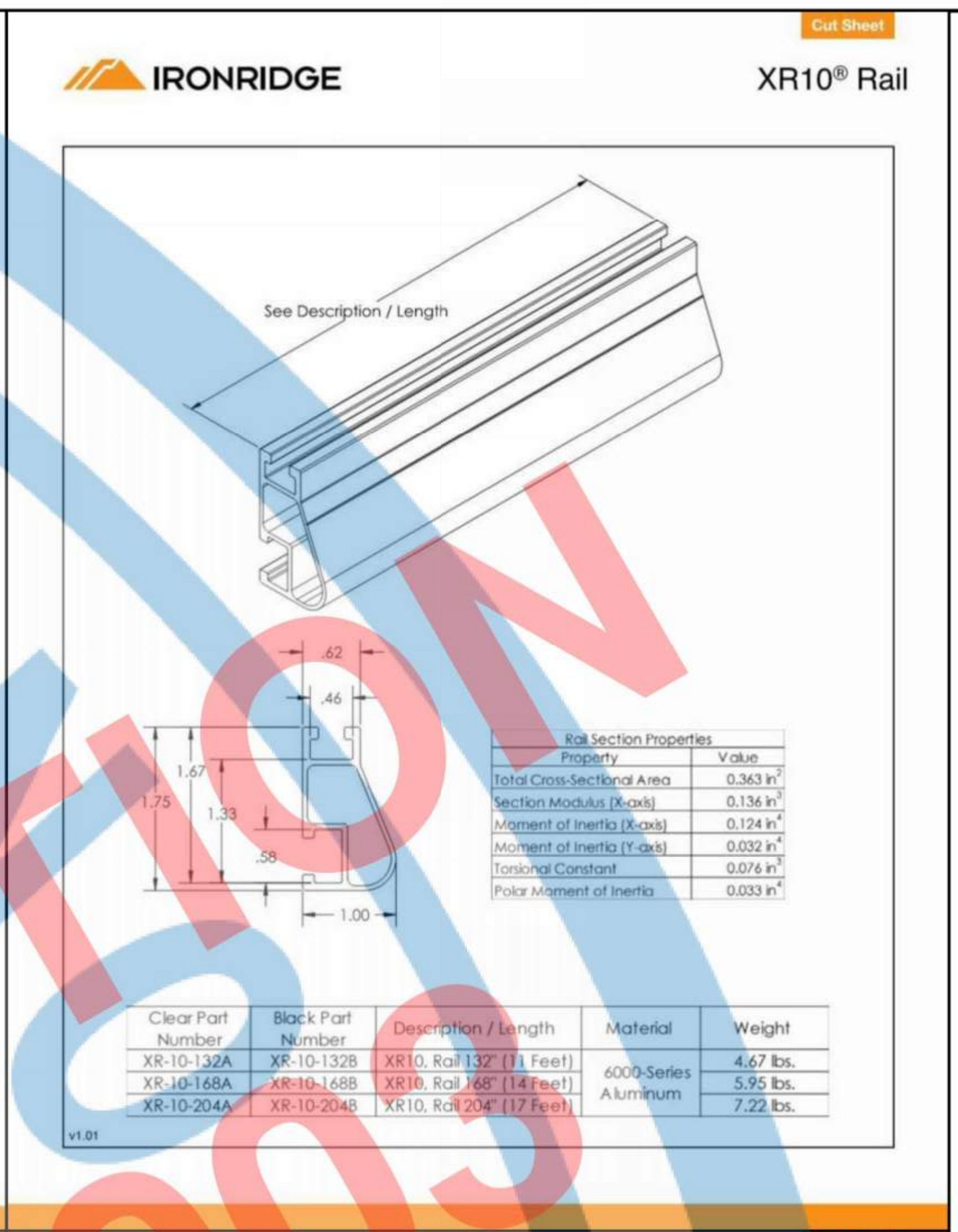
The IronRidge® Flush Mount®, Tilt Mount®, and Ground Mount Systems have been listed to UL 2703 by Intertek Group plc.

UL 2703 is the standard for evaluating solar mounting systems. It ensures these devices will maintain strong electrical and mechanical connections over an extended period of time in extreme outdoor environments.

Go to IronRidge.com/UFO

Cross-System Compatibility

Feature	Flush Mount	Tilt Mount	Ground Mount
XR Rails®	✓	✓	XR100 & XR1000
UFO®/Stopper	✓	✓	✓
BOSS® Splice	✓	✓	N/A
Grounding Lugs	1 per Row	1 per Row	1 per Array
Microinverters & Power Optimizers	Compatible with most MLPE manufacturers. Refer to system installation manual.		
Fire Rating	Class A	Class A	N/A
Modules	Tested or Evaluated with over 400 Framed Modules Refer to installation manuals for a detailed list.		



Cut Sheet

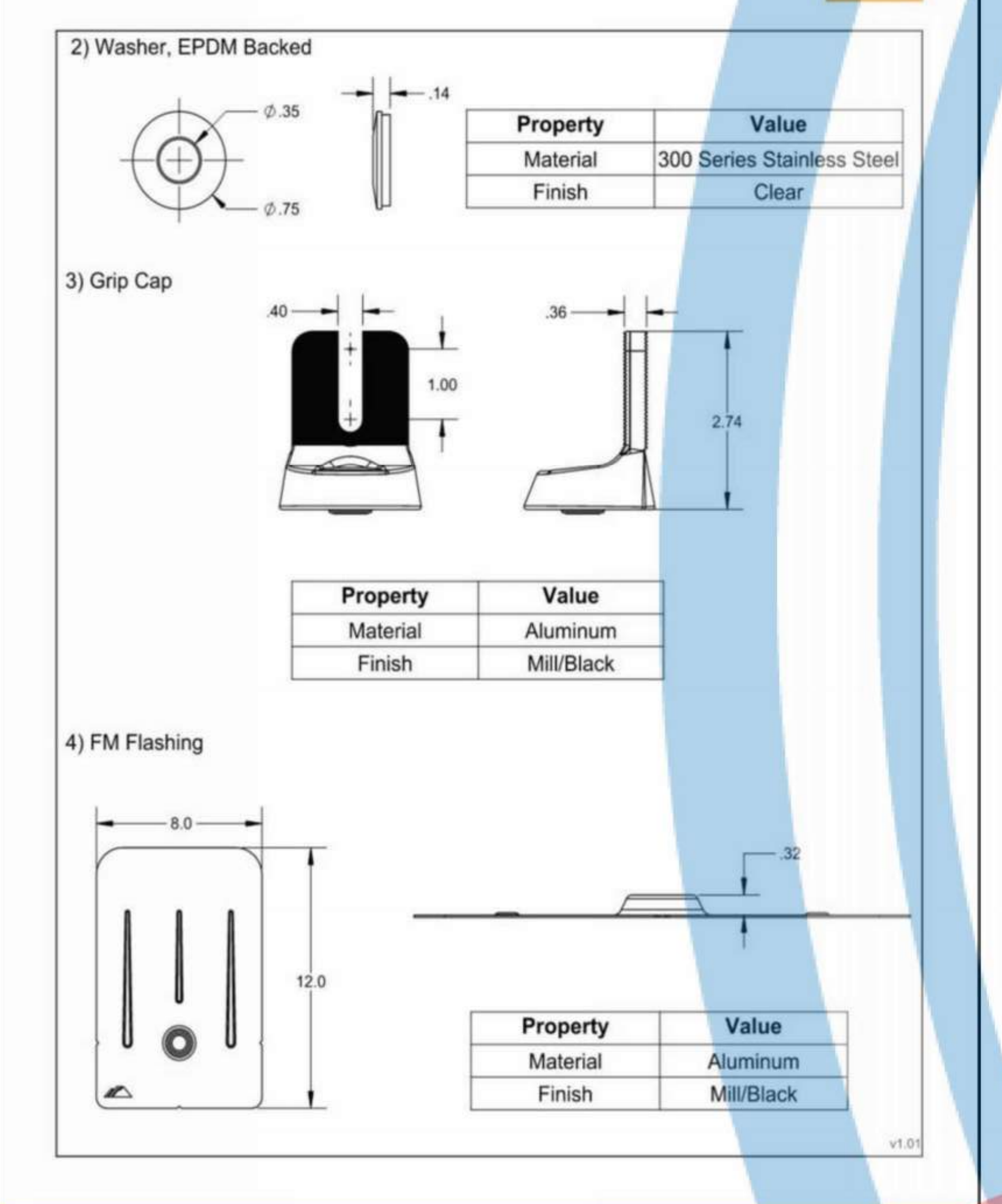
IRONRIDGE XR10® Rail

Rail Section Properties

Property	Value
Total Cross-Sectional Area	0.363 in²
Section Modulus (X-axis)	0.136 in³
Moment of Inertia (X-axis)	0.124 in⁴
Moment of Inertia (Y-axis)	0.032 in⁴
Torsional Constant	0.076 in³
Polar Moment of Inertia	0.033 in⁴

Clear Part Number	Black Part Number	Description / Length	Material	Weight
XR-10-132A	XR-10-132B	XR10, Rail 132" (11 Feet)	6000-Series Aluminum	4.67 lbs.
XR-10-168A	XR-10-168B	XR10, Rail 168" (14 Feet)		5.95 lbs.
XR-10-204A	XR-10-204B	XR10, Rail 204" (17 Feet)		7.22 lbs.

v1.01



Cut Sheet

2) Washer, EPDM Backed

Property	Value
Material	300 Series Stainless Steel
Finish	Clear

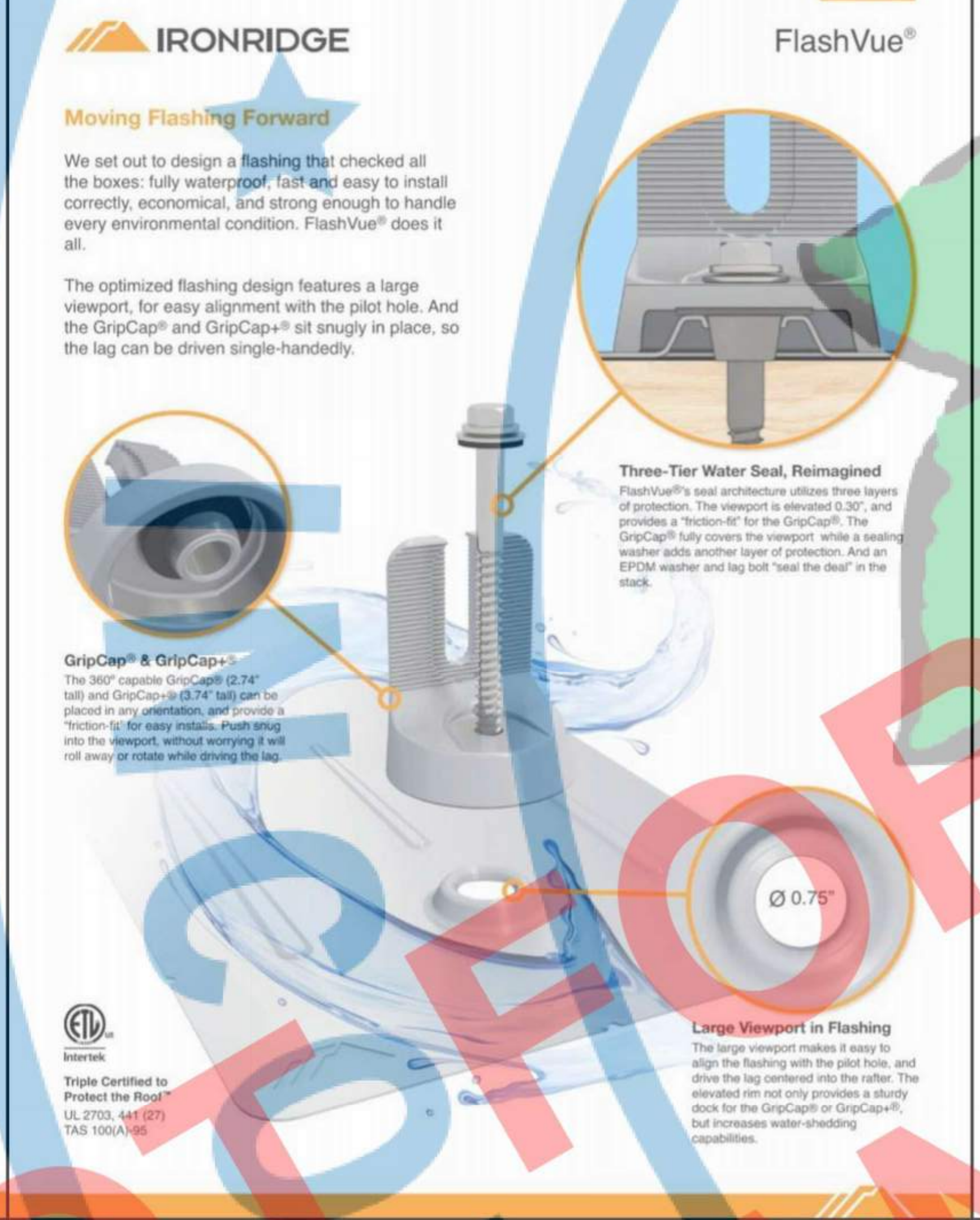
3) Grip Cap

Property	Value
Material	Aluminum
Finish	Mill/Black

4) FM Flashing

Property	Value
Material	Aluminum
Finish	Mill/Black

v1.01



Tech Brief

IRONRIDGE FlashVue®

Moving Flashing Forward

We set out to design a flashing that checked all the boxes: fully waterproof, fast and easy to install correctly, economical, and strong enough to handle every environmental condition. FlashVue® does it all.

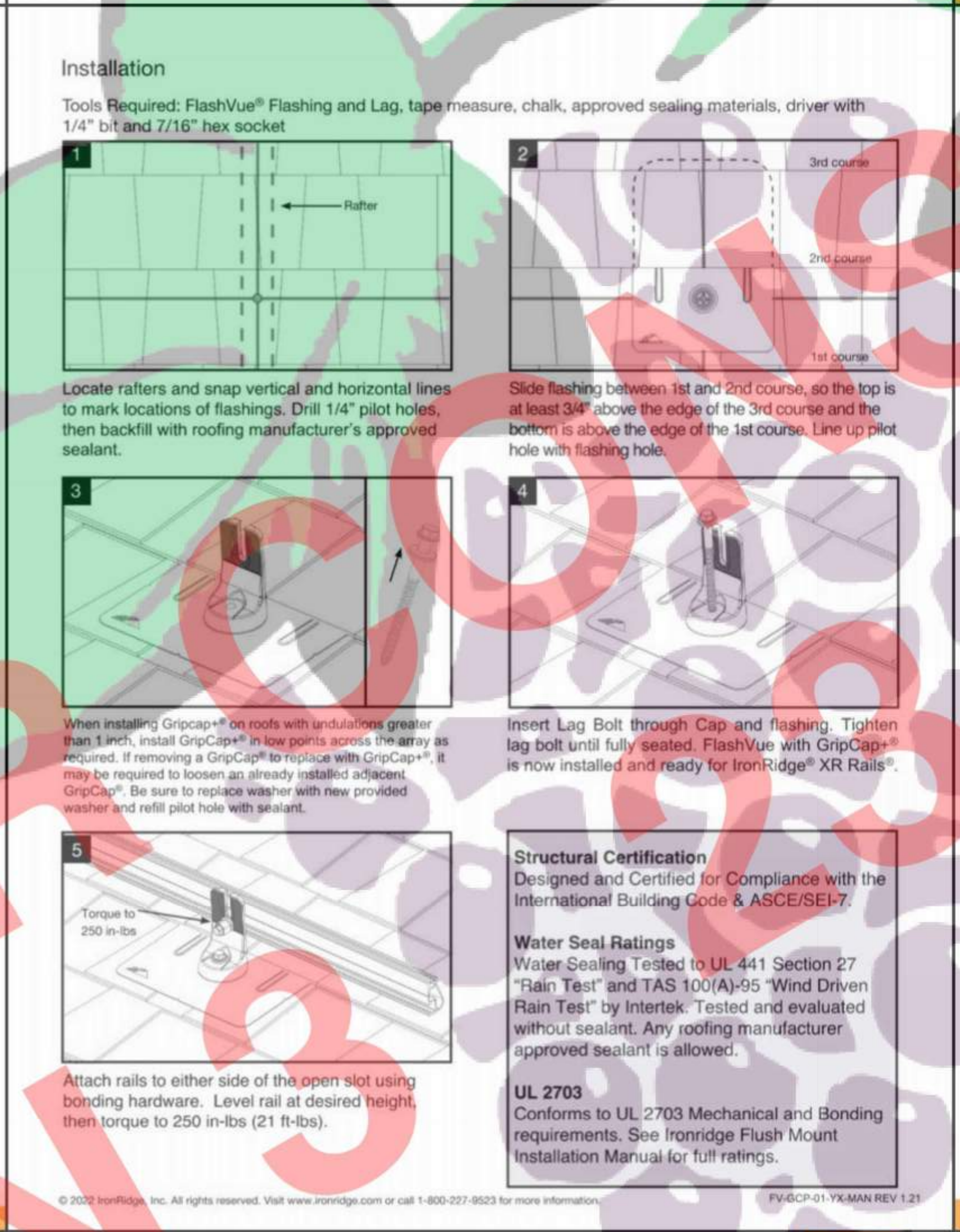
The optimized flashing design features a large viewport, for easy alignment with the pilot hole. And the GripCap® and GripCap+® sit snugly in place, so the lag can be driven single-handedly.

Three-Tier Water Seal, Reimagined
FlashVue®'s seal architecture utilizes three layers of protection. The viewport is elevated 0.30", and provides a "friction-fit" for the GripCap®. The GripCap® fully covers the viewport while a sealing washer adds another layer of protection. And an EPDM washer and lag bolt "seal the deal" in the stack.

GripCap® & GripCap+®
The 360° capable GripCap® (2.74" tall) and GripCap+® (3.74" tall) can be placed in any orientation, and provide a "friction-fit" for easy installs. Push snug into the viewport, without worrying it will roll away or rotate while driving the lag.

Intertek
Triple Certified to Protect the Roof™
UL 2703, 441 (27)
TAS 100(A)-95

Large Viewport in Flashing
The large viewport makes it easy to align the flashing with the pilot hole, and drive the lag centered into the rafter. The elevated rim not only provides a sturdy dock for the GripCap® or GripCap+®, but increases water-shedding capabilities.



Installation

Tools Required: FlashVue® Flashing and Lag, tape measure, chalk, approved sealing materials, driver with 1/4" bit and 7/16" hex socket

1. Locate rafters and snap vertical and horizontal lines to mark locations of flashings. Drill 1/4" pilot holes, then backfill with roofing manufacturer's approved sealant.
2. Slide flashing between 1st and 2nd course, so the top is at least 3/4" above the edge of the 3rd course and the bottom is above the edge of the 1st course. Line up pilot hole with flashing hole.
3. When installing Gripcap+® on roofs with undulations greater than 1 inch, install GripCap+® in low points across the array as required. If removing a GripCap® to replace with GripCap+®, it may be required to loosen an already installed adjacent GripCap®. Be sure to replace washer with new provided washer and refill pilot hole with sealant.
4. Insert Lag Bolt through Cap and flashing. Tighten lag bolt until fully seated. FlashVue with GripCap+® is now installed and ready for IronRidge® XR Rails®.
5. Attach rails to either side of the open slot using bonding hardware. Level rail at desired height, then torque to 250 in-lbs (21 ft-lbs).

Structural Certification
Designed and Certified for Compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings
Water Sealing Tested to UL 441 Section 27 "Rain Test" and TAS 100(A)-95 "Wind Driven Rain Test" by Intertek. Tested and evaluated without sealant. Any roofing manufacturer approved sealant is allowed.

UL 2703
Conforms to UL 2703 Mechanical and Bonding requirements. See Ironridge Flush Mount Installation Manual for full ratings.

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Tech Brief

IRONRIDGE XR Rail® Family

Solar Is Not Always Sunny

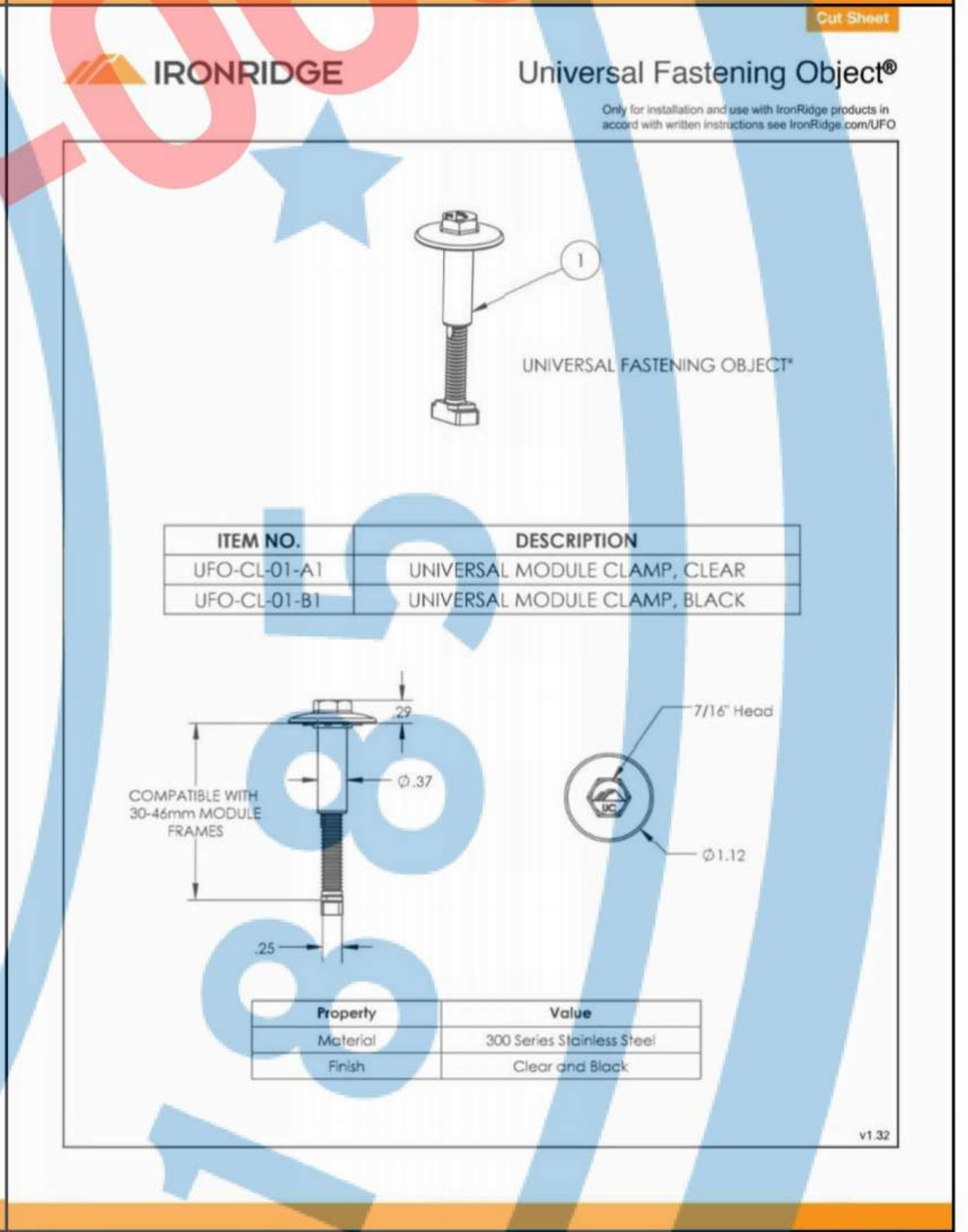
Over their lifetime, solar panels experience countless extreme weather events. Not just the worst storms in years, but the worst storms in 40 years. High winds capable of ripping panels from a roof, and snowfalls weighing enough to buckle a panel frame.

XR Rails® are the structural backbone preventing these results. They resist uplift, protect against buckling and safely and efficiently transfer loads into the building structure. Their superior spanning capability requires fewer roof attachments, reducing the number of roof penetrations and the amount of installation time.

Force-Stabilizing Curve
Sloped roofs generate both vertical and lateral forces on mounting rails which can cause them to bend and twist. The curved shape of XR Rails® is specially designed to increase strength in both directions while resisting the twisting. This unique feature ensures greater security during extreme weather and a longer system lifetime.

Compatible with Flat & Pitched Roofs
XR Rails® are compatible with FlashFoot® and other pitched roof attachments.
IronRidge® offers a range of tilt leg options for flat roof mounting applications.

Corrosion-Resistant Materials
All XR Rails® are made of 6000-series aluminum alloy, then protected with an anodized finish. Anodizing prevents surface and structural corrosion, while also providing a more attractive appearance.



Cut Sheet

IRONRIDGE Universal Fastening Object®

Only for installation and use with IronRidge products in accord with written instructions see IronRidge.com/UFO

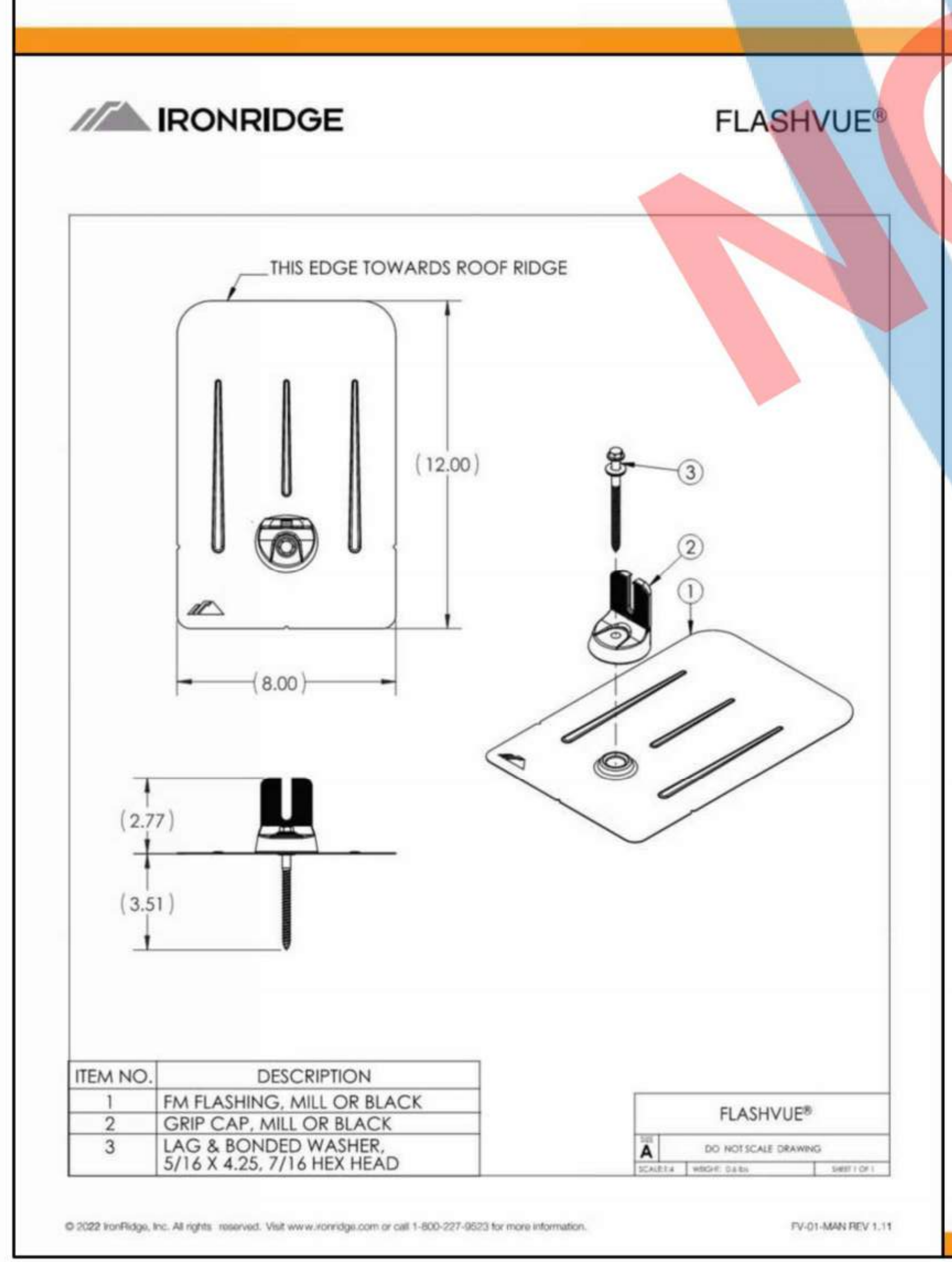
1
UNIVERSAL FASTENING OBJECT®

ITEM NO.	DESCRIPTION
UFO-CL-01-A1	UNIVERSAL MODULE CLAMP, CLEAR
UFO-CL-01-B1	UNIVERSAL MODULE CLAMP, BLACK

.29
Ø.37
COMPATIBLE WITH 30-46mm MODULE FRAMES
.25
7/16" Head
Ø1.12

Property	Value
Material	300 Series Stainless Steel
Finish	Clear and Black

v1.32



IRONRIDGE FLASHVUE®

ITEM NO.	DESCRIPTION
1	FM FLASHING, MILL OR BLACK
2	GRIP CAP, MILL OR BLACK
3	LAG & BONDED WASHER, 5/16 X 4.25, 7/16 HEX HEAD

FLASHVUE®
DO NOT SCALE DRAWING

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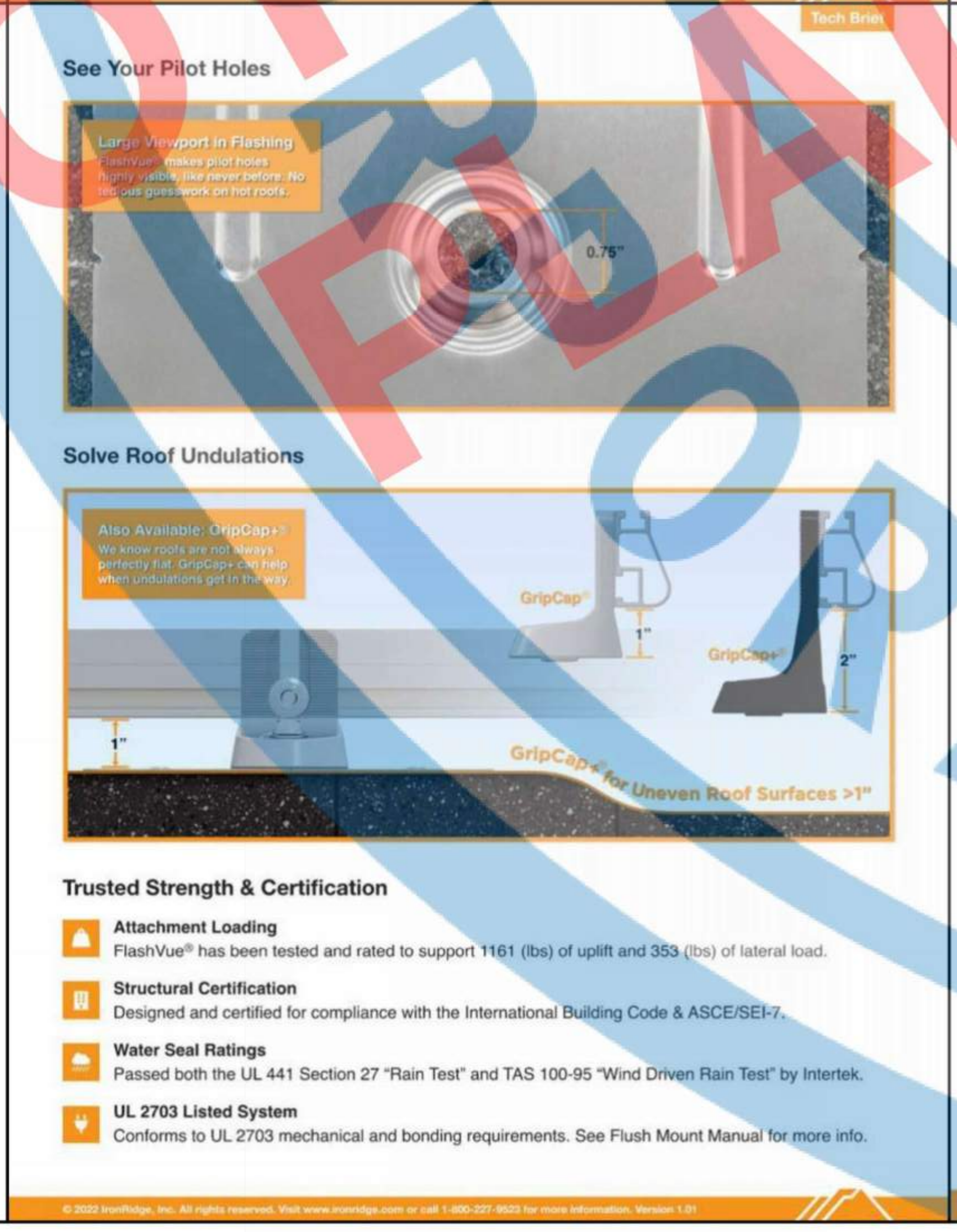

Tech Brief

See Your Pilot Holes

Large Viewport in Flashing
FlashVue® makes pilot holes highly visible, like never before. No tedious guesswork on hot roofs.

Solve Roof Undulations

Also Available: GripCap+®
We know roofs are not always perfectly flat. GripCap+ can help when undulations get in the way.

Trusted Strength & Certification

Attachment Loading
FlashVue® has been tested and rated to support 1161 (lbs) of uplift and 353 (lbs) of lateral load.

Structural Certification
Designed and certified for compliance with the International Building Code & ASCE/SEI-7.

Water Seal Ratings
Passed both the UL 441 Section 27 "Rain Test" and TAS 100-95 "Wind Driven Rain Test" by Intertek.

UL 2703 Listed System
Conforms to UL 2703 mechanical and bonding requirements. See Flush Mount Manual for more info.

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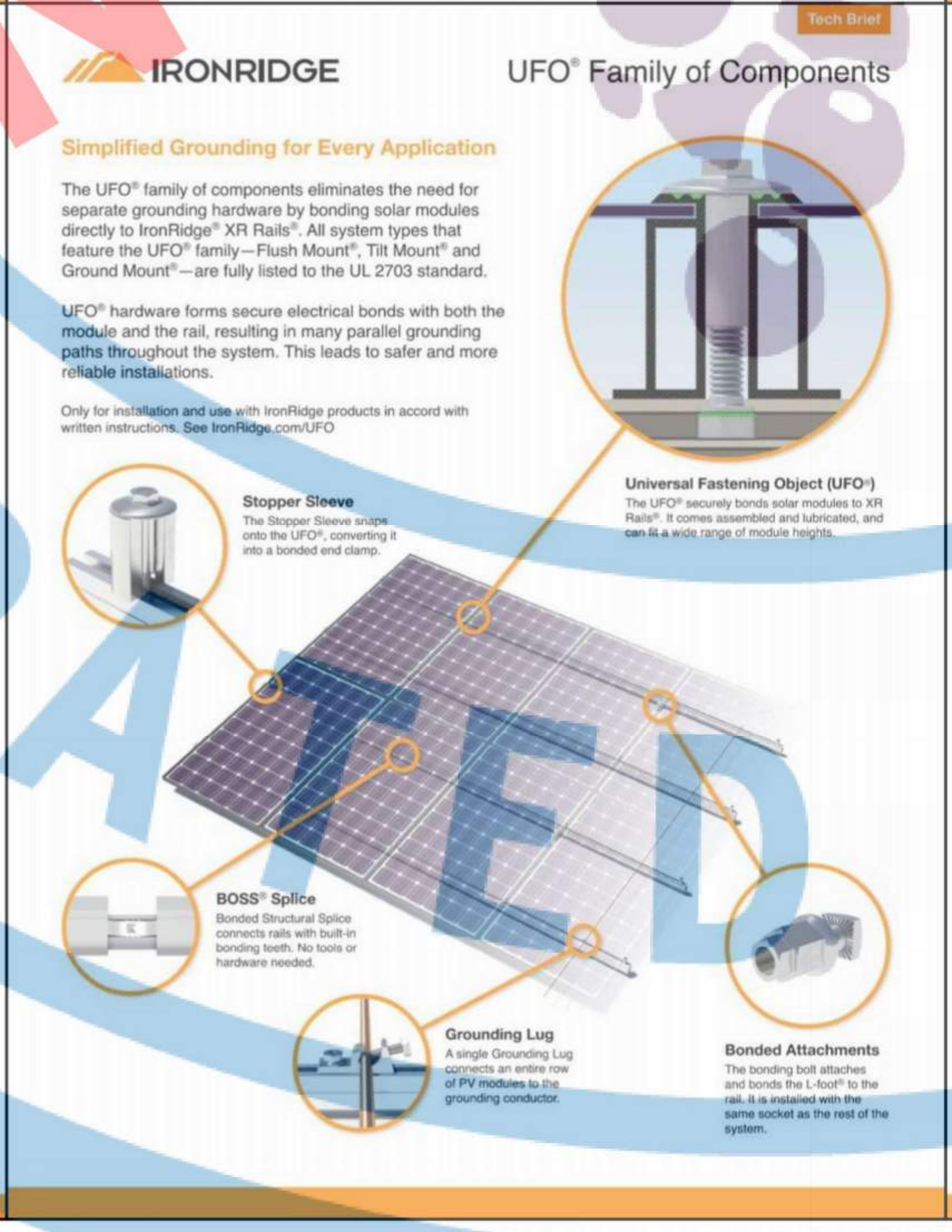


Tech Brief

IRONRIDGE UFO® Family of Components

Simplified Grounding for Every Application

The UFO® family of components eliminates the need for separate grounding hardware by bonding solar modules directly to IronRidge® XR Rails®. All system types that feature the UFO® family—Flush Mount®, Tilt Mount® and Ground Mount®—are fully listed to the UL 2703 standard.

UFO® hardware forms secure electrical bonds with both the module and the rail, resulting in many parallel grounding paths throughout the system. This leads to safer and more reliable installations.

Only for installation and use with IronRidge products in accord with written instructions. See IronRidge.com/UFO

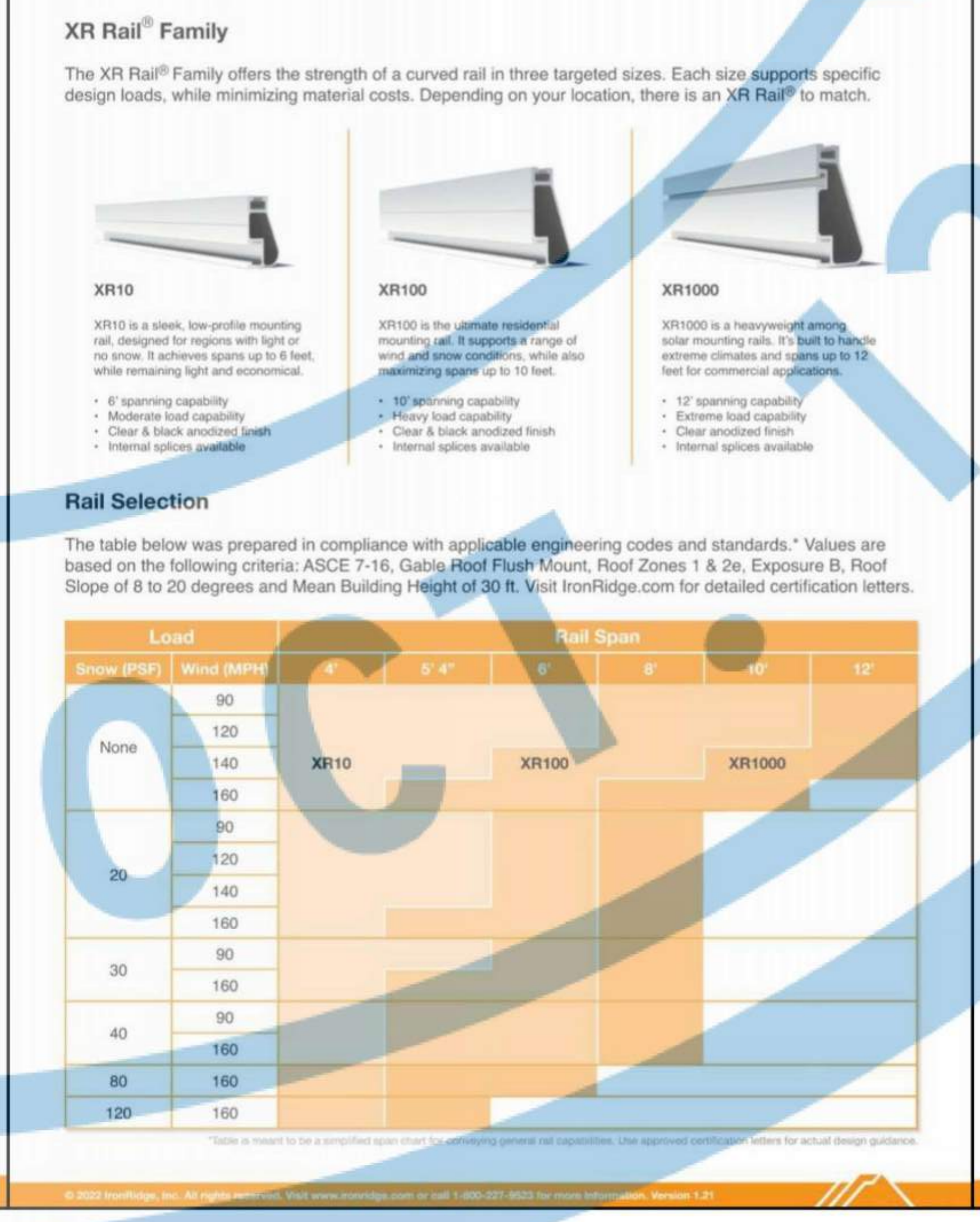
Universal Fastening Object (UFO®)
The UFO® securely bonds solar modules to XR Rails®. It comes assembled and lubricated, and can fit a wide range of module heights.

Stopper Sleeve
The Stopper Sleeve snaps onto the UFO®, converting it into a bonded end clamp.

BOSS® Splice
Bonded Structural Splice connects rails with built-in bonding teeth. No tools or hardware needed.

Grounding Lug
A single Grounding Lug connects an entire row of PV modules to the grounding conductor.

Bonded Attachments
The bonding bolt attaches and bonds the L-foot® to the rail. It is installed with the same socket as the rest of the system.



Tech Brief

XR Rail® Family

The XR Rail® Family offers the strength of a curved rail in three targeted sizes. Each size supports specific design loads, while minimizing material costs. Depending on your location, there is an XR Rail® to match.

XR10
XR10 is a sleek, low-profile mounting rail, designed for regions with light or no snow. It achieves spans up to 6 feet, while remaining light and economical.
- 6' spanning capability
- Moderate load capability
- Clear & black anodized finish
- Internal splices available

XR100
XR100 is the ultimate residential mounting rail. It supports a range of wind and snow conditions, while also maximizing spans up to 10 feet.
- 10' spanning capability
- Heavy load capability
- Clear & black anodized finish
- Internal splices available

XR1000
XR1000 is a heavyweight among solar mounting rails. It's built to handle extreme climates and spans up to 12 feet for commercial applications.
- 12' spanning capability
- Extreme load capability
- Clear anodized finish
- Internal splices available

Rail Selection

The table below was prepared in compliance with applicable engineering codes and standards.* Values are based on the following criteria: ASCE 7-16, Gable Roof Flush Mount, Roof Zones 1 & 2e, Exposure B, Roof Slope of 8 to 20 degrees and Mean Building Height of 30 ft. Visit IronRidge.com for detailed certification letters.

Load		Rail Span					
Snow (PSF)	Wind (MPH)	4'	5' 4"	6'	8'	10'	12'
None	90						
	120						
	140	XR10		XR100		XR1000	
	160						
20	90						
	120						
	140						
	160						
30	90						
	160						
40	90						
	160						
80	160						
120	160						

*Table is meant to be a simplified span chart for conveying general rail capabilities. Use approved certification letters for actual design guidance.

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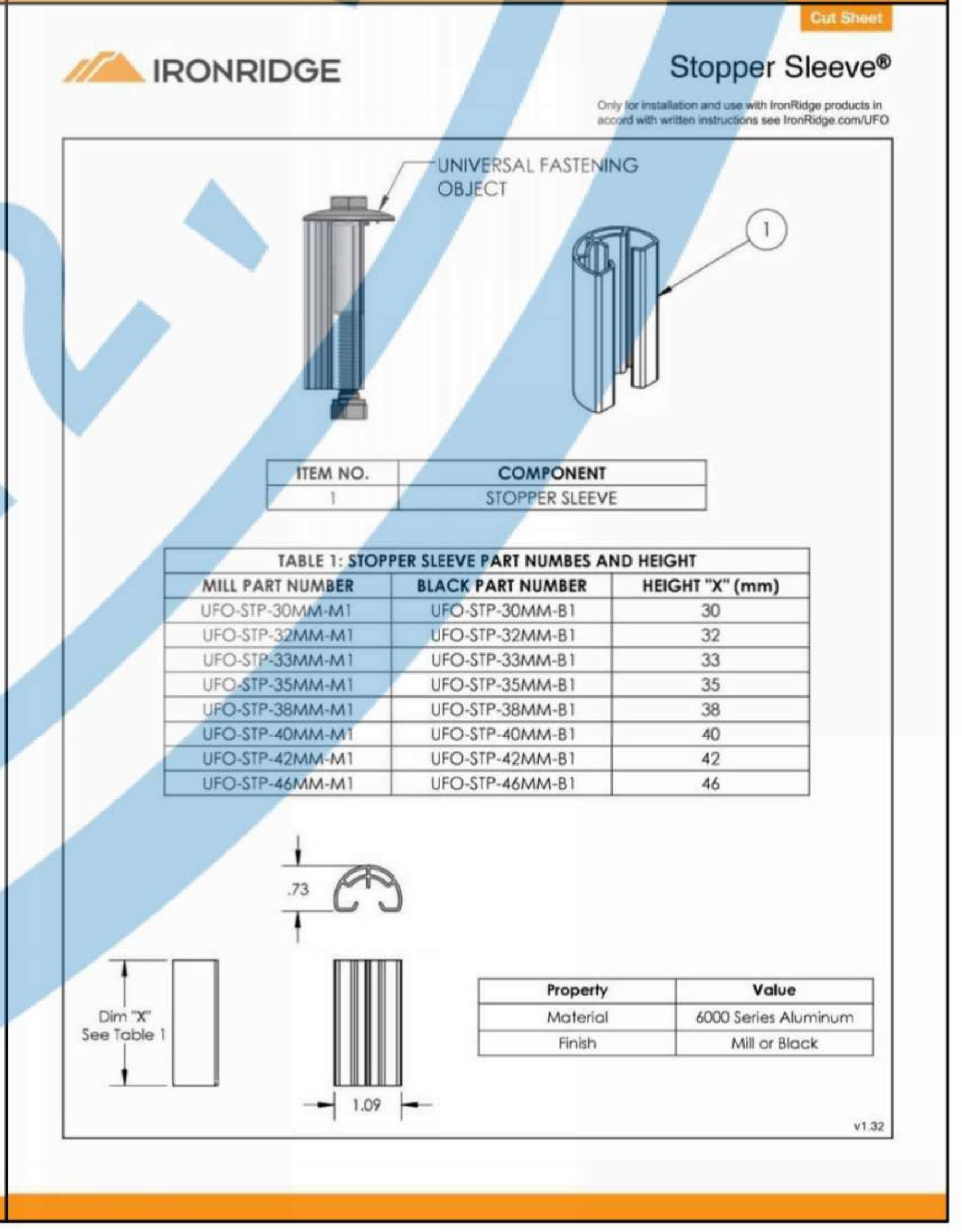

Cut Sheet

IRONRIDGE Stopper Sleeve®

Only for installation and use with IronRidge products in accord with written instructions see IronRidge.com/UFO

ITEM NO.	COMPONENT
1	STOPPER SLEEVE

TABLE 1: STOPPER SLEEVE PART NUMBES AND HEIGHT

MILL PART NUMBER	BLACK PART NUMBER	HEIGHT "X" (mm)
UFO-STP-30MM-M1	UFO-STP-30MM-B1	30
UFO-STP-32MM-M1	UFO-STP-32MM-B1	32
UFO-STP-33MM-M1	UFO-STP-33MM-B1	33
UFO-STP-35MM-M1	UFO-STP-35MM-B1	35
UFO-STP-38MM-M1	UFO-STP-38MM-B1	38
UFO-STP-40MM-M1	UFO-STP-40MM-B1	40
UFO-STP-42MM-M1	UFO-STP-42MM-B1	42
UFO-STP-46MM-M1	UFO-STP-46MM-B1	46

Property	Value
Material	6000 Series Aluminum
Finish	Mill or Black

v1.32

PLANNING AND DEVELOPMENT DEPARTMENT
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PROJECT:

ACCESSORY DWELLING UNIT (TADU-003) PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

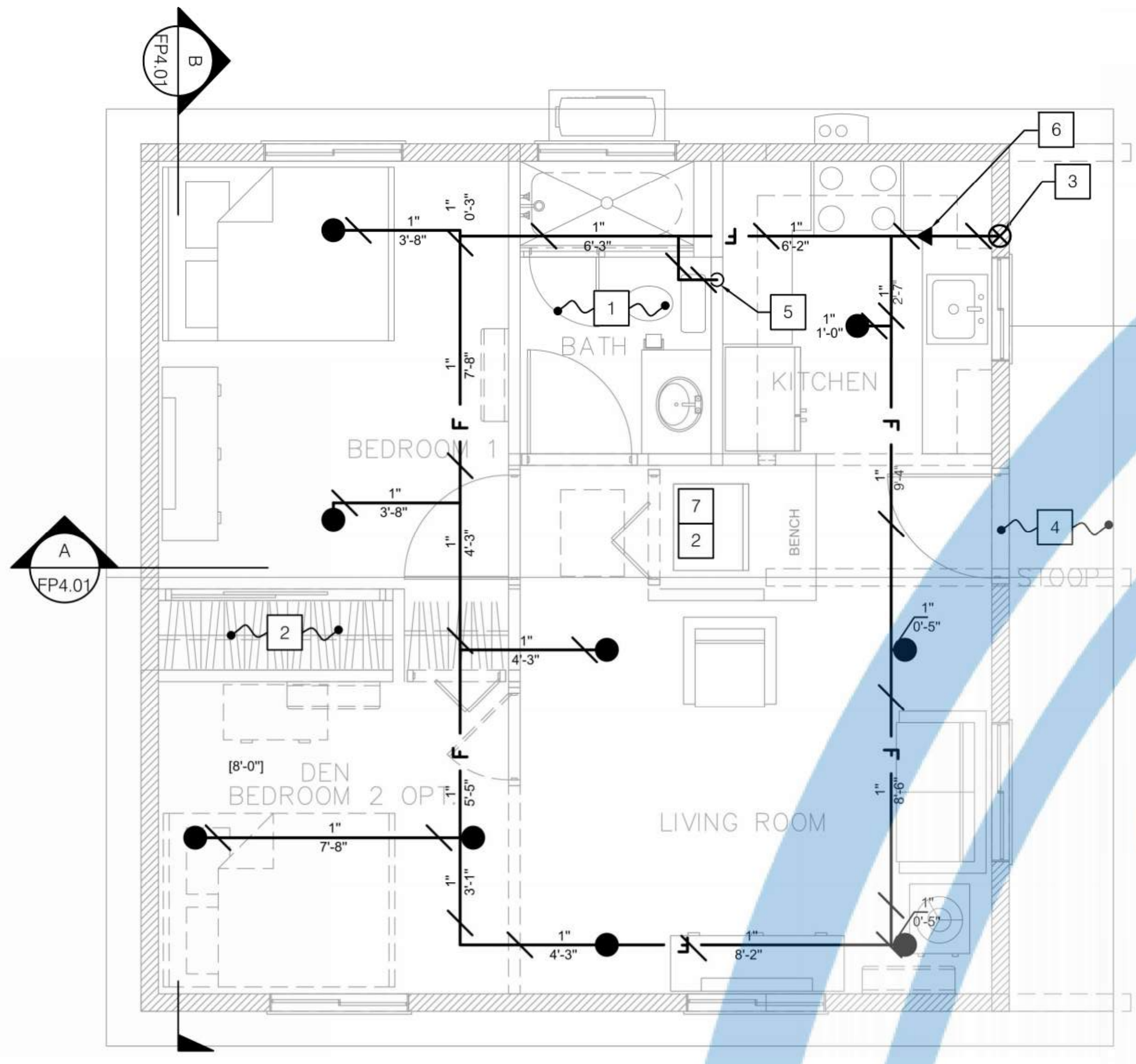
CITY USE ONLY

DRAWING TITLE

PHOTOVOLTAIC SOLAR SPECIFICATIONS

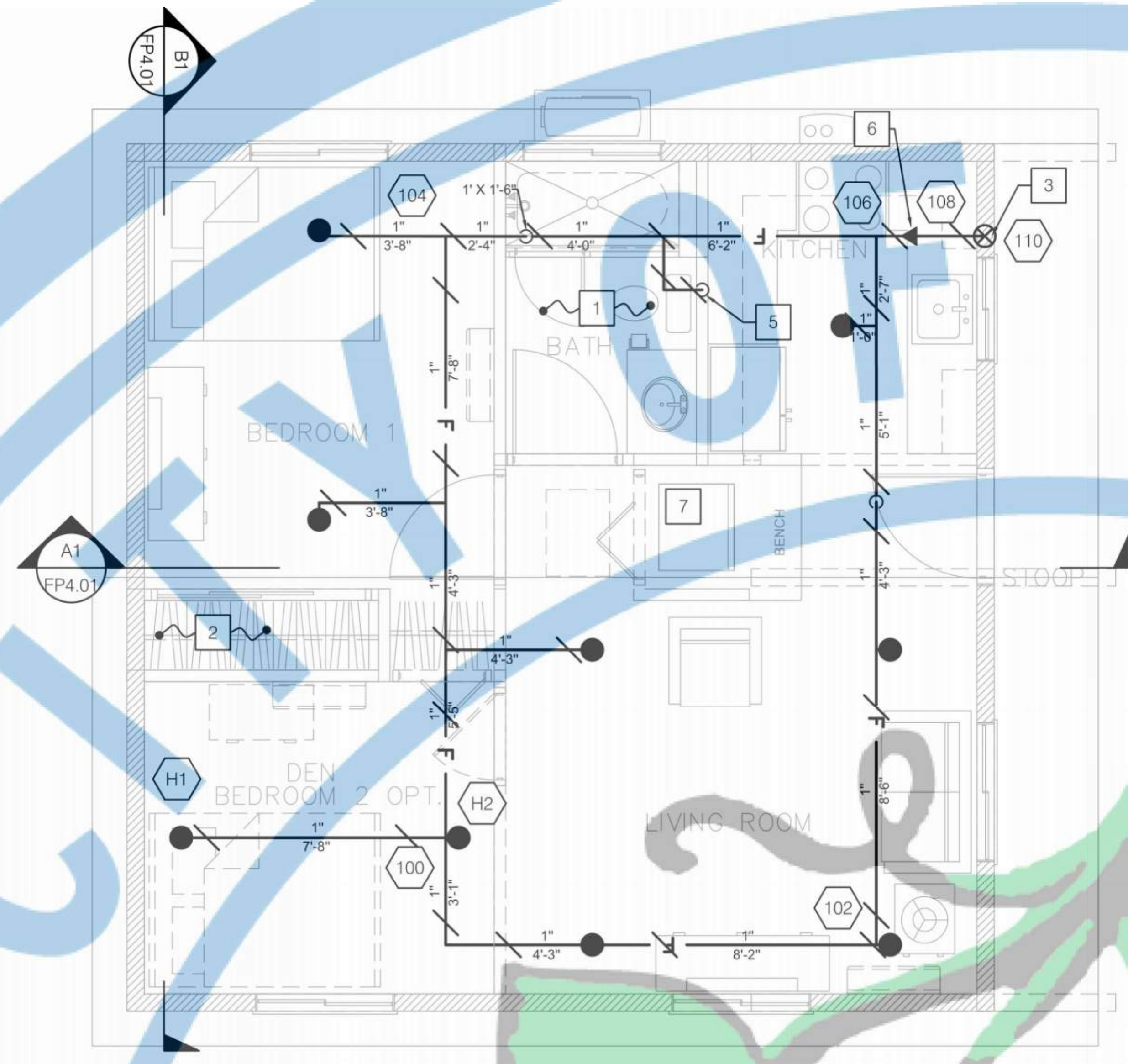
JOB# :	TADU-003
DATE:	13-Apr-23
SCALE:	AS NOTED
DRAWN BY:	IRG

SHEET NO.
PV.3



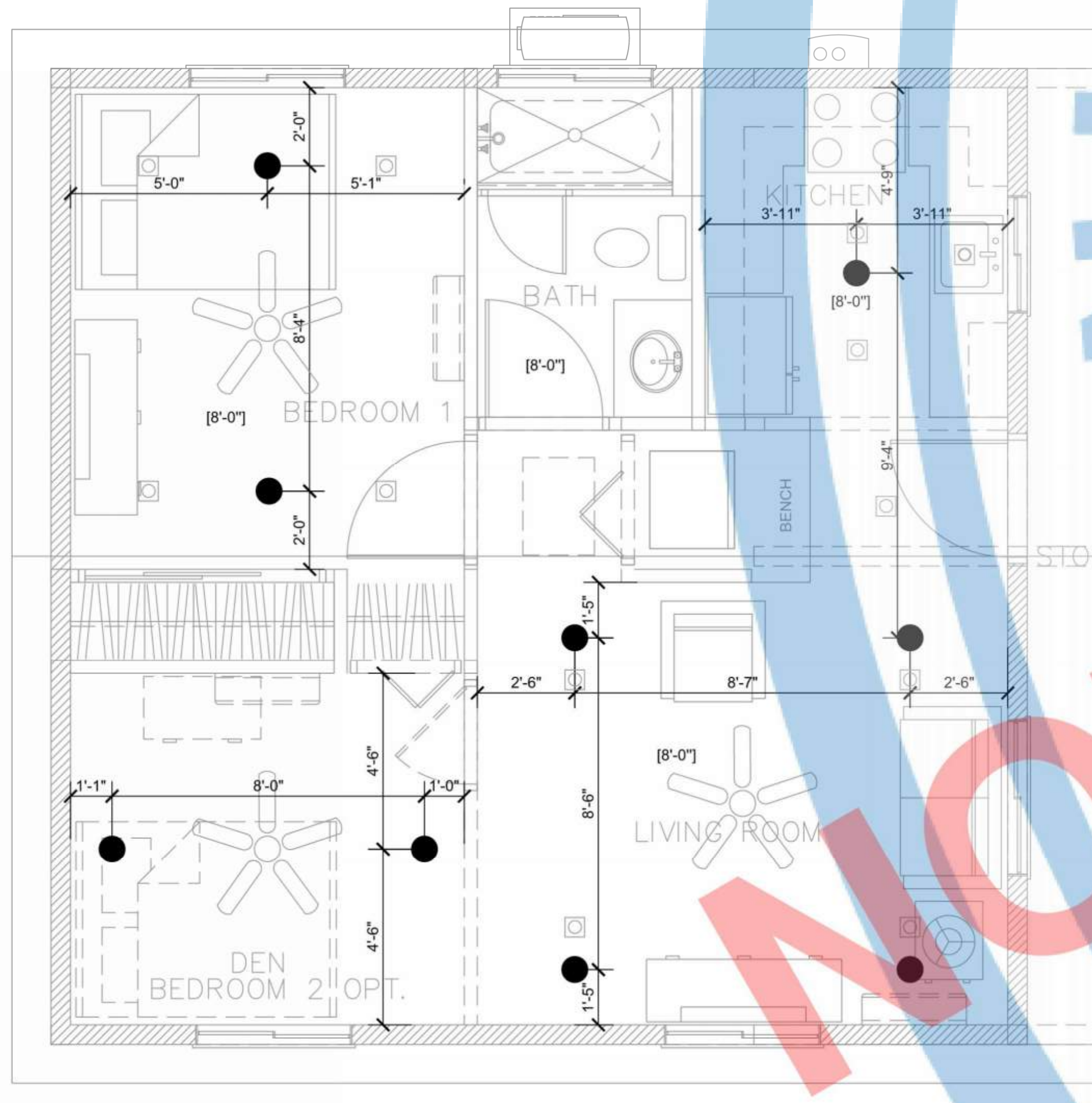
4 SPRINKLER FLOOR PLAN - GABLE/CRAFTSMAN STYLE

1/4"=1'0"



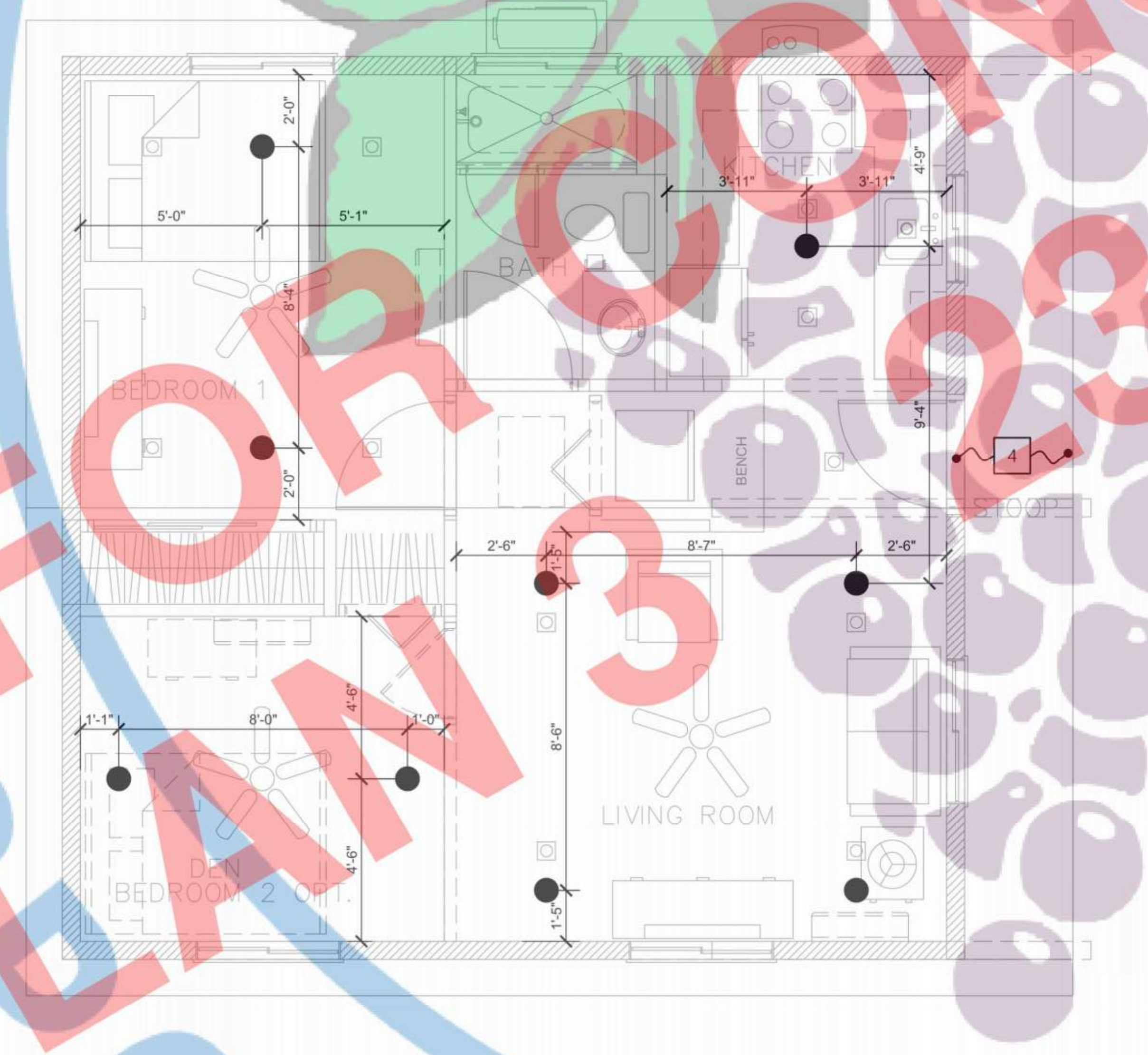
2 SPRINKLER FLOOR PLAN - CONTEMPORARY STYLE

1/4"=1'0"



3 SPRINKLER RCP PLAN - GABLE/CRAFTSMAN STYLE

1/4"=1'0"



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

0 4

1 SPRINKLER RCP PLAN - CONTEMPORARY STYLE

1/4"=1'0"

WATER SUPPLY INFORMATION

STATIC: 40 PSI
RESIDUAL: 25 PSI
FLOW: 1350 GPM

* WATER SUPPLY INFO PROVIDED BY CITY OF FRESNO AS MINIMUM EXPECTED PRESSURE & FLOW. CONTRACTOR TO CONFIRM THE SITE SPECIFIC WATER SUPPLY MEETS OR EXCEEDS THE SUPPLY SHOWN ABOVE*

**APPROVED FOR MIN 1 INCH
PUBLIC WATER SERVICE
AND METER IN COPPER PIPE**

SPRINKLER HEAD SCHEDULE AND LEGEND

SYMBOL	LOCATION	MANUFACTURER	SIN	K-FACTOR	TEMP.	FINISH	THREAD SIZE	COMMENTS
●	GYP. BOARD/ ACOUST. TILES.	SENJU	SS8261	3.7	162°	WHITE	1/2"	FLAT CONCEALED PENDENT SPRINKLER

* FRESNO FD APPROVED EQUIVALENT SPRINKLERS MAY BE USED

GENERAL NOTES

A.- THE SYSTEM IS A "STANDALONE SYSTEM WITH PASSIVE PURGE

B.- CPVC HANGERS SHALL BE IN ACCORDANCE WITH FRESNO FD POLICY #405.020

C.- SPARE HEAD KITS AND WRENCHES SHALL BE INSTALLED INSIDE ALL NEW ADUs PER FRESNO FD FIRE INDUSTRY BULLETIN 2015-002. MINIMUM OF ONE (1) SPARE SPRINKLER HEAD FOR EACH TYPE, TEMPERATURE RATING AND/OR ORIFICE SIZE.

PROJECT SCOPE

INSTALLATION OF A NEW FIRE SPRINKLER SYSTEM IN NEW RESIDENTIAL ADU IN ACCORDANCE WITH 2022 NFPA 13D.

NOTES

1	SPRINKLER OMMITTED PER 2022 NFPA 13D, SECTION 8.3.2
2	SPRINKLER OMITTED PER 2022 NFPA 13D, SECTION 8.3.3
3	STANDALONE SYSTEM RISER. SEE DETAIL 2/FP6.02 DETAILS.
4	SPRINKLER OMMITTED PER 2022 NFPA 13D, SECTION 8.3.4
5	1/2" NPT CAPPED CONNECTION FOR PASSIVE PURGE PER NFPA 13D 7.8.3.PLUMBING CONTRACTOR TO MAKE THE FINAL CONNECTION TO THE W.C.
6	CONTRACTOR TO PROVIDE A MINIMUM 2'-0" HORIZONTAL LEAD-IN AT THE TOP OF RISER. REFER DETAIL 2/FP6.02 FOR SIZE OF LEAD-IN
7	PROVIDE SPARE HEAD CABINET IN CLOSET OR OTHER APPROVED LOCATION. SEE NOTE C ON THIS SHEET.

GENERAL NOTES

1. THE FIRE PROTECTION SYSTEM IS ON A DEFFERED APPROVAL BASIS. THE SUCCESSFUL C-16 LICENSED CONTRACTOR SHALL COORDINATE WITH MECHANICAL ENGINEER & ARCHITECT, DESIGN AND INSTALL FIRE SPRINKLER SYSTEM FOR ALL CONCEALED AND UNCONCEALED AREAS OF THE BUILDINGS AS REQUIRED.
2. CONTRACTOR SHALL INSTALL, ROUTE AND SUPPORT AUTOMATIC SPRINKLER SYSTEM PER REQUIREMENTS OF THE CURRENT NATIONAL FIRE PROTECTION ASSOCIATION CODE (NFPA), 2022 NFPA 13D, CALIFORNIA BUILDING CODE / CALIFORNIA FIRE CODE (CBC/CFC) CHAPTER 9, CALIFORNIA MECHANICAL CODE (CMC) AND INSURANCES UNDER WRITER'S REQUIREMENTS.
3. THE DESIGN COORDINATION AND APPROVALS OF ALL MAINS AND BRANCHES LINES TO SERVE SPRINKLERS SHALL BE DONE BY A LICENSED FIRE PROTECTION CONTRACTOR.
4. SUBMIT SHOP DRAWINGS FOR APPROVAL. SHOP DRAWINGS SHALL BE APPROVED BY THE CITY OF FRESNO PLAN CHECK DEPARTMENT PRIOR TO COMMENCING.
5. LOCATION OF SPRINKLER HEADS SHALL BE DONE BY THE FIRE PROTECTION CONTRACTOR USING THE CRITERIA AS NOTED BELOW:
   A. IN LOCATIONS WITH SUSPENDED CEILING, THE SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF THE INDIVIDUAL CEILING TILES. THE SPRINKLER HEADS PATTERN SHALL BE SYMMETRICAL ABOUT ROOM CENTER LINES AS MUCH AS POSSIBLE.
   B. IN LOCATIONS WITH PLASTERED OR GYPSUM BOARD CEILINGS, THE SPRINKLER HEAD PATTERN SHALL BE SYMMETRICAL ABOUT ROOM CENTER LINES AS MUCH AS POSSIBLE.
   C. FOR LOCATIONS OF CEILING TILES, DIFFUSERS AND LIGHTS, SEE ARCHITECTURAL REFLECTED CEILING PLANS.

   ALL NEW EQUIPMENT AND MATERIAL TO BE INSTALLED AS PART OF NEW CONSTRUCTION SHALL BEAR AN UNDERWRITERS LABORATORIES LABEL (UL), AND INSTALLED IN SUCH A MANNER FOR WHICH THEY ARE DESIGNED AND APPROVED.
7. NO HOLES SHALL BE DRILLED OR CUT IN OR THROUGH ANY STRUCTURAL ELEMENT WITHOUT WRITTEN APPROVAL OF THE ARCHITECT AND THE STRUCTURAL ENGINEER.
8. SLEEVE AND GROUT ALL PIPE PENETRATIONS THROUGH FLOORS OR WALLS UNLESS PENETRATION IS FIRE RATED. WHEN PENETRATING A FIRE RATED FLOOR OR WALL, USE SLEEVE WITH 1" MIN. ANNULAR SPACE AROUND PIPE O.D. FILL ANNULAR SPACE WITH FIBERGLASS FILL TO 1" FROM END OF SLEEVE. ADD APPROVED FIRE PROOF SEALANT FOR THE HOUR RATING OF THE FLOOR OR WALL PENETRATION IN THE REMAINING SPACE.
9. CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED TEMPORARY AND PERMANENT PERMITS, INCLUDING LICENSES, CERTIFICATES, INSPECTIONS AND TESTS.
10. ALL PIPE PENETRATION THRU WALLS, RATED OR OTHERWISE SHALL BE COVERED WITH A SPLIT ESCUTCHEON PLATE.
11. FIELD OBSERVATION AND SUPPORT SERVICES PERFORMED BY THE ENGINEER PRIOR TO, DURING, OR AFTER CONSTRUCTION IS PERFORMED FOR THE PURPOSE OF ACHIEVING QUALITY CONTROL AND SHALL NOT BE CONSTRUED AS SUPERVISION OF CONSTRUCTION.
12. PHASING: ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH GENERAL CONTRACTOR CONSTRUCTION SCHEDULE AND BASED UPON MINIMIZING DISRUPTIONS TO EXISTING OPERATION. PHASING SHALL BE APPROVED BY ARCHITECT PRIOR TO CONSTRUCTION OR DEMOLITION.
13. ALL DEMOLISHED MATERIALS SHALL BECOME THE PROPERTY OF THE CONTRACTOR WHO SHALL BE RESPONSIBLE FOR PROMPT DAILY REMOVAL FROM THE SITE. THE CONTRACTOR SHALL REMOVE ALL DEBRIS FROM THE SITE RESULTING FROM THE WORK AT THE CONCLUSION OF THE DAY'S CONSTRUCTION. THE AREA OF THE SITE SHALL BE LEFT BROOM CLEAN. IF NOT, UPON NOTIFICATION, THE GENERAL CONTRACTOR WILL PERFORM ALL NECESSARY CLEAN-UP WORK AND BACK CHARGE THE SUB CONTRACTOR FOR THE EXPENSE THUS INCURRED.
14. ALL DEVICES AND COMPONENTS TO BE EITHER LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY FOR FIRE PROTECTION SERVICE OR APPROVED BY THE AUTHORITY HAVING JURISDICTION.
15. FITTINGS FOR HOLE-CUT CONNECTIONS, SUCH AS VICTAULIC "HOOKER" OR EQUIVALENT, ARE NOT ACCEPTABLE AND SHALL NOT BE USED.
16. ALL CONTROL VALVES AND DRAIN VALVES SHALL HAVE A SIGN AFFIXED FOR IDENTIFICATION.
17. ALL ABOVE GROUND PIPING SHALL COMPLY WITH THE MATERIALS LISTED PER NFPA 13D Ed. 2022 TABLE 5.2.2.
18. ALL FITTING MATERIALS SHALL COMPLY WITH THE MATERIALS LISTED PER NFPA 13D Ed. 2022 TABLE 5.2.5.
19. ALL TOILETS SHALL BE EQUIPPED WITH A PASSIVE PURGE.
20. OBTAIN PERMIT FROM THE FIRE PREVENTION DIVISION FOR THE INSTALLATION OR MODIFICATION OF FIRE SPRINKLER SYSTEM.
21. A COPY OF THE APPROVED PLAN SET SHALL BE ON SITE DURING ANY FIRE DEPARTMENT INSPECTION.
22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAKE WORK AVAILABLE FOR INSPECTION.
23. MATERIALS FOR THE BUILDING WATER PIPING AND BUILDING SUPPLY PIPING SHALL BE IN ACCORDANCE WITH THE APPLICABLE STANDARDS REFERENCED IN CALIFORNIA PLUMBING CODE, TABLE 604.1. GALVANIZED MALLEABLE IRON, GALVANIZED WROUGHT IRON OR GALVANIZED STEEL ARE PROHIBITED MATERIALS FOR USE BOTH UNDERGROUND AND IN BUILDINGS.
24. HYDRAULIC CALCULATIONS SHALL NOT BE REQUIRED PER FRESNO FIRE DEPARTMENT IF THE ACTUAL WATER SUPPLY IS GREATER OR EQUAL TO THE WATER SUPPLY DATA SHOWN ON THIS SHEET.

SHEET INDEX

SHEET	DESCRIPTION
FP2.10	FLOOR PLAN
FP4.01	FLOOR PLAN
FP6.01	DETAILS
FP6.02	DETAILS

BUILDING DESIGN INFORMATION

BUILDING DESIGN INFORMATION:
-BUILDING OCCUPANCY= R3
-CONSTRUCTION TYPE= TYPE V-B
-BUILDING HEIGHT= SEE PLANS
-BUILDING AREA= 625 SF
-GOVERNING FIRE CODE= 2022 CFC

SPRINKLER DESIGN CRITERIA -
-CLASSIFICATION OF OCCUPANCY= RESIDENTIAL
-DESIGN DENSITY= 0.05 GPM/SQ.FT.
-DEFLECTOR DISTANCE= 2 IN. MAX
-HEAD SPACING= 14 FT. MAX

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
AFF	ABOVE FINISHING FLOOR
BFV	BUTTERFLY VALVE
(E)	EXISTING
FH	FIRE HYDRANT
(N)	NEW
PIV	POST INDICATOR VALVE
POC	POINT OF CONNECTION
PVC	POLYVINYL CHLORIDE
UG	UNDERGROUND
W	WATER SERVICE PIPING
PC	PLUMBING CONTRACTOR

IN THE EVENT ABBREVIATIONS NOT MENTIONED HEREIN ARE USED, REFERENCE WILL BE MADE TO ANSI Y1.1, MILITARY STANDARD ABBREVIATIONS, AND OTHER STANDARD INDUSTRY CONVENTIONS.

LEGEND

SYMBOL	DESCRIPTION
☐	NOTE CALLOUT
⬡	NODE USED IN CALCULATION
⊖	SECTION CALLOUT
[11'-0"]	CEILING HEIGHT
X X-X	PIPE TAG -NUMBER ON TOP DENOTES PIPE DIAMETER (IN) -NUMBER ON BOTTOM DENOTES PIPE LENGTH (FT-IN)
—F—	NEW PIPE
—F—	EXISTING PIPE
-/-/-/-	DEMOLISHED PIPE/EQUIPMENT
⊗	RISER
—N—	CHECK VALVE
●	PENDENT SPRINKLER
—\—	PIPE HANGER
—⊖	ELBOW FACING AWAY FROM VIEWER
—○	ELBOW FACING TOWARD VIEWER
—⊖—	TEE FACING AWAY FROM VIEWER
—○—	TEE FACING TOWARD VIEWER

MINIMUM DISTANCES FOR ORDINARY AND INTERMEDIATE TEMPERATURE RESIDENTIAL SPRINKLERS

	FROM EDGE OF SOURCE TO ORDINARY TEMPERATURE SPRINKLER	FROM EDGE OF SOURCE TO INTERMEDIATE TEMPERATURE SPRINKLER
	in.	in.
SIDE OF OPEN OR RECESSED FIREPLACE	36	12
FRONT OF RECESSED FIREPLACE	60	36
COAL- OR WOOD-BURNING STOVE	42	12
KITCHEN RANGE	18	9
WALL OVEN	18	9
HOT AIR FLUES	18	9
UNINSULATED HEAT DUCTS	18	9
UNINSULATED HOT WATER PIPES	12	6
SIDE OF CEILING- OR WALL-MOUNTED HOT AIR DIFFUSERS	24	12
FRONT OF WALL-MOUNTED HOT AIR DIFFUSERS	36	18
HOT WATER HEATER OR FURNANCE	6	3
LIGHT FIXTURE		
0 W-250 W	6	3
250 W-499 W	12	6

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PROJECT:

ACCESSORY
DWELLING
UNIT
(TADU-003)
PLAN 3

CONDITIONS OF FFD APPROVAL:

NO FINAL WILL BE GRANTED UNLESS WORK IS IN COMPLETE CONFORMANCE WITH ALL APPLICABLE LAWS, CODES, ORDINANCES, STANDARDS AND POLICIES.

FFD WILL NOT FINAL ANY BUILDING WITHOUT APPROVED PLANS WHICH REFLECT THE ACTUAL SYSTEM INSTALLATION IF FIELD CHANGES BECOME NECESSARY, NEW ADDENDUM PLANS MUST BE SUBMITTED, REVIEWED AND APPROVED PRIOR TO FFD ISSUING A BUILDING FINAL. IT IS THE CONTRACTORS RESPONSIBILITY TO SUBMIT ADDENDUM PLANS AND OBTAIN APPROVAL FOR CHANGES PRIOR TO REQUESTING A FINAL INSPECTION (CFC 105.4.5).

A COMPLETE, FULL SIZED, PHYSICAL COPY OF ALL PLAN DOCUMENTS (INCL. CALCS, MANF. SHEETS, ETC. SHALL BE MAINTAINED ON SITE AT ALL TIMES.

IT IS THE CONTRACTOR'S OBLIGATION TO COMPLY WITH ALL FFD CONDITIONS OF APPROVAL & APPLICABLE LAWS, CODES, ORDINANCES AND ADOPTED REFERENCED STANDARDS PRIOR TO REQUESTING A FIRE FINAL.

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE:

FLOOR PLAN

JOB# : TADU-003
DATE: 21-Sep-23
SCALE: AS NOTED
DRAWN BY: IRG

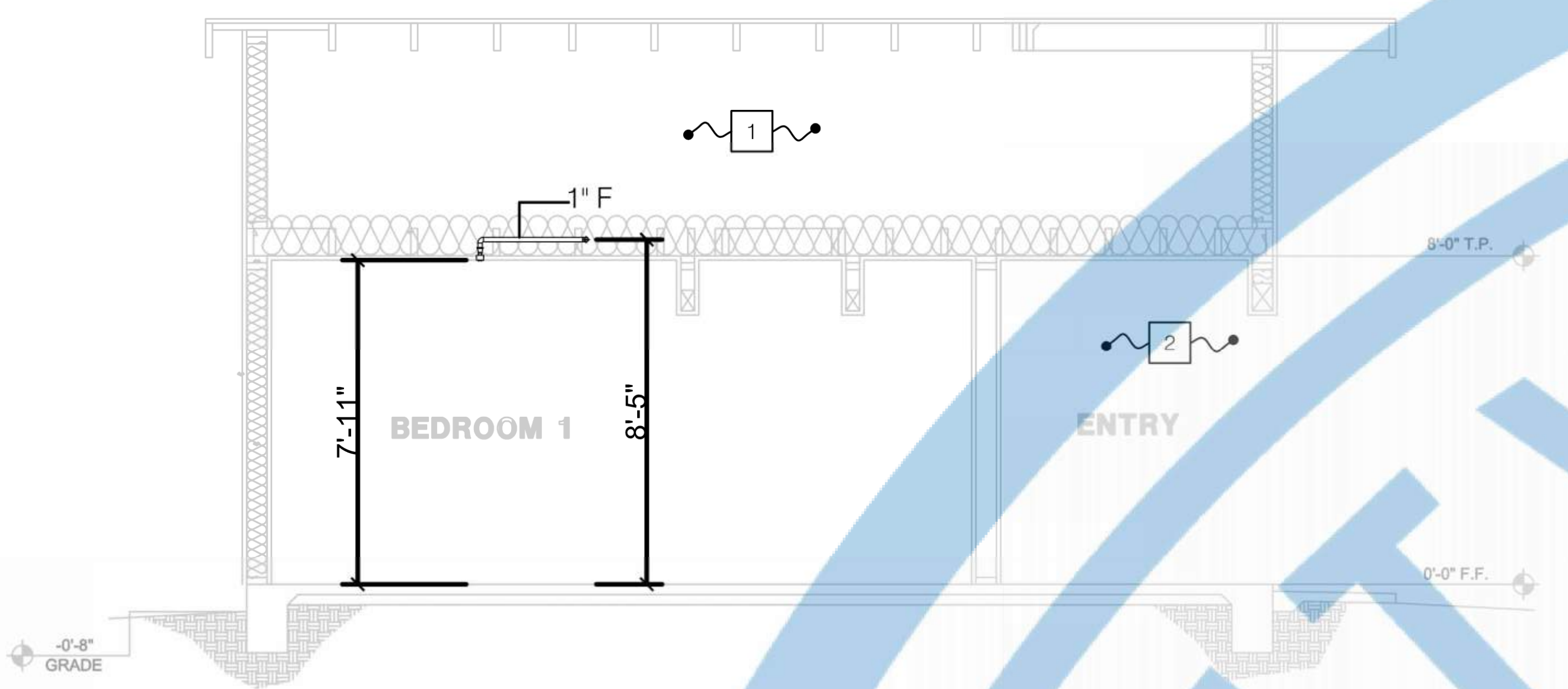
SHEET NO.
FP2.10

NOT FOR CONSTRUCTION
PLAN 3
TADU-003

CITY OF FRESNO INCORPORATED OCT. 12 1885
NOT FOR CONSTRUCTION
PLAN 3 23-TADU-003

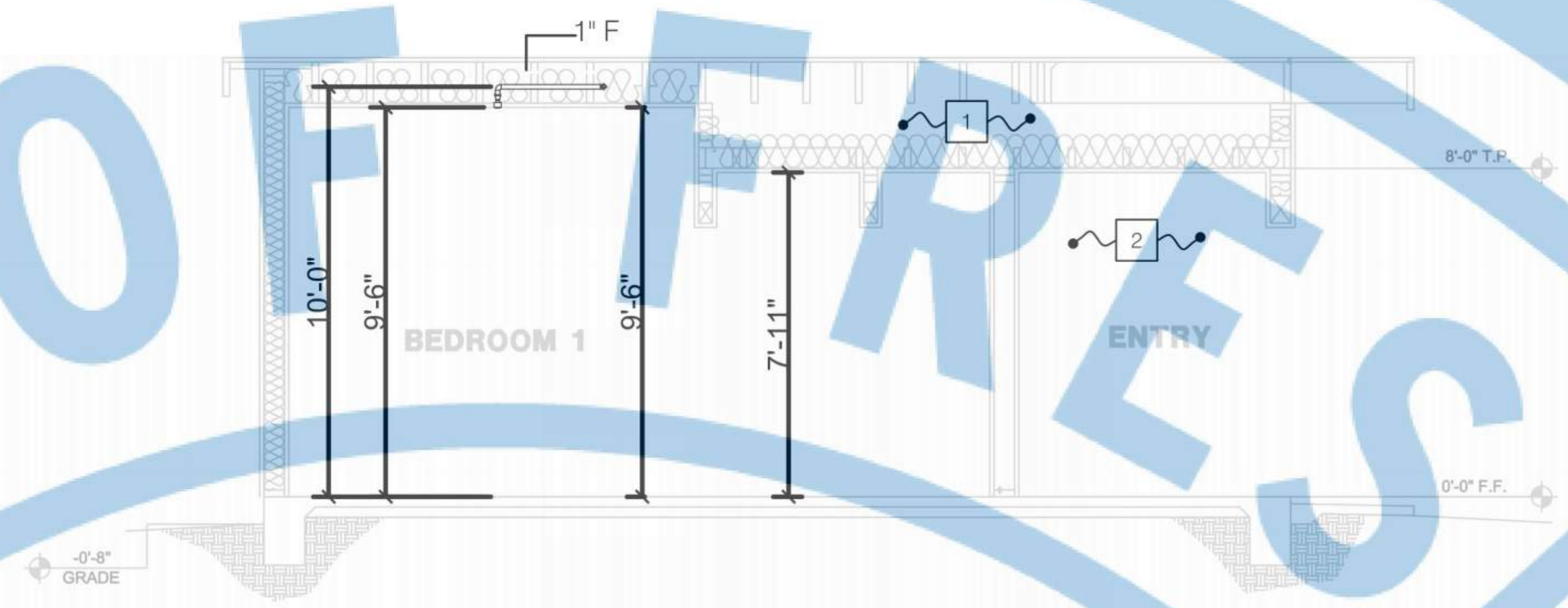
NOTES

1	SPRINKLERS OMMITTED PER 2022 NFPA 13D, SECTION 8.3.5.
2	SPRINKLERS OMMITTED PER 2022 NFPA 13D, SECTION 8.3.4.


1
1" F
2
8'-0" T.P.
7'-11"
BEDROOM 1
8'-5"
ENTRY
0'-0" F.F.
-0'-8"
GRADE

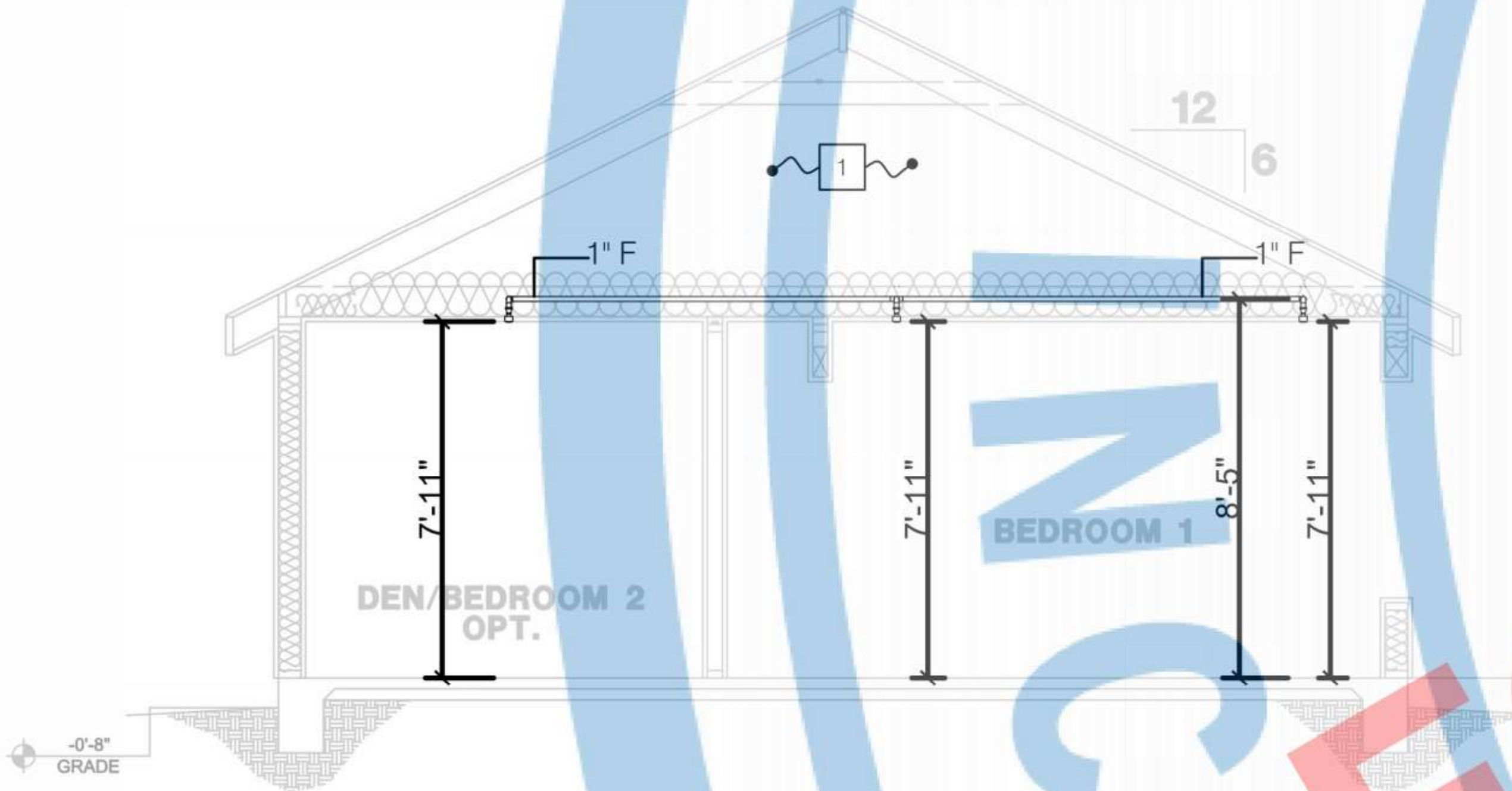
4 SECTION VIEW 'A' (GABLE/CRAFTSMAN STYLE)

NO SCALE


1" F
1
2
8'-0" T.P.
10'-0"
9'-6"
BEDROOM 1
9'-6"
7'-11"
ENTRY
0'-0" F.F.
-0'-8"
GRADE

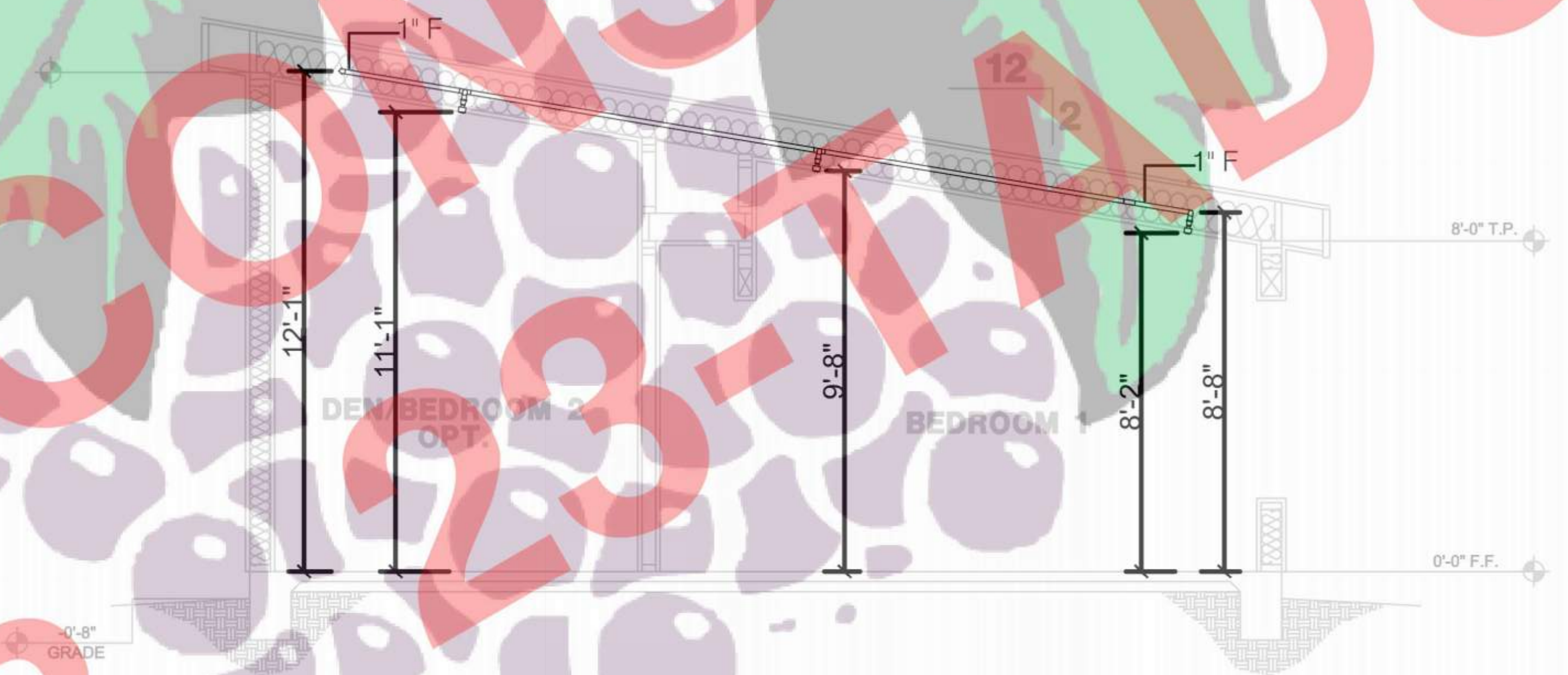
2 SECTION VIEW 'A1' (CONTEMPORARY STYLE)

NO SCALE


12
6
1
1" F
1" F
7'-11"
DEN/BEDROOM 2 OPT.
7'-11"
BEDROOM 1
8'-5"
7'-11"
0'-0" F.F.
-0'-8"
GRADE

3 SECTION VIEW 'B' (GABLE/CRAFTSMAN STYLE)

NO SCALE


1" F
12
2
1" F
8'-0" T.P.
12'-1"
11'-1"
DEN/BEDROOM 2 OPT.
9'-8"
BEDROOM 1
8'-2"
8'-8"
0'-0" F.F.
-0'-8"
GRADE

1 SECTION VIEW 'B1' (CONTEMPORARY STYLE)

NO SCALE

CONDITIONS OF FFD APPROVAL:

NO FINAL WILL BE GRANTED UNLESS WORK IS IN COMPLETE CONFORMANCE WITH ALL APPLICABLE LAWS, CODES, ORDINANCES, STANDARDS AND POLICIES.

FFD WILL NOT FINAL ANY BUILDING WITHOUT APPROVED PLANS WHICH REFLECT THE ACTUAL SYSTEM INSTALLATION IF FIELD CHANGES BECOME NECESSARY, NEW ADDENDUM PLANS MUST BE SUBMITTED, REVIEWED AND APPROVED PRIOR TO FFD ISSUING A BUILDING FINAL. IT IS THE CONTRACTORS RESPONSIBILITY TO SUBMIT ADDENDUM PLANS AND OBTAIN APPROVAL FOR CHANGES PRIOR TO REQUESTING A FINAL INSPECTION (CFC 105.4.5).

A COMPLETE, FULL SIZED, PHYSICAL COPY OF ALL PLAN DOCUMENTS (INCL. CALCS, MANF. SHEETS, ETC. SHALL BE MAINTAINED ON SITE AT ALL TIMES.

IT IS THE CONTRACTOR'S OBLIGATION TO COMPLY WITH ALL FFD CONDITIONS OF APPROVAL & APPLICABLE LAWS, CODES, ORDINANCES AND ADOPTED REFERENCED STANDARDS PRIOR TO REQUESTING A FIRE FINAL.

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PROJECT:

ACCESSORY
DWELLING
UNIT
(TADU-003)
PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

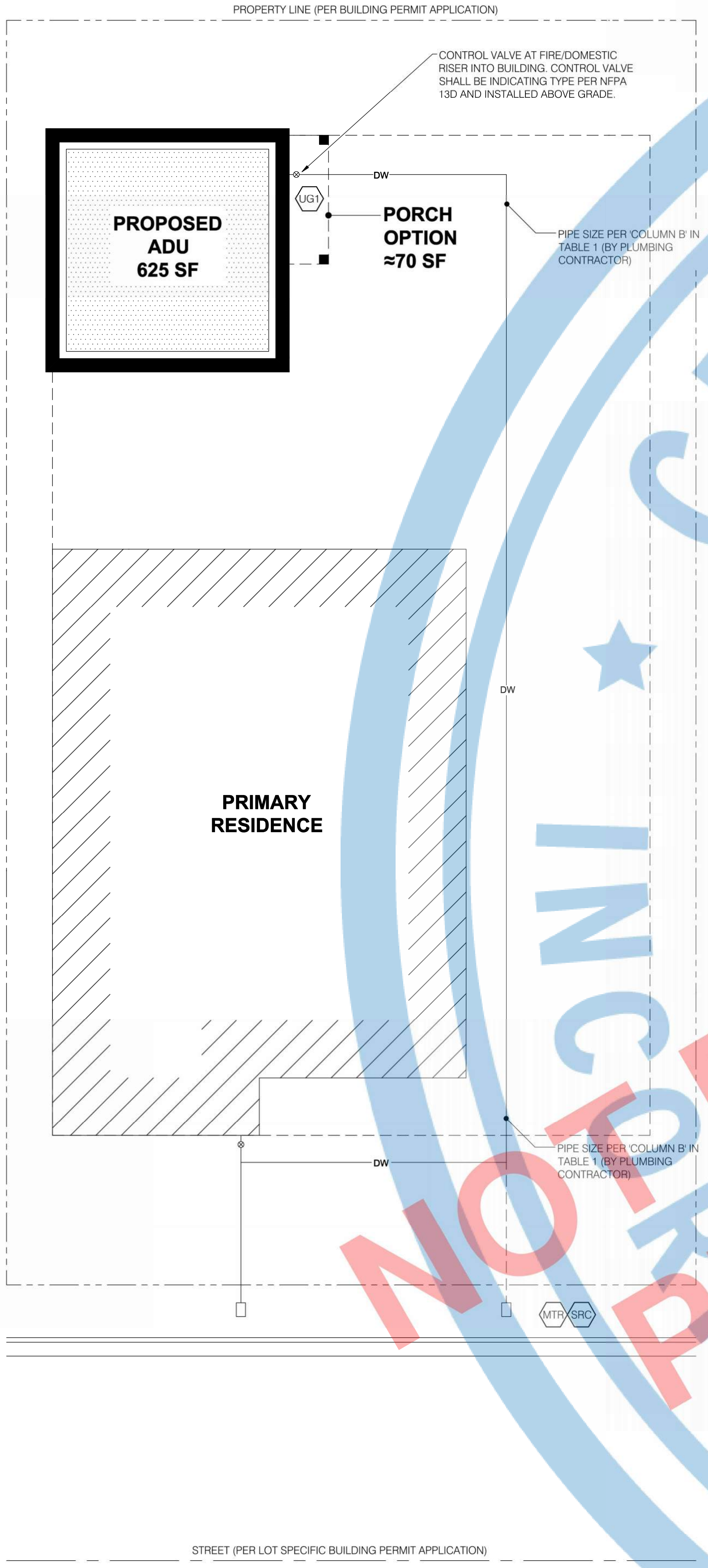
CITY USE ONLY

DRAWING TITLE:

SECTIONS

JOB# :	TADU-003
DATE:	21-Sep-23
SCALE:	AS NOTED
DRAWN BY:	IRG

SHEET NO.
FP4.01


PROPERTY LINE (PER BUILDING PERMIT APPLICATION)
CONTROL VALVE AT FIRE/DOMESTIC RISER INTO BUILDING. CONTROL VALVE SHALL BE INDICATING TYPE PER NFPA 13D AND INSTALLED ABOVE GRADE.
PROPOSED ADU 625 SF
UG1
DW
PORCH OPTION ≈70 SF
PIPE SIZE PER 'COLUMN B' IN TABLE 1 (BY PLUMBING CONTRACTOR)
DW
PRIMARY RESIDENCE
DW
PIPE SIZE PER 'COLUMN B' IN TABLE 1 (BY PLUMBING CONTRACTOR)
MTR
SRC
STREET (PER LOT SPECIFIC BUILDING PERMIT APPLICATION)

NOTE:
THIS SITE PLAN IS SHOWN FOR REFERENCE ONLY. REFER TO SHEET T.1 FOR THIS SCOPE OF WORK

5 CONNECTION TO CITY WATER SERVICE
NO SCALE

TABLE 1 - PIPE SIZE FOR RISER LEAD-IN. RISER AND COMMON SUPPLY PIPE PER LENGTH OF SUPPLY PIPE

MAXIMUM LENGTH OF SUPPLY IN EQUIVALENT SCHEDULE 40 PIPE (SEE NOTES 2,3)	COLUMN A (IN.) (SEE NOTE 4)	COLUMN B (IN.) (SEE NOTE 5)
150 FT	1-1/4"	1-1/4"
350 FT	1-1/4"	1-1/2"
600 FT	1-1/2"	2"

1) IF THE TOTAL LENGTH OF SUPPLY PIPE EXCEEDS THE VALUES IN THIS TABLE, HOMEOWNER SHALL USE A LICENSED SPRINKLER CONTRACTOR TO VERIFY INSTALLATION REQUIREMENTS.
2) THE TOTAL LENGTH OF SUPPLY PIPE SHALL BE MEASURED FROM CONNECTION TO CITY WATER MAIN IN STREET TO FLANGE CONNECTION IN ADU.
3) ALL PIPE, FITTINGS, VALVES AND EQUIPMENT SHALL BE INCLUDED IN MAXIMUM LENGTH PER CHAPTER 10 OF NFPA 13D.
4) HORIZONTAL LEAD-IN MINIMUM PIPE SIZE.
5) MINIMUM PIPE SIZE FOR RISER AND SUPPLY PIPE TO ADU

CONDITIONS OF FFD APPROVAL:

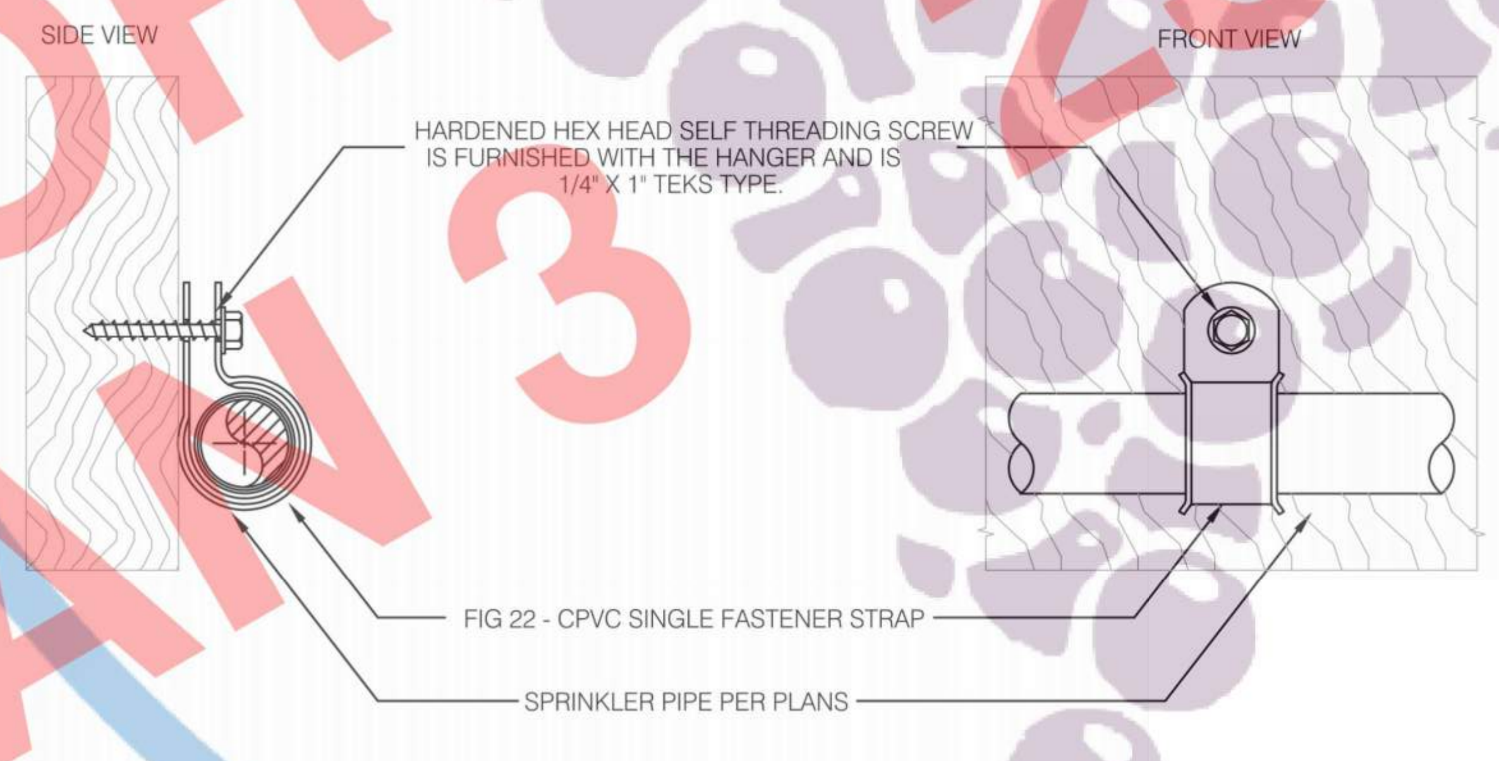
NO FINAL WILL BE GRANTED UNLESS WORK IS IN COMPLETE CONFORMANCE WITH ALL APPLICABLE LAWS, CODES, ORDINANCES, STANDARDS AND POLICIES.

FFD WILL NOT FINAL ANY BUILDING WITHOUT APPROVED PLANS WHICH REFLECT THE ACTUAL SYSTEM INSTALLATION IF FIELD CHANGES BECOME NECESSARY, NEW ADDENDUM PLANS MUST BE SUBMITTED, REVIEWED AND APPROVED PRIOR TO FFD ISSUING A BUILDING FINAL. IT IS THE CONTRACTORS RESPONSIBILITY TO SUBMIT ADDENDUM PLANS AND OBTAIN APPROVAL FOR CHANGES PRIOR TO REQUESTING A FINAL INSPECTION (CFC 105.4.5).

A COMPLETE, FULL SIZED, PHYSICAL COPY OF ALL PLAN DOCUMENTS (INCL. CALCS, MANF. SHEETS, ETC.) SHALL BE MAINTAINED ON SITE AT ALL TIMES.

IT IS THE CONTRACTOR'S OBLIGATION TO COMPLY WITH ALL FFD CONDITIONS OF APPROVAL & APPLICABLE LAWS, CODES, ORDINANCES AND ADOPTED REFERENCED STANDARDS PRIOR TO REQUESTING A FIRE FINAL.

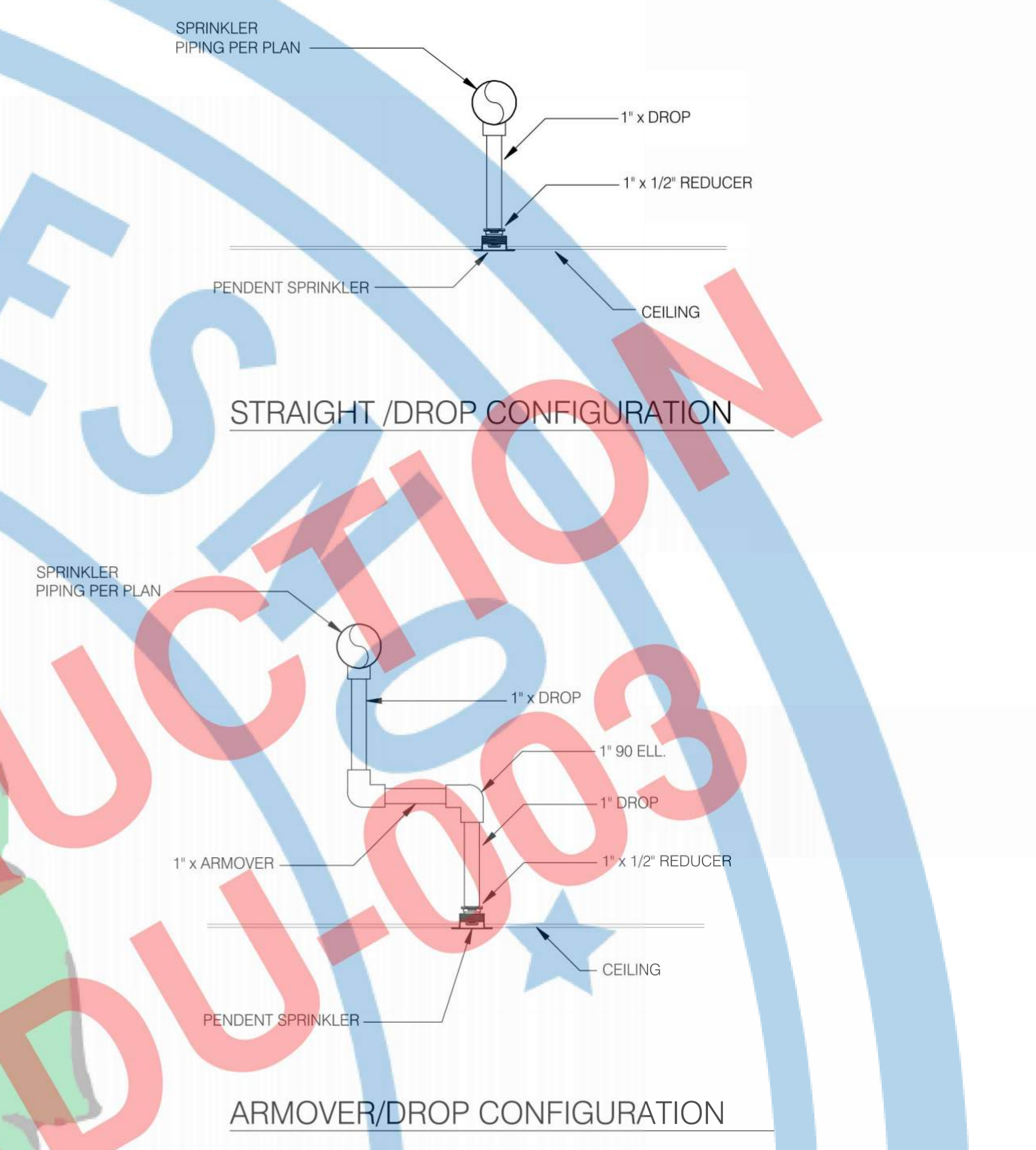
4 NOT USED
NO SCALE


SIDE VIEW
FRONT VIEW
HARDENED HEX HEAD SELF THREADING SCREW IS FURNISHED WITH THE HANGER AND IS 1/4" X 1" TEKS TYPE.
FIG 22 - CPVC SINGLE FASTENER STRAP
SPRINKLER PIPE PER PLANS

CPVC SINGLE FASTENER STRAP

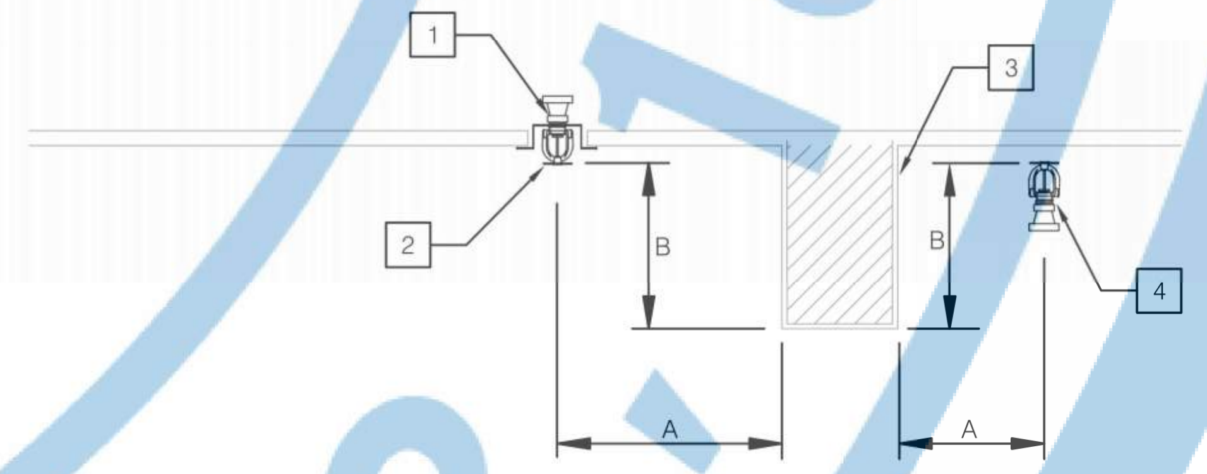
PIPE HANGER SPACING	
PIPE SIZE	MAX. SPACING
1"	6'–0"
1 1/4"......................	6'–6"
1 1/2"......................	7'–0"
2"............................	8'–0"

3 CPVC PIPE HANGER DETAIL - UP TO 2"
NO SCALE


SPRINKLER PIPING PER PLAN
1" x DROP
1" x 1/2" REDUCER
PENDENT SPRINKLER
CEILING
STRAIGHT /DROP CONFIGURATION
SPRINKLER PIPING PER PLAN
1" x DROP
1" 90 ELL.
1" DROP
1" x ARMOVER
1" x 1/2" REDUCER
CEILING
PENDENT SPRINKLER
ARMOVER/DROP CONFIGURATION

SYMBOL	SYMBOL
—●—	⊣●—

2 SPRINKLER PIPING DETAILS
NO SCALE



DISTANCE FROM SPRINKLERS TO SIDE OF OBSTRUCTION (A)	MAX. ALLOWANCE DISTANCE OF DEFLECTOR ABOVE BOTTOM OF OBSTRUCTION (IN.) (B)
LESS THAN 1 FT.	0
1'-6" OR MORE	1
3'-0" OR MORE	3
4'-0" OR MORE	5
4'-6" OR MORE	7
6'-0" OR MORE	9
6'-6" OR MORE	11
7'-0" OR MORE	14
8'-0" OR MORE	15
8'-6" OR MORE	17
9'-0" OR MORE	19

GENERAL NOTE:
NFPA 13D 2022 TABLE 8.2.5.3.2 POSITIONING OF SPRINKLERS TO AVOID OBSTRUCTIONS TO DISCHARGE (RESIDENTIAL UPRIGHT AND PENDENT)

NOTES

1	SPRINKLER PIPE DROP.
2	PENDENT SPRINKLER HEAD.
3	OBSTRUCTION.
4	UPRIGHT SPRINKLER HEAD.

1 OBSTRUCTION TABLE FOR RESIDENTIAL SPRINKLERS
NO SCALE

PLANNING AND DEVELOPMENT DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
THIRD FLOOR
FRESNO, CA. 93721–3600
559–621–8084
darm.building@fresno.gov

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PROJECT:
ACCESSORY
DWELLING
UNIT
(TADU–003)
PLAN 3

REVISIONS

NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE:
DETAILS

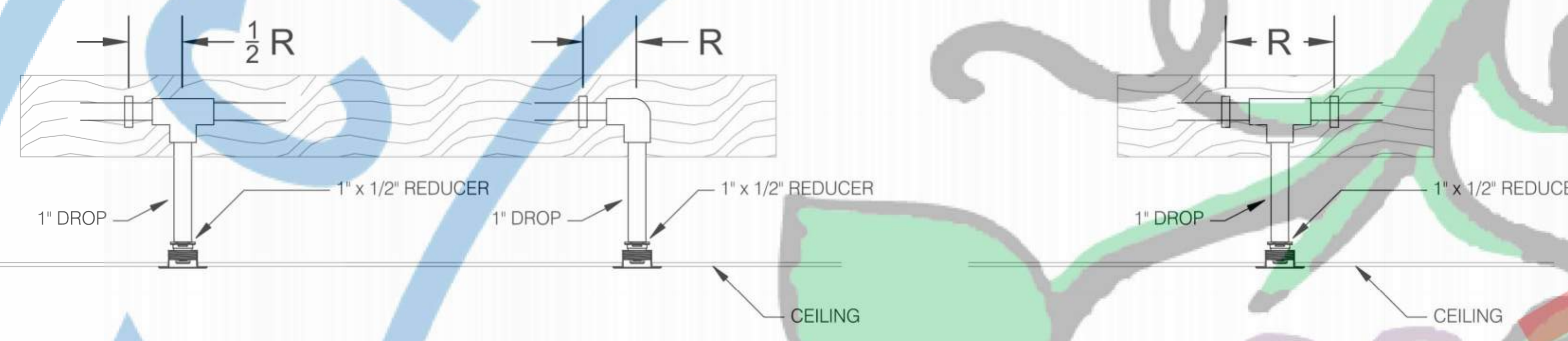
JOB# :	TADU-003
DATE:	21-Sep-23
SCALE:	AS NOTED
DRAWN BY:	IRG

SHEET NO.
FP6.01

CITY OF FRESNO INCORPORATED OCT. 12, 1885
NOT FOR CONSTRUCTION
PLAN 3 23-TADU-003

TABLE B - MAXIMUM SUPPORT SPACING DISTANCE END SPRINKLER HEAD DROP ELBOW OR ONE POINT OF RESTRAINT (R)		
CPVC - NOM. PIPE SIZE (IN)	LESS THAN 100psi	MORE THAN 100psi
1"	5'-0"	4-0"
1 1/4"	6-0"	5-0"
1 1/2"	7'-0"	7'-0"
2"	7'-0"	7'-0"

TABLE A - MAXIMUM SUPPORT SPACING DISTANCE IN LINE SPRINKLER HEAD DROP TEE OR TWO POINTS OF RESTRAINT (R)		
CPVC - NOM. PIPE SIZE (IN)	LESS THAN 100psi	MORE THAN 100psi
1"	5'-0"	4-0"
1 1/4"	6-0"	5-0"
1 1/2"	7'-0"	7'-0"
2"	7'-0"	7'-0"

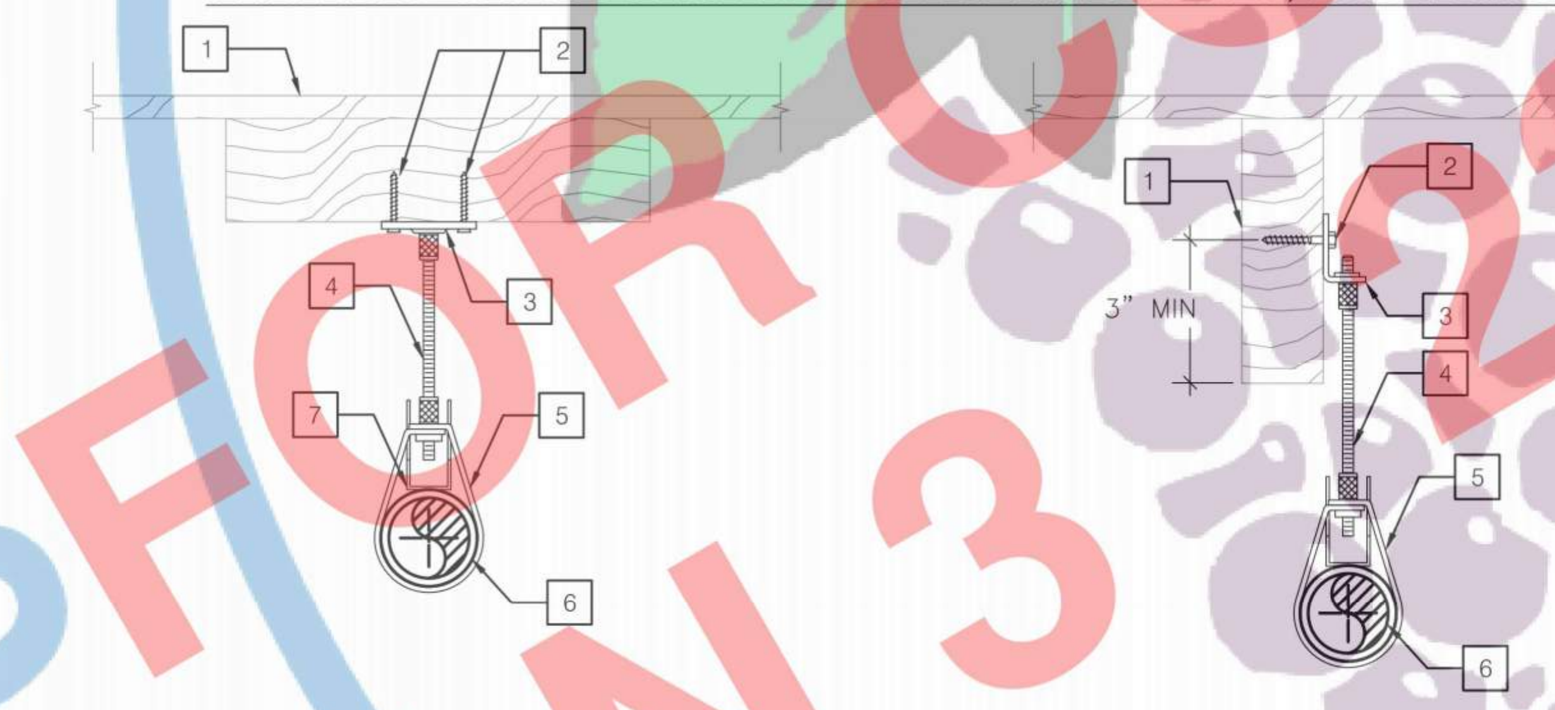


½ R
R
R
1" DROP
1" x 1/2" REDUCER
1" DROP
1" x 1/2" REDUCER
CEILING
1" DROP
1" x 1/2" REDUCER
CEILING

4 CPVC HANGER SPACING REQUIREMENTS

NO SCALE

THREADED CEILING PLATE OR SIDE BEAM BRACKET, ROD & RING



1
2
3
4
5
6
7
1
2
3
4
5
6
3" MIN

NOTES

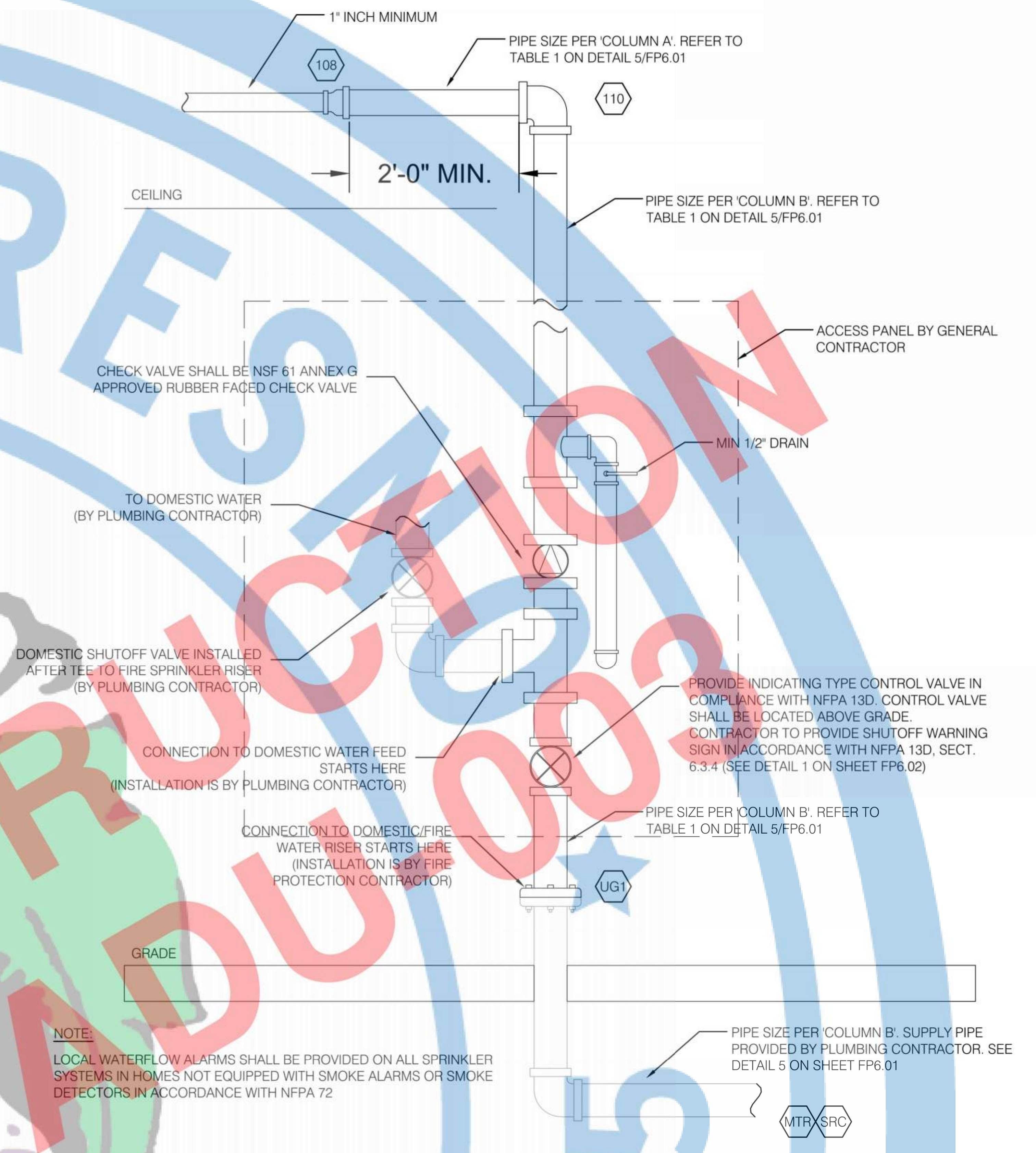
1	WOOD MEMBER BY STRUCTURAL (TYP).	4	ALL THREADED ROD, TOLCO FIG. 100 (TYP).	7	TOLCO FIG. 25
2	DRIVE SCREW NO. 18 x 1 ½"	5	PIPE RING HANGER, TOLCO FIG. 200 (TYP).		
3	THREADED SIDE BEAM BRACKET, TOLCO FIG 58 (TYP)/ STEEL CEILING PLATE, TOLCO FIG 78 (TYP)	6	SPRINKLER PIPE PER PLAN (TYP).		

SPACING AND SIZES			
PIPE SIZE	HANGER SPACING *	ROD DIA.	BOLT OR SCREW SIZE
1"	6'-0"	3/8"	3/8" x 1-1/2"
1 1/4"	6-6"	3/8"	3/8" x 1-1/2"
1 1/2"	7'-0"	3/8"	3/8" x 1-1/2"
2"	8'-0"	3/8"	3/8" x 1-1/2"

*TO BE CONFIRMED BY STRUCTURAL ENGINEER

3 CPVC - PIPE HANGERS

NO SCALE



1" INCH MINIMUM
108
PIPE SIZE PER 'COLUMN A'. REFER TO TABLE 1 ON DETAIL 5/FP6.01
110
2'-0" MIN.
CEILING
PIPE SIZE PER 'COLUMN B'. REFER TO TABLE 1 ON DETAIL 5/FP6.01
ACCESS PANEL BY GENERAL CONTRACTOR
CHECK VALVE SHALL BE NSF 61 ANNEX G APPROVED RUBBER FACED CHECK VALVE
MIN 1/2" DRAIN
TO DOMESTIC WATER (BY PLUMBING CONTRACTOR)
DOMESTIC SHUTOFF VALVE INSTALLED AFTER TEE TO FIRE SPRINKLER RISER (BY PLUMBING CONTRACTOR)
PROVIDE INDICATING TYPE CONTROL VALVE IN COMPLIANCE WITH NFPA 13D. CONTROL VALVE SHALL BE LOCATED ABOVE GRADE. CONTRACTOR TO PROVIDE SHUTOFF WARNING SIGN IN ACCORDANCE WITH NFPA 13D, SECT. 6.3.4 (SEE DETAIL 1 ON SHEET FP6.02)
CONNECTION TO DOMESTIC WATER FEED STARTS HERE (INSTALLATION IS BY PLUMBING CONTRACTOR)
PIPE SIZE PER 'COLUMN B'. REFER TO TABLE 1 ON DETAIL 5/FP6.01
CONNECTION TO DOMESTIC/FIRE WATER RISER STARTS HERE (INSTALLATION IS BY FIRE PROTECTION CONTRACTOR)
UG1
GRADE
PIPE SIZE PER 'COLUMN B'. SUPPLY PIPE PROVIDED BY PLUMBING CONTRACTOR. SEE DETAIL 5 ON SHEET FP6.01
MTR
SRC

NOTE:

LOCAL WATERFLOW ALARMS SHALL BE PROVIDED ON ALL SPRINKLER SYSTEMS IN HOMES NOT EQUIPPED WITH SMOKE ALARMS OR SMOKE DETECTORS IN ACCORDANCE WITH NFPA 72

2 SPRINKLER RISER INTO BUILDING DETAIL

NO SCALE

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WARNING: The water system for this home supplies fire sprinklers that require certain flows and pressures to fight a fire. Devices that restrict the flow or decrease the pressure or automatically shut off the water to the fire sprinkler system, such as water softeners, filtration systems, and automatic shutoff valves, shall not be added to this system without a review of the fire sprinkler system by a fire protection specialist. Do not remove this sign.

NOTES:

1. LETTERS ON SIGN SHALL BE MINIMUM ¼ INCH.
2. PLACE SIGN ADJACENT TO CONTROL VALVE INTO BUILDING

1 SHUTOFF WARNING SIGN ABOVE CONTROL VALVE

NO SCALE

PLANNING AND DEVELOPMENT
DEPARTMENT
FRESNO CITY HALL
2600 FRESNO STREET
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FRESNO, CA. 93721-3600
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PROJECT:

ACCESSORY
DWELLING
UNIT
(TADU-003)
PLAN 3

REVISIONS		
NO.	DESCRIPTION	DATE

CITY USE ONLY

DRAWING TITLE:

DETAILS

JOB# : TADU-003
DATE: 21-Sep-23
SCALE: AS NOTED
DRAWN BY: IRG

SHEET NO.
FP6.02