# NEW INTERPRETIVE CENTER BUILDING AT TRINIDAD PIER

for:

# CHER-AE HEIGHTS Indian Community of the Trinidad Rancheria

TRINIDAD, HUMBOLDT COUNTY, CALIFORNIA



VICINITY MAP

NOT TO SCALE

AC	ASPHALT CONCRETE	FM	FLOW METER		RD ROAD
ACP	ASPHALI CONCRETE	FNC			
AD	ASBESTOS CEMENT PIPE		FENCE	DOE	RB REBAR
AG AG	AREA DRAIN, ALGEBRAIC DIFFERENCE IN GRADE		GAS SERVICE	RCE	REGISTERED CIVIL ENGINEER
	ABOVE GROUND	GD	GRADE	RCP	REINFORCED CONCRETE PIPE
AGG.	AGGREGATE	GND	GROUND	RSE	REINFORCED SOIL EMBANKMENT
APPROX.	APPROXIMATE	GV	GATE VALVE	RSP	ROCK SLOPE PROTECTION
В	BELL FITTING	H	HORIZONTAL	R/W	RIGHT OF WAY
BIT	BITUMINOUS	HD	HEAD	RD	ROAD
BK	BACK	HDPE	HIGH DENSITY POLYETHYLENE PIPE	RT	ROUTE, RIGHT
BLD'G	BUILDING	HORIZ	HORIZONTAL	RW	RAW WATER
BOW	BOTTOM OF WALL	HS	HIGH STRENGTH	S	SLOPE, SOUTH
BVCE	BEGIN VERTICAL CURVE ELEVATION	НМ	HUMBOLDT MERIDIAN	SB	SET BACK
BVCS	BEGIN VERTICAL CURVE STATION	HWY	HIGHWAY	SD	STORM DRAIN
BW	BACKWASH	IN	INLET	SEC	SECTION
С	CIVIL	INT-X	INTERSECTION	S.F.	SQUARE FEET
CT	CALTRANS	INV.	INVERT	SHT	SHEET
СВ	CATCH BASIN	IRR.	IRRIGATION WATER LINE	SHLDR	SHOULDER
C.I.P.	CAST IN PLACE	JB	ELECTRICAL JUNCTION BOX	SIM	SIMILAR
CL.	CLASS	K	VERTICAL CURVE COEFFICIENT	SL	STREET LIGHT
€, CL	CENTERLINE	L	LENGTH	SQ	SQUARE
CONC.	CONCRETE	L.F.	LINEAL FEET	SR	STATE ROUTE
COR	CONTRACTING OFFICERS' REPRESENTATIVE	LS	LICENSED SURVEYOR, LUMP SUM	STA	STATION
CMP	CORRUGATED METAL PIPE	LT	LEFT	STD	STANDARD
CP	CONTROL POINT	MAX.	MAXIMUM	S.T.	SEPTIC TANK
D	DELTA	MIN.	MINIMUM	SW	SURFACE WASH
DIA	DIAMETER	MJ	MECHANICAL JOINT	T, TEL	TELEPHONE
DIP	DUCTILE IRON PIPE	MOD	MODULAR, MODIFY	TBD	TO BE DETERMINED
D/W, DWY		MP	MILE MARKER POST	TC	TOP OF CONCRETE, TOP OF CURB
DET DET	DETAIL	MSE	MECHANICALLY STABILIZED EARTH	THD	THREAD, THREADED
DH	DEPARTMENT OF HEALTH	MTN	MOUNTAIN	TOW	TOP OF WALL
DI	DRAINAGE INLET	NGS	NATIONAL GEODETIC SURVEY	TP	TOP OF ASPHALT PAVEMENT
DIA	DIAMETER	(N)	NEW	TYP	TYPICAL
	DIMENSIONS	N	NORTHING, NORTH	TVCE	TRINITY VALLEY CONSULTING ENGINEER
DS DIMS	DOWN SPOUT	NO	NUMBER	TW	TOP OF CONC. WALK
(E), EXIST	FYICTING	NTS	NOT TO SCALE	UG	UNDERGROUND
	EASTING EAST, ELECTRIC	0C	ON CENTER	UGV	UNDERGROUND VOLTAGE LINE
E EA	EACH	OHU	OVERHEAD UTILITY LINES	VAR	VARIABLE
EG	EXISTING GROUND	OHU	PROBOSED	VAR	VERTICAL CURVE
EL. ELEV	ELEVATION	(May)	POINT OF CURVATURE	VERT	VERTICAL
EP ELEV	EDGE OF PAVEMENT	(FIE) PERF	PERFORATED	VERT	VOLTAGE
EVCE	END VEDTICAL CURVE ELEVATION	PERF	POINT OF INTERCECTION	W	WEST, WATER, WIDTH
	END VERTICAL CURVE ELEVATION		POINT OF INTERSECTION	W/O	WITHOUT
EVCS	END VERTICAL CURVE STATION	P/L	PROPERTY LINE	W/U	
EXC	EXCAVATION FACE OF CURP	POB	POINT OF BEGINNING		WITH WATER METER
F/C	FACE OF CURB	POLY	POLYMER POLE (LITHERY POLE	WM	WATER METER
FG	FINISH GRADE	PP	POWER POLE/UTILITY POLE	WP	WEATHER PROOF
FH	FIRE HYDRANT	PRC	POINT OF REVERSE CURVE	₩₩R	WATER VALVE
FHWA	FEDERAL HIGHWAY ADMINISTRATION	PRV	PRESSURE RELIEF VALVE	YR	YEAR
FIN	FINISH	PT	POINT OF TANGENCY		
FL	FLOW LINE, FOGLINE	PVC	POINT OF VERTICAL CURVE		
FLG	FLANGE FITTING	PVI	POINT OF VERTICAL INTERSECTION		

**LEGEND** 

CENTER LINE

EXISTING FOGLINE STRIPE

NEW EDGE OF PAVEMENT

EXISTING ACCESS DRIVEWAY

NEW DRIVEWAY

**NEW CULVERTS** 

**EXISTING CULVERTS** 

PAVED WATERWAY

NEW FENCE LINE

**EXISTING FENCE LINE** 

EXISTING WATERLINE

EXISTING SEWER LINE

EXISTING UTILITY POLE

EXISTING WATER VALVE

EXISTING ELECTRIC BOX

EXISTING WATER METER

EXISTING FIRE HYDRANT

EXISTING STREET LIGHT

EXISTING TREES/BRUSH AREA

SURVEY CONTROL POINT (SET PK NAIL)

FOUND SURVEY MONUMENT PER PM 3550

FOUND CENTERLINE MONUMENT PER PM 3550

NEW WATER VALVE

NEW WATER METER

NEW FIRE HYDRANT

NEW STREET LIGHT

EXISTING TREE

EXISTING ROCKS

(E)WM

EXISTING UTILITY POLE W/ GUY ANCHOR(S)

NEW WATERLINE

NEW SEWER LINE

ROADSIDE SIGNS

CUT SLOPE

FILL SLOPE

EXISTING EDGE OF PAVEMENT

NEW ACCESS DRIVEWAY CENTERLINE

EXISTING GROUND CONTOUR (INTERVAL)

EXISTING GROUND CONTOUR (INTERVAL)

FLOW LINE OF DITCH OR WATERWAY

SURFACE FLOW DIRECTION

APPROVAL BY:

TRINIDAD RANCHERIA

APPROVAL BY:

CITY OF TRINIDAD

APPROVAL BY:

JOSHUA T. MCKNIGHT, RCE NO. 60687

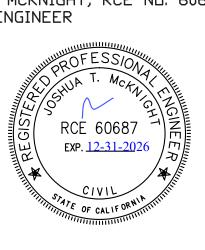
PROJECT ENGINEER

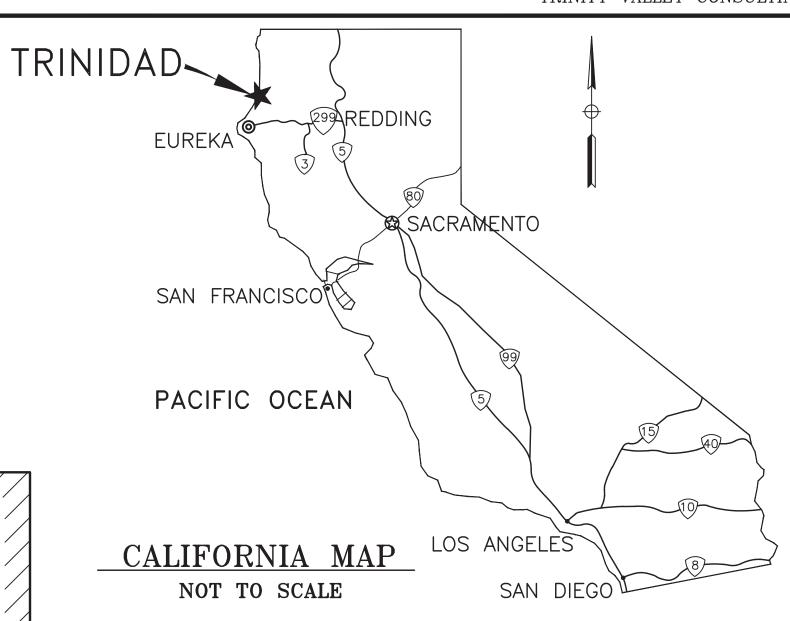
T. MCANAGE TO MCKNIGHT TO MCK

APPROVALS

NOTICE:

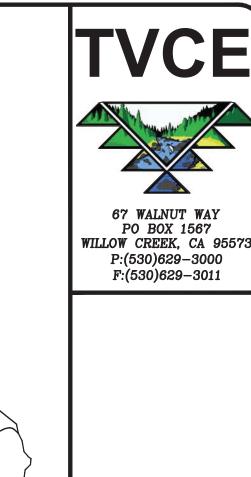
NOT LESS THAN 48-HOUR NOTICE IS REQUIRED PRIOR TO STARTING ANY EXCAVATION NEAR UNDERGROUND UTILITIES BELONGING TO CITY & PACIFIC GAS & ELECTRIC, CALL (USA) UNDERGROUND SERVICE ALERT 1-800-227-2600





SHEET INDEX

DESCRIPTION TITLE SHEET **DESCRIPTION** GENERAL NOTES & QUANTITIES EXISTING SITE PLAN DEMOLITION PLAN SITE GRADING PLAN GRADING DETAILS STORM DRAIN PROFILES EROSION & SEDIMENT CONTROL PLAN EROSION & SEDIMENT CONTROL NOTES & DETAILS WATER DETAILS SEWER DETAILS C11 STORM DRAIN DETAILS DESCRIPTION PROJECT & CONSTRUCTION NOTES WEST & EAST ELEVATIONS NORTH & SOUTH ELEVATIONS FLOOR PLAN SECTION & DETAILS ACCESSIBILITY DETAILS & NOTES FOUNDATION NOTES & DETAILS FOUNDATION PLAN SECTIONS ROOF FRAMING ELECTRICAL DESCRIPTION E1.0 ELECTRICAL LEGEND & SCHEDULES E1.1 ELECTRICAL SPECIFICATIONS E1.2 ELECTRICAL SITE PLAN E2.0 ELECTRICAL FLOOR PLAN FIRE SPRINKLER DESCRIPTION FP1.0 FIRE SPRINKLER SITE PLAN & NOTES FP2.0 FIRE SPRINKLER PLANS FIRE SPRINKLER DETAILS FP3.1 FIRE SPRINKLER DETAILS **MECHANICAL** DESCRIPTION MECHANICAL LEGEND & SCHEDULES M1.1 MECHANICAL SPECIFICATIONS M2.0MECHANICAL FLOOR PLAN MECHANICAL DETAILS **PLUMBING** DESCRIPTION PLUMBING LEGEND & SCHEDULES PLUMBING SPECIFICATIONS P2.0 PLUMBING FLOOR PLANS P3.0 PLUMBING DETAILS TITLE 24 ENERGY DESCRIPTION T24.1 TITLE 24 BUILDING ENERGY REPORT T24.2 TITLE 24 BUILDING ENERGY REPORT T24.3 TITLE 24 BUILDING ENERGY REPORT T24.4 TITLE 24 BUILDING ENERGY REPORT T24.5 TITLE 24 BUILDING ENERGY REPORT



TRINIDAD RANCHERIA
ITERPRETIVE CENTER
RINIDAD, CA. 95570

DATE OF ISSUE:

SCALE: AS SHOWN

PROJECT NO: 427.11

DRAWING NO:

# GENERAL NOTES:

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN IN THESE DRAWINGS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND ANY APPLICABLE CONTRACT SPECIFICATIONS.
- 2. THE CONTRACTOR SHALL PROVIDE ALL UTILITIES AS NECESSARY TO SUCCESSFULLY COMPLETE ANY AND ALL
- 3. ALL EXISTING FENCES AND UTILITIES SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION OR BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 4. ALL EXISTING AND PROPOSED DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO STARTING
- 5. CONTRACTOR SHALL COORDINATE WITH THE TRANSPORTATION DEPARTMENT ON ALL CONSTRUCTION ACTIVITIES.
- 6. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES NECESSARY TO PROTECT EXISTING UTILITIES, WHICH ARE TO REMAIN IN PLACE, FROM DAMAGE. ANY DAMAGE DONE BY THE CONTRACTOR'S OPERATIONS SHALL BE EXPEDITIOUSLY REPAIRED OR RECONSTRUCTED TO THE ENGINEER'S SATISFACTION AT THE CONTRACTOR'S SOLE EXPENSE WITHOUT ADDITIONAL COMPENSATION.
- 7. ALL APLLICABLE FEES TO BE PAID AND PERMITS REQUIRED SHALL BE OBTAINED BY THE CONTRACTOR BEFORE COMMENCEMENT OF CONSTRUCTION.
- 8. THE TYPES, LOCATIONS, SIZES, AND DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE IMPROVEMENT PLANS WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. THE CONTRACTOR IS CAUTIONED THAT ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS, AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES, HOWEVER, TYCE CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES NOR FOR THE EXISTENCE OF OTHER BURIED OBJECTS OR UTILITIES WHICH MAY BE ENCOUNTERED BUT WHICH ARE NOT SHOWN ON THESE DRAWINGS.
- 9. THE CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THE CONSTRUCTION CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD THE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE DESIGN PROFESSIONAL.
- 10. TRAFFIC CONTROL FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE FEDERAL HIGHWAY ADMINISTRATION STANDARD 635.
- 11. SAFE VEHICULAR AND PEDESTRIAN ACCESS SHALL BE PROVIDED AT ALL TIMES DURING CONSTRUCTION.
- 12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS DURING CONSTRUCTION. ALL SUCH MONUMENTS OR MARKERS DESTROYED DURING CONSTRUCTION SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.

# DRIVEWAY OR APPROACH ROADS:

1. ALL DRIVEWAYS AND APPROACH ROADS SHALL EITHER BE CONSTRUCTED, REBUILT, OR REMOVED UP TO THE RIGHT OF WAY LIMITS. DRIVEWAYS AND APPROACH ROADS SHALL BE CHIP SEALED TO THE RIGHT OF WAY LIMITS OR A MINIMUM OF 25 LINEAR FEET FROM THE EDGE OF TRAVELED WAY (WHICHEVER IS GREATER). THIS WORK SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE APPROPRIATE BID ITEM SHOWN IN THE BID SCHEDULE.

# DUST CONTROL NOTES:

- 1. THE CONTRACTOR SHALL IMPLEMENT ONE OR BOTH OF THE FOLLOWING MEASURES FOR DUST CONTROL ON THIS
- 1.1 SPRAYING OF WATER SO AS NOT TO GENERATE ADDITIONAL RUNOFF. NO DUST PALLIATIVE MATERIALS OTHER THAN WATER WILL BE USED ON THIS PROJECT. IF NON-POTABLE WATER IS TO BE USED, IT MUST BE CONVEYED IN TANKS OR PIPES CLEARLY LABELED AS "NON-POTABLE WATER DO NOT DRINK".
- 1.2 COVERS FOR EXPOSED AREAS.

# EQUIPMENT & MATERIALS STORAGE AREA NOTES:

- 1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL MATERIALS AND EQUIPMENT STORED ONSITE SHALL HAVE ADEQUATE COVERINGS AND CONTAINMENT TO PREVENT LEAKAGE AND SPILLS.
- 2. ALL MATERIALS AND EQUIPMENT SHALL BE STORED IN DESIGNATED AND APPROVED AREAS. THE AREA SHALL BE
- BERMED WITH EARTH DIKES THAT THE CONTRACTOR SHALL INSPECT AND MAINTAIN WEEKLY.

  3. ALL FLAMMABLE, REACTIVE, AND/OR IGNITABLE LIQUIDS MUST COMPLY WITH LOCAL FIRE CODES.
- DURING THE RAINY SEASON (OCTOBER THROUGH APRIL) THE CONTRACTOR SHALL ENSURE THAT MATERIALS ARE
- COVERED.

  5. NO CHEMICALS, DRUMS, OR BAGGED MATERIALS SHALL BE STORED DIRECTLY ON THE GROUND; ITEMS SHALL BE
- 6. IF DRUMS MUST BE KEPT UNCOVERED, THE CONTRACTOR SHALL STORE THEM AT A SLIGHT ANGLE TO REDUCE PONDING OF RAINWATER AND REDUCE CORROSION.
- 7. WHEN DANGEROUS MATERIALS AND/OR LIQUID CHEMICALS ARE UNLOADED ONSITE, THE CONTRACTOR SHALL HAVE EMPLOYEES TRAINED IN EMERGENCY SPILL CLEANUP PROCEDURES PRESENT.

# VEHICLE MAINTENANCE AREA NOTES:

PLACED ON PALLETS AND/OR IN SECONDARY CONTAINMENT.

- 1. EQUIPMENT AND VEHICLES TRAVELING ONSITE SHALL BE INSPECTED REGULARLY FOR LEAKS AND BE REPAIRED IMMEDIATELY; DO NOT ALLOW LEAKING VECHICLES ONSITE. KEEP VEHICLES AND EQUIPMENT CLEAN (DO NOT ALLOW EXCESSIVE BUILDUP OF OIL AND GREASE).
- 2. USE OFFSITE REPAIR SHOPS WHENEVER POSSIBLE; IF ONSITE REPAIRS ARE NECESSARY, USE THE DESIGNATED AREA SURROUNDED BY EARTH BERMS. THE CONTRACTOR SHALL INSPECT THIS AREA WEEKLY AND AFTER EACH RAINSTORM EVENT TO ENSURE THAT THE EARTH BERMS ARE IN PLACE AND FUNCTIONING PROPERLY; ANY NON-FUNCTIONING BERMS SHALL BE REPAIRED IMMEDIATELY.
- 3. USE DRY CLEAN-UP METHODS FOR SPILLS AS MUCH AS POSSIBLE; USE ABSORBENT MATERIALS FOR SMALL SPILLS AND DISPOSE OF PROPERLY. USE A SECONDARY CONTAINMENT DURING FLUID CHANGES AND REPAIRS TO CATCH SPILLS.
- SEGREGATE AND RECYCLE WASTES (INCLUDING BUT NOT LIMITED TO: USED OIL AND OIL FILTERS, BATTERIES, ETC.). KEEP HAZARDOUS WASTES SEPARATE FROM NON—HAZARDOUS WASTES; AFTER REPAIRS, ETC., PROMPTLY TRANSFER USED FLUIDS AND WASTES TO THEIR PROPER CONTAINMENT AREAS AND CONTAINERS.

# DITCHES AND CATCH BASINS:

DITCH BLOCKS, EARTHEN DIKES, AND DITCHES MAY BE ADDED AT LOCATIONS DESIGNATED BY THE OWNER OR AS SHOWN ON THESE PLANS. ALL FURROW DITCHES AND DRAINAGE DITCHES SHALL BE STAKED AND GRADED TO DRAIN TO THE LIMITS OF THE RIGHT OF WAY. DITCH BLOCKS, EARTHEN DIKES, AND FURROW DITCHES SHALL BE PAID FOR UNDER THE APPROPRIATE BID ITEMS FOR THE WORK AS SHOWN IN THE BID SCHEDULE.

# SAW CUTTING & PAVEMENT REMOVAL:

- 1. SAW CUT EXISTING ASPHALT PAVEMENT WHERE OLD ASPHALT IS TO TIE INTO NEW CHIP SEAL. TAPER NEW CHIP SEAL SURFACING TO MATCH THE EXISTING PAVEMENT OR CHIP SEAL SURFACE SECTION AT THE POINT OF TIE IN TO PROVIDE FOR A SMOOTH TRANSITION. THIS WORK SHALL BE INCIDENTAL TO CHIP SEALING.
- 2. REMOVE AND DISPOSE OF REMOVED ASPHALT OR CHIP SEAL AT THE BEGINNING OF THE PROJECT AND IN STRICT ACCORDANCE WITH APPLICABLE RULES AND REGULATIONS FOR SUCH REMOVAL, TRANSPORT, AND DISPOSAL. WORK SHALL BE INCIDENTAL TO CHIP SEALING.

# QUANTITIES:

 QUANTITIES AND LENGTHS OF ITEMS PROVIDED WITHIN THIS PLAN SET ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ACTUAL QUANTITIES OF COMPONENTS REQUIRED FOR THE SUCCESSFUL AND SATISFACTORY COMPLETION OF THE PROJECT.

# CULTURALLY SENSITIVE AREAS:

1. AREAS WITHIN THE PROJECT PERIMETER THAT ARE CULTURALLY SENSITIVE SHALL BE PROTECTED AGAINST DAMAGE FROM CONSTRUCTION ACTIVITIES. AT NO TIME SHALL SUCH CULTURALLY SENSITIVE AREAS BE ENTERED, PARKED UPON, STOCK PILED UPON, OR HAVE ANY OTHER ACTIVITY ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT IN ANY WAY INFRINGE UPON, DETERIORATE, DESTROY, OR RENDER TO A STATE OR CONDITION UNACCEPTABLE ANY CULTURALLY SENSITIVE AREA. THE CONTRACTOR AGREES TO PROTECT ALL SUCH AREAS DURING ANY AND ALL ACTIVITIES ASSOCIATED WITH THE CONSTRUCTION OF THIS PROJECT.

# STREETS & DRIVEWAYS

- 1. AGGREGATE BASE SHALL BE CLASS 3 AND SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS. THE AGGREGATE BASE SHALL BE PLACED AND COMPACTED IN ACCORDANCEWITH CALTRANS SPECIFICATIONS.
- 2. ASPHALT CONCRETE SHALL CONFORM TO TYPE B, 1/2" MAXIMUM, MEDIUM GRADATION. THE MIX AND GRADATION USED SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER. THE ASPHALT CONCRETE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS.
- 3. STRIPING AND SIGNING SHALL CONFORM TO CALTRANS SPECIFICATIONS.

# STORM DRAINS

- EXCAVATION AND BACKFILL OF STORM DRAINS, WILL BE CONSIDERED INCIDENTAL TO INSTALLATION OF THE STORM DRAIN. THEREFORE, NO SEPARATE PAYMENT WILL BE MADE FOR THIS WORK.
- 2. STORM DRAIN PIPE SHALL BE SMOOTH INTERIOR WALL, TYPE S CORRUGATED POLYETHYLENE PIPE. PIPE SHALL BE AS SPECIFIED IN AASHTO DESIGNATION: M 294, MANUFACTURED FROM HIGH DENSITY POLYETHYLENE (HDPE) VIRGIN COMPOUNDS. THE CELL CLASSIFICATION SHALL BE 324420C PER ASTM D3350 OR HIGHER. THE PIPE SHALL BE ADS N-12 OR APPROVED EQUAL.
- 3. PIPE JOINTS SHALL BE WATER TIGHT. THE JOINT SHALL BE EITHER: INTEGRAL BELL COUPLERS WITH O-RING GASKET ON SPIGOT, ADS N-12 PRO LINK ULTRA WT PIPE, OR BELL/BELL COUPLERS WITH O-RING GASKET, ADS PRO LINK WT OR APPROVED EQUAL. JOINTS SHALL BE ASSEMBLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

# DRIVEWAYS

- 1. AGGREGATE BASE SHALL BE CLASS 2 AND SHALL CONFORM TO CALTRANS STANDARD SPECIFICATIONS. THE AGGREGATE BASE SHALL BE PLACED AND COMPACTED IN ACCORDANCE WITH
- 2. ASPHALT CONCRETE SHALL CONFORM TO TYPE B, 1/2" MAXIMUM, MEDIUM GRADATION. MIX AND GRADATION SHALL BE SUBJECT TO APPROVAL BY THE ENGINEER. THE ASPHALT CONCRETE SHALL BE PLACED IN ACCORDANCE WITH CALTRANS STANDARD SPECIFICATIONS.
- 3. STRIPING AND SIGNING SHALL CONFORM TO THE COUNTY AND STATE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

# WATER PIPE

1. WATER PIPE — PVC, C900, 150 PSI. — J—M "BLUE BRUTE" OR APPROVED EQUAL OR AS DIRECTED BY HOOPA VALLEY HOUSING AUTHORITY.

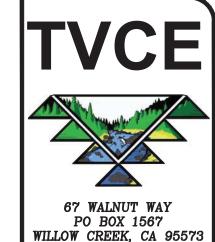
# <u>UTILITIES</u>

WATER – POWER – GAS – PHONE –

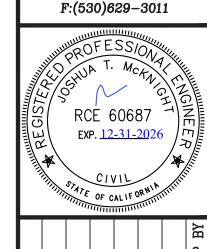
# SURVEY NOTE

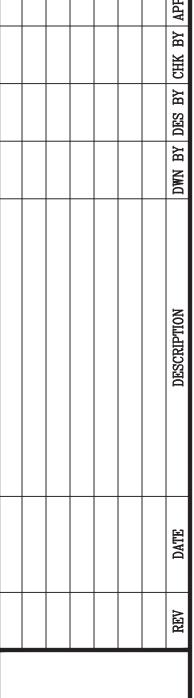
TOPOGRAPHY SURVEY BY TRINITY VALLEY CONSULTING ENGINEERS, INC.

	SUMMARY OF QUANTITIES						
ITEM NO.	ITEM CODE	ITEM DESCRIPTION	UNIT	QUANTIT			
1		MOBILIZATION	LS	1			
2		CLEARING & GRUBBING	LS	1			
3		DEMOLITION	LS	1			
4		REMOVE EXISTING ASPHALT	S.F.	1,340.0			
5		CLASS 2 AGGREGATE BASE	S.F.	1,334.5			
6		HOT MIX ASPHALT	S.F.	1,334.5			
7		CONCRETE APRONS AT AREA DRAINS	C.Y.	1.3			
8		CALTRANS TYPE G1 AREA DRAIN D73	EA.	3			
9		18" HDPE STORM DRAIN PIPE	L.F.	120			
10		6" DRAIN PIPE (DOWNSPOUT TO DI)	L.F.	100			
11		CONNECT (N)18" SD TO (E)DETENTION FIELD	L.S.	1			
12		4" SEWER LINE TO EXISTING SS SYSTEM	L.S.	1			
13		PAINTING (PARKING SPACES & HANDICAP SYMBOL)	LS	1			
14		EROSION CONTROL	LS	1			
15							
16							
17							
18							
19							
20							



P:(530)629-3000





QUANTITIES

TRINIDAD, CA. 95570

NOTES & Q

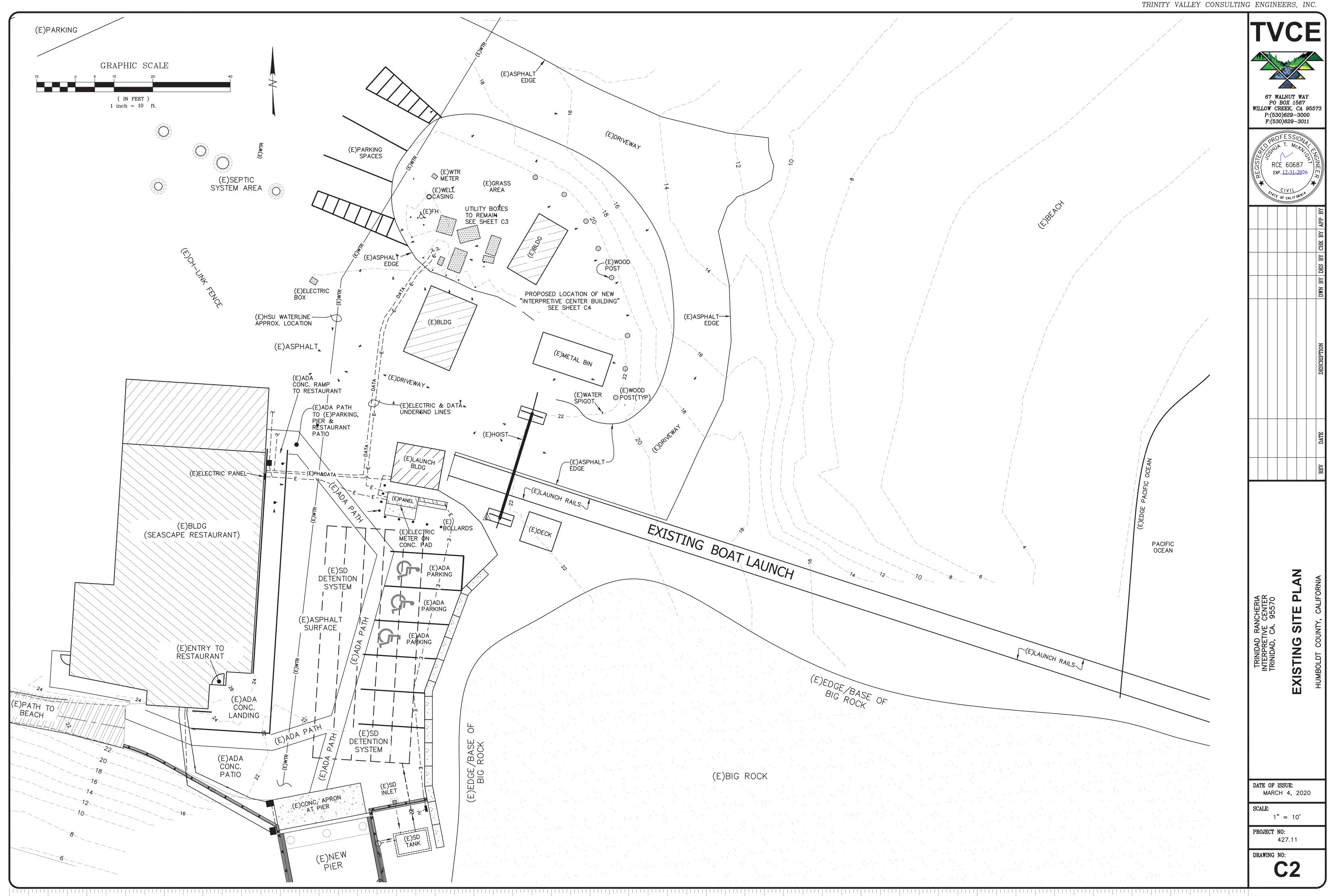
DATE OF ISSUE: MARCH 4, 2020

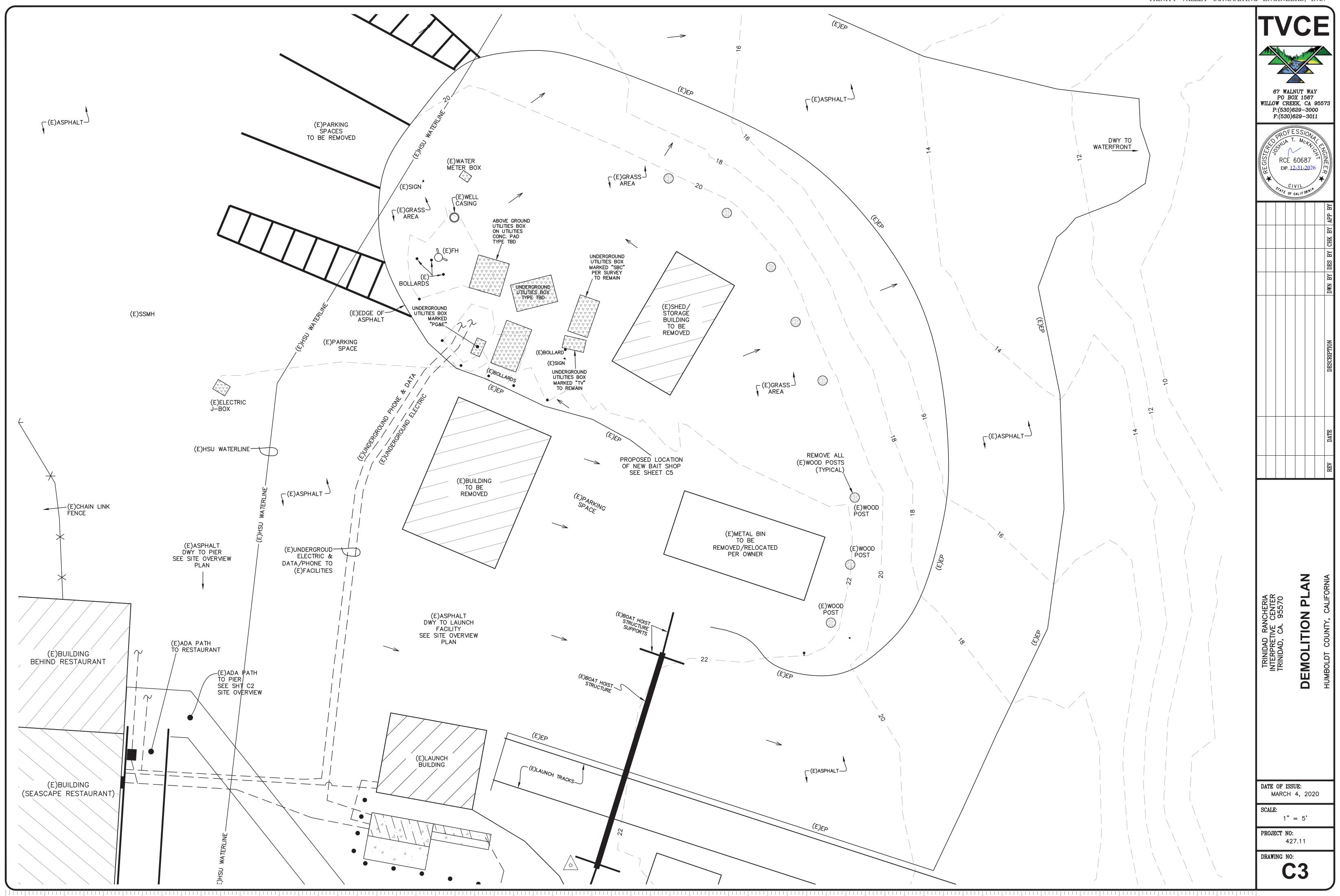
SCALE: AS SHOWN

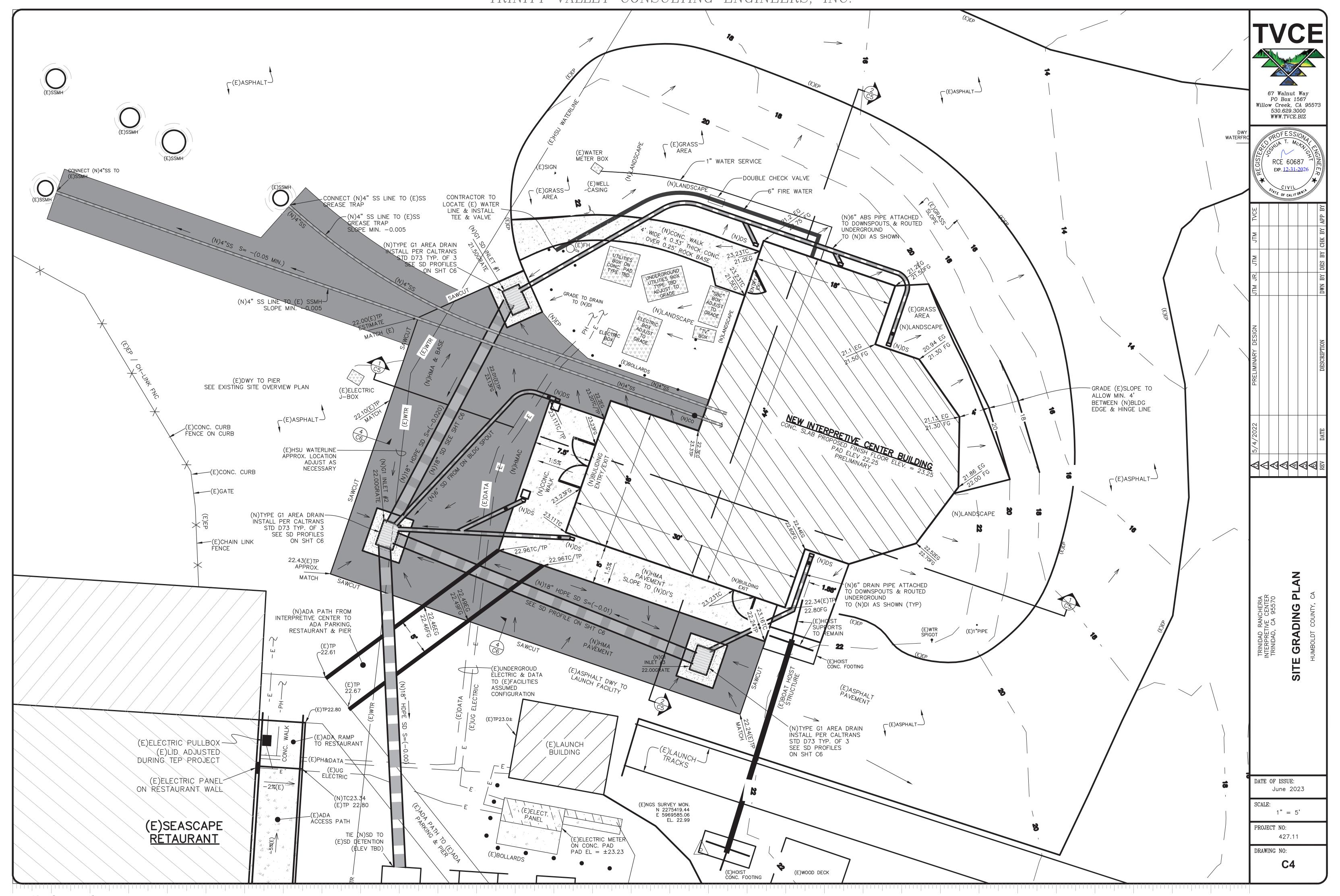
PROJECT NO: 427.11

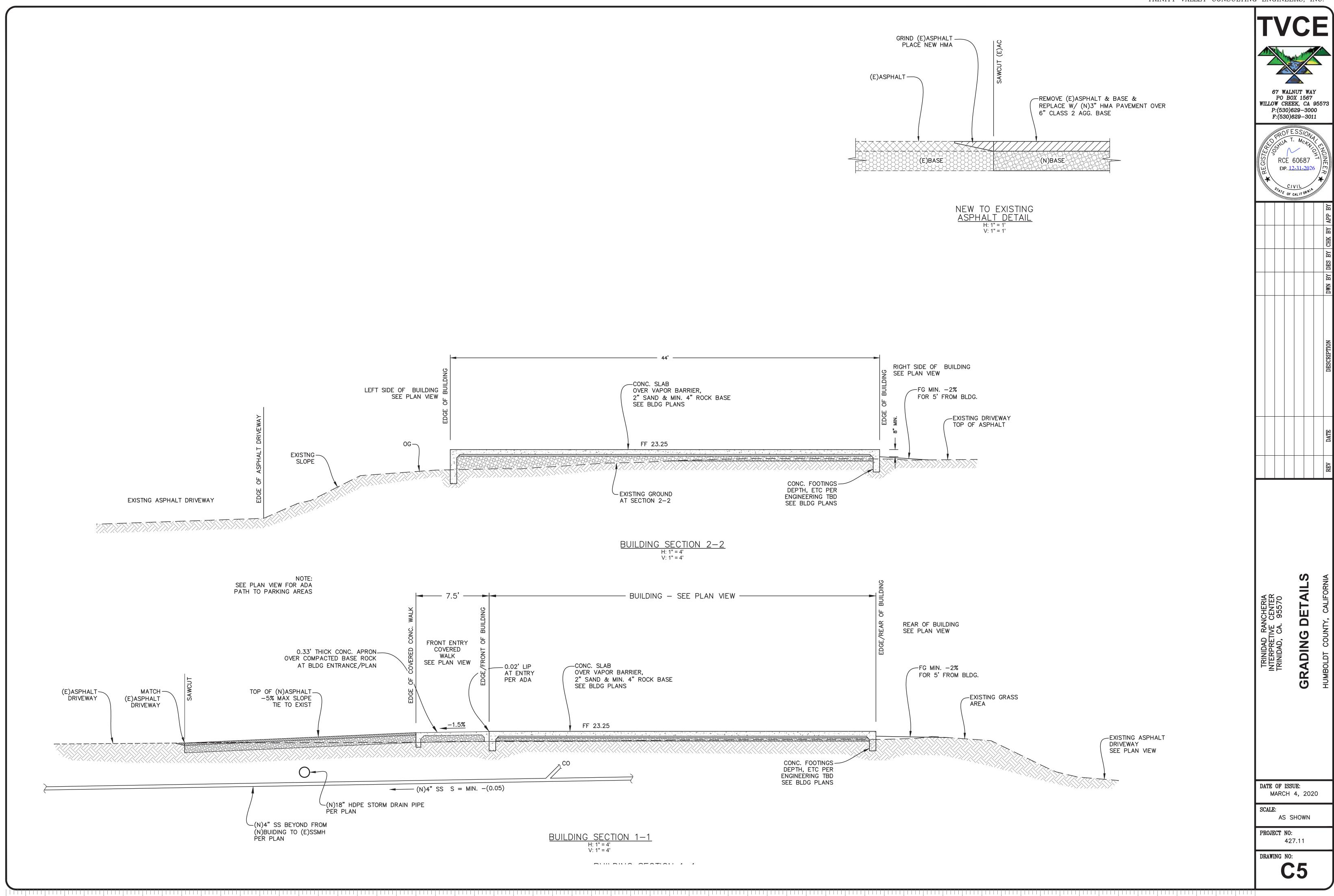
DRAWING NO:

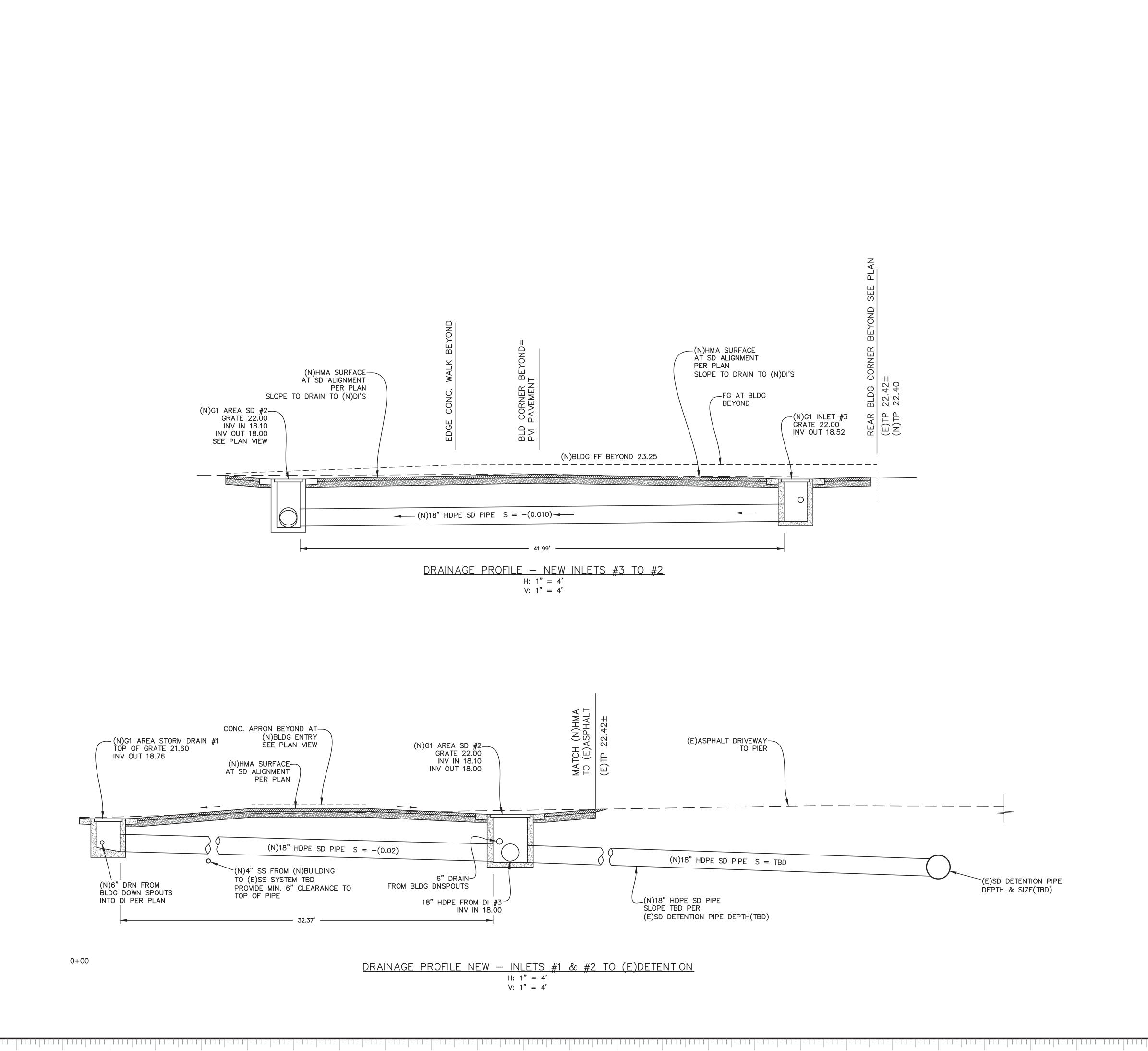
/2" 1"



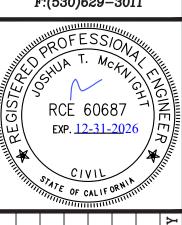








67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011



DESCRIPTION DWN BY DES BY CHK BY APP BY

DRAIN PROFILES

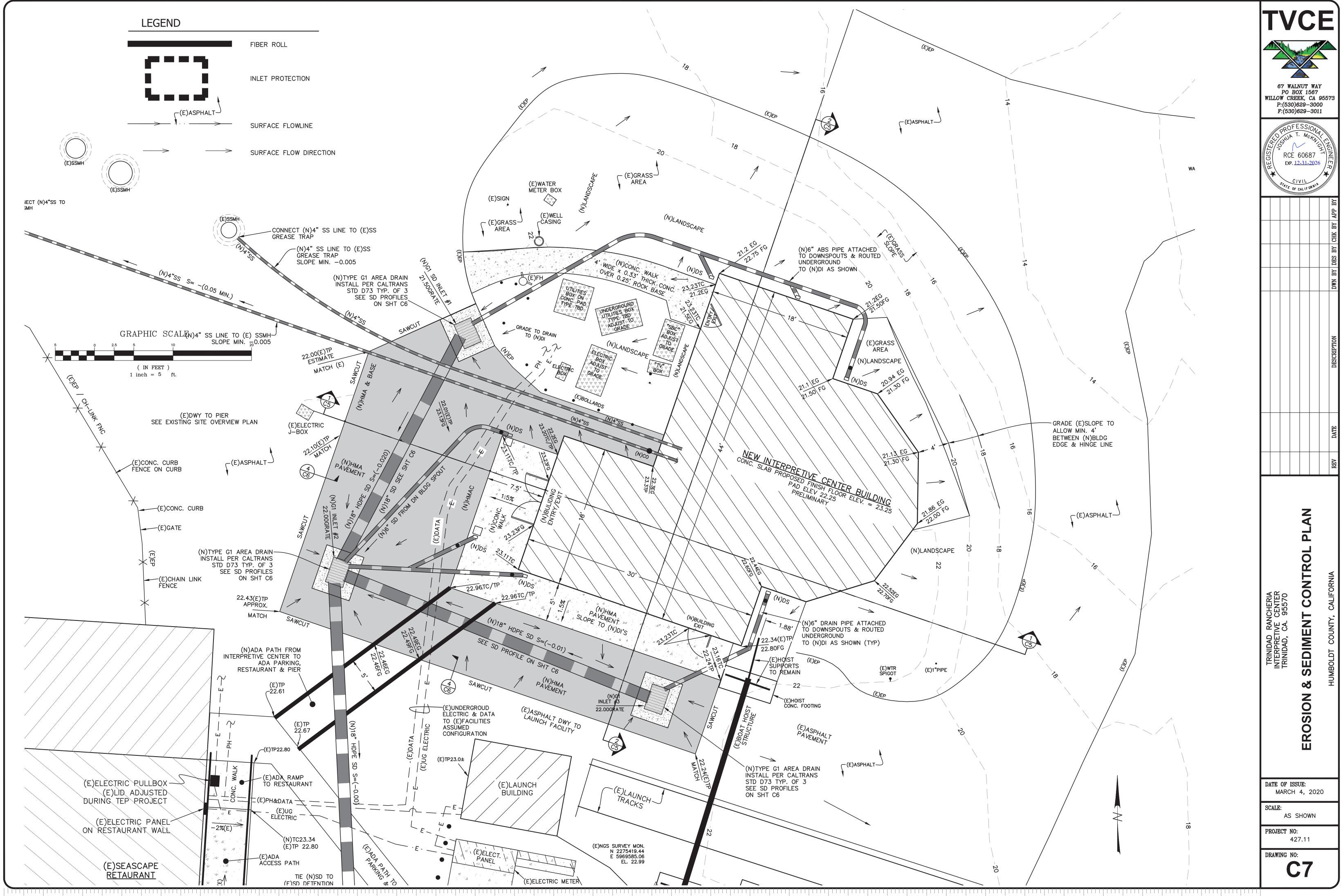
STORM DRA

DATE OF ISSUE: MARCH 4, 2020

SCALE: AS SHOWN

PROJECT NO: 427.11

DRAWING NO:



1/2" 1"

# EROSION AND SEDIMENT CONTROL NOTES:

- 1. EROSION CONTROL BEST MANAGEMENT PRACTICES (BMP'S) SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). SEDIMENT CONTROL BMP'S SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
- 2. ALL DRAINAGE INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREA AND WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL AND INLET FILTER BAGS, WHERE APPLICABLE.
- 3. STABILIZED CONSTRUCTION ACCESS LOCATIONS SHALL BE CONSTRUCTED WHERE CONSTRUCTION TRAFFIC ENTERS OR LEAVES PAVED AREAS. THE STABILIZED ACCESS SHALL BE MAINTAINED ON A YEAR-ROUND BASIS UNTIL THE COMPLETION OF CONSTRUCTION.
- 4. ALL AREAS DISTURBED DURING CONSTRUCTION, BY GRADING, TRENCHING, OR OTHER ACTIVITIES, SHALL BE PROTECTED FROM EROSION DURING THE WET SEASON (OCTOBER 1 THROUGH APRIL 30). HYDROSEED, IF UTILIZED, MUST BE PLACED BY SEPTEMBER 15. HYDROSEED PLACED DURING THE WET SEASON SHALL USE A SECONDARY EROSION PROTECTION METHOD.
- 5. SENSITIVE AREAS AND AREAS WHERE EXISTING VEGETATION IS BEING PRESERVED SHALL BE PROTECTED WITH CONSTRUCTION FENCING. SEDIMENT CONTROL BMP'S SHALL BE INSTALLED WHERE ACTIVE CONSTRUCTION AREAS DRAIN INTO SENSITIVE OR PRESERVED VEGETATION AREAS.
- 6. SEDIMENT CONTROL BMP'S SHALL BE PLACED ALONG THE PROJECT PERIMETER WHERE DRAINAGE LEAVES THE PROJECT. SEDIMENT CONTROL BMP'S SHALL BE MAINTAINED YEAR—ROUND UNTIL THE CONSTRUCTION IS COMPLETE OR THE DRAINAGE PATTERN HAS BEEN CHANGED AND NO LONGER LEAVES THE SITE.
- 7. ALL SLOPES GREATER THAN 10:1 SHALL RECEIVE HYDROSEEDING OR OTHER EROSION CONTROL.
- 8. ALL FENCING AND EROSION CONTROL METHODS SHALL BE MAINTAINED THROUGHOUT ALL ON-SITE CONSTRUCTION ACTIVITIES.
  - ALL BMPS SHALL BE INSTALLED AND FUNCTIONING PRIOR TO ANY ANTICIPATED STORM EVENT.

# VEHICLE/EQUIPMENT WASH AREA NOTES:

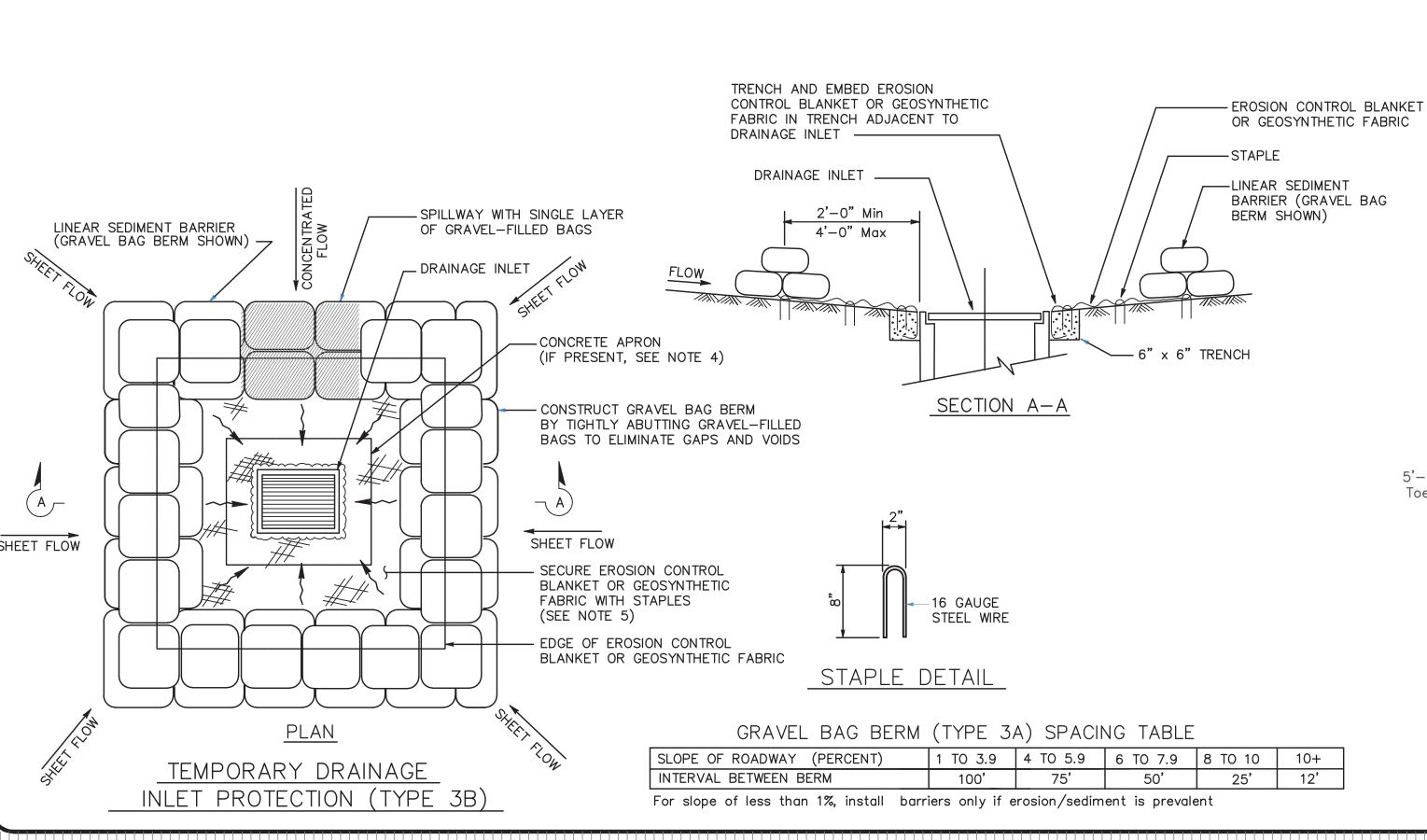
- 1. ALL ONSITE CONCRETE WASHOUT, VEHICLE AND EQUIPMENT WASHING SHALL TAKE PLACE IN A DESIGNATED AND APPROVED AREA. THE AREA SHALL BE BERMED WITH EARTH DIKES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND MAINTAIN THIS AREA WEEKLY TO PREVENT WASH WATER CONTACT WITH STORM WATER, CREEKS, RIVERS, AND OTHER WATER BODIES.
- 2. IF THE CONCRETE WASHOUT AND VEHICLE/EQUIPMENT WASHING IS TO TAKE PLACE OFFSITE, THE LOCATION MUST BE CHOSEN BY THE CONTRACTOR AND APPROVED BY THE OWNER PRIOR TO CONSTRUCTION BEGINNING.
- 3. USE PHOSPHATE-FREE, BIODEGRADABLE SOAPS AND AS LITTLE WATER AS POSSIBLE.
- 4. EDUCATE EMPLOYEES AND SUBCONTRACTORS ON POLLUTION PREVENTION MEASURES.
- 5. NO STEAM-CLEANING IS PERMITTED ONSITE.

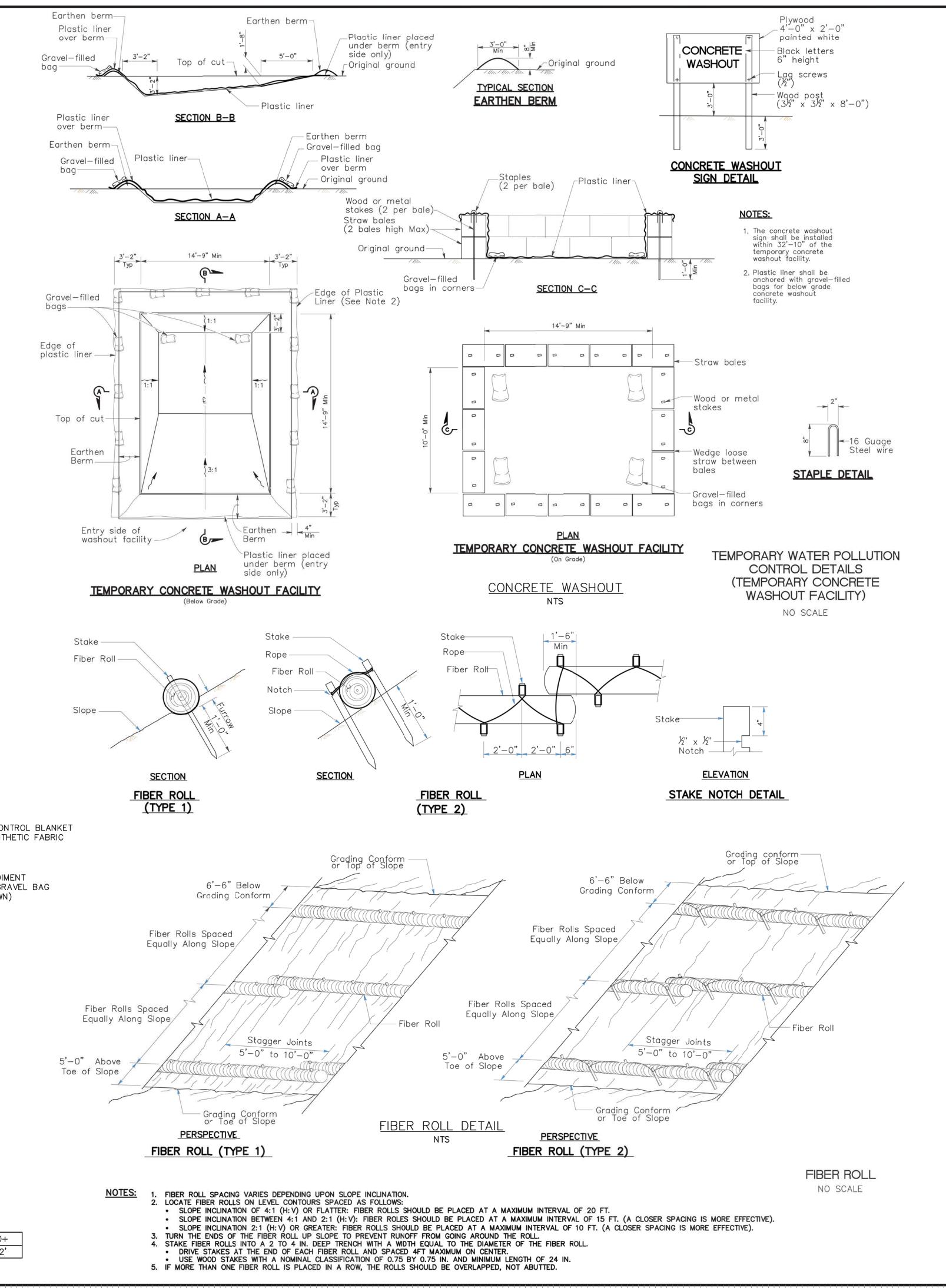
# BMP MAINTENANCE NOTES:

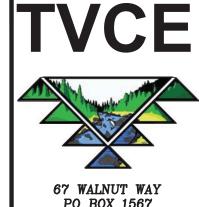
1. ALL OF THE IMPLEMENTED BMPS SHALL BE INSPECTED AND CORRECTED AS NEEDED PRIOR TO, DURING, AND DIRECLTY FOLLOWING ANY STORM EVENT, OR WHENEVER PRACTICAL.

# EROSION CONTROL CONSTRUCTION NOTES:

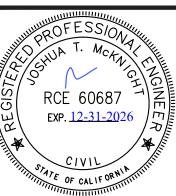
- 1 ALL ONSITE INLET STRUCTURES AND EXISTING INLET STRUCTURES ALONG ADJACENT DEVELOPMENTS SHALL BE PROTECTED. ALL NEW INLET STRUCTURES TO BE STAMPED "NO DUMPING FLOWS TO STREAM".
- (2) INSTALL STRAW FIBER ROLLS.







67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011



AB AB AR SHOWN AND ARE OF CALLE OR WIND AND AR

SION & SEDIMENT CONTROL
NOTES & DETAILS

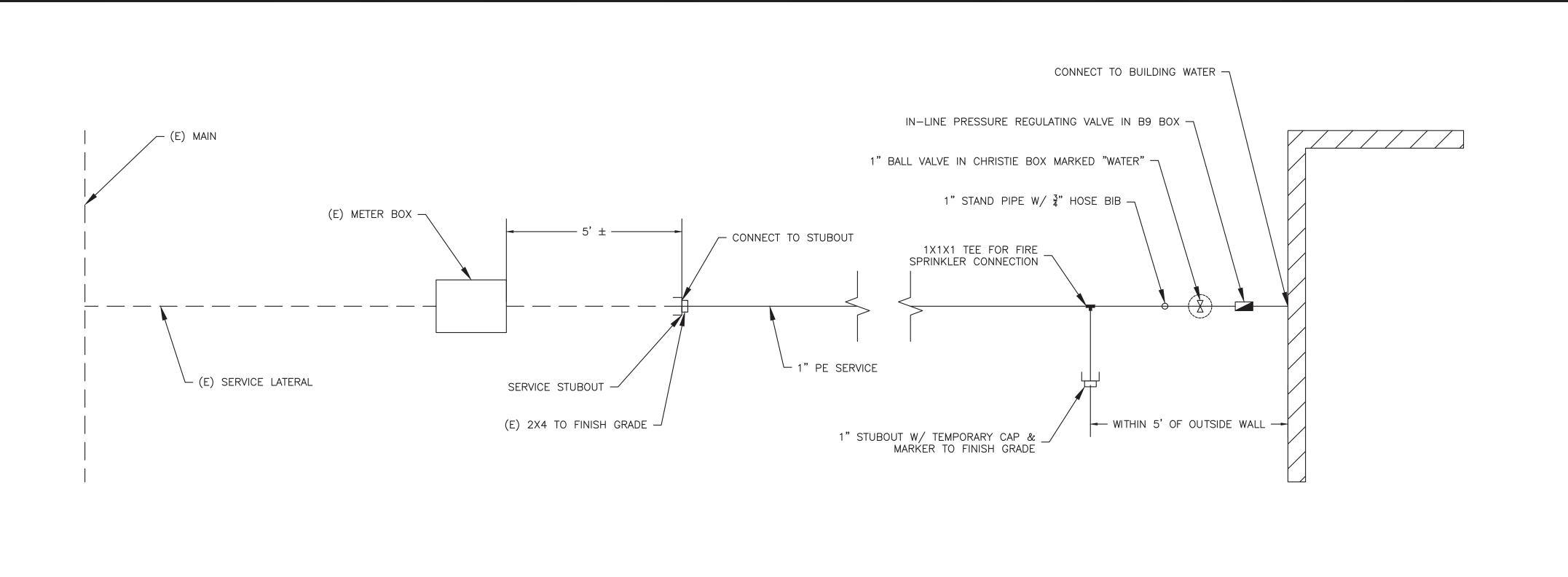
DATE OF ISSUE: MARCH 4, 2020

ERO

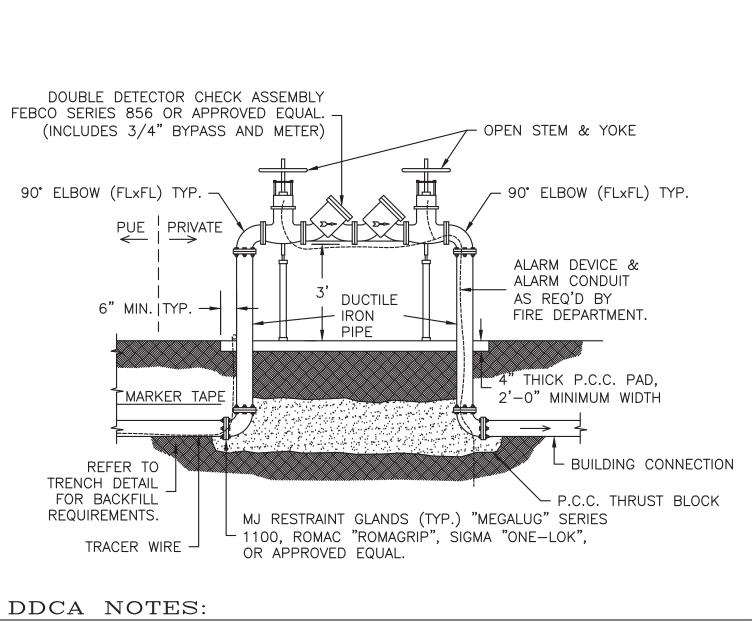
SCALE: AS SHOWN

PROJECT NO: 427.11

DRAWING NO:



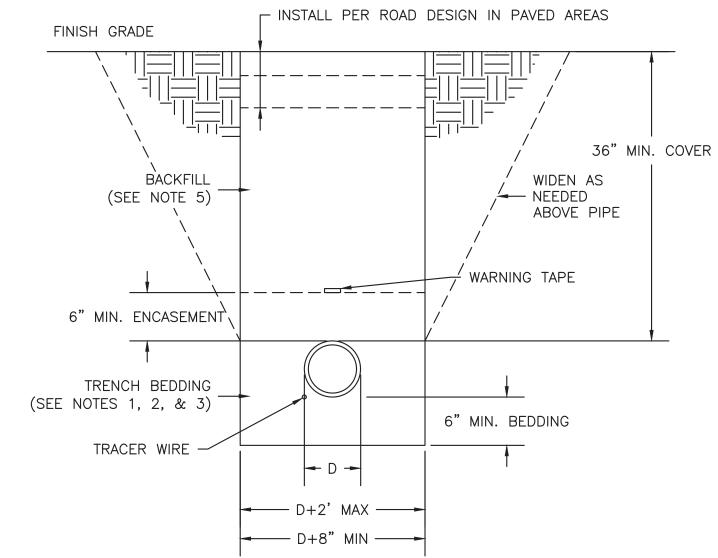
NTS FINISH GRADE



SERVICE DETAIL

- THE DOUBLE DETECTOR CHECK ASSEMBLY SHALL BE REQUIRED FOR USE IN CLASS I AND CLASS II FIRE SPRINKLER SYSTEMS ONLY. CLASS I AND II AUTOMATIC FIRE SPRINKLER SYSTEMS ARE THOSE WITH DIRECT CONNECTION TO THE PUBLIC WATER MAIN ONLY; NO RESERVOIRS OR AUXILIARY SOURCES, NO ANTIFREEZE OR ADDITIVES OF ANY KIND, AND ALL SPRINKLER DRAINS DISCHARGE TO THE ATMOSPHERE OR OTHER SAFE OUTLETS (AWWA MANUAL NO. M-14).
- 2. ASSEMBLY SHALL BE PROTECTED FROM DAMAGE BY VEHICLES AND MAY REQUIRE BOLLARDS.
- 3. FIRE SPRINKLER SYSTEM ALARM MONITORING SHALL BE PER CURRENT STATE AND LOCAL FIRE CODES.

DOUBLE CHECK VALVE DETAIL



# PIPE TRENCH NOTES:

- 1. ALL TRENCHING WORK TO BE IN STRICT COMPLIANCE WITH 29 CFR 1926 PART P.
- . BACKFILL BY HAND, COMPACT OR CONSOLIDATE TO PROVIDE SOLID BEDDING UNDER AND AROUND PIPE.
- 3. BEDDING MATERIAL SHALL BE SAND.
- IMPORT GRAVEL BACKFILL ABOVE PIPE ENCASMENT SHALL BE STREAM GRAVEL OR CRUSHED ROCK AND BE REASONABLY WELL GRADED FROM COARSE TO FINE WITH A MAXIMUM SIZE OF 1-1/2" AND A MINIMUM SAND EQUIVALENT GREATER THAN 28.
- 5. JETTING WILL NOT BE ALLOWED.

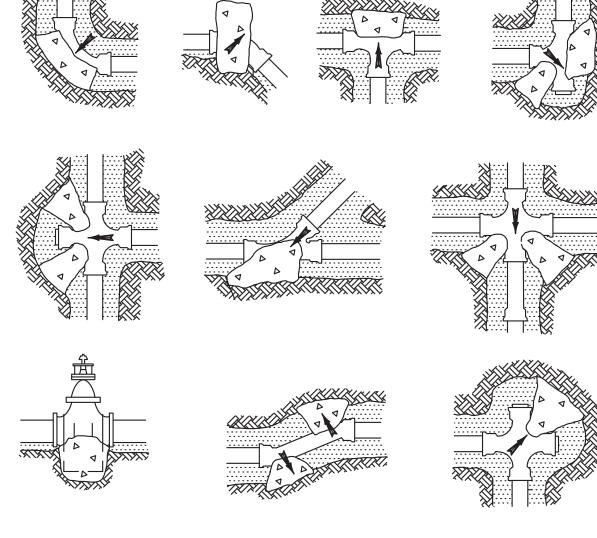
TOP

LT C9

IN ROAD CROSSINGS BACKFILL ABOVE PIPE SHALL BE 4" MINUS CLASS 2 AGGREGATE BASE. BASE CONSOLIDATION SHALL BE 95% RELATIVE COMPACTION PER ASTM 2922. A 2—SACK CONCRETE SLURRY MAY BE USED N PLACE OF AB.

PIPE TRENCH DETAIL

NTS



# LOCATION OF THRUST BLOCKS NTS

		TA	BLE I		
THRUST	(T) AT FITTINGS	S, IN POUNI	DS AT 100	PSI WATER PF	RESSURE
PIPE SIZE	TEE OR DEAD END	90 BEND	45 <sup>O</sup> BEND	22 1° 2BEND	11
1 <u>1</u> "	284	401	217	111	56
2"	443	627	339	173	87
2 <u>1"</u>	649	918	497	253	127
3"	962	1361	736	375	189
4"	1810	2559	1385	706	355
6"	3739	5288	2862	1459	733
8"	6433	9097	4923	2510	1261
10"	9677	13685	7406	3776	1897
12"	13685	19353	10474	5340	2683
14"	18385	26001	14072	7174	3604
16"	23779	33628	18199	9278	4661

LT C9

TOP

LT C9

		/	
TABL SAFE BEARING I			
SOIL	SAFE BEARING LOAD, POUNDS PER SQ. FT.	$A_{SB} = \frac{T}{B} \times \frac{PT}{100}$	
SOUND SHALE	10000	WHERE:	
CEMENTED SAND AND GRAVEL	4000	A SB= AREA OF BLOCK BEARING AGAINST UNDISTURBED	
COARSE AND FINE COMPACTED SAND	3000	TRENCH MATERIAL IN SQ. FT. $T = THRUST FACTOR FROM TABLE I$	— I
MEDIUM CLAY (CAN BE SPADED)	2000	IN POUNDS AT 100 PSI	_
SOFT CLAY	1000	B = SAFE BEARING LOAD FROM TABLE II IN POUNDS/SQ. FT.	
MUCK	0	PT = PRESSURE USED FOR PIPELINE TEST IN PSI	

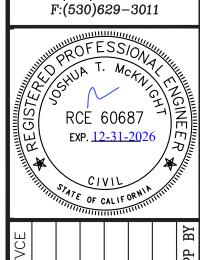
# THRUST BLOCK SIZING NOT TO SCALE

# THRUST BLOCK NOTES:

- . THRUST BLOCKS SHALL BE CONSTRUCTED SO THAT MAJOR BEARING SURFACE IS IN DIRECT LINE WITH THE MAJOR FORCE CREATED BY THE PIPE OR FITTINGS.
- 2. ALL CONCRETE SHALL BE CLASS 470-C-2500 PER "GREENBOOK".
- 3. CONCRETE SHALL BE FLUID ENOUGH SO THAT IT MAY BE WORKED AROUND THE FITTINGS. A DOUBLE LAYER OF 6 MIL POLYETHYLENE FILM SHALL BE PLACED BETWEEN CONCRETE AND METAL FITTINGS.
- 4. CONCRETE SHALL BE KEPT BEHIND THE BELL OF THE FITTINGS.
- 5. ALL THRUST BLOCKS FOR PIPES LARGER THAN 12" SHALL BE ENGINEERED.
- 6. A CONCRETE PAD SHALL BE PLACED UNDER ALL VALVES 12" AND LARGER FOR SUPPORT.
- 7. ALL ANCHOR BLOCKS SHALL BE CONSTRUCTED WITH A MINIUM OF (2) #4 REBAR STRAPS.

TOP THRUST BLOCK DETAIL

67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000



ATER

DATE OF ISSUE: July 2023

AS SHOWN PROJECT NO:

427.11

SCALE:

DRAWING NO: C9

FROM MAIN

NON-WOVEN GEOTEXTILE

2" DRAIN ROCK -

3'-6"

3' MIN.

2' MIN. ———

4"øx6' GALVANIZED

- VALVE DETAIL

GATE VALVE DETAIL

STEEL POST PAINTED RED

PLAN VIEW

PROVIDE SPOOL

VALVE LOCATION

- DRAIN HOLE

CONCRETE

UNDISTURBED SOIL

TOP

LT C9

- THRUST

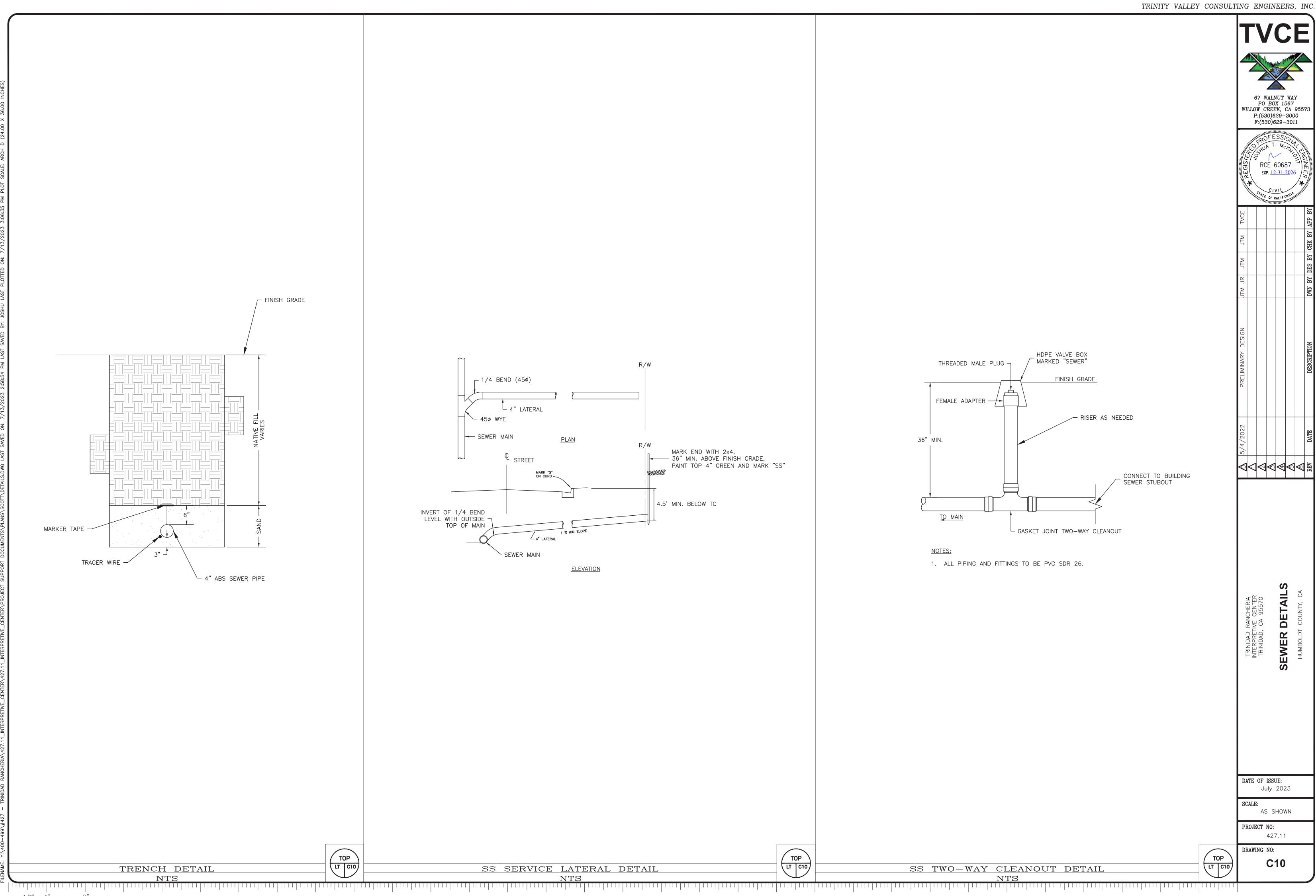
BLOCK

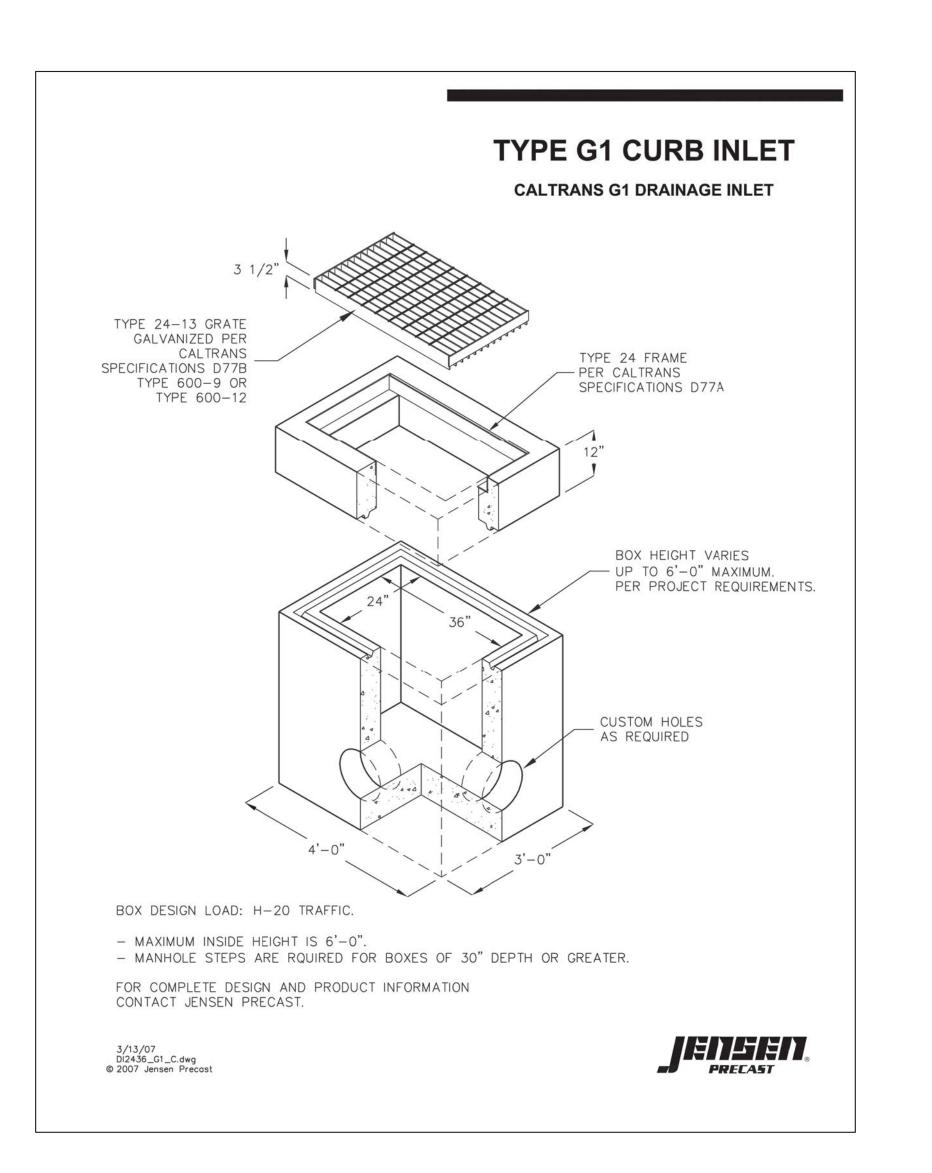
AS REQUIRED

FOR DESIRED

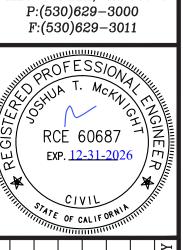
FINISH GRADE

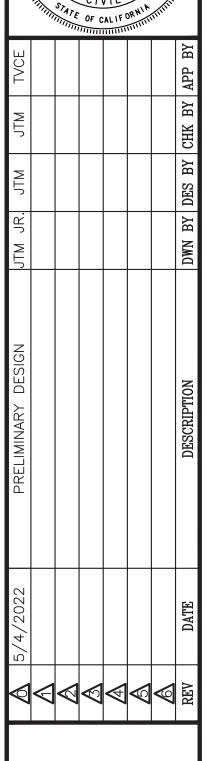
LT C9





67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573





TRINIDAD, CA 95570

ORM DRAIN DETAILS

HIMBOLDT COUNTY CA

DATE OF ISSUE: July 2023

SCALE: AS SHOWN

PROJECT NO: 427.11

DRAWING NO:

1/2" 1"

# **PROJECT NOTES:**

- 1. ALL DIMENSIONS ARE TO THE FACE OF STUDS UNLESS OTHERWISE NOTED, (U.O.N.). 2.WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. DO NOT SCALE THE
- 3.GLAZING WITHIN 24" ARC OF EITHER VERTICAL EDGE OF A DOOR IN THE CLOSED POSITION SHALL BE TEMPERED. SAFETY GLAZING AT WALL, ENCLOSURE OR DOOR FOR TUB, SHOWER, SAUNA, ETC., INCLUDING WINDOW IF BOTTOM IS LESS THAN 60 ABOVE STANDING SURFACE. (ALL MEASUREMENTS ARE TO NEAREST EXPOSED EDGE OF GLASS)

# <u>STRUCTURAL DESIGN CRITERIA</u>

# 1.2022 CALIFORNIA BUILDING CODE.

2.ASCE 7-16, MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES. 3.AISC MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.

4.ACI 318-14, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE. 5.2015 NDS NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION

# PLANNING & DESIGN

- SITE DEVELOPMENT STORM WATER POLLUTION & PREVENTION PLAN APPLIES TO ALL NEW CONSTRUCTION PROJECTS.
- 2. LIGHT POLLUTION REDUCTION SHALL BE IMPLEMENTED.

# **ENERGY EFFICIENCY**

3. IN ORDER TO BE CONSIDERED "GREEN BUILDING" A REDUCTION OF AT LEAST 15% BELOW THE MINIMUM LEVEL OF COMPLIANCE SHOULD BE OBTAINED.

# 4. SEPARATE SUB METERS SHALL BE REQUIRED FOR ALL BUILDINGS OVER 5,000 S.F.

5. ACHIEVE 20% REDUCTION IN WATER USE BY USING REDUCED FLOW FIXTURES. SEE CALCULATION FORMS WS-1 & WS-2 OR WS-3 ATTACHED.

# OUTDOOR WATER USE

8.A WATER BUDGET SHALL BE DEVELOPED FOR LANDSCAPE IRRIGATION USE. SECTION 5.304.1. 9.FOR NEW WATER SERVICE TO LANDSCAPED AREAS BETWEEN 1,000 S.F. AND 5,000S.F. SEPARATE METERS OR SUBMETERS SHALL BE INSTALLED FOR INDOOR AND OUTDOOR POTABLE WATER USE. SECTION 5.304.2.

10.IN NEW CONSTRUCTION BETWEEN 1,000 S.F. AND 2,500 S.F. OF LANDSCAPED AREA, PROVIDE IRRIGATION CONTROLS CAPABLE OF AUTOMATICALLY ADJUSTING IRRIGATION BASED ON WEATHER OR SOIL CONDITIONS. SECTION 5.304.3. WATER RESISTANCE & MOISTURE MANAGEMENT

11.PROVIDE A WEATHER RESISTANT EXTERIOR WALL AND FOUNDATION ENVELOPE. 12.DESIGN AND MAINTAIN LANDSCAPE SYSTEMS TO PREVENT SPRAY ON STRUCTURES. 13.USE FLASHING AND DRAINAGE PLATES AT EXTERIOR OPENINGS TO PREVENT WATER INTRUSION INTO THE BUILDING.

14. USE NON-ABSORBENT FLOOR AND WALL FINISHES WITHIN 2 FEET OF EXTERIOR

# CONSTRUCTION WASTE REDUCTION, DISPOSAL & RECYCLING

15.PRIOR TO THE ISSUING OF A BUILDING PERMIT, GENERAL CONTRACTOR SHALL DEVELOP A CONSTRUCTION WASTE MANAGEMENT PLAN (CWMP) SHOWING HOW A MINIMUM OF 50% OF ALL CONSTRUCTION DEBRIS WILL BE DIVERTED FROM LANDFILL DISPOSAL. SUBMIT CWMP TO ARCHITECT FOR REVIEW AND APPROVAL. ARCHITECT SHALL FORWARD APPROVED WASTE MANAGEMENT PLAN TO LOCAL BUILDING DEPARTMENT FOR INCORPORATION INTO PERMIT

16.CONTRACTOR SHALL BE RESPONSIBLE FOR TRACKING ALL CONSTRUCTION WASTE AND SHALL PROVIDE WRITTEN DOCUMENTATION AT THE END OF THE PROJECT FOR BUILDING DEPARTMENT APPROVAL PRIOR TO FINAL SIGNOFF. CONSTRUCTION DEBRIS SHALL BE TRACKED BY WEIGHT OR VOLUME FOR THE ENTIRE PROJECT, BUT NOT IN COMBINATION.

17. DISPOSAL OF HAZARDOUS MATERIALS DO NOT COUNT AS CONSTRUCTION WASTE.

# BUILDING MAINTENANCE & OPERATION

18. FOR NEW BUILDINGS 10,000 S.F. OR MORE BUILDING COMMISSIONING SHALL BE INCLUDED IN THE DESIGN AND CONSTRUCTION PROCESS FOR THE BUILDING AS REQUIRED IN SECTION 5.410.2.

# **FIREPLACES**

- 19. ONLY CALIFORNIA APPROVED FIREPLACES MAY BE INSTALLED. POLLUTANT CONTROL 20. ALL HVAC DUCT WORK, EQUIPMENT AND COMPONENTS SHALL BE SEALED THROUGHOUT CONSTRUCTION TO PREVENT CONTAMINATION FROM AIRBORNE POLLUTANTS GENERATED BY CONSTRUCTION ACTIVITIES.
- 21. ALL FINISH MATERIALS SHALL COMPLY WITH VOC LIMITATIONS SET FORTH IN SECTION 5.504.4.1 THROUGH 5.504.4.4.

# INDOOR AIR QUALITY

22. MEET REQUIREMENTS FOR CALIFORNIA TITLE 24.

# **OUTDOOR AIR QUALITY**

23. PROVIDE HVAC, REFRIGERATION, AND FIRE SUPPRESSION SYSTEMS THAT DO NOT CONTAIN CFC'S OR HALONS.

# GENERAL REQUIREMENTS

ALL CONSTRUCTION SHALL CONFORM WITH 2022 CALIFORNIA BUILDING CODE AND ALL OTHER APPLICABLE CODES. ORDINANCES. LAWS AND PROVISIONS SET FORTH IN THESE CONSTRUCTION DOCUMENTS. THE CONSTRUCTION DOCUMENTS ARE CONSIDERED TO BE, BUT ARE NOT LIMITED TO, THE PLANS AND SPECIFICATIONS, NOTIFICATIONS, CHANGE ORDERS, ADDENDUMS, CLARIFICATIONS AND INSTRUCTIONS. ANY CONSTRUCTION THAT DOES NOT COMPLY WITH THE CONSTRUCTION DOCUMENTS SHALL BE SUBJECT TO REJECTION BY THE ENGINEER.

# **CONTRACTOR REQUIREMENTS**

<u>DIMENSIONS</u> SHALL BE CHECKED BY THE CONTRACTOR PRIOR TO CONSTRUCTION BETWEEN THE ARCHITECTURAL PLANS AND OTHER PLANS. VERIFY EXISTING DIMENSIONS PRIOR TO CONSTRUCTION. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER FOR RESOLUTION.

TEMPORARY BRACING OF THE BUILDING DURING CONSTRUCTION IS THE RESPONSIBILITY OF THE CONTRACTOR. SUCH BRACING SHALL ACCOUNT FOR MATERIAL STOCKPILE LOADS, REMOVAL OF EXISTING SUPPORT AND LOADS, FROM EQUIPMENT AND METHODS EMPLOYED DURING CONSTRUCTION. THE BUILDING SHALL ALSO BE ADEQUATELY BRACED TO WITHSTAND ANY WIND LOADS, SEISMIC, AND SNOW LOADS WHICH MIGHT OCCUR DURING CONSTRUCTION UNTIL THE PERMANENT STRUCTURAL FRAMING SYSTEM, INCLUDING BUT NOT LIMITED TO ALL DIAPHRAGMS, SHEAR WALLS, BRACINGS, ECT., IS COMPLETED.

**WOOD FRAME CONSTRUCTION** 

MISC. FRAMING LUMBER NOT NOTED ...

U.N.O., FRAMING LUMBER IS TO BE DOUGLAS FIR S4S GRADED AS NOTED BELOW (WWPA GRADING RULES) UNLESS OTHERWISE NOTED OR SHOWN. HIGHER GRADES OF WOOD THAN INDICATED BELOW MAY BE USED AT THE ELECTION OF THE CONTRACTOR TO MINIMIZE TWISTING, WARPING, ETC. BEAMS AND STRINGERS

.NO. 1 JOISTS, RAFTERS & LEDGERS, 2X AND 4X... ...NO. 2 POSTS AND TIMBERS.. .NO. 1 STUDS, SILLS & PLATES STUD 2X4.. ..NO. 2 ..NO. 2 2X8 AND LARGER.... ..NO. 1

LUMBER MOISTURE CONTENT SHALL BE BELOW 19% PRIOR TO INSTALLATION. REDWOOD LUMBER:4X, 6X, AND 8X REDWOOD STRUCTURAL MEMBERS SHALL BE STRUCTURALLY GRADED NO. 1. OTHER MEMBERS SHALL BE ARCHITECTURAL B GRADE.

..NO. 2

MUDSILLS, PLATES, LEDGERS, AND OTHER WOOD MEMBERS IN CONTACT WITH CONCRETE OR MASONRY SURFACES SHALL BE AWPB GRADE STAMPED PRESSURE TREATED WOOD. DOUGLAS FIR IS THE REQUIRED SPECIES FOR PRESSURE TREATING. THE PRESERVATIVE TYPE AND RETENTION SHALL MEET THE AWPA STANDARD C2 FOR ABOVEGROUND USE. THE TREATED WOOD SHALL BEAR THE AWPB QUALITY ASSURANCE MARK. PRESSURE TREATED MUDSILLS, PLATES, LEDGERS, AND OTHER MEMBERS SHALL HAVE ALL DRILLED HOLES AND CUT ENDS IN CONTACT WITH CONCRETE OR MASONRY TREATED WITH CUPRINOL OR OTHER SUITABLE CHEMICAL COMPATIBLE WITH THE PRESERVATIVE.

SET ALL MUDSILLS, PLATES, ETC. TO PROPER GRADE. THE FOUNDATION MAY DEVIATE FROM A STRAIGHT GRADE PLUS OR MINUS 1/8 INCH FOR BEARING WALLS AND PLUS OR MINUS 1/4 INCH FOR ALL OTHER WALLS.

TIMBER CONNECTORS SHALL BE SIMPSON STRONG-TIE UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER. CONNECTORS SHALL BE THE MAXIMUM SIZE AND NUMBER OF FASTENERS AS SHOWN IN THE LATEST CATALOG UNLESS NOTED OTHERWISE ON THE PLANS ("MAX" NAILING U.N.O., INCLUDING TRIANGULAR HOLES). COATING SHALL BE HOT-DIPPED GALVANIZED OR ZMAX WHEN IN CONTACT WITH PRESSURE-TREATED WOOD.

BOLTS IN WOOD SHALL BE A307 MILD STEEL UNFINISHED MACHINE BOLTS IN INTERIOR LOCATIONS AND ZINC PLATED BOLTS SHALL BE USED FOR ALL OTHER CONNECTIONS EXCEPT HOT DIPPED GALVANIZED BOLTS (AND WASHERS) SHALL BE PROVIDED FOR PRESSURE TREATED LUMBER CONNECTIONS. WASHERS SHALL HAVE THE SAME CORROSION RESISTANCE AS THE BOLT. HOLES IN WOOD MEMBERS SHALL BE 1/16" LARGER THAN BOLT DIAMETER.RE-TIGHTEN ALL BOLTED CONNECTIONS PRIOR TO FINAL USE OR COVERING UP. LEDGERS AND MUDSILLS SHALL HAVE AT LEAST ONE BOLT (OR MORE IF REQUIRED ON PLANS) AT EACH END OF EACH MEMBER LOCATED NOT CLOSER THAN 6 INCHES AND NOT FARTHER THAN 9 INCHES FROM THE END. ALL OTHER BOLTS SHALL BE SPACED AS SHOWN ON PLANS.

WASHERS PLATE WASHERS, NOT LESS THAN 0.229 INCH BY 3 INCHES BY 3 INCHES (5.8 MM BY 76 MM BY 76 MM) IN SIZE. SHALL BE PROVIDED BETWEEN THE FOUNDATION SILL PLATE AND THE NUT EXCEPT WHERE APPROVED ANCHOR STRAPS ARE USED. THE HOLE IN THE PLATE WASHER IS PERMITTED TO BE DIAGONALLY SLOTTED WITH A WIDTH OF UP TO 3/16 INCH (5 MM) LARGER THAN THE BOLT DIAMETER AND A SLOT LENGTH NOT TO EXCEED 13/4 INCHES (44 MM), PROVIDED A STANDARD CUT WASHER IS PLACED BETWEEN THE PLATE WASHER AND THE NUT.

WOOD SCREWS SHALL BE ZINC PLATED STEEL. PROVIDED THE SIZE SHOWN ON THE PLANS. FULL DEPTH LEAD HOLES ARE REQUIRED OF THE SCREWS ROOT DIAMETER. THE SCREW MUST PENETRATE AT LEAST SEVEN SHANK DIAMETERS INTO THE SUPPORTING MEMBER U.N.O.

<u>SELF-DRILLING WOOD SCREWS</u> (SDWS) SHALL CONFORM WITH THE ABOVE PROVISIONS FOR WOOD SCREWS EXCEPT AS FOLLOWS: SCREWS SHALL HAVE A BUGLE HEAD THAT WILL DRIVE FLUSH WITH THE SURFACE; LEAD HOLES MAY BE OMITTED IF SPLITTING OF THE WOOD IS NOT ENCOUNTERED: SCREWS SHALL BE MANUFACTURED BY MCFEELY'S. BUILDEX. OR EQUAL

SCREWS INSTALLED IN PRESSURE TREATED WOOD OR REDWOOD SUBJECT TO MOISTURE SHALL BE 18-8 STAINLESS-STEEL. NON-MOISTURE EXPOSURE IN THESE SPECIES OF WOOD SHALL UTILIZE MCFEELY'S NO-CO-RODES OR BUILDEX DECK-KING CLIMACOTE SCREWS. ALL OTHER SCREWS SHALL BE ZINC PLATED STEEL.

PLATE CONNECTED WOOD TRUSSES ARE TO BE DESIGNED BY THE TRUSS MANUFACTURER. THE TRUSS DESIGN SHALL BE IN ACCORDANCE WITH THE CURRENT RECOMMENDED DESIGN PRACTICE OF THE TRUSS PLATE INSTITUTE, CBC SECTION 2303.4, AND THE PLANS. THE TRUSS MANUFACTURER WILL SUBMIT A PRELIMINARY TRUSS DESIGN AND LAYOUT PLAN TO THE ENGINEER FOR USE IN THE STRUCTURAL DESIGN OF THE BUILDING. THE CONTRACTOR OR OWNER WILL RETURN TO THE TRUSS MANUFACTURER HIS PRELIMINARY DESIGN INFORMATION PLUS ANY ADDITIONAL INFORMATION NECESSARY FOR USE IN THE PREPARATION OF THE FINAL DESIGN OF THE TRUSSES. THE TRUSS MANUFACTURER SHALL PROVIDE FINAL PLANS, DETAILS AND STRUCTURAL CALCULATIONS FOR THE TRUSSES INCLUDING DESIGN OF ALL NECESSARY WEB AND CHORD BRACING. THE TRUSS MANUFACTURER SHALL SUBMIT THE FINAL DESIGN DOCUMENTS THAT ARE PREPARED AND STAMPED AND SIGNED BY A LICENSED CALIFORNIA CIVIL ENGINEER TO THE ENGINEER FOR HIS REVIEW.

THE ROOF SHEATHING AND CEILING FINISH (IF OCCURRING) ARE INTENDED TO PROVIDE THE PERMANENT LATERAL SUPPORT FOR THE TOP AND BOTTOM CHORDS RESPECTIVELY. THE TRUSS MANUFACTURER SHALL NOTE ON THE SHOP DRAWINGS IF THESE ARE NOT SUFFICIENT. WHERE CEILINGS ARE NOT APPLIED TO BOTTOM CHORD, ADD BRACING PER TRUSS ENGINEERING. ERECTION BRACING IS TO BE FURNISHED AND INSTALLED BY THE ERECTION CONTRACTOR. THE ERECTION CONTRACTOR IS SOLELY RESPONSIBLE FOR THE TEMPORARY LATERAL BRACING OF THE TRUSSES UNTIL THE PERMANENT ROOF AND CEILING MATERIALS ARE COMPLETELY INSTALLED AND IS ALSO RESPONSIBLE TO PLACE COMPRESSION WEB AND CHORD LATERAL BRACING CALLED FOR BY THE TRUSS MANUFACTURER.

ENGINEERING CALCULATIONS FOR VAULTED TRUSSES SHALL DEMONSTRATE THAT EACH TRUSS HAS A COMBINED HORIZONTAL MOVEMENT FOR BOTH ENDS OF LESS THAN 3/4-INCH FOR THE DEAD LOAD PLUS LIVE LOAD.

LAMINATED VENEER LUMBER (LVL) BEAMS ARE TO BE DOUGLAS FIR VERTICALLY LAMINATED AND SHALL BE REDLAM LVL AS MANUFACTURED BY REDBUILT, VERSA-LAM LVL AS MANUFACTURED BY BOISE CASCADE, OR APPROVED EQUAL. THE BEAMS SHALL CONFORM TO ICC ESR 2993, OR ICC ESR 1040 AND SHALL HAVE A MINIMUM MODULUS OF ELASTICITY (E) OF 2.0X10^6 PSI, AND A MINIMUM FLEXURAL STRESS (FB) OF 2900 PSI. U.N.O., MEMBERS SHALL BE A SINGLE PIECE, WHERE MULTIPLE PILES ARE SPECIFIED, THEY SHALL BE NAILED TOGETHER WITH 3 ROWS OF 16DSINKER NAILS @ 12-INCHES ON CENTER, STAGGERED 6-INCHES UNLESS OTHERWISE NOTED. DOUBLE MEMBERS REQUIRE NAILING ON ONE FACE, TRIPLE MEMBERS REQUIRE NAILING ON TWO FACES. FOUR AND MORE LAYER MEMBER REQUIRE NAILING ON EACH LAYER PLUS 2-5/8" BOLT @ 24-INCH O/C. GLULAM BEAMS ARE TO BE DOUGLAS FIR COMBINATION 24F-V4 FOR SIMPLE SPANS

24F-V8 FOR CONTINUOUS MULTI-SPANS. GLULAMS ARE TO BE MANUFACTURED IN ACCORDANCE WITH AITC 117, ANSI/AITC A190.1, AND ASTM D3737 FOR DRY CONDITIONS OF USE. NO CAMBER IS NECESSARY UNLESS OTHERWISE SHOWN. BEAMS SHALL BE ARCHITECTURAL-APPEARANCE GRADE. THE FABRICATOR SHALL APPLY END AND SURFACE SEALER. ARCHITECTURAL-APPEARANCE GRADE BEAMS ARE TO BE INDIVIDUALLY WRAPPED. THE ERECTOR IS TO SLIT THE WRAPPING WHEN THE BEAMS ARE DELIVERED TO THE JOB SITE TO ALLOW ENTRAPPED MOISTURE TO ESCAPE. THE FABRICATOR SHALL PROVIDE THE CERTIFICATE OF PERFORMANCE.

PREFABRICATED WOOD I JOISTS SHALL BE RED-I AS MANUFACTURED BY REDBUILT LLC. OR APPROVED EQUAL. I-JOISTS SHALL CONFORM TO ICC ESR 2994. NOTCHING OR DRILLING OF FLANGES IS NOT PERMITTED UNLESS SPECIFICALLY DETAILED ON THE PLANS. WEBS MAY HAVE HOLES CUT PROVIDED THE SIZE, NUMBER AND LOCATION ARE WITHIN THE ALLOWABLE LIMITS AS DEFINED BY THE MANUFACTURER.

EACH OF THE I-JOISTS SHALL BE IDENTIFIED BY A STAMP INDICATING THE TRUSS SERIES, ICC-ES REPORT NUMBER, MANUFACTURER'S NAME, PLANT NUMBER, DATE OF FABRICATION AND THE INDEPENDENT INSPECTION AGENCY'S LOGO.

ROOF, FLOORS AND WALL SHEATHING SHALL BE PLYWOOD (NO OSB) AND SHALL COMPLY WITH PS-1, PS-2, OR APAPRP-108. EXPOSURE DURABILITY SHALL BE EITHER EXTERIOR OR EXPOSURE 1 UNLESS OTHERWISE SPECIFIED OR SHOWN. MOISTURE CONTENT SHALL BE LESS THAN 19% AT TIME OF FABRICATION. SPAN RATING, THICKNESS, AND NUMBER OF PILES SHALL BE SHOWN ON THE PLANS. ROOF SHEATHING AT OVERHANGS SHALL HAVE VENEER GRADES OF (OR FOR?) C-C PLUGGED OR BETTER.

ROOF AND FLOOR SHEATHING SHALL BE INSTALLED WITH THE FACE GRAIN ACROSS THE SUPPORTS AND THE END JOINTS STAGGERED 4 FEET UNLESS OTHERWISE SHOWN ON THE PLANS. EDGE JOINTS AND END JOINTS OF ALL PANELS SHALL BE SPACED 1/8 INCH APART BETWEEN ADJACENT PANELS UNLESS OTHERWISE INDICATED BY THE PANEL MANUFACTURER.

WALL SHEATHING MAY BE INSTALLED VERTICALLY OR HORIZONTALLY. PANEL EDGES AND ENDS SHALL OCCUR OVER FRAMING OR FULL DEPTH BLOCKING. EDGE NAILING SHALL BE APPLIED FULL HEIGHT TO ALL HOLD DOWN STUDS AND POSTS, AND ALL COLUMNS. WALL SHEATHING PANELS SHALL BE NOT LESS THAN ONE NOMINAL STUD SPACING IN WIDTH NOR 16 INCHES WHICHEVER IS SMALLER.

PLYWOOD NAILS SHALL BE COMMONS OR HOT DIP GALVANIZED BOX NAILS, U.N.O. EDGE NAILING SHALL BE LOCATED AT LEAST 3/8-INCH FROM PANEL EDGES. NAILS SHALL NOT BE OVER DRIVEN SUCH THAT THE NAIL HEAD PENETRATES THE FACE PLY. NAILS IN PRESSURE TREATED WOOD SHALL BE HOT-DIPPED GALVANIZED.

WOOD FRAMING MEMBERS SUCH AS STRUCTURAL SAWN LUMBER; END-JOINTED LUMBER; PREFABRICATED WOOD I-JOISTS; STRUCTURAL GLUED-LAMINATED TIMBER; WOOD STRUCTURAL PANELS; FIBERBOARD SHEATHING (WHEN USED STRUCTURALLY); HARDBOARD SIDING (WHEN USED STRUCTURALLY); PARTICLEBOARD; PRESERVATIVE-TREATED WOOD; STRUCTURAL LOG MEMBERS; STRUCTURAL COMPOSITE

LUMBER: ROUND TIMBER POLES AND PILES: FIRE—RETARDANT—TREATED WOOD:

CONFORM TO THE APPLICABLE PROVISIONS OF CBC SECTION 23.

HARDWOOD PLYWOOD; WOOD TRUSSES; JOIST HANGERS; NAILS; AND STAPLES SHALL

<u>FOUNDATION NOTES</u>

ALL FOOTING EXCAVATION SHALL BE AS NEAT AS PRACTICABLE. OVER EXCAVATION IN DEPTH SHALL BE FILLED WITH CONCRETE, AND IN WIDTH MAY BE FILLED WITH CONCRETE OR COMPACTED BACKFILL. ALL LOOSE SOILS SHALL BE REMOVED FROM EXCAVATION PRIOR TO PLACEMENT OF REINFORCEMENT, CONCRETE OR ENGINEERED FILL. FOOTING EXCAVATION TO BE 2" WIDER THAN SHOWN UNLESS

ALL FOUNDATIONS SHALL BEAR ON FIRM, UNDISTURBED NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE

WATER SHALL BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACING OF CONCRETE.

'HE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/ OR FILL BANKS DURING EXCAVATION,

REINFORCING STEEL SHALL BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, GRADE 60 FOR #4 BARS OR LARGER, AND GRADE 40 FOR #3 BARS.

CONCRETE PROTECTION FOR REINFORCING SHALL BE AT LEAST EQUAL TO THE DIAMETER OF THE BARS. MINIMUM COVER FOR

DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS SHALL CONFORM TO THE 'ACI DETAIL MANUAL' - 1988.

CAST-IN-PLACE CONCRETE SHALL BE AS FOLLOWS. B. POURED AGAINST FORM BELOW GRADE C. FORMED SLAB (#11 BARS AND SMALLER) D. SLABS ON GROUND (FROM TOP OF SLAB)

F. WALLS EXPOSED TO WEATHER (#6 THROUGH #18) (#5 BAR & SMALLER)

REINFORCING BARS SHALL BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS SHALL BE MADE COLD.

MINIMUM LAP DISTANCE FOR REINFORCING STEEL SHALL BE 24" OR 32 BAR DIAMETERS WHICHEVER IS GREATER. ALL CONNECTORS, FASTENERS, AND METAL OBLECTS IN CONTACT WITH PRESSURE TREATED WOOD SHALL BE EITHER STAINLESS STEEL

E. COLUMN AND BEAM MAIN BARS, TIES

STIRRUPS, SPIRALS

G. WALLS NOT EXPOSED TO WEATHER (#II AND SMALLER)

THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 3000 PSI AND SHALL BE A MINIMUM OF A FIVE SACK MIX WITH NO MORE THAN SEVEN GALLONS OF WATER PER CUBIC YARD..

ALL CONCRETE SHALL BE REGULAR WEIGHT HARD ROCK TYPE (150# /CF). MAXIMUM AGGREGATE SIZE FOR SLABS ON GRADE TO BE ¾" AND 兆" FOR FOUNDATIONS. AGGREGATE SHALL CONFORM TO ASTM C-33, CEMENT SHALL CONFORM TO C-150 (TYPE II), UNLESS ALKALINE SOILS. WATER-REDUCING ADMIXTURES, RETARDING ADMIXTURES, ACCELERATING ADMIXTURES, WATER-REDUCING AND RETARDING ADMIXTURES, AND WATER-REDUCING AND ACCELERATING ADMIXTURES SHALL CONFORM TO 'SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE'

SLABS, BEAMS, WALLS AND OTHER CONCRETE SHALL BE KEPT CONTINUOUSLY WET FOR 48 HOURS AFTER PLACEMENT AND SHALL BE KEPT DAMP FOR 7 DAYS AFTER PLACEMENT. SLABS SHALL HAVE CURE (SEALER APPLIED IMMEDIATELY AFTER FINISHING IF OTHER FINISHES ARE NOT AFFECTED SUPERIMPOSED LOADS SHALL NOT BE APPLIED TO ELEVATED STRUCTURAL MEMBERS OR WALLS PRIOR TO 7 DAYS MINIMUM AFTER CONCRETE HAS REACHED DESIGN STRENGTH. RESHORING SHALL REMAIN IN PLACE 28 DAYS MINIMUM, AT NO TIME DURING A RESHORING PROCESS SHALL THE CONCRETE MEMBER BE UNSUPPORTED.

CONCRETE SHALL NOT FREE FALL MORE THAN SIX FEET.

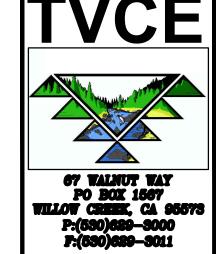
KEYED CONSTRUCTION JOINTS SHALL BE USED IN ALL CASES. ALL CONSTRUCTION JOINTS SHALL BE THOROUGHLY CLEANED AND ALL LAITANCE SHALL BE REMOVED. ALL VERTICAL JOINTS SHALL BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT IMMEDIATELY BEFORE PLACING NEW CONCRETE.

PROVIDE  $\frac{3}{4}$ " CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS AND COLUMNS U.N.O.

# REINFORCING

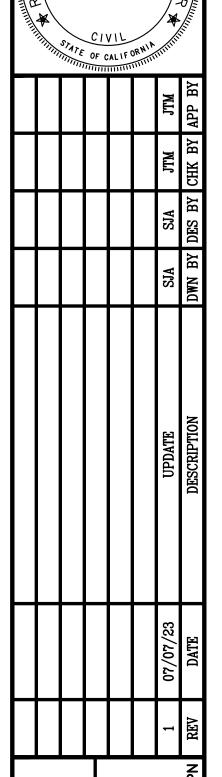
- 1. REINFORCING NOT SHOWN ON TYPICAL SECTION CUTS, SEE STRUCTURAL DETAIL FOR
- 2. ALL CONCRETE REINFORCING SHALL BE ASTM A615. FY = 60KSL UNLESS NOTED OTHERWISE. REINFORCING TO BE WELDED SHALL CONFORM TO ASTM A706.
- 3. REINFORCING SHALL EXTEND CONTINUOUS FOR THE DIMENSIONS SHOWN.
- 4. NO WELDING OF ANY REINFORCING IS PERMITTED UNLESS SPECIFICALLY STATED ON THE PLANS. REINFORCEMENT TO BE WELDED TO MEET THE REQUIREMENTS OF ASTM A706.
- 5. LOCATED ALL REINFORCING AS SHOWN ON DRAWINGS AND FASTEN SECURELY. LAP SPLICES AND DEVELOPMENT LENGTHS PER ACI MINIMUM.
- 7. REINFORCEMENT SHALL BE PLACES SO AS NOT TO COME IN CONTACT WITH METALLIC CONCRETE PENETRATIONS.
- 8. REINFORCEMENT COUPLERS SHALL BE ZAP SCREWLOK BY BARSPLICE PER ESR-3517. OR APPROVED EQUAL. LENGTH OF EXISTING REINFORCING TO BE SKELETONIZED FOR COUPLER ATTACHMENT SHALL BE COORDINATED BY CONTRACTOR PER COUPLER REQUIREMENTS.
- 9. FOUNDATION/SLAB REINFORCING AT WALLS SHALL HAVE STANDARD HOOKS AT BOTTOM MAT REINFORCING.

- 1. DETAIL, FABRICATED, AND ERECT STRUCTURAL STEEL IN ACCORDANCE WITH THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (LATEST EDITION & SUPPLEMENTS).
- 2. ALL STEEL BARS AND PLATES SHALL BE ASTM A36 UNLESS OTHERWISE NOTED 3. ALL STEEL SHAPES SHALL BE ASTM A992 GRADE 50 UNLESS OTHERWISE NOTED.
- 4. ALL HSS SHALL BE ASTM A500 GRADE B
- 5. ALL PIPES TO BE ASTM A53 GRADE B. 6. ALL THREADED RODS: ASTM F1554 GRADE 105.
- BOLTED CONNECTIONS, UNLESS NOTED OTHERWISE: A325-N BOLTS. 8. INSTALL HIGH STRENGTH BOLTS IN ACCORDANCE WITH SECTION 8 OF THE SPECIFICATIONS
- FOR STRUCTURAL JOINT USING ASTM HIGH STRENGTH BOLTS", 2009 EDITION. 9. PROVIDE BEVELED WASHERS ON ALL CONNECTION TO SLOPING FLANGES OF W SECTIONS
- AND CHANNELS WHERE SLOPE EXCEEDS 1:20 10. ANCHOR RODS SHALL BE ALL THREADED ANCHO RODS WITH NOT. THE EMBEDDED NUT SHALL BE TACK WELDED TO THE ANCHOR ROD TO PREVENT ROTATION DURING TIGHTENING.
- 11. BOLT HOLES IN STALL SHALL BE "STANDARD" (1/16-INCH LARGER IN DIAMETER THAN THE NOMINAL BOLT SIZE, UNLESS OTHERWISE NOTED.
- 12. WELDING ELECTRODES (FILLER METAL): E70XX (70 KSI), WITH EXACT FILLER METAL SELECTED BY THE FABRICATOR. 13. WELD LENGTHS CALLED FOR ON THE PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED.
- WHERE LENGTH OF WELD IS NOT SHOWN IT SHALL BE THE FULL LENGTH OF THE JOINT. 14. COMPLETE PENETRATION WELDS SHALL BE MADE WITH PROPER BACKING WHEREVER POSSIBLE. AFTER WELDING REMOVE BACKING BARS AND GRIND SMOOTH. FULL PENETRATION WELDS MADE WITHOUT PROPER BACKING SHALL HAVE THE ROOT GOUGED BEFORE WELDING IS STARTED FROM THE OTHER SIDE EXCEPT AS PROVIDED IN AWS D1.1.
- 15. ALL BUTT AND GROOVE WELDS SHALL BE FULL PENETRATION, UNLESS NOTED OTHERWISE. 16. ALL SPLICING OF MEMBERS SHALL BE AS SHOWN ON THE DRAWINGS. ANY SPLICING OF THE STEEL MEMBERS PROPOSED BY THE STEEL FABRICATOR SHALL BE SHOWN ON PLANS
- AND APPROVED BY THE ENGINEER PRIOR TO FABRICATION. 17. ALL ANCHOR BOLTS SHALL BE EMBEDDED AS SHOWN ON THE DRAWINGS.
- 18. MINIMUM PLATE THICKNESS IS 3/8-INCH UNLESS OTHERWISE NOTED. MINIMUM WELD IS ¼-INCH UNLESS NOTED OTHERWISE. 19. ALL STEEL FABRICATION AND DETAILS TO COMPLY WITH MOST STRINGENT OF THE LATEST
- EDITION OF: AISC CONDE, AWS CODE, AND THE 2019 CBC. 20. ALL WELDING TO BE AWS CERTIFIED WELDERS AND SHALL CONFORM TO ALL 2019 CBC AND AW REQUIREMENTS. ALL WELDERS SHALL BE PRE-QUALIFIED BY THE PROJECT WELDING INSPECTOR FOR THE WELD TYPES AND POSITIONS USED IN THE PROCEDURES THEY WILL BE PERFORMING.
- 21. FINISH STEEL MEMBERS PER PROJECT SPECIFICATIONS.



RCE 60687

EXP. <u>12-31-20</u>26



NO CTION ONS ND 

DATE OF ISSUE:

AS NOTED

RO.

MAR. 17, '25 SCALE:

PROJECT NO:

DRAWING NO:

YES

# FIBER CEMENT SOFFIT BRD. TYP. EAVES

EAST ELEVATION

|/4"=|'-0"

# FIRE EXTINGUISHER REQUIREMENTS

FIRE EXTINGUISHERS WITH A MINIMUM RATING OF 2-A:10-B:C SHALL BE PROVIDED SUCH THAT NO POINT IN THE BUILDING IS FURTHER THAN 75-FOOT TRAVEL DISTANCE TO AN EXTINGUISHER. EXTINGUISHERS SHALL BE MOUNTED ON THE WALL OR IN CABINETS, SUCH THAT THE TOP OF THE EXTINGUISHER IS NO MORE THAN 5 FEET ABOVE THE FINISHED FLOOR LEVEL.

# EXITING SIGNAGE

TACTILE EXIT SIGNS SHALL BE PROVIDED PER CBC CHPT. IO AND IIB.

EACH GRADE-LEVEL EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE SIGN WITH THE WORD 'EXIT'

THE SIGNAGE REQUIRED BY THIS SECTION SHALL BE LOCATED ADJACENT TO THE LATCH SIDE OF A SINGLE DOOR AND TO THE RIGHT SIDE OF DOUBLE DOORS, MOUNTED 48-60" ABOVE FINISHED FLOOR PER CBC SEC. IIB.

# GENERAL SIGNAGE

SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES OF A BUILDING OR SITE, DOORS AND ACCESSIBILITY STANDARDS SHALL COMPLY WITH:

2022 CBC CHPT. IIB, ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATION, COMMERCIAL BUILDINGS AND PUBLICLY FUNDED HOUSING.

# BUILDING DATA

SRA -

TYPE OF CONSTRUCTION - VB

OCCUPANCIES (NON-SEPARATED) - 'B', 'M'

ACTUAL AREA - 1,367 -SQ. FT.

OCCUPANT LOAD (SEE FLOOR PLAN) - 46-TOTAL

STORIES - ONE

STORIES - ONE
SPRINKLED - YES
TOTAL HT. - 16'- APPX. HT.

BUILDING CODE COMPLIANCE

BUILDING SHALL COMPLY WITH 2022 CALIFORNIA
BUILDING CODE (CBC), 2022 CALIFORNIA PLUMBING
CODE (CPC), 2022 CALIFORNIA MECHANICAL CODE
(CMC), 2022 CALIFORNIA ELECTRICAL CODE (CEC),
2022 CALIFORNIA ENERGY EFFICIENCY STANDARDS
CODE, 2022 CALIFORNIA FIRE CODE (CFC), 2022
GREEN BUILDING STANDARDS CODES, AND ALL
APPLICABLE CODES.

67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95673
P:(530)689-3000
P:(530)689-3011

RCE 60687

EXP. <u>12-31-20</u>26

~,	MANIE .	OF C	ALIF	111111	(i.,		
		****			JTM	APP BY	
					MLf	DWN BY DES BY CHK BY APP BY	
					YſS	DES BY	
					SJA	DWN BY	
					UPDATE	DESCRIPTION	
					62/40/40	DATE	
					1	REV	
						APN	

INTERPRETIVE CENTER
AT TRINIDAD PIER
WEST & EAST ELEVATIONS

DATE OF ISSUE:

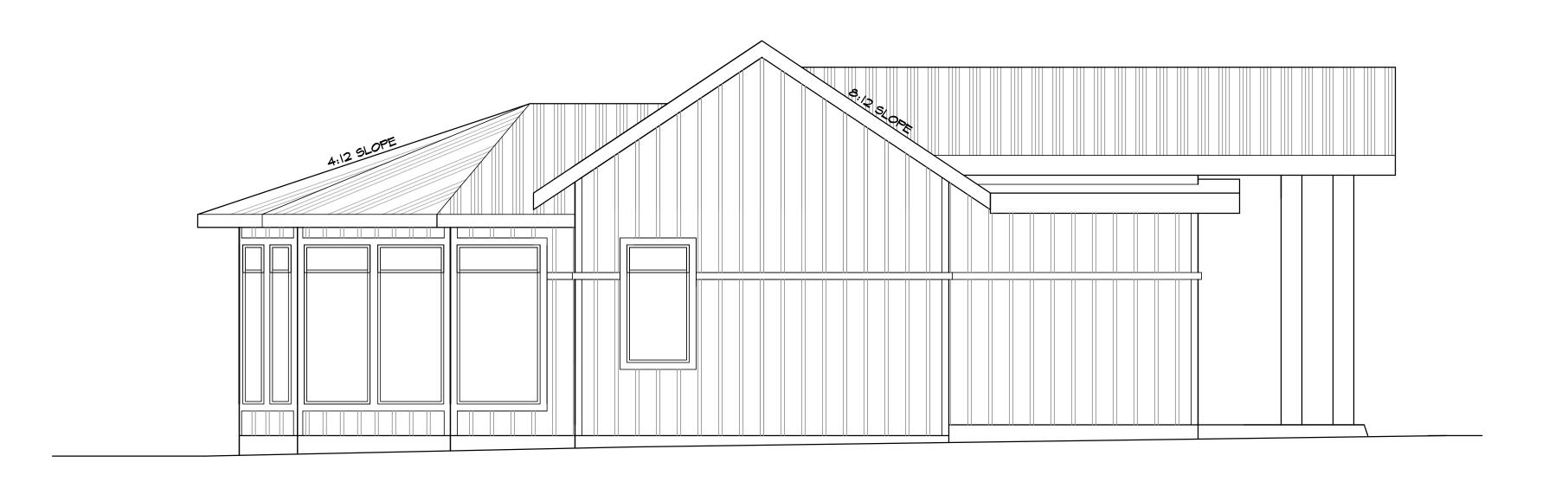
MAR. 17, '25

SCALE: AS NOTED

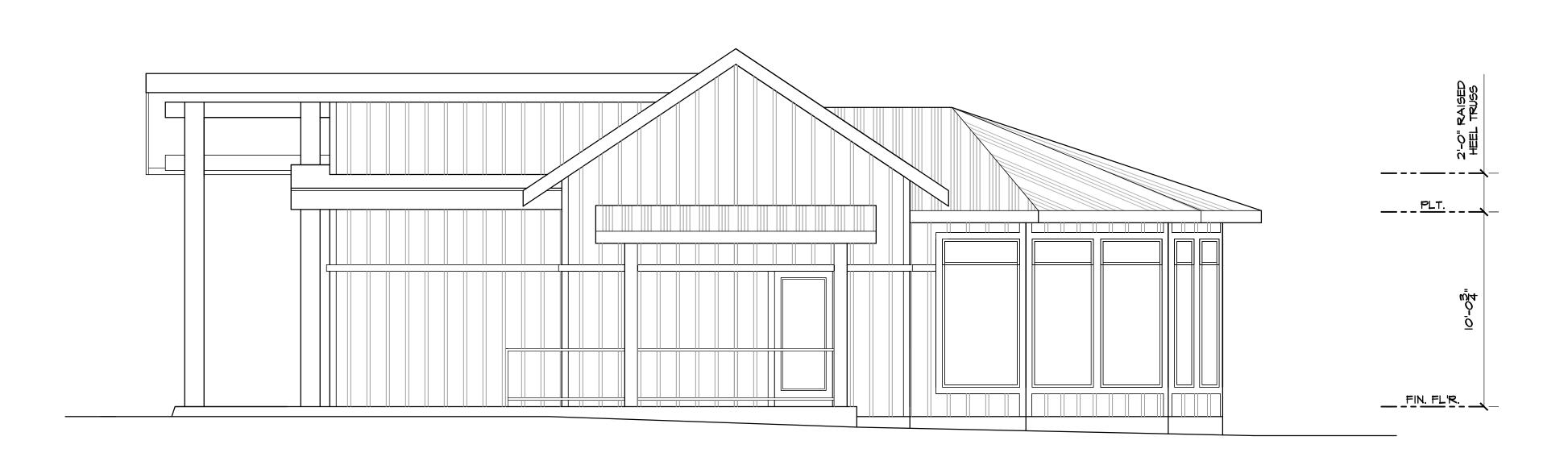
PROJECT NO:

DRAWING NO:

STANDING SEAM METAL ROOFING; COLOR TO BE SPECIFIED AND APPROVED BY OWNER TOP OF BM. TOP OF BM. 2:12 SLOPE 1:12 SLOPE FIBER CEMENT FASCIA BRD., TYP. 2×4 FIBER CEMENT TOP OF BM. TRIM BRD., TYP. TRINIDAD RANCHERIA INTERPRETIVE VISITORS CENTER CUSTOM WD. TRIM CREATING CIRCLE; 'WOODGRAIN' FIBER CEMENT BRD. w/ BATTENS @ 12" O/C; FIN. TO TIMBERS VERIFY STAIN /COLOR PER OWNER CLEAR COAT STAIN ON TIMBERS, TYP. FIN. FL'R. BLACK ALUM. FRAME STOREFRONT DR., TYP. -2x4 FIBER CEMENT TRIM BRD. FRAMING SIGNAGE, PER OWNER FIBER CEMENT BATTEN BRDS. TO CREATE PATTERN TRIM WRK. EA. SIDE (@ WALL LINE) — BLACK ALUM. FRAME STOREFRONT DR. W/ 2x4 FIBER CEMENT TRIM BRD., TYP. 'ADD-ON'S' TO COMPLETE CIRCLE WEST ELEVATION 1/4"=1'-0"



NORTH ELEVATION |/4"=|'-0"



SOUTH ELEVATION |/4"=|'-0"

67 WALMUT WAY
PO BOX 1567
WILLOW CREEK, CA 96673
P:(530)689-3000
F:(530)689-3011

APP BY	DWN BY DES BY CHK BY APP BY	DES BY	DWN BY	DESCRIPTION	DATE	REV	APN
MLf	JTM	SJA	SJA	UPDATE	07/07/23	1	

INTERPRETIVE CENTER AT TRINIDAD PIER

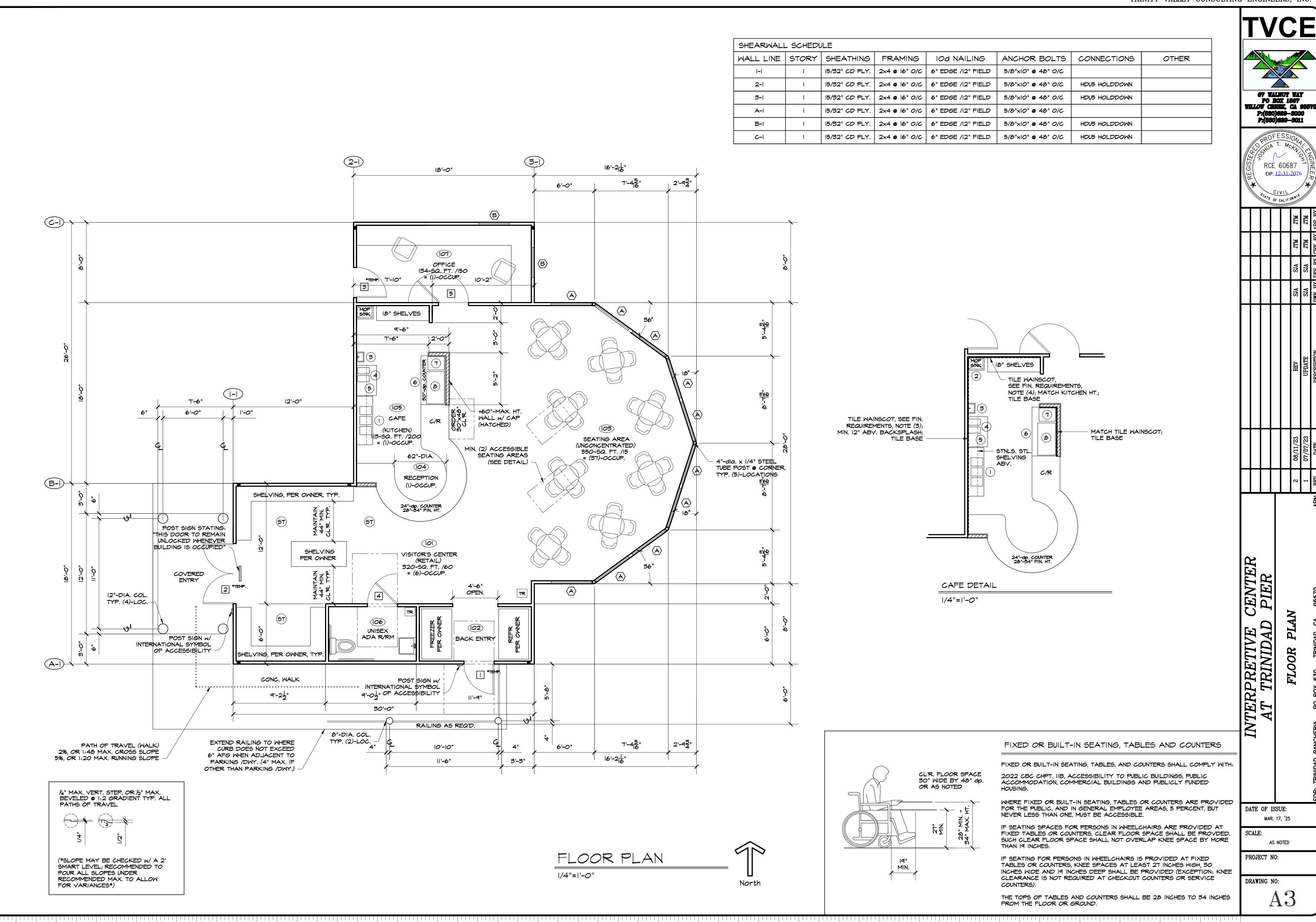
NORTH

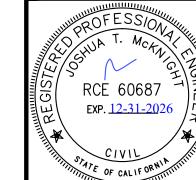
DATE OF ISSUE: MAR. 17, '25

SCALE: AS NOTED

PROJECT NO:

DRAWING NO:





	R	00	M	FIN	 15+	+ S	SHE	EDL	— 儿E				
			(1)				(2)						
ROOM	USE	FLO		BA	SE	MA	LLS	MAIN	SCOT	CEII	_ING	NOT	ES
		CONC. SLAB EPOXY COATING		∃NIA 'GOOM	⊒7 ⊥	GYP. BD. TEXTURED	GYP. BD. SMOOTH, WASHABLE	('1H-"8E+)	<b>∃</b> 71⊥	<i>G</i> YP. B <i>D.</i> TEXTURED	GYP. BD. SMOOTH, WASHABLE		SEE ADDITIONAL COMMENTS BELOM
(101)	VISITORS CENTER			X		X				X			
102	BACK ENTRY	X		X		X				X			
103	SEATING AREA	X		$\times$		$\times$		$\times$		$\times$			
104	RECEPTION	X		$\times$		$\times$				$\times$			
105	COFFEE BAR											(3) (	4)
106	RESTROOM										+48"	(5) (7) (	8) (9)
107	OFFICE		-	$\times$								_	_

# FINISH SCHEDULE NOTES:

- CONCRETE STAMP PATTERN AND STAIN COLOR TO BE APPROVED BY OWNER.
- TILE PATTERN AND COLOR TO BE APPROVED BY OWNER.

# FOOD ESTABLISHMENT FINISH REQUIRMENTS

I. FLOORS IN THE FOOD ESTABLISHMENT (EXCEPT IN SALES AND DINING AREAS) SHALL BE DURABLE, SMOOTH, IMPERVIOUS, AND OF EASILY CLEANABLE CONSTRUCTION, CONTINUING UP THE WALLS OR TOE-KICKS AT LEAST FOUR (4) INCHES, FORMING A 3/8" MIN. RADIUS COVE AS AN INTEGRAL UNIT. VINYL RUBBER TOPSET BASE IS NOT ACCEPTABLE.

2. WALLS AND CEILINGS OF ALL ROOMS (EXCEPT IN DINING AREAS) SHALL BE DURABLE, SMOOTH, NONABSORBENT AND WASHABLE. WALLS AND CEILINGS IN WASH & PREP SHALL BE LIGHT COLORED.

3. THE WALL BEHIND SINKS AND DISHTABLES SHALL BE COVERED WITH A DURABLE WATERPROOF MATERIAL (FRP, CERAMIC TILE, STAINLESS STEEL, ETC.) EXTENDING FROM THE TOP OF THE COVED BASE TO AT LEAST 12" ABV. THE BACKSPLASH.

4. WALLS ADJACENT TO FLOOR MOUNTED MOP SINKS SHALL BE COVERED WITH A DURABLE WATERPROOF MATERIAL EXTENDING FROM THE TOP OF THE SINK TO AT LEAST FORTY-EIGHT (48) INCHES ABY. THE FLOOR.

5. COVER WALLS OF RESTROOMS WITH A DURABLE WATERPROOF MATERIAL EXTENDING FROM THE TOP OF THE COVED BASE TO AT LEAST FORTY-EIGHT (48) INCHES ABV. THE FLOOR. PROVIDE WATER-RESISTANT GWB AT ALL RESTROOM WALLS.

6. PROVIDE A DURABLE, CLEANABLE, SMOOTH, NON-CORRODIBLE AND NON-FLAMMABLE MATERIAL BEHIND THE COOK LINE AND TO ANY SIDE WALLS THAT ARE ADJACENT OR IN CLOSE PROXIMITY.

7. PROVIDE WATER-RESISTANT GWB AT (ALL) RESTROOM WALLS.

8. TOILET ROOM WALLS AND FOR MIN. 24" PAST SIDES OF URINALS SHALL HAVE CERAMIC TILE OR EQUIVALENT UP 48" ABV. FL'R.

9. TOILET ROOM SHALL BE PROVIDED WITH THE FOLLOWING SINGLE-SERVICE DISPENSERS AT, OR ADJACENT TO, EACH HANDWASHING FACILITY: (a) Handwashing cleanser, (b) Sanitary single-use towels or a heated-air hand druing device.

towels or a heated-air hand drying device. WITH OPERABLE PARTS LOCATED A MAXIMUM OF 40" ABOVE FLOOR

		EQUIT	PMENT	SCHE	DUL	E.		
ITEM	EQUIPMENT	MODEL #	ELECT.	NAT. GAS		PLUMB	ING	NOTES
				BTU/HR	C/W	H/W	WASTE	
	'REGENCY' 3x BAR SINK	600B3I0I42I3			1/2"	1/2"	FS INDIRECT	
2	'ADVANCE TABCO' MOP SINK	9-0P-40			1/2"	1/2"	DIRECT	
3	'ADVANCE TABCO' WALL-MNT. HAND SINK	600HSI2			1/2"	1/2"	DIRECT	
4	'NUOVA' SIMONELLI GRINDER	MDXS	110V 245W/3A					
(5)	'AVANTCO' WORKTOP FREEZER	1785SWT36FHC	115√ 2.8A					
6	'AVANTOO' WORKTOP REFR	1785SWT6ORHC	115V 2.9A					
7	'BUNN' AIRPORT BREWER (DOUBLE)	CMTF TMIN APS	120/240V 26A					
8	'BRAYO' 2 PULL ESPRESSO MACHINE	NUOVA SL EVD-2	230V 4500W				(F.S.) IND.	MUST DRAIN THRU GREASE TRAP

# HAND WASH SINKS

ABOVE FLOOR

SINGLE-SERVICE DISPENSERS AT, OR ADJACENT TO, EACH HANDWASHING FACILITY:

(a) Handwashing cleanser.

(b) Sanitary single-use towels or a heated-air hand drying device.
WITH OPERABLE PARTS LOCATED A MAXIMUM OF 40"

# EQUIPMENT DISCHARGE

ALL EQUIPMENT THAT DISCHARGES LIQUID WASTE MUST BE DRAINED BY MEANS OF INDIRECT WASTE PIPES, AND ALL WASTE DRAINED BY THEM MUST DISCHARGE THROUGH AN AIR GAP INTO A FLOOR SINK OR OTHER APPROVED TYPE OF RECEPTOR.

ALL EQUIPMENT WILL BE INDIRECTLY DRAINED /WASTED INTO APPROVED RECEPTORS  $\mbox{w}/\mbox{AIR }\mbox{GAP}.$ 

	WINDOW SCHEDULE							
SYM	SIZE	DESCRIPTION						
A	7'-8"x4'-0" assembly	4'-0"x6'-4" FIXED, TEMP. WIN. W/ 4'-0"x1'-4" AWNING ABY. (OPT. OPERABLE) MULLED, +8'-8" HDR. HT.						
<b>B</b>	3'-0"x5'-8" assembly	3'-0"x4'-4" FIXED OR CASEMENT W/ I'-4" AWNING ABV. (OPT. OPERABLE) MULLED, +8'-8" HDR. HT.						

SEE SRA NOTE [E] FOR WINDOWS

ALL WINDOWS SHALL BE DUAL GLAZED AND VINYL FRAMED

FULLY TEMPERED GLAZING, WHERE NOTED ON FLOOR PLAN
SEE ENERGY COMPLIANCE DOCS FOR MIN. U-FACTOR, SHGC

	DOOR SCHEDULE								
SYM	SIZE	DESCRIPTION	HARDWARE	COMMENTS	LOCATION				
	3'-0"×7'-0"	ALUMINUM CLAD W/ FULL LITE	PULL HANDLE EXTERIOR SELF-CLOSER PANIC HARDWARE	[1], [2]	ENTRY				
2	3'-0"x7'-0" PAIR	ALUMINUM CLAD W/ FULL LITES SEE ELEV. & CONCEPT (3) FOR CUSTOM DESIGN	PULL HANDLE EXTERIOR SELF-CLOSER KEYED LOCKSET (SEE NOTES)	[1], [2], [3]	ENTRY				
3	3'-0"x7'-0"	ALUMINUM CLAD W/ FULL LITE	LEVER HANDLE SELF-CLOSER KEYED LOCKSET	[1]	OFFICE EXTERIOR				
4	3'-0"x7'-0"	SOLID CORE WOOD	LEVER HANDLE SELF-CLOSER PRIVACY LOCKSET	[1], [2]	RESTROOM				
5	3'-0"x7'-0"	SOLID CORE WOOD	LEVER HANDLE PRIVACY LOCKSET		OFFICE INTERIOR				

SEE SRA NOTE [D] FOR EXTERIOR DOORS

\* DOORS WITH GLZ'G. AND GLZ'G. ADJACENT TO DOORS SHALL COMPLY W/ CBC CHPT. 24.

\*\* ALL LOCKSETS SHALL BE READILY OPENABLE FROM THE EGRESS SIDE WITHOUT THE USE OF A KEY OR SPECIAL KNOWLEDGE OR EFFORT AND UNLATCHING SHALL NOT REQUIRE MORE THAN ONE OPERATION

# COMMENT KEY

- (I) ALWAYS OPENABLE FROM INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT
- (2) PROVIDE ACCESSIBILITY SIGNAGE PER CBC CHPT. II-B
- (3) SEE FLOOR PLAN FOR ADDITIONAL SIGNAGE

In buildings in occupancy Group A having an occupant load of 300 or less, Groups B, F, M and S, and in places of religious worship, the main door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

The locking device is readily distinguishable as locked.

(CAL-FIRE URBAN INTERFACE APPROVED).

A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN THIS SPACE IS OCCUPIED. The sign shall be in letters I inch (25 mm) high on a contrasting background.

# STATE REGULATED WILD LAND FIRE STANDARDS

DEFENSIBLE SPACE MUST BE SIGNED OFF PRIOR TO SHEET ROCK INSPECTION.

EXTERIOR SIDING PRODUCTS, INCLUDING SHEATHING, TO BE OF APPROVED PRODUCTS

EXTERIOR DOORS TO BE NON COMBUSTIBLE CONSTRUCTION, OR 1-3/8" SOLID CORE

WOOD, OR 20-MIN. FIRE RATED.

WINDOWS SHALL HAVE MINIMUM ONE TEMPERED PANE (PER SRA STNDRDS.)

DECKING SURFACES TO BE APPROVED PRODUCT. [NON-IGNITIBLE, CAL-FIRE URBAN

DECKING SURFACES TO BE APPROVED PRODUCT. [NON-IGNITIBLE, CAL-FIRE URB, INTERFACE APPROVED]

NO. 72 VALLEY FLASH UNDERLAYMENT CAP SHEET RUNNING FULL LENGTH OF VALLEY UNLESS ROOF COVER IS INTERMOVEN.

EAVE AND SOFFIT VENTS MUST BE FIRE RATED TO PRECLUDE EMBER AND FLAME ENTRANCE (CAL-FIRE URBAN INTERFACE APPROVED).

UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.

ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

F:(630)689-3011

RCE 60687

 EV
 DATE
 DESCRIPTION
 DWN BY
 CHK BY
 APP BY

RETIVE CENTER
RINIDAD PIER
DULES & DETAILS

INTERPRETIVE AT TRINIDAD SCHEDULES & 1

DATE OF ISSUE:

MAR. 17, '25

SCALE:

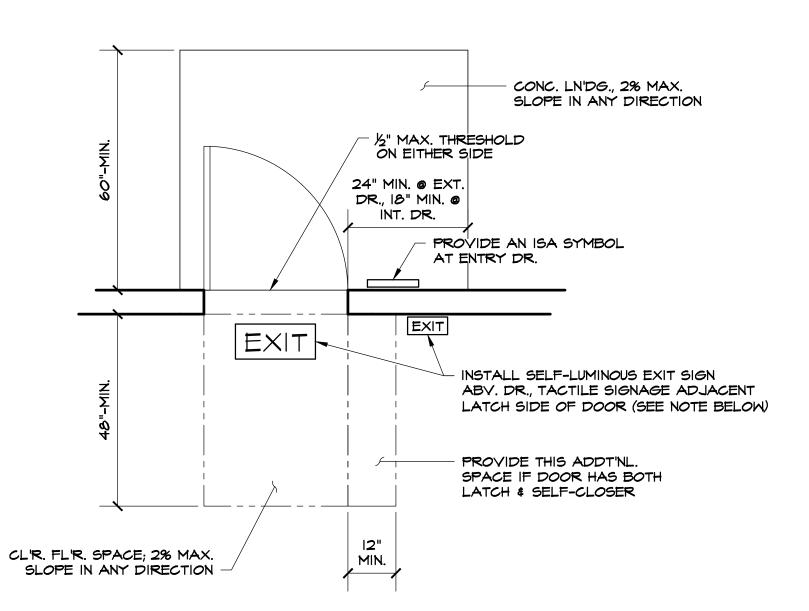
as noted

PROJECT NO:

DRAWING NO:

/2" 1"

# \*\* DOORS AND ACCESSIBILITY STANDARDS SHALL COMPLY WITH 2022 CBC CHPT. IIB, ACCESSIBILITY TO PUBLIC BUILDINGS, PUBLIC ACCOMMODATION, COMMERCIAL BUILDINGS AND PUBLICLY FUNDED HOUSING.



# DOOR NOTES

. PROVIDE ONE STANDARD SIGN WITH THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AND ONE BRAILLE SIGN AT EACH ACCESSIBLE ENTRANCE.

2. PROVIDE LEVEL LANDINGS (2% MAX. SLOPE) EACH SIDE OF ALL DOORS AS DIMENSIONED ON FLOOR PLAN, WITH 1/2" MAX. FROM TOP OF THRESHOLD TO LANDING ON EACH SIDE OF DOOR.

3. HARDWARE AT ALL DOORS, EXCEPT STOREFRONT, SHALL BE LEVER TYPE WITH HANDLES PROVIDING A RETURN TO WITHIN 1/2-INCH FROM THE DOOR FACE, CENTERED BETWEEN 34" AND 44". OPERABLE PARTS SHALL BE OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF THE WRIST.

4. THE BOTTOM IO" OF ALL DOORS SHALL HAVE A SMOOTH, UNINTERRUPTED SURFACE

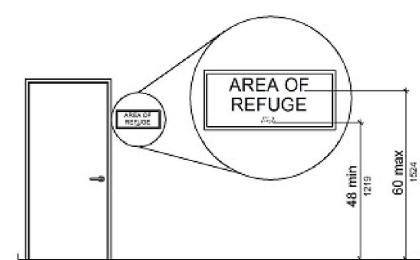
5. LOCK OR LATCH ON EXIT DOORS SHALL BE OPENABLE FROM THE INSIDE WITHOUT THE USE OF KEY OR SPECIAL KNOWLEDGE. THE MAIN EXIT MAY HAVE A KEY LOCK IF A SIGN IS POSTED STATING "THIS DOOR TO REMAIN UNLOCKED WHENEVER THE BUILDING IS OCCUPIED". MANUALLY OPERATED EDGE OR SURFACE MOUNTED FLUSH BOLTS AND SURFACE BOLTS ARE PROHIBITED. AUTOMATIC FLUSH BOLTS ARE ALLOWED ON PAIRS OF DOORS, PROVIDED THE DOOR WITH THE FLUSH BOLT HAS NO KNOBS OR SURFACE-MOUNTED HARDWARE.

6. THE MAXIMUM EFFORT TO OPERATE DOORS SHALL NOT EXCEED 5 POUNDS, WITH SUCH PULL OR PUSH EFFORT BEING APPLIED AT RIGHT ANGLES TO HINGES DOORS AND AT THE CENTER PLANE OF SLIDING OR FOLDING DOORS. WHEN FIRE DOORS ARE UTILIZED, THE MAXIMUM EFFORT TO OPERATE THE DOOR MAY BE INCREASED TO NOT EXCEED IS POUNDS, DOOR CLOSERS, IF APPLICABLE, SHALL BE ADJUSTED SO THAT FROM AN OPEN POSITION OF 90-DEGREES, THE TIME REQUIRED TO MOVE THE DOOR TO A POSITION OF 12-DEGREES FROM THE LATCH IS 5-SECONDS. DOOR SPRING HINGES SHALL BE ADJUSTED SO THAT FROM THE OPEN POSITION OF 70-DEGREES THE DOOR SHALL MOVE

7. TACTILE EXIT SIGNS SHALL BE PROVIDED PER CBC CHPT. IO AND 11-B. EACH GRADE-LEVEL EXTERIOR EXIT DOOR SHALL BE IDENTIFIED BY A TACTILE SIGN WITH THE WORD 'EXIT'. THE SIGNAGE REQUIRED BY THIS SECTION SHALL BE LOCATED ADJACENT TO THE LATCH SIDE OF A SINGLE DOOR AND TO THE RIGHT SIDE OF DOUBLE DOORS, MOUNTED 48-60" ABOVE FINISHED FLOOR.

# SIGNAGE NOTES

# HEIGHT OF TACTILE CHARACTERS ABOVE FINISH FLOOR OR GROUND

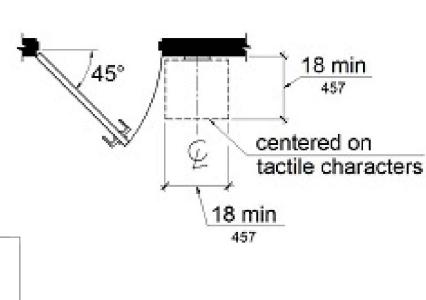


# Height above finish floor or ground

Tactile characters on signs shall be located 48 inches (1219 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest Braille cells and 60 inches (1524 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest line of raised characters.

Exception: Tactile characters for elevator car controls shall not be required to comply with Section IIB-703.4.1.

# LOCATION OF TACTILE SIGNS AT DOORS



Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be ocated on the inactive leaf. Where a tactile sign is provided at double doors with two active leafs, the sign shall be located to the right of the right hand door. Where there is no wall space at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located so that a clear floor space of 18 inches (457 mm) minimum by 18 inches (457 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position. Where provided, signs identifying permanent rooms and spaces shall be located at the entrance to, and outside of the room or space. Where provided, signs identifying exits shall be located at the exit door when approached in the direction of egress travel.

Exception: In alterations where sign installation locations identified in Section IIB-703.4.2 are obstructed or otherwise unavailable for sign installation, signs with tactile characters shall be permitted on the push side of doors with closers and without hold-open devices.

# SANITARY FACILITY NOTES

CONTROLS SHALL ALL OPERATE WITH ONE HAND WITHOUT REQUIRING TIGHT GRASPING, PINCHING OR TWISTING OF HE WRIST. THE FORCE TO OPERATE ALL CONTROLS SHALL BE NO GREATER THAN 5LBS.

- THE MAXIMUM HEIGHT OF CONTROLS OR OPERABLE PARTS SHALL BE 40" ABOVE THE FLOOR.
- THE FLUSH VALVE FOR THE TOILET SHALL BE ON THE WIDE SIDE OF THE TOILET AREA.
- THE TOILET PAPER DISPENSER SHALL ALLOW CONTINUOUS PAPER FLOW AND SHALL NOT CONTROL DELIVERY.

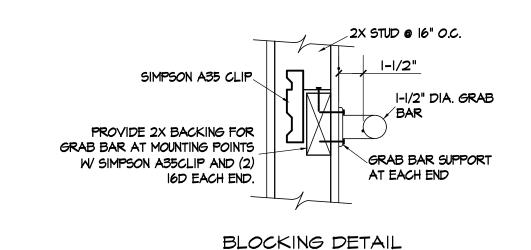
THE DOORS TO THE SANITARY FACILITIES SHALL BE SIGNED. THE MEN'S ROOM SHALL HAVE AN EQUILATERAL TRIANGLE WITH EDGES 12" LONG VERTEX POINTING UPWARD. THE WOMENS ROOM SHALL HAVE A CIRCLE 12" IN DIAMETER. UNISEX SANITARY FACILITIES SHALL HAVE THE TRIANGLE SUPERIMPOSED UPON THE CIRCLE. THE THICKNESS OF THESE SIGNS SHALL BE 1/4". THESE SIGNS SHALL BE CENTERED ON THE DOOR 60" ABOVE THE FLOOR. THE CHARACTERS AND BACKGROUND OF THE SIGNS SHALL BE EGGSHELL MATTE OR OTHER NONGLARE FINISH AND THEIR CONTRAST AND COLOR SHALL BE DISTINCTLY DIFFERENT FROM CONTRAST AND COLOR OF THE DOOR. AN ACCOMPANYING SIGN SHALL BE MOUNTED ON THE LATCH SIDE OF THE DOOR AT A HEIGHT OF 60" WITH LETTERS RAISED 1/32" MINIMUM. THE SIZE OF THE CHARACTERS SHALL BE BETWEEN 5/8" AND 2". THEY SHALL BE SANSSERIF UPPERCASE ACCOMPANIED BY GRADE 2 BRAILLE

- PROVIDE BLOCKING FOR GRAB BARS. BLOCKING SHALL BE ABLE TO SUPPORT A 250LB POINT LOAD.
- TOILET ROOM FLOOR SURFACES ARE TO BE SMOOTH HARD AND NONABSORBENT EXTENDING UPWARD A MINIMUM OF 5" ONTO THE WALLS.
- WALL SURFACES WITHIN WATER CLOSET COMPARTMENTS AND WALLS WITHIN 24" OF THE FRONT OR SIDES OR TOILETS OR URINALS SHALL BE SMOOTH HARD AND NONABSORBANT TO A HEIGHT OF 48" ABOVE THE FLOOR.
- HOT WATER SHALL BE LIMITED TO A MAXIMUM TEMPERATURE OF 120 DEG. THE WATER HEATER THERMOSTAT SHALL NOT BE CONSIDERED A CONTROL FOR MEETING THIS PROVISION.
- ACCESSIBLE WATER CLOSET COMPARTMENT DOORS SHALL HAVE A LOOP OR U SHAPED HANDLE IMMEDIATELY BELOW THE LATCH.

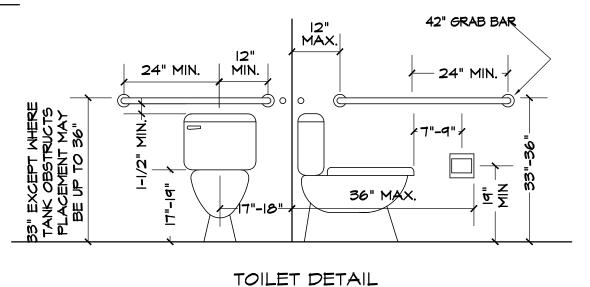
# GENERAL ACCESSIBILITY NOTES

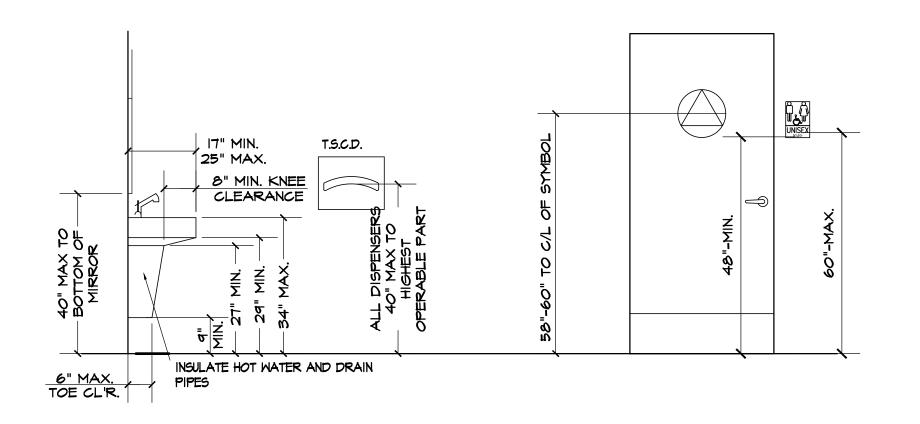
- FLOOR AND GROUND SURFACES SHALL BE STABLE FIRM AND SLIP RESISTANT.
- OVERHANGING OBSTRUCTIONS LESS THAN 80" ABOVE PEDESTRIAN WAYS, PLATFORMS OR RAMPS ARE NOT ALLOWED.
- PROVIDE MIN. 80" HEAD ROOM IN ALL CIRCULATION SPACES AND WALKWAYS.
- OBJECTS MAY NOT REDUCE THE CLEAR WIDTH OF AN ACCESSIBLE ROUTE OR MANEUVERING SPACE.
- THE MAXIMUM HT. FOR CONTROLS, SWITCHES, RECEPTACLES, OUTLETS AND THERMOSTATS IS 48" MEASURED TO THE TOP OF THE BOX TO THE LEVEL OF FINISH FLOOR OR WORKING PLATFORM. THE MINIMUM HT. FOR RECEPTACLES IS 15" MEASURED TO THE BOTTOM OF THE BOX TO THE LEVEL OF FINISH FLOOR OR WORKING PLATFORM.

# ACCESSIBLE RESTROOM DETAILS



DISPENSERS THAT CONTROL DELIVERY OR THAT DO NOT PERMIT CONTINUOUS PAPER FLOW SHALL NOT BE USED





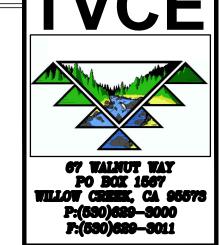
LAVATORY DETAIL

SIGNAGE ON DOOR

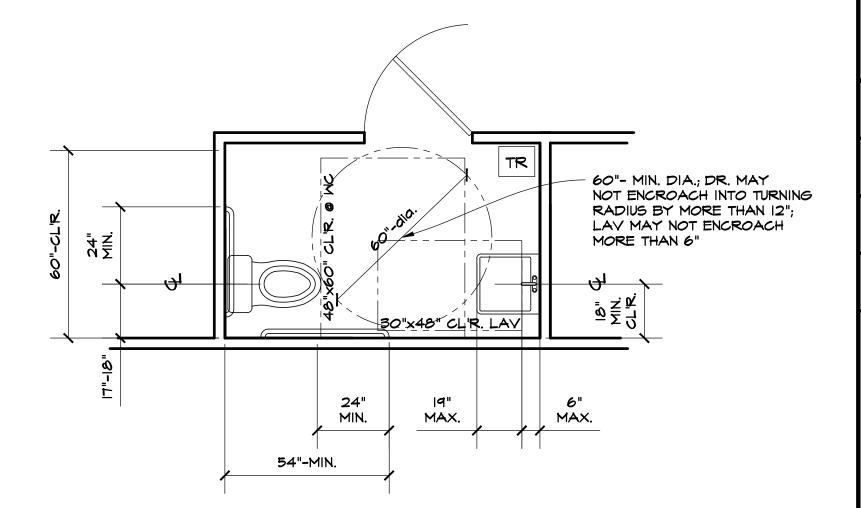
# ACCESSIBLE RESTROOM

SINGLE-SERVICE DISPENSERS AT, OR ADJACENT TO, EACH HANDWASHING FACILITY: (a) Handwashing cleanser.

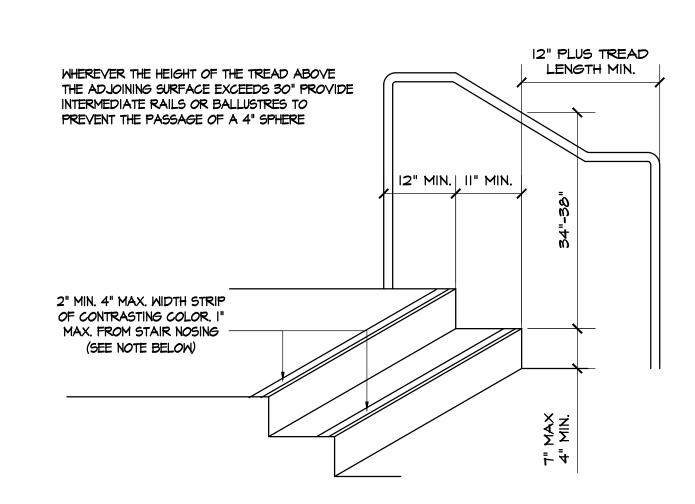
(b) Sanitary single-use towels or a heated-air hand drying device. WITH OPERABLE PARTS LOCATED A MAXIMUM OF 40" ABOYE FLOOR



RCE 60687 EXP. <u>12-31-20</u>26



# COMMERCIAL STAIR DETAIL



HANDRAILS REQUIRED BOTH SIDES OF STAIR. THE ORIENTATION OF THE EXTENSIONS OF AT LEAST ONE HANDRAIL SHALL BE INLINE

- HANDRAIL I 1/4"-1 1/2" DIA. 34"-38" ABOVE STAIR NOSING OR RAMP SURFACE. 12" BEYOND TOP RISER. 12" PLUS TREAD LENGTH BEYOND BOTTOM RISER.
- HANDRAILS MUST BE ABLE TO RESIST THE FOLLOWING LOADS: A 200 LB POINT LOAD OR A 50 LBS PER FOOT LOAD WHERE THESE LOADS ARE APPLIED IN ANY DIRECTION. HAND RAILS SHALL SHALL BE RETURNED TO THE FLOOR OR A WALL. HANDRAILS PROJECTING FROM A WALL SHALL A SPACE OF 1-1/2" FROM THE WALL. ADJACENT TO THE HANDRAIL THE WALL SHALL
- HAVE NOT HAVE A ROUGH OR ABRASIVE SURFACE. HANDRAIL ASSEMBLIES AND GUARDS SHALL BE MOUNTED SO THAT THE COMPLETED RAIL AND SUPPORTING STRUCTURE ARE CAPABLE
- OF WITHSTANDING A CONCENTRATED LOAD OF 200-165. APPLIED IN ANY DIRECTION AT ANY POINT ALONG THE TOP. - 1" MAXIMUM, 4" MINIMUM RISER HEIGHT, II" MINIMUM RUN AS MEASURED FROM THE FRONTS OF THE STEP NOSING EXCEPT FOR THE BOTTOM
- THE NOSING SHALL NOT PROJECT MORE THAN 1-1/2" PAST THE FACE OF THE RISER BELOW.
- RISERS SHALL BE SLOPED OR THE UNDERSIDE OF THE NOSING SHALL HAVE AN ANGLE NOT LESS THAN 60-DEGREES FROM THE
- RISERS SHALL NOT VARY BY MORE THAN 3/8" IN DIMENSION FROM LEAST TO GREATEST WITHIN THE FLIGHT OF STAIRS. BOTTOM RISER
- MAY VARY TO MATCH SLOPE OF WALK 4" MINIMUM. 7" MAX. TREADS SHALL NOT VARY IN DIMENSION MORE THAN 3/8" FROM LEAST TO GREATEST WITH THE FLIGHT OF STAIRS.
- THE UPPER APPROACH AND LOWER TREAD TO EACH EACH STAIR (AND ALL STAIRWAY TREADS OUTSIDE A BUILDING) ARE TO BE MARKED BY A STRIP OF CLEARLY CONTRASTING COLOR AT LEAST 2" WIDE, 4" MAX., SPACED I" MAX. FROM STAIR NOSING (A PAINTED STRIP IS ACCEPTABLE). STRIPING SHALL BE SLIP RESISTANT.
- OPEN RISERS ARE NOT PERMITTED.

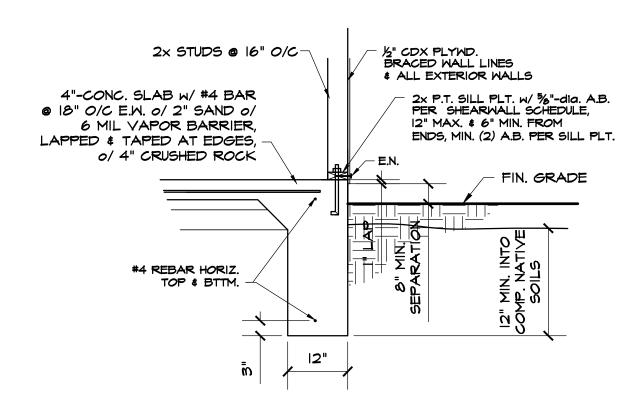
DATE OF ISSUE: MAR. 17, '25 SCALE: AS NOTED

PROJECT NO:

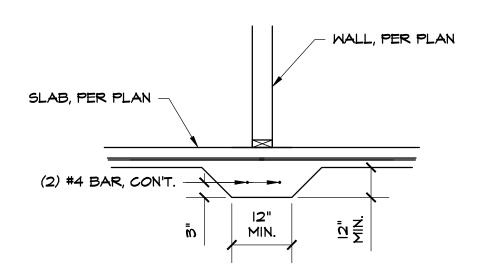
VTERPRETIVE AT TRINIDAL

DRAWING NO:

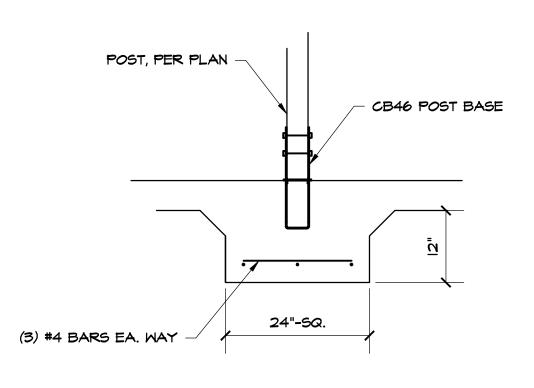
1/2"

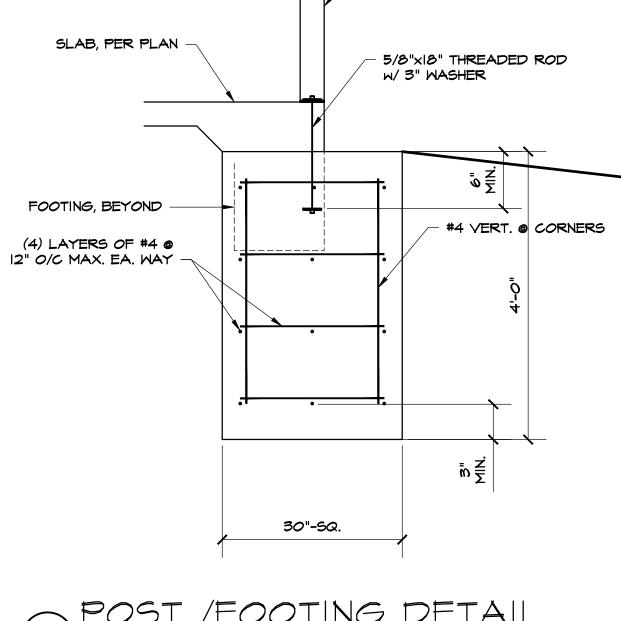






INTERIOR FT'G. DETAIL (F2) @ WALL LINE

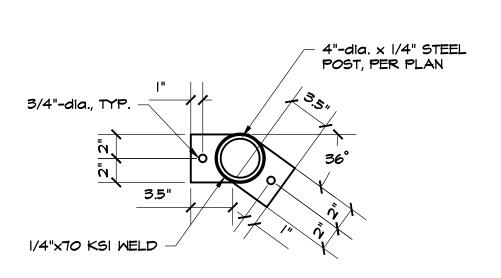




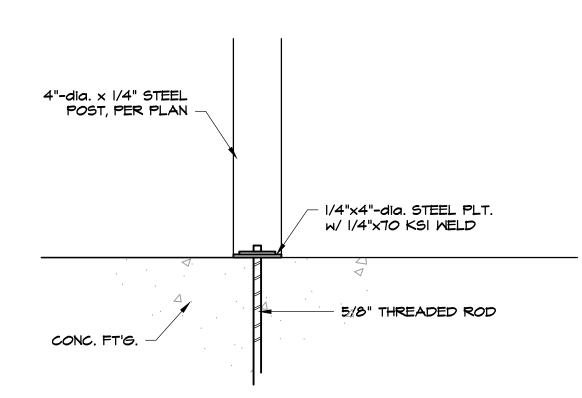
4" STEEL POST,

PER PLAN

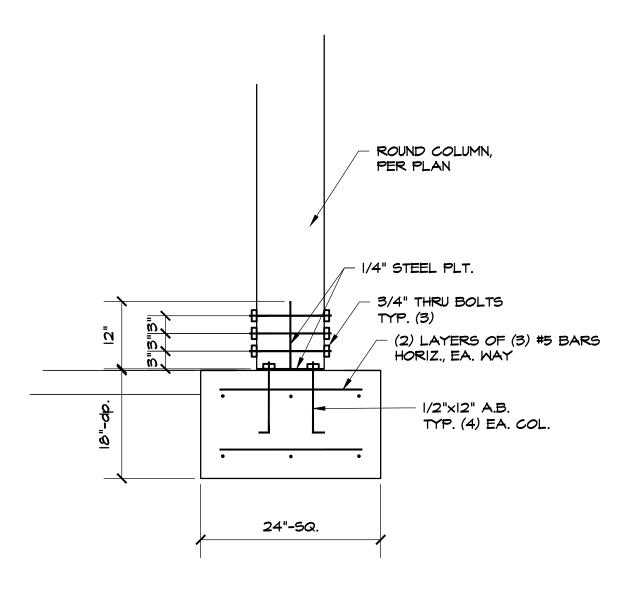


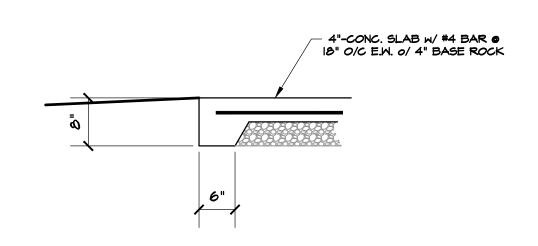


BASE PLT., TOP VIEW DO NOT SCALE



POST BASE, SIDE VIEW DO NOT SCALE





(F5) THICKENED EDGE

# FOUNDATION NOTES:

- ALL FOOTING EXCAVATION TO BE AS NEAT AS PRACTICABLE. OVER EXCAVATION IN DEPTH TO BE FILLED WITH CONCRETE, AND IN WIDTH MAY BE FILLED WITH CONCRETE OR COMPACTED BACKFILL. ALL LOOSE SOILS TO BE REMOVED FROM EXCAVATION PRIOR TO PLACEMENT OF REINFORCEMENT, CONCRETE OR ENGINEERED FILL. FOOTING EXCAVATION TO BE 2" WIDER THAN SHOWN UNLESS FOOTINGS ARE FORMED.
- 2. ALL FOUNDATIONS MUST BEAR ON FIRM, UNDISTURBED NATIVE SOILS OR ENGINEERED FILL AT OR EXCEEDING DEPTHS SHOWN ON THE DRAWINGS.
- WATER MUST BE REMOVED FROM FOUNDATION EXCAVATION PRIOR TO PLACEMENT OF CONCRETE.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING, ETC. NECESSARY TO SUPPORT CUT AND/OR FILL BANKS DURING EXCAVATION, AND FORMING AND PLACEMENT OF CONCRETE.
- REINFORCING STEEL TO BE DEFORMED STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A-615, GRADE 60 FOR #4 BARS OR LARGER, AND GRADE 40 FOR #3 BARS.
- DETAILING, FABRICATION AND ERECTION OF REINFORCING BARS MUST CONFORM TO THE 'ACI DETAIL MANUAL' - 2004, SP-66(04).
- CONCRETE PROTECTION FOR REINFORCING TO BE AT LEAST EQUAL TO THE DIAMETER OF THE BARS. MINIMUM COVER FOR CAST-IN-PLACE CONCRETE TO BE AS FOLLOWS.

7.1.	POURED OVER EARTH	3"
7.2.	POURED AGAINST FORM BELOW GRADE	2"
7.3.	FORMED SLAB (#11 BARS AND SMALLER)	V <u>5</u> "
7.4.	SLABS ON GROUND (FROM TOP OF SLAB)	l"
7.5.	COLUMN AND BEAM MAIN BARS, TIES, STIRRUPS, SPIRALS	<b>1</b> /2"
7.6.	WALLS EXPOSED TO WEATHER (#6 THROUGH #18)	2"
7.7.	WALLS EXPOSED TO WEATHER (#5 BAR & SMALLER)	"地"
7.8.	WALLS NOT EXPOSED TO WEATHER (#II AND SMALLER)	3/4"

- REINFORCING BARS TO BE CLEAN OF RUST, GREASE OR OTHER MATERIAL LIKELY TO IMPAIR BOND. BENDS TO BE MADE COLD.
- MINIMUM LAP DISTANCE FOR REINFORCING STEEL SHALL BE 24" OR 32 BAR DIAMETERS WHICHEVER
- 10. ALL CONNECTORS, FASTENERS, AND METAL OBJECTS IN CONTACT WITH PRESSURE TREATED WOOD TO BE EITHER STAINLESS STEEL OR HOT-DIPPED GALVANIZE.

# CONCRETE NOTES:

- THE MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 3,000 PSI. CONCRETE TO BE A FIVE SACK MIX MINIMUM WITH NO MORE THAN 7 GALLONS OF WATER PER CUBIC YARD ..
- 2. ALL CONCRETE TO BE REGULAR WEIGHT HARD ROCK TYPE (150# /CF). MAXIMUM AGGREGATE SIZE FOR SLABS ON GRADE TO BE 3/4" AND 1/2" FOR STEM WALL. AGGREGATE TO CONFORM TO ASTM C-33. CEMENT TO CONFORM TO C-150 (TYPE 11), UNLESS ALKALINE SOILS ARE PRESENT ON SITE. WATER-REDUCING ADMIXTURES, RETARDING ADMIXTURES, ACCELERATING ADMIXTURES, WATER-REDUCING AND RETARDING ADMIXTURES, AND WATER-REDUCING AND ACCELERATING ADMIXTURES TO CONFORM TO 'SPECIFICATION FOR CHEMICAL ADMIXTURES FOR CONCRETE' (ASTM C
- 3. SLABS, BEAMS, WALLS AND OTHER CONCRETE TO BE KEPT CONTINUOUSLY WET FOR 48 HOURS AFTER PLACEMENT AND TO BE KEPT DAMP FOR 7 DAYS AFTER PLACEMENT. SLABS TO HAVE CURE /SEALER APPLIED IMMEDIATELY AFTER FINISHING IF OTHER FINISHES ARE NOT AFFECTED SUPERIMPOSED LOADS ARE NOT TO BE APPLIED TO ELEVATED STRUCTURAL MEMBERS OR WALLS PRIOR TO 7 DAYS MINIMUM AFTER CONCRETE HAS REACHED DESIGN STRENGTH. RESHORING TO REMAIN IN PLACE 28 DAYS MINIMUM, AT NO TIME DURING A RESHORING PROCESS IS THE CONCRETE MEMBER TO BE UNSUPPORTED.
- CONCRETE MUST NOT FREE FALL MORE THAN SIX FEET DURING POUR.
- KEYED CONSTRUCTION JOINTS TO BE USED IN ALL CASES. ALL CONSTRUCTION JOINTS TO BE THOROUGHLY CLEANED AND ALL LAITANCE TO BE REMOVED. ALL VERTICAL JOINTS TO BE THOROUGHLY WETTED AND SLUSHED WITH A COAT OF NEAT CEMENT IMMEDIATELY BEFORE PLACING NEW CONCRETE.
- PROVIDE CONTROL JOINTS PER PLAN AND /OR EVERY 12 FEET ON CENTER. FILL WITH APPROVED CAULKING.
- PROVIDE 3/4" CHAMFER AT EXPOSED EDGES OF CONCRETE BEAMS AND COLUMNS
- 8. ANCHOR BOLT SIZES AND LOCATIONS TO BE PER THE BUILDING PLANS. EMBEDMENT DEPTHS TO BE A MINIMUM OF 7".

67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95673 P:(530)689-3000 P:(530)689-3011

WILLIAM TO SOLUTION TO SOLUTIO	RCE 60687  EXP. 12-31-2026  EXP. 12-31-2026  FOR CALIFORNIA								
		11/11/11	7111111	1111111	JTM	JTM	APP BY		
					MLf	JTM	DWN BY DES BY CHK BY APP BY		
					SJA	SJA	DES BY		
					SJA	SJA	DWN BY		
					REV	UPDATE	DESCRIPTION		
					08/11/23	62/20/20	DATE		
					8	1	REV		
							APN		

DETAILS CENTER PIER INTERPRETIVE AT TRINIDAD NOTES TION

FOUNDA

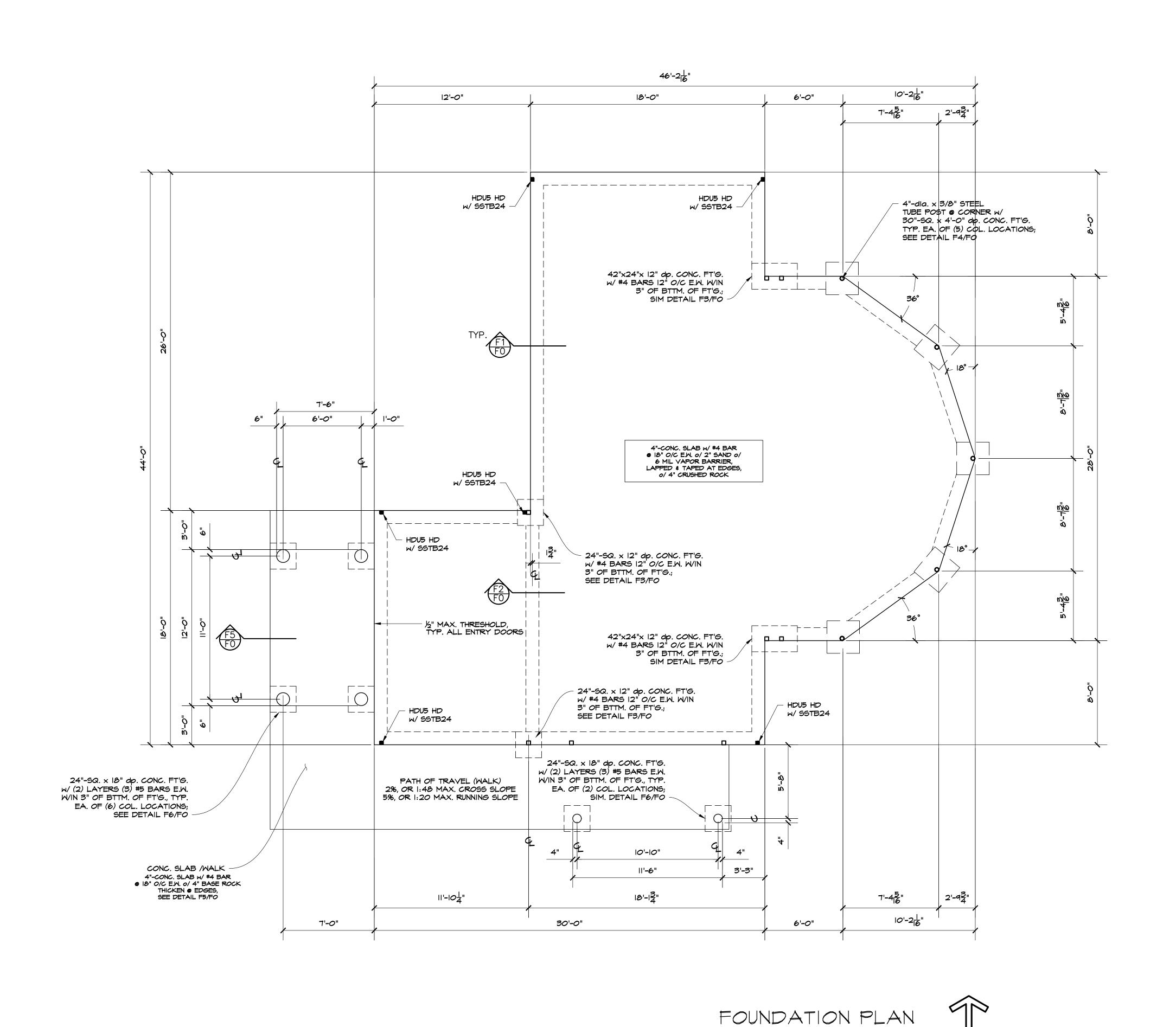
DATE OF ISSUE: MAR. 17, '25

AS NOTED

PROJECT NO:

SCALE:

DRAWING NO:



|/4"=|'-0"

North

67 WALMUT WAY
PO BOX 1567
WILLOW CREEK, CA 96673
P:(530)689-3000
F:(530)689-3011 INTERPRETIVE ( AT TRINIDAD FOUNDATION DATE OF ISSUE: MAR. 17, '25 SCALE: AS NOTED PROJECT NO: DRAWING NO:

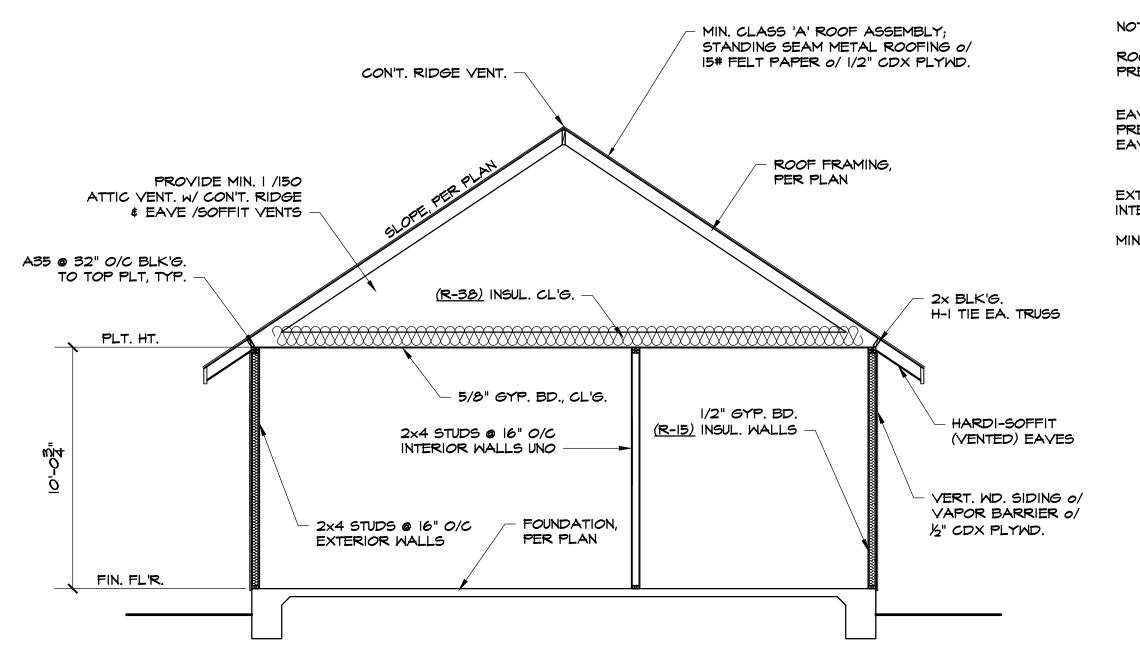
(0" 4"

SCALE:

PROJECT NO:

DRAWING NO:

as noted



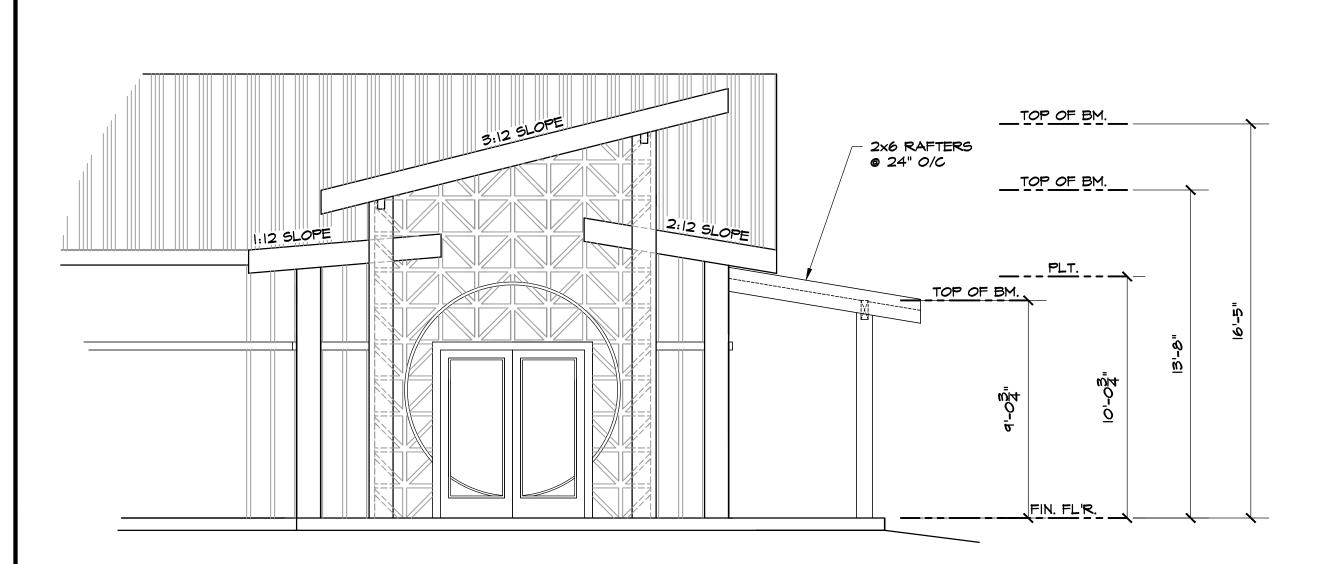
ROOF GUTTERS SHALL BE PROVIDED WITH A MEANS TO PREVENT THE ACCUMULATION OF LEAVES.

EAVE AND SOFFIT VENTS MUST BE FIRE RATED TO PRECLUDE EMBER & FLAME ENTRANCE; UNDERSIDES OF EAVES SHALL BE IGNITION RESISTANT OR NON-COMBUSTIBLE.

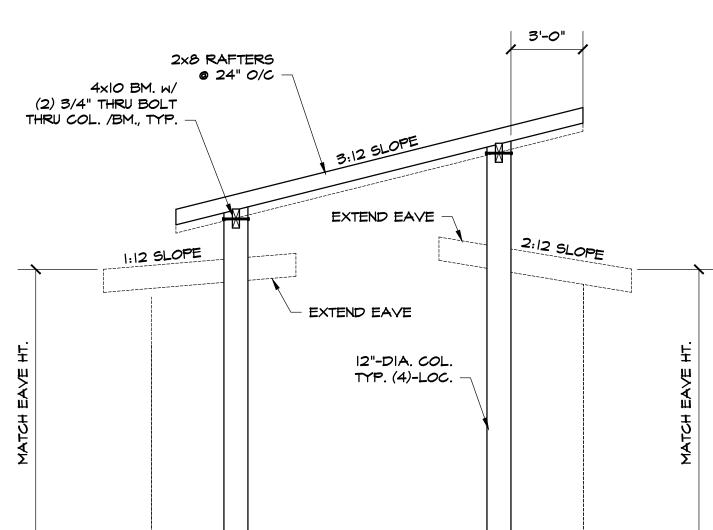
EXTERIOR WALL ASSEMBLY TO BE OF CAL-FIRE URBAN INTERFACE APPROVED PRODUCTS.

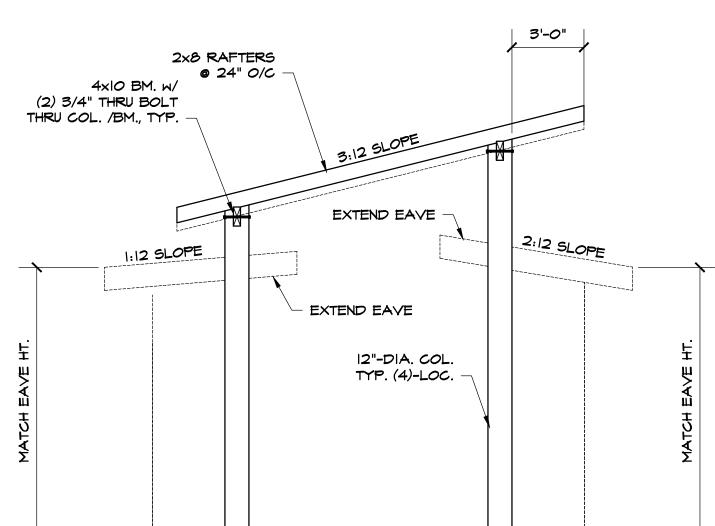
MIN. CLASS 'A' ROOF ASSEMBLY REQUIRED.

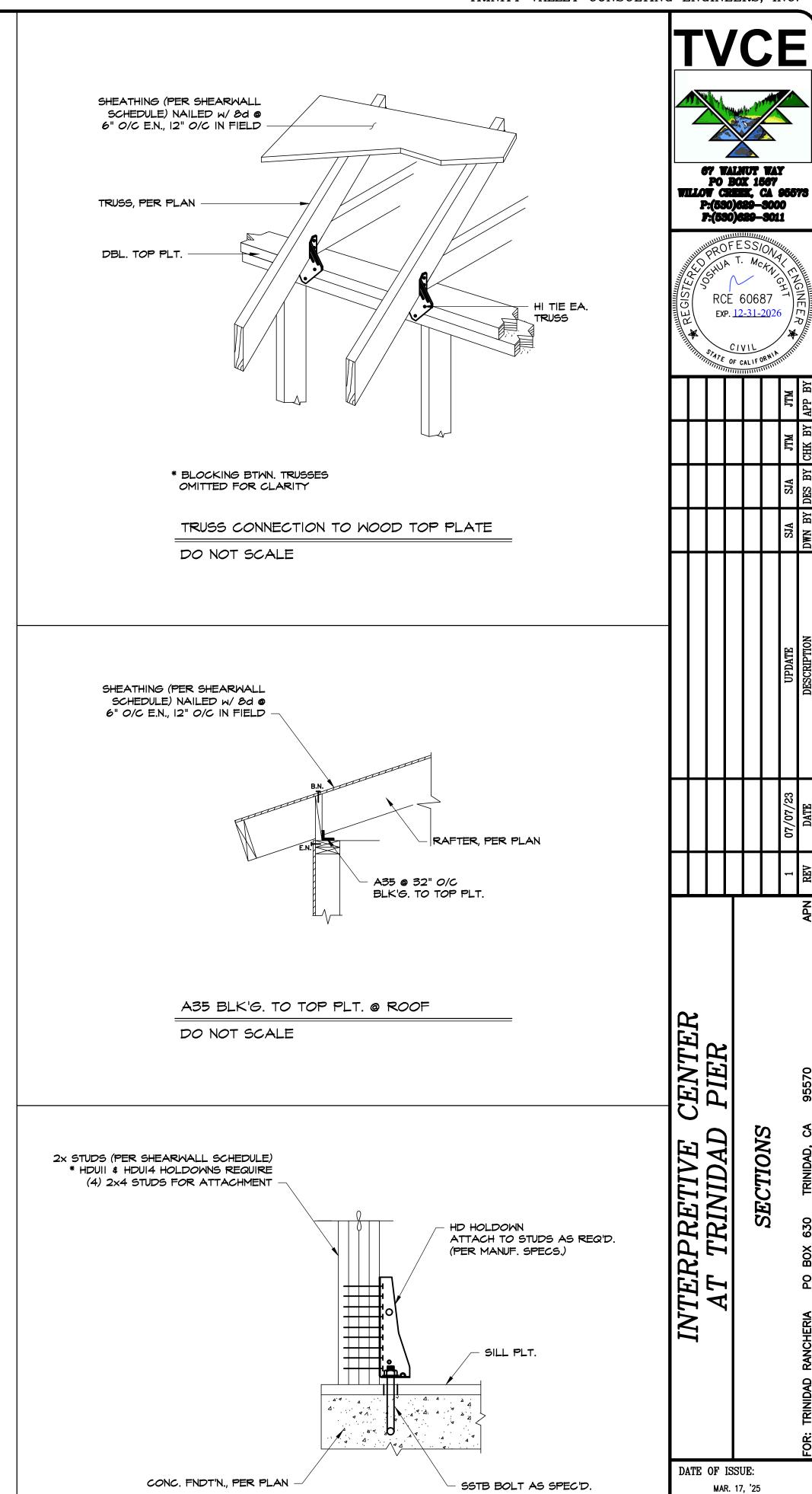
/ DO NOT SCALE



DO NOT SCALE

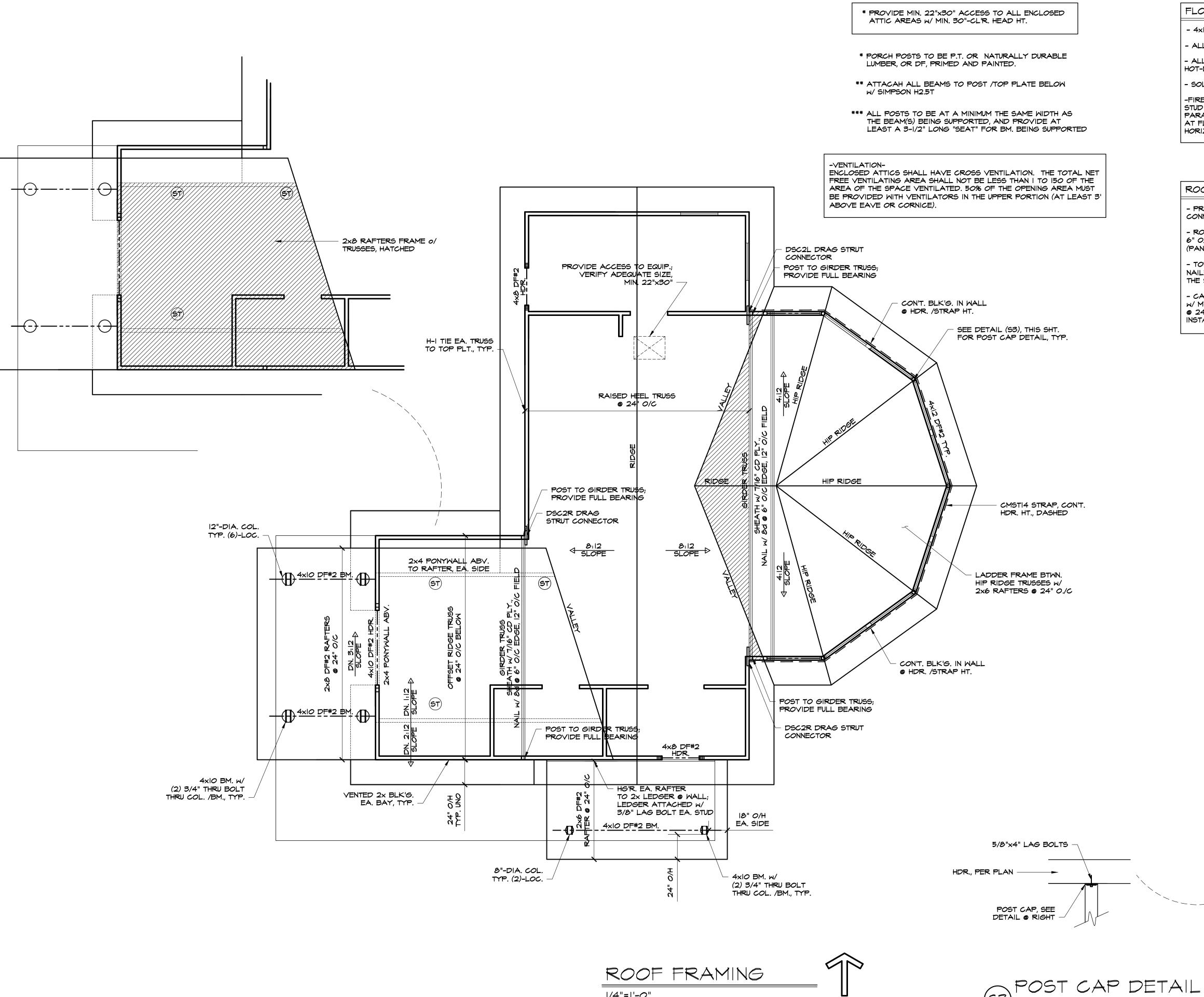






HOLDOWN CONNECTION TO FOUNDATION

DO NOT SCALE



|/4"=|'-0"

FLOOR AND FRAMING NOTES

- 4x12 DF#2 HDRS. @ ALL EXTERIOR OPENINGS, U.N.O.

- ALL EXPOSED FRAMING MEMBERS MUST BE P.T. OR REDWOOD.

- ALL EXTERIOR HARDWARE AND FASTENERS SHALL BE HOT-DIPPED GA.

- SOLID BLOCK OVER ALL BEARING WALLS, BEAMS AND GIRDERS.

-FIRE BLOCKING SHALL BE PROVIDED IN CONCEALED SPACES OF STUD WALLS AND PARTITIONS, INCLUDING FURRED SPACES, AND PARALLEL ROWS OF STUDS OR STAGGERED STUDS, VERTICALLY AT FLOOR AND CEILING LEVELS, SOFFIT LEVELS AND HORIZONTALLY AT INTERVALS NOT TO EXCEED IO-FEET.

# ROOF FRAMING NOTES

1/4"x70 KSI WELI

POST CAP, TOP VIEW

- PROVIDE H-I CLIP (OR EQUAL) @ EA. TRUSS TO PLATE CONNECTION, UNO.

- ROOF SHEATHING SHALL BE 1/2" CDX NAILED w/ 8d COMMONS @ 6" O/C AT PANEL EDGES OVER FRAMING, AND 12" O/C IN THE FIELD (PANEL EDGES UNBLOCKED).

- TOP PLATE SPLICE SHALL BE 48" MIN. OVERLAP AND SHALL BE NAILED W/ NO LESS THAN (12) 16d FACE NAILS ON EACH SIDE OF THE SPLICE.

- CA FRAMING; PROVIDE 2x W/ FULL BEARING @ VALLEYS. FRAME w/ MIN. 2x6 @ 24" O/C UP TO 10' SPAN w/ 2x8 RIDGE. USE 2x8 JST. @ 24" O/C o/ IO' SPAN w/ 2xIO RIDGE. ROOF PLY MUST BE INSTALLED TO ROOF FRAMING BELOW PRIOR TO CA FRAMING.

67 WALNUT WAY PO BOX 1567
WILLOW CREEK, CA 95678
P:(530)689-3000
F:(530)689-3011

POFESSION

EXI	P. <u>12</u>	6068 -31-			
			MLf	MLf	APP BY
			MLf	MLf	снк ву
			SJA	SJA	DES BY
			SJA	SJA	DWN BY

INTERPRETIVE (ATTIVIDAD) ROOF

DATE OF ISSUE: MAR. 17, '25

SCALE: AS NOTED

PROJECT NO:

4"-dia. x 1/4" STEEL

POST, BELOW

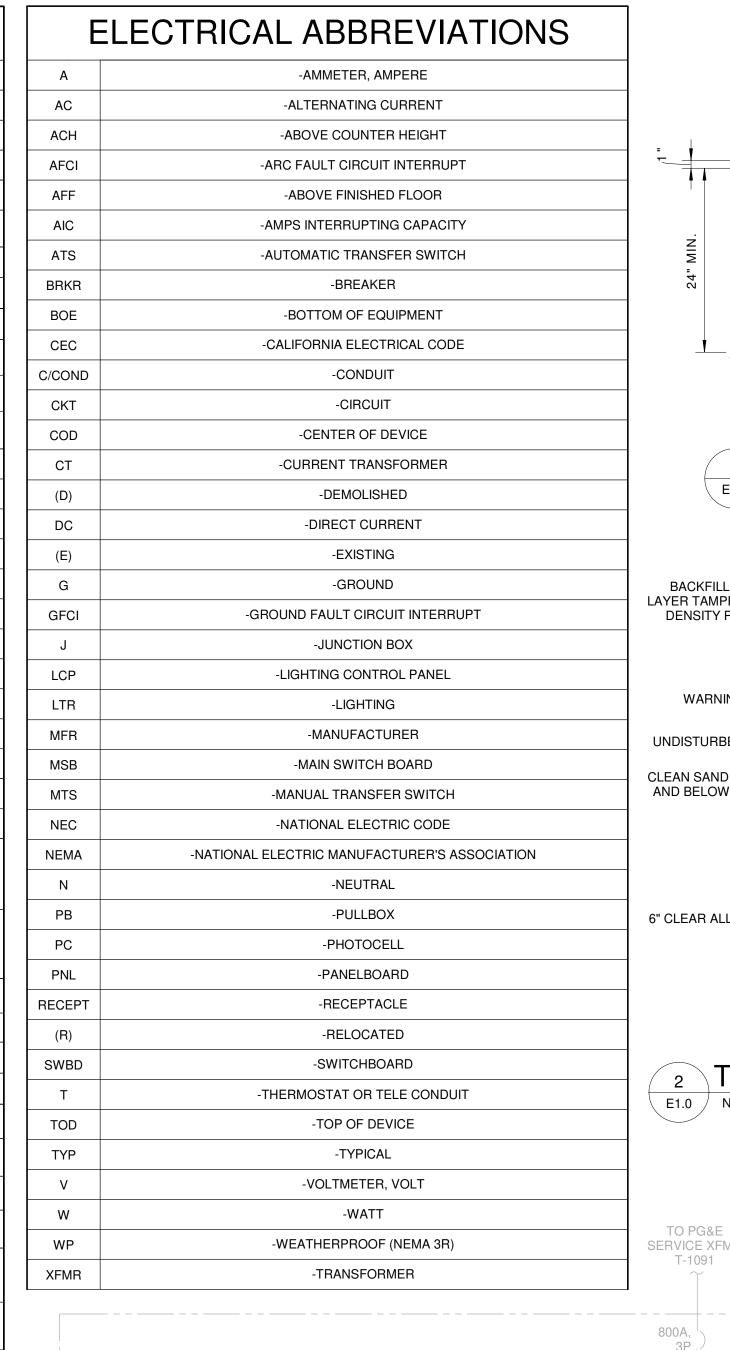
DRAWING NO: S2

12

14

El	LECTRICAL LI	EGEND					
SYMBOLS							
	CONDL	IIT EXPOSED					
	CONDUIT CON	CEALED OR BURIED					
<del></del>	CROSS HATCHES W/ BARS INDIC	CATES NUMBER OF #10 CONDUCTORS					
	1/2" C - 2# 12.1 #12G	CAT 5e LIGHTING CABLE					
——LA-2	HOME RUN-DE	STINATION SHOWN					
	CONE	DUIT DOWN					
$\overline{}$	CON	NDUIT UP					
	CONNE	CTION POINT					
lacksquare		POINT; 18" TO COD AFF UNLESS - STUB UP TO CEILING PLENUM					
K		" TO COD AFF UNLESS OTHERWISE B UP TO CEILING PLENUM					
		POINT; 18" TO COD AFF UNLESS - STUB UP TO CEILING PLENUM					
\$	WALL SWITCH, 46" TO COD	AFF UNLESS OTHERWISE NOTED					
\$3	INDICATES THRE	E-POLE WALL SWITCH					
\$ <sub>D</sub>	INDICATES WALL SWIT	CH WITH INTEGRAL DIMMER					
\$oc	INDICATES WALL SWITCH WIT	TH INTEGRAL OCCUPANCY SENSOR					
$s_a$ $s_b$ $s_c$ $s_d$	INDICATES WALL SWITCHES	FOR MULTIPLE LIGHTING GROUPS					
\$ <sub>LV</sub>	INDICATES LOW V	OLTAGE WALL SWITCH					
\$ĸ	INDICATES KEY-OPERATED WALL SWITCH						
\$ <sub>M</sub>	INDICATES MOTOR RATED SWITCH						
\$ <sub>T</sub>	INDICATES WALL SWI	TCH WITH INTEGRAL TIMER					
\$ <sub>M</sub>	MOTOR F	RATED SWITCH					
(oc)	OCCUPA	NCY SENSOR					
J	JUNCTION BOX						
CR	CONTACT RELAY						
	20A SPECIFICATION GRADE RECEPTACLE, COORDINATE CONFIGURATION W/ SUPPLIED EQUIPMENT	20A SPECIFICATION GRADE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLE					
	20A SPECIFICATION GRADE QUADRUPLEX RECEPTACLE	20A SPECIFICATION GRADE GROUND FAULT CIRCUIT INTERRUPTER QUADRUPLEX RECEPTACLE					
		ACLE 18" COD UNLESS NOTED ON PLANS					
	SPLITWIRE	D RECEPTACLES					
60/40 F XXA/XXF	FUSED	DISCONNECT					
30 XX	NON-FUSE	D DISCONNECT					
XXAS XXAF	FUSE	ED SWITCH					
	LAY-IN	2 FT x 2 FT.					
	SURFACE MOUNTED 2 FT x 4	FT FLUORESCENT LIGHT FIXTURE.					
	SURFACE MOUNTED 1 FT x 4	FT FLUORESCENT LIGHT FIXTURE.					
	HATCHING INDICATE	S EMERGENCY LIGHTING.					
<del>-</del>	RECESSED	LIGHT FIXTURE.					
0	PENDANT MOUI	NTED LIGHT FIXTURE					
lacksquare	SINGLE FACE ILL	LUMINATED EXIT SIGN					
$\langle\langle\rangle\rangle$	DOUBLE FACED ILLUMINA	ATED DIRECTIONAL EXIT SIGN.					
$\langle\!\langle\!\overline{\langle}\rangle\!\rangle\!\rangle$	SINGLE FACED ILLUMINA	TED DIRECTIONAL EXIT SIGN.					

LED STANDARD EMERGENCY LIGHT



- 4"C-4#500,1#3G

400A

PNL

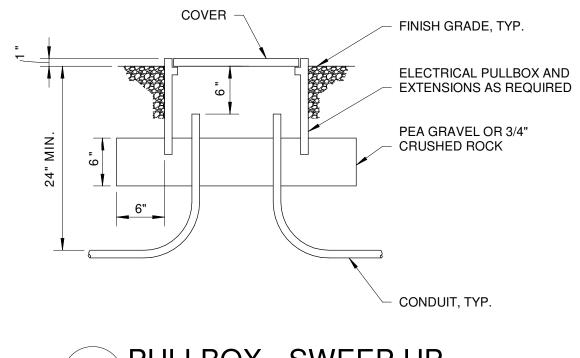
RESTAURANT

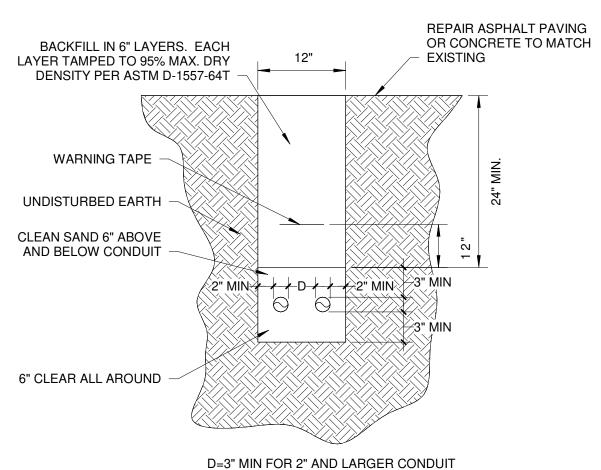
PHASE Q=305A

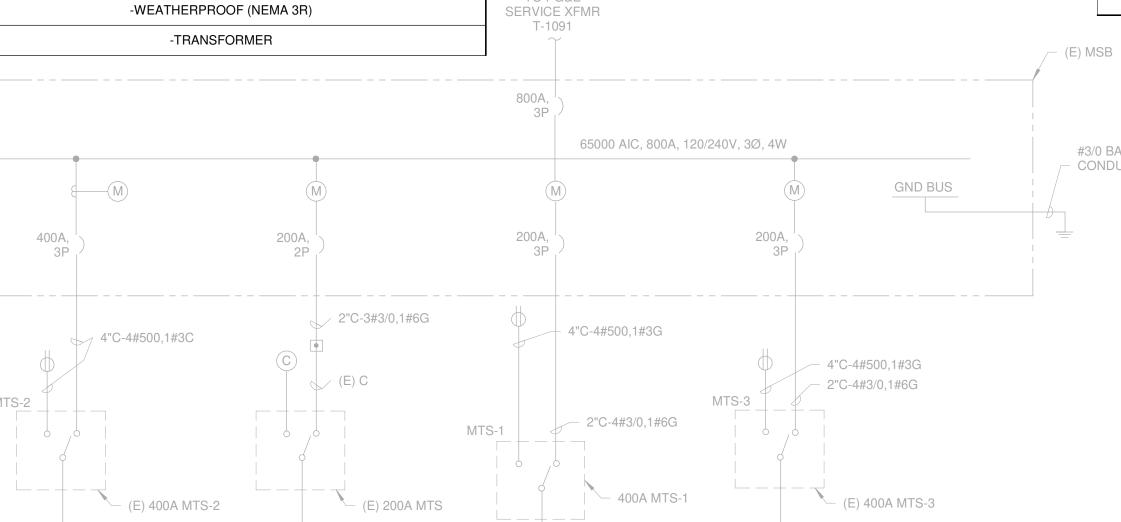
PHASE B=305A

PHASE C=65A

(E) P-2







2"C-4#3/0,1#6G

2"C-4#3/0,1#6G

J-BOX (E) 2"C-4#3/0,1#6G

PIER PHASE A=160A PHASE B=150A

PHASE C=135A

NEMA 3R

DISCONNECT > 200A |

(E) WP

200A

PNL P1

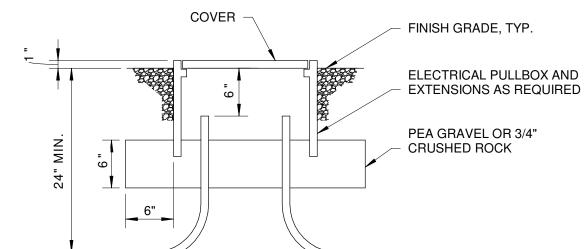
TREATMENT

PLANT

PHASE A=120A

PHASE B=120A

ONE-LINE DIAGRAM



PULLBOX - SWEEP UP E1.0 / NOT TO SCALE

**TYPICAL UNDERGROUND CONDUIT** E1.0 / NOT TO SCALE

D=2" MIN FOR 1-1/2" AND SMALLER CONDUIT

(E) 4"C-4 #500,1#3G

└─ (N) 2"C-4#1,1#6G

225A

(E) P-3

PNL

BAIT SHOP/OFFICE/

ICE HOUSE/BOAT LAUNCH

PHASE A = 190A PHASE B = 190A

PHASE C = 70A

		ID	Ma
 	#3/0 BARE COPPER	1	L
 	CONDUCTOR	2	L
		3	L
		4	L
		5	L
		$\otimes$	L
		SERVIC	Œ
		PANEL	P4
(N) PNL			

(E) BRANCH PANEL

Circuit Description

**MOUNTING:** RECESSED

**ENCLOSURE:** NEMA 1

LOCATION:

VOLTS:

WIRES:

(E) ICE HOUSE 70 A 3

(E) BOAT LAUNCH 100 A 3

(E) SPACE

(E) SPACE

(E) SPACE

TOTAL LOAD (VOLT-AMPS):

TOTAL LOAD (AMPS) 230 A

**CIRCUITS:** 

# KEYED NOTES:

3 | 125 A | (N) PANEL P4

2 | 30 A | (E) OFFICE

(E) SPACE

1 -- (E) SPACE 1 -- (E) SPACE

1 -- (E) SPACE

(1) REPLACE EXISTING 100A, 3-POLE CIRCUIT BREAKER WITH NEW 125A, 3-POLE CIRCUIT BREAKER, DISCONNECT EXISTING FEEDER CONDUCTORS AND CONNECT NEW AS SHOWN. MODIFY PANEL AS REQUIRED.

**Circuit Description** 

PHASE C IS HIGH LEG

 $\langle 2 \rangle$  PROVIDE BREAKER WITH GFCI PROTECTION FOR PERSONNEL IN ACCORDANCE WITH CEC 210.8.



67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000 F:(530)629-3011



(N) BRA	ANCH PANEL I	<b>P</b> 4											
OCATION:	V	OLTS:			120/240	Delta	A.I.C. R	RATING:	10 KAI	С			
MOUNTING:	SURFACE V	VIRES:			4		BUS RA	ATING:	225 A				
ENCLOSURE:	NEMA 3R	CIRCUIT	S:		42		MAIN:		200 A				
				A	В	С	A	В	С				
KT	Circuit Description	Rating					000				Rating	•	СКТ
1	LIGHTING - EXTERIOR		1	97	005		900	2000		1	∠U A	RECEPTS - OFFICE	2
5	LIGHTING - INTERIOR		1		865	2600		3000	3000	2	30 A	COFFEE BREWER	6
7	HVAC - HP-1	30 A	2	2600			720			1	20 A	RECEPTS - SEATING	8
9	IIVAO AIIII 4	15.0			864			1080		1	20 A	RECEPTS - RECEPTION	10
11	HVAC - AHU-1	15 A	2			864			2250		20.4	COFFEE FERRESCO	12
13 (2)	REFRIGERATOR - BACK ENTRY	20 A	1	350			2250			2	30 A	COFFEE ESPRESSO	14
15 (2)	FREEZER - BACK ENTRY	20 A	1		350			360		1	20 A	RECEPT - COFFEE BAR	16
17	WATER HEATER - WH-1	50 A				4500				1		SPACE	18
19	WAIER REALER - WR-1	50 A	2	4500			360			1	20 A	RECEPT - COFFEE BAR	20
21	HVAC - AHU-1 SUPPLEMENTAL HEAT	50 A	2		3840			720		1	20 A	RECEPT - COFFEE BAR	22
23	HVAC - AHU-I SUPPLEMENTAL HEAT	50 A				3840				1		SPACE	24
25	SPARE	20 A	1	0			180			1	20 A	RECEPT - COFFEE BAR	26
27	SPARE	20 A	1		0			360		1	20 A	RECEPT - RCP, EXTERIOR GFI, INTERIOR	28
29	SPACE		1							1		SPACE	30
31	SPARE	20 A	1	0			0			1	20 A	SPARE	32
33	SPARE	20 A	1		0			0		1	20 A	SPARE	34
35	SPACE		1							1		SPACE	36
37	SPARE	20 A	1	0			0			1	20 A	SPARE	38
39	SPARE	20 A	1		0			0		1	20 A	SPARE	40
41	SPACE		1							1		SPACE	42
1		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	PHA	SE A	PHA	SE B	PHA	SE C		1			
	TOTAL LOAD	(VOLI-A	AMPS):	1195			3 VA	1705	4 VA			PHASE C IS HIGH LEG	
	ΤΩΤΔΙ	LOAD (	AMPS)		0 A		5 A		2 A	1			

120/240 Delta A.I.C. RATING: EXISTING

PHASE B

27012 VA

225 A

6000

PHASE A

27557 VA

BUS RATING: 225 A

11413

PHASE C

21854 VA

182 A

200 A

LUMINAIRE SCHEDULE													
Manufacturer	Model	Lamp	Luminous Flux	Color Temperature	Apparent Load	Description							
LITHONIA	EPANL 1X4	LED	4000 lm	3500 K	37 VA	INTERIOR SURFACE MOUNTED EDGE-LIT FLAT PANEL, 80 CRI, 0-10V DIMMING DOWN TO 1%, 120V AC. PROVIDE EMERGENCY BATTERY PACK WHERE INDICATED.							
LITHONIA	EPANL 2X2	LED	3400 lm	3500 K	30 VA	INTERIOR SURFACE MOUNTED EDGE-LIT FLAT PANEL, 80 CRI, 0-10V DIMMING DOWN TO 1%, 120V AC. PROVIDE EMERGENCY BATTERY PACK WHERE INDICATED.							
LITHONIA	VG03C	LED	600 lm	3500 K	25 VA	EXTERIOR VANDAL-RESISTANT WALLPACK, POLYCARBONATE LENS, DARK BRONZE FINISH, 120V AC. PROVIDE WITH PHOTOCELL AT ALL LOCATIONS.							
LITHONIA	LDN6	LED	1000 lm	3500 K	10 VA	INTERIOR RECESSED 6"Ø DOWNLIGHT, CLEAR TRIM, SEMI-SPECULAR FINISH, WHITE PAINTED FLANGE, 0-10V DIMMING DOWN TO 1%, 120V AC. PROVIDE WITH EMERGENCY BATTERY PACK WHERE INDICATED.							
LITHONIA	ARC1	LED	2000 lm	3500 K	17 VA	EXTERIOR SURFACE MOUNTED ARCHITECTURAL WALL LUMINAIRE, PERFORMANCE PACKAGE P2, DAR BRONZE FINISH, 120-277V AC. PROVIDE WITH EMERGENCY BATTERY PACK AND BUTTON TYPE PHOTOCELL.							
LITHONIA	LQM	LED	0 lm	0 K	5 VA	INTERIOR EXIT SIGN, STENCIL FACE, WHITE HOUSING, GREEN LETTERS, 120V AC. PROVIDE WITH EMERGENCY BATTERY PACK AT ALL LOCATIONS.							
	LITHONIA  LITHONIA  LITHONIA  LITHONIA	LITHONIA EPANL 1X4  LITHONIA EPANL 2X2  LITHONIA VG03C  LITHONIA LDN6  LITHONIA ARC1	LITHONIA EPANL 1X4 LED  LITHONIA EPANL 2X2 LED  LITHONIA VG03C LED  LITHONIA LDN6 LED  LITHONIA ARC1 LED	Manufacturer       Model       Lamp       Luminous Flux         LITHONIA       EPANL 1X4       LED       4000 lm         LITHONIA       EPANL 2X2       LED       3400 lm         LITHONIA       VG03C       LED       600 lm         LITHONIA       LDN6       LED       1000 lm         LITHONIA       ARC1       LED       2000 lm	ManufacturerModelLampLuminous FluxColor TemperatureLITHONIAEPANL 1X4LED4000 lm3500 KLITHONIAEPANL 2X2LED3400 lm3500 KLITHONIAVG03CLED600 lm3500 KLITHONIALDN6LED1000 lm3500 KLITHONIAARC1LED2000 lm3500 K	ManufacturerModelLampLuminous FluxColor TemperatureApparent LoadLITHONIAEPANL 1X4LED4000 lm3500 K37 VALITHONIAEPANL 2X2LED3400 lm3500 K30 VALITHONIAVG03CLED600 lm3500 K25 VALITHONIALDN6LED1000 lm3500 K10 VALITHONIAARC1LED2000 lm3500 K17 VA							

	OLITVIC		D CALCU		10110	
ERVICE						
,	VOLTAGE =	240 V	PHASE	=	3 Ø	
ANEL P4						
	RECEPTACLE LOADS		3120 VA	Х	100% =	3120 VA
	LIGHTING LOADS		962 VA	Х	125% =	1203 VA
,	WATER HEATING		9000 VA	Χ	100% =	9000 VA
	KITCHEN EQUIPMENT		11200 VA	Χ	65% =	7280 VA
	HVAC LOADS		14608 VA	Χ	100% =	14608 V
I	LARGEST MOTOR LOAD		5200 VA	Χ	25% =	1300 VA
	TOTAL DEMAND (VA)				=	36511 VA
•	TOTAL AMPS (A)				=	88 A
OTALS						
	TOTAL DEMAND				=	36511 VA
	TOTAL CURRENT (THREE-	PHASE)			=	88 A

2727 Bechelli Lane - Redding, CA 96002 Ph: (530) 232-6160 - www.frontierce.com

DATE OF ISSUE: 7/12/2023 SCALE: 1/8" = 1'-0" PROJECT NO: 427.11

E1.0

# **ELECTRICAL SPECIFICATIONS**

# PART 1 - GENERAL

# 1.1 GENERAL

A. ELECTRICAL PLAN DRAWINGS SHOW ONLY GENERAL LOCATIONS OF EQUIPMENT, DEVICES, AND RACEWAY UNLESS SPECIFICALLY DIMENSIONED. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER ROUTING OF RACEWAY, SUBJECT TO THE APPROVAL OF THE ENGINEER. MAKE ADJUSTMENTS AS NECESSARY TO WIRING, CONDUIT, DISCONNECTS, BRANCH CIRCUIT PROTECTION, AND OTHER AFFECTED MATERIAL OR EQUIPMENT TO ACCOMMODATE ACTUAL EQUIPMENT SUPPLIED FOR THIS PROJECT.

# 1.2 CODES, PERMITS, AND REGULATIONS

A. DO ALL WORK AND INSTALL ALL MATERIALS AND EQUIPMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC). APPLICABLE STATE AND LOCAL LAWS AND ORDINANCES, AND THE POWER COMPANY. CONFLICTS, IF ANY, WILL BE RESOLVED AT THE DISCRETION OF THE ENGINEER.

# 1.3 SUBMITTALS

A. BEFORE ANY MATERIAL IS FABRICATED OR SHIPPED, FURNISH TO THE ENGINEER FULL DETAILS, SHOP DRAWINGS, DIMENSIONS, CATALOG CUTS, SCHEMATIC (ELEMENTARY) DIAGRAMS, AND OTHER DESCRIPTIVE MATTER AS REQUIRED TO FULLY DESCRIBE THE EQUIPMENT SPECIFIED.

# 1.4 COORDINATION

A. CLOSE COORDINATION BETWEEN THE ELECTRICAL AND MECHANICAL TRADES IS A PART OF THE WORK THAT IS REQUIRED BY THIS CONTRACT. NO ALLOWANCE WILL BE MADE FOR OMISSIONS BASED ON INCORRECTLY ASSUMING ANOTHER TRADE WILL BE PERFORMING YOUR WORK. CONFIRM YOUR SCOPE OF WORK WITH THE GENERAL CONTRACTOR

# PART 2 - PRODUCTS

# 2.1 GENERAL

A. UNLESS OTHERWISE INDICATED, PROVIDE ALL FIRST-QUALITY NEW MATERIALS, FREE FROM ANY DEFECTS, AND SUITABLE FOR THE INTENDED USE AND THE SPACE PROVIDED. PROVIDE MATERIALS APPROVED BY UL WHEREVER STANDARDS HAVE ITEMS NOT SPECIFICALLY SHOWN OR SPECIFIED WHICH ARE REQUIRED TO PROVIDE THE COMPLETE SYSTEMS SPECIFIED HEREIN. WHERE TWO OR MORE UNITS OF THE SAME CLASS OF MATERIAL OR EQUIPMENT ARE REQUIRED, PROVIDE PRODUCTS OF A SINGLE MANUFACTURER. COMPONENT PARTS OF MATERIALS OR EQUIPMENT NEED NOT BE PRODUCTS OF THE SAME MANUFACTURER.

# 2.2 EQUIPMENT FINISH

A. UNLESS OTHERWISE INDICATED, FINISH FOR ELECTRICAL EQUIPMENT AND ENCLOSURES SHALL BE MANUFACTURER'S STANDARD GRAY OR ANSI 61 GRAY OVER A PRIMER AND RUST INHIBITOR.

2.3 OUTLET AND DEVICE BOXES A. SHEET STEEL: ONE-PIECE DRAWN TYPE, ZINC- OR CADMIUM-PLATED.

# 2.4 JUNCTION AND PULLBOXES

A. OUTLET BOXES USED AS JUNCTION OR PULL BOX: AS SPECIFIED UNDER OUTLET AND

# B. LARGE SHEET STEEL BOX: NEMA 1.

- BOX: CODE-GAUGE, GALVANIZED STEEL COVER: FULL ACCESS, SCREW TYPE
- MACHINE SCREWS: CORROSION-RESISTANT.
- C. LARGE WEATHERPROOF: NEMA 3R BOX: GALVANIZED STEEL.
- COVER: FULL ACCESS, SCREW TYPE.
- EMBOSSED OUNTING HOLES ON BACK OF ENLCOSURE.
- 4. NO GASKETING.

# 2.5 CONDUIT AND TUBING

- A. GALVANIZED RIGID STEEL CONDUIT (GRS): MEET REQUIREMENTS OF ANSI C80.1 AND UL 6.
- 2. MATERIAL: HOT-DIP GALVANIZED, WITH CHROMATED PROTECTIVE LAYER. B. ELECTRIC METALLIC TUBING (EMT):
- MEET REQUIREMENTS OF ANSI C80.3 AND UL 797.
- MATERIAL: HOT-DIP GALVANIZED, WITH CHROMATED AND LACQUERED PROTECTIVE LAYER.
- C. FLEXIBLE METAL, LIQUID-TIGHT CONDUIT:
- 1. UL 360 LISTED FOR 105°C INSULATED CONDUCTORS. MATERIAL: GALVANIZED STEEL, WITH AN EXTRUDED PVC JACKET
- D. GALVANIZED STEEL FLEXIBLE CONDUIT: HOT-DIP GALVANIZED.
- . UL 1 AND UL 1479.
- E. PVC SCHEDULE 40 CONDUIT: MEET REQUIREMENTS OF NEMA TC2 AND UL 651
- 2. UL LISTED FOR CONCRETE ENCASEMENT, UNDERGROUND DIRECT BURIAL. CONCEALED OR DIRECT SUNLIGHT EXPOSURE, AND 90°C INSULATED CONDUCTORS.

# 2.6 FITTINGS

- A. GALVANIZED RIGID STEEL MEET REQUIREMENTS OF UL 514B.
- TYPE: THREADED, GALVANIZED. SETSCREW FITTINGS NOT PERMITTED. MATERIAL: MALLEABLE IRON WITH INSULATED THROAT.
- B. ELECTRIC METALLIC TUBING: MEET REQUIREMENTS OF UL 514B.
- 2. TYPE: STEEL BODY AND LOCK NUTS WITH STEEL OR MALLEABLE IRON COMPRESSION NUTS.
- TYPE: STEEL BODY WITH SET SCREWS AND INSULATED THROAT C. FLEXIBLE METAL, LIQUID-TIGHT CONDUIT: INSULATED THROAT AND SEALING O-RINGS.
- D. GALVANIZED STEEL FLEXIBLE CONDUIT: CAST, SCREW-IN TYPE OR TWO-SCREW CLAMP TYPE E. PVC CONDUIT
  - MEET REQUIREMENT OF NEMA TC-3 AND UL514B. TYPE: PVC, SLIP-ON.

## 2.7 CONDUCTORS A. ALL CONDUCTORS SHOWN SHALL BE NEW UNLESS OTHERWISE INDICATED.

- B. CONDUCTOR TYPE: 120VAC AND 277VAC LIGHTING: SOLID COPPER
- 120 AC RECEPTACLE CIRCUITS: SOLID COPPER.
- 3. ALL OTHER CIRCUITS: STRANDED COPPER. INSULATION: TYPE THHN/THWN, 90°C DRY OR 75°C WET.
- METAL-CLAD CABLE TYPE MC STANDARDS:
- a. LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND USE.
- COMPLY WITH UL 1569.
- ROHS COMPLAINT.
- CONDUCTOR AND CABLE MARKING: COMPLY WITH WIRE AND CABLE MARKING ACCORDING TO UL'S "WIRE AND CABLE MARKING AND APPLICATION GUIDE."
- 2. CIRCUITS:
- SINGLE CIRCUIT WITH COLOR-CODED CONDUCTORS. POWER-LIMITED FIRE-ALARMCIRCUITS: COMPLY WITH UL 1424. CONDUCTORS: COPPER, COMPLYING WITH ASTM B3 FOR BARE ANNEALED
- COPPER AND WITH ASTM B8 FOR STRANDED CONDUCTORS. GROUND CONDUCTOR: INSULATED
- 5. CONDUCTOR INSULATION: a. TYPE TFN/THHN/THWN-2: COMPLY WITH UL 83.
- b. TYPE XHHW-2: COMPLY WITH UL 44. 6. ARMOR: ALUMINUM, INTERLOCKED.
- 7. JACKET: PVC APPLIED OVER ARMOR.

## 2.8 CONDUCTOR ACCESSORIES A. TAPE:

- GENERAL PURPOSE, FLAME RETARDANT: 7 MIL, VINYL PLASTIC, RATED FOR 90°C
- MINIMUM MEETING REQUIREMENTS OF UL 510. 2. FLAME RETARDANT, COLD AND WEATHER RESISTANT: 8.5 MIL, VINYL PLASTIC.
- B. CABLE TIES: 1. NYLON, ADJUSTABLE, AND SELF-LOCKING.

# 2.9 WIRING DEVICES

- A. DUPLEX RECEPTACLE:
- NEMA WD 1 AND FS WC596 SPECIFICATION GRADE, TWO-POLE, THREE-WIRE GROUNDING TYPE WITH SCREW TYPE TERMINALS SUITABLE FOR NO. 10.
- HIGH STRENGTH THERMOPLASTIC. COLOR: WHITE
- CONTACT ARRANGEMENT: CONTRACT TO BE MADE ON TWO SIDES OF EACH INSERTED BLADE WITHOUT DETENT.
- RATING: 120VAC, 20A.
- CONFIGURATION: 5-20 F B. GROUND FAULT INTERRUPTER (GFCI) RECEPTACLE:
- NEMA WD 1. RATING: 120VAC, 20A.
- CONFIGURATION: 5-20 R.
- 4. PROTECTIONS: TRIPS AT 5 MA AND CAPABLE OF INTERRUPTING 1,000A WITHOUT DAMAGE.
- COLOR: WHITE PROVISION FOR TESTING.
- 7. ALL RECEPTACLE TYPES SHALL BE FROM A SINGLE MANUFACTURER. C. MANUAL SWITCH
- NEMA WD 1 AND FS WS896E
- SPECIFICATION GRADE, TOTALLY ENCLOSED, AS TYPE, WITH QUIET TUMBLE SWITCHES AND SCREW TERMINALS.
- 3. RATING: 20A, 120/277VAC. 4. COLOR: TO BE DETERMINED
- D. OCCUPANCY SENSING SWITCH TYPE: DUAL TECHNOLOGY WITH PASSIVE INFRARED AND MICROPHONIC
  - EACH POLE INDEPENDENTLY/SELECTABLE AUTO-ON OR MANUAL-ON.

RATING: AS REQUIRED TO SWITCH LOAD. PROVIDE AUXILIARY RELAY(S)/POWER

- PACK(S) AS REQUIRED. 4. TIME DELAYS: 30 SECONDS TO 20 MINUTES.
- COLOR: TO BE DETERMINED. E. CEILING MOUNTED OCCUPANCY SENSOR
- CEILING MOUNTED LOW PROFILE APPEARANCE. 2. TYPE: DUAL TECHNOLOGY WITH PASSIVE INFRARED AND MICROPHONIC
- TECHNOLOGIES. TIME DELAYS: 30 SECONDS TO 20 MINUTES.
- BUILT-IN LIGHT LEVEL SENSOR.
- POWER PACK: PROVIDE AS REQUIRED TO ACCOMMODATE INSTALLATION. COVERAGE PATTERN. 40-FOOT X 40-FOOT MINIMUM.

# 2.10 DEVICE PLATES

- A. PLASTIC MATERIAL: NYLON HIGH IMPACT MATERIAL NONCOMBUSTIBLE.
  - COLOR: TO MATCH ASSOCIATED WIRING DEVICE. 3. MOUNTING SCREW: OVAL-HEAD METAL, COLOR MATCHED TO PLATE.
- 2.11 DISCONNECT SWITCH, INDIVIDUAL, 0 TO 600 VOLTS:
- A. NEMA KS 1.
- QUICK-MAKE, QUICK-BREAK, MOTOR RATED, LOAD-BREAK, HEAVY-DUTY (HD) TYPE WITH EXTERNAL MARKINGS CLEARLY INDICATING ON/OFF POSITIONS.
- C. ENCLOSURE: NEMA 12, INDUSTRIAL USE, NEMA 3R, DENOTED BY WP, UNLESS OTHERWISE SHOWN.
- D. INTERLOCK: ENCLOSURE AND SWITCH TO PREVENT OPENING COVER WITH SWITCH IN THE ON POSITION. E. LOCKABLE TO THE OPEN POSITION. PROVIDE TAG READING "DO NOT OPEN UNDER

# 2.12 PANELBOARDS

- A. RATINGS: AS SHOWN ON THE PLANS.
- **B. CONSTRUCTION:** INTERIORS SHALL BE COMPLETELY FACTORY ASSEMBLED. THEY SHALL BE DESIGNED SUCH THAT SWITCHING AND PROTECTIVE DEVICES CAN BE REPLACED WITHOUT DISTURBING ADJACENT UNITS AND WITHOUT REMOVING THE MAIN BUS
- 2. TRIMS FOR BRANCH CIRCUIT PANELBOARDS SHALL BE SUPPLIED WITH A HINGED DOOR OVER ALL CIRCUIT BREAKER HANDLES. DOORS IN PANELBOARD TRIMS SHALL NOT UNCOVER ANY LIVE PARTS. DOORS SHALL HAVE A SEMI FLUSH CYLINDER LOCK AND CATCH ASSEMBLY, DOOR-IN-DOOR TRIM SHALL BE PROVIDED. BOTH HINGED TRIM AND TRIM DOOR SHALL UTILIZE THREE POINT LATCHING, NO TOOLS SHALL BE REQUIRED TO INSTALL OR REMOVE TRIM. TRIM SHALL BE EQUIPPED WITH A DOOR-ACTUATED TRIM LOCKING TAB. EQUIP LOCKING TAB WITH PROVISION FOR A SCREW SUCH THAT REMOVAL OF TRIM REQUIRES A TOOL, AT THE OWNER'S OPTION. INSTALLATION SHALL BE TAMPER RESISTANT
- WITH NO EXPOSED HARDWARE ON THE PANELBOARD TRIM 3. DISTRIBUTION PANELBOARD TRIMS SHALL COVER ALL LIVE PARTS. SWITCHING DEVICE HANDLES SHALL BE ACCESSIBLE.
- 4. SURFACE TRIMS SHALL BE SAME HEIGHT AND WIDTH AS BOX. FLUSH TRIMS SHALL OVERLAP THE BOX BY 3/4 OF AN INCH ON ALL SIDES.
- A DIRECTORY CARD WITH A CLEAR PLASTIC COVER SHALL BE SUPPLIED AND MOUNTED ON THE INSIDE OF EACH DOOR.
- MAIN BUS BARS SHALL BE TIN-PLATED COPPER SIZED IN ACCORDANCE WITH UL STANDARDS TO LIMIT TEMPERATURE RISE ON ANY CURRENT CARRYING PART TO A MAXIMUM OF 65 DEGREES C ABOVE AN AMBIENT OF 40 DEGREES C MAXIMUM.
- A SYSTEM GROUND BUS SHALL BE INCLUDED IN ALL PANELS. 3. FULL-SIZE (100%-RATED) INSULATED STAND-OFF NEUTRAL BARS SHALL BE INCLUDED FOR PANELBOARDS SHOWN WITH NEUTRAL. BUS BAR TAPS FOR PANELS WITH SINGLE-POLE BRANCHES SHALL BE ARRANGED FOR SEQUENCE PHASING OF THE BRANCH CIRCUIT DEVICES. NEUTRAL BUSING SHALL HAVE A SUITABLE LUG FOR EACH OUTGOING FEEDER REQUIRING A NEUTRAL CONNECTION. 200%-RATED NEUTRALS SHALL BE SUPPLIED FOR PANELS
- DESIGNATED ON DRAWINGS WITH OVERSIZED NEUTRAL CONDUCTORS. D. CIRCUIT BREAKER THE MINIMUM SHORT-CIRCUIT RATING FOR BRANCH CIRCUIT PANELBOARDS SHALL BE AS INDICATED ON THE DRAWINGS. PANELBOARDS SHALL BE FULLY
- 2. BOLT-ON TYPE, HEAVY-DUTY, QUICK-MAKE, QUICK-BREAK, SINGLE- AND MULTI-POLE CIRCUIT BREAKERS SHALL BE PROVIDED FOR EACH CIRCUIT WITH TOGGLE HANDLES THAT INDICATE WHEN UNIT HAS TRIPPED.
- ALL CIRCUIT BREAKERS SHALL BE THERMAL-MAGNETIC TYPE WITH COMMON HANDLE FOR ALL MULTIPLE POLE CIRCUIT BREAKERS. 4. CIRCUIT BREAKERS SHALL BE PROVIDED WITH LOCKABLE HANDLES WHEN
- E. ENCLOSURE ENCLOSURES SHALL BE AT LEAST 20 INCHES WIDE MADE FROM GALVANIZED STEEL. PROVIDE MINIMUM GUTTER SPACE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. WHERE FEEDER CABLES SUPPLYING THE MAINS OF A PANEL ARE CARRIED THROUGH ITS BOX TO SUPPLY OTHER ELECTRICAL EQUIPMENT, THE BOX SHALL BE SIZED TO INCLUDE THE ADDITIONAL REQUIRED WIRING SPACE. AT LEAST FOUR INTERIOR MOUNTING STUDS WITH ADJUSTABLE NUTS SHALL BE
- ENCLOSURES SHALL BE PROVIDED WITH BLANK ENDS. WHERE INDICATED ON THE DRAWINGS, BRANCH CIRCUIT PANELBOARDS SHALL BE
- COLUMN WIDTH TYPE. 4. ENCLOSURE SHALL BE NEMA 1 UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- NAMEPLATES PROVIDE AN ENGRAVED NAMEPLATE FOR EACH PANEL.
- 1. SURFACES OF THE TRIM ASSEMBLY SHALL BE PROPERLY CLEANED, PRIMED, AND A FINISH COAT OF GRAY ANSI 61 PAINT APPLIED.

# 2.13 LUMINAIRES

INDICATED.

- A. LUMINAIRES AS SHOWN, WITH PROPER HANGERS, PENDANTS, CANOPIES LAMES,
- ETC., NECESSARY FOR COMPLETE INSTALLATION. LUMINAIRES INSTALLED OUTDOORS WITH SUITABLE FOR WET LOCATIONS LABEL. SWINGING LUMINAIRES WITH A SAFETY CABLE ATTACHED TO THE STRUCTURE AND THE LUMINAIRE AT EACH SUPPORT CAPABLE OF SUPPORTING FOUR TIMES THE VERTICAL LOAD

# PART 3 - EXECUTION

CONSTRUCTION.

3.1 GENERAL PROCEDURES A. COORDINATE ELECTRICAL WORK WITH THE OWNER AND WORK OF OTHER TRADES TO AVOID CONFLICTS, ERRORS, DELAYS, AND UNNECESSARY INTERFERENCE DURING

# 3.2 PROTECTION DURING CONSTRUCTION

A. FOLLOWING INSTALLATION, PROTECT MATERIALS, EQUIPMENT, AND INSULATION FROM CORROSION, PHYSICAL DAMAGE, AND MOISTURE. CAP CONDUIT RUNS DURING CONSTRUCTION WITH MANUFACTURED SEALS. KEEP OPENINGS IN BOXES OR EQUIPMENT CLOSED DURING CONSTRUCTION.

# 3.3 MATERIAL AND EQUIPMENT INSTALLATION

A. FOLLOW THE MANUFACTURER'S INSTALLATION RECOMMENDATIONS UNLESS OTHERWISE INDICATED. FOLLOW THE ENGINEER'S DECISION, WHEREVER ANY CONFLICT ARISES. KEEP COPY OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AVAILABLE ON THE JOBSITE FOR REVIEW AT ALL TIMES.

# 3.4 CUTTING AND PATCHING

A. DO NOT CUT OR NOTCH ANY STRUCTURAL MEMBER OR BUILDING SURFACE WITHOUT SPECIFIC APPROVAL OF THE ENGINEER. FOLLOWING SUCH WORK, RESTORE SURFACES NEATLY TO NEW CONDITION USING SKILLED CRAFTSMEN OF THE TRADES INVOLVED.

# 3.5 CLEANING AND TOUCH-UP PAINTING

A. KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIAL OR RUBBISH UPON COMPLETION OF WORK, REMOVE MATERIALS, SCRAPS, AND DEBRIS FROM THE PREMISES AND FROM THE INTERIOR AND EXTERIOR OF ALL DEVICES AND EQUIPMENT. REFINISH DAMAGED SURFACES TO NEW CONDITION USING SKILLED CRAFTSMEN OF THE TRADES INVOLVED.

3.6 RACEWAY SYSTEM A. UNLESS OTHERWISE INDICATED, RECEPTACLES AND JUNCTION BOXES SHALL BE CONNECTED TO THE CIRCUIT INDICATED USING 1/2" C-2#12, 1#12G. RECEPTACLE

CIRCUITS SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS.

- B. PROVIDE AND INSTALL 3/4" CONDUIT STUB CONCEALED IN WALL FROM ALL LOW-VOLTAGE DEVICE BOXES (DATA, TELEPHONE, LIGHTING CONTROLS, ETC.) TO THE SPACE ABOVE THE CEILING. PROVIDE A CONDUIT BUSING AT CONDUIT END TO
- PROTECT CONDUCTOR INSTALLATION. C. UNLESS OTHERWISE SPECIFIED OR INDICATED, WIRING SHALL CONSIST OF INSULATED CONDUCTORS INSTALLED IN RACEWAYS OF THE TYPES INDICATED.
- D. INTERIOR, EXPOSED:
- 1. ELECTRIC METALLIC TUBING. E. INTERIOR, CONCEALED (NOT EMBEDDED IN CONCRETE):
- 1. GALVANIZED RIGID STEEL: WHEN ENTERING THE BUILDING FROM AN OUTSIDE SOURCE WHERE THE CONDUIT RUN MUST BE WATERTIGHT 2. GALVANIZED STEEL FLEX; USE ONLY IN INDOOR, DRY LOCATIONS FOR FINAL CONNECTION TO FIXTURES IN LAY IN APPLICATIONS OR OTHER EQUIPMENT SUBJECT TO VIBRATION OR MOVEMENT.
- 3. ALL OTHER LOCATIONS: EMT, MC CABLE. F. FOR EQUIPMENT WHERE FLEXIBLE CONNECTION IS REQUIRED TO MINIMIZE
- VIBRATION: 1. FLEXIBLE METAL, LIQUID-TIGHT CONDUIT. 2. LENGTH: 18-INCH MINIMUM, 60-INCH MAXIMUM OF SUFFICIENT LENGTH TO ALLOW
- MOVEMENT OR ADJUSTMENT OF EQUIPMENT. G. BOX TYPE (ALL RACEWAY SYSTEMS)
- . EXTERIOR LOCATIONS: WEATHERPROOF TYPE 3R. H. INSTALL PULL BOXES WHERE SHOWN AND WHERE NECESSARY TO TERMINATE, TAP-OFF, OR REDIRECT MULTIPLE CONDUIT RUNS. INSTALL PULL BOXES WHERE NECESSARY IN RACEWAY SYSTEM TO FACILITATE CONDUCTOR INSTALLATION. INSTALL PULL BOXES IN CONDUIT RUNS AT LEAST EVERY 150 FEET OR AFTER THE EQUIVALENT OF THREE RIGHT-ANGLE BENDS. USE OUTLET BOXES AS JUNCTION AND
- PULL BOXES WHEREVER POSSIBLE AND ALLOWED BY APPLICABLE CODES. SUPPORT BOXES INDEPENDENTLY OF CONDUIT BY ATTACHMENT TO BUILDING STRUCTURE OR STRUCTURAL MEMBER. INSTALL BAR HANGERS IN FRAME CONSTRUCTION, OR FASTEN BOXES DIRECTLY WITH WOOD SCREWS ON WOOD, BOLTS AND EXPANSION SHIELDS ON CONCRETE OR BRICK, TOGGLE BOLTS ON HOLLOW MASONRY UNITS, AND MACHINE SCREWS OR WELDED THREADED STUDS ON
- STEELWORK. DIRECT EARTH BURIAL: PVC SCHEDULE 40.
- K. UNDER SLAB-ON-GRADE: PVC SCHEDULE 40. L. ALL UNDERGROUND CONDUIT ORGINATING OUTSIDE THE BUILDING AND ENTERING THE BUILDING SHALL BE EQUIPPED WITH CONDUIT SEALING. THE CONDUIT AND ASSOCIATED FITTINGS FROM THE SLAB TO THE ENCLOSURE SHALL BE GALVANIZED STEEL AND WATERTIGHT.

- 3.7 RACEWAY INSTALLATION A. CONDUIT AND TUBING SIZES SHOWN ARE BASED ON THE USE OF COPPER
- CONDUCTORS. B. MAINTAIN RACEWAY ENTIRELY FREE OF OBSTRUCTIONS AND MOISTURE GROUP RACEWAYS INSTALLED IN SAME AREA.

D. FOLLOW STRUCTURAL SURFACE CONTOURS WHEN INSTALLING EXPOSED

PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS, OR INTERSECTIONS OF VERTICAL PLANES.

RACEWAYS. AVOID OBSTRUCTION OF PASSAGEWAYS. RUN EXPOSED RACEWAYS

- E. INSTALL WATERTIGHT CONDUIT SEALING IN OUTDOOR, UNDERGROUND, OR WET LOCATIONS. F. ALL METAL CONDUIT TO BE REAMED, BURRS REMOVED, AND CLEANED BEFORE
- INSTALLATION OF CONDUCTORS, WIRES, OR CABLES. G. HORIZONTAL RACEWAYS INSTALLED UNDER FLOOR SLABS SHALL LIE COMPLETELY
- UNDER THE SLAB, WITH NO PART EMBEDDED WITHIN SLAB. H. INSTALL, CONCEALED, EMBEDDED, AND BURIED RACEWAYS SO THAT THEY EMERGE AT RIGHT ANGLES TO SURFACE AND HAVE NO CURVED PORTION EXPOSED.

# INSTALLATION.

3.8 RACEWAY PENETRATIONS

FOR EMPTY CONDUIT INSTALL A NYLON PULL CORD TO BE USED FOR FUTURE

- A. MAKE AT RIGHT ANGLES, UNLESS OTHERWISE SHOWN. B. NOTCHING OR PENETRATION OF STRUCTURAL MEMBERS, INCLUDING FOOTING AND
- BEAMS, NOT PERMITTED. C. FIRE-RATED WALLS, FLOORS, OR CEILINGS: FIRE-STOP OPENINGS AROUND
- D. APPLY SINGLE LAYER OF WRAP AROUND DUCT BANK TO ALL METALLIC CONDUIT PROTRUDING THROUGH CONCRETE FLOOR SLABS TO A POINT 2 INCHES ABOVE

PENETRATIONS TO MAINTAIN FIRE-RESISTANCE RATING.

- E. CONCRETE WALLS, FLOORS, OR CEILINGS (ABOVEGROUND): PROVIDE NONSHRINK GROUT DRY-PACK, OR USE WATERTIGHT SEAL DEVICE. F. ENTERING STRUCTURES:
- 1. SEAL RACEWAY AT THE FIRST BOX WITH A CONDUIT SEALING BUSING TO PREVENT THE ENTRANCE OF GASES OR LIQUIDS FROM ONE AREA TO ANOTHER. 2. HEATING, VENTILATING, AND AIR CONDITIONING EQUIPMENT: PENETRATE
- EQUIPMENT IN AREA ESTABLISHED BY MANUFACTURER. 3. EXISTING OR PRECAST WALL (UNDERGROUND): CORE DRILL WALL AND INSTALL A WATERTIGHT ENTRANCE SEAL DEVICE.

PIPING, PIPE SUPPORTS, OR OTHER RACEWAYS.

- A. SUPPORT FROM STRUCTURAL MEMBERS ONLY, AT INTERVALS NOT EXCEEDING NEC REQUIREMENTS, AND IN ANY CASE NOT EXCEEDING 10 FEET. DO NOT SUPPORT FROM
- B. WALL BRACKETS AND ASSOCIATED HARDWARE IN CONTACT WITH CONCRETE OR MASONRY SHALL BE STAINLESS STEEL. PROVIDE GALVANIZED STEEL AT ALL OTHER LOCATIONS. STRAP HANGERS, AND CEILING TRAPEZE INCLUDING HARDWARE, SHALL BE GALVANIZED STEEL.
- PROVIDE AND ATTACH WALL BRACKETS, STRAP HANGERS, OR CEILING TRAPEZE AS FOLLOWS: WOOD: WOOD SCREWS. HOLLOW MASONRY UNITS: TOGGLE BOLTS. 3. CONCRETE OR BRICK: EXPANSION SHIELDS, OR THREADED STUDS DRIVEN IN BY
- POWDER CHARGE, WITH LOCK WASHERS AND NUTS. 4. STEELWORK: MACHINE SCREWS. D. NAILS OR WOODEN PLUGS INSERTED IN CONCRETE OR MASONRY FOR ATTACHING RACEWAY NOT PERMITTED. DO NOT WELD RACEWAYS OR PIPE STRAPS TO STEEL STRUCTURES. DO NOT USE WIRE IN LIEU OF STRAPS OR HANGERS.

- 3.10 RACEWAY BENDS A. INSTALL CONCEALED RACEWAYS WITH A MINIMUM OF BENDS IN THE SHORTEST PRACTICAL DISTANCE.
- B. AVOID FIELD-MADE BENDS AND OFFSETS, BUT WHERE NECESSARY, MAKE WITH ACCEPTABLE HICKEY OR BENDING MACHINE. DO NOT HEAT METAL RACEWAYS TO FACILITATE BENDING.
- C. PVC CONDUIT: BENDS 30° AND LARGER: PROVIDE FACTORY-MADE ELBOWS.
- 2. 90° BENDS: PROVIDE GALVANIZED RIGID STEEL ELBOWS; EXCEPT ON UTILITY SERVICE RUNS IF NOT ALLOWED BY THE UTILITY. D. FLEXIBLE CONDUIT: DO NOT MAKE BENDS THAT EXCEED ALLOWABLE CONDUCTOR

BENDING RADIUS OF CABLE TO BE INSTALLED OR THAT SIGNIFICANTLY RESTRICTS

- 3.11 EXPANSION/DEFLECTION FITTINGS
- A. PROVIDE ON ALL RACEWAYS AT STRUCTURAL EXPANSION JOINTS.

# 3.12 TERMINATION AT ENCLOSURES

CONDUIT FLEXIBILITY.

- A. SHEET METAL BOXES, CABINETS, AND ENCLOSURES: 1. ELECTRIC METALLIC TUBING: PROVIDE GLAND COMPRESSION, INSULATED
- 2. FLEXIBLE METAL CONDUIT: PROVIDE TWO SCREW TYPE, INSULATED, MALLEABLE IRON CONNECTORS.

# 3.13 CONDUCTORS

- A. DO NOT SPLICE INCOMING SERVICE CONDUCTORS AND BRANCH POWER DISTRIBUTION CONDUCTORS NO. 6 AWG AND LARGER UNLESS SPECIFICALLY INDICATED OR APPROVED BY THE ENGINEER.
- **B. CONNECTIONS AND TERMINATIONS:**
- INSTALL WIRE NUTS ONLY ON SOLID CONDUCTORS. 2. INSTALL NYLON SELF-INSULATED CRIMP CONNECTORS AND TERMINATORS FOR CIRCUIT CONDUCTORS NO. 6 AWG AND SMALLER.
- 3. INSTALL UNINSULATED CRIMP CONNECTORS AND TERMINATORS FOR CIRCUIT CONDUCTORS NO. 4 AWG THROUGH NO. 2/0 AWG
- 4. INSTALL UNINSULATED, BOLTED, TWO-WAY CONNECTORS AND TERMINATORS FOR CIRCUIT CONDUCTORS NO. 4/0 AWG AND LARGER. TAPE INSULATE ALL UNINSULATED CONNECTIONS
- 6. PLACE NO MORE THAN ONE CONDUCTOR IN ANY SINGLE-BARREL PRESSURE CONNECTION. INSTALL CRIMP CONNECTORS WITH TOOLS APPROVED BY CONNECTOR
- MANUFACTURER. 8. COMPRESSION LUGS: a. ATTACHED WITH A TOOL SPECIFICALLY DESIGNED FOR PURPOSE.
- DO NOT USE PLIER TYPE CRIMPERS. C. DO NOT USE SOLDERED MECHANICAL JOINTS.
- INDOORS: USE GENERAL PURPOSE, FLAME RETARDANT TAPE. 2. OUTDOORS: USE FLAME RETARDANT, COLD- AND WEATHER-RESISTANT TAPE. . CAP SPARE CONDUIT WITH UL LISTED END CAPS.
- F. CABINETS AND PANELS: REMOVE SURPLUS WIRE, BRIDLE AND SECURE.

OTHER APPLICABLE LAWS AND REGULATIONS.

D. SPLICES AND TERMINATIONS:

# METAL, REMOVE BURRS CHAMFER EDGES, AND INSTALL BUSHINGS AND PROTECTIVE STRIPS OF INSULATING MATERIAL TO PROTECT THE CONDUCTORS.

TOUCH UP ANY.

A. UNLESS OTHERWISE INDICATED, GROUND ALL EXPOSED NONCURRENT-CARRYING METALLIC PARTS OF ELECTRICAL EQUIPMENT, RACEWAY SYSTEMS, AND THE NEUTRAL OF ALL WIRING SYSTEMS IN ACCORDANCE WITH THE CEC, STATE, AND

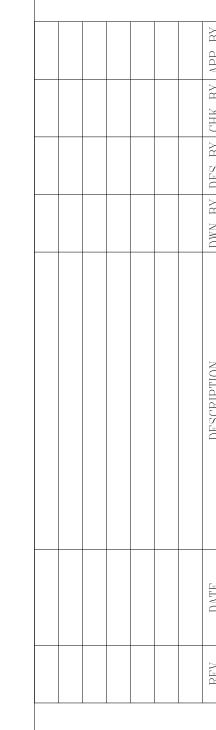
2. WHERE CONDUCTORS PASS THROUGH OPENINGS OR OVER EDGES IN SHEET

A. AFTER CONSTRUCTION HAS COMPLETED FOR THE PROJECT, CLEAN LUMINAIRES,

# **END OF SECTION**

67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000 F:(530)629-3011





DATE OF ISSUE:

7/12/2023 SCALE:

PROJECT NO: 427.11

2727 Bechelli Lane - Redding, CA 96002 Ph: (530) 232-6160 - www.frontierce.com



\_\_\_\_\_

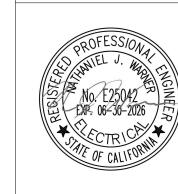
1/2" 1"

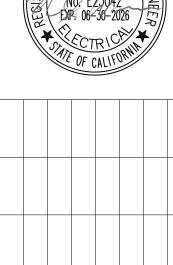
KEYED NOTES:

1 INDICATED EQUIPMENT IS LOCATED ABOVE CEILING.

TVCE

67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000 F:(530)629-3011





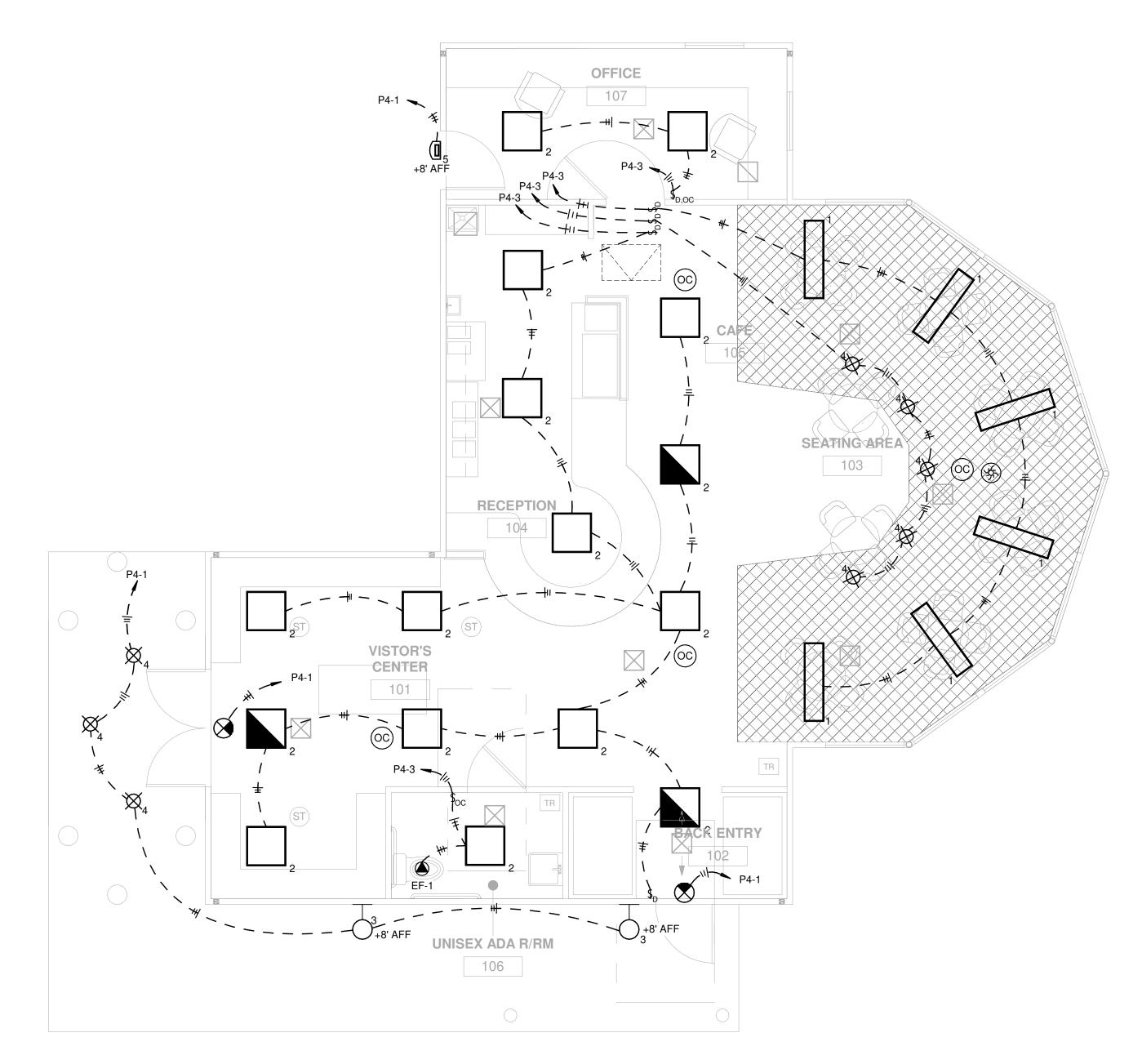
Ph: (530) 232-6160 - www.frontierce.com

DATE OF ISSUE: 7/12/2023

As indicated 427.11

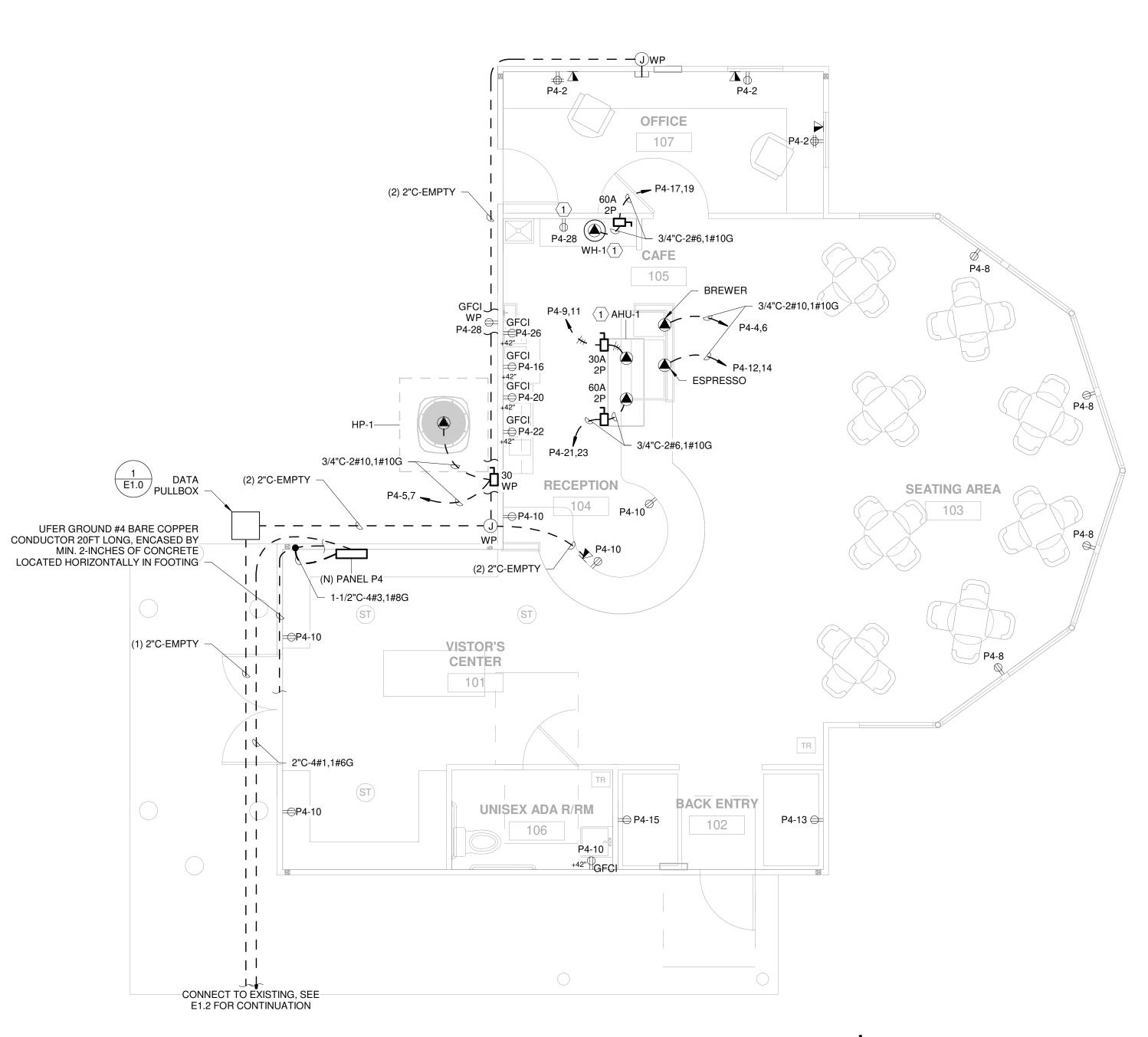
**E2.0** 

DAYLIGHTING ZONE LEGEND PRIMARY DAYLIGHTING ZONE



2 ELECTRICAL FLOOR PLAN - LIGHTING
E2.0 1/4" = 1'-0"





1 ELECTRICAL FLOOR PLAN - POWER



SYMBOLS	ABBREVIATIONS	
	ABC	ABOVE CEILING
	AFF	ABOVE FINISHED FLOOR
□AD	AD	ACCESS DOOR
12/8	AL	ACOUSTIC LINED DUCT (DIM IS INTERNAL)
	AC	AIR CONDITIONING
	BHP	BRAKE HORSE POWER
	CFM	CUBIC FEET PER MINUTE
A		DIFFUSER TAG
123/	D	DEMO
	DB	DRY BULB
12/8		DUCT (RECTANGULAR DUCT, DIMENSIONS IN INCHE
<u> </u>		DUCT (ROUND DUCT, DIAMETER IN INCHES)
<u> </u>		DUCT DROP IN DIRECTION OF ARROW
		DUCT RISE IN DIRECTION OF ARROW
	EER	ENERGY EFFICIENCY RATIO
	EAT	ENTERING AIR TEMPERATURE
EA Z	EA	EXHAUST AIR DUCT
	EF	EXHAUST FAN
		EXHAUST GRILLE
	(E), EX	EXISTING
	ESP	EXTERNAL STATIC PRESSURE
	FPM	FEET PER MINUTE
		FLEXIBLE DUCT
	FLA	FULL LOAD AMPS
	LAT	LEAVING AIR TEMPERATURE
_ L\		LOUVERED DOOR
	MOOD	
	MOCP	MAXIMUM OVER CURRENT PROTECTION
[NA]	MCA	MINIMUM CIRCUIT AMPACITY  MOTORIZED DAMPER
M	(NI)	NEW
	(N)	NEW CONNECTION TO EXISTING
	OA	OUTSIDE AIR
1	OA .	
123		REGISTER/GRILLE TAG
	(R), R	RELOCATE
		REMOVE TO THIS POINT
Z RA Z	RA	RETURN AIR DUCT
		RETURN GRILLE
	RL/RS	REFRIGERANT LINE SET
	SEER	SEASONAL ENERGY EFFICIENCY RATIO
(SD)	SD	SMOKE DETECTOR
SA	SA	SUPPLY AIR DUCT
		SUPPLY DIFFUSER
<b>①</b>	T'STAT	THERMOSTAT (48" AFF TOP OF BOX)
	TSP	TOTAL STATIC PRESSURE
		TURNING VANES
,	TYP	TYPICAL
_uc—\		UNDERCUT DOOR
	UG	UNDERGROUND
	VIF	VERIFY IN FIELD
		VOLUME DAMPER - MANUAL OPERATION
1 7		

						Cooling		Electrical Data					Operating		
ID	Service	Location	Manufacturer	Model	Rated Capacity Btu/h	Rating Conditions	Rated Capacity Btu/h	Rating Conditions	Service	MCA	MOCP	Refrigerant	Dimensions	Weight (lbs)	Notes
HP-1	INTERPRETIVE CENTER	OUTSIDE	TRANE	5TWR5036A1	34,500	80°F DB / 67°F WB / 95°F OAT	31,400	70°F DB / 60°F WB / 47° OAT	208-230/1/60	25	40	R-454B	34-1/4"W x 37-1/4"D x 45-1/8"H	315	1 - 2
															-

NOTES:
1. TWO SPEED COMPRESSOR.

TWO SPEED COMPRESSO	אנ
SEA COAST COATING.	

	AIR HANDLING UNIT SCHEDULE															
				Supp	oly Fan		Cooling Coil Heating Coil Electrical Dat			Electrical Data						
				Airflow		Nominal	MBh (Total /		Electric Heat							
ID	Manufacturer	Model	Location Served	CFM	OA CFM	Tonnage	Sens)	Refrigerant	Total MBh	(kw)	Service	MCA	MOCP	Dimensions	Weight	Notes
AHU-1	TRANE	5TEM6D06AV41	INTERPRETIVE CENTER	1,200	400	3	34.5 / 26.7	R-454B	26.2	7.68	208-230/1/60	9	15	57-3/8"W x 21-1/16"D x 23-1/2"H	200	1 - 5
NOTES:												·				

NOTES:

1. PROVIDE WITH ALL NECESSARY REFRIGERATION PIPING AND APPURTENANCES.

2. RL/RS LINE SIZES PER MANUFACTURER.

3. MERV 13 FILTER IN HONEYWELL FILTER RACK. SEE AIR HANDLING UNIT DETAILS.

4. DIVERITECH CONDENSATE CS-2 SWITCH WIRED TO UNIT FOR OVERFLOW PROTECTION.

5. PROVIDE 7-DAY PROGRAMMABLE THERMOSTAT

		EXH	AUST	FAN	SCHE	DULE			
Location	Manufacturer	Model	CFM	S.P.	Fan Drive	Service	Motor Watts	Weight (lbs)	Notes
RESTROOM	GREENHECK	SP-80-VG	70	0.25	DIRECT	115/1/60	6	20	1 - 2

NOTES: 1. INTERLOCK WITH LIGHTS 2. INTEGRAL BACKDRAFT DAMPER.

		L	OUVE	R SCH	HEDUL	E		
ID	Manufacturer	Model	CFM	Size	Velocity (fpm)	Free Area (sf)	Pressure Drop	Notes
L-1	RUSKIN	ELF375DXH	400	18"x18"	416	0.96	0.05	1 - 3
L-2	RUSKIN	ELF375DXH	400	18"x18"	416	0.96	0.05	1 - 3

ALUMINUM CONSTRUCTION WITH 0.125" NOMINAL WALL THICKNESS FOR FRAME AND BLADES.
 1/4" MESH SCREEN.
 COORDINATE FINISH WITH ARCHITECT.

		AIR	INLET	SCHE	DULE		
ID	Manufacturer	Model	Mounting	Face Size	Material	Finish	Notes
1	TITUS	50F	SURFACE	12"x12"	ALUMINUM	BAKED ENAMEL	1
2	TITUS	50F	SURFACE	14"x14"	ALUMINUM	BAKED ENAMEL	1

NOTES: 1. EGGCRATE RETURN GRILLE.

		Al	R OU	TLET S	SCHED	ULE		
ID	Manufacturer	Model	Mounting	Face Size	Neck Size	Material	Finish	Notes
Α	TITUS	TDC	SURFACE	12"x12"	SEE PLANS	STEEL	BAKED ENAMEL	1
В	TITUS	TDC	SURFACE	12"x12"	SEE PLANS	STEEL	BAKED ENAMEL	2

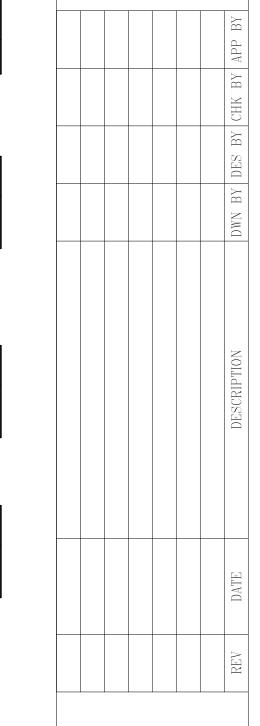
NOTES:

1. LOUVER FACE DIFFUSER, 4-WAY THROW.
2. LOUVER FACE DIFFUSER, 2-WAY THROW.

67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573

P:(530)629-3000 F:(530)629-3011





DATE OF ISSUE: 7/12/2023

1/8" = 1'-0" PROJECT NO: 427.11

M1.0

2727 Bechelli Lane - Redding, CA 96002 Ph: (530) 232-6160 - www.frontierce.com

# MECHANICAL SPECIFICATIONS

# PART 1 – GENERAL

# 1.1 INCLUDED

A. THIS SECTION COVERS MECHANICAL WORK, COMPLETE. WORK INCLUDES FURNISHING, INSTALLING, CALIBRATING, ADJUSTING, TESTING, DOCUMENTING, AND STARTING UP EQUIPMENT IN ACCORDANCE WITH THESE SPECIFICATIONS, THE ACCOMPANYING PLANS, AND THE DIRECTIONS OF THE ENGINEER.

# 1.2 CODES AND STANDARDS

- A. ALL WORK SHALL BE DONE IN CODE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING SAFETY CODES, ORDINANCES, AND REGULATIONS. ADDITIONALLY, ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING STANDARDS:
- 1. NATIONAL FIRE PROTECTION ASSOCIATION.
- 2. CALIFORNIA MECHANICAL CODE. 3. CALIFORNIA PLUMBING CODE.
- UNDERWRITERS LABORATORIES.
- TITLES 8, 17, 19, 21, 24 OF THE CALIFORNIA CODE OF REGULATIONS.
- CALIFORNIA ELECTRIC CODE.
- . SMACNA STANDARDS. 8. ASHRAE STANDARDS 55 AND 62.1
- B. WHEN THE CONTRACT DOCUMENTS CALL FOR MATERIALS OR CONSTRUCTION OF A HIGHER STANDARD THAN IS REQUIRED BY THE ABOVE. THE CONTRACT DOCUMENT REQUIREMENTS SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS OF THE APPLICABLE LAWS, ORDINANCES, RULES, OR REGULATIONS. NOTHING IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS PERMITTING WORK IN VIOLATION OF SAID LAWS, RULES, AND/OR REGULATIONS.
- C. THE CONTRACTOR FOR THIS WORK SHALL FURNISH. WITHOUT EXTRA CHARGE, ANY ADDITIONAL MATERIALS AND/OR LABOR AS MAY BE REQUIRED FOR COMPLIANCE WITH THESE LAWS, RULES, AND/OR REGULATIONS THOUGH SUCH MATERIALS AND/OR LABOR ARE NOT SPECIALLY SET FORTH IN THE CONTRACT DOCUMENTS.

# 1.3 LICENSING REQUIREMENTS

- A. ALL WORK OF DIVISION 22 AND 23 SHALL BE PERFORMED BY AN APPROPRIATELY LICENSED CONTRACTOR. THE LICENSES SHALL BE CURRENT, VALID THROUGH THE TERM OF THE CONTRACT AND IN THE NAME OF THE CONTRACTOR.
  - 1. ALL HVAC WORK, WHICH INCLUDES WARM AIR HEATING SYSTEMS AND WATER HEATING PUMPS, VENTILATING SYSTEMS, AIR CONDITIONING SYSTEMS, AND DUCTWORK, REGISTERS, FLUES, HUMIDITY, AND THERMOSTATIC CONTROLS IN CONNECTION WITH THESE SYSTEMS, SHALL BE PERFORMED BY A C-20 – WARM-AIR HEATING, VENTILATING AND AIR-CONDITIONING

# CONTRACTOR. 1.4 COOPERATION WITH OTHER TRADES

- A. COOPERATE FULLY WITH OTHER TRADES DOING WORK ON THE PROJECT AS MAY BE NECESSARY FOR THE PROPER COMPLETION OF THE PROJECT. REFER TO THE STRUCTURAL, PLUMBING, AND ELECTRICAL DRAWINGS FOR DETAILS OF THE BUILDING STRUCTURE AND EQUIPMENT INSTALLATION THAT WILL TEND TO OVERLAP, CONFLICT WITH OR REQUIRE COORDINATION WITH THE WORK OF THIS SECTION, AND SCHEDULE THIS WORK ACCORDINGLY.
- B. ANY WORK DONE WITHOUT REGARD FOR OTHER TRADES SHALL BE MOVED, REPLACED, OR REDONE AS REQUIRED, WITHOUT EXTRA CHARGES TO OWNER.

- A. CLOSE COORDINATION BETWEEN THE ELECTRICAL AND MECHANICAL TRADES IS A PART OF THE WORK THAT IS REQUIRED BY THIS CONTRACT. NO ALLOWANCE WILL BE MADE FOR OMISSIONS BASED ON INCORRECTLY ASSUMING ANOTHER TRADE WILL BE PERFORMING YOUR WORK. CONFIRM YOUR SCOPE OF WORK WITH THE GENERAL CONTRACTOR.
- MAY BE DIFFERENT. FOR INSTANCE, DIVISION 26 CONTRACTOR MAY BE REQUIRED TO SUPPLY DISCONNECT SWITCHES AND STARTERS FOR NON-HVAC MECHANICAL EQUIPMENT SUPPLIED UNDER OTHER DIVISIONS.

# C. DIVISION 23 RESPONSIBILITIES

- . ASSUME RESPONSIBILITY FOR THE PROPER FUNCTIONING OF THE HVAC SYSTEMS IN THEIR
- EQUIPMENT. 3. MAKE ALL TERMINATIONS WITH THE EXCEPTION OF POWER CONDUCTORS
- 5. FURNISH AND INSTALL MOTOR STARTERS FOR ALL EQUIPMENT SPECIFIED IN DIVISION 23.
- 6. INSTALL DUCT SMOKE DETECTORS FURNISHED BY FIRE ALARM CONTRACTOR IN BUILDINGS WITH
- DETECTORS TO SMOKE DAMPERS AND FAN START CONTROLS.
- 9. ALL ELECTRICAL WORK PERFORMED UNDER DIVISION 23 SHALL CONFORM TO THE REQUIREMENTS

# D. DIVISION 26 RESPONSIBILITIES

- 1. FURNISH AND INSTALL ALL RACEWAYS, CONDUIT, DISCONNECT SWITCHES, AND CONDUCTORS NECESSARY FOR ELECTRICAL POWER SUPPLY.
- 2. MAKE ALL POWER SUPPLY TERMINATIONS TO MOTORS, STARTERS, DISCONNECT SWITCHES, CONTROL TRANSFORMERS, AND OTHER MECHANICAL DEVICES.
- 3. FIRE ALARM CONTRACTOR TO FURNISH DUCT SMOKE DETECTORS IN BUILDINGS WITH FIRE ALARM
- 4. PROVIDE POWER TO ALL DUCT SMOKE DETECTORS AND SMOKE DAMPERS.

# 5. COORDINATE ALL WORK WITH MECHANICAL CONTRACTORS.

# 1.6 AS-BUILT DRAWINGS

CHANGES IN THE WORK SHALL BE RECORDED ON THIS SET, ON A DAILY BASIS. THE FINAL AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL

# 1.7 DESIGN DRAWINGS

- A. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE GENERAL LAYOUT OF THE MECHANICAL SYSTEMS AND OTHER RELATED WORK. FIELD VERIFICATION OF SCALED DIMENSIONS TAKEN FROM THE
- B. THE CONTRACTOR SHALL REVIEW AND COMPARE THE ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS AND ALL OWNER SUPPLIED EQUIPMENT DRAWINGS, AND ADJUST THEIR WORK TO BE IN CONFORMITY WITH THE CONDITIONS INDICATED THEREON. DISCREPANCIES BETWEEN DRAWINGS, BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR BETWEEN DRAWINGS AND SPECIFICATIONS, SHALL PROMPTLY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR A DETERMINATION OF THE MODIFICATIONS TO BE EFFECTED. IN THE EVENT THAT A MAJOR MODIFICATION IS REQUIRED, A CHANGE ORDER WILL BE PREPARED.

# 1.8 OPERATING AND MAINTENANCE INSTRUCTIONS

- B. OPERATING INSTRUCTIONS SHALL SHOW SEQUENCE OF OPERATIONS, LUBRICATION, CARE, AND MAINTENANCE REQUIREMENTS OF ALL EQUIPMENT. FINAL ACCEPTANCE OF THE WORK WILL NOT BE MADE UNTIL A SATISFACTORY SUBMISSION OF THIS MATERIAL IS RECEIVED AND APPROVED BY THE
- C. THE OWNER'S AUTHORIZED REPRESENTATIVE SHALL BE INSTRUCTED IN THE OPERATION AND SERVICING OF ALL HVAC & PLUMBING SYSTEMS.

# 1.9 ACCURACY OF DATA

WILL BE GOVERNED BY SHOP DRAWINGS, THE BUILDING ITSELF, AND ACTUAL FIELD CONDITIONS.

# 1.10 DELIVERY, STORAGE, AND HANDLING

A. CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY, STORAGE, PROTECTION, AND PLACING OF ALL EQUIPMENT AND MATERIALS. CONTRACTOR SHALL PROTECT THE WORK AND MATERIALS FROM DAMAGE DURING CONSTRUCTION. EQUIPMENT STORED AT THE JOB SITE SHALL BE PROTECTED FROM DUST, WATER, OR OTHER DAMAGE, AND BE COVERED IF EQUIPMENT IS EXPOSED TO WEATHER. PROTECT INTERIORS OF NEW EQUIPMENT AND PIPING SYSTEMS AGAINST ENTRY OF FOREIGN MATTER. CLEAN BOTH INSIDE AND OUTSIDE BEFORE PAINTING OR PLACING EQUIPMENT IN OPERATION. ANY ITEMS DAMAGED SHALL BE REPAIRED OR REPLACED, AT NO ADDITIONAL COST TO THE OWNER.

# 1.11 WARRANTIES

- A. EQUIPMENT WARRANTIES SHALL BE PROVIDED FOR ALL EQUIPMENT, WITH ALL NECESSARY INFORMATION FILLED IN, EXCEPT PURCHASE DATE, IN FAVOR OF THE OWNER.
- B. THE CONTRACTOR SHALL GUARANTEE THAT ALL WORK UNDER THIS SECTION IS FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FILING THE NOTICE OF COMPLETION. REPLACEMENT OF DEFECTIVE WORK AND DAMAGE CAUSED TO WORK OF OTHER TRADES AS A RESULT OF SUCH DEFECTIVE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE MADE AT NO COST TO THE OWNER.

# 1.12 ALTERNATIVE MATERIALS AND METHODS

- A. THESE PLANS AND SPECIFICATIONS DESCRIBE THE GENERAL SCOPE OF THE MECHANICAL SYSTEMS. THESE PLANS AND SPECIFICATIONS DO NOT PRECLUDE THE SUBMITTAL OF ALTERNATIVE METHODS OR MATERIALS. MANUFACTURER'S NAMES AND CATALOG NUMBERS ARE STATED TO IDENTIFY THE TYPE AND QUALITY OF THE EQUIPMENT OR MATERIALS REQUIRED FOR THE PROJECT.
- B. THE CONTRACTOR MAY SUBMIT SHOP DRAWINGS AND/OR TECHNICAL INFORMATION ON ALTERNATIVE EQUIPMENT, MATERIALS OR INSTALLATION DETAILS TO ACCOMPLISH THE INTENT OF THE PLANS AND SPECIFICATIONS. APPROVAL OF THE ALTERNATIVE EQUIPMENT, MATERIALS OR INSTALLATION DETAILS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR COMPLYING WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. SUBMIT THE MANUFACTURERS' TECHNICAL INFORMATION, SHOP DRAWINGS, AND/OR WRITTEN DESCRIPTION OF ALTERNATIVE METHODS FOR EACH ITEM DESCRIBED BY MANUFACTURER'S NAME AND CATALOG NUMBER AND FOR EACH COMPONENT, EQUIPMENT, MATERIAL. OR INSTALLATION DETAIL REQUIRED.

# PART 2 – PRODUCTS

# 2.1 GENERAL

- A. ALL MATERIALS, APPLIANCES, AND EQUIPMENT SHALL BE NEW AND BEST OF THEIR RESPECTIVE KINDS, FREE FROM DEFECTS, AND OF THE MAKE, BRAND, OR QUALITY SPECIFIED OR AS ACCEPTED BY THE
- B. WHEN TWO OR MORE UNITS OF MATERIALS OR EQUIPMENT OF THE SAME TYPE OR CLASS ARE REQUIRED, THESE UNITS SHALL BE PRODUCTS OF ONE MANUFACTURER.
- C. APPLY AND INSTALL ALL ITEMS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS. REFER CONFLICTS BETWEEN MANUFACTURER'S INSTRUCTIONS AND THE CONTRACT DRAWINGS AND SPECIFICATIONS TO THE ARCHITECT FOR RESOLUTION.

# 2.2 THERMOSTATS

- A. ELECTRIC, SOLID-STATE, MICROCOMPUTER-BASED ROOM THERMOSTAT WITH THE FOLLOWING
  - AUTOMATIC SWITCHING FROM HEATING TO COOLING.
- PREFERENTIAL RATE CONTROL TO MINIMIZE OVERSHOOT AND DEVIATION FROM SET POINT. SET UP FOR FOUR SEPARATE TEMPERATURES PER DAY.
- INSTANT OVERRIDE OF SET POINT FOR CONTINUOUS OR TIMED PERIOD FROM 1 HOUR TO 31 DAYS. SHORT-CYCLE PROTECTION.
- PROGRAMMING BASED ON EVERY DAY OF WEEK.
- SELECTION FEATURES INCLUDE DEGREE F OR DEGREE C DISPLAY, 12- OR 24-HOUR CLOCK, KEYBOARD DISABLE, REMOTE SENSOR, AND FAN ON-AUTO.
- BATTERY REPLACEMENT WITHOUT PROGRAM LOSS.
- THERMOSTAT DISPLAY FEATURES INCLUDE THE FOLLOWING:
- ACTUAL ROOM TEMPERATURE PROGRAMMED TEMPERATURE
- PROGRAMMED TIME
- DURATION OF TIMED OVERRIDE. DAY OF WEEK
- g. SYSTEM MODE INDICATIONS INCLUDE "HEATING," "OFF," "FAN AUTO," AND "FAN ON."
- B. THERMOSTAT COVER CONSTRUCTION: HEAVY-DUTY, LOCKING THERMOSTAT GUARD, OF SOLID METAL TAMPERPROOF CONSTRUCTION.
- C. ACCURACY: PLUS OR MINUS 0.5 DEG. F AT CALIBRATION POINT.
- D. WIRE: TWISTED, SHIELDED-PAIR CABLE.
- E. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS PRIOR TO ORDERING FAN AND CURB ADAPTOR.

# 2.3 DUCTWORK

# A. SHEET METAL DUCTWORK - RECTANGULAR

- DUCTS AND PLENUMS SHALL BE FABRICATED AND INSTALLED IN CONFORMANCE WITH THE LATEST EDITIONS OF: NFPA PAMPHLET NO. 90A; CALIFORNIA BUILDING CODE; CALIFORNIA MECHANICAL CODE AND THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS (METAL AND FLEXIBLE). DUCTS AND PLENUMS SHALL BE CONSTRUCTED OF HOT DIPPED GALVANIZED MILD STEEL AND SHALL HAVE AIRTIGHT CLASS "B" SEALS AT ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS. TABLES AND FIGURES HEREINAFTER REFERENCED ARE FROM THE 2005 EDITION OF THE SMACNA HVAC DUCT CONSTRUCTION STANDARDS (METAL AND FLEXIBLE).
- RECTANGULAR DUCT CONSTRUCTION SHALL CONFORM TO TABLE 2-3. ALL TRANSVERSE JOINTS SHALL BE FLANGED PER TABLE 2-32, WITH CORNER CLOSURES OR "DUCT MATE" FLANGED CONNECTIONS WITH CORNER CLOSURES PER FIGURE 2-17. ELBOWS SHALL BE STANDARD RADIUS (TYPE RE 1) OR SQUARE THROAT WITH VANES (TYPE RE 2) PER FIGURE 4-2, WITH DOUBLE THICKNESS TURNING VANES PER FIGURES 4-3 AND 4-4. OFFSETS AND TRANSITIONS SHALL BE PER FIGURE 4-7. SUPPLY, RETURN, AND EXHAUST BRANCH CONNECTIONS SHALL BE PER FIGURE 4-5 OR 4-6. SPLITTERS SHALL NOT BE USED.
- 3. LINED DUCTS SHALL BE FABRICATED SUCH THAT THE NET INSIDE DIMENSIONS EQUALS THE DUCT SIZES SHOWN ON THE DRAWINGS.
- B. SHEET METAL DUCTWORK ROUND DUCTS SHALL BE SPIRAL, UNITED MCGILL OR EQUAL. ALL TRANSVERSE JOINTS AND LONGITUDINAL SEAMS SHALL HAVE CLASS "B" SEALS. ALL BRANCHES IN ROUND DUCT SYSTEMS SHALL BE MADE WITH FACTORY FABRICATED REDUCING WYE BRANCHES. DUCT TURNS SHALL BE MADE WITH STANDARD, FACTORY FABRICATED, THREE-PIECE ELBOWS.
- C. FLEXIBLE DUCTWORK FLEXIBLE DUCTS SHALL BE FLEXMASTER "8M" OR APPROVED EQUAL. FLEXIBLE DUCTS SHALL BE USED ONLY WHERE SHOWN ON THE DRAWINGS, AND MAXIMUM LENGTH OF ANY GIVEN FLEXIBLE DUCT SHALL NOT EXCEED 5 FT. GALVANIZED SHEET METAL ELBOWS SHALL BE USED FOR TURNS GREATER THE 45° ON FLEXIBLE DUCTS 10" AND LARGER. CONNECTIONS TO RECTANGULAR DUCTS SHALL BE MADE WITH "SPIN-IN" FITTINGS WITH AIR SCOOPS. THE INSTALLATION OF FLEXIBLE DUCTS SHALL CONFORM TO FIGURE 3-10, WITH THE EXCEPTIONS NOTED HEREIN.
- D. SUPPORTS SUPPORTS FOR HORIZONTAL DUCTS AND PLENUMS SHALL BE FABRICATED PER FIGURES 5-5 AND 5-6 AND TABLES 5-1, 5-2, AND 5-3. THE MAXIMUM DISTANCE BETWEEN HANGERS SHALL BE EIGHT FEET FOR RECTANGULAR DUCTS AND TWELVE FEET FOR ROUND DUCTS. ATTACHMENTS TO THE STRUCTURE SHALL BE MADE WITH ADEQUATELY SIZED LAG BOLTS FOR STRAPHANGERS AND ADEQUATELY SIZED MACHINE BOLTS AND SIDE BEAM BRACKETS FOR ROD HANGERS. SUPPORTS FOR VERTICAL DUCTS SHALL BE BAND IRON STRAP OR ANGLE BRACKET TYPE PER FIGURE 5-8 AND 5-9.
- E. DUCT ACCESS DOORS: INCLUDING THOSE FOR REMOVING FILTERS, DUCT ACCESS DOORS SHALL BE AS DETAILED IN FIGURE 7-2 WITH SASH LOCKS, PIANO HINGES, AND GASKETS. ACCESS DOORS SHALL HAVE AN UNOBSTRUCTED FULL SWING.

# 2.4 DUCTWORK ACCESSORIES

# A. FLEXIBLE DUCT CONNECTIONS

- 1. DURO-DYNE "METAL-FAB" WITH DUROION, VENTFABRICS "VENTGLASS," OR APPROVED EQUAL
- 2. INSTALL AT EACH POINT WHERE A BLOWER UNIT IS CONNECTED TO A DUCT. A MINIMUM CLEARANCE OF THREE INCHES BETWEEN THE DUCT AND THE SOURCE OF VIBRATION SHALL BE MAINTAINED. INSTALL PER FIGURE 2-17.
- B. SCREENS INSTALL REMOVABLE BIRD SCREENS AT ALL OUTSIDE INTAKES AND EXHAUST AIR DISCHARGES. SCREENS SHALL BE FABRICATED FROM 1/2" X 14 GAUGE MESH SECURED IN FULL FRAMES. SCREENS AND FRAMES SHALL BE CONSTRUCTED OF THE SAME MATERIAL AS THE DUCT, HOOD, OR EQUIPMENT TO WHICH ATTACHED.
- C. JOINTS TAPE ALL JOINTS AIRTIGHT USING HARDCAST TYPE "DT" PRESSURELESS TAPE AND "HD-20" ADHESIVE, PER MANUFACTURER'S DIRECTIONS.
- D. DAMPERS PROVIDE BUTTERFLY OR MULTI-BLADE DAMPERS WHERE INDICATED ON THE DRAWINGS OR AS REQUIRED FOR BALANCING AIR QUANTITIES TO VALUES SHOWN WITHOUT GENERATING EXCESSIVE NOISE. PROVIDE DURO-DYNE "KS-385," OR APPROVED EQUAL, LOCKING QUADRANTS ON EACH MANUAL DAMPER. LOCATE DAMPERS IN FURRED CEILINGS NEAR ACCESS PANELS WHERE
- 1. BUTTERFLY DAMPERS SHALL BE CONSTRUCTED AS PER FIGURE 7-4, FIGURE A, B, AND C IN THE DUCT MANUAL.
- 2. MULTI-BLADE DAMPERS SHALL CONFORM TO FIGURE 7-5.
- 3. BACK-DRAFT DAMPERS SHALL BE AIR BALANCE "AIR DYNAMIC" MODEL DY-1002-V. OR EQUAL.

# A. EXTERIOR OF DUCTWORK:

2.5 INSULATION

- . UNLESS SPECIFIED TO BE LINED, ALL SHEET METAL SUPPLY AND RETURN DUCTS IN INDIRECTLY CONDITIONED SPACES SHALL BE INSULATED ON THE OUTSIDE WITH JOHNS MANVILLE "MICROLITE XG" FLEXIBLE FIBERGLASS BLANKET-TYPE DUCT WRAP, WITH FACTORY APPLIED FSK ALUMINUM FOIL FACING, WITH A COMPOSITE UL RATING OF 25/50, MINIMUM R-6 INSTALLED.
- 2. UNLESS SPECIFIED TO BE LINED, ALL SHEET METAL SUPPLY AND RETURN DUCTS IN UNCONDITIONED SPACES SHALL BE INSULATED ON THE OUTSIDE WITH JOHNS MANVILLE "MICROLITE XG" FLEXIBLE FIBERGLASS BLANKET-TYPE DUCT WRAP, WITH FACTORY APPLIED FSK ALUMINUM FOIL FACING, WITH A COMPOSITE UL RATING OF 25/50, MINIMUM R-8 INSTALLED.

# B. INTERIOR OF DUCTWORK:

- 1. DUCT LINING SHALL BE INSTALLED IN SUPPLY AND RETURN DUCTS AND PLENUMS WHERE NOTED ON THE DRAWINGS. LINING SHALL BE JOHNS MANVILLE "PERMACOTELINACOUSTIC R" RIGID FIBERGLASS BOARD FOR PLENUMS AND "PERMACOTELINACOUSTIC HP" FIBERGLASS DUCT LINER FOR DUCTS, 1" THICK, UNLESS OTHERWISE NOTED, WITH FIRE RESISTANT COATING. DUCT LINER SHALL MEET ASTM C 1071, WITH AIR SURFACE COATED WITH ACRYLIC COATING TREATED WITH EPA REGISTERED ANTI-MICROBIAL AGENT PROVE TO RESIST MICROBIAL GROWTH AS DETERMINED BY ASTM G 21 AND G 22. INSULATION WITH TORN OR BROKEN COATING SHALL BE REMOVED AND REPLACED. LOOSE CORNERS, EDGES, AND BUTT JOINTS WILL NOT BE ACCEPTED.
- 2. ALL EXPOSED EXTERIOR SUPPLY AND RETURN DUCTWORK SHALL HAVE MINIMUM 2" INTERIOR INSULATION, AS SPECIFIED IN THIS SECTION.
- 3. MAXIMUM VELOCITY: 5,000 FT/MIN.
- 4. FASTENERS: DUCT LINER GALVANIZED STEEL PINS, WELDED OR MECHANICALLY FASTENED.
- 5. DEVELOPED SMOKE DENSITY SHALL NOT EXCEED 50. FLAME SPREAD RATING SHALL NOT EXCEED

# 2.6 REFRIGERATION PIPING AND APPURTENANCES

- A. REFRIGERANT PIPING SHALL BE TYPE "ACR" DE-OXIDIZED HARD TEMPER COPPER TUBE, ASTM B280.
- B. MECHANICAL JOINTS ON REFRIGERANT PIPING SYSTEMS ARE PROHIBITED. ALL REFRIGERANT PIPING JOINTS SHALL BE BRAZED. USE LEAD-FREE, SILVER SOLDER, MINIMUM 15% SILVER CONTENT.
- C. PIPE FITTINGS SHALL BE WROUGHT-COPPER WITH SOLDERED JOINTS, ASME B16.22.
- D. FLEXIBLE CONNECTIONS SHALL BE BRONZE, DOUBLE BRAIDED, SWEAT SOLDER ENDS
- E. MOISTURE/LIQUID INDICATORS (SIGHT GLASSES) SHALL BE COLOR CHANGE MOISTURE INDICATION TYPE, REPLACEABLE ELEMENT, FILTER SCREEN AND PAD, SWEAT SOLDER ENDS; SPORLAN "SEE-ALL", HENRY, OR EQUAL.
- F. CHARGING AND PURGE VALVES SHALL BE FORGED BRASS, DIAPHRAGM PACKLESS, GLOBE TYPE, ANGLE OR STRAIGHT THROUGH, ONE END SOLDER, ONE END FLARE; HENRY 623 AND 643 SERIES, SPORLAN OR EQUAL.
- G. SOLENOID VALVES SHALL BE FORGED BRASS, EXTENDED END CONNECTIONS, SOLDER ENDS, MOLDED COIL; SPORLAN "E" SERIES OR EQUAL. COMPLY WITH ARI 760 & UL 429.
- H. FILTER DRIERS SHALL BE REPLACEABLE MEDIA, ANGLE TYPE; HENRY "DRI-COR" OR EQUAL; ARI 730.
- THERMSOTATIC EXPANSION VALVES SHALL HAVE FORGED BRASS BODY, STAINLESS STEEL SEATS AND PINS, ODF SOLDER CONNECTIONS, EXTERNAL EQUALIZER,; ARI 750.
- J. OUTDOOR CONDENSING UNITS SHALL HAVE A FLEXIBLE PIPING SECTION AT THE OUTDOOR UNIT.

# 2.7 ACCESS PANELS

- A. WHERE CONSTRUCTION IS NOT INHERENTLY ACCESSIBLE, PROVIDE ADEQUATELY SIZED AND CONVENIENTLY LOCATED ACCESS DOORS IN CEILINGS, WALLS, AND FURRING FOR SERVICING VALVES. EQUIPMENT, ETC. DOORS SHALL BE DELIVERED TO THE GENERAL CONTRACTOR FOR INSTALLATION.
- B. FIRE RATED: INRYCO/MILCOR, U.L. LISTED, "B" LABEL, 1 ½ HOUR RATING. MINIMUM SIZE SHALL BE 12" X 12". PROVIDE LARGER SIZES WHERE REQUIRED. LOCKS SHALL BE FLUSH SCREWDRIVER OPERATED.
- C. DRYWALLED SURFACES: INRYCO/MILCOR, STYLE DW, PRIME COATED STEEL. MINIMUM SIZE SHALL BE 12" X 12". PROVIDE LARGER SIZES WHERE REQUIRED. LOCKS SHALL BE FLUSH SCREWDRIVER
- PANELS INSTALLED IN TILED SURFACES SHALL BE STAIN FINISH STAINLESS STEEL. MINIMUM SIZE SHALL BE 12" X 12". PROVIDE LARGER SIZES WHERE REQUIRED. LOCKS SHALL BE FLUSH SCREWDRIVER OPERATED.

D. CONCRETE AND TILED SURFACES: INRYCO/MILCOR, STYLE M, PRIME COATED STEEL, EXCEPT ACCESS

E. PLASTERED SURFACES: INRYCO/MILCOR, STYLE K, PRIME COATED STEEL. MINIMUM SIZE SHALL BE 12" X 12". PROVIDE LARGER SIZES WHERE REQUIRED. LOCKS SHALL BE FLUSH SCREWDRIVER OPERATED.

# PART 3 – EXECUTION

# 3.1 EQUIPMENT STARTUP

- A. NOTIFY THE OWNER'S REPRESENTATIVE A MINIMUM OF TWO WEEKS PRIOR TO EQUIPMENT STARTUP DATE TO ALLOW FOR OWNER'S PERSONNEL TO BE PRESENT DURING STARTUP.
- B. MANUFACTURER MUST PROVIDE A SERVICE TECHNICIAN TO SUPERVISE RIGGING OF THE UNITS TO ENSURE PROPER FIT.
- C. UNIT MUST BE CHECKED OUT, TESTED AND PLACED INTO OPERATION BY THE INSTALLING CONTRACTOR UNDER THE SUPERVISION OF AN AUTHORIZED REPRESENTATIVE OF THE FACTORY.
- D. DURING STARTUP, THE FULL FUNCTIONALITY OF THE EQUIPMENT SHALL BE DEMONSTRATED TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE, INCLUDING HEATING, MECHANICAL COOLING, ECONOMIZER COOLING, ZONE MODULATION, AND ALL EMERGENCY SHUTDOWN FEATURES.

# 3.2 EQUIPMENT, GENERAL REQUIREMENTS

- A. EQUIPMENT SHALL OPERATE QUIETLY AND WITHOUT OBJECTIONABLE VIBRATION. SUCH PROBLEMS, OTHER THAN FROM EQUIPMENT OPERATING AT OPTIMUM CONDITIONS, SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE ELIMINATED AT THE DIRECTION OF THE ARCHITECT.
- B. INSTALL EQUIPMENT TO PROVIDE GOOD APPEARANCE, EASY ACCESS, AND ADEQUATE SPACE TO ALLOW REPLACEMENT AND MAINTENANCE. PROVIDE BASES, SUPPORTS, ANCHOR BOLTS, AND OTHER ITEMS REQUIRED TO ACHIEVE THIS. INSTALLATION SHALL BE LEVEL, ABOVE MOISTURE LEVEL, AND
- C. THOROUGHLY LUBRICATE EQUIPMENT BEFORE OPERATING. REPAIR OF DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE THE CONTRACTOR'S RESPONSIBILITY.
- D. CONNECTIONS TO PIPING SHALL BE SECURED AND PROPERLY ALIGNED AND ALL UTILITY AND CONTROL CONNECTIONS SHALL BE PROPERLY ISOLATED FROM THE BUILDING STRUCTURE BY MEANS OF ISOLATORS AND FLEXIBLE CONNECTIONS. ANY EQUIPMENT NOT MEETING THIS REQUIREMENT WILL BE MODIFIED AND REINSTALLED AT NO EXPENSE TO THE OWNER.
- E. MOVE EQUIPMENT INTO BUILDING THROUGH AVAILABLE OPENINGS. DISMANTLE EQUIPMENT WHERE NECESSARY TO ACCOMPLISH THIS. AFTER REASSEMBLY, TEST EQUIPMENT TO VERIFY ITS SATISFACTORY OPERATING CONDITION.

# 3.3 DUCTWORK

- A. ALL DUCTWORK SHALL BE INSTALLED WITHIN SPACES PROVIDED WHERE POSSIBLE. DUCTS SHALL BE INSTALLED TRUE TO LINE AND GRADE, FULLY SECURED TO STRUCTURAL FAMING WITH SPECIFIED HANGERS AND SUPPORTS, INSULATED, AND VIBRATION ISOLATED, WHERE REQUIRED,
- B. EACH SECTION OF SUPPLY AIR DUCTWORK SHALL BE CLEANED AT THE SHOP, DUST AND OIL FREE, USING A DEGREASING AGENT AND DETERGENT AND SEALED AIRTIGHT AT BOTH ENDS WITH VISQUEEN AND TAPE. SUPPLY DUCTS SHALL BE ADDITIONALLY CLEANED WITH A DISINFECTING SOLUTION. ENDS OF ALL SUPPLY AND INTERNALLY INSULATED EXHAUST DUSTS SHALL BE KEPT SEALED UNTIL THE TIME THEY ARE JOINTED. WHEN DUCT SECTIONS ARE JOINED. WIPE DOWN ALL INTERIOR SURFACES WITH A CLEAN TACK CLOTH. IF TACK CLOTH SHOWS ANY DUST, THEN RE-CLEAN DUCT AS DESCRIBED ABOVE. THE INTENT IS THAT NO FOREIGN MATTER BE ALLOWED TO ENTER THE DUCTWORK AT ANY TIME AFTER FACTORY CLEANING AND DURING CONSTRUCTION.

# 3.4 CONTROLS

- A. THIS CONTRACTOR SHALL PROVIDE ALL REQUIRED CONTROL COMPONENTS, INCLUDING BUT NOT LIMITED TO THERMOSTATS, TEMPERATURE SENSORS, STATIC PRESSURE SENSORS, HUMIDITY SENSORS, DAMPER ACTUATORS, VALVE ACTUATORS, UNITARY CONTROLLERS, RELAYS, AND LOW-VOLTAGE WIRING, SUCH THAT THE OWNER IS PROVIDED WITH A FULLY FUNCTIONAL CONTROL SYSTEM.
- B. WHERE WORK IS PERFORMED IN AN EXISTING BUILDING, THIS CONTRACTOR SHALL INTEGRATE ALL CONTROL MODIFICATIONS INTO THE EXISTING BUILDING CONTROL SYSTEM, IF APPLICABLE. SPECIFIC REQUIREMENTS SHALL BE COORDINATED WITH OWNER AND APPROVED BY ARCHITECT PRIOR TO
- C. INSTALLATION OF THE SYSTEM SHALL BE MADE UNDER THE SUPERVISION OF THE MANUFACTURER OF THE EQUIPMENT, OR HIS FACTORY AUTHORIZED REPRESENTATIVE.
- D. ROOM THERMOSTATS SHALL BE INSTALLED IN THE LOCATIONS INDICATED ON THE CONTRACT DRAWINGS. FINAL LOCATIONS SHALL BE COORDINATED WITH OWNER'S MAINTENANCE PERSONNEL AND SHALL BE INSTALLED IN LOCATIONS WHICH SHALL PROVIDE REPRESENTATIVE TEMPERATURES FOR THE ADJACENT AREAS.
- E. LOW VOLTAGE CONTROL WIRING AND CONDUIT SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS OF DIVISION 26.

# 3.5 INSULATION

# A. EXTERIOR DUCTWORK:

- 1. THE INSULATION SHALL BE CUT LONGER THAN THE PERIMETER OF THE DUCT TO PROVIDE 2" STAPLE LAP AND MINIMUM COMPRESSION AT THE CORNERS. ALL JOINTS SHALL BE LAPPED 2' AND STAPLED WITH OUTWARD CLINCHING STAPLES 2" ON CENTER. THE INSULATION SHALL BE MECHANICALLY FASTENED TO THE UNDERSIDE OF ALL DUCTS 24" WIDE OR MORE USING CUP-HEAD PINS, WELD PINS, OR STICK PINS WITH SPEED CLIPS 18" ON CENTER. ALL JOINTS AND PENETRATIONS OF THE VAPOR BARRIER JACKET SHALL BE SEALED WITH A MINIMUM 3" WIDE MATCHING PRESSURE SENSITIVE TAPE. PRESSURE-SENSITIVE TAPE SHALL BE FIRMLY RUBBED IN PLACE IMMEDIATELY AFTER APPLICATION USING A "SQUEEGEE" TYPE TOOL.
- 2. WHEN A VAPOR SEAL IS REQUIRED, TWO COATS OF VAPOR RETARDER MASTIC REINFORCED WITH ONE LAYER OF 4" WIDE, OPEN WEAVE GLASS FABRIC MAY BE USED IN LIEU OF PRESSURE-SENSITIVE TAPE. MASTIC SHALL BE BRUSHED ONTO JOINT AND GLASS FABRIC UNTIL THE FABRIC IS FILLED. MASTICS SHALL BE APPLIED IN ACCORDANCE WITH APPLICATION INSTRUCTIONS ON THE

# B. INTERIOR DUCT LINER

- 1. APPLY TO THE INSIDE FACE OF DUCTS, COATED SIDE FACING AIR STREAM, FASTEN USING FIRE RETARDANT ADHESIVE MEETING ASTM C 9169, AND SECURE WITH MECHANICAL LINER FASTENERS AT 24" MAXIMUM O.C., BOTH DIRECTIONS. PIN LENGTH SHOULD BE SUCH AS TO LIMIT COMPRESSION
- 2. EXPOSED EDGES MUST BE FACTORY OR FIELD COATED. FOR SYSTEMS OPERATING AT 4000 FPM OR HIGHER, A METAL NOSING MUST BE INSTALLED ON ALL LINER LEADING EDGES. INSULATION WITH TORN OR BROKEN COATINGS SHALL BE REMOVED OR REPLACED. LOOSE CORNERS, EDGES, AND

# A. REFRIGERANT PIPING

BUTT JOINTS WILL NOT BE ACCEPTED.

 THE INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. ALL JOINTS AND SEAMS SHALL BE SEALED WITH WATERPROOF VAPOR RETARDANT ADHESIVE. ALL PIPES EXPOSED TO THE WEATHER SHALL BE COATED WITH ALUMINUM JACKETING TO PROTECT THE INSULATION FROM ULTRA-VIOLET RADIATION IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS.

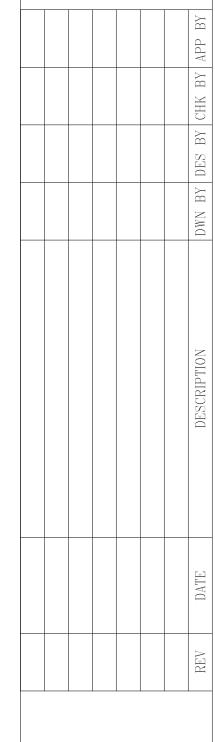
# 3.6 TEST, INSPECTIONS

- A. MAKE ALL NECESSARY CONTROL ADJUSTMENTS AND BALANCING OF AIR AND WATER FLOWS. OPERATE THE ENTIRE SYSTEM FOR A PERIOD OF TIME NOT LESS THAN THREE (3) WORKING DAYS FOR THE PURPOSE OF PROVING SATISFACTORY PERFORMANCE. DURING THIS PERIOD, INSTRUCT SUCH PERSONS AS THE OWNER AND/OR ARCHITECT MAY DESIGNATE IN THE PROPER OPERATION OF THE SYSTEMS. SHOULD FURTHER ADJUSTMENT PROVE NECESSARY, OPERATING TESTS SHALL BE REPEATED UNTIL A SATISFACTORY TEST IS OBTAINED.
- B. THIS CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY WORK OF THIS SECTION TO BE COVERED OR ENCLOSED UNTIL IT HAS BEEN INSPECTED, TESTED, AND APPROVED BY THE ARCHITECT AND THE AUTHORITIES HAVING JURISDICTION OVER THE WORK. SHOULD ANY OF THIS WORK BE ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION, TESTING, AND APPROVAL, THIS CONTRACTOR SHALL UNCOVER THE WORK, HAVE THE NECESSARY INSPECTIONS, TESTS, AND APPROVALS MADE AND, AT NO EXPENSE TO THE OWNER, MAKE ALL REPAIRS NECESSARY TO RESTORE BOTH HIS WORK AND THAT OF OTHER CONTRACTORS WHICH MAY HAVE BEEN DAMAGED TO BE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.



67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000 F:(530)629-3011





DATE OF ISSUE:

7/12/2023

427.11

PROJECT NO:

SCALE:

Ph: (530) 232-6160 - www.frontierce.com

1.5 DIVISION OF WORK BETWEEN DIVISIONS 23 AND 26

B. THE DIVISION OF RESPONSIBILITIES BETWEEN TRADES SUPPLYING EQUIPMENT IN OTHER DIVISIONS

- FURNISH AND INSTALL ALL CONDUCTORS AND CONDUIT REQUIRED FOR CONTROL OF HVAC
- 4. FURNISH AND INSTALL ALL CONTROL PANELS AND DEVICES TO PROVIDE A COMPLETE AND FUNCTIONAL CONTROLS SYSTEM, INCLUDING ALL CONTROLS TRANSFORMERS.
- 7. FURNISH AND INSTALL DUCT SMOKE DETECTORS IN BUILDINGS WITHOUT FIRE ALARM SYSTEMS. 8. FURNISH AND INSTALL ALL CONTROL CONDUCTORS AND CONDUIT CONNECTING DUCT SMOKE

# OF DIVISION 26.

- A. A COMPLETE SET OF CONTRACT DRAWINGS SHALL BE MAINTAINED AT THE WORK SITE, AND ALL

- A. FURNISH THREE SETS OF TYPEWRITTEN INSTRUCTIONS COVERING MAINTENANCE, ADJUSTMENT, AND OPERATION OF EACH PIECE OF APPARATUS, BOUND IN A HARD COVER LOOSE-LEAF BINDER. NEATLY OBSCURE OR CROSS OUT INAPPLICABLE DATA FROM MANUFACTURER'S LITERATURE. SUBMIT DATA TO

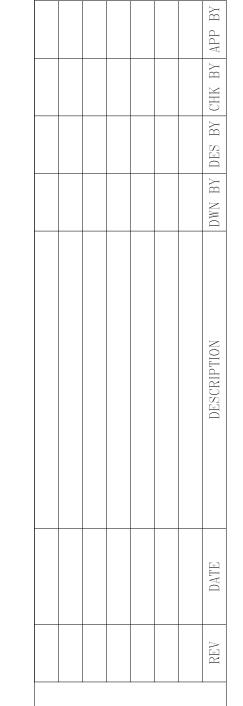
- A. THE DATA GIVEN HEREIN AND ON THE DRAWINGS ARE AS EXACT AS COULD BE REASONABLY SECURED. BUT ABSOLUTE ACCURACY IS NOT GUARANTEED. EXACT LOCATIONS, DISTANCES, ELEVATIONS, ETC.

1 MOUNT THERMOSTAT 48" ABOVER FINISHED FLOOR. COORDINATE FINAL LOCATION WITH OWNER.



67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011





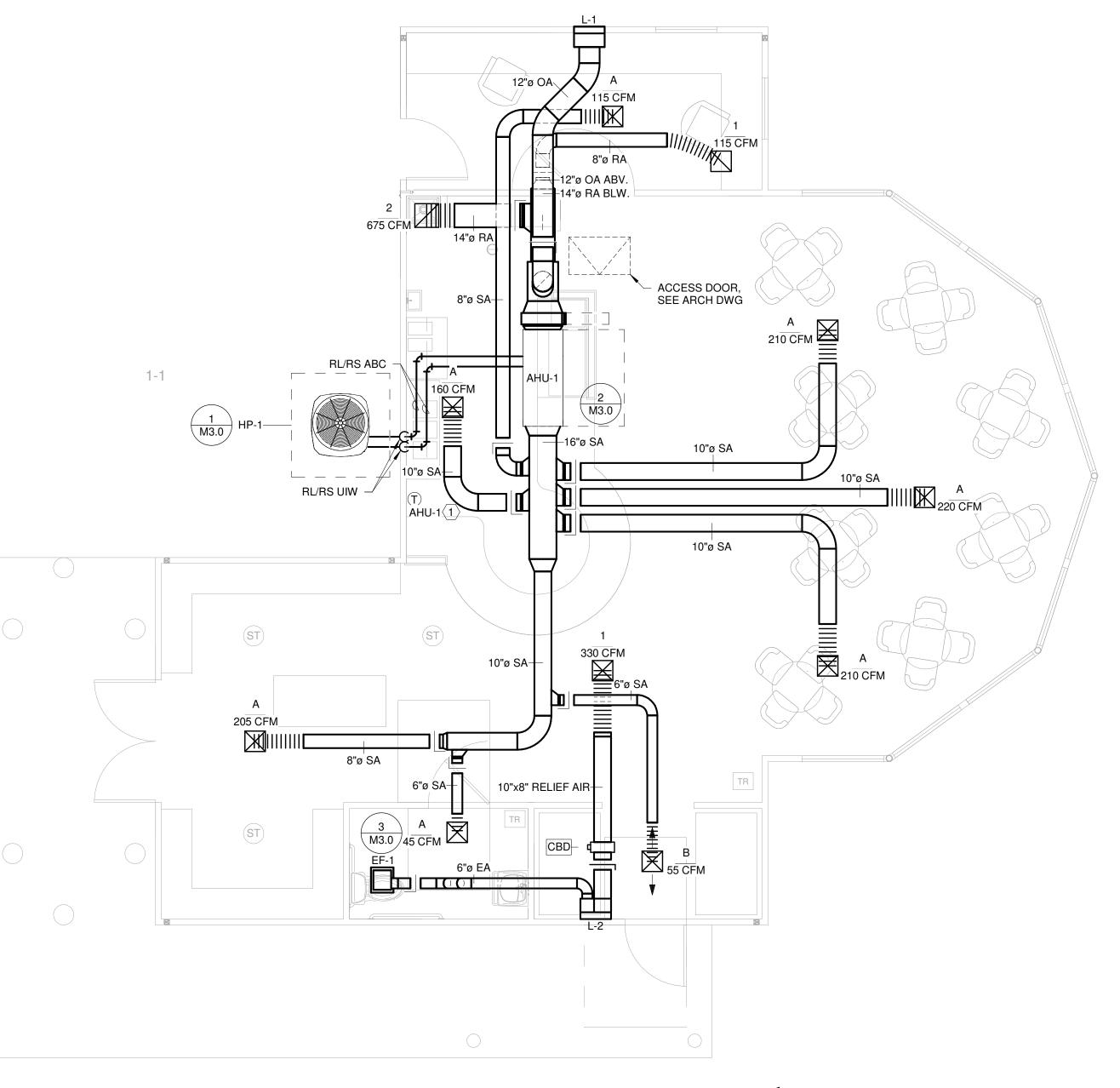
MECHANICAL FLOOR PLAN

DATE OF ISSUE: 7/12/2023

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

1/4" = 1'-0" PROJECT NO: 427.11

rawing no:



1 MECHANICAL FLOOR PLAN

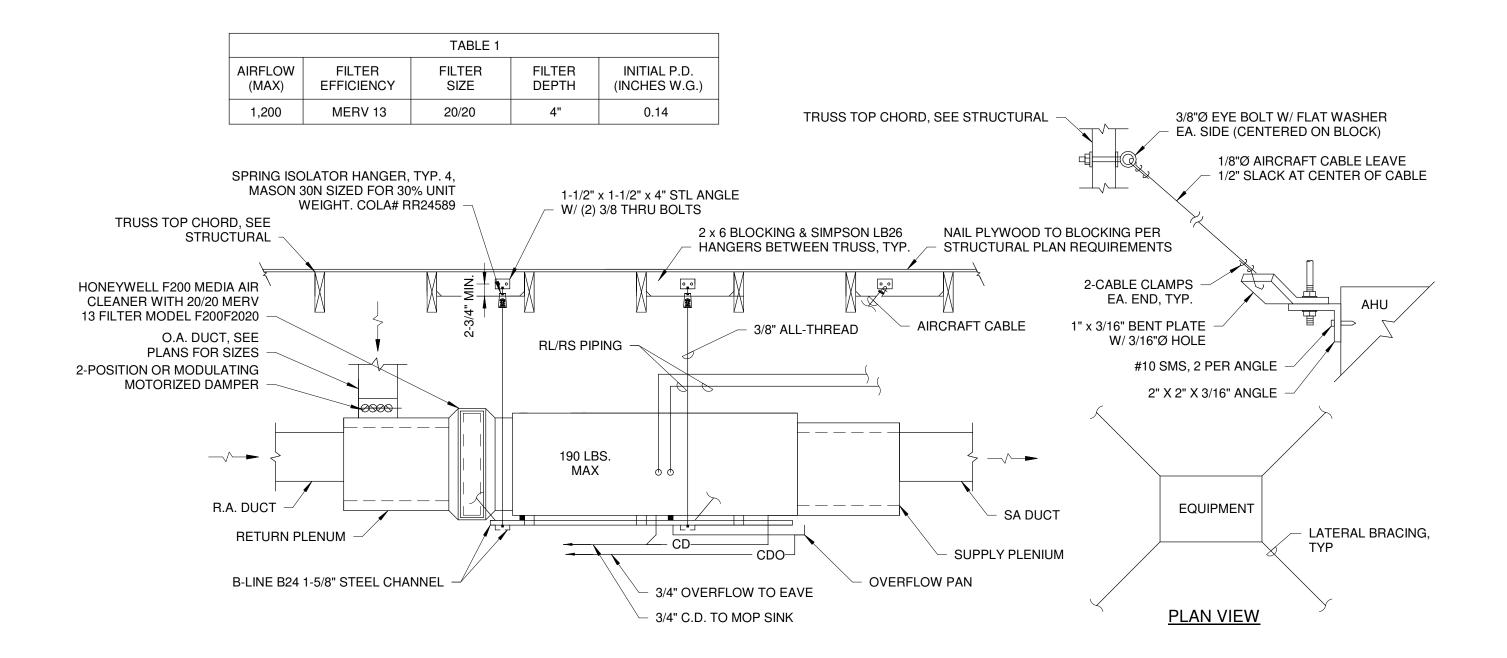
1/4" = 1'-0"

FRONTIER

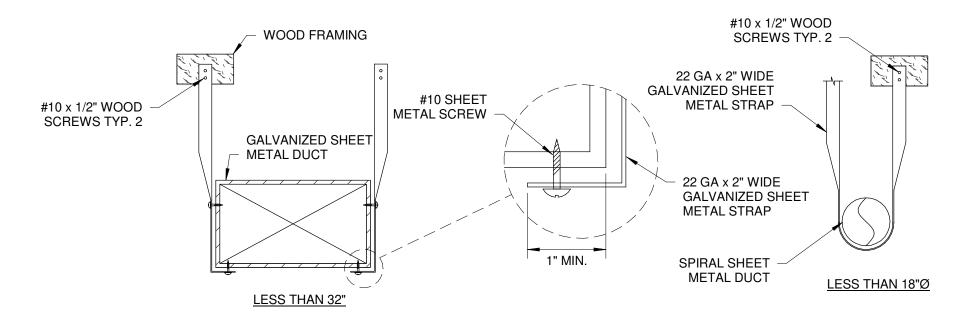
CONSULTING ENGINEERS

2727 Bechelli Lane - Redding, CA 96002

Ph: (530) 232-6160 - www.frontierce.com

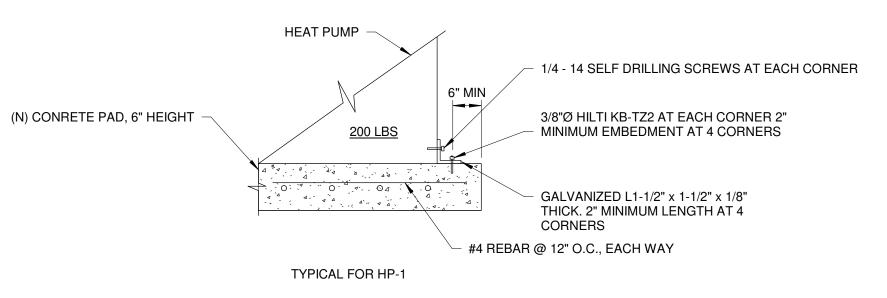


<sup>2</sup> AIR HANDLING UNIT HANGING DETAIL

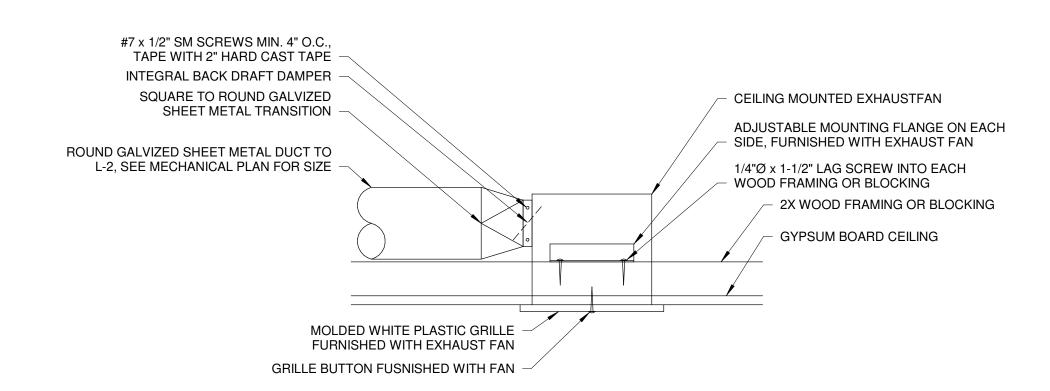


4 DUCT HANGING DETAILS

M3.0 NOT TO SCALE



# 1 HEAT PUMP DETAIL M3.0 NOT TO SCALE

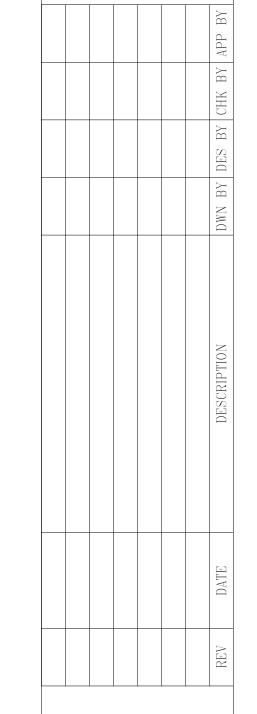






67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P:(530)629-3000
F:(530)629-3011





INTERPRETIVE CENTER TRINIDAD, CA. 95570 MECHANICAL DETAILS

DATE OF ISSUE: 7/12/2023

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

PROJECT NO: 427.11

M3.0

FRONTIER

CONSULTING ENGINEERS

2727 Bechelli Lane - Redding, CA 96002

Ph: (530) 232-6160 - www.frontierce.com

	PLUMBING	LLALIND
SYMBOLS	ABBREVIATIONS	
	ABC	ABOVE CEILING
	BFP	BACKFLOW PREVENTER
<u>— Ф</u>		BALL VALVE
	BG	BELOW GRADE
	BS	BELOW SLAB
<b>—</b>		CHECK VALVE
	CW	COLD WATER SUPPLY
	CD	CONDENSATE DRAIN
	CDO	CONDENSATE DRAIN OVERFLOW
Ŷ		CONNECTION TO BOTTOM OF PIPE
<del>-</del> ρ		CONNECTION TO TOP OF PIPE
	D	DEMO
		DOMESTIC COLD WATER
		DOMESTIC HOT WATER
	DN	DOWN
	DIW	DOWN IN WALL
	E, EX	EXISTING
	Σ, ΣΛ	FLANGE
11	FCO	FLOOR CLEAN OUT
	FD	FLOOR DRAIN
	FS	FLOOR SINK
	GSM	GALVANIZED SHEET METAL
	GCO	GRADE CLEAN OUT
	GW	GREASE WASTE
	HB	HOSE BIB
	HW	HOT WATER SUPPLY
	HWR	HOT WATER RECIRC
	N	NEW
$oldsymbol{\Theta}$		NEW CONNECTION TO EXISTING
	ОН	OVERHEAD
<del></del> =		PIPE CAP
<del></del>		PIPE TURNED DOWN
<u> </u>		PIPE TURNED UP
9		PRESSURE GAUGE
		PRESSURE REDUCING VALVE
U		P-TRAP
		RELIEF VALVE
<u></u>		REMOVE TO THIS POINT
	SS	SANITARY SEWAGE (BELOW GRADE)
	SOV	SHUT-OFF VALVE
V N	SK	SINK
<u> </u>	J. C.	STRAINER
<u> </u>		
<u> </u>		THERMOMETER
	TMV	THERMOSTATIC VALVE
	TP	TRAP PRIMER
		TRIPLE DUTY VALVE
	UG	UNDERGROUND
		UNION
	UIW	UP IN WALL
	UR	URINAL
	V	VENT
	VTR	VENT TO ROOF
	WC	WATER CLOSET
	WHA	WATER HAMMER ARRESTER
	WCO	WALL CLEANOUT

	PIPING MATERIALS SCHEDULE								
Service Location Size Material Notes									
WASTE	INTERIOR, AFF	ALL	STANDARD WEIGHT HUBLESS CAST IRON	SLOPED AT 1/4" PER FOOT					
& VENT	INTERIOR, BELOW SLAB	ALL	STANDARD WEIGHT HUBLESS CAST IRON	SLOPED AT 1/4 PER POOT					
GREASE	INTERIOR, AFF	۸۱۱	SCHEDULE 40 PCV-DWV	SLOPED AT 1/4" PER FOOT					
WASTE & VENT	INTERIOR, BELOW SLAB	ALL	SCHEDULE 40 PCV-DWV	SLOPED AT 1/4 PER FOOT					
CW / HW	INTERIOR, ABOVE GROUND	ALL	TYPE "L" COPPER						
CVV / HVV	INTERIOR, BELOW SLAB	ALL	TYPE "K" COPPER						
COND. DRAIN	AIR CONDITIONING CONDENSATE	ALL	TYPE M - HARD TEMPER COPPER	SLOPED AT 1/8" PER FOOT					

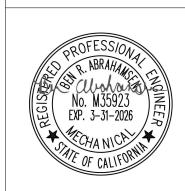
		Water and		rixture U	nit Galcu		
Project:	Trinidad	Interpretive Cer	iter			Occupancy:	Public
		Cold	Water	Hot.	Water	W	aste
Plan Tag	No:	Cold Water FU/FIX FU TOTAL		FU/FIX	FU TOTAL	DFU/FIX	DFU TOTA
WC-1	1	5.0	5	-		4.0	4
L-1	1	1.0	1	0.750	0.75	1.0	1
SK-1	3	1.5	4.5	1.125	3.375	2.0	6
MS-1	1	3.0	3	2.25	2.25	3.0	3
FD-1	1					2.0	2
FS-1	1			-		4.0	4
Total Fixture Units		CW FU	13.5	HW FU	6.375	DFU	20.0
		Line Size	1-1/4"	Line Size	1"	San. Size	4"
		GPM	10.4	GPM	6.5	Max DFU	216.0
		FPS	2.7	FPS	2.4	1	
		PSI / 100	1.5	PSI / 100	1.8		
Pressure Avail	ahle at W	ater Main				60	psi
Meter Loss	abic at w	atti man				5	psi
Backflow Prev	enter I os					15	psi
Elevation Loss				10	ft	4.3	psi
		uired at Fixture		10		25	psi
						10.7	psi
Total Pipe Friction Loss Available Approximate Total Equivalent Length						80	ft.
	-	e Friction Loss p	er 100 Feet			13.3	psi

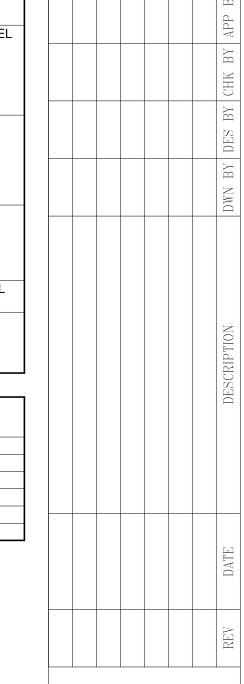
ID	Make	Model No.	IBING FIXTURE SCHEDUL	Mounting	Material
WC-1	KOHLER	K-3999	ACCESSIBLE GRAVITY TANK WATER CLOSET, 1.28 GPF, CONFORT HEIGHT, ELONGATED BOWL, WITH KOHLER K-4731-SC-0 OPEN TOILET SEAT, RIGHT HAND OR LEFT HAND TRIP LEVER DIMENSIONS: 29-3/4" x 18" x 31-1/4"	FLOOR	VIT CHINA
L-1	KOHLER	K-2005	WALL HUNG LAVATORY WITH OVERFLOW, HOT/COLD WATER HOLES 4" O.C. CHICAGO FAUCETS 420-T45E2805ABCP ASSE 1070 LISTED THERMOSTATIC MIXING FAUCET, 0.50 GPM AERATOR, CHROME PLATE FINISH, J.R. SMITH CONCEALED ARM SUPPORT, CHICAGO 1013-ABCP ANGLE STOPS, PRE-FABRICATED CLOESED CELL VINYL INSULATE SAFETY COVER OVER TRAP AND WATER PIPING. DIMENSIONS: 20" x 18"	WALL	VIT CHINA
TP-1	PPP	LTP-500	1-1/2" TAIL PIECE FLOOR DRAIN TRAP PRIMING ASSEMBLY, 1/2" BRAIDED STAINLESS STEEL PRIMING WATER LINE WITH 1/2" COMPRESSION FITTINGS, CHROME-PLATED ESCUTCHEONS FOR BOTH WALL TUBE AND MAKE UP WATER LINE.	UNDER SINK	BRASS
TMV-1	ZURN	1070XL	ASSE 1070 LISTED THERMOSTATIC MIXING VALVE. 0.35GPM ACTIVATION FLOW. 110°F OUTLET TEMPERATURE. WAX BASED THERMOSTATIC MOTOR DESIGN. MOUNT AT ALL KITCHEN HANDWASHING FIXTURES. FIXTURES TO BE SPECIFIED BY OWNER.	UNDER SINK	BRASS
FD-1	JR SMITH	2005Y	2" NPT CONNECTION, 5" NICKEL BRONZE ADJUSTABLE STRAINER HEAD, TRAP PRIMER CONNECTION.	FLOOR	BRONZE
FS-1	JR SMITH	3420Y-12	CAST IRON FLOOR SINK WITH 12" SQUARE TOP, 6" DEEP. ACID RESISTANT COATED INTERIOR, LOOSE SET ACID RESISTENCE COATED CAST IRON 1/2 GRATE, AND ALUMINUM DOME BOTTOM STRAINER. 3" WASTE CONNECTION.	FLOOR	CAST IRON
WH-1	AO SMITH	DEL 40	ELECTRIC WATER HEATER, 40 GALLON STORAGE CAPACITY, 41 GPH AT 90°F RISE, 140°F TEMPERATURE SETTING. ELECTRICAL 240V/1-PHASE, DUAL SIMULTANEOUS 4.5kW ELEMENTS. DIMENSIONS: 32-1/4"H x 24"ø W. 125 LBS EMPTY, 450 LBS FULL.	ABOVE CEILING	GLASS LINED STEE
ET-1	AMTROL	ST-5-C	4.0 GALLON STAINLESS STEEL EXPANSION TANK, 200°F MAXIMUM OPERATING TEMP, 150 PSIG MAX WORKING PRESSURE, POLYPROPYLENE LINER, SHEEL CONSTRUCTED OF POWDER COATED STEEL. DIMENSIONS: 15-1/2" H, 14-1/4" DIAMETER WEIGHT: 35 LBS EMPTY, 85 LBS FULL	WALL	STEEL
RCP-1	B&G	E3-6V/BURPZ	OPEN SYSTEM RECIRCULATION PUMP. 230°F MAX TEMP. 36°F MIN TEMP. 150 PSI MAX SYSTEM PRESSURE. ADJUSTABLE THERMOSTAT. 1/2" LEAD-FREE BRASS UNION CONNECTIONS. E3 TIMER AND HIGH EFFICIENCY ECM MOTOR. ELECTRICAL: 115/1/60	PIPE	BRASS
BFP-1	WATTS	SD3	DUAL CHECK VALVES BACKFLOW PREVENTER, W/ ATMOSPHERIC VENT, LEAD FREE.		STAINLESS STEEL
HB-1	JR SMITH	5619	1/4 TURN NON-FREEZE WALL HYDRANT, AUTOMATIC DRAINING, STAINLESS STEEL FACE, INTEGRAL VACUUM BREAKER AND DUAL CHECK VALVE, "T" HANDLE KEY, 3/4" NPT CONNECTION.MOUNTING HEIGHT: 54" A.F.F.	WALL	BRASS

	PLUMBING	FIXTUF	RE CONI	VECTION	SCHEDU	LE
Connection Size (Inches)						
ID	Description	Accessible	Waste	Vent	CW	HW
WC-1	WATER CLOSET	YES	3"	2"	3/4	
L-1	LAVATORY	YES	2"	1-1/2"	1/2"	1/2"
FD-1	FLOOR DRAIN		2"	1-1/2"	1/2"	
FS-1	FLOOR SINK		2"	1-1/2"		



PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000 F:(530)629-3011





2727 Bechelli Lane - Redding, CA 96002 Ph: (530) 232-6160 - www.frontierce.com

DATE OF ISSUE: 7/12/2023

SCALE: 1/8" = 1'-0" PROJECT NO: 427.11

# PLUMBING SPECIFICATION

# PART 1 – GENERAI

# 1.1 INCLUDED

A. THIS SPECIFICATION ESTABLISHES THE REQUIRED STANDARDS FOR ALL LABOR, MATERIALS, EQUIPMENT, AND WORKMANSHIP IN CONNECTION WITH THE FURNISHING, FABRICATION, AND INSTALLATION OF "PLUMBING."

# 1.2 CODES AND STANDARDS

- A. ALL WORK SHALL BE DONE IN CODE WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING SAFETY CODES, ORDINANCES, AND REGULATIONS. ADDITIONALLY, ALL WORK SHALL CONFORM TO THE LATEST EDITIONS OF THE FOLLOWING STANDARDS:
- 1. NATIONAL FIRE PROTECTION ASSOCIATION.
- 2. CALIFORNIA MECHANICAL CODE.
- CALIFORNIA PLUMBING CODE. 4. UNDERWRITERS LABORATORIES
- 5. TITLES 8, 17, 19, 21, 24 OF THE CALIFORNIA CODE OF REGULATIONS.
- 6. CALIFORNIA ELECTRIC CODE.
- B. WHEN THE CONTRACT DOCUMENTS CALL FOR MATERIALS OR CONSTRUCTION OF A HIGHER STANDARD THAN IS REQUIRED BY THE ABOVE, THE CONTRACT DOCUMENT REQUIREMENTS SHALL TAKE PRECEDENCE OVER THE REQUIREMENTS OF THE APPLICABLE LAWS, ORDINANCES, RULES, OR REGULATIONS. NOTHING IN THE CONTRACT DOCUMENTS SHALL BE INTERPRETED AS PERMITTING WORK IN VIOLATION OF SAID LAWS, RULES, AND/OR REGULATIONS.
- C. THE CONTRACTOR FOR THIS WORK SHALL FURNISH, WITHOUT EXTRA CHARGE, ANY ADDITIONAL MATERIALS AND/OR LABOR AS MAY BE REQUIRED FOR COMPLIANCE WITH THESE LAWS, RULES, AND/OR REGULATIONS THOUGH SUCH MATERIALS AND/OR LABOR ARE NOT SPECIALLY SET FORTH IN THE CONTRACT DOCUMENTS.

# 1.3 COOPERATION WITH OTHER TRADES

- A. COOPERATE FULLY WITH OTHER TRADES DOING WORK ON THE PROJECT AS MAY BE NECESSARY FOR THE PROPER COMPLETION OF THE PROJECT. REFER TO THE STRUCTURAL, MECHANICAL, AND ELECTRICAL DRAWINGS FOR DETAILS OF THE BUILDING STRUCTURE AND EQUIPMENT INSTALLATION THAT WILL TEND TO OVERLAP, CONFLICT WITH OR REQUIRE COORDINATION WITH THE WORK OF THIS SECTION, AND SCHEDULE THIS WORK ACCORDINGLY.
- B. ANY WORK DONE WITHOUT REGARD FOR OTHER TRADES SHALL BE MOVED, REPLACED, OR REDONE AS REQUIRED. WITHOUT EXTRA CHARGES TO OWNER.

# 1.4 AS-BUILT DRAWINGS

A. A COMPLETE SET OF CONTRACT DRAWINGS SHALL BE MAINTAINED AT THE WORK SITE. AND ALL CHANGES IN THE WORK SHALL BE RECORDED ON THIS SET, ON A DAILY BASIS. THE FINAL AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

# 1.5 DRAWINGS

- A. THE DRAWINGS INDICATE DIAGRAMMATICALLY THE GENERAL LAYOUT OF THE PLUMBING SYSTEMS AND OTHER RELATED WORK. FIELD VERIFICATION OF SCALED DIMENSIONS TAKEN FROM THE DRAWINGS IS REQUIRED.
- B. THE CONTRACTOR SHALL REVIEW AND COMPARE THE ARCHITECTURAL, STRUCTURAL, PLUMBING, MECHANICAL, AND ELECTRICAL DRAWINGS AND ALL OWNER SUPPLIED EQUIPMENT DRAWINGS, AND ADJUST THEIR WORK TO BE IN CONFORMITY WITH THE CONDITIONS INDICATED THEREON. DISCREPANCIES BETWEEN DRAWINGS, BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS, OR BETWEEN DRAWINGS AND SPECIFICATIONS. SHALL PROMPTLY BE BROUGHT TO THE ATTENTION OF THE ARCHITECT FOR A DETERMINATION OF THE MODIFICATIONS TO BE EFFECTED. IN THE EVENT THAT A MAJOR MODIFICATION IS REQUIRED, A CHANGE ORDER WILL BE PREPARED.

# 1.6 DELIVERY, STORAGE, AND HANDLING

- CONTRACTOR SHALL BE RESPONSIBLE FOR DELIVERY, STORAGE, PROTECTION, AND PLACING OF ALL EQUIPMENT AND MATERIALS.
  - 1. CONTRACTOR SHALL PROTECT THE WORK AND MATERIALS FROM DAMAGE DURING CONSTRUCTION. FOUIPMENT STORED AT THE JOB SITE SHALL BE PROTECTED FROM DUST WATER, OR OTHER DAMAGE, AND BE COVERED IF EQUIPMENT IS EXPOSED TO WEATHER. PROTECT INTERIORS OF NEW EQUIPMENT AND PIPING SYSTEMS AGAINST ENTRY OF FOREIGN MATTER. CLEAN BOTH INSIDE AND OUTSIDE BEFORE PAINTING OR PLACING EQUIPMENT IN OPERATION.
  - 2. ANY ITEMS DAMAGED SHALL BE REPAIRED OR REPLACED, AT NO ADDITIONAL COST TO THE

# B. CLEANLINESS OF PIPING AND EQUIPMENT SYSTEMS

- 1. EXERCISE CARE IN STORAGE AND HANDLING OF EQUIPMENT AND PIPING MATERIAL TO BE INCORPORATED IN THE WORK. REMOVE DEBRIS ARISING FROM CUTTING, THREADING, AND WELDING OF PIPING.
- 2. PIPING SYSTEMS SHALL BE FLUSHED, BLOWN, OR PIGGED AS NECESSARY TO DELIVER CLEAN
- 3. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ALL COSTS, DAMAGE, AND DELAY ARISING FROM FAILURE TO PROVIDE CLEAN SYSTEMS.

# 1.7 WARRANTIES

- A. EQUIPMENT WARRANTIES SHALL BE PROVIDED FOR ALL EQUIPMENT, WITH ALL NECESSARY INFORMATION FILLED IN, EXCEPT PURCHASE DATE, IN FAVOR OF THE OWNER.
- B. THE CONTRACTOR SHALL GUARANTEE THAT ALL WORK UNDER THIS SECTION IS FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE DATE OF FILING THE NOTICE OF COMPLETION. REPLACEMENT OF DEFECTIVE WORK AND DAMAGE CAUSED TO WORK OF OTHER TRADES AS A RESULT OF SUCH DEFECTIVE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND SHALL BE MADE AT NO COST TO THE OWNER.

# 1.8 ALTERNATIVE MATERIALS AND METHODS

- A. THESE PLANS AND SPECIFICATIONS DESCRIBE THE GENERAL SCOPE OF THE MECHANICAL SYSTEMS. THESE PLANS AND SPECIFICATIONS DO NOT PRECLUDE THE SUBMITTAL OF ALTERNATIVE METHODS OR MATERIALS. MANUFACTURER'S NAMES AND CATALOG NUMBERS ARE STATED TO IDENTIFY THE TYPE AND QUALITY OF THE EQUIPMENT OR MATERIALS REQUIRED FOR THE PROJECT.
- B. THE CONTRACTOR MAY SUBMIT SHOP DRAWINGS AND/OR TECHNICAL INFORMATION ON ALTERNATIVE EQUIPMENT, MATERIALS OR INSTALLATION DETAILS TO ACCOMPLISH THE INTENT OF THE PLANS AND SPECIFICATIONS. APPROVAL OF THE ALTERNATIVE EQUIPMENT, MATERIALS OR INSTALLATION DETAILS SHALL NOT RELIEVE THE CONTRACTOR OF ANY RESPONSIBILITY FOR COMPLYING WITH THE INTENT OF THE PLANS AND SPECIFICATIONS. SUBMIT THE MANUFACTURERS' TECHNICAL INFORMATION, SHOP DRAWINGS, AND/OR WRITTEN DESCRIPTION OF ALTERNATIVE METHODS FOR EACH ITEM DESCRIBED BY MANUFACTURER'S NAME AND CATALOG NUMBER AND FOR EACH COMPONENT, EQUIPMENT, MATERIAL, OR INSTALLATION DETAIL REQUIRED.

# PART 2 - PRODUCTS

# 2.1 PIPE AND FITTINGS

- A. SANITARY SOIL, WASTE, AND VENT PIPING, BELOW GROUND: LINES 2" AND LARGER SHALL BE SERVICE WEIGHT, HUB-LESS CAST IRON SOIL PIPE AND FITTINGS, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 888 AND CISPI STANDARD 301. APPROVED MANUFACTURERS: CHARLOTTE, TYLER, OR AB&I. JOINTS: COUPLINGS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1540 AND SHALL BE HEAVY DUTY TYPE 304 STAINLESS STEEL SHIELDED. HAVING 4 SEALING CLAMPS FOR PIPE SIZES 1 1/2" THRU 4". AND 6 SEALING CLAMPS FOR PIPE SIZES 5" THRU 10". GASKETS SHALL COMPLY WITH ASTM C-564. ANACO, TYLER, OR EQUAL.
- SANITARY SOIL, WASTE, AND VENT PIPING, ABOVE GROUND: LINES 2" AND LARGER SHALL BE STANDARD WEIGHT, HUB-LESS CAST IRON SOIL PIPE AND FITTINGS, AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 888 AND CISPI STANDARD 301. APPROVED MANUFACTURERS: CHARLOTTE. TYLER, OR AB&I. JOINTS: COUPLINGS SHALL CONFORM TO THE REQUIREMENTS OF ASTM C1540 AND SHALL BE HEAVY DUTY TYPE 304 STAINLESS STEEL SHIELDED, HAVING 4 SEALING CLAMPS FOR PIPE SIZES 1 1/2" THRU 4:, AND 6 SEALING CLAMPS FOR PIPE SIZES 5" THRU 10". GASKETS SHALL COMPLY WITH ASTM C-564. ANACO, TYLER, OR EQUAL.
- C. CONDENSATE PIPING: TYPE M, HARD TEMPER, COPPER WITH WROUGHT COPPER OR CAST BRASS FITTINGS. JOINTS SHALL BE MADE UP WITH "STAY-SAFE 50" LEAD FREE SOLDER.
- D. COLD AND HOT WATER PIPING: ALL DOMESTIC COLD WATER PIPING 3" AND SMALLER SHALL BE TYPE L, HARD TEMPER, COPPER PIPE WITH WROUGHT COPPER OR CAST BRASS SOLDER JOINT FITTINGS. ALL JOINTS SHALL BE MADE UP WITH "STAY-SAFE 50" LEAD FREE SOLDER. A SUITABLE NON-CORROSIVE FLUX SHALL BE USED AT ALL JOINTS. PIPES BELOW GRADE INSIDE BUILDINGS SHALL BE SOFT DRAWN. TYPE LOR K COPPER WITH NO JOINTS BELOW SLABS. PIPES SHALL BE INSTALLED IN A PVC CONDUIT. NOT LESS THAN SCHEDULE 40. THE INTERIOR DIAMETER OF THE CONDUIT SHALL NOT BE LESS THAN 1/2 INCH LARGER THAN THE OUTSIDE DIAMETER OF THE WATER PIPING.

# 2.2 UNIONS

- A. STEEL PIPE UNIONS SHALL BE MALLEABLE IRON, 150LB., GROUND JOINT, GRINNELL FIG. 463.
- B. COPPER PIPE UNIONS SHALL BE SOLDERED JOINT, NIBCO SERIES 633 OR 733, MUELLER, OR EQUAL.
- C. DIELECTRIC UNIONS SHALL BE EPCO OR EQUAL

# 2.3 VALVES, SPECIALTIES

- A. BALL VALVES, POTABLE WATER UP TO 2": NIBCO T-585-80-LF, LEAD-FREE SILICON BRONZE BODY, "RING BALL," FULL PORT, TWO PIECE, LEVER HANDLE, 125 LB.
- B. BALL VALVES, POTABLE WATER OVER 2": NIBCO T-580-80-LF, LEAD-FREE SILICON BRONZE BODY, "RING BALL," CONVENTIONAL PORT, TWO PIECE, LEVER HANDLE, 125 LB.
- C. CHECK VALVES, POTABLE WATER: NIBCO T-480-LF, LEAD-FREE SILICON BRONZE BODY, INLINE LIFT TYPE, TEFLON SEAT, AND DISCS, SPRING ACTUATED, 125 LB. NIBCO T-413-Y-LF, LEAD-FREE SILICON BRONZE BODY, Y-PATTERN LIFT TYPE, CLASS 200.
- D. RELIEF VALVES: WATER HEATER TEMPERATURE/PRESSURE RELIEF VALVE, WATTS, M&M, OR EQUAL WITH ASME RATING, AND AGA CERTIFIED DESIGN. SET AT 125 PSI AND 210°F.
- E. BACKFLOW PREVENTERS (WHERE SHOWN ON THE DRAWINGS OR REQUIRED BY LOCAL CODE): REDUCED PRESSURE TYPE: 1/4" TO 2" – WILKINS #975-XLMS SERIES, 2 1/2" TO 10" – WILKINS #375 SERIES.
- F. WATER PRESSURE REGULATING VALVES: WILKINS 500 YSBR SERIES. INSTALL WHERE PRESSURE TO BUILDING EXCEEDS 70 PSI.

# 2.4 CLEANOUTS

- A. CLEANOUTS IN MEMBRANE DAMP-PROOFED FLOORS SHALL HAVE FLASHING FLANGE AND MEMBRANE CLAMPS. PLUGS SHALL BE BRONZE, WITH CAST IRON BODY FERRULE FOR CAST IRON PIPE.
- B. FLOOR CLEANOUTS (FCO): ZURN ZN 1400-HD, "LEVEL-TROL" ADJUSTABLE CLEANOUTS, DURA-COATED CAST IRON WITH GAS AND WATER-TIGHT ABS TAPERED THREAD PLUG, AND ROUND SCORIATED TOP. ADJUSTABLE TO FINISHED FLOOR
- GRADE CLEANOUTS (GCO): ZURN Z-1474-IN OR EQUAL JR SMITH, HOUSING TO BE DURA-COATED CAST IRON BODY WITH INTEGRAL ANCHOR FLANGE AND SCORIATED COVER WITH LIFTING DEVICE. CLEANOUTS IN UN-PAVED AREAS SHALL BE SET IN 18" X 18" X 4" CONCRETE PADS.
- D. WALL CLEANOUTS (WCO): CAST IRON PIPE: ZURN Z-1441, DURA-COATED WITH GAS AND WATER-TIGHT BRONZE, TAPER THREAD PLUG AND ROUND SMOOTH STAINLESS STEEL ACCESS COVER WITH SECURING SCREW.

# 2.5 SLEEVES, WALL PLATES

- A. SERVICE PIPE THROUGH EXTERIOR WALL, ROOFS: CRANE STYLE BC WALL AND CEILING PLATES; CHROME PLATED AT FINISHED ROOMS.
- B. PIPES THROUGH, UNDER FOOTINGS: 18 GAUGE IRON SLEEVES TWO DIAMETERS LARGER THAN PIPE, CAST IN CONCRETE, ANNULAR SPACE FILLED WITH MASTIC OR PLASTIC BITUMINOUS CEMENT.
- C. PIPES THROUGH FIRE RATED WALLS SHALL BE PROTECTED WITH FIRE RETARDANT MASTIC AS DETAILED ON THE DRAWINGS. INSTALLATION SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THE UL SYSTEM NUMBER. HILTI OR APPROVED EQUAL.
- D. WALL AND CEILING PLATES: CRANE STYLE BC OR EQUAL; CHROME PLATED AT FINISHED ROOMS.
- E. PIPES THROUGH FLOORS, INTERIOR CONCRETE WALLS, AND THROUGH FIRE RATED WALL AND SMOKE STOP PARTITIONS: 18 GAUGE IRON SLEEVES, TWO DIAMETERS LARGE THAN PIPE, ANNULAR SPACE FILLED WITH 3M BRAND FIRE BARRIER CP-25 CAULK.
- PIPES THROUGH 1-HOUR WALLS SHALL BE PROTECTED WITH FIRE RETARDANT MASTIC AS DETAILED ON THE DRAWINGS. INSTALLATION SHALL BE IN FULL ACCORDANCE WITH THE REQUIREMENTS OF THE UL SYSTEM NUMBER. HILTI OR APPROVED EQUAL

# 2.6 ACCESS DOORS

- A. WHERE CONSTRUCTION IS NOT INHERENTLY ACCESSIBLE, PROVIDE ADEQUATELY SIZED AND CONVENIENTLY LOCATED ACCESS DOORS IN CEILING, WALLS, AND FURRING FOR SERVICING VALES, EQUIPMENT, ETC.
- B. ACCESS DOORS SHALL BE KARP, MILCOR, OR EQUAL, PRIME COATED STEEL FOR ALL SURFACES EXCEPT CERAMIC TILE, 12" X12" MINIMUM SIZE AS REQUIRED. LOCKS SHALL BE FLUSH, SCREWDRIVER OPERATED.
- 1. STYLE KDW FOR GYPSUM BOARD SURFACES.
- 2. STYLE PL FOR PLASTER SURFACES. STYLE 210 FOR ACOUSTIC TILE SURFACES.
- 4. STYLE DSC 214-M SATIN FINISH STAINLESS STEEL AT CERAMIC TILE SURFACES.
- 5. STYLE "FIRE RATED" AT RATED CEILINGS AND WALLS.

- A. INSULATE ALL HOT WATER SUPPLY PIPING. ALL HOT WATER RETURN PIPING. ALL COLD WATER SUPPLY PIPING IN EXTERIOR WALLS OR UNCONDITIONED SPACES WITH MANVILLE "MICRO-LOK" 650, FIBERGLASS, CERTAINTEED, OR EQUAL, RIGID FIBERGLASS ONE-PIECE PIPE INSULATION WITH AND ALL PURPOSE JACKET. JACKETS SHALL BE CONSTRUCTED OF HIGH DENSITY, WHITE KRAFT BONDED TO ALUMINUM FOIL WITH FIBERGLASS YARN, WITH A PRESSURE SENSITIVE CLOSURE SYSTEM.
- B. ALL INSULATION SHALL HAVE COMPOSITE (INSULATION, JACKET, AND ADHESIVE USED TO ADHERE THE JACKET TO THE INSULATION) FIRE AND SMOKE HAZARD RATINGS AS TESTED UNDER PROCEDURE ASTM E-84, NFPA 255 OR UL 723, NÓT EXCEEDING: FLAME SPREAD - 25, SMOKE DEVELOPED - 50.
- C. INSERTS SHALL BE INSTALLED AT OUTSIDE HANGERS. INSERTS BETWEEN THE PIPE AND PIPE HANGERS SHALL CONSIST OF RIGID PIPE INSULATION OF THICKNESS EQUAL TO THE ADJOINING INSULATION. INSERTS SHALL NOT BE LESS THAN 10" LONG FOR PIPE SIZES THROUGH 2 ½" AND NOT LESS THAN 12" LONG FOR PIPES LARGER THAN 2 1/2".
- D. METAL SHIELDS SHALL BE APPLIED BETWEEN HANGERS OR SUPPORTS AND THE PIPE INSULATION. SHIELDS SHALL BE FORMED TO FIT THE INSULATION AND SHALL EXTEND UP TO THE CENTERLINE OF THE PIPE AND THE LENGTH SPECIFIED FOR HANGER INSERTS.
- E. INSULATION THICKNESS SHALL BE AS FOLLOWS:
- 1. ALL PIPING 1" AND SMALLER: 2. ALL PIPING 1 ¼" AND LARGER:

# 2.8 FIXTURES

- A. THE QUANTITY AND LOCATION OF FIXTURES SHALL BE TAKEN FROM THE ARCHITECTURAL AND PLUMBING DRAWINGS. PROVIDE ADEQUATE SUPPORTS AND ALL STANDARD TRIM NORMALLY FURNISHED FOR FIXTURES. ALL ENAMEL SHALL BE ACID RESISTING. TRAPS, UNLESS OTHERWISE NOTED SHALL BE 17 GAUGE BRASS TUBING. CHROME PLATED WHEN EXPOSED.
- B. EXCEPT AS OTHERWISE SHOWN, PROVIDE 1/4" STEEL BACKING PLATES, 36" WIDE BY 12" HIGH MINIMUM SIZE, SECURED TO A MINIMUM OF THREE STUDS BY WELDING, OR WITH 1/4" X 2 1/2" LAG SCREWS FOR ALL WALL HUNG FIXTURES FOR WHICH NO OTHER MEANS OF SUPPORT IS SPECIFIED.
- C. STOPS AND SUPPLIES: PROVIDE STOPS FOR ALL FIXTURES. UNLESS OTHERWISE SPECIFIED, STOPS EXPOSED AT LAVATORIES AND SIMILAR FIXTURES SHALL BE CHICAGO #1016-ABCP, CHROME PLATED, LOOSE KEY. CONCEALED STOPS SHALL BE CHICAGO #1771.
- D. ALL FIXTURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE CALIFORNIA ADMINISTRATIVE CODE, TITLE 24, PART 5.
- E. TRAP PRIMERS SHALL BE INSTALLED FOR ALL FLOOR DRAINS: PRECISION PLUMBING PRODUCTS MODEL P2-500 AUTOMATIC TRAP PRIMER, CORROSION RESISTANT BRASS, PISTON OPERATED.
- F. ZURN, "SHOKTROL," OR EQUAL JR SMITH, STAINLESS STEEL BELLOWS. INSTALL WITH GATE VALVE SHUT-OFF AND ACCESS DOOR AT ALL FLUSH VALVES OR OTHER AUTOMATIC VALVES. A SINGLE UNIT SIZED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS MAY SERVE BATTERIES OF VALVES.

# 2.9 VALVE BOXES

A. CHRISTY #F-08, COMPLETE WITH CONCRETE COVER AND REQUIRED EXTENSIONS. INDEX ALL COVERS "GAS" OR "WATER" AS REQUIRED FOR SERVICE USE.

# PART 3 – EXECUTION

# 3.1 SURFACE CONDITIONS

A. THIS CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE SITE AND COMPARED IT WITH THE CONTRACT DOCUMENTS, AND TO ADEQUATELY UNDERSTAND THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED. IN THE EVENT OF DISCREPANCY, THIS CONTRACTOR SHALL NOTIFY THE ARCHITECT AND PROCEED AS DIRECTED. THIS CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ALL EXISTING CONDITIONS, WHETHER OR NOT ACCURATELY DESCRIBED, AND NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON HIS BEHALF FOR ANY ERROR, OMISSION, OR EXTRA EXPENSE DUE TO FAILURE OR NEGLECT TO MAKE SUCH EXAMINATION AND NOTIFICATION.

# 3.2 VIBRATION AND SOUND CONTROL

A. MAKE ALL NECESSARY PROVISIONS TO PREVENT THE TRANSMISSION OF VIBRATION TO THE BUILDING STRUCTURE, INCLUDING FLEXIBLE PIPE CONNECTIONS TO MOTOR DRIVEN EQUIPMENT, RESILIENT MOUNTING FOR PIPING, AND SEALING OFF PIPE AND DUCT PENETRATIONS OF WALLS AND ROOF.

# 3.3 INSULATION

A. INSULATION SHALL BE APPLIED IN COMPLETE ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS. ALL INSULATION SHALL BE APPLIED ON CLEAN, DRY SURFACES AND SHALL BE CONTINUOUS THROUGH WALL AND CEILING OPENING AND SLEEVES. ALL JOINTS SHALL BE FIRMLY BUTTED TOGETHER AND LONGITUDINAL JACKET LAPS AND BUTT STRIPS SHALL BE SMOOTHLY SECURED. SPECIFIED ADHESIVES, MASTICS, AND COATINGS SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED MINIMUM COVERAGE PER GALLON.

# 3.4 PIPING INSTALLATION, GENERAL REQUIREMENTS

- A. ALL PIPING SHALL BE CONCEALED IN FINISHED ROOMS, INSTALLED IN FURRED WALLS AND PARTITIONS. WHERE FURRED OR SUSPENDED CEILINGS OCCUR, PIPING SHALL BE INSTALLED IN THE CONCEALED SPACE AT POINTS ADJACENT TO BEAMS AND/OR OTHER STRUCTURAL MEMBERS, AND COORDINATED WITH DUCTWORK AND EQUIPMENT. WHERE EXPOSED PIPING OCCURS, IT SHALL BE INSTALLED PARALLEL TO OR AT RIGHT ANGLES TO BUILDING WALLS, UNLESS SPECIFICALLY SHOWN OTHERWISE ON THE DRAWINGS.
- 3.  $\,$  INSTALLATION OF PIPING SHALL BE SUCH THAT DAMAGE CANNOT RESULT, THROUGH THERMAL EXPANSION OR CONTRACTION, TO PIPING, BUILDING, OR PIPE HANGERS AND SUPPORTS. ANCHORS SHALL BE INSTALLED AT MIDPOINTS OF ALL RUNS IN MAIN PIPING FOR THE PURPOSE OF LOCALIZING PIPE EXPANSION OR PREVENTION OF CREEPAGE.
- C. ALL PIPE LINES SHALL BE INSTALLED FREE FROM TRAPS AND AIR POCKETS, TRUE TO LINE AND GRADE WITH SUITABLE SUPPORTS PROPERLY SPACE. ALL PIPING SHALL BE INSTALLED WITHOUT UNDUE STRESSES AND WITH PROVISION FOR EXPANSION AND CONTRACTION.
- D. ALL PIPING SHALL BE NEW AND FREE FROM FOREIGN SUBSTANCES. AMERICAN STANDARD PIPE THREADS SHALL BE USED FOR IPS THREADED WORK. JOINTS IN THREADED PIPING SHALL BE MADE UP WITH TEFLON TAPE APPLIED TO THE MALE THREADS ONLY. NO SCREWED PIPE JOINTS SHALL BE CAULKED OR PACKED WITH ROPE OR OTHER PACKING MATERIALS. PIPE SHALL BE FREE FROM TOOL MARKS. THREADS CUT ACCURATELY WITH NOT MORE THAN TWO (2) THREADS SHOWING BEYOND FITTING. FRICTION WRENCHES SHALL NOT BE USED WITH PLATED, POLISHED, OR SOFT METAL PIPING. ALL CHANGES IN PIPE SIZE SHALL BE MADE WITH REDUCING FITTING. BUSHINGS WILL NOT BE
- NO WATER OR DRAINAGE PIPING SHALL PASS OVER ELECTRICAL EQUIPMENT UNLESS ADEQUATE PROTECTION IS PROVIDED TO PREVENT DAMAGE BY LEAKS OR CONDENSATION.
- F. ALL COPPER TUBING SHALL BE FORMED IN A WORKMANLIKE MANNER, IN ACCORDANCE WITH THE PIPE AND TUBE BENDING HANDBOOK OF THE COPPER AND BRASS RESEARCH ASSOCIATION. A TUBE BENDER GIVING SUPPORT TO THE PERIPHERY OF THE TUBE SHALL BE USED. THE TUBING SHALL BE PROTECTED AGAINST FLATTING OR OTHER INJURY.
- G. ALL COPPER CONNECTIONS AND JOINTS SHALL BE MADE IN ACCORDANCE WITH THE COPPER TUBE HANDBOOK, COPPER AND BRASS RESEARCH ASSOCIATION. NO SWAGED CONNECTIONS WILL BE PERMITTED. ALL VALVES, PUMPS, AND SIMILAR EQUIPMENT SHALL BE CONNECTED TO COPPER PIPING THROUGH UNION OR FLANGE ADAPTER FITTINGS.
- H. SHUT OFF VALVES SHALL BE PROVIDED IN ALL MAIN SERVICES, AND WHERE REQUIRED TO PERMIT PROPER SERVICING OF EQUIPMENT. VALVES OF ONE TYPE SHALL BE OF ONE MANUFACTURER.
- ALL VALVES SHALL BE OF THE SAME SIZE AS THE PIPELINES IN WHICH THEY ARE INSTALLED, UNLESS SPECIFICALLY SIZED ON THE DRAWINGS. ALL HAND CONTROLLED LINE VALVES SHALL BE BALL VALVES, EXCEPT WHERE THROTTLING CONTROL OR FREQUENT OPERATION IS REQUIRED, IN WHICH CASE GLOBE OR ANGLE VALVES SHALL BE USED. GLOBE VALVES IN HORIZONTAL LINES SHALL BE INSTALLED WITH STEM IN HORIZONTAL TO PERMIT LINE DRAINING. ALL GLOBE AND ANGLE VALVES SHALL BE INSTALLED TO CLOSE AGAINST PRESSURE. DISC VALVES SHALL HAVE DISCS SUITABLE FOR THE SERVICES FOR WHICH THEY ARE TO BE USED.
- PROVIDE PRIME COATED ESCUTCHEON PLATES AT ALL POINTS WHERE EXPOSED PING PENETRATES FINISHED WALL CEILINGS OR FLOORS.

# 3.5 INSTALLATION, PIPING

- A. CONDENSATE PIPING INDIRECT WASTE PIPING SHALL BE INSTALLED TO A UNIFORM MINIMUM GRADE OF 1/4" PER FOOT UNLESS OTHERWISE NOTED. CHANGES IN DIRECTION OF INDIRECT WASTE PIPING SHALL BE ACCOMPLISHED BY THE USE OF APPROPRIATE DRAINAGE FITTINGS.
- B. FLASHING: ALL ROOF AND WALL PENETRATIONS SHALL BE FLASHED AND COUNTERFLASHED WATER TIGHT WITH 26 GAUGE SHEET METAL, EXCEPT AS NOTED. VENTS THROUGH ROOF SHALL BE FLASHED WITH SEMCO #1100-4 LEAD FLASHING ASSEMBLIES. FLASHING SHALL EXTEND OVER TOP OF PIPE AND SHALL BE TURNED DOWN INSIDE TOP OF PIPE.
- C. SOIL, WASTE, VENT, DRAIN PIPING: SOIL, WASTE, AND VENT PIPING OCCURRING WITHIN THE BUILDING SHALL BE INSTALLED TO A UNIFORM MINIMUM GRADE OF 1/4" PER FOOT UNLESS OTHERWISE NOTED. VENT PIPING SHALL BE GRADED SO THAT ALL CONDENSATION SHALL FLOW DIRECTLY TO A SOIL OR WASTE LINE. CHANGES IN DIRECTION OF DRAINAGE PIPING SHALL BE ACCOMPLISHED BY THE USE OF APPROPRIATE DRAINAGE AND SANITARY FITTINGS. PROTECTION AGAINST BREAKAGE OF PIPING PASSING UNDER OR THROUGH WALLS SHALL BE PROVIDED USING SPECIFIED SLEEVES AND CAULKING CLEANOUTS SHALL BE LOCATED WHERE INDICATED ON THE DRAWINGS; AT ALL HORIZONTAL OFFSETS AT ENDS OF WASTE OR SEWER BRANCHES MORE THE 5' IN LENGTH; AT INTERVALS OF 100' IN STRAIGHT RUNS OF PIPING, OR AT CLOSER INTERVALS IF DIRECTED OR REQUIRED BY LOCAL CODE. LOCATION OF CLEANOUTS IN FINISHED SPACES SHALL BE APPROVED BY THE ARCHITECT PRIOR TO INSTALLATION.
- D. HOT AND COLD WATER SYSTEMS: DI-ELECTRIC UNIONS SHALL BE INSTALLED WHERE COPPER PIPE IS CONNECTED TO GALVANIZED STEEL PIPING OR STUB OUTS. CONNECTIONS FROM COPPER PIPE TO FIXTURE SUPPLY FITTINGS SHALL BE MADE WITH COPPER OR BRASS NIPPLES. ALL DOMESTIC WATER PIPING SHALL BE KEPT CLEAR OF THE BUILDING STRUCTURE. WHERE IT IS WITHIN 1" OF THE BUILDING STRUCTURE. IT SHALL BE WRAPPED WITH FELT (3/16" MINIMUM THICKNESS). TO THE GREATEST EXTENT POSSIBLE. DOMESTIC COLD WATER PIPING SHALL BE KEPT SEPARATED FROM HOT PIPING AND WHERE THERE IS A CHOICE SHALL BE RUN IN THE COOLEST PORTION OF THE AVAILABLE SPACE.
- E. PLUMBING FIXTURES: SPACE BETWEEN WALL MOUNTED FIXTURES AND WALL SURFACE SHALL BE NEATLY POINTED UP WITH SILICONE RUBBER COMPOUND OF COLOR MATCHING FIXTURE.
- F. EXCAVATION AND BACKFILL: PROVIDE ALL EXCAVATION, TRENCHING, AND BACKFILL IN CONNECTION WITH THE WORK OF THIS SECTION. EXCAVATION SHALL BE CARRIED TO 4" BELOW THE BOTTOM OF PIPES. PROVIDE A SAND BEDDING FOR ALL SLOPED DRAINAGE PIPING, AND PROVIDE SMOOTH UNIFORMLY GRADED BEDDING OF FIRM BUT YIELDING MATERIAL FOR ALL OTHER PIPING, CATCH BASINS, AND SIMILAR STRUCTURES. BACKFILL MATERIAL SHALL BE NON-CORROSIVE AND FREE FROM ALL FOREIGN MATERIAL THAT COULD DAMAGE PIPES. BACKFILL SHALL BE PLACED IN 6" LAYERS, EACH LAYER TAMPED, AND COMPACTED TO 95% OF MAXIMUM DRY DENSITY (ASTM D-1557-64T (C) COMPACTION TEST PROCEDURE).

# 3.6 TESTING, INSPECTIONS

# A. GENERAL

1. THIS CONTRACTOR SHALL NOT ALLOW OR CAUSE ANY WORK OF THIS SECTION TO BE COVERED OR ENCLOSED UNTIL IT HAS BEEN INSPECTED. TESTED. AND APPROVED BY THE ARCHITECT AND THE AUTHORITIES HAVING JURISDICTIONS OVER THE WORK. SHOULD ANY OF THIS WORK BY ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION, TESTING, AND APPROVAL, THIS CONTRACTOR SHALL UNCOVER THE WORK, HAVE THE NECESSARY INSPECTIONS, TESTS, AND APPROVALS MADE AND. AT NO EXPENSE TO THE OWNER, MAKE ALL REPAIRS NECESSARY TO RESTORE BOTH HIS WORK AND THAT OF OTHER CONTRACTORS THAT MAY HAVE BEEN DAMAGED, TO BE IN CONFORMITY WITH THE CONTRACT DOCUMENTS.

# B. TESTS

- 1. THIS CONTRACTOR SHALL MAKE ALL TESTS REQUIRED BY ALL LOCAL, STATE, AND FEDERAL LAWS, CODES, ORDINANCES, AND REGULATIONS HAVING JURISDICTION OVER THIS WORK.
- 2. FURNISH ALL NECESSARY LABOR, MATERIALS, AND EQUIPMENT FOR CONDUCTING TESTS. AND PAY ALL EXPENSES IN CONNECTION THEREWITH. SHOULD LEAKS DEVELOP WHILE TESTING, REPAIRS SHALL BE MADE, AND TESTS SHALL BE REPEATED UNTIL A SATISFACTORY TEST IS OBTAINED.
- 3. WATER PIPING SHALL BY HYDROSTATICALLY TESTED FOR 6 HOURS AT 150 PSI. ALL EQUIPMENT SHALL BE TESTED WATER TIGHT AT UTILITY PRESSURE.
- 4. DRAINAGE AND VENT PIPING SHALL BE TESTED FOR 1 HOUR BY PLUGGING ALL OUTLETS AND FILLING THE PIPES WITH WATER TO THE TOP OF VERTICAL SECTIONS OF PIPES. NO LOSS OF WATER SHALL BE PERMITTED.

# 3.7 DOMESTIC WATER SYSTEM STERILIZATION

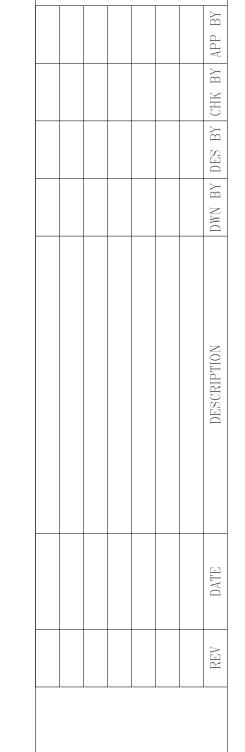
- A. UPON COMPLETION OF THIS WORK, THE DOMESTIC WATER SYSTEM SHALL BE THOROUGHLY FLUSHED, STERILIZED, AND REFLUSHED. STERILIZATION AND REFLUSHING SHALL BE PERFORMED USING THE FOLLOWING PROCEDURE.
- 1. ALL WORK SHALL BE PERFORMED IN THE PRESENCE OF THE INSPECTOR.
- 2. INTRODUCE CHLORINE OR A SOLUTION OF SODIUM HYPOCHLORITE, FILLING THE LINES SLOWLY AND SUPPLYING THE STERILIZATION AGENT AT A RATE OF 50 PARTS OF CHLORINE PER MILLION, AS DETERMINED BY RESIDUAL CHLORINE TESTS AT THE ENDS OF ALL BRANCHES. OPEN AND CLOSE ALL VALVES WHILE THE SYSTEM IS BEING CHLORINATED TO INSURE UNIFORM DISTRIBUTION.
- 3. AFTER THE STERILIZING AGENT HAS BEEN APPLIED FOR 24 HOURS, TEST FOR RESIDUAL CHLORINE AT THE ENDS OF THE BRANCHES. IF LESS THAN 5 PPM IS INDICATED, REPEAT THE STERILIZATION
- 4. WHEN TESTS SHOW AT LEAST 5 PPM OF RESIDUAL CHLORINE, FLUSH OUT THE SYSTEM UNTIL ALL TRACES OF THE CHEMICAL ARE REMOVED.
- B. AFTER A PERIOD OF 48 HOURS MINIMUM, BACTERIOLOGICAL TESTS, USING SAMPLES FROM AT LEAST 3 REPRESENTATIVE POINTS SHALL BE MADE BY RECOGNIZED TESTING AGENCY. WHO SHALL CERTIFY TO THE ARCHITECT THAT THE SYSTEM IS BACTERIOLOGICALLY SAFE AND AT LEAST EQUAL IN SAFETY TO THAT OF THE PRINCIPAL WATER SUPPLY. THE LABORATORY REPORT AND CERTIFICATION SHALL BE TRANSMITTED TO THE ARCHITECT AND OWNER.

# **END OF SECTION**

67 WALNUT WAY PO BOX 1567 WILLOW CREEK, CA 95573 P:(530)629-3000

F:(530)629-3011





DATE OF ISSUE:

7/12/2023

427.11

PROJECT NO:

SCALE:

2727 Bechelli Lane - Redding, CA 96002 Ph: (530) 232-6160 - www.frontierce.com

67 WALNUT WAY

PO BOX 1567

WILLOW CREEK, CA 95573 P:(530)629-3000 F:(530)629-3011

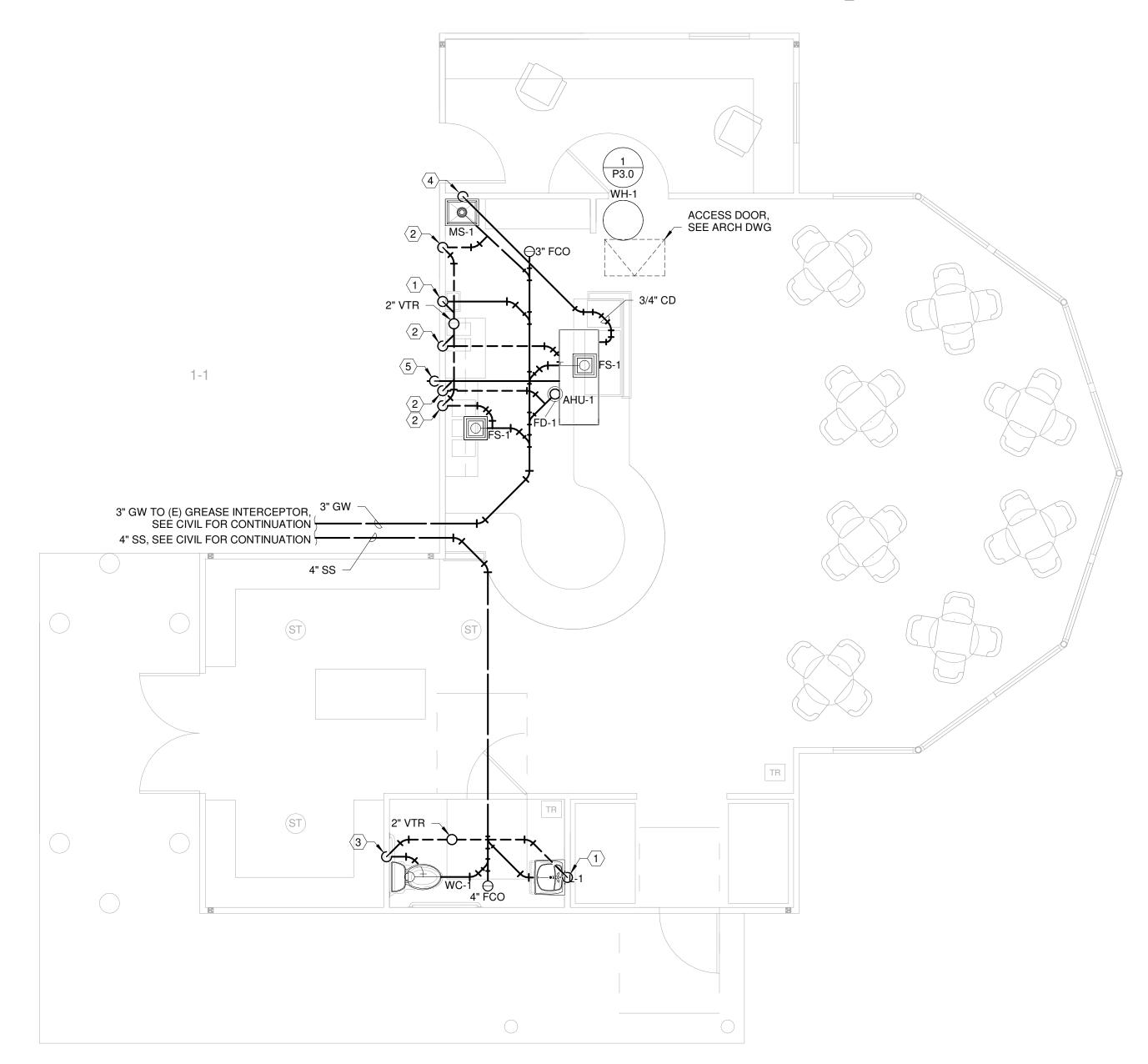
2" WASTE DOWN IN WALL, 1-1/2" VENT UP IN WALL, PROVIDE WITH 2" WALL CLEAN OUT. 2 1-1/2" VENT UP IN WALL. IF APPLICABLE, CONNECT VENT PIPES IN WALL 6" ABOVE RIM OF TALLEST PLUMBING FIXTURE SERVING VENT PIPING.

**KEYED NOTES:** 

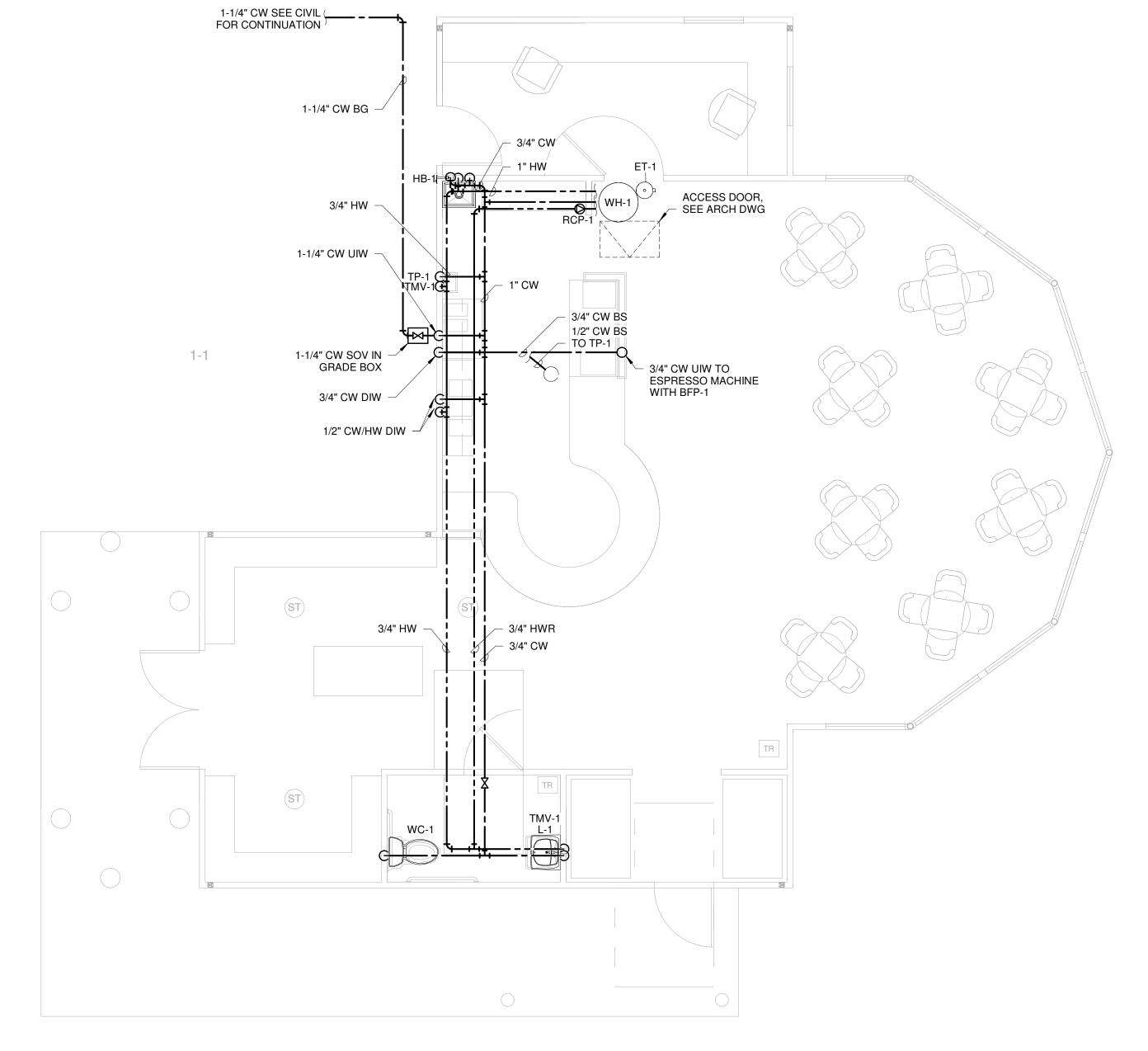
2" VENT UP IN WALL. IF APPLICABLE, CONNECT VENT PIPES IN WALL 6" ABOVE RIM OF TALLEST PLUMBING FIXTURE SERVING VENT PIPING.

4 ROUTE CONDENSATE OR INDIRECT DRAIN LINE DOWN TO MOP SINK AND DISCHARGE WITH 1" GAP.

(5) 3/4" CDO FROM AHU-1. DISCHARGE UNDER EAVES



PLUMBING FLOOR PLAN - DWV



1 PLUMBING FLOOR PLAN - WATER & GAS



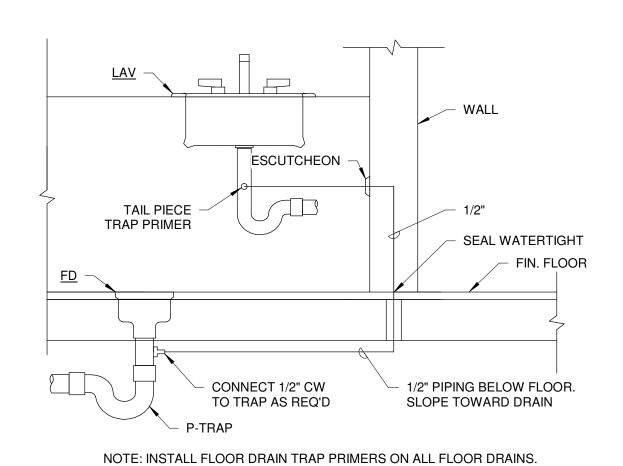
DATE OF ISSUE:

7/12/2023

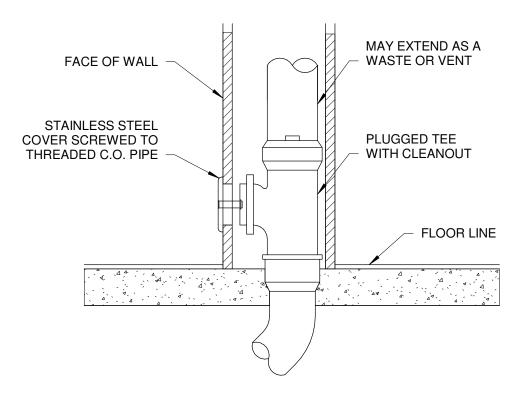
1/4" = 1'-0" PROJECT NO:

**P2.0** 

Ph: (530) 232-6160 - www.frontierce.com



3 FLOOR DRAIN TRAP PRIMER DETAIL
P3.0 NOT TO SCALE

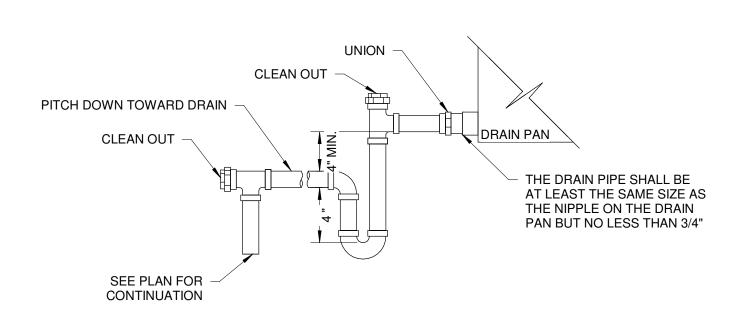


NOTES:

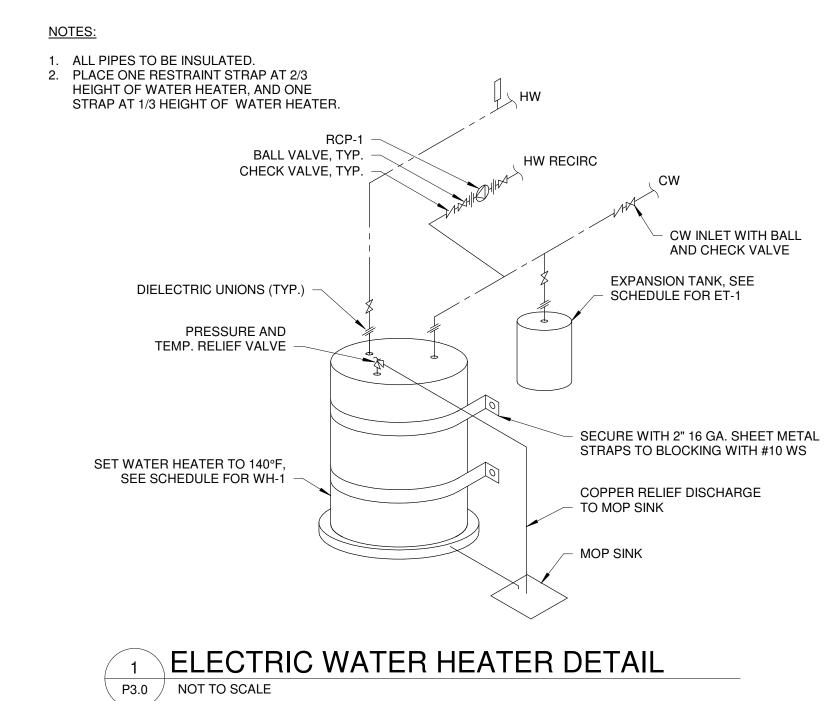
1. POSITION PIPE TO AVOID OBSTRUCTIONS TO CLEAN-OUTS.

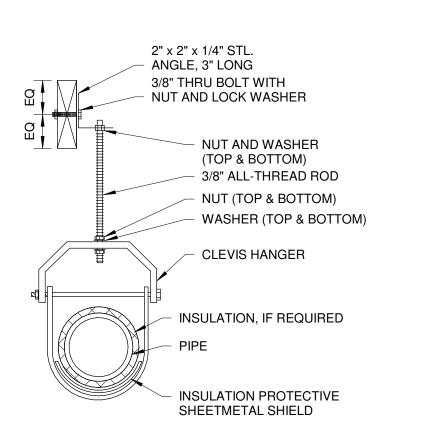
2. PROVIDE C.O. AT ALL VERTICAL SANITARY/VENT STACKS.





5 HVAC CONDENSATE DRAIN DETAIL
P3.0 NOT TO SCALE





4 PIPE HANGING DETAIL
P3.0 NOT TO SCALE

TVCE

67 WALNUT WAY
PO BOX 1567
WILLOW CREEK, CA 95573
P: (530)629-3000
F: (530)629-3011

ROPESSION
NO. M35923
EP. 3-31-2026
PO CALIFORNIA

MARCHANICA

INTERPRETIVE CENTER
TRINIDAD, CA. 95570
PLUMBING DETAILS

DATE OF ISSUE:

7/12/2023 SCALE:

1/8" = 1'-0"

PROJECT NO:

427.11

P3.0

FRONTIER

CONSULTING ENGINEERS

2727 Bechelli Lane - Redding, CA 96002

Ph: (530) 232-6160 - www.frontierce.com

PROJECT: Trinidad Interpretive Center Trinidad Pier Trinidad, CA 95570

Project Designer: Trinity Valley Consulting Engineers P.O. Box 1567 Willow Creek, CA 95573 530.629.3000

Report Prepared by: Anthony K. McQueeny, CEA ABBAY TECHNICAL SERVICES 1125 16th Street., Ste 216 Arcata, CA 95521 707.826.1433

23156

Job Number:

This program developed by EnergySoft, LLC – www.energysoft.com.

6/29/2023

CEF	RTIFICATE OF COMPLIANCE - NO	NRESIDENTIAL PERFORMANCE COMP	LIANCE METHOD				NRCC-PRF-E
No	nresidential Performance Compl	liance Method					(Page 1 of 21)
Pro	ject Name:		23156 Trinidad	I Interpretive Center	Date Pre	pared:	2023-06-29
A. 6	General Information						
1	Project Name	23156 Trinidad Interpretive Center					
2	Run Title	Title 24 Analysis					
3	Project Location	Trinidad Pier					
4	City	Trinidad	5	Standards Version		Compliance 2022	
6	Zip code	95570	7	Compliance Software	e (version)	EnergyPro 9.1	
8	Climate Zone	1	9	Building Orientation	(deg)	180	
10	Building Type(s)	Nonresidential	11	Weather File		CALIFORNIA-REDWOOD	-COAST_STYP20.epw
12	Project Scope	New complete scope	13	Number of Dwelling	Units	0	
14	Total Conditioned Floor Area in Scope (ft²)	1367	15	Total # of hotel/mote	el rooms	0	
16	Total Unconditioned Floor Area (ft²)	0	17	Fuel Type		Liquefied propane gas	
18	Nonresidential Conditioned	1367	19	Total # of Stories (Ha	bitable	1	

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Nonresidential Performance Compliance Method

Receptacle

Other Ltg

Process Motors

C3. TDV ENERGY RESULTS FOR NON-REGULATED COMPONENTS<sup>1</sup>

TOTAL (TOTAL COMPLIANCE + NON-REGULATED COMPONENTS)

<sup>1</sup> Notes: This table is not used for Energy Code Compliance.

Non-Regulated Energy Component

Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077

NRCC-PRF-E

(Page 5 of 21)

Compliance Margin (TDV)<sup>1</sup>

137.45 (29%)

Report Generated: 2023-06-29 10:08:20

Compliance ID: EnergyPro-1734-0623-0077

Nonresidential Performance	Compliance I	Method		_			(Page 2 of 2	
B. PROJECT SUMMARY				_			7	
Table B shows which building of permit application.	components a	re included in th	e performance calculation. I	f ina	licated as not inc	cluded, the project must show compliance prescr	riptively if within t	
В	uilding Comp	onents Complyi	ng via Performance			Building Components Complying Pro	escriptively	
Facilities (See Table C)	Nonres	Performance	Solar Thermal Water		Performance	The following building components are ONLY eligible for		
Envelope (See Table G)	MultiFam	Not Included	Heating (See Table 13)	$\boxtimes$	Not Included	<ul> <li>and should be documented on the NRCC form listed if permit application (i.e. compliance will not be shown</li> </ul>		
Markerial (Co. Table II)	Nonres	Performance	Commercial Kitchens (see		Performance	Indoor Lighting (Unconditioned) 140.6 & 170.2(e)	NRCC-LTI-E is required	
Mechanical (See Table H)	MultiFam	Not Included	Table J)		Not Included	Outdoor Lighting 140.7 & 170.2(e)	NRCC-LTO-E i	
Domestic Hot Water (See Table I)	Nonres	Performance	Covered Process: Laboratory Exhaust (see		Performance	Sign Lighting 140.8 & 170.2(e)	NRCC-LTS-E is required	
Table I)	MultiFam	Not Included	Table J)	⊠	Not Included	Building Components Complying with Mar	ndatory Measures	
Lighting (Indoor Conditioned, see Table K)	Nonres	Performance	Photovoltaics (see Table F)		Performance	Electrical power systems, commissioning, sola escalator requirements are mandatory and sh on the NRCC form listed if applicable (i.e. con shown on the NRCC-PRF-E.	ould be documen npliance will not b	
	MultiFam	Not Included		×	Not Included	Electrical Power Distribution 110.11	NRCC-ELC-E is required	
	"	•	Dattan (and Table 5)		Performance	Commissioning 120.8	NRCC-CXR-E i	
			Battery (see Table F)	×	Not Included	Solar and Battery 110.10	NRCC-SAB-E i	

Schema Version: rev 20220601

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077

NRCC-PRF-E

(Page 6 of 21)

NRCC-PRF-E

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 3 of 21)

C1. COMPLIANCE SUMMAR COMPLIES<sup>3</sup> Time Dependent Valuaton (TDV) Source Energy Use Efficiency1 (kBtu/ft2 - yr) Total<sup>2</sup> (kBtu/ft<sup>2</sup> - yr) Total<sup>2</sup> (kBtu/ft<sup>2</sup> - yr) Standard Design 53.89 237.78 21.18 Proposed Design 237.78 **Compliance Margins** 137.45 137.45 32.71

Compliance Totals include efficiency, photovoltaics and batteries Building complies when efficiency and total compliance margins are greater than or equal to zero and unmet load hour limits are not exceeded

<sup>1</sup> Efficiency measures include improvements like a better building envelope and more efficient equipment

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 4 of 21) Nonresidential Performance Compliance Method

COMPLIES <sup>2</sup>								
Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV					
Space Heating	138.9	79.28	59.62					
Space Cooling	2.73	2.1	0.63					
Indoor Fans	88.63	81.91	6.72					
Heat Rejection	0	0	0					
Pumps & Misc.	0	0	0					
Domestic Hot Water	81.31	24.18	57.13					
Indoor Lighting	63.66	50.31	13.35					
Flexibility	***		( <del>/***</del> )					
EFFICIENCY COMPLIANCE TOTAL	375.23	237.78	137.45 (36.6%)					
Photovoltaics		***						
Batteries	***	***	3.555					
TOTAL COMPLIANCE	375.23	237.78	137.45 (36.6%)					

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601

Compliance ID: EnergyPro-1734-0623-0077

Report Generated: 2023-06-29 10:08:20

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601 CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD Nonresidential Performance Compliance Method

COMPLIES <sup>2</sup>								
Energy Component	Standard Design (SOURCE)	Proposed Design (SOURCE)	Compliance Margin (SOURCE) <sup>1</sup>					
Space Heating	27.15	7.71	19.44					
Space Cooling	0.14	0.17	-0.03					
Indoor Fans	7.75	7.49	0.26					
Heat Rejection	0	0	0					
Pumps & Misc.	0	0	0					
Domestic Hot Water	14.07	2.04	12.03					
Indoor Lighting	4.78	3.77	1.01					
Flexibility		***	10782					
EFFICIENCY COMPLIANCE TOTAL	53.89	21.18	32.71 (60.7%)					
Photovoltaics		***						
Batteries	***	***	1					
TOTAL COMPLIANCE	53.89	21.18	32.71 (60.7%)					

Report Generated: 2023-06-29 10:08:20 Schema Version: rev 20220601

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 7 of 21) C5. SOURCE ENERGY RESULTS FOR NON-REGULATED COMPONENTS<sup>1</sup> Standard Design (SOURCE) Non-Regulated Energy Component Proposed Design (SOURCE) Compliance Margin (SOURCE)1 7.4 Receptacle Other Ltg Process Motors TOTAL ( TOTAL COMPLIANCE + NON-REGULATED COMPONENTS) 32.71 (53.4%) <sup>1</sup> Notes: This table is not used for Energy Code Compliance. C6. 'ABOVE CODE' QUALIFICATIONS

☐ This project is pursuing CalGreen Tier 2

Schema Version: rev 20220601

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Compliance ID: EnergyPro-1734-0623-0077 CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Schema Version: rev 20220601

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD

Nonresidential Performance Compliance Method

Underground

<sup>1</sup> Status: N - New, A - Altered, E - Existing

Grade14

**G5. OPAQUE SURFACE ASSEMBLY SUMMARY** 

☐ This project is pursuing CalGreen Tier 1

Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077

NRCC-PRF-E

(Page 11 of 21)

Report Generated: 2023-06-29 10:08:20

Compliance ID: EnergyPro-1734-0623-0077

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 8 of 21)

C7. ENERGY USE SUMMARY						
Energy Component	Standard Design Site (MWh)	Proposed Design Site (MWh)	Margin (MWh)	Standard Design Site (MBtu)	Proposed Design Site (MBtu)	Margi (MBtu
Space Heating	***	3.2	***	37.1		***
Space Cooling	0.2	0.1	0.1			***
Indoor Fans	4.4	4.1	0.3			
Heat Rejection						
Pumps & Misc.						***
Domestic Hot Water	1.1	1.2	-0.1	16.3		
Indoor Lighting	3.4	2.7	0.7	100000		
Flexibility	***					
EFFICIENCY TOTAL	9.1	11.3	-2.2	53.4	0	53.4
Photovoltaics	***	1575		2555		
Batteries			***			
ENERGY USE SUBTOTAL	9.1	11.3	-2.2	53.4	0	53.4
Receptacle	5.3	5.3	0			
Process		***	****	·		
Other Ltg						***
Process Motors				***		***
ENERGY USE TOTAL	14.4	16.6	-2.2	53.4	0	53.4

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077 Schema Version: rev 20220601

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E (Page 9 of 21) Nonresidential Performance Compliance Method

Standard Design (TDV)

99.23

474.46

Proposed Design (TDV)

337.01

	Standard Design (kBtu/ft² / yr)	Proposed Design (kBtu/ft² / yr)	Margin (kBtu/ft² / yr)	Margin Percentage
GROSS EUI <sup>1</sup>	75.01	41.43	33.58	44.77
NET EUI¹	75.01	41.43	33,58	44.77

• The project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required. • Project is claiming Exception 2 to Section 140.10(a): No PV system is required where the required PV system size is less than 4 kWdc. • PV/Battery Building Type has been modified from software defaults for one or more spaces. Review project's PV/Battery Building Type(s) with documentation author. Refer to Energy Code section 140.10 for Nonresidential or 170.2(g) for more information.

1790			1000
01	02	03	04
Opaque Surfaces & Orientation	Total Gross Surface Area (ft <sup>2</sup> )	Total Fenestration Area (ft <sup>2</sup> )	Window to Wall Ratio (%)
North-Facing <sup>1</sup>	406	75	18.47
East-Facing <sup>2</sup>	308	95	30.84
South-Facing <sup>3</sup>	406	81	19.95
West-Facing <sup>4</sup>	396	63	15.91
Total	1516	314	20.71

<sup>1</sup>North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW), <sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE), 3South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE), 4West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW),

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077 Schema Version: rev 20220601

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E Nonresidential Performance Compliance Method (Page 10 of 21) G1. ENVELOPE GENERAL INFORMATION (conditioned spaces only) Window to Wall Ratio (%) **Opaque Surfaces & Orientation** Total Gross Surface Area (ft<sup>2</sup>) Total Fenestration Area (ft<sup>2</sup>) 1North-Facing is oriented to within 45 degrees of true north, including 45 00'00" east of north (NE), but excluding 45 00'00" west of north (NW), <sup>2</sup>East-Facing is oriented to within 45 degrees of true east, including 45 00'00" south of east (SE), but excluding 45 00'00" north of east (NE), 3 South-Facing is oriented to within 45 degrees of true south, including 45 00'00" west of south (SW), but excluding 45 00'00" east of south (SE), <sup>4</sup>West-Facing is oriented to within 45 degrees of true west, including 45 00'00" north of west (NW), but excluding 45 00'00" south of west (SW), G4. NONRESIDENTIAL AIR BARRIER **Building Story Name** Air Barrier

Com-Floor 1

Framing Cavity
Type R-Value **Continuous R-Value** Area (ft2) Description of Assembly Layers Vapor permeable felt - 1/8 in. R-30 Roof Atti N/A U-factor 0.0383 Air - Cavity - Wall Roof Ceiling - 4 in. or 2x4 24o.c10 Stucco - 7/8 in. Vapor permeable felt - 1/8 in. R-15 Wall12 Exterior Wall 1,516 N/A N/A Gypsum Board - 1/2 in.

N/A

Schema Version: rev 20220601

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077 Schema Version: rev 20220601

No air barrier

CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000

Report Generated: 2023-06-29 10:08:20 Compliance ID: EnergyPro-1734-0623-0077

Slab Type =Unheated slab on grade

0.73 Insulation Orientation =None

Insulation R-Value =none



echnical Energy t.. Ste. 216, Abbay ]
Building



X

M

N

口

CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD NRCC-PRF-E	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E
Nonresidential Performance Compliance Method (Page 12 of 21)	Nonresidential Performance Compliance Method (Page 13 of 21)	Nonresidential Performance Compliance Method (Page 14 of 21)	Nonresidential Performance Compliance Method (Page 15 of 21)
G7A_FENESTRATION_ASSEMBLY SUMMARY (NORESIDENTIAL)   01	H3. NONRESIDENTIAL / COMMON USE AREA FAN SYSTEMS SUMMARY	H9. NONRESIDENTIAL / COMMON USE AREA & HOTEL/MOTEL VENTILATION	Report Central Foreign Sentral Info   Cocupancy Type
Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077
CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E  Nonresidential Performance Compliance Method  (Page 16 of 21)	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E  Nonresidential Performance Compliance Method  (Page 17 of 21)	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E  Nonresidential Performance Compliance Method  (Page 18 of 21)	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  Nonresidential Performance Compliance Method  (Page 19 of 21)
K2. INDOOR CONDITIONED LIGHTING SCHEDULE	K3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS	Area Description Function Area 160.5(b)4A   Multi-Level Controls   Shut-Off Controls 130.1(c)   Primary Daylighting   Secondary Daylighting   Secondary Daylighting   130.1(d) & 160.5(b)4D   140.5(d) & 160.5(d) & 16	M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft <sup>2</sup> in offices)	Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per 140.6(a)2 and Table 140.6-A)	101 Visitor's Center Retail Merchandise Sales Required Required Required NA Required	Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).  Building Component  Form/Title
01 02 03 04 05 06  Complete Luminaire Description (i.e. 3-lamp	01 02 03 04 05 06 07 08 09  Primary Function Area (must meet requirements of Table Type of Lighting Control Adjustment Item Tag Luminaires Luminaires Luminaires (Watts)	102 Back Entry Main Entry Lobby Required Exempt Required NA NA  103 Seating Area Lounge Required Required Required Required Required  104 Reception Office ( 250 square feet) Required Exempt Required NA NA  NA NA	Indoor Lighting  NRCA-LTI-03-A - Automatic Daylight Controls.  NRCA-MCH-02-A - Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH-02-A can be performed in conjunction with
Name or Item Tag fluorescent troffer, F32T8, one dimmable electronic ballast)  How is Wattage determined Total Number of Luminaires Installed Watts	140.6-A and 170.2-L)   Factor (PAF)   Restroom   N/A   N/A   Restroom   Restroom   N/A   Restroom   Restroom   N/A   Restro	105 Coffee Bar Lounge Required Exempt Required NA NA 106 Unisex ADA RR Restroom Required Exempt Required NA NA	MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap  Mechanical NRCA-MCH-03-A - Constant Volume Single Zone HVAC
106UnisexADARR         4=Recessed Mount LED 31W         31         According to         1         31           101Visitors         4=Recessed Mount LED 31W         31         According to         8         248	S-2-101 Visitors Center Retail Merchandise Sales N/A N/A N/A 101Visitors 31 8 248 0	107 Office Office ( 250 square feet) Required Required Required NA NA  108 Office Office ( 250 square feet) Required Exempt Required NA NA  NA NA	N. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION  Selections made by Documentation Author indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents must be retained
102BackEntry         4=Recessed Mount LED 31W         31         According to         1         31           103Seating         1=Recess Mount Fixture 39W         39         According to         4         156	S-3-102 Back Entry         Main Entry Lobby         N/A         N/A         102BackEntry         31         1         31         0           S-4-103 Seating Area         Lounge         N/A         N/A         103Seating         39         4         156         0	L. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION  Selections made by Documentation Author indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents must be retained	and provided to the building inspector during construction and can be found online  There are no Certificates of Verification applicable to this project
1103Seating. 5=6in Recessed Downlight LED 10W 10 According to 5 50	S-4-103 Seating	and provided to the building inspector during construction and can be found online  Building Component Form/Title	
104Reception         4=Recessed Mount LED 31W         31         According to         1         31           105CoffeeBar         4=Recessed Mount LED 31W         31         According to         2         62	S-5-104 Reception         Office ( 250 square feet )         N/A         N/A         104Reception         31         1         31         0           S-6-105 Coffee Bar         Lounge         N/A         N/A         105CoffeeBar         31         2         62         0           S-7-107 Office         Office ( 250 square feet )         N/A         N/A         107Office         39         2         78         0	Envelope NRCI-ENV-01-E - Must be submitted for all buildings  Envelope NRCI-ENV-E - Envelope (for all buildings)  Mechanical NRCI-MCH-01-E - Must be submitted for all buildings	
107Office         1=Recess Mount Fixture 39W         39         According to         2         78           108Office         4=Recessed Mount LED 31W         31         According to         3         93	S-7-107 Office         Office ( 250 square feet)         N/A         N/A         1070ffice         39         2         78         0           S-8-108 Office         Office ( 250 square feet)         N/A         N/A         1080ffice         31         3         93         0           Lighting Control Credits (Conditioned) Total (Watts)         0	Mechanical NRCI-MCH-E - For all buildings with Mechanical Systems  Plumbing NRCI-PLB-01-E - Must be submitted for all buildings	
<sup>1</sup> If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.	K4. INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROL	Plumbing NRCI-PLB-E - For all buildings with Plumbing Systems  Indoor Lighting NRCI-LTI-01-E - Must be submitted for all buildings	
	Building Level Controls  01  02	Indoor Lighting NRCI-LTI-E - Indoor Lighting (for all buildings)  M. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE	
	Mandatory Demand Response 110.12(c)  NA  Shut-Off Controls 130.1(c) & 160.5(b)4C  NA	Selections made by Documentation Author indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP).	
	Area Level Controls (includes all lighting controls installed in conditioned space to meet mandatory requirements per 130.1)  03 04 05 06 07 08 09	Building Component Form/Title  Envelope NRCA-ENV-02-F - NRFC label verification for fenestration	
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20	Indoor Lighting NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls.  CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20
Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077
-		STATE OF CALIFORNIA  Electrical Power Distribution  CALIFORNIA ENERGY COMMISSION	STATE OF CALIFORNIA  Electrical Power Distribution  CALIFORNIA ENERGY COMMISSION
CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E  Nonresidential Performance Compliance Method  (Page 20 of 21)	CERTIFICATE OF COMPLIANCE - NONRESIDENTIAL PERFORMANCE COMPLIANCE METHOD  NRCC-PRF-E  Nonresidential Performance Compliance Method  (Page 21 of 21)	CERTIFICATE OF COMPLIANCE  This document is used to demonstrate compliance with mandatory requirements in 130.5, for electrical systems in newly constructed nonresidential and hotel/motel occupancies and 160.6 and 160.9 for electrical systems in newly constructed multifamily occupancies. Additions and alterations to electrical service systems in nonresidential and hotel/motel	CERTIFICATE OF COMPLIANCE  Project Name: Trinidad Interpretive Center Project Address: Trinidad Pier Date Prepared:  NRCC-ELC-E (Page 2 of 6) Project Address:  6/29/2023
Documentation Author's Declaration Statement	Responsible Designer Name: Trinity Valley Consulting Engineers Responsible Designer Signature:	occupancies will also use this document to demonstrate compliance per 141.0(a) or 141.0(b)2P for alterations. For multifamily addition or alterations compliance will be documented per 180.1(a) or 180.2 (b)4Bvii	Project Address.
1. I certify that this Certificate of Compliance documentation is accurate and complete.  Documentation Author Name: Anthony K. McQueeny, CEA  Documentation Author Signature: Anthony K. McQueeney	Company: Trinity Valley Consulting Engineers  Address: P.O. Box 1567  Date Signed:  License #:	Project Name:     Trinidad Interpretive Center     Report Page:     (Page 1 of 6)       Project Address:     Trinidad Pier     Date Prepared:     6/29/2023	C. COMPLIANCE RESULTS  Results in this table are automatically calculated from data input and calculations in Tables F through J. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer
Address: 1125 16th Street., Ste 216  CEA/HERS Certification (if applicable): R19-21-30083 / NR19-23-30043	City/State/Zip: Willow Creek, CA 95573 License #:  Phone: 530.629.3000 Title: Scope:	A. GENERAL INFORMATION  02 Climate Zone  1  Tripided	Results in this table are automatically calculated from data input and calculations in lables F through J. Note: If any cell on this table says "COMPLIES with Exceptional Conditions" refer to Table D. Exceptional Conditions for guidance or see applicable Table referenced below.  01  02  03  04  05  06
City/State/Zip: Arcata, CA 95521 Phone: 707.826.1433  Responsible Person's Declaration statement		01 Project Location (city) Trinidad 03 Occupancy Types Within Project: All Other Occupancies OfficeRetailSupport Areas	Service Electrical Metering 130.5(a)/ 160.6(a)  Separation for Monitoring 130.5(b)/ 160.6(b)  Separation for Monitoring 130.5(b)/ 160.6(b)  Separation for Monitoring 130.5(b)/ 160.6(b)  Separation for Monitoring 130.5(b)/ 160.6(c) 130.5(c)/ 160.6(c) 130.5(c)/ 160.6(d) Separation for Monitoring 130.5(b)/ 160.6(b)  Controlled Receptacles Electric Ready 160.9 (See Table J)  Compliance Results
I certify the following under penalty of perjury, under the laws of the State of California:              1. The information provided on this Certificate of Compliance is true and correct.             2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of		B. PROJECT SCOPE This table includes electrical systems that are within the scope of the permit application.	160.6(a)   160.6(b)   (See Table H)   130.5(a) 160.6(d)   (See Table J)   (S
Compliance (responsible designer)  3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.		01 02 03 04 05 06 07  System Utility Provided subject to CA	D. EXCEPTIONAL CONDITIONS  This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.
<ol> <li>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.</li> <li>I understand that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to</li> </ol>		Electrical Service Designation/ Description Descriptio	E. ADDITIONAL REMARKS
the enforcement agency for all applicable inspections, and I will take the necessary steps to accomplish this requirement.  I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy, and I will take the necessary steps to accomplish these requirements.		160.6(a) <sup>3</sup> 130.5(a)and (b)	This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.  F. SERVICE ELECTRICAL METERING
Responsible Designer Name: Trinity Valley Consulting Engineers  Company: Trinity Valley Consulting Engineers  Responsible Designer Signature:		Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables	This table includes new or replacement electrical service systems OR equipment to demonstrate compliance with 130.5(a) / 160.6(a). For multifamily occupancies, submetered systems that provide power to common use areas must meet the following metering requirements. Submetered systems providing power to dwelling units do not.
Address: P.O. Box 1567  City/State/Zip: Willow Creek, CA 95573  License #:		New Service   service equipment   50	01 02 03 04 05  Required Metering Capabilities per Table 130.5-A Field Inspector  Flectrical Service Designation/ Rating 1 Tracking MWh for Location of Requirements in
Phone: 530.629.3000 Title: Scope:  Responsible Designer Name: Trinity Valley Consulting Engineers Responsible Designer Signature:		Compliance documents will indicate when demand response controls are required.  1 FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c)/160.6(c), no other requirements from 130.5/160.6 are required.	Electrical Service Designation/ Description  Rating¹ (kVA)  Instantaneous Demand (kW)  Demand (kW)  Fail  Location of Requirements in Construction Documents  Fail  Construction Documents  Pass  Fail
Company: Trinity Valley Consulting Engineers  Address: P.O. Box 1567  Date Signed:		<sup>2</sup> If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas. <sup>3</sup> Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.	New Service 50 🗵 🗆 🗵 Electrical 🗆 🗆 If FOOTNOTES: If common use areas in a multifamily are submetered, rating is for submeter size serving common use areas.
City/State/Zip: Willow Creek, CA 95573  License #:  Phone: 530.629.3000  Title:  Scope:			
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20	Registration Number: Generated Date/Time: Documentation Software: EnergyPro	Registration Number: Generated Date/Time: Documentation Software: EnergyPro
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20 Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance Report Version: 2022.0.000 Report Generated: 2023-06-29 10:08:20 Schema Version: rev 20220601 Compliance ID: EnergyPro-1734-0623-0077	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance  Report Version: 2022.0.000  Schema Version: rev 20220101  EnergyPro-1734-0623-0649  Report Generated: 2023-06-29 10:12:09	CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance  Report Version: 2022.0.000 Schema Version: rev 20220101  EnergyPro  EnergyPro  Compliance ID:  EnergyPro-1734-0623-0649 Report Generated: 2023-06-29 10:12:09

Abbay Technical Services

Building Energy Consultants
1125 16th St., Ste. 216 Arcata, CA 95521
707.826.1433
admin@abbaytechnicalservices.com

# REPORT

STATE OF CALIFORNIA

STATE OF CALIFORNIA

STATE OF CALIFORNIA

STATE OF CALIFORNIA



Fechnical Services
Energy Consultants
, Ste. 216 Arcata, CA 95521



# 田 M nte $\Phi$ 5 NER tive rpre 田 Intel DIN 0 rinid M 4 N 口 II

0

2

2

0

ad

rinid

er

ص

0

0

rini

M

T24.3

EnergyPro-1734-0623-0649

Report Generated: 2023-06-29 10:12:09

Schema Version: rev 20220101

Report Generated: 2023-06-29 10:12:09

Schema Version: rev 20220101

STATE OF CALIFORNIA

STATE OF CALIFORNIA

STATE OF CALIFORNIA

STATE OF CALIFORNIA

EnergyPro-1734-0623-0649

Report Generated: 2023-06-29 10:12:09

Schema Version: rev 20220101



al

ay

M



# Д 田 M te $\Phi$ X (C) tive er NE ٦ rpre 口 0 0 Inte Z 0 D M

N

田

TI

Report Generated: 2023-06-29 10:12:09

Schema Version: rev 20220101

0

2

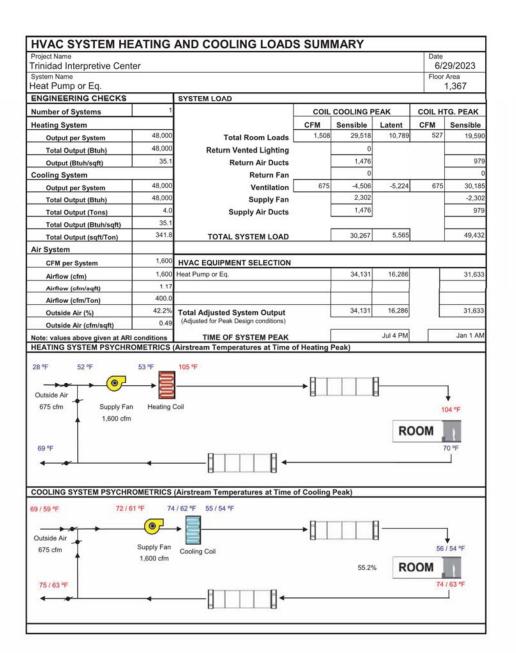
0

O

<u>0</u>

CERTIFICATE OF COMPLIANCE			NRCC-SAB-
Project Name:	Trinidad Interpretive Center Report	Page:	(Page 6 of
Project Address:	Trinidad Pier Date P	repared:	6/29/202
DOCUMENTATION AUTHOR'S DECL	ARATION STATEMENT		
I certify that this Certificate of Com	pliance documentation is accurate and complete.		SEC CERTIFIC
Documentation Author Name: Anthony K. McQueeny, CEA	Docume	ntation Author Signature: Anthony K McQueency	CEA
Company: ABBAY TECHNICAL SERVICES	Signatur 06/29.		No.
Address: 1125 16th Street., Ste 216		RS Certification Identification (if applicable): -30083 / NR19-23-30043	GY AN
City/State/Zip: Arcata CA 95521	Phone: 707.82	6.1433	
I am eligible under Division 3 of the B     The energy features and performance of Title 24, Part 1 and Part 6 of the C     The building design features or syster plans and specifications submitted to     I will ensure that a completed signed	nder the laws of the State of California: tificate of Compliance is true and correct. usiness and Professions Code to accept responsibility for the building desig e specifications, materials, components, and manufactured devices for the l	oulding design or system design identified on this Certificate of Compliand with the information provided on other applicable compliance document ding permit(s) issued for the building, and made available to the enforcem	ce conform to the requirement is, worksheets, calculations, ment agency for all applicable
Responsible Designer Name: Trinity Valley Consulting Engineers	Respons	ble Designer Signature:	
Company: Trinity Valley Consulting Engineers	Date Sign 2023-0		
Address: P.O. Box 1567	License:		
City/State/Zip: Willow Creek CA 95573	Phone: 530.62	0.2000	

Registration Number:	Generated Date/Time:	Documentation Software: Energyl
CA Building Energy Efficiency Standards - 2022 Nonresidential Compliance	Report Version: 2022.0.000 Schema Version: rev 20220101	Compliance EnergyPro-1734-0623-06 Report Generated: 2023-06-29 10:12





Abbay Technical Services

Building Energy Consultants
1125 16th St., Ste. 216 Arcata, CA 95521
707.826.1433



REPORT 24 BUILDING ENERGY

Trinidad Interpretive Center Trinidad Pier CA 95570 Trinidad,